

WET ENVIROMENTAL

Consulting

Engineering

Construction Services

Waste Water Operations

Enviromental Products

Wet Environmental LLC

Mark Geisinger

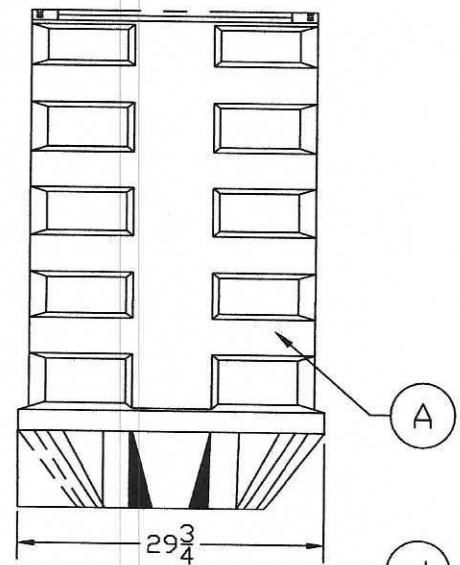
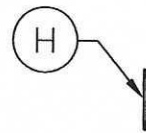
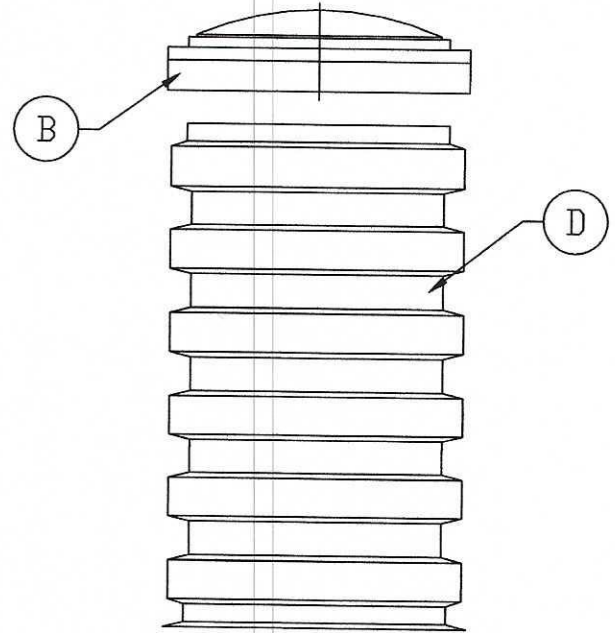
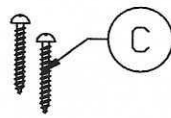
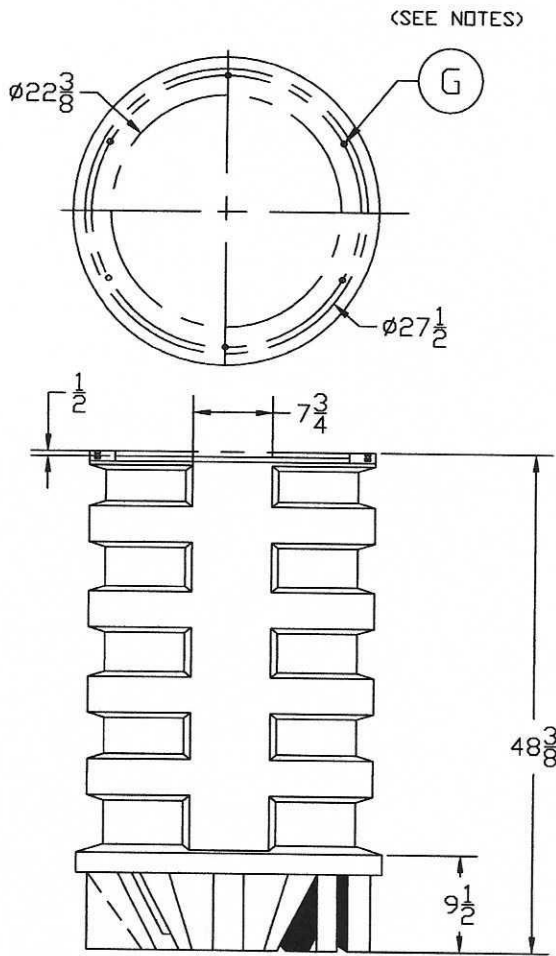
(816) 898-1454

wetenvironmentallic@outlook.com



**Grinder Pump Sewage Basin,
Risers & Lids**

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Sales Manager
Poly, Wastewater & Hydro-Action
Office: 574.936.2542 Ext. 211
Mobile: 574.276.9193
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www.akindustries.com
www.hydro-action.com



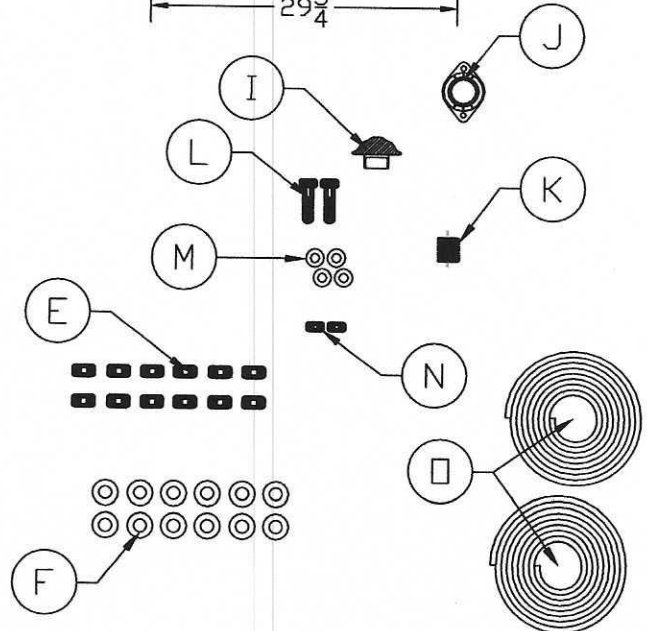
NOTES:

1. USE NEW TOP AND NEW BOTTOM
2. CHECK THREADED NIPPLES ON THE MUSHROOM VENT (2" THREADED VENT)

BOLT SIZE CHANGE 11/12/15

B.O.M.

