

**BOESCH**

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**Traction Sentinel<sup>®</sup>**

# TRACTION SENTINEL BC100 SERIES

**60HZ-ANSI**

**2" FULL FREE PASSAGE SUBMERSIBLE  
SEWAGE PUMP**



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## SOLUTION FOR ASME 17.1 REQUIREMENTS FOR TRACTION (ELECTRIC) ELEVATORS

Boesch Traction Sentinel simplifies the pumping solution while ensuring the correct components are specified to meet application and code requirements for traction ( electric ) elevators for ASME 17.1 Safety Standard.

This package approach, inspired by the industry's acceptance of the Boesch Oil Sentinel<sup>®</sup> in hydraulic elevators—maximizes operational efficiencies from specification to installation.

Designing a plug-and-play, application-specific answer to pumps and associated equipment in traction ( electric ) elevators has led to the following features:

- Boesch BC/BN series pumps, featuring a vortex impeller design, have become the standard for elevator applications.
- NEMA 4X control panel with HOA switch, pump run light and a dry contacts for remote monitoring connectivity
  - Three N.O. externally weighted floats (on, off and high water) are included.
  - Ability to further customize with control panel features, main disconnect and/or junction box with 8-pin connector



## MOTOR / PUMP SPECIFICATIONS

| ITEM                 |                        | DESCRIPTION                             |
|----------------------|------------------------|---|
| LIMITS               | Liquid Temp            | 0~40°C                                  |
|                      | Application            | Commercial / Industrial / Municipal use |
| TYPE                 | Frequency              | 60Hz                                    |
|                      | Motor                  | 2P (3450RPM) Dry Motor                  |
|                      | Insulation             | Class B                                 |
|                      | Start Method           | Direct On Line                          |
|                      | Protection             | IP 68                                   |
|                      | Protector              | Auto-Cut                                |
|                      | Bearing                | Ball Type                               |
|                      | Mech. Seal             | Dual. Mechanical Seal                   |
|                      | Impeller               | Vortex Impeller                         |
|                      | MATERIAL               | Motor Cover                             |
| Motor Housing+Stator |                        | AISI 304                                |
| Shaft with Rotor     |                        | AISI 410                                |
| Mech. Seal           |                        | Upper: CA/CE; Lower: SIC/SIC            |
| Pump Casing          |                        | ASTM A48 Class 30                       |
| Impeller             |                        | ASTM A48 Class 30                       |
| Cable                | H07RN-F / SJTOW / STOW |   |



## MOTOR / PUMP DATA CHART

| MODEL   | OUTPUT |      | DISCHARGE<br>INCHES | PHASE<br>VOLTAGE     | 1Ø    |       |       | FREE<br>PASSAGE<br>INCHES | WEIGHT<br>W/O<br>CABLE<br>LBS |
|---------|--------|------|---------------------|----------------------|-------|-------|-------|---------------------------|-------------------------------|
|         | HP     | KW   |                     |                      | 115V  | 208V  | 230V  |                           |                               |
| BC50/1  | 0.5    | 0.37 | 2                   | FULL<br>LOAD<br>AMPS | 9A    | 5A    | 4.5A  | 2                         | 29                            |
| BC75/1  | 0.75   | 0.55 | 2                   |                      | 11A   | 6A    | 5.5A  | 2                         | 31                            |
| BC100/1 | 1      | 0.75 | 2                   |                      | 14A   | 7.7A  | 7A    | 2                         | 34                            |
| BC150/1 | 1.5    | 1.1  | 2                   |                      | 18.6A | 10.3A | 9.3A  | 2                         | 53                            |
| BC200/1 | 2      | 1.5  | 2                   |                      | -     | 11.6  | 10.5A | 2                         | 55                            |

