

**DESIGN ENVELOPE 4200H END SUCTION** |  
**2x1.5x5 (40-125) | 1505H-002.0 | SUBMITTAL**

**File No:** 103.5443  
**Date:** NOVEMBER 08, 2021  
**Supersedes:** NEW  
**Date:** NEW

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**

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:** 2  
**RPM:** 3000  
**Motor enclosure:** TEFC  
**Volts /Phase:**  200-240V/1ph     380-480V/3ph  
 For 200-240V/3ph or 575V/3ph, see File #: 103.5407  
**Efficiency:** IE5  
**Protocol (standard):**  BACnet™ MS/TP     BACnet™ TCP/IP  
 Modbus RTU  
**Control enclosure:**  Indoor - UL TYPE 12  
**Fused disconnect switch:** See File 100.8131  
**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 +40°C up to 1000 meters above sea level (+14°F to +104°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

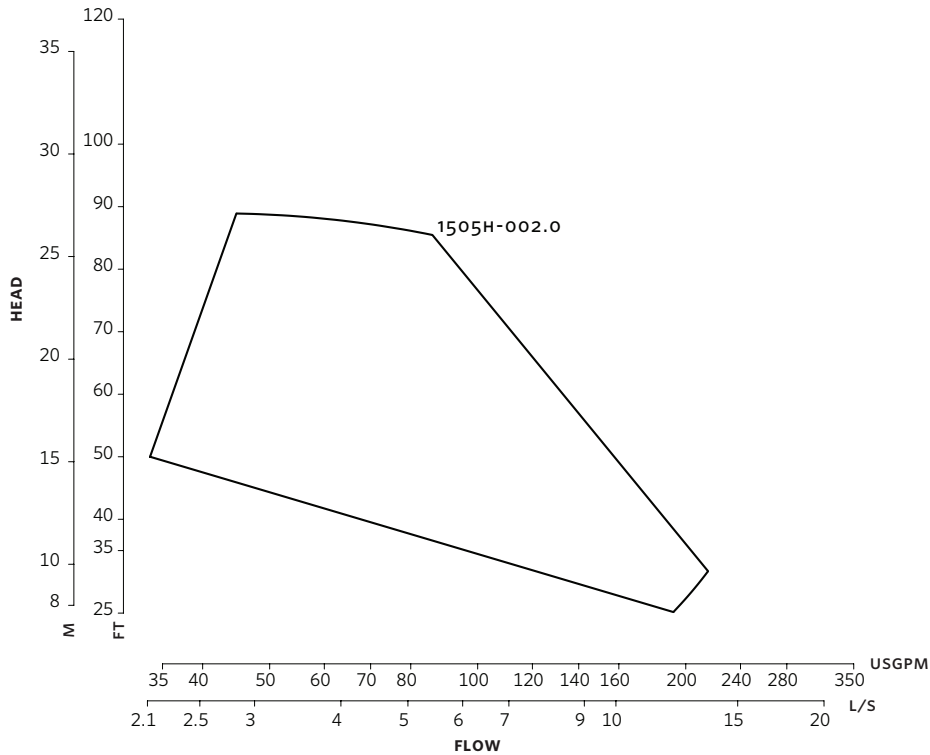


Online service for sustained pump performance and enhanced reliability.

Available in 3 or 5 year terms

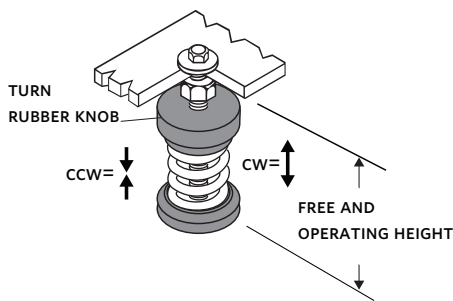
\* Requires an internet connection to be provided by building

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

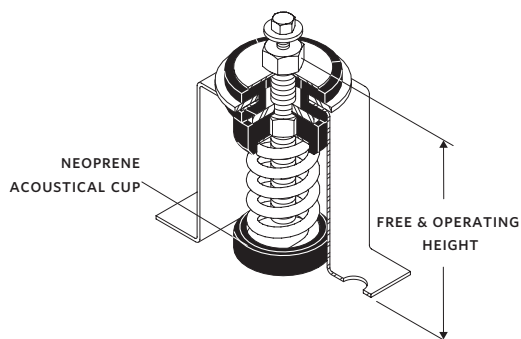


Performance curves are for reference only.  
Confirm current performance data with Armstrong ADEPT Quote or ADEPT Select selection software.

