EPG Companies Inc.

SUBMITTAL

FOR

C2R Inc.
Mundy Landfill

EPG Job #21-15306

EPG Companies Inc.

Submittal Index

C2R Inc. – Mundy Landfill

Job #21-15306

Bulletin	1055	Equipment List
Drawing	09948-0000	Series 7 SurePump™
Drawing	09948-0010	Series 7 Size 4 Sump Drainer
Bulletin	0335h	Engineer's Specification EPG WSDPT SurePump™ Wheeled Sump Drainer for side slope riser installations with built-in level sensor
Bulletin	0335h	Engineer's Specification EPG WSDPT SurePump™ Wheeled Sump Drainer for side slope riser installations with built-in level sensor
Bulletin	0480g	Materials of Construction
Bulletin	0123a	Engineer's Specification EPG LevelMaster™ LT Submersible Level Sensor
Bulletin	0060b	Engineer's Specification EPG Series L925PT PumpMaster™ Controller
Form	117	Attachment to Bulletin 0060b
Drawing	12792-0250	L925PT Control Panel Schematics
Bulletin	0060b	Engineer's Specification EPG Series L925PT PumpMaster™ Controller
Form	117	Attachment to Bulletin 0060b
Drawing	12793-0250	L925PT Control Panel Schematics
Bulletin	0285e	Model NW Stainless Steel Discharge Adapter for Leachate, Monitoring, and Remediation Piping Applications
Bulletin	0291d	Installation Instructions – NW Disconnect for Leachate, Monitoring, and Remediation Pumping Applications
Drawing	03626-0500	BJBP500 Breakout Junction Box for Motor Lead
Drawing	02523-0605	BJBL600B Breakout Junction Box for Level Sensor
Bulletin	6065	Stainless Steel Ball Valves
Bulletin	1035a	Stainless Steel Check Valves
Bulletin	2236	Extended Limited Warranty
Form	127a	Submittal Acceptance Form

EPG Companies Inc.

List of Equipment

C2R Inc. – Mundy Landfill

EPG Job # 21-15306

2 each L925PT
EPG PumpMaster control panel to operate 1ea. 3/4 HP 460 VAC 3 phase motor. Includes 1ea. LevelMaster level control meter with simulator, elapsed time meter, and a top mounted high level alarm light. Enclosure is rated NEMA 4.

2 each WPZ00702007E3044OX
WSDPT 7-2 EPG SurePump patented, 4" wheeled, stainless steel sump drainer with a 3/4 HP 460 VAC 3 phase motor. Includes 100' of CP jacketed motor lead, 0-5 PSI submersible level sensor with 100' of lead, and a 100' length of 1/8" stainless steel suspension cable with clamps.

3 each NW1.5SS
EPG Discharge Adapter, 1.5", cast 316SS discharge adapter.

3 each BJBP500
EPG Breakout Box, NEMA 4X non-metallic enclosure for 1 ea. motor lead, with SureSeal connectors.

3 each BJBL600B
EPG Breakout Box, NEMA 4X non-metallic enclosure, junction box for 1 ea. level sensor. Includes desiccant dryer, bellows, and SureSeal connectors.

3 each BV150SS
Ball Valve, 1-1/2", 304SS, NPT, with PTFE seals

3 each CVSE150
Check Valve, 1.5" FNPT, 304SS in-line poppet type, with Viton O-ring seat.

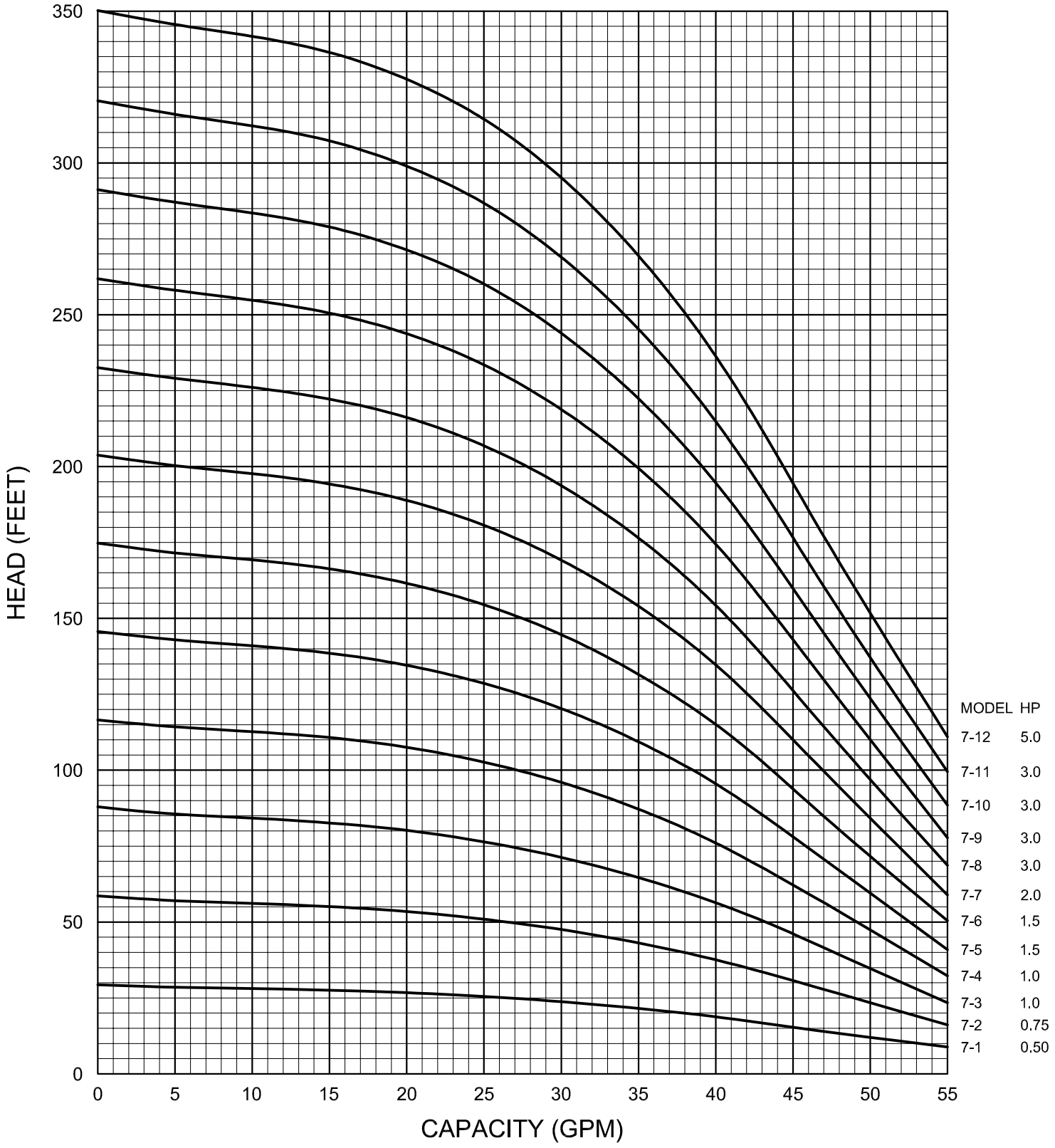
1 each L925PT
EPG PumpMaster control panel to operate 1ea. 1.5 HP 460 VAC 3 phase motor. Includes 1ea. LevelMaster level control meter with simulator, elapsed time meter, and a top mounted high level alarm light. Enclosure is rated NEMA 4.

1 each WPZ00705015E3044OX
WSDPT 7-5 EPG SurePump patented, 4" wheeled, stainless steel sump drainer with a 1.5 HP 460 VAC 3 phase motor. Includes 150' of CP jacketed motor lead, 0-5 PSI submersible level sensor with 150' of lead, and a 150' length of 1/8" stainless steel suspension cable with clamps.

Series 7 SurePump ™

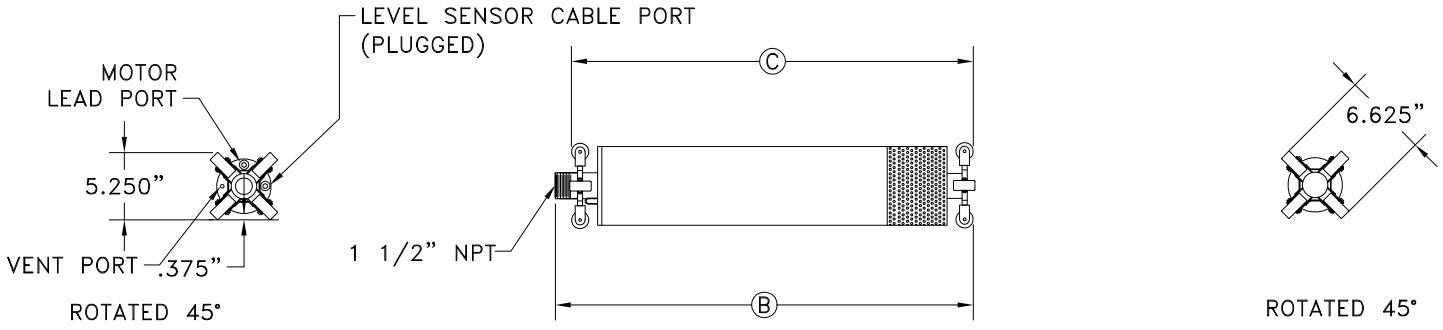
Flow Range 20-50 GPM

60 Hz

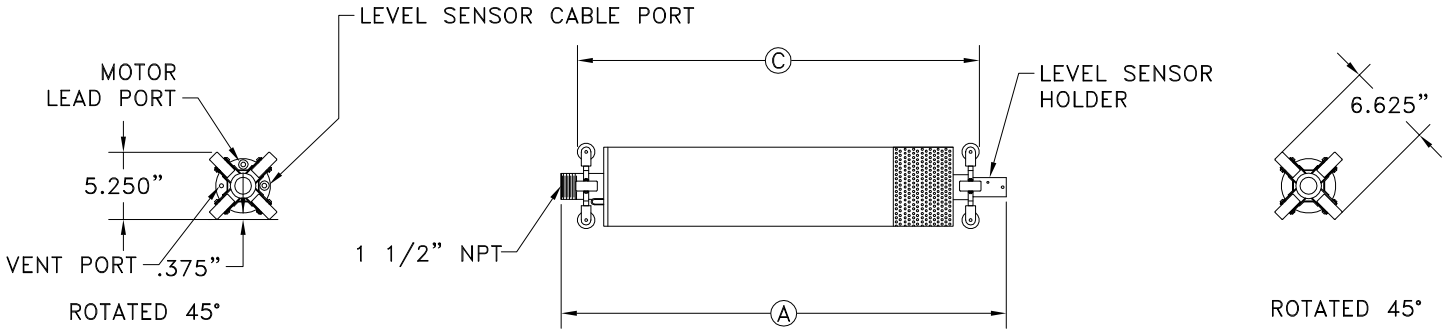


SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

SERIES 7 SIZE 4 SUMP DRAINER



WSD



WSDPT

MODEL	HP	PHASE	A	B	C	*APPROX. SHIPPING WEIGHT	
						WSD	WSDPT
7-1	0.50	1	32.66	31.54	30.79	62.79	67.79
7-1	0.50	3	32.66	31.54	30.79	62.79	67.79
7-2	0.75	1	35.76	34.64	33.89	68.95	68.95
7-2	0.75	3	35.76	34.64	33.89	68.95	68.95
7-3	1.00	1	38.82	37.70	36.95	75.08	80.08
7-3	1.00	3	38.82	37.70	36.95	75.08	80.08
7-4	1.00	1	40.79	39.67	38.92	77.36	82.36
7-4	1.00	3	40.79	39.67	38.92	77.36	82.36
7-5	1.50	1	44.64	43.52	42.77	86.09	91.09
7-5	1.50	3	42.77	41.65	40.90	79.64	84.64
7-6	1.50	1	46.60	45.48	44.73	92.53	97.53
7-6	1.50	3	44.70	43.58	42.83	88.37	93.37