ITEM	P/N	DESCRIPTION	QTY:
A	AKP20010	BASIN RIB 24 X 48 @ 90 LBS.	1
B	AKR30470	COVER, GREEN 24" I&A	1
C	AKR30495	FASTENER, SS 1/4" X 1-1/2" SAFETY SCREW	2
D	AKS12200-H	24" RISER/6 FOOT/93 LBS.	1
E	AKR20670	FASTENER, SS 5/16" NUTS	12
F	AKR20610	FASTENER, SS 5/16" FLAT WASHER	12
G	AKR50055	FASTENER, ALUM. INSERT 5/16-18 OPEN END	12
H	AKR50760	FITTING, 4" SCH40 ADAPT-A-FLEX	1
I	AKR41740	FITTING, 2" MUSHROOM VENT	1
J	AKR70560	FITTING, 2" THREADED VENT	1
K	AKR41770	FITTING, 2" PVC CLOSE NIPPLE	1
L	AKR20540	FASTENER, SS 3/8-16 X 1-1/2" BOLT	2
M	AKR70320	FASTENER, SS 3/8" FLAT WASHER	4
N	AKR20510	FASTENER, SS 3/8-16 FINISHING NUT	2
□	AKR30500	CONSEAL	2 ROLLS



ENGINEERED PRODUCTS: IGP AUTOMATIC SERIES

APPLICATIONS

- Engineered Products IGP-A Series Grinder Pumps are ideal for sewage waste transfer

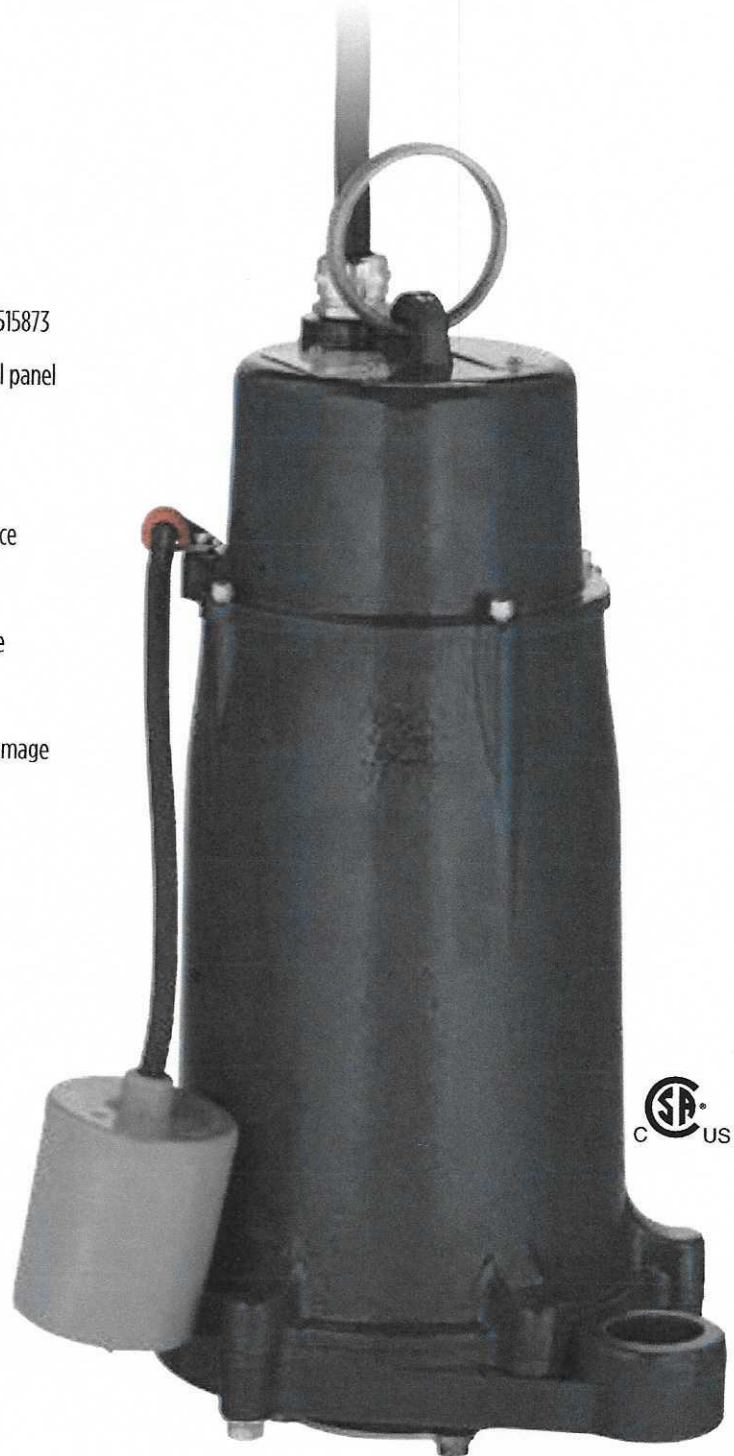
FEATURES

- Powerful 2 hp, 3450 rpm motor to handle the demands of grinding domestic sewage
- Mechanical float switch for automatic operation on 515863, 515861, and 515873
- Start/Run components encased in oil-free chamber requiring no control panel
- Carbon/Ceramic mechanical seal
- Deflection-resistant, short motor shaft
- Corrosion-resistant brass impeller minimizes downtime and maintenance
- Seven-vane, angled face, non-clogging, balanced impeller
- Tight cutting clearances for superior grinding at 414,000 cuts per minute
- Epoxy-coated finish for corrosion resistance and durability
- Built-in overload protection prevents over-current/over-temperature damage
- GLK-SST Grinder Leg Kit included on 515861

CONSTRUCTION

Motor Cover	Cast iron with epoxy coating
Motor Cover O-ring	Nitrile
Motor Design	Single-phase, capacitor start, capacitor run
Insulation Class	F
Overload Protection	Internal, on winding thermal protector
Motor Shaft	*AISI 300 series stainless steel
Ball Bearing-Upper	Single row ball, 6203
Ball Bearing-Lower	Single row ball, 6306
Seal Housing	Cast iron with epoxy coating
Mechanical Seal	Carbon/Ceramic
Volute	Cast iron with epoxy coating
Impeller	Brass
Rotating Cutter	2 blade design, AISI 440C stainless steel, through-hardened to Rockwell 55-60C
Stationary Cutter	AISI 440C stainless steel, hardened to Rockwell 55-60C
External Hardware	300 series stainless steel
Power Cable	Type SOW/or SOW 14/3 AWG

