



# SUBMITTAL DATA

for

Lees Summit Surgical

G&W Engineering

Prepared for

Marcus Eckstein

Job Number: CGCFHA

Customer PO#:

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Prepared by

Dan Rettenmaier

9/5/2017

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# Technical Data Sheet for RTU-1

Job Information		Technical Data Sheet
Job Name	Lees Summit Surgical	
Date	9/5/2017	
Submitted By	Daniel Rettenmaier	
Software Version	06.80	
Unit Tag	RTU-1	



Unit Overview					
Model Number	Voltage	Design Cooling Capacity	AHRI 360 Standard Efficiency		ASHRAE 90.1
			EER	IEER	
MPS070E	460/60/3	818280 Btu/hr	9.6	13.4	2016 Compliant

Unit	
Model Number:	MPS070E
Model Type:	Cooling, Standard Efficiency
Heat Type:	Natural gas heat
Application:	Variable volume, w/ VFD, Duct Pressure Control
Altitude:	0 ft
Approval	ETL/MEA

Physical				
Unit Dimensions and Weights				
Unit Length	Unit Height	Unit Width	Unit Weight	
418.0 in	73.0 in	99.5 in	13328 lb	
Unit Construction				
Exterior:	Prepainted Galv Steel	Doors:	Fan, Filter, Coil, Control Panel, Heat, and Economizer section	
Insulation:	2" Insulation	Drain Pan Material	Stainless Steel	
Liners:	Double wall construction			
Unit Electrical Data				
Voltage	SCCR	FLA	MCA	MROPD
460/60/3 v	10 kAIC	165.5 A	173.2 A	200 A
Note:	Use only copper supply wires with ampacity based on 75° C conductor rating. Connections to terminals must be made with copper lugs and copper wire.			

Return/Outside/Exhaust Air				
Outside Air Option				
Type	Damper	Damper Pressure Drop	Leakage Rate	
0-100% Econ with dry bulb control	Low leak with blade and jamb seals	0.21 inH <sub>2</sub> O	1.5 cfm/sq ft @1" differential pressure	
Ventilation Control:	None			
Draw Through Filters				
Efficiency	Quantity/Size	Face Area ft <sup>2</sup>	Face Velocity ft/min	Air Pressure Drop inH <sub>2</sub> O
30%, Merv 8	(7) 16 in x 20 in x 2 in (21) 16 in x 25 in x 2 in	73.9	308	0.15

# Technical Data Sheet for RTU-1

Exhaust Air Option					
Fan Airflow	Max Static Pressure	Fan Type	Fan Quantity	Fan Diameter	Capacity Control
28000 CFM	0.75 inH <sub>2</sub> O	Prop	2	36"	Two modulating exhaust fans w/ VFD
Motor Power	Motor Type	Motor Quantity	Full Load Current	Drive Type	
5.00	Open Drip Proof	2	6.6 AA	Belt Drive	

Cooling Coil						
Fins per Inch	Rows	Face Area ft <sup>2</sup>	Face Velocity ft/min	Condensate Connection Size	Air Pressure drop inH <sub>2</sub> O	
12	6	47.1	483	1.5 In. Male NPT	0.9	
Cooling Performance						
Total Capacity Btu/hr	Sensible Capacity Btu/hr	Entering Air Temperature		Leaving Air Temperature		Ambient Air Temp °F
		Dry Bulb °F	Wet Bulb °F	Dry Bulb °F	Wet Bulb °F	
818280	609022	80.0	67.0	55.5	55.5	95.0

Fan Section				
Type	Fan Wheel Diameter	Vibration Isolation		
AF	30 in	Fixed drive with seismic spring isolation		
Fan Performance				
Air Flow	Total Static Pressure	Fan Speed	Brake Horsepower	Altitude
22750 CFM	4.02 inH <sub>2</sub> O	1357 RPM	21.8 HP	0 ft
Motor				
Horsepower	Type	Efficiency	Full Load Current	
25 HP	Open drip proof, Premium efficiency	94.1	31.0 A	
Drives				
Type	Service Factor			
Belt Drive	120%			

Gas Heat Section					
Type	Material	Gas Type			
Drum and Tube exchanger	Stainless steel	Natural Gas			
Ignition	Combustion Blower	Heat Stages	Gas Piping Connection Size		
Electric	Induced draft blower	Modulating	1 in. Female NPT		
Heating Performance					
Input Size	Heat Airflow	Total Capacity	Steady State Efficiency	Entering Air Dry Bulb	Leaving Air Dry Bulb
500 MBH Input/400 MBH Output	22750 CFM	400000 Btu/hr	80%	60.0 °F	76.2 °F

Unit Discharge Conditions				
Air Temperature				
Motor Heat Btu/hr	Moisture Removal lb/h	Unit Leaving Dry Bulb °F	Unit Leaving Wet Bulb °F	Unit Leaving Dewpoint °F
61891	179.3	58.0	56.3	55.2

# Technical Data Sheet for RTU-1

## Condensing Section

Compressor				
Type	Quantity	Total Power	Capacity Control	Refrigerant Type
Scroll	6	66.8 kW	6 steps	R410A
Compressor Amps:				
Compressor 1		Fixed Speed		17.9 A
Compressor 2		Fixed Speed		17.9 A
Compressor 3		Fixed Speed		17.9 A
Compressor 4		Fixed Speed		17.9 A
Compressor 5		Fixed Speed		17.9 A
Compressor 6		Fixed Speed		17.9 A
Condenser Coil				
Type	Fins Per Inch	Rows	Fin Material	Refrigerant Valves
Aluminum tube micro channel	18	Micro Channel	Aluminum	None
Condenser Coil Options:	None			
Low Ambient Control:	Std low ambient control to 45 F (7.22 C)			
Condenser Fan Motors				
Number of Motors		Full Load Current		
6		2.0 A		
AHRI 360 Data at AHRI 360 Standard Conditions				
Net Capacity	Efficiency		ASHRAE 90.1	
75000 Btu/hr	9.6 EER	13.4 IEER	2016 Compliant	

## Internal Static Pressure Drop Calculation

External Static Pressure:	2.00
Outside Air Damper:	0.21
Filter:	0.15
Additional Filter Static Pressure:	0.50
Cooling Coil:	0.90
Gas Heat:	0.27
<b>Total Static Pressure:</b>	<b>4.02 inH<sub>2</sub>O</b>

## Sound Power

Inlet							
63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz
77	76	82	71	65	58	56	52
Outlet							
63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz
81	79	80	76	70	64	60	55
Radiated							
63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz
-	95	93	93	90	87	86	84

## Options

Electrical	
Field Connection:	Non-Fused Disc Sw, Unit powered 115V GFI outlet
Power Options:	None
Controls	
Temperature Controls:	Discharge air control, field installed BACNet MSTP

# Technical Data Sheet for RTU-1

## Warranty

<b>Parts Warranty:</b>	Standard one year
<b>Compressor Warranty:</b>	Four year extended, five year total
<b>Heat Exchanger Warranty:</b>	Additional nine year, ten total

## AHRI Certification



All equipment is rated in accordance with AHRI 340/360

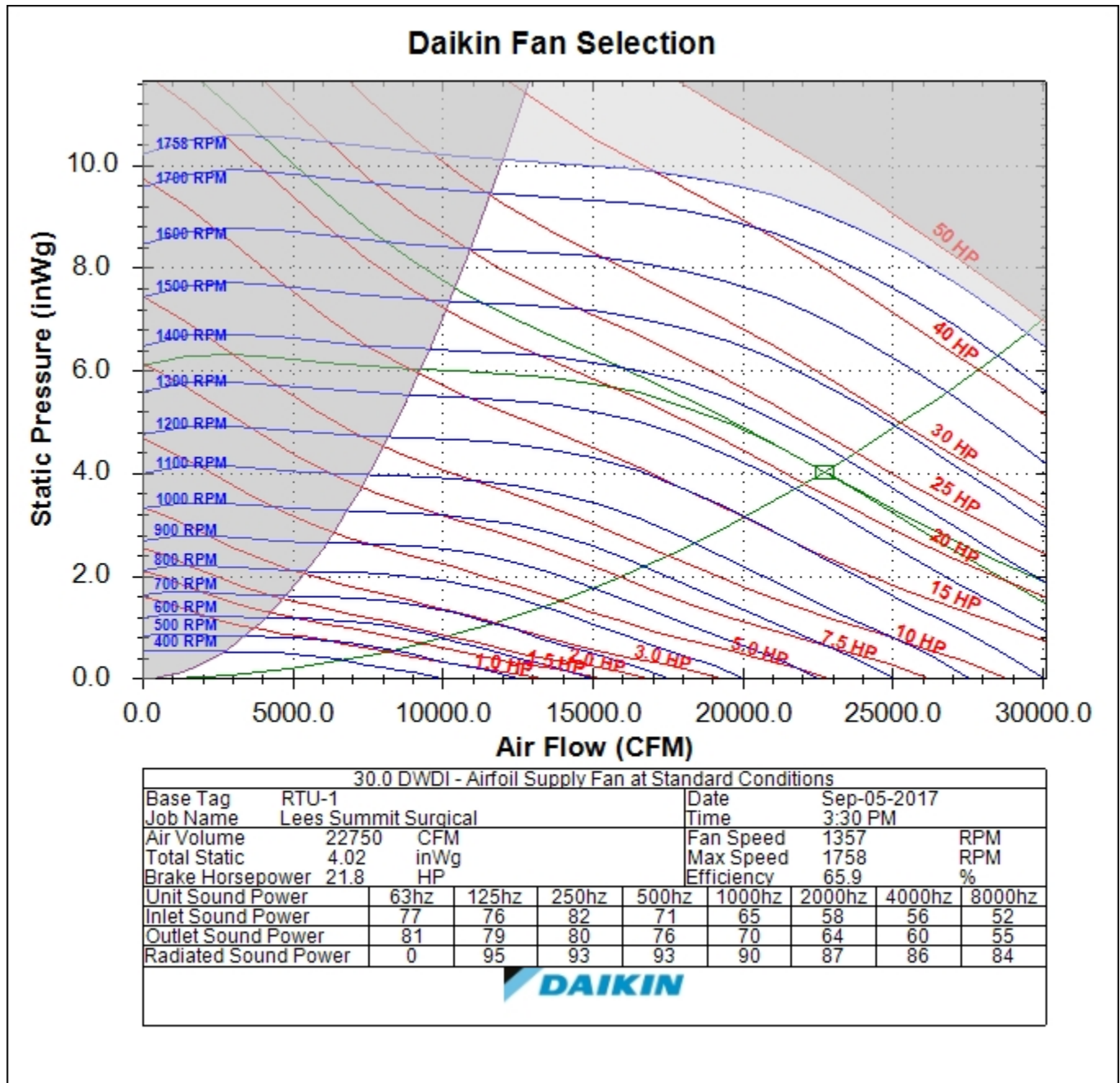
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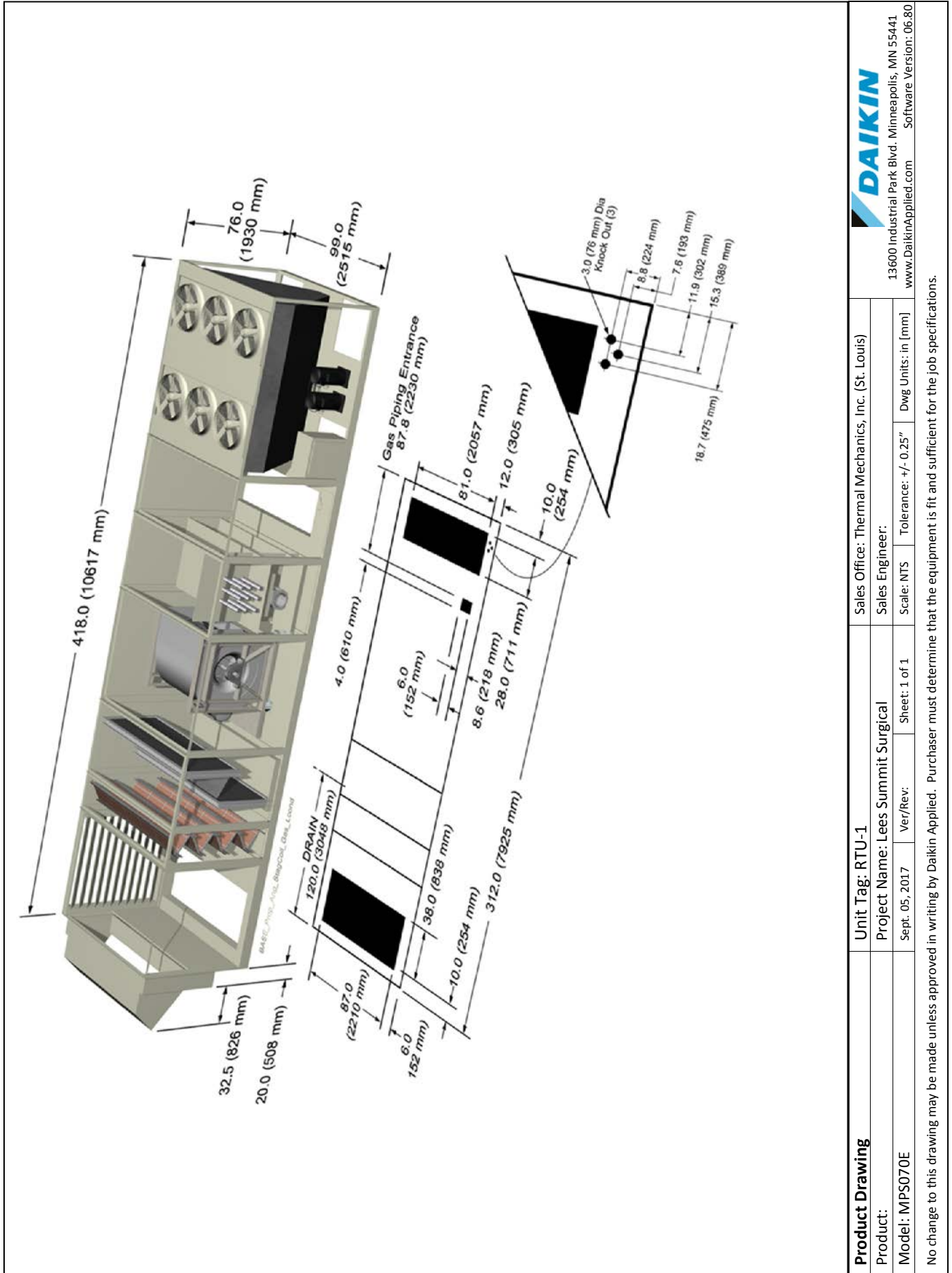
## Accessories

Part Number	Description
090016710	MT III Com Mod for Applied Rooftops, BACnet MS/TP
0500459226	ROOF CURB,RPS,045_075D, 26 ft

Fan Curve - Supply for RTU-1



MPS-62-075E Prop Ang StagCoil Gas Lcond\_Drawing for RTU-1



13600 Industrial Park Blvd. Minneapolis, MN 55441  
www.DaikinApplied.com Software Version: 06.80

Sales Office: Thermal Mechanics, Inc. (St. Louis)  
Sales Engineer:  
Scale: NTS Tolerance: +/- 0.25" Dwg Units: in [mm]

