

# PIB DESIGN ENVELOPE | VERTICAL IN-LINE PUMPS | SERIES 4380/4300 | SUBMITTAL

File No: 43-783  
Date: FEBRUARY 12, 2014  
Supersedes: 43-783  
Date: MAY 27, 2010

Job: \_\_\_\_\_ Representative: \_\_\_\_\_

Order no.: \_\_\_\_\_ Date: \_\_\_\_\_

Engineer: \_\_\_\_\_ Submitted by: \_\_\_\_\_ Date: \_\_\_\_\_

Contractor: \_\_\_\_\_ Approved by: \_\_\_\_\_ Date: \_\_\_\_\_

## PUMP DESIGN DATA

Pump model: \_\_\_\_\_

Quantity required: \_\_\_\_\_

Capacity: \_\_\_\_\_ USgpm (L/s) Head: \_\_\_\_\_ ft (m)

Liquid: \_\_\_\_\_ Temperature: \_\_\_\_\_ °F (°C)

## DRIVE DATA

**Sensorless control:** Included

**BMS protocol:** BACnet MS/TP

**Enclosure:** UL type 12

**Fused disconnect switch:** No

**Control orientation:** L1

**Communication port:** RS 485

**EMI/RFI control:** Integrated filter designed to meet EN61800-3

**Harmonic suppression:** Integrated DC link reactors\*\*

**Cooling:** Fan-cooled through back channel

**Ambient temperature:** -10°C to +45°C upto 1000 meters  
elevation (14°F to 113°F upto 3280FT)

**Analog inputs:** Two, current or voltage

**Analog outputs:** One, current

**Digital inputs:** Four programmable

**Digital outputs:** Two programmable

\* If minimum maintained system pressure is not known, default is 40% of design head.

\*\* The IVS 102 control is a low harmonic control with a built-in DC link reactor equivalent in performance to a 5% AC line reactor. This does not guarantee 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 cost for such mitigation.

## ADDITIONAL NOTES

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## MOTOR DESIGN DATA

Frequency: 60 Hz Enclosure: TEFC

Volts:  208-230  460 v  575 v

Efficiency: NEMA premium 12.12

## MAXIMUM PUMP OPERATING CONDITIONS

175 psig at 150°F (12 bars at 65°C)

140 psig at 250°F (10 bars at 121°C)

- Tolerance of ±0.125" (±3 mm) should be used
- See performance curves on page 3
- For exact installation, data please write factory for certified dimensions
- Pump equipped with casing drain plug and ¼" NPT suction and discharge gauge ports

## MATERIALS OF CONSTRUCTION

**Construction:** BF with ANSI 125 flanged connection

**Casing (volute):** Cast iron (A48-30)

**Casing gasket:** Confined Non-Asbestos Fiber

**Flush line:** Braided Stainless Steel

**Impeller:** Bronze

**Shaft sleeve (4380):** Bronze

**Pump shaft (4300):** SS ASTM A276 Type 416

## MECHANICAL SEAL DESIGN DATA

**Seal type:** Inside single-spring (4380)

Outside balanced (4300)

**Secondary seal:** EPDM (4380)

VITON (4300)

**Rotating face:** Resin bonded carbon

**Stationary seat:** Silicon-carbide

**Springs:** Stainless steel

**Rotating hardware:** Stainless steel

Pump equipped with casing drain plug and ¼" npt suction and discharge gauge ports

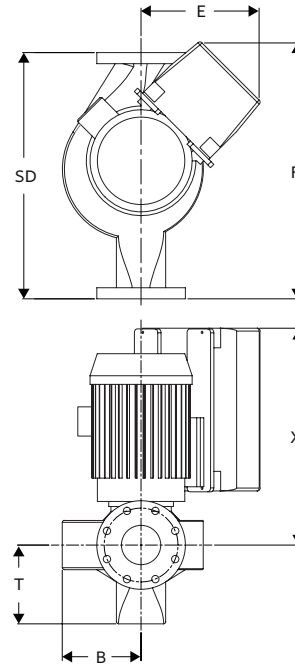
**DIMENSIONS AND WEIGHTS**

DESIGN ENVELOPE MODEL	INLET & OUTLET ANSI 125	MOTOR DETAILS	
		HP*	FRAME
4380 1506-003.0	1.5"×1.5"	ⓐ3	182
4380 1508-001.5	1.5"×1.5"	1.5	145
4380 0206-001.5	2"×2"	1.5	145
4380 0208-003.0	2"×2"	3	182
4380 0208-005.0	2"×2"	5	184
4380 0306-001.5	3"×3"	1.5	145
4380 0308-003.0	3"×3"	3	182
4380 0308-005.0	3"×3"	5	184
4380 0310-007.5	3"×3"	7.5	213
4380 0406-003.0	4"×4"	3	182
4300 0308-015.0	3"×3"	ⓐ15	213-5TC
4300 0406-010.0	4"×4"	ⓐ10	213-5TC

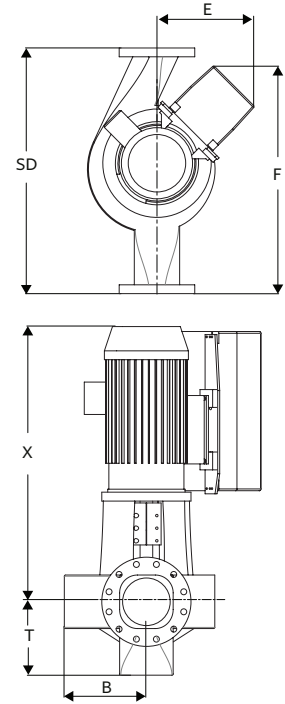
\*All motors are with NEMA premium 12.12 efficiency and TEFC enclosure.