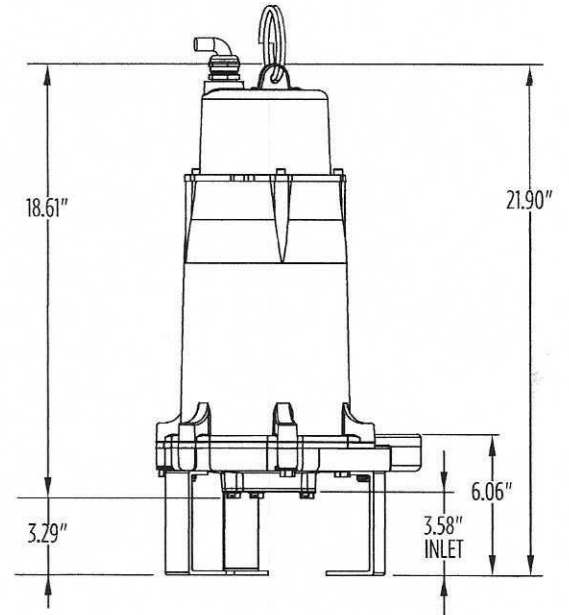
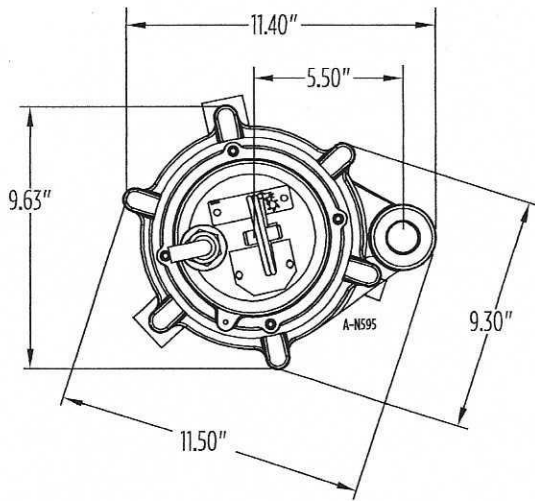
*In contact with fluid pumped



(U.S. Patent No. 7,237,736)

ENGINEERED PRODUCTS: IGP AUTOMATIC SERIES

DIMENSIONS



Leg Kit (included on 515861) GLK — item no. 599078

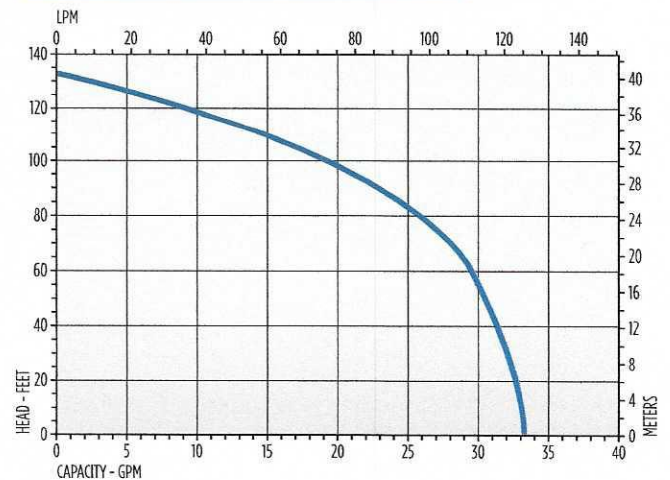
MODEL INFORMATION

Item No.	Model	HP	Volts	Hz	Full Load Amps/ Watts	Cord
515861	IGP-AZ31-20	2	208-230	60	13.9/3200	20'
515862	**IGP-AZ31-20	2	208-230	60	13.9/3200	20'
515863	IGP-AZ31-20	2	208-230	60	13.9/3200	20'
515873	IGP-AZ31-30	2	208-230	60	13.9/3200	30'
515874	**IGP-AZ31-30	2	208-230	60	13.9/3200	30'

Performance (GPM @ Head)						Shut-Off	PSI	Weight (lbs)
20'	40'	60'	80'	100'	120'			
32	31	30	25	20	10	130'	56	104

**Float and leg kit not included

PERFORMANCE



ENGINEERED PRODUCTS: IGPH AUTOMATIC SERIES

APPLICATIONS

- Engineered Products IGPH Series Grinder Pumps are ideal for sewage waste transfer

FEATURES

- Powerful 2 hp, 3450 rpm motor to handle the demands of grinding domestic sewage
- Start/Run components encased in oil-free chamber requiring no control panel
- Dual stage hydraulics
- Carbon/Ceramic mechanical seal
- Deflection-resistant, short motor shaft
- Corrosion-resistant upper and lower brass impellers minimize downtime and maintenance
- Tight cutting clearances for superior grinding at 414,000 cuts per minute
- Epoxy-coated finish for corrosion resistance and durability
- Built-in overload protection prevents over-current/over-temperature damage