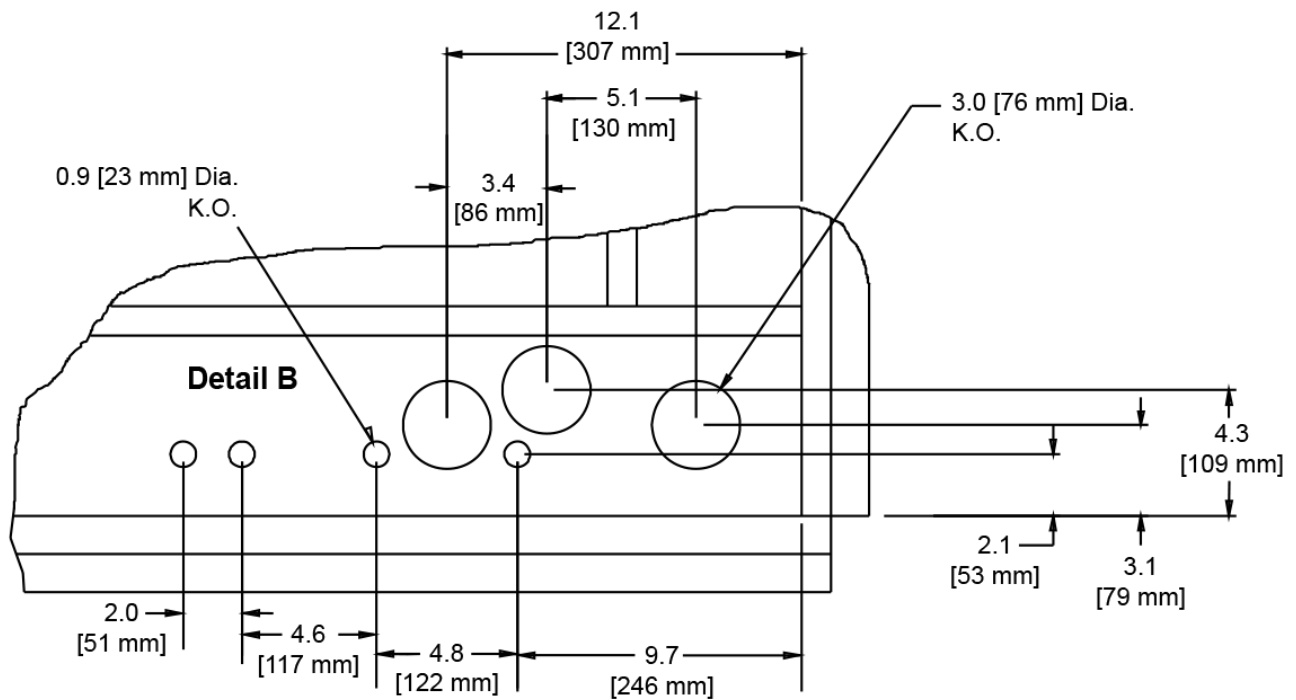
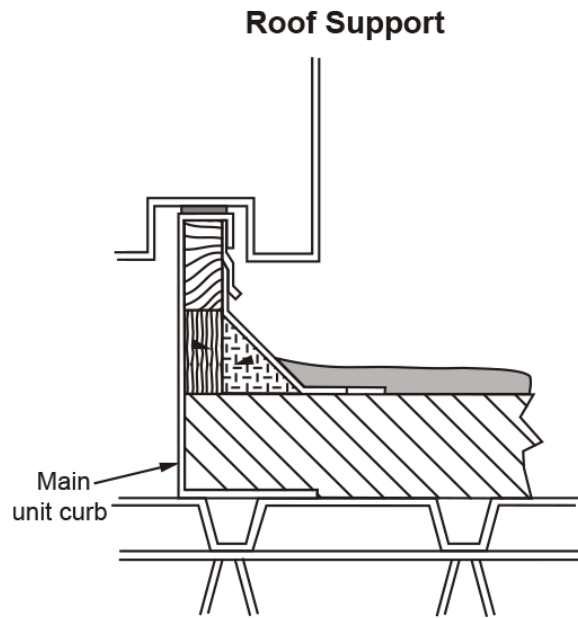
Unit Tag: RTU-1  
Project Name: Lees Summit Surgical  
Sept. 05, 2017 Ver/Rev: Sheet: 1 of 1


**Product Drawing**  
Product:  
Model: MPS070E

No change to this drawing may be made unless approved in writing by Daikin Applied. Purchaser must determine that the equipment is fit and sufficient for the job specifications.

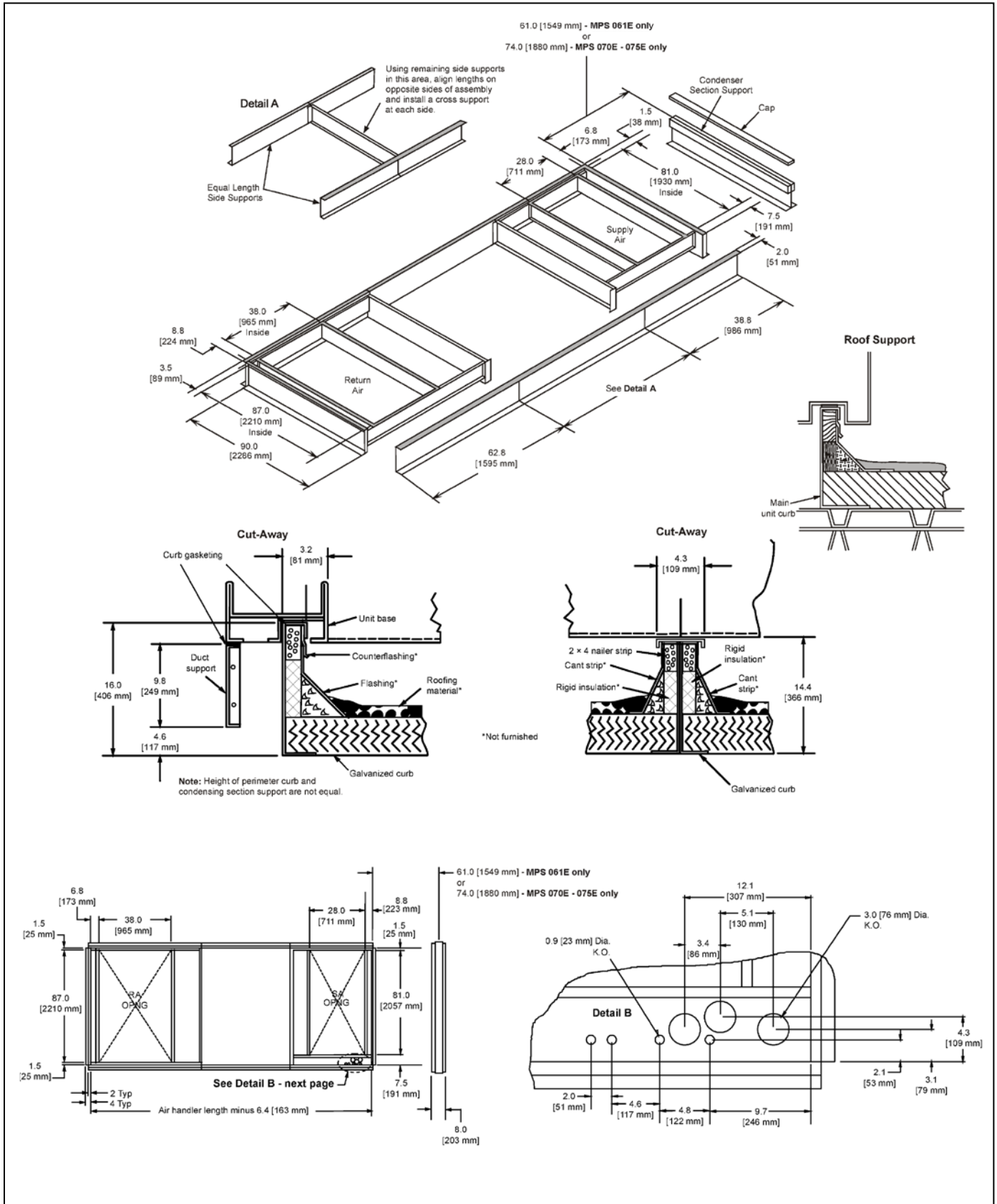


MPS062-075E Curbs2\_Drawing for RTU-1



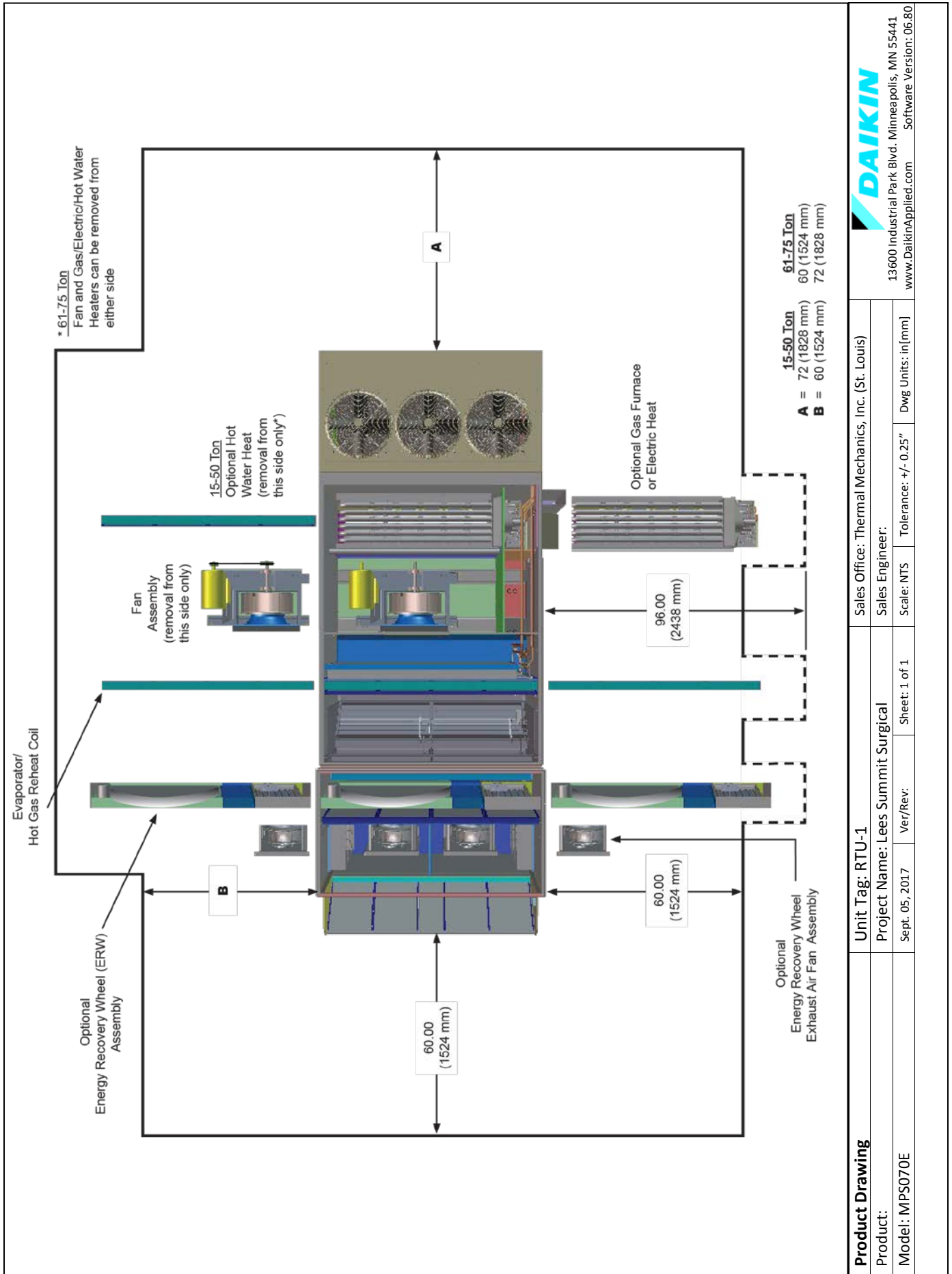
<b>Product Drawing</b>		Unit Tag: RTU-1		 13600 Industrial Park Blvd. Minneapolis, MN 55441 www.DaikinApplied.com Software Version: 06.80		
Product:		Project Name: Lees Summit Surgical				
Model: MPS070E		Sales Office: Thermal Mechanics, Inc. (St. Louis)		Scale: NTS	Tolerance: +/-0.25"	Dwg Units: in [mm]
Sales Engineer:		Sept. 05, 2017	Ver/Rev:	Sheet 1 of 1		
No change to this drawing may be made unless approved in writing by Daikin Applied. Purchaser must determine that the equipment is fit and sufficient for the job specifications.						

# MPS062-075E Curbs\_Drawing for RTU-1



<b>Product Drawing</b>		Unit Tag: RTU-1		 13600 Industrial Park Blvd. Minneapolis, MN 55441 www.DaikinApplied.com Software Version: 06.80		
Product:		Project Name: Lees Summit Surgical				
Model: MPS070E		Sales Office: Thermal Mechanics, Inc. (St. Louis)		Scale: NTS	Tolerance: +/-0.25"	Dwg Units: in [mm]
Sales Engineer:		Sept. 05, 2017	Ver/Rev:	Sheet 1 of 1		
No change to this drawing may be made unless approved in writing by Daikin Applied. Purchaser must determine that the equipment is fit and sufficient for the job specifications.						

MPSII Service Clearance\_Drawing for RTU-1



# Technical Data Sheet for RTU-2

Job Information		Technical Data Sheet
Job Name	Lees Summit Surgical	
Date	9/5/2017	
Submitted By	Daniel Rettenmaier	
Software Version	06.80	
Unit Tag	RTU-2	



Unit Overview					
Model Number	Voltage	Design Cooling Capacity	AHRI 360 Standard Efficiency		ASHRAE 90.1
			EER	IEER	
MPS030F	460/60/3	359119 Btu/hr	10.3	12.9	2016 Compliant

Unit	
Model Number:	MPS030F
Model Type:	Cooling, Standard Efficiency
Heat Type:	Natural gas heat
Application:	Variable volume, w/ VFD, Duct Pressure Control
Altitude:	0 ft
Approval	cETLus

Physical				
Unit Dimensions and Weights				
Unit Length	Unit Height	Unit Width	Unit Weight	
205.2 in	55.5 in	97.5 in	4290 lb	
Unit Construction				
Exterior:	Prepainted Galv Steel	Doors:	Fan, Filter, Control Panel, and Heat Vestibule sections	
Insulation:	R-value of 4.0	Drain Pan Material	Stainless Steel	
Liners:	Double wall construction			
Unit Electrical Data				
Voltage	SCCR	FLA	MCA	MROPD
460/60/3 v	10 kAIC	73.4 A	78.1 A	90 A
Note:	Use only copper supply wires with ampacity based on 75° C conductor rating. Connections to terminals must be made with copper lugs and copper wire.			

Return/Outside/Exhaust Air				
Outside Air Option				
Type	Damper	Damper Pressure Drop	Leakage Rate	
0-100% Econ with dry bulb control	Low leak with blade and jamb seals	0.13 inH <sub>2</sub> O	1.5 cfm/sq ft @1" differential pressure	
Ventilation Control:	None			
Draw Through Filters				
Efficiency	Quantity/Size	Face Area ft <sup>2</sup>	Face Velocity ft/min	Air Pressure Drop inH <sub>2</sub> O
30% MERV 8	8 / 24 in x 24 in x 2 in	32.0	328	0.12

# Technical Data Sheet for RTU-2

Exhaust Air Option					
Fan Airflow	Max Static Pressure	Fan Type	Fan Quantity	Fan Diameter	Capacity Control
9000 CFM	0.50 inH <sub>2</sub> O	Prop	2	26"	Power Exhaust - Mod w/ VFD - Building pressure control
Motor Power	Motor Type	Motor Quantity	Full Load Current	Drive Type	
1.00	Open Drip Proof	2	2.0 AA	Direct Drive	

Cooling Coil						
Fins per Inch	Rows	Face Area ft <sup>2</sup>	Face Velocity ft/min	Condensate Connection Size	Air Pressure drop inH <sub>2</sub> O	
12	6	25.4	413	1.0 in. Male NPT	0.59	
Cooling Performance						
Total Capacity Btu/hr	Sensible Capacity Btu/hr	Entering Air Temperature		Leaving Air Temperature		Ambient Air Temp °F
		Dry Bulb °F	Wet Bulb °F	Dry Bulb °F	Wet Bulb °F	
359119	269655	80.0	67.0	56.5	56.1	95.0

Fan Section				
Type	Fan Wheel Diameter	Vibration Isolation		
AF SWSI	24 in	1 inch spring, seismic		
Fan Performance				
Air Flow	Total Static Pressure	Fan Speed	Brake Horsepower	Altitude
10500 CFM	3.51 inH <sub>2</sub> O	1758 RPM	9.4 HP	0 ft
Motor				
Horsepower	Type	Efficiency	Full Load Current	
15 HP	Open drip proof, Premium efficiency	93.0	17.7 A	
Drives				
Type	Service Factor			
Belt Drive	120%			

Gas Heat Section					
Type	Material	Gas Type			
Tubular Heat exchanger with in-shot burner manifold	Stainless steel	Natural Gas			
Ignition	Combustion Blower	Heat Stages	Gas Piping Connection Size		
Electric	Induced draft blower	Modulating	3/4 in. Female NPT		
Heating Performance					
Input Size	Heat Airflow	Total Capacity	Steady State Efficiency	Entering Air Dry Bulb	Leaving Air Dry Bulb
300 MBH Input/240 MBH Output	10500 CFM	240000 Btu/hr	81%	60.0 °F	81.1 °F

Unit Discharge Conditions				
Air Temperature				
Motor Heat Btu/hr	Moisture Removal lb/h	Unit Leaving Dry Bulb °F	Unit Leaving Wet Bulb °F	Unit Leaving Dewpoint °F
26532	78.0	58.9	56.8	55.5