| MODEL   | OUTPUT |      | DISCHARGE<br>INCHES | PHASE<br>VOLTAGE     | 3Ø   |      |      | FREE<br>PASSAGE<br>INCHES | WEIGHT<br>W/O<br>CABLE<br>LBS |
|---------|--------|------|---------------------|----------------------|------|------|------|---------------------------|-------------------------------|
|         | HP     | KW   |                     |                      | 208V | 230V | 460V |                           |                               |
| BC50/3  | 0.5    | 0.37 | 2                   | FULL<br>LOAD<br>AMPS | 3.3A | 3A   | 1.5A | 2                         | 29                            |
| BC75/3  | 0.75   | 0.55 | 2                   |                      | 4A   | 3.6A | 1.8A | 2                         | 31                            |
| BC100/3 | 1      | 0.75 | 2                   |                      | 5.6A | 5A   | 2.5A | 2                         | 34                            |
| BC150/3 | 1.5    | 1.1  | 2                   |                      | 6.9A | 6.2A | 3.1A | 2                         | 53                            |
| BC200/3 | 2      | 1.5  | 2                   |                      | 7.7A | 7A   | 3.5A | 2                         | 55                            |

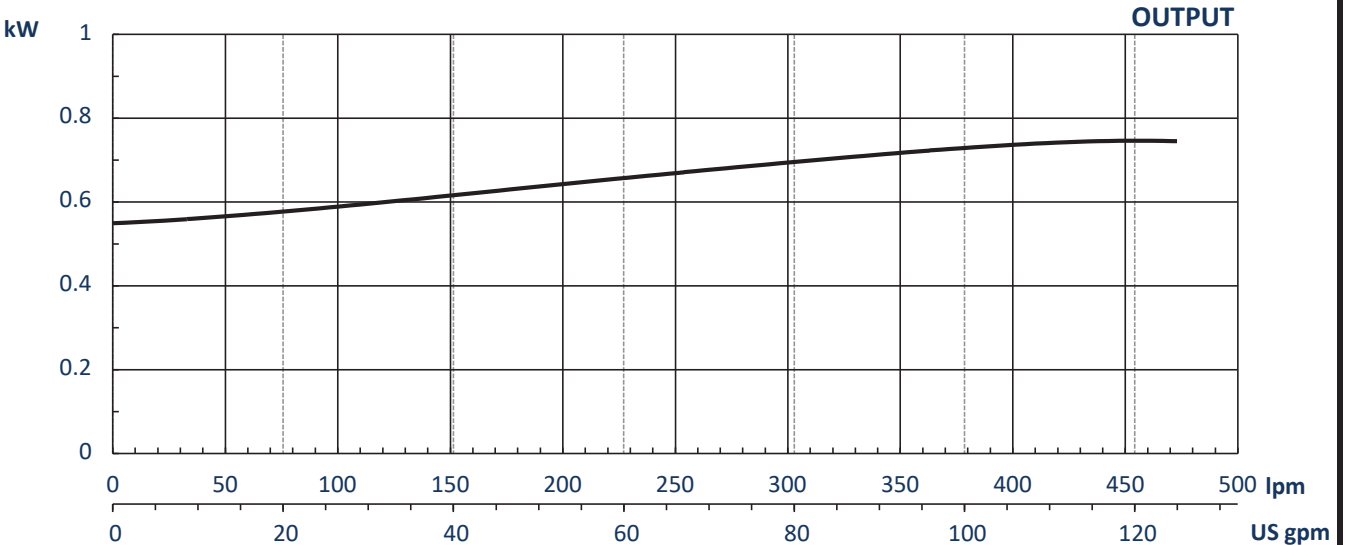
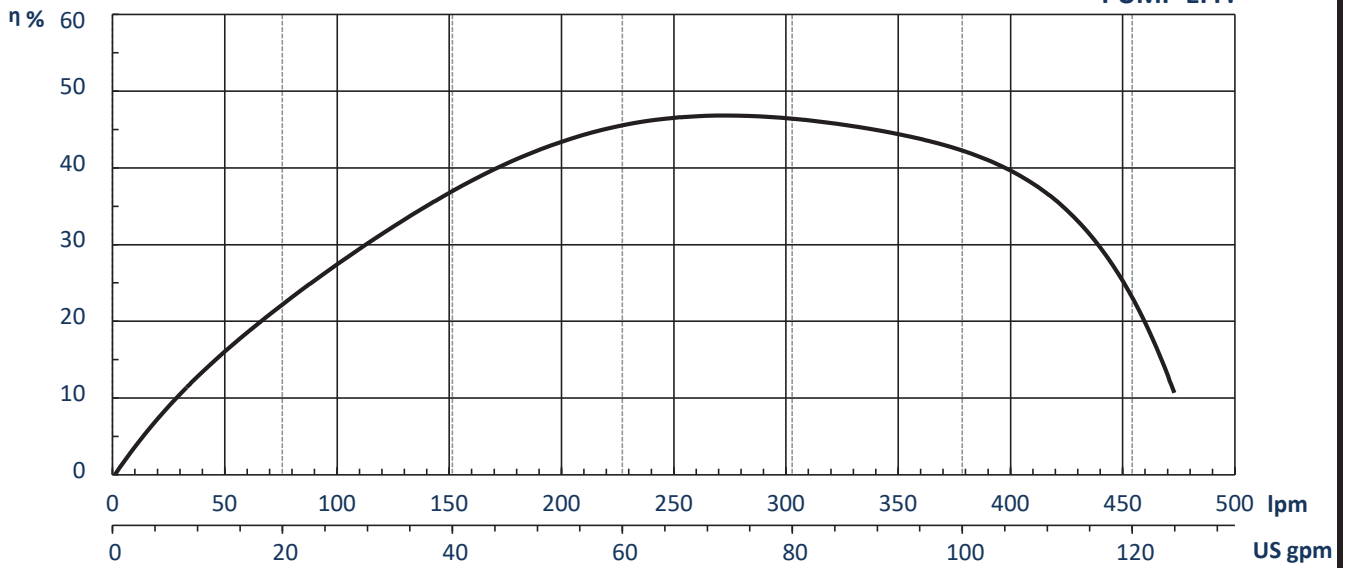
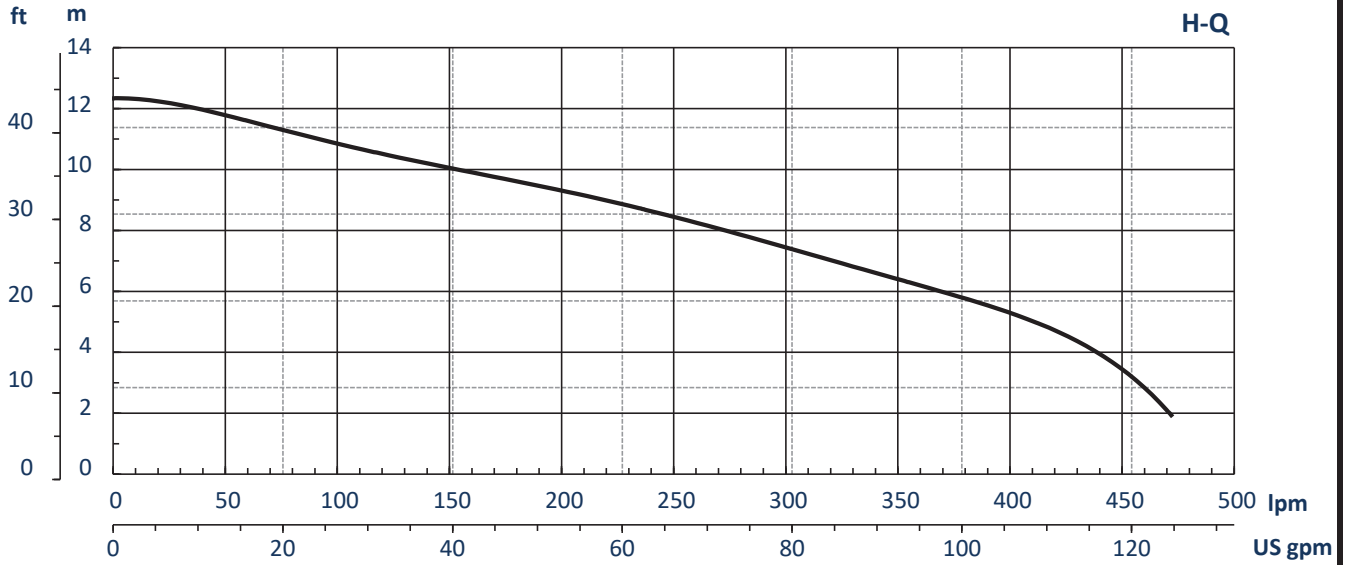
## MOTOR / PUMP CONSTRUCTION MATERIAL