**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>                        | 2×1.5×5     |
| <b>HP:</b>                          | 2           |
| <b>RPM:</b>                         | 3000        |
| <b>Frame:</b>                       | 71          |
| <b>HA:</b>                          | 10.32 (262) |
| <b>HD:</b>                          | 8.75 (222)  |
| <b>HI:</b>                          | 17.17 (436) |
| <b>HV:</b>                          | 5.97 (152)  |
| <b>X:</b>                           | 7.00 (178)  |
| <b>Y:</b>                           | 4.00 (102)  |
| <b>Free &amp; operating height:</b> | 3.75 (95)   |
| <b>Weight:</b>                      | 71 (32.0)   |

**SPRING DATA**

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

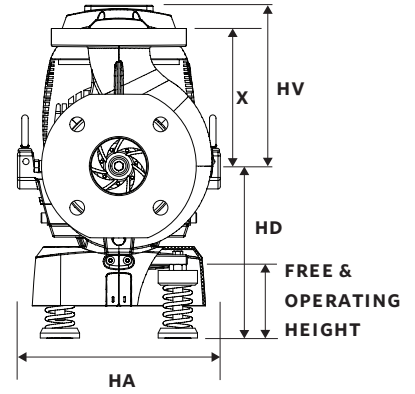
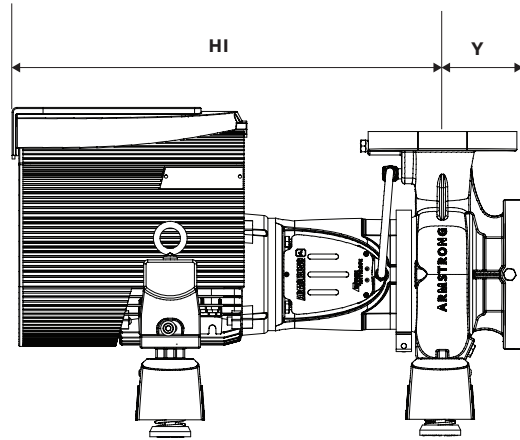
**SEISMIC MOUNT OPTION**

|   |             |
|---|-------------|
| <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>                               | 7.19 (183)  |
| <b>Free &amp; operating height:</b>     | 5.00 (127)  |
| <b>Max. horizontal static G rating:</b> | 6.7         |

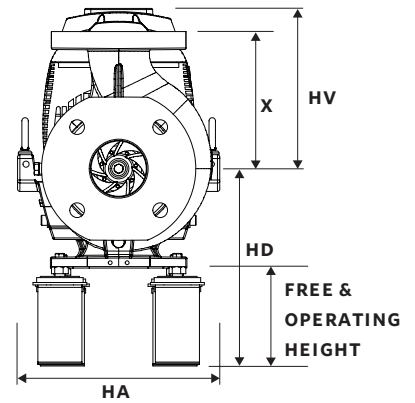
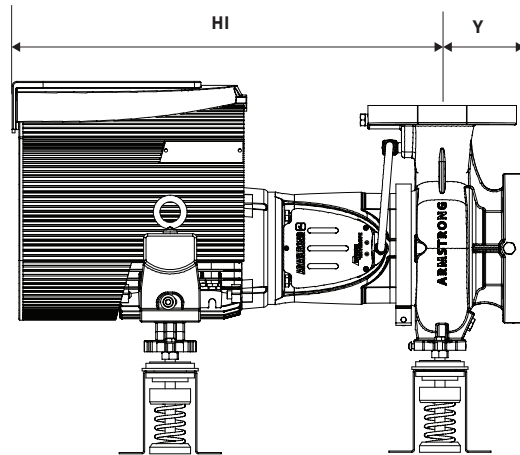
Dimensions - inch (mm)  
Weight - lbs (kg)

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

STANDARD



SEISMIC MOUNT OPTION



TORONTO  
+1 416 755 2291

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+1 716 693 8813

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+44 8444 145 145

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