CONSTRUCTION

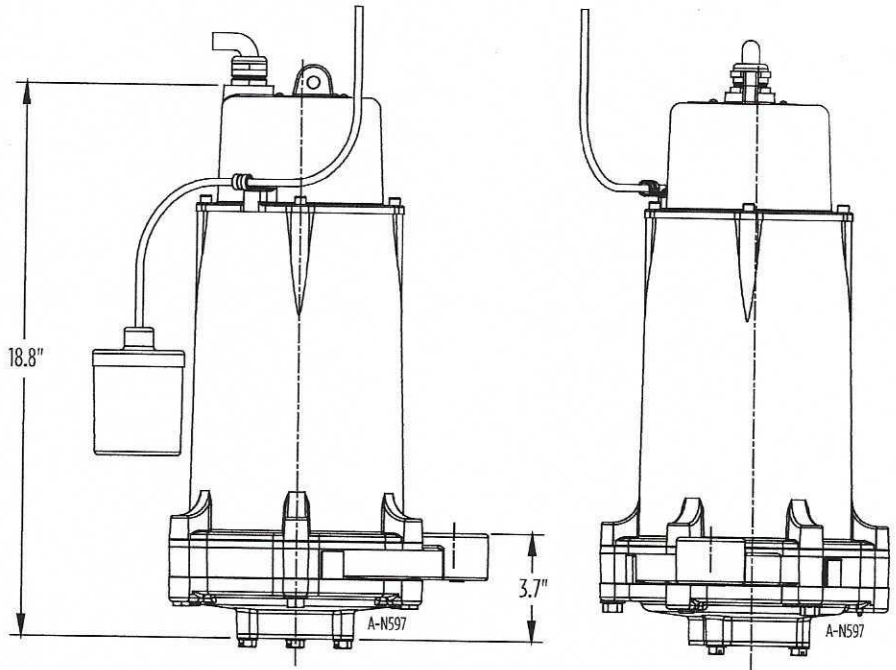
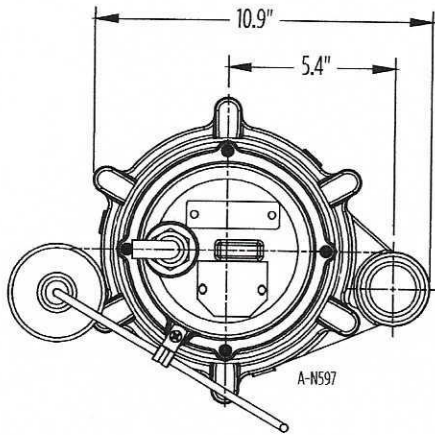
Motor Cover	Cast iron with epoxy-coating
Motor Cover O-ring	Nitrile
Motor Design	Single-phase, capacitor start, capacitor run
Insulation Class	F
Overload Protection	Internal, on winding thermal protector
Motor Shaft	AISI 300 series stainless steel
Ball Bearing-Upper	Single row ball, 6203
Ball Bearing-Lower	Single row ball, 6306
Seal Housing	Cast iron with epoxy-coating
Mechanical Seal	Carbon/ceramic
Volute	Cast iron with epoxy-coating
Impellers	Brass
Rotating Cutter	2 blade design, AISI 440C stainless steel, through hardened to Rockwell 55-60C
Stationary Cutter	AISI 440C stainless steel, hardened to Rockwell 55-60C
External Hardware	300 series stainless steel
Power Cable	Type SOW/or S00W 12/3



(U.S. Patent No. 7,237,736)

