## **PROJECT MANUAL**

## **Surgery Center of Lee's Summit**

1950 SE Shenandoah Drive Lee's Summit, MO 64063

**VOLUME 4 OF 4** 

(DIVISIONS 11 - Equipment)

ACI / Boland, Inc.

Architects & Planners

BHC

Consulting Civil Engineers

**Bob D. Campbell & Company** 

Consulting Structural Engineers

**Branch Pattern** 

Consulting MEP Engineer

J.E. Dunn Construction Company

Construction Manager

Project No. 3-22030

**February 8, 2023** 



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#### **DIVISION 11 – EQUIPMENT**

11 72 00 OWNER FURNISHED MEDICAL EQUIPMENT

## OWNER FURNISHED MEDICAL EQUIPMENT BROCHURE January 13, 2023 - \*\* PRELIMINARY RELEASE \*\*

LEESMT ASC Project # 28456-00001

LEE'S SUMMIT MEDICAL CENTER
,

Equipment Manager
Todd King
(615) 344-2381
Todd.King@HCAHealthcare.com

Equipment Coordinator
Dana Wright
(615) 344-9551
Dana.Wright2@hcahealthcare.com



#### PROJECT INFORMATION

#### **Online Project Information Documents**

Responsibilities Matrix

#### Owner Furnished/Contractor Installed Equipment Notes

**NOTE:** If early delivery of equipment is required, contractor is required to store in secure environmentally controlled space and confirm with HCA Medical Equipment Manager.

**NOTE:** No payments can be made, until receipt of the schedule(s) by the HCA Construction Manager.

#### **Distribution By The HCA Construction Manager**

HCA Construction Manager Project General Contractor

#### OFE Items - January 13 2023

Facility: LEE'S SUMMIT MEDICAL CENTER; ,

Project: 28456-00001 LEESMT-00001-Lees Summit ASC



HCA Item			
Number	Vendor	Qty	Item/Locations
N/A	NOTATION	1	Air Compressor - Contractor Provided
			1-184/1
N/A	NOTATION	1	Nurse Call - Contractor Provided  112d10/1
	NOTATION	1	Paging - Contractor Provided
N/A	NOTATION	'	112d10/1
	SO LOW ENVIRO	1	
1000313			1-137/1
	MEDIVATORS	1	Endoscopic Flushing Pump - Scope Buddy EFA-US-G - Medivators
100146			
			1-153/1
	LEICA MICROSY	1	CRYOSTAT. DIM(hwd): 45X29X29". ELEC: 110/60/1. 1440 VA
100172			
			1-176/1
100650	KELLEY X-RAY	3	APRON & GLOVE RACK, WALL-MOUNTED
100650			1 101/1 - 1 102/1 - 1 105/1
	STRYKER INSTR	5	1-181/1 • 1-183/1 • 1-185/1 Cactus Sink, OR. Pharma Lock Unit
100725	SINTKLK IIVSIK	J	Cactus Silik, On. Filalilla Lock Offit
100723			1-152/1 • 1-156/1 • 1-181/1 • 1-183/1 • 1-185/1
	STRYKER INSTR	1	Cactus Sink
100912			
			1-122/1
	CME Corp/Claf	1	REFRIGERATOR, NOUR. TOP-FREEZER, 18.3 CU FT. NO ICE
101556			
			1-131/1
	GE APPLIANCES	2	MICROWAVE OVEN COUNTERTOP 2.2 CU.FT. ADA COMPLIANT -
430260			1 166/2
	CME Corp/Claf	1	1-166/2 Refrigerator, Single -Door. 19 cu ft Frigidaire Pro. S/S #FPRU19F8WF
476313	CIVIE COIP/CIAI		Reingerator, Single -Door. 13 tu it riigidalle Pio. 5/5 #FPKU19F8WF
+1 03 13			1-166/1
	CME Corp/Claf	1	Refrigerator, Side-By-Side. 18.8 cu ft No Ice Kit #FRSG1915AV
476314		·	g, 113, 113, 113 = y 1132 131 131 131 131 131 131 131 131 13
			1-166/1
	STERIS CORPOR	1	CABINET, ENDOSCOPE. RELIANCE 5000 - 20 SCOPE CAPACITY
711100			#REC5202DS
7 11100			1 154/1
	FOLLETT COST		1-154/1
714442	FOLLETT CORP	1	Ice Machine. 12lb Storage #12CI425A-S - FreeStanding
714443			1-166/1
			1-100/1

#### OFE Items - January 13 2023

Facility: LEE'S SUMMIT MEDICAL CENTER; ,

Project: 28456-00001 LEESMT-00001-Lees Summit ASC



HCA Item			
Number	Vendor	Qty	Item/Locations
714519	FOLLETT CORP	1	Ice Machine, Accsy. Water Filter System
			1-166/1
714519	FOLLETT CORP	2	Ice-Dispenser Accessory - Water Filtration System #00130229
			1-131/1 • 1-135/1
715943	FOLLETT CORP	1	The machine, reasy, base stand for 120.
			1-166/1
717579	STERIS CORPOR	1	
			1-182/1
717621	FOLLETT CORP	1	Ice Maker 425lb/day. Air Cooled Maestro Plus #MCD425ABT
			1-135/1
720109	STERIS-AMSCO	1	Steel, Industrial Parks
			1-184/1
724181	FERGUSON ENTE	3	LASER OUTLET FOR OR. 220V/30A - NO SPEC SHEET AVAILABLE.  1-181/1 • 1-183/1 • 1-185/1
	FOLLETT CORP	2	
725025	FOLLETT CORP		HINGE
			1-118/1 • 1-122/1
725026	FOLLETT CORP	2	REFRIGERATOR UNDERCOUNTER - ACCSY. DRY TERMINAL KIT #01092022
			1-118/1 • 1-122/1
725340	STERIS CORPOR	1	Wash/Decontam - 480V - Amsco 7053HP - Installed - per quote
			1-182/1
725340	STERIS-AMSCO	1	
	CE ADDITANCEC	1	1-182/1
725408	GE APPLIANCES	1	DISHWASHER. ADA COMPLIANT, STAINLESS STEEL  1-166/1
	SO LOW ENVIRO	1	
725442	30 LOW ENVIRO	<b>'</b>	1-137/1
	STERIS CORPOR	1	Sterilizer, Low Temp. V-Pro S2 #VP60002401 installed - per quote
725542	STERIS CORT OR	<u>'</u>	1-171/1
	STERIS-AMSCO	1	Sterilizer, Low Temp. V-Pro S2 - Plan for Future Unit
725542			1-171/1
	-		•

#### OFE Items - January 13 2023

Facility: LEE'S SUMMIT MEDICAL CENTER; ,

Project: 28456-00001 LEESMT-00001-Lees Summit ASC



HCA Item	m		
Number	Vendor	Qty	Item/Locations
726363	STERIS CORPOR	1	Sonic Cleaner. Innowave 20 Gal 208V
			1-182/1
726363	STERIS-AMSCO	1	Sonic Cleaner. Innowave 20 Gal 208V - Plan for Future Unit
			1-182/1
726767	STRYKER	1	Fluid Management - Docking Station - Plan for Future Unit
			1-172/1
726767	STRYKER INSTR	1	Fluid Management - Docking Station - Neptune 2 - 0702014000 1-172/1
727038	STERIS CORPOR	2	WARMING CABINET - DUAL 24" - SOLID DOOR
			1-118/1 • 1-186/1
727553	TBD	2	Coffee Brewer - Facility Provided, Architect to Verify Model
			1-100B/1 ● 1-166/1
727801	MEDIVATORS	1	AER - Processor - Endoscopic - ADV-1007 w/Air Compress - Future 1-155/1
727801	MEDIVATORS	1	AER - Processor - Endoscopic - ADV-1007 w/Air Compress - per quote 1-155/1
	FOLLETT CORP	1	
728071	I OLLLI I CORF	1	rice Maker bill. Slope Front Storage 430lb #423-30
720071			1-135/1
730359	FOLLETT CORP	1	Ice-Dispenser. Ice and Water #25FB425A-L. Freestanding Symphony Plus
			1-131/1
800500	STRYKER COMMU	3	Surgical Ceiling [ASC] LH(x2) FPM(x2) Boom:E
			1-181/1 • 1-183/1 • 1-185/1
800505	STRYKER COMMU	2	Surgical Ceiling, Gl. LH(x0)/FPM(x2)/VidArm(x1)
			1-152/1 • 1-156/1



#### **CHART RECORDER**

Temperature Range: -115°C to +50°C

Dimentions: 8-43/64"(H) x 7-11/32"(W) x 4-1/4"(D)

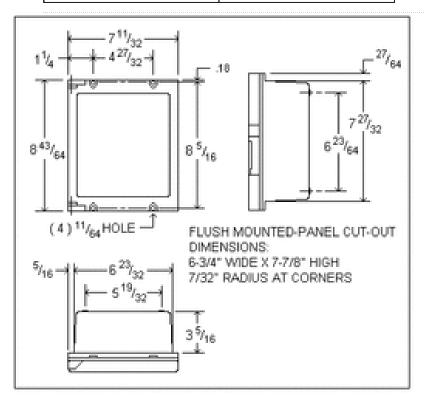
Chart Size: 6" - diameter

Please call us for a quote. (513) 772-9410.



7-day temperature recorder with 6" circular chart. The recorder has a battery back-up that will keep the recorder operating for approximately 24 hours after power failure. A pack of 52 charts are included.

Input Type:	RTD
Achievable Temperature Accuracy:	+/- 0.25 ° C (0.5 ° F)
Chart Rotation Speed:	7 day or 24 hour
Ambient Operating Conditions:	0 ° to +40 ° C, 0-95% RH, Non-condensing
Pen Type:	Pressure Sensitive Stylus
Battery Backup:	One 9 Volt Alkaline Battery
Battery Backup Life:	Minimum 24 hours



## **SCOPE BUDDY™PLUS**

Endoscope Flushing Aid





# A REVOLUTIONARY SOLUTION

#### TO AN EVOLUTIONARY PROCESS

SCOPE BUDDY™ PLUS Endoscope Flushing Aid helps create a consistent, reliable, and safe means to flush endoscope channels. It provides disposable tubing, increased data monitoring, and automated flushing modes to properly flush endoscopes.

Manual cleaning\* is the most important step in reprocessing endoscopes, ultimately helping to reduce the risk of Healthcare-associated infections.<sup>1</sup>

Over 1.7 million contracted HAIs/year Over 99,000 HAI deaths/year<sup>2</sup>

\* SCOPE BUDDY™ PLUS Endoscope Flushing Aid is only intended to be used as a Flushing Aid during the Manual Cleaning step of endoscope reprocessing. It is not intended to manually clean endoscopes.



#### THE COMPLETE CIRCLE OF PROTECTION

As the global vanguard in infection prevention, **only Cantel Medical delivers the Complete Circle of Protection**, a full-value, proactive partnership dedicated to helping you remove risk, streamline operational efficiencies and optimize your success.

MANUAL CLEAN Manual cleaning is essential in removing bioburden and preparing the endoscope for high-level disinfection. For optimal results, Cantel's manual cleaning products and detergents are designed to be a critical first step to efficiently and effectively eliminating bacteria on endoscopes prior to reprocessing.



## **BEST PRACTICE IS OUR PROMISE**

Industry Standards of Infection Prevention in Reprocessing Flexible GI Endoscopes confirm manual cleaning of endoscopes is necessary prior to high-level disinfection.\*

- Standardizing the process of cleaning endoscopes by utilizing both manual and automated methods will help ensure optimal cleaning while complying with the AAMI, Regulatory and Society Standards and Guidelines
- Recent investigations conclude that manual cleaning is clearly not being performed consistently or correctly resulting in serious negative patient outcomes<sup>3,4</sup>
- Performing meticulous manual cleaning is of paramount importance and implies that it should have the same attention to quality control as high-level disinfection and sterilization<sup>5</sup>

## Progressively Automated Thoroughly Validated

#### INCREASING SAFETY

- Reduce cross contamination risks by using 24-hour disposable tubing instead of reusable tubing
- Continuously monitor the endoscope manual flushing process with the Track and Trace features
- Validated 1:35 default flushing time to meet worst case flushing times for all major endoscope brands

#### IMPROVING EFFICIENCY

- Automatic and Manual Modes provide easy to use steps for a dependable flushing process
- Compatible with all major endoscope brands
- Improves staff efficiency by simultaneously flushing multiple endoscope channels

#### IMPACTING LIVES

- Best practice flushing standards help reduce the risk of hospital acquired infection breakouts for patients
- Consistent, hands-free flushing replaces repetitive and labor-intensive syringing of channels



Continuing our 40 year legacy in infection prevention





## THE MOST EXTENSIVE MANUAL CLEANING PORTFOLIO

- INTERCEPT™ Bedside Kit
- INTERCEPT<sup>™</sup> Wipes
- VERISCAN™ LT Automated Endoscope Leak Detection System
- PULL THRU™ Channel Cleaning Device
- SCOPE BUDDY™ PLUS Endoscope Flushing Aid
- INTERCEPT™ Detergent

#### SCOPE BUDDY™ PLUS Endoscope Flushing Aid Ordering Information

SCOPE BUDDY™ PLUS ENDOSCOPE FLUSHING AID		
MODEL NUMBER	DESCRIPTION	
SBP-1000	USA	
SBP-1001	INT	

ML02-0106	INTERCEPT <sup>™</sup> Detergent
ML02-0131	MEDICLEAN EZ™ Detergent
ACCESSORIES	
SB-110-HU1015	24-Hour Multi-Use Pump Tube
SB-110-HU1007	24-Hour Multi-Use Hookup for Olympus® Endoscopes
SB-110-HU1008	24-Hour Multi-Use Hookup for PENTAX® Endoscopes
SB-110-HU1009	24-Hour Multi-Use Hookup for FUJIFILM™ Endoscopes
SB-110-HU1010	24-Hour Multi-Use DSD Hookup Adapter
SB-110-HU1016	24-Hour Multi-Use Universal Hookup
SB-110-HU1012	Auxiliary Detergent Out Tube (24-Hour Multi-Use)
SB-110-HU1011	Detergent In Tube—Change with new detergent
SB-110-HU1017	Olympus® Air/Water Blank Cap



7.5" W (19 cm)

11.5" D (29.2 cm)

#### SCOPE BUDDY™ PLUS Endoscope Flushing Aid

DETERGENT
PART NUMBER

Unit Dimensions	
10.3 H x 7.5 W x 11.5 D (inches)	
26.2 H x 19 W x 29.2 D (cm)	
Unit Weight	
10 lbs (4.5 kg)	

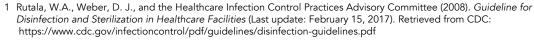
**DESCRIPTION** 

#### Warranty

15 Months from the date of shipment, or one year from date of installation, whichever comes first.

Electrical Requirements

100 – 240 V, 50/60 Hz



- 2 Centers for Disease Control, Preventing Healthcare-Associated Infections. Retrieved from CDC: https://www.cdc.gov/washington/~cdcatWork/pdf/infections.pdf
- 3 FDA Safety Communication Design of Endoscopic Retrograde Cholangiopancreatography (ERCP) Duodenoscopes May Impede Effective Cleaning. March 2015. http://www.fda.gov/medicaldevices/safety/alertsandnotices/ucm434871.htm.
- 4 Zachary L. Smith, Young S. Oh, Kia Saeian, Charles E. Edmiston Jr, Abdul H. Khan, Benson T. Massey, Kulwinder S. Dua, 2015. Transmission of carbapenem-resistant Enterobacteriaceae during ERCP: time to revisit the current reprocessing guidelines. Gastrointestinal Endoscopy 81(4) pp.1041-1045.
- 5 Infection Control during GI Endoscopy. ASGE Standard of Practice Committee. Gastrointestinal Endoscopy. 2008. Vol. 67. No. 6 pp.781-790.

\*SCOPE BUDDY™ PLUS Flushing Aid is only intended to be used as a Flushing Aid during the Manual Cleaning step of endoscope reprocessing. It is not intended to manually clean endoscopes.

SCOPE BUDDY $^{\infty}$ , INTERCEPT $^{\infty}$ , VERISCAN $^{\infty}$ , and MEDICLEAN EZ $^{\infty}$  are registered trademarks of Medivators Inc. All other company and product names are trademarks of their respective owners.



#### **MEDIVATORS IS NOW CANTEL**

#### www.medivators.com

TO PLACE AN ORDER

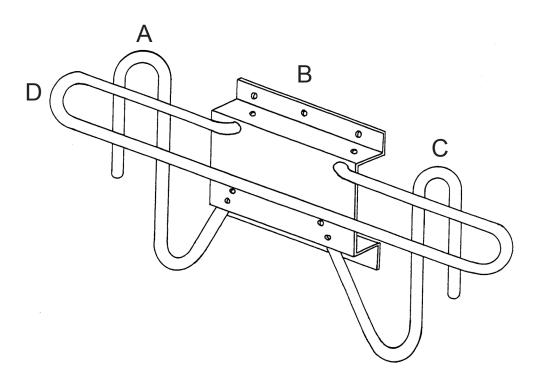
p: 1.800.328.3340 (customer service) f: 1.800.686.8493 e: custserv@medivators.com



Cryostat (Generic)	Width (with handwheel):	730 mm (28.7 in)
	Depth:	730 mm (28.7 in)
	Height:	1140 mm (44.8 in)
	Weight (including microtome, without specimen coding):	Approx. 135 kg (298 lbs)
	Section thickness selection:	1 - 100 µm
	Total specimen feed:	25 mm
	Vertical specimen stroke:	59 mm
	Maximum specimen speed:	55 x 55 mm or 50 x 80mm
	Electric	115/60/1. 1440 VA

Must leave clearance on right to allow turning of the wheel

## ASSEMBLY INSTRUCTIONS FOR THE WOLF TRI-RAK APRON AND GLOVE HANGER STOCK #16400



Insert glove holders (A and C) into holes on the bottom of the wall holder (B) and screw them in with the screws provided.

Insert apron hanger (D) into holes at the top of the front of the wall holder (B) and screw it into place with the screws provided.

Screw the assembled unit onto the wall using the 6 holes provided in the wall holder. Use heavy screws appropriate to the material being attached to.

The type of screws required would depend on the material it is being attached to; wood, plasterboard etc. For the weight, you should figure 15 pounds for an apron and gloves are 4 pounds each.

100 West Industry Court Deer Park, NY 11729 info@wolfxray.com www.wolfxray.com Phone: 631.242.9729

Fax: 631.242.1001



## Cactus Pharma Lock® OR

## Controlled Substance Waste Management System

Designed for liquid waste, Stryker's Cactus Pharma Lock OR System provides the same function as the Cactus Smart Sink System – rendering partially-administered controlled substance waste unusable and non-recoverable – but with a more compact housing.

Perfect for operating or procedure rooms, hospitals or surgery centers, or anywhere drugs are dispensed, the Cactus Pharma Lock OR System is conveniently sized to fit on anesthesia carts, walls or countertops.



#### **Features:**

- Small, compact unit
   (9.25"W x 8.5"H x 7.5"D)
- Includes Bio-Ex antimicrobial coating
- Accepts Cactus Smart Sink Liquid Cartridges\*
- Holds approximately 3.0 liters of liquid waste
- Incorporates a backsplash shield for injecting liquids
- Requires no power source
- Includes security lock and key
- Optional hanging bracket kit available





#### Stryker's Cactus Smart Sink and Pharma Lock OR System part numbers

#### **Cactus Smart Sink System**

0085-013-000 Cactus Smart Sink Unit w/ battery kit 0085-001-000 Cactus Smart Sink Unit w/ power adapter kit

Kits include all items marked below. Marked items can also be purchased

seperately.

 0085-006-000
 Cactus Smart Sink Power Adapter\*

 0085-005-000
 Cactus Smart Sink Battery\*

 0085-000-002
 Cactus Smart Sink Patch Plunger\*

 0085-000-003
 Cactus Smart Sink Mounting Bracket\*

 0085-007-000
 Cactus Smart Sink Hardware Kit\*

 0085-000-005
 Cactus Smart Sink Security Key\*

 0085-000-004
 Cactus Smart Sink Lock Set\*

#### **Cactus Pharma Lock OR System**

0085-002-001 Cactus Pharma Lock OR Unit
0085-008-000 Cactus Pharma Lock OR Hardware Kit

#### Cactus Pharma Lock System

0085-002-000 Cactus Pharma Lock (Cage only)

#### **Cartridges**

 0085-003-000
 Liquids cartridge (4 pack)

 0085-004-000
 Solids cartridge (4 pack)

 0085-009-000
 Mixed cartridge (4 pack: 2/2)

 0085-003-001
 Cartridge packaging

# For questions or to place your order today, please contact your Surgical Safety representative or call 800 253 3210.

The information presented is intended to demonstrate the breadth of Stryker's product offerings. A healthcare professional must always refer to the package insert, product label and/or instructions for use before using any of Stryker's products. Products may not be available in all markets because product availability is subject to the regulatory and/or medical practices in individual markets. Please contact your Stryker representative if you have questions about the availability of Stryker's products in your area.

Substance Waste Management Systems Instructions for Use (IFU) for complete details.

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Stryker Instruments
4100 East Milham Avenue
Kalamazoo, MI 49001 USA
t: 269 323 7700 f: 800 999 3811
toll free: 800 253 3210

Literature number: 9100-004-576 Rev A PF/PS

## **Cactus Smart Sink®**

## Controlled Substance Waste Management System

Stryker's Cactus Smart Sink System securely captures unused pharmaceutical waste and renders it unusable and non-recoverable – ensuring discarded medications do not end up in the wrong hands or negatively impact the environment.

The Cactus Smart Sink System is designed to accept raw liquid pharmaceuticals directly from syringes, vials or IV bags, and features a one-way funnel that accepts tablets, capsules and patches.

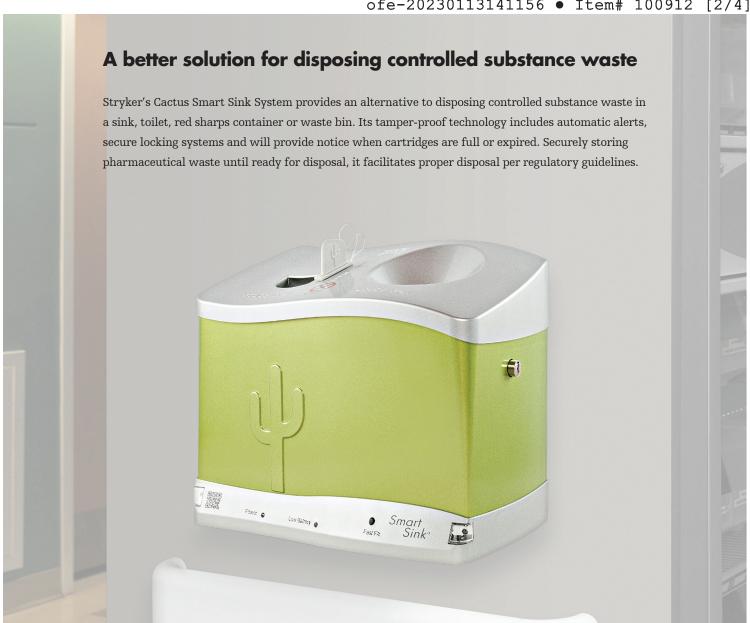


#### With the Cactus Smart Sink System, you can:

- Reduce opportunities for drug diversion
- Bring your facility into compliance with disposal requirements
- Help protect the environment

#### **Features:**

- 15.5"W x 12.5"H x 9.5"D
- Holds approximately 1.7 liters of solid waste
- Holds approximately 3.0 liters of liquid waste
- "Fast fill" button accommodates waste disposal in large quantities
- Audible and visual alerts notify staff when cartridges become full or expire, or when unit has been accessed
- Includes battery or optional AC power adapter
  - Includes security lock and key



#### Easy to install, easy to use

The battery-powered Cactus Smart Sink System conveniently mounts on a wall or countertop in minutes and can be used anywhere medications are dispensed or administered by healthcare professionals.

Automatic alerts will sound when the cartridges are full, have expired or when the unit has been accessed. A low-battery warning light will alert staff when battery replacement is required (with normal use, the battery typically lasts twelve months).



#### AC adapter power option for the Cactus Smart Sink System

Eliminating the need for replacement batteries, the AC adapter converts the Cactus Smart Sink System to plug-in power.

- Available individually or as part of the Cactus Smart Sink System
- Includes a power supply and 7-foot cord
- Requires near-by outlet









## **ProCare** Services

Our ProCare Services solution helps minimize downtime by providing timely equipment replacements at a fixed cost. Please contact your Surgical Safety representative for detailed ProCare Services information.



#### Stryker's Cactus Smart Sink and Pharma Lock OR System part numbers

#### **Cactus Smart Sink System**

0085-013-000 Cactus Smart Sink Unit w/ battery kit 0085-001-000 Cactus Smart Sink Unit w/ power adapter kit

Kits include all items marked below. Marked items can also be purchased

seperately.

0085-006-000 Cactus Smart Sink Power Adapter\*
0085-005-000 Cactus Smart Sink Battery\*
0085-000-002 Cactus Smart Sink Patch Plunger\*
0085-000-003 Cactus Smart Sink Mounting Bracket\*
0085-007-000 Cactus Smart Sink Hardware Kit\*
0085-000-005 Cactus Smart Sink Security Key\*
0085-000-004 Cactus Smart Sink Lock Set\*

#### Cactus Pharma Lock OR System

0085-002-001 Cactus Pharma Lock OR Unit
0085-008-000 Cactus Pharma Lock OR Hardware Kit

#### **Cactus Pharma Lock System**

0085-002-000 Cactus Pharma Lock (Cage only)

#### **Cartridges**

 0085-003-000
 Liquids cartridge (4 pack)

 0085-004-000
 Solids cartridge (4 pack)

 0085-009-000
 Mixed cartridge (4 pack: 2/2)

 0085-003-001
 Cartridge packaging

# For questions or to place your order today, please contact your Surgical Safety representative or call 800 253 3210.

The information presented is intended to demonstrate the breadth of Stryker's product offerings. A healthcare professional must always refer to the package insert, product label and/or instructions for use before using any of Stryker's products. Products may not be available in all markets because product availability is subject to the regulatory and/or medical practices in individual markets. Please contact your Stryker representative if you have questions about the availability of Stryker's products in your area.

Substance Waste Management Systems Instructions for Use (IFU) for complete details.

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Stryker Instruments
4100 East Milham Avenue
Kalamazoo, MI 49001 USA
t: 269 323 7700 f: 800 999 3811
toll free: 800 253 3210

Literature number: 9100-004-576 Rev A PF/PS

### Frigidaire



Top Freezer Refrigerator

17.6 Cu. Ft. Top Freezer Refrigerator

FFHT1822UW, FFHT1822UB, FFHT1822UV

Available Colors: White, Black, Brushed Steel

Version: 02/22

**Door Stops** 

Door Swing Rear Rollers

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Air Filter	No
Crisper Color	Clear
Dairy Bin	Yes
Door Bin Color	White
Humidity Controls	Manual
Interior Lighting	LED
Shelf Material	Glass
Number of Fixed Gallon Door Bins	2
Number of Other Door Bins	1
Total Number of Door Bins	3
Number of Adjustable Shelves	2
Number of Fixed Shelves	1
Number of Crispers	2

#### Freezer

Automatic Defrost	Yes
Door Bin Color	White
Shelf Material	Wire
Number of Fixed Door Bins	2
Total Number of Door Bins	2
Number of Adjustable Shelves	1
Total Number of Shelves	1

#### Ice Maker

Ice Maker	No
Ice Maker Ready	Yes
Ice Shape	Pyramid

#### Controls

Control Location	Top Center of Fresh Food
Door Ajar Alarm	Yes
Power On/Off	Yes

## Exterior Door Finish Smooth

Dimensions	and	Vo	lume

2 6 6 6 6 6	
Height With Hinge	66.93"
Height Without Hinge	66 2/10"
Width	27 87/100"
Width of Cabinet	27 87/100"
Depth of Cabinet	27 6/10"
Depth With Door	30 8/10"
Depth With Door 90° Open	56 1/2"
Depth With Door and Handle	30 8/10"
Freezer Capacity	4.3 Cu. Ft.
Fresh Food Capacity	13.3 Cu. Ft.
Total Capacity	17.6 Cu. Ft.

Yes Reversible

Yes

15 Amps

1 Year

## Electrical Specifications Minimum Circuit Required

General Specifications	
Annual Energy	360 kWh
Leveling Legs	Yes
Prop 65 Label	Yes
Refrigerant Type	R-600A
Warranty - Labor	1 Year

#### **Certifications and Approvals**

Warranty - Parts

ADA Compliant	No

#### Performance Certifications and Approvals ENERGY STAR Certified

Safety	Certifications	and a	Annroval	lc

Juicty	CCI tillcation	is arra /	(ppi ovais
CSA List	ed		

Yes

Yes

Note: For planning purposes only. Always consult local and national electric, gas and plumbing codes.

Refer to Product Installation Guide for detailed installation instructions on the web at <a href="frigidaire.com">frigidaire.com</a> / <a href="frigi

by T King 4-16-15

## PEB7226SF/EH

## GE Profile™ Series 2.2 Cu. Ft. Countertop Microwave Oven

#### Dimensions and Installation Information (in inches)

Exterior Dimensions (in inches)		
WxHxD	24-1/8 × 14 × 19-3/4	

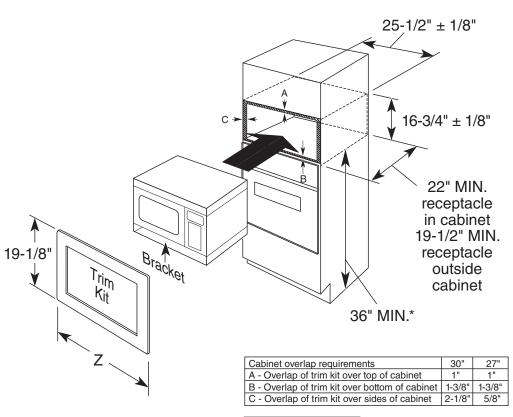
## Optional Accessory Trim Kits for GE Microwave Ovens (Available at additional cost)

For a custom built-in appearance, these kits allow built-in installation of the countertop microwave oven into a wall or cabinet alone and are U.L. approved for installation over a GE single electric wall oven. These kits should not be installed over a gas wall oven.

Accessory trim kits	"Z"	Max Height	Trim Kits
30" Deluxe	29-3/4"	19-1/8"	JX7230SFSS - Stainless Steel
			JX7230EHES - Slate
27" Deluxe	26-3/4"	19-1/8"	JX7227SFSS - Stainless Steel

**Note:** 120V, 60-cycle, grounded power receptacle location optional on back within cabinet opening.

**Installation Information:** This information is not intended to be used for installing unit described. Before installing, consult installation instructions packed with product/kit for current dimensional data.



\*For ADA compliance, the microwave must be installed no higher than 36-1/4".

Allow an additional inch of clearance beyond trim frame on all sides



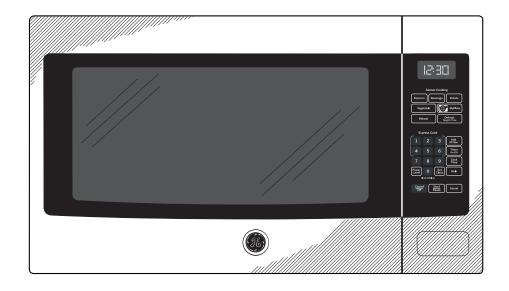


## PEB7226SF/EH

## GE Profile™ Series 2.2 Cu. Ft. Countertop Microwave Oven

#### **Features and Benefits**

- 2.2 cu. ft. capacity 1100 watts (IEC-705 test procedure)
- Sensor cooking controls Automatically adjusts time and power
- Optional built-in trim kit Custom appearance and built-in convenience
- Weight and time defrost Simply enter the weight of the food, and the oven automatically sets the optimal defrosting time and power level or set your desired time for defrosting
- Extra-large 16" turntable Rotates food throughout the cycle and accommodates large cookware
- Instant on controls One-touch instant operation
- Control lockout Helps prevent accidental activation
- Add 30 seconds Add 30 seconds of microwave cooking time
- Kitchen timer Minute timer helps keep you on track
- Model PEB7226SFSS Stainless steel
- Model PEB7226EHES Slate







ofe-20230113141156 • Item# 430260 [3/3]

ITEM # 430260 Page 3 of 3 by T King 4-16-15

## END OF SPECIFICATION

## Frigidaire Professional



#### All Refrigerator

19 Cu. Ft. Single-Door Refrigerator

FPRU19F8WF

Available Colors: Stainless Steel

Version: 06/22

CSA Listed

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				$\overline{}$					

Air Filter	Yes
Crisper Color	Smokey
Door Bin Color	Smokey
Humidity Controls	Automatic
Interior Lighting	LED
Shelf Material	Glass
Water Filter	Yes
Number of Other Door Bins	4
Total Number of Door Bins	4
Number of Adjustable Shelves	2
Number of Fixed Shelves	1
Number of Pull Out Shelves	1
Number of Crispers	2

Annual Energy	301 kWh
Condenser Type	Dynamic
Cooling System	Single Evaporator
Leveling Legs	Yes
Prop 65 Label	Yes
Refrigerant Type	R-600A
Warranty - Labor	1 Year
Warranty - Parts	1 Year

## Performance Certifications and Approvals

Approvals ENERGY STAR Certified	Yes	
Safety Certifications and Appro	vals	

Yes

#### Controls

COLICIOIS	
Air Filter Indicator	Yes
Digital Display	Yes
Door Ajar Alarm	Yes
Power Failure Alarm	Yes
Sabbath Mode	Yes
Vacation Mode	Yes
Water Filter Indicator	Yes

#### **Dimensions and Volume**

Height With Hinge	72 1/2"
Height Without Hinge	71 1/2"
Width of Cabinet	32 7/8"
Depth With Door	27"
Depth With Door 90° Open	58 1/4"
Fresh Food Capacity	18.9 Cu. Ft.

#### **Electrical Specifications**

Minimum Circuit Required 15 Amps

#### **General Specifications**

Note: For planning purposes only. Always consult local and national electric, gas and plumbing codes.

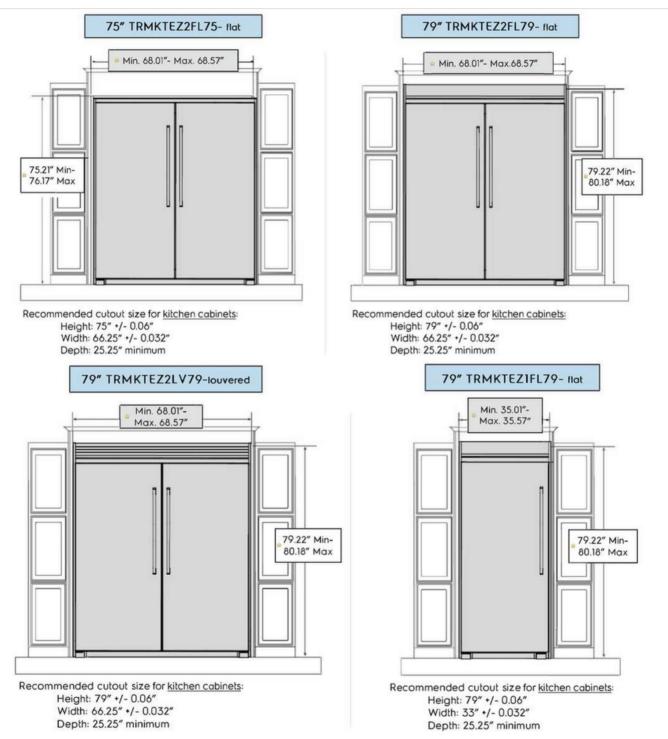
Refer to Product Installation Guide for detailed installation instructions on the web at <a href="frigidaire.com">frigidaire.com</a> / <a href="frigi

### Frigidaire Professional

#### 19 Cu. Ft. Single-Door Refrigerator

#### FPRU19F8WF

Version: 06/22



\*\* For replacement business, we can accommodate a 66" cutout width, but it will be a very tight lit.

Note: For planning purposes only. Always consult local and national electric, gas and plumbing codes.

Refer to Product Installation Guide for detailed installation instructions on the web at <a href="frigidaire.com">frigidaire.com</a> / <a href="frigi

Denotes trim kit dimensions only



Key Specs	See All Specifications >		
Product Height (i)	69 5/8 inches		
Product Width (i)	35 7/8 inches		
Height To Top Of Refrigerator (Without Hinges) (j)	68 5/8 inches		
Height To Top Of Door Hinge (i)	69 5/8 inches		
Depth Without Handle (i)	31 5/8 inches		

Depth With Handle (i)	33 5/8 inches
Total Capacity	25.1 cubic feet
Refrigerator Style	Side-by-Side
Lighting Type	LED
Ice Maker	No
App Compatible (i)	No
Color Finish	Stainless steel





Refrigerator: Measure Twice, Deliver Once



**Delivery & Installation Requirements** 

Overview			~
Specifications			^
Key Specs	Product Height (i)	69 5/8 inches	
	Product Width (i)	35 7/8 inches	
	Height To Top Of Refrigerator (Without Hinges)	68 5/8 inches	
	Height To Top Of Door Hinge (i)	69 5/8 inches	
	Depth Without Handle (1)	31 5/8 inches	
	Depth With Handle (j)	33 5/8 inches	
	Total Capacity	25.1 cubic feet	
	Refrigerator Style	Side-by-Side	
	Lighting Type	LED	
	Ice Maker	No	Help
	App Compatible (i)	No	

**Color Finish** 

Whirlpool 25.1 Cu. Ft. Side-by-Side Refrigerator Stainless steel WRS315SNHM - Best Buy Stainless steel

General	Product Name	25.1 Cu. Ft. Side-by-Side Refrigerator	
	Brand	Whirlpool	
	Model Number	WRS315SNHM	
	Color	Stainless steel	
	Color Category	Silver	
	Color Finish	Stainless steel	
Dimension	Product Height (i)	69 5/8 inches	
	Product Width (i)	35 7/8 inches	
	Product Depth (i)	33 5/8 inches	
	Height To Top Of Refrigerator (Without Hinges) (i)	68 5/8 inches	
	Height To Top Of Door Hinge (i)	69 5/8 inches	
	Standardized Width (i)	36 inches	
	Counter Depth (i)	No	
	Depth Without Handle (i)	31 5/8 inches	
	Depth With Handle (i)	33 5/8 inches	
	Depth Without Door (j)	28 inches	
	Depth With Door 90 Degrees Open (i)	49 5/16 inches	
	Product Weight (j)	262 pounds	
Cut-Out Dimensions	Cut-Out Height (i)	70 1/8 inches	
	Cut-Out Width (i)	36 7/8 inches	
	Cut-Out Depth (i)	34 5/8 inches	
Capacity	Total Capacity	25.1 cubic feet	
	Refrigerator Capacity (j)	15.5 cubic feet	
	Freezer Capacity (i)	9.6 cubic feet	
Features	Configuration (i)	Freestanding	
	Refrigerator Style	Side-by-Side	
	Fingerprint Resistant	No	Help

Whirlpool 25.1 Cu. Ft. Side-by-Side Refrigerator Stainless steel WRS315SNHM - Best Buy 12/17/21, 9:28 AM No Convertible Temperature Zone (i) No **Door-Open Alarm Temperature Control Type** Electronic Automatic Defrost Type (i) Not Applicable **Hinge Setting** LED **Lighting Type** Ice and Water No Ice Maker None Ice and Water Dispenser Storage 2 **Number of External Doors/Drawers** 4 Number\_of\_Refrigerator\_Shelves Adjustable Refrigerator Shelf Style **Number of Freezer Shelves** Adjustable Freezer Shelf Style Yes Dairy Center (i) Yes Gallon Door Storage (i) **Humidity-Controlled Crisper** Yes Glass **Refrigerator Shelf Material** Freezer Info Yes Freezer Compartment Bottom Freezer Location Swing Door Freezer Door Type Wire Freezer Shelf Material Yes Freezer Interior Light Filter Info No **Water Filtration** Air Filter (i) No **Electrical Specification** 20 amperes Amperage (i) Certifications Listings & No **ENERGY STAR Certified** (i) **Approvals** No ADA Compliant (i) Help



#### RELIANCE™ ENDOSCOPE STORAGE CABINETS

#### **APPLICATION**

The Reliance Endoscope Storage Cabinet (ambient ventilated) is designed to ensure a clean storage location for disinfected endoscopes and to protect the endoscopes from damage while in storage. The cabinet allows the operator to easily see the number of endoscopes currently in storage.

The Reliance Endoscope Drying Cabinets provide HEPA filtered cabinet air and HEPA air purge of endoscope channels. The drying cabinets are designed to ensure a clean and secure storage location for disinfected endoscopes. Touchscreen and barcode system tracks and records endoscope hangtime, provides cabinet access control and provides data output via USB.

#### **DESCRIPTION**

Reliance Endoscope Storage and Drying Cabinets are freestanding cabinets of welded 304 stainless-steel construction with tempered glass windows in hinged doors.

Endoscope capacity ranges from 6, 10, 16 to 20 scopes, depending on the model.

The cabinets are equipped with internal cabinet LED lighting.

All models include a removable bottom stainless-steel drip pan. The drip pan allows for access to the floor below the cabinet for cleaning, and to the adjustable leveling feet for any required adjustments during installation.



(Typical only - some details may vary.)

#### The Selections Checked Below Apply To This Equipment

#### **4000 SERIES MODEL**

- Endoscope Storage Cabinet; Ambient Ventilated; 6 Scope Capacity (REC4062D)
- ☐ Endoscope Storage Cabinet; Ambient Ventilated; 10 Scope Capacity (REC4102D)
- ☐ Endoscope Storage Cabinet; Ambient Ventilated; 16 Scope Capacity (REC4162D)
- ☐ Endoscope Storage Cabinet; Ambient Ventilated; 20 Scope Capacity (REC4202D)

#### **5000 SERIES MODEL**

- Endoscope Storage Cabinet; HEPA Filter; 6 Scope Capacity, Side Compartment (REC5062DS)
- ☐ Storage Cabinet; HEPA Filter; 10 Scope Capacity, Side Compartment (REC5102DS)
- ☐ Storage Cabinet; HEPA Filter; 16 Scope Capacity, Side Compartment (REC5162DS)
- ☐ Storage Cabinet; HEPA Filter; 20 Scope Capacity, Side Compartment (REC5202DS)
- ☐ Storage Cabinet; HEPA Filter; 6 Scope Capacity, Add-On (REC5062DSA)
- □ Storage Cabinet; HEPA Filter; 10 Scope Capacity, Add-On (REC5102DSA)

#### 5000 SERIES MODEL (CONT'D)

- ☐ Storage Cabinet; HEPA Filter; 16 Scope Capacity, Add-On (REC5162DSA)
- ☐ Storage Cabinet; HEPA Filter; 20 Scope Capacity, Add-On (REC5202DSA)

#### **6000 SERIES MODEL**

- Endoscope Drying Cabinet; HEPA Filter; 6
   Scope Capacity, Side Compartment (REC6062DS)
- Endoscope Drying Cabinet; HEPA Filter; 10 Scope Capacity, Side Compartment (REC6102DS)
- Endoscope Drying Cabinet; HEPA Filter; 16 Scope Capacity, Side Compartment (REC6162DS)
- Endoscope Drying Cabinet; HEPA Filter; 20 Scope Capacity, Side Compartment (REC6202DS)
- ☐ Endoscope Drying Cabinet; HEPA Filter; 6 Scope Capacity, Add-On (REC6062DSA)
- ☐ Endoscope Drying Cabinet; HEPA Filter; 10 Scope Capacity, Add-On (REC6102DSA)
- ☐ Endoscope Drying Cabinet; HEPA Filter; 16 Scope Capacity, Add-On (REC6162DSA)

#### 6000 SERIES MODEL (CONT'D)

☐ Endoscope Drying Cabinet; HEPA Filter; 20 Scope Capacity, Add-On (REC6202DSA)

Item	
Location(s)	
( )————	

#### **STANDARDS**

Reliance Endoscope Storage Cabinets are tested and designed for compliance with the following codes:

- UL 61010-1
- CSA C22.2 No. 0
- CSA C22.2 No. 0.4

#### **FEATURES**

#### 4000 Series, 5000 Series and 6000 Series

**LED light** allows endoscopes to be clearly seen.

**Stainless-steel drip pan** allows access to floor below the cabinet for cleaning, and to adjustable leveling feet for any required adjustments during installation.

#### 5000 Series

**Yellow/Red Indicator lights** show when pre-filters, in-line filters and HEPA filter need replaced.

Yellow light indicates pre-filters and in-line filters need replaced.

Red light indicates HEPA filter needs replaced.

#### 5000 Series/6000 Series

**Side Component** configurations allow for flexibility in designing and optimizing your storage suite for floor space maximization and serviceability.

**Rubber Coated Stainless-Steel Hangers** are durable and are available for large and small diameter endoscopes and for TEE probes.

#### 6000 Series

**HEPA Filtered Air Purge** assists in the drying of endoscopes.

**Tubing Sets** are configured specifically for the manufacturer and type of endoscope to ensure fit and aid the drying process.

**Hangtime Alerts** advise when endoscopes are nearing their user-selected hangtime limits before reprocessing.

**10" Touchscreen** provides clear and intuitive operation for tracking, entering and removing endoscopes.

**Barcode Scanner** records information for the scope and the operator.

#### **UTILITY REQUIREMENTS**

CUSTOMER IS RESPONSIBLE FOR COMPLIANCE WITH APPLICABLE LOCAL AND NATIONAL CODES AND REGULATIONS.

**Electrical** – The unit is compatible with the following ratings:

• 120 Vac, 60 Hz, 15 Amp standard duplex receptacle

#### PREVENTIVE MAINTENANCE

A global network of skilled service specialists can provide periodic inspections and adjustments to help ensure low-cost peak performance. STERIS representatives can provide information regarding annual maintenance agreements.

#### **NOTES**

 Reference the appropriate Reliance Endoscope Storage Cabinet equipment drawing for important installation requirements and details.

The base language of this document is ENGLISH. Any translations must be made from the base language document.

#### **SPECIFICATIONS**

Table 1. Reliance 4000 Series Endoscope Storage Cabinets

Model Number	Description	Dimensions
	Ambient Ventilated	
REC4062D	Stainless-Steel Endoscope Storage Cabinet; 6 Scope Capacity	24" W x 24" D x 92" H (610 x 610 x 2337 mm)
REC4102D	Stainless-Steel Endoscope Storage Cabinet; 10 Scope Capacity	30" W x 24" D x 92" H (762 x 610 x 2337 mm)
REC4162D	Stainless-Steel Endoscope Storage Cabinet; 16 Scope Capacity	36" W x 24" D x 92" H (914 x 610 x 2337 mm)
REC4202D	Stainless-Steel Endoscope Storage Cabinet; 20 Scope Capacity	44" W x 24" D x 92" H (1118 x 610 x 2337 mm)

Table 2. Reliance 5000 Series Endoscope Storage Cabinets

Model Number	Description	Dimensions	
	HEPA Filter Ventilation; Storage, Side Compartment		
REC5062DS	Stainless-Steel Endoscope Storage Cabinet; HEPA Filter; 6 Scope Capacity, Side Compartment	37" W x 24" D x 92" H (940 x 610 x 2337 mm)	
REC5102DS	Stainless-Steel Endoscope Storage Cabinet; HEPA Filter; 10 Scope Capacity, Side Compartment	43" W x 24" D x 92" H (1092 x 610 x 2337 mm)	
REC5162DS	Stainless-Steel Endoscope Storage Cabinet; HEPA Filter; 16 Scope Capacity, Side Compartment	49" W x 24" D x 92" H (1245 x 610 x 2337 mm)	
REC5202DS	Stainless-Steel Endoscope Storage Cabinet; HEPA Filter; 20 Scope Capacity, Side Compartment	57" W x 24" D x 92" H (1448 x 610 x 2337 mm)	
REC5062DSA	Stainless-Steel Endoscope Storage Cabinet; HEPA Filter; 6 Scope Capacity, Add-On	24" W x 24" D x 92" H (610 x 610 x 2337 mm)	
REC5102DSA	Stainless-Steel Endoscope Storage Cabinet; HEPA Filter; 10 Scope Capacity, Add-On	30" W x 24" D x 92" H (762 x 610 x 2337 mm)	
REC5162DSA	Stainless-Steel Endoscope Storage Cabinet; HEPA Filter; 16 Scope Capacity, Add-On	36" W x 24" D x 92" H (914 x 610 x 2337 mm)	
REC5202DSA	Stainless-Steel Endoscope Storage Cabinet; HEPA Filter; 20 Scope Capacity, Add-On	44" W x 24" D x 92" H (1118 x 610 x 2337 mm)	

Table 3. Reliance 6000 Series Endoscope Drying Cabinets

Model Number	Description	Dimensions
REC6062DS	Stainless-Steel Endoscope Drying Cabinet; HEPA Filter; 6 Scope Capacity, Side Compartment	37" W x 24" D x 92" H 940 x 610 x 2337 mm)
REC6102DS	Stainless-Steel Endoscope Drying Cabinet; HEPA Filter; 10 Scope Capacity, Side Compartment	43" W x 24" D x 92" H (1092 x 610 x 2337 mm)
REC6162DS	Stainless-Steel Endoscope Drying Cabinet; HEPA Filter; 16 Scope Capacity, Side Compartment	49" W x 24" D x 92" H (1245 x 610 x 2337 mm)
REC6202DS	Stainless-Steel Endoscope Drying Cabinet; HEPA Filter; 20 Scope Capacity, Side Compartment	57" W x 24" D x 92" H (1448 x 610 x 2337 mm)
REC6062DSA	Stainless-Steel Endoscope Drying Cabinet; HEPA Filter; 6 Scope Capacity, Add-On	24" W x 24" D x 92" H (610 x 610 x 2337 mm)
REC6102DSA	Stainless-Steel Endoscope Drying Cabinet; HEPA Filter; 10 Scope Capacity, Add-On	30" W x 24" D x 92" H (762 x 610 x 2337 mm)
REC6162DSA	Stainless-Steel Endoscope Drying Cabinet; HEPA Filter; 16 Scope Capacity; Add-On	36" W x 24" D x 92" H (914 x 610 x 2337 mm)
REC6202DSA	Stainless-Steel Endoscope Drying Cabinet; HEPA Filter; 20 Scope Capacity, Add-On	44" W x 24" D x 92" H (1118 x 610 x 2337 mm)

#### For Further Information, contact:



STERIS Corporation 5960 Heisley Road Mentor, OH 44060-1834 • USA 440-354-2600 • 800-548-4873 www.steris.com





Shown with SensorSAFE

#### SensorSAFE infrared dispense



SensorSAFF not recommended for use with clear containers or for applications in direct sunlight

Ice and water dispensers, 115V/60 Hz						
Ice storage capacity	Dispense	Item number				
12 lb	Lever	air	12CI425A-L			
(5.4 kg) SensorSAFE air 12CI425A-S						

Ice-only available, add -I Example: 12CI425A-LI

Ice production					
Temperatures air/water	70/50 F (21/10 C)	90/70 F (32/21 C)			
Air-cooled	425 lb (193.0 kg)	325 lb (147.6 kg)			
Energy consumption per 100 lb (45.4 kg) ice	N/A	6.3 kWh air-cooled			
Water consumption	12.0 gal (45.4 L) of potable water per 100 lb (45.4 kg) of ice				

## Symphony Plus Page 1 of 3 by D Dial 10-22-14 received water dispersions

#### 12 CI series countertop with Chewblet<sup>®</sup> ice machine

#### **Features**

Narrow, 16.12" (40.9 cm) width

12 lb (5.4 kg) ice storage capacity

Integral air-cooled ice machine with up to 425 lb (193.0 kg) daily production of popular Chewblet ice

- soft, chewable, compressed nugget ice is preferred over cubes<sup>1</sup> and is ideal for patient care
- New Quiet Night<sup>™</sup> sleep mode turns off ice machine when idle

#### Designed with sanitation in mind

- New automatic self-flushing of ice machine removes impurities
- New drain cup provides internal air gap for added protection of food zone components from drain line contaminants
  - Agion® silver-based antimicrobial provides protection of key ice and water contact components<sup>2</sup>
  - one-hand lever or SensorSAFE infrared ice dispense

#### Dependable design, easy to service and clean

- New cleaning and sanitizing of entire machine takes only 1 hour
- New LED display control board provides at-a-glance machine status
  - panels are easily removed for accessibility to all components
  - ice machine parts are common across all Symphony Plus dispensers
  - stainless steel evaporator and auger deliver long life

#### Environmentally responsible

- meets Consortium for Energy Efficiency Tier 2 specifications
- R404a refrigerant has zero ozone depletion potential
- ice-only dispensers are ENERGY STAR® certified
- continuous ice making process uses less electricity and water

#### Durable, attractive dispenser

- frame and exterior cabinet are stainless steel with accent trim
- poly drain pan, grille and dispenser lid are corrosion-resistant

#### Easy installation and industry's best warranty

- comes fully assembled and installs with three easy connections – electric, water and drain
- warranty 3 years parts and labor, 5 years compressor parts

#### Accessories

Base stand (item# AF12CABINET)

801 Church Lane | Easton, PA 18040, USA 1.800.523.9361 | Fax: +1.610.252.7301 | follettice.com

4.00" (10.16 cm) leg kit (item# AF10LBLEGS)

SafeCLEAN<sup>™</sup> environmentally responsible ice machine cleaner (item# 00132001)

Nu-Calgon® IMS-II sanitizer, 16 oz bottle (item# 00979674)

Additional filters (refer to form# 6380, 9905, 6070)

Additional Symphony Plus accessories (refer to price list)

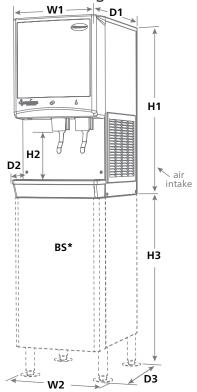


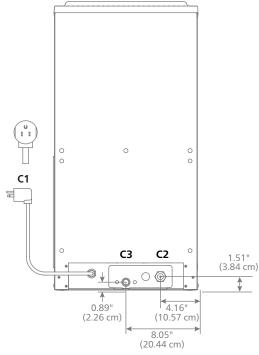
Specification	
Ice storage capacity	12 lb (5.4 kg)
<b>W1</b> Width	16.12" (40.9 cm)
<b>W2</b> Width, base stand accessory	17.5" (44.4 cm)
<b>D1</b> Depth, dispenser	23.50" (59.7 cm)
D2 Depth, drain pan	5.50" (13.97 cm)
D3 Depth, base stand accessory	22.00" (55.9 cm)
<b>H1</b> Height, dispenser	32.50" (82.6 cm)
<b>H2</b> Dispense height clearance	9.38" (23.83 cm)
H3 Height, base stand accessory	33.00" (83.8 cm)
Ventilation clearance	6.00" (15.24 cm) top and right side
Service clearance	12.00" (30.5 cm) top
Utility connection location	through back or bottom
<b>C1</b> 115 V/60/1 electrical	11 amps, 0.8 kW 8.5' (2.6 m) cord w/ NEMA 5-15 90° hospital-grade plug
C2 Potable water inlet	3/8" FPT
C3 Drain	3/4" MPT
Air temperature	50 -100 F (10 - 38 C)
Water temperature	45 - 90 F (7 - 32 C)
Water pressure	10 - 70 psi (69 - 483 kpa)
Heat rejection	5000 BTU/hr
Approximate ship weight	199 lb (90.3 kg)
Approximate ship weight, base stand accessory	80 lb (36.3 kg)

NOTE: For indoor use only

SHORT FORM SPECIFICATION: (Choose one) \_\_\_ Ice and water or \_\_\_ ice-only dispenser to be Follett® automatic load in countertop configuration, with 12 lb (5.4 kg) of storage and separate ice and water chutes. Dispenser cabinet to be of stainless steel. Environmentally responsible R404a air-cooled ice machine to have 24 hour production capacity of approximately 425 lb (193.0 kg) of Chewblet compressed nugget ice at water temp. of 70 F (21 C); air temp. of 50 F (10 C). Ice machine to be equipped with automatic self-flushing and Quiet Night sleep mode. Dispenser to have automatic bin level control to start and stop ice machine. Storage area to be insulated with non-CFC, high density, foamed-in-place polyurethane. 8.5' (2.6 m) cord and NEMA 5-15 90° hospital grade plug provided. NSF and ETL listed.

#### Dimensional drawing





BS\*- Base stand sold separately; measurements shown are with basestand legs at lowest position

Note: See dispenser detail sheet, form# 6675, for counter cutouts.

- 1 Independent third party studies. Contact Follett for details.
- 2 Disclaimer: Antimicrobial protection is limited to the treated components and does not treat water or ice.

Agion is a registered trademark of Sciessent LLC.

ENERGY STAR and the ENERGY STAR mark are registered US marks.

Calgon is a licensed tradename distributed by Nu-Calgon, in the United States.

Symphony Plus, SensorSAFE, SafeCLEAN and Quiet Night are trademarks of Follett Corporation. Chewblet and Follett are registered trademarks of Follett Corporation, registered in the US.

Follett reserves the right to change specifications at any time without obligation. Certifications may vary depending on country of origin.



Form #6620 09/14

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## Water filter systems for Follett icemakers and ice and water dispensers

Recommended

# Filter System 12 series dispensers 00130229 25 series dispensers 00130229 50 series dispensers 00130229 110 series dispensers 00130229 Maestro Chewblet® icemakers and flake icemakers Horizon Chewblet icemakers 00130229 00130229

Model

## Dramatically reduces the most common water-related icemaker problems!





item# 00130286

Water filter system for use with Follett Horizon™ and Maestro™ icemakers and Symphony™ ice and water dispensers. System includes pre-filter, primary filter(s), pressure gauge and wall mounting bracket.

Important: Not for use with carbonated water – separate system required.

#### Ensures better-tasting, cleaner, safer ice and water

- Traps dirt as small as 1/2 micron in size
- · Removes chlorine, off-tastes and odors
- Filters out asbestos fibers and parasitic cysts such as cryptosporidium and giardia
- · Certified to ANSI/NSF standards 42 and 53

#### Improves icemaker performance

- · Keeps icemakers functioning at full capacity
- Reduces scale build-up from dirt and minerals in the water by up to 70%
- Removes dirt and abrasive particles that can damage internal workings of icemaker
- · Saves energy and reduces downtime

#### Space-saving design

- Single primary filter system can be mounted in areas as small as 20.5" (521mm) high by 16" (407mm) wide
- Both single and double primary filter systems can be mounted out of the way below standard 34" – 36" (864mm – 915mm) counters

#### Pre-filter system saves money

 Economical pre-filter filters out large particles and extends life of primary filters

#### Ordering information

00130229 – Complete water filter system (one pre-filter, one primary) for all Symphony ice and water dispensers and Maestro Chewblet and flake icemakers.

**00130286** – Complete water filter system (one pre-filter, two primary) for all Horizon series icemakers

00130211 - Replacement pre-filter cartridge

00130245 - Replacement primary filter cartridge

tem: \_\_\_\_\_PAGE 1 OF 2

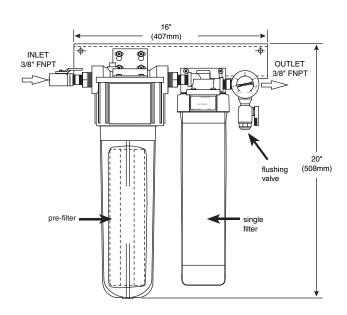


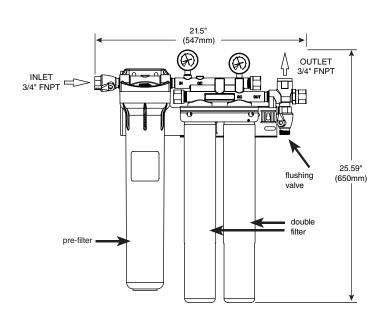


## Water filter systems for Follett icemakers and ice and water dispensers

#### Single Primary Filter System

#### **Double Primary Filter System**





#### Approximate shipping weight

**00130229** – 15 lbs (6.8kg) **00130286** – 16 lbs (7.3kg)

#### **Specifications**

- Clearance required: 2.5" (64mm) at bottom of filter for cartridge removal
- Flow rate: 0.5 gpm (1.9 lpm)
- Pressure range 10 125 psi, non-shock
- · Capacity: Certified for chlorine and taste; odor reduction

00130229 - 3,000 gallons (11,400 liters)

00130286 - 6,000 gallons (22,800 liters)

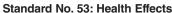
• Water temperature: 35° - 100°F (2 - 38°C)

#### **NSF International Standards**

#### Standard No. 42: Aesthetic Effects

Chemical Unit Taste & Odor and Chlorine Reduction, Class 1

Mechanical Filtration Unit Particulate Reduction, Class 1: 99.9% reduction of particles 1/2 micron and larger in size



Mechanical Filtration Unit

Turbidity Reduction, Cyst Reduction, Asbestos Reduction



Both systems (manufactured by Everpure, Inc.) have been tested and certified by NSF only for the functions listed above. Check for compliance with state and local laws and regulations. Do not use where the water is microbiologically unsafe or with water of unknown quality without adequate disinfection before or after the unit. May be used with disinfected water where filterable cysts may be present.

