

DESIGN ENVELOPE 4380 VIL | 50-125 (2x2x5) | 5012-004.0 | SUBMITTAL

File No: 101.5513IEC
Date: MARCH 25, 2021
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Date: SEPTEMBER 30, 2019

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: 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 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

DEPM MOTOR AND CONTROL DATA

kW: 4.0
RPM: 3600
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
*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



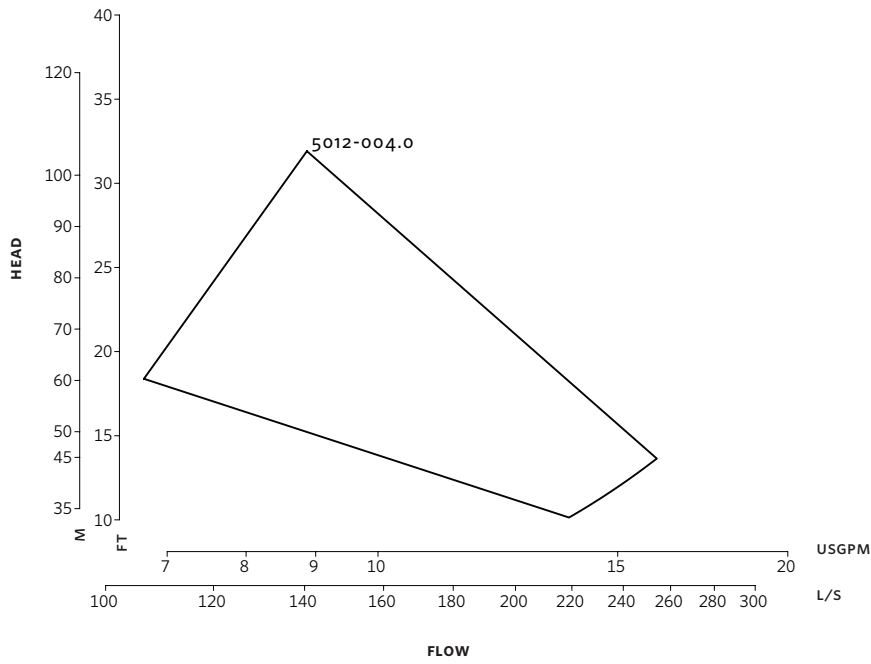
Online service for sustained pump performance and enhanced reliability.

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 (IP55/TEFC)	OUTDOOR (IP66/TEFC)
Size:	50-125	50-125
kW:	4.0	4.0
RPM:	3600	3600
AB:	460 (18.11)	516 (20.30)
B:	109 (4.31)	109 (4.31)
C:	89 (3.49)	89 (3.49)
CI:	-	127 (5.00)
D:	153 (6.02)	153 (6.02)
E:	208 (8.20)	219 (8.62)
S:	178 (7.01)	178 (7.01)
SD:	331 (13.03)	331 (13.03)
T:	79 (3.12)	79 (3.12)
Weight:	46.0 (101)	46.0 (101)

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

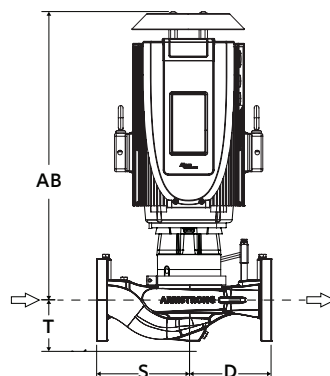
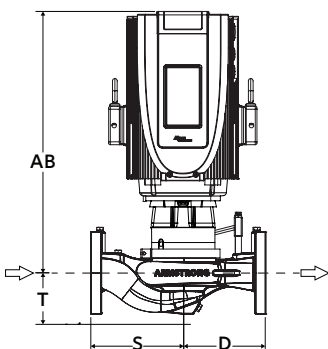
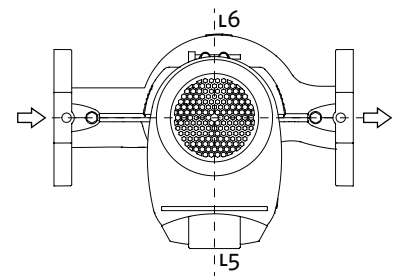
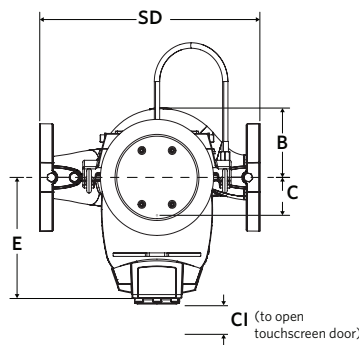
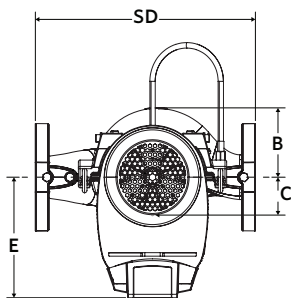
Performance curves are for reference only.
Confirm current performance data with Armstrong ADEPT Quote or ADEPT Select selection software.

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

INDOOR

OUTDOOR

CONTROL ORIENTATIONS



TORONTO

23 BERTRAND AVENUE
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