ARMSTRONG

# DESIGN ENVELOPE 4280 END SUCTION

## 2.5×2×5 (65–125) | 0205–007.5 | SUBMITTAL

**File No:** 103.5731
**Date:** MARCH 25, 2021
**Supersedes:** 103.5731
**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: 2.5" (65 mm) Discharge: 2" (50 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:** 7.5
**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

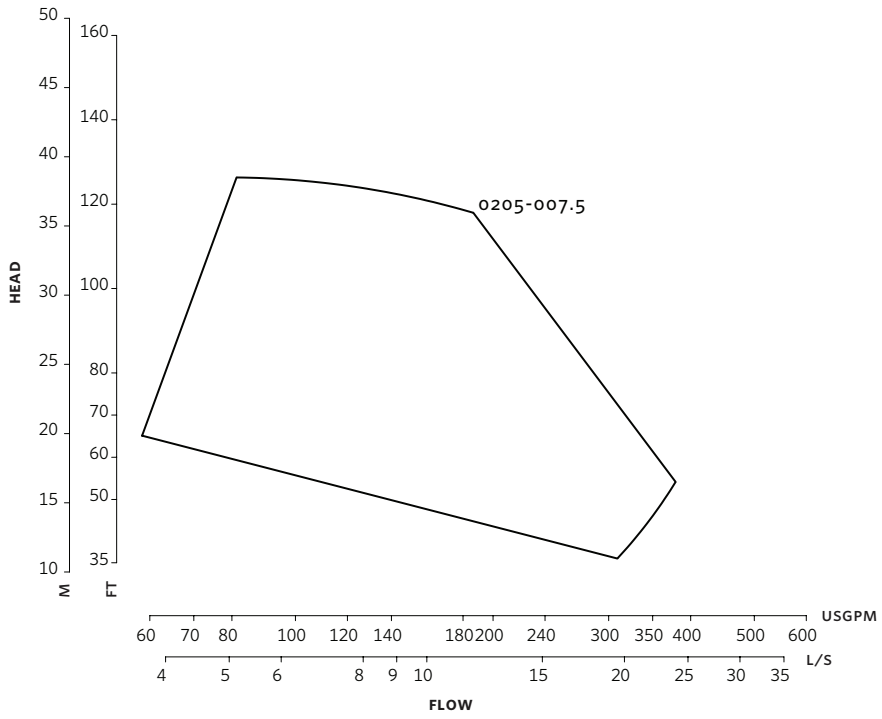
### ON-SITE PUMP COMMISSIONING

### PUMP MANAGER

Online service for sustained pump performance and enhanced reliability.

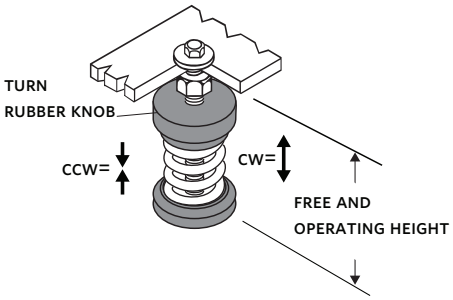
Available in 3 or 5 year terms

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

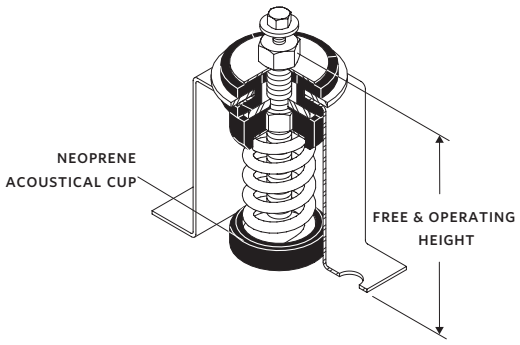



Performance curves are for reference only.
Confirm current performance data with Armstrong ADEPT Quote or ADEPT Select selection software.