MODEL	HP	PHASE	A	B	C	*APPROX. SHIPPING WEIGHT	
						WSD	WSDPT
7-7	2.00	1	50.06	48.94	48.19	94.81	99.81
7-7	2.00	3	48.56	47.44	46.69	90.65	95.65
7-8	3.00	1	60.13	59.01	58.23	126.69	131.69
7-8	3.00	3	57.13	56.01	55.23	113.36	118.36
7-9	3.00	1	62.10	60.98	60.23	128.97	133.97
7-9	3.00	3	59.10	57.98	57.23	115.64	120.64
7-10	3.00	1	64.07	62.95	62.20	150.91	155.91
7-10	3.00	3	61.07	59.95	59.20	131.25	136.25
7-11	3.00	1	66.04	64.92	64.17	153.19	158.19
7-11	3.00	3	63.04	61.92	61.17	133.53	138.53
7-12	5.00	1	74.01	72.89	72.14	155.47	160.47
7-12	5.00	3	68.01	66.89	66.14	135.81	140.81

NOTE: ALL DIMENSIONS ARE IN INCHES.

*SHIPPING WEIGHT INCLUDES
WSD: CRATE, 50' OF 14-4 MOTOR LEAD, 50' OF 1/8" SS CABLE.
WSDPT: CRATE, 50' OF 14-4 MOTOR LEAD, 50' OF 1/8" SS CABLE, LEVEL SENSOR AND CABLE.

ENGINEER'S SPECIFICATION

EPG WSDPT SurePump™ Wheeled Sump Drainer

for side slope riser installations
with built-in level sensor

Furnish _2_ centrifugal submersible EPG WSDPT SurePump Wheeled Sump Drainer(s) (U.S. patented), Model WSDPT _7_ - _2_ with _2_ impeller stages. Each unit shall be suitable for side slope riser installation. Each unit shall be equipped with a _¾_ HP, submersible electric motor for operation on _460_ Volts, _3_ phase, 60 Hertz service with _100_ feet of power cable. Each SurePump Wheeled Sump Drainer shall have a _1 ½_ inch MNPT threaded discharge nozzle and be capable of delivering _35_ GPM at _43_ feet of TDH. Each SurePump will be fitted with _100_ feet of stainless steel lifting cable of sufficient strength to permit removal of the unit.

DESIGN
Each SurePump Wheeled Sump Drainer shall be capable of pumping contaminated ground water for spill recovery, leachate, and condensate removal. A removable level transmitter and mount (patented) shall be installed at the center bottom of the Sump Drainer for liquid level control. The stainless steel Sump Drainer shall permit the unit to "pump down" to within _8_ inches of the sump bottom without any loss of performance or damage to the pump. External “priming” shall not be required nor allowed. The Sump Drainer shall be sealed with fluid inlet only at bottom and be equipped with a vent valve to assist with the evacuation of air from the Sump Drainer.

MATERIALS
Major components shall be made of 304 stainless steel, seal rings are to be made of E-Glide™, and bearings are to be E-Glide. In addition, all fasteners shall be 304 stainless steel. Teflon or rubber bearings and seal rings are not allowed.

CHECK VALVE
Each unit shall include a built-in check valve with non-metallic seat, and housing and disc of 304 stainless steel.

SHAFT
The shaft shall be of 304 stainless steel and rotate on E-Glide bearings that are fluid lubricated.

DIFFUSER CHAMBER
The diffuser chambers for each impeller shall be 304 stainless steel and fitted with E-Glide impeller seal rings.

IMPELLERS
The impeller(s) shall be closed and consist of 304 stainless steel.

SUMP DRAINER
The sump drainer shall be fabricated from 304 stainless steel with sealed top, sealed around motor lead and level sensor cable. Shall have fluid entrance only below the bottom of the motor to promote cooling. Shall have multiple wheels on each end. Shall have the level sensor mounted at the bottom central axis. The use of HDPE, PVC, or similar plastics is not allowed.

MOTOR
The motor shall be a submersible, hermetically sealed motor. The motor shall be designed for continuous duty, capable of sustaining up to _100_ starts per day. The motor shall be connected to the pump via a motor adaptor and coupling in 304 stainless steel. Single phase motors in ½ HP to 1 HP only shall have thermal protection in the motor windings to protect the windings from overload. The unit will restart automatically after the motor cools down. Larger horsepower single phase motors and three phase motors shall have thermal protection located in the control panel that is manually reset.

MOTOR LEAD WIRE

The lead wire shall be no-splice with EPG's "CP" waterproof and chemically resistant jacket over 600 Volt insulation and be of the length specified. Wire shall be sized for amp load of the motor.

ENGINEER'S SPECIFICATION

EPG WSDPT SurePump™ Wheeled Sump Drainer

for side slope riser installations with built-in level sensor

Furnish _1_ centrifugal submersible EPG WSDPT SurePump Wheeled Sump Drainer(s) (U.S. patented), Model WSDPT _7_ - _5_ with _5_ impeller stages. Each unit shall be suitable for side slope riser installation. Each unit shall be equipped with a _1 ½_ HP, submersible electric motor for operation on _460_ Volts, _3_ phase, 60 Hertz service with _150_ feet of power cable. Each SurePump Wheeled Sump Drainer shall have a _1 ½_ inch MNPT threaded discharge nozzle and be capable of delivering _35_ GPM at _110_ feet of TDH. Each SurePump will be fitted with _150_ feet of stainless steel lifting cable of sufficient strength to permit removal of the unit.

DESIGN
Each SurePump Wheeled Sump Drainer shall be capable of pumping contaminated ground water for spill recovery, leachate, and condensate removal. A removable level transmitter and mount (patented) shall be installed at the center bottom of the Sump Drainer for liquid level control. The stainless steel Sump Drainer shall permit the unit to "pump down" to within _8_ inches of the sump bottom without any loss of performance or damage to the pump. External “priming” shall not be required nor allowed. The Sump Drainer shall be sealed with fluid inlet only at bottom and be equipped with a vent valve to assist with the evacuation of air from the Sump Drainer.

MATERIALS
Major components shall be made of 304 stainless steel, seal rings are to be made of E-Glide™, and bearings are to be E-Glide. In addition, all fasteners shall be 304 stainless steel. Teflon or rubber bearings and seal rings are not allowed.

CHECK VALVE
Each unit shall include a built-in check valve with non-metallic seat, and housing and disc of 304 stainless steel.

SHAFT
The shaft shall be of 304 stainless steel and rotate on E-Glide bearings that are fluid lubricated.

DIFFUSER CHAMBER
The diffuser chambers for each impeller shall be 304 stainless steel and fitted with E-Glide impeller seal rings.

IMPELLERS
The impeller(s) shall be closed and consist of 304 stainless steel.

SUMP DRAINER
The sump drainer shall be fabricated from 304 stainless steel with sealed top, sealed around motor lead and level sensor cable. Shall have fluid entrance only below the bottom of the motor to promote cooling. Shall have multiple wheels on each end. Shall have the level sensor mounted at the bottom central axis. The use of HDPE, PVC, or similar plastics is not allowed.

MOTOR
The motor shall be a submersible, hermetically sealed motor. The motor shall be designed for continuous duty, capable of sustaining up to _100_ starts per day. The motor shall be connected to the pump via a motor adaptor and coupling in 304 stainless steel. Single phase motors in ½ HP to 1 HP only shall have thermal protection in the motor windings to protect the windings from overload. The unit will restart automatically after the motor cools down. Larger horsepower single phase motors and three phase motors shall have thermal protection located in the control panel that is manually reset.

MOTOR LEAD WIRE

The lead wire shall be no-splice with EPG's "CP" waterproof and chemically resistant jacket over 600 Volt insulation and be of the length specified. Wire shall be sized for amp load of the motor.

Materials of Construction

EPG SurePump™

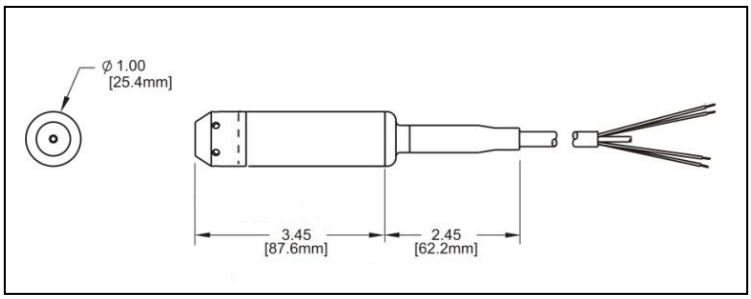
	STANDARD
Check Valve Housing	304 Stainless Steel
Check Valve	304 Stainless Steel
Check Valve Seat	E-Glide™
Diffuser Chamber	304 Stainless Steel
Impeller Seal Ring	E-Glide™
Impeller	304 Stainless Steel
Motor Adapter	304 Stainless Steel
Inlet Screen	304 Stainless Steel
Pump Shaft	304/314 Stainless Steel
Coupling	329/420/431 Stainless Steel
Fasteners	304 Stainless Steel
Bearings	E-Glide™

FRANKLIN ELECTRIC MOTORS

	1/3 to 2 HORSEPOWER	3 to 60 HORSEPOWER
End Bell Castings	304 Stainless Steel over Iron	304 Stainless Steel over Iron
Stator Shell	301 Stainless Steel	301 Stainless Steel
Shaft Extension	303 Stainless Steel	303 Stainless steel
Fasteners	316 Stainless Steel	300 Stainless Steel
Seal Cover	Tefzel	Sintered Bronze
Shaft Seal	Viton	Viton, Carbon, Ceramic Face Seal
Diaphragm	Viton	Nitrile Rubber
Diaphragm Plate	304 Stainless Steel	304 Stainless Steel
Diaphragm Spring	302 Stainless Steel	302 Stainless Steel
Diaphragm Cover	316 Stainless Steel	304 Stainless Steel
Slinger	Viton	Nitrile Rubber
Lead Sleeve	316 Stainless Steel	316 Stainless Steel
Lead Jam Nut	316 Stainless Steel	N/A
Lead Jam Clamp	N/A	300 Stainless Steel
Lead Potting	Epoxy	Epoxy
Lead Bushing	Viton	Viton

ENGINEER'S SPECIFICATION

EPG LevelMaster™ LT Submersible Level Sensor



GENERAL FEATURES

* Application: The LevelMaster sensor is designed specifically to work with the EPG SurePump™, but its durability, accuracy and weight make it the logical choice for stand alone level applications. The chemical resistant jacketed cable with water block contains a vent tube for atmospheric pressure compensation.
* Ranges Available: 0-28" through 0-690' models are standard. Call EPG for other available ranges.
* Accuracy: The LevelMaster sensor has built-in temperature compensation as well as precise calibration giving an accuracy of ±0.25% at ambient temperature and a combined repeatability and hysteresis error of ±0.10%.
* Fully Submersible: The LevelMaster sensor is fully submersible in any liquid compatible with 316 stainless steel and the chemical resistant polyurethane cable jacket. It is designed for submergence at depths greater than 1.5X operating level without sustaining damage. Call EPG for more severe service.
* Superior Noise Immunity: Designed for heavy duty use in hostile environments, the LevelMaster sensor gives outstanding noise immunity. Unlike transducers, whose signals may be distorted by outside interference, the LevelMaster sensor utilizes a conditioned compensated 4-20 mA output to maximize signal strength and accuracy. The sensor also features a shielded lead to help prevent signal disruption from outside sources.