Chewblet is a registered trademark of Follett Corporation, registered in the US.
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ITEM #714519 PAGE 2 OF 2





## **END OF SPECIFICATION**



Dispenser model	Base stand description	Base stand model
	base stand only	12BASE-00
	base stand with standard carbon filter	12BASE-CF
12CI425A	base stand with high capacity carbon filter	12BASE-HC
	base stand with carbonless high capacity filter	12BASE-CL
	base stand only	25AND50BASE-00
25CI425A/W	base stand with standard carbon filter	25AND50BASE-CF
50CI425A/W	base stand with high capacity carbon filter	25AND50BASE-HC
	base stand with carbonless high capacity filter	25AND50BASE-CL
	base stand only	110BASE-00
110CT425A/W	base stand with standard carbon filter	110BASE-CF
	base stand with high capacity carbon filter	110BASE-HC
	base stand with carbonless high capacity filter	110BASE-CL

## Symphony Plus™

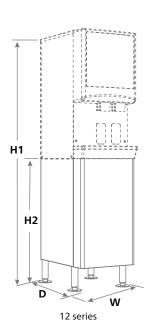
## ice and water dispenser base stand accessories

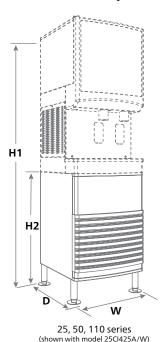
Stainless steel base stand transforms Follett® countertop dispensers into freestanding dispensers. All bases include stainless steel exterior and interior, and stainless legs with adjustable flanged feet.

#### Space-saving design

- base stand frees up valuable counter space
- low maintenance, stainless steel exterior and interior offer good looks and long service life
- base stands transform countertop dispensers into freestanding models that can be used with wall drain without the need for a condensate pump

Available with or without factory installed water filter system





Dispenser model	<b>W</b> <sup>1</sup>	<b>D</b> <sup>1</sup>	H1 <sup>1</sup>	H2 <sup>1</sup>	Ship wt
12CI425A	17.50"	22.00"	65.50"	33.00"	80 lb
	(44.4 cm)	(55.9 cm)	(166.4 cm)	(83.8 cm)	(36 kg)
25CI425A/W	22.75"	24.75"	69.00"	33.00"	110 lb
	(57.8 cm)	(62.9 cm)	(175.3 cm)	(83.8 cm)	(50 kg)
50CI425A/W	22.75"	24.75"	73.00"	33.00"	110 lb
	(57.8 cm)	(62.9 cm)	(185.4 cm)	(83.8 cm)	(50 kg)
110CT425A/W	26.25"	29.38"	86.00"	33.00"	140 lb
	(66.7 cm)	(74.6 cm)	(218.4 cm)	(83.8 cm)	(64 kg)

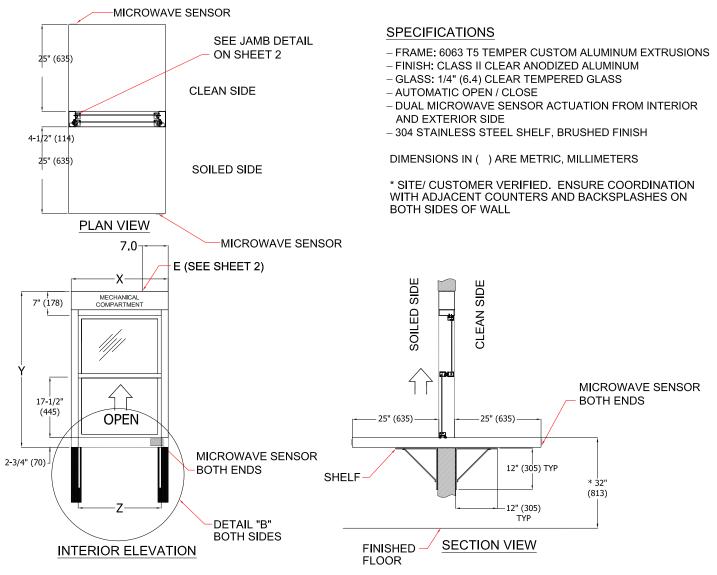
<sup>&</sup>lt;sup>1</sup> Includes flanged feet.

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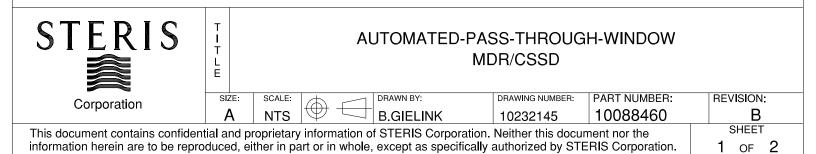
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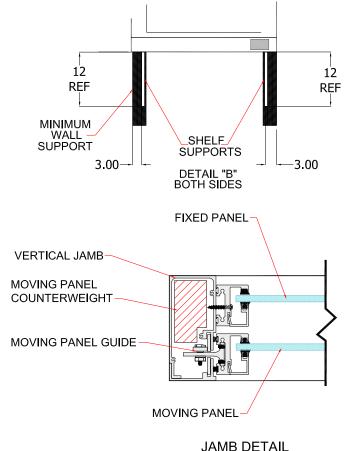
Item





FINISHED OPENINGS, SERVICE WIDTHS & WEIGHTS FOR MDR / CSSD WINDOWS						
UNIT  X Y Z SHIPPING OPERATING SERVICE WEIGHT OPENING WIDTH OPENING HEIGHT WIDTH UNIT  X FINISHED OPENING HEIGHT WIDTH UNIT  CLBs, Kg)  CHES, Kg)						
PTWAMDR1100	28-1/4" (718)	45-1/4" (1149)	24" (610)	315, 142	270, 122	
PTWAMDR2100	34-1/4" (870)	45-1/4" (1149)	30" (762)	335, 151	280, 127	
PTWAMDR3100	40-1/4" (1022)	45-1/4" (1149)	36" (914)	375, 170	300, 136	





18 GA (1.3) 304 STAINLESS STEEL FORMED SHELF W/ WELDED CORNERS 2-3/4" (70) 2 LAYERS OF 3/4" (19) PLYWOOD 2" (51) X 3" (76) WOOD FRAME

JAMB DETAIL

#### SHELF EDGE DETAIL

## MDR / CSSD, AUTOMATIC PASS THROUGH WINDOW, UTILITY REQUIREMENTS CHART

1171	PARAMETERS AND REQUIREMENTS			
UTILITY		CONNECTION SIZE / TYPE	NOMINAL AMPERAGE	RECOMMENDED CIRCUIT
ELECTRICITY (E)	120V, 60 HZ	½" NPT	1A	15A

#### **NOTES**

1. LOCAL AND NATIONAL CODES MUST BE FOLLOWED BY THE INSTALLER, ADHERE TO LOCAL CODES AND PERMITS ARE THE RESPONSIBILITY OF THE CUSTOMER UNLESS AGREED IN WRITING WITH STERIS CORPORATION. 2. WHEN INSTALLING: DISCONNECTS MUST BE LOCATED IN A SUITABLE LOCATION WITHIN LINE OF SIGHT AND CLEAR OF ANY OBSTRUCTIONS THAT WOULD PLACE THE SERVICE PERSON IN HARMS WAY IN ORDER TO SHUT IT OFF. ALSO, THE LOCATION OF THE DISCONNECTS SHOULD ALLOW THE SERVICE PERSON TO SHUTOFF POWER FROM THE SIDE TO PREVENT POSSIBLE ARC FLASH.

3. 110 / 120 VAC REQUIRE A THREE (3) WIRE CONNECTION (L1, NEUT, GRND).

İ T

L E



**AUTOMATED-PASS-THROUGH-WINDOW** 

SIZ	E: SCALE:	<b>A</b> —	DRAWN BY:	DRAWING NUMBER:	PART NUMBER:	REVISION:
Α	NTS		B.GIELINK	10232145	10088460	В

MDR/CSSD

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SHEET 2 of





#### **APPLICATION**

The AMSCO line of pass-through windows come in manual and automated configurations. The Automated windows have two configurations: CSSD/MDR and ENDO.

#### **DESCRIPTION**

The AMSCO Pass-Through Window is an in-line vertical lift window with a single operable (movable) panel and a single non-operable (fixed) panel, an integral continuous stainless steel shelf. The automated pass-through windows are equipped with a microwave no-touch sensor plate for opening and closing. All windows are fully assembled and ready to install.

#### STANDARD FEATURES

#### The AMSCO Pass Through Window is

constructed from anodized aluminum extrusions, close-tolerance moving parts and tempered glass. All frames have a clear anodized aluminum finish, fastened with screws, joints are sealed and ¼" (6.4mm) clear tempered glass is dry glazed. All moving panels are guided using industry proven dual rope and counterbalance system.

**The Shelf** has been developed specifically for the needs of this window. The shelf extends 25" (635mm) on either side of the window along the full width of

the window (CSSD Models) or 4" (102mm) on the decontamination side and 25" (635mm) on the clean side of the window (ENDO Models). The continuous shelf provides a smooth surface through the window. The shelf is secured by two stainless steel brackets under the shelf on each side of the window (total of four brackets). The manual window is available in the ENDO configuration.

The Automated Window features automated opening and closing activated by a microwave, no-touch, sensor plate located on each side of the window at the edge of the shelf.

#### **AMSCO PASS-THROUGH WINDOW**



Operation of the motorized window ensures that opening and closing of the window is hands-free.

#### **STANDARDS**

The AMSCO Automated Pass-Through Window meets the applicable requirements of the following standards:

- Underwriters Laboratories (UL) Standard 61010.
- Canadian Standards Association (CSA) CAN/CSA-22.2 No. 68.

#### The Selections Checked Below Apply To This Equipment

#### **CSSD MODELS\***

- ☐ PTWAMDR1100 (Automated)
  Window Width = 28" (711mm)/Height = 45" (1143mm), 120V
  Shelf extends 25" on either side of window
- □ PTWAMDR2100 (Automated) Window Width = 34" (864mm)/Height = 45" (1143mm), 120V Shelf extends 25" on either side of window
- □ PTWAMDR3100 (Automated) Window Width = 40" (1016mm)/Height = 45" (1143mm), 120V Shelf extends 25" on either side of window

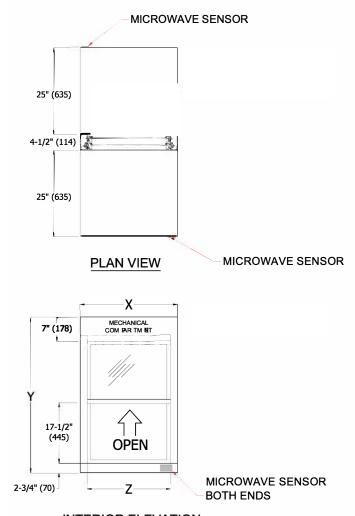
#### **ENDO MODELS**

- □ PTWAEND01100 (Automated) Window Width = 28" (711mm)/Height = 45" (1143mm), 120V Shelf extends 25" on one side of window and 4" on other side.
- □ PTWAEND02100 (Automated) Window Width = 34" (864mm)/Height = 45" (1143mm), 120V Shelf extends 25" on one side of window and 4" on other side.

- □ PTWAEND03100 (Automated)
  Window Width = 40" (1016mm)/Height = 45" (1143mm), 120V
  Shelf extends 25" on one side of the window and 4" on other side.
- PTWMEND01200 (Manual)
   Window Width = 28" (711mm)/Height = 45" (1143mm), 120V
   Shelf extends 25" on one side of window and 4" on other side.
- PTWMENDO2200 (Manual)
   Window Width = 34" (864mm)/Height = 45" (1143mm), 120V
   Shelf extends 25" on one side of window and 4" on other side.
- □ PTWMEND03200 (Manual)
  Window Width = 40" (1016mm)/Height = 45" (1143mm), 120V
  Shelf extends 25" on one side of the window and 4" on other side.

Item
Location(s)
( )

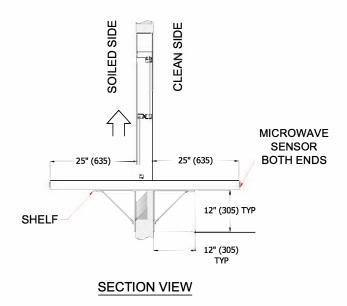
#### MDR/CSSD Models



#### **SPECIFICATIONS**

- FRAME: 6063 T5 TEMPER CUSTOM ALUMINUM EXTRUSIONS
- FINISH: CLASS II CLEAR ANODIZED ALUMINUM
- GLASS: 1/4" (6.4) CLEAR TEMPERED GLASS
- AUTOMATIC OPÉN / CLOSE
- DUAL MICROWAVE SENSOR ACTUATION FROM INTERIOR AND EXTERIOR SIDE
- 304 STAINLESS STEEL SHELF, BRUSHED FINISH

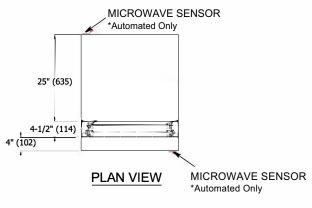
DIMENSIONS IN ( ) ARE METRIC, MILLIMETERS



#### INTERIOR ELEVATION

FINISHED OPENINGS, SERVICE WIDTHS & WEIGHTS FOR MDR / CSSD WINDOWS						
UNIT	X FINISHED OPENING WIDTH	Y FINISHED OPENING WIDTH	Z SERVICE WIDTH	SHIPPING WEIGHT (LBs,Kg)	OPERATING WEIGHT (LBs, Kg)	
PTWAMDR1100	28-1/4" (718mm)	45-1/4" (1149mm)	24" (610mm)	315, 142	270, 122	
PTWAMDR2100	34-1/4" (870mm)	45-1/4" (1149mm)	30" (762mm)	335, 151	280, 127	
PTWAMDR3100	40-1/4" (1022mm)	45-1/4" (1149mm)	36" (914mm)	375, 170	300, 136	

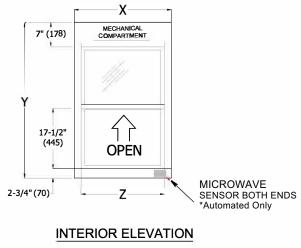
#### **ENDO Models**

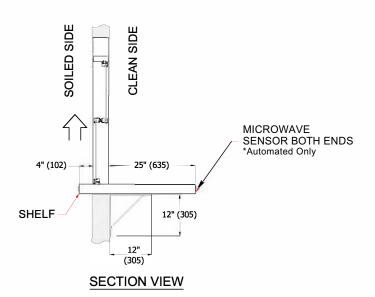


#### **SPECIFICATIONS**

- FRAME: 6063 T5 TEMPER CUSTOM ALUMINUM EXTRUSIONS
- FINISH: CLASS II CLEAR ANODIZED ALUMINUM
- GLASS: 1/4" (6.4) CLEAR TEMPERED GLASS
- AUTOMATIC OPEN / CLOSE
- DUAL MICROWAVE SENSOR ACTUATION FROM INTERIOR AND EXTERIOR SIDE
- 304 STAINLESS STEEL SHELF, BRUSHED FINISH

DIMENSIONS IN ( ) ARE METRIC, MILLIMETERS





FINISHED OPENINGS, SERVICE WIDTHS & WEIGHTS FOR ENDO WINDOWS						
UNIT	X FINISHED OPENING WIDTH	Y FINISHED OPENING WIDTH	Z SERVICE WIDTH	SHIPPING WEIGHT (LBs,Kg)	OPERATING WEIGHT (LBs, Kg)	
PTWAEND01100 PTWMEND01200	28-1/4" (718mm)	45-1/4" (1149mm)	24" (610mm)	280, 127	250, 113	
PTWAENDO2100 PTWMENDO2200	34-1/4" (870mm)	45-1/4" (1149mm)	30" (762mm)	300, 136	260, 118	
PTWAEND03100 PTWEND03200	40-1/4" (1022mm)	45-1/4" (1149mm)	36" (914mm)	350, 159	275, 125	

#### For Further Information, contact:



STERIS Corporation 5960 Heisley Road Mentor, OH 44060-1834 • USA 440-354-2600 • 800-548-4873 www.steris.com



Model MCD425ABT shown



Maestro Plus 425 series ice machine, 115V/60 Hz						
Ice type	Install/ mount	Condenser	Item number			
	Harmony	air	MCD425AHT			
Chewblet®	Bin	air	MCD425ABT			
	DILI	water	MCD425WBT			
Flake	Die	air	MFD425ABT			
riake	Bin	water	MFD425WBT			

### Maestro Plus™

ice machine for healthcare applications

#### **Features**

Compact, reliable ice machine for top mount installation on most countertop dispensers and bins. Stainless steel exterior and interior frame. Environmentally responsible R404a refrigerant. Production capacity approximately 425 lb (193.0 kg) of Chewblet® or flake ice in a 24-hour period.

Flake ice is the required ice for clinical labs, rehab and medical research

- high surface area of flake ice chills quickly, maintains samples at desired temperature
- holds test tubes and lab vials securely, even when ice is melting
- molds well in ice bag and rehab applications for best skin contact and swelling control

#### Consumer-preferred Chewblet ice

- preferred over cubes by more than 2:1\*
- easy to chew
- more reliable dispensing than nugget or pellet ice
- slow melting, maintains drink temperature and quality, comparable to cubes
- higher displacement than cube ice

#### Efficient dependable design

- stainless steel evaporator, auger and top bearing provides durability
- oversized, heavy duty, tapered roller bearing ensures long low-maintenance life
- ice machine can be cleaned without contaminating ice
- quiet production, no noisy harvest cycles

#### Lower utility bills

- energy-efficient, no costly defrost cycles
- 25% less energy than comparable capacity cube machines
- 40% less water than comparable capacity cube machines

#### Low-profile design

- only 21.25" (54.0 cm) high; fits under 8' (2.4 m) ceilings when mounted on beverage dispenser

#### Installation flexibility

- Harmony™ kits allow ice machine to be top mounted on most ice and beverage dispensers
- Harmony kits install without any alteration to dispenser (kit includes stainless steel top)
- compatible with over 20 of Follett's ice storage bins

#### Warranty

- 3 years parts and labor, 5 years compressor parts
- \* Consumer study conducted by independent agency Roper ASW.



#### Accessories

SafeCLEAN™ environmentally responsible ice machine cleaner (item# 00132001)

Nu-Calgon® IMS-II sanitizer, 16 oz bottle (item# 00979674)

Additional filters (refer to form# 6380, 9905, 6070)

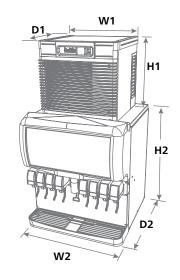
Additional Maestro Plus accessories (refer to price list)

## Specification for ice and beverage dispenser top mount ice machines

<b>W1</b> Width	22.70" (57.6 cm) fits on 22.00" wide dispensers
<b>D1</b> Depth	24.25" (61.6 cm)
<b>H1</b> Height	21.25" (54.0 cm)
Service clearance	12.00" (30.5 cm) top - no front obstructions 6.00" (15.24 cm) on exhaust side (left, right and rear)
<b>C1</b> Electrical 115 V/60/1	11 amps, 0.8 kW 7' (2 m) cord, NEMA 5-15 plug
C2 Water inlet	3/8" FPT, installation of an in line water filtration system is recommended
C3 Drain	3/4" MPT
Air temperature	50 -100 F (10 - 38 C)
Water temperature	45 - 90 F (7 - 32 C)
Potable water pressure	10 - 70 psi (69 - 483 kPa)
Condenser water pressure	10 - 125 psi (861 kPa)
Ice production at 70 F (21 C) air, 50 F (10 C) water	425 lb (193.0 kg)
Ice production at 90 F (32 C) air, 70 F (21 C) water	325 lb (147.6 kg)
Energy consumption 90 F (32 C) air; 70 F (21 C) water	5.7 kWh
Heat rejection	5,000 BTU/hr
Water consumption	12.0 gal (45.4 L) of potable water per 100 lb (45.4 kg) of ice
Approximate ship weight	160 lb (73 kg)
NOTE: For indoor use only	

SHORT FORM SPECIFICATION: Ice machine to be Follett model number \_\_\_\_\_\_ Ice machine to be air-cooled. Ice machine production to be approximately 425 lb (193.0 kg) per day of Chewblet ice at air temperature of 70 F (21 C), water temperature of 50 F (10 C). Ice machine to use environmentally responsible R404a refrigerant. Ice machine to have stainless steel evaporator, auger and top bearings, heavy-duty tapered roller bearing, and low-water safety circuit. NSF and ETL listed.

#### Dimensional drawing



Back view — air-cooled, top mount

2.123" (10.78 cm) — C1

15.22" (38.65 cm)

5.03" — (2.34" (5.94 cm) C3

— 2.324" (5.90 cm)

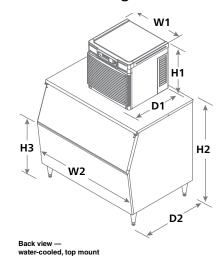
— 4.409" (5.90 cm)

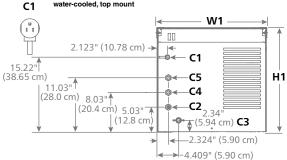
Manufacturer/ Model number	W2 = Width in (cm)	D2 = Depth in (cm)	H2* = Height in (cm)	Harmony top kit
Lancer dispensers				
4500-22N FS-22N	22.0 (55.9)	30.5 (77.5)	36.50 (92.7)	MTL22SCP
4500-30N	30.0 (76.2)	30.5 (77.5)	36.50 (92.7)	MTL30SCP
FS-30N	30.0 (76.2)	30.5 (77.5)	42.13 (107.0)	MTL30SCP
Remcor/Cornelius di	spensers			
DB/DF/ED150 series	22.0 (55.9)	30.0 (76.2)	34.38 (87.3)	MTC22SCP
DB/DF/ED175 series	24.5 (62.2)	30.0 (76.2)	34.38 (87.4)	MTC24SCP
DB/DF/ED200 series	30.0 (76.2)	30.0 (76.2)	34.38 (87.4)	MTC30SCP
DB/DF/ED250 series	30.0 (76.2)	30.0 (76.2)	38.38 (97.5)	MTC30SCP

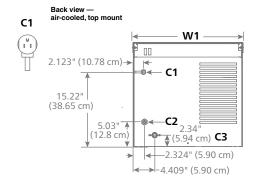
<sup>\*</sup>Net height after installation of top kit

Specification for bin top				
<b>W1</b> Width	22.70" (57.6 cm) fits on 22.00" wide dispensers or bins			
<b>D1</b> Depth	24.25" (61.6 cm)			
<b>H1</b> Height	21.25" (54.0 cm)			
Service clearance	12.00" (30.5 cm) top - no front obstructions 6.00" (15.24 cm) on exhaust side (left, right and rear)			
<b>C1</b> Electrical 115 V/60/1	11 amps, 0.8 kW 7' (2 m) cord, NEMA 5-15 plug			
C2 Water inlet	3/8" FPT, installation of an in line water filtration system is recommended			
C3 Drain <sup>1</sup>	3/4" MPT water-cooled models require separate condenser drains			
Water-cooled ice machine connections	C4 – 3/8" FPT condenser inlet, C5 – 3/8" FPT condenser drain			
Air temperature	50 -100 F (10 - 38 C)			
Water temperature	45 - 90 F (7 - 32 C)			
Potable water pressure	10 - 70 psi (69 - 483 kPa)			
Condenser water pressure	10 - 125 psi (69 - 861 kPa)			
Ice production at 70 F (21 C) air, 50 F (10 C) water	air-cooled models – 425 lb (193.0 kg) water-cooled models – 486 lb (220.6 kg)			
Ice production at 90 F (32 C) air, 70 F (21 C) water	air-cooled models – 325 lb (147.6 kg) water-cooled models – 408 (185.2 kg)			
Energy consumption 90 F (32 C) air, 70 F (21 C) water	air-cooled models – 5.7 kWh, water-cooled models – 5.5 kWh per 100 lb (45 kg) ice			
Heat rejection	air-cooled models – 5,000 BTU/hr, water-cooled models – 1400 BTU/hr to air, 3600 BTU/hr to water			
Water consumption	12.0 gal (45.4 L) of potable water per 100 lb (45.4 kg) of ice			
Water flow requirement for water-cooled condensers	0.25 gpm at 50 F 0.5 gpm at 70 F 1.25 gpm at 90 F			
Approximate ship weight	160 lb (73 kg)			
NOTE: For indoor use only				
Ice machine to beair	machine to be Follett model number orwater-cooled. Ice production			
to be approximately 425 lb (193.0 kg) per day of Chewblet or flake ice at air temp. of 70 F (21 C), water temp. of 50 F (10 C). Ice machine to use environmentally responsible R404a refrigerant. Ice machine to have stainless steel evaporator, auger and top bearings, heavy-duty				

#### Dimensional drawing







#### Configure your ice machine with the following bin models

tapered roller bearings, and low water safety circuit. NSF and ETL listed.

Slope front bin model <sup>1</sup>	Maximum bin capacity lb (kg)	Cubic Volume cu ft (m)	Width - <b>W2</b> in (cm)	Depth - <b>D2</b> in (cm)	Height - <b>H2</b> in (cm)	Door Sill Height - <b>H3</b> in (cm)	Required door access in (cm)	Approximate ship weight lb (kg)
300-22 <sup>2</sup>	300 (136)	9.6 (0.27)	22.00 (55.9)	29.50 (74.9)	40.00 (101.6)	26.00 (66.0)	23.00 (58.4)	128 (58)
425-30	430 (195)	13.8 (0.39)	30.00 (76.2)	29.50 (74.9)	40.00 (101.6)	26.00 (66.0)	31.00 (78.7)	144 (65)
650-44	660 (299)	20.8 (0.59)	44.00 (111.8)	29.50 (74.9)	40.00 (101.6)	26.00 (66.0)	32.00 (81.3)	178 (81)
950-48	950 (431)	30.1 (0.85)	48.00 (121.9)	28.25 (71.8)	50.00 (127.0)	36.00 (91.4)	32.00 (81.3)	207 (94)
1025-52	1030 (468)	32.6 (0.92)	52.00 (132.1)	28.25 (71.8)	50.00 (127.0)	36.00 (91.4)	32.00 (81.3)	217 (98)

<sup>&</sup>lt;sup>1</sup> Follett recommends installation of floor drain with grate with all ice storage bins <sup>2</sup> Model 300-22 only for use with Follett Maestro Plus 425 (air-cooled) and Horizon \*\* 700 series ice machines

#### Ice production – air-cooled

Inlet water	Ambient air temperature F (C)							
temperature F (C)	60 (16)	70 (21)	80 (27)	90 (32)	100 (38)	24 hr		
50 (10)	460 (208)	425 (193)	390 (177)	355 (161)	320 (145)	in 2		
60 (16)	438 (198)	405 (184)	373 (169)	340 (154)	308 (139)	tion		
70 (21)	415 (188)	385 (190)	355 (173)	325 (147)	295 (134)	production		
80 (27)	405 (184)	375 (170)	345 (156)	315 (142)	285 (129)			
90 (32)	395 (179)	365 (166)	335 (152)	305 (138)	275 (125)	lb/kg		

#### Ice production – water-cooled

Inlet water		Condenser water temperature F (C)					
temperature F (C)	50 (10)	60 (16)	70 (21)	80 (27)	90 (32)	100 (38)	24 hr
50 (10)	486 (220)	465 (211)	443 (201)	422 (191)	400 (181)	389 (176)	.⊑
60 (16)	464 (210)	445 (202)	425 (193)	406 (184)	386 (175)	367 (166)	tion
70 (21)	443 (201)	425 (193)	408 (185)	390 (177)	372 (169)	358 (162)	production
80 (27)	422 (191)	406 (184)	389 (176)	373 (169)	356 (161)	340 (154)	
90 (32)	400 (181)	385 (175)	371 (168)	356 (161)	341 (155)	326 (148)	lb/kg

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Follett reserves the right to change specifications at any time without obligation. Certifications may vary depending on country of origin.

#### **INTRODUCTION**

These general notes are intended to complement the equipment drawing(s). When used together, these instructions will provide the best overall experience throughout the lifetime of the equipment. The information contained in these documents are based on the current revision and design of the equipment.

#### **SPACE CONSIDERATIONS**

#### Floor Levelness

Floor space in load/unloading areas of equipment to be level within 1/16". For instances of multiple installations this tolerance should be held for the entire span of installed equipment.

#### Clearances

The clearance dimensions shown on each drawing are the minimum considered necessary to allow space for servicing and operating the equipment.

Clearance in front of sterilizer, for comfortable loading and unloading operations, should equal about twice the inside length of the sterilizer chamber unless otherwise specified on Equipment Drawing.

#### **Dimensions**

Attention must be given to all printed dimensions shown on each drawing, since no attempt has been made to hold these drawings to any specific scale.

#### STERILIZER SPECIFIC NOTES

#### **MOUNTING DETAILS**

#### Wall Thickness - Recessed Sterilizer

STERIS must be advised of the total finished thickness of the wall or walls through which the sterilizer will extend.

#### **Recessing Area**

- Ventilation It is recommended that a louvered, grilled opening be provided in the curtain wall above the sterilizer(s) to dispel excess vapor by negative pressure behind the wall. The recessing area should be adequately ventilated to maintain maximum temperature in the range of 80°F to 90°F (27°C to 32°C) when the equipment is in operation. 10% to 90% Relative Humidity non-condensing.
- Access Access to recessed service area from control end of the sterilizer is recommended.
- **Illumination** Illumination designed to afford 50 to 100 footcandles of total illumination, evenly distributed in principal areas of the recessing area, should be provided.
- Service Power Requirement One convenience outlet (110-120 Volts) is required for power tools.
- Drainage A floor drain or floor sink is recommended for each sterilizer / washer and should be provided within the confines of equipment framework.

#### Cabinet-enclosed Sterilizer

Cabinet-enclosed units should be located in a well-ventilated room from which heat and steam vapors may be dispelled rapidly. A separate floor drain is recommended for each cabinet-enclosed sterilizer, to be located within the confines of the sterilizer framework.

#### **UTILITY SERVICE REQUIREMENTS**

#### Roughing-in

All lines should be short-stubbed through the floor, wall, or ceiling far enough to permit coupling with stop valves. Provisions must be made for short-swing connections to equipment terminals. Piping outlets (stubbing) for multiple units (composite installations) should be combined in one common set, usually at rear of the equipment.

It is recommended that pipes and conduit not be stubbed through the floor under the chamber of a recessed sterilizer. This recommendation would not preclude the stubbing of pipes and conduit through the floor within the confines of the panels on a cabinet-enclosed sterilizer.



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#### **Terminal Fittings**

Unless installation is purchased from STERIS, piping and other components between terminal fittings on the equipment and wall or floor outlets (stubbing) are not furnished by STERIS.

#### **Pipe Sizes**

Pipe sizes listed on equipment drawing indicate the equipment termination sizes only. Size of supply piping is dependent on length of pipe run from pressure regulating station / source and is determined by Mechanical Engineer to ensure adequate supply service pressure and demand flow at equipment terminals. Effect of coincident draw of multiple unit installations must also be considered.

#### **Pressure Relief Valves**

Any piping installed to a pressure vessel relief valve must not reduce the discharge capacity of the relief valve. Plumbing must be such that removal of sterilizer parts, including relief valve, does not require unsoldering or cutting of new piping.

Recommended piping practices for relief valve piping can be found in ASMI Boiler and Pressure Vessel Code (section VIII, Para. UG-135).

#### **Backflow Preventer**

If local codes require a reduced pressure principal device on water supply line, it shall be provided by others.

#### **Blow Down Valve**

Recommended provisions of blow down valve at each facility steam and water strainer to enable strainer clean out

Blow down building steam and water supply lines before final connection to equipment.

#### **Shutoff Valves**

Provide piping shutoff valve, pipe plugged tee and union in steam and water supply connections between each piece of equipment and stub outs, so that the unit can be serviced without interruptions of supply to other equipment. Plugged tee can be used later for test pressure gauge connection. Arrange connection piping to allow access to machine components and electrical control panel.

#### **Steam and Water Pressures**

Steam and water pressures indicated on each drawing are to be dynamic at the sterilizer.

Steam should be condensate free and between 97 and 100% saturated vapor to ensure proper goods drying.

Sterilizer is adequately equipped to operate on the pressures listed in the equipment drawing. If supply line pressure exceeds those shown, provide reducing valves. These are not furnished by STERIS unless specifically called for in the contract of purchase order.

#### **Water Quality**

- Water Supply to Sterilizer Water is used for ejectors, heat exchangers and trap cooling. Refer to Table 1 for recommended water quality. Use of feed water within the nominal conditions will optimize equipment performance and reduce maintenance.
- Carbon Steel Steam Generator Feed
   Water Refer to Table 2 for required water
   quality. Use of feed water within the nominal
   conditions will optimize equipment
   performance and reduce maintenance.
- Stainless Steel Steam Generator Feed Water – Requires deionized, distilled or reverse osmosis water with minimum resistivity of 1MΩ-cm. Refer to Table 3 for required water quality.

#### Notes:

- Do not connect tap water to stainless steel generator. Use of water not meeting the required feed water quality will invalidate the warranty and is a violation of ASME boiler codes.
- Failure to correct utility pressure and steam quality will result in reduced equipment performance which may affect overall equipment performance.



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## GENERAL NOTES – APPLICABLE TO STERILIZER AND WASHER EQUIPMENT

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Table 1. Recommended Feed Water Quality for Sterilizers using Facility/Plant Steam

Condition	Nominal Conditions	Maximum Conditions
Temperature	40° - 60°F (4°-16°C)	70°F (21°C)
Total Hardness as CaCO <sub>3</sub> *	50 - 120 ppm	171 ppm
Total Dissolved Solids	100 - 200 ppm	500 ppm
Total Alkalinity as CaCO₃	70 - 120 ppm	180 ppm
pН	6.8 - 7.5	6.5 - 8.5
Total Silicate	0.1 - 1.0 ppm	2.5 ppm
Chlorides	1.0 - 8.0 ppm	10.0 ppm
Cu	0.0 - 0.08 ppm	0.1 ppm
Fe	0.0 - 0.08 ppm	0.1 ppm
Zn	0.0 - 0.08 ppm	0.1 ppm
Al	0.0 - 0.08 ppm	0.1 ppm
Mg	0.0 - 0.08 ppm	0.1 ppm

<sup>\* 17.1</sup> ppm = 1.0 grain hardness

Table 2. Required Feed Water Quality for Carbon-Steel Steam Generators

Condition	Nominal	Maximum	
Condition	Conditions	Conditions	
Temperature	40 - 140°F (4-60°C)	150°F (66°C)	
Total hardness as	0. 47	420	
CaCO₃*	0 - 17 ppm	130 ppm	
Total Dissolved	50 - 150 ppm	250 ppm	
Solids	30 - 130 ppiii	230 ppiii	
Total Alkalinity as	50 - 100 ppm	100 nnm	
CaCO <sub>3</sub>	30 - 100 ppiii	180 ppm	
pН	6.8 - 7.5	6.5 - 8.5	
Total Silicate	0.1 - 1.0 ppm	2.5 ppm	
Resistivity - Ω-cm**	2000 - 6000	26000	
Chlorides	1.0 <b>–</b> 8.0 ppm	10.0 ppm	
Cu	0.0 – 0.08 ppm	0.1 ppm	
Fe	0.0 – 0.08 ppm	0.1 ppm	
Zn	0.0 – 0.08 ppm	0.1 ppm	
Al	0.0 – 0.08 ppm	0.1 ppm	
Mg	0.0 – 0.08 ppm	0.1 ppm	

<sup>\* 17.1</sup> ppm = 1.0 grain hardness

The steam generator level control may malfunction if the supply water exceeds 26,000  $\Omega$ -cm (38.5 micro-ohms conductivity min.) Do not connect to treated water (e.g., distilled, reverse osmosis, deionized) unless water resistivity is determined to be acceptable.

Table 3. Required Feed Water Quality for Stainless-Steel Steam Generators

Condition	Nominal Conditions	Maximum Conditions
Temperature	68-140°F (20-60°C)	150°F (66°C)
Total hardness as CaCO <sub>3</sub> *	0 – 0.04 ppm	0.100 ppm
pH	6.8 - 7.5	6.5 - 8.0
Total Silicate	0 – 0.090 ppm	0.100 ppm
Resistivity - Ω-cm**	>1 mega-ohm/CM (<1.0 micro- Siemens/cm)	>1 mega- ohm/CM (<1.0 micro- Siemens/cm)

<sup>\* 17.1</sup> ppm = 1.0 grain hardness

ASME Code requires supplying the steam generator with pure water with resistivity >1 mega-ohm/cm.

#### **Venting Sterilizer to Atmosphere**

If sterilizer has an atmospheric vent fitting (in lieu of a condenser), it should be connected to a vertical, unrestricted atmospheric vent stack. When more than one sterilizer is connected to a single vent stack, a self-draining header may be used. At no time should any riser from the sterilizer exhaust terminal to the header or vent stack be less than 45° to the horizontal. If more than on sterilizer is connected by header to riser, header is to drain toward sterilizer at 45° angle. Header and riser are to increase in size accordingly.

#### **Wiring Terminals**

Wiring on the equipment terminates at a junction box or boxes as shown on each drawing. Wiring and other appurtenances between junction box (or boxes) and building service lines are not furnished by STERIS.

#### **Disconnect Switches**

Each piece of equipment must have a dedicated disconnect switch to allow servicing. Disconnected switches with off position lockout only must be furnished and installed by the Customer in electric supply lines within line of site of equipment. National and Local code must be followed.

#### Steam Return Lines

Steam return lines from the sterilizer jacket should be connected to a gravity system piped to a vented

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	GENERAL APPLICABLE TO STERILIZER		IPMENT

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<sup>\*\*</sup> WARNING – BURN HAZARD: Sterilizer operator may be severely burned by scalding water if the water level control malfunctions.

<sup>\*\*</sup> WARNING – BURN HAZARD: Sterilizer operator may be severely burned by scalding water if the water level control malfunctions.

receiver. Avoid any piping arrangement that could cause back pressure in the return line. (This would not apply if steam return lines were specified to be piped into the sterilizer condenser system or waste line.) Pressurized steam condensate return lines can cause reduced equipment performance.

#### **Motors**

In providing electric service for motors, conductors should be sized to conform to the National Electric Code specifications for rated motor current and motor branch circuit capacity, adjusted for ambient temperature conditions (for <sup>3</sup>/<sub>4</sub> HP and over) and voltage drop.

#### **Drains**

Equipment drains must be properly sized to handle peak water usage. Sterilizer funnels supplied by STERIS have an integrated, internal air gap.

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## GENERAL NOTES – APPLICABLE TO STERILIZER AND WASHER EQUIPMENT

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#### **WASHER SPECIFIC NOTES**

#### Table 3. Recommended Cold Feed Water Quality for Washers (Ref., AAMI TIR 34)

Condition	Nominal conditions	Maximum Conditions
Temperature	40 - 60°F (4 - 16°C)	70°F (16°C)
Total Dissolved Hardness as CaCo <sub>3</sub>	50 – 80 ppm	120 ppm
Total Dissolved Solids	100 – 200 ppm	500 ppm
Total Alkalinity as CaCo <sub>3</sub>	70 – 120 ppm	180 ppm
рН	6.8 – 7.0	7.5
Total Silicate	0.1 – 0.5 ppm	1.0 ppm
Chlorides	1.0 – 8.0 ppm	10.0 ppm
Cu	0.0 – 0.08 ppm	0.1 ppm
Fe	0.0 – 0.08 ppm	0.1 ppm
Zn	0.0 – 0.08 ppm	0.1 ppm
Al	0.0 – 0.08 ppm	0.1 ppm
Mg	0.0 – 0.08 ppm	0.1 ppm

#### Table 4. Recommended Hot Feed Water Quality for Washer (Ref., AAMI TIR 34)

Condition	Nominal Conditions	Maximum Conditions
Temperature	110°F (43°C)	150°F (66°C)
Total Dissolved Hardness as CaCo <sub>3</sub>	50 – 80 ppm	120 ppm
Total Dissolved Solids	100 – 200 ppm	500 ppm
Total Alkalinity as CaCo <sub>3</sub>	70 – 120 ppm	180 ppm
pH	6.8 – 7.0	7.5
Total Silicate	0.1 – 0.5 ppm	1.0 ppm
Chlorides	1.0 – 8.0 ppm	10.0 ppm
Cu	0.0 – 0.08 ppm	0.1 ppm
Fe	0.0 – 0.08 ppm	0.1 ppm
Zn	0.0 – 0.08 ppm	0.1 ppm
Al	0.0 – 0.08 ppm	0.1 ppm
Mg	0.0 – 0.08 ppm	0.1 ppm

#### Table 5. Recommended Pure Water Quality for Washers (Ref., AAMI TIR 34)

Condition	Nominal Conditions	Maximum Conditions
Temperature	60°F (16°C)	140°F (60°C)
pH	7.0	6.8 – 7.5
Resistivity - MΩ-cm	0.5 MΩ-cm	0.1MΩ-cm

#### Table 6. Recommended Clean Dry Compressed Air Quality for Washers (Ref., ISO 8573-1 Class 5)

Condition	Nominal Conditions	Maximum Conditions
Maximum Particle Size	20 Microns	40 microns
Particulate Density	5.0 ppm	8.3 ppm
Dew Point	37°F (3°C)	45°F (7°C)
Oil Concentration	10 mg/cubic-m	25 mg/cubic-m
Air Pressure	80 -100 PSIG Dynamic	125 PSIG Dynamic

$CTFDIC^{\otimes}$	Document Number:	Initials:	Revision: AC
SIEKIS	062941091	ZM	31 MAR 2021



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Sheet: 5 OF 6

#### Water Quality Supplied to Washer

- Cold Water Supply to Washer Cold water is used for pre-wash, chamber steam vapor condensing, and for cooling hot water or steam condensate going to the drain. Use of feed water quality within the nominal conditions will improve pre-wash of instruments or utensils, optimize equipment performance, and reduce maintenance.
- Hot Water Supply to Washer Hot water is used for wash phase and rinse phase. Use of feed water quality within the nominal conditions will improve detergent performance, reduce chamber scale build-up, optimize equipment performance, and reduce maintenance.
- Pure Water Supply to Washer Pure water is used during the final rinse phase. Use of feed water quality within the nominal conditions will reduce spotting on instruments, reduce chamber scale build-up, optimize equipment performance, and reduce maintenance. If pure water is not supplied or available, hot water will be used for the final rinse.

#### **Compressed Air Supplied to Washer**

Compressed air is used for operating pneumatically controlled water or steam valves, operating opening and closing of doors, and operating conveyor mechanisms. Use of compressed air quality within the nominal conditions will provide optimal pneumatic device performance, prevent internal pneumatic device corrosion, and reduce maintenance.

#### Steam Condensate Return from Washer

Steam condensate is the byproduct from heating water and from drying circulated air within the washer. The steam heating process is done through means of heat exchanger coils whereby the steam supply does not make direct contact with the media processed within the washer. The steam condensate from the process will be of equivalent water quality in the facility steam boiler whereby it may be recycled. If the steam condensate is not to be recycled, it may be directed to the floor drain through use of optional steam condensate cool down equipment modification packages.

For best washer heating and drying performance, it is required to direct the steam condensate return to a non-pressurized vented enclosure\* to prevent back pressure against the incoming steam supply to the washer. Steam condensate return piping vertical rises in excess of 17 feet can also create excess back pressure which can hinder the heating process.

\*NOTE: Typical vented condensate return enclosures or sumps have internal float mechanisms that activate a water pump to return the condensate to the facility boiler.

#### **IMPORTANT**

STERIS assumes no responsibility for changes made necessary through failure to explicitly observe these instructions and recommendations. In all instances, local, county, state, and national regulations should be observed.

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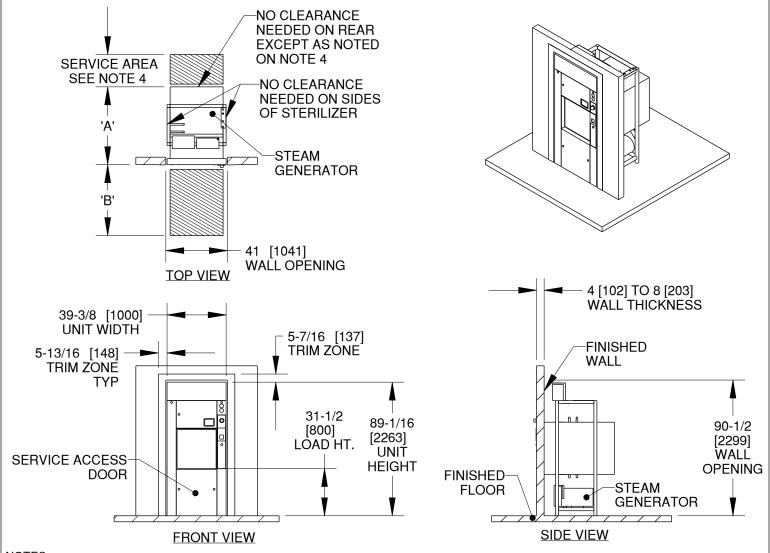


## GENERAL NOTES – APPLICABLE TO STERILIZER AND WASHER EQUIPMENT

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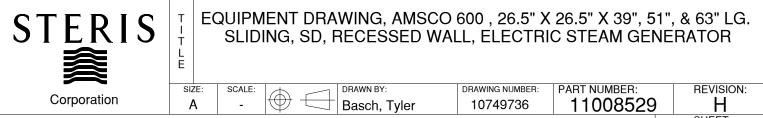
Sheet: 6 OF 6

CHAMPED LENGTH	LINIT LENGTH DIM 'A'	MINIMUM SERVICE AN	D LOAD AREA - DIM. 'B'
CHAMBER LENGTH	UNIT LENGTH - DIM. 'A'	WITHOUT ALUS	WITH ALUS
39" [991]	52-1/8" [1324]	78" [1981]	147-1/16" [3735]
51" [1295]	64-1/16" [1627]	102" [2591]	182-7/8" [4645]
63" [1600]	75-9/16" [1919]	126" [3200]	218-11/16" [5555]

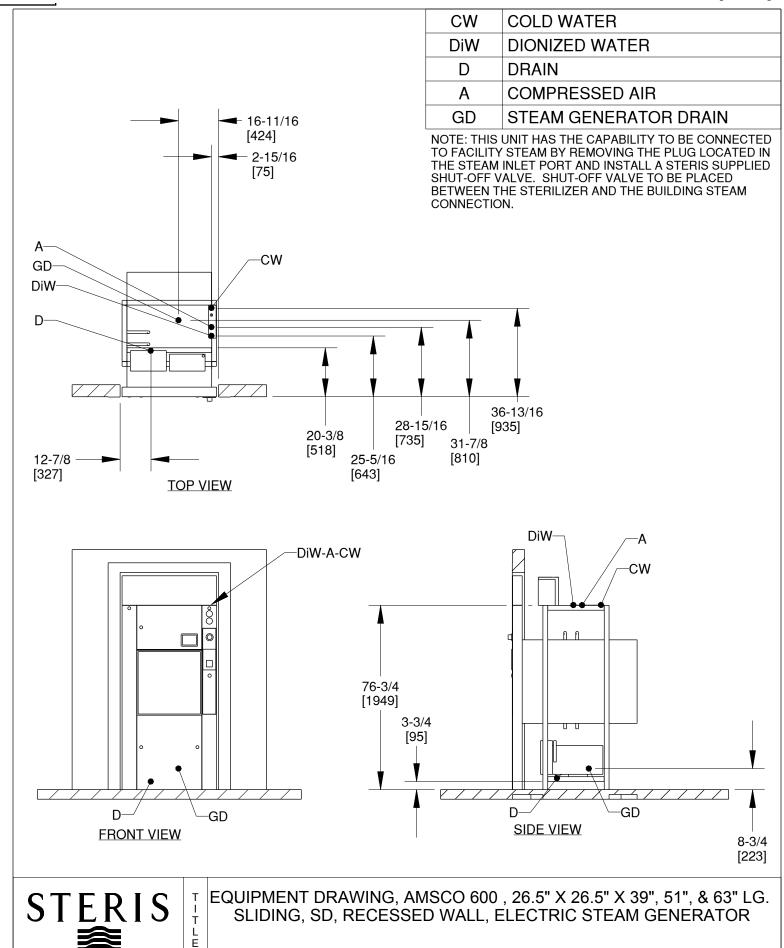


#### NOTES:

- 1. THE FLOOR AREA (IN SERVICE CLEARANCE AREAS) MUST BE SMOOTH AND HAVE A LEVEL TOLERANCE WITHIN ±1/2 deg OR ±1/16" PER FOOT, WITHOUT ANY OBSTRUCTIONS SUCH AS PIPING: WIRING, FLOOR SINKS, ETC.
- 2. SERVIČE AND LOADING AREA CLEARANCE OF UNIT SHOULD BE AT UNIT WIDTH.
- 3. SERVICE AREA SHOWN ARE SOLELY REPRESENTATION OF THE SPACE NEEDED TO SAFELY PERFORM PREVENTATIVE MAINTENANCE AND REPAIRS SERVICES. CUSTOMER IS RESPONSIBLE TO ENSURE CLEARANCE MEET OR EXCEED LOCAL AND NATIONAL CODE REQUIREMENTS. ADHERENCE TO LOCAL AND NATIONAL CODES AND PROCUREMENT OF PERMITS ARE THE RESPOSIBILITY OF THE CUSTOMER UNLESS AGREED TO IN WRITING WITH STERIS.
- 4. PROVIDE SERVICE ACCESS FROM BACK OF UNIT IF EQUIPPED WITH FOLLOWING ACCESSORIES:
  - a. 30" [760] IF EQUIPPED WITH STERI-GREEN PLUS.
  - b. 18" [460] IF EQUIPPED WITH STERI-GREEN.
- 5. ZERO CLEARANCE NEEDED OUTSIDE OF SERVICE AND LOADING AREAS.
- 6. ALUS EQUIPMENT DRAWING P/N: 11028378.
- 7. LOADING EQUIPMENT CART AND TRANSFER CARRIAGE EQUIPMENT DRAWING P/N: 11012876.
- 8. ALL DIMENSIONS ARE INCHES AND MILLIMETERS [MM].



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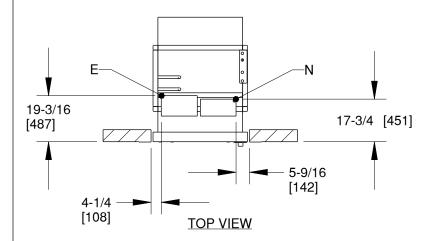
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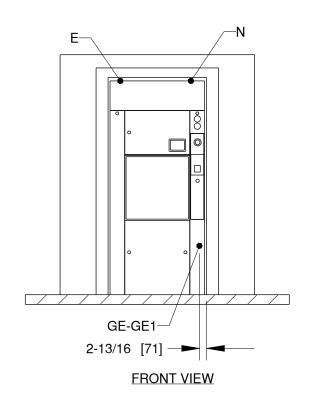
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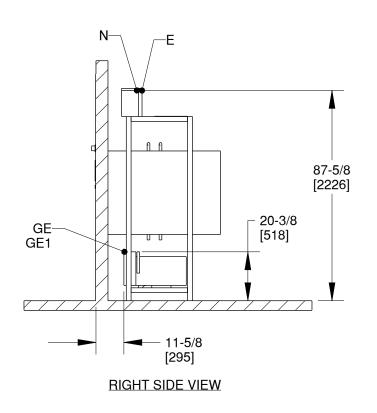
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Е	STERILIZER ELECTRIC
GE	STEAM GENERATOR ELECTRIC
GE1	STEAM GEN. CONTROL ELECTRIC
Ν	NETWORK





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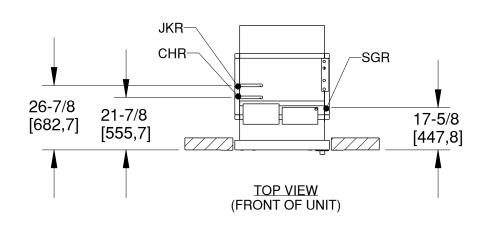
EQUIPMENT DRAWING, AMSCO 600 , 26.5" X 26.5" X 39", 51", & 63" LG. SLIDING, SD, RECESSED WALL, ELECTRIC STEAM GENERATOR

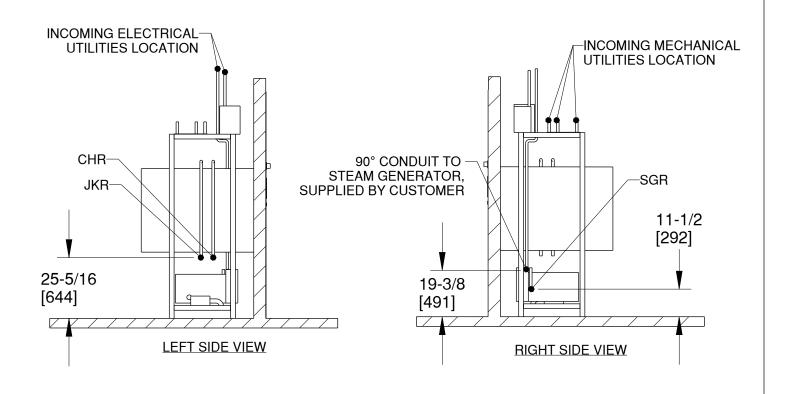
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JKR	JACKET RELIEF VALVE DISCHARGE PIPE - 1-1/8 ODT
CHR	CHAMBER RELIEF VALVE DISCHARGE PIPE - 1-1/8 ODT
SGR	STEAM GENERATOR RELIEF VALVE DISCHARGE PIPE - 1-1/8 ODT

IMPORTANT: FOR OPTIMAL INSTALLATION, COMPRESSED AIR, WATER, STEAM, NETWORK, & POWER UTILITIES SHOULD BE SUPPLIED BY CUSTOMER FROM ABOVE THE UNIT IN THE LOCATION INDICATED ON THE DRAWING. CONSULT WITH STERIS IF A DEVIATION IS REQUIRED.







T I T

L E EQUIPMENT DRAWING, AMSCO 600 , 26.5" X 26.5" X 39", 51", & 63" LG. SLIDING, SD, RECESSED WALL, ELECTRIC STEAM GENERATOR

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#### **MECHANICAL**

UTILITY REQUIREMENTS CHART				
UTILITY	PARAMETER	SPECIFICATIONS	NOTES	
	CONNECTION SIZE/TYPE	3/4" NPT	INSTALLATION SPECIFICATIONS:	
	PRESSURE RANGE	20-50 DYNAMIC PSIG (1.4-3.4 BAR G)	SIZE I II ING TO EQUILIMENT DEI ENDING ON LENGTH OF	
	TEMPERATURE RANGE	40°-70°F (4°-21°C)	PIPE RUN FROM PRESSURE REGULATING STATION FOR THE STEAM LINE AND MAIN WATER HEADERS. SUPPLY	
STERILIZER	MIN. FLOW RATE	12 GPM (45LPM)	THE SPECIFIED SERVICE PRESSURE AND FLOW RATE AT EQUIPMENT TERMINALS, INCLUDE EFFECT OF COINCIDENT DRAW OF MULTIPLE UNIT INSTALLATIONS.	
COLD WATER (CW) SEE NOTE 11		39" LG - PEAK: 12GPM (45 LPM) PER CYCLE: 97 GAL (376 L) OUT OF CYCLE: 20 GPH (75 LPH)	2. DOOR OPENING DURING PRE-INSTALLATION SHALL BE AT MINIMUM 80"x40" [2032mm x 1016mm] (HxW).	
	AVERAGE CONSUMPTION	51" LG - PEAK: 12 GPM (45 LPM) PER CYCLE: 112 GAL (424 L) OUT OF CYCLE: 25 GPH (95 LPH)	3. PROVIDE PIPING, SHUTOFF VALVE, PIPE PLUGGED TEE, AND UNION IN STEAM AND WATER SUPPLY CONNECTIONS BETWEEN EQUIPMENT AND STUB OUTS, PLUGGED TEE	
		63" LG - PEAK: 12 GPM (45LPM) PER CYCLE 128 GAL (484 L) OUT OF CYCLE: 30 GPH (114 LPH)	CAN LATER BE USED FOR TEST PRESSURE GAUGE CONNECTION. ARRANGE CONNECTION PIPING TO ALLOW ACCESS TO MACHINE COMPONENTS AND ELECTRICAL CONTROL PANEL.	
	CONNECTION SIZE/TYPE	1/2" NPT	4. RECOMMENDED PROVISION OF BLOW DOWN VALVE AT EACH STEAM AND WATER STRAINER TO ENABLE STRAINER CLEAN OUT.	
	SUPPLY TEMP.	70-140 DEG. F (21-60 DEG. C)	5. BLOW DOWN BUILDING (FACILITY) AIR STEAM AND WATER	
GENERATOR	PRESSURE RANGE	20-50 DYNAMIC PSIG (1.4-3.4 BARG)	SUPPLY LINES BEFORE FINAL CONNECTION TO THE EQUIPMENT.	
DEIONIZED and/or REVERSE	FLOW RATE	PEAK: 0.6 GPM (2.3 LPM)	6. THE STERILIZER IS NOT SUPPLIED WITH A VACUUM	
OSMOSIS WATER (DiW)		39" LG: PER CYCLE: 4.2 GAL (16 L) OUT OF CYCLE: 3 GPH (11 LPH)	BREAKER OR BACKFLOW PREVENTER. WHERE REQUIRED BY LOCAL CODES, INSTALLATION OF A VACUUM BREAKER IN THE WATER LINE IS SUPPLIED BY OTHER PARTIES. STERIS OFFERS A BACKFLOW PREVENTER AS AN OPTION.	
SEE NOTE 11	11 AVERAGE CONSUMPTION	51" LG: PER CYCLE: 5.4 GAL (20 L) OUT OF CYCLE: 4 GPH (15 LPH)	7. PLACEMENT OF PIPING SHUTOFFS, WHEN INSTALLING. SHUTOFF VALVES MUST BE LOCATED IN A SUITABLE POSITION WITHIN THE LINE OF SIGHT, AND CLEAR OF ANY OBSTRUCTIONS THAT PLACE THE SERVICE PERSONNEL IN	
		63" LG: PER CYCLE: 6.6 GAL (25 L) OUT OF CYCLE: 5 GPH (19 LPH)	HARMS WAY, IN ORDER TO TURN THE VALVE OFF.  8. REQUIRED PIPING PRACTICES FOR RELIEF VALVE PIPING	
	CONNECTION SIZE/TYPE	1-1/2" ODT OPEN	CAN BE FOUND IN ASME BOILER CODE AND PRESSURE VESSEL CODE, SECTION VIII (8), PER PARAGRAPH UG-135.	
DRAIN (TO FLOOR SINK) (D)	AVERAGE OPERATING FLOW RATE	GRAVITY DRAIN MUST BE ABLE TO HANDLE PEAK WATER CAPACITY OF 15 GPM (57LPM), MAX. DISCHARGE TEMP. 140°F (60°C)	9. FOR GENERAL INSTALLATION INFORMATION SEE STERIS DRAWING NUMBER 62941-091.	
SEE NOTE 14	FLOOR SINK MIN. SIZE & ELEVATION	12" X 12" X 6" DEEP MIN. SIZE INSTALL AT FLOOR GRADE	- 10. FOR MULTIPLE UNITS INSTALLATION, SET LOAD HEIGHT (DISTANCE BETWEEN FLOOR TO BOTTOM OF CHAMBER) WITHIN ±1/16" FOR ALL UNITS.	
	CONNECTION SIZE/TYPE	1/2" NPT	11. FOR FEED WATER AND STEAM QUALITY SEE STERIS DRAWING NUMBER 62941-091.	
COMPRESSED AIR	PRESSURE RANGE	80-100 PSIG DYNAMIC 5.5-6.9 BAR G	MINIMUM RESISTIVITY : 1MΩ/cm (1 MEGOHM/cm), PER ASME PEB-5.3	
(A) SEE NOTE 12	FLOW RATE	3 SCFM (5 SCMH)	- 12. OPTIONAL AIR COMPRESSOR IS AVAILABLE: CONTACT STERIS FOR MORE INFORMATION.	
	AIR QUALITY	OIL FREE, DRY (DEHUMIDIFIED)	13. FOR UNITS WITHOUT FLUSH AND DRAIN OPTION, PLUMB STEAM GENERATOR DRAIN "GD" TO FLOOR SINK ON SITE BY CUSTOMER.	
GENERATOR DRAIN (GD) SEE NOTE 13	CONNECTION SIZE/TYPE	1/2 NPT	14. CUSTOMER SUPPLIED DRAIN EXTENSION SHOULD BE ANCHORED.      15. IN CYCLE CONSUMPTION DATA BASED ON PREVAC OF	
STERI	S T EQUIPM SLIDI		600, 26.5" X 26.5" X 39", 51", & 63" LG. LL, ELECTRIC STEAM GENERATOR	

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#### **ELECTRICAL**

UTILITY REQUIREMENTS CHART					
UTILITY	PARAMETER	SPECIFICATIONS	NOTES		
STERILIZER ELECTRIC (E)	208-240 VAC THREE PHASE 3 WIRE AND GROUND 60 HZ	CURRENT 10 AMPS, RECOMMENDED PROTECTION 20 AMPS, #12 [3.31] AWG	ELECTRICAL UTILITY REQUIREMENTS  1. ALL CONNECTIONS SHOULD BE IN ACCORDANCE WITH LOCAL CODES.  2. ALWAYS FOLLOW LOCAL ELECTICAL CODES AND SAFETY-RELATED WORK PRACTICES TO DETERMINE THE VALUE OF PRODUCTION.		
	380-400 VAC THREE PHASE 3 WIRE AND GROUND 50/60 HZ	CURRENT 7 AMPS, RECOMMENDED PROTECTION 20 AMPS, #12 [3.31] AWG			
	440-480 VAC THREE PHASE 3 WIRE AND GROUND 60 HZ	CURRENT 7 AMPS, RECOMMENDED PROTECTION 20 AMPS, #12 [3.31] AWG	DISCONNECT SWITCHES WITH OFF POSITION LOCKOUT (SUPPLIED BY OTHERS) MUST BE INSTALLED IN ELECTRIC SUPPLY LINES THAT ARE NOT SUPPLIED BY STERIS.  4. STERIS RECOMMENDS A LAMP IN SERVICE AREA TO		
STEAM GENERATOR ELECTRIC (GE) SEE NOTE 6	208 VAC THREE PHASE 3 WIRE AND GROUND 50/60 HZ	CURRENT 119 AMPS AT 208V, RECOMMENDED PROTECTION 150 AMPS 1/0 [53.49] AWG	ILLUMINATE THE SURROUNDING SPACE.  INSTALLATION SPECIFICATIONS:      PROVIDE GROUPED OR GANGED CIRCUIT PROTECTION AND DISCONNECT FOR STERILIZER POWER AS REQUIRED BY CODES AND STANDARDS. INDIVIDUAL POWER SHUTOFFS REQUIRED PER STANDARDS. INDIVIDUAL POWER SHUTOFFS REQUIRED NEAR MACHINE FOR SERVICING.		
	220-240 VAC THREE PHASE 3 WIRE AND GROUND 50/60 HZ	CURRENT 113 AMPS AT 230V, RECOMMENDED PROTECTION 150 AMPS, 1/0 [53.49] AWG			
	380-415 VAC THREE PHASE 3 WIRE AND GROUND 50/60 HZ	CURRENT 64 AMPS AT 400V, RECOMMENDED PROTECTION 80 AMPS, 4 [21.15] AWG	2. PROVIDE GROUNDED METAL CONDUIT AND WIRING BETWEEN EQUIPMENT TERMINALS AND STUB OUT OR DISCONNECTS. CHECK LOCAL CODES FOR MINIMUM AWG. WIRE SIZE.  3. PLACEMENT OF ELECTRICAL DISCONNECTS: WHEN INSTALLING; DISCONNECTS MUST BE LOCATED IN SUITABLE LOCATIONS WITHIN LINE OF SIGHT AND CLEAR OF ANY OBSTRUCTIONS THAT WOULD PUT THE SERVICE PERSON OR OPERATOR IN HARMS WAY IN ORDER TO TURN IT OFF. ALSO, THE LOCATION OF THE DISCONNECTS SHOULD ALLOW THE SERVICE PERSON TO SHUTOFF POWER FROM THE SIDE TO PREVENT POSSIBLE ARC FLASH.		
	440-480 VAC THREE PHASE 3 WIRE AND GROUND 50/60 HZ	CURRENT 57 AMPS AT 460V, RECOMMENDED PROTECTION 80 AMPS, 4 [21.15] AWG			
STEAM GENERATOR CONTROL	120 VAC SINGLE PHASE 2 WIRE AND GROUND	CURRENT 10 AMPS, RECOMMENDED PROTECTION 20 AMPS			
(GE1)	50/60 HZ	#12 [3.31] AWG	4. DO NOT USE GROUND FAULT CURRENT INTERRUPTER (GFCI).		
NETWORK (N)	AREA NETWORK	100/1000 BASE T SUPPORTING TCP/IP PROTOCOL RJ45F CONNECTION	5. MAIN INCOMING POWER WIRING TO HAVE 167°F (75°C) INSULATION RATING MINIMUM, COPPER ONLY.  6. 90° CONDUIT, SUPPLIED BY CUSTOMER, IS REQUIRED FOR INSTALLATION. IT IS LOCATED ON RIGHT SIDE OF STEAM GENERATOR ELECTRIC BOX.		
POWER CONSUMPTION PER CYCLE	26" X 26" X 39" LG [660 X 660 X 991 LG]	12.3 KWH			
	26" X 26" X 51" LG [660 X 660 X 1295 LG]	15.8 KWH			
	26" X 26" X 63" LG [660 X 660 X 1600 LG]	19.3 KWH			

#### REQUIREMENT NOTE:

CIRCUIT BREAKER IS REQUIRED. INSTALL NEAR EQUIPMENT WITHIN EASY REACH OF THE OPERATOR AND MARKED AS 'DISCONNECTING DEVICE' FOR THE EQUIPMENT.