**Note:** All motors are three-phase, four-pole except: ⓐ Two-pole

DE 4380

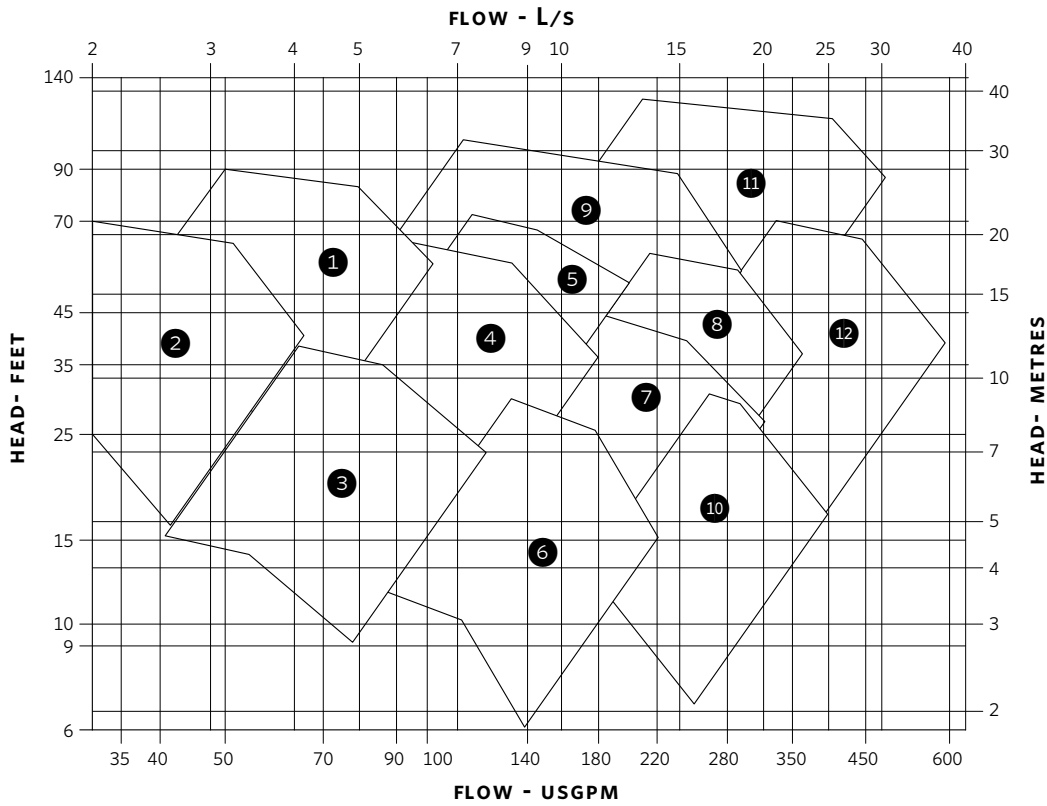


DE 4300



DESIGN ENVELOPE MODEL	DIMENSIONS - inches (mm)						WEIGHT lbs (kg)
	B	E	F	T	SD	X	
4380 1506-003.0	3.86 (98)	11.87 (301)	18.85 (479)	4.25 (108)	14.25 (362)	21.32 (542)	202 (91.6)
4380 1508-001.5	5.72 (145)	11.85 (301)	19.85 (504)	4.59 (117)	16.00 (406)	21.36 (543)	198 (89.8)
4380 0206-001.5	4.47 (114)	11.87 (301)	19.85 (504)	4.59 (117)	15.00 (381)	21.35 (542)	187 (84.8)
4380 0208-003.0	5.72 (145)	12.56 (319)	22.06 (560)	5.09 (129)	18.00 (457)	21.86 (555)	239 (108.4)
4380 0208-005.0	5.72 (145)	12.56 (319)	22.06 (560)	5.09 (129)	18.00 (457)	21.86 (555)	244 (110.7)
4380 0306-001.5	5.80 (147)	11.85 (301)	21.60 (549)	6.00 (152)	18.00 (457)	24.92 (633)	203 (92.1)
4380 0308-003.0	6.81 (173)	12.56 (319)	24.56 (624)	6.31 (160)	22.00 (559)	21.86 (555)	265 (120.2)
4380 0308-005.0	6.81 (173)	12.56 (319)	24.56 (624)	6.31 (160)	22.00 (559)	21.86 (555)	270 (122.5)
4380 0310-007.5	7.16 (182)	12.55 (319)	27.77 (705)	5.44 (138)	21.00 (533)	28.83 (732)	368 (166.9)
4380 0406-003.0	6.88 (175)	12.00 (305)	24.00 (610)	8.00 (203)	22.00 (559)	26.67 (758)	265 (120.2)
4300 0308-015.0	6.88 (175)	13.17 (335)	13.17 (335)	7.75 (197)	22.00 (559)	29.41 (747)	431 (195.5)
4300 0406-010.0	6.88 (175)	14.82 (376)	14.82 (376)	7.75 (197)	22.00 (559)	31.99 (812)	331 (150.1)

## PERFORMANCE CURVES



CURVE	DESIGN ENVELOPE MODEL
①	4380 1506-003.0
②	4380 1508-001.5
③	4380 0206-001.5
④	4380 0208-003.0
⑤	4380 0208-005.0
⑥	4380 0306-001.5
⑦	4380 0308-003.0
⑧	4380 0308-005.0
⑨	4380 0310-007.5
⑩	4380 0406-003.0
⑪	4300 0308-015.0
⑫	4300 0406-010.0

Performance curves are for reference only.

Confirm current performance data with Armstrong ACE Online selection software.

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