PERFORMANCE

* Depth Range:	0-28" thru 0-690' (0-1 PSI thru 0-300 PSI)
* Static Accuracy:	±0.25% FSO
* Thermal Error:	0.10% FSO/°C
* Resolution:	+0.0001% FS

ENVIRONMENTAL

* Compensated temp range:	0° to 50°C
* Operating temp range:	-20° to 60°C

ELECTRICAL

* Excitation:	9 to 28 VDC, Red = (+) excitation, Black = (-) excitation
* Input Current:	20 mA maximum
* Output:	4-20 mA (2 wire)
* Zero offset (max):	4-20 mA, ±.25mA
* Output impedance:	<10 ohms
* Insulation resistance:	100 megohms at 50VDC
* Circuit protection:	Polarity, surge & shorted output
* Power supply rejection:	<±.05% FSO/VDC (mA output)
* Electrical termination:	2-22 AWG conductors in a shielded cable with sensor breather and polyurethane jacket

PHYSICAL

* Dimensions:	Nominal diameter of 1.0" X 5.9" length
* Weight:	7 oz. (not including cable)
* Cable:	Polyurethane jacketed shielded cable with polyethylene vent tube and Kevlar tension members (.05 lbs/ft)
* Wetted materials:	316 SS, Viton
* Mounting provision:	Suspended by cable

MODEL {Call EPG for other ranges available – specify length (---)}

PART #	DESCRIPTION	RANGE
LT05X---P	**Submersible Pressure Transmitter**	0-11'
LT07X---P	" " "	0-16'
LT10X---P	" " "	0-23'
LT15X---P	" " "	0-34'
LT20X---P	" " "	0-46'

OPTIONS

* Titanium Housing:	Used for highly corrosive environments (TI).
* Lightning Protection:	Protects against transient voltages and lightning associated surges up to 20,000 amperes (009).
* Temperature Sensor:	A sensor with 4-20 mA output for temperature (0-50ºC) is available (007). Excitation: 9-30 VDC, White = (+) excitation, Green = (-) excitation.
* Tefzel® Cable:	Recommended for use in highly corrosive environments. It offers additional resistance over standard polyurethane cable (TZ).
Part # Examples:	LT05X100TZ-009 (0-5 PSI, 100' of Tefzel cable, and lightning protection) LT10X250P-007 (0-10 PSI, 250' of polyurethane cable, and temperature sensor) LT05X100TZ/TI (0-5 PSI, 100' of Tefzel cable, and titanium housing)

ENGINEER'S SPECIFICATION

EPG Series L925PT PumpMaster™ Controller

3Ø CONTROL PANEL

Furnish one EPG Companies Inc., UL listed 508A/698A, Series L925PT controller to operate pump motor and auxiliary equipment in manual or automatic mode. The control panel enclosure shall be NEMA type _4_.

The enclosure shall be equipped with a window in the outer door, an inner door, a stainless steel drip shield, and a tamper resistant latch. The NEMA 4 (standard) enclosure is finished with polyester urethane paint. The NEMA 4X (optional) enclosure can be either stainless steel or non-metallic.

The control system will operate from a _460_ Volt, 60 Hertz, three phase power supply. Pump control components will be sized to operate pump motor of specified horsepower.

The control panel shall include the following as standard features:

* Main Disconnect Switch: The main disconnect switch shall be _60_ Amp rated and will prevent opening of the control panel while power is on, and includes _460_ Volt, _3_ Amp dual element fuses.
* "Hand-Off-Auto" Selector Switch: Allows manual or automatic operation of the pump motor. The selector switch shall be a heavy duty, oil tight, NEMA 4 rated switch mounted on the inner door. The hand position shall be momentary with a spring return.
* Motor Starter: The motor starter shall be sized to the pump motor horsepower, and shall be equipped with built in single phasing protection and ambient compensated, quick trip adjustable thermal overloads.
* Control Transformer: A transformer with fused primary and secondary shall isolate the control circuit from the power circuit and provide easier and safer field wiring of accessories. It shall lower incoming voltage to 120 Volts.
* Run Light: Indicates energization of motor circuit. It shall be heavy duty, oil tight, NEMA 4 rated and shall have an LED lamp with 100,000 hour life. The light shall be mounted on the inner door and will be green in color.
* Motor Overload Light: Indicates motor not running due to overload condition. It shall be heavy duty, oil tight, NEMA 4 rated and shall have an LED lamp with 100,000 hour life. The light shall be mounted on the inner door and will be red in color.
* LevelMaster™ Level Control: The LevelMaster level control meter shall be mounted on the inner door. The meter shall have a digital readout and the capability to monitor and maintain liquid levels as well as output a high level alarm. It shall also provide a high-high level alarm fail safe feature that shuts off the pump motor. The high-high alarm may indicate level sensor failure or a problem with the pump. Level control shall be accurate to within 0.1 inch.
* Level Simulator: The level simulator shall be mounted on the inner door. The level simulator is a built-in test circuit designed to simulate a 4-20 mA load to assist in level meter setup and troubleshooting.
* Intrinsically Safe Barrier: The level sensor circuit shall be by protected by an intrinsically safe barrier.
* Heater with Adjustable Thermostat: A heater with adjustable thermostat shall promote even distribution of heat and elimination of hot spots and condensation. It shall also maintain the minimum temperature required for the operation of the LevelMaster level control meter. The heater element shall be mounted in the space between the sub-panel and the back of the enclosure and provide a minimum of _100_ square inches of heating area.
* Lightning Arrestor: Shall be grounded, metal-to-metal, to water strata. When properly grounded, the lightning arrestor will protect electrical equipment against lightning induced surges.
* Terminal Strip: Labeled and numbered terminal strip provides easy connection of external components.

* Corrosion Inhibitor Emitter: Inclusion of an industrial corrosion inhibitor emitter shall protect internal components of control panel from corrosion for up to one year and shall be replaceable.
* Options are available to meet specific needs.

SYSTEM LOGIC AND FUNCTION

The controller is designed to start and stop a pump using the LevelMaster level control meter with a submersible pressure transmitter. The pump starts at the pump start level set point and continues to run until the liquid level decreases to the pump stop level set point as programmed in the LevelMaster level control meter. If the liquid level rises to the high level alarm set point, a high level alarm will be annunciated. If the liquid level rises to the high-high level fail-safe set point, the pump motor will shut off. The pressure transmitter level sensor shall have a range of 0 to 11 feet with a 4-20 mA output signal.

ATTACHMENT TO BULLETIN 0060b

ENGINEER'S SPECIFICATION
EPG _L925PT_ Controller
3Ø Control Panel

EPG Job #21-15306

These controllers include the following optional features:

- Elapsed time meter.
- Top mounted high level alarm light.

MOTOR	HP	VOLTAGE	FLA	FUSE SIZE
LEACHATE PUMP	3/4	460	1.60	3A

ANSI/UL 1449 4TH EDITION
TYPE 1 OR 2 SURGE PROTECTION DEVICE (SPD)
W/UL96A LIGHTNING PROTECTION
W/LED STATUS INDICATOR

480V 3PH DELTA 3 POLE 4-WIRE

NOTE: ENCLOSURE IS RATED NEMA TYPE 4

NOTE: MAIN OVERCURRENT PROTECTION TO BE PROVIDED BY OTHERS

SURGE PROTECION DEVICE

GND

SPD1

MUNDY SANITARY LANDFILL

DANGER
HIGH VOLTAGE

NOTE: ELECTRONIC OVERLOAD RELAY W/PHASE LOSS PROTECTION

#12AWG (BLK)

460VAC 3Ø

L1
L2
L3
GND

GND

#12AWG (BLK)

F1
F2
F3

3 AMP

MS1
MS1
MS1

OL1

1T1
1T2
1T3

NOTE 1

MTR1

LEACHATE PUMP MOTOR

GND

L/N 46, 54

MAIN DISCONNECT

60 AMP RATED

CAUTION: DISCONNECT ALL INCOMING POWER SOURCES BEFORE SERVICING THIS CONTROL PANEL

NOTE: SET TRANSFORMER JUMPERS FOR 460VAC (PRI)/115VAC (SEC)

#14AWG (BLK)

460VAC POWER

F4
F5

1 AMP

(PRI)

200 VA

T1

(SEC)

P/O CONTROL TRANSFORMER T1

F6

2-1/2 AMP

#16AWG (RED)

A

115VAC CONTROL

A'

GND

#16AWG (WHT)

INDUSTRIAL CONTROL TRANSFORMER

(ENCAPSULATED)

(FINGER SAFE)

FIELD WIRING TERMINALS

LINE (PANEL) TOTAL AMPS

L1
L2
L3

460VAC 3Ø 60Hz
2.17 AMPS

GND — GROUND

LOAD (460VAC)

