

## DESIGN ENVELOPE 4200H END SUCTION

3x2.5x5 (75-125) | 2505-005.0 | SUBMITTAL

**File No:** 103,5431  
**Date:** MARCH 25, 2021  
**Supersedes:** 103,5431  
**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: 3" (75 mm) Discharge: 2.5" (65 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

See file no. 43,50 for standard mechanical seal details as indicated below

Armstrong seal reference number

c1 (a)  Others: \_\_\_\_\_

### DEPM MOTOR AND CONTROL DATA

**HP:** 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.

## 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

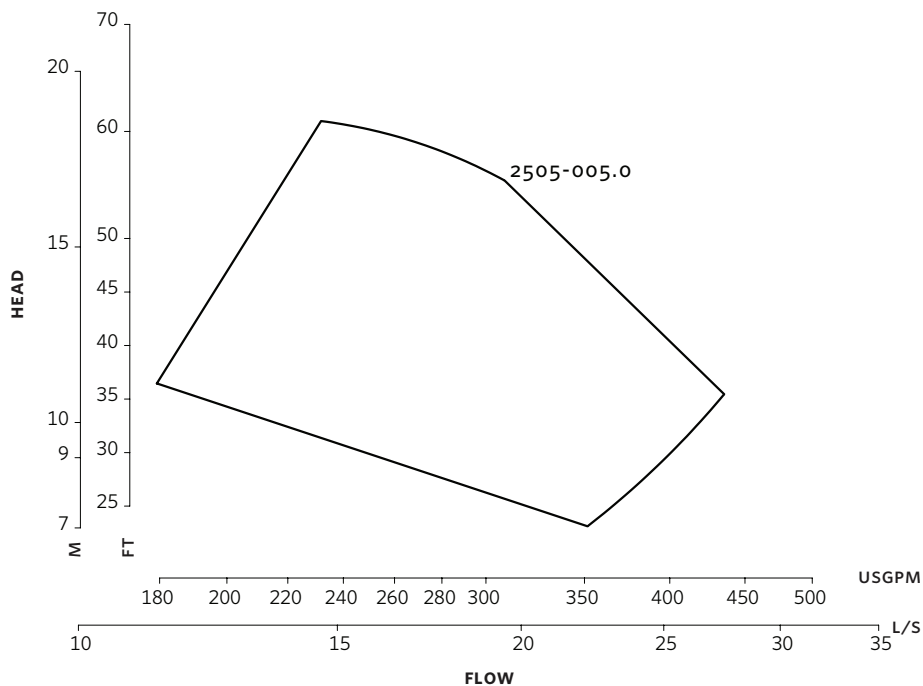


Online service for sustained pump performance and enhanced reliability.

Available in 3 or 5 year terms

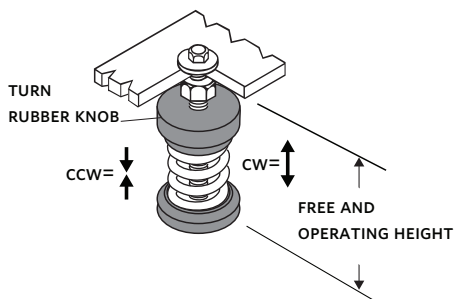
\* Requires an internet connection to be provided by building

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

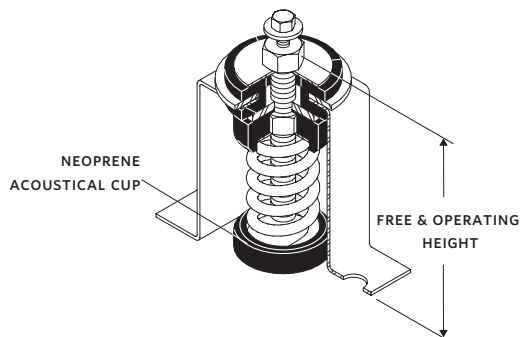


Performance curves are for reference only.  
Confirm current performance data with Armstrong ADEPT Quote or ADEPT Select selection software.

