

# DESIGN ENVELOPE 4280 END SUCTION | SINGLE PHASE | 0108-003.0 | SUBMITTAL

File No: 100.3616  
Date: APRIL 18, 2016  
Supersedes: NEW  
Date: NEW

Job: \_\_\_\_\_ Representative: \_\_\_\_\_  
 \_\_\_\_\_ Order No: \_\_\_\_\_ Date: \_\_\_\_\_  
 Engineer: \_\_\_\_\_ Submitted by: \_\_\_\_\_ Date: \_\_\_\_\_  
 Contractor: \_\_\_\_\_ Approved by: \_\_\_\_\_ Date: \_\_\_\_\_

### PUMP DESIGN DATA

No. of pumps: \_\_\_\_\_ Tag: \_\_\_\_\_  
 Capacity: \_\_\_\_\_ USgpm (L/s) Head: \_\_\_\_\_ ft (m)  
 Liquid: \_\_\_\_\_ Viscosity: \_\_\_\_\_  
 Temperature: \_\_\_\_\_ °F (°C) Specific gravity: \_\_\_\_\_  
 Suction: 1.5" (40mm) Flanged  
 Discharge: 1" (25mm) Tapped holes  
**OSHDP Seismic Certification osp-0422-10**  
**UL STD 778 & CSA STD C22.2 NO.108 certified**

### MOTOR DESIGN DATA

HP: 3 RPM: 1800 Frame size: 182JM  
 Enclosure: TEFC Volts: 208 Freq: 60 Hz  
 Phase: 3 Efficiency: NEMA premium 12.12

### MAXIMUM PUMP OPERATING CONDITIONS

#### ANSI 125

175 psig at 150°F (12 bars at 65°C)  
 140 psig at 250°F (10 bars at 121°C)

#### ANSI 250

300 psig at 150°F (20 bars at 65°C)  
 250 psig at 250°F (17 bars at 121°C)

- Tolerance of ±0.125" (±3 mm) should be used
- For exact installation, data please write factory for certified dimensions

### MECHANICAL SEAL DATA

**Seal type:** 2A **Stationary seat:** Silicone carbide  
**Secondary seal:** EPDM **Rotating hardware:** Stainless steel  
**Spring:** Stainless steel

