ARMSTRONG

DESIGN ENVELOPE 4280 END SUCTION | 0106–007.5 | SUBMITTAL

File No: 103.5505
Date: AUGUST 1, 2018
Supersedes: 103.5505
Date: MARCH 30, 2018

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) Flanged

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: 7.5	RPM: 3600	Frame size: 213JM
Enclosure: TEFC	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)

☐ **ANSI 250 - (CONSTRUCTION: DBF)**

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

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.

CONTROLS DATA

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

Enclosure: ☐ Indoor – UL TYPE 12

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.

MECHANICAL SEAL DATA

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

FLUID TYPE	ALL GLYCOLS > 30% WT CONC		ALL OTHER NON-POTABLE FLUIDS		POTABLE (DRINKING) WATER	
Temperature	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
Rotating face	Silicone carbide		Resin bonded carbon	Antimony loaded carbon	Resin bonded carbon	
Seat elastomer	EPDM (L-cup)	EPDM (O-ring)	EPDM (L-cup)	EPDM (O-ring)	EPDM (L-cup)	EPDM (O-ring)
Material code	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

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

☐ 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

☒ ZONE OPTIMIZATION BUNDLE

Controls pumps to ensure multiple zones are satisfied for heating or cooling

- 2 sensor control – Controls pumps in a 2-zone application to ensure both zones are always satisfied for heating or cooling

☐ 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)

OPTIONAL SERVICES

ON-SITE PUMP COMMISSIONING

Where purchased and applicable, onsite commissioning by an Armstrong representative will include setting up communication with the Pump (not wiring to BAS), adjusting parameters to match on-site conditions, register the pumps for enhanced warranty and connect the pumps to the router as part of the activation of Pump Manager.

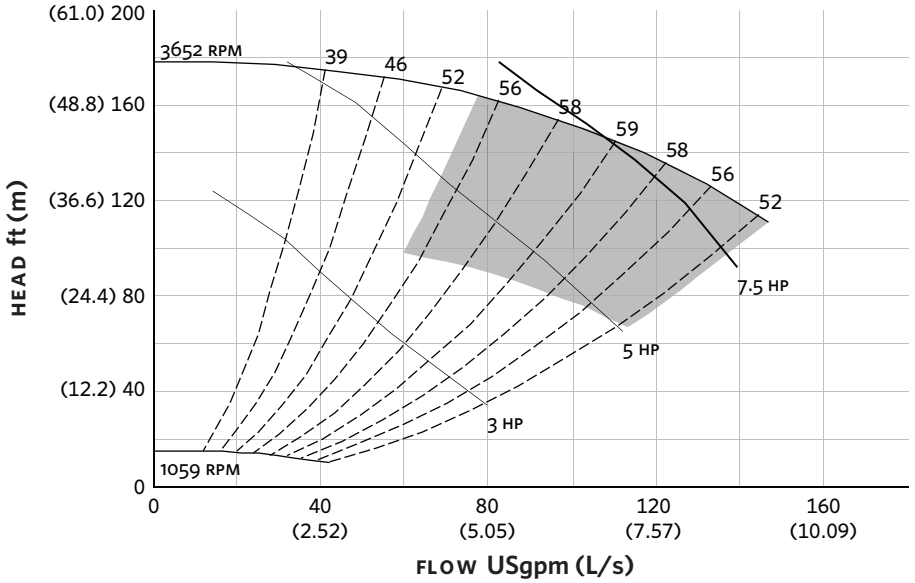
PUMP MANAGER

As a Performance Management Service, Pump Manager is an online automated fault detection and diagnostic service for sustained performance and enhanced reliability. It includes advanced trending, alerts of variance in performance and automated reports.

Available in yearly increments. Includes an option for a price discount on the Extended Warranty Service.

*The Service requires an active internet connection.

EXTENDED SPEED



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

DIMENSION DATA

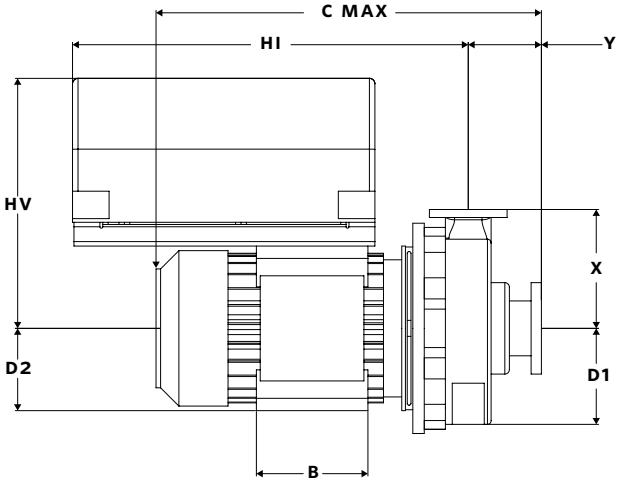
INDOOR
(UL TYPE 12/ODP)

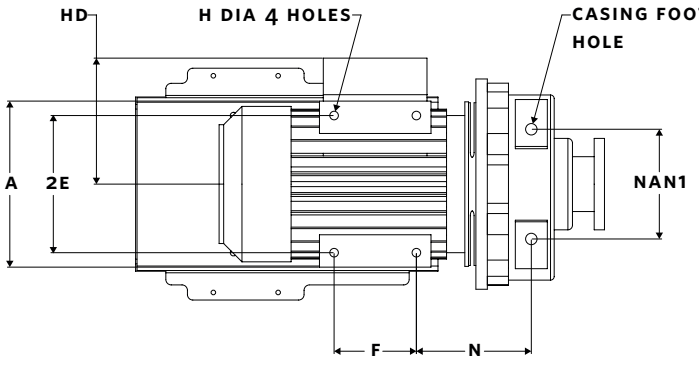
Frame size:	213JM
Size:	1.5×1×6
HP:	7.5
RPM:	3600
A:	10.27 (261)
B:	7.48 (190)
C MAX:	22.29 (566)
D1:	5.25 (133)
D2:	5.25 (133)
2E:	8.50 (216)
F:	5.50 (140)
H:	0.47 (12)
HD:	7.68 (195)
HI:	21.90 (556)
HV:	14.42 (366)
N:	7.24 (184)
NAN1:	6.00 (152)
X:	6.50 (165)
Y:	4.00 (102)
Casing foot hole:	0.63 (16)
Weight:	284 (128.8)

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





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