## Technical Data Sheet for RTU-2

Condensing Section							
<b>Compressor</b>							
Type	Quantity	Total Power	Capacity Control	Refrigerant Type			
Scroll	3	26.5 kW	5 steps	R410A			
<b>Compressor Amps:</b>							
Compressor 1		Fixed Speed	18.6 A				
Compressor 2		Fixed Speed	13.1 A				
Compressor 3		Fixed Speed	13.1 A				
<b>Condenser Coil</b>							
Type	Fins Per Inch	Rows	Fin Material	Refrigerant Valves			
Aluminum tube micro channel	18	Micro Channel	Aluminum	None			
<b>Low Ambient Control:</b>	Std low ambient control to 0 F (-17.7 C)						
<b>Condenser Fan Motors</b>							
Number of Motors				Full Load Current			
3				2.0 A			
<b>AHRI 360 Certified Data at AHRI 360 Standard Conditions</b>							
Net Capacity	Efficiency			ASHRAE 90.1			
323000 Btu/hr	10.3 EER	12.9 IEER	2016 Compliant				
Internal Static Pressure Drop Calculation							
External Static Pressure:	2.00						
Outside Air Damper:	0.13						
Filter:	0.12						
Additional Filter Static Pressure:	0.50						
Cooling Coil:	0.59						
Gas Heat:	0.18						
<b>Total Static Pressure:</b>	3.51 inH <sub>2</sub> O						
Sound Power							
<b>Inlet</b>							
63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz
75	76	86	81	76	72	69	64
<b>Outlet</b>							
63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz
80	84	93	90	87	82	77	72
<b>Radiated</b>							
63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz
90	95	92	92	89	86	87	84
Options							
<b>Electrical</b>							
<b>Field Connection:</b>	Non-Fused Disc Sw, Unit powered 115V GFI outlet						
<b>Power Options:</b>	None						
<b>Controls</b>							
<b>Temperature Controls:</b>	DDC controls, field installed BACnet/MSTP card						

## Technical Data Sheet for RTU-2

### Warranty

<b>Parts Warranty:</b>	Standard one year
<b>Compressor Warranty:</b>	Four year extended, five year total
<b>Heat Exchanger Warranty:</b>	Additional nine year, ten total

### AHRI Certification



All equipment is rated and certified in accordance with AHRI 340/360

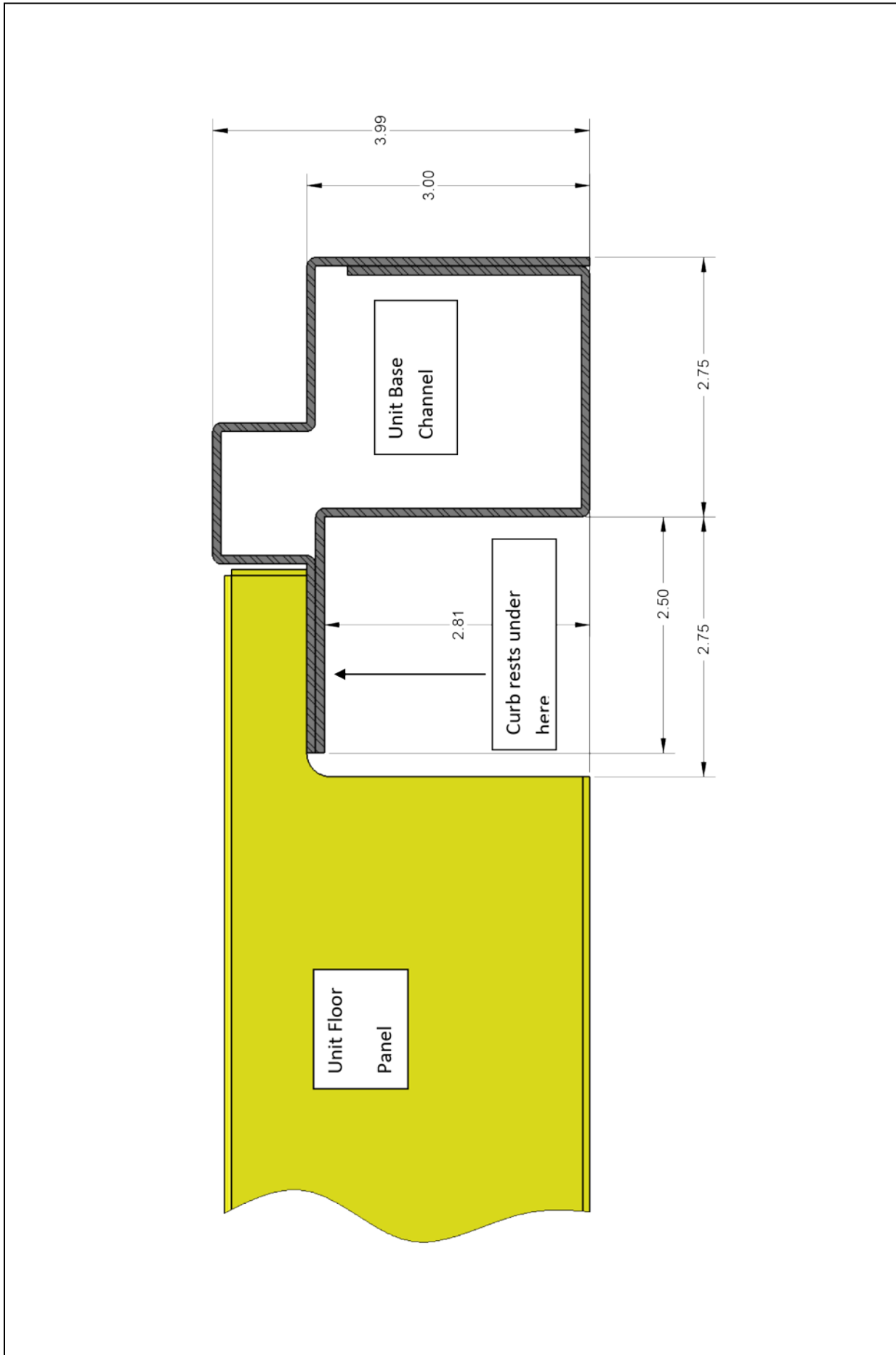
### Notes

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### Accessories

Part Number	Description
090016710	MT III Com Mod for Applied Rooftops, BACnet MS/TP
500144001	14" Roofcurb, Size 030-035

Base Chanel CrossSection\_Drawing for RTU-2

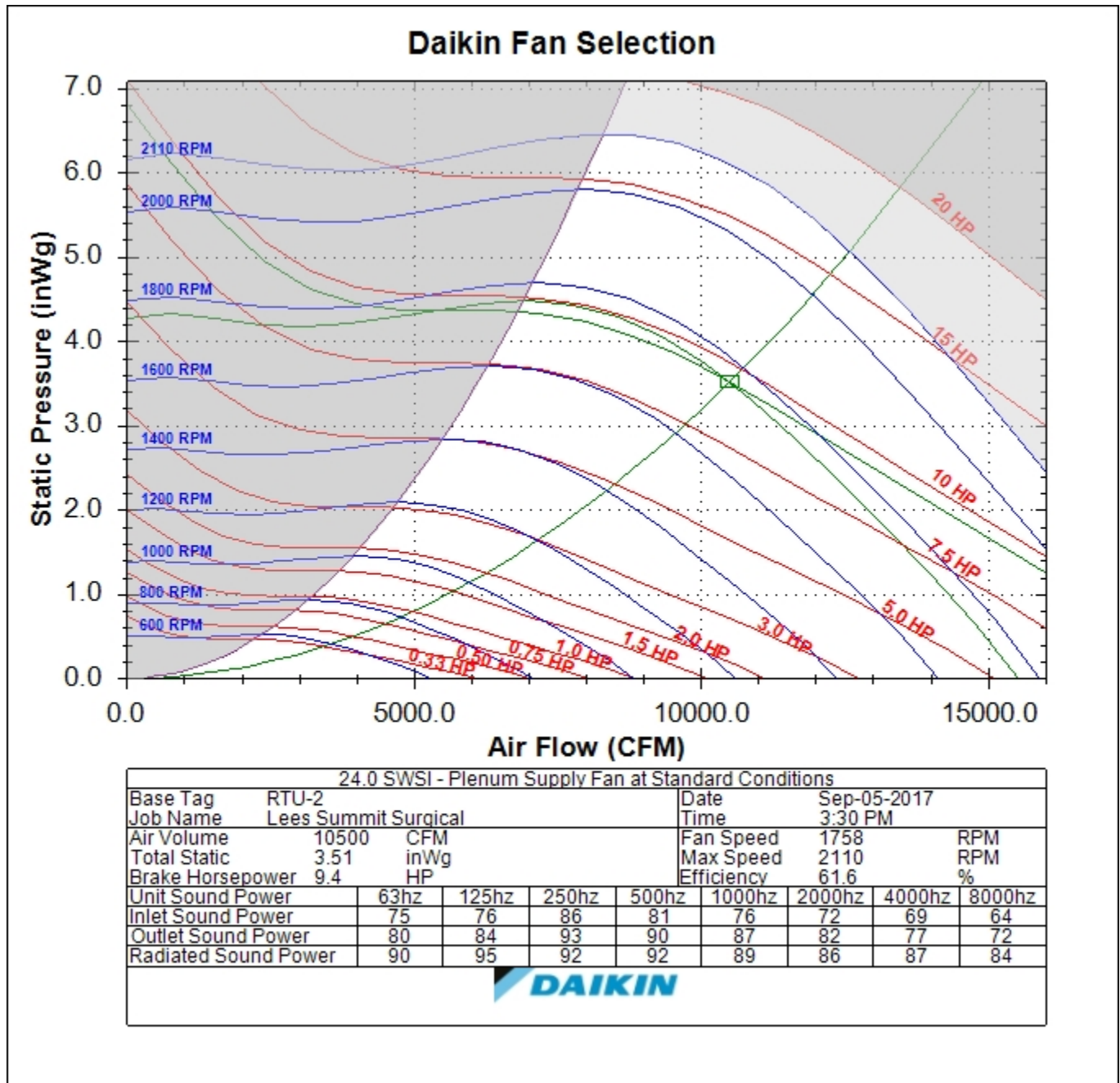


<b>Product Drawing</b>		Sales Office: Thermal Mechanics, Inc. (St. Louis)	
Product:	Unit Tag: RTU-2	Sales Engineer:	
Model: MPS030F	Project Name: Lees Summit Surgical	Scale: NTS	Tolerance: +/- 0.25"
No change to this drawing may be made unless approved in writing by Daikin Applied. Purchaser must determine that the equipment is fit and sufficient for the job specifications.		Sheet: 1 of 1	Dwg Units: in [mm]

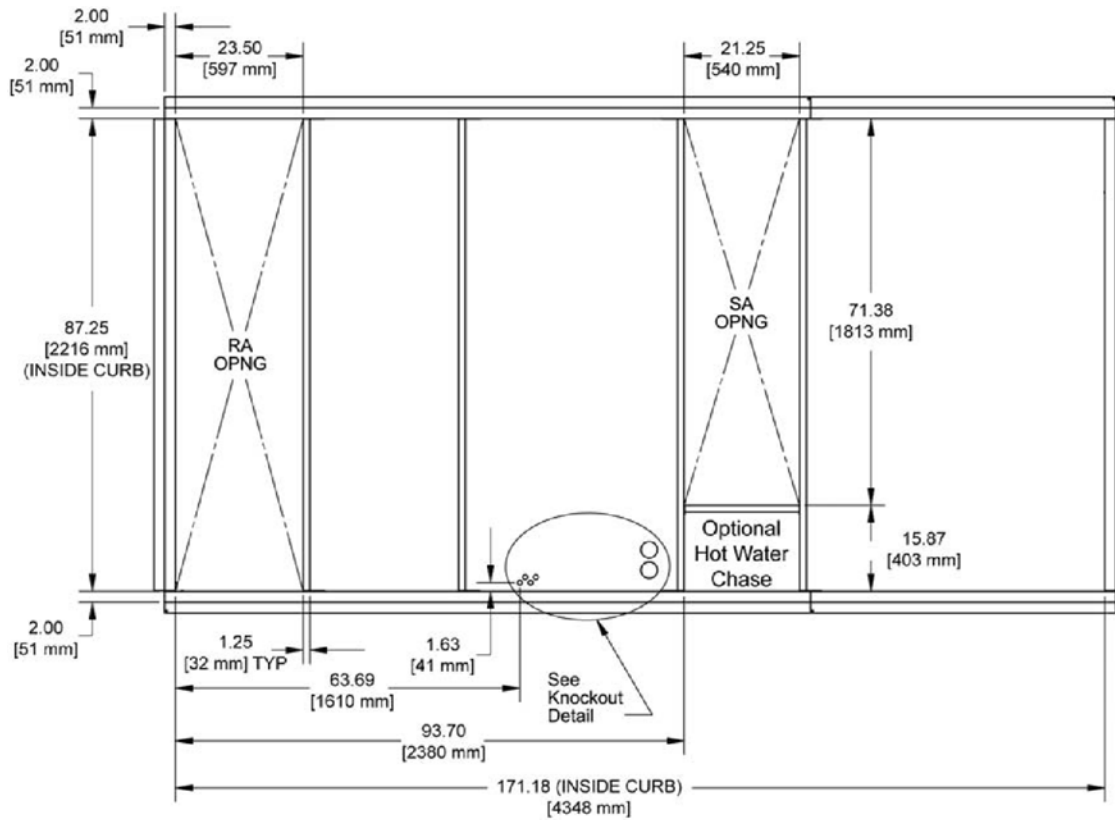
**DAIKIN**  
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 www.DaikinApplied.com Software Version: 06.80



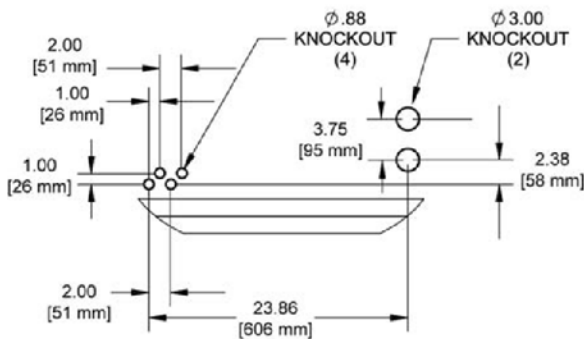
Fan Curve - Supply for RTU-2



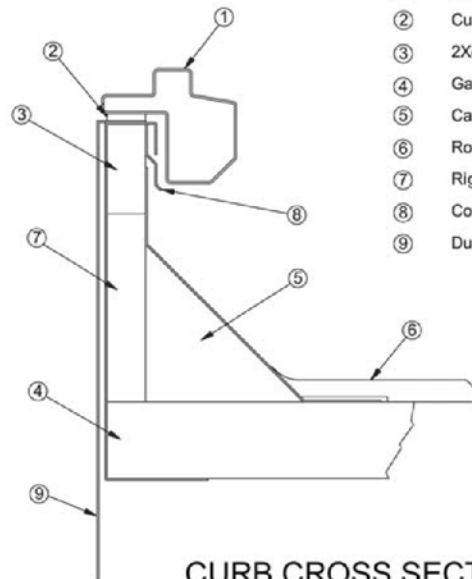
MPS 030 - 035 Cooling Curb\_Drawing for RTU-2