ENGINEERED PRODUCTS: IGPH AUTOMATIC SERIES

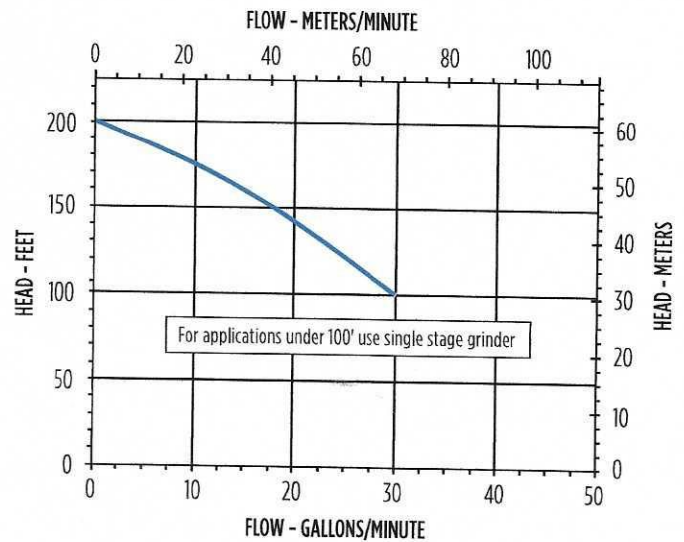
DIMENSIONS

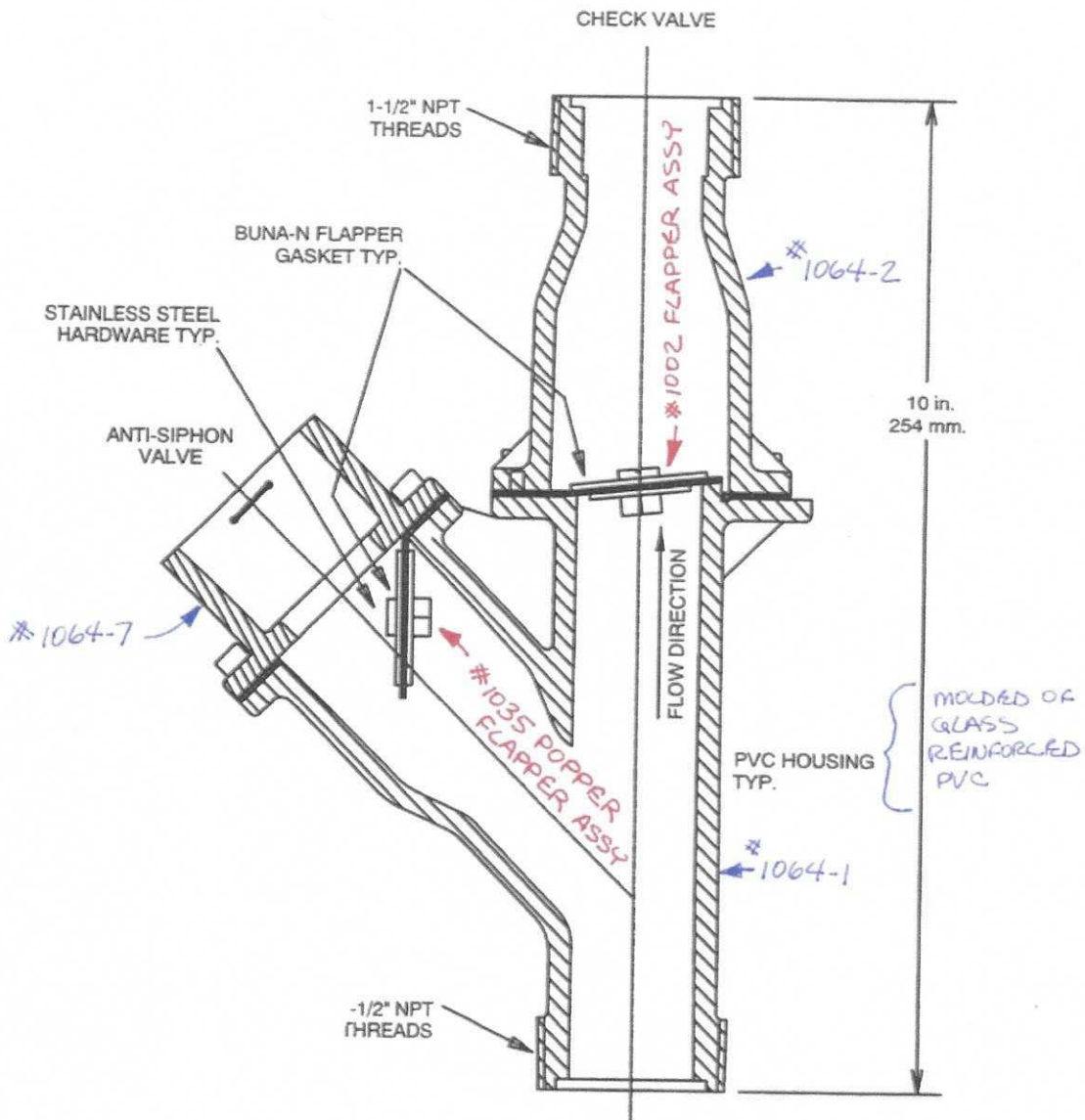



MODEL INFORMATION

Item No.	Model	HP	Volts	Hz	Phase	Cord Length	Full Load Amps/Watts	Weight (lbs)
515701	IGPH-A231-30	2	208-230	60	1	30	16 / 3800	110
515703	IGPH-A231-50	2	208-230	60	1	50	16 / 3800	115
515711*	IGPH-A231-30	2	208-230	60	1	30	16 / 3800	110
Performance (GPM @ Head)						Shut-Off	PSI	
100'	125'	150'	175'					
30	24	18	10	200'	86.5			

* No Float





A.P.S.	S.P.A.	12/07/91	B	5/8
DR BY	CHK'D	DATE	ISSUE	SCALE
				
ANTI-SIPHON CHECK VALVE				
*1064				

ALARM PANEL:

Each grinder pump station includes a NEMA 4X, UL-listed alarm panel suitable for wall or pole mounting. The NEMA 4X enclosure is manufactured of polycarbonate to ensure corrosion resistance. The enclosure includes a stainless steel hinged, lockable cover with padlock, preventing access to electrical components, and creating a secured safety front to allow access only to authorized personnel.

The alarm panel contains one 20 AMP double pole circuit breaker for the pump core's power circuit and one 15 AMP single pole circuit breaker for the alarm circuit. The panel also contains a push-to-run feature, an internal run indicator, and a complete alarm circuit. All circuit boards in the alarm panel are protected with a conformal coating on both sides.

The alarm panel includes the following features: external audible and visual red alarm lamp; push-to-run switch; push-to-silence switch and high level alarm capability.

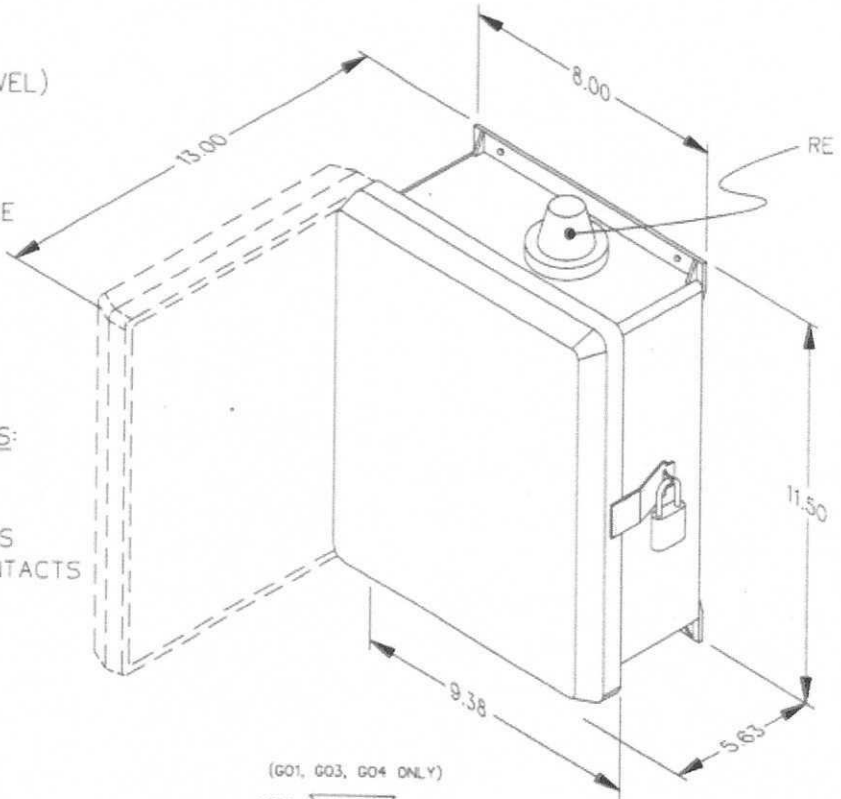
The entire alarm panel, as manufactured and including any of the following options shall be listed by Underwriters Laboratories, Inc.

(OPTIONAL – Versa'larm) Remote Sentry Indoor Alarm Module:

Alderon Industries #7013 (see attached for specifications)