#### NETWORK CONNECTION (IF APPLICABLE):

- ACTIVE NETWORK DROP WITH CAT 5/6 CABLE WITHIN 10' OF UNIT
- STATIC OR DHCP RESERVED IP ADDRESS (FOR EACH UNIT)
- NETWORK CABLE SUPPLIED BY FACILITY



EQUIPMENT DRAWING, AMSCO 600, 26.5" X 26.5" X 39", 51", & 63" LG. SLIDING, SD, RECESSED WALL, ELECTRIC STEAM GENERATOR

SIZE: SCALE: DRAWN BY: DRAWING NUMBER: PART NUMBER: REVISION: 10749736 11008529 H

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#### **PHYSICAL**

#### SPECIFICATIONS CHART

SPECIFICATIONS CHAR					
	39" LG - 2327 LBS (1056 KG)				
CURB WEIGHT	51" LG - 2587 LBS (1173 KG)				
	63" LG - 2842 LBS (1289 KG)				
MAXIMUM OPERATING	39" LG - 2600 LBS (1179 KG)				
WEIGHT BASED ON CHAMBER FULLY LOADED	51" LG - 2935 LBS (1331 KG)				
WITH INSTRUMENTS,	63" LG - 3265 LBS (1481 KG)				
	39" LG - 2877 LBS (1305 KG)				
SHIPPING WEIGHT	51" LG - 3137 LBS (1423 KG)				
	63" LG - 3432 LBS (1557 KG)				
	39" LG - 62 1/2" W x 89 1/4" H x 79 1/2" L [1588mm W x 2267mm H x 2019mm L]				
SHIPPING DIMENSIONS W x H x L	51" LG - 62 1/2" W x 89 1/4" H x 79 1/2" L [1588mm W x 2267mm H x 2019mm L]				
	63" LG - 62 1/2" W x 89 1/4" H x 91 1/2" L [1588mm W x 2267mm H x 2324mm L]				
HEAT LOSS AT 70° F (21°C) BTU & (kJ) /HR PREVACUUM	FRONT OF WALL	BACK OF WALL			
26.5" X 26.5" X 39" LG [673 X 673 X 991 LG]	5500 BTU (5800 kJ)	6300 BTU (6644 kJ)			
26.5" X 26.5" X 51" LG [673 X 673 X 1295 LG]	5500 BTU (5800 kJ)	6500 BTU (6855 kJ)			
26.5" X 26.5" X 63" LG [673 X 673 X 1600 LG]	5500 BTU (5800 kJ)	6700 BTU (7065 kJ)			
NOISE LEVEL	64 dB A				

- 1. LEVELING FEET ARE PROVIDED FOR PROPER INSTALLATION. STERILIZER MUST BE LEVELED DURING INSTALLATION. CHECK LEVELNESS FRONT TO BACK, SIDE TO SIDE, AND DIAGONAL.
- 2. STERIS DOES NOT ASSUME ANY RESPONSIBILITY FOR CHANGES MADE NECESSARY THROUGH FAILURE TO OBSERVE THE SPECIFICATIONS ON THE EQUIPMENT DRAWING AND NOTE SHEETS. SPECIFICATIONS AND DESCRIPTIONS ARE SUBJECT TO CHANGE WITHOUT

#### ADDITIONAL INSTALLATION SPECIFICATIONS NOTES

- A. INSTALLATION SPECIFICATION IS LISTED AS ENGINEERING AND INSTALLATION GUIDES. REFERENCED COMPONENTS AND SERVICE CONNECTIONS ARE NOT FURNISHED AS PART OF EQUPMENT UNLESS INSTALLATION IS QUOTED SEPERATELY AND TO BE PERFORMED BY STERIS.
- B. PROVIDE GROUPED OR GANGED CIRCUIT PROTECTION AND DISCONNECT FOR STERILIZER POWER AS REQUIRED BY CODES AND STANDARDS. INDIVIDUAL POWER SHUTOFFS REQUIRED NEAR EACH MACHINE FOR SERVICING.
- C. PROVIDE GROUNDED METAL CONDUIT AND WIRING BETWEEN EQUIPMENT TERMINALS AND STUB OUTS OR DISCONNECTS. CHECK LOCAL CODES FOR MINIMUM AWG. WIRE SIZE, #16 AWG. MINIMUM RECOMMENDED.
- D. FOR GENERAL INSTALLATION INFORMATION SEE STERIS ADDENDUM (DRAWING 62941-091) ATTACHED TO THE END OF THIS DOCUMENT. (THIS DRAWING SHOULD ALWAYS ACCOMPANY THE EQUIPMENT DRAWING) IF DRAWING IS NOT INCLUDED, CONTACT STERIS SERVICE ENGINEERING AT 1-800-333-8848 FOR A COPY.



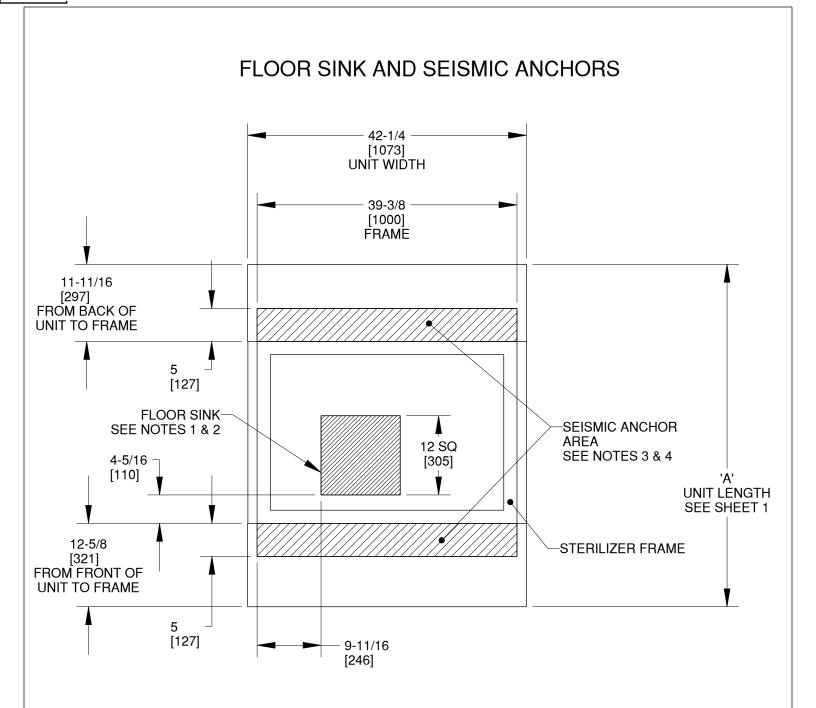
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EQUIPMENT DRAWING, AMSCO 600, 26.5" X 26.5" X 39", 51", & 63" LG. SLIDING, SD, RECESSED WALL, ELECTRIC STEAM GENERATOR

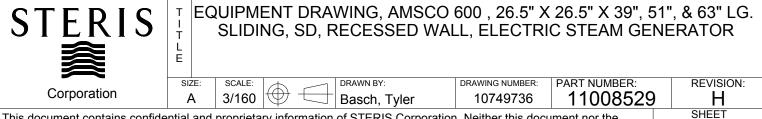
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#### NOTES:

- 1. ENSURE INSTALLED FLOOR SINK IS ABLE TO HANDLE PEAK WATER CAPACITY PER SHEET 5. DRAIN FIXTURE AND SINK TO BE PROVIDED BY OTHERS.
- 2. FLOOR DRAIN OR SINK IS RECOMMENDED FOR EACH CUBICLE STERILIZER UNIT, AND SHOULD BE PROVIDED WITHIN THE CONFINES OF THE STERILIZER FRAMEWORK. SEE DIMENSIONS SHOWN IN TOP VIEW.
- 3. USE SEISMIC KIT PART NUMBER 11012047 FOR ANCHOR LOCATIONS.
- 4. VERIFY THAT THE CONCRETE SLAB, TO WHICH THE EQUIPMENT IS SEISMIC ANCHORED, MEETS THE REQUIREMENTS OF THE APPLICABLE ICC ESR AND OPM CERTIFICATION.
- 5. ASSURE ACCESS IS AVAILABLE FOR SEISMIC INSTALLATION.
- 6. ASSURE AT LEAST 18" OF CLEARANCE IS AVAILABLE FROM BACK OF UNIT FOR SEISMIC ANCHORS INSTALLATION.



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# MANUAL LOADING ACCESSORIES FOR AMSCO® 600 SERIES MEDIUM STEAM STERILIZERS (NORTH AMERICA USE ONLY)

#### **APPLICATION**

The AMSCO 600 Series Medium Steam Sterilizer can be equipped with a variety of loading accessories to suit facility workflow.

This document covers:

- Manually operated, fixed-height loading car and transfer carriage
- Manually operated, adjustable-height loading car and transfer carriage
- Chamber-mounted rack and shelves 39" (990 mm), chamber only

Chamber Dimensions	Trays
26.5 x 26.5 x 39" 673 x 673 x 990 mm	9
26.5 x 26.5 x 51" 673 x 673 x 1295 mm	12
26.5 x 26.5 x 63" 673 x 673 x 1600 mm	15

#### **KEY FEATURES**

Manual loading equipment for AMSCO 600 steam sterilizers works with both single and double door sterilizer configurations.

#### **Single Door System**

- Free standing, full cabinet enclosure
- Recessed installation

#### **Double Door System**

- Recessed between two walls
- Recessed in one wall with cabinet package on the other side of sterilizer



(Typical – details may vary.)

#### LOADING CAR AND TRANSFER CARRIAGE

**Loading cars** in four sizes for compatibility with 39", 51" and 63" chamber lengths. *See pages 3 and 4 for additional information*.

Each loading car includes welded stainless-steel frame with adjustable shelves to accommodate numerous load sizes and configurations. Wheels are constructed of stainless steel. Loading car wheels align with, and travel on, bottom rails in sterilizer chamber (See illustrations on page 3).

*Important:* Chamber bottom rails are required for use with loading cars.

Chamber rails sit 0.2 inch (5 mm) above chamber floor.

#### Selections Checked Below Apply To This Equipment

LOADING CAR OPTIONS  • 39" Length Chamber  □ 39" Unit Loading Car □ Extra Loading Car Shelf; Qty	<ul> <li>63" Length Chamber</li> <li>G3" Unit Loading Car</li> <li>Extra Loading Car Shelf; Qty</li> <li>Side and End Gate Kit; Qty *</li> </ul>	RACK AND SHELVES ☐ Rack with 2 Shelves (for 39" units) ☐ One Spare Shelf (for 39" units)
☐ Side and End Gate Kit; Qty * ☐ Chamber Rails (Required for loading car use)	☐ Chamber Rails (Required for loading car use)	ADDITIONAL ITEMS ☐ PouchCare (Rack for peel pouches) See ES-3035
• 51" Length Chamber  □ 51" Unit Loading Car  □ Extra Loading Car Shelf; Qty *  □ Side and End Gate Kit; Qty *  Or Alternate for 51" Length Units:  □ Two 25" Length Loading Cars  □ Extra Loading Car Shelf; Qty *	TRANSFER CARRIAGES  □ 25"; Qty (For use with 51" or 63" Units) □ Fixed Height □ Variable Height  □ 39"; Qty (For use with 39" or 63" Units) □ Fixed Height □ Variable Height  □ 51"; Qty (For use with 51" Units) □ Fixed Height □ Variable Height	□ Loading Car Extraction Hook (telescopic; adjustable length: 47 - 71" (1041 - 1803 mm)
☐ Chamber Rails (Required for loading car use)	☐ 63"; Qty (For use with 63" Units) ☐ Fixed Height ☐ Variable Height	Item
		Location(s)
* Food antional Cida and End Cata Vit includes two side	a gatas and two and gatas	

<sup>\*</sup> Each optional Side and End Gate Kit includes two side gates and two end gates.

Each loading car includes one fixed-position (but removable) lower shelf, and one adjustable shelf. Each shelf is welded, suitably reinforced and designed to allow free passage of steam.

An extra shelf is available to accommodate up to three shelves of goods per loading car.

#### Side and end gates

Easy-to-remove side and end gates fit into holes along frame of the loading car and are designed to help retain items on the shelves during processing (if needed).

Side and end gates, like the shelves, are constructed of stainless steel.

#### Loading car extraction hook

An extraction hook is available to extend operator reach for easier removal of loading cars. The telescopic hook is adjustable from 47 to 71" (1041 to 1803 mm). See page 3 for image and additional information.

#### Transfer carriage

Transfer carriage is provided in two configurations, both featuring welded tubular steel frames provided with a pushbar handle. The carriages are supported by four swivel casters with non-marking, easy-rolling tires. All casters are capable of directional locking; additionally, rear casters are equipped with foot-operated brakes. A guide assembly helps align carriage with loading car rails in chamber bottom. discussed below. In addition to the following, refer to page 3 for additional information.

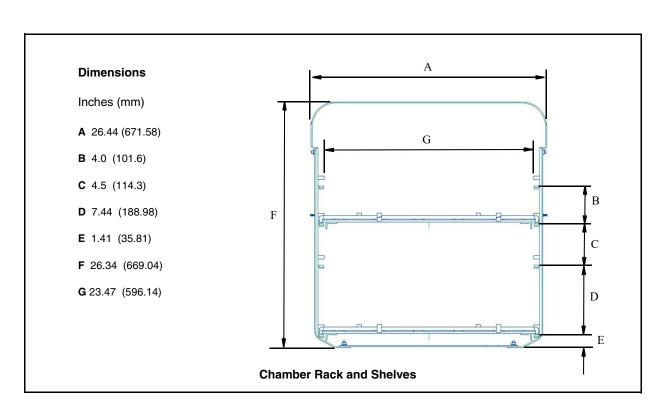
- Fixed-height carriage Set at a fixed height of 31.5" (800 mm).
- Adjustable-height carriage Motorized range of motion between heights of 22" and 33.75" (560 860 mm).

#### **CHAMBER RACK AND SHELF SET**

**Chamber rack and shelves** are available for both single and double door sterilizers having a 39" chamber length. Rack and shelves are constructed from stainless steel; and each shelf is welded, reinforced and designed to allow free passage of steam. The shelves are supported by angle-guides.

Important: Rack and shelves cannot be used simultaneously with sterilizers equipped with chamber bottom rails. However, bottom rails can be removed to accommodate the rack and shelves

Chamber rack accepts up to three shelves at a time, which can be repositioned or removed to accommodate a variety of loads.

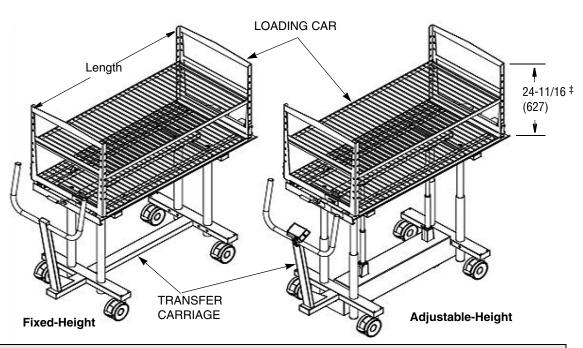


#### LOADING CAR AND TRANSFER CARRIAGE

- 1. Loading car equipped with one adjustable upper shelf.
- 2. Bottom shelf height is fixed; other shelves are adjustable (see page 4).

**NOTE:** Dimensions shown are typical and subject to change without notice.

#### AMSCO 600 Series Medium Sterilizer 26.5 x 26.5" (673 x 673 mm) Loading Car and Transfer Carriage



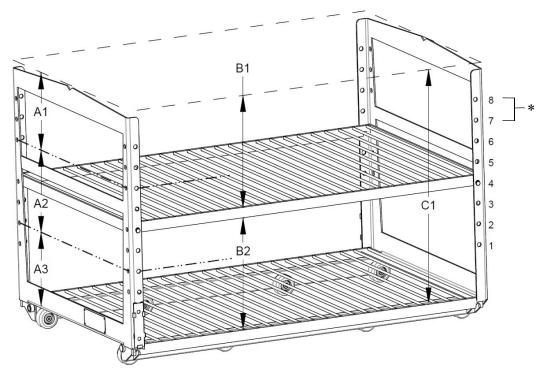
Transfer Carriages and Loading Cars						
Sterilizer Chamber Size in. (mm) W x H x L	Loading Equipment Size	Recommended Loading Car Configurations (for maximum productivity)	Loading Car Length in. (mm)	Transfer Carriage Length in. (mm)	Trays (max)	
	25"		24-13/16 (630)	41-1/2 (1054)	6	
26.5 x 26.5 x 39 (673 x 673 x 990)	39"	1 x 39"	36-5/8 (930)	49-3/4 (1264)	9	
26.5 x 26.5 x 51 (673 x 673 x 1295)	51"	1 x 51" (or 2 x 25")	49-5/8 (1260)	62-9/16 (1589)	12	
26.5 x 26.5 x 63 (673 x 673 x 1600)	63"	1 x 63" (or 1 x 25" plus 1 x 39")	60-5/8 (1540)	74-9/16 (1894)	15	

<sup>\*</sup> Handle height of transfer carriages is 45-3/16 inches (1148 mm). Transfer Carriage heights are as measured from floor to top of carriage handle. Transfer carriage loading surface is preset to match sterilizer loading height of 33-11/16" (856 mm). † Loading car width is 23-15/16 inches (608 mm). ‡ Car height dimension of 24-11/16 inches (627 mm) is as measured from bottom of car wheel to car frame peak.



**Loading car extraction hook** - Extends operator reach for easier removal of loading cars. The telescopic hook is adjustable from 47 to 71" (1041 to 1803 mm).

Weight: 4.2 LBS (1.9 KG) Shaft Material: 316/316L/316 Ti SS Grip Material: PVC (BLACK)



\*2" (50 mm) spacing between shelf locater positions.

Scenario	Number of Shelves	Shelf Locations	Spacing		
A	3	Bottom, 2, 6	A1 A2 A3	6-11/16" (170 mm) 6-7/8" (175 mm) 6-3/4" (172 mm)	
В	2	Bottom, 4	B1 B2	10-5/8" (270 mm) 10-3/4" (272 mm)	
С	1	Bottom	C1	22-9/16" (573 mm)	

#### **Loading Car Shelf Spacing, 3 Scenarios**

#### For Further Information, contact:



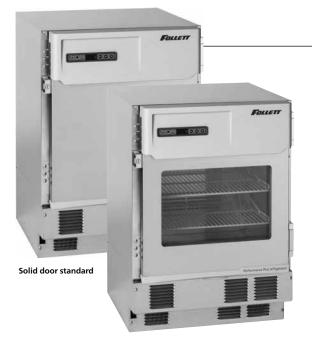
STERIS Corporation 5960 Heisley Road Mentor, OH 44060-1834 • USA 440-354-2600 • 800-548-4873 www.steris.com

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## REF4P ADA-Compatible Performance Plus

medical-grade undercounter refrigerator



Optional glass door

Undercounter refrigerators					
Controls Keypad Door configuration V/Hz/Ph number					
	No	stainless	115/60/1	REF4P-00-00	
LED		glass	115/60/1	REF4P-00-GD	
LED	Yes	stainless	115/60/1	REF4P-KP-00	
	res	glass	115/60/1	REF4P-KP-GD	

## Options and accessories

Glass door

Keypad and electronic lock

Extra shelf (item# 01059484)

Drawer kit (item# 01053644)

External digital data logger (item# 01057561)

Replacement probe for digital data logger (item# 01057595)

Temperature surveillance module (chart recorder) (item# 00168674)

Replacement charts for temperature surveillance module (item# 00162099)

Replacement pens for temperature surveillance module (item# 00162081)

Universal automated medication dispensing system bracket (item# 01059096)

Glycerine (16 oz) (item# 00959296)

Stacking kit (item# 01054006)

Temperature alarm (item# 00112185)

17.00" (43.2 cm) pedestal kit (item# 01059120)

Extra key (item# 01059112)

Casters (set of 4) (item# 01053636)

Seismic bracket kit (item# 01059104)

Job

Item

#### **Features**

#### Superior temperature performance

- custom-designed microprocessor temperature controller
- air-cooled refrigeration system with heavy duty 1/5 horsepower compressor
- environmentally friendly, non-CFC R134a refrigerant
- programmed automatic defrost every 8 hours
- cabinet-wide temperature remains within +/- 1 C (1.8 F), even with frequent door openings

#### Convenience and security

- fits below 34.00" (86.4 cm) ADA countertops without casters
- refrigeration system settings accessed through door-mounted controls
- exterior LED digital temperature display available in user-programmable C or F with choice of product or air temperature
- user-programmable audible and visual high/low alarms
- mechanical lock mounted on side of door
- lockable controller so set points cannot be inadvertently changed
- dry (NO and NC) contacts for connection to remote alarm systems
- flexible internal storage configuration (drawers and shelves interchangeable)
- Agion® antimicrobial and UV product protection added to molded plastic façade<sup>1</sup>

#### Durability and serviceability

- stainless steel construction on exterior and interior
- two epoxy-coated wire shelves standard
- back wall evaporator and front ventilation (no top, back or side clearance required)
- heavy-duty edge-mount self-closing hinges
- field-reversible door
- integral handle and magnetic gasket door closure

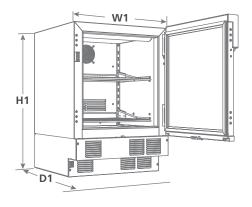
#### Warranty

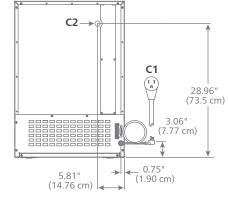
- 2 year parts and labor on refrigeration system
- 5 year parts on compressor



Specification	
Nominal capacity	3.9 cu ft (110 L)
<b>W1</b> Width exterior	23.75" (60.3 cm)
<b>D1</b> Depth cabinet	25.62" (65.1 cm)
Depth with façade	27.00" (68.6 cm)
<b>H1</b> Height exterior	31.38" (79.7 cm)
Height with casters	33.88" (86.1 cm)
Width interior	19.75" (50.2 cm)
Depth interior	18.32" (46.5 cm)
Height interior	18.94" (48.1 cm)
Ventilation clearance	0.0" for top, side and back clearance
<b>C1</b> 115 V/60/1 electrical	4.1 run load amps, NEMA 5-15P 90° hospital-grade plug PVC, SJT, 16GA, 7' (2.1 m) cord
Door	solid, foamed stainless 21.50" x 22.51"x 1.63" (54.6 cm x 57.2 cm 4.0 cm)
Optional glass door	triple pane, low E glass window dimensions 16.30" x 10.90" (41.4 cm x 27.7 cm)
Door lock	cylinder lock
Door handle	molded into front façade
Door hinges	edge-mount, self-closing
Door swing	field-reversible
Storage system	(2) 18.10" x 19.10" (46.0 cm x 48.5 cm) epoxy-coated steel shelves
Gasket	magnetic
Temperature display	standard 7 segment LED
C2 3rd party probe access	rear access port
High and low product temperature alarm	audible and visual, user programmable set points in C or F
Factory set point and operating range	preset at 4 C (40 F) with an adjustable range from 2 C to 10 C (36 F to 50 F)
Probe error alarm	audible and visual — product temperature probes, refrigeration and defrost
Alarm mute	user selectable
Alarm volume	0 -10 adjustable
Min/max temperature log	shows highest and lowest product temperature since last reset occurred
Product simulation bottle	(1) 60 ml
Remote contacts	NO/NC standard, located on back
Refrigerant and charge	R134a refrigerant, 9 oz
Energy consumption	1.8 kWh/day
Max heat rejection	2185 BTU/hr

## Dimensional drawing





SHORT FORM SPECIFICATION: Performance Plus undercounter refrigerator with choice of solid stainless steel or glass door fits under 34.00" (86.4 cm) ADA-height counter with 3.9 cubic feet (110 L) of nominal capacity. Includes (2) epoxy-coated wire shelves, adjustable in 1/2" increments. Environmentally responsible R134a forced-air cooled refrigeration system. Top-mounted controls display product or air temperature in user-selectable C or F. Integral high and low temperature alarming. Storage area insulated with CFC-free, high-density polyurethane foam. 7' (2.1 m) power cord with NEMA 5-15P 90° hospital-grade plug. NSF, UL and CUL listed.

Agion is a registered trademark of Sciessent LLC. Follett is a registered trademark of Follett Corporation, registered in the US. Follett reserves the right to change specifications at any time without obligation. Certifications may vary depending on country of origin.







205 lb (93 kg)





Approximate ship weight

NOTE: For indoor use only

<sup>&</sup>lt;sup>1</sup> Disclaimer: Antimicrobial protection is limited to the plastic façade.



## REF1/2, FZR1/2 Alarm Accessory P/N 01092022

#### Installation Instructions

#### **Description**

The optional Alarm Accessory is equipped with dry contacts that can be connected to a remote alarm. The terminal block has a Common, Normally Open, and Normally Closed connection point. By default, the Alarm Relay is set to activate on the following alarms: Alarm High Temp (HA1), and Alarm Low Temp (LA1).

## ! CAUTION!

- Only qualified technicians should attempt to service or maintain this equipment.
- Alarm relay rate 1A @ 30Vdc

## **Materials Supplied**

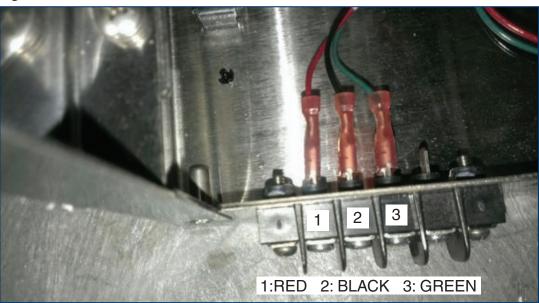
- (1) Terminal block (01017516)
- (1) Alarm relay cable (01026772)
- (2) Terminal block screws (204275)
- (2) Terminal block nuts (200071)
- (1) Wiring label (01064849)

If you experience any problems during the installation process, please call Follett Technical Service at +1 (610) 252-7301 for assistance.

#### Installation

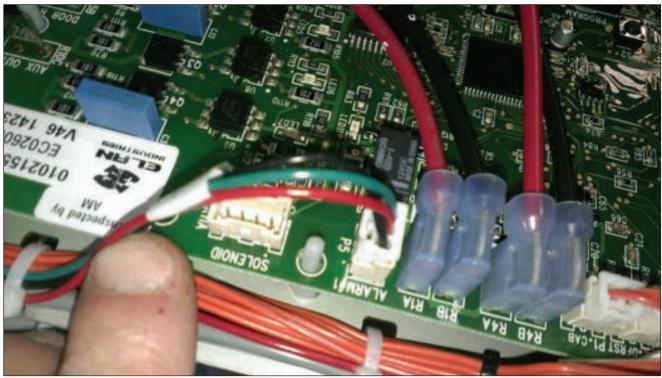
- 1. Locate power switch in rear left-hand corner and turn unit off.
- Unplug power cord from outlet.
- 3. Locate knock out in rear, left hand corner.
- 4. Remove rear ventilation cover
- 5. Install terminal block and secure with supplied terminal block nuts and screws.
- 6. Attach alarm relay cable to terminal block. Starting on the left terminal, attach red, black, green (Fig. 1).

Fig. 1



- **7.** Remove front panel.
  - Disconnect display cable harness from controller display.
  - Disconnect reed switch harness.
- 8. Remove control plate mounting screw and pull control board assembly forward.
- 9. Route alarm relay cable from alarm terminal to control board assembly.
- 10. Connect alarm terminal harness to the P5 (Alarm1) terminal on control board (Fig. 2).
- 11. Secure alarm terminal assembly to existing wire harness with wire ties.
- 12. Reinstall control board assembly
- 13. Re-connect reed switch and controller display
- 14. Reinstall front panel
- 15. Reinstall rear vent cover
- **16.** Attach wiring label to vent cover above terminal block.

Fig. 2



Follett is a registered trademark of Follett LLC, registered in US.





# AMSCO® 7053HP SINGLE-CHAMBER WASHER/DISINFECTOR

#### **APPLICATION**

The AMSCO 7053HP Single-Chamber Washer/ Disinfector with touch screen control is intended for use in the cleaning and intermediate-level disinfection of soiled reusable simple hard-surfaced rigid surgical instruments (such as forceps and clamps), utensils (such as bedpans and urinals, trays, bowl, basin, kidney dishes), rubber and plastic goods, theatre shoes and other similar and related articles found in healthcare facilities.

#### **DESCRIPTION**

The AMSCO 7053HP Single-Chamber Washer/ Disinfector is a cabinet-type mechanical washer that includes:

- Color touch screen control system and visual progress indicator
- Audible warning system with adjustable volume
- Space saving, power vertical sliding doors
- Eight factory-loaded (Instruments, Orthopedic Instruments, Utensils, Plastic Goods, Rigid M.I.S., Anesthesia / Respiratory Goods, Gentle and Decontamination) and up to 20 Custom cycles. Each cycle is effective, fast, energy efficient and may be customized (within allowed range of parameters) to meet specific operating requirements
- · LED status indicator lighting
- · Compact space saving footprint
- Conforms to seismic building code requirements



(Typical - details may vary.)

- Patented spray arm system providing entire chamber coverage
- 180 degree reverse installable

#### **STANDARDS**

The AMSCO 7053HP Single-Chamber Washer/Disinfector complies with the following standards:

#### As certified by Intertek:

- CAN/CSA-C22.2 No. 61010-1, 3rd Edition (R2017)
- CAN/CSA-C22.2 No. 61010-2-040 2nd Edition Dated 07/01/2016
- UL 61010-1, 3rd Edition (2012-05-11)

#### The Selections Checked Below Apply To This Equipment

#### POWER\*

- ☐ Steam-Heated Unit
- ☐ Electric-Heated Unit

#### **VOLTAGE\***

- □ 200 to 208 V, 60 Hz (Steam)
- □ 200 to 208 V, 50 Hz (Steam)
- □ 380 to 400 V, 60 Hz
- □ 380 to 415 V, 50 Hz
- □ 460 to 480 V, 60 Hz

#### LANGUAGE PACKAGE

- ☐ French (FD355)
- ☐ Spanish (FD356)
- ☐ German (FD357)
- ☐ Italian (FD358)
- \* Careful consideration must given to voltage selection prior to ordering. Later changes require substantial field modification.
- † Refer to SD867 for Material Handling Accessories.

#### **ACCESSORIES**†

- ☐ Printer (FD094)
- ☐ Seismic Tie-Down Kit (FD354)
- ☐ Condensate Return To Drain (FD353)
- ☐ Two-Level Manifold Rack (FD105)
- ☐ Two-Level Manifold Rack with Equal Space (FD106)
- ☐ Three-Level Manifold Rack (FD107)
- ☐ Four-Level Manifold Rack (FD108)
- ☐ Five-Level Manifold Rack (FD110)
- ☐ Multi-Function Rack for Large Items (FD114)
- ☐ Multi-Function Rack for Small Items (FD115)
- ☐ General Purpose Basket (FD116)
- ☐ Self Docking Transfer Cart (FD179)
- ☐ Transfer Cart Adapter (FD209)☐ Set of dry Contacts (FD362)
- ☐ Handheld Bar Code reader (FD363)
- ☐ Conductivity Probe (FD350)
- ☐ Additional Wall Flange (FD351)
- ☐ Additional Chemical Pump (FD349)
- ☐ Installation Kit Steam (FD088)
- ☐ Installation Kit Electric (FD037)

#### ACCESSORIES (CONT'D)†

- ☐ Offset Installation Air Management Kit (FD352)
- □ IQ-0Q-PQ Protocols (FD359)
- Machine Identifier (TBD)
- ☐ Drain Acu-CoolDown (FD361)
- □ ConnectAssure Technology for Data Export (JM3030)
- ProConnect® Technical Support Services (Remote Monitoring, Priority Technical Support, Customer Care Center Access, Equipment Performance Reports). Available in U.S. and Canada only. (GP09-167)

#### OPTIONS

- ☐ Acu-Rinse Reservoir (FD000054)
- ☐ Acu-Wash Reservoir (FD000055)
- ☐ 40-Amp Min Circuit Protection (FD000056)

Item
Location(s)
(-)

#### Governing Directive for the affixing of the CE mark:

- Medical Devices Directive 93/42/EEC as amended by 2007/ 47/EC
- Machinery Directive 2006/42/EC

## Standards Applied to Demonstrate Conformity to the Directive:

- IEC 61010-1 3rd Edition (2012-05-11), EN 61326-1, 2013,
   IEC 61326-1 Second Edition (July 2012) and IEC 61010-2-040:2015
- EN ISO 15883-1/A1:2014, ANSI/AAMI ST15583-1:2009 and CAN/CSA Z15883-1-09 (R2104) Washer-Disinfectors – General Requirements, Definitions and Tests
- EN ISO 15883-2: 2009, ANSI/AAMI ST15583-2:2013 and CAN/CSA Z15883-2-09 (R2014) Requirements and Tests for Washer-Disinfectors Employing Thermal Disinfection for Surgical Instruments, Anesthesia Equipment, Holloware, Utensils, Glassware, etc.

#### SIZE (W X H X L)

#### **Exterior dimensions:**

• 42 x 80-3/4 x 38" (1067 x 2051 x 965 mm)

#### Interior chamber dimensions:

• 29-1/2 x 29-1/4 x 32-1/2" (749 x 743 x 826 mm)

#### Load height:

• 31" (787 mm) above finished floor

#### **FEATURES**

#### Vertical sliding power door:

- Door is constructed of double pane tempered glass to allow operator to view chamber interior with door closed.
- Color LED light illuminates top portion of each door to indicate machine status.
- Door is pneumatically activated using touch screens located on the control panel (one each side of unit) and is equipped with a built-in safety system.
- Each door is mounted on a compressed seal that reduces heat loss and increases heating capability.
- If a power failure occurs, door can be opened manually. A door interlock feature is provided to prevent crosscontamination.
- Unit can be configured in single- or double-door operation.

**Stainless-steel pump** is powered by a dual-speed motor. High pump speed provides equivalent capacity of a 14 hp (10.4 kW) motor, 165 U.S. gal/min at 196 ft (625 L/min at 60 m) head pressure. Low pump speed provides equivalent capacity of a 3.5 HP (2.6 kW) motor, 90 U.S. gal/min at 46 ft (341 L/min at 14 m) head pressure. Pump impeller is mounted directly on motor shaft and does not require additional bearings. Pump motor is equipped with a drip-proof frame, magnetic starter, overload protection and sealed bearings (not requiring periodic lubrication).

Pump, spray system and all recirculating piping are of **stainless-steel construction**.

#### Wash chamber:

- Constructed of 16-gauge, 316L stainless steel (No. 4 finish), argon-welded and polished. Chamber is of sanitary-type design (horizontal fixed surfaces are sloped, without overlapping sheet metal) for complete drainability and reducing hard-to-clean locations.
- Single-walled, insulated construction of chamber exterior reduces heat loss and noise level to the work area.
- Rotary spray assemblies are positioned (one at top and one at bottom of chamber, each measuring 24-3/8" [620 mm] long) to reach all load surfaces. Spray assemblies are easily removable without tools to aid in cleaning and maintenance.

#### Sump:

- Constructed of 316L stainless steel with 9.0 gal (34 L) capacity with removable stainless-steel filter preventing debris from entering pump and piping system.
- Heating coil (steam or electric) at the bottom of the wash chamber (sump) raises and maintains water temperature up to 185°F (85°C) during the Wash phase and up to 194°F (90°C) during the Thermal Rinse phase.

#### Chemical peristaltic injection pumps:

- Pre-Programmed cycles and pumps are optimized to use Prolystica® Ultra Concentrate (PUC) HP chemicals. Each ultra concentrated product is 10 times more concentrated than equivalent traditional product; so,10 times less chemical is injected per cycle.
- Unit comes with one enzyme and one detergent injection peristaltic pump which automatically add a selected quantity of chemical from 1/40 to 2 oz/gal (0.2 to 16 mL/L).
- One pump is dedicated to automatically add a selected quantity of lubricant during Thermal Rinse phase.
- Pumps are positioned near chemical containers. A low-level sensor is included to indicate when detergent level is low, or when insufficient chemical is available for next cycle.
- 100' (30 m) extension tubes are included to pump chemicals from canisters installed in a remote location to unit.
- Control monitors volume of chemicals injected and indicates if this parameter meets specified criteria during all specific phases.

**Top Utility Connections** (except drain connections) facilitate installation. All utilities (including vent, steam, electric, water and compressed air) are connected on washer top. Top water injection gives a secure air gap of 31-1/2" (800 mm). Backflow preventers are not required for hot and pure water.

Front Service Panels provide easy access to piping, valves, electrical components and wiring. Unit can be configured as either a Vented System that exhausts chamber vapors to building exhaust system through 3.0" (76 mm) OD vent connection located at top of washer or as a Non-Vented Drying System where chamber vapors are exhausted through cold water condenser to facility room.

**Drying System** uses uniquely designed four-sided inflow drying pattern to produce high-flow air curtain. Air curtain provides broad, efficient, drying within wash chamber. Recycled and non-recycled air is manifolded and circulated through piping and

accessory providing energy efficient system while ensuring complete chamber air coverage. Fresh air is drawn through a HEPA filter. Drying system includes a 3 hp (2.2 kW) blower, to remove vapor from chamber prior to opening doors, and three electric heaters totaling 11.8 kW to heat and maintain chamber air temperature. When Acu-Drying is selected, drying time self-adjusts to meet drying time of loaded rack and items.

**Pure Water Stainless-Steel Supply Valve** is supplied on washer/disinfector so **Pure Water Rinse Supply** may be used with factory programmed cycles and optional Acu-Rinse Reservoir.

**Drain Discharge Cool Down** ensures water drained at the end of each phase, from the chamber sump to the building drain system, does not exceed 140°F (60°C). If the water temperature in sump is higher than 140°F (60°C), cold water is automatically added to reduce the temperature of the water discharged into the building drain system.

**Sampling Valve** is supplied in washer/disinfector recirculation piping for North American Customers that are not able to install sampling valves on facility supply lines near washer/disinfector.

**Barrier Wall Kit Flanges** for one wall (clean side) installation come standard. An optional kit to enclose second wall (dirty side) is also available (FD351).

**Cycle Graph** enables monitoring of injection volume, water circulating pressure and water temperature during a cycle. Graphs are displayed at the end of each cycle and data can be exported using https interface or USB port.

#### **CONTROL SYSTEM**

The AMSCO 7053HP Single-Chamber Washer/Disinfector is equipped with a touch screen Customer interface. This 8.4" (213 mm) color touch screen is mounted at eye level beside chamber door (both sides of unit) and tilted for better visibility, allowing easy monitoring of all wash cycles. Control system monitors and controls all phases of each programmed cycle.

The control system features:

- Cycle selection is simplified through use of Icons representing devices and cycle confirmation (on-screen) to ensure correct cycle is selected.
- Service mode for preventive maintenance testing and to facilitate troubleshooting.
- Built-in service diagnostic program to permit system calibration and verification of component operations.
- Security lock-out feature that enables cycles and temperatures to be locked and unchangeable without proper access code.
- Cycle data is stored as a protection against power disruption. Data may be downloaded from controller using supplied USB ports.
- Permits operator to monitor current washer/disinfector status (including current chamber temperature, circulating pressure and time remaining in phase).
- Indicates any abnormal conditions with audible and visual alarm system.

#### CYCLE DESCRIPTION

ADVISORY NOTE: STERIS does not intend, recommend or represent in any way that this AMSCO 7053HP Single-Chamber Washer/Disinfector be used for the terminal disinfection or sterilization of any regulated medical device. AMSCO 7053HP Washer/Disinfector is intended only to perform an initial step in the processing of soiled, reusable medical devices. If medical devices contact blood or compromised tissues, such devices must be terminally processed in accordance with good hospital practices before each use in human patients.

Once treatment cycle is selected, washer/disinfector automatically processes load through standard phases (additional phases are included in certain treatment cycles depending on unit configuration) as described on Cycle Charts and in supplied Operator Manual.

AMSCO 7053HP Single-Chamber Washer/Disinfector enables Customers to use Dual Wash phase combining PUC HP enzyme and PUC HP detergent in the same filling which accelerates cycle time and reduces water consumption.

Custom cycles are available but must be validated by the Customer (not STERIS responsibility).

#### **SAFETY FEATURES**

Vertical chamber doors are equipped with an **obstruction sensor** to detect any door obstruction. If obstruction is present, door automatically opens.

The washer/disinfector is equipped with a **safety lockout feature** so a cycle cannot start unless the door is fully closed. If the door is opened during a cycle, all utility services to chamber are shut off, and the cycle stops.

**Door interlock feature** is provided to prevent cross-contamination. Door interlock feature allows only one door to be opened at a time whenever power is on. When the cycle is in process, door interlock prevents either door from being opened. Access to the load is then restricted.

**Safety stop pushbutton(s)**, one on the load and one on the unload side, automatically stop all unit operation when pressed.

**Building electrical supply disconnect switch** must be used to shut off power to the unit before servicing.

#### **ACCESSORIES AND OPTIONS\***

**Printer** (FD094), if provided, produces an easy-to-read printed record of whether load was properly processed at preset temperature, as well as a complete list of alarm and abort incycle messages. A paper out LED is included.

\* See SD867 for information on material handling accessories, including the Rigid Minimal Invasive Surgery (MIS) Rack.

**Acu-Rinse Reservoir** (if equipped) pre-heats Pure Water for Rinse and Thermal Rinse phases significantly reducing cycle times. Constructed of 316L stainless steel.

**Acu-Wash Reservoir** recovers a portion of water used in Thermal Rinse treatment and stores it for use in Wash treatment of next cycle reducing overall cycle water consumption.

**Steam Condensate Return To Drain** (FD353) allows for connection of steam condensate return outlet to drain when steam condensate return line is not available in building. Cold water is also injected in drain piping when condensate return water temperature is too high. Condensate return cool down keeps temperature in drain piping below 140°F (60°C).

**Seismic Tie-Down Kit** (FD354) includes a seismic report for proper installing and securing of washer to building floor. Unit is designed to comply with seismic building code.

**Additional Chemical Pump** (FD349; up to two pumps) is available, giving flexibility to wash with neutral process, alkaline process, or to vary chemical used, depending on load type.

**Drain Acu-CoolDown** (FD361) precisely injects correct amount of potable water into facility drain system, minimizing volume of cold water needed.

**Offset Installation Air Management Kit** (FD352) controls airflow at top of door assemblies.

**ConnectAssure Data Export** (CAT3030) exports XML cycle records from equipment to Customer tracking system.

**ProConnect® Technical Support Services** maximizes operational efficiencies with secure, Internet-based, real-time equipment monitoring. Data from Customer equipment is used by STERIS to provide pro-active Customer alert notifications, technical support and predictive maintenance. (ProConnect Technical Support Services is available in U.S. and Canada only.) Refer to Tech Data sheet *SD983, PROCONNECT TECHNICAL SUPPORT SERVICES*, for details.

#### **INSTALLATION**

The washer/disinfector is designed as a fully enclosed cabinet for freestanding or recessed installation. Clearance between top of the unit and the ceiling must be at least 14" (356 mm).

If the system is recessed through one or two barrier walls, stainless-steel barrier flanges are included to provide a finished wall appearance.

Once installed, system is designed to allow for easy access for maintenance purposes.

All configuration modifications are available upon request. Contact STERIS to receive a quotation.

#### PREVENTIVE MAINTENANCE

Customers are encouraged to contact STERIS concerning our annual maintenance program. Under the terms of the program, preventive maintenance, adjustments and replacement of worn parts are provided on a scheduled basis to help ensure optimal equipment performance and help minimize untimely or costly schedule interruptions. STERIS maintains a worldwide staff of well-equipped, factory-trained technicians to provide these services, as well as on-site installation, training and expert repair services. Contact STERIS for details.

#### **NOTES**

- Machine segments (unit is bolted onto a wooden skid) are shipped in one cardboard carton (W x H x L): 50 x 91 x 48" (1270 x 2311 x 1219 mm).
- 2. Customer must ensure the washer/disinfector stands on a noncombustible floor (floor should be level).
- Customer must provide utility connections with shutoff disconnects within 2' (0.6 m) of equipment perimeter and below ceiling deck or purchase Installation Kit from STERIS.
- 4. STERIS recommends vacuum breakers (not provided by STERIS) be installed on service lines, and disconnect switches (with lockout in OFF position; not provided by STERIS) be installed in electric supply lines near equipment.
- For all ventilation ducting from the washer/disinfector, STERIS recommends installation of a dedicated, corrosionproof, flexible watertight duct (3" [76 mm] OD) to the exterior of the building, sloped toward the washer/disinfector.
- 6. Minimum ceiling height for door removal is 94" (2388 mm).
- 7. STERIS recommends illumination of the service area along with providing a convenience outlet for maintenance.
- 8. Noise level of 60.6 dB; Operating weight of 1543 lb (700 kg).
- 9. Unit is shipped with an Operator Manual. Maintenance Manual is available for purchase.
- 10. ConnectAssure Data Export requires an ethernet drop and ethernet connection within 10 ft of the equipment. The Customer must supply the network cable.

#### **UTILITY REQUIREMENTS**

**IMPORTANT:** Refer to equipment drawing 10288794 for installation details and specifications.

#### For Further Information, contact:



STERIS Corporation 5960 Heisley Road Mentor, OH 44060-1834 • USA 440-354-2600 • 800-548-4873 www.steris.com The base language of this document is ENGLISH. Any translations must be made from the base language document.

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# AMSCO® 7053HP SINGLE-CHAMBER WASHER/DISINFECTOR

#### **APPLICATION**

The AMSCO 7053HP Single-Chamber Washer/ Disinfector with touch screen control is intended for use in the cleaning and intermediate-level disinfection of soiled reusable simple hard-surfaced rigid surgical instruments (such as forceps and clamps), utensils (such as bedpans and urinals, trays, bowl, basin, kidney dishes), rubber and plastic goods, theatre shoes and other similar and related articles found in healthcare facilities.

#### **DESCRIPTION**

The AMSCO 7053HP Single-Chamber Washer/ Disinfector is a cabinet-type mechanical washer that includes:

- Color touch screen control system and visual progress indicator
- Audible warning system with adjustable volume
- Space saving, power vertical sliding doors
- Eight factory-loaded (Instruments, Orthopedic Instruments, Utensils, Plastic Goods, Rigid M.I.S., Anesthesia / Respiratory Goods, Gentle and Decontamination) and up to 20 Custom cycles. Each cycle is effective, fast, energy efficient and may be customized (within allowed range of parameters) to meet specific operating requirements
- · LED status indicator lighting
- · Compact space saving footprint
- Conforms to seismic building code requirements



(Typical - details may vary.)

- Patented spray arm system providing entire chamber coverage
- 180 degree reverse installable

#### **STANDARDS**

The AMSCO 7053HP Single-Chamber Washer/Disinfector complies with the following standards:

#### As certified by Intertek:

- CAN/CSA-C22.2 No. 61010-1, 3rd Edition (R2017)
- CAN/CSA-C22.2 No. 61010-2-040 2nd Edition Dated 07/01/2016
- UL 61010-1, 3rd Edition (2012-05-11)

#### The Selections Checked Below Apply To This Equipment

#### POWER\*

- ☐ Steam-Heated Unit
- ☐ Electric-Heated Unit

#### **VOLTAGE\***

- □ 200 to 208 V, 60 Hz (Steam)
- □ 200 to 208 V, 50 Hz (Steam)
- □ 380 to 400 V, 60 Hz
- □ 380 to 415 V, 50 Hz
- □ 460 to 480 V, 60 Hz

#### LANGUAGE PACKAGE

- ☐ French (FD355)
- ☐ Spanish (FD356)
- ☐ German (FD357)
- ☐ Italian (FD358)
- \* Careful consideration must given to voltage selection prior to ordering. Later changes require substantial field modification.
- † Refer to SD867 for Material Handling Accessories.

#### **ACCESSORIES**†

- ☐ Printer (FD094)
- ☐ Seismic Tie-Down Kit (FD354)
- ☐ Condensate Return To Drain (FD353)
- ☐ Two-Level Manifold Rack (FD105)
- ☐ Two-Level Manifold Rack with Equal Space (FD106)
- ☐ Three-Level Manifold Rack (FD107)
- ☐ Four-Level Manifold Rack (FD108)
- ☐ Five-Level Manifold Rack (FD110)
- ☐ Multi-Function Rack for Large Items (FD114)
- ☐ Multi-Function Rack for Small Items (FD115)
- ☐ General Purpose Basket (FD116)
- ☐ Self Docking Transfer Cart (FD179)
- ☐ Transfer Cart Adapter (FD209)
- ☐ Set of dry Contacts (FD362)
- ☐ Handheld Bar Code reader (FD363)
- ☐ Conductivity Probe (FD350)
- ☐ Additional Wall Flange (FD351)
- ☐ Additional Chemical Pump (FD349)
- ☐ Installation Kit Steam (FD088)
- ☐ Installation Kit Electric (FD037)

#### ACCESSORIES (CONT'D)†

- ☐ Offset Installation Air Management Kit (FD352)
- □ IQ-0Q-PQ Protocols (FD359)
- ☐ Machine Identifier (TBD)
- ☐ Drain Acu-CoolDown (FD361)
- ☐ ConnectAssure Technology for Data Export (JM3030)
- ProConnect® Technical Support Services (Remote Monitoring, Priority Technical Support, Customer Care Center Access, Equipment Performance Reports). Available in U.S. and Canada only. (GP09-167)

#### OPTIONS

- ☐ Acu-Rinse Reservoir (FD000054)
- ☐ Acu-Wash Reservoir (FD000055)
- ☐ 40-Amp Min Circuit Protection (FD000056)

Item	
Location(s)	
(-/	

#### Governing Directive for the affixing of the CE mark:

- Medical Devices Directive 93/42/EEC as amended by 2007/ 47/EC
- Machinery Directive 2006/42/EC

## Standards Applied to Demonstrate Conformity to the Directive:

- IEC 61010-1 3rd Edition (2012-05-11), EN 61326-1, 2013,
   IEC 61326-1 Second Edition (July 2012) and IEC 61010-2-040:2015
- EN ISO 15883-1/A1:2014, ANSI/AAMI ST15583-1:2009 and CAN/CSA Z15883-1-09 (R2104) Washer-Disinfectors – General Requirements, Definitions and Tests
- EN ISO 15883-2: 2009, ANSI/AAMI ST15583-2:2013 and CAN/CSA Z15883-2-09 (R2014) Requirements and Tests for Washer-Disinfectors Employing Thermal Disinfection for Surgical Instruments, Anesthesia Equipment, Holloware, Utensils, Glassware, etc.

#### SIZE (W X H X L)

#### **Exterior dimensions:**

• 42 x 80-3/4 x 38" (1067 x 2051 x 965 mm)

#### Interior chamber dimensions:

• 29-1/2 x 29-1/4 x 32-1/2" (749 x 743 x 826 mm)

#### Load height:

• 31" (787 mm) above finished floor

#### **FEATURES**

#### Vertical sliding power door:

- Door is constructed of double pane tempered glass to allow operator to view chamber interior with door closed.
- Color LED light illuminates top portion of each door to indicate machine status.
- Door is pneumatically activated using touch screens located on the control panel (one each side of unit) and is equipped with a built-in safety system.
- Each door is mounted on a compressed seal that reduces heat loss and increases heating capability.
- If a power failure occurs, door can be opened manually. A door interlock feature is provided to prevent crosscontamination.
- Unit can be configured in single- or double-door operation.

**Stainless-steel pump** is powered by a dual-speed motor. High pump speed provides equivalent capacity of a 14 hp (10.4 kW) motor, 165 U.S. gal/min at 196 ft (625 L/min at 60 m) head pressure. Low pump speed provides equivalent capacity of a 3.5 HP (2.6 kW) motor, 90 U.S. gal/min at 46 ft (341 L/min at 14 m) head pressure. Pump impeller is mounted directly on motor shaft and does not require additional bearings. Pump motor is equipped with a drip-proof frame, magnetic starter, overload protection and sealed bearings (not requiring periodic lubrication).

Pump, spray system and all recirculating piping are of **stainless-steel construction**.

#### Wash chamber:

- Constructed of 16-gauge, 316L stainless steel (No. 4 finish), argon-welded and polished. Chamber is of sanitary-type design (horizontal fixed surfaces are sloped, without overlapping sheet metal) for complete drainability and reducing hard-to-clean locations.
- Single-walled, insulated construction of chamber exterior reduces heat loss and noise level to the work area.
- Rotary spray assemblies are positioned (one at top and one at bottom of chamber, each measuring 24-3/8" [620 mm] long) to reach all load surfaces. Spray assemblies are easily removable without tools to aid in cleaning and maintenance.

#### Sump:

- Constructed of 316L stainless steel with 9.0 gal (34 L) capacity with removable stainless-steel filter preventing debris from entering pump and piping system.
- Heating coil (steam or electric) at the bottom of the wash chamber (sump) raises and maintains water temperature up to 185°F (85°C) during the Wash phase and up to 194°F (90°C) during the Thermal Rinse phase.

#### Chemical peristaltic injection pumps:

- Pre-Programmed cycles and pumps are optimized to use Prolystica® Ultra Concentrate (PUC) HP chemicals. Each ultra concentrated product is 10 times more concentrated than equivalent traditional product; so,10 times less chemical is injected per cycle.
- Unit comes with one enzyme and one detergent injection peristaltic pump which automatically add a selected quantity of chemical from 1/40 to 2 oz/gal (0.2 to 16 mL/L).
- One pump is dedicated to automatically add a selected quantity of lubricant during Thermal Rinse phase.
- Pumps are positioned near chemical containers. A low-level sensor is included to indicate when detergent level is low, or when insufficient chemical is available for next cycle.
- 100' (30 m) extension tubes are included to pump chemicals from canisters installed in a remote location to unit.
- Control monitors volume of chemicals injected and indicates if this parameter meets specified criteria during all specific phases.

**Top Utility Connections** (except drain connections) facilitate installation. All utilities (including vent, steam, electric, water and compressed air) are connected on washer top. Top water injection gives a secure air gap of 31-1/2" (800 mm). Backflow preventers are not required for hot and pure water.

Front Service Panels provide easy access to piping, valves, electrical components and wiring. Unit can be configured as either a Vented System that exhausts chamber vapors to building exhaust system through 3.0" (76 mm) OD vent connection located at top of washer or as a Non-Vented Drying System where chamber vapors are exhausted through cold water condenser to facility room.

**Drying System** uses uniquely designed four-sided inflow drying pattern to produce high-flow air curtain. Air curtain provides broad, efficient, drying within wash chamber. Recycled and non-recycled air is manifolded and circulated through piping and

accessory providing energy efficient system while ensuring complete chamber air coverage. Fresh air is drawn through a HEPA filter. Drying system includes a 3 hp (2.2 kW) blower, to remove vapor from chamber prior to opening doors, and three electric heaters totaling 11.8 kW to heat and maintain chamber air temperature. When Acu-Drying is selected, drying time self-adjusts to meet drying time of loaded rack and items.

**Pure Water Stainless-Steel Supply Valve** is supplied on washer/disinfector so **Pure Water Rinse Supply** may be used with factory programmed cycles and optional Acu-Rinse Reservoir.