PLAN VIEW



KNOCKOUT DETAIL

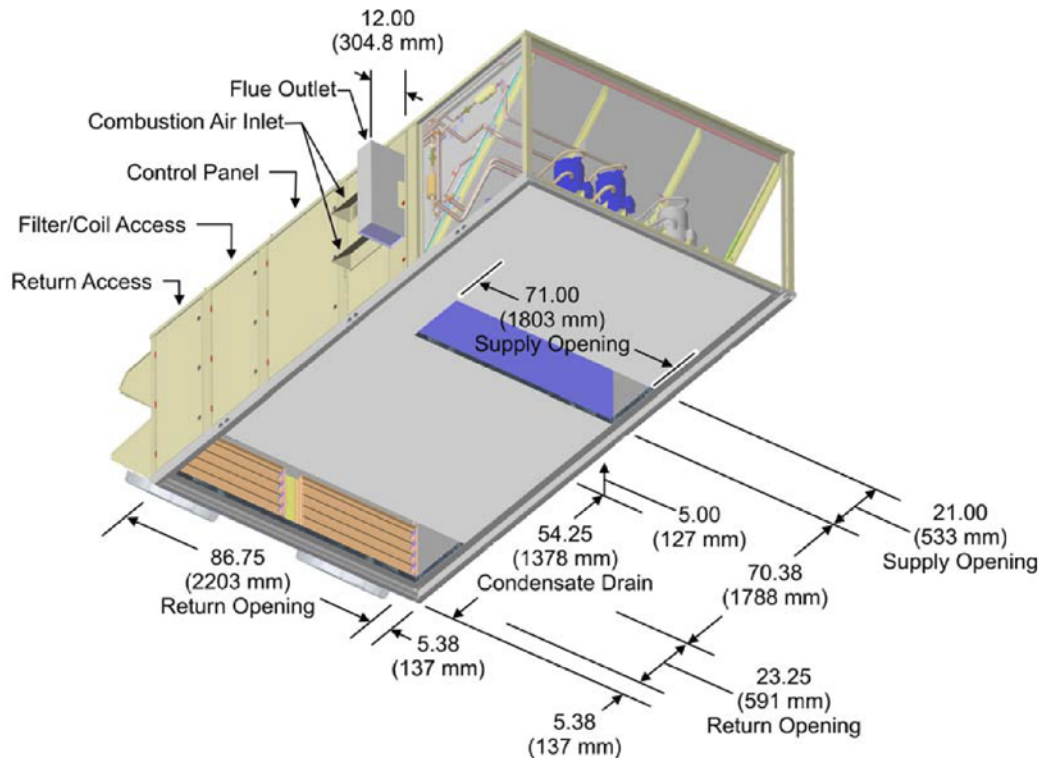
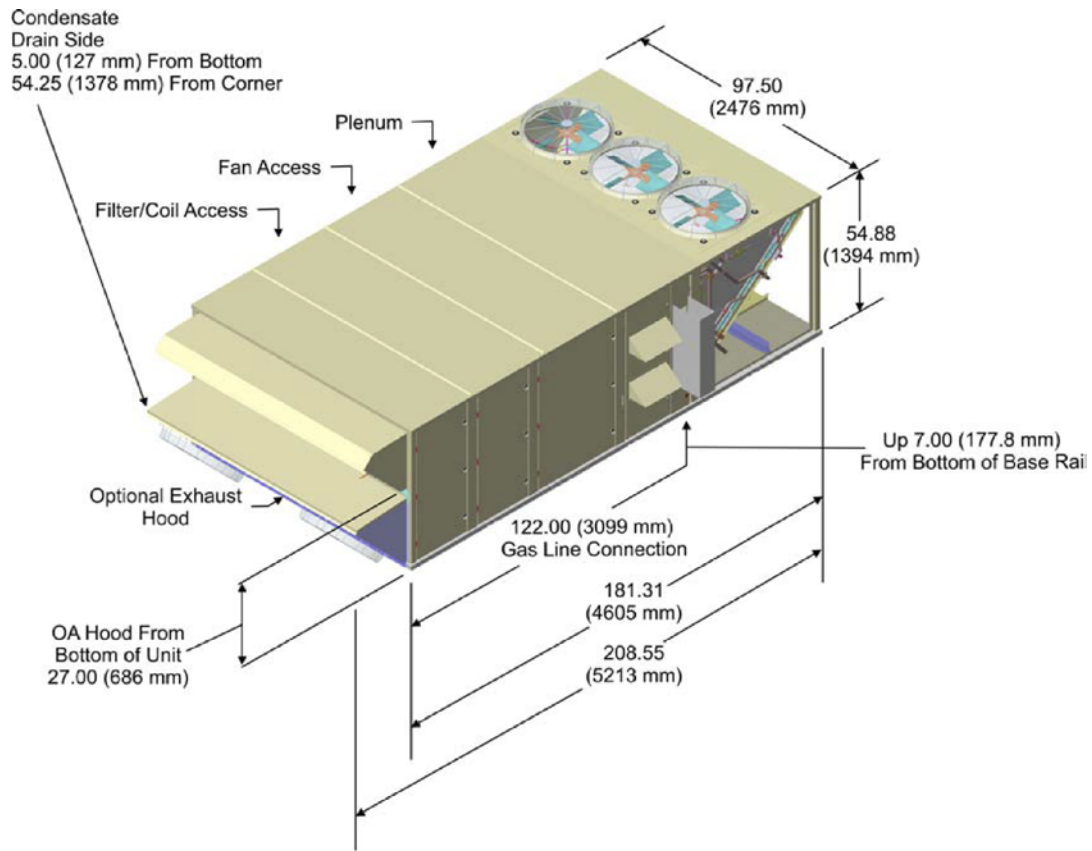



- ① Unit Base
- ② Curb Gasketing
- ③ 2X4 Nailer Strip
- ④ Galvanized Curb
- ⑤ Cant Strip (not furnished)
- ⑥ Roofing Material (not furnished)
- ⑦ Rigid Insulation (not furnished)
- ⑧ Counter Flashing (not furnished)
- ⑨ Ductwork (not furnished)

CURB CROSS SECTION

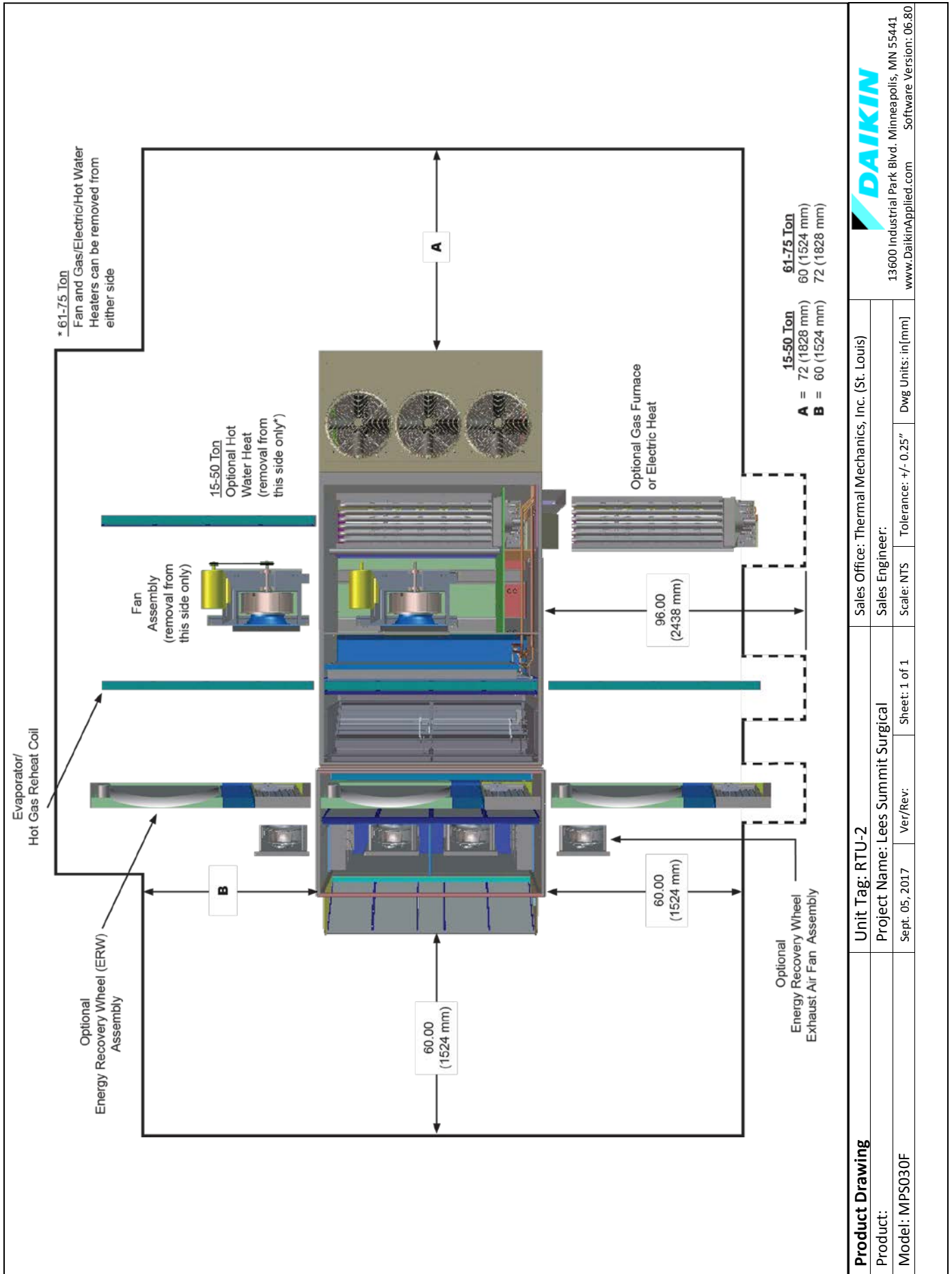
<b>Product Drawing</b>		Unit Tag: RTU-2			 13600 Industrial Park Blvd. Minneapolis, MN 55441 www.DaikinApplied.com Software Version: 06.80		
Product:		Project Name: Lees Summit Surgical					
Model: MPS030F		Sales Office: Thermal Mechanics, Inc. (St. Louis)			Scale: NTS Tolerance: +/-0.25" Dwg Units: in [mm]		
Sales Engineer:		Sept. 05, 2017	Ver/Rev:	Sheet 1 of 1			
No change to this drawing may be made unless approved in writing by Daikin Applied. Purchaser must determine that the equipment is fit and sufficient for the job specifications.							

**MPS030-035A Gas heat\_Drawing for RTU-2**



<b>Product Drawing</b>	Unit Tag: RTU-2			 13600 Industrial Park Blvd. Minneapolis, MN 55441 www.DaikinApplied.com Software Version: 06.80		
Product:	Project Name: Lees Summit Surgical					
Model: MPS030F	Sales Office: Thermal Mechanics, Inc. (St. Louis)			Scale: NTS	Tolerance: +/-0.25"	Dwg Units: in [mm]
Sales Engineer:	Sept. 05, 2017	Ver/Rev:	Sheet 1 of 1			
No change to this drawing may be made unless approved in writing by Daikin Applied. Purchaser must determine that the equipment is fit and sufficient for the job specifications.						

MPSII Service Clearance\_Drawing for RTU-2



# Technical Data Sheet for RTU-3

Job Information		Technical Data Sheet
Job Name	Lees Summit Surgical	
Date	9/5/2017	
Submitted By	Daniel Rettenmaier	
Software Version	05.10	
Unit Tag	RTU-3	
FPA#	FPA	



Unit Overview				
Model Number	Voltage V/Hz/Phase	Design Cooling Capacity Btu/hr	AHRI 360 Standard Efficiency	ASHRAE 90.1
RPS050D	460/60/3	610896	9.9	2016 Compliant

Unit	
Model Number:	RPS050D
Altitude:	0 ft
Heat Type:	Gas
Condenser Type:	Air-Cooled
Approval	ETL/MEA-USA unit

Physical			
Unit			
Length	Height	Width	Weight
491 in	73.0 in	99.0 in	13872 lb

Electrical						
Voltage	MCA Circuit #1	MCA Circuit #2	MROPD Circuit #1	MROPD Circuit #2	SCCR Circuit #1	SCCR Circuit #2
460/60/3	87.4 A	46.2 A	90 A	70 A	10 kAIC	10 kAIC
Circuit #1:	Condensing Section					
Circuit #2:	Air Handling Section and Controls					
Note:	Use only copper supply wires with ampacity based on 75° C conductor rating. Connections to terminals must be made with copper lugs and copper wire.					

# Technical Data Sheet for RTU-3

Return/Outside/Exhaust Air			
Outside Air Option			
Type	Pressure Drop	Damper Actuator	
0-100% Economizer with Design Flow	0.40 inH <sub>2</sub> O	Electric Actuator	
Return Air Option			
Return Air Location:	Bottom		
Fan			
Type	Fan Diameter	Vibration Isolation	Drive Type
SWSI AF	40 in	Rubber in Shear	Standard Service Factor, Fixed Drive
Motor			
Horsepower	Type	Full Load Current	
5.0 HP	ODP, Premium Efficiency	6.8 A	
Performance			
Air Flow CFM	External Static Pressure inH <sub>2</sub> O	Fan Speed rpm	Brake Horsepower HP
17500	0.5	578	3.49

Filter Section				
Physical				
Type	(Quantity) Height x Width x Depth	Face Area	Face Velocity	Air Pressure Drop
30% Nominal Efficiency (MERV 8)	(7) 16 in x 20 in x 2 in (21) 16 in x 25 in x 2 in	73.9 ft <sup>2</sup>	236.8 ft/min	0.10 inH <sub>2</sub> O

DX Cooling Coil								
Physical								
Fins per Inch	Rows	Face Area	Face Velocity	Air Pressure drop	Drain Pan Material	Casing Material		
12	6	47.1 ft <sup>2</sup>	371.5 ft/min	0.73 inH <sub>2</sub> O	Stainless Steel	Galv. Steel		
Cooling Performance								
Capacity		Refrigerant Type	Indoor Air Temperature				Ambient Air Temperature	
Total Btu/hr	Sensible Btu/hr		Entering		Leaving		Dry Bulb °F	Wet Bulb °F
			Dry Bulb °F	Wet Bulb °F	Dry Bulb °F	Wet Bulb °F		
610896	450576	R410A	80.0	67.0	56.5	55.8	95.0	75.0

Fan Section			
Fan			
Type	Fan Wheel Diameter	Fan Isolation	
AF DWDI	33 in	Rubber in Shear	
Performance			
Airflow	Total Static Pressure	Fan Speed	Brake Horsepower
17500 CFM	5.41 inH <sub>2</sub> O	1204 rpm	21.93 HP
Motor			Drive
Type	Horsepower	FLA	Type
ODP, Premium Efficiency	25.0 hp	30.0 A	Standard service factor, Fixed drive

# Technical Data Sheet for RTU-3

## Gas Heat Section

Physical					
Gas Heat Size	Heat Exchanger Material	Modulation	Gas Pressure		
			Minimum In WC	Maximum Psi	
200 MBH	Type 321 Stainless Steel	Hi Turndown - 20:1	4.5	0.5	
Performance					
Gas Heat Airflow CFM	Input Capacity Btu/hr	Output Capacity Btu/hr	Air Temperature Dry Bulb		Air Pressure Drop inH <sub>2</sub> O
			Entering °F	Leaving °F	
17500	250000	200000	60.0	70.5	0.16

## Final Filter Section

Physical				
Type	(Quantity) Height x Width x Depth	Face Area	Face Velocity	Air Pressure Drop
Flat 95% Cartridge	(8) 24 in x 24 in x 12 in (4) 12 in x 24 in x 12 in	40.0 ft <sup>2</sup>	437.5 ft/min	0.52 inH <sub>2</sub> O

## Blank Section

Section Length:	24.0 in
Notes:	

## Discharge Plenum

Discharge Location:	Bottom
---------------------	--------

## Unit Discharge Conditions

Air Temperature				
DX coil Configuration:	Draw-thru Coil			
Motor Heat Btu/hr	Moisture Removal lb/h	Unit Leaving Dry Bulb °F	Unit Leaving Wet Bulb °F	Unit Leaving Dewpoint °F
66008	138.5	59.7	56.9	55.4

# Technical Data Sheet for RTU-3

## Condensing Section

Compressor				
Type	Quantity	Total Power	Capacity Control	Compressor Isolation
Scroll	4	46.9 kW	4 stage	Resilient
Compressor Amps:				
Fixed Speed Compressor 1			18.6 A	
Fixed Speed Compressor 2			18.6 A	
Fixed Speed Compressor 3			18.6 A	
Fixed Speed Compressor 4			18.6 A	
<b>Piping Options:</b>	Hot gas bypass, circuit 1			
Condenser Coil				
Type	Fins per Inch	Fin Material	Refrigerant Charge	
Aluminum tube MicroChannel	18	Aluminum	98.9 lb	
<b>Condenser Coil Options:</b>	Build in Hail Protection			
Condenser Fan Motors				
Number of Motors		Full Load Current (each)		
4		2.1 A		
AHRI 360 Certified Data at AHRI 360 Standard Conditions				
EER	IEER	ASHRAE 90.1		
9.9	13.4	2016 Compliant		

## Sound

Sound Power (db)								
Frequency	63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz
Inlet	93	93	89	86	84	79	71	64
Discharge	89	85	79	74	67	57	44	29
Radiated	-	94	91	89	89	86	83	82

## Supply Fan Total Pressure Drop Calculation

External Static Pressure:	2.00 inH <sub>2</sub> O
Filter:	0.10 inH <sub>2</sub> O
Dirty Filter:	0.50 inH <sub>2</sub> O
Outside Air:	0.40 inH <sub>2</sub> O
DX Coil:	0.73 inH <sub>2</sub> O
Gas Heat:	0.16 inH <sub>2</sub> O
Final Filter:	0.52 inH <sub>2</sub> O
Dirty Final Filter:	1.00 inH <sub>2</sub> O
<b>Total Static Pressure:</b>	<b>5.41 inH<sub>2</sub>O</b>

## Return/Exhaust Fan Total Pressure Drop Calculation

External Static Pressure:	0.50 inH <sub>2</sub> O
<b>Total Static Pressure:</b>	<b>0.50 inH<sub>2</sub>O</b>



