DESIGN ENVELOPE 4300 VIL | 50–125 (2×2×5) | 5012H–001.5 | SUBMITTAL

File No: 101.5004IEC
Date: MARCH 25, 2021
Supersedes: 101.5004IEC
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)

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:	1.5
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.

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

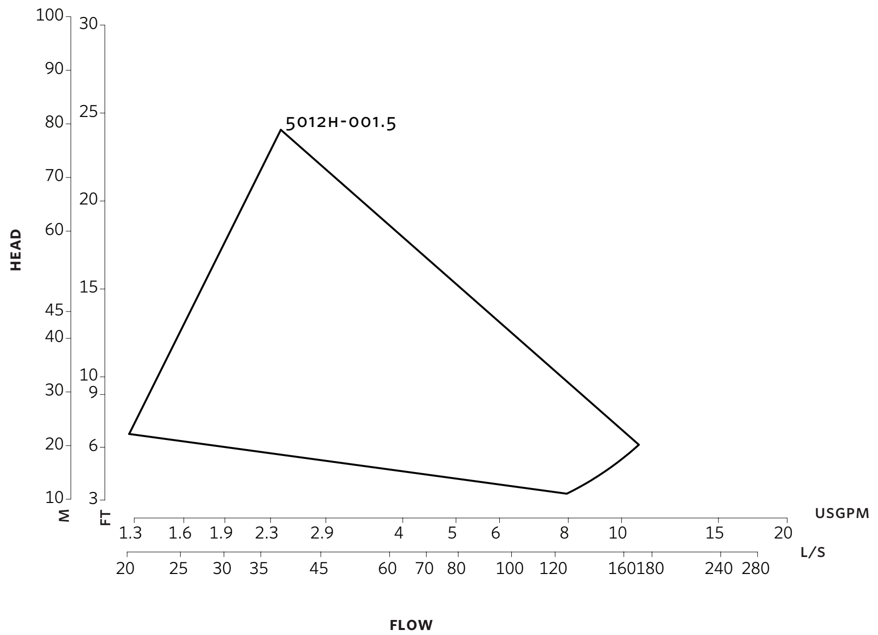
ON-SITE PUMP COMMISSIONING

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)



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

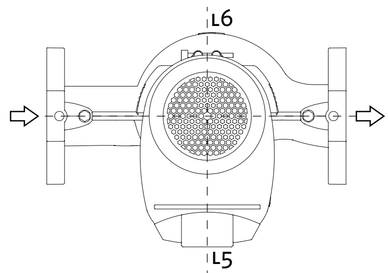
DIMENSION DATA

	INDOOR (IP55/TEFC)	OUTDOOR (IP66/TEFC)
Size:	50–125	50–125
kW:	1.5	1.5
RPM:	3000	3000
AB:	521 (20.51)	577 (20.71)
B:	109 (4.30)	109 (4.30)
C:	89 (3.50)	89 (3.50)
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:	40.0 (88)	40.0 (88)

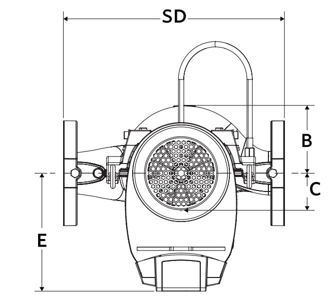
Dimensions – mm (inch)
Weight – kg (lbs)

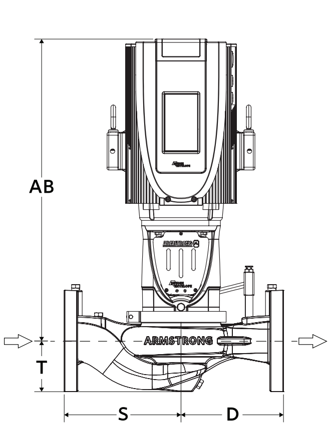
- Tolerance of ±3 mm (±0.125") should be used
- For exact installation, data please write factory for certified dimensions

CONTROL ORIENTATIONS

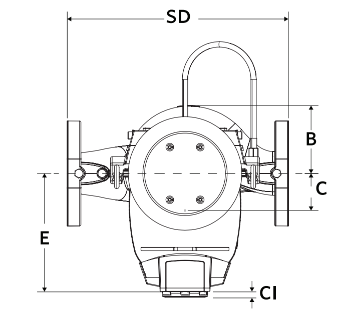


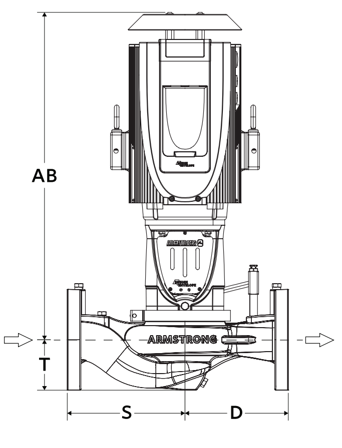
INDOOR





OUTDOOR





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