

DESIGN ENVELOPE 4380 VIL | 50-125 (2x2x5) | 5012-002.2 | SUBMITTAL

File No: 101.5509IEC
Date: APRIL 18, 2018
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Date: FEBRUARY 13, 2018

Job: _____ Representative: _____
 _____ Order No: _____ Date: _____
 Engineer: _____ Submitted by: _____ Date: _____
 Contractor: _____ Approved by: _____ Date: _____

PUMP DESIGN DATA

No. of pumps: _____ Tag: _____
 Capacity: _____ L/s (USgpm) Head: _____ m (ft)
 Liquid: _____ Viscosity: _____
 Temperature: _____ °C (°F) Specific gravity: _____
 Suction: 50 mm (2") Discharge: 50 mm (2")
 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 bar at 49°C (232 psig at 120°F)
10 bar at 121°C (145 psig at 250°F)
- PN 25**
20 bar at 65°C (290 psig at 149°F)
17 bar at 121°C (247 psig at 250°F)

FLOW READOUT ACCURACY

The Design Envelope model selected will provide flow reading on the controls local keypad & digitally for the vms. 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

IECM MOTOR AND CONTROL DATA

kW: 2.2
RPM: 3000
Motor enclosure: TEFC
Volts: _____
Phase: 3
Efficiency: IE5
Orientation: L5 (default) L6
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.

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

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

□ 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

□ 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



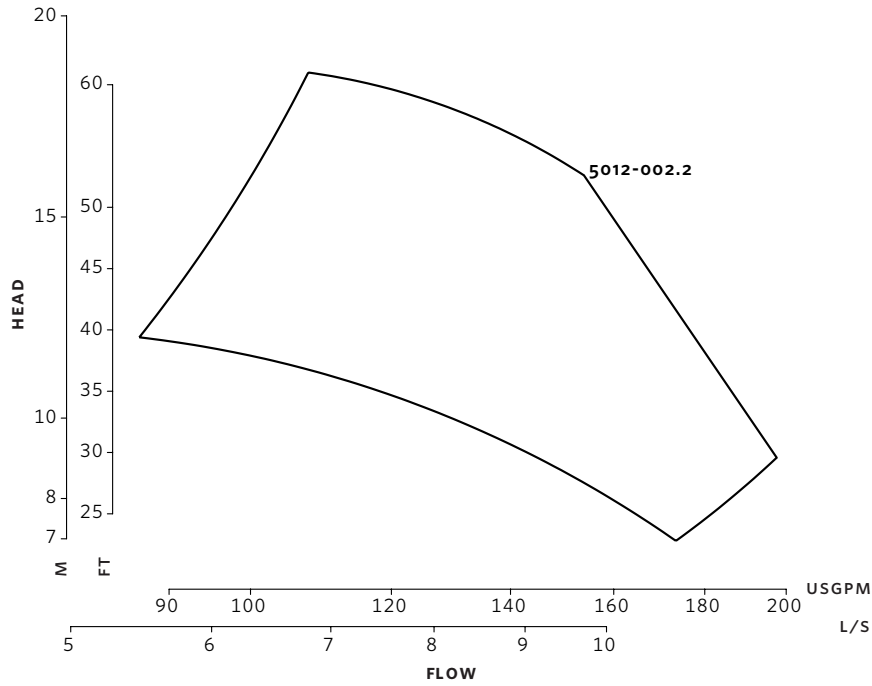
Online service for sustained pump performance and enhanced reliability.

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)

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DIMENSION DATA

INDOOR (IP 55/TEFC)

- Size:** 50-125
- kW:** 2.2
- RPM:** 3000
- AB:** 460 (18.11)
- B:** 109 (4.31)
- C:** 89 (3.49)
- D:** 154 (6.07)
- E:** 191 (7.54)
- S:** 180 (7.07)
- SD:** 334 (13.14)
- T:** 79 (3.12)
- Weight:** 34.0 (75)

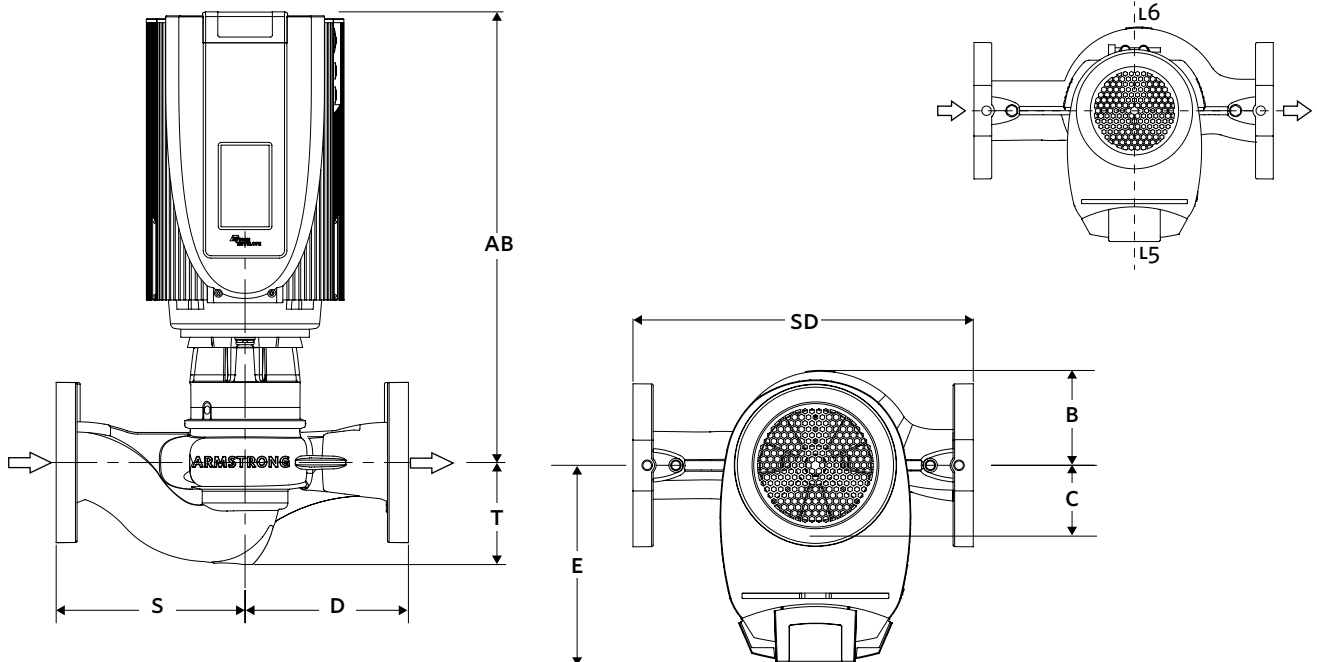
Consult factory for **OUTDOOR**
(IP 66/TEFC) dimensions

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

Performance curves are for reference only.
Confirm current performance data with Armstrong ACE Online selection software.

CONTROL ORIENTATIONS



TORONTO

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M1L 2P3
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