## Technical Data Sheet for RTU-3

Options	
<b>Unit</b>	
<b>Unit Exterior:</b>	Prepainted Galvanized Steel
<b>Insulation and Liners:</b>	2", 1 1/2# nominal insulation, full solid liners
<b>Electrical</b>	
<b>Electrical Connection Option:</b>	Dual Disconnect. Fans & Controls/Balance of unit
<b>GFI 115v Receptacle:</b>	Factory powered
<b>Power Options:</b>	Phase Failure and Groundfault Protection on fan/control circuit only
<b>Controls</b>	
<b>Application:</b>	Variable Volume - Discharge Air Control
<b>Temperature Control:</b>	DAC, BACNet MSTP communication card
<b>Fan Speed Control:</b>	Factory mounted Inverter
<b>Inverter Manufacturer:</b>	Daikin
<b>Inverter Location:</b>	Inverter(s) in fan section
<b>Airflow Control:</b>	1 duct sensor, 1 space sensor (Bldg Pressure)
<b>Economizer Control:</b>	Outside Air Dry Bulb and Enthalpy Control
<b>Low Ambient:</b>	Speedtrol, operation to 0 deg F (-18 deg C)

Warranty	
<b>Parts:</b>	Standard 1 year
<b>Compressor:</b>	Extended 4 year, 5 year total
<b>Gas Heat Exchanger:</b>	One year heat exchanger warranty

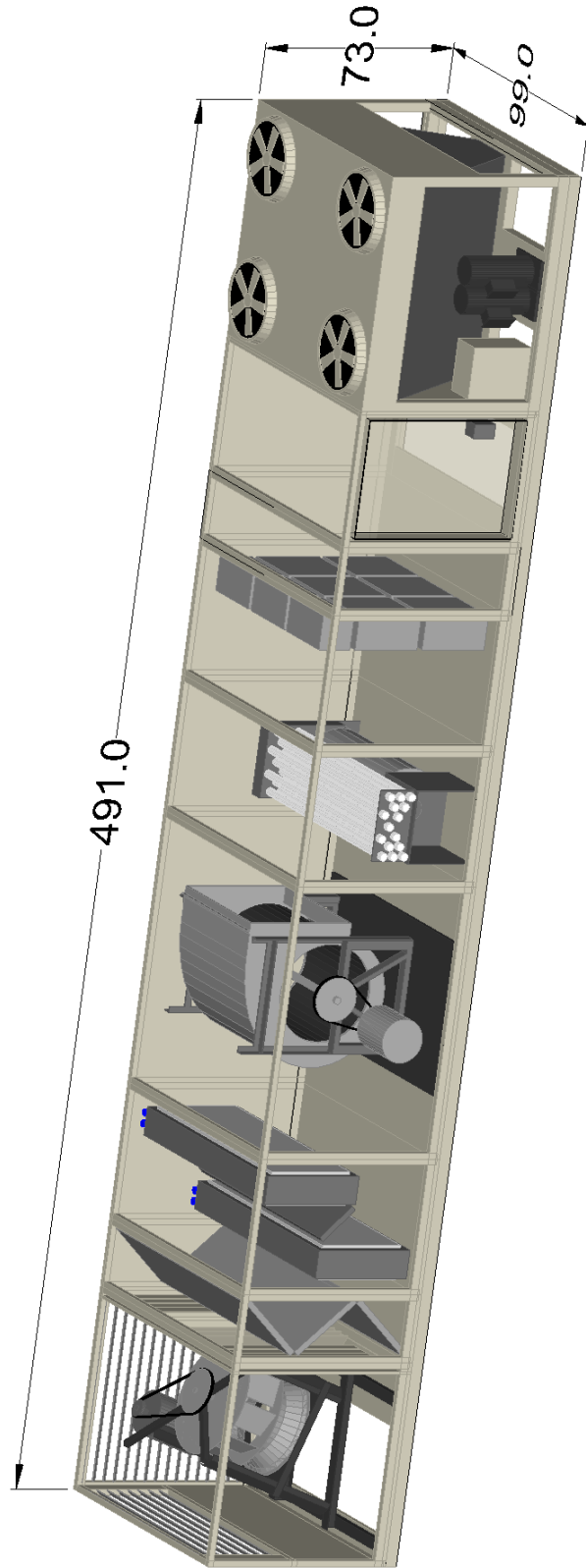
AHRI Certification	
	All equipment is rated and certified in accordance with AHRI 360.

Specials	
<b>Unit</b>	
<b>Specials Description:</b>	Phase Failure and/or Ground Fault Protection with dual-point power is a special with extended lead time Add drain pan in blank star section for field installed humidifier grid Blank 24 in section located between position J and K.

Notes	
As a standalone component, unit meets or exceeds the requirements of ASHRAE 90.1.2010. The approving authority is responsible for compliance of multi-component building systems.	

Accessories	
Optional	
Part Number	Description
0500459234	ROOF CURB,RPS,045_075D, 34 ft

Drawings(1) for RTU-3



13600 Industrial Park Blvd. Minneapolis, MN 55441  
www.DaikinApplied.com Software Version: 05.10

Sales Office: Thermal Mechanics, Inc. (St. Louis)

Sales Engineer:

Scale: NTS Tolerance: +/- 0.25" Dwg Units: in [mm]

Unit Tag: RTU-3

Project Name: Lees Summit Surgical

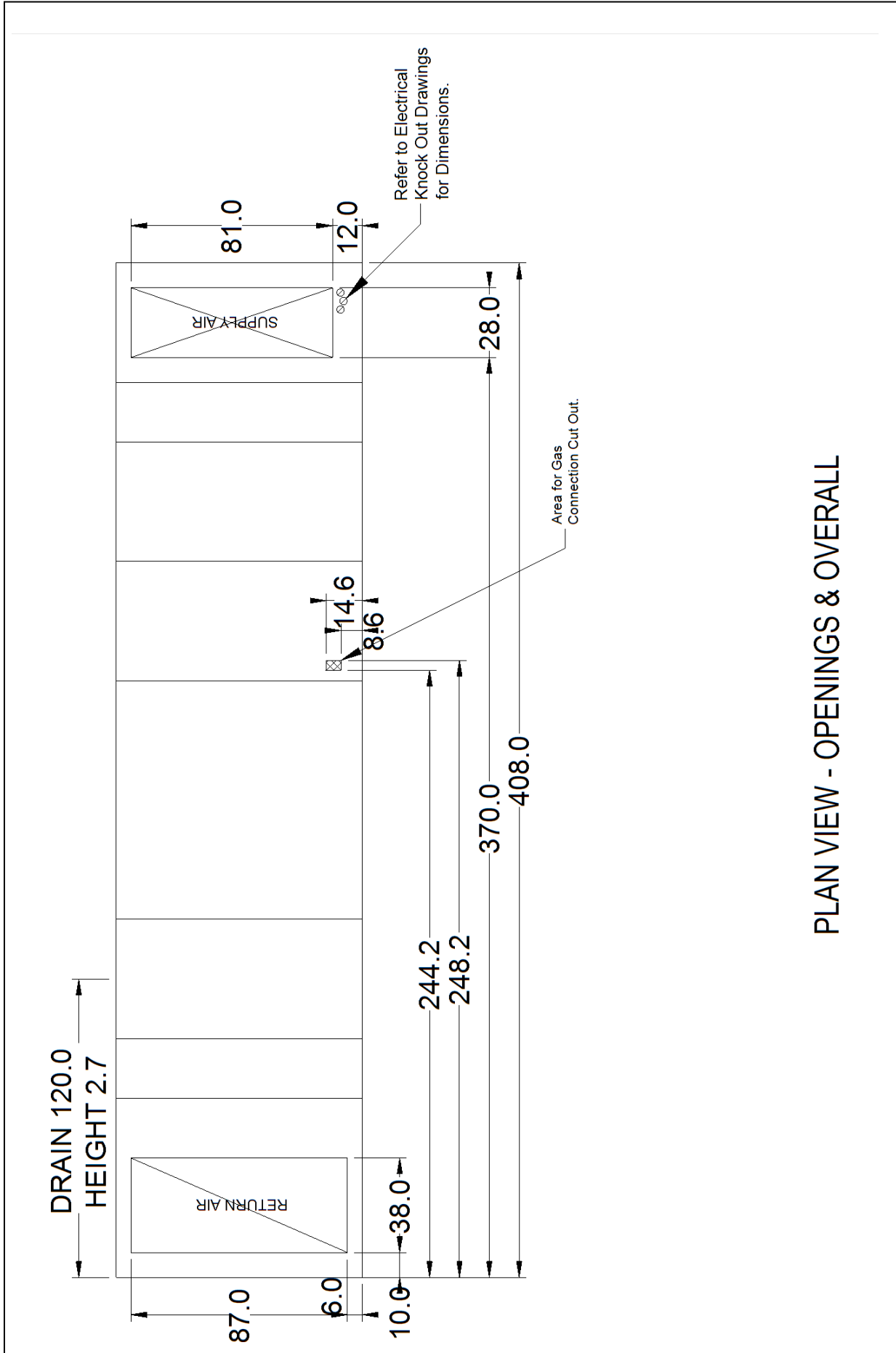
Sept. 05, 2017 Ver/Rev: Sheet: 1 of 1

**Product Drawing**

Product:

Model: RPS050D

No change to this drawing may be made unless approved in writing by Daikin Applied. Purchaser must determine that the equipment is fit and sufficient for the job specifications.

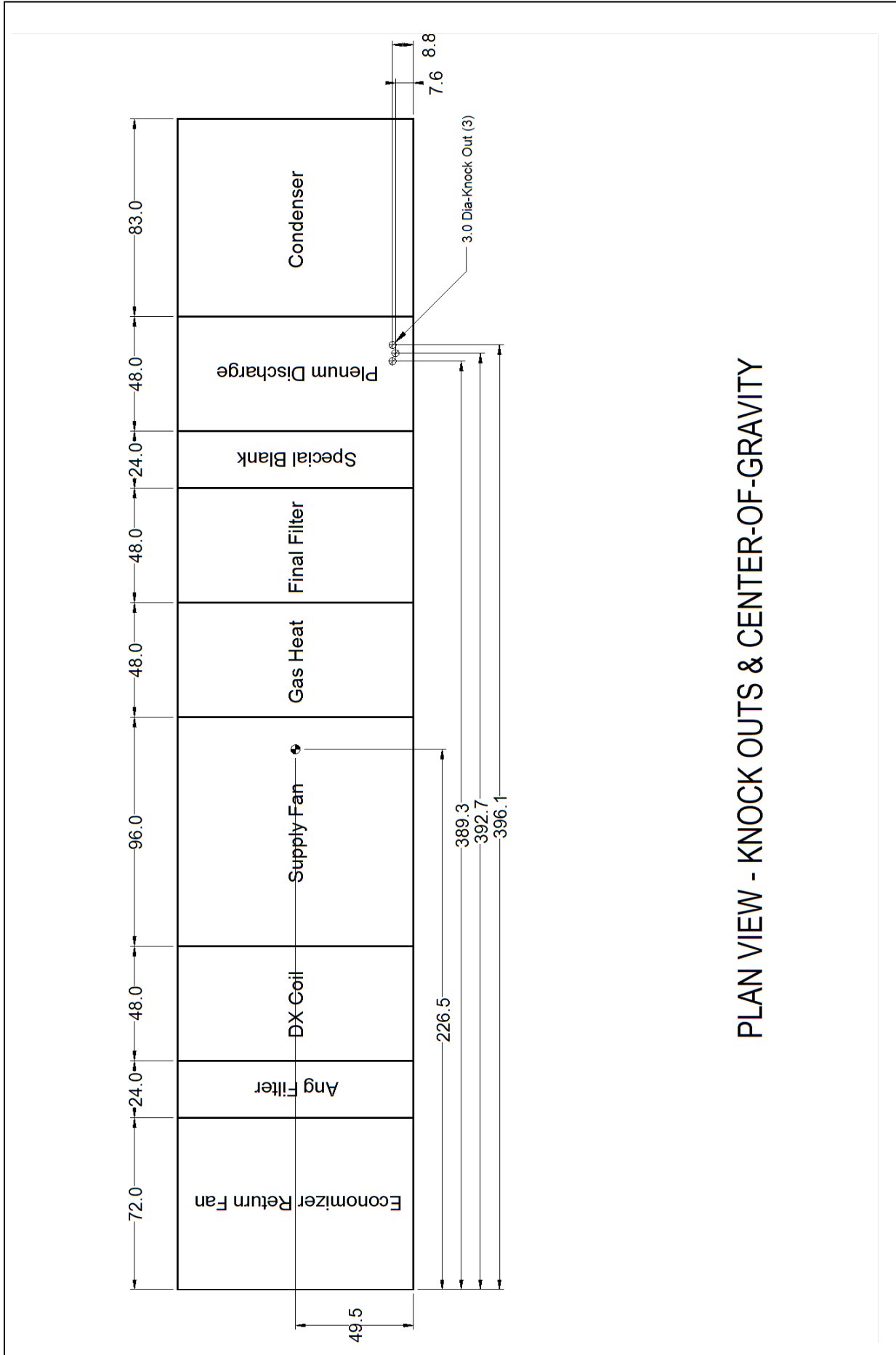


PLAN VIEW - OPENINGS & OVERALL

<b>Product Drawing</b>		Unit Tag: RTU-3		Sales Office: Thermal Mechanics, Inc. (St. Louis)	
Product:		Project Name: Lees Summit Surgical		Sales Engineer:	
Model: RPS050D		Sept. 05, 2017	Ver/Rev:	Sheet: 1 of 1	Dwg Units: in [mm]
Tolerance: +/- 0.25"					
No change to this drawing may be made unless approved in writing by Daikin Applied. Purchaser must determine that the equipment is fit and sufficient for the job specifications.					



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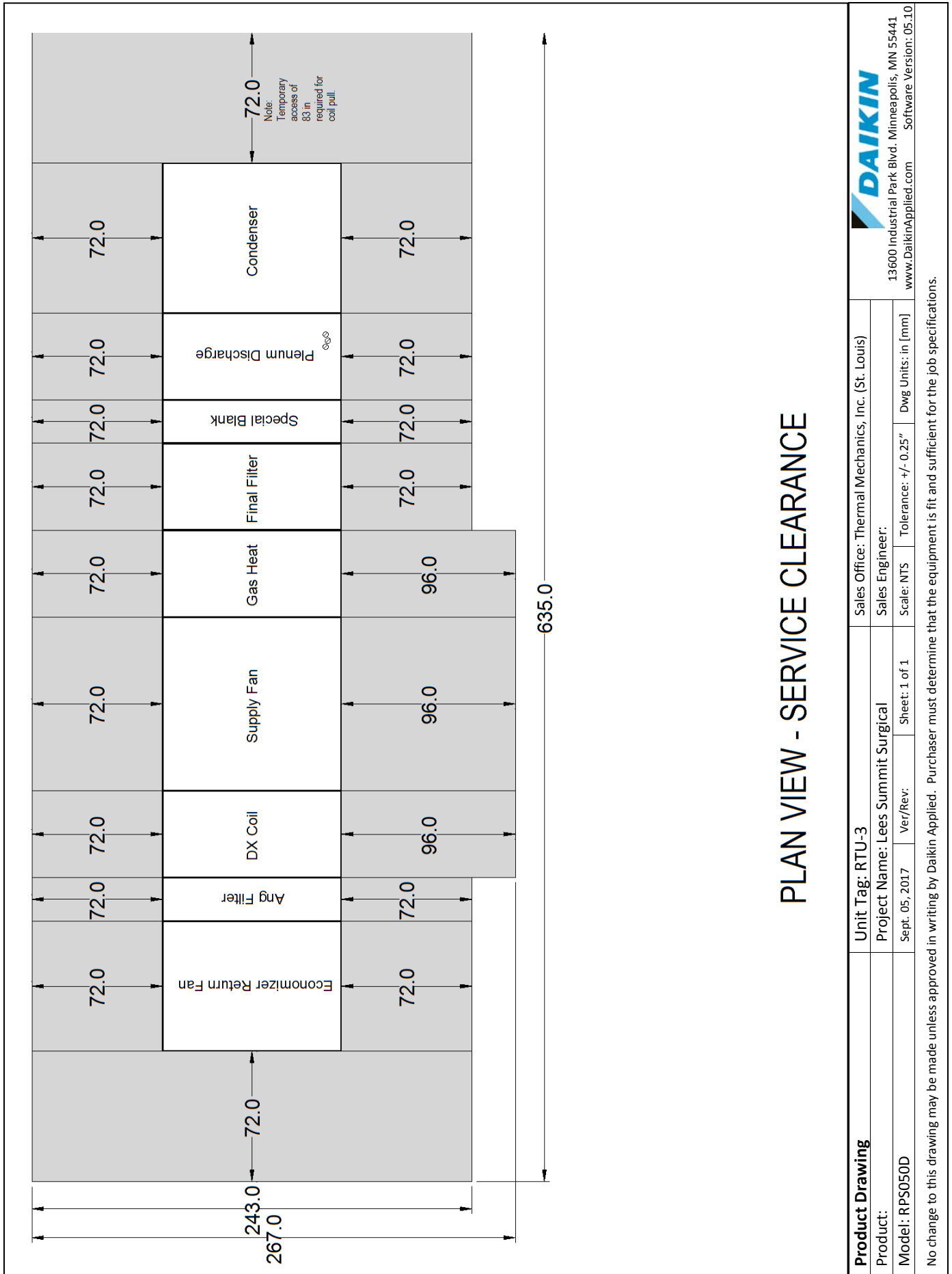


PLAN VIEW - KNOCK OUTS & CENTER-OF-GRAVITY

<b>Product Drawing</b>		Unit Tag: RTU-3		Sales Office: Thermal Mechanics, Inc. (St. Louis)	
Product:		Project Name: Lees Summit Surgical		Sales Engineer:	
Model: RPS050D		Sept. 05, 2017	Ver/Rev:	Sheet: 1 of 1	Scale: NTS
		Tolerance: +/- 0.25"		Dwg Units: in [mm]	
No change to this drawing may be made unless approved in writing by Daikin Applied. Purchaser must determine that the equipment is fit and sufficient for the job specifications.					