**STANDARD**



**SEISMIC MOUNT OPTION**



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

**DIMENSION DATA**

**STANDARD**

<b>Size:</b>	3×2.5×5
<b>HP:</b>	5
<b>RPM:</b>	3000
<b>HA:</b>	10.32 (262)
<b>HD:</b>	8.75 (222)
<b>HI:</b>	21.08 (535)
<b>HV:</b>	8.19 (208)
<b>X:</b>	7.00 (178)
<b>Y:</b>	4.00 (102)
<b>Free &amp; operating height:</b>	3.75 (95)
<b>Weight:</b>	95 (43.0)

**SPRING DATA**

<b>Rated Capacity per spring lbs (kgs):</b>	76 (35.0)
<b>Rated Deflection inch (mm):</b>	1.02 (26)
<b>Mount Constant lbs/in (kg/mm):</b>	73 (1.3)

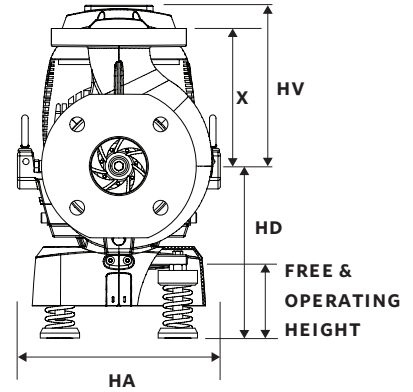
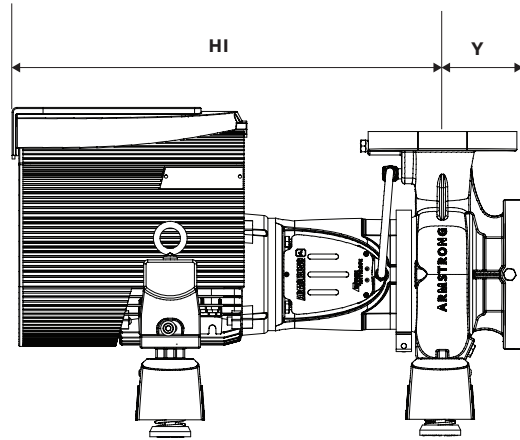
**SEISMIC MOUNT OPTION**

<b>ZE:</b>	5.75 (146)
<b>F:</b>	4.00 (102)
<b>G:</b>	6.00 (152)
<b>H:</b>	0.50 (12)
<b>HA:</b>	10.32 (262)
<b>HD:</b>	10.00 (254)
<b>N:</b>	9.22 (235)
<b>Free &amp; operating height:</b>	5.00 (127)
<b>Max. horizontal static G rating:</b>	4.7

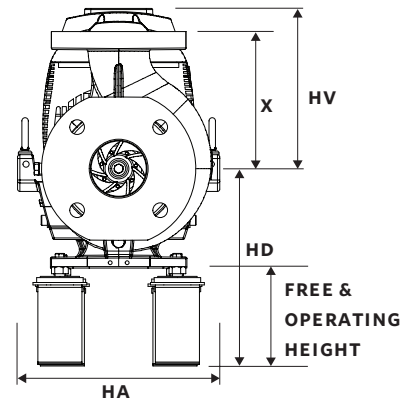
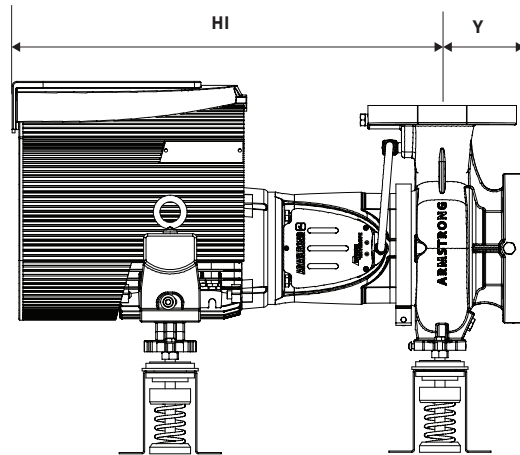
Dimensions - inch (mm)  
Weight - lbs (kg)

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

STANDARD



SEISMIC MOUNT OPTION



TORONTO  
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BUFFALO  
+1 716 693 8813

BIRMINGHAM  
+44 (0) 8444 145 145

MANCHESTER  
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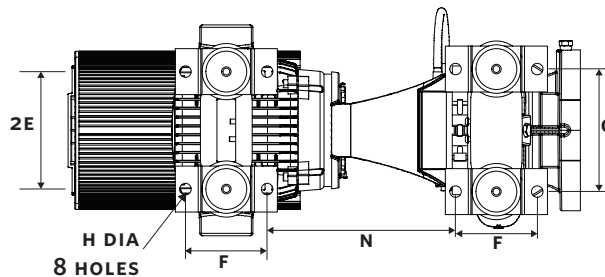
BANGALORE  
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