ARMSTRONG

# DESIGN ENVELOPE 4322 TANGO

## 50–125 (2×2×5) | 5012–007.5 | SUBMITTAL

**File No:** 102.5013IEC
**Date:** APRIL 18, 2018
**Supersedes:** 102.5013IEC
**Date:** FEBRUARY 13, 2018

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: 50 mm (2") Discharge: 50 mm (2")

MEI ≥ 0.70

### MATERIALS OF CONSTRUCTION

☐ **PN 16**
**CONSTRUCTION: LPDESF**
E-coated ductile iron A536 Gr 65-45-12, stainless fitted

☐ **PN 25**
**CONSTRUCTION: HPDESF**
E-coated ductile iron A536 Gr 120-90-2, stainless fitted

### MAXIMUM PUMP OPERATING CONDITIONS

☐ **PN 16**
16 bar at 49°C (232 psig at 120°F)
7 bar at 150°C (100 psig at 300°F)

☐ **PN 25**
25 bar at 65°C (362 psig at 149°F)
21 bar 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.

### iECM MOTOR AND CONTROL DATA

**kW:** 7.5
**RPM:** 4500
**Motor enclosure:** TEFC
**Volts:** _____
**Phase:** 3
**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:** 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.

## 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 (STANDARD)

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

### ☐ 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

Maximum flow rate _____ L/s (gpm)

*Only available if sensorless bundle is enabled

### ☐ ZONE OPTIMIZATION BUNDLE

Controls pumps to ensure multiple zones are satisfied for heating or cooling

- **2 sensor control –** Controls pumps in a 2-zone application to ensure both zones are always satisfied for heating or cooling

### ☐ 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)

## OPTIONAL SERVICES

### ON-SITE PUMP COMMISSIONING

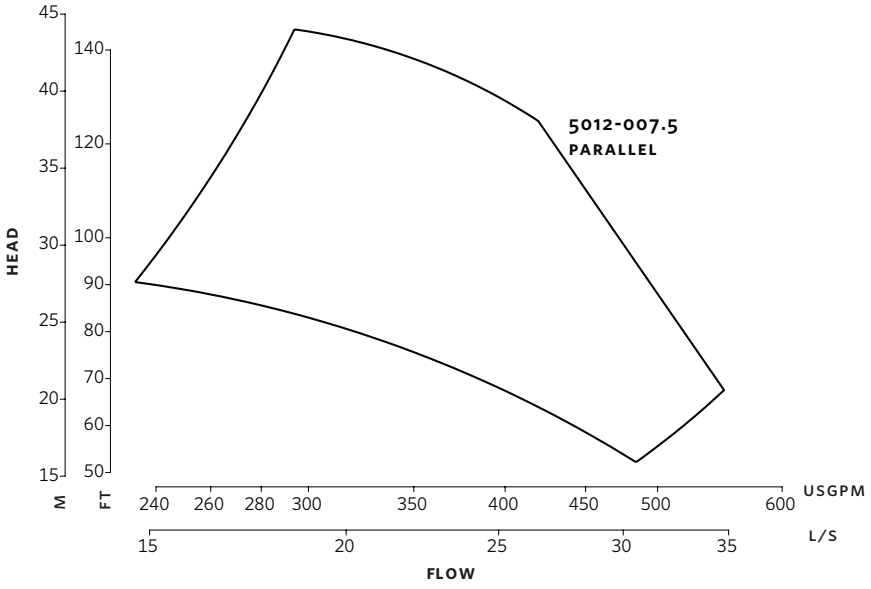
### PUMP MANAGER

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 ACE Online selection software.

## DIMENSION DATA

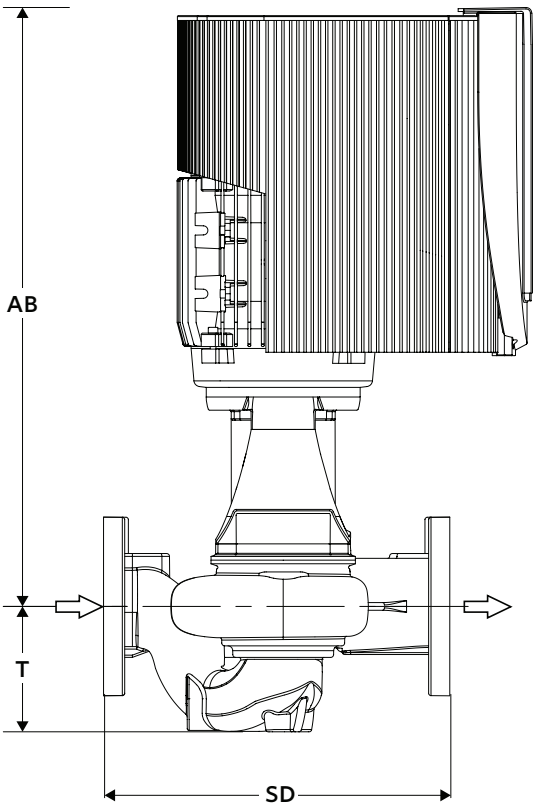
**INDOOR** (IP 55/TEFC)

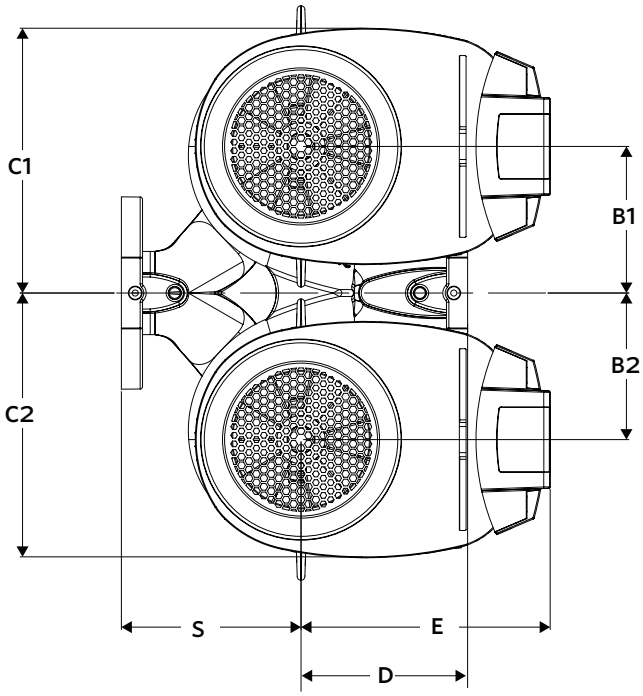
| | |
|---|---|
| **Size:** | 50–125 |
| **kW:** | 7.5 |
| **RPM:** | 4500 |
| **AB:** | 616 (24.24) |
| **B1:** | 140 (5.50) |
| **B2:** | 140 (5.50) |
| **C1:** | 235 (9.26) |
| **C2:** | 236 (9.28) |
| **D:** | 199 (7.83) |
| **E:** | 191 (7.54) |
| **S:** | 132 (5.19) |
| **SD:** | 331 (13.02) |
| **T:** | 108 (4.27) |
| **Weight:** | 74.4 (164) |

Consult factory for **OUTDOOR** (IP 66/TEFC) dimensions

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

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



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