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## PLAN VIEW - SERVICE CLEARANCE

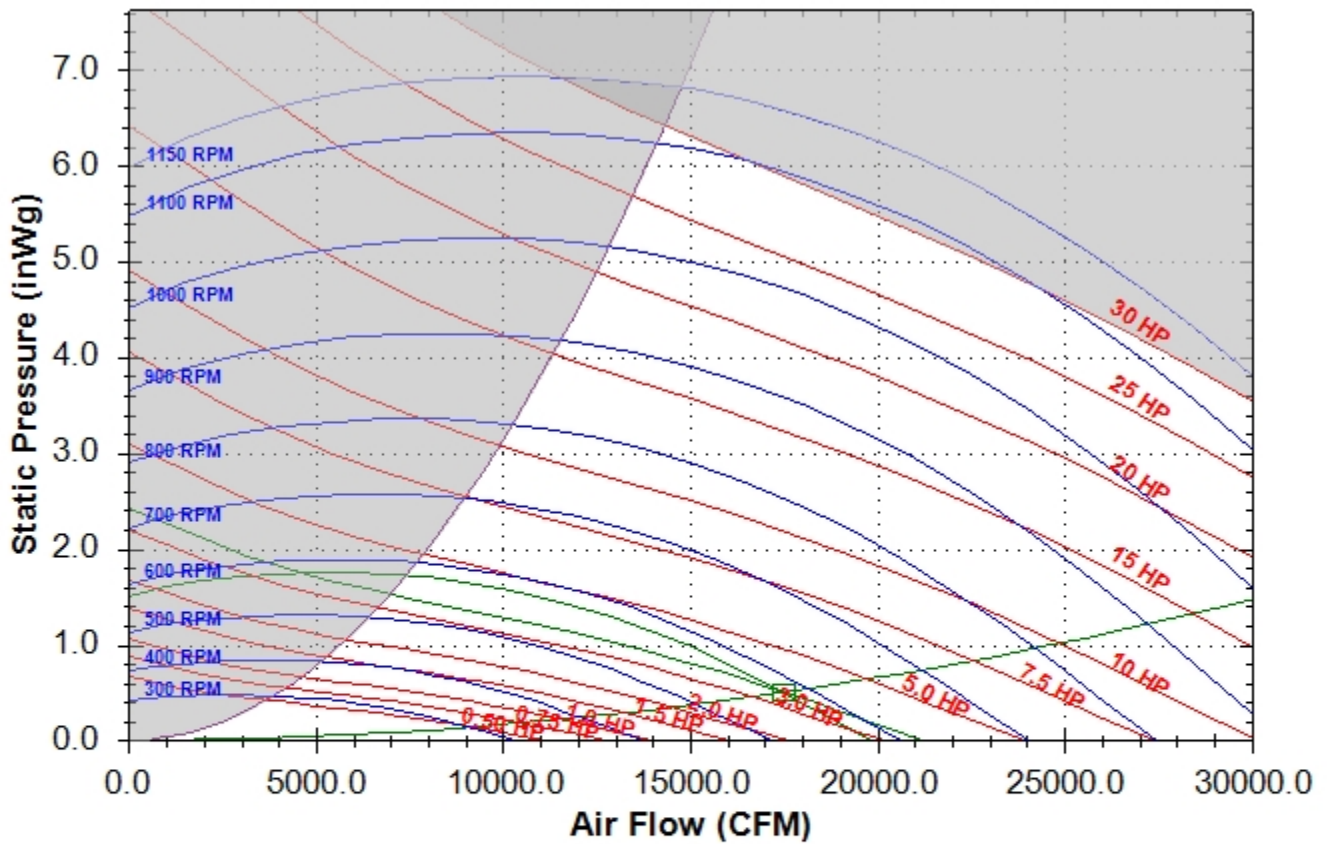
<b>Product Drawing</b>		Unit Tag: RTU-3		Sales Office: Thermal Mechanics, Inc. (St. Louis)	
Product:		Project Name: Lees Summit Surgical		Sales Engineer:	
Model: RPS050D		Sept. 05, 2017	Ver/Rev:	Sheet: 1 of 1	Scale: NTS
				Tolerance: +/- 0.25"	
				Dwg Units: in [mm]	
No change to this drawing may be made unless approved in writing by Daikin Applied. Purchaser must determine that the equipment is fit and sufficient for the job specifications.					



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Fan Curve - Return for RTU-3

### Daikin Rooftop Packaged Fan Selection

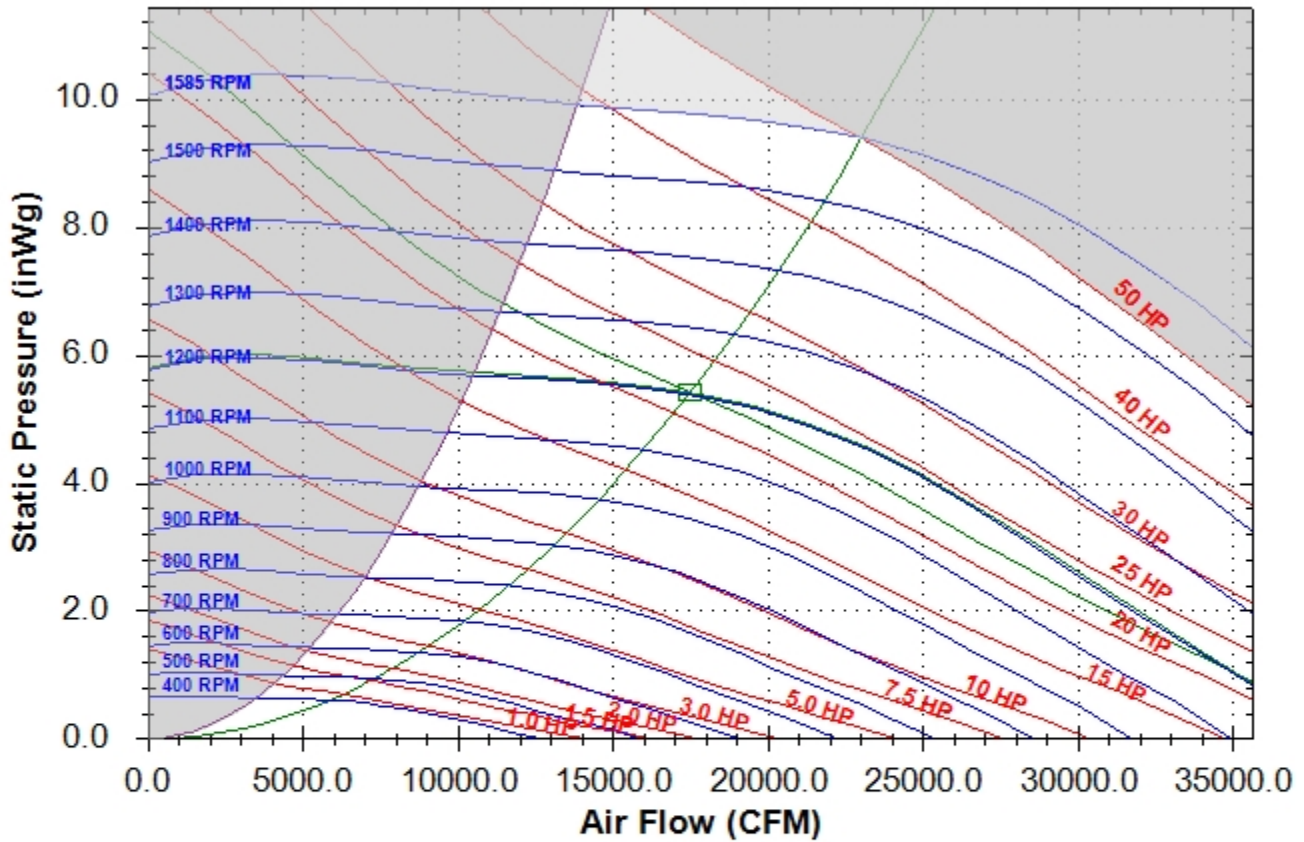


40.0 SWSI - Plenum Return Fan at Standard Conditions									
Base Tag	RTU-3				Date	Sep-05-2017			
Job Name	Lees Summit Surgical				Time	3:30 PM			
Air Volume	17500	CFM			Fan Speed	578	RPM		
Total Static	0.50	inWg			Max Speed	1150	RPM		
Brake Horsepower	3.49	HP			Efficiency	39	%		
Unit Sound Power	63hz	125hz	250hz	500hz	1000hz	2000hz	4000hz	8000hz	
Inlet Sound Power	92	90	87	83	80	75	67	59	
Outlet Sound Power	88	84	79	74	67	57	44	29	
Radiated Sound Power	0	94	91	89	89	86	83	82	



Fan Curve - Supply for RTU-3

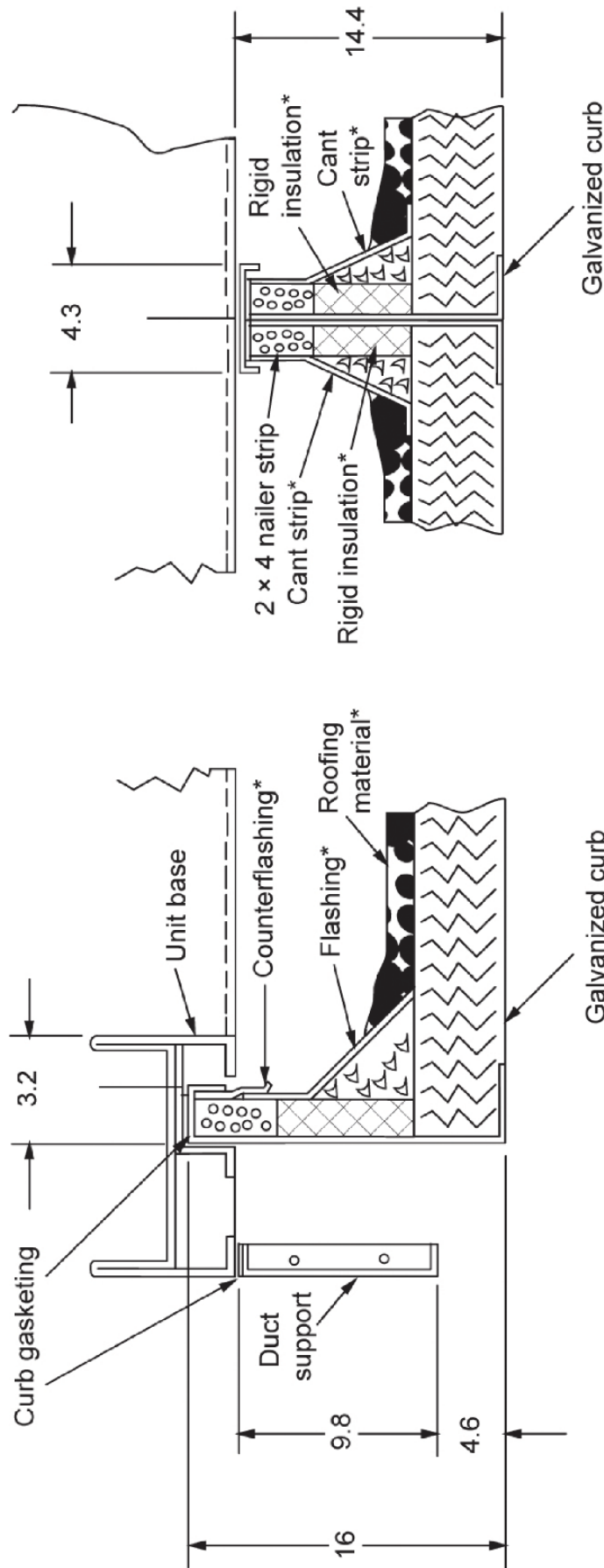
### Daikin Rooftop Packaged Fan Selection



33.0 DWDI - Airfoil Supply Fan at Standard Conditions									
Base Tag	RTU-3				Date	Sep-05-2017			
Job Name	Lees Summit Surgical				Time	3:30 PM			
Air Volume	17500	CFM	Fan Speed	1204	RPM				
Total Static	5.41	inWg	Max Speed	1585	RPM				
Brake Horsepower	21.93	HP	Efficiency	68	%				
Unit Sound Power	63hz	125hz	250hz	500hz	1000hz	2000hz	4000hz	8000hz	
Inlet Sound Power	93	93	89	86	84	79	71	64	
Outlet Sound Power	89	85	79	74	67	57	44	29	
Radiated Sound Power	0	94	91	89	89	86	83	82	



Roofcurb Cross Section AA\_Drawing for RTU-3



\*Not furnished

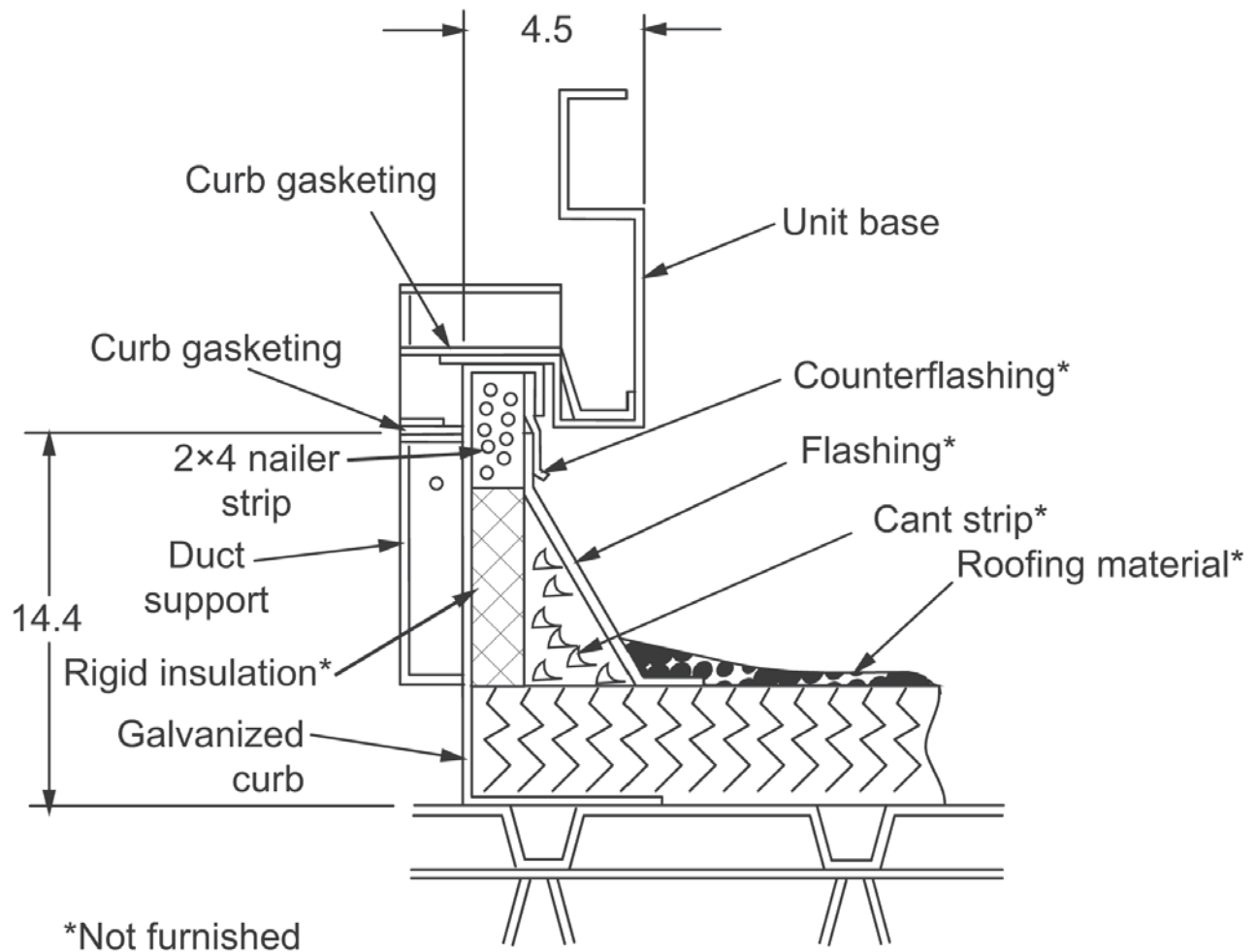
<b>Product Drawing</b>		Unit Tag: RTU-3		Sales Office: Thermal Mechanics, Inc. (St. Louis)	
Product:		Project Name: Lees Summit Surgical		Sales Engineer:	
Model: RPS050D		Sept. 05, 2017		Scale: NTS	
		Ver/Rev:		Tolerance: +/- 0.25"	
		Sheet: 1 of 1		Dwg Units: in [mm]	
No change to this drawing may be made unless approved in writing by Daikin Applied. Purchaser must determine that the equipment is fit and sufficient for the job specifications.					