**Drain Discharge Cool Down** ensures water drained at the end of each phase, from the chamber sump to the building drain system, does not exceed 140°F (60°C). If the water temperature in sump is higher than 140°F (60°C), cold water is automatically added to reduce the temperature of the water discharged into the building drain system.

**Sampling Valve** is supplied in washer/disinfector recirculation piping for North American Customers that are not able to install sampling valves on facility supply lines near washer/disinfector.

**Barrier Wall Kit Flanges** for one wall (clean side) installation come standard. An optional kit to enclose second wall (dirty side) is also available (FD351).

**Cycle Graph** enables monitoring of injection volume, water circulating pressure and water temperature during a cycle. Graphs are displayed at the end of each cycle and data can be exported using https interface or USB port.

#### **CONTROL SYSTEM**

The AMSCO 7053HP Single-Chamber Washer/Disinfector is equipped with a touch screen Customer interface. This 8.4" (213 mm) color touch screen is mounted at eye level beside chamber door (both sides of unit) and tilted for better visibility, allowing easy monitoring of all wash cycles. Control system monitors and controls all phases of each programmed cycle.

The control system features:

- Cycle selection is simplified through use of Icons representing devices and cycle confirmation (on-screen) to ensure correct cycle is selected.
- Service mode for preventive maintenance testing and to facilitate troubleshooting.
- Built-in service diagnostic program to permit system calibration and verification of component operations.
- Security lock-out feature that enables cycles and temperatures to be locked and unchangeable without proper access code.
- Cycle data is stored as a protection against power disruption. Data may be downloaded from controller using supplied USB ports.
- Permits operator to monitor current washer/disinfector status (including current chamber temperature, circulating pressure and time remaining in phase).
- Indicates any abnormal conditions with audible and visual alarm system.

#### CYCLE DESCRIPTION

ADVISORY NOTE: STERIS does not intend, recommend or represent in any way that this AMSCO 7053HP Single-Chamber Washer/Disinfector be used for the terminal disinfection or sterilization of any regulated medical device. AMSCO 7053HP Washer/Disinfector is intended only to perform an initial step in the processing of soiled, reusable medical devices. If medical devices contact blood or compromised tissues, such devices must be terminally processed in accordance with good hospital practices before each use in human patients.

Once treatment cycle is selected, washer/disinfector automatically processes load through standard phases (additional phases are included in certain treatment cycles depending on unit configuration) as described on Cycle Charts and in supplied Operator Manual.

AMSCO 7053HP Single-Chamber Washer/Disinfector enables Customers to use Dual Wash phase combining PUC HP enzyme and PUC HP detergent in the same filling which accelerates cycle time and reduces water consumption.

Custom cycles are available but must be validated by the Customer (not STERIS responsibility).

#### **SAFETY FEATURES**

Vertical chamber doors are equipped with an **obstruction sensor** to detect any door obstruction. If obstruction is present, door automatically opens.

The washer/disinfector is equipped with a **safety lockout feature** so a cycle cannot start unless the door is fully closed. If the door is opened during a cycle, all utility services to chamber are shut off, and the cycle stops.

**Door interlock feature** is provided to prevent cross-contamination. Door interlock feature allows only one door to be opened at a time whenever power is on. When the cycle is in process, door interlock prevents either door from being opened. Access to the load is then restricted.

**Safety stop pushbutton(s)**, one on the load and one on the unload side, automatically stop all unit operation when pressed.

**Building electrical supply disconnect switch** must be used to shut off power to the unit before servicing.

#### **ACCESSORIES AND OPTIONS\***

**Printer** (FD094), if provided, produces an easy-to-read printed record of whether load was properly processed at preset temperature, as well as a complete list of alarm and abort incycle messages. A paper out LED is included.

\* See SD867 for information on material handling accessories, including the Rigid Minimal Invasive Surgery (MIS) Rack.

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**Drain Acu-CoolDown** (FD361) precisely injects correct amount of potable water into facility drain system, minimizing volume of cold water needed.

**Offset Installation Air Management Kit** (FD352) controls airflow at top of door assemblies.

**ConnectAssure Data Export** (CAT3030) exports XML cycle records from equipment to Customer tracking system.

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#### **INSTALLATION**

The washer/disinfector is designed as a fully enclosed cabinet for freestanding or recessed installation. Clearance between top of the unit and the ceiling must be at least 14" (356 mm).

If the system is recessed through one or two barrier walls, stainless-steel barrier flanges are included to provide a finished wall appearance.

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All configuration modifications are available upon request. Contact STERIS to receive a quotation.

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#### **NOTES**

- Machine segments (unit is bolted onto a wooden skid) are shipped in one cardboard carton (W x H x L): 50 x 91 x 48" (1270 x 2311 x 1219 mm).
- 2. Customer must ensure the washer/disinfector stands on a noncombustible floor (floor should be level).
- Customer must provide utility connections with shutoff disconnects within 2' (0.6 m) of equipment perimeter and below ceiling deck or purchase Installation Kit from STERIS.
- 4. STERIS recommends vacuum breakers (not provided by STERIS) be installed on service lines, and disconnect switches (with lockout in OFF position; not provided by STERIS) be installed in electric supply lines near equipment.
- For all ventilation ducting from the washer/disinfector, STERIS recommends installation of a dedicated, corrosionproof, flexible watertight duct (3" [76 mm] OD) to the exterior of the building, sloped toward the washer/disinfector.
- 6. Minimum ceiling height for door removal is 94" (2388 mm).
- 7. STERIS recommends illumination of the service area along with providing a convenience outlet for maintenance.
- 8. Noise level of 60.6 dB; Operating weight of 1543 lb (700 kg).
- 9. Unit is shipped with an Operator Manual. Maintenance Manual is available for purchase.
- 10. ConnectAssure Data Export requires an ethernet drop and ethernet connection within 10 ft of the equipment. The Customer must supply the network cable.

#### **UTILITY REQUIREMENTS**

**IMPORTANT:** Refer to equipment drawing 10288794 for installation details and specifications.

#### For Further Information, contact:



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## GDT225SGL/SSL

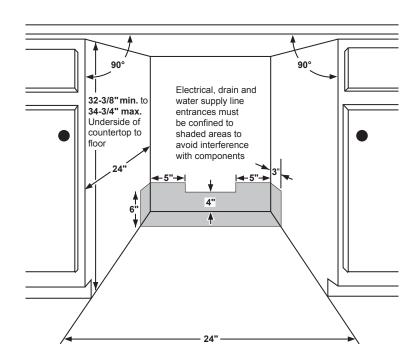
### GE® Stainless Steel Interior Dishwasher with Hidden Controls

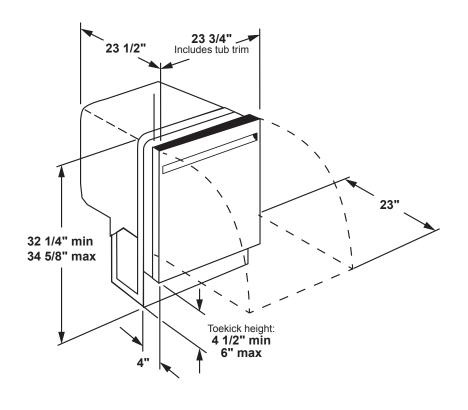
#### **DIMENSIONS AND INSTALLATION INFORMATION (IN INCHES)**

#### **ELECTRICAL RATING**

Voltage AC	120
Hertz	60
Total connected load amperage8.9	)

For use on adequately wired 120-volt, 15-amp circuit having 2-wire service with a separate ground wire. This appliance must be grounded for safe operation.















As an ENERGY STAR® partner, GE has determined that this product meets the ENERGY STAR guidelines for energy efficiency.

## GDT225SGL/SSL

#### GE® Stainless Steel Interior Dishwasher with Hidden Controls

#### **FEATURES AND BENEFITS**

ADA Compliant with Low-Profile Installation – Great for 34" counter top heights and raised subfloors

 $3\mbox{-Level Wash}$  – Expect exceptionally clean table-ready dishes with powerful wash arms

Autosense Cycle – A beam of light measures soil levels and water temperature to adjust to the ideal cycle time

Piranha<sup>™</sup> hard food disposer with removable filter – To ensure consistently clean items, this stainless steel blade rotates at 3,600 RPM to pulverize food particles and helps to prevent large particles from clogging the wash arms

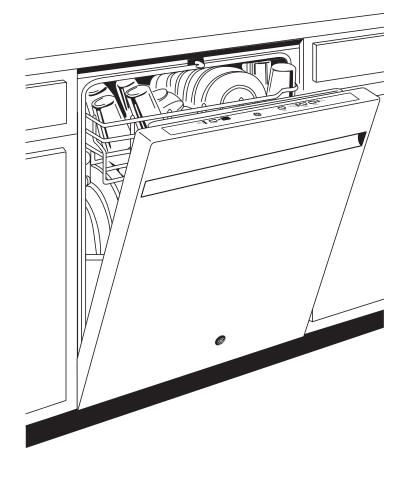
Sanitize option (NSF Certified) – High-temperature rinse sanitizes and reduces by 99.999% the bacteria found on dishes

dBA 51

Model GDT225SGLWW - White on white

Model GDT225SGLBB - Black on black

Model GDT225SSLSS - Stainless steel (shown)









### Environmental Equipment Co., Inc. 10310 Spartan Dr., Cincinnati, Ohio 45215 USA

10310 Spartan Dr., Cincinnati, Ohio 45215 USA (513) 772-9410 e-mail: sales@so-low.com Fax (513) 772-0570 http://www.so-low.com

ENGINEERS AND MANUFACTURERS OF ULTRA-LOW FREEZERS

# SO-LOW CHEST STYLE FREEZER TO -85°C MODEL C85-3

3 Cubic Ft. (83 liters) Chest – Temperature Range: -40°C to -85°C Top Opening

#### Specifications:

\* Capacity 3 cubic ft. / 83 liters

\* Temperature Range -40°C to -85°C

\* Dimensions

\* Exterior W x D x H 34" x 27" x 47"

86 x 69 x 119 (cm)

\* Interior W x D x H 24" x 12" x 18" 61 x 31 x 46 (cm)

#### Voltage:

115 volts, 60 hertz, 1 phase 208 volts, 60 hertz, 1 phase 230 volts, 60 hertz, 1 phase 220 volts, 50 hertz, 1 phase 15 AMP dedicated circuit required. ETL electrical approval.

#### **TEMPERATURE CONTROL**

Microprocessor control displays set point and chamber temperature.

#### **ALARM SYSTEM WITH RELAY**

The battery operated alarm system will emit an audible and visual signal when there is a mechanical or electrical failure. The alarm has an over and under temperature setting, alarm silencing switch, and battery test switch. Also provided is a relay for remote alarm hook-up.

#### REFRIGERATION SYSTEM

A So-Low cascade system with two hermetic compressors. CFC & HCFC free refrigerants

#### **CONSTRUCTION**

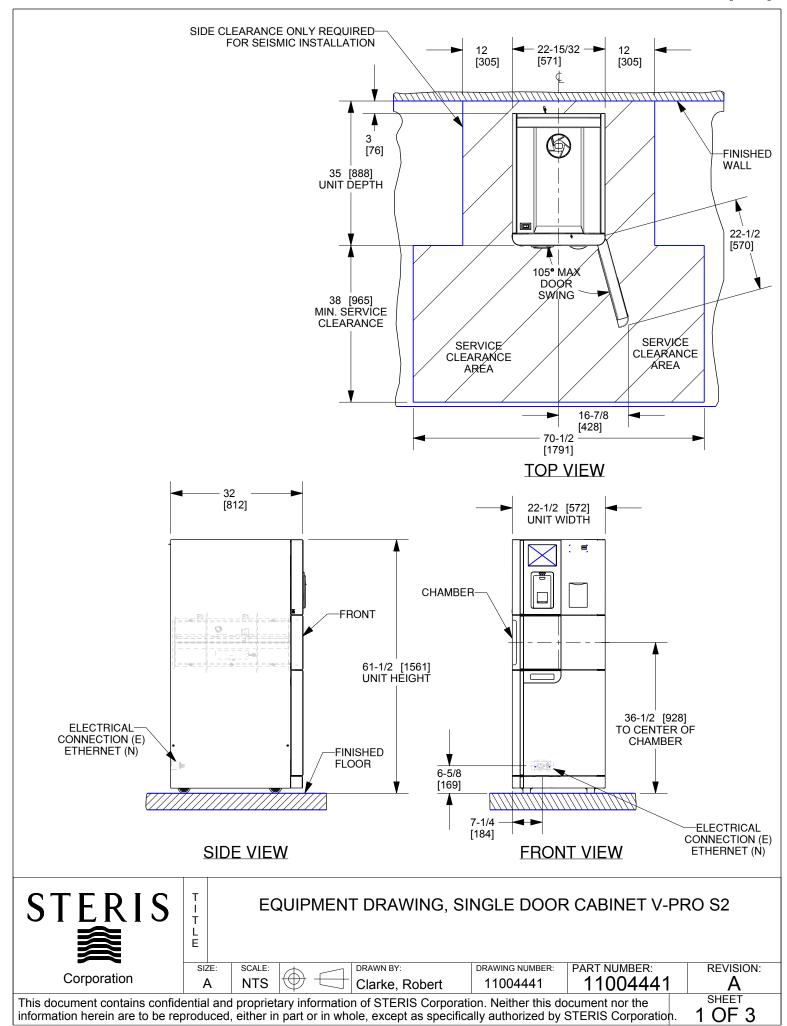
Chamber is 14-ga. Zinc coated galvanized steel. Exterior is 16-ga. steel. Power coated cool gray.

#### **TECHNICAL SUPPORT**

Supplied by Nation-Wide-Network of service companies.

Specifications subject to change without notice

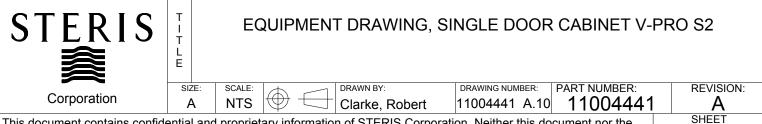




	Ole 20230113141130 ♥ 1cemπ /23342 [2/3]						
EQUIPMENT DRAWING, SINGLE DOOR CABINET V-PRO S2							
	UTILITY REQUIREMENTS CHART						
UTILITY	PA	RAMETER	REQUIREME	NT	NOTES		
	(US 120 VOI	DOMESTIC S & CANADA) LTS, 50/60HZ, 20A NGLE PHASE	MIN. CIRCUIT BREAKER RI 20 AMPS, USE NEMA 5-20 DEDICATED CIRCUIT I	RECEPTACLE	ELECTRICAL CONSUMPTION:     0.53 - 1.6 KWHR DURING CYCLE OPERATION     (APPROXIMATE, VARIES WITH INSTALL     CONDITIONS, PARTICULAR CYCLE, AND     LOAD CONDITIONS.)		
ELECTRICAL (E)	220-240 V	ERNATIONAL OLTS, 50/60HZ, 10A NGLE PHASE	MIN. CIRCUIT BREAKER RI 13 AMPS, DEDICATED CIRC		2. RECEPTACLE TO BE WITHIN 8' OF STERILIZER.  3. NOT FOR USE WITH GFCI'S  (GROUND FAULT CIRCUIT INTERRUPTERS).		
		JAPAN LTS, 50/60HZ, 12A NGLE PHASE	MIN. 15A CIRCUIT B RECOMMEND DEDICATED CIRCUIT I	ΞD	(GROUND FAULT GIRCUIT INTERRUPTERS).		
ETHERNET (N)	ARE	EA NETWORK	10/100 BASE T SUPPORTING TCP/IP PROTOCOL RJ45F CONNECTION		NETWORK CONNECTION (IF APPLICABLE):     ACTIVE NETWORK DROP WITH CAT 5/6 CABLE WITHIN 10' OF UNIT     STATIC OR DHCP RESERVED IP ADDRESS (FOR EACH UNIT)     NETWORK CABLE SUPPLIED BY FACILITY		
			PHYSICAL SPE	CIFICATIO	NS		
SHIPPIN WEIGHT, (AP		940 [	_BS. (430 KG.)		SIONS IN INCHES AND [MM].		
WEIGHT, BAS	MAXIMUM OPERATING TO BE LE WEIGHT, BASED ON 540 LBS, (245 KG.) INSTALLA		TO BE LEV	ACE IN LOADING/UNLOADING AREAS OF EQUIPMENT EL WITHIN 1/16". FOR INSTANCES OF MULTIPLE IONS THIS TOLERANCE SHOULD BE HELD FOR THE AN OF INSTALLED EQUIPMENT.			
SHIPPING DIME W x L x I			X 50-1/2 X 75-1/2 X 1283 X 1918)		LEARANCE MUST BE MAINTAINED TO ALLOW O STERILIZER FOR SERVICEABILITY.		
OUTSIDE DIME W x L x I			X 32-7/8 X 61-1/2 X 836 X 1562)	NECESSAF	SUMES NO RESPONSIBILITY FOR CHANGES MADE LY THROUGH FAILURE TO OBSERVE THE TIONS ON EQUIPMENT DRAWING AND NOTE PAGES.		
CHAMBER DIME W x L x I			3 X 10 X 28 X 254 X 711)		TIONS AND DESCRIPTIONS ARE SUBJECT TO CHANGE		
HEAT LOSS 70° F (21°	HEAT LOSS AT 70° F (21° C) 3255 BTU/HR		-				
A-WEIGHTED SOUND 76.9 dB (A) CALCULA		CULATED PER ISO 3746	-				

#### **INSTALLATION SPECIFICATIONS:**

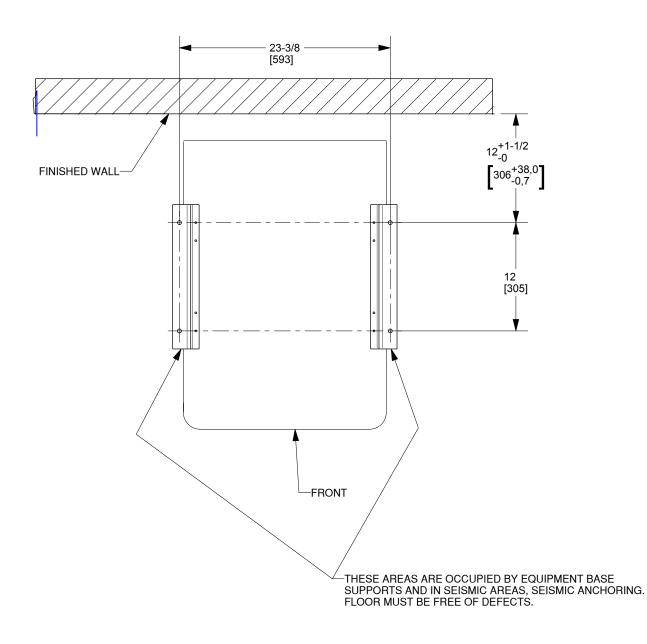
- 1. THE INSTALLATION OF THE AMSCO V-PRO S2 LOW TEMPERATURE STERILIZATION SYSTEMS MUST MEET ALL FEDERAL, STATE AND LOCAL REGULATIONS (NEC IN U.S., IEC IN EU, AND CEC IN CANADA).
- 2. INSTALLATION SPECIFICATION IS LISTED AS ENGINEERING AND INSTALLATION GUIDES. REFERENCED COMPONENTS AND SERVICE CONNECTIONS ARE NOT FURNISHED AS PART OF EQUIPMENT UNLESS UNDER WRITTEN AGREEMENT WITH STERIS.
- 3. PER ANSI/AAMI ST58:2013 OR SUBSEQUENT, THE STERILIZER SHALL BE INSTALLED AND OPERATED IN AN AREA WITH A VENTILATION SYSTEM CAPABLE OF AT LEAST 10 AIR EXCHANGES PER HOUR.
- 4. STERILIZER MUST BE INSTALLED AND OPERATED IN AN AREA WHERE THE TEMPERATURE IS BETWEEN 59°F AND 86°F (15°C AND 30°C), AND THE RELATIVE HUMIDITY RANGE IS BETWEEN 20% AND 65%.
- 5. UNIT SHOULD NOT BE INSTALLED IN AN AREA WHICH IS NOT COMPATIBLE WITH OXIDIZERS. CONSULT THE SDS FOR ANY CHEMICALS THAT MAY BE PRESENT IN ADDITION TO THE SDS FOR THE HYDROGEN PEROXIDE STERILANT.



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## **SEISMIC MOUNTS**

(IF APPLICABLE)





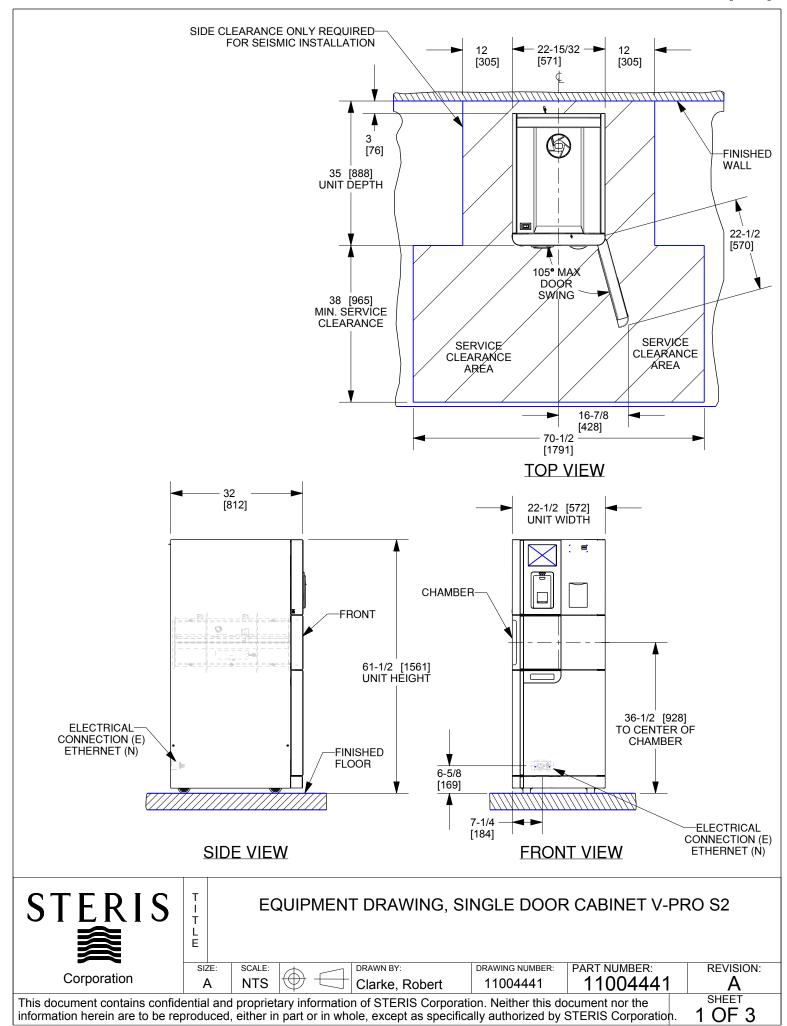
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EQUIPMENT DRAWING, SINGLE DOOR CABINET V-PRO S2

SIZE: SCALE: DRAWN BY: DRAWING NUMBER: PART NUMBER: REVISION: A NTS Clarke, Robert 11004441 A.10 11004441 A.

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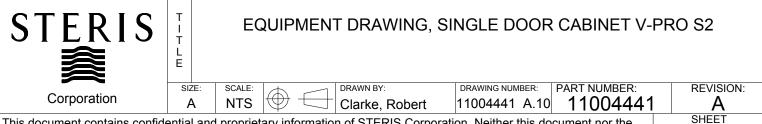
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	Ole 20230113141130 ♥ 1cemπ /23342 [2/3]						
EQUIPMENT DRAWING, SINGLE DOOR CABINET V-PRO S2							
	UTILITY REQUIREMENTS CHART						
UTILITY	PA	RAMETER	REQUIREME	NT	NOTES		
	(US 120 VOI	DOMESTIC S & CANADA) LTS, 50/60HZ, 20A NGLE PHASE	MIN. CIRCUIT BREAKER RI 20 AMPS, USE NEMA 5-20 DEDICATED CIRCUIT I	RECEPTACLE	ELECTRICAL CONSUMPTION:     0.53 - 1.6 KWHR DURING CYCLE OPERATION     (APPROXIMATE, VARIES WITH INSTALL     CONDITIONS, PARTICULAR CYCLE, AND     LOAD CONDITIONS.)		
ELECTRICAL (E)	220-240 V	ERNATIONAL OLTS, 50/60HZ, 10A NGLE PHASE	MIN. CIRCUIT BREAKER RI 13 AMPS, DEDICATED CIRC		2. RECEPTACLE TO BE WITHIN 8' OF STERILIZER.  3. NOT FOR USE WITH GFCI'S  (GROUND FAULT CIRCUIT INTERRUPTERS).		
		JAPAN LTS, 50/60HZ, 12A NGLE PHASE	MIN. 15A CIRCUIT B RECOMMEND DEDICATED CIRCUIT I	ΞD	(GROUND FAULT GIRCUIT INTERRUPTERS).		
ETHERNET (N)	ARE	EA NETWORK	10/100 BASE T SUPPORTING TCP/IP PROTOCOL RJ45F CONNECTION		NETWORK CONNECTION (IF APPLICABLE):     ACTIVE NETWORK DROP WITH CAT 5/6 CABLE WITHIN 10' OF UNIT     STATIC OR DHCP RESERVED IP ADDRESS (FOR EACH UNIT)     NETWORK CABLE SUPPLIED BY FACILITY		
			PHYSICAL SPE	CIFICATIO	NS		
SHIPPIN WEIGHT, (AP		940 [	_BS. (430 KG.)		SIONS IN INCHES AND [MM].		
WEIGHT, BAS	MAXIMUM OPERATING TO BE LE WEIGHT, BASED ON 540 LBS, (245 KG.) INSTALLA		TO BE LEV	ACE IN LOADING/UNLOADING AREAS OF EQUIPMENT EL WITHIN 1/16". FOR INSTANCES OF MULTIPLE IONS THIS TOLERANCE SHOULD BE HELD FOR THE AN OF INSTALLED EQUIPMENT.			
SHIPPING DIME W x L x I			X 50-1/2 X 75-1/2 X 1283 X 1918)		LEARANCE MUST BE MAINTAINED TO ALLOW O STERILIZER FOR SERVICEABILITY.		
OUTSIDE DIME W x L x I			X 32-7/8 X 61-1/2 X 836 X 1562)	NECESSAF	SUMES NO RESPONSIBILITY FOR CHANGES MADE LY THROUGH FAILURE TO OBSERVE THE TIONS ON EQUIPMENT DRAWING AND NOTE PAGES.		
CHAMBER DIME W x L x I			3 X 10 X 28 X 254 X 711)		TIONS AND DESCRIPTIONS ARE SUBJECT TO CHANGE		
HEAT LOSS 70° F (21°	HEAT LOSS AT 70° F (21° C) 3255 BTU/HR		-				
A-WEIGHTED SOUND 76.9 dB (A) CALCULA		CULATED PER ISO 3746	-				

#### **INSTALLATION SPECIFICATIONS:**

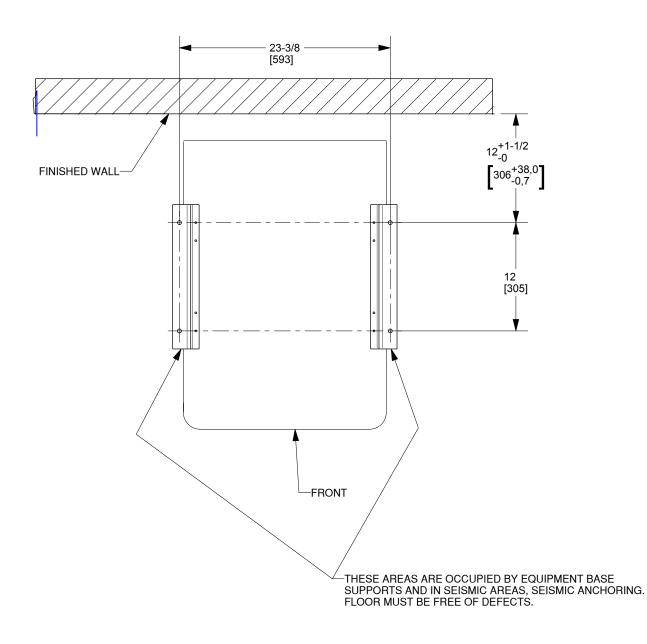
- 1. THE INSTALLATION OF THE AMSCO V-PRO S2 LOW TEMPERATURE STERILIZATION SYSTEMS MUST MEET ALL FEDERAL, STATE AND LOCAL REGULATIONS (NEC IN U.S., IEC IN EU, AND CEC IN CANADA).
- 2. INSTALLATION SPECIFICATION IS LISTED AS ENGINEERING AND INSTALLATION GUIDES. REFERENCED COMPONENTS AND SERVICE CONNECTIONS ARE NOT FURNISHED AS PART OF EQUIPMENT UNLESS UNDER WRITTEN AGREEMENT WITH STERIS.
- 3. PER ANSI/AAMI ST58:2013 OR SUBSEQUENT, THE STERILIZER SHALL BE INSTALLED AND OPERATED IN AN AREA WITH A VENTILATION SYSTEM CAPABLE OF AT LEAST 10 AIR EXCHANGES PER HOUR.
- 4. STERILIZER MUST BE INSTALLED AND OPERATED IN AN AREA WHERE THE TEMPERATURE IS BETWEEN 59°F AND 86°F (15°C AND 30°C), AND THE RELATIVE HUMIDITY RANGE IS BETWEEN 20% AND 65%.
- 5. UNIT SHOULD NOT BE INSTALLED IN AN AREA WHICH IS NOT COMPATIBLE WITH OXIDIZERS. CONSULT THE SDS FOR ANY CHEMICALS THAT MAY BE PRESENT IN ADDITION TO THE SDS FOR THE HYDROGEN PEROXIDE STERILANT.



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## **SEISMIC MOUNTS**

(IF APPLICABLE)





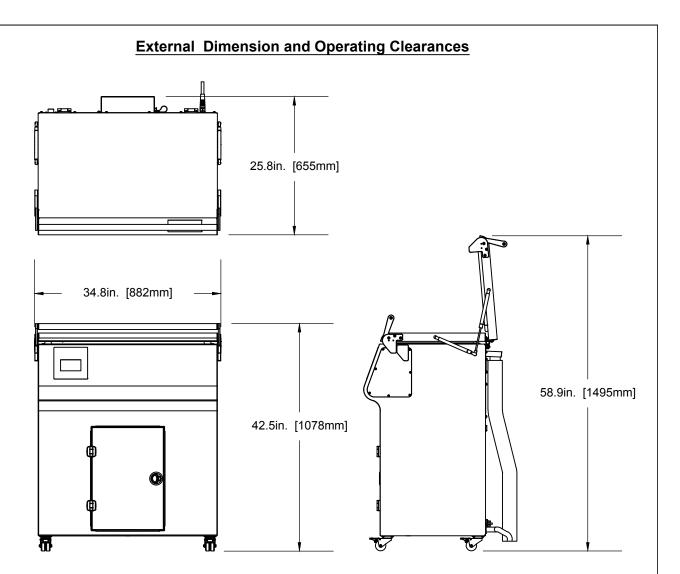
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EQUIPMENT DRAWING, SINGLE DOOR CABINET V-PRO S2

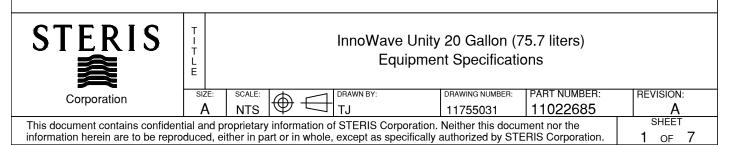
SIZE: SCALE: DRAWN BY: DRAWING NUMBER: PART NUMBER: REVISION: A NTS Clarke, Robert 11004441 A.10 11004441 A.

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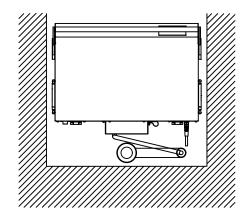


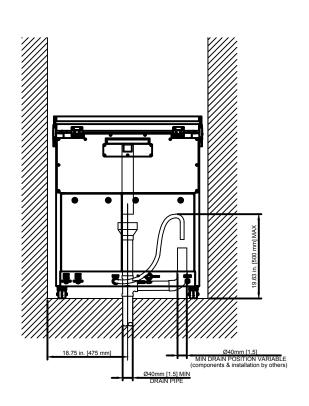
Physical dimensions and weight					
External height (lid closed)	42.5 in.	1078 mm			
External height (lid open)	58.9 in.	1495 mm			
External width	34.8 in.	882 mm			
External depth	25.8 in.	655 mm			
Net weight (dry)	306.5 lb	139 kg			
Operating weight (tank filled)	428 lb	194 kg			
Max. operating weight (incl. filled tank, chemicals, and instruments to be cleaned)	461 lb	209 kg			

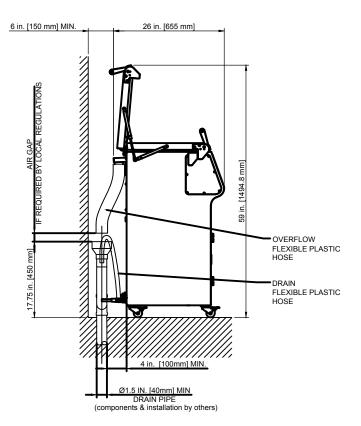


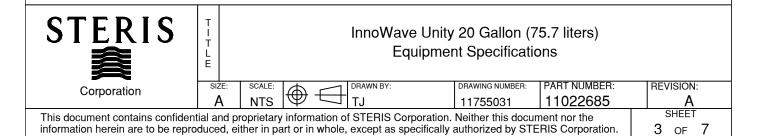
## **Drain Configuration Option 1** 2.5 in. [63 mm] MIN. 4 in. [102 mm] POSITION CENTRAL TO MACHINE 26.75 in. [679.5 mm] 1.25 in. [33 mm] 1.25 in. [33 mm] FOR SEISMIC ANCHORING 5.31 in. [135 mm] MIN FOR SEISMIC ANCHORING , 5.31 in. [135 mm] MIN OVERFLOW FOR SEISMIC ANCHOR 6.0 in. [152.4mm] MIN FOR SEISMIC ANCHORING 6.0 in. [152.4mm] MIN THERNET OVERFLOW FLEXIBLE PLASTIC HOSE PRINTER CONNECTION DRAIN FLEXIBLE PLASTIC HOSE POWER MAINS ENTRY COLD WATER 3/4" HOT WATER 3/4" DRAIN 3/4" HOSE TAIL OPEN FLOOR SINK (components & installation by others) 5.13 in. [130 mm] 4.0 in. [100mm] MIN OPEN FLOOR SINH (components & installation by others) **STERIS** TITLE InnoWave Unity 20 Gallon (75.7 liters) **Equipment Specifications** DRAWN BY: PART NUMBER: REVISION: DRAWING NUMBER: 11022685 11755031 SHEET This document contains confidential and proprietary information of STERIS Corporation. Neither this document nor the information herein are to be reproduced, either in part or in whole, except as specifically authorized by STERIS Corporation. 2 of 7

## **Drain Configuration Option 2**









## **Drain Configuration Option 3** 26 in. [655 mm] 6 in. [150 mm] MIN Ø4.0 in. [110 mm] MIN (components & installation by others) installation by others) OVERFLOW FLEXIBLE PLASTIC HOSE 18 in. [450 mm] DRAIN FLEXIBLE PLASTIC SUITABLE WALL BRACKE (components & installation by others) **STERIS** TITLE InnoWave Unity 20 Gallon (75.7 liters) **Equipment Specifications** DRAWN BY: PART NUMBER: REVISION: DRAWING NUMBER: 11022685 11755031 SHEET This document contains confidential and proprietary information of STERIS Corporation. Neither this document nor the information herein are to be reproduced, either in part or in whole, except as specifically authorized by STERIS Corporation. 4 of 7

Water supply requirements:				
Water hardness (CaCO3), quality and purity, hot and cold supplies	< 125 ppm with water quality and purity tested and approved for disinfection as per ANSI/AAMI ST 15883-1:2009 (item 6.4.1 and 6.4.2) or AAMI TIR 34			
Pressure (hot and cold)	30 to 70 psi (2.0 to 5.0 Bar)			
Flow rate (hot and cold)	3 to 8 gal/min. (11 to 30 litres/min.)			
Temperature (hot and cold)	Cold: +41 to 86 °F (+5 to 30 °C) Hot: +122 to 176 °F (+50 to 80 °C)*			
Connections	3/4 in. BSP male thread Rubber gasket is required. Do not use tape or any sealant, 3/4" NPT facility connections required. Hose connections will not work.			
Position (hot and cold)	Within 3 ft (1 m) of proposed unit location			

<sup>\*</sup>The unit is able to operate without hot water connection or with hot water supply cooler than recommended minimum temperature of +122 °F (+50 °C). Using only cold water or low-temperature hot water will result in longer cycle operation as water takes longer to heat up in unit.

#### Typical water consumption per wash

Water consumption will vary depending on volume of instruments loaded and temperature of inlet water supply. The water consumption below describes complete wash cycle at +104 °F (+40 °C), with no instruments loaded.

Maximum water consumption for complete wash cycle						
Stage Cold water Hot water Total for sta						
Pre-wash	13.5 gal (51 litres)	nil	13.5 gal (51 litres)			
Wash	5.4 gal (20.4 litres)	8.1 gal (30.6 litres)	13.5 gal (51 litres)			
Rinse	13.5 gal (51 litres)	nil	13.5 gal (51 litres)			
Final Rinse	13.5 gal (51 litres)	nil	13.5 gal (51 litres)			
Total water consumption	45.9 gal (173.4 litres)	8.1 gal (30.6 litres)	54.0 gal (204 litres)			

Site drain requirements The site drain should meet the following requirements:			
Drain connection	3/4 in. hose tail outlet from unit. Drain must be fitted with suitable traps. No loops in the drain hose, cut the hose to length to required.		
Position	Floor sink or floor drain is preferred. Standpipe and wall drains are options for connection to drain. Adhere to local code.		
Capacity	8 gal/min. (30 litres/min) Maximum discharge to drain including overflow.		
Overflow Drain	An air tight seal of overflow to drain may cause incorrect unit operation.  An air gap must be fitted if required by code.		
Effluent temperature	up to +140 °F (+60 °C) Max.		

STERIS	T I T L	InnoWave Unity 20 Gallon (75.7 liters) Equipment Specifications				
Corporation	SIZE:	SCALE:	DRAWN BY:	DRAWING NUMBER:	PART NUMBER:	REVISION:
Corporation	Α	NTS	TJ	11755031	11022685	A
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	Electrical connections					
Model	Conductor	Color and Marking				
	Protective earth	Green				
IW523546 (208 V AC 3P+PE)	Live 1	Black 1				
supplied with 2.5 m (8.5 ft) 4-core power cable.	Live 2	Black 2				
·	Live 3	Black 3				
IW523535 & IW523536	Protective earth	Green				
(230 V AC 1P+N+PE) suppliedwith 2.5 m (8.5 ft) 3-core	Live 1	Black 1				
power cable	Neutral or Live 2	Black 2				
Electrical power supply requirements:						
Requirement	Model					
Requirement	IW523535 & IW523536	IW523546				
Electrical supply voltage	230 V AC 1P+N+PE (Single-phase, neutral, and protective earth) IW523535 Frequency: 50Hz IW523536 Frequency: 60 Hz	208 V AC 3P+PE (3-phase and protective earth) Frequency: 60 Hz				
Supply current	Site Current Capacity > 15 A per phase Dedicated circuit is required with a circuit breaker rating of 16A or greater.					
Electrical power requirement	4.0 kW	3.0 kW				
		•				

Over-voltage category II

<u>Typical power consumption per wash</u>
Power consumption will vary depending on cycle settings and temperature of inlet water supply. The power consumption below describes complete wash cycle at +104 °F (+40 °C).

Transient over-voltages typically present on mains supply

Maximum power consumption for complete wash cycle		
Stage	Total for stage	
Pre-wash	10.7 W.hr	
Wash	57.2 W.hr	
Rinse	6.8 W.hr	
Final Rinse	6.8 W.hr	
Total power consumption	81.5 W.hr	

STERIS	T I T L E	InnoWave Unity 20 Gallon (75.7 liters) Equipment Specifications					
Corporation	SIZE:	SCALE:	$\triangle$	DRAWN BY:	DRAWING NUMBER:	PART NUMBER:	REVISION:
Corporation	Α	NTS		TJ	11755031	11022685	A
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#### **Operating / Working environment location requirements**

General and environmental requirements

Proposed operating location for unit much meet or exceed following requirements

Description	Requirements
Operating surface	On level floor, capable of supporting a weight of at least 461 lb (209 kg).
Location requirement Altitude	Indoors only, altitude up to 6562 ft (2000 m)
Ambient operating temperature range	+41 °F to 104 °F (+5 °C to 40 °C)
Maximum humidity	80% relative humidity for up to +88 °F (+31 °C) decreasing linearly to 50% relative humidity at +104 °F (+40 °C)
Site services	Within 6 ft (1.8 m) of electrical isolator. Within 3 ft (1.0 m) of hot and cold water connections. Within 6 ft (1.8 m) of external site drain for effluent.
Ambient lighting	500 lux (46.5 foot-candle) minimum room lighting
Noise generated during operation	61 dBA at distance of 3.3 ft (1 m) from front of unit
Heat output during operation	205 W (700 BTU/hr) during wash cycle

#### **Shipping information**

Shipping crate dimensions and weight					
Shipping crate height	49.2 in.	1250 mm			
Shipping crate width	41.0 in.	1040 mm			
Shipping crate depth	28.7 in.	730 mm			
Shipping crate gross weight	375 lb	170 kg			

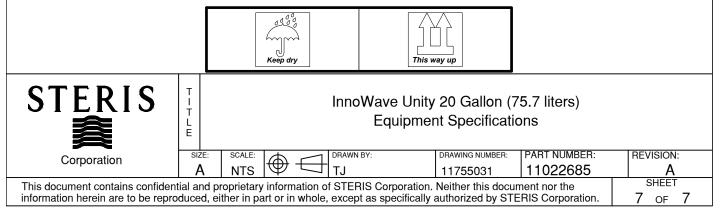
#### Transportation and storage

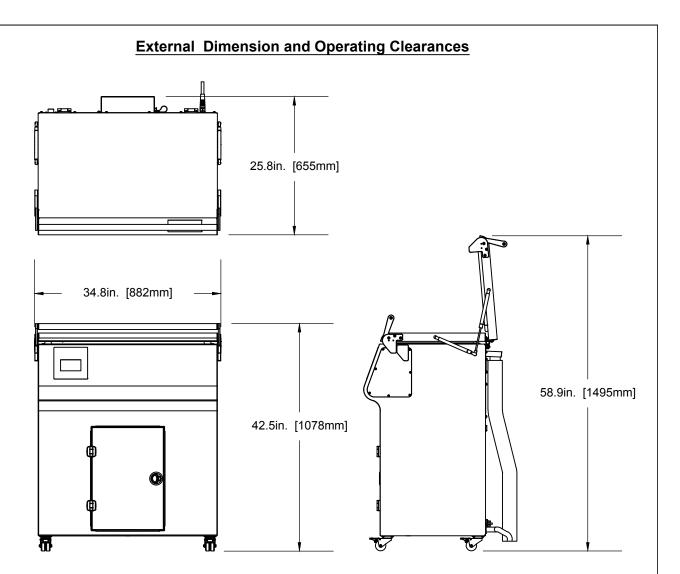
Make sure package marking instructions and environmental conditions are always followed during transport and storage of InnoWave™ Unity. Lifting

Lifting and maneuvering the InnoWave™ Unity in shipping crate must be done with pallet truck or forklift truck able to carry load in excess of 375 lb (170 kg).

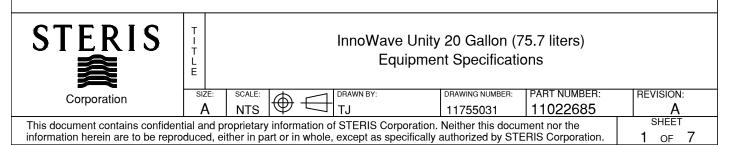
#### Storage markings

The markings on shipping crate stipulate unit's storage conditions and handling information.



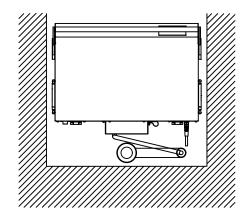


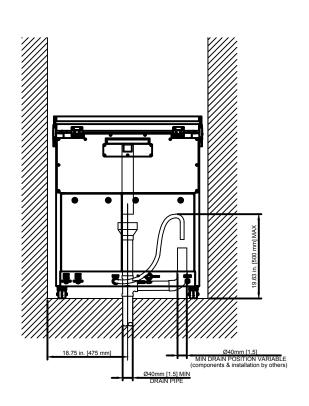
Physical dimensions and weight					
External height (lid closed)	42.5 in.	1078 mm			
External height (lid open)	58.9 in.	1495 mm			
External width	34.8 in.	882 mm			
External depth	25.8 in.	655 mm			
Net weight (dry)	306.5 lb	139 kg			
Operating weight (tank filled)	428 lb	194 kg			
Max. operating weight (incl. filled tank, chemicals, and instruments to be cleaned)	461 lb	209 kg			

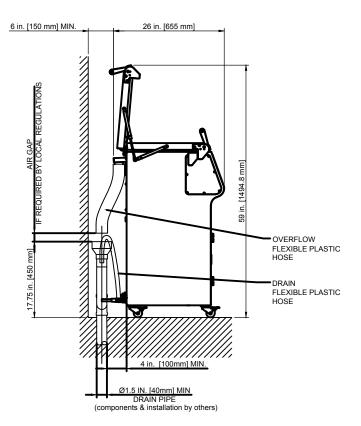


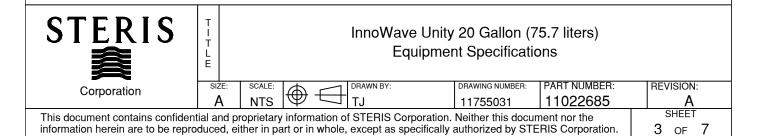
## **Drain Configuration Option 1** 2.5 in. [63 mm] MIN. 4 in. [102 mm] POSITION CENTRAL TO MACHINE 26.75 in. [679.5 mm] 1.25 in. [33 mm] 1.25 in. [33 mm] FOR SEISMIC ANCHORING 5.31 in. [135 mm] MIN FOR SEISMIC ANCHORING , 5.31 in. [135 mm] MIN OVERFLOW FOR SEISMIC ANCHOR 6.0 in. [152.4mm] MIN FOR SEISMIC ANCHORING 6.0 in. [152.4mm] MIN THERNET OVERFLOW FLEXIBLE PLASTIC HOSE PRINTER CONNECTION DRAIN FLEXIBLE PLASTIC HOSE POWER MAINS ENTRY COLD WATER 3/4" HOT WATER 3/4" DRAIN 3/4" HOSE TAIL OPEN FLOOR SINK (components & installation by others) 5.13 in. [130 mm] 4.0 in. [100mm] MIN OPEN FLOOR SINH (components & installation by others) **STERIS** T I T L E InnoWave Unity 20 Gallon (75.7 liters) **Equipment Specifications** DRAWN BY: PART NUMBER: REVISION: DRAWING NUMBER: 11022685 11755031 SHEET This document contains confidential and proprietary information of STERIS Corporation. Neither this document nor the information herein are to be reproduced, either in part or in whole, except as specifically authorized by STERIS Corporation. 2 of 7

## **Drain Configuration Option 2**









## **Drain Configuration Option 3** 26 in. [655 mm] 6 in. [150 mm] MIN Ø4.0 in. [110 mm] MIN (components & installation by others) installation by others) OVERFLOW FLEXIBLE PLASTIC HOSE 18 in. [450 mm] DRAIN FLEXIBLE PLASTIC SUITABLE WALL BRACKE (components & installation by others) **STERIS** T I T L E InnoWave Unity 20 Gallon (75.7 liters) **Equipment Specifications** DRAWN BY: PART NUMBER: REVISION: DRAWING NUMBER: 11022685 11755031 SHEET This document contains confidential and proprietary information of STERIS Corporation. Neither this document nor the information herein are to be reproduced, either in part or in whole, except as specifically authorized by STERIS Corporation. 4 of 7

	Water supply requirements:
Water hardness (CaCO3), quality and purity, hot and cold supplies	< 125 ppm with water quality and purity tested and approved for disinfection as per ANSI/AAMI ST 15883-1:2009 (item 6.4.1 and 6.4.2) or AAMI TIR 34
Pressure (hot and cold)	30 to 70 psi (2.0 to 5.0 Bar)
Flow rate (hot and cold)	3 to 8 gal/min. (11 to 30 litres/min.)
Temperature (hot and cold)	Cold: +41 to 86 °F (+5 to 30 °C) Hot: +122 to 176 °F (+50 to 80 °C)*
Connections	3/4 in. BSP male thread Rubber gasket is required. Do not use tape or any sealant, 3/4" NPT facility connections required. Hose connections will not work.
Position (hot and cold)	Within 3 ft (1 m) of proposed unit location

<sup>\*</sup>The unit is able to operate without hot water connection or with hot water supply cooler than recommended minimum temperature of +122 °F (+50 °C). Using only cold water or low-temperature hot water will result in longer cycle operation as water takes longer to heat up in unit.

#### Typical water consumption per wash

Water consumption will vary depending on volume of instruments loaded and temperature of inlet water supply. The water consumption below describes complete wash cycle at +104 °F (+40 °C), with no instruments loaded.

Maximum water consumption for complete wash cycle					
Stage	Cold water	Hot water	Total for stage		
Pre-wash	13.5 gal (51 litres)	nil	13.5 gal (51 litres)		
Wash	5.4 gal (20.4 litres)	8.1 gal (30.6 litres)	13.5 gal (51 litres)		
Rinse	13.5 gal (51 litres)	nil	13.5 gal (51 litres)		
Final Rinse	13.5 gal (51 litres)	nil	13.5 gal (51 litres)		
Total water consumption	45.9 gal (173.4 litres)	8.1 gal (30.6 litres)	54.0 gal (204 litres)		

Site drain requirements The site drain should meet the following requirements:			
Drain connection	3/4 in. hose tail outlet from unit. Drain must be fitted with suitable traps. No loops in the drain hose, cut the hose to length to required.		
Position	Floor sink or floor drain is preferred. Standpipe and wall drains are options for connection to drain. Adhere to local code.		
Capacity	8 gal/min. (30 litres/min) Maximum discharge to drain including overflow.		
Overflow Drain	An air tight seal of overflow to drain may cause incorrect unit operation.  An air gap must be fitted if required by code.		
Effluent temperature	up to +140 °F (+60 °C) Max.		

STERIS	T I T L E			InnoWave Unity Equipmer	20 Gallon (7 nt Specification	,	
Corporation	SIZE:	SCALE:	$\triangle$	DRAWN BY:	DRAWING NUMBER:	PART NUMBER:	REVISION:
Corporation	Α	NTS		TJ	11755031	11022685	A
This document contains confident information herein are to be repro							SHEET  5 OF 7

	Electrical connections			
Model	Conductor	Color and Marking		
	Protective earth	Green		
IW523546 (208 V AC 3P+PE)	Live 1	Black 1		
supplied with 2.5 m (8.5 ft) 4-core power cable.	Live 2	Black 2		
·	Live 3	Black 3		
IW523535 & IW523536	Protective earth	Green		
(230 V AC 1P+N+PE) suppliedwith 2.5 m (8.5 ft) 3-core	Live 1	Black 1		
power cable	Neutral or Live 2	Black 2		
Electi	rical power supply requirement	s:		
Poquiroment	Model			
Requirement	IW523535 & IW523536	IW523546		
Electrical supply voltage	230 V AC 1P+N+PE (Single-phase, neutral, and protective earth) IW523535 Frequency: 50Hz IW523536 Frequency: 60 Hz	208 V AC 3P+PE (3-phase and protective earth) Frequency: 60 Hz		
Supply current	Site Current Capacity > 15 A per phase  Dedicated circuit is required with a circuit breaker rating of 16 or greater.			
Electrical power requirement	4.0 kW	3.0 kW		
	tion ±10% of nominal voltage			

Over-voltage category II

<u>Typical power consumption per wash</u>
Power consumption will vary depending on cycle settings and temperature of inlet water supply. The power consumption below describes complete wash cycle at +104 °F (+40 °C).

Transient over-voltages typically present on mains supply

Maximum power consumption for complete wash cycle		
Stage Total for stage		
Pre-wash	10.7 W.hr	
Wash	57.2 W.hr	
Rinse	6.8 W.hr	
Final Rinse	6.8 W.hr	
Total power consumption	81.5 W.hr	

STERIS	T I T L E			InnoWave Unity Equipme	/ 20 Gallon (7 nt Specificati	,	
Corporation	SIZE:	SCALE:	$\triangle$	DRAWN BY:	DRAWING NUMBER:	PART NUMBER:	REVISION:
Corporation	Α	NTS		TJ	11755031	11022685	A
This document contains confident information herein are to be repro							SHEET 6 OF 7

#### Operating / Working environment location requirements

General and environmental requirements

Proposed operating location for unit much meet or exceed following requirements

Description	Requirements
Operating surface	On level floor, capable of supporting a weight of at least 461 lb (209 kg).
Location requirement Altitude	Indoors only, altitude up to 6562 ft (2000 m)
Ambient operating temperature range	+41 °F to 104 °F (+5 °C to 40 °C)
Maximum humidity	80% relative humidity for up to +88 °F (+31 °C) decreasing linearly to 50% relative humidity at +104 °F (+40 °C)
Site services	Within 6 ft (1.8 m) of electrical isolator. Within 3 ft (1.0 m) of hot and cold water connections. Within 6 ft (1.8 m) of external site drain for effluent.
Ambient lighting	500 lux (46.5 foot-candle) minimum room lighting
Noise generated during operation	61 dBA at distance of 3.3 ft (1 m) from front of unit
Heat output during operation	205 W (700 BTU/hr) during wash cycle

#### **Shipping information**

Shipping crate dimensions and weight				
Shipping crate height	49.2 in.	1250 mm		
Shipping crate width	41.0 in.	1040 mm		
Shipping crate depth	28.7 in.	730 mm		
Shipping crate gross weight	375 lb	170 kg		

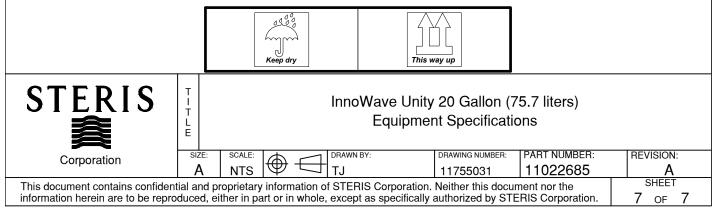
#### Transportation and storage

Make sure package marking instructions and environmental conditions are always followed during transport and storage of InnoWave™ Unity. Lifting

Lifting and maneuvering the InnoWave™ Unity in shipping crate must be done with pallet truck or forklift truck able to carry load in excess of 375 lb (170 kg).

#### Storage markings

The markings on shipping crate stipulate unit's storage conditions and handling information.





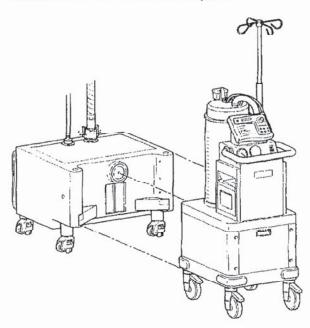
#### SITE PREPARATION and INSTALLATION GUIDE

#### Introduction

The **Rover** is a mobile unit used in the operating room to suction and collect surgical fluid and small debris from the surgical site. Optional features include: a smoke evacuation unit which collects smoke from cautery or laser surgery, and a power IV pole.

The Docking Station is a wall mounted component of the system and is plumbed with water inlet and drain lines. The Rover interfaces with the docking station which then automatically empties and rinses the collected waste materials from the Rover's fluid collection container.

Proper utilities must be available in the installation site. The user facility is responsible for preparation of the installation site and installation of the system.



#### Disposal Area and Utility Requirements

**Docking Station** - The Docking Station should be installed in a disposal area near the operating rooms where the Rover will be used.

Electrical: 120V, 60 Hz, 15 amp electrical outlet with protective earth ground.

#### Plumbing:

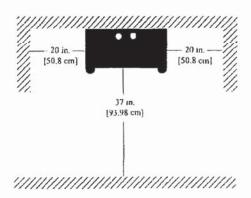
- Hot or cold tap water with dedicated shut-off valves.
   Inlet accepts garden-hose style fitting NOTE: Hot water provides better cleansing.
- · Water usage is approximately 3 liters per rinse cycle
- Plumbed to a floor drain or permanent service connection per local plumbing codes.

Rover - The Rover requires a 120V, 60 Hz, 20 amp electrical outlet with protective earth ground to recharge its internal battery. No plumbing connections are needed for the Rover.

#### **Operating Rooms**

Operating rooms must have a dedicated 120V, 00 Hz, 20 amp hospital grade electrical outlet for the Rover.

#### Installation Layout



The sides of the Docking Station require a minimum of 20 inches of clearance to allow access through the unit's service doors. There should be a minimum of 37 inches of clearance in front of the unit for the Rover.

#### **Uncrating and Assembly Procedures**

#### Uncrating the Rover Unit

No tools required.

NOTE: Do not discard the wood box lid. It is designed to be used as a ramp to remove the Rover unit from the container.

- 1. Lift the plywood lid/ramp. Set aside.
- 2. Release the plastic tabs on the sides of the box.
- 3. Remove the corrugated sides.
- Loosen both wing nuts from the cross brace. Remove the cross brace.
- Interlock the ramp into the pallet base by hooking the ramp into the pallet's frame. They are designed to interface without the use of fasteners.
- 6. Wheel the Rover unit down the ramp.

The power IV pole option (some assembly required). Assembly Instructions

Tools:

1/8 in. Allen wrench

#2 Phillips head screwdriver.

- Use the Phillips head screwdriver, to remove the screw from the brass ring located in the upper IV pole assembly. Do not discard the screw.
- Install the upper IV pole assembly into the lower IV pole. Be careful to not tear the seal.
- Re-insert the screw and tighten.
- Place the bag hook on top of pole. Use the Allen wrench to tighten the set screw.

#### Uncrating the Docking Station

CAUTION: The Docking Station weighs 90 lbs [41 Kg]. More than one person will be required to uncrate and safely wheel the unit off the chipping pallet.

#### **Container Contents**

- · Docking Station
- · 5 ft. water inlet hose
- . 6 ft. waste outlet hose

#### You will need to supply:

- Wall mount screws
- Anti-siphon device for inlet water supply compliant with state and local water supply requirements.

#### **Docking Station**

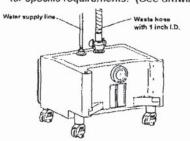
- 1. Remove lid from crate.
- 2. Lift docking station from pallet.

#### **Docking Station Installation**

- Loosely attach docking station to wall by placing wall mount screws through brackets. Do not tighten screws yet.
- 2. Connect inlet hose to tap water.

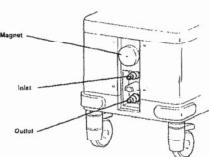
NOTE: The docking station is equipped with an internal anti-siphon device which may not satisfy your local plumbing codes. Use an anti-siphon device on the inlet water supply which meets the requirements of your local plumbing codes.

Attach the waste hose to hospital drain system. This
may be permanently mounted to either a trap equipped
floor or wall drain. Refer to your local plumbing codes
for specific requirements. (See drawing).



4. IMPORTANT! Level the docking station and align the inlet and outlet couplings to those of the Rover by adjusting the caster height. Test the alignment of the fluid couplings by docking the Rover with the docking station.

The couplings must engage fully and simultaniosuly. Repeat the test a few times to ensure proper alignment.



