ARMSTRONG

DESIGN ENVELOPE 4302 DUALARM | 0308–015.0 | SUBMITTAL

File No: 104.5011
Date: DECEMBER 16, 2020
Supersedes: 104.5011
Date: JULY 8, 2019

Job: _____ Representative: _____

_____ Order No: _____ Date: _____

Engineer: _____ Submitted by: _____ Date: _____

Contractor: _____ Approved by: _____ Date: _____

PUMP DESIGN DATA

No. of pumps:_____ Tag: _____

Total system design flow: _____USgpm(L/s)

Head: _____ft(m) Capacity split _____%

Flow per pump head: _____USgpm(L/s)

Parallel flow: _____USgpm(L/s)

Liquid: _____ Viscosity: _____

Temperature: _____ °F (°C) Specific gravity: _____

Suction: 3" (75mm) Discharge: 3" (75mm)

OSHPD Seismic Certification OSP-0422-10
UL STD 778 & CSA STD C22.2 NO.108 certified
Test report is supplied with each pump

MOTOR DESIGN DATA

HP: _____ RPM:_____ Frame size: _____

Enclosure: _____ Volts:_____ Hertz: 60 Hz

Phase: 3 Efficiency: NEMA premium 12.12

MAXIMUM PUMP OPERATING CONDITIONS

ANSI 125 - (CONSTRUCTION: BF)

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

MECHANICAL SEAL DESIGN DATA

See file no. 43.50 for standard mechanical seal details as indicated below

Armstrong seal reference number

☐ C1 (a) ☐ Others: _____

CONTROLS DATA

Protocol (standard): ☐ BACnet™ MS/TP
☐ BACnet™ TCP/IP
☐ Modbus RTU

Enclosure: ☐ Indoor – UL TYPE 12
☐ Outdoor – UL TYPE 4X with Weather Shield
☐ Outdoor – UL TYPE 4X less Weather Shield

Fused disconnect switch: ☐

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

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 speed output

Digital I/O: Two inputs, two outputs

Pulse inputs: Two programmable

Relay outputs: Two programmable

Communication port: 1-RS485

** The IVS 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.

FLOW READOUT ACCURACY

The Design Envelope model selected will provide flow reading on the controls local keypad & digitally for the BMS. The model readout will be factory tested to ensure ±5% accuracy.

OPTIONS

SENSORLESS BUNDLE (STANDARD)

Operation of pump without a remote sensor.
Includes:

- Sensorless control
- Flow readout
- Constant flow
- Constant pressure

Minimum system pressure to be maintained _____ ft (m)

* If minimum maintained system pressure is not known: Default to 40% of design head

☐ PARALLEL SENSORLESS

Operation of multiple pumps without a remote sensor

Minimum system pressure to be maintained _____ ft (m)

* If minimum maintained system pressure is not known: Default to 40% of design head

☐ ENERGY PERFORMANCE BUNDLE

Provides energy savings on oversized systems by adjusting pump parameters to on-site conditions. Includes:

- **Auto-flow balancing –** Automatically determines control curve between design flow at on-site system head, and minimum (zero-head) flow for energy savings
- **Maximum flow control –** Limits flow rate to pre-set maximum for potential energy savings

Maximum flow rate _____ gpm (L/s)

*Only available if sensorless bundle is enabled
*Available in single pump operation only

☐ PROTECTION BUNDLE

Protects other flow sensitive equipment by setting limits of pump operation. Includes:

- **Minimum flow control –** Attempts to maintain flow rate to pre-set minimum to protect equipment in system
- **Bypass valve control –** Actuates a bypass valve to protect flow sensitive equipment if pre-set minimum flow rate is reached

Minimum flow rate _____ gpm (L/s)

*Only available if sensorless bundle is enabled

☐ DUAL SEASON SETUP

Pre-sets heating and cooling parameters for pumps in 2-pipe systems

Cooling

Duty point ___ gpm (L/s) at ___ ft (m)

Minimum system pressure to be maintained ___ ft (m)

Heating

Duty point ___ gpm (L/s) at ___ ft (m)

Minimum system pressure to be maintained ___ ft (m)

*Available in single pump operation only

OPTIONAL SERVICES

ON-SITE PUMP COMMISSIONING

PUMP MANAGER

Online service for sustained pump performance and enhanced reliability.