| PART                   | MATERIAL                    |
|------------------------|-----------------------------|
| Cable                  | H07RN-F/STJOW/STOW          |
| Handle                 | Nylon 6                     |
| Motor Cover            | PA66+30GF (0.5~1HP)         |
| Motor Cover            | ASTM A48 Class 30 (1.5~2HP) |
| Bracket                | ASTM A48 Class 30           |
| Motor Housing + Stator | AISI 304                    |
| Shaft with Rotor       | AISI 410                    |
| Oil Chamber            | ASTM A48 Class 30           |

| PART            | MATERIAL          |
|-----------------|-------------------|
| Mechanical Seal | Upper: CA / CE    |
| Mechanical Seal | Lower: SIC / SIC  |
| Seal Housing    | ASTM A48 Class 30 |
| Lip Seal        | BUNA N            |
| Impeller        | ASTM A48 Class 30 |
| Pump Casing     | ASTM A48 Class 30 |
| Upper Bearing   | NTN/TPI           |

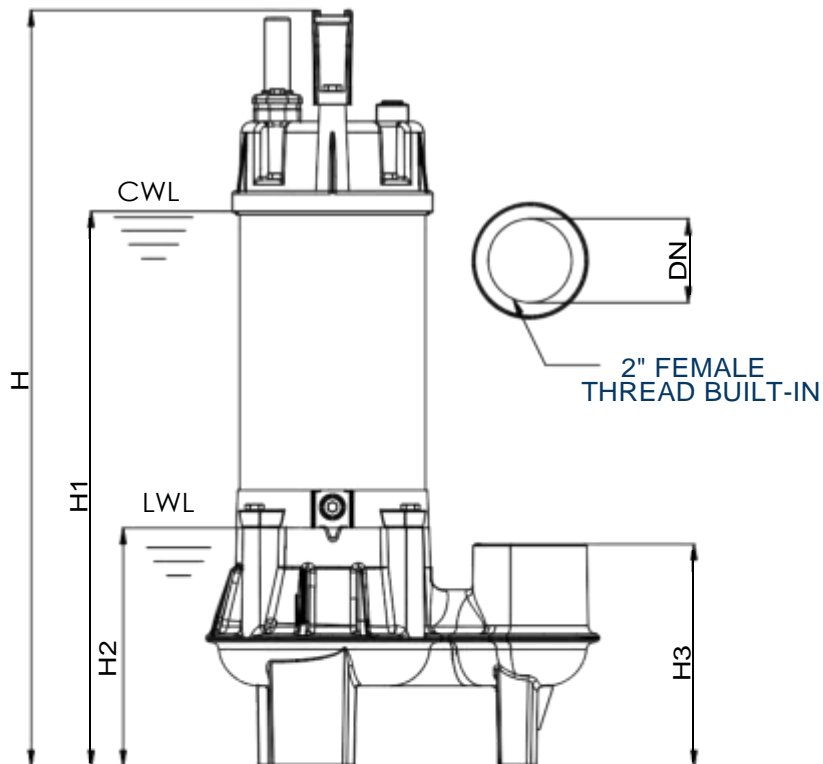
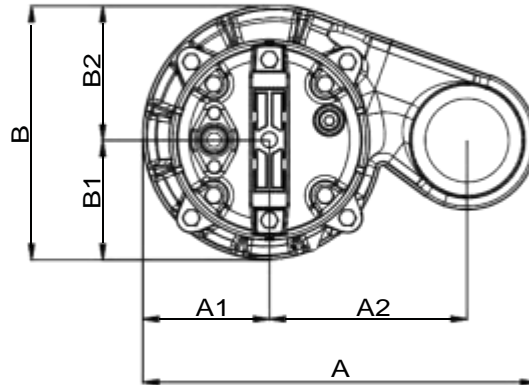
## PUMP PERFORMANCE REPORT

|           |                  |            |                    |
|-----------|------------------|------------|--------------------|
| MODEL     | BC100            | HEAD       | RATED              |
| FREQUENCY | 60 HZ            | CAPACITY   | 20 ft / 6 m        |
| DISCHARGE | 2 inches / 50 mm | POLE / RPM | 100 gpm / 378 lpm  |
| OUTPUT    | 1 hp / 0.75 kW   |            | 2 poles / 3450 rpm |



