

## DESIGN ENVELOPE 4322 TANGO | 1.25x1.25x5 (32-125) | 1205-001.0 | SUBMITTAL

File No: 102.5071  
 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: \_\_\_\_\_  
 Total system design flow: \_\_\_\_\_ USgpm(L/s)  
 Head: \_\_\_\_\_ ft(m) Capacity split \_\_\_\_\_ %  
 Flow per pump head: \_\_\_\_\_ USgpm(L/s)  
 Parallel flow: \_\_\_\_\_ USgpm(L/s)  
 Liquid: \_\_\_\_\_ Viscosity: \_\_\_\_\_  
 Temperature: \_\_\_\_\_ °F (°C) Specific gravity: \_\_\_\_\_  
 Suction: 1.25" (32 mm) Discharge: 1.25" (32 mm)

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

**Test report is supplied with each pump**

### MATERIALS OF CONSTRUCTION

- ANSI 125**  
 CONSTRUCTION: LPDEF  
 E-coated ductile iron A536 Gr 65-45-12, stainless fitted
- ANSI 250**  
 CONSTRUCTION: HPDEF  
 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:** 1  
**RPM:** 3600  
**Motor enclosure:** TEFC  
**Volts /Phase:**  200-240V/1ph     380-480V/3ph  
 For 200-240V/3ph or 575V/3ph, see File #: 102.5053  
**Efficiency:** IE5  
**Orientation:** Standard  
**Protocol (standard):**  BACnet™ MS/TP     BACnet™ TCP/IP  
 Modbus RTU  
**Control enclosure:**  Indoor - UL TYPE 12  
 Outdoor - UL TYPE 12, tested to TYPE 4X  
**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



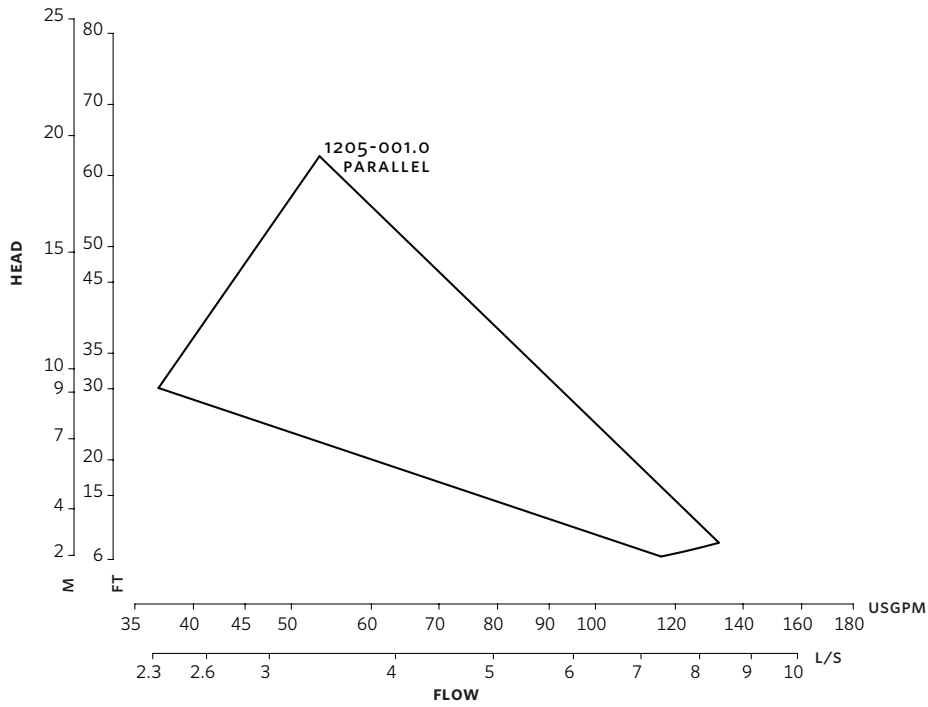
Online service for sustained pump performance and enhanced reliability.

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)

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**DIMENSION DATA**

	INDOOR (UL TYPE 12/TEFC)	OUTDOOR (UL TYPE 4X/TEFC)
<b>Size:</b>	1.25×1.25×5	1.25×1.25×5
<b>HP:</b>	1	1
<b>RPM:</b>	3600	3600
<b>Frame:</b>	71	71
<b>AB:</b>	16.88 (429)	18.01 (457)
<b>B1:</b>	5.83 (148)	5.83 (148)
<b>B2:</b>	5.83 (148)	5.83 (148)
<b>C1:</b>	11.00 (279)	11.00 (279)
<b>C2:</b>	11.00 (279)	11.00 (279)
<b>CI:</b>	-	2.75 (70)
<b>D:</b>	4.00 (102)	4.00 (102)
<b>E:</b>	5.97 (152)	6.39 (162)
<b>S:</b>	7.02 (178)	7.02 (178)
<b>SD:</b>	11.02 (280)	11.02 (280)
<b>T:</b>	3.52 (89)	3.52 (89)
<b>Weight:</b>	113 (51.2)	113 (51.2)

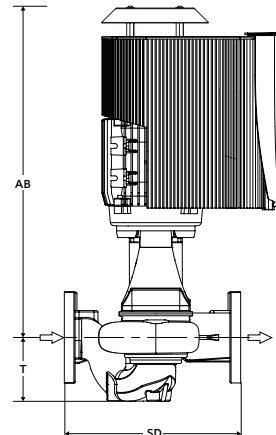
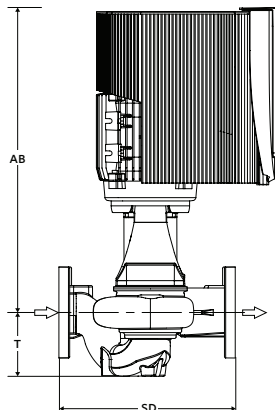
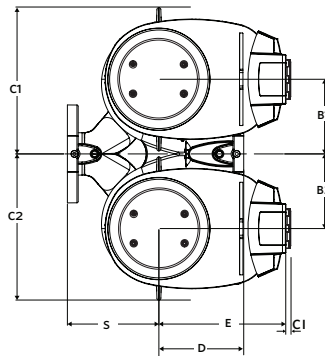
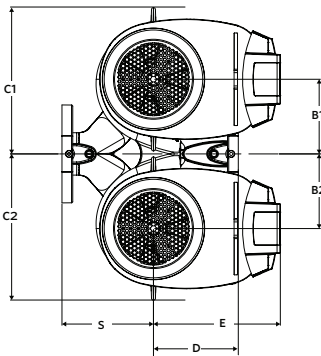
Dimensions - inch (mm)  
Weight - lbs (kg)

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

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

**INDOOR**

**OUTDOOR**



**TORONTO**

23 BERTRAND AVENUE  
TORONTO, ONTARIO  
CANADA, M1L 2P3  
+1 416 755 2291

**BUFFALO**

93 EAST AVENUE  
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ARMSTRONG FLUID TECHNOLOGY  
ESTABLISHED 1934

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