

## DESIGN ENVELOPE 4372 TANGO |

### 25-80 (1x1x3) | 2580-00.37 | SUBMITTAL

**File No:** 102.5153IEC  
**Date:** OCTOBER 18, 2019  
**Supersedes:** 102.5153IEC  
**Date:** FEBRUARY 14, 2019

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: 2" BSPP Discharge: 2" BSPP

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 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)

#### 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.

#### MECHANICAL SEAL DESIGN DATA

**Seal type:** 2A **Stationary seat:** Silicone carbide **Secondary seal:** EPDM **Spring:** Stainless steel **Rotating hardware:** Stainless steel

FLUID TYPE	ALL GLYCOLS > 30% WT CONC		ALL OTHER NON-POTABLE FLUIDS		POTABLE (DRINKING) WATER	
Temperature	up to 93°C / 200°F	over 93°C / 200°F	up to 93°C / 200°F	over 93°C / 200°F	up to 93°C / 200°F	over 93°C / 200°F
Rotating face	Silicone carbide		Resin bonded carbon	Antimony loaded carbon	Resin bonded carbon	
Seat elastomer	EPDM (L-cup)	EPDM (O-ring)	EPDM (L-cup)	EPDM (O-ring)	EPDM (L-cup)	EPDM (O-ring)
Material code	SCSc L EPSS 2A	SCSc O EPSS 2A	C-sc L EPSS 2A	ACSc O EPSS 2A	C-sc L EPSS 2A	C-sc O EPSS 2A

#### DEPM MOTOR AND CONTROL DATA

**kW:** 0.75\*

**RPM:** 3960

**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

\* Maximum power draw = 0.37 kW

\*\* 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



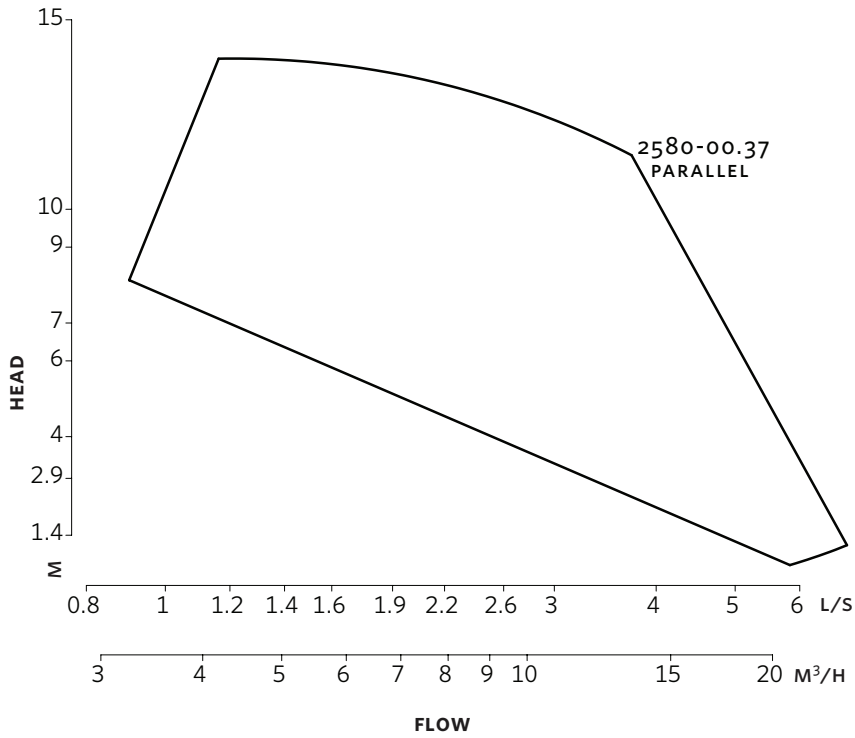
Online service for sustained pump performance and enhanced reliability.

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)

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**DIMENSION DATA**

INDOOR (IP 55/TEFC)

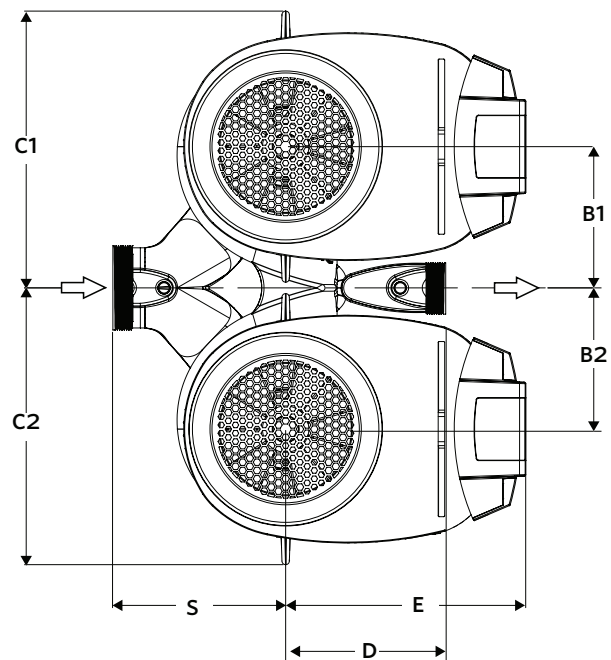
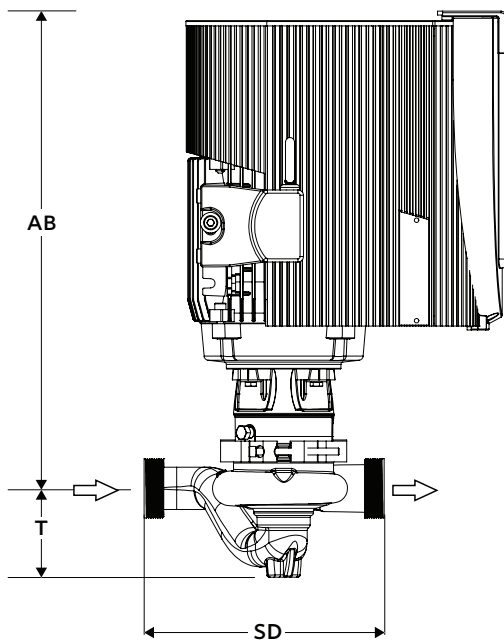
- Size:** 25-80
- kW:** 0.37
- RPM:** 3960
- Frame:** 90S
- AB:** 437 (17.21)
- B1:** 130 (5.12)
- B2:** 130 (5.12)
- C1:** 261 (10.28)
- C2:** 261 (10.28)
- D:** 90 (3.55)
- E:** 205 (8.08)
- S:** 130 (5.11)
- SD:** 220 (8.66)
- T:** 81 (3.20)
- Weight:** 49.9 (110)

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

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

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

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



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