1T1
1T2
1T3

LEACHATE PUMP MOTOR

GND

		RATINGS	
FUSE	TYPE	VOLTS	AMPS
F1-F3	LPJ-SP	600	3
F4-F5	LPJ-SP	600	1
F6	FNM	250	2-1/2

FOR NOTES AND REVISIONS SEE SHEET 4

JOB No.	21-15306AB

TOLERANCES (EXCEPT AS NOTED)
DECIMAL ±
FRACTIONAL ±
ANGULAR ±

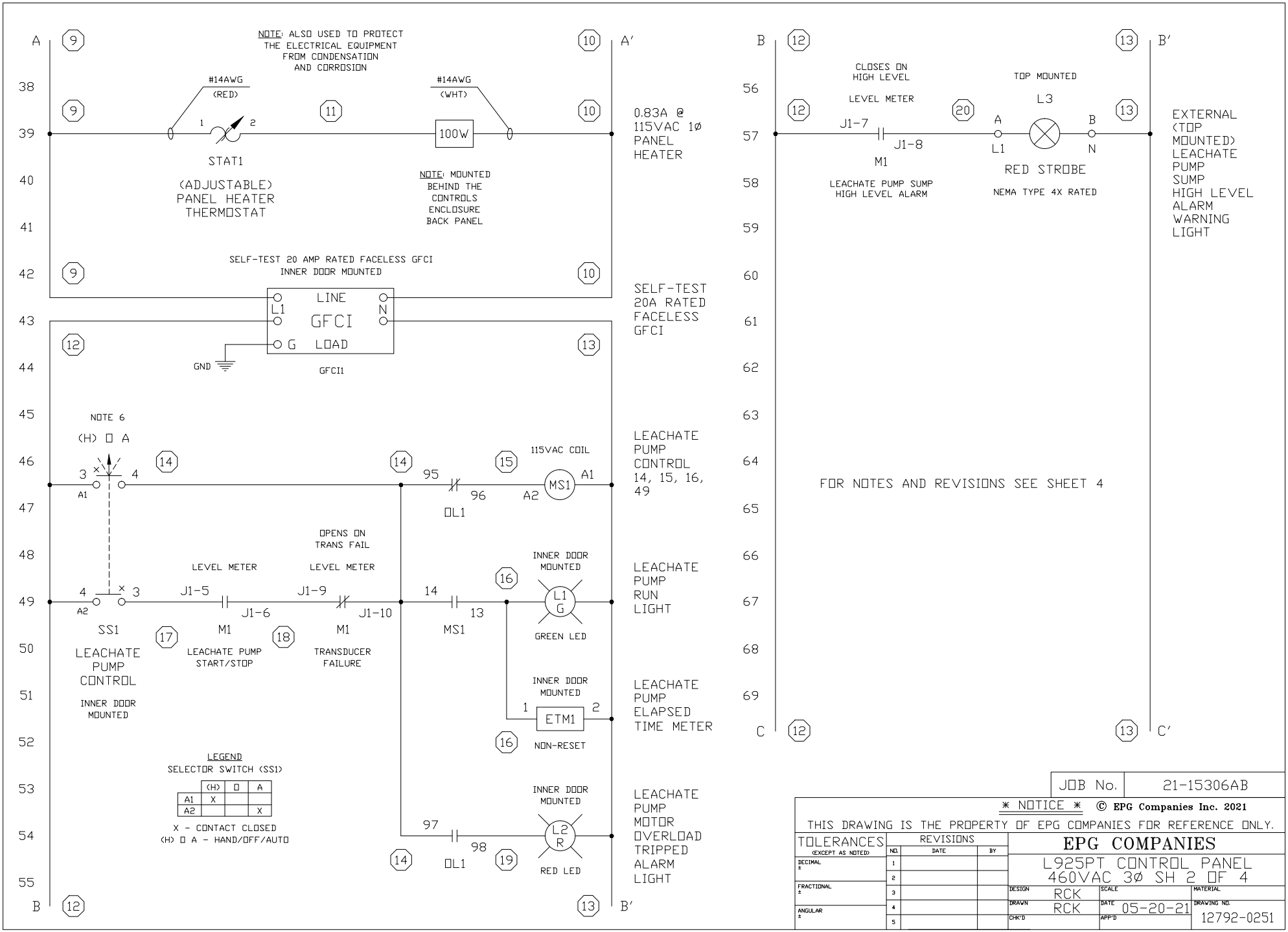
REVISIONS

NO.	DATE	BY
1		
2		
3		
4		
5		

EPG COMPANIES

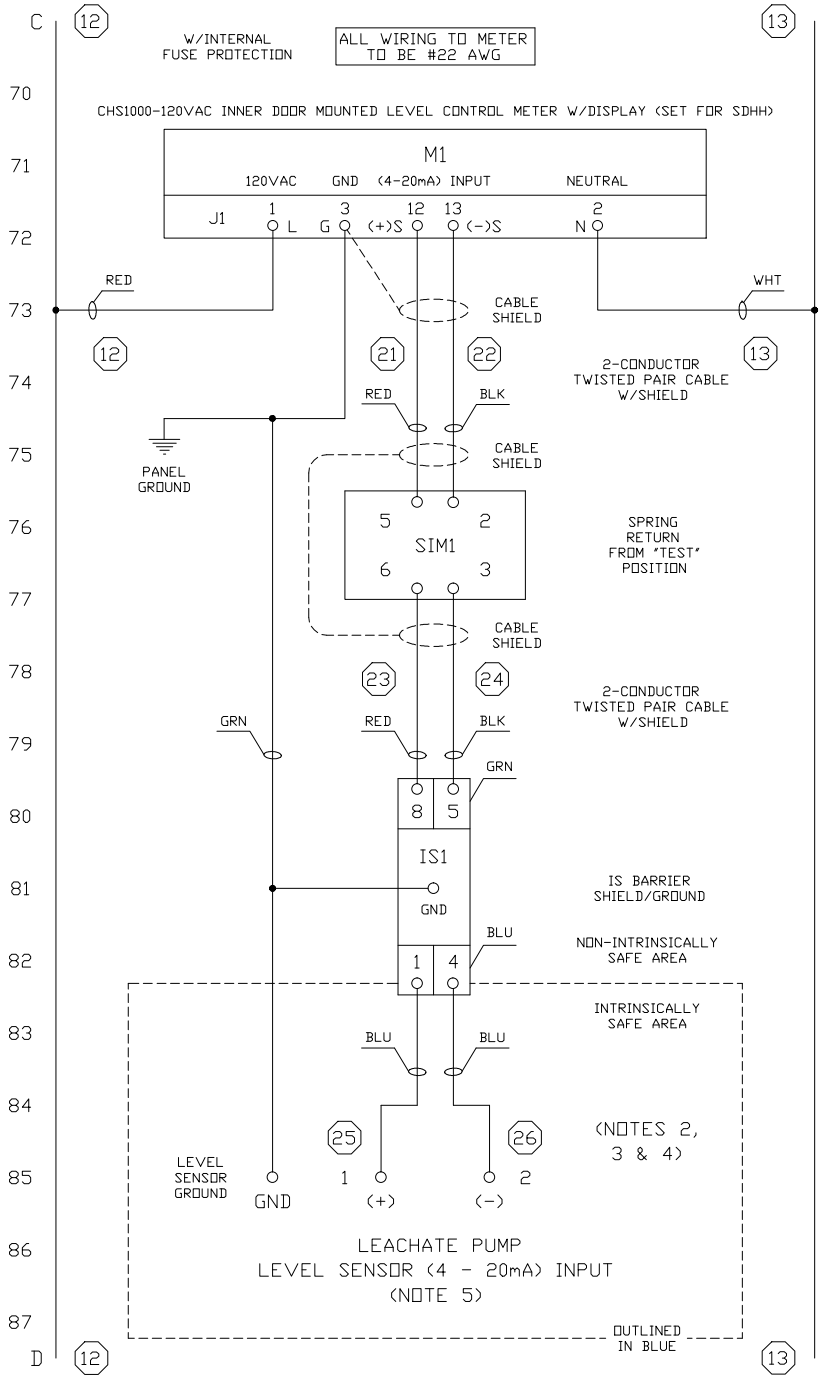
L925PT CONTROL PANEL
460VAC 3Ø SH 1 OF 4

DESIGN	RCK	SCALE	MATERIAL
DRAWN	RCK	DATE 05-20-21	DRAWING NO. 12792-0250
CHK'D		APP'D	



JOB No.	21-15306AB

TOLERANCES (EXCEPT AS NOTED)	REVISIONS			EPG COMPANIES		
DECIMAL ±	NO.	DATE	BY	L925PT CONTROL PANEL 460VAC 3Ø SH 2 OF 4		
FRACTIONAL ±	1			DESIGN RCK	SCALE	MATERIAL
ANGULAR ±	2			DRAWN RCK	DATE 05-20-21	DRAWING NO. 12792-0251
	3			CHK'D	APP'D	
	4					
	5					



FOR NOTES AND REVISIONS SEE SHEET 4

LAST WIRE NUMBER USED: 26

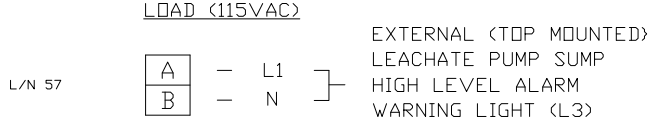
JOB No.	21-15306AB

TOLERANCES (EXCEPT AS NOTED)	REVISIONS			EPG COMPANIES		
DECIMAL ±	NO.	DATE	BY	L925PT CONTROL PANEL 460VAC 3Ø SH 3 OF 4		
FRACTIONAL ±	1			DESIGN RCK	SCALE	MATERIAL
ANGULAR ±	2			DRAWN RCK	DATE 05-20-21	DRAWING NO. 12792-0252
	3			CHK'D	APP'D	
	4					
	5					

FIELD WIRING TERMINALS

LEVEL SENSOR (INTRINSICALLY SAFE TERMINALS)

LOAD (115VAC)



NOTES:

1. NOT PART OF CONTROLLER
2. REFERENCE INSTALLATION OF INTRINSICALLY SAFE INSTRUMENT SYSTEMS IN CLASS I HAZARDOUS LOCATIONS, ANSI/ISA-RP 12.6-1987, SECTION 4.5.4
3. WARNING: SUBSTITUTION OF COMPONENTS MAY IMPAIR INTRINSIC SAFETY
4. INSTALL IN ACCORDANCE WITH ARTICLE 504 OF THE NATIONAL ELECTRIC CODE
5. MAXIMUM CABLE LENGTH TO THE LEVEL SENSOR, (M1) IS 3000 FEET
6. SELECTOR SWITCH, (SS1) WILL SPRING RETURN FROM THE "HAND" POSITION

JOB No.	21-15306AB

TOLERANCES (EXCEPT AS NOTED)	REVISIONS			EPG COMPANIES		
DECIMAL ±	NO.	DATE	BY	L925PT CONTROL PANEL 460VAC 3Ø SH 4 OF 4		
FRACTIONAL ±	1					
ANGULAR ±	2					
	3			DESIGN RCK	SCALE	MATERIAL
	4			DRAWN RCK	DATE 05-20-21	DRAWING NO. 12792-0253
	5			CHK'D	APP'D	

ENGINEER'S SPECIFICATION

EPG Series L925PT PumpMaster™ Controller

3Ø CONTROL PANEL

Furnish one EPG Companies Inc., UL listed 508A/698A, Series L925PT controller to operate pump motor and auxiliary equipment in manual or automatic mode. The control panel enclosure shall be NEMA type _4_.

The enclosure shall be equipped with a window in the outer door, an inner door, a stainless steel drip shield, and a tamper resistant latch. The NEMA 4 (standard) enclosure is finished with polyester urethane paint. The NEMA 4X (optional) enclosure can be either stainless steel or non-metallic.

The control system will operate from a _460_ Volt, 60 Hertz, three phase power supply. Pump control components will be sized to operate pump motor of specified horsepower.

The control panel shall include the following as standard features:

* Main Disconnect Switch: The main disconnect switch shall be _60_ Amp rated and will prevent opening of the control panel while power is on, and includes _460_ Volt, _4_ Amp dual element fuses.
* "Hand-Off-Auto" Selector Switch: Allows manual or automatic operation of the pump motor. The selector switch shall be a heavy duty, oil tight, NEMA 4 rated switch mounted on the inner door. The hand position shall be momentary with a spring return.
* Motor Starter: The motor starter shall be sized to the pump motor horsepower, and shall be equipped with built in single phasing protection and ambient compensated, quick trip adjustable thermal overloads.
* Control Transformer: A transformer with fused primary and secondary shall isolate the control circuit from the power circuit and provide easier and safer field wiring of accessories. It shall lower incoming voltage to 120 Volts.
* Run Light: Indicates energization of motor circuit. It shall be heavy duty, oil tight, NEMA 4 rated and shall have an LED lamp with 100,000 hour life. The light shall be mounted on the inner door and will be green in color.
* Motor Overload Light: Indicates motor not running due to overload condition. It shall be heavy duty, oil tight, NEMA 4 rated and shall have an LED lamp with 100,000 hour life. The light shall be mounted on the inner door and will be red in color.
* LevelMaster™ Level Control: The LevelMaster level control meter shall be mounted on the inner door. The meter shall have a digital readout and the capability to monitor and maintain liquid levels as well as output a high level alarm. It shall also provide a high-high level alarm fail safe feature that shuts off the pump motor. The high-high alarm may indicate level sensor failure or a problem with the pump. Level control shall be accurate to within 0.1 inch.
* Level Simulator: The level simulator shall be mounted on the inner door. The level simulator is a built-in test circuit designed to simulate a 4-20 mA load to assist in level meter setup and troubleshooting.
* Intrinsically Safe Barrier: The level sensor circuit shall be by protected by an intrinsically safe barrier.
* Heater with Adjustable Thermostat: A heater with adjustable thermostat shall promote even distribution of heat and elimination of hot spots and condensation. It shall also maintain the minimum temperature required for the operation of the LevelMaster level control meter. The heater element shall be mounted in the space between the sub-panel and the back of the enclosure and provide a minimum of _100_ square inches of heating area.
* Lightning Arrestor: Shall be grounded, metal-to-metal, to water strata. When properly grounded, the lightning arrestor will protect electrical equipment against lightning induced surges.
* Terminal Strip: Labeled and numbered terminal strip provides easy connection of external components.