- After proper engagement is achieved, tighten the wall mount screws.
  - NOTE: Shimming may be required to maintain proper leveling of Docking Station.
- Fill Rover with water and test the Docking Station by engaging Rover and completing an empty rinse cycle.
- Visually inspect all fittings for water leakage. None should exist

#### **Specifications**

#### Rover

Width: 18 in. [45.7 cm] Wide Depth: 25 in. [63.5 cm] Deep

Height: 51 in. [130 cm] (models without IV pole)

89 in [226 cm] with IV pole up. 60 in [152.4] with IV pole down

Weight: 246 lbs [112Kg] Collection tank empty

290 lbs [132 Kg] Collection tank full

Electrical: 120V, 60 Hz, 16 amps,

single phase

20 amp receptacle connection

#### **Docking Station**

Width: 25 in. [63.5 cm] Depth: 20 in. [50.8 cm] Height: 22 in. [55.9 cm]

Weight: 90 lbs [41 Kg]

Electrical: 120V, 60 Hz, 3 amp

Single phase

15 amp receptacle connection

#### Water Requirements

Pressure Range: 45-80 psi

Temperature: 40-110°F (4.4-43.3°C)
Connection: Garden hose fitting
Quality: Potable tap water
Usage: 3.2 liters per cycle

#### **Environmental Conditions**

Operation



Storage and Transportation





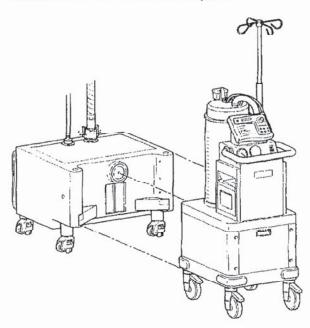
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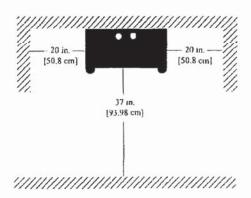
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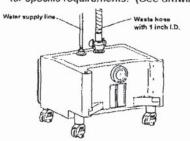
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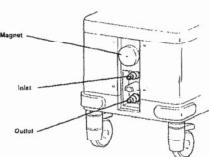
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Weight: 90 lbs [41 Kg]

Electrical: 120V, 60 Hz, 3 amp

Single phase

15 amp receptacle connection

#### Water Requirements

Pressure Range: 45-80 psi

Temperature: 40-110°F (4.4-43.3°C)
Connection: Garden hose fitting
Quality: Potable tap water
Usage: 3.2 liters per cycle

#### **Environmental Conditions**

Operation



Storage and Transportation



# STERIS°



## AMSCO® WARMING CABINET

#### APPLICATION

The Amsco Warming Cabinet is designed to raise the temperature of surgical irrigation solutions and/ or blankets to an acceptable level for hospital and surgical outpatient center applications.

#### **FEATURES**

Single-Compartment Model features a heating chamber available in two depths: 18" (457 mm) or 24" (610 mm) deep.

Dual-Compartment Model features an upper and lower heating chamber with independent temperature controls, and a choice of two depths: 18" (457 mm) or 24" (610 mm) deep.

Key Door Locks feature a key that is used to lock/ unlock the door. The key is turned counterclockwise to lock door; clockwise to unlock door.

#### **STANDARDS**

Warming cabinet meets applicable requirements of the following standards, and carries the appropriate symbols.

- Underwriters Laboratories (UL) Standard 61010-1, 2nd Ed., as certified by ETL Testing Laboratories, Inc.
- Standard IEC 61010-2-010. 2<sup>nd</sup> Ed., as certified by ETL Testing Laboratories, Inc.
- Standard CSA C22.2 No. 61010-1-04. 1st Ed., Standard for Electro-Medical Equipment as certified by ETL Testing Laboratories, Inc.
- CENELEC EN 61010-1, Issued 2001/03/01. Electrical Safety as certified by ETL Testing Laboratories, Inc.
- IEC 61326-1. 1st Ed., EMC testing as certified by ETL Testing Laboratories, Inc.

Earth

- California OSHPD Seismic Pre-Approval
- Medical Device Directive (93/42 IEEC)



(Typical only - some details may vary.)

#### CONSTRUCTION

Free standing and recessed units ship identically (with outer side, top and back covers). Outer side, top and back covers are removed for recessed installation. When recessed, unit requires a connection to building service (not provided by STERIS). The unit contains a heating chamber, instrumentation and operating controls, and a lower heated chamber when dual-compartment model is specified.

#### The Selections Checked Below Apply To This Equipment

#### MODEL ☐ Single-Compartment ■ 18" (457 mm) deep ☐ 24" (610 mm) deep Dual-Compartment ■ 18" (457 mm) deep ☐ 24" (610 mm) deep MOUNTING □ Free Standing □ For Recessing

DOOR OPTIONS Glass Solid
MOBILE BASE OPTION  ☐ Mobile Base with Bumpers and Lock
TEMPERATURE RECORDING OPTION  USB port
VOLTAGE ☐ 120 V ☐ 230 V
David: 413726_640

Electronic Numeric Keypad NOTE: All cabinets are furnished with right hand hinge. Door swing is reversible during installation.

DOOR LOCK OPTION

Item	727042	
Location	n(s)	
_		

Corners and intersections on the face of the cabinet and door are structurally formed for rigidity, cleanability and appearance. Both models are supported on a stainless-steel integral subbase. The cabinet doors are available in solid vinyl coated galvanized steel material with stainless-steel inside and include optional tempered double pane glass window(s). Interior cabinet shelves (wire racks) are polyester powder coated steel. Interior air ducts and fan guards are flame retardant Acrylonitrile Butadiene Styrene (ABS) material. If a freestanding model, the cabinet top and side panels are vinyl coated galvanized steel.

Doors are of double-wall construction with 1-1/2" (38 mm) thick insulation between the walls. Right-hand door swing is provided; swing is reversible. Door closes against a heat-resistant, magnet-imbedded, vinyl gasket. Pivot type hinges are stainless steel.

**Heating chamber** compartment is insulated with 1" (25 mm) thick, fiberglass blanket. An impedance protected fan circulates air within the chamber to provide even heat distribution.

**Lower chamber (dual-compartment model)** includes two polyester powder coated steel wire rack shelves, adjustable in 3" (76 mm) increments. Door structure mounting, gasket and hinges are the same as the door on the upper chamber.

Chamber(s) is heated by an electric rod heater operating on 120 or 230 Volt, 50/60 Hz power.

#### **ENGINEERING DATA**

Unit	Approx. Unit Wt. lb (kg)
Single-Compa	tment:*
18" (457 mm) Wall/Counter Mounting	124 (56)
18" (457 mm) Recess Mounting	98 (45)
24" (610 mm) Wall/Counter Mounting	142 (65)
Dual-Compart	ment:†
18" (457 mm) Open-Mounted	302 (137)
18" (457 mm) Recessed Mounting	266 (121)
24" (610 mm) Open-Mounted	353 (160)
24" (610 mm) Recessed Mounting	306 (139)
24" (610 mm) Mobile Base	484 (220)

<sup>\*</sup> For glass door option, add 6 lb (2.7 kg).

#### CONTROLS

**Cabinet controls** are digital and similar for single- and dualcompartment configurations. Both controls have a Main Power on/off switch.

The double cabinet control panel has control and temperature display functions for both cabinets. The upper cabinet control includes an on/standby key and digital temperature display. Also included is a °F/°C temperature display selection key and a SET temperature key with incremental raise/lower temperature set keys. LED lights indicate the on/standby status for cabinet heating, door ajar indication and SET selections have been made. The lower cabinet control includes an on/standby switch and digital temperature display. The lower cabinet also includes a SET temperature switch with incremental raise/lower temperature set keys. Temperature control lockout designates user adjustment.

The single cabinet control panel has control and temperature display functions including an on/standby switch, digital temperature display, °F/°C selection key and a SET temperature key with incremental raise/lower temperature set keys. LED lights indicate the on/standby status for cabinet heating, door ajar position and when SET selections have been made.

Both controls monitor and regulate the heating of the interior compartment(s). The control for upper or single compartment ensures a temperature accuracy of  $\pm 3^{\circ}\text{F}~(\pm 1.7^{\circ}\text{C})$  when warming irrigation solution. The control for lower compartment ensures a temperature accuracy of  $\pm 5^{\circ}\text{F}~(\pm 2.8^{\circ}\text{C})$  when warming irrigation solution.

Temperature selection range is 90-160°F (32.2-71.1°C). An overtemperature alarm visually and audibly alerts operator should an overtemperature condition occur (chamber temperature greater than 10°F [5.5°C] above set temperature). In the event of an overtemperature condition, the overtemperature control automatically turns off the heater(s).

An optional USB peripheral connection allows Customer to plug a PC or laptop computer into the warming cabinet to retrieve stored temperature data from control memory. The data is stored or printed from the computer. Data capture software for use on PC is provided with the warming cabinet.

#### MOUNTING ARRANGEMENT

Dual-compartment models may be installed as free standing or recessing into a partition wall. If model is recess installed, a synthetic-rubber sealing gasket is provided to ensure close fit of cabinet front to the face of the wall partition. Recessed cabinet requires no supplementary supports behind the wall partition (except in seismic locations).

Single-compartment models may be installed free standing on shelf or counter surfaces or recessed into a partition wall.

<sup>†</sup> For glass door option, add 8 lb (2.7 kg).

#### **OPTIONS**

**Mobile base** with bumpers (for dual 24" [610 mm] deep cabinets only). Casters are used to allow warming cabinet mobility. Press foot lever down to lock; push foot lever in to unlock.

USB port for temperature recording.

**Electrical numeric keypad door locks** are available for keyless entry.

#### PREVENTIVE MAINTENANCE

A global network of skilled service specialists can provide periodic inspections and adjustments to help ensure cost-effective performance. STERIS representatives can provide information regarding annual maintenance agreements.

#### NOTES

- Due to the variety of building constructions employed, fasteners for mounting cabinet to wall are not provided by STERIS. Wall(s) must be adequately reinforced to support operating weight of cabinet.
- Customer must ensure warming cabinet is installed per applicable seismic requirements.

#### INTERNAL DIMENSIONS AND CAPACITY

Unit	Upper Chamber Single Chamber Unit (Height x Width x Depth)	Lower Chamber Double Chamber Unit (Height x Width x Depth)
18" Depth	13-1/2 x 24 x 16-7/8" = 3.1 cu. ft. (343 x 610 x 429 mm)	36-1/2 x 24 x 16-7/8" = 8.5 cu, ft. (927 x 610 x 429 mm)
24" Depth	13-1/2 x 24 x 22-7/8 = 4.2 cu. ft. (343 x 603 x 581 mm)	36-1/2 x 24 x 22-7/8 = 11.6 cu. ft. (927 x 603 x 581 mm)

# UTILITY REQUIREMENTS – Single Compartment Model

#### Electricity (E)

120 Volt, 50/60 Hz, 1-Phase, 7.0 Amps, 840 Watts; or 230 Volts, 50/60 Hz, 1-Phase, 3.6 Amps, 869 Watts

CUSTOMER IS RESPONSIBLE FOR COMPLIANCE WITH APPLICABLE LOCAL AND NATIONAL CODES AND REGULATIONS.

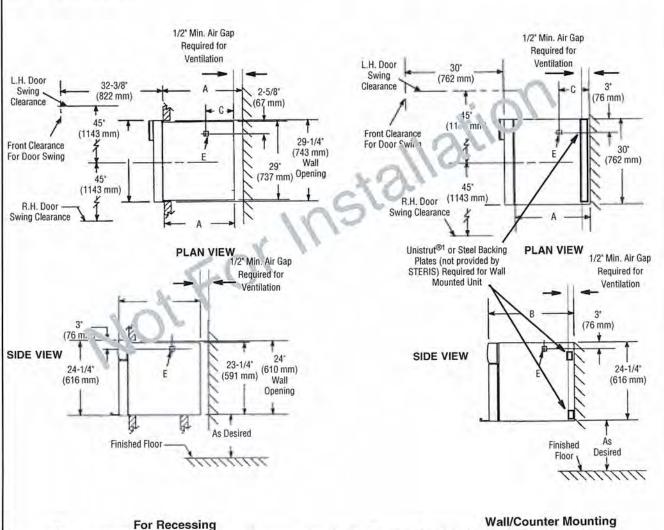
# Reference listed equipment drawing for detailed installation specifications. Obtain this drawing from your STERIS Representative.

Equip. Dwg. No.	<b>Equipment Drawing Title</b>
413726-637	Warming Cabinet 18" Free-Standing or Recessed Single Compartment
413726-639	Warming Cabinet 24" Free-Standing or Recessed Single Compartment

#### SINGLE-COMPARTMENT MODEL

Model	Dimensions – inches (mm)					
	Α	В	С			
18"	18	20-1/2"	7			
(457 mm)	(517)	(521)	(178)			
24"	24	26-1/2	10			
(610 mm)	(610)	(673)	(254)			

Dimensions are typical – drawing is not to scale.



<sup>1</sup> Unistrut<sup>®</sup> is a registered trademark of Unistrut Corporation and/or its affiliates in the United States and/or other countries.

# UTILITY REQUIREMENTS – Dual Compartment Model

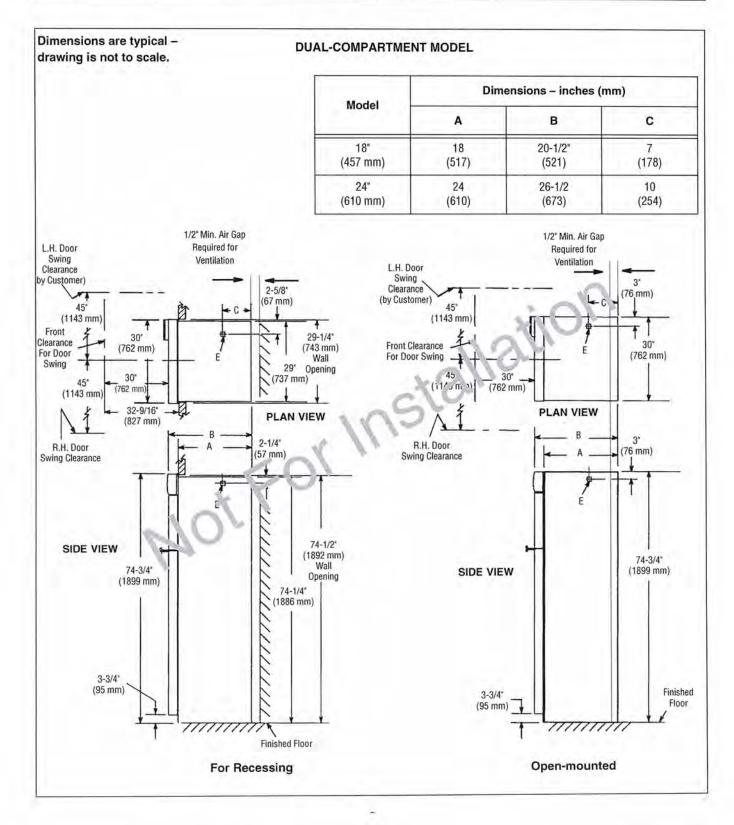
### Electricity (E)

120 Volt, 50/60 Hz, 1-Phase 14 Amps, 1600 Watts; or 230 Volts, 50/60 Hz, 1-Phase 6.8 Amps, 1625 Watts

CUSTOMER IS RESPONSIBLE FOR COMPLIANCE WITH APPLICABLE LOCAL AND NATIONAL CODES AND REGULATIONS.

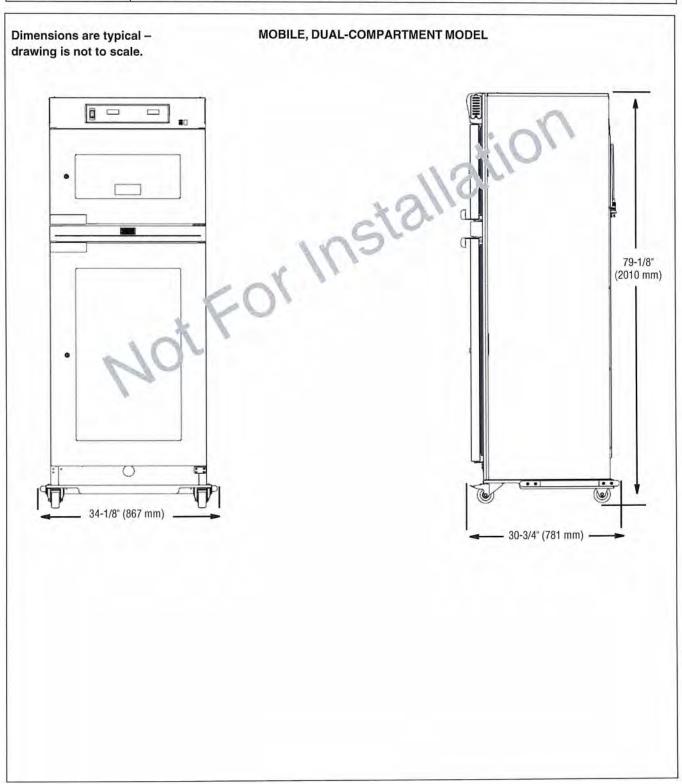
# Reference listed equipment drawing for detailed installation specifications. Obtain this drawing from your STERIS Representative.

Equip. Dwg. No.	Equipment Drawing Title
413726-638	30 x 18 x 74" Warming Cabinet Electric, Free-Standing or Recessed Dual Compartment
413726-640	30 x 24 x 74" Warming Cabinet Electric, Free-Standing or Recessed Dual Compartment



# Reference listed equipment drawing for detailed installation specifications. Obtain this drawing from your STERIS Representative.

Equip. Dwg. No.	Equipment Drawing Title
413726-641	34-1/8 x 24 x 79-1/8" Warming Cabinet Electric, Heated Storage, Dual Compartment, Mobile Base



ofe-20230113141156 ● Item# 727038 [8/14]

## For Further Information, contact:



STERIS Corporation 5960 Heisley Road Mentor, OH 44060-1834 • USA 440-354-2600 • 800-548-4873 www.steris.com Page

0434

ALL DIMENSIONS ARE IN INCHES ALSO REFER TO GENERAL NOTES APPLICABLE TO EQUIPMENT DRAWINGS

STERIS\*

FRONT VIEW

STERIS Corporation Mentor', □H

WALL

LEFT HAND

DOOR SWING

**CLEARANCE** 

(BY CUSTOMER)

RIGHT HAND

DOOR SWING

**CLEARANCE** 

(BY CUSTOMER)

1/4" TEK SCREWS

PIOOO UNISTRUT

3/8" 4 A301 BOLT

TO STUD WALL, \_\_\_\_ (16 GA., 50 ksi MIN.)

5/8" GYP. BOARD

UNISTRUT

DETAIL

30

FRONT CLEARANCE FOR DOOR SWING

> 24" WARMING CABINET DUAL COMPARTMENT FREE STANDING/RECESSED

EQUIPMENT DRAWING NO. SHT 413726-640 2 DF 6

ITEM \_\_\_ LOCATION(S) \_

ALL DIMENSIONS ARE IN INCHES

CLEARANCE FOR UPPER ELECTRONIC

CLEARANCE FOR LOWER ELECTRONIC -

DOOR LATCH

DOOR LATCH

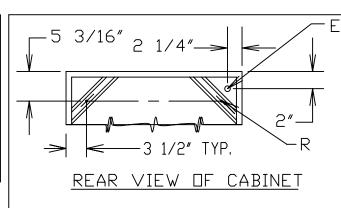
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STERIS\*

STERIS Corporation Mentor', □H

DUAL COMPARTMENT FREE STANDING/RECESSED

ITEM \_\_\_ LOCATION(S) \_



- E- 7/8" DIAMETER (22mm) HOLE FOR 1/2" (13mm) DIAMETER CONDUIT CONNECTION OR POWER CORD OPTION.
- R- 3/8" (9.5mm) DIAMETER MOUNTING HOLES (2) FASTENERS NOT BY STERIS.

NOTE: UNIT IS AVAILABLE WITH EITHER SOLID DOORS AS SHOWN OR WITH GLASS DOORS.

#### ELECTRICAL SPECIFICATIONS\*

VERSION	ELECTRICAL SUPPLY	POWER	CURRENT DRAW	UNIT BREAKER RATING
DOMESTIC	120∨, 50/60 Hz, 1 PH	1680 WATTS	14 AMPS	15 AMPS
INTERNATI□NAL	230V, 50/60 Hz, 1 PH	1632 WATTS	6,8 AMPS	10 AMPS

#### UNIT WEIGHT:

ONT WEIGHT							
VERSION	UNIT WEIGHT						
	CRATED	BOXED	READY T	□ USE			
	FREE ST'ND.	FREE ST'ND.	FREE ST'ND. RECESS				
DOMESTIC/INTERNATIONAL UNIT W/SOLID DOORS	542 LBS	410 LBS	353 LBS	306 LBS			
DOMESTIC/INTERNATIONAL UNIT W/GLASS DOORS	556 LBS	424 LBS	367 LBS	320 LBS			

UNIT CAPACITY:

INTERNAL DIMENSIONS <u>VOLUME</u> 4.2 FT <sup>3</sup> 22.875" DEEP X 24" WIDE X 13.5" HIGH TOP CHAMBER .119 m³ 581mm DEEP X 610mm WIDE X 343mm HIGH 11.6 FT <sup>3</sup> 22.875" DEEP X 24" WIDE X 36.5" HIGH BOTTOM CHAMBER .328 m<sup>3</sup>581mm DEEP X 610mm WIDE X 927mm HIGH

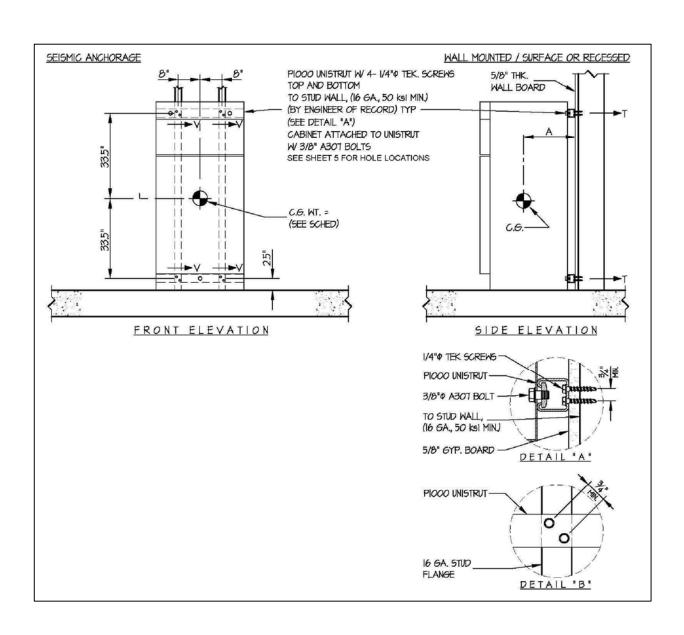
\* ELECTRICAL SPECIFICATIONS ARE FOR BOTH SOLID DOOR AND GLASS DOOR UNITS.

ALL DIMENSIONS ARE IN INCHES  ALSO REFER TO GENERAL NOTES APPLICABLE TO EQUIPMENT DRAWINGS  STERIS* STERIS Corporation		24" WARMING CABINET DUAL COMPARTMENT	EQUIPMENT DRAWING NO. 413726-640   SHT 5 OF 6
		FREE STANDING/RECESSED	ITEM
賽	Mentor, OH		

## SEISMIC MOUNT APPLICATION

(FOR REFERENCE ONLY)

NOTE: REFER TO SEISMIC REPORT DRAWING (P/N 083280-310) FOR LOAD CALCULATIONS AND ADDITIONAL INFORMATION.



ALL DIMENSIONS ARE IN INCHES ALSO REFER TO GENERAL NOTES APPLICABLE TO EQUIPMENT DRAWINGS STERIS\* STERIS Corporation Mentor', □H

24" WARMING CABINET DUAL COMPARTMENT FREE STANDING/RECESSED

EQUIPMENT DRAWING NO. 413726-640	SHT 6 OF 6
ITEMLOCATION(\$)	

# **BUNN**°

ITEM # 727553 PAGE 1 OF 2

ITEM#

**PROJECT** 

DATE

# 12 Cup Automatic Coffee Brewer with 3 Lower Warmers



#### Features

#### 12 Cup Automatic Coffee Brewer

- Brews 3.8 to 7.5 gallons (14.4 to 28.4 liters) of perfect coffee per hour.
- · All stainless steel construction.
- · Hot water faucet and pourover feature on all models.
- Model CWTF35-4 has three lower left warmers, one upper warmer.
- SplashGard® funnel deflects hot liquids away from the hand.
- · International electrical configurations available.

#### Model CWTF15-3\*

(3 lower warmers) (decanters sold separately) Dimensions: 17" H x16.5" W x 17.7" D (43.2cm H x 41.9cm W x 45cm D)

For current specification sheets and other information, go to www.bunn.com.

\* International models may vary in appearance.

## Related Products

Easy Clear® EQ-17-TL

Product No.: 30200.1000

Dimensions:

 $12^{7}\!\!/_{16}$ " H x  $2^{1}\!\!/_{2}$ " W x 3" D 31.6 cm H x 6.35 cm W x 7.62 cm D

Easy Clear® ED-17-TL

Product No. : 30201.1001 Dimensions:  $8\frac{1}{4}$ " H x  $2\frac{5}{16}$ " Dia.

20.95 cm H x 5.87 cm Dia.

Pap Pro Pao Din

**Paper Filter Pack** 

Product No.: 20115.0000 Packed per case: 1,000

Dimensions: 41/4" Base x 23/4" Sidewall

10.8 cm Base x 6.98 cm Sidewall

Easy Pour® black decanter

Product No.: 06100.0101 Quantity: 1 (also packaged in

quantities of 2, 3, 6, 12, & 24)

BUNN

1GPR SS Portable Server on an RWS1 Warmer

1GPR Product No.: 12487.0001\* RWS1 Product No.: 12203.0010 \*Also available with side handles

or black decor.

RWS1A Product No.: 12203.0011

(230V)

Easy Pour® orange decanter (for decaf)

Product No.: 06101.0101

Quantity: 1 (also packaged in quantities of 2, 3, 6, 12, & 24)

Model	Agency Listing	International Model	Agency Listing
CTF15-3	UL NSE	CWTFA35	C€
CWT15-3	(UL) (NSE)		
CWTF15-3	UL NSF)		
CWTF20-3	UL NSF		
CWTF35-3	U <sub>L</sub> (NSF)		
CWTF35-4	(V <sub>L</sub> ) (NSF)		

ITEM # 727553 PAGE 2 OF 2

## **Dimensions & Specifications**

Model	Product #	Volts	Amps	Tank Heater Watts	Total Watts	Brewing Capacity	Cu. Ft.	Shipping Weight	Cord Attached
CWT15-3	12950.0112	120	13.9	1320	1670	3.8 gal./hr.	6.4	32 lbs. (14.5 kg)	Yes
CWTF15-3	12950.0212	120	13.9	1320	1670	3.8 gal./hr.	6.4	35 lbs. (15.9 kg)	Yes
CWTF15-3*	12950.0216	120	13.9	1320	1670	3.8 gal./hr.	6.4	36 lbs. (16.4 kg)	Yes
CWTF20-3	12950.0232	120	17.9	1800	2150	5.1 gal./hr.	6.4	35 lbs. (15.9 kg)	No
CWTF35-3	12950.0252	120/240	17.1 <sup>†</sup>	3500	3850	7.5 gal./hr.	6.4	35 lbs. (15.9 kg)	No

<sup>\*</sup>Stainless steel funnel

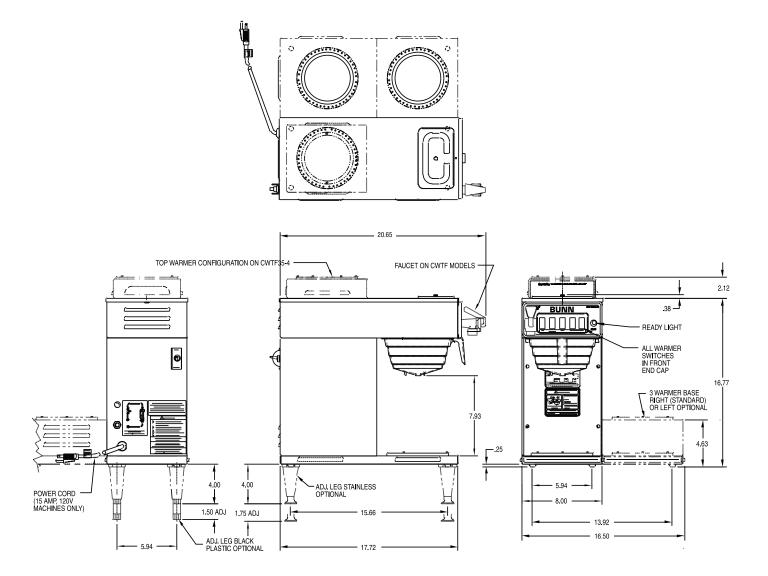
Brewing capacity: based upon incoming water temp of 60°F (140°F rise) per 1/2 gallon brew time of 4 minutes.

Electrical: Model 15 requires 2-wires plus ground service rated 120V, single phase, 60 Hz.

Model 20 requires 2-wires plus ground service rated 120V, single phase, 60 Hz.

Model 35 requires 3-wires plus ground service rated 120/208 or 120/240V, single phase, 60 Hz.

Plumbing: 20-90 psi (138-621 kPa). Machine supplied with 1/4" male flare fitting.



BUNN Corporation - 1400 Stevenson Drive Springfield, Illinois 62703 • 800-637-8606 • 217-529-6601 • Fax 217-529-6644 • www.bunn.com

<sup>&</sup>lt;sup>∆</sup>120/208 - 240 Volts. †Current @ 120/240 Volts

# **END OF SPECIFICATION**

ofe-20230113141156 ● Item# 727801 [1/10] Item#727801

# Site Requirements

# MEDIVATORS° ADVANTAGE PLUS® Endoscope Reprocessing System





ofe-20230113141156 ● Item# 727801 [2/10] Item#727801

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50097-420 Rev G

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MEDIVATORS reserves the right to make changes in the specifications shown herein without notice or obligation. Contact your MEDIVATORS representative or MEDIVATORS customer service for more information.

# SITE REQUIREMENTS

The purpose of this section is to provide the customer with requirements that need to be met to ensure the ADVANTAGE PLUS® endoscope reprocessor system Model 2.0 will be properly installed.

## **Applicable Documents**

- ADVANTAGE PLUS Endoscope List and Operator ID Form (PN 50092-380)
- ADVANTAGE PLUS Endoscope Reprocessor User Manual (PN 50097-429)

It is the responsibility of the customer to meet these requirements to ensure proper installation of the ADVANTAGE PLUS endoscope reprocessor.

The ADVANTAGE PLUS endoscope reprocessor will be delivered on a pallet along with multiple boxes. It is important to keep all the boxes received with the ADVANTAGE PLUS endoscope reprocessor together.

It is the responsibility of the customer to provide qualified personnel to provide the connections for the ADVANTAGE PLUS endoscope reprocessor to the building supply (Water, Electrical, Drain, Air and Network/Internet) during the installation process.

Any deviation from these specifications may cause operational issues that would not be covered by the Warranty.

IMPORTANT: It is the responsibility of the customer to mount and plumb the pre-filter assembly supplied.

## Water Supply

- · Potable water is the minimum standard.
- The water supply must be connected to a thermostatic mixing valve set to provide an on-demand water temperature of 35°C ± 2°C (95°F ± 4°F). One mixing valve per reprocessor.
- The mixing valve must be accessible and located near the prefilter to aid in adjustment. The mixing valve should include a thermometer followed by a bypass valve to a drain.
- The incoming waterline must be a minimum of 1/2" ID providing a flow rate of 1.32 GPM and a dynamic water pressure of 35 to 87 psi.
- Water consumption is approximately 8 gallons/cycle for a standard endoscope disinfection cycle and 13 gallons/cycle for an endoscope disinfection cycle with a detergent wash. Water consumption for the ADVANTAGE PLUS endoscope reprocessor will vary depending on the incoming water temperatures. The reprocessor will extend the initial flush to allow the water to come up to temperature to meet the minimum required temperature of the disinfectant. Ensure water hardness is less than 12 gpg (200 ppm) for optimal performance.
- The pre-filter assembly is wall mounted and has the dimensions of 26" H x 38" W x 6"D. The incoming water connection to the pre-filter assembly is 1/2" NPT on the right hand side. It is the responsibility of the customer to mount and plumb the pre-filter assembly. All fittings and hoses for the output of the pre-filter assembly are included.
- A shut-off valve must be installed before the pre-filtration system. It is important that the valve be mounted within reach of the operator.

The MEDIVATORS® endoscope reprocessors do not require backflow protection for the incoming water supply, nor is a backflow protection device installed in the reprocessor. If building or plumbing codes require backflow protection, then please consult your local codes, standards and/or guidelines, for applicable requirements.

#### Drain

 A drain system capable of draining 3.17 GPM, less than 18" from the floor and vented will ensure the proper operation of the ADVANTAGE PLUS endoscope reprocessor. The supplied drain line has a 1" ID, 1 3/8" OD.

## Air Supply

- The ADVANTAGE PLUS endoscope reprocessor may include an air compressor that requires a dedicated 120 VAC 15 amp circuit.
- If the ADVANTAGE PLUS endoscope reprocessor model purchased did not include the air compressor, the system may utilize house compressed air (dry, oil free) which must meet these required air pressure

specifications: 58 to 125 PSI with a minimum flow volume of 1.5 CFM, maximum particle size is 5 microns, maximum dew point is 7°C (45°F), maximum oil concentration is 5 mg/m³.

A 1/4" ID flexible air hose (EPDM, braided, 150 psi minimum) is required to connect the ADVANTAGE PLUS<sup>®</sup> endoscope reprocessor to the house air. This is not supplied with the ADVANTAGE PLUS endoscope reprocessor. The hose connects to a barbed fitting on the back of the ADVANTAGE PLUS endoscope reprocessor.

## **Electrical Supply**

- 120 VAC ± 10%, single phase, 60 Hz, 15 Amp circuit
- A GFI protected outlet (NEMA 5-15R) should be located within the operator's reach.
- Power consumption is 150 watts at idle, 400 watts during a cycle in one basin, 600 watts during a cycle in both basins, and a nominal peak of 1000 watts.
- The ADVANTAGE PLUS endoscope reprocessor can operate uninterrupted with power losses up to 0.5 seconds. Power losses greater than 0.5 seconds without proper shutdown may produce system alarms, system shutdown and system damage.
- If all the optional accessories are installed with the ADVANTAGE PLUS endoscope reprocessor (AVMS, compressor), three NEMA 5-15 receptacles are required.
- A UPS with a minimum rating of 1500 VA/865 watts is highly recommended. The role of the UPS is to solely
  protect the computer and will allow the ADVANTAGE PLUS endoscope reprocessor to operate for a short
  period of time without power allowing for an orderly shut down of the computer in the event of a power outage.

#### **Head Load**

Idle: 500 BTU/hr

Cycle (1 basin): 1400 BTU/hr

Cycle (2 basins): 2000 BTU/hr

#### Ventilation

It is the Customer's Responsibility to ensure the room is in compliance with this requirement. This is not a requirement of the ADVANTAGE PLUS endoscope reprocessor but of the chemicals that are used for disinfection.

- It is a health and safety requirement to have a minimum of 10 air changes per hour in the room. During cycle
  operation and the chemical heating process, chemical vapor may be produced. The air exchange will minimize
  staff exposure to chemical vapors.
- A 4" flexible duct may be connected from the back of the ADVANTAGE PLUS endoscope reprocessor to
  the facility's exhaust system to aid in fume extraction. To properly vent the ADVANTAGE PLUS endoscope
  reprocessor 25 CFM at 0.25 inches-water static pressure is required.
- The ADVANTAGE PLUS endoscope reprocessor may also be supplied with an active vapor management system to aid in chemical vapor management. Please refer to the purchase order to determine the correct configuration of the ADVANTAGE PLUS endoscope reprocessor.

#### **Dimensions**

- The ADVANTAGE PLUS endoscope reprocessor physical dimensions are 62" H x 49" W x 31" D, weight 400 lbs.
- If the optional air compressor is used it may be placed on the floor on either side or the back of the ADVANTAGE PLUS endoscope reprocessor. This will add additional depth (~12") or width (~12") to the installation. The physical dimensions of the compressor are 18" H x 16" W x 20" L with caster wheels, 15" H x 16" W and 20" L with rubber feet, weight 65 lbs. Alternately, the compressor may be installed remotely (in an adjacent room, closet, wall space).
- Space is required on either side of the unit (approximately a combined 12") for easy access to the internal
  components. If this is not available, the ADVANTAGE PLUS endoscope reprocessors contains a base with
  casters allowing the system to be moved. There should be adequate room for the ADVANTAGE PLUS
  endoscope reprocessor to be moved for access to accommodate maintenance.

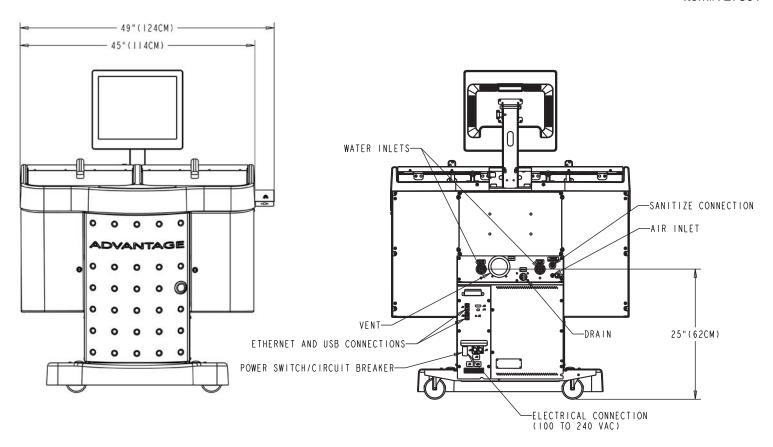


Figure 1. Front & Back Dimensions

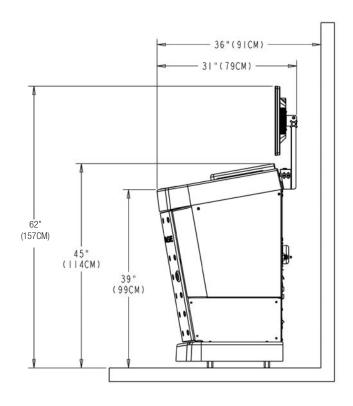


Figure 2. Side Dimensions & Clearance

## Endoscope & User Information

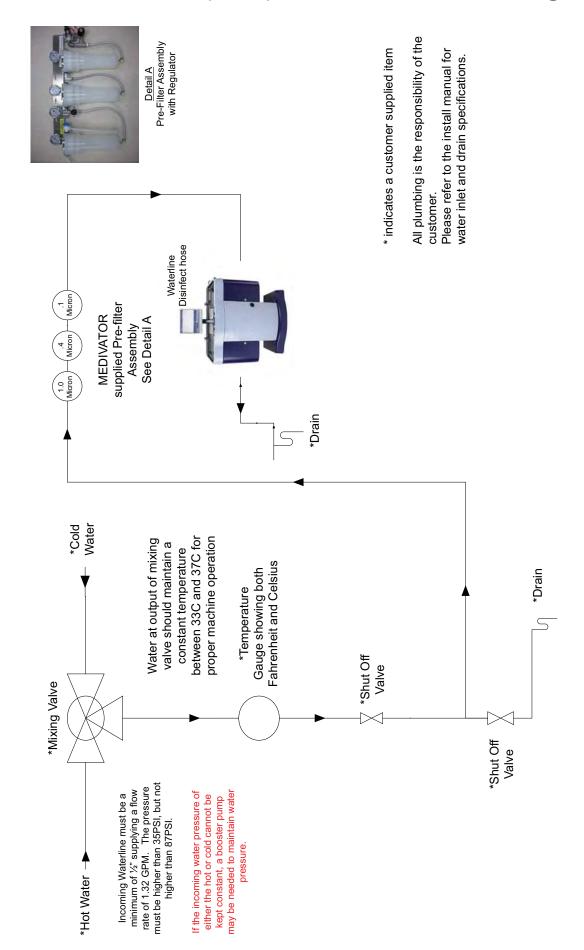
- To ensure a smooth and trouble-free installation, the customer must supply a complete list of users and endoscopes that will be reprocessed in the ADVANTAGE PLUS® endoscope reprocessor.
- Fill out the ADVANTAGE PLUS Endoscope List & Operator ID form (PN 50092-380).

#### Network/Remote Access

- The ADVANTAGE PLUS endoscope reprocessor is equipped with a PC based computer running Windows 7 (SP3) which will allow full networking along with the capability of remote diagnostics.
- To allow for remote diagnostics an internet connection is required. This is highly recommended.

This checklist should be utilized to ensure the installation site meets the required specifications. If all specifications are met, the site is suitable for the installation and use of the MEDIVATORS® ADVANTAGE PLUS Automated Endoscope Reprocessor.

# ADVNATAGE PLUS® Endoscope Reprocessor Water & Drain Diagram



# SITE REQUIREMENTS

	Potable water is the minimum standard.	
	Minimum flow rate of 1.32 GPM with a pressure of 35 to 87 PSI	
Water Supply	Water Temperature 35°C ± 2°C (95°F ± 4°F), on-demand supplied by a thermostatic mixing valve. One mixing valve per reprocessor.	
water Supply	The mixing valve must be accessible	
	Hardness, less than 12 gpg (200 ppm)	
	Pre-filter wall space 26" H x 38" W x 6" D, customer mounted and plumbed.	
Drain	3.17 GPM, less than 18" from the floor, vented	
Air Supply	Optional air compressor dedicated, 120 VAC, dedicated 15 Amp circuit	
	House compressed air requirements: (dry/oil free) 58 to 125 PSI, minimum flow volume of 1.5 CFM, maximum particle size is 5 microns, maximum dew point is 7°C (45°F), maximum oil concentration is 5 mg/m³	
	120 VAC ± 10%, single phase, 60 Hz, 15 Amp circuit	
Electrical Supply	NEMA 5-15R outlet, GFI protected, accessible by user	
Ventilation	Minimum of 10 room air exchanges per hour	
ventuation	Optional ventilation system available, 120 VAC, <1 Amp,adds 7" to the depth	
Unit Dimensions	62" H X 49" W X 31" D, 400 lbs.	
Unit Dimensions	Add 12" of open space to the total width to aid with service access	
Endoscope List	ADVANTAGE PLUS® Endoscope List & Operator ID form (50092-380) completed	
Remote Access	Internet connection (recommended)	

By signing below Customer acknowledges that (1) Customer reviewed these Site Requirements for the MEDIVATORS® Reprocessor(s) listed on the face of this document; (2) Customer is solely responsible for meeting each of the specifications and requirements set forth in these Site Requirements to ensure proper installation and performance of the reprocessor(s); (3) Customer is able to meet each of these specifications and requirements; and (4) the failure of Customer to comply with these Site Requirements and any deviation from the specifications set forth herein may compromise the functionality of the reprocessor(s) and/or may cause operational issues, which will not be covered by the MEDIVATORS warranty and are hereby disclaimed by MEDIVATORS.

Facility Representative		le
Signature	Date	Email









Manufactured in the USA by:

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Cantel Medical Asia/Pacific Pte. Ltd. 1A International Business Park #05-01 Singapore 609933 Tel: +65.6227.9698 Medivators Inc. Beijing Representative Office Room 1801, Floor 18th, Tower A, Beijing Marriott Hotel, Office Building No. 7, Jianguomen South Avenue, Dongcheng District, Beijing 100005 China Tel: +86 10 65204039

# **END OF SPECIFICATION**

ofe-20230113141156 ● Item# 727801 [1/10] Item#727801

# Site Requirements

# MEDIVATORS° ADVANTAGE PLUS® Endoscope Reprocessing System





ofe-20230113141156 ● Item# 727801 [2/10] Item#727801

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# SITE REQUIREMENTS

The purpose of this section is to provide the customer with requirements that need to be met to ensure the ADVANTAGE PLUS® endoscope reprocessor system Model 2.0 will be properly installed.

# **Applicable Documents**

- ADVANTAGE PLUS Endoscope List and Operator ID Form (PN 50092-380)
- ADVANTAGE PLUS Endoscope Reprocessor User Manual (PN 50097-429)

It is the responsibility of the customer to meet these requirements to ensure proper installation of the ADVANTAGE PLUS endoscope reprocessor.

The ADVANTAGE PLUS endoscope reprocessor will be delivered on a pallet along with multiple boxes. It is important to keep all the boxes received with the ADVANTAGE PLUS endoscope reprocessor together.

It is the responsibility of the customer to provide qualified personnel to provide the connections for the ADVANTAGE PLUS endoscope reprocessor to the building supply (Water, Electrical, Drain, Air and Network/Internet) during the installation process.

Any deviation from these specifications may cause operational issues that would not be covered by the Warranty.

IMPORTANT: It is the responsibility of the customer to mount and plumb the pre-filter assembly supplied.

# Water Supply

- · Potable water is the minimum standard.
- The water supply must be connected to a thermostatic mixing valve set to provide an on-demand water temperature of 35°C ± 2°C (95°F ± 4°F). One mixing valve per reprocessor.
- The mixing valve must be accessible and located near the prefilter to aid in adjustment. The mixing valve should include a thermometer followed by a bypass valve to a drain.
- The incoming waterline must be a minimum of 1/2" ID providing a flow rate of 1.32 GPM and a dynamic water pressure of 35 to 87 psi.
- Water consumption is approximately 8 gallons/cycle for a standard endoscope disinfection cycle and 13 gallons/cycle for an endoscope disinfection cycle with a detergent wash. Water consumption for the ADVANTAGE PLUS endoscope reprocessor will vary depending on the incoming water temperatures. The reprocessor will extend the initial flush to allow the water to come up to temperature to meet the minimum required temperature of the disinfectant. Ensure water hardness is less than 12 gpg (200 ppm) for optimal performance.
- The pre-filter assembly is wall mounted and has the dimensions of 26" H x 38" W x 6"D. The incoming water connection to the pre-filter assembly is 1/2" NPT on the right hand side. It is the responsibility of the customer to mount and plumb the pre-filter assembly. All fittings and hoses for the output of the pre-filter assembly are included.
- A shut-off valve must be installed before the pre-filtration system. It is important that the valve be mounted within reach of the operator.

The MEDIVATORS® endoscope reprocessors do not require backflow protection for the incoming water supply, nor is a backflow protection device installed in the reprocessor. If building or plumbing codes require backflow protection, then please consult your local codes, standards and/or guidelines, for applicable requirements.

#### Drain

 A drain system capable of draining 3.17 GPM, less than 18" from the floor and vented will ensure the proper operation of the ADVANTAGE PLUS endoscope reprocessor. The supplied drain line has a 1" ID, 1 3/8" OD.

# Air Supply

- The ADVANTAGE PLUS endoscope reprocessor may include an air compressor that requires a dedicated 120 VAC 15 amp circuit.
- If the ADVANTAGE PLUS endoscope reprocessor model purchased did not include the air compressor, the system may utilize house compressed air (dry, oil free) which must meet these required air pressure

specifications: 58 to 125 PSI with a minimum flow volume of 1.5 CFM, maximum particle size is 5 microns, maximum dew point is 7°C (45°F), maximum oil concentration is 5 mg/m³.

A 1/4" ID flexible air hose (EPDM, braided, 150 psi minimum) is required to connect the ADVANTAGE PLUS<sup>®</sup> endoscope reprocessor to the house air. This is not supplied with the ADVANTAGE PLUS endoscope reprocessor. The hose connects to a barbed fitting on the back of the ADVANTAGE PLUS endoscope reprocessor.

# **Electrical Supply**

- 120 VAC ± 10%, single phase, 60 Hz, 15 Amp circuit
- A GFI protected outlet (NEMA 5-15R) should be located within the operator's reach.
- Power consumption is 150 watts at idle, 400 watts during a cycle in one basin, 600 watts during a cycle in both basins, and a nominal peak of 1000 watts.
- The ADVANTAGE PLUS endoscope reprocessor can operate uninterrupted with power losses up to 0.5 seconds. Power losses greater than 0.5 seconds without proper shutdown may produce system alarms, system shutdown and system damage.
- If all the optional accessories are installed with the ADVANTAGE PLUS endoscope reprocessor (AVMS, compressor), three NEMA 5-15 receptacles are required.
- A UPS with a minimum rating of 1500 VA/865 watts is highly recommended. The role of the UPS is to solely
  protect the computer and will allow the ADVANTAGE PLUS endoscope reprocessor to operate for a short
  period of time without power allowing for an orderly shut down of the computer in the event of a power outage.

### **Head Load**

Idle: 500 BTU/hr

Cycle (1 basin): 1400 BTU/hr

Cycle (2 basins): 2000 BTU/hr

#### Ventilation

It is the Customer's Responsibility to ensure the room is in compliance with this requirement. This is not a requirement of the ADVANTAGE PLUS endoscope reprocessor but of the chemicals that are used for disinfection.

- It is a health and safety requirement to have a minimum of 10 air changes per hour in the room. During cycle
  operation and the chemical heating process, chemical vapor may be produced. The air exchange will minimize
  staff exposure to chemical vapors.
- A 4" flexible duct may be connected from the back of the ADVANTAGE PLUS endoscope reprocessor to
  the facility's exhaust system to aid in fume extraction. To properly vent the ADVANTAGE PLUS endoscope
  reprocessor 25 CFM at 0.25 inches-water static pressure is required.
- The ADVANTAGE PLUS endoscope reprocessor may also be supplied with an active vapor management system to aid in chemical vapor management. Please refer to the purchase order to determine the correct configuration of the ADVANTAGE PLUS endoscope reprocessor.

#### **Dimensions**

- The ADVANTAGE PLUS endoscope reprocessor physical dimensions are 62" H x 49" W x 31" D, weight 400 lbs.
- If the optional air compressor is used it may be placed on the floor on either side or the back of the ADVANTAGE PLUS endoscope reprocessor. This will add additional depth (~12") or width (~12") to the installation. The physical dimensions of the compressor are 18" H x 16" W x 20" L with caster wheels, 15" H x 16" W and 20" L with rubber feet, weight 65 lbs. Alternately, the compressor may be installed remotely (in an adjacent room, closet, wall space).
- Space is required on either side of the unit (approximately a combined 12") for easy access to the internal
  components. If this is not available, the ADVANTAGE PLUS endoscope reprocessors contains a base with
  casters allowing the system to be moved. There should be adequate room for the ADVANTAGE PLUS
  endoscope reprocessor to be moved for access to accommodate maintenance.

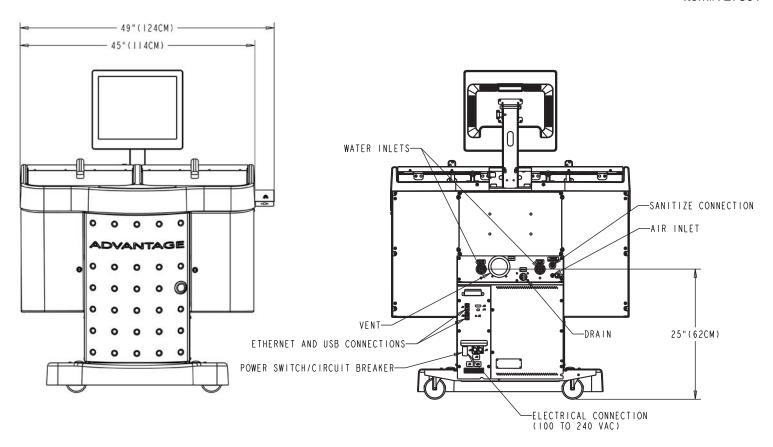


Figure 1. Front & Back Dimensions

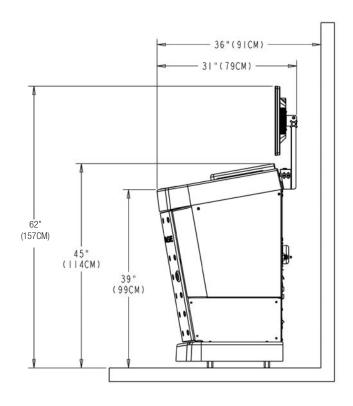


Figure 2. Side Dimensions & Clearance

# Endoscope & User Information

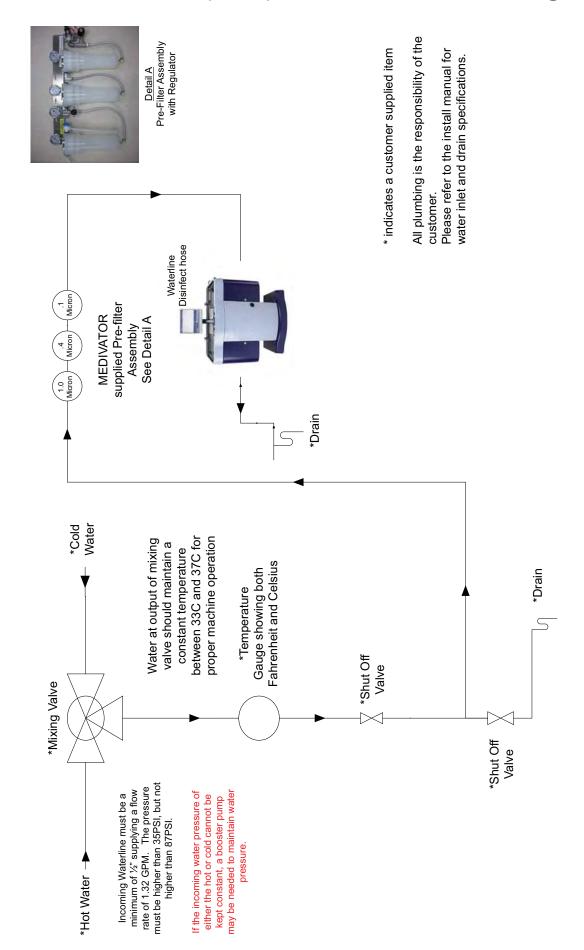
- To ensure a smooth and trouble-free installation, the customer must supply a complete list of users and endoscopes that will be reprocessed in the ADVANTAGE PLUS® endoscope reprocessor.
- Fill out the ADVANTAGE PLUS Endoscope List & Operator ID form (PN 50092-380).

#### Network/Remote Access

- The ADVANTAGE PLUS endoscope reprocessor is equipped with a PC based computer running Windows 7 (SP3) which will allow full networking along with the capability of remote diagnostics.
- To allow for remote diagnostics an internet connection is required. This is highly recommended.

This checklist should be utilized to ensure the installation site meets the required specifications. If all specifications are met, the site is suitable for the installation and use of the MEDIVATORS® ADVANTAGE PLUS Automated Endoscope Reprocessor.

# ADVNATAGE PLUS® Endoscope Reprocessor Water & Drain Diagram



# SITE REQUIREMENTS

	Potable water is the minimum standard.	
	Minimum flow rate of 1.32 GPM with a pressure of 35 to 87 PSI	
Water Supply	Water Temperature 35°C ± 2°C (95°F ± 4°F), on-demand supplied by a thermostatic mixing valve. One mixing valve per reprocessor.	
water Supply	The mixing valve must be accessible	
	Hardness, less than 12 gpg (200 ppm)	
	Pre-filter wall space 26" H x 38" W x 6" D, customer mounted and plumbed.	
Drain	3.17 GPM, less than 18" from the floor, vented	
	Optional air compressor dedicated, 120 VAC, dedicated 15 Amp circuit	
Air Supply	House compressed air requirements: (dry/oil free) 58 to 125 PSI, minimum flow volume of 1.5 CFM, maximum particle size is 5 microns, maximum dew point is 7°C (45°F), maximum oil concentration is 5 mg/m³	
<b>5</b> 1 1 1 1 0 1	120 VAC ± 10%, single phase, 60 Hz, 15 Amp circuit	
Electrical Supply	NEMA 5-15R outlet, GFI protected, accessible by user	
Ventilation	Minimum of 10 room air exchanges per hour	
ventuation	Optional ventilation system available, 120 VAC, <1 Amp,adds 7" to the depth	
Unit Dimensions	62" H X 49" W X 31" D, 400 lbs.	
Onit Dimensions	Add 12" of open space to the total width to aid with service access	
Endoscope List	ADVANTAGE PLUS® Endoscope List & Operator ID form (50092-380) completed	
Remote Access	Internet connection (recommended)	

By signing below Customer acknowledges that (1) Customer reviewed these Site Requirements for the MEDIVATORS® Reprocessor(s) listed on the face of this document; (2) Customer is solely responsible for meeting each of the specifications and requirements set forth in these Site Requirements to ensure proper installation and performance of the reprocessor(s); (3) Customer is able to meet each of these specifications and requirements; and (4) the failure of Customer to comply with these Site Requirements and any deviation from the specifications set forth herein may compromise the functionality of the reprocessor(s) and/or may cause operational issues, which will not be covered by the MEDIVATORS warranty and are hereby disclaimed by MEDIVATORS.

Facility Representative		le
Signature	Date	Email









Manufactured in the USA by:

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Cantel Medical Asia/Pacific Pte. Ltd. 1A International Business Park #05-01 Singapore 609933 Tel: +65.6227.9698 Medivators Inc. Beijing Representative Office Room 1801, Floor 18th, Tower A, Beijing Marriott Hotel, Office Building No. 7, Jianguomen South Avenue, Dongcheng District, Beijing 100005 China Tel: +86 10 65204039

# **END OF SPECIFICATION**



# Slope front

ice storage bin

#### **Features**

Capacities available from 300 - 1000 lb (137 - 454 kg) and widths from 22.00" - 52.00" (55.9 - 132.1 cm)

#### Convenient design

- extra large door opening for maximum access
- low sill height allows access to reach bottom of bin
- 22.00" (55.9 cm) and 30.00" (76.2 cm) bins match with compact ice machines to maximize ice production and storage in small space  $\,$

#### **Durable construction**

- full stainless top, front and sides standard
- heavy-duty welded steel shell and frame support
- poly-lined interior to eliminate corrosion
- rigid, insulated stainless steel lift door with non-staining ABS interior
- fully replaceable gasket seals door opening

### Easy installation

- comes assembled, simply screw in legs
- will fit through 32.00" (81.3 cm) doors (300-22 will fit through 23.00" (81.3 cm) doors)

### Accessories

SmartCART™ 75 ice cart (item# 00112771)

Ice paddle and hanging bracket (item# ABICEPADDL46)

Plastic ice shovel (item# ABICESHOVEL)

Stainless steel legs (item# ABSPECLEGS)

Stainless steel back and bottom

**Partition** 

Additional carts and accessories (refer to form 3435)

Job

Item

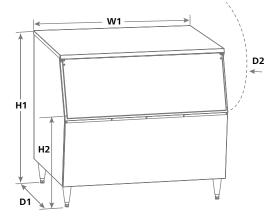


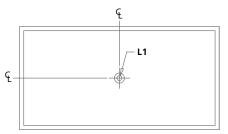
Specification	
Maximum bin capacity	see model table below
<b>W1</b> Width	see model table below
<b>D1</b> Depth	see model table below
<b>D2</b> Depth with door fully extended	add 10.00" (25.4 cm)
<b>H1</b> Height (adjustable)	see model table below
<b>H2</b> Bin sill height	see model table below
Required door access	see model table below
<b>L1</b> Drain <sup>1</sup>	1.00" FPT, center of bin bottom
Ice compatibility	all ice types up to 1.00" (2.54 cm) square, including flake ice type
Shipping weight	see model table below
NOTE: For indoor use only	

SHORT FORM SPECIFICATION: Ice storage bin to be Follett model lb (kg) of ice. Constrution to be welded steel shell and frame. Exterior finish to be stainless steel front and sides with galvanized steel back and bottom. Bin interior to have non-corroding polyethylene-lined walls and stainless steel bottom. Bin insulation to be non-CFC polyurethane foam, bonded to shell and polyethylene-lined walls for added structural strength. Bin top to be stainless steel and to be custom-cut for specific ice machine(s) to be used. Lift door to have stainless steel exterior and ABS interior, bonded together with non-CFC polyurethane foam for extra rigidity and strength. Bin to have conveniently low door sill height to allow easy access to ice in the bottom of the bin. Door opening to be completely sealed with fully replaceable gasketing. Bin to have 6.00" (15.24 cm) legs, adjustable to 6.75" (17.14 cm). Bin drain to be 1.00" FPT rigid PVC. NSF listed.

Follett Corporation warrants to the original purchaser that the cabinet exterior, including the top and trim, and the interior liner will be free of corrosion for 3 years from the date of installation. Date of installation shall not exceed 90 days from date of shipment. Parts and labor for corrosion repair within this 3 year period are covered under this warranty. All other integral components are covered against defects in material and workmanship under normal use and service for 2 years from the date of installation. Date of installation shall not exceed 90 days from date of shipment. Parts and labor for repair within this 2 year period are covered under this warranty. Removal of ice machine to service bin and any labor costs incurred are expressly excluded from this warranty.

# Dimensional drawing





Horizon, Maestro Plus and SmartCART are trademarks of Follett Corporation. Follett is a registered trademark of Follett Corporation, registered in the US. Follett reserves the right to change specifications at any time without obligation. Certifications may vary depending on country of origin.

