

# DESIGN ENVELOPE 4280 END SUCTION | SINGLE PHASE | 0410S003.0 | SUBMITTAL

File No: 100.3640  
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: 5" (125mm) Tapped holes  
Discharge: 4" (100mm) Flanged  
**OSHDP Seismic Certification osp-0422-10**  
**UL STD 778 & CSA STD C22.2 NO.108 certified**

## MOTOR DESIGN DATA

HP: 3 RPM: 1200 Frame size: 213JP  
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

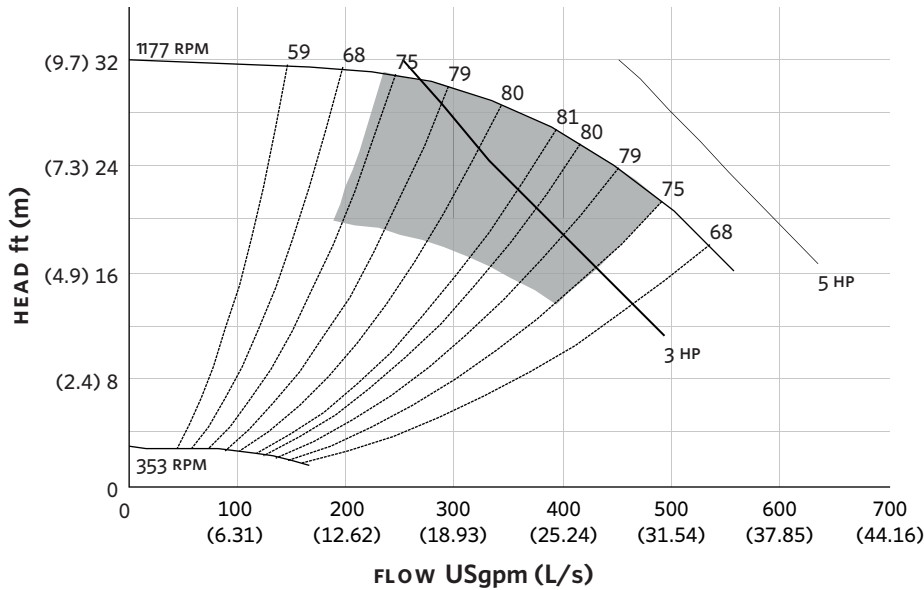
**Relay outputs:** Two programmable

**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)	
<b>Frame size:</b>	213JP
<b>Size:</b>	5×4×10
<b>HP:</b>	3
<b>RPM:</b>	1200
<b>A:</b>	10.27 (261)
<b>B:</b>	7.48 (190)
<b>C MAX:</b>	27.65 (702)
<b>D1:</b>	10.00 (254)
<b>D2:</b>	5.25 (133)
<b>2E:</b>	8.50 (216)
<b>F:</b>	5.50 (140)
<b>H:</b>	0.47 (12)
<b>HD:</b>	7.68 (195)
<b>HI:</b>	28.37 (721)
<b>HV:</b>	16.98 (431)
<b>N:</b>	11.13 (283)
<b>NaN1:</b>	9.75 (248)
<b>X:</b>	12.50 (318)
<b>Y:</b>	4.00 (102)
<b>Casing foot hole:</b>	0.63 (16)
<b>Weight:</b>	464 (210.5)

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

**INDOOR**

- TORONTO  
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