* Corrosion Inhibitor Emitter: Inclusion of an industrial corrosion inhibitor emitter shall protect internal components of control panel from corrosion for up to one year and shall be replaceable.
* Options are available to meet specific needs.

SYSTEM LOGIC AND FUNCTION

The controller is designed to start and stop a pump using the LevelMaster level control meter with a submersible pressure transmitter. The pump starts at the pump start level set point and continues to run until the liquid level decreases to the pump stop level set point as programmed in the LevelMaster level control meter. If the liquid level rises to the high level alarm set point, a high level alarm will be annunciated. If the liquid level rises to the high-high level fail-safe set point, the pump motor will shut off. The pressure transmitter level sensor shall have a range of 0 to 11 feet with a 4-20 mA output signal.

ATTACHMENT TO BULLETIN 0060b

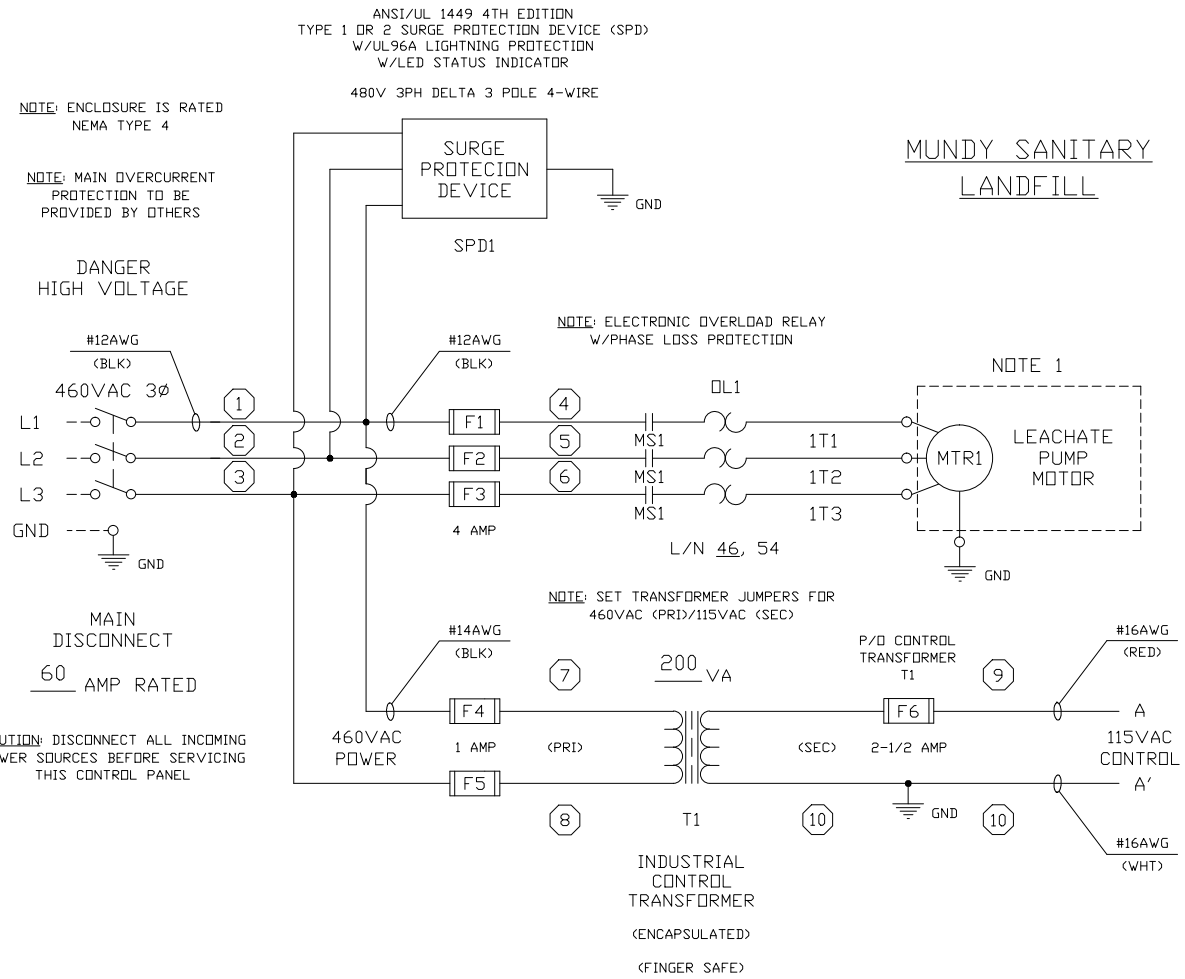
ENGINEER'S SPECIFICATION
EPG _L925PT_ Controller
3Ø Control Panel

EPG Job #21-15306

This controller includes the following optional features:

- Elapsed time meter.
- Top mounted high level alarm light.

MOTOR	HP	VOLTAGE	FLA	FUSE SIZE
LEACHATE PUMP	1-1/2	460	2.50	4A



FIELD WIRING TERMINALS

LINE (PANEL) TOTAL AMPS

L1	460VAC 3Ø 60Hz	
L2	3.37	AMPS
L3		
GND	GROUND	

LOAD (460VAC)