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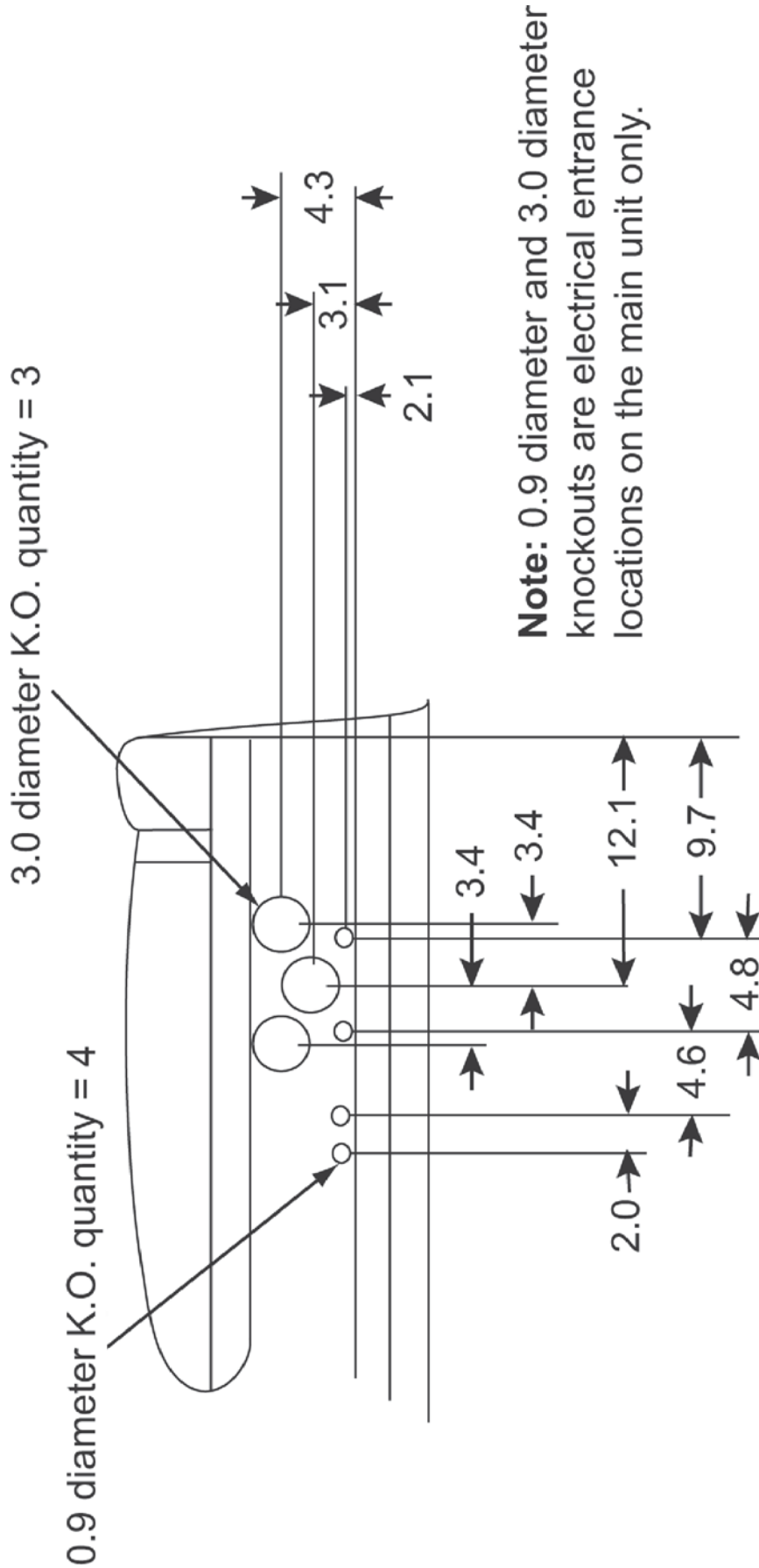


**Roofcurb Cross Section\_Drawing for RTU-3**



<b>Product Drawing</b>	Unit Tag: RTU-3			 13600 Industrial Park Blvd. Minneapolis, MN 55441 www.DaikinApplied.com      Software Version: 05.10		
Product:	Project Name: Lees Summit Surgical					
Model: RPS050D	Sales Office: Thermal Mechanics, Inc. (St. Louis)			Scale: NTS	Tolerance: +/-0.25"	Dwg Units: in [mm]
Sales Engineer:	Sept. 05, 2017	Ver/Rev:	Sheet 1 of 1			
No change to this drawing may be made unless approved in writing by Daikin Applied. Purchaser must determine that the equipment is fit and sufficient for the job specifications.						





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Sales Office: Thermal Mechanics, Inc. (St. Louis)

Sales Engineer:

Scale: NTS Tolerance: +/- 0.25" Dwg Units: in [mm]

Unit Tag: RTU-3

Project Name: Lees Summit Surgical

Sept. 05, 2017 Ver/Rev: Sheet: 1 of 1

**Product Drawing**

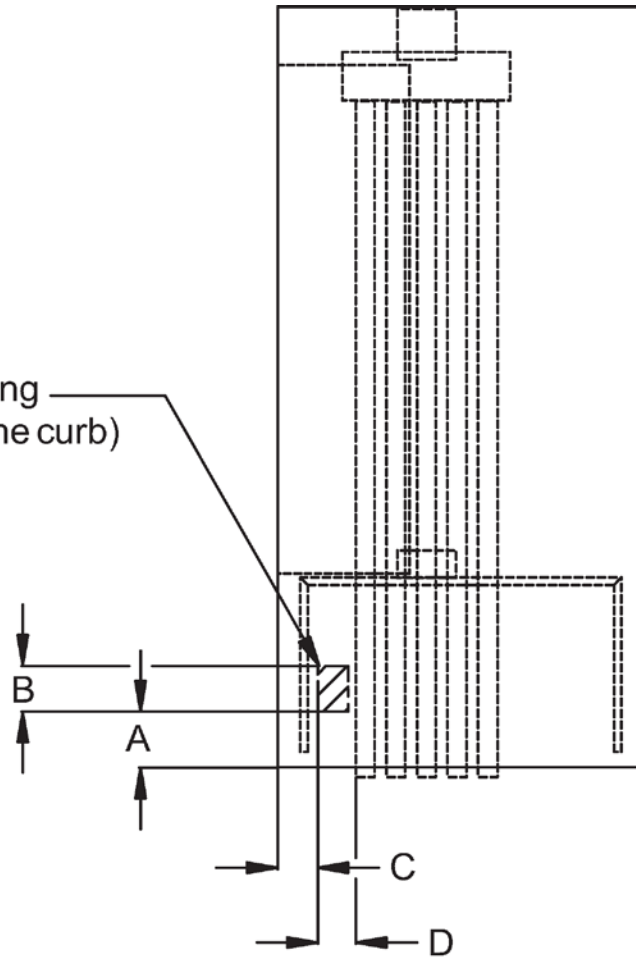
Product:

Model: RPS050D


No change to this drawing may be made unless approved in writing by Daikin Applied. Purchaser must determine that the equipment is fit and sufficient for the job specifications.

**Unit Knockout, Gas Heat, Large Box\_Drawing for RTU-3**

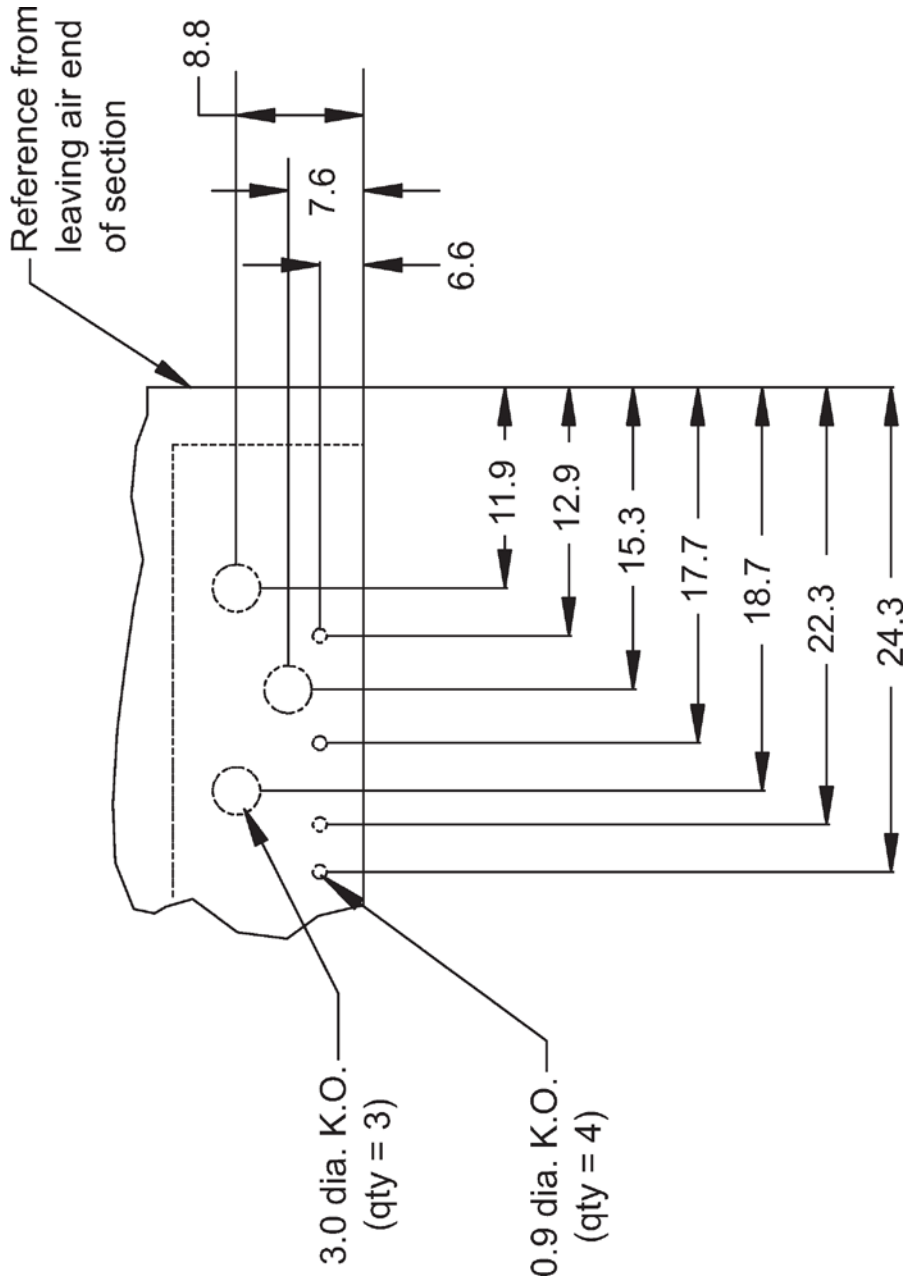
Recommended piping  
entrance (through the curb)



Unit Size	A	B	C	D
045-150	8.6"	6.0"	4.2"	4.0"

<b>Product Drawing</b>	Unit Tag: RTU-3			 13600 Industrial Park Blvd. Minneapolis, MN 55441 www.DaikinApplied.com      Software Version: 05.10		
Product:	Project Name: Lees Summit Surgical					
Model: RPS050D	Sales Office: Thermal Mechanics, Inc. (St. Louis)			Scale: NTS	Tolerance: +/-0.25"	Dwg Units: in [mm]
Sales Engineer:	Sept. 05, 2017	Ver/Rev:	Sheet 1 of 1			
No change to this drawing may be made unless approved in writing by Daikin Applied. Purchaser must determine that the equipment is fit and sufficient for the job specifications.						

Unit Knockout, Large Box\_Drawing for RTU-3



13600 Industrial Park Blvd. Minneapolis, MN 55441  
www.DaikinApplied.com Software Version: 05.10

Sales Office: Thermal Mechanics, Inc. (St. Louis)

Sales Engineer:

Scale: NTS Tolerance: +/- 0.25" Dwg Units: in [mm]

Unit Tag: RTU-3

Project Name: Lees Summit Surgical

Sept. 05, 2017 Ver/Rev: Sheet: 1 of 1

Product Drawing

Product:

Model: RPS050D

No change to this drawing may be made unless approved in writing by Daikin Applied. Purchaser must determine that the equipment is fit and sufficient for the job specifications.

# Technical Data Sheet for RTU-4

Job Information		Technical Data Sheet
Job Name	Lees Summit Surgical	
Date	9/5/2017	
Submitted By	Daniel Rettenmaier	
Software Version	06.80	
Unit Tag	RTU-4	



Unit Overview					
Model Number	Voltage	Design Cooling Capacity	AHRI 360 Standard Efficiency		ASHRAE 90.1
			EER	IEER	
MPS070E	460/60/3	818280 Btu/hr	9.6	13.4	2016 Compliant

Unit	
Model Number:	MPS070E
Model Type:	Cooling, Standard Efficiency
Heat Type:	Natural gas heat
Application:	Variable volume, w/ VFD, Duct Pressure Control
Altitude:	0 ft
Approval	ETL/MEA

Physical				
Unit Dimensions and Weights				
Unit Length	Unit Height	Unit Width	Unit Weight	
418.0 in	73.0 in	99.5 in	13328 lb	
Unit Construction				
Exterior:	Prepainted Galv Steel	Doors:	Fan, Filter, Coil, Control Panel, Heat, and Economizer section	
Insulation:	2" Insulation	Drain Pan Material	Stainless Steel	
Liners:	Double wall construction			
Unit Electrical Data				
Voltage	SCCR	FLA	MCA	MROPD
460/60/3 v	10 kAIC	165.5 A	173.2 A	200 A
Note:	Use only copper supply wires with ampacity based on 75° C conductor rating. Connections to terminals must be made with copper lugs and copper wire.			