	Model	Maximum bin capacity lb (kg)	Cubic Volume cu ft (m)	Width - <b>W1</b> in (cm)	Depth - <b>D1</b> in (cm)	Height <b>- H1</b> in (cm)	Door Sill Height - <b>H2</b> in (cm)	Required door access in (cm)	Approximate ship weight Ib (kg)
	300-22*	300 (136)	9.6 (0.27)	22.00 (55.9)	29.50 (74.9)	40.00 (101.6)	26.00 (66.0)	23.00 (58.4)	128 (58)
$\rightarrow$	425-30	430 (195)	13.8 (0.39)	30.00 (76.2)	29.50 (74.9)	40.00 (101.6)	26.00 (66.0)	31.00 (78.7)	144 (66)
	650-44	660 (299)	20.8 (0.59)	44.00 (111.8)	29.50 (74.9)	40.00 (101.6)	26.00 (66.0)	32.00 (81.2)	178 (81)
	950-48	950 (431)	30.1 (0.85)	48.00 (121.9)	28.25 (71.8)	50.00 (127.0)	36.00 (91.4)	32.00 (81.2)	207 (94)
	1025-52	1030 (467)	32.6 (0.92)	52.00 (132.1)	28.25 (71.8)	50.00 (127.0)	36.00 (91.4)	32.00 (81.2)	217 (98)



<sup>\*</sup> Model 300-22 only for use with Follett®, Maestro Plus™ 425 and Horizon™ 700 series ice machines.

Follett recommends installation of a floor drain with grate with all ice storage bins.

ofe-20230113141156 • Item# 728071 [3/3]

ITEM 728071 page 3 of 3 by srm 01-08-15

# **END OF SPECIFICATION**



# $Symphony\ Plus^{^{\mathsf{TM}}} \ \mathsf{ice}\ \mathsf{and}\ \mathsf{water}\ \mathsf{dispenser}$

25 and 50 FB series freestanding with Chewblet° ice machine

#### **Features**

25 or 50 lb (11.4 or 22.7 kg) ice storage capacity

Removable air- or water-cooled ice machine with up to 425 lb (193.0 kg) daily production of Chewblet<sup>®</sup> ice

- soft, chewable, compressed nugget ice is preferred over cubes<sup>1</sup> and is ideal for patient care
- Quiet Night<sup>™</sup> sleep mode turns off ice machine when idle

#### Designed with sanitation in mind

- automatic self-flushing of ice machine removes impurities
- drain cup provides internal air gap for added protection of food zone components from drain line contaminants
- Agion<sup>®</sup> silver-based antimicrobial provides protection of key ice and water contact components<sup>2</sup>
- one-hand lever or SensorSAFE<sup>™</sup> infrared ice dispense

#### Dependable design, easy to service and clean

- cleaning and sanitizing of entire machine takes only 1 hour
- LED control board provides at-a-glance machine status
- panels are easily removed for accessibility to all components
- ice machine parts are common across all Symphony Plus dispensers
- stainless steel evaporator and auger deliver long life

#### Environmentally responsible

- meets Consortium for Energy Efficiency Tier 2 specifications
- R404a refrigerant has zero ozone depletion potential
- continuous ice making process uses less electricity

#### Durable, attractive dispenser

- stainless steel cabinet with accent trim
- poly drain pan, grille and dispenser lid are corrosion-resistant
- secured top lid

#### Easy installation

- comes fully assembled and installs with three easy connections – electric, water and drain

#### Warranty

- 3 years parts and labor, 5 years compressor parts

#### Accessories

Chilled water option (item# 01065168)

Pressurized water sanitizing kits (refer to form# 6830)

SafeCLEAN Plus™ ice machine cleaner

1 x 8 oz (237 ml) bottle (item# 01147826)

6 x 8 oz (237 ml) bottles (item# 01149954)

Carton of 24 x 8 oz (237 ml) bottles (item# 01149962)

Nu-Calgon® IMS-III sanitizer, 16 oz (0.5 L) bottle (item# 00979674)

Additional filters (refer to form# 9905 and 8320)

Additional Symphony Plus accessories (refer to price list)





#### Removable ice machine for easy service



Model configurations				
Ice storage capacity	Dispense	Ice machine cooling	Item number	
	Laver	air	25FB425A-L	
25 lb	Lever	water	25FB425W-L	
(11.4 kg)	SensorSAFE	air	25FB425A-S	
		water	25FB425W-S	
	Lever	air	50FB425A-L	
50 lb	Lever	water	50FB425W-L	
(22.7 kg)	SensorSAFE	air	50FB425A-S	
	SelisorsAFE	water	50FB425W-S	

Ice production		
Temperatures air/water	70/50 F (21/10 C) 90/70 F (32/21	
Air-cooled	425 lb (193.0 kg)	325 lb (147.6 kg)
Water-cooled	486 lb (220.6 kg)	408 lb (185.2 kg)
Energy consumption per 100 lb (45.4 kg) ice	N/A	6.0 kWh air-cooled 4.3 kWh water-cooled
Condenser water consumption	N/A	0.5 gpm (1.9 Lpm) at 70 F (21 C) water
Water consumption 12.0 gal (45.4 L) of potable water per 7 (45.4 kg) of ice		table water per 100 lb

Job

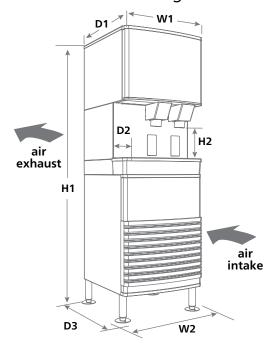
Item

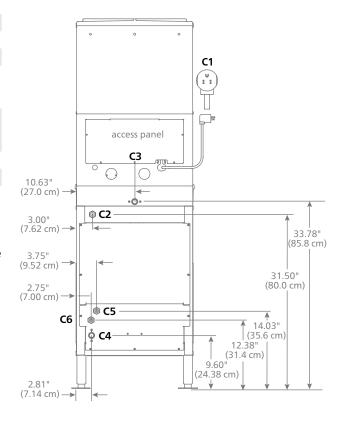


Specification	
Ice storage capacity	25 Series – 25 lb (11.4 kg) 50 Series – 50 lb (22.7 kg)
<b>W1</b> Width, top	21.00" (53.3 cm)
<b>W2</b> Width, bottom	22.75" (57.8 cm)
<b>D1</b> Depth, top	23.75" (60.3 cm)
<b>D2</b> Depth, drain pan	7.00" (17.8 cm)
<b>D3</b> Depth, bottom	24.75" (62.9 cm)
<b>H1</b> Height	25 Series – 62.88" (159.7 cm) 50 Series – 66.88" (169.9 cm)
<b>H2</b> Dispense height clearance	7.62" (19.4 cm)
Ventilation clearance	air-cooled models only – 4.00" (10.16 cm) rear
Service clearance	12.00" (30.5 cm) top
<b>C1</b> 115 V/60/1 electrical	11 amps, 0.8 kW 7' (2.1 m) cord, NEMA 5-15 90° hospital-grade plug
C2 Potable water inlet	3/8" FPT
C3 Drain dispenser	3/4" MPT
C4 Drain, ice machine	3/4" MPT
Water-cooled model connections C5 condenser inlet C6 condenser drain	3/8" FPT 3/8" FPT
Air temperature	50 -100 F (10 - 38 C)
Water temperature	45 - 90 F (7 - 32 C)
Potable water pressure	10 - 70 psi (69 - 483 kpa)
Condenser water pressure	10 - 125 psi (69 - 861 kpa)
Heat rejection	air-cooled models – 5000 BTU/hr water-cooled models – 1400 BTU/hr to air, 3600 BTU/hr to water
Water flow requirement for water-cooled models	0.25 gpm (0.95 lpm) at 50 F (10 C) 0.5 gpm (1.90 lpm) at 70 F (21 C) 1.25 gpm (4.73 lpm) at 90 F (32 C)
Approximate net weight	212 lb (96 kg)
Approximate ship weight	230 lb (105 kg)

SHORT FORM SPECIFICATION: Ice and water dispenser to be Follett\* automatic load in freestanding configuration, with \_\_\_\_ 25 lb (11.4 kg) or \_\_\_\_ 50 lb (22.7 kg) of storage, water station and (choose one) \_\_\_\_ air- or \_\_\_ water-cooled ice machine in base. Environmentally responsible R404a ice machine mounted in base and to be removable as one unit for cleaning and maintenance. Ice machine to produce approximately 425 lb (193.0 kg) per day of Chewblet compressed nugget ice at air temp. of 70 F (21 C), water temp. of 50 F (10 C). Ice machine equipped with automatic self-flushing and Quiet Night sleep mode. Dispenser to have automatic bin level control to start and stop ice machine and separate circuitry to allow dispensing to continue with ice machine removed. Dispenser equipped with 6.00" (15.24 cm) adjustable legs, flanged feet. Storage area to be insulated with CARB comliant non-HFC foam. 7' (2.1 m) cord and NEMA 5-15 90° hospital-grade plug provided. NSF and ETL listed.

# Dimensional drawing





Measurements shown are with base stand legs at lowest position.

Agion is a registered trademark of Sciessent LLC.

Calgon is a licensed tradename distributed by Nu-Calgon, in the United States.

SYMPHONY PLUS, SENSORSAFE, SAFECLEAN PLUS and QUIET NIGHT are trademarks of Follett LLC.

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Follett reserves the right to change specifications at any time without obligation. Certifications may

vary depending on country of origin.





NOTE: For indoor use only

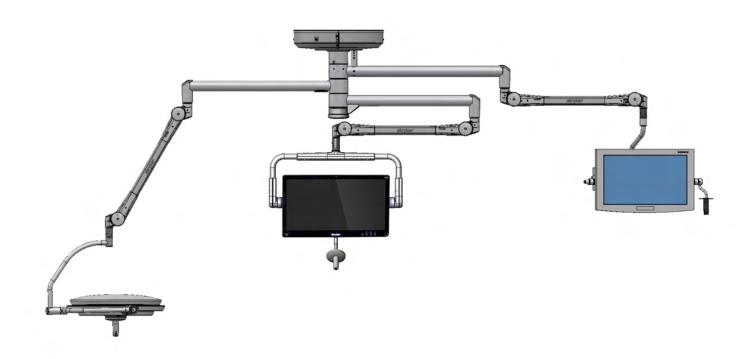
<sup>&</sup>lt;sup>1</sup> Independent third party studies. Contact Follett for details.

Disclaimer: Antimicrobial protection is limited to the treated components and does not treat water or ice.



Surgical Lights, VPA™, ChromoView Products and Universal Display Mount

Pre-Install Manual



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# **Warnings and Cautions**

# 1.1 Definition of symbols used

# Warnings

Warnings in this user manual are marked with symbols. A signal word that reflects the extent of the danger precedes each warning. Observe all warning notices and exercise extreme caution to prevent accidents, injuries and property damage.



# ⚠ Danger:

The patient or user can be involved in an immediately dangerous situation. Disregarding this information can result in death or serious bodily injury.

# Warning:

Possible injury to the patient or user.

### Caution:

Possible damage to the equipment.

# Note:

More information to clarify the instructions.

# Special safety notices

To draw attention to particular dangers, the following symbol is used in combination with safety notices:

# ¼ Warning:

Dangerous voltage. Refer all servicing to approved personnel.

# 1.2 Warnings

These safety precautions must be followed to install the CHROMOPHARE system. WARNINGS identify possible dangerous situations to personnel. It is important to read these precautions before use. The user must also read and follow all instructions, warnings and cautions supplied with or shown on the CHROMOPHARE products.

- Only Stryker trained personnel are authorized to install the equipment described in this manual.
- Use proper lifting equipment and procedures. Loaded shipping pallets are heavy and can cause injury to people or damage to the equipment if not handled properly.
- Do not attach objects (for instance, sprinkler pipes, electrical conduit, utility piping, duct work) to the CHROMOPHARE support structure, unless approved by the structural engineer or mechanical contractor.
- Live electrical circuits can cause injury or death. To prevent work on live electrical circuits, lock out and tag out power supplies.
- Drifting of the equipment can cause injury.
- The hospital/contractor has final responsibility for the strength and rigidity of the support structure system to the building. An inadequate support structure will affect the ability of the CHROMOPHARE unit to perform in the manner intended. An inadequate support structure design can also result in damage to the equipment. Equipment warranty service charges related to an inadequate support structure design or installation are at the customer's expense.
- Transport and store CHROMOPHARE components out of the elements and away from dust, debris, and moisture to protect them from damage. Do not expose them to corrosive media, and avoid mechanical vibrations (see section *Transport and storage conditions* [> 70]). Failure to protect the components can lead to damage that will prevent proper installation and service performance. Certain boxes may be labeled with storage instructions that are more extensive than the requirements cited here. Follow them accordingly.
- When storing for 15 weeks or longer, periodically check the general condition of all components and the packaging.
- Caution must be exercised when lifting heavy objects to avoid serious bodily injury or damage to equipment.

# 1.2.1 Electrical Safety

# Warning:

Always use caution when working on electrical systems.

Note: The hospital/contractor is responsible for running electrical power from the building supply to the CHROMOPHARE system (SK enclosure and/or mounting ring as indicated), and connecting the main power and hospital ground at this point.

- Touching uninsulated, live electrical components is life threatening. Damage to insulation or individual components can cause fatal injury.
- If insulation is damaged, immediately switch off the power supply and initiate repairs.
- Electrical work is to be performed only by skilled electricians.
- Before performing any electrical work, disconnect the mains power and verity that it is not live.
- To avoid risk of electric shock, this equipment must only be connected to a supply mains with protective earth.
- Know the electrical power rating of the unit being worked on.
- Use properly rated voltmeter/multimeter test equipment.
- Grip electrical test-probe leads only by their insulated handles.
- Do not attempt repairs on any live electrical circuits.
- Use lock-out, tag-out procedures before servicing any electrical component.
- Install or replace wiring only with the appropriate AWG size wire(s).
- Do not override or by-pass fuses.
- Ensure that numbered outlets are identified and wired to the appropriate circuit.
- Do not reroute or rewire circuits in a way that will allow operators to connect excess loads.

#### 1.2.2 Electrical Current

The label below indicates electrical current warning.

# 4 Warning:

Only skilled electricians and trained, skilled personnel can work with electrical components inside the ceiling cover.

#### 1.3 Cautions

- Do not attach items to the support structure unless approved by the structural engineer or mechanical contractor. Additional attachments have the potential to load the structure and can allow the CHROMOPHARE system to drift.
- Do not allow any component of the CHROMOPHARE system to collide with walls or other equipment.

# **Product symbol definition**

The device and its packaging can be marked with the following symbols:



Warning, electricity

Electrical voltage

Only skilled electricians may work in these areas.



Load limit

Never exceed the indicated permissible load limit.



Products bearing the UL-Classified Mark for the U.S. and Canada are covered by UL's Classification and Follow-Up Service and meets the appropriate U.S. and Canadian requirements.



Consult instructions for use



Follow instructions for use



Dangerous voltage

A lightning bolt indicates the presence of hazardous voltage. Refer all service to authorised personnel.



Alternating current



Temperature limitation

Denotes temperature limits.



**Humidity limitation** 

Denotes humidity limits.



Pressure limitation

Denotes relative pressure limits.



The device meets European Union medical device requirements.



Medical device in the European Union.



Date of manufacture

Denotes the date the equipment was manufactured.



Manufacturer

Denotes the manufacturer of the device.



Catalogue number

Denotes product/part number.



Serial number

Denotes product/serial number.



Batch code

Denotes lot or batch number.



For U.S. audience only - Caution: Federal Law (USA) restricts this device to sale by or on the order of a physician.



Denotes quantity.



In accordance with European Community Directive 2012/19/EU on Waste Electrical and Electronic Equipment, this symbol indicates that the product must not be disposed of as unsorted municipal waste but should be collected separately. We request that you contact Stryker when you plan to withdraw this device from service.



No hazardous substance contained in the product



Indicates hot surfaces.



Device contains a battery.



Denotes oxygen explosion hazard.



Denotes made in USA with components of Germany.



Denotes made in USA with components of Germany and USA.



Denotes made in Germany.



Denotes made in USA



Denotes the assembled to order number.



CAUTION: Before removing the cover, disconnect the power

supply

ACHTUNG: Schraube nicht lösen!
CAUTION: Do not remove the screw!
ATTENTION: Ne pas enlever le vis!
ATENCION: No soltar el tormillo!
ATTENZIONE: non togliere la vite!

CAUTION: Do not remove the screw!

Achtung!
Arretierstift nicht vor abgeschlossener
Montage des Gerätes herausziehen!
Attention!
Do not pull out locking button

before assembly is completed!

Attention! Do not pull out locking button before assembly is completed!

Achtung!
Vor Abnahme des Gerätes
unbedingt Arretierstift einschieben!
Attention!
Ensure that Locking button
is plugged in before removing device!

Attention! Ensure that locking button is plugged in before removing device!

max. Zulast 23,5 kg max. payload 51,7 lb Denotes maximum allowed payload (total weight of the monitor, its power supply and cables).



### Up

The tips of the arrows indicate the top of the package. They must always point upwards or the contents could be damaged.



Fragile, handle with care

Identifies packages with fragile or sensitive contents. Handle the package with care, do not drop it, and keep it from being bumped.



#### Keep dry

Packages identified in this way must be protected from high levels of humidity. The package must therefore be stored covered. If particularly large or bulky packages cannot be stored in warehouses or sheds, they must be carefully covered with tarpaulins.

# Options and accessories

Throughout this Pre-Installation Manual, certain items will be labeled "US/Canada only" or "outside of US/Canada only". These designations are made to consider different standards in different regions. If there are any questions about what applies to your region, please contact your Stryker project team.

Some examples include:

# Solutions for US/Canada only

- Shoulder Mount
- Tandem Mount
- TC Mount (Teletom and S-Series mounting options)
- Video/Power Arm (VPA)

# Introduction

Note: All CHROMOPHARE configurations are site/room specific and there can be multiple configurations with different requirements in the same project.

This CHROMOPHARE Pre-Install Manual details and describes the structural, mechanical, and electrical requirements of the room or site to allow proper installation of CHROMOPHARE Surgical Lights and Flat Panel products. It also provides installation instructions for the SK Box where the power supply and light control back box housing is located. The SK Box is mounted before the installation of the CHROMOPHARE Surgical Light.

#### Note:

This manual applies to the surgical lights (single and combination light, ceiling-mounted) F 528 and F 628 as well as SLX528 and SLX628.

Sections/paragraphs in which the surgical lights F 528 and/or F 628 are mentioned apply also to the SLX528 and/or SLX628.

Sections/paragraphs in which the surgical lights SLX528 and/or SLX628 are mentioned apply only to the SLX528 and/or SLX628.

### Note:

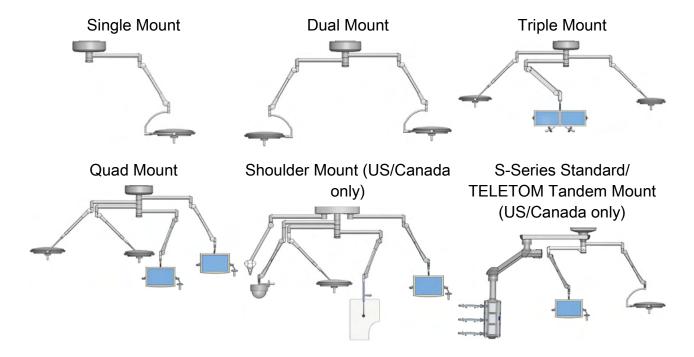
This Pre-Install Manual applies also for the E-Series surgical lights. However, in case an existing CHROMOPHARE system is to be relocated, please contact Stryker or your Stryker representative for weight and design specifications.

# Note:

Throughout this manual, metric and/or imperial values are stated. The parenthetical values are conversions from the original values. Conversions may be approximate where appropriate.

# 4.1 CHROMOPHARE Mount and Suspension Options

This section is provided for product option reference only.



# Intended Use

This CHROMOPHARE Pre-Install Manual is intended for use by technical professionals, installation and service personnel (e.g., architects, structural engineers, contractors, electricians, and pipe fitters) involved in the specification, design, and construction of the installation site.

The illustrations in this Pre-Install Manual are intended to provide a better understanding of the device; they are not necessarily drawn to scale and may deviate slightly from the actual model.

# Warning:

Danger if not used as intended. Dangerous situations can occur any time the device is used for purposes beyond or other than those intended. Therefore, use the device only as intended.

- Strictly adhere to all specifications in this Pre-Install Manual.
- Only personnel authorised and certified by Stryker may install, readjust, modify or repair the devices.
- Do not operate with damaged components.
- It is the hospital/contractor's responsibility to install pre-installation items safely
  using the appropriate personal protective equipment.
- The intended use and misuse of the appropriate Operating Manual which is delivered with each device must also be complied with.

Claims of any kind due to damage resulting from improper use are excluded. The operator is solely responsible for damages resulting from improper use.

# Site readiness: Owner's checklist

It is **CRITICAL** that all relevant items be completed before the scheduled installation date. Use the checklist below to make sure all requirements are met.

Note: If a return trip is required due to incomplete items, Stryker reserves the right to bill the hospital at the normal service rate.

# **Conduit and Wiring Checklist**

# Note:

Wherever conduit sizes are listed in inches, use the following metric sizes. These sizes are approximate.

- For 1" conduit, use 25 mm.
- For 1.25" conduit, use 32 mm.
- For 2" conduit, use 50 mm.

### Note:

See section *Appendix* [> 73] for sample room configurations of circuit and conduit layouts.

See section *Electrical Requirements* [> 47] for more details.

# 7.1 For each suspension with Surgical Lights (F 528, F 628)

### **SK Enclosure**

Stryker-supplied SK enclosure is installed and easily accessible
AC circuits available at SK enclosure for power to lights
DC supply wire from SK enclosure to mounting plate for power to lights
Two 1" conduits from SK enclosure to mounting plate (for Stryker use)
For wall control: One 1" conduit from SK enclosure to wall control box (for Stryker use)

# **Electronics on Tube**

AC circuits available at mounting plate for power to lights	
For wall control: One 1" conduit from mounting plate to wall control box (for Stryke use)	:r

# For multiple mounts in one room

One 1" conduit from one mounting plate to another mounting plate (for Stryker use)

# 7.2 For each suspension with Universal Display Mount (UDM) or ChromoView

# Universal Display Mount (UDM)

For AC power only: AC circuits available at mounting plate for power to monitor
For Stryker integration: Stryker-supplied UDM junction box is installed within 18" (450 mm) of mounting plate
For Stryker integration: One 1 ¼" conduit from UDM junction box to documentation station (for Stryker use)
For NEC cable separation (US only): One 1 ¼" conduit from mounting plate to documentation station (for Stryker use)

# ChromoView

For AC power only (outside of US/Canada only): AC circuits available at mounting plate for power to monitor
For Stryker integration: One 1 ¼" conduit from mounting plate to documentation station (for Stryker use) For dual flat panel (DFP): Use one 2" and one 1 1/4" conduit instead (for Stryker use)
For NEC cable separation <i>(US only)</i> : One 1 1/4" conduit from mounting plate to documentation station (for Stryker use)

# 7.3 For each suspension with StrykeCam HD Camera

Space for the converter box is available in the documentation station
For documentation station: One 1" conduit from mounting plate to converter box in documentation station (for Stryker use)
For device control: One 1" conduit from wall control to documentation station (for Stryker use)

# 7.4 For each suspension with Video Power Arm (VPA - US/Canada only)

AC circuits available as indicated at VPA outlet box for VPA power
For Stryker integration: One 1 ¼" conduit from mounting plate to documentation station (for Stryker use)

# 7.5 For each TC mounted suspension (on S-Series or Teletom – US/Canada only)

The following details are for CHROMOPHARE items only. See S-Series or Teletom product manuals for requirements.

# Surgical Lights (F 628, F 528)

Stryker-supplied SK enclosure is installed and easily accessible
AC circuits available at SK enclosure for power to lights
DC supply wire from SK enclosure to TC junction box for power to lights
When no other surgical lights in room: One 1" conduit from SK enclosure to wall control box (for Stryker use)
When other surgical lights in room: One 1" conduit from boom mounting plate to other CHROMOPHARE mounting plate (for Stryker use)

# Examination Light (F 300)

	AC circuits available at mini SK box for power to lights
1	To discuss a validation at their or box for power to lighte

# **Universal Display Mount (UDM)**

For AC power: AC circuits available at TC junction box for power to monitor
For Stryker integration: Stryker supplied UDM junction box is installed within 18" (450 mm) of mounting plate
For Stryker integration: One 1 ¼" conduit from mounting plate to documentation station (for Stryker use)
For NEC cable separation <i>(US only)</i> : One 1 1/4" conduit from mounting plate to documentation station (for Stryker use)

# ChromoView

For AC power ( <i>outside of US/Canada only</i> ): AC circuits available at TC junction box for power to monitor
For Stryker integration: One 1 ¼" conduit from mounting plate to documentation station (for Stryker use)
For NEC cable separation <i>(US only)</i> : One 1 1/4" conduit from mounting plate to documentation station (for Stryker use)

# 7.6 For upgrades of suspension with Universal Display Mount or ChromoView

# Universal Display Mount (UDM)

For Stryker integration: Stryker supplied UDM junction box is installed within 18" (450 mm) of mounting plate
For NEC cable separation <i>(US only)</i> : One 1 1/4" conduit from mounting plate to documentation station (for Stryker use)

# ChromoView

For NEC cable separation *(US only)*: One 1 1/4" conduit from mounting plate to documentation station (for Stryker use)

# Pre-Installation Responsibilities

# 8.1 Stryker's Responsibilities

Stryker is responsible for:

- Advising the hospital of a proposed time-frame for installation of Stryker-supplied infrastructure.
- Checking in with hospital personnel and/or contractor to announce arrival.
- Running and terminating all Stryker-supplied audio visual cables required for Stryker equipment.
- Inspecting all installed suspensions for quality assurance.

Stryker supplies the following components to the hospital/contractor for pre-installation:

- Equipment Configuration Drawings (including elevations, CAD, and room layouts), as applicable
- Mounting plate
- Mounting plate with concrete anchors (outside of US/Canada only)
- SK Enclosures
- Junction box (10x8x4" [254x203.2x101.6 mm]) for Universal Display Mount (rubber grommets for junction box are available upon request)
- Back box for recessed wall control
- Tube Combination (TC) junction box for TC mounted lights (US/Canada only)

Note: Stryker will not be responsible for the support structure design or the materials used. For technical questions, contact Stryker or your Stryker representative.

## 8.2 Hospital's Responsibilities

Review this manual in its entirety before proceeding with pre-installation construction. Hospital/contractor responsibilities are outlined and specified throughout the entire manual.

#### Caution:

The hospital/contractor has final responsibility for the strength and rigidity of the support structure.

An inadequate support structure will affect the ability of products to perform in the manner intended. An inadequate support structure design can also result in damage to the equipment.

Equipment warranty service charges related to an inadequate support structure design or installation are at the customer's expense.

#### Caution:

#### Disclaimer

If the integration cables are provided by the customer or by third parties contracted by the customer, Stryker does not assume any liability for the general and applicationspecific operability and operational suitability of said cables.

- ✓ Therefore:
- The customer is responsible for testing the cables for suitability of the respective application. This primarily applies to the unusual loads said cables are subjected to, particularly at pivot points.

#### Note:

The hospital is responsible for ensuring that the mounting surface of the ceiling anchor plate and the ceiling cover are flush. These surfaces must not have different heights so that the entire ceiling cover can be mounted flush with the ceiling. The ceiling cover is installed by personnel authorized and certified by Stryker.

The owner must design, supply, and install all components above the finished ceiling. These components include the supporting support structure, high-voltage/ low-voltage/ data/video conduits.

To function safely and effectively, the CHROMOPHARE products must be installed on a strong and rigid ceiling support. It requires a significant support structure above the ceiling. An installed unit must support large weights and moments and must meet stringent rotational criteria. Stryker strongly recommends that the owner consult a structural engineer before designing and installing the support structure.

The owner or the owner's consulting structural engineer must verify the following to ensure a safe and satisfactory installation:

- The building structure must be capable of supporting the loads involved, see section Weight and Design Specifications [ • 27].
- The building structure must be capable of supporting any additional loading (e.g., earthquakes) required by local building codes.
- All electrical designs and installations must meet appropriate code requirements.

#### 8.2.1 Support Structure Design and Construction

While in service, even the slightest deviation of the CHROMOPHARE mounting plate and support structure, out of the required horizontal plane, can cause the CHROMOPHARE to drift. To prevent this, the mounting plate must be properly installed in a horizontal plane (± 0.1 degree), with the studs pointing down. The support structure must also be rigid enough to prevent the mounting plate from rotating more than 0.1 degree when the specified design load is applied.

Factors such as building structure (e.g., concrete, steel, brick, etc.), the amount of space available above the finished ceiling, obstructions within the ceiling cavity, owner restrictions (e.g., welding within the ceiling cavity), economics, and contractor preferences may require different approaches to the design and installation of CHROMOPHARE support structures.

See section *Structural Requirements [> 26]* for details.

## 8.2.2 Wiring/Electrical Requirements

The hospital/contractor must install the power lines between the main supply and the CHROMOPHARE Surgical Light. Refer to the Equipment Configuration Drawings (provided by Stryker) for the type and quantity of circuits required.

Note: Wiring must be installed and power must be able to be turned on prior to installation of the CHROMOPHARE Surgical Light.

After the installation of the CHROMOPHARE Surgical Light is complete, the hospital/contractor must make all final AC and DC connections (live, neutral, protective earth) to the equipment. Electrical work is to be performed only by skilled electricians. See section *Electrical Requirements [> 47]* for details.

#### 8.2.3 Testing

The hospital/contractor must test and certify all system components before installation of the CHROMOPHARE is scheduled. Testing and certification must include support structure and electrical wiring.

#### 8.2.4 Transport, Packaging, Handling and Storage

#### Note:

Only personnel authorized and certified by Stryker may install and perform the initial start-up of the product.

However, users, hospital staff or maintenance personnel from the responsible organization may be required to handle packages before or during installation and thereafter. The following instructions must be followed when performing such tasks.

Refer to section *Transport and storage conditions* [> 70] for conditions that must be observed during transport and storage.

#### See also

#### 8.2.4.1 Safety instructions

#### Warning:

Injury to personnel or material damage due to improper unloading, loading and transport! Improper unloading, loading and transport as well as unloading, loading and transport by untrained personnel can result in components falling or toppling over. This can cause injury to personnel or damage to the property.

- ✓ Therefore:
- The unloading and loading of packages during delivery and transport should be performed by trained personnel only.
- Exercise due care when unloading and loading of packages during delivery and transport and be sure to comply with the symbols and instructions on the packaging.
- Use proper lifting equipment and procedures. Loaded shipping pallets are heavy and can cause injury to people or damage to equipment if not handled properly.
- Lift equipment only from designated points to prevent tipping and damage to property.
- Packaging should only be removed by personnel authorized and certified by Stryker.

## Warning:

Stryker ships CHROMOPHARE Surgical Lighting components via LTL truck or moving van in specially constructed reinforced packaging. The equipment and its packaging require a pallet jack for safe transportation. Pallet jack to be made available upon arrival. Handle and store the equipment properly to avoid injury to personnel or damage to the components.

#### Note:

Boxes are to be opened only by Stryker personnel, and are labeled as such. Any missing components resulting from unauthorized entry into the boxes are the responsibility of the owner and will be invoiced with a change order.

#### 8.2.4.2 Symbols on the packaging

See section *Product symbol definition* [> 7].

#### 8.2.4.3 Transport inspection

Check the delivery immediately for completeness and any damage during transport.

For obvious transport damage, do the following:

- Do not accept the delivery, or accept it only conditionally.
- Note the extent of the damage on the shipping documents or on the transporter's delivery note.
- File a complaint.

#### Note:

Report every defect as soon as it is found. Claims for damages may be submitted only within the applicable claim period.

- To limit transport damage as far as possible, the original packaging should be used when returning a product to Stryker or your Stryker representative. Provide the following information: Owner's name and address, serial number (see model plate), a description of the defect.
- For any queries, please contact Stryker or your Stryker representative.

#### 8.2.4.4 Packaging

#### Packaging notes

Packaging is commensurate with expected transport conditions. Only environmentally safe materials were used for packaging.

The packaging is intended to protect individual components from transport damage, corrosion and other damage until installation is complete. Therefore, do not destroy the packaging and remove it only immediately prior to installation.

#### Working with packaging materials

Dispose of packaging materials in accordance with legal regulations and local ordinances.

#### Caution:

#### Incorrect disposal presents an environment hazard

Packaging is made of valuable raw materials. In many cases, additional uses for the materials are possible, or they can be appropriately recycled for further use.

- ✓ Therefore:
- Dispose of packaging in an environmentally safe manner.
- Follow local disposal ordinances. If necessary, hire a professional disposal service.

#### 8.2.4.5 Transport

#### Transporting pallets with a forklift truck

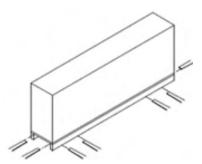


Figure 1. Transport

Boxes on pallets can be moved using a forklift provided that:

- The construction of the forklift truck must be appropriate to the weight of the units for transport.
- The item must be firmly secured to the pallet.
- The driver must be authorized to drive the forklift truck.

## Loading onto the forklift:

- 1. Drive the forklift truck forward, positioning the forks between or beneath the pallet rails.
- 2. Drive forward until the forks protrude from the opposite side.
- 3. If the centre of gravity is off-centre, make sure the pallet cannot tip over.
- 4. Lift the pallet and begin transporting.

# 8.2.4.6 Pre-Installation Components

Upon request, Stryker ships the applicable, pre-installation items listed in Section *Stryker's Responsibilities [> 19]*, in advance of the other CHROMOPHARE Surgical Lighting components. All pre-installation components should be delivered to the hospital/contractor upon receipt.

9

# Structural Requirements

This section provides information required to design the support structure for the CHROMOPHARE Surgical Lights.

Responsibility for proper design of support structure lies entirely with the hospital/contractor and is not covered through warranty by Stryker.

The illustrations in this section are suggestions for the support structure design, but design and materials used are at the discretion of the structural engineer based upon specific site requirements.

The support structure, electrical conduits, junctions boxes, video, data, and other services are to be installed by the hospital or contractor and are not contained within the scope of work for Stryker. Stryker assumes all work has been performed in accordance with all applicable engineering and electrical building codes.

For questions regarding pre-installation requirements for any CHROMOPHARE product, contact Stryker or your Stryker representative.

#### Note:

Prior to the assembly of the CHROMOPHARE system, qualified certification of the fulfilment of the structural requirements must be carried out.

# 9.1 Support Structure Design Loads

The weights and moments are transferred to the supporting ceiling via the ceiling mount. An installed unit must support large weights and moments and must meet stringent rotational criteria. To function safely and effectively, the CHROMOPHARE system must be installed on a strong and rigid ceiling support. It requires a significant support structure above the ceiling.

The structural engineer must provide proof of stability for each particular case. When determining the necessary static load capacity of the ceiling, it may be necessary to take additional loads on the ceiling into account, as well as the required safety factor. The transfer of forces to the ceiling must be secured. The load capacity of the ceiling must be confirmed by a structural engineer.

Weights and moments must never be exceeded. Adhere to the applicable regional building regulations. The anchorage types described in section *Appendix [> 73]* refer to reinforced concrete ceilings of an appropriate and professional standard according to DIN 1045. For other types of ceiling, safe and viable ceiling anchoring must be planned on site.

# Warning:

Responsibility for proper design of the support structure lies entirely with the hospital/contractor and is not covered through warranty by Stryker. An improperly designed support structure may result in poor performance or damage to equipment and possible injury to the user.

Incorrect drilling (e.g., drilling into a reinforcement bar) may compromise the load capacity and load distribution in buildings. This can lead to the collapse of building parts and cause severe personal injury.

Service charges related to inadequate support structure design are at the customer's expense.

Stryker will not review or approve customer support structures. This is the responsibility of the customer's architect and designated structural engineer. Any visit by Stryker personnel to view the support structure is only to compare its position to ceiling plans.

#### It is the hospital/contractor's responsibility to:

Make sure that Stryker equipment and infrastructure is not impeded by the design of the support structure.

Design and install the support structure to:

- Support weight and moment loads as required, see section Weight and Design Specifications [> 27] for specific details.
- Satisfy all applicable regulations including, but not limited to, building and electrical codes.

In case of incorrect drilling, immediately consult the structural engineer responsible.

Install Stryker-supplied mounting plate at the bottom of each support structure as specified in section *Weight and Design Specifications* [> 27]. THIS MUST BE INSTALLED PRIOR TO STRYKER ARRIVING ON-SITE FOR INSTALLATION.

Install a 24" x 24" (609.6 x 609.6 mm) access panel directly adjacent to each mounting point for installation, maintenance, and future service.

# 9.2 Weight and Design Specifications

### Weights and Moments

The support structure must be designed to the weights and moments shown in the table below. Designing for the heaviest model with the highest rotational moment will provide adequate support for the heaviest model. Weights, moments and center of gravities for specific configurations are available upon request.

The installed weights and moments shown below include the CHROMOPHARE components and payload.

Mounting Plate Recommended Design Specifications						
	Maximum Weight kg/lb					
Single Common	498/1,100	7,660/5,650				
Tandem Common	997/2,200	15,320/11,300				
Universal	250/555	2,700/1,992				
Shoulder	250/555	2,700/1,992				
Standard	250/555	2,700/1,992				

When required, detailed system weights can be provided. It is recommended to design and construct structural supports to meet the design specifications above.

While in service, even the slightest deviation of the CHROMOPHARE mounting plate, out of the required horizontal plane, can cause the CHROMOPHARE to drift.

To prevent this, the mounting plate must be properly installed in a horizontal plane (± 0.1 degree), with the studs pointing down. The support structure must also be rigid enough to prevent the mounting plate from rotating more than 0.1 degree when the specified design load is applied.

Note: If designing a CHROMOPHARE system to be tandem mounted with a boom (US/ Canada only), check appropriate manual to determine mounting plate/structural requirements.

#### Note:

This Pre-Install Manual applies also for the E-Series surgical lights. However, in case an existing CHROMOPHARE system is to be relocated, please contact Stryker or your Stryker representative for weight and design specifications.

# 9.3 Mounting Scenarios

The Stryker-supplied mounting plate is the approved surface for mounting the CHROMOPHARE system. It is the responsibility of the hospital/contractor to install the plate, as it is a considered part of the structure. The mounting plate MUST be installed by the hospital/contractor prior to the installation start date.

It is the responsibility of the structural engineer to design and specify materials for proper construction of the support structure. These diagrams are intended to demonstrate the relative location of the mounting plate to the finished ceiling. Orientation of the mounting plate other than that shown in the diagram could cause delays in installation or require modification to the support structure.

Note: Contact Stryker personnel for information on which mounting plate is applicable to a specific project.

# 

Danger from collapsing building parts if installation is not properly carried out

Improper installation of the CHROMOPHARE system may result in it working loose from the ceiling mount and falling. This can cause life-threatening injuries for the patient and surgical staff.

- Therefore:
- Strictly adhere to all specifications in this Pre-Install manual.
- Make sure that structural requirements are fulfilled.

#### Note:

The hospital is responsible for ensuring that the mounting surface of the ceiling anchor plate and the ceiling cover are flush. These surfaces must not have different heights so that the entire ceiling cover can be mounted flush with the ceiling. The ceiling cover is installed by personnel authorized and certified by Stryker.

#### 9.3.1 Single Common Plate

#### 9.3.1.1 Mounting Plate Dimensions

Note: Indicated holes are used for mounting Stryker equipment to the mounting plate and may not be used or obstructed while mounting the plate to the support structure.

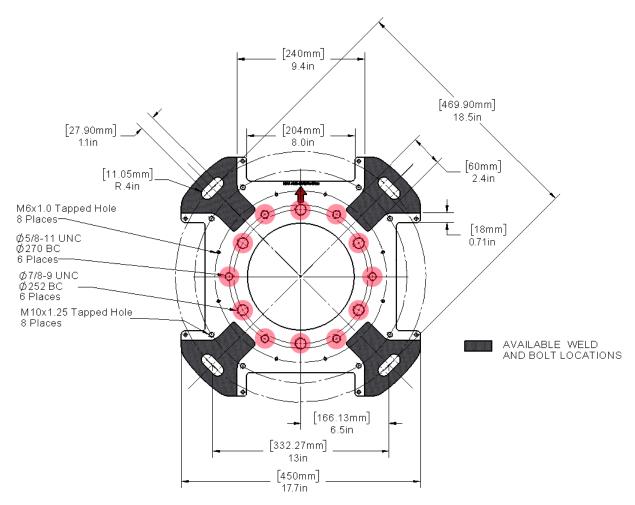


Figure 2. Single Common Plate P29282

#### **Notes**

Available weld and bolt locations: marked dark gray

UNC: Unified National Coarse

B.C.: Bolt Hole Center

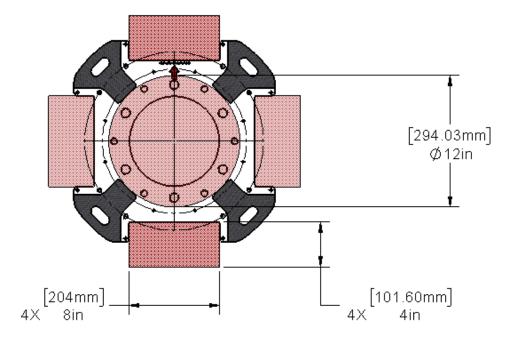
#### 9.3.1.2 No-Fly Zone

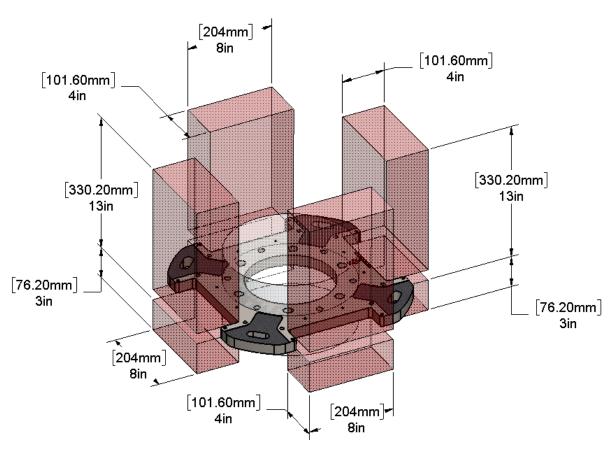
# Caution:

The hospital and/or contractor must make sure that structural/utility components do not interfere with ANY part of the CHROMOPHARE System

The following areas must be left clear for Stryker to be able to properly install the complete CHROMOPHARE System:

- 12" (304.8 mm) above the CHROMOPHARE System components within the interstitial space
- 0.5" (12.7 mm) around the outside of the CHROMOPHARE System ceiling cover boundary.
- The only items that can be within the no fly zone are the support structure elements above the designed mounting areas outlined in the Single and Common Tandem Plate sections. The risers will also be mounted in this zone.

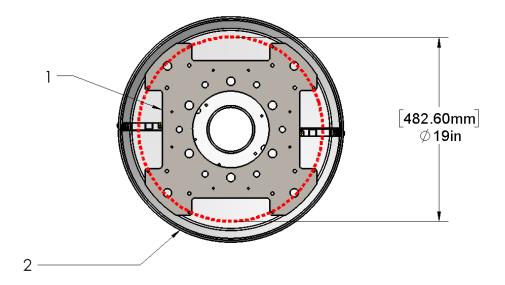




Consideration should be given for structural/utility components that can interfere with the system installation, such as:

- Lighting fixtures
- Heating, ventilation, and air conditioning
- Sprinkler system heads
- Mechanical systems
- Speakers
- Fire/smoke detector systems
- Structural beams

# 9.3.1.3 Ceiling Cover/Cutout (Top View)



1	Single common plate	2	Ceiling cover boundary Ø 590 mm (23.23")
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## Note:

If the single common plate is being installed in existing ceiling, the ceiling cutout will need to be 539 mm (21.23") in diameter to fit the plate.

# 9.3.1.4 Installation (Front View)

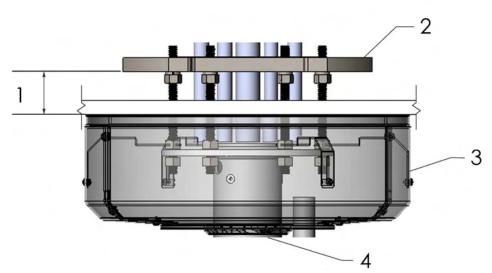


Figure 3. Single Common Plate

1	Raised from finished ceiling 3" (76.2 mm)	3	Cover
2	Single common plate	4	CHROMOPHARE product

#### 9.3.2 CHROMOPHARE Standard Plate

#### 9.3.2.1 Mounting Plate Dimensions

The plate can be ordered and installed with or without the conduit tab, which is shown here.

Note: Indicated holes are used for mounting Stryker equipment to the mounting plate and may not be used or obstructed while mounting the plate to the support structure.

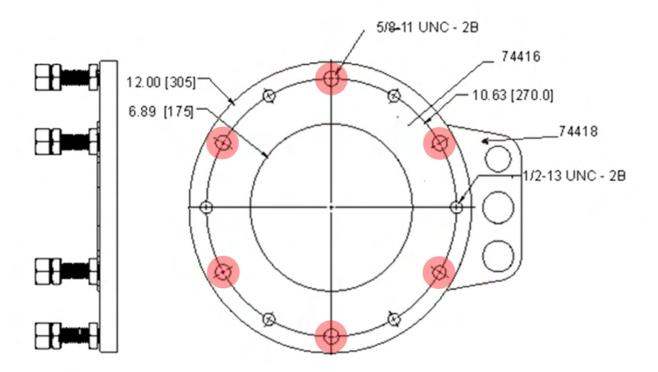
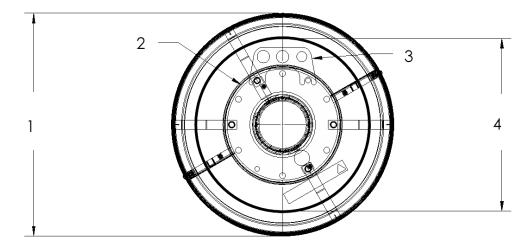


Figure 4. CHROMOPHARE Standard Mount Plate CB 5108675

#### **Notes**

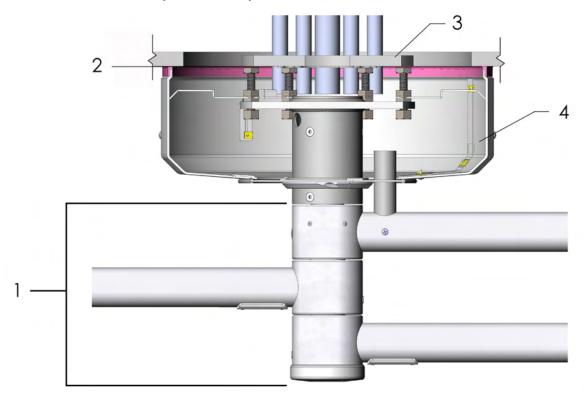
- Material: A36 Steel Plate
- Dimensions are in inches [mm]
- UNC-2B: Unified National Coarse, Class 2B
- B.C.: Bolt Hole Center
- 5/8-11 UNC and ½-13 UNC are equally spaced apart on a 10.63 BC

# 9.3.2.2 Ceiling Cover/Cutout (Top View)



1	Ceiling cover boundary 23in (590 mm)	3	Conduit tab
2	Single standard plate	4	Ceiling cutout Ø 18in (457.2 mm)

# 9.3.2.3 Installation (Front View)



1	CHROMOPHARE product	3	Single standard plate
2	Flush with finished ceiling	4	Cover

## 9.3.3 Tandem Common Plate (US/Canada only)

# Caution:

Ensure that the tandem structure is mounted in the proper orientation by referring to the Equipment Configuration Drawings specifically related to the project.

#### 9.3.3.1 Mounting Plate Dimensions

Note: Indicated holes are used for mounting Stryker equipment to the mounting plate and may not be used or obstructed while mounting the plate to the support structure.

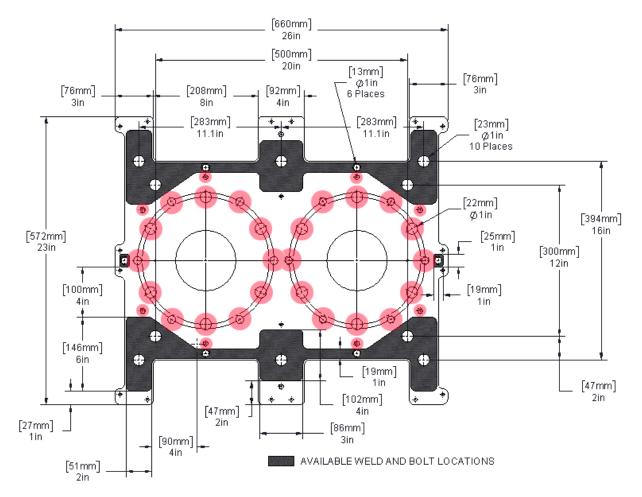


Figure 5. Tandem Common Plate P29280

#### **Notes**

Available weld and bolt locations: marked dark gray

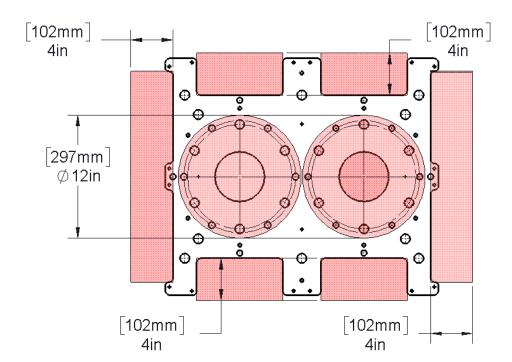
#### 9.3.3.2 No-Fly Zone

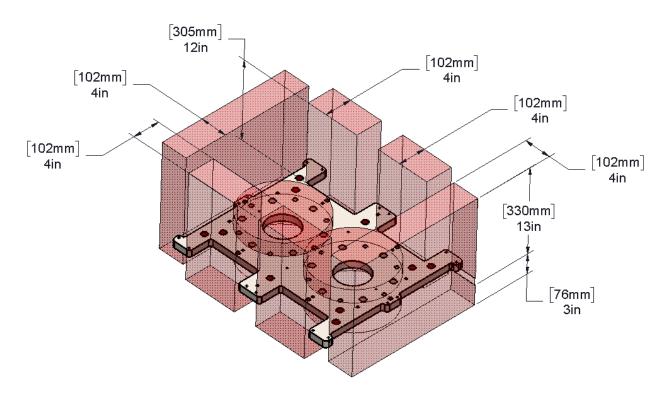
## Caution:

The hospital and/or contractor must make sure that structural/utility components do not interfere with ANY part of the CHROMOPHARE System

The following areas must be left clear for Stryker to be able to properly install the complete CHROMOPHARE System:

- 12" (304.8 mm) above the CHROMOPHARE System components within the interstitial space
- 0.5" (12.7 mm) around the outside of the CHROMOPHARE System ceiling cover boundary.
- The only items that can be within the no fly zone are the support structure elements above the designed mounting areas outlined in the Single and Common Tandem Plate sections. The risers will also be mounted in this zone.

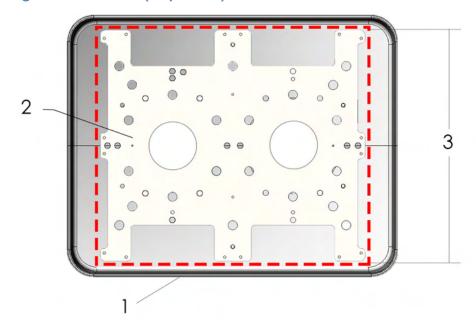




Consideration should be given for structural/utility components that can interfere with the system installation, such as:

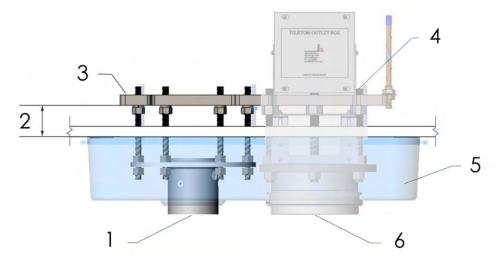
- Lighting fixtures
- Heating, ventilation, and air conditioning
- Sprinkler system heads
- Mechanical systems
- Speakers
- Fire/smoke detector systems
- Structural beams

# 9.3.3.3 Ceiling Cover/Cutout (Top View)



1	Ceiling cover boundary 25x32" rectangle (635x813 mm)	3	Ceiling cutout 23x27" (584x686 mm)
2	Common plate		

# 9.3.3.4 Installation (Front View)



1	CHROMOPHARE product	4	7/8" threaded rod
2	Raised from finished ceiling 3" (76.2 mm)	5	Cover
3	Common plate	6	S-Series standard or Teletom product

# 9.3.4 Shoulder Mount Plate (US/Canada only)

# 9.3.4.1 Mounting Plate Dimensions

Note: Indicated holes are used for mounting Stryker equipment to the mounting plate and may not be used or obstructed while mounting the plate to the support structure.

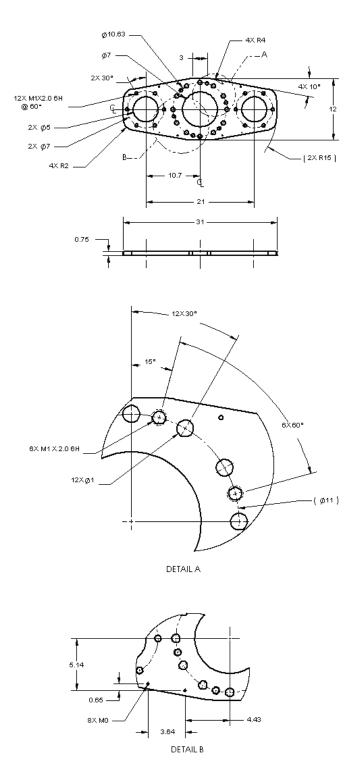


Figure 6. Dimensions are in inches

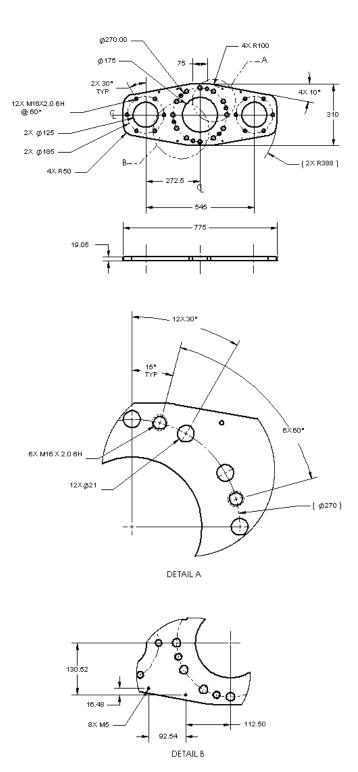
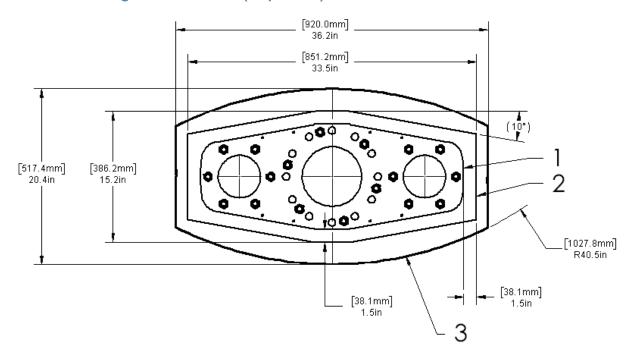


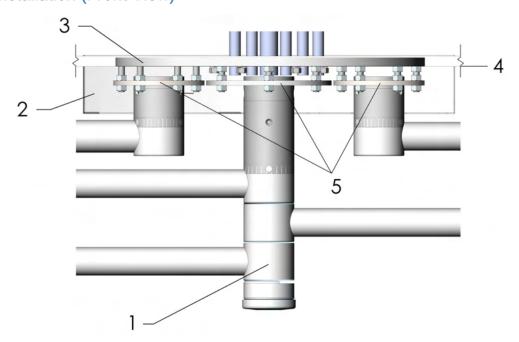
Figure 7. Dimensions are in mm

# 9.3.4.2 Ceiling Cover/Cutout (Top View)



1	Mounting plate	3	Ceiling cover
2	Ceiling cutout		

# 9.3.4.3 Installation (Front View)



1	CHROMOPHARE product	4	Flush with finished ceiling
2	Cover	5	Flange
3	Shoulder plate		

#### 9.3.5 Universal Adapter Plate

#### 9.3.5.1 Mounting Plate Dimensions

Note: Indicated holes are used for mounting Stryker equipment to the mounting plate and may not be used or obstructed while mounting the plate to the support structure.

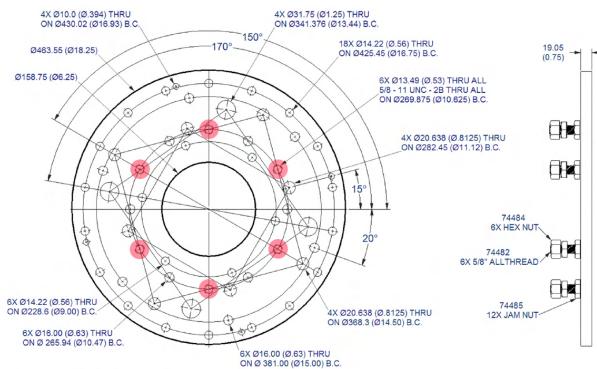
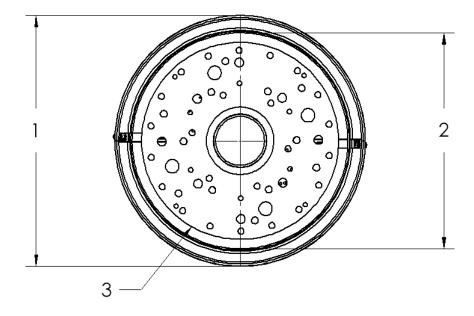


Figure 8. CHROMOPHARE Universal Adapter Plate CB 5109175

#### **Notes**

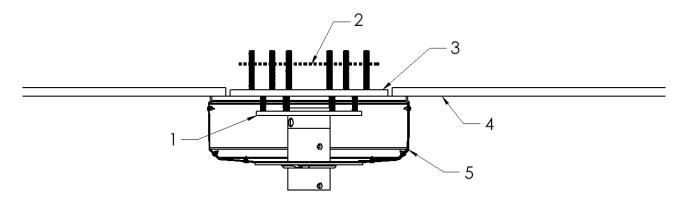
- Material: A36 Steel Plate
- Dimensions are in mm (inches)
- UNC-2B: Unified National Coarse, Class 2B
- B.C.: Bolt Hole Center
- All holes are equally spaced in their respective bolt circles
- All mounting plates shipped with (6) 5/8-11 UNC studs and leveling nuts

# 9.3.5.2 Ceiling Cover/Cutout (Top View)



1	Ceiling cover 23 in. (590 mm)	3	Universal plate
2	Ceiling cutout Ø 20 in. (508 mm)		

# 9.3.5.3 Installation (Front View)

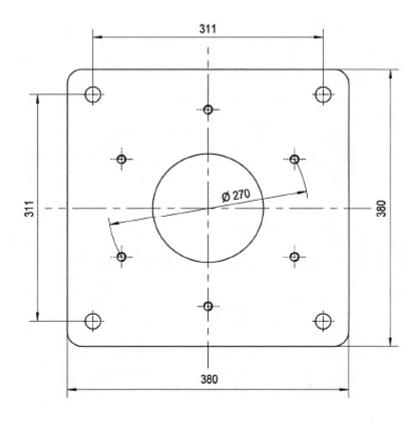


1	Product flange	4	Finished ceiling
2	Existing structure	5	Ceiling cover
3	Universal plate flush with finished ceiling		

# 9.3.6 Ceiling anchor plate (outside of US/Canada only)

Note: These mounting plates are not approved for use in seismic regions.

Ceiling anchor plate Item No. CB 5105304 Reinforcement plate Item No. CB 5105504



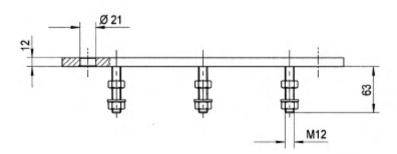


Figure 9. Dimension sheet for ceiling anchor plate CB 5105304 (dimensions are in mm)

# 10

# **Electrical Requirements**

The hospital's electrical contractor must provide and install supply wiring from the panels to the CHROMOPHARE System in code-compliant conduit. The following sections include requirements per equipment to be used as a reference. If CAD drawings for the project are provided, refer to the specific conduit schedule indicated.

Low-voltage and video cables will be run from points designated by the hospital/contractor or third party integration company to designated outlets to the suspension for monitor. Use as required.

The hospital/contractor is responsible for making sure that all installed electrical, low voltage/data, and video components comply with applicable electrical codes and that all wiring and conduit runs described for the specific installation are complete before product installation.

For installations in the US, cables may need to be separated per NEC requirements. For installations outside of the US, installers should check with their local Stryker project team to follow country/region specific standard codes.

