

DESIGN ENVELOPE 4280 END SUCTION

2×1.5×5 (50-125) | 1505-002.0 | SUBMITTAL

File No: 103.5709
 Date: MARCH 25, 2021
 Supersedes: 103.5709
 Date: AUGUST 19, 2019

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: 2" (50 mm) Discharge: 1.5" (40 mm)

UL STD 778 & CSA STD C22.2 NO.108 certified

Test report is supplied with each pump

MATERIALS OF CONSTRUCTION

- ANSI 125**
 CONSTRUCTION: LPDESF
 E-coated ductile iron A536 Gr 65-45-12, stainless fitted
- ANSI 250**
 CONSTRUCTION: HPDESF
 E-coated ductile iron A536 Gr 120-90-2, stainless fitted

MAXIMUM PUMP OPERATING CONDITIONS

- ANSI 125**
 175 psig at 150°F (12 bar at 65°C)
 100 psig at 300°F (7 bar at 150°C)
- ANSI 250**
 375 psig at 150°F (26 bar at 65°C)
 260 psig at 300°F (21 bar at 150°C)

MECHANICAL SEAL DESIGN DATA

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

DEPM MOTOR AND CONTROL DATA

- HP:** 2
- RPM:** 3000
- Motor enclosure:** TEFC
- Volts:** _____
- Phase:** 3
- Efficiency:** IE5
- Protocol (standard):** BACnet™ MS/TP BACnet™ TCP/IP
 Modbus RTU
- Control enclosure:** Indoor - UL TYPE 12
- Fused disconnect switch:** Consult factory
- EMI/RFI control:** Integrated filter designed to meet EN61800-3
- Harmonic suppression:** Equivalent: 5% AC line reactor - Supporting IEEE 519-1992 requirements**
- Cooling:** Fan-cooled, surface cooling
- 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 inputs, one output. Output can be configured for voltage or current
- Digital I/O:** Two inputs, two outputs. Outputs can be configured as inputs
- Relay outputs:** Two programmable
- Communication port:** 1-RS485

** 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.

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

*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

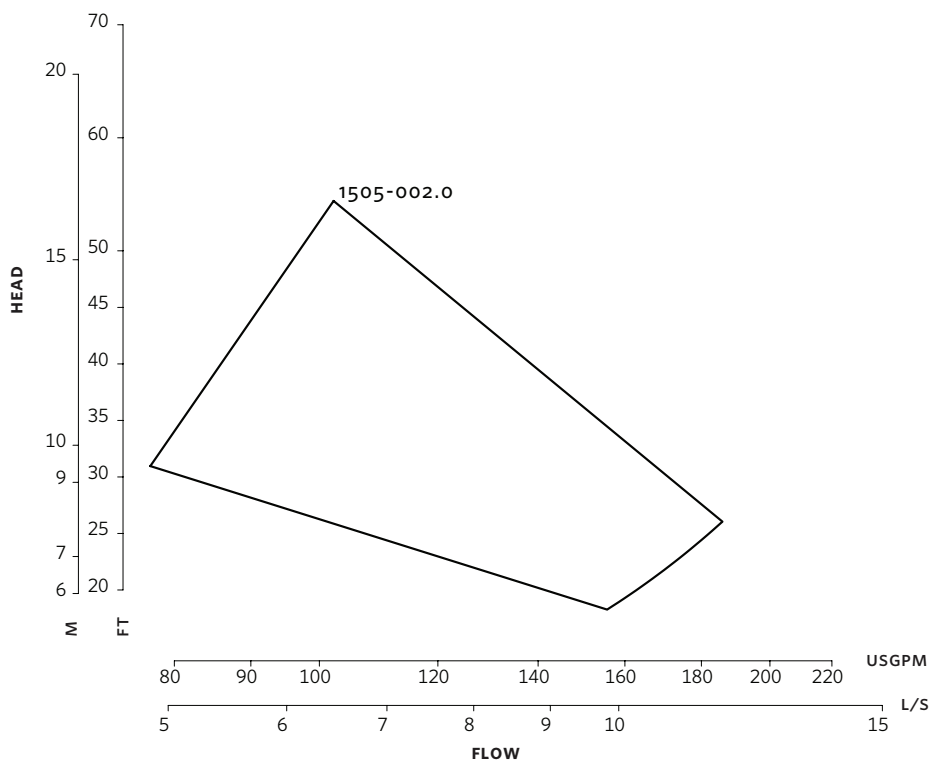


Online service for sustained pump performance and enhanced reliability.