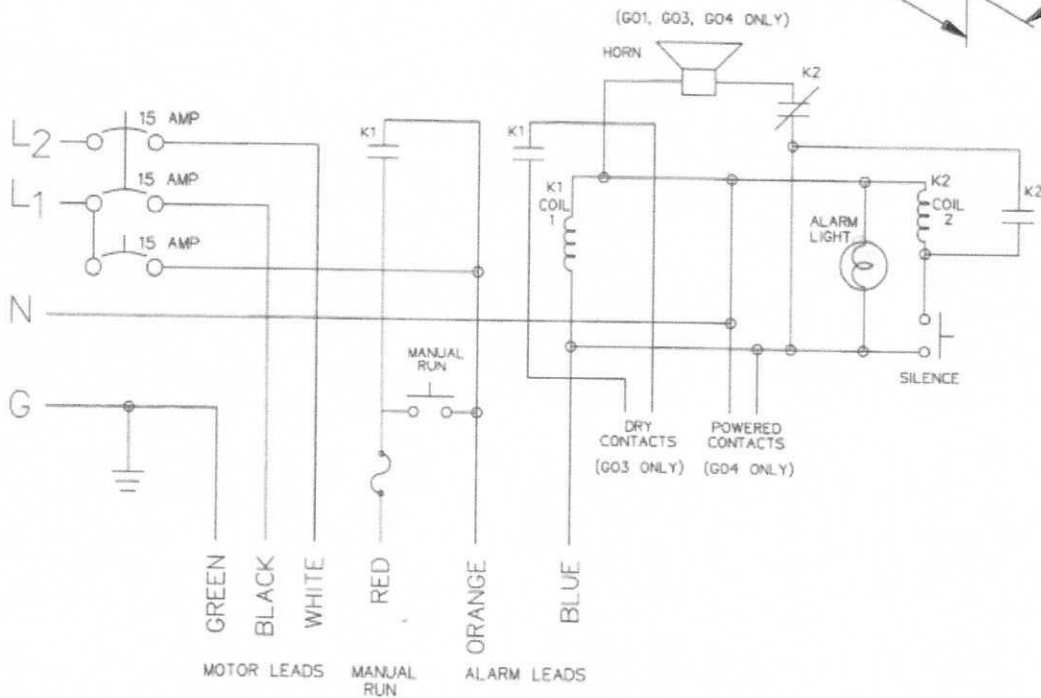
SIMPLEX MOD 250

REDUNDANT RUN (HIGH LEVEL)
VISUAL & AUDIBLE ALARM
MANUAL SILENCE
MANUAL RUN
240VAC
4X FIBERGLASS ENCLOSURE



AVAILABLE CONFIGURATIONS:

- G01 - STANDARD
- G02 - WITHOUT HORN
- G03 - WITH DRY CONTACTS
- G04 - WITH POWERED CONTACTS



CONTROL CABLE:

TYPE TC; DIRECT BURIAL, 12AWG,
SIX CONDUCTOR.

Versa'alarm™ - 1-Zone, Panel Only

INDOOR USE ONLY

DESCRIPTION OF OPERATION



The Versa'alarm™ 1-Zone is an indoor rated alarm panel.

A sensor switch is field wired to the bottom terminal block on the Versa'alarm™. When the sensor switch closes, the alarm buzzer and alarm LED and auxiliary contacts will activate on the Versa'alarm™.

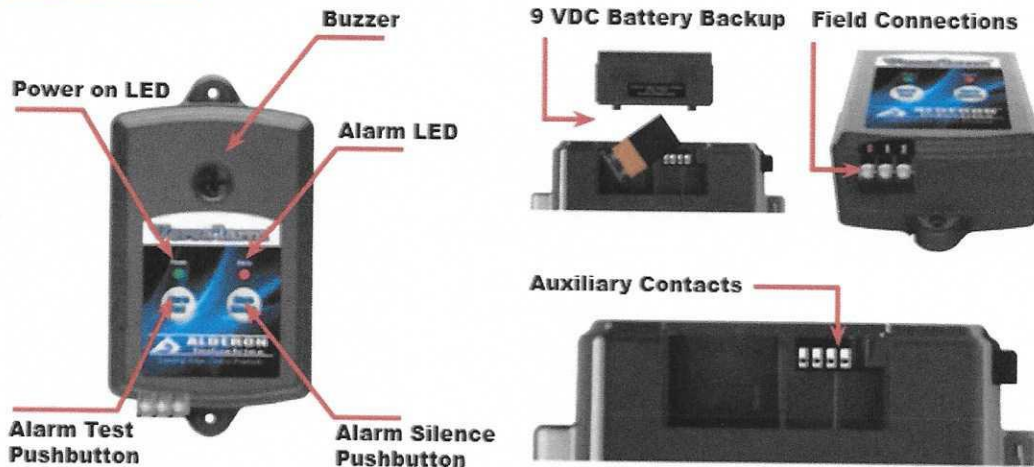
Pressing the Alarm Silence button will silence the buzzer but the alarm LED and the auxiliary contacts will remain on until the sensor switch deactivates (opens). The Versa'alarm™ will then auto reset the alarm buzzer for the next alarm cycle.

Pressing the Alarm Test button will activate the buzzer, alarm LED and auxiliary contacts.

The Versa'alarm™ also has battery backup (9 VDC battery not included) and Auxiliary Dry Normally Open Contacts to connect to building automation systems and phone dialers.

The Versa'alarm™ is powered from a 120 VAC wall mount power supply that plugs into a standard 120 VAC wall outlet. Multiple sensors can be connected to the Versa'alarm™ for expanded monitoring.

FEATURES



151 16th Street South, Hawley, MN 56549 | Phone: (218) 483-3034 | Fax: (218) 483-3036 | alderonind.com

SPECIFICATIONS



Versa'larm™ - 1-Zone, Panel Only

Primary Power

120 VAC, 60Hz
Five foot power cord

Secondary Power

Class 2, 9-11 VDC, 500 mA

Auxiliary Contacts

Normally open
Class 2, 24 VDC/24 VAC
(50/60Hz), 100 mA maximum

Battery

Standard 9 VDC
(not included)

Buzzer

103 db @ 2 ft

Field Connection Switch

9 VDC, 200 mA minimum
(Signaling device)

Type 1 Enclosure

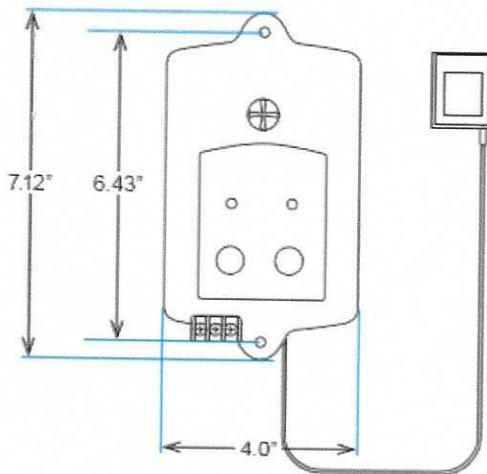
For indoor use

CSA Certified

For USA and Canada

3-Year Warranty

MECHANICAL DRAWING



ORDERING INFORMATION

PART NUMBER	DESCRIPTION
7013	Versa'larm™, Alarm Panel Only
ACCESSORIES (Expanded Applications)	
7008	WaterSpotter™ Flood Sensor with 15' Cable
7009	WaterSpotter™ Probe Sump Sensor with 15' Cable
7018	Low Temperature Switch (need to order 7008 or 7019 also)
7006	Auto Dialer: 1 Zone, one common message used for all sensors
7019	Auto Dialer: 2 Zone, two different messages, one for water and one for furnace fail
7933	Indoor/Outdoor Alarm Strobe, 6-12 VDC, Versa'larm™ Accessory

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TDS000216_7013 Versa'larm.indd August 23, 2018 12:02 PM



UNITED POLY SYSTEMS

W A T E R L I N E

Applications include:

- o Municipal and Industrial
- o Potable water - NSF
- o Sewer Line - AWWA/F714
- o Force Main Sewer- AWWA/F714
- o Slip Lining/Pipe Bursting
- o Etc.



