ARMSTRONG

DESIGN ENVELOPE 4380 VIL |
80–125 (3×3×5) │ 8012–007.5 │ SUBMITTAL

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: 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 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 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

iECM MOTOR AND CONTROL DATA

kW: 7.5

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	
	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
Temperature						
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 re-
mote 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
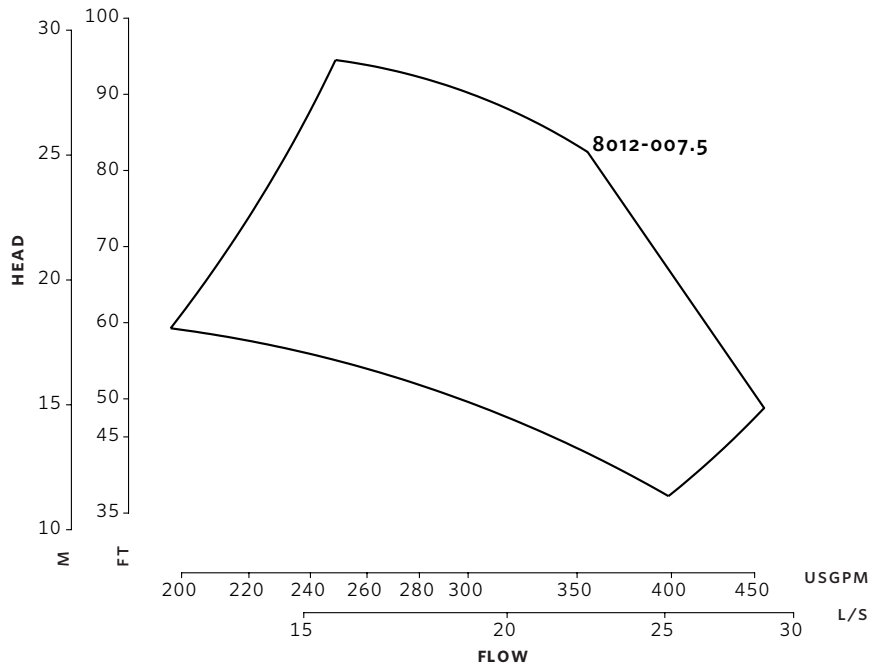
PUMP MANAGER

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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8012-007.5

DIMENSION DATA

INDOOR (IP 55/TEFC)

|	
Size:	80–125
кW:	7.5
RPM:	3600
AB:	562 (22.12)
B:	122 (4.80)
C:	93 (3.66)
D:	205 (8.06)
E:	191 (7.54)
S:	236 (9.31)
SD:	442 (17.40)
T:	127 (5.00)
Weight:	59.4 (131)

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
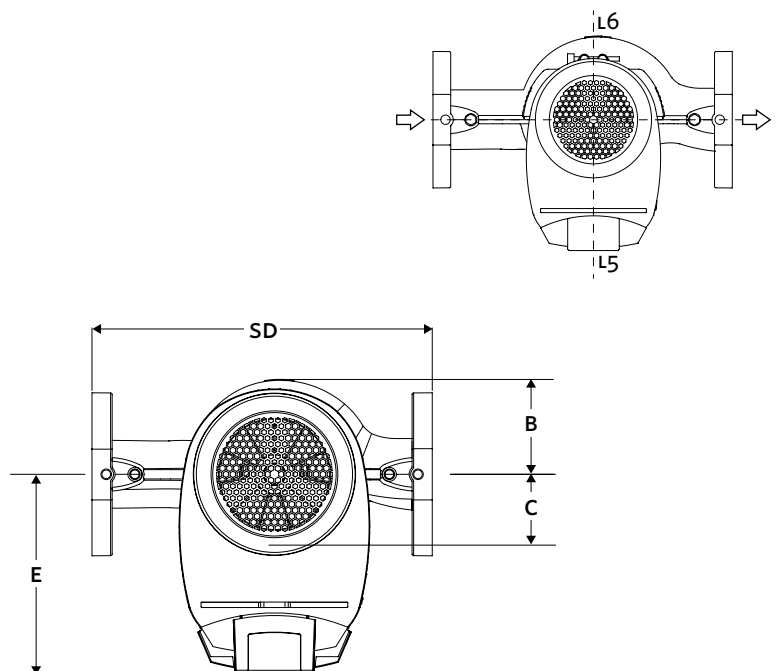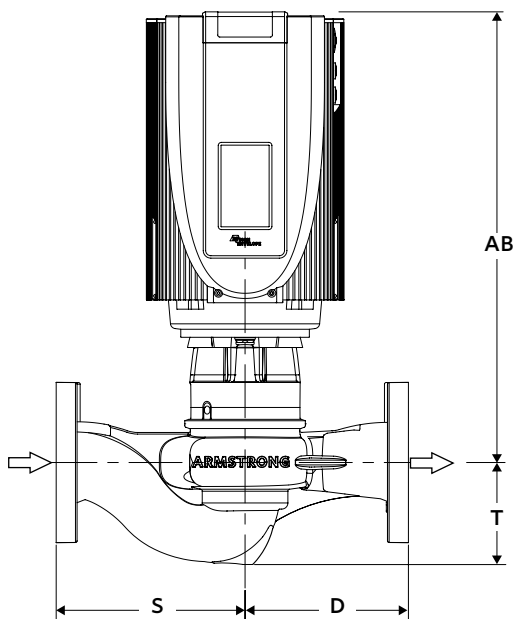
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