Return/Outside/Exhaust Air				
Outside Air Option				
Type	Damper	Damper Pressure Drop	Leakage Rate	
0-100% Econ with dry bulb control	Low leak with blade and jamb seals	0.21 inH <sub>2</sub> O	1.5 cfm/sq ft @1" differential pressure	
Ventilation Control:	None			
Draw Through Filters				
Efficiency	Quantity/Size	Face Area ft <sup>2</sup>	Face Velocity ft/min	Air Pressure Drop inH <sub>2</sub> O
30%, Merv 8	(7) 16 in x 20 in x 2 in (21) 16 in x 25 in x 2 in	73.9	308	0.15

# Technical Data Sheet for RTU-4

Exhaust Air Option					
Fan Airflow	Max Static Pressure	Fan Type	Fan Quantity	Fan Diameter	Capacity Control
28000 CFM	0.75 inH <sub>2</sub> O	Prop	2	36"	Two modulating exhaust fans w/ VFD
Motor Power	Motor Type	Motor Quantity	Full Load Current	Drive Type	
5.00	Open Drip Proof	2	6.6 AA	Belt Drive	

Cooling Coil						
Fins per Inch	Rows	Face Area ft <sup>2</sup>	Face Velocity ft/min	Condensate Connection Size	Air Pressure drop inH <sub>2</sub> O	
12	6	47.1	483	1.5 In. Male NPT	0.9	
Cooling Performance						
Total Capacity Btu/hr	Sensible Capacity Btu/hr	Entering Air Temperature		Leaving Air Temperature		Ambient Air Temp °F
		Dry Bulb °F	Wet Bulb °F	Dry Bulb °F	Wet Bulb °F	
818280	609022	80.0	67.0	55.5	55.5	95.0

Fan Section				
Type	Fan Wheel Diameter	Vibration Isolation		
AF	30 in	Fixed drive with seismic spring isolation		
Fan Performance				
Air Flow	Total Static Pressure	Fan Speed	Brake Horsepower	Altitude
22750 CFM	4.02 inH <sub>2</sub> O	1357 RPM	21.8 HP	0 ft
Motor				
Horsepower	Type	Efficiency	Full Load Current	
25 HP	Open drip proof, Premium efficiency	94.1	31.0 A	
Drives				
Type	Service Factor			
Belt Drive	120%			

Gas Heat Section					
Type	Material	Gas Type			
Drum and Tube exchanger	Stainless steel	Natural Gas			
Ignition	Combustion Blower	Heat Stages	Gas Piping Connection Size		
Electric	Induced draft blower	Modulating	1 in. Female NPT		
Heating Performance					
Input Size	Heat Airflow	Total Capacity	Steady State Efficiency	Entering Air Dry Bulb	Leaving Air Dry Bulb
500 MBH Input/400 MBH Output	22750 CFM	400000 Btu/hr	80%	60.0 °F	76.2 °F

Unit Discharge Conditions				
Air Temperature				
Motor Heat Btu/hr	Moisture Removal lb/h	Unit Leaving Dry Bulb °F	Unit Leaving Wet Bulb °F	Unit Leaving Dewpoint °F
60618	179.3	58.0	56.3	55.2

# Technical Data Sheet for RTU-4

## Condensing Section

Compressor				
Type	Quantity	Total Power	Capacity Control	Refrigerant Type
Scroll	6	66.8 kW	6 steps	R410A
Compressor Amps:				
Compressor 1		Fixed Speed		17.9 A
Compressor 2		Fixed Speed		17.9 A
Compressor 3		Fixed Speed		17.9 A
Compressor 4		Fixed Speed		17.9 A
Compressor 5		Fixed Speed		17.9 A
Compressor 6		Fixed Speed		17.9 A
Condenser Coil				
Type	Fins Per Inch	Rows	Fin Material	Refrigerant Valves
Aluminum tube micro channel	18	Micro Channel	Aluminum	None
Condenser Coil Options:	None			
Low Ambient Control:	Std low ambient control to 45 F (7.22 C)			
Condenser Fan Motors				
Number of Motors		Full Load Current		
6		2.0 A		
AHRI 360 Data at AHRI 360 Standard Conditions				
Net Capacity	Efficiency		ASHRAE 90.1	
75000 Btu/hr	9.6 EER	13.4 IEER	2016 Compliant	

## Internal Static Pressure Drop Calculation

External Static Pressure:	2.00
Outside Air Damper:	0.21
Filter:	0.15
Additional Filter Static Pressure:	0.50
Cooling Coil:	0.90
Gas Heat:	0.27
<b>Total Static Pressure:</b>	<b>4.02 inH<sub>2</sub>O</b>

## Sound Power

Inlet							
63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz
77	76	82	71	65	58	56	52
Outlet							
63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz
81	79	80	76	70	64	60	55
Radiated							
63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz
-	95	93	93	90	87	86	84

## Options

Electrical	
Field Connection:	Non-Fused Disc Sw, Unit powered 115V GFI outlet
Power Options:	None
Controls	
Temperature Controls:	Discharge air control, field installed BACNet MSTP



# Technical Data Sheet for RTU-4

## Warranty

<b>Parts Warranty:</b>	Standard one year
<b>Compressor Warranty:</b>	Four year extended, five year total
<b>Heat Exchanger Warranty:</b>	Additional nine year, ten total

## AHRI Certification



All equipment is rated in accordance with AHRI 340/360

## Notes

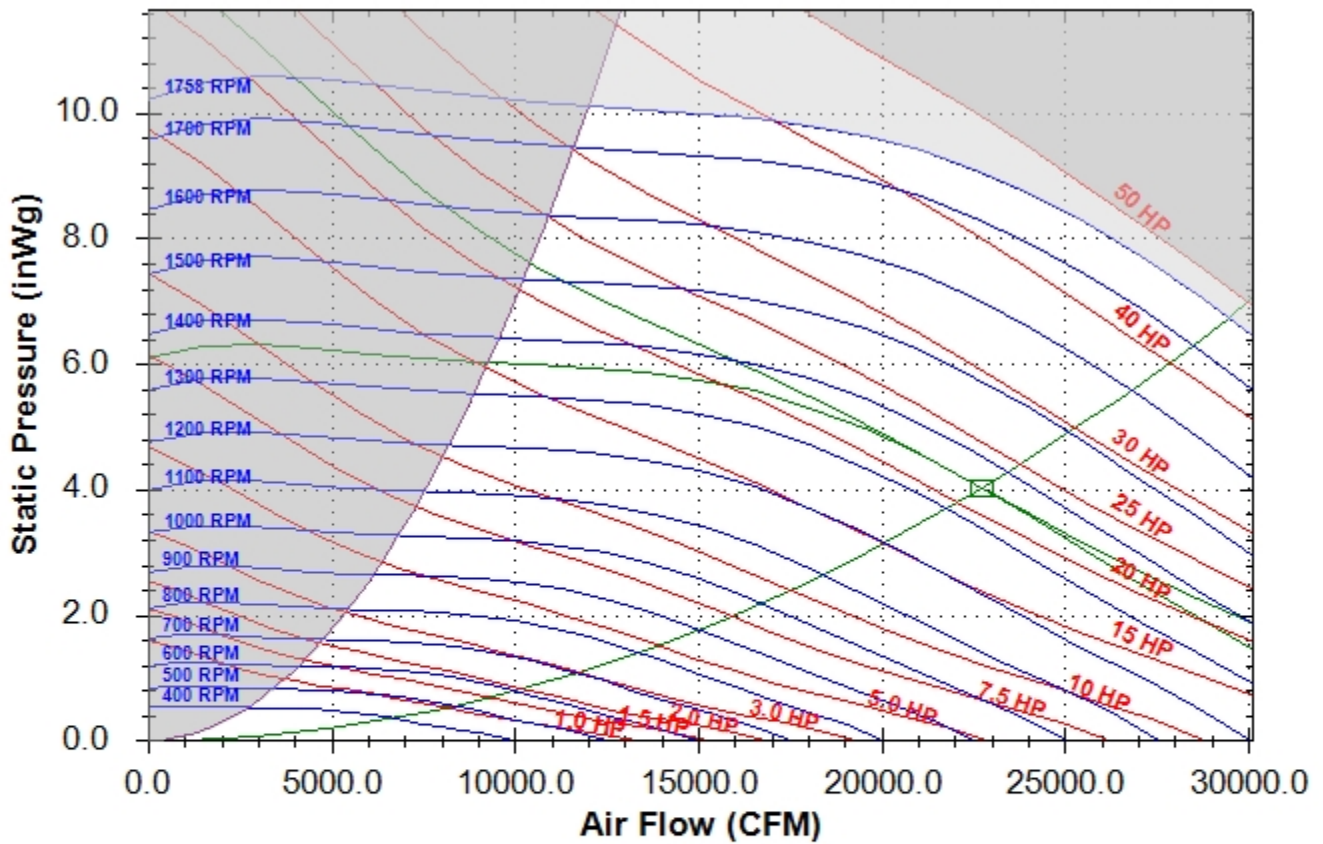
X
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## Accessories

Part Number	Description
090016710	MT III Com Mod for Applied Rooftops, BACnet MS/TP
0500459226	ROOF CURB,RPS,045_075D, 26 ft

Fan Curve - Supply for RTU-4

### Daikin Fan Selection

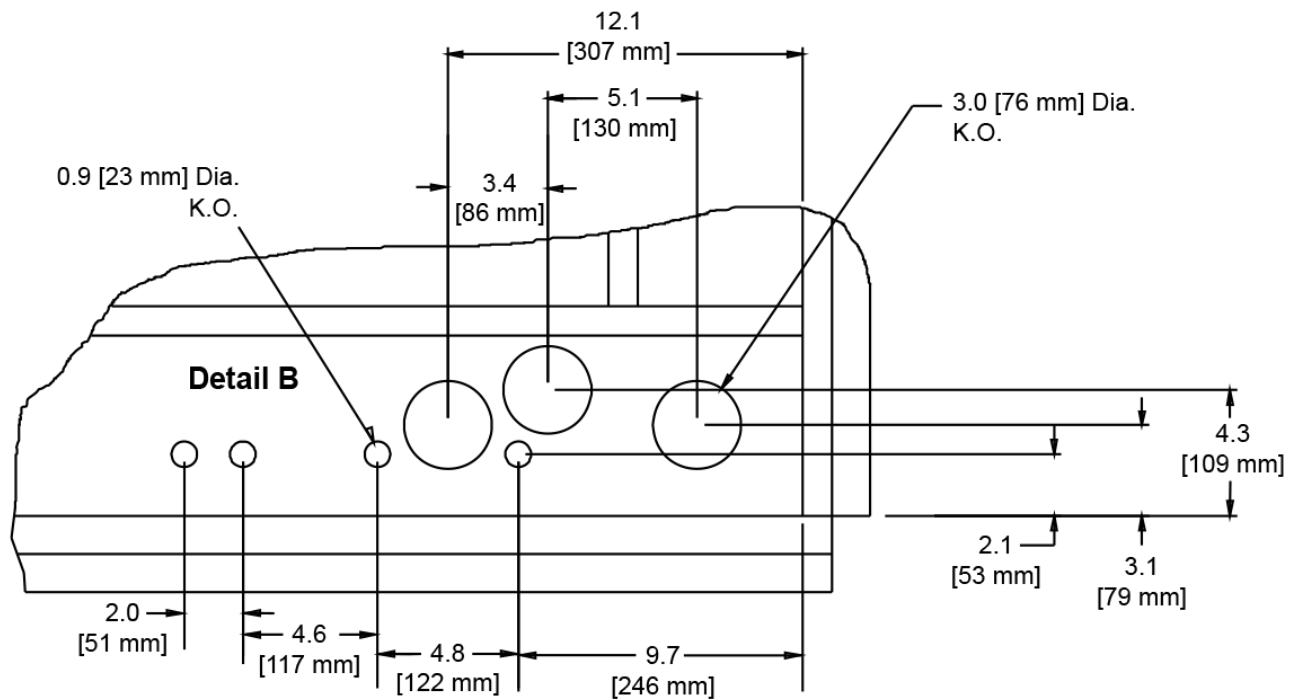
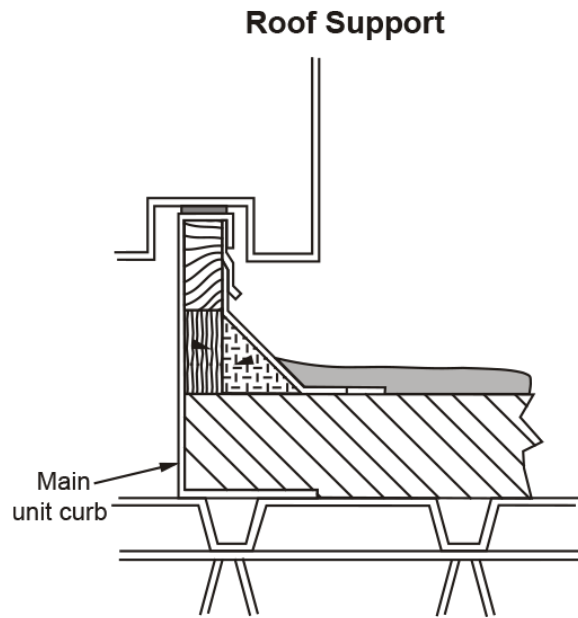



30.0 DWDI - Airfoil Supply Fan at Standard Conditions								
Base Tag	RTU-4				Date	Sep-05-2017		
Job Name	Lees Summit Surgical				Time	3:30 PM		
Air Volume	22750	CFM			Fan Speed	1357	RPM	
Total Static	4.02	inWg			Max Speed	1758	RPM	
Brake Horsepower	21.8	HP			Efficiency	65.9	%	
Unit Sound Power	63hz	125hz	250hz	500hz	1000hz	2000hz	4000hz	8000hz
Inlet Sound Power	77	76	82	71	65	58	56	52
Outlet Sound Power	81	79	80	76	70	64	60	55
Radiated Sound Power	0	95	93	93	90	87	86	84



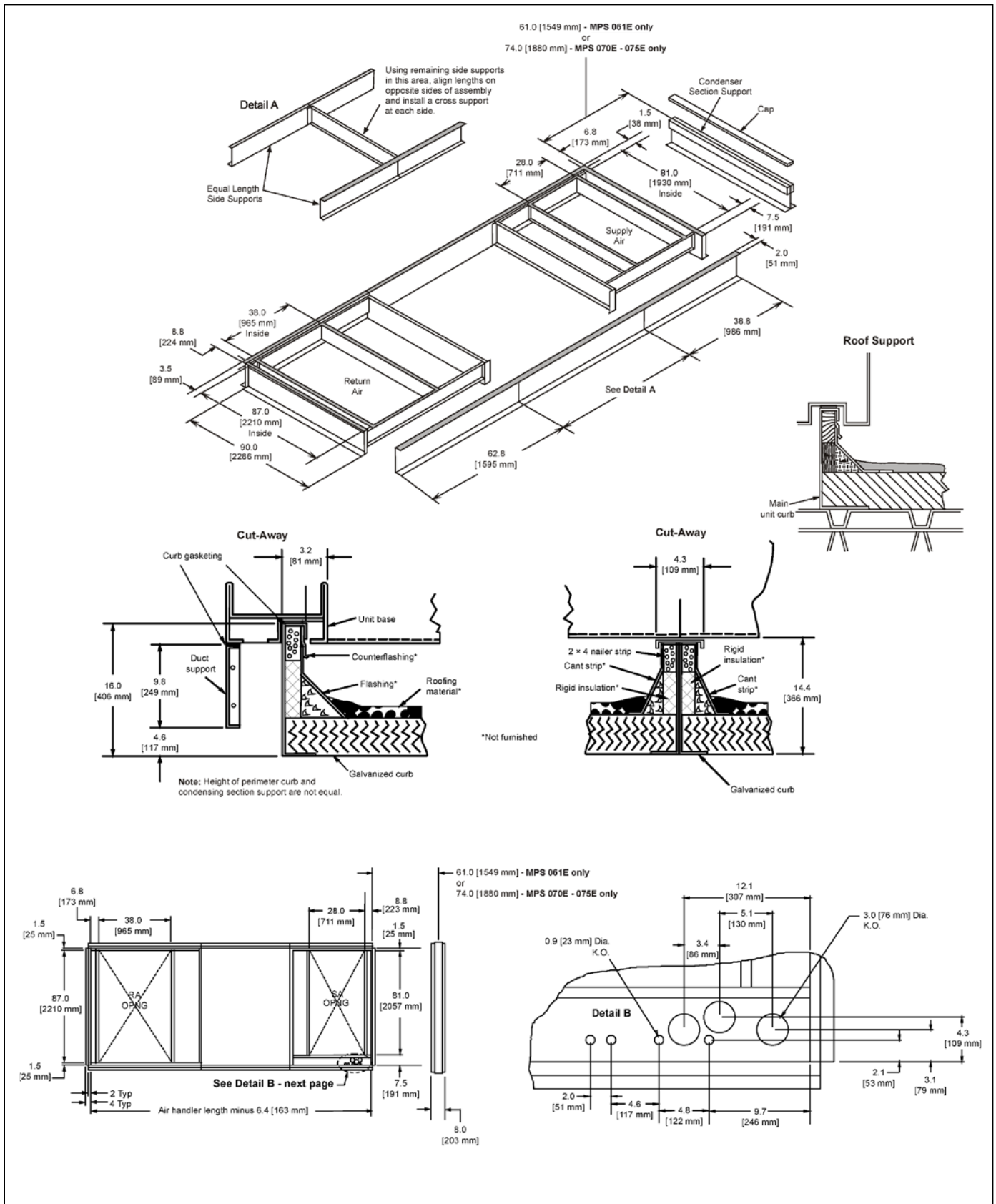


MPS062-075E Curbs2\_Drawing for RTU-4



<b>Product Drawing</b>	Unit Tag: RTU-4			 13600 Industrial Park Blvd. Minneapolis, MN 55441 www.DaikinApplied.com Software Version: 06.80		
Product:	Project Name: Lees Summit Surgical					
Model: MPS070E	Sales Office: Thermal Mechanics, Inc. (St. Louis)			Scale: NTS	Tolerance: +/-0.25"	Dwg Units: in [mm]
Sales Engineer:	Sept. 05, 2017	Ver/Rev:	Sheet 1 of 1			
No change to this drawing may be made unless approved in writing by Daikin Applied. Purchaser must determine that the equipment is fit and sufficient for the job specifications.						

# MPS062-075E Curbs\_Drawing for RTU-4



<b>Product Drawing</b>		Unit Tag: RTU-4		 13600 Industrial Park Blvd. Minneapolis, MN 55441 www.DaikinApplied.com      Software Version: 06.80		
Product:		Project Name: Lees Summit Surgical				
Model: MPS070E		Sales Office: Thermal Mechanics, Inc. (St. Louis)		Scale: NTS	Tolerance: +/-0.25"	Dwg Units: in [mm]
Sales Engineer:		Sept. 05, 2017	Ver/Rev:	Sheet 1 of 1		
No change to this drawing may be made unless approved in writing by Daikin Applied. Purchaser must determine that the equipment is fit and sufficient for the job specifications.						

MPSII Service Clearance\_Drawing for RTU-4