- Product may be striped for different indicators:
 - Blue stripe - Water or Potable
 - Green stripe - Sewer
 - Purple stripe - Reclaim Water
- IPS/DIPS-Gray Pipe with or without stripe also offered for slip lining, pipe bursting, etc. (Gray Pipe Cell Classification 445574E)
- Product is manufactured in IPS (iron pipe size) and DIPS (ductile iron pipe size 4" and up).
- United Poly Systems Pressure Pipe is used in oil and gas piping systems (D2513), industrial & mining, force main sewer (AWWA/F714), potable water (NSF), & landfill.
- The material requirements for PE pressure pipe shall meet or exceed ASTM Standard D 3350 requirements. Materials produced for water application shall meet or exceed ASTM D3035.

PE4710 Typical Physical Properties

*nominal values

Property	Typical Value	Units	Test Method
Density with minimum 2% carbon black	.960	g/cc	ASTM D 792 or 1505
High Load Melt Index	8.5	g/10 minutes	ASTM D 1238
Melt Index	0.08	g/10 minutes	ASTM D 1238
Flexural Modulus	110,000<160,000	Psi	ASTM D 790
Tensile Strength @ yield (2 in/min)	3600	Psi	ASTM D 638
Tensile Elongation @ Break	740%	%	ASTM D 638
Thermal expansion	1.0 x 10 ⁻⁴	in/in/°F	ASTM D 696
HDB 73.4° F (23°C)	1600	Psi	ASTM D 2837
HDB 140° F (60°C)	1000	Psi	ASTM D 2837
PENT	>500	Hrs	ASTM F1473
Brittleness Temperature	<-103°F (-75°C)	°F	ASTM D 746
Cell Classification	445574C(black only)		ASTM D 3350

*Nominal values are to be used as guidelines only; this is not a product specification and does not indicate minimum or maximum values.

4707 E. Kearney, Springfield, MO 65803 • 417.708.9887 • www.unitedpolysystems.com

* Revised 9/15/2016



IPS Size	Avg. OD	SDR PSI	7 335	7.3 320	9 250	11 200	13.5 160	15.5 139	17 130	19 110	21 100	26 80	32.5 65
3/4	1.05	Min Wall	0.150	-	0.117	0.095	0.078	-	-	-	-	-	-
		Avg ID	0.732	-	0.802	0.849	0.885	-	-	-	-	-	-
		Weight p/ft	0.180	-	0.150	0.120	0.100	-	-	-	-	-	-
1	1.315	Min Wall	0.188	0.180	0.146	0.120	0.097	-	-	-	-	-	-
		Avg ID	0.916	0.933	1.005	1.061	1.109	-	-	-	-	-	-
		Weight p/ft	0.288	0.278	0.230	0.200	0.160	-	-	-	-	-	-
1 1/4	1.66	Min Wall	0.237	0.227	0.184	0.151	0.123	0.107	0.107	-	-	-	-
		Avg ID	0.157	1.178	1.292	1.358	1.414	1.446	1.465	-	-	-	-
		Weight p/ft	0.459	0.442	0.370	0.310	0.250	0.224	0.206	-	-	-	-
1 1/2	1.90	Min Wall	0.271	0.260	0.211	0.173	0.141	0.123	0.112	-	-	-	-
		Avg ID	1.325	1.348	1.478	1.554	1.618	1.654	1.676	-	-	-	-
		Weight p/ft	0.600	0.580	0.480	0.400	0.330	0.295	0.270	-	-	-	-
2	2.375	Min Wall	0.339	0.325	0.264	0.213	0.176	0.153	0.140	0.125	0.113	-	-
		Avg ID	1.656	1.685	1.815	1.917	2.002	2.069	2.078	2.110	2.135	-	-
		Weight p/ft	0.939	0.906	0.760	0.640	0.530	0.458	0.430	0.390	0.350	-	-
2 1/2	2.875	Min Wall	0.411	0.394	0.319	0.262	0.213	0.213	0.169	-	-	-	-
		Avg ID	2.004	2.040	2.198	2.351	2.449	2.424	2.516	-	-	-	-
		Weight p/ft	1.377	1.329	1.109	0.930	0.764	0.771	0.622	-	-	-	-
3	3.50	Min Wall	0.500	0.479	0.389	0.318	0.259	0.226	0.206	0.184	0.167	0.135	0.1076
		Avg ID	2.44	2.484	2.675	2.826	2.951	3.048	3.063	3.110	3.146	3.214	3.285
		Weight p/ft	2.040	1.968	1.660	1.390	1.150	0.997	0.932	0.840	0.770	0.63	0.494
4	4.50	Min Wall	0.643	0.616	0.500	0.409	0.333	0.290	0.265	0.237	0.214	0.173	0.138
		Avg ID	3.137	3.193	3.440	3.633	3.794	3.920	3.938	3.998	4.046	4.133	4.207
		Weight p/ft	3.372	3.253	2.740	2.290	1.900	1.645	1.514	1.390	1.260	1.03	0.83

4707 E. Kearney St., Springfield, MO 65803 phone: 417.708.9887 fax: 877.630.8693 www.unitedpoly.com

* Revised 9/15/2016



Injection molded plastic compression curb stop/swing check valves for use on O.D. controlled High Density Polyethylene Pipe (HDPE) shall provide a pressure rated, fully restrained, insert-less mechanical compression *OR* NPT Threaded connection. Valves shall be NSF 61 certified for potable water use. Curb Stop Valves to be *Cepex Performance Series*, or approved equal, and Check Valve to be *KBI*, or approved equal, conforming to the following specifications:

IPS (OD) Curb Stops / Swing Check – Blue Colored Union Nuts

Range: 1¼", 1½", 2"

Tube: For use on SDR 7.3 thru SDR 17

O-ring: NBR (Nitrile) Gaskets on Compression Connection

Working Pressure: 200 PSI @ 73°F (23°C)

Material Specifications:

- Curb Stop: Polypropylene NSF 61 UV Stabilized
- Check Valve: Type I PVC NSF 61 UV Stabilized
- ASTM-F714 / D3035 / D-1599-99
- ISO 9002 Certified

