# DESIGN ENVELOPE 4322 TANGO |
## 80–125 (3×3×5) │ 8012–004.0 │ SUBMITTAL

Job: _____

_____

Engineer: _____

Contractor: _____

Representative: _____

Order No: _____ Date: _____

Submitted by: _____ Date: _____

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: 80 mm (3") Discharge: 80 mm (3")

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)

## 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:** 4.0

**RPM:** 3000

**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

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
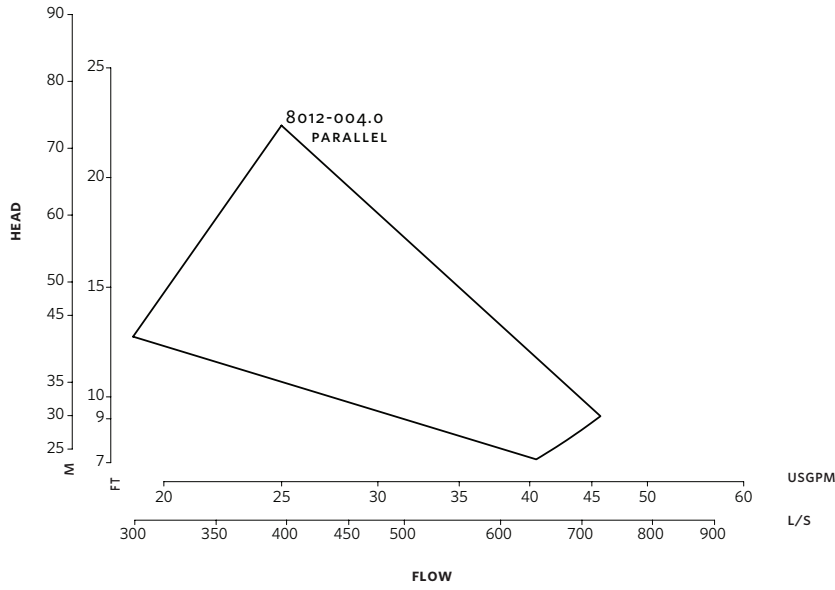
## ON-SITE PUMP COMMISSIONING

## 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)

**3**



8012-004.0
PARALLEL

HEAD

USGPM

L/S

FLOW

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

## DIMENSION DATA

| | INDOOR (IP55/TEFC) | OUTDOOR (IP66/TEFC) |
|---|---|---|
| **Size:** | 80–125 | 80–125 |
| **kW:** | 4.0 | 4.0 |
| **RPM:** | 3000 | 3000 |
| **AB:** | 532 (20.98) | 589 (23.19) |
| **B1:** | 152 (6.00) | 152 (6.00) |
| **B2:** | 152 (6.00) | 152 (6.00) |
| **C1:** | 283 (11.14) | 283 (11.14) |
| **C2:** | 283 (11.14) | 283 (11.14) |
| **CI:** | – | 127 (5.00) |
| **D:** | 173 (6.82) | 173 (6.82) |
| **E:** | 208 (8.20) | 219 (8.62) |
| **S:** | 187 (7.35) | 187 (7.35) |
| **SD:** | 360 (14.17) | 360 (14.17) |
| **T:** | 133 (5.24) | 133 (5.24) |
| **Weight:** | 92.0 (203) | 92.0 (203) |

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

### INDOOR



### OUTDOOR
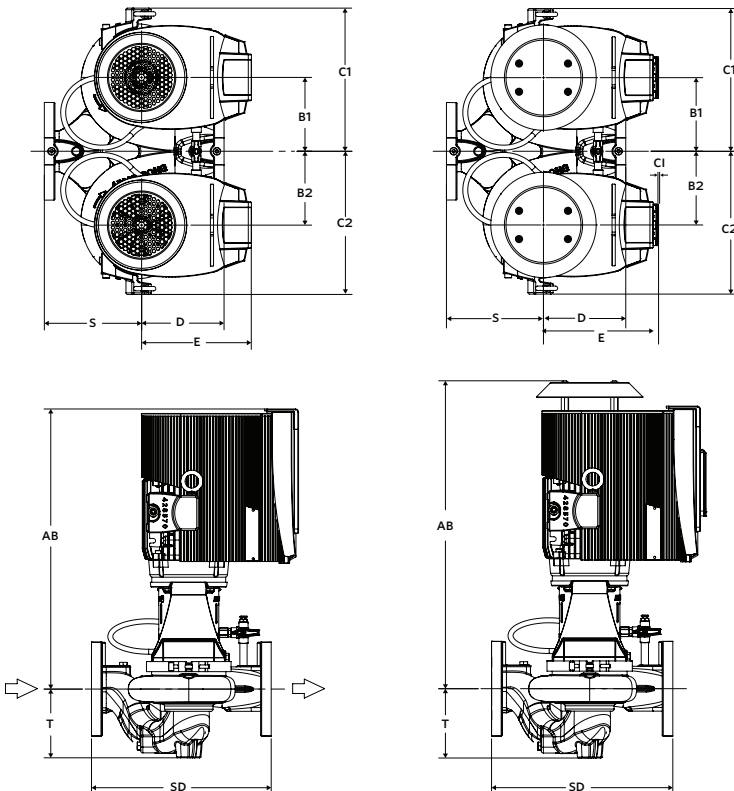
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**ARMSTRONG FLUID TECHNOLOGY**
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