Electrical work is to be performed only by skilled electricians.

For technical questions, contact Stryker or your Stryker representative.

See section *Connecting the electricity* [> 57] for information on how to connect the electricity following installation.

#### Note:

Wherever conduit sizes are listed in inches, use the following metric sizes. These sizes are approximate.

- For 1" conduit, use 25 mm.
- For 1.25" conduit, use 32 mm.
- For 2" conduit, use 50 mm.

# 10.1 Testing and Certifications

The hospital/contractor must test and certify all system components before installation of the CHROMOPHARE products will be scheduled.

This testing and certification must include the following items:

Electrical testing to meet local codes

Note: The hospital/contractor is responsible to ensure that the electrical components and installation complies with all applicable electrical codes. All wiring and conduit runs described for the type of installation involved must be completed before the product can be installed.

For questions regarding the electrical requirements for the pre-installation of any CHROMOPHARE Surgical Light, contact Stryker or your Stryker representative.

#### 10.2 Electrical, Wiring, Conduit Requirements

Note: The room layout drawings in this section provide conduit requirements for the CHROMOPHARE Surgical Light. All illustrations are representative of Stryker products, but are provided for reference only.

It is not recommended to power all lights in a room on a single AC circuit.

It is not recommended to power lights on the same AC circuit as a flat panel.

Note: Local codes apply to the selection of conduit, wire sizes and type, terminal boxes, and other electrical equipment.

Note: High voltage AC power supplied to the system by electrical mains will vary based on region. For the US/Canada, 120 VAC and 50/60 Hz is used. Outside of the US and Canada, refer to regional requirements or work with your Stryker project team to confirm supply voltage and frequency.

Note: For plenum rated cables, conduit may not be required.

#### 10.2.1 Power Requirements

#### Power

For each suspension with **lights**, one of the following electronics systems will be present:

#### SK Enclosure

- The CHROMOPHARE Surgical Light's power supply and controls are housed within an SK Enclosure mounted separately from the CHROMOPHARE light suspension. This is the preferred, low-profile mounting style in most locations.
- The SK Enclosure must have a maximum length of 45 ft (15 m) of conduit run to both the mounting plate and *wall control box (if present)*.
- The SK Enclosure must be easily accessible. It can be installed into a wall or in the interstitial space with an access panel.
- The SK Enclosure will be provided as a Pre-Install item and must be installed prior to Stryker's arrival for installation.
- To power the system, AC power runs from a mains source to the SK Enclosure.
   Control signals and DC power are routed through wires from the SK Enclosure to a terminal strip on the light suspension plate.
- Conduit and Circuits required:

- One 1" conduit from SK Enclosure to Mounting Plate (for Stryker use)
- One 1" conduit from SK Enclosure to Wall Control Box (for Stryker use)
- AC circuit(s) available at SK Enclosure for power to lights
- DC supply wire from SK enclosure to mounting plate for power to lights

#### AC Requirements:

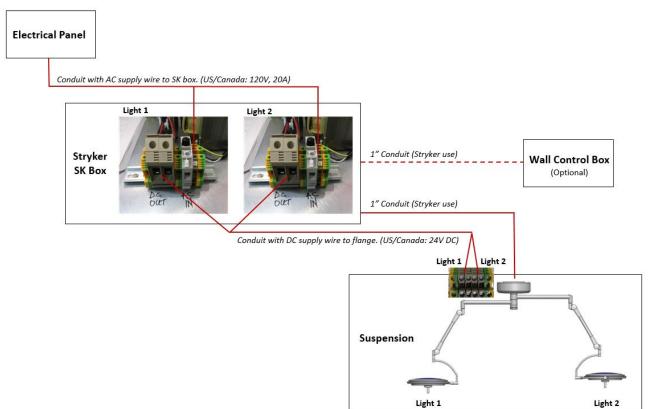
From Electrical Panel to SK Enclosure:

- Main AC supply should be 120 VAC and 50/60 Hz. Outside of the US and Canada, refer to regional requirements or work with your Stryker project team to confirm supply voltage and frequency.
- Wiring should be 3 wire, 16 AWG to 12 AWG (1.5 mm² to 4 mm²), and 600 V, terminated to the fused terminal block inside the SK Enclosure.
- Each light head draws 2 Amps at 120 VAC (or 220 VAC outside US).

#### • DC Requirements:

From SK Enclosure to Suspension:

- Wiring should be 12 AWG (4 mm²), 600 V.
- Wires should consist of 1 pair per light head and 1 ground wire per suspension (outside US – 1 ground wire per light head).
- Wires terminate at the non-fused terminal block inside the SK Enclosure.
- Wiring should be run through flexible conduit exiting the ceiling at the mounting ring and falling a minimum of 18" (450 mm) below the ceiling.

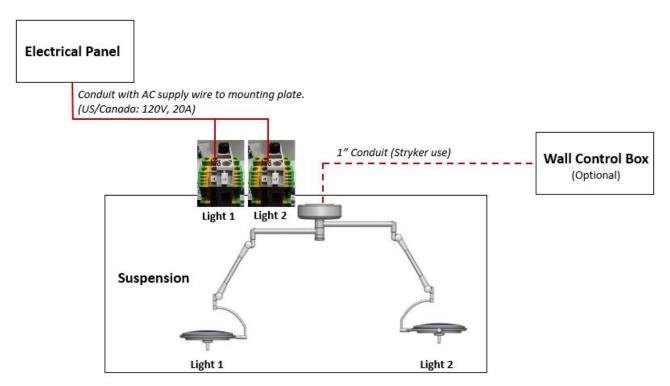


The terminal blocks shown here are used in the US/Canada only. For a photo of the blocks used outside of US/Canada, see section Connecting the electricity (outside of US/Canada only) [> 88].

Note: The 120 V, 20A AC input as shown here is used in the US/Canada only. Refer to regional requirements or work with your Stryker project team to determine correct supply voltage outside of the US/Canada.

#### **Electronics on Tube**

- The CHROMOPHARE Surgical Light's power supply and controls can be housed on the flange of the suspension when specified at the time of order.
- To power the system, AC power runs from a mains source directly to the CHROMOPHARE light ceiling mounting plate.
- Conduit and Circuits required:
  - One 1" conduit from Mounting Plate to Wall Control Box (for Stryker use)
  - AC circuit(s) available at Mounting Plate for power to lights
- AC Requirements:
  - AC power is delivered from a mains source directly to the CHROMOPHARE Surgical Light's ceiling mounting plate.
  - Wiring should be 3-wire, 16 AWG to 12 AWG (1.5 mm² to 4 mm²) and 600 V.
  - Each light head draws 2 Amps at 120 VAC
  - Wiring for lights should be run through flexible conduit exiting the ceiling at the mounting ring and falling a minimum of 18" (450 mm) below the ceiling.
  - CHROMOPHARE lights require a high voltage AC supply. Stryker recommends a separate high voltage AC supply for each mounting ring.



The terminal blocks shown here are used in the US/Canada only. For a photo of the blocks used outside of US/Canada, see section Connecting the electricity (outside of US/Canada only) [> 88].

Note: The 120 V, 20A AC input as shown here is used in the US/Canada only. Refer to regional requirements or work with your Stryker project team to determine correct supply voltage outside of the US/Canada.

#### 10.2.2 Additional Suspensions in the Same Room

When multiple suspension mounts are present in a single room, there must be an empty conduit run between the mounting plates. This will be used by Stryker for communication and/or a StrykeCam HD cable.

- Conduit and Circuits required:
  - One 1" conduit from one Mounting Plate to the next Mounting Plate, etc. (for Stryker use)

#### 10.2.3 Wall Control

#### Surface mounted wall control:

- Contractor-supplied 4x4" junction box
- Bottom of junction box approximately 53" (1.35 m) above floor
- Front of junction box flush with the wall
- Wall control mounts directly over junction box

#### Recessed wall control:

- Stryker-supplied back box for rough-in receives conduit
- Bottom of junction box approximately 53" (1.35 m) above floor
- Front of back box flush with the wall

#### Conduit and Circuits required:

- SK Enclosure:
  - One 1" conduit from SK Enclosure to Wall Control Box (for Stryker use)
- Electronics on Tube:
  - One 1" conduit from Mounting Plate to Wall Control Box (for Stryker use)

#### 10.2.4 Flat Panels

The monitor mount solutions used with CHROMOPHARE are the Universal Display Mount (UDM) and ChromoView.

#### **Universal Display Mount (UDM)**

- US/Canada only:
  - For UDM upgrades on existing suspensions, DC power should be used to power the monitor
  - For new suspensions purchased with UDM, AC power or DC power can be used to power the monitor. Please contact your Stryker project team with any questions.
- Outside of US/Canada only:
  - AC power or DC power can be used to power the monitor. Please contact your Stryker project team with any questions.
- AC power
  - The hospital/contractor is responsible for connecting the AC power cable and ground cable from the suspension to the terminal block on the suspension ring.
  - To power the system, AC power runs from a mains source directly to the CHROMOPHARE light ceiling mounting plate.
  - Wiring should be run through flexible conduit exiting the ceiling at the mounting ring and falling a minimum of 18" (450 mm) below the ceiling.
- When Stryker integration is used, a Stryker-supplied UDM junction box will be provided with Pre-Install items.

- This must be mounted within 18" (450 mm) of the center of the mounting plate per national and local building codes, prior to Stryker's arrival to the hospital for equipment installation.
- Conduit and Circuits Required:
  - When AC power is used: AC circuit available at Mounting Plate for power to monitor
  - Conduit for video/low voltage cables:
    - For Stryker integration: minimum 1.25" conduit from UDM Junction Box to Documentation Station
    - For non-Stryker integration: conduit from Mounting Plate to Documentation Station
    - For NEC cable separation (US only): One 1 1/4" conduit from mounting plate to documentation station (for Stryker use)

#### Note:

For UDM mounted in a tandem configuration, refer to section *TC Mount (US/Canada only)* [> 56].

#### ChromoView (Single and Dual Monitor Mounts)

- US/Canada only:
  - DC power should be used to power the monitor.
- Outside of US/Canada only:
  - AC power can be used to power the monitor.
  - To power the system, AC power runs from a mains source directly to the CHROMOPHARE light ceiling mounting plate.
- Wiring should be run through flexible conduit exiting the ceiling at the mounting ring and falling a minimum of 18" (450 mm) below the ceiling. Conduit and circuits required:
  - When AC power is used (outside of US/Canada only): AC circuit(s) available at Mounting Plate for power to monitor(s)
  - Conduit from Mounting Plate to Documentation Station for video/low voltage cables
    - Minimum 1.25" conduit required for Stryker integration for a single monitor mount
    - Minimum 2" conduit required for Stryker integration for a dual monitor mount
    - For NEC cable separation (US only): One 1 1/4" conduit from mounting plate to documentation station (for Stryker use)

#### 10.2.5 StrykeCam

The StrykeCam has a converter box that can be mounted in the documentation station. Only one camera system may be installed in a room.



Figure 10. Front View Converter Box (dimensions are in inches [mm])

#### The Converter Box must be located within:

- 48" (1.2 m) of a grounded, uninterrupted power outlet 100V to 240V, 0.6A circuit
- 48" (1.2 m) of s-video cable from the Light Suspension
- 120" (3.05 m) to the DVI endpoint

#### For documentation station:

 Verify that space is available within the documentation station (approximately 2.2 H x 8.7 W x 14.7" L [55.88 H x 220.98 W x 373.38 mm L]). Additional clearance along the length will be needed if using optical extenders

#### Conduit required:

- Documentation station:
  - One 1" conduit from Mounting Plate to Converter Box in the documentation station (for Stryker use)
- If Device Control is used with StrykeCam HD: One 1" conduit from Wall Control to Documentation Station. The maximum distance allowed from end to end between these locations is 30 ft (9.14 m).

# 10.2.6 Video/Power Arm (VPA, US/Canada only)

A Video Power Arm (VPA) may be configured on a suspension in the US and Canada.

#### **VPA AC Requirements:**

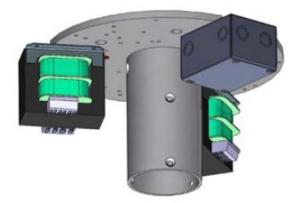
An additional AC power line is required to be pulled from Electrical Panel to the Mounting Plate for VPA.

Wiring should be 3 wire, min.12 AWG (4 mm² minimum), 600 V.

- CHROMOPHARE VPA requires 120 VAC, 50/60 Hz supply.
- The CHROMOPHARE VPA has provisions for up to 2 separate 120 VAC supply circuits for each VPA unit.
- Wiring for the VPA circuits should be run through code compliant flexible conduit terminating in the VPA outlet box for field connection.
- Each VPA circuit should be rated for 20 Amps at 115 VAC unless otherwise noted.

#### The Stryker-provided VPA outlet box:

- Hospital/contractor responsible for mounting following CHROMOPHARE installation.
- Must be mounted on or near the mounting plate, as shown in the example below



- Must be easily accessible via an access panel through the ceiling and close to the mounting location.
- Weighs approximately 5 lb (2 kg) and is 5.9 x 3.9 x 1.7" (150 x 100 x 42 mm)

#### Conduit and Circuits Required:

- AC circuits available as indicated at VPA outlet box for VPA power
- When used on VPA: Conduit from Mounting Plate to Documentation Station for video/low voltage cables (minimum 1.25" for Stryker integration)

# 10.2.7 TC Mount (US/Canada only)

Certain CHROMOPHARE configurations can be mounted on an S-Series or Teletom boom.

# Surgical Lights (F 528, F 628)

- To power the surgical lights, AC power runs from a mains source to the SK Enclosure. Control signals and DC power are routed from the SK Enclosure to the TC junction box, which comes as a part of the CHROMOPHARE system.
- The TC junction box should be mounted to the support structure within 3 ft (914.4 mm).

# Conduit and Circuits Required:

- Two 1" conduits from SK Enclosure to TC junction box (for Stryker use).
- One 1" conduit from SK Enclosure to Wall Control box (for Stryker use).
- AC circuit(s) available at SK Enclosure for power to lights.

# Exam Lights (F 300)

- To power the exam lights, AC power runs from a mains source to mini SK box, which comes as a part of the CHROMOPHARE system.
- The mini SK box should be mounted to the support structure within 3 ft (914.4 mm).

#### Conduit and Circuits Required:

AC circuit(s) available at Mini SK Box for power to exam lights.

### **Universal Display Mount (UDM)**

- The TC mounted UDM monitor can be provided AC or DC power:
  - To provide AC power to the monitor, AC power runs from a mains source to the TC junction box, which comes as a part of the CHROMOPHARE system.
  - The TC junction box should be mounted to the support structure within 3 ft (914.4 mm).

#### Conduit and Circuits Required:

- When AC power is used: AC circuit available at TC junction box for power to monitor.
- Conduit from Mounting Plate to Documentation Station (minimum 1.25" for Stryker integration).
- For NEC cable separation (US only): One 1 1/4" conduit from mounting plate to documentation station (for Stryker use)

# **ChromoView**

### **Conduit and Circuits Required:**

- Conduit from Mounting Plate to Documentation Station (minimum 1.25" for Stryker integration).
- For NEC cable separation (US only): One 1 1/4" conduit from mounting plate to documentation station (for Stryker use)

# 10.3 Owner Electrical Responsibilities

### 10.3.1 High-Voltage Conduit

The hospital/contractor is responsible for running code-compliant conduit from the breaker panel to the electrical Outlet Box. The number of branch circuits is included in the customer order file. The Outlet Box contains knockouts for ½-inch, ¾-inch, and 1-inch conduit.

The hospital/contractor is responsible for making all final AC and DC connections between mains and Stryker equipment.

# 10.3.2 High-Voltage Circuit Connections

The CHROMOPHARE Surgical Light is UL listed to meet UL 60601-1 3rd Ed, Medical Electrical Equipment, Class I type B.

Note: See the Equipment Configuration Drawings (when available) for specifics.

# 10.4 Connecting the electricity

After the installation of the CHROMOPHARE Surgical Light is complete, the hospital/contractor or certified electrician must make all final AC and DC connections (live, neutral, protective earth) to the equipment.

Please see section *Connecting the electricity (outside of US/Canada only)* [> 88] in Appendix for details on how to connect the terminal blocks.

# ¼ Warning:

# Risk of death or injury from electrical current

Contact with uninsulated, live components can be life-threatening. Active electrical components can make uncontrolled movements and cause severe injuries.

- ✓ Therefore:
- Before beginning work, switch off the electrical power and secure it against accidental switch-on.
- Electrical work is to be performed by skilled electricians only.

### Caution:

To prevent damage, do not pull the fiber optic cable too tight or over sharp edges.

### Note:

- Electrical installation must be performed in accordance with IEC 60364-7-710 as well as the currently valid national standards.
- Power switches and fuses must be installed by the customer (outside of US/ Canada only), see section Fuses [> 108].
- The supplied fuses and fuse holders (US/Canada only) must be used.
- · Pay attention to the fuse values on the fuse holders.
- The fuses must be UL and IEC 60127 approved.
- The cross section of the connection lines between fuses and transformers must be at least 1.5 mm<sup>2</sup>.
- Do not change or modify any cables delivered by Stryker.
- Detailed circuit diagrams are available from Stryker or your Stryker representative on request.
- The emergency power switching relay applies for outside of US/Canada only.

See also

■ Fuses [▶ 108]

#### 10.5 SK Electronics Enclosure

Mounting dimensions of the SK Enclosure used with the CHROMOPHARE F-Generation Surgical Light systems. This SK Enclosure is utilized to house the power supply and electronics for the Surgical Light system based on equipment configuration and ceiling height.

The hospital/contractor is responsible for mounting the SK Enclosure prior to the arrival of Stryker teams for equipment installation.

The SK Enclosure is available for recessed (in-wall) or surface mounting. The recessed variant has an optional decorative trim frame.

Weight	Single	Double
SK Enclosure, Fully Populated	19 kg/42 lb.	28 kg/62 lb.
Decorative Trim Frame (optional, recessed mount variant only)	2.28 kg/5 lb.	3.18 kg/7 lb.
Wall Control Unit (optional)	1 kg/2 lb.	1 kg/2 lb.

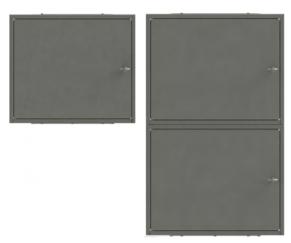


Figure 11. Single and Double SK Enclosure Options

Note: Each single SK Enclosure holds a maximum of 2 SK Electronics. One SK Electronic is required per light head. If more than two SK Electronics are required, additional SK Enclosures are required.

#### For example:

1 and 2 lights = 1 Single SK Enclosure

3 and 4 lights = 2 Single SK Enclosures or 1 Double SK Enclosure

Where multiple SK Enclosures are required, they must be located next to each other.

In seismic regions such as California, only one SK Electronics plate is allowed per box. Therefore, 2 lights will require 2 SK Enclosures.

### 10.5.1 Overall and Mounting Dimensions for SK Enclosure

A SINGLE surface mounted SK Enclosure will be mounted directly on to the wall and will protrude out according to the dimensions specified.

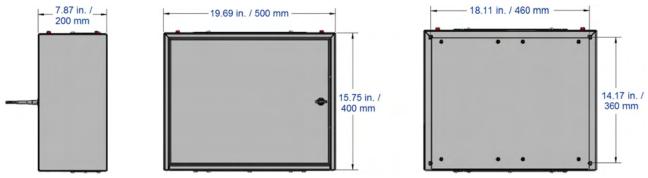


Figure 12. SINGLE SK Enclosure Overall and Mounting Dimensions

A DOUBLE surface mounted SK Enclosure will be mounted directly on to the wall and will protrude out according to the dimensions specified in the image below.

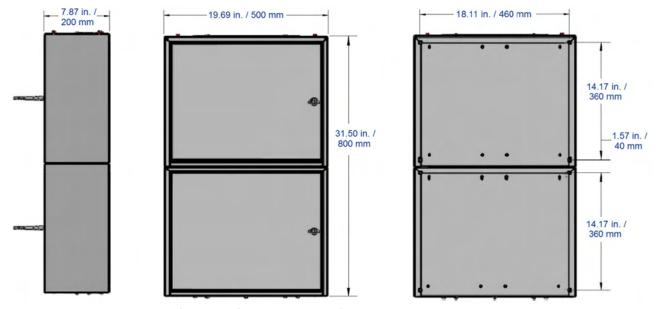


Figure 13. DOUBLE SK Enclosure Overall and Mounting Dimensions

## 10.5.2 Single, Recess mounted SK Enclosure with Decorative Trim Frame

A SINGLE recess mounted SK Enclosure with Decorative Trim Frame will be mounted into the wall and require the cutout to include an additional 10 mm (.39 inches) on all sides to accommodate the inside lip of the Decorative Trim Frame as specified.

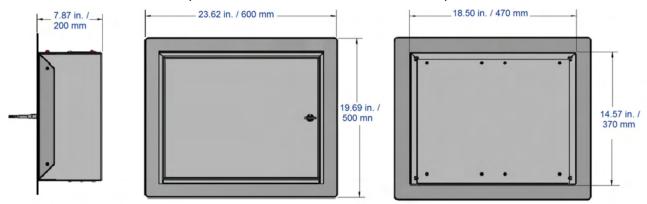


Figure 14. SINGLE SK Enclosure Overall Dimensions with Decorative Trim Frame

A DOUBLE recess mounted SK Enclosure with Decorative Trim Frame will be mounted into a wall and require the cutout to include an additional 10 mm (.39 inches) on all sides to accommodate the inside lip of the Decorative Trim Frame as illustrated.

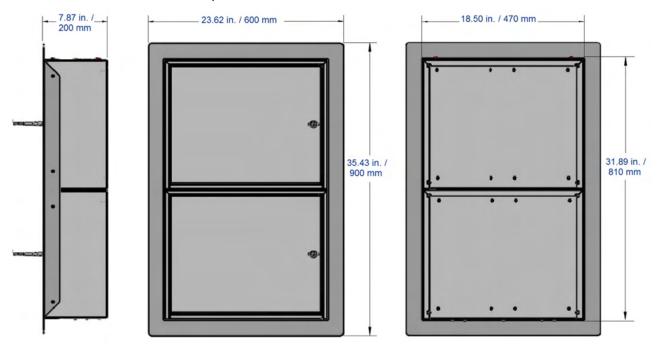


Figure 15. DOUBLE SK Enclosure Overall Dimensions with Decorative Trim Frame

#### 10.6 Wall Control Unit

The Wall Control Unit is provided with CHROMOPHARE single, dual and triple combination Surgical Lights, except when specified.

For F-Generation Surgical Lights, the wall control unit may consists of a metallic faceplate with keypad overlays, or an optional interactive touch screen.

#### 10.6.1 Surface Mount Wall Control Unit

# Wall control unit with keypad

After removing the countersunk hexagonal plug, the light's connection cables to the CAN distribution board (mounted on the ceiling flange), connect at (1) can be run through the wall box at the back (2) or on the underside (3).

If the opening on the underside is used, the screw holders included in the delivery as the cable feedthrough must be used.

#### Touchscreen wall control unit

The light's connection cables to the CAN distribution board (mounted on the ceiling flange) can be run through the wall box at the back of the unit.

Note: For both wall control units, the CAN BUS termination point must not be located further than 45 ft (15 m) from the ceiling tube or SK Enclosure.

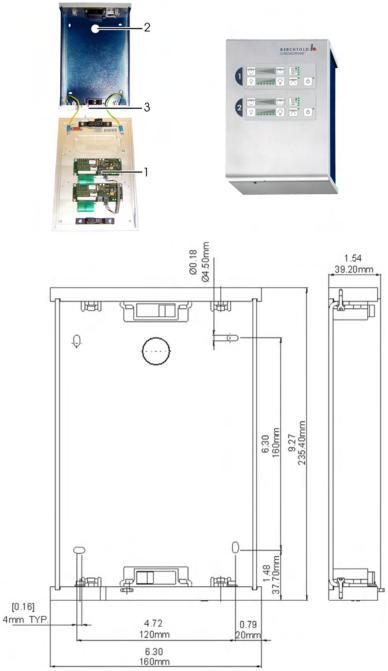


Figure 16. Dimensional drawing, back box for surface mount wall control unit with keypad (dimensions are in inches/mm)

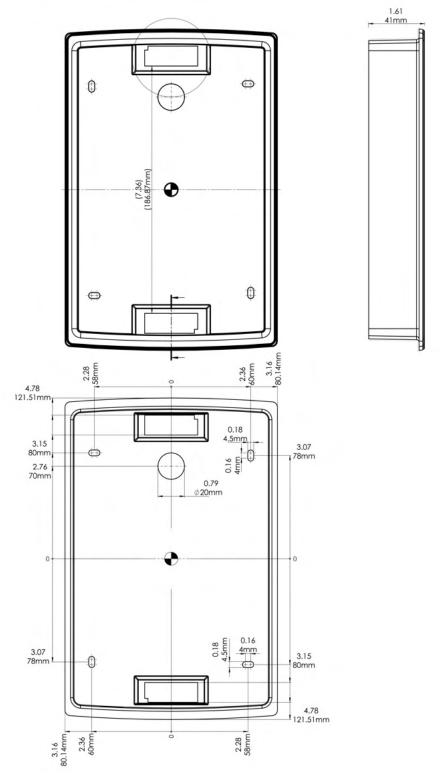


Figure 17. Dimensional drawing, back box for surface mount touchscreen wall control unit (dimensions are in inches/mm)

## 10.6.2 Recessed Mount Wall Control Unit

The light's connection cables to the CAN distribution board (mounted on the ceiling flange), connected at (1) are run through the wall box at the back (2).

Note: The CAN BUS termination point must not be located further than 45 ft (15 m) from the ceiling tube or SK Enclosure.

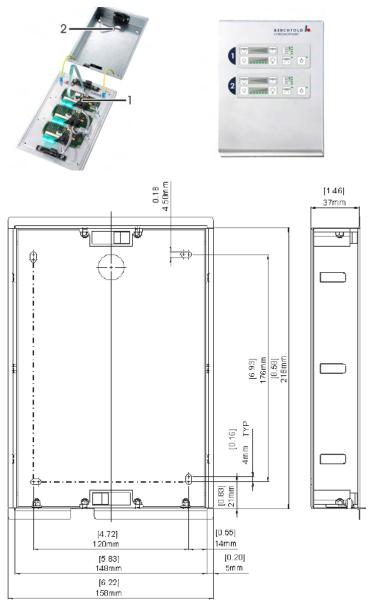


Figure 18. Dimensional drawing, back box for recessed mount wall control unit with keypad and touchscreen (dimensions are in [inches] mm)

# 10.6.3 SK Enclosure Integrated Wall Control Unit

- Connection cable connected to CAN distribution board
- Connection for integration will require cable run to a remote location determined at time of installation.

The light's connection cable to the CAN distribution board (mounted on the ceiling flange), connected at (1) has to be routed into the front panel.

Note: The CAN BUS termination point must not be located further than 45 ft (15 m) from the ceiling tube or SK Enclosure.



Figure 19. SK enclosure integrated wall control unit with keypad, interior

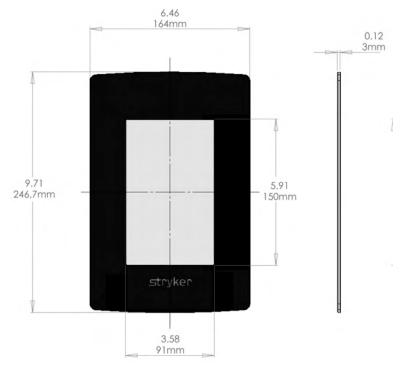


Figure 20. Dimensional drawing, front view touchscreen wall control unit, SK enclosure integrated (dimensions are in inches/mm)

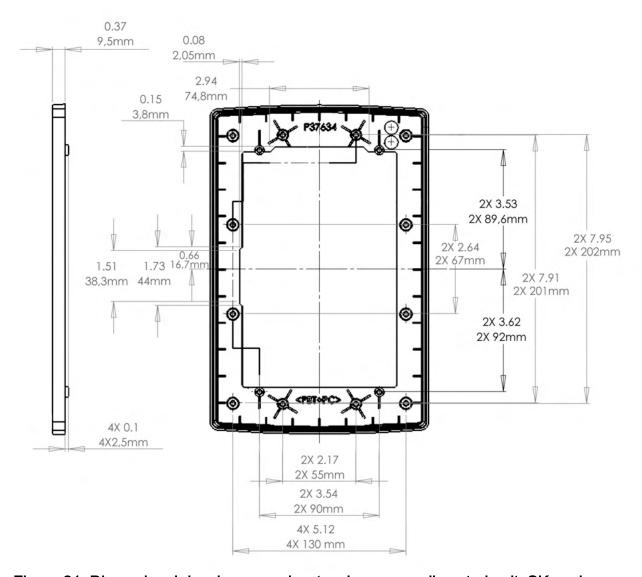


Figure 21. Dimensional drawing, rear view touchscreen wall control unit, SK enclosure integrated (dimensions are in inches/mm)

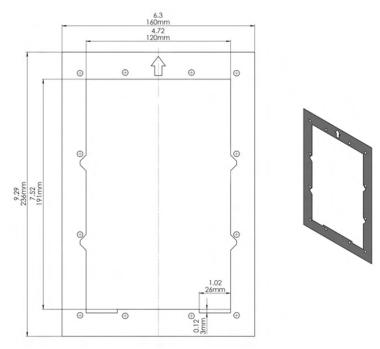


Figure 22. Dimensional drawing, template for tableau cut out (dimensions are in inches/mm)

# 11

# **Technical Data**

# 11.1 Connecting ratings

# CHROMOPHARE® F 528 and F 628

Specification	Value F 528	Value F 628	Unit
Transformer primary voltage	100/120/127/ 220/230/240	100/120/127/ 220/230/240	V (AC)
Power consumption for mains operation	65	80	W
AC frequency	50/60	50/60	Hz
Protection against electric shock	Class 1	Class 1	

# Video/Power Arm (VPA, US/Canada only)

Specification	Value
Location	North America
Voltage	120 VAC
Max Circuit Load	16 amps
AC frequency	60 Hz

# Universal Display Mount (delivered with cables)

Specification	Value
AC cable type	SVT 18 AWG (1 mm <sup>2</sup> ) 3C 105C
AC cable voltage range	100 to 240 VAC
AC cable current (max.)	10 amps
AC cable frequency	50/60 Hz

Specification	Value
DC cable type	16 AWG (1.5 mm <sup>2</sup> ) 4C 90C
DC cable voltage (max.)	60V

Specification	Value
DC cable current (max.)	14 amps

# 11.2 Operating conditions

# CHROMOPHARE F 528, F 628, ChromoView monitor carrier arms and Universal Display Mount

Specification	Value	Unit
Operating temperature	10 to 40 (50 to 104)	°C (°F)
Relative humidity, non-condensing	30 to 75	%
Barometric pressure	700 to 1060 (10.15 to 15.37)	hPa (psi)

# Term of use CHROMOPHARE® F 528, F 628 ceiling mounted lights

The CHROMOPHARE® F 528, F 628 are designed for continuous operation.

# Term of use Universal Display Mount

This device is considered Class 1 medical equipment for continuous operation with no rating for ingress of solid objects and liquids.

### Note:

The operating instructions for the monitor must be taken into account as well.

# Video/Power Arm (VPA, US/Canada only)

Specification	Value	Unit
Ambient temperature	10 to 35 (50 to 95)	°C (°F)
Relative humidity, non-condensing	30 to 75	%
Barometric pressure	700 to 1060 (10.15 to 15.37)	hPa (PSI)

# 11.3 Transport and storage conditions

# Universal Display Mount and CHROMOPHARE F-Generation lights

Specification	Value	Unit
Storage temperature	-20 to +70	°C
Relative humidity, non-condensing	max. 90	%

# Caution:

Failure to protect the CHROMOPHARE components can lead to damage that will prevent proper installation and service performance. Observe the following conditions during transport and storage:

- Observe the transport and storage temperature as well as the relative humidity.
- Do not store outdoors.
- · Keep dry and free of debris and dust.
- Do not expose to corrosive media.
- Protect from sunlight.
- Avoid mechanical vibrations.
- When storing for 15 weeks or longer, periodically check the general condition of all components and the packaging.
- Certain boxes may be labeled with storage instructions that are more extensive than the requirements cited here. Follow them accordingly.

### Note:

The operating instructions for the monitor must be taken into account as well.

#### 11.4 Emissions

Refer to the following Operating Manuals for a full explanation on compliance with EMC guidelines:

 CHROMOPHARE Single and Combination Surgical Lights Operating Manual (# 57404 US/Canada only, # 57393 outside of US/Canada only)

# 12

# **Terms of Use**

# 12.1 Liability limitation

All specifications and notices in this manual have been compiled with consideration for applicable standards and regulations, the current state of technology, and our many years of experience and knowledge. Stryker assumes no liability for damages resulting from:

- Non-compliance with the manual.
- Improper operation.
- Work performed by untrained personnel.
- · Unauthorised modifications.
- Technical changes.
- Installation of non-approved spare parts.
- Performance of unauthorised installation and maintenance work.

Explanations and illustrations presented herein may deviate from the actual product delivered in the case of special models, additional options or the latest technical changes. Furthermore, all obligations agreed to in the delivery contract, the general terms and conditions, delivery terms, and any regulations legally valid at the time the contract is concluded apply. We reserve the right to make technical modifications to improve and further develop the product.

# 12.2 Copyright protection

Treat this manual as confidential. It is exclusively for the use of persons handling the device. This manual may not be transferred to third parties without written approval from Stryker.

#### Note:

The specifications, text, drawings, pictures and other illustrations contained herein are protected by copyright and are subject to industrial property rights. Improper application is punishable by law.

Making photocopies of any type or form, including excerpts hereof, as well as using and/or sharing the content of this manual requires written consent from Stryker. Violators will be liable for damages. We reserve the right to make changes in technology and design. Also further claims remain reserved.

# 12.3 Contact information

Contact Stryker with questions or concerns.

Stryker Communications
571 Silveron Blvd
Flower Mound, TX 75028, USA

Toll Free: +1-866-841-5663 International: +1-972-410-7100

For Stryker locations, refer to the Stryker website at the following URL:

www.stryker.com.

# 13

# **Appendix**

# Note:

Wherever conduit sizes are listed in inches, use the following metric sizes. These sizes are approximate.

- For 1" conduit, use 25 mm.
- For 1.25" conduit, use 32 mm.
- For 2" conduit, use 50 mm.

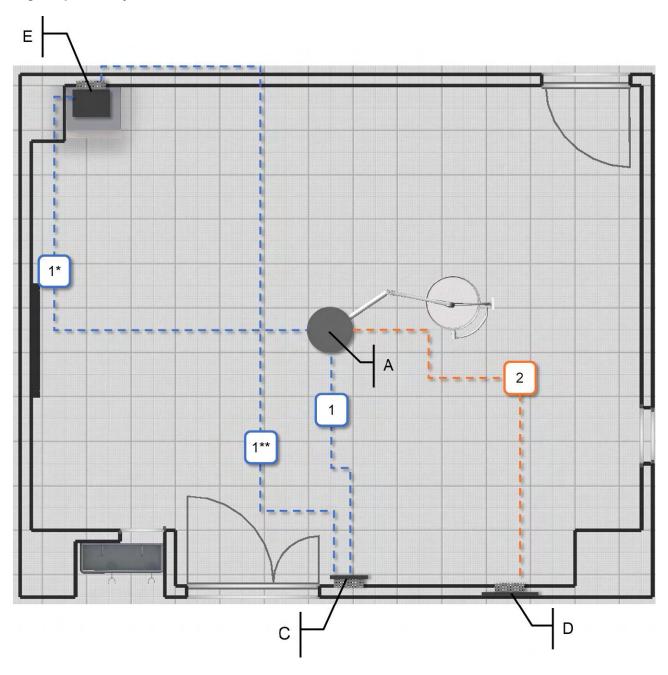
## Note:

For installations in the US, cables may need to be separated per NEC requirements. Layouts in this section include the 1 1/4" conduit for cable separation. Use as required.

For installations outside of the US, installers should check with their local Stryker project team to follow country/region specific standard codes.

# 13.1 Circuit and Conduit Layout for Sample Configurations

# Lights plus StrykeCam with Tube Mounted Electronics



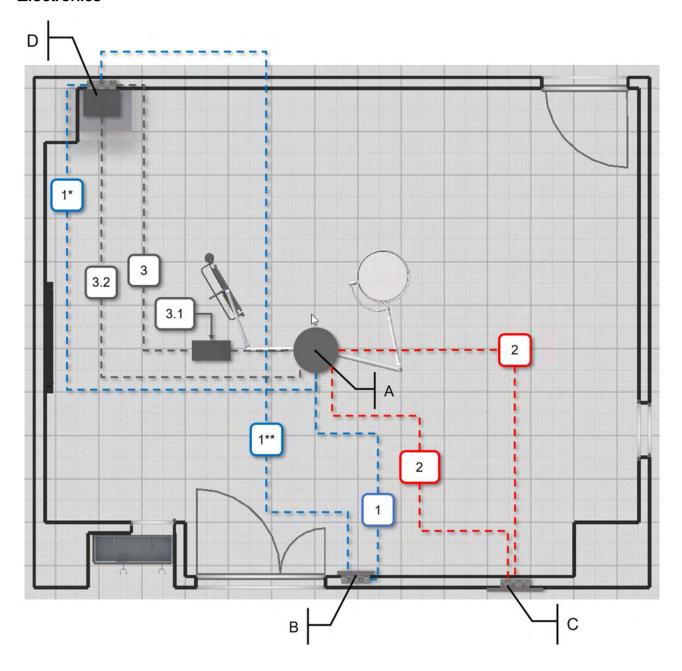
# Lights plus StrykeCam with Tube Mounted Electronics (continued)

- A. Surgical Light Mount
- C. Wall Control Panel
- D. Electrical Panel
- E. Documentation Station (Router, Casework)
- 1. 1" conduit, empty for Stryker use
- 2. Conduit with AC circuit

<sup>\*</sup>Only required for StrykeCam HD.

<sup>\*\*</sup>Only required when device control of lights is used. Maximum distance from end to end is 30 ft (9.14 m), cable is provided by Stryker Endoscopy for connection to the SDC.

# Lights plus StrykeCam, plus Flat panel (UDM or ChromoView) with Tube Mounted Electronics



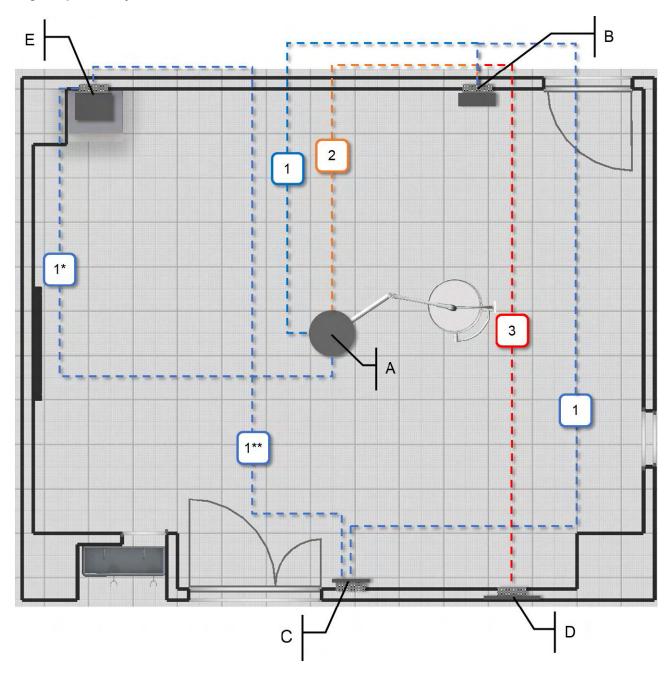
# Lights plus StrykeCam, plus Flat panel (UDM or ChromoView) with Tube Mounted Electronics (continued)

- A. Surgical Light Mount
- B. Wall Control Panel
- C. Electrical Panel
- D. Documentation Station (Router, Casework)
- 1. 1" conduit, empty for Stryker use
- 2. Conduit(s) with AC circuit (QTY 2)
- 3. Conduit for video/low voltage for monitor (empty for integration company use):
  - Minimum 1.25" conduit for Stryker integration for a single monitor mount, 2" for a dual monitor mount
  - For ChromoView: use conduit from A to D

<sup>\*</sup>Only required for StrykeCam HD.

<sup>\*\*</sup>Only required when device control of lights is used. Maximum distance from end to end is 30 ft (9.14 m), cable is provided by Stryker Endoscopy for connection to the SDC.

# Lights plus StrykeCam with SK Enclosure



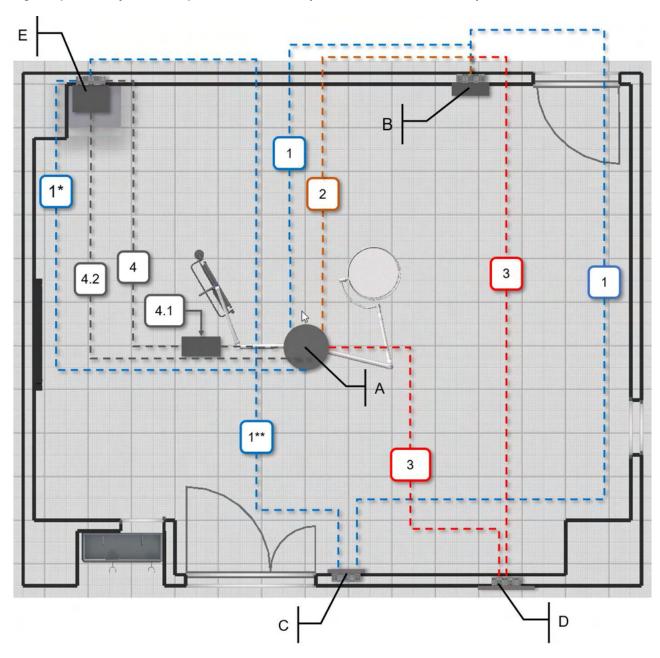
# Lights plus StrykeCam with SK Enclosure (continued)

- A. Surgical Light Mount
- B. SK Enclosure
- C. Wall Control Panel
- D. Electrical Panel
- E. Documentation Station (Router, Casework)
- 1. 1" conduit, empty for Stryker use
- 2. 1" conduit with DC supply wires
- 3. Conduit with AC circuit

<sup>\*</sup>Only required for StrykeCam HD.

<sup>\*\*</sup>Only required when device control of lights is used. Maximum distance from end to end is 30 ft (9.14 m), cable is provided by Stryker Endoscopy for connection to the SDC.

# Lights plus StrykeCam plus Flat Panel (UDM or ChromoView) with SK Enclosure



# Lights plus StrykeCam plus Flat Panel (UDM or ChromoView) with SK Enclosure (continued)

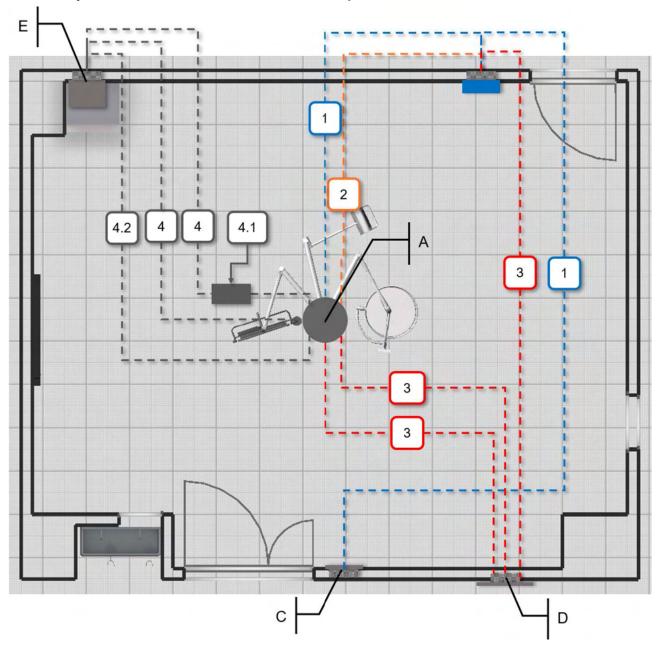
- A. Surgical Light Mount
- B. SK Enclosure
- C. Wall Control Panel
- D. Electrical Panel
- E. Documentation Station (Router, Casework)
- 1. 1" conduit, empty for Stryker use
- 2. 1" conduit with DC supply wires
- 3. Conduit with AC circuit
  - For lights: B to D
  - For AC power to monitor: A to D
- 4. Conduit for video/low voltage for monitor (empty for integration company use):
  - Minimum 1.25" conduit for Stryker integration for a single monitor mount, 2" for a dual monitor mount
  - For ChromoView: use conduit from A to E
  - For UDM: use conduit from 4.1 (Stryker-supplied UDM junction box) to E
- 4.2 For UDM or ChromoView: Use one 1.25" conduit from suspension mounting plate to E for DC power cable to the monitor

<sup>\*</sup>Only required for StrykeCam HD.

<sup>\*\*</sup> Only required when device control of lights is used. Maximum distance from end to end is 30 ft (9.14 m), cable is provided by Stryker Endoscopy for connection to the SDC.

# Lights plus Flat Panel (UDM or ChromoView) plus VPA with SK Enclosure

Note: StrykeCam HD is not included on the suspension shown here.

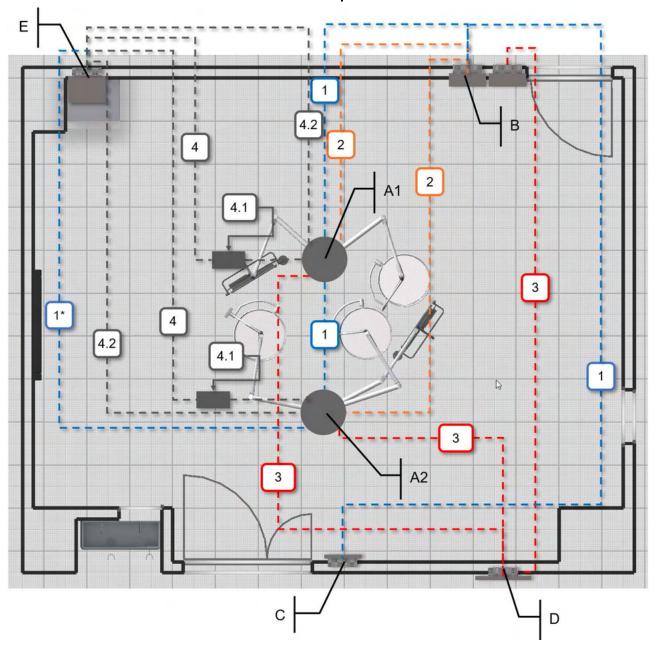


# Lights plus Flat Panel (UDM or ChromoView) plus VPA with SK Enclosure (continued)

- A. Surgical Light Mount
- B. SK Enclosure
- C. Wall Control Panel
- D. Electrical Panel
- E. Documentation Station (Router, Casework)
- 1. 1" conduit, empty for Stryker use
- 2. 1" conduit with DC supply wires
- 3. Conduit with AC circuit
  - For lights: B to D
  - For AC power to monitor: A to D
  - For VPA power: A to D
- 4. Conduit for video/low voltage for monitor (empty for integration company use):
  - Minimum 1.25" conduit for Stryker integration for a single monitor mount, 2" for a dual monitor mount
  - For ChromoView: conduit from A to E; for UDM: start conduit at 4.1 (Stryker-supplied UDM junction box) instead of A
- 4.2 For UDM or ChromoView: Use one 1.25" conduit from suspension mounting plate to E for DC power cable to the monitor

# Multiple Suspensions in One Room with SK Enclosure

Note: Device control is not included on the suspension shown here.

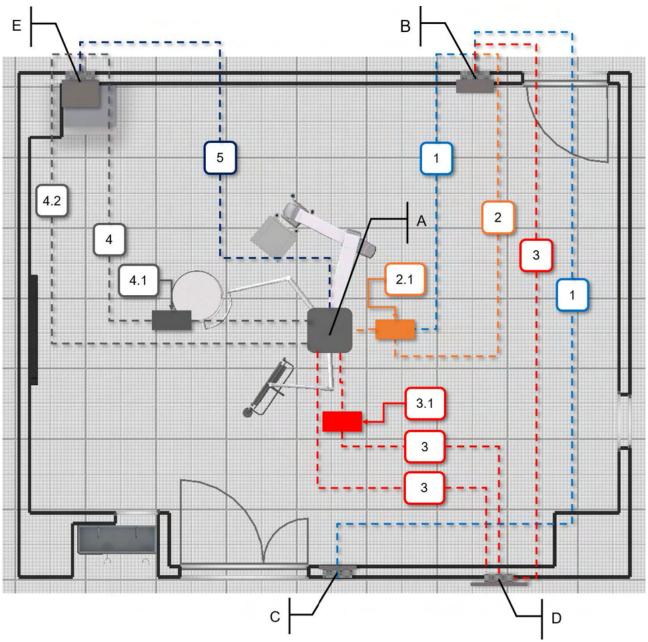


# Multiple Suspensions in One Room with SK Enclosure (continued)

- A1. CHROMOPHARE Mount with Light, Flat Panel
- A2. CHROMOPHARE Mount with Light, Light, Flat Panel, StrykeCam HD
- B. SK Enclosure (quantity 2)\*\*
- C. Wall Control Panel
- D. Electrical Panel
- E. Documentation Station (Router, Casework)
- 1. 1" conduit, empty for Stryker use
- 2. 1" conduit with DC supply wires
- 3. Conduit with AC circuit
  - For lights: B to D
  - For AC power to monitor: A1 to D, A2 to D
- 4. Conduit for video/low voltage for monitor (empty for integration company use):
  - Minimum 1.25" conduit for Stryker integration for a single monitor mount, 2" for a dual monitor mount
  - For ChromoView: conduit from A to E; for UDM: start conduit at 4.1 (Stryker-supplied UDM junction box) instead of A
- 4.2 For UDM or ChromoView: Use one 1.25" conduit from suspension mounting plate to E for DC power cable to the monitor
- \*Only required for StrykeCam HD. Device control requirements for StrykeCam HD are not shown.
- \*\*In seismic regions such as California, only one SK Electronics plate is allowed per box. Here, 3 lights are shown in one room. The room would require 3 SK Enclosures, 1 for each light.

# TC Mounted CHROMOPHARE System (US/Canada Only)/TC Mounted Lights plus Flat Panel (UDM or ChromoView)

Note: StrykeCam HD is not included on the suspension shown here.



# TC Mounted CHROMOPHARE System (US/Canada Only)/TC Mounted Lights plus Flat Panel (UDM or ChromoView) (continued)

- A. Surgical Light Mount
- B. SK Enclosure
- C. Wall Control Panel
- D. Electrical Panel
- E. Documentation Station (Router, Casework)
- 1. 1" conduit, empty for Stryker use
  - For TC mounted lights: 2.1 (TC Junction Box) to B
- 2. 1" conduit with DC supply wires
  - For TC mounted lights: 2.1 (TC Junction Box) to B
- 3. Conduit with AC circuit
  - For TC mounted lights: B to D
  - For AC power to TC mounted monitor: A to D
  - For boom: 3.1 (Boom Outlet Box) to D
- 4. Conduit for video/low voltage for monitor (empty for integration company use):
  - Minimum 1.25" conduit for Stryker integration for a single monitor mount
  - For ChromoView: conduit from A to E; for UDM: start conduit at 4.1 (Stryker-supplied UDM junction box) instead of A
- 4.2 For UDM or ChromoView: Use one 1.25" conduit from suspension mounting plate to E for DC power cable to the monitor
- 5. Conduit for video/low voltage for boom (empty for integration company use):
  - Quantity 2 of 2" conduits for Stryker integration for equipment boom

# 13.2 Connecting the electricity (outside of US/Canada only)

After the installation of the CHROMOPHARE Surgical Light is complete, the hospital/contractor or certified electrician must make all final AC and DC connections (live, neutral, protective earth) to the equipment.

Please see section *Electrical Requirements* [> 47] for more information about the responsibilities and all the electrical requirements.

In the US/Canada, the terminal blocks may look slightly different from the photos in this section. Please reach out to your Stryker project team with any specific questions on how to make final electrical connections.

# 4 Warning:

# Risk of death or injury from electrical current

Contact with uninsulated, live components can be life-threatening. Active electrical components can make uncontrolled movements and cause severe injuries.

- ✓ Therefore:
- Before beginning work, switch off the electrical power and secure it against accidental switch-on.
- Electrical work is to be performed by skilled electricians only.

#### Caution:

To prevent damage, do not pull the fiber optic cable too tight or over sharp edges.

### Note:

- Electrical installation must be performed in accordance with IEC 60364-7-710 as well as the currently valid national standards.
- Power switches and fuses must be installed by the customer (outside of US/ Canada only), see section Fuses [> 108].
- The supplied fuses and fuse holders (US/Canada only) must be used.
- Pay attention to the fuse values on the fuse holders.
- The fuses must be UL and IEC 60127 approved.
- The cross section of the connection lines between fuses and transformers must be at least 1.5 mm<sup>2</sup>.
- Do not change or modify any cables delivered by Stryker.
- Detailed circuit diagrams are available from Stryker or your Stryker representative on request.
- The emergency power switching relay applies for outside of US/Canada only.

# See also ☐ Fuses [▶ 108]

# 13.2.1 Electrical connection to the ceiling tube

# DC supply

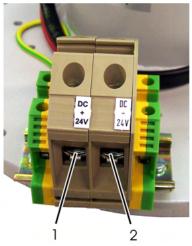


Figure 23. DC terminals

- DC connection terminals (up to 36 mm<sup>2</sup> cable cross-section)
- Potential equalization terminals (up to 10 mm<sup>2</sup> cable cross-section)

The combination lights are installed with additional terminal pairs. Connect these as well.

Terminal	Connection
1	Input +24 VDC
2	Ground for: Input +24 VDC

# Mains voltage supply

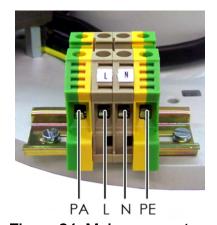


Figure 24. Mains connectors

· Mains connection terminals

Transformer and rectifier boards mounted on the ceiling tube.

Connect the supply voltage to terminal pair L and N, in accordance with the regional voltage (see also the transformer model plate). Also connect PE and PA (protective earth and potential equalization). Further terminal pairs are mounted by combining them with several lights, ChromoView monitor support arms or external camera support arms. Connect these as well.

# Mains voltage supply for Universal Display Mount

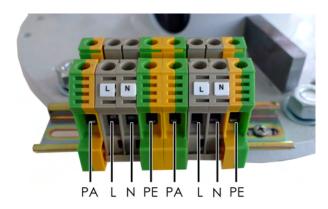


Figure 25. Mains connectors

- Mains connection terminals
- Connect the supply voltage to terminal pair L and N, in accordance with the regional voltage (see also the transformer model plate). Also connect PE and PA (protective earth and potential equalization). Two terminal pairs (as shown in above figure) are used when two Universal Display Mounts are installed. When only one UDM is installed, only one terminal pair is used.

# Mains voltage supply with emergency power switching relay

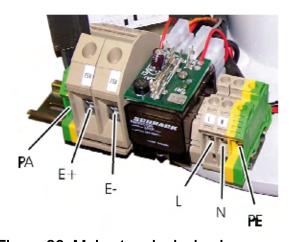


Figure 26. Mains terminals, backup power

#### Input voltages:

- Supply voltage (L/N)
- Emergency power supply 24 VDC (E+/E-)

### Output voltage at the plug connection in the ceiling tube:

24 VDC under load (to the surgical lights)

Terminal	Connection
E+	Emergency power supply +24 VDC
E-	Earth: Emergency power supply +24 VDC
L	Mains AC
N	Mains AC
PA/PE	Potential equalization/Earth connection

Ceiling tube of the CHROMOPHARE<sup>®</sup> surgical lights, with transformer, rectifier board and emergency power switching relay mounted on the ceiling tube. The combination lights are installed with additional terminal pairs. Connect these as well.

## Note:

The emergency power switching relay must be ordered separately.

# 13.2.2 Electrical connections on the mounting plate

# Mounting plate

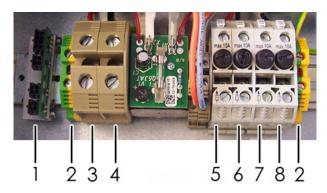


Figure 27. Mounting plate terminals with rectifier board

Only if emergency power supply supplied by customer.

### Input voltages:

Max. 30 VDC or max. 28 VAC

### Output voltage:

+24 to 29 VDC to the surgical light

The voltage drop in the supply to the surgical light can only be compensated by a corresponding increase in the DC input voltage.

Terminal	Connection
1	CAN distribution board
2	PA/PE (Potential equalization/Earth connection)

Terminal	Connection
3	Output +24 to 29 VDC to the surgical light
4	Ground for: Output +24 to 29 VDC DC to the surgical light
5	Emergency power supply input max. +30 VDC
6	Ground for: Emergency power supply input max. +30 VDC
7	AC input max. 28 VAC
8	AC input max. 28 VAC

With combination lights an additional mounting plate is required with terminals installed in this way. Connect these as well.

#### Note:

The emergency power switching relay must be ordered separately.

#### Note:

DC fuses must be installed by the customer.

#### DC or AC low-voltage power supply

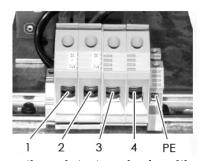


Figure 28. Mounting plate terminals with rectifier board

#### Input voltages:

24 to 28 VDC or 16 to 20 VAC

#### Output voltage:

• 24 to 28 VDC to the surgical light

The voltage drop in the supply to the surgical light can only be compensated by a corresponding increase in the input voltage.

Terminal	Connection
1	Output +24 to 28 VDC
2	Ground for: Output +24 to 28 VDC

Terminal	Connection
3	Input +24 to 28 VDC Input 16 to 20 VAC
4	Ground for: Input +24 to 28 VDC Input 16 to 20 VAC
PE	Earth connection

With combination lights an additional mounting plate is required with terminals installed in this way. Connect these as well.

## 13.2.3 Electrical connections for the StrykeCam HD for F-Gen

## Connections on the ceiling flange



Figure 29. Connections - ceiling flange

Terminal/Position	Connection
1	CAN distribution board
2	Adapter board
3	Rectifier board
4	Input voltages, potential equalization/earth connector
5	Transformer

#### 13.2.4 Electrical connections with wall-mounted control unit

## Connections on the ceiling tube

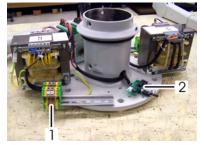


Figure 30. Connections - ceiling flange

## Ceiling tube of the CHROMOPHARE® surgical lights

Position	Connection
1	Electrical supply
2	CAN distribution board: connection to wall-mounted control unit (Wall Box)

The combination lights are installed and connected with additional terminal pairs.

## 13.2.5 Connect the adapter board (StrykeCam HD for F-Gen)

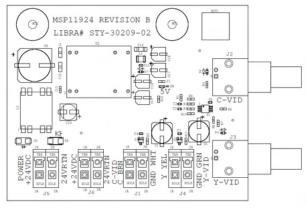
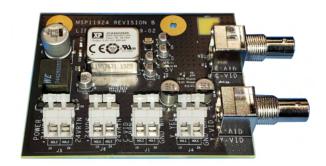


Figure 31. Adapter board

J5.1A	Red
J5.2A	Black
J1.1A	Brown
J1.2A	White
J4.1A	Yellow
J4.2A	Green

Note: J6 connections are used for additional connections (i.e. second camera board).



Cables	Function
Video Chrominance	Green – ground, Yellow – signal
Video Luminance	White – ground, Brown – signal
24V DC power input	Black – ground, Rot – power
Other: PINK and GRAY Molex connector	CAN (Communication) connected to CAN distribution board

#### 13.2.6 Electrical connections wall mounted SK Enclosure



Figure 32. Cable feed from below

The connection cable is generally fed into the wall-mounted SK enclosure from below. To do so dispense of the selected pre-cut opening of the blank panel (1) and use a screw joint as cable bushing (not included within the scope of delivery).

For system components and connections in the wall-mounted SK enclosure, see circuit diagram (available on request from Stryker or your Stryker representative).

#### Note:

The CAN-bus cable must be no more than 15 m from the ceiling tube.

## 13.3 Installing the ceiling anchor plate

#### Note:

Use a calibrated torque wrench that can achieve the required torque value.

#### 13.3.1 Ceiling anchor plate with reinforcement plate

#### **Basic information**

Install the ceiling anchor plate on the existing ceiling using a reinforcement plate as described below.

#### Note:

A prerequisite to this is a ceiling thickness of at least 150 mm with a concrete strength class of at least B 25.