1T1	LEACHATE PUMP MOTOR
1T2	
1T3	
GND	

	RATINGS	
FUSE	TYPE	VOLTS	AMPS
F1-F3	LPJ-SP	600	4
F4-F5	LPJ-SP	600	1
F6	FNM	250	2-1/2

FOR NOTES AND REVISIONS SEE SHEET 4

JOB No. 21-15306C

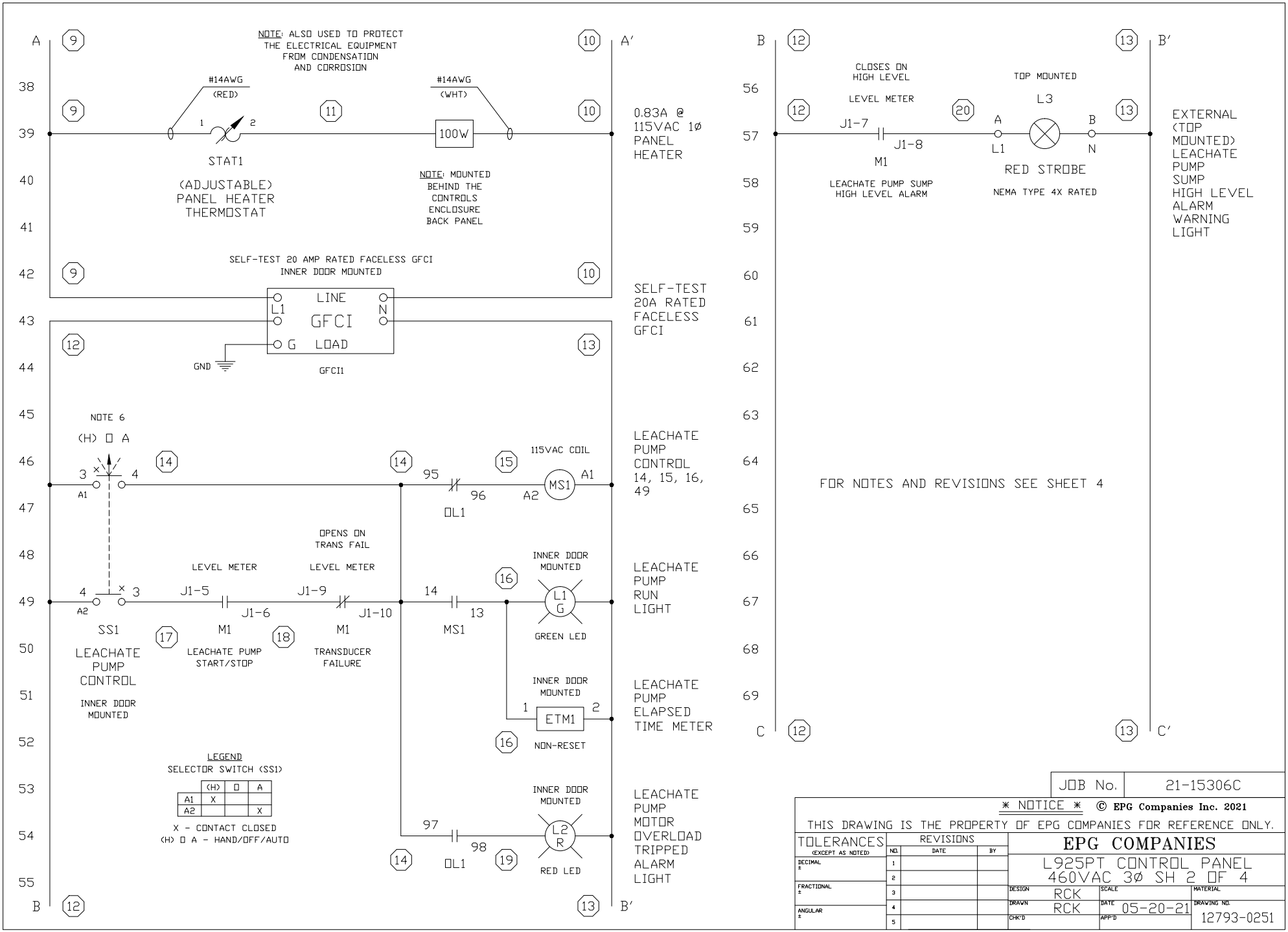
TOLERANCES (EXCEPT AS NOTED)
DECIMAL ±
FRACTIONAL ±
ANGULAR ±

REVISIONS

NO.	DATE	BY
1		
2		
3		
4		
5		

EPG COMPANIES
L925PT CONTROL PANEL
460VAC 3Ø SH 1 OF 4

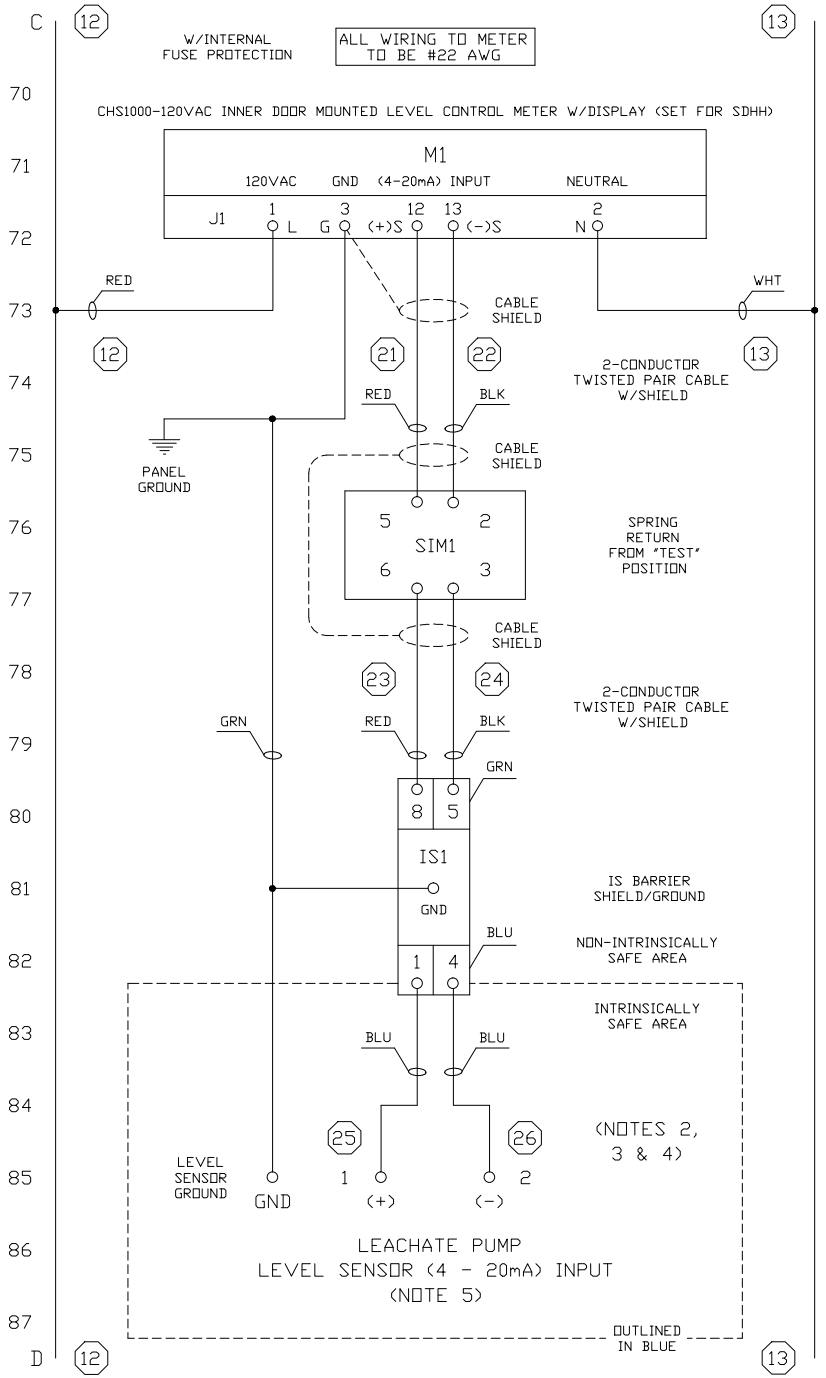
DESIGN	RCK	SCALE	MATERIAL
DRAWN	RCK	DATE 05-20-21	DRAWING NO. 12793-0250
CHK'D		APP'D	



JOB No.	21-15306C

* NOTICE *

TOLERANCES (EXCEPT AS NOTED)	REVISIONS			EPG COMPANIES		
DECIMAL ±	NO.	DATE	BY	L925PT CONTROL PANEL 460VAC 3Ø SH 2 OF 4		
FRACTIONAL ±	1			DESIGN RCK	SCALE	MATERIAL
ANGULAR ±	2			DRAWN RCK	DATE 05-20-21	DRAWING NO. 12793-0251
	3			CHK'D	APP'D	
	4					
	5					



FOR NOTES AND REVISIONS SEE SHEET 4

LAST WIRE NUMBER USED: 26

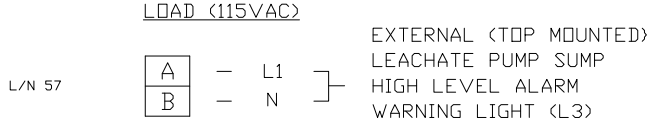
JOB No.	21-15306C

TOLERANCES (EXCEPT AS NOTED)	REVISIONS			EPG COMPANIES		
DECIMAL ±	NO.	DATE	BY	L925PT CONTROL PANEL 460VAC 3Ø SH 3 OF 4		
FRACTIONAL ±	1			DESIGN RCK	SCALE	MATERIAL
ANGULAR ±	2			DRAWN RCK	DATE 05-20-21	DRAWING NO. 12793-0252
	3			CHK'D	APP'D	
	4					
	5					

FIELD WIRING TERMINALS

LEVEL SENSOR (INTRINSICALLY SAFE TERMINALS)

LOAD (115VAC)



NOTES:

1. NOT PART OF CONTROLLER
2. REFERENCE INSTALLATION OF INTRINSICALLY SAFE INSTRUMENT SYSTEMS IN CLASS I HAZARDOUS LOCATIONS, ANSI/ISA-RP 12.6-1987, SECTION 4.5.4
3. WARNING: SUBSTITUTION OF COMPONENTS MAY IMPAIR INTRINSIC SAFETY
4. INSTALL IN ACCORDANCE WITH ARTICLE 504 OF THE NATIONAL ELECTRIC CODE
5. MAXIMUM CABLE LENGTH TO THE LEVEL SENSOR, (M1) IS 3000 FEET
6. SELECTOR SWITCH, (SS1) WILL SPRING RETURN FROM THE "HAND" POSITION

JOB No.	21-15306C

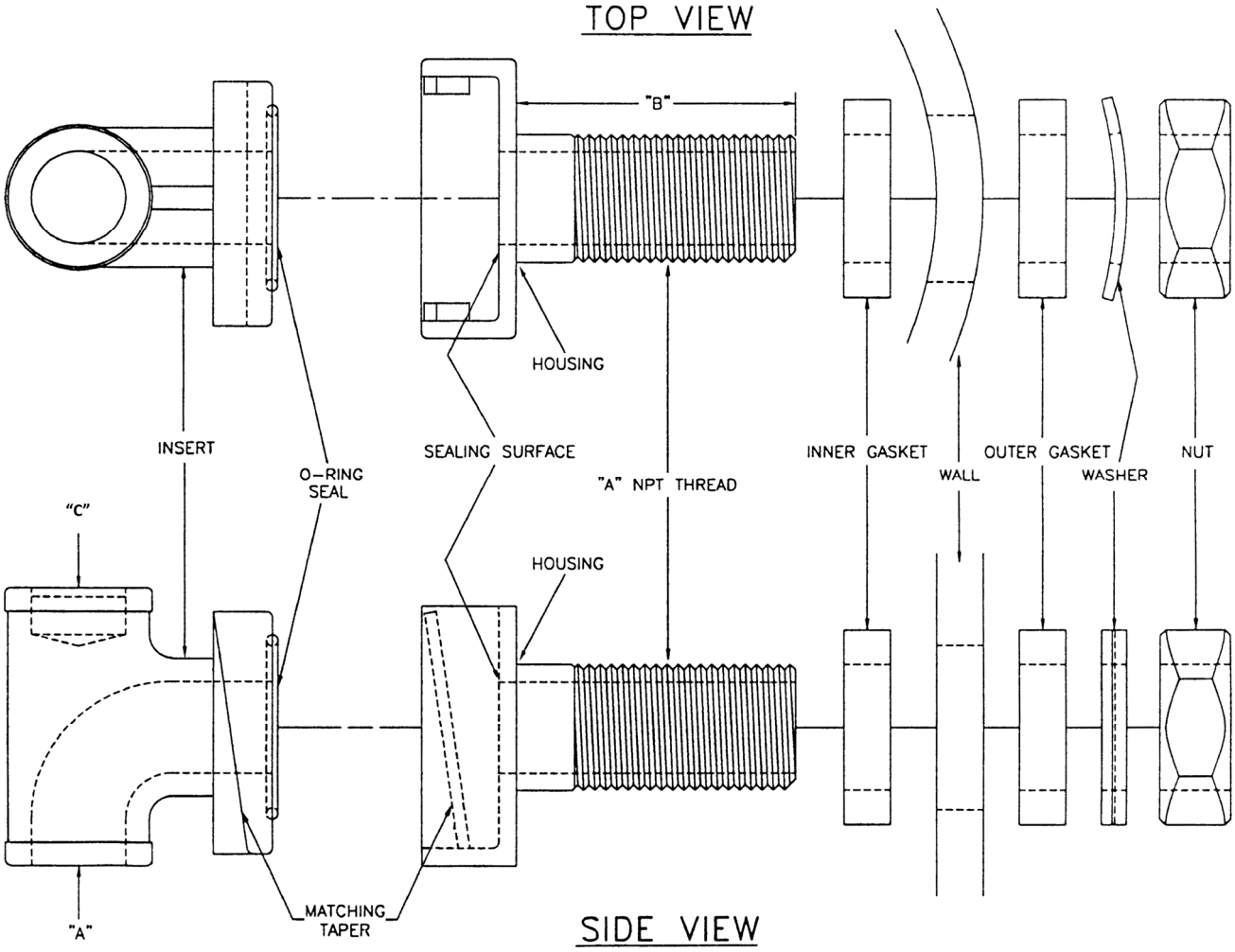
TOLERANCES (EXCEPT AS NOTED)	REVISIONS			EPG COMPANIES		
DECIMAL ±	NO.	DATE	BY	L925PT CONTROL PANEL 460VAC 3Ø SH 4 OF 4		
FRACTIONAL ±	1			DESIGN RCK	SCALE	MATERIAL
ANGULAR ±	2			DRAWN RCK	DATE 05-20-21	DRAWING NO. 12793-0253
	3			CHK'D	APP'D	
	4					
	5					

Model NW Stainless Steel Discharge Adapter

For Leachate, Monitoring, and Remediation Piping Applications

MODEL	"A"	"B"	"C"	Minimum I.D.	Weight (lbs.)
NW1.5SS-C	1.5" NPT	4"	1.5" NPT	8"	8
NW2SS-C	2" NPT	5"	2" NPT	8"	12
NW3SS	3" NPT	6.25"	1.5" NPT	12"	26
NW4SS	4" NPT	8.125"	4" NPT	12"	33
NW6SS	6" NPT	11.5"	3" NPT	18"	50