Available in 3 or 5 year terms

* Requires an internet connection to be provided by building
* Includes an extended warranty for parts and labour (wearable parts excluded)

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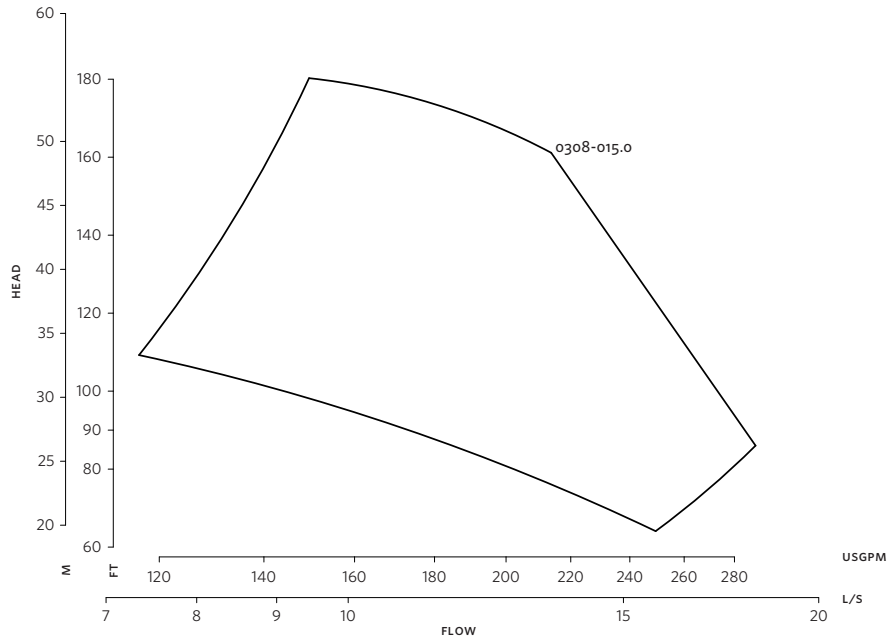


Performance curves are for reference only.
Confirm current performance data with Armstrong ACE Online selection software.

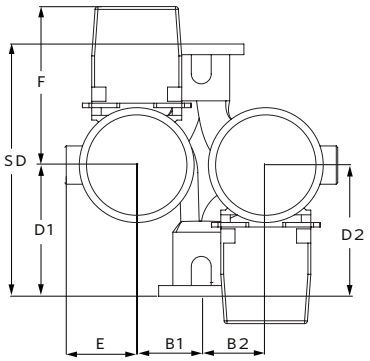
DIMENSION DATA

	INDOOR (UL TYPE 12/ODP)	OUTDOOR (UL TYPE 4X/TEFC)
Frame size:	215	254
Size:	3×3×8	3×3×8
HP:	15	15
RPM:	3600	3600
AB:	31.72(806)	38.89(988)
B1:	7.00(178)	7.00(178)
B2:	7.00(178)	7.00(178)
C1:	12.50(318)	12.50(318)
C2:	12.63(321)	12.63(321)
D1:	10.69(271)	10.69(271)
D2:	10.69(271)	10.69(271)
E:	7.59(193)	8.90(226)
P:	12.13(308)	13.38(340)
F:	16.73(425)	21.44(545)
SD:	19.06(484)	19.06(484)
T:	5.09(129)	5.09(129)
XY:	28.04(712)	34.10(866)
Weight:	702(318.4)	982(445.4)

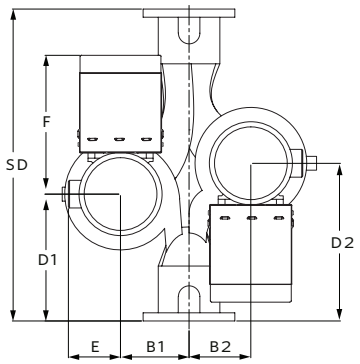
Dimensions – inch (mm)
Weight – lbs (kg)

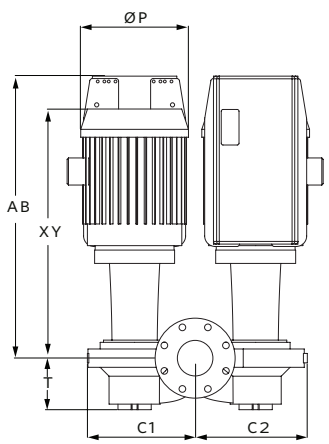
- Tolerance of ±0.125" (±3 mm) should be used
- For exact installation, data please write factory for certified dimensions

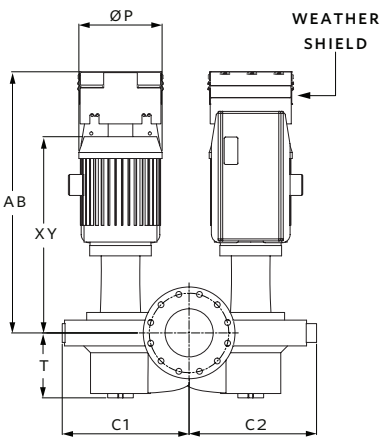
INDOOR



OUTDOOR







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