### DIMENSIONAL DRAWING

MODELS: BC50 - BC200 (0.5 - 2HP) THREADED DISCHARGE



**DIMENSIONS: INCHES**

**WEIGHT: LBS**

**PIPE CONNECTION TYPE: NPT**

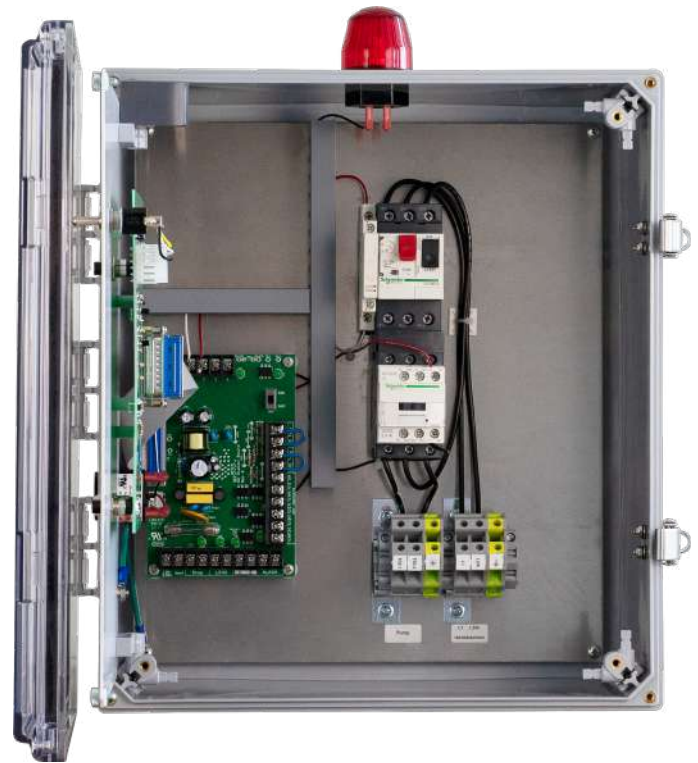
| MODEL | A     | A1   | A2   | B    | B1   | B2   | DN | H     | H1    | H2   | H3   | WT    |
|-------|-------|------|------|------|------|------|----|-------|-------|------|------|-------|
| BC50  | 10.24 | 3.50 | 4.92 | 6.70 | 3.54 | 3.15 | 2  | 18.35 | 13.23 | 5.94 | 5.55 | 28.40 |
| BC75  | 10.24 | 3.50 | 4.92 | 6.70 | 3.54 | 3.15 | 2  | 18.98 | 13.86 | 5.94 | 5.55 | 30.60 |
| BC100 | 10.24 | 3.50 | 4.92 | 6.70 | 3.54 | 3.15 | 2  | 19.53 | 14.41 | 5.94 | 5.55 | 34.00 |
| BC150 | 10.71 | 3.66 | 5.12 | 7.36 | 3.43 | 3.94 | 2  | 19.92 | 14.80 | 5.94 | 5.63 | 53.24 |
| BC200 | 10.71 | 3.66 | 5.12 | 7.36 | 3.43 | 3.94 | 2  | 20.47 | 15.59 | 5.94 | 5.63 | 55.44 |

**CWL: CONTINUOUS RUNNING WATER LEVEL**

**LWL: LOWEST RUNNING WATER LEVEL**

**WT: WEIGHT WITHOUT CABLE**

Simplex control panels will control a 120/208/240V single phase or a 208/240/480V three phase pump in sewage pump chambers, sump pump basins, and lift stations. Simplex control panels come standard with a clear front NEMA 4X rated enclosure, an IEC rated contactor, and a motor protective switch.