Available in 3 or 5 year terms

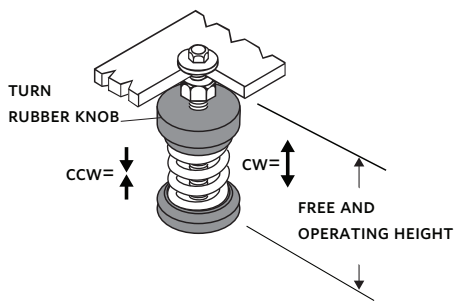
* Requires an internet connection to be provided by building

* Includes an extended warranty for parts and labour (wearable parts excluded)

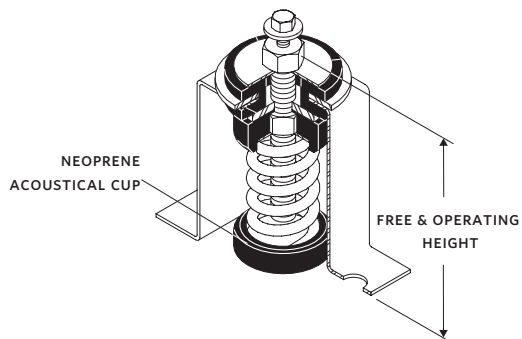


Performance curves are for reference only.
Confirm current performance data with Armstrong ADEPT Quote or ADEPT Select selection software.

STANDARD



SEISMIC MOUNT OPTION



NOTE:
All springs have additional travel to solid equal to 50% of the rated deflection.

DIMENSION DATA

STANDARD

Size:	2×1.5×5
HP:	2
RPM:	3000
HA:	10.32 (262)
HD:	8.75 (222)
HI:	18.27 (464)
HV:	8.18 (208)
X:	7.00 (178)
Y:	4.00 (102)
Free & operating height:	3.75 (95)
Weight:	71 (32.0)

SPRING DATA

Rated Capacity per spring lbs (kgs):	54 (25.0)
Rated Deflection inch (mm):	1.20 (30)
Mount Constant lbs/in (kg/mm):	45 (0.8)

SEISMIC MOUNT OPTION

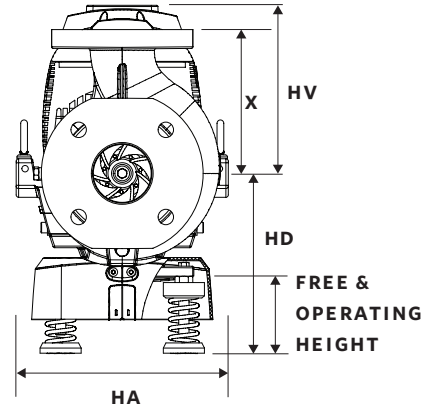
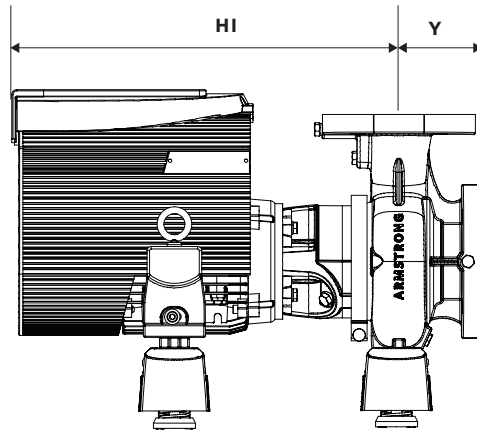
ZE:	5.75 (146)
F:	4.00 (102)
G:	6.00 (152)
H:	0.50 (12)
HA:	10.32 (262)
HD:	10.00 (254)
N:	6.54 (166)
Free & operating height:	5.00 (127)
Max. horizontal static G rating:	6.7

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

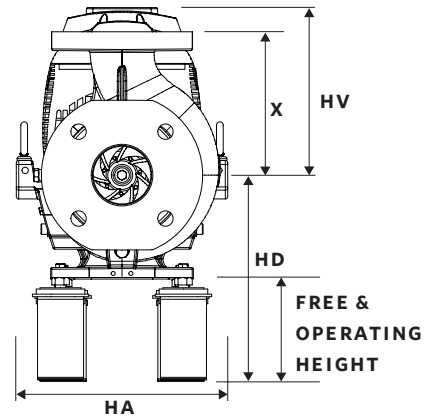
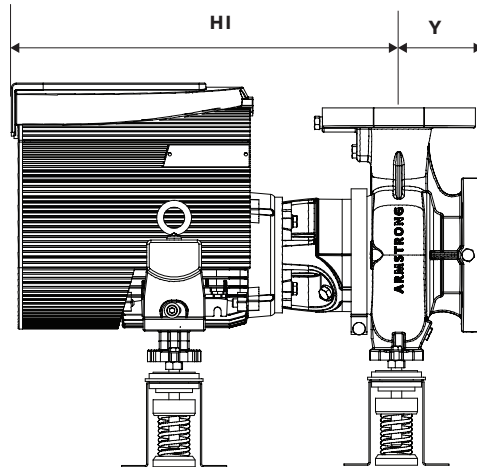
- Tolerance of ±0.125" (±3 mm) should be used
- For exact installation, data please write factory for certified dimensions

4

STANDARD



SEISMIC MOUNT OPTION



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MANCHESTER
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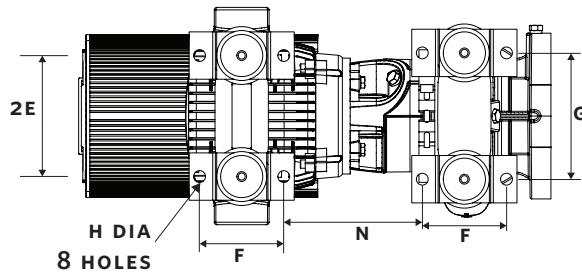
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