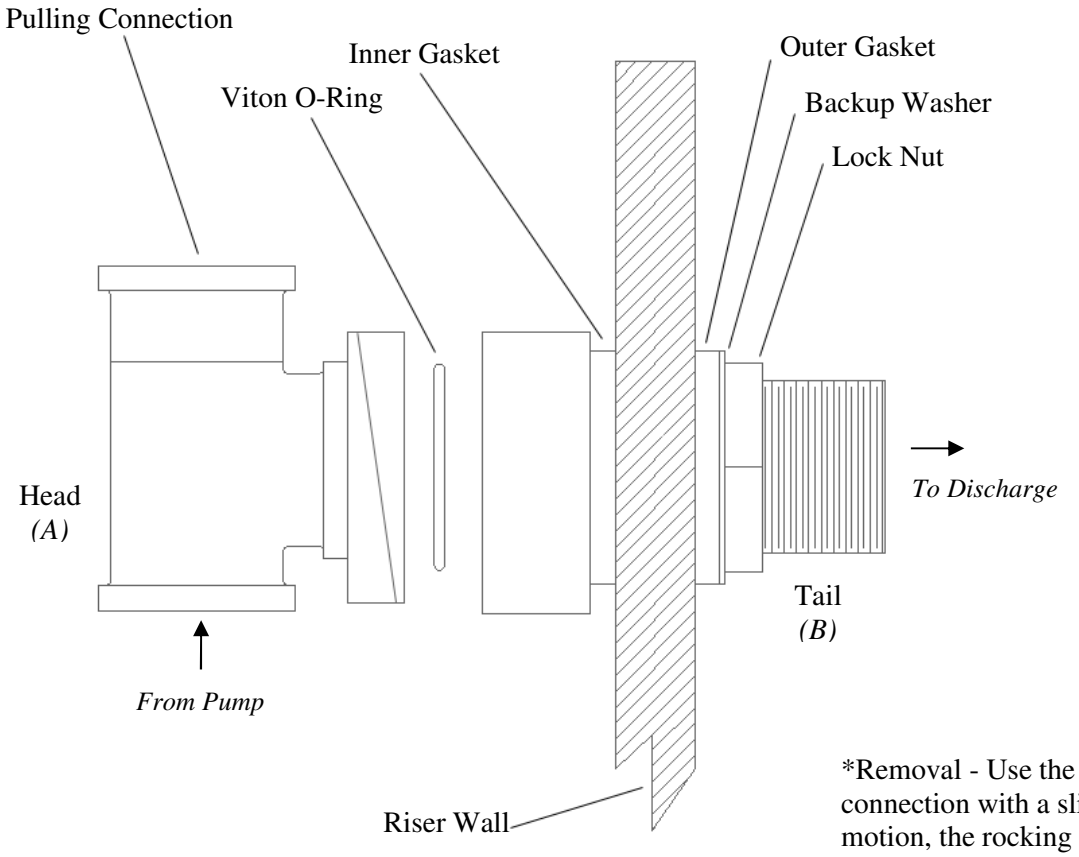
- 316 stainless steel construction for "C" models. All others are 304 Stainless Steel
- Insert and housing are tapered for easy installation and removal
- Viton® O-Ring seal
- EPDM gasket for inner and outer wall seal
- Extended length nipple on housing allows adapter to fit from 1/4" to 4" thick wall pipe
- 1.5", 2", 3", 4", 6" NPT sized fittings for pump pipe, lift out pipe and discharge pipe
- Tested to 300 PSIG



Installation Instructions - NW Disconnect

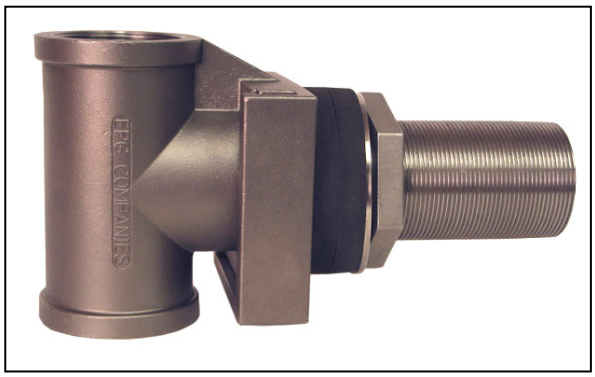
For Leachate, Monitoring, and Remediation Pumping Applications

- Using correctly sized hole saw, drill thru one wall of the riser in alignment with the force main.
- Install inner gasket on the threaded NW tail.
- Install the NW tail thru hole in riser.
- Install outside gasket, backup washer & locknut, tighten lock nut until the NW tail is secure.
- Lubricate the o-ring and install into the o-ring groove in the NW head.



*Removal - Use the pulling connection with a slight rocking motion, the rocking motion helps unseat the taper.

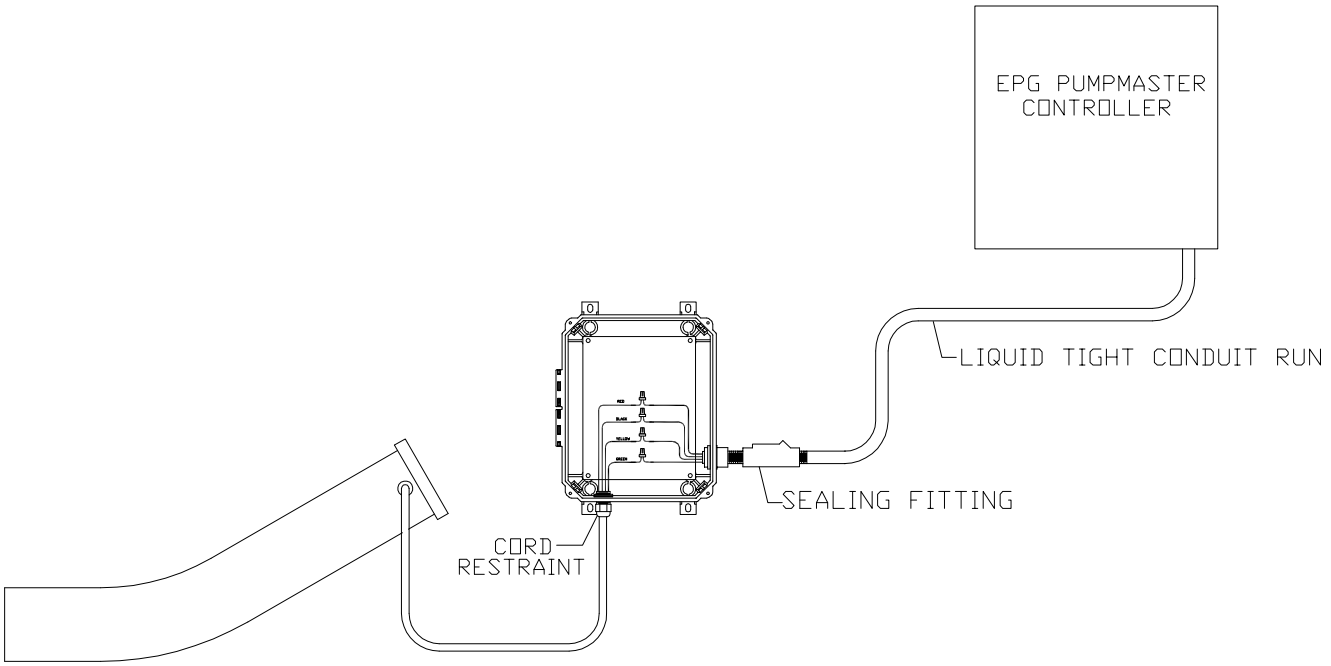
MODEL	"A"	"B"	Hole Saw Size
NW1.5SS-C	1-1/2" NPT	1-1/2" NPT	2"
NW2SS-C	2" NPT	2" NPT	2-1/2"
NW3SS	3" NPT*	3" NPT	3-5/8"
NW4SS	4" NPT	4" NPT	4-3/4"
NW6SS	6” NPT*	6” NPT	6-3/4”

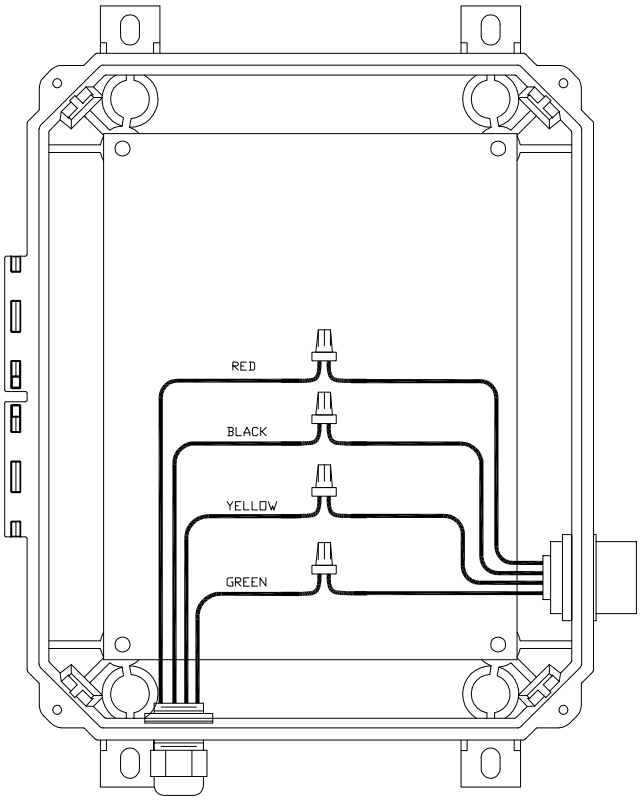


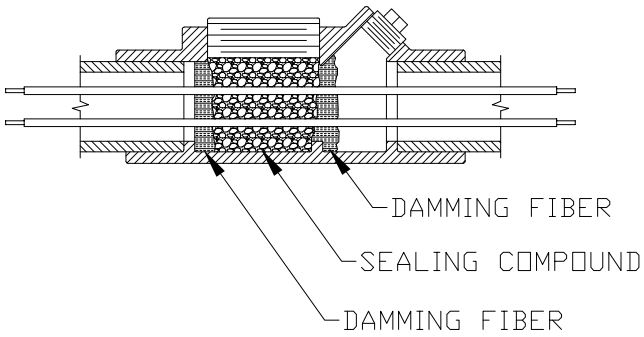
** Indicates Model Has 1.5” Pulling Connection*

BJBP500

BREAKOUT JUNCTION BOX FOR MOTOR LEAD







NOTE:

BOX DIMENSIONS (OUTER WALL):
10 ¾" X 8 ¾" X 6"

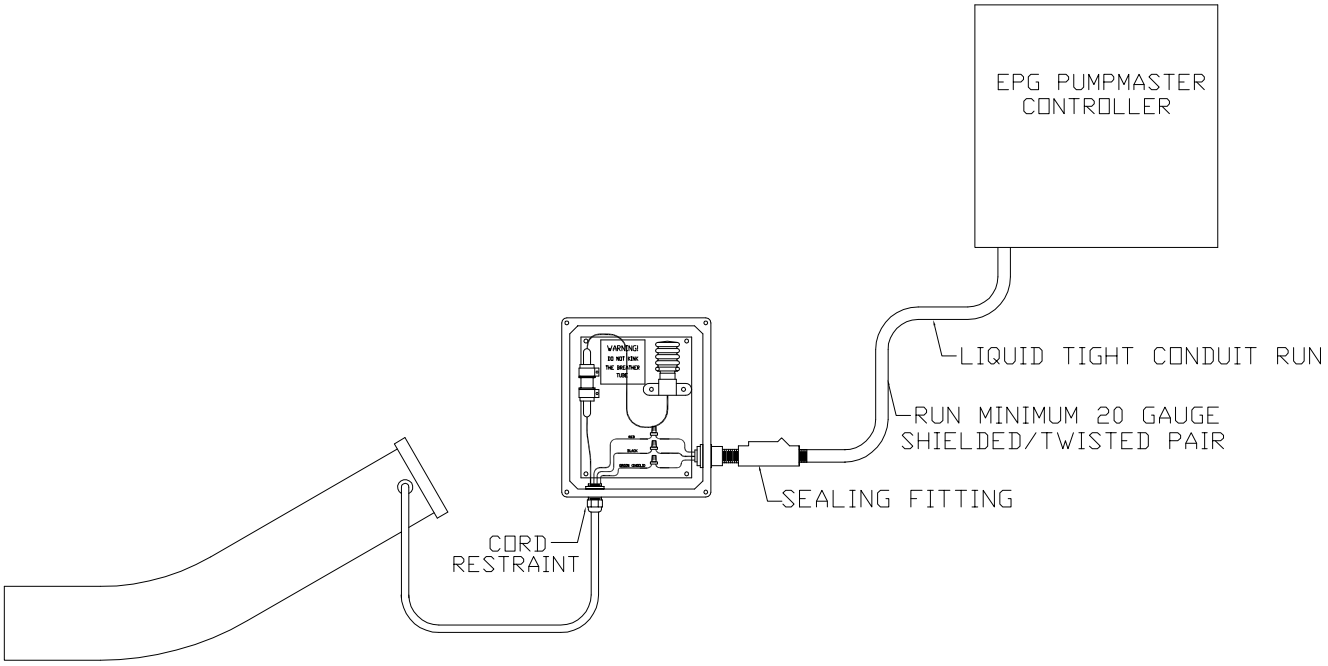
MOUNTING HOLES FOR 5/16" BOLT/SCREW,
12⅛" X 6" CENTER TO CENTER, 4 PL.

