

## DESIGN ENVELOPE 4322 TANGO | 32-125 (1.25x1.25x5) | 3212-001.1 | SUBMITTAL

File No: 102.5072IEC  
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: \_\_\_\_\_ L/s (USgpm)

Head: \_\_\_\_\_ m (ft) Capacity split \_\_\_\_\_ %

Flow per pump head: \_\_\_\_\_ L/s (USgpm)

Parallel flow: \_\_\_\_\_ L/s (USgpm)

Liquid: \_\_\_\_\_ Viscosity: \_\_\_\_\_

Temperature: \_\_\_\_\_ °C (°F) Specific gravity: \_\_\_\_\_

Suction: 32 mm (1.25") Discharge: 32 mm (1.25")

MEI ≥ 0.70

### MATERIALS OF CONSTRUCTION

**PN 16**

CONSTRUCTION: LPDEF

E-coated ductile iron A536 Gr 65-45-12, stainless fitted

**PN 25**

CONSTRUCTION: HPDEF

E-coated ductile iron A536 Gr 120-90-2, stainless fitted

### MAXIMUM PUMP OPERATING CONDITIONS

**PN 16**

16 bars at 49°C (232 psig at 120°F)

7 bars at 150°C (100 psig at 300°F)

**PN 25**

25 bars at 65°C (362 psig at 149°F)

21 bars at 150°C (304 psig at 300°F)

### MECHANICAL SEAL DESIGN DATA

See file no. 43.50 for standard mechanical seal details as indicated below

Armstrong seal reference number

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

### 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.

### DEPM MOTOR AND CONTROL DATA

**kW:** 1.1

**RPM:** 3600

**Motor enclosure:** TEFC

**Volts /Phase:**  200-240V/1ph  380-480V/3ph  
For 200-240V/3ph or 575V/3ph,  
see File #: 102.5055IEC

**Efficiency:** IE5

**Orientation:** Standard

**Protocol (standard):**  BACnet™ MS/TP

BACnet™ TCP/IP

Modbus RTU

**Control enclosure:**  Indoor - IP 55

Outdoor - IP 66

**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.

## 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 \_\_\_\_\_ m (ft)

\* 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 \_\_\_\_\_ m (ft)

\* 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 \_\_\_\_\_ L/s (gpm)

\*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 \_\_\_\_\_ L/s (gpm)

\*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 \_\_\_\_\_ L/s (gpm) at \_\_\_\_\_ m (ft)

Minimum system pressure to be maintained \_\_\_\_\_ m (ft)

#### Heating

Duty point \_\_\_\_\_ L/s (gpm) at \_\_\_\_\_ m (ft)

Minimum system pressure to be maintained \_\_\_\_\_ m (ft)

\*Available in single pump operation only

## OPTIONAL SERVICES

### ON-SITE PUMP COMMISSIONING



### PUMP MANAGER

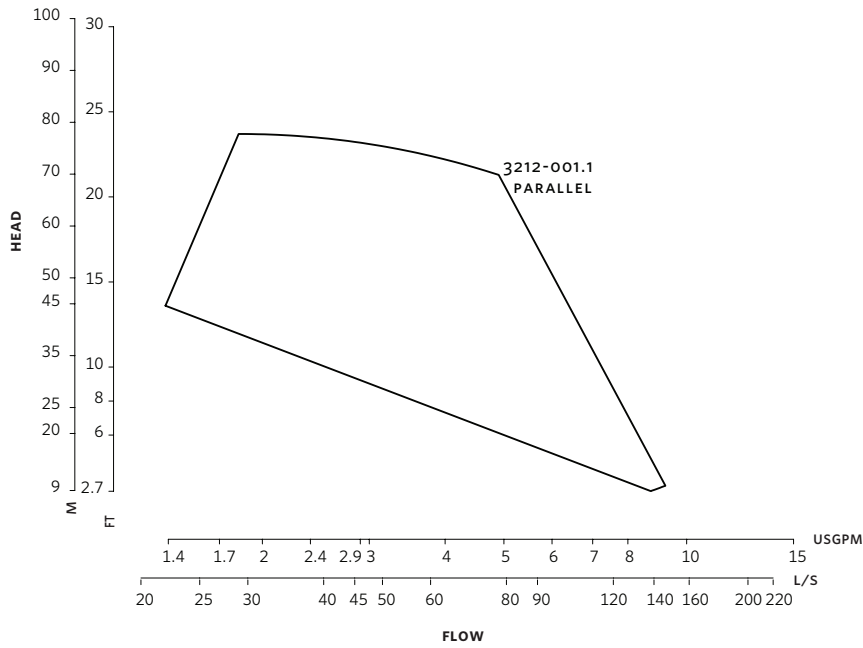


Online service for sustained pump performance and enhanced reliability.