## Features

- Pump control visible indicators: Pump hand-off-auto (H.O.A.) switch, green Pump Run light, red Pump Fault light with reset button, and Power On light
- Alarm visible indicators: High red beacon alarm light, alarm test and silence buttons
- Alarm horn sounds at 85 decibels at 10 feet
- Remote monitoring by dry contacts: High Liquid, Pump Fault, Pump Run
- Upgraded pump protection: Motor protective switch (branch circuit protection, adjustable overload and disconnect) and a thermal cutout with indicator

## Applications

- Sewage pump chambers
- Grinder pumps
- Sump pump basins
- Lift stations



### Simplex Single Phase: 120/208/240VAC

| Model        | Pump Full Load Amp Rating |
|--------------|---------------------------|
| WS1P-TP-1001 | 0-7.0 FLA                 |
| WS1P-TP-1002 | 7.0-15.0 FLA              |
| WS1P-TP-1003 | 15.0-22.0 FLA             |
| WS1P-TP-1004 | 22.0-28.0 FLA             |
| WS1P-TP-1005 | 28.0-36.0 FLA             |

*Note: Thermal overload protection is generally provided in single phase pumps. To request a specific overload on the single phase models, contact the factory. Each panel includes a motor protective switch that will provide accurate pump circuit breaker protection.*

### Simplex Three Phase: 208/240/480VAC

| Model        | Pump Full Load Amp Rating |
|--------------|---------------------------|
| WS3P-TP-3001 | 1.0-1.6 FLA               |
| WS3P-TP-3002 | 1.6-2.5 FLA               |
| WS3P-TP-3003 | 2.5-4.0 FLA               |
| WS3P-TP-3004 | 4.0-6.3 FLA               |
| WS3P-TP-3005 | 6.0-10.0 FLA              |
| WS3P-TP-3006 | 9.0-14.0 FLA              |
| WS3P-TP-3007 | 13.0-18.0 FLA             |
| WS3P-TP-3008 | 17.0-23.0 FLA             |
| WS3P-TP-3009 | 20.0-25.0 FLA             |
| WS3P-TP-3010 | 24.0-32.0 FLA             |
| WS3P-TP-3011 | 30.0-40.0 FLA             |
| WS3P-TP-3012 | 37.0-50.0 FLA             |
| WS3P-TP-3013 | 48.0-65.0 FLA             |
| WS3P-TP-3014 | 65.0-115.0 FLA            |