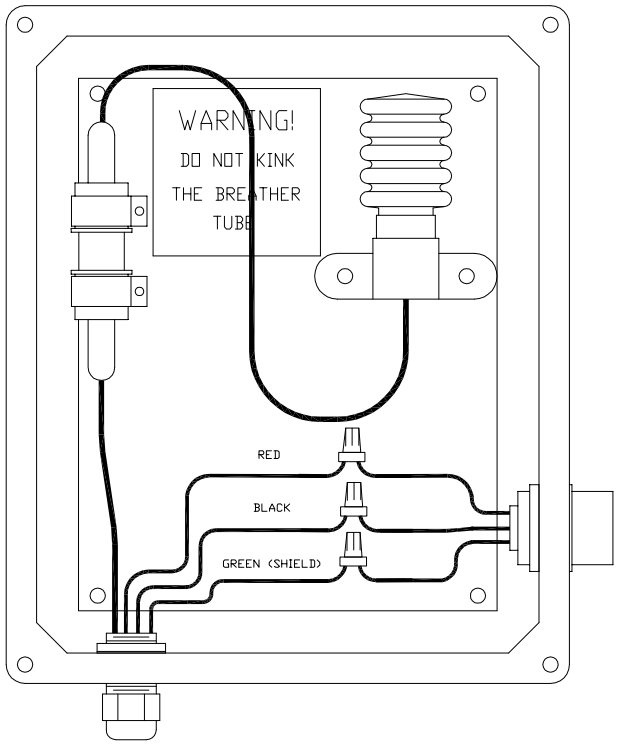
REFERENCE

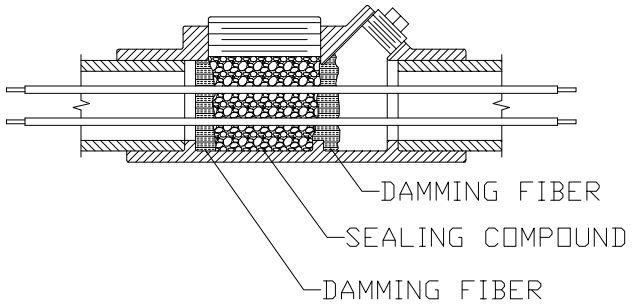
TOLERANCES (EXCEPT AS NOTED)	REVISIONS NO.	DATE	BY	EPG COMPANIES
DECIMAL ±	1			TYPICAL INSTALLATION
FRACTIONAL ±	2			DESIGN / SCALE NONE / MATERIAL
ANGULAR ±	3			DRAWN U.E.V. / DATE 05/07/02 / DRAWING NO. 03626-0500
	4			CHK'D / APP'D
	5			

BJBL600B

BREAKOUT JUNCTION BOX FOR LEVEL SENSOR







NOTE:

BOX DIMENSIONS (OUTER WALL):
10 ¾″ X 8 ¾″ X 6″

MOUNTING HOLES FOR 5/16″ BOLT/SCREW,
12⅛″ X 6″ CENTER TO CENTER, 4 PL.

REFERENCE

TOLERANCES (EXCEPT AS NOTED)	REVISIONS NO.	DATE	BY
DECIMAL ±	1		
	2		
FRACTIONAL ±	3		
	4		
ANGULAR ±	5		

EPG COMPANIES

TYPICAL INSTALLATION

DESIGN	C.A.S.	SCALE	NONE	MATERIAL
DRAWN	C.A.S.	DATE	05/07/02	DRAWING NO. 02523-0605
CHK'D		APP'D		

January 2004

Stainless Steel Ball Valves

EPG Stainless Steel Ball Valves can be used to decrease flow and/or introduce artificial head in discharge piping systems. When a pump operates outside its recommended curve, damage will occur to the pump and/or motor. Setting the EPG Stainless Steel Ball Valve to the proper discharge flow will allow the pump to operate within the recommended pump curve.

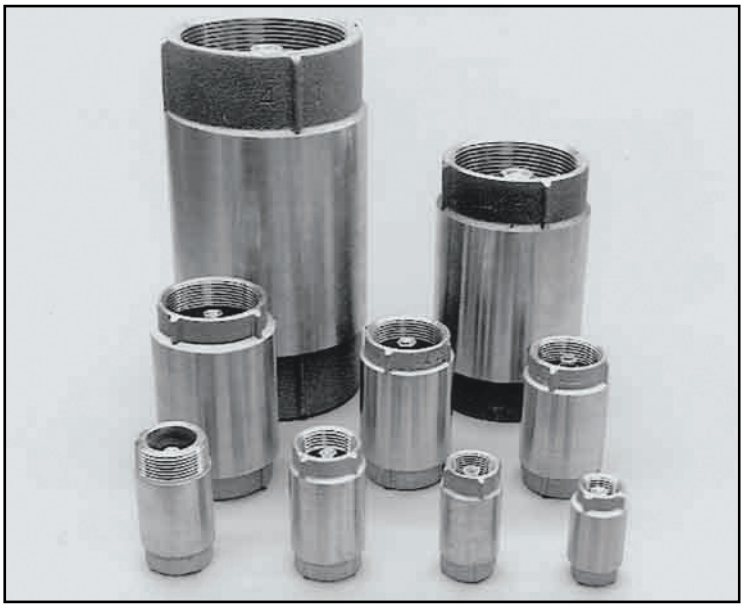
- Full Ported
- PTFE Seals
- AISI 316 SS Ball
- Blowout Proof SS Stem
- Plastic Coated SS Handle
- 1000 PSI Non-Shock Cold Working Pressure
- -20 F to + 350 F
- Double Seals
- No Metal to Metal
- Handle Stops
- Removable Handle
- NPT Female x Female Ports

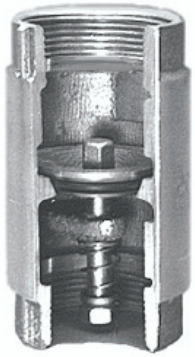
PART #	SIZE	LENGTH	WEIGHT (lbs.)
BV25SS	.25"	2.42"	.66
BV37.5SS	.375"	2.42"	.66
BV50SS	.50"	2.50"	.77
BV75SS	.75"	3.00"	1.28
BV100SS	1.00"	3.60"	2.29
BV125SS	1.25"	3.93"	3.40
BV150SS	1.50"	4.65"	4.98
BV200SS	2.00"	5.40"	8.38
BV250SS	2.50"	6.53"	15.00
BV300SS	3.00"	7.60"	25.36
BV400SS	4.00"	10.20"	50.72

STAINLESS STEEL CHECK VALVES

(SOLID 304 STAINLESS STEEL CONSTRUCTION)

- Inline poppet type check valve with VITON O-ring seat
- Stainless Steel spring for positive closing and low cracking pressure
- Valves can be used in both vertical and horizontal positions
- 200 PSIG working pressure





Order No.	Size	Length	Wt./Lbs.
CVSE50	0.5”	2.44”	.37
CVSE75	0.75”	2.81”	.49
CVSE100	1”	3.25”	.69
CVSE125	1.25”	3.69”	1.17
CVSE150	1.5”	4”	1.43
CVSE200	2”	5.06”	2.52
CVSE300	3”	7.25”	7.35
CVSE400	4”	10.41”	15.00

EXTENDED LIMITED WARRANTY

This agreement shall be deemed to have been entered into in the State of Minnesota, and shall be construed in accordance with the laws of the State of Minnesota, including Minnesota's enactment of the Uniform Commercial Code. Buyer hereby stipulates and agrees that Hennepin County, Minnesota shall be the proper jurisdiction for adjudicating all claims and controversies arising from this agreement.

Products manufactured by EPG Companies Inc. are warranted for a period of 36 months from date of manufacture to be free from defects of materials and workmanship. It is expressly agreed that the exclusive remedy under this warranty is limited solely to the repair or replacement, at the sole discretion of EPG, of the part that failed. The cost of labor for any field repairs is not covered by this warranty. EPG Companies will not be liable for any damage or wear due to abnormal conditions or improper installation.

To qualify for an Extended 36 Month Limited Warranty, the following conditions must be met.

A. Pumps, controls and accessories must be purchased as a package.
B. Form 200 must be completed by the installer and on file at EPG prior to warranty request.

Products not manufactured by EPG Companies Inc. are covered by the original manufacturer's warranty, which EPG Companies passes through to the purchaser. Warranty determination will be made by the actual manufacturer.

To have a defective part repaired or replaced, you must return the defective product to EPG Companies. Please call (800) 762-8418 or (763) 424-2613 to obtain a RMA number. Send defective product (freight prepaid) with RMA #, description of installation, installation data and failure date to EPG Companies Inc., 19900 County Rd. 81, Maple Grove, MN 55311.

EPG Companies will not be held liable for any incidental or consequential damages, losses or expenses incurred from installation, use or any other reason. THERE ARE NO OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING IMPLIED WARRANTIES OF EITHER FITNESS FOR A PARTICULAR PURPOSE OR OF MERCHANTABILITY, WHICH EXTEND BEYOND THOSE SPECIFICALLY LISTED HERE.

If equipment is to be stored for a period greater than six months, proper storage precautions must be taken if the warranty is to be maintained. Please contact EPG Companies for specific requirements regarding product storage.

To qualify for the delayed installation warranty you must contact EPG Companies Inc., at (800) 762-8418 or (763) 424-2613 within 60 days of purchase.

EPG Companies Inc.

SUBMITTAL ACCEPTANCE FORM

***IMPORTANT NOTICE*:** These submittals have been provided for your prompt review. **Your order will not be entered into production until we receive this signed acceptance form.** Shipment of your order **will not be scheduled** until after we receive this submittal acceptance form.

Submitted to: C2R Inc. – Mundy Landfill
(Company Name)

Date of Submittals: 5-25-21

Submittals Accepted by: _____

Print Name: _____

Title: _____

Date of Acceptance: _____

EPG Job No.: **21-15306**

Return to: **EPG Companies Inc.**
P.O. Box 427
Rogers, MN 55374
Fax (763) 493-4812