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)



**DIMENSION DATA**

|                | INDOOR<br>(IP55/TEFC) | OUTDOOR<br>(IP66/TEFC) |
|----------------|-----------------------|------------------------|
| <b>Size:</b>   | 32-125                | 32-125                 |
| <b>kW:</b>     | 1.1                   | 1.1                    |
| <b>RPM:</b>    | 3600                  | 3600                   |
| <b>Frame:</b>  | 71                    | 71                     |
| <b>AB:</b>     | 429 (16.89)           | 457 (17.99)            |
| <b>B1:</b>     | 148 (5.83)            | 148 (5.83)             |
| <b>B2:</b>     | 148 (5.83)            | 148 (5.83)             |
| <b>C1:</b>     | 279 (11.00)           | 279 (11.00)            |
| <b>C2:</b>     | 279 (11.00)           | 279 (11.00)            |
| <b>CI:</b>     | -                     | 70 (2.75)              |
| <b>D:</b>      | 102 (4.00)            | 102 (4.00)             |
| <b>E:</b>      | 152 (5.98)            | 162 (6.38)             |
| <b>S:</b>      | 178 (7.02)            | 178 (7.02)             |
| <b>SD:</b>     | 280 (11.02)           | 280 (11.02)            |
| <b>T:</b>      | 89 (3.52)             | 89 (3.52)              |
| <b>Weight:</b> | 51.0 (113)            | 51.0 (113)             |

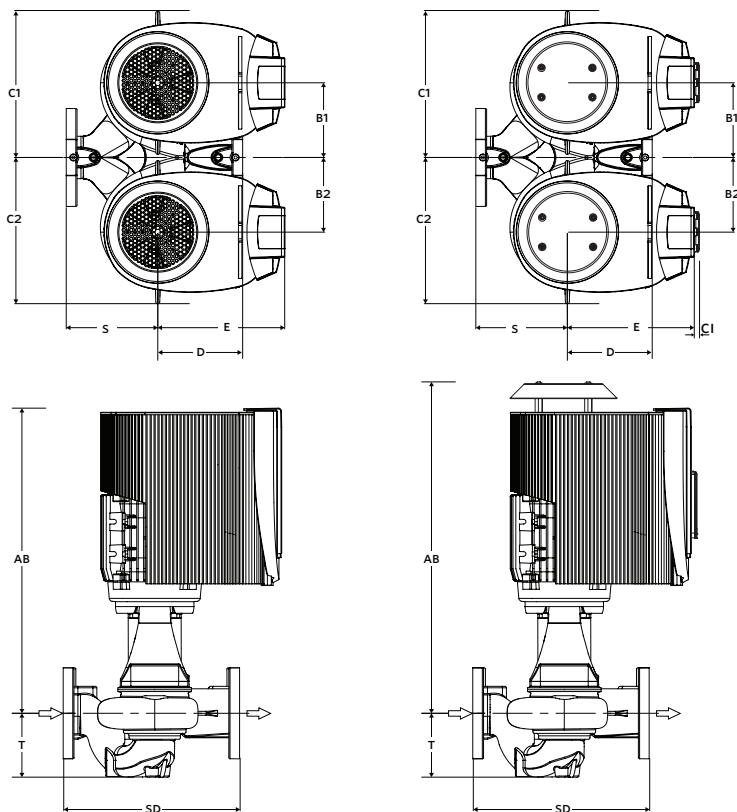
Dimensions - mm (inch)  
Weight - kg (lbs)

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

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

**INDOOR**

**OUTDOOR**



**TORONTO**

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

**BUFFALO**

93 EAST AVENUE  
NORTH TONAWANDA, NEW YORK  
U.S.A., 14120-6594  
+1 716 693 8813

**DROITWICH SPA**

POINTON WAY,  
STONEBRIDGE CROSS BUSINESS PARK  
DROITWICH SPA, WORCESTERSHIRE  
UNITED KINGDOM, WR9 0LW  
+44 8444 145 145

**MANCHESTER**

WOLVERTON STREET  
MANCHESTER  
UNITED KINGDOM, M11 2ET  
+44 8444 145 145

**BANGALORE**

#59, FIRST FLOOR, 3RD MAIN  
MARGOSA ROAD, MALLESWARAM  
BANGALORE, INDIA, 560 003  
+91 80 4906 3555

**SHANGHAI**

UNIT 903, 888 NORTH SICHUAN RD.  
HONGKOU DISTRICT, SHANGHAI  
CHINA, 200085  
+86 21 5237 0909

**SÃO PAULO**

RUA JOSÉ SEMIÃO RODRIGUES AGOSTINHO,  
1370 GALPÃO 6 EMBU DAS ARTES  
SAO PAULO, BRAZIL  
+55 11 4785 1330

**LYON**

93 RUE DE LA VILLETTE  
LYON, 69003 FRANCE  
+33 4 26 83 78 74

**DUBAI**

JAFZA VIEW 19, OFFICE 402  
P.O.BOX 18226 JAFZA,  
DUBAI - UNITED ARAB EMIRATES  
+971 4 887 6775

**MANNHEIM**

DYNAMOSTRASSE 13  
68165 MANNHEIM  
GERMANY  
+49 621 3999 9858

**JIMBOLIA**

STR CALEA MOTILOR NR. 2C  
JIMBOLIA 305400, JUD.TIMIS  
ROMANIA  
+40 256 360 030

ARMSTRONG FLUID TECHNOLOGY  
ESTABLISHED 1934

ARMSTRONGFLUIDTECHNOLOGY.COM