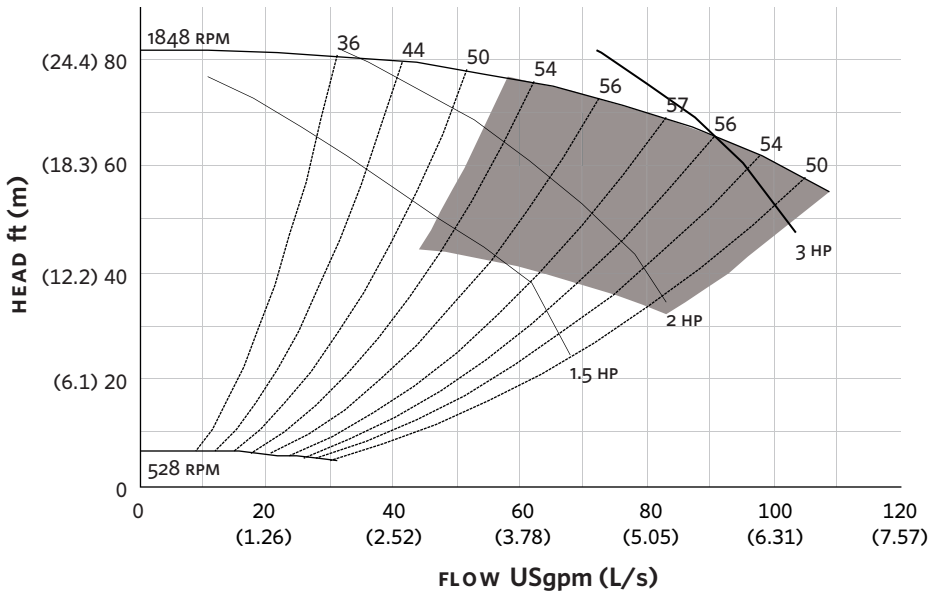
### CONTROLS DATA

**Power supply:** Volts: 200-240VAC  
 Freq: 50/60Hz Phase: 1  
**Sensorless Control:** Standard  
**Minimum system pressure to be maintained:** \_\_\_\_\_ ft (m)\*  
**Protocol (standard):**  Modbus RTU  BACnet™ MS/TP  
 Johnson® N2  Siemens® FLN  
**Protocol (optional):**  LonWorks®  
**Enclosure:**  Indoor - UL TYPE 12  
**Disconnect switch:**  Non-fused  
**EMI/RFI control:** 1-phase IVS102 units do not meet the EN61800-3 directive  
**Harmonic suppression:** Dual dc-link reactors (equivalent: 5% AC line reactor) supporting IEEE 519-1992 requirements\*\*  
**Cooling:** Fan-cooled through back channel  
**Ambient temperature:** -10°C to +45°C up to 1000 meters above sea level (-14°F to +113°F, 3300 ft)  
**Analog I/O:** Two current or voltage inputs, one current output  
**Digital I/O:** Six programmable inputs (two can be configured as outputs)  
**Pulse inputs:** Two programmable  
**Relay outputs:** Two programmable  
**Communication port:** 1-RS485, 1-USB

\*If minimum maintained system pressure is not known: Default to 40% of design head  
 \*\*The IVS 102 drive is a low harmonic drive via built-in dc line reactors. This does not guaranty performance to any system wide harmonic specification or the costs to meet a system wide specification. If supplied with the system electrical details, Armstrong will run a computer simulation of the system wide harmonics. If system harmonic levels are exceeded Armstrong can also recommend additional harmonic mitigation and the costs for such mitigation.

FLUID TYPE	ALL GLYCOLS > 30% WT CONC		ALL OTHER NON-POTABLE FLUIDS		POTABLE (DRINKING) WATER	
	up to 200°F / 93°C	over 200°F / 93°C	up to 200°F / 93°C	over 200°F / 93°C	up to 200°F / 93°C	over 200°F / 93°C
<b>Temperature</b>	up to 200°F / 93°C	over 200°F / 93°C	up to 200°F / 93°C	over 200°F / 93°C	up to 200°F / 93°C	over 200°F / 93°C
<b>Rotating face</b>	Silicone carbide		Resin bonded carbon	Antimony loaded carbon	Resin bonded carbon	
<b>Seat elastomer</b>	EPDM (L-cup)	EPDM (O-ring)	EPDM (L-cup)	EPDM (O-ring)	EPDM (L-cup)	EPDM (O-ring)
<b>Material code</b>	SCSc L EPSS 2A	SCSc O EPSS 2A	C-SC L EPSS 2A	ACSc O EPSS 2A	C-SC L EPSS 2A	C-SC O EPSS 2A

**EXTENDED SPEED**



Performance curves are for reference only.  
Confirm current performance data with Armstrong ACE Online selection software.

**DIMENSION DATA**

**INDOOR**  
(UL TYPE 12/ODP)

- Frame size: 182JM
- Size: 1.5×1×8
- HP: 3
- RPM: 1800
- A: 7.50 (191)
- B: 6.10 (155)
- C MAX: 21.07 (535)
- D1: 5.25 (133)
- D2: 4.50 (114)
- 2E: 9.08 (231)
- F: 4.50 (114)
- H: 0.47 (12)
- HD: 6.89 (175)
- HI: 24.12 (613)
- HV: 16.23 (412)
- N: 6.29 (160)
- NAN1: 6.00 (152)
- X: 6.50 (165)
- Y: 4.00 (102)
- Casing foot hole: 0.63 (16)
- Weight: 275 (124.7)

Dimensions - inch (mm)  
Weight - lbs (kg)

**INDOOR**

- TORONTO  
+1 416 755 2291
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- MANCHESTER  
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