CTS (OD) Curb Stops / Swing Check – Copper Colored Union Nuts

Range: 1¼", 1½", 2"

Tube: For Use on SDR 9 & SDR 11

O-ring: NBR (Nitrile) Gaskets on Compression Connection

Working Pressure: 200 PSI @ 73°F (23°C)

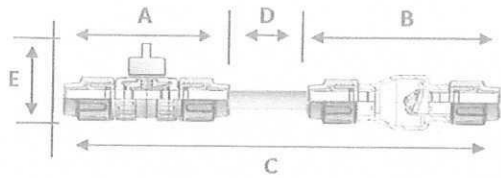
Material Specifications:

- Curb Stop: Polypropylene NSF 61 UV Stabilized
- Check Valve: Type I PVC NSF 61 UV Stabilized
- ASTM-D2737 / D1248 / D-1599-99
- ISO 9002 Certified

FORCED SEWER ASSEMBLY



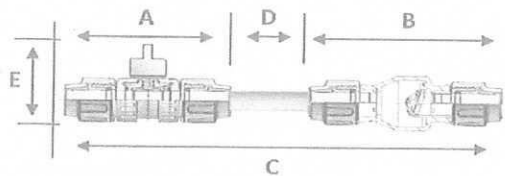
IPS FORCED SEWER ASSEMBLY FOR HDPE



SIZE	CODE	A	B	C	D	E	PIPE OD (D)
1-1/4"	GR1125	11.50	10.38	27.00	5.12	6.10	1.66
1-1/2"	GR3150	12.40	12.00	28.50	4.10	6.25	1.90
2"	GR6211	13.00	19.52	34.50	3.88	7.00	2.38

CTS PP CURB STOP COMP x COMP

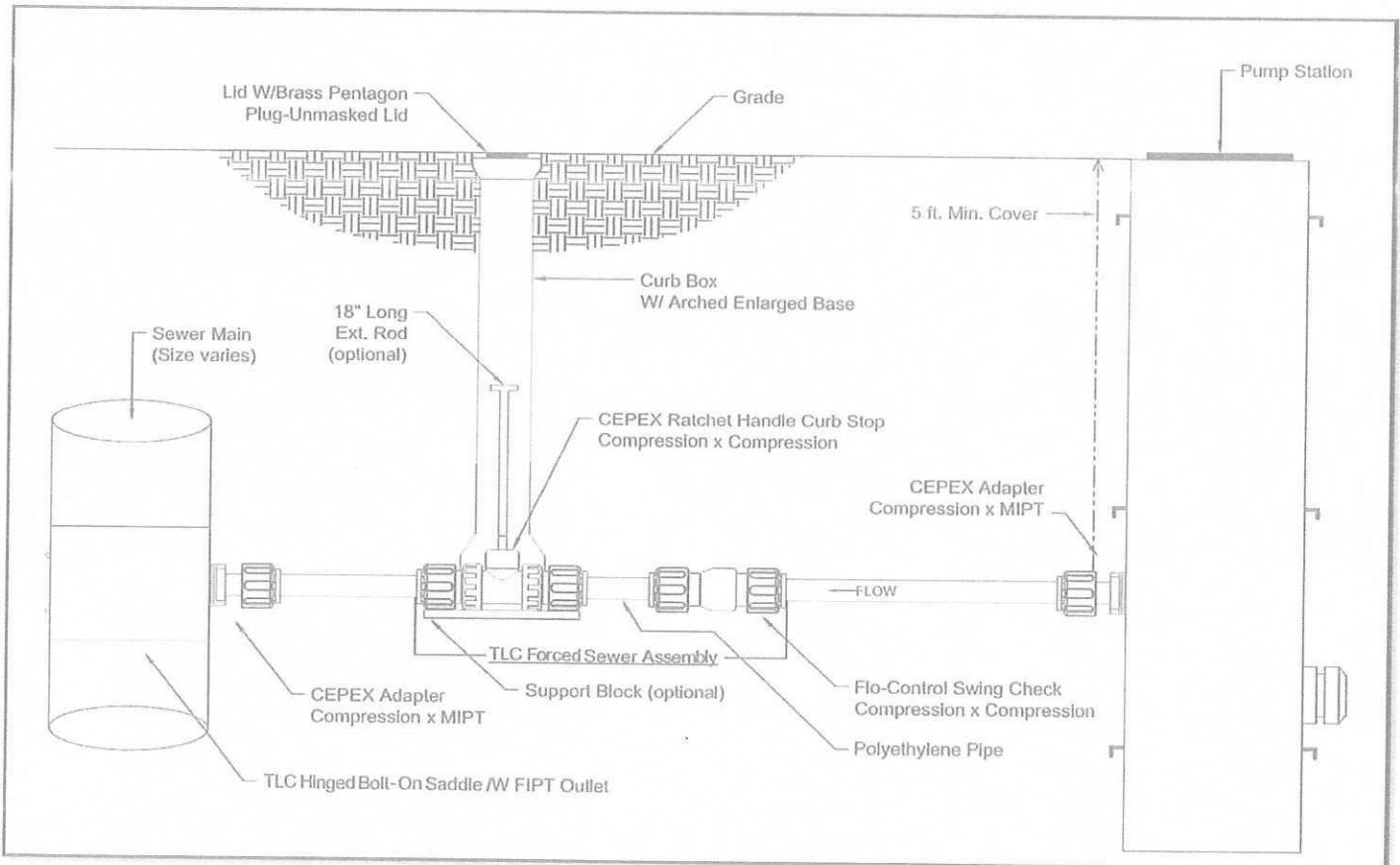
SIZE	CODE	A	B	C	D	E	PIPE OD (D)
1-1/2"	GR2150	11.50	10.38	27.00	5.12	6.10	1.63
2"	GR6209	12.40	12.00	28.50	4.10	6.25	2.13



IPS FORCED SEWER ASSEMBLY FOR PVC

SIZE	CODE	A	B	C	D	E	PIPE OD (D)
1-1/2"	GR4150	12.40	12.00	28.50	4.10	6.25	1.90
2"	GR6200	13.00	17.62	34.50	3.88	7.00	2.38

FORCED SEWER MODEL WITH TLC CURB/CHECK ASSEMBLIES TO PUMP STATION



The Lateral Connection Corp.
North American Sales & Distribution Center