## STANDARD




## SEISMIC MOUNT OPTION




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

## DIMENSION DATA

### STANDARD

| | |
|---|---|
| **Size:** | 2.5×2×5 |
| **HP:** | 7.5 |
| **RPM:** | 3000 |
| **HA:** | 10.32 (262) |
| **HD:** | 8.75 (222) |
| **HI:** | 20.86 (530) |
| **HV:** | 8.18 (208) |
| **X:** | 7.00 (178) |
| **Y:** | 4.00 (102) |
| **Free & operating height:** | 3.75 (95) |
| **Weight:** | 86 (39.1) |

### SPRING DATA

| | |
|---|---|
| **Rated Capacity per spring** lbs (kgs)**:** | 113 (51.0) |
| **Rated Deflection** inch (mm)**:** | 1.00 (25) |
| **Mount Constant** lbs/in (kg/mm)**:** | 113 (2.0) |

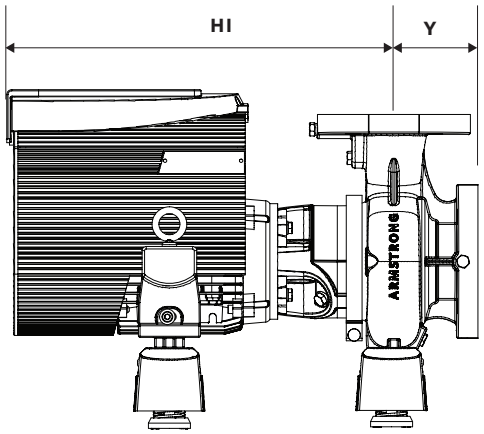
### SEISMIC MOUNT OPTION

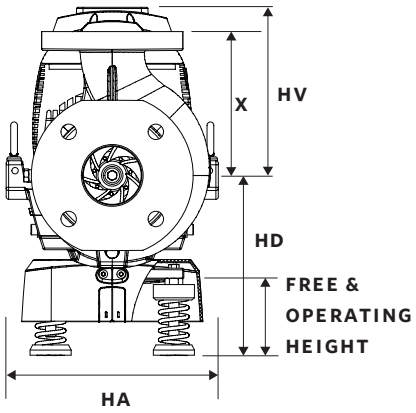
| | |
|---|---|
| **2E:** | 5.75 (146) |
| **F:** | 4.00 (102) |
| **G:** | 6.00 (152) |
| **H:** | 0.50 (12) |
| **HA:** | 10.32 (262) |
| **HD:** | 10.00 (254) |
| **N:** | 6.57 (167) |
| **Free & operating height:** | 5.00 (127) |
| **Max. horizontal static G rating:** | 3.2 |

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

## STANDARD

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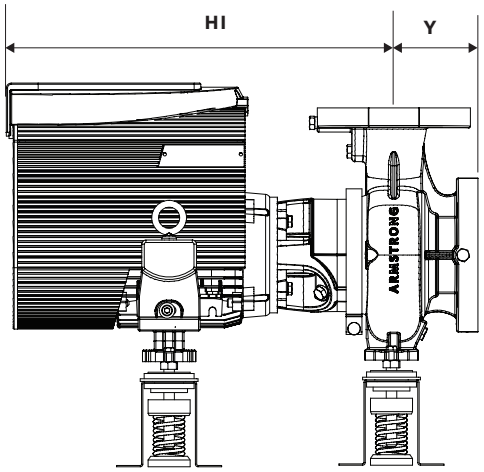


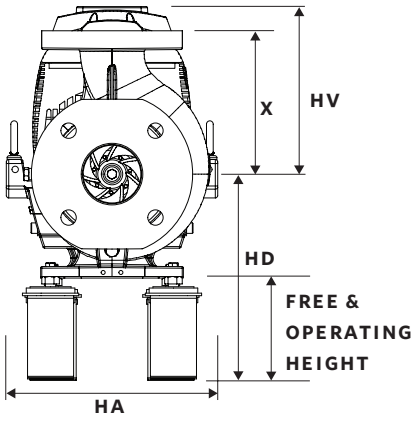


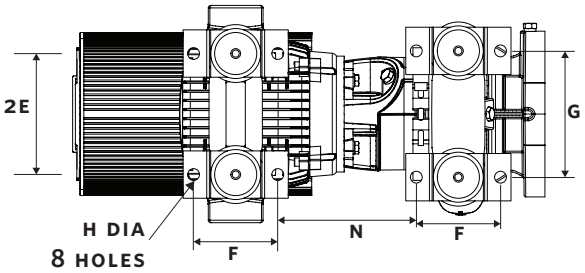


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