Typical Installation of Simplex Control Panel

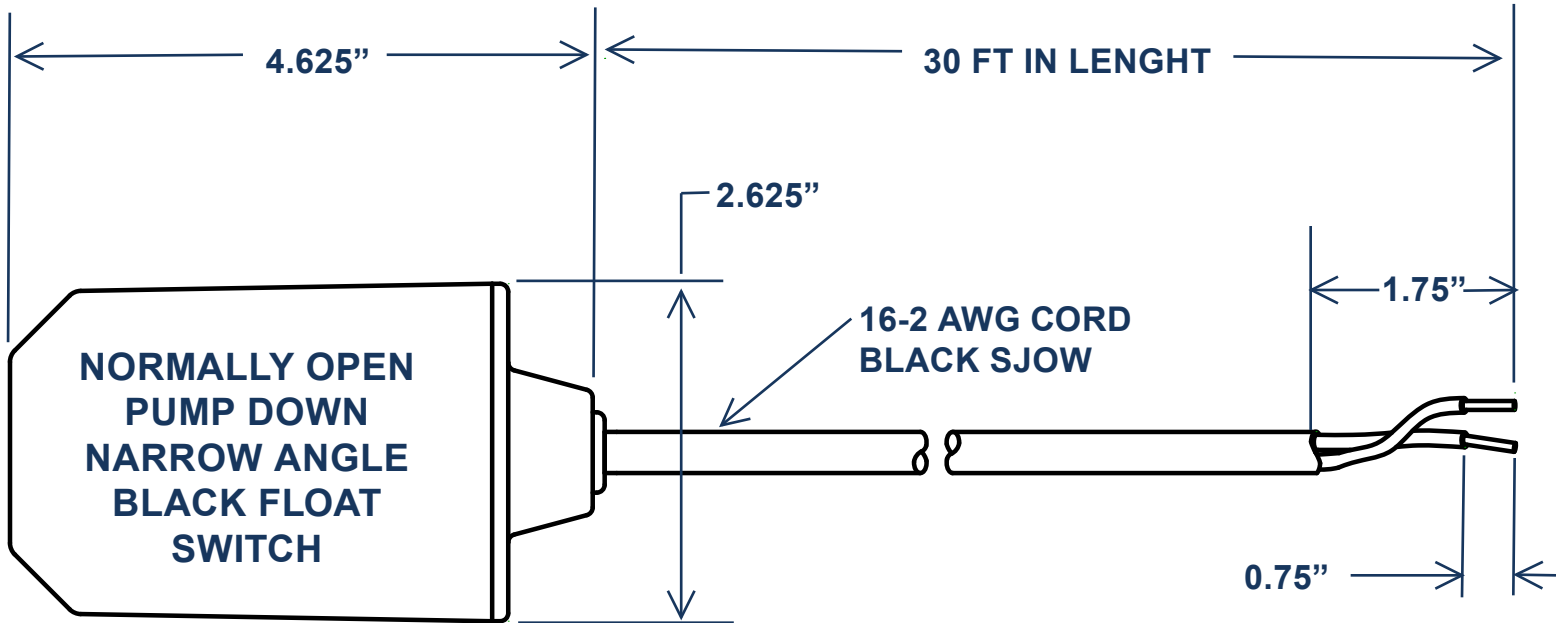


### Custom Options

| Option(s) | Description                                    | Option(s) | Description  |
|-----------|--|-----------|--|
| 24        | Pump Exerciser                                 | LAD/LAW   | Lightning Secondary Surge Arrestor (LAD Delta / LAW Wye) |
| 28        | Power On Dry Contact (Normally Open)           | LL        | Low Level Alarm  |
| 3R        | Painted Steel Enclosure                        | MD        | Main Disconnect; Up to 125 FLA                           |
| AF        | Alarm Flasher                                  | MD2       | Main Disconnect; 125 to 200 FLA                          |
| AH        | Anti-Condensation Heater                       | PM        | Phase Monitoring   |
| C         | Additional Cord Length Per Foot Per Component* | PX        | Pump Portal® Wireless Remote Communication               |
| CC        | Cycle Counter w/LCD Display and Reset          | SF        | Seal Failure Circuit w/ Indicator Lights                 |
| CO        | Convenience Outlet (User to supply 120 VAC)    | S3        | No Floats Option   |
| ETD       | Elapsed Time Meter w/ LCD Display and Reset    | SS4       | Upgraded Enclosure (304 Stainless Steel)                 |
| GR        | Generator Receptacle, Includes Transfer Switch | SS6       | Upgraded Enclosure (316 Stainless Steel)                 |
| IS        | Intrinsically Safe                             |           |  |

\*Additional cord length greater than 20': Specify after C. Example: WS1P-TP-1003-C50. Indicates 50' cord lengths for all floats.

**NORMALLY OPEN MECHANICAL FLOAT SWITCH X 30 FT**



**OPERATING ANGLE:** CONTACTS CLOSED @ 25° ABOVE HORIZONTAL CONTACTS OPEN @ 10° BELOW HORIZONTAL

**ELECTRICAL RATINGS:** 1/4 H.P. @ 120/240 VAC  
10 AMPS @ 120/240 VAC 34.8 LRA

**FLOAT MATERIAL:** A.B.S.



FLOAT WEIGHT



10-24 UNC PHILLIPS PANHEAD  
7/8" LONG STAINLESS STEEL  
( 2 PER SET )



**WEIGHT: TOTAL WEIGHT OF ASSEMBLED PRODUCT IS 1LB 4 OZ AND CAN VARY BY 2OZ**

**MATERIAL: GREY IRON**

**FINISH: 1 MIL ZINC PLATING**