#### Special tool

Drilling tools (masonry drill, core drilling equipment)

#### Installation steps



#### Risk of severe injury due to improper drilling

Incorrect drilling (e.g., drilling into a reinforcement bar) may compromise the load capacity and load distribution in buildings. This can lead to the collapse of building parts and cause severe personal injury.

- ✓ Therefore:
- In case of incorrect drilling, immediately consult the structural engineer responsible.
- 1. Measure the precise position of the monitor carrier arm in accordance with the plan specifications.
- 2. Mark up four drilling holes. In so doing, use a template (Item No. CB 5103704) if necessary.
- 3. Drill four holes, Ø 17 mm, using a suitable drilling tool.
- 4. Place the reinforcement plate (3) on the concrete ceiling (6).
- 5. Insert the threaded rods (4), together with the hex nuts (1) and lock washers (2) through the reinforcement plate and bore-holes.

- 6. Attach the ceiling anchor plate (5) to the threaded rods coming down from the ceiling. Secure using lock washers (2) and hex nuts (1). Next, tighten nuts to 180 Nm.
- 7. Then apply screed (8), if necessary with additional footfall sound insulation (7).

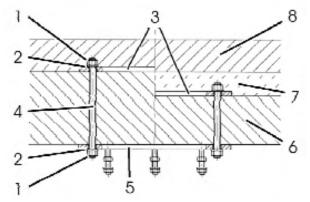


Figure 33. Cross-sectional view of ceiling, left half without and right half with footfall sound insulation

#### Note:

Reinforcement plate, threaded rods, washers, and hexagonal nuts are not included in the scope of delivery and must be supplied by the customer. The threaded rods must be of a screw strength class of at least 8.8, pursuant to DIN ISO 898 P1. The reinforcement plate can be purchased from Stryker or your Stryker representative.

#### 13.3.2 Ceiling anchor plate with heavy-duty anchors

#### **Basic information**

Preferably attach the ceiling anchor plate to the reinforced concrete ceiling with a reinforcement plate. If this is not possible, under certain conditions to be checked in each individual case, heavy-duty anchors can be used for mounting on reinforced concrete ceilings. The following designs apply for the Federal Republic of Germany. In other countries, note the applicable national regulations.

## / Danger:

## Danger from collapsing building parts if installation is not properly carried out!

Use of inappropriate heavy-duty anchors can result in them working loose from the ceiling or breaking. The entire ceiling anchor can become loose and fall out. This can cause life-threatening injuries for the patient and surgical staff/operator.

- Therefore:
- Only use heavy-duty anchors that have building-inspectorate approval from the Building Research Institute (Berlin) for installation in the tension zone! Precise details regarding the planning and installation of fixtures using heavy-duty anchors, the permissible loads and the technical structural conditions are stated in the general structural engineering conditions. The certifications and specific mounting instructions are provided by the manufacturer of the heavy-duty anchor that is used.

#### Note:

To install the ceiling anchor plate using heavy-duty anchors, you must obtain an individual approval from the appropriate regional construction authorities.

#### 13.3.2.1 Instructions for installing heavy-duty anchors/stud anchors

If installation with heavy-duty anchors is intended, a set of suitable heavy-duty anchors will be included in the delivery. Depending on the type of anchor plate used, the following heavy-duty anchors will be supplied: HILTI HSL-3-G M12/25 or HILTI HSL-3-G M10/20.

The heavy-duty anchors must be installed as specified by the manufacturer.

### Note:

Do not use heavy-duty anchors from other manufacturers or with different specifications.

#### General structural engineering conditions

The heavy-duty anchors listed above can be used subject to the following structural requirements:

- Concrete strength class ≥ B 25
- Ceiling thickness ≥ 150 mm
- Edge distance D from the next ceiling opening ≥ 150 mm

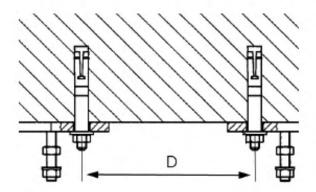


Figure 34. Edge distance

#### 13.3.2.2 Steps for installing the ceiling anchor plate

#### Special tool

- Drilling tools (masonry drill, core drilling equipment)
- Bellows
- Torque wrench

#### Installation steps



#### Risk of severe injury due to improper drilling

Incorrect drilling (e.g., drilling into a reinforcement bar) may compromise the load capacity and load distribution in buildings. This can lead to the collapse of building parts and cause severe personal injury.

- ✓ Therefore:
- In case of incorrect drilling, immediately consult the structural engineer responsible.
- 1. Measure the precise position of the monitor carrier arm in accordance with the plan specifications and identify the position of one hole.
- 2. Drill the hole with a suitable drill and clean (*Instructions for installing heavy-duty anchors/stud anchors [> 98]*).
- 3. Attach ceiling anchor plate (1) to the concrete ceiling (2). Affix the ceiling anchor plate to a heavy-duty anchor (3) using a retaining washer (4) and hexagonal nut (5).

- 4. Drill the remaining three boreholes. To do so, use the ceiling anchor plate as a drilling template.
- 5. Apply the remaining three heavy-duty anchors and affix as in step 3.
- 6. Screw all 4 hexagonal nuts tight with the prescribed tightening torque (*Instructions for installing heavy-duty anchors/stud anchors [> 98]*).

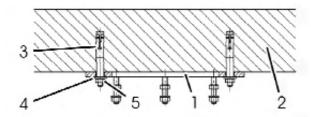


Figure 35. Cross-sectional view of ceiling

## Note:

Reinforcement plate, washers, and hexagonal nuts are not included in the scope of delivery and must be supplied by the customer. The reinforcement plate can be purchased from Stryker or your Stryker representative.

## 13.4 Installing Instructions for Spacer

## Note:

Use a calibrated torque wrench that can achieve the required torque value.

## 13.4.1 Spacer

Note: The spacer is available in three different lengths: up to 700 mm, up to 1,400 mm and from 1,400 mm to 2,000 mm (with bracing).

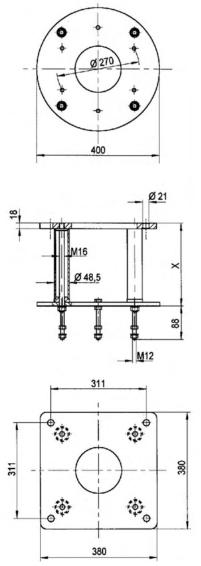
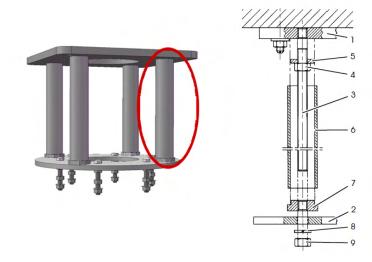


Figure 36. Dimension sheet for spacer (in mm)

#### 13.4.2 Installing the spacer

- 1. Install the ceiling anchor plate (1), see section *Installing the ceiling anchor plate*[> 96]
- 2. Screw the hex nuts (4) onto the threaded rod (3).
- 3. Place the washers (5) on the hex nuts. Screw the threaded rods prepared in step 2 into the ceiling anchor plate (1) and secure with the hex nuts (4). Tighten nuts to 180 Nm.
- 4. Push spacer tubes (6) over the threaded rods and screw tight with clamping nuts (7).
- 5. Push the mounting plate (2) onto the four protruding threaded rods. Screw on using retaining rings (8) and hex nuts (9).
- 6. Tighten clamping nuts and hex nuts to 180 Nm.



### Installing the brace (with oversized spacer)

If the spacer is longer than 1500 mm, it may deflect excessively in a lateral direction. Therefore, an oversized spacer must be stabilised with four lateral braces made from steel cable.

- 1. Screw four ring nuts (2) to the upper side of the mounting plate (1).
- 2. Attach four ring nuts (6) to the concrete ceiling with M8 heavy-duty anchors. The angle alpha between the steel cable and the perpendicular to the concrete ceiling should not exceed 30°.
- 3. Pass the steel cable (4) through the ring nuts and secure each with three cable clamps (5).
- 4. Clip the tension lock (3) onto the ring nut (2).
- 5. Tighten the steel cable with the tension lock.
- 6. Repeat for the remaining three lateral braces. In so doing, ensure that all four steel cables are similarly tightened.

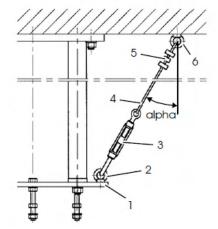


Figure 37. Overview of bracing

## 13.5 Installing Wall Mounted SK Enclosure

Note: The hospital/contractor is responsible for the installation of the SK enclosure.

#### Caution:

#### Damage due to unsafe installation!

Inadequate installation of the wall-mounted control cabinet can result in substantial material damage, since the wall-mounted control cabinet can fall out, thereby damaging the subfloor and the mounting surface.

- ✓ Therefore:
- The strength and stability of the mounting surface must be sufficient in terms of the total weight of the wall-mounted control cabinet (Wall-mounted control cabinet Section).
- Securely mount the wall-mounted control cabinet using appropriate fixing materials for the nature of the mounting surface.

The connection plate (1) and the pre-cut dummy plate (2) can optionally be mounted onto the upper or underside of the wall-mounted control cabinet using the round-headed screws included within the scope of delivery.

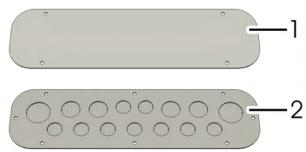


Figure 38. Wall-mounted control cabinet

With the double-version, the individual boxes must be integrated according to the installation sites, using the screws included within the scope of delivery.

#### Note:

If the wall-mounted control cabinet is delivered with an installation frame, this must be mounted onto the wall-mounted control cabinet before it is installed, using the screws included within the scope of delivery. To do so, use the pre-drilled installation frame as a template.



Figure 39. Installation sites

#### Changing the door stop

#### Note:

If only one door hinge is removed, it facilitates the installation of the door on the other side.

1. Loosen the screw (1) and remove the earthing cable (2).

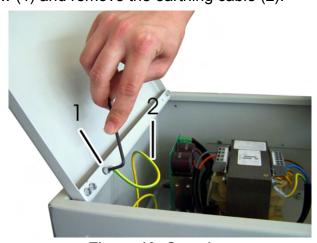


Figure 40. Overview

2. Loosen the nut and remove the earthing cable with the snap rings and washers (1).

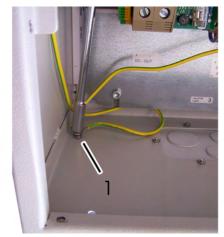


Figure 41. Removing the earthing cable

- 3. Loosen the cylinder screws (1–4) and remove the door hinge (5).
- 4. Remove the door (6).

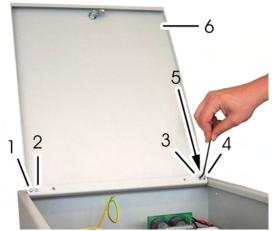


Figure 42. Overview of door and hinges

5. Loosen the countersunk screws (1–3) and remove the door stop plate (4).

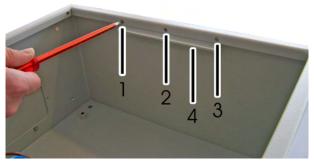


Figure 43. Disassembling the door stop plate

6. Install the door stop plate (1) on the other side using the boreholes provided (3) and the countersunk screws (2).

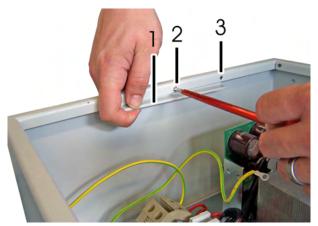


Figure 44. Installing the door stop plate

- 7. Place the washer (1) onto the hinge.
- 8. Insert the door hinge to be mounted into the hinge bore hole (2).



Figure 45. Washer

- 9. Place the washer onto the other hinge.
- 10. Insert the door hinge into the other hinge bore hole.
- 11. Install the door using the door hinges and the cylinder screws (1).



Figure 46. Installing the door

12. Position the cable shoe of the earthing cable onto the lower threaded bolt using snap rings, washers and nuts (1).

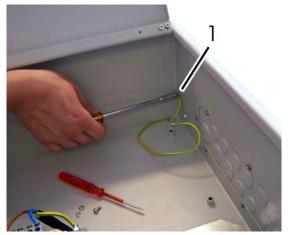


Figure 47. Earthing cable

13. Secure the earthing cable once again using the screw (1).

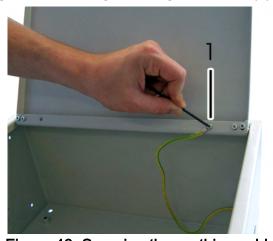


Figure 48. Securing the earthing cable

See also

## 13.6 Installation plate for the supply unit

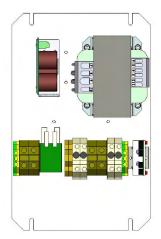


Figure 49. Installation plate for the supply unit

Dimension	Measurement	Unit
Width	230	mm
Height	360	mm
Installation depth with fittings	140	mm

#### Distance between the retaining holes:

Dimension	Measurement	Unit
Width	163.5	mm
Height	335	mm

#### **13.7 Fuses**

#### Note:

- The following fuses must be supplied by the customer (outside of US/Canada only).
- The fuses must be UL and IEC 60127 approved.
- All fuses: inactive.
- If the Universal Display Mount is supplied without a cable or if 3rd party cables are
  used for the ChromoView monitor support arm or external camera support arm,
  the fuses must be selected and installed by the customer in accordance with the
  cable cross-section.

Device	220 – 240 V	100 – 127 V
	L, F1	L, F1
F 528, F 628	4 A	8 A
ChromoView Single and double monitor support arm	10	A
Universal Display Mount	8 .	A

## 13.7.1 Terminal voltages

The terminal voltages stated in the following table must be present at the ceiling tube of the CHROMOPHARE  $^{\circ}$  surgical light(s).

AC	DC
21.5 V (upstream rectifier board)	24 (+1,5/–0,3) V



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# S-Series Equipment Management System

#### **Pre-Install Manual**

**REF** 0682400550

**REF** 0682400551

REF 0682400552



## 1. Warnings and Cautions

In this manual, the terms and definitions below apply.

- Warning: Possible injury to the patient or user.
- · Caution: Possible damage to the equipment.
- Note: More information to clarify the instructions.

### 1.1. Warnings

These safety precautions must be followed to install the S-Series Equipment Management System. WARNINGS identify possible dangerous situations to personnel. It is important to read these precautions before use. The user must also read and follow all instructions, warnings and cautions supplied with or shown on the S-Series System.

- 1. Only Stryker trained personnel are authorized to install the equipment described in this manual.
- 2. Use proper lifting equipment and procedures. Loaded shipping pallets are heavy and can cause injury to people or damage to the equipment if not handled properly.
- 3. Do not attach objects (sprinkler pipes, electrical conduit, utility piping, duct work) to the S-Series System superstructure, unless approved by the structural engineer or mechanical contractor.
- 4. Live electrical circuits can cause injury or death. To prevent work on live electrical circuits, lock out and tag out power supplies.
- Live plumbing lines can cause injury or death. To prevent work on pressurized portions of the lines, lock out and tag out supplies.
- 6. Drifting of the equipment can cause injury.
- Store S-Series System components out of the elements and away from dust, debris, and moisture to protect them from damage. Failure to protect the components can lead to damage that will prevent proper installation and service performance.
- 8. The hospital/contractor has final responsibility for the strength and rigidity of the superstructure system to the building. An inadequate superstructure will affect the ability of the S-Series unit to perform in the manner intended. An inadequate superstructure design can also result in damage to the equipment. Equipment warranty service charges related to an inadequate superstructure design or installation are at the customer's expense.
- 9. Caution must be exercised when lifting heavy objects to avoid serious bodily injury or damage to equipment.

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#### 1.1.1. Electrical Safety

WARNING - Always use caution when working on electrical systems.

**Note** - The hospital/contractor is responsible for running electrical power from the building supply to the ceiling junction box that is part of the S-Series System, and connecting the main power and hospital ground at this point using the ground bus bar.

- Touching live electrical components is life threatening. Damage to insulation or individual components can cause fatal injury.
- If insulation is damaged, immediately switch off the power supply and initiate repairs.
- Electrical work is to be performed only by skilled electricians.
- Before performing any electrical work, disconnect the mains power and verity that it is not live.
- To avoid risk of electric shock, this equipment must only be connected to a supply mains with protective earth.
- Do not perform diagnostic or service procedures on the building's electrical supply; this is the hospital's responsibility.
- Know the electrical power rating of the unit being worked on.
- Use properly rated voltmeter/multimeter test equipment.
- Grip electrical test-probe leads only by their insulated handles.
- Do not attempt repairs on any live electrical circuits.
- Use lock-out, tag-out procedures before servicing any electrical component.
- Install or replace wiring only with the appropriate AWG size wire(s).
- · Do not override or by-pass fuses.
- Ensure that numbered outlets are identified and wired to the appropriate circuit.
- · Do not reroute or rewire circuits in a way that will allow operators to connect excess loads.

#### 1.1.2. Electrical Current

The label below indicates electrical current warning.

Danger: Only skilled electricians and trained, skilled personnel can work with electrical components inside the ceiling cover or service pod.

#### 1.1.3. Medical Gases

Use properly rated gauges for the pressures and gases involved.

#### **WARNING** -

- · Always use caution when working on pressurized systems.
- Medical gas outlets are keyed to the specific gas type. Prior to connection, make sure that the gas line or accessory has
  the same gas-type marking as the gas outlet. Always make sure hoses are tightly connected to the outlet before use to
  prevent leakage.
- Do not attempt to force any type of gas line or accessory into an outlet.
- Contact Stryker Technical Service or other personnel trained in medical-gas outlet maintenance.

#### 1.2. Cautions

1. Do not attach items to the superstructure unless approved by the structural engineer or mechanical contractor. Additional attachments have the potential to load the structure and can allow the S-Series System to drift.

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2. Do not allow the boom to collide with walls or other equipment.

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## 2. Options and Accessories Requirements

The S-Series Equipment Management System is a versatile device and can include a wide range of systems and components specified by the owner and supplied by other vendors. Some of these may be installed on the delivered S-Series System. Others must be installed in the field. Since it is not possible to anticipate the pre-installation design requirements for all possible third-party components, the owner/owner's contractor must review the Stryker customer drawings and determine any additional installation preparations that might be required.

Some S-Series Equipment Management Systems include CHROMOPHARE surgical lights, Visum LED Surgical Lights and Flat Panel Arms, or CHROMOVISION® video systems. Each of these systems has its own installation requirements, which are detailed in product-specific manuals.

For additional information on or details on any Stryker brand products, contact Stryker Technical Service at (866) 841-5663.

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#### 3. Intended Use

The S-Series System is designed for use in operating rooms, medical treatment rooms, intensive care units, or any area of a medical facility that requires a ceiling-mounted device to supply power, medical gases, and data-communication services.

The S-Series System is designed to be used in rooms that have been constructed to meet NFPA 70 2011, National Electrical Code, NFPA 99, standard for health care facilities.

The illustrations in this Installation Manual are intended to provide a better understanding of the device; they are not necessarily drawn to scale and may deviate slightly from the actual model.

**WARNING** - Danger if not used as intended. Dangerous situations can occur any time the device is used for purposes beyond or other than those intended. Therefore, use the device only as intended.

- Strictly adhere to all specifications in this service manual.
- Only Stryker personnel or technicians expressly authorized by Stryker can install, modify, or repair the devices.
- It is the hospital/contractor's responsibility to install pre-installation items safely using the appropriate personal protective equipment.

#### **WARNING** - The following particular uses are prohibited:

- Do not operate in areas where there is danger of explosion; the S-Series System is a potential source of ignition.
- Do not operate with damaged components.
- Do not hang objects from the horizontal arms, spring arms, or service head.

**Note** - Claims of any kind due to damage resulting from improper use are excluded. The operator is solely responsible for damages resulting from improper use.

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## 4. Site Readiness: Owner's Checklist

It is **CRITICAL** that all relevant items be completed before the scheduled installation date. Use the checklist below to make sure all requirements are met.

Contact Information: Stryker has been provided all contact/fax numbers and e-mail addresses needed for shipping and receiving.
Site visitation requirements: Stryker has been notified about any required safety training classes, hospital ID/badge requirements, parking instructions, and union requirements.
The access point for receiving equipment is clear, allowing enough room for large, full size semi-truck/trailer as well as room to off load via lift gate if required.
Floor protection is installed from delivery location to installation area as needed/required by the hospital and/ or contractor.
All needed elevators, doorways, and hallways are ready-to-use and wide enough for movement of equipmen from the delivery/storage area to installation location. The crate size is dependent on the configuration of the ordered boom. The following crate dimensions must be able to be accommodated:
• Small crate: 80" L x 31.5" W x 86.5" H
• Large crate: 96" L x 31.5" W x 86.5" H
The ceiling height of the OR must able to accommodate the following crate sizes:
Small Crate: 92"
Large Crate: 108"
If accommodations cannot be made for the larger crate, it will be necessary to select and order a smaller boom option.
Failure to prepare and identify adequate ceiling heights in the pathway and OR/ICU prior to installation can prevent or cause significant delays to equipment installation.
The mounting site is prepared; ceiling superstructures are built in accordance with Stryker pre-install manual specifications, and the ceiling superstructures are adequate to support the weight, moment, and rotation specifications of the equipment.
The room is clear; all other equipment, material, and any other trades working at time of installation have been removed.
The room is properly lit for the installation by means of temporary or permanent fixtures; lighting should not conflict with the installation and movement of equipment.
The environment is dust free; use plastic sheeting to protect equipment.
Electrical circuits are provided and gases are piped per Stryker pre-installation manual specifications and room CAD/elevations.
 Staging/transfer of equipment from unloading area to rooms.
 -

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Removal of shipping containers/trash to customer/contractor supplied dumpster or drop off location.
Storage facilities for equipment containers must be available prior to installation.

**Note** - If a return trip is required due to incomplete items, Stryker reserves the right to bill the hospital at the normal service rate.

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## 5. Pre-Installation Responsibilities

### 5.1. Stryker's Responsibility

Stryker is responsible for:

- · Advising the hospital of a proposed time-frame for installation of Stryker-supplied infrastructure.
- Checking in with hospital personnel and/or contractor to announce arrival.
- Running and terminating all Stryker-supplied audio visual cables required for Stryker equipment.
- Installing each service head on ceiling support superstructures designed and constructed by the hospital/contractor.
- Inspecting all installed booms for quality assurance.

Stryker supplies the following components to the hospital/contractor for pre-installation:

- Equipment Configuration Drawings (including elevations, CAD, and room layouts)
- Mounting plate
- Medical gas risers/bridge(s)
- Tube combination (TC) junction box(for TC mounted lights)

Stryker supplies the following components to the hospital and/or contractor with each S-Series System:

S-Series System junction box for branch circuit field wiring connections, Ceiling Junction Box (page 23).

**Note** - Stryker will not be responsible for the superstructure design or the materials used. For technical questions concerning Stryker-brand products, contact Stryker Technical Service at 1-866-841-5663.

## 5.2. Hospital's Responsibility

Review this manual in its entirety before proceeding with pre-installation construction. Hospital/contractor responsibilities are outlined and specified throughout the entire manual.

Prior to installation of the S-Series System, the hospital/contractor is responsible for:

- Design and construction of a superstructure that meets all of the structural requirements outlined in this manual, including installing the mounting plate and adhering to no-fly zones, Structural Requirements (page 11).
- Design and construction of an access panel that meets the specifications outlined in this manual, *Structural Requirements* (page 11).
- Design and construction of electrical infrastructure that meet all electrical requirements outlined in this manual prior to installation of the S-Series System, *Electrical Requirements* (page 23).
- Providing and installing a conduit network that meets all requirements for running electrical, low voltage, data, and video cables outlined in this manual, *Electrical Requirements* (page 23).
- Installing the low voltage, data, and video cables between the supply and S-Series System, *Video and Data Conduit Requirements* (page 26).
- Installing the Stryker gas risers/bridge on the mounting plate, Medical Gas Requirements (page 27).
- Testing and certification of superstructure, electrical wiring, and gas piping to national and local codes. Results must be provided to Stryker teams, as requested.
- Referring to Stryker elevations and configuration drawings to understand the requirements of a configured S-Series System as it relates to this manual.

Maintaining a secure location for Stryker pre-installation parts that arrive on site.

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Lost and/or damaged parts will incur additional replacement costs.

**Note** - Stryker will not review or approve customer support structures. This is the responsibility of the customer's architect and designated structural engineer. Any visit by Stryker personnel to view the steelwork is purely to review its positioning against reflected ceiling plans.

Following installation of the S-Series System, the hospital/contractor is responsible for:

- Installing and securing the junction box according to local and national building codes.
- Making all final electrical connections from the hospital mains to the equipment inside the junction box (including line, neutral, ground).
- Making all final low voltage/data connections to equipment.
- · Making connections between S-Series System hoses and gas risers.
- Performing required medical gas testing on the complete, installed S-Series System per local codes, NFPA99 for US installation, and CAN/CSA Z5359:16 Clause 5.2 and CSA Z7396.1, Clause 15.2.4.1 for Canada. Results must be provided to Stryker teams, as requested.

Stryker ships the S-Series System equipment via LTL truck or moving van in specially constructed, reinforced packaging.

**WARNING** - Loaded shipping pallets weigh more than 400 pounds (181.5 kg) and can cause injury to people or damage to equipment if not handled properly. Use proper lifting equipment and procedures.

**CAUTION** - Store S-Series System equipment out of the elements and away from dust, debris, and excess moisture. Failure to protect components can lead to damage that will prevent proper installation and service performance.

#### 5.2.1. Regulatory Requirements

The following regulatory requirements apply to Canada only.

- 1. Non-flammable medical gas pipeline systems shall comply with CSA Z7396.1.
- 2. Electrical installations in health care facilities shall comply with CSA C22.1 and CAN/CSA-Z32.
- 3. Anaesthetic gas scavenging systems shall comply with CSA Z7396.2.

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## 6. Structural Requirements

This section provides information required by the Engineer of Records (EOR) to design the superstructure for the S-Series Equipment Management System.

The illustrations are suggestions for the EOR to design the superstructure. The design and materials used are at the discretion of the EOR and based upon specific site requirements.

The support structure, electrical conduits, junctions boxes, video, data, and other services are to be installed by the hospital or contractor and are not contained within the scope of work for Stryker. Stryker assumes all work has been performed in accordance with all applicable engineering and electrical building codes.

Stryker cannot be responsible for the superstructure designs or the materials used. For questions regarding pre-installation requirements for S-Series System, contact Stryker Technical Service at 1-866-841-5663.

#### 6.1. Superstructure Design Loads

See the Site Readiness: Owner's Checklist (Site Readiness: Owner's Checklist (page 7)) and Responsibilities (Hospital's Responsibility (page 9)) for a description of the hospital's design and construction responsibilities.

**WARNING** - Responsibility for proper design of the support structure lies entirely with the hospital/contractor and is not covered through warranty by Stryker. An improperly designed support structure may result in poor performance or damage to equipment and possible injury to the user.

WARNING - Service charges related to inadequate support structure design are at the customer's expense.

**WARNING** - Stryker will not review or approve customer support structures. This is the responsibility of the customer's architect and designated structural engineer. Any visit by Stryker personnel to view the steelwork is only to compare its position to ceiling plans.

Hospital/contractor responsibilities:

- Make sure that Stryker equipment and infrastructure is not impeded by the design of the support structure.
- Design and install the support structure to:
  - Support weight and moment loads of each equipment piece, Weight and Design Specifications (page 11).
  - Satisfy all applicable regulations including, but not limited to, building and electrical codes.
- Install Stryker-supplied mounting plate at the bottom of each support structure at 3" (76.2 mm) above the finished ceiling
  in accordance with the recommended method. THIS MUST BE INSTALLED PRIOR TO STRYKER ARRIVING ON-SITE
  FOR INSTALLATION.

**Note** - For installations in seismic zones, such as California, which must adhere to OSHPD regulations, install the Stryker-supplied mounting plate 2.75" ± .39" (70 mm ± 10 mm) above the finished ceiling.

• Install a 24" x 24" (609.6 mm x 609.6 mm) access panel directly adjacent to each mounting point for installation, maintenance, and future service.

## 6.2. Weight and Design Specifications

The support structure must be designed and fabricated to adequately support the loads specified for each application and to conform to all applicable regulations. The structure can vary significantly based on load, interstitial space, obstructions, local building codes, etc.

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#### **WARNING** -

- The design and construction recommendations in this manual cover one of many alternatives that can be used
   (Structural Requirements (page 11)). Factors such as building structure (e.g., concrete, steel, brick, etc.), the amount of
   space available above the finished ceiling, obstructions within the ceiling cavity, hospital restrictions (e.g., welding within
   the ceiling cavity), economics, and contractor preferences may require different approaches to the design and
   installation of S-Series System superstructures.
- Responsibility for proper design of the support structure lies entirely with the hospital/contractor and is not covered
  through warranty by Stryker. An improperly designed support structure may result in poor performance and/or damage
  to equipment as well as possible injury to user. Service charges related to inadequate support structure design shall be
  at the customer's expense.
- Use of bolt-together, pre-fabricated structural members is not recommended for the support structure design. This
  approach allows considerable flexing of the structure and results in possible safety concerns, poor performance of boom
  assembly, and possible equipment damage.

#### Note -

- The ceiling cover holes and boom flange mounting holes, located in the plate's Clear Zone, cannot be impeded.
- It is recommended that the design of the structures above the ceiling include side bracing to help keep the structure level.

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#### 6.2.1. Weights and Moments

The superstructure must be designed to the weights and moments shown in the table below which lists the heaviest unit and the highest rotational moment.

The installed weights and moments shown in the table below include the S-Series components and payload. It is recommended that all support structures be designed around the heaviest model for both increased safety margin and to allow flexibility for future product upgrades.

Design Weight and Moments			
S-Series System Type	Maximum Weight	Maximum Moment	
Single Mount with TC	1,100 lbs (498 kg)	5,650 ft-lb. (7,660 Nm)	
Tandem Mount with TC	2,200 lbs (997 kg)	11,300 ft-lb. (15,320 Nm)	

#### 6.2.2. Mounting Plate

The Stryker-supplied mounting plate must:

- Be installed in a horizontal plane (± 0.1°) with the stude pointing down.
- Be installed on a superstructure that is rigid enough to prevent the mounting plate from rotating more than 0.1° when the specified design load is applied.

### 6.3. Mounting Plates

The Stryker-supplied mounting plate is the primary surface for boom assembly. It is the responsibility of the customer/contractor to install the plate, as it is considered part of the structure. The mounting plate MUST be installed by the hospital/contractor prior to the installation start date.

The S-Series System can only be mounted on the plates in the following sections.

Light shaded areas denote Stryker-only threaded holes. Dark shaded areas are acceptable mounting holes for the contractor. Dark shaded areas are also acceptable for welding.

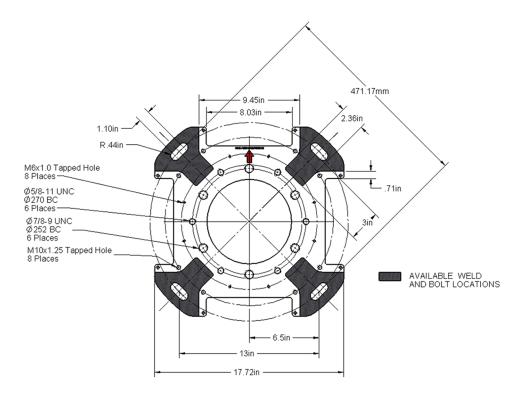
**CAUTION** - If welding the Stryker-supplied mounting plate, holes in the light shaded area must be masked to prevent weld slag from obstructing the threads. Failure to mask the holes will delay the Stryker installation timeline and activities.

#### Note -

- The bottom must be recessed 3" ± .25" (76 mm ± 6.4 mm) above the finished ceiling.
- For installations in seismic zones, such as California, which must adhere to OSHPD regulations, install the Stryker-supplied mounting plate 2.756" ± 0.394" (70 mm ± 10 mm) above the finished ceiling.

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## 6.3.1. Single Common Plate



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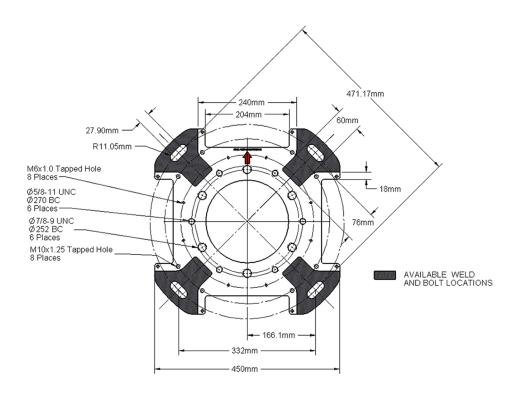
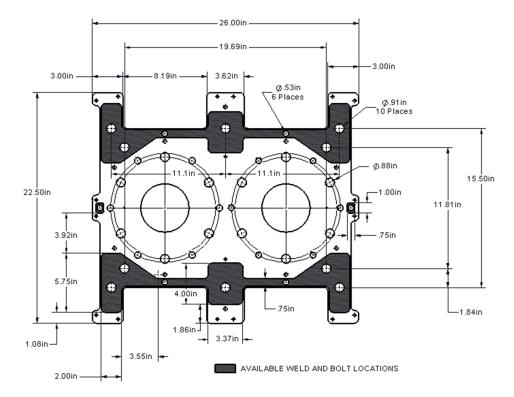


Figure 1 – Single Common Plate (P29282)

#### 6.3.2. Tandem Common Plate



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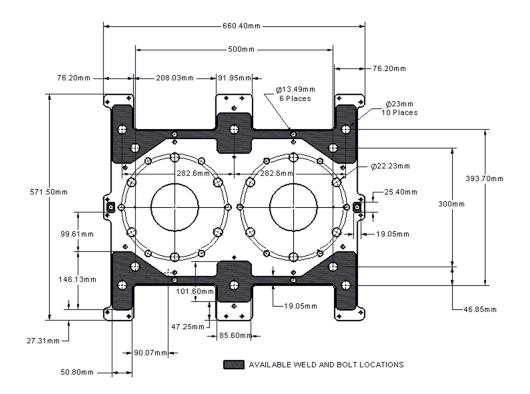


Figure 2 – Tandem Common Plate (P29280)

**CAUTION** - Make sure that the tandem structure is mounted in the proper orientation by referring to the equipment configuration drawings specifically related to the project.

## 6.4. Space Requirements

The hospital and/or contractor must make sure that the ceiling opening will accommodate the mounting plate along with any and all accessories installed on it.

The recommended ceiling cutout size for the Single Common Plate is 21.5" x 21.5" (546.1mm x 546.1mm) The ceiling cutout size for the Tandem Common Plate is 25" x 32" (365mm x 812.8mm).

A pre-installation inspection before the finished ceiling is installed may allow the detection of potential interferences with the S-Series System installation and permits for easy layout changes.

Owners typically order multiple S-Series Equipment Management Systems to be installed in separate rooms/areas for different purposes. Each of these systems can be equipped differently, requiring different numbers and optional components. It is important that the mounting requirements for each installation be evaluated individually.

#### 6.4.1. Junction Boxes

Make sure that there will be space to mount the S-Series Standard ceiling junction box  $(7.4^{\circ} \times 3.5^{\circ} \times 3.74^{\circ} = 188 \text{mm} \times 65 \text{mm})$ ). This should be mounted by the electrician or contractor according to NEC and local building codes.

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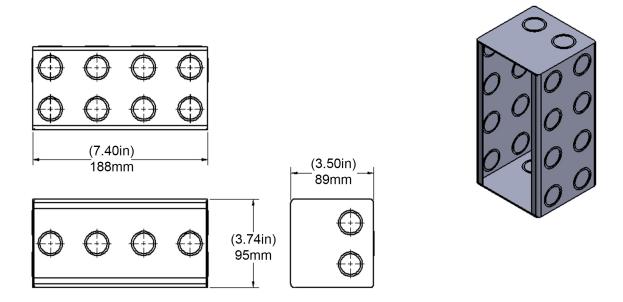


Figure 3 – Junction Box Dimensions

If a Chromphare light is TC mounted, there will also be a Stryker-supplied TC junction box. The TC junction box is 10" x 8" x 4".

If the system is being installed in an NEC controlled region, an additional Stryker-supplied junction box will be provided for low-voltage cabling. The low voltage cable junction box is 10" x 8" x 4".

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#### 6.4.2. No Fly Zone

**CAUTION** - The hospital and/or contractor must make sure that structural/utility components do not interfere with ANY part of the S-Series System.

The following areas must be left clear for Stryker to be able to properly install the complete S-Series System:

- 12" (304.8 mm) above the S-Series System components within the interstitial space
- 0.5" (12.7 mm) around the outside of the S-Series System ceiling cover boundary.
- The only items that can be within the no fly zone are the superstructure elements above the designed mounting areas outlined in the Single and Common Tandem Plate sections. The risers will also be mounted in this zone.

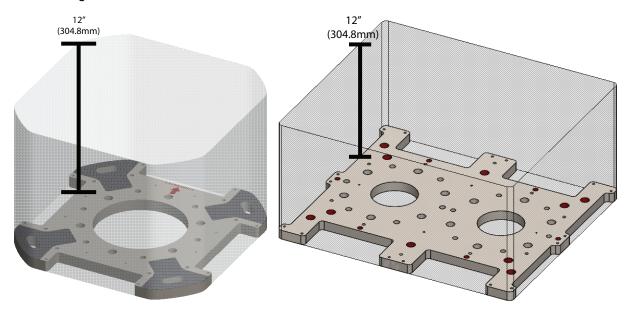


Figure 4 - S-Series System Interstitial Space "No Fly" Zone

Consideration should be given for structural/utility components that can interfere with the system installation, such as:

- · Lighting fixtures
- HVAC
- · Sprinkler system heads
- Mechanical systems
- Speakers
- · Fire/smoke detector systems
- Structural beams

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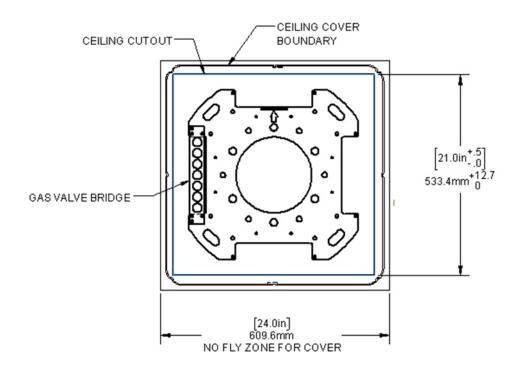


Figure 5 – Single Common Plate and Gas Valve Bridge

**CAUTION** - The ceiling cutout can range between 21" to 21.5" (533.4 to 546.1 mm) per side. Anything outside of this range can compromise Stryker's ability to complete the installation.

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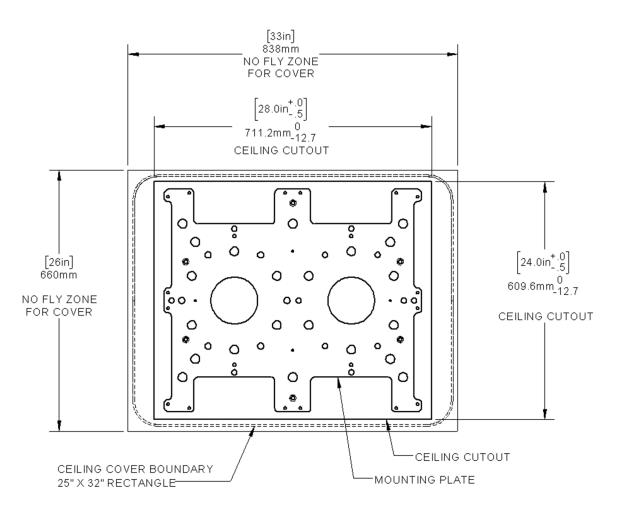


Figure 6 - Tandem Common Plate and Gas Valve Bridge

**CAUTION** - The ceiling cutout can range between 24" to 24.5" (609.6 mm to 622.3 mm) for the shorter side and 28" to 28.5" (711.2 mm to 723.9 mm) for the longer side. Anything outside of this range can compromise Stryker's ability to complete the installation.

#### 6.4.3. Gas Valve Bridges

Consideration must be given for gas risers. Keep the no-fly zone clear for the risers.

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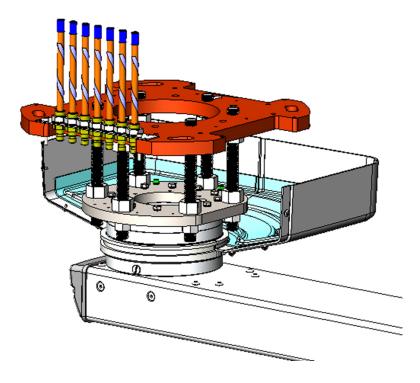


Figure 7 – Standard 7 Riser Plate

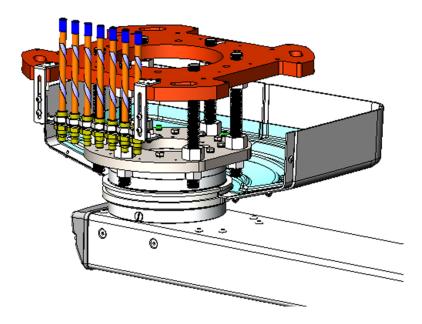


Figure 8 – 7 Riser Plate on Adjustable Bracket

### 6.4.4. Completed Mounting Plate and Risers

This section provides snapshots of the ceiling space with the risers and mounting plates installed. They do not include superstructures.

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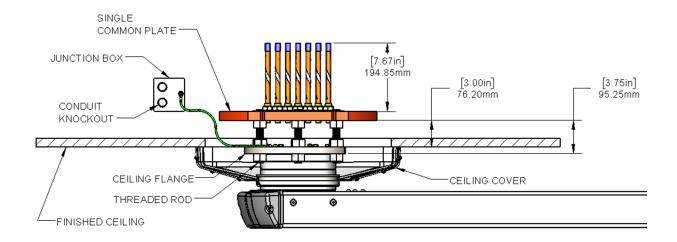


Figure 9 - Single Common Plate

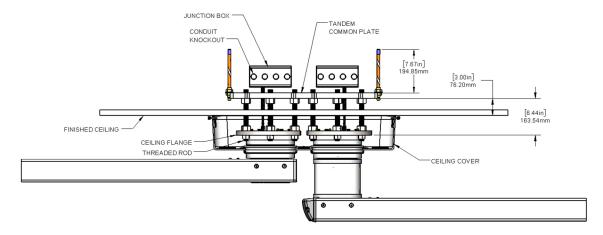


Figure 10 - Tandem Plate

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# 7. Electrical Requirements

The hospital's electrical contractor must provide and install branch circuit wiring from the panels to the S-Series System in code-compliant conduit, terminating at the S-Series System junction box for field wiring connection. All of the S-Series electrical circuits terminate in screw type connectors in the Stryker-supplied ceiling junction box. For terminations in combination mount configurations, *Wiring for Combination Mounts* (page 24).

Low-voltage/data and video cables will be run from points designated by the hospital/contractor or third party integration company to designated outlets on the S-Series service head.

The hospital/contractor is responsible for making sure that all installed electrical, low-voltage/data, and video components comply with applicable electrical codes and that all wiring and conduit runs described for the specific installation are complete before product installation.

For technical questions, contact Stryker Technical Service at 1-866-841-5663.

## 7.1. Field Wiring

Each S-Series unit may include one or more ceiling junction boxes for field wiring connections. Refer to the equipment configuration drawings for the type and quantity of circuits required.

Refer to the section labeled "Outlet Connections Schedule" on the elevation drawing. Review each of the four subsections of the supply unit, front plate, right module, back plate, and left module. If the connection type indicated is "electric" then the corresponding circuit numbers and required branch circuit ratings should be observed and followed. The indicated voltage rating is the maximum rather than the nominal (e.g., 125 VAC corresponds to a nominal of 110 VAC).

After installation of the S-Series Equipment Management System is complete, the hospital/contractor must make the final electrical connections to the equipment inside the junction box; this includes connecting all line, neutral, and ground. The hospital's ground must be connected to the bus bar in the ceiling junction box.

### 7.1.1. Ceiling Junction Box

Stryker will provide one or more ceiling junction boxes depending on the configuration.

- Emergency and Normal Power will be in separate ceiling junction boxes.
- Power that is coming from separate transfer switches will be in separate ceiling junction boxes.
- Each S-Series System can be built for isolated or non-isolated power, but these cannot exist within the same boom.
- Each ceiling junction box contains two ground bus bars.
- Inside the ceiling junction box, each circuit wire harness is labeled with the circuit number for connection to the incoming branch circuit. The safety ground wires must be secured to the ground bus bar.

**Note** - The hospital/contractor is responsible for connecting the hospital ground wire to the ground bus bar in the ceiling junction box. The hospital/contractor is responsible for connecting hospital mains to the branch circuit wires in the ceiling junction box and securing with wire nuts, which are not provided by Stryker.

#### **WARNING** -

- The ground wire from the ceiling junction box must be secured to the flange.
- The ceiling junction box should be mounted by the hospital/contractor to meet NEC requirements.

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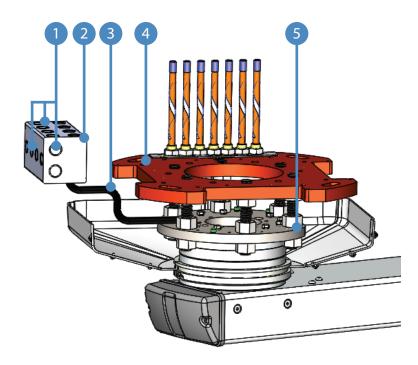


Figure 11 – Single Common Plate with Junction Box

1	Conduit Knockouts	4	Single Common Plate
2	Junction Box	5	Ceiling Flange on top of S-Series System Booms
3	Ground Wire Conduit		

The hospital/contractor is responsible for providing the wire nuts to make all final connections in the ceiling junction box.

### 7.1.2. Wiring for Combination Mounts

If an S-Series System equipped with a TC mounted Chromophare light, the DC power circuit and lighting control cabling (CAN bus) will originate in the Chromophare SK Box and terminate in the TC junction box. The DC power circuit will terminate in the TC junction box and the lighting control cabling (CAN bus) will terminate on the equipment mounting tube (CAN bus) distribution board. The TC junction box is 10" x 8" x 4".

If a service head combination is equipped with a Visum® LED light and/or flat panel, refer to the Visum Surgical Lights and Flat Panel Arms Pre-Install Manual (1001400008) for electrical requirements.

## 7.2. Electrical and Audio Visual Infrastructure (prior to Stryker installation)

- Install the appropriate conduit, as shown in the Conduit Schedule on the elevations.
- Make sure that the capacity of electrical infrastructure is capable of meeting the requirements specified by Stryker for the project.
- Make sure that everything is ready at the time of installation.

## 7.3. High-Voltage Circuit Connections

The S-Series Equipment Management System (arm systems and service head) is UL listed to meet NFPA 70 (NEC), UL guide KEZR, Prefabricated Headwalls and Medical Supply Units, UL Guide KEXS, Isolated Power Systems to UL 1047, and UL 60601-1 2nd Ed, Medical Electrical Equipment, Class I type B.

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The branch-circuit wiring inside S-Series System is separated and grounded in accordance with the NEC. The arm systems and service head together are classified as a redundant ground.

A ground wire runs from the ceiling junction box to the ceiling flange. The ground wire and ceiling junction box must not be removed.

Branch circuit wiring has the following specifications:

		Size	Insulation	Color
Isolated	Standard 120 VAC or	12 or 10 AWG	XHHW-2	Striped orange/brown
Non-isolated	240 VAC	12 01 10 AWG		Black and white

According to the NEC, branch circuits from the emergency system and branch circuits from the normal system must be separated, as must isolated branch circuits and non-isolated branch circuits. If an S-Series System contains both emergency and normal branch circuits, they must be contained is separate ceiling junction boxes and remain separated throughout the run to their respective panels.

The branch circuit field connections are made after the S-Series System is installed. The junction boxes can be accessed via the required panel in the ceiling. The electrical contractor needs to run the proper branch circuit wires via conduit to the appropriate junction box, and secure the conduit to the ceiling junction box. The electrical contractor is responsible for connecting main power and grounds to the S-Series System in the ceiling junction box.

**WARNING** - The branch circuit conduit must be secured to the junction box using conduit connectors listed for grounding as they are part of the system's redundant grounding path.

For additional details regarding high voltage requirements, Ceiling Junction Box (page 23).

## 7.4. Low-Voltage Electrical Requirements

Stryker-supplied low voltage and data cables will be run through the S-Series system outside of conduit.

Any third-party telephone, data, video, low voltage, or other non-Stryker cables need to be routed through conduit to remain electrically isolated in the service head. The S-Series system may be ordered with empty conduit for these applications. The hospital/contractor is responsible for pulling the cables through the S-Series system, running these cables to the termination location, and terminating them in the facility.

The hospital/contractor is responsible for making all final electrical connections at the junction box.

Note - See the equipment configuration drawings for specifics.

#### 7.5. Electrical Power Outlets

All electrical hard wiring must be completed by a hospital contracted certified electrician.

- This product does not include an isolation transformer. If the service head is purchased with isolated circuits, it is the
  responsibility of the customer to supply and install an appropriate isolating transformer or equivalent as well as any other
  equipment required for the isolated power system, such as a line isolation monitor. Installation of this equipment must be
  done according to all applicable laws and regulations.
- Isolated power applies to electrical outlets only, not the electric lift motor.
- The S-Series service head can carry multiple hospital-grade receptacles.
- Wiring must be #12 AWG minimum for branch circuits up to 20A and #10 AWG for 30A branch circuits.
- Standard receptacles are rated at 20 Amps, but other ratings can be supplied, if specified at the time of order.

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- Receptacles are wired together in series in each panel.
- Up to two receptacles per panel can be wired together in series depending on configuration. Refer to equipment configuration drawings for specifics.

Note - Stryker personnel are required to be on site for internal service head access.

## 7.6. Video and Data Conduit Requirements

It is the responsibility of the hospital/contractor to make sure the above-ceiling requirements are met.

- The hospital and/or contractor must install the video cables between a supply and the S-Series System. Refer to the
  equipment configuration drawings for the type and quantity of cables required.
- If video equipment will be used, the S-Series System unit will be equipped with the appropriate power outlets and data
  ports as specified by the hospital. The hospital/contractor must run conduit above the ceiling to the S-Series System for
  the video lines prior to equipment installation. Conduit size and routing will be specified in CAD room drawings.
- · All hospital conduits or raceways must have pull strings in place for Stryker equipment.
- For Stryker integration, conduit must be no longer than 50' (15.24 m) to accommodate cable lengths. Refer to the
  equipment configuration drawings to install the required conduit/raceways.
- If Stryker integration equipment is NOT used, the hospital must consult with the video vendor for information about conduit runs between mounting plates and the documentation station. If the vendor does not supply information for its system/equipment, the following provides maximum flexibility for cable runs.
- Run two 2" (50.8mm) conduit or raceways between the mounting plates (for multiple equipment installations).
- Run two 2" (50.8mm) conduit or raceways from each S-Series System mounting plate to the doc station, if present.
- After installation of the S-Series System is complete, the hospital/contractor must make the final video connections to the equipment.
- All hospital conduits and raceways for data must be terminated within 18" (457 mm) of the center of the mount.

# 7.7. S-Series System Motor, Brake, and Internal Power Requirements

#### Note -

- Brake systems are not required to be on isolated power systems (check local code requirements).
- This section is not associated with electrical power outlets. For outlet electrical requirements, *Electrical Requirements* (page 23).
- The hospital must supply power to the S-Series System.
- Power must be 120 VAC 50/60 Hz (with a current of 10 Amp) from a dedicated source.
- Power must be able to be turned on at the time the equipment is installed so that the electrical systems can be tested after installation is complete.

## 7.8. Parts Requirement

Use only original Stryker brand parts that can be purchased directly from Stryker or authorized dealers.

**WARNING** - Using incorrect or defective parts can compromise safety, cause damage, malfunction, or complete failure of the product.

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# 8. Medical Gas Requirements

Stryker supplies a medical gas riser for installation on the S-Series System mounting plate. The riser includes:

- Valve bridge(s)
- · Diameter Index Safety System (DISS) connections with single check valves for positive pressure gases
- Testing caps

A compressed air riser with 1/4" NPT fitting is available for installation on the valve bridge, if requested. It must be attached to the mounting plate and facility air lines before installation of the equipment can begin.

**Note** - Compressed air must be filtered through a dryer to prevent moisture and condensation in the air lines. Failure to provide filtered air may cause equipment malfunction and corrosion conditions.

Medical gas risers comply with NFPA 99 Section 5. They are shipped in advance of the S-Series System equipment and must be attached to the mounting plate before installation of the equipment can begin. Medical gas is delivered through the S-Series System via medical grade hoses. All hoses are NFPA compliant.

Risers and hoses will arrive with ends capped for cleanliness during transportation and installation. Caps are to remain in place until hoses are connected to the risers by the hospital/contractor following S-Series installation.

Oxygen outlets are cleaned for oxygen service per CGAG-41. This cleanliness should be maintained through installation.

### 8.1. Medical Gas Site Preparation

#### **CAUTION -**

- Hospital supplied pressure to the S-Series System on any medical gas should not exceed 200 psi.
- It is not recommended to connect WAGD lines to the medical-surgical vacuum system. Per NFPA99, flammable and
  nonflammable gasses are known to be incompatible with some seals and piping used in medical-surgical vacuum
  systems. If WAGD is to be included as part of the medical-surgical vacuum system, it should be recognized that this
  activity might cause deterioration of the vacuum system.

#### Note -

- Although not recommended, if WAGD is included as part of the medical-surgical vacuum system, the source must comply with NFPA99 requirements.
- For Passive AGSS systems in Canada, the exhaust flow for a passive AGSS system connected to a Stryker outlet must meet a minimum flow rate of 25 liters per minute at all scavenging points.
- Special care should be taken when installing gas risers to the hospital gas lines to make sure risers are connected to the
  correct gas lines. Make sure that the labeling matches at each connection. Per NFPA99, this requirement applies to ICU
  and exam rooms, as well as operating rooms.

The hospital/contractor must install the medical gas piping between the main gas supply and the S-Series System, including brazing the pipes to the Stryker supplied gas or vacuum risers. Refer to the equipment configuration drawings for the type and quantity of gases required.

The hospital must pipe the medical gases from the building supply to the S-Series medical gas riser location prior to installation of the equipment.

- Install gas risers with check valves prior to Stryker installation. Select locations adjacent to the access panel for serviceability and ease of installation.
- Keep risers capped until hoses are connected.
- Install gas lines and piping conforming to local gas standards and NFPA99.
- · Test results must be made available to Stryker installers.
- Attach gas hoses from boom to gas risers with check valves during Stryker installation.
- Keep free hose ends capped until connecting to risers.

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Test according to NFPA 99 and any local codes prior to installation of the S-Series System, and a piping blow down
must be performed before connecting the gas system risers

**Note** - Every gas listed on the gas schedule, from the site-specific Stryker elevations, requires a med gas riser. For example, if two vacuums are required per S-Series System, then two vacuum risers are required for that system.

#### 8.1.1. Post Installation

After installation of the S-Series System is complete, the hospital/contractor must make the final gas connections to the equipment.

The hospital is responsible for coordinating medical testing to NFPA99 and local codes on the complete installed system. **Test results must be made available to Stryker installers**.

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## 8.2. Installing Medical-Gas Risers

The hospital/contractor is responsible for installing the Stryker-provided medical gas risers prior to installation of the S-Series System.

Note - Gas Risers are only available in the U.S. and Canada.

Medical-gas risers interface between hospital-supplied medical gases and service head gas delivery hoses. Stryker supplies gas risers with check valves. Each riser is keyed to specific gas type by means of a DISS style connection. The vacuum and WAGD riser will have a copper cap in lieu of a check valve.

- Medical gas risers are to be mounted on the bridge(s).
- · Valve bridges are to be mounted in appropriate locations on the S-Series System mounting plate.
- If two bridges are required, they must be mounted directly opposite each other on the single mounting plate, as determined by the mating holes. If only one bridge is needed, it can be mounted on either side.
- Installation screws, washers, and nuts are shipped with the valve bridge(s).

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# 8.2.1. Securing Bridge to Mounting Plate

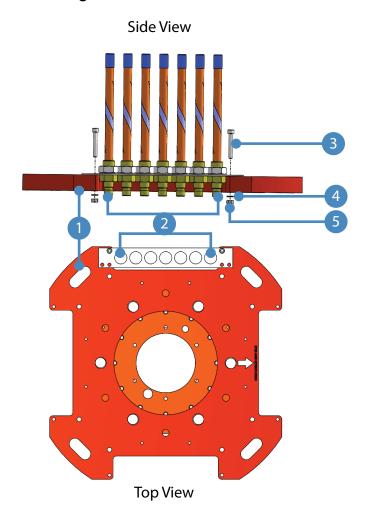


Figure 12 – Gas-Valve Bridges on Single Common Plate

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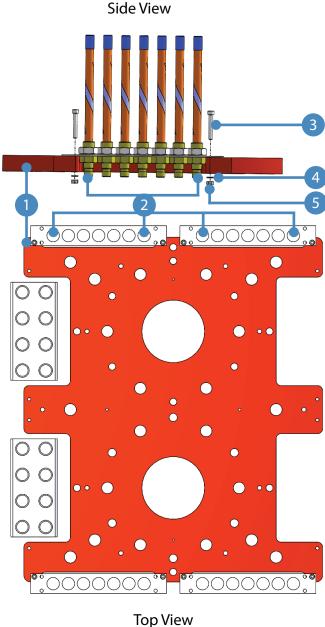


Figure 13 - Gas-Valve Bridges on Tandem Common Plate

- 1. Place the bridge 2 on top of the mounting plate 1 and align to the mating holes.
- 2. Insert a bolt through each hole of the gas valve bridge and mating holes in the mounting plate, and secure with a washer 4 and nut

S-Series Systems equipped medical gas tubing will be attached to the supply side of the medical gas risers when installation is complete.

#### Note -

- The medical gas valve bridge must be mounted on the side adjacent to the boom on a Tandem Common Plate.
- The medical gas valve bridge must be mounted in the locations shown in the previous figures.

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#### 8.2.2. Installing a Riser on an Adjustable Bracket

If it is necessary to install the riser plate below the mounting plate, the adjustable bracket can be used.

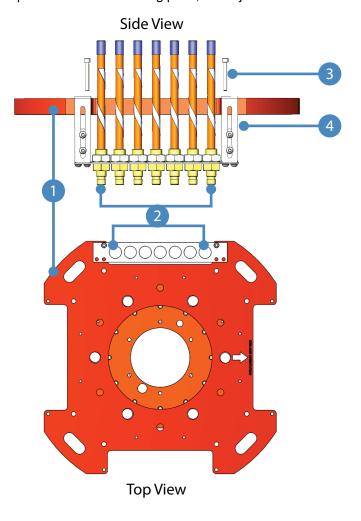


Figure 14 - Riser on Adjustable Bracket

- 1. Mount the bridge 2 on the bottom of the adjustable bracket 4 and secure it with four screws and washers.
- 2. Put the top of the bracket onto the top of the mounting plate and align to the mating holes.

  CAUTION Make sure to mount the adjustable bracket so that the riser is at the bottom, below the mounting plate, rather than flush with the mounting plate.
- 3. Insert a bolt through each hole of the gas valve bridge and mating holes in the mounting plate, and secure with a washer and nut.

S-Series Systems equipped medical gas tubing will be attached to the supply side of the medical gas risers when installation is complete.

Note - The medical gas valve bridge must be mounted in the locations shown in the previous figure.

# 8.3. Making Connections

The hospital/contractor is responsible for making the gas connections from the facility gas pipeline to the S-Series System gas risers.

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## 8.4. Gas and Air Lines

**U.S. and Canada only** - All gas lines must be terminated with (Stryker-supplied) gas risers with check valves and appropriate connectors for interfacing with hoses on the boom.

- Solder riser "pigtail" (3/8" [9.5 mm] copper tubing) to the existing gas line, pay attention to matching riser type with correct gas type.
- All gas lines must be cleaned/blown down to be free of debris prior to connecting gas hoses from the Stryker-mounted boom.
- Make sure that all gas lines are properly labeled by gas type per NFPA 99 (for U.S. only) or appropriate local codes or standards, such as ISO 7396-1.

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### 9. Terms of Use

## 9.1. Limited Liability

All specifications and notices in this manual were compiled using best practices and regulations, the current state of technology, and Stryker's many years of experience and knowledge.

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- · Work performed by untrained personnel
- · Unauthorized modifications
- · Technical changes
- Installation of non-approved spare parts or consumables
- · Performance of unauthorized installation and maintenance work

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Contact Stryker Customer Service with questions or concerns.

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1-972-410-7100

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