

ARMSTRONG



Motor Mounted Centrifugal Pumps

FILE NO:	42.11L
DATE:	Jan. 24, 2011
SUPERSEDES:	42.11L
DATE:	Nov. 14, 2007

► Casing

Radially-split casing with center-line discharge can be left in the line while servicing the pump, eliminating needless disconnecting of pipes. Tapped openings are provided for draining and gauge connections. Double volute design where radial loads demand. Center-line discharge allows self venting preventing possible pump failures due to vapor lock.

► Impeller

Balanced impeller designed with balancing chamber and pressure relief holes in the impeller reduce axial thrusts to a minimum, ensuring smooth performance and long life.

► Motor

The motor is equipped with heavy duty, grease-lubricated ball bearings adequately rated to accommodate impeller radial loads and residual hydraulic thrusts.

► Motor Riser Option

► Mechanical Seal

Self-lubricating mechanical seal prevents liquid seepage. A carbon face rotating against a stationary O-ring silicone carbide seat provides positive sealing up to full design pressure. Higher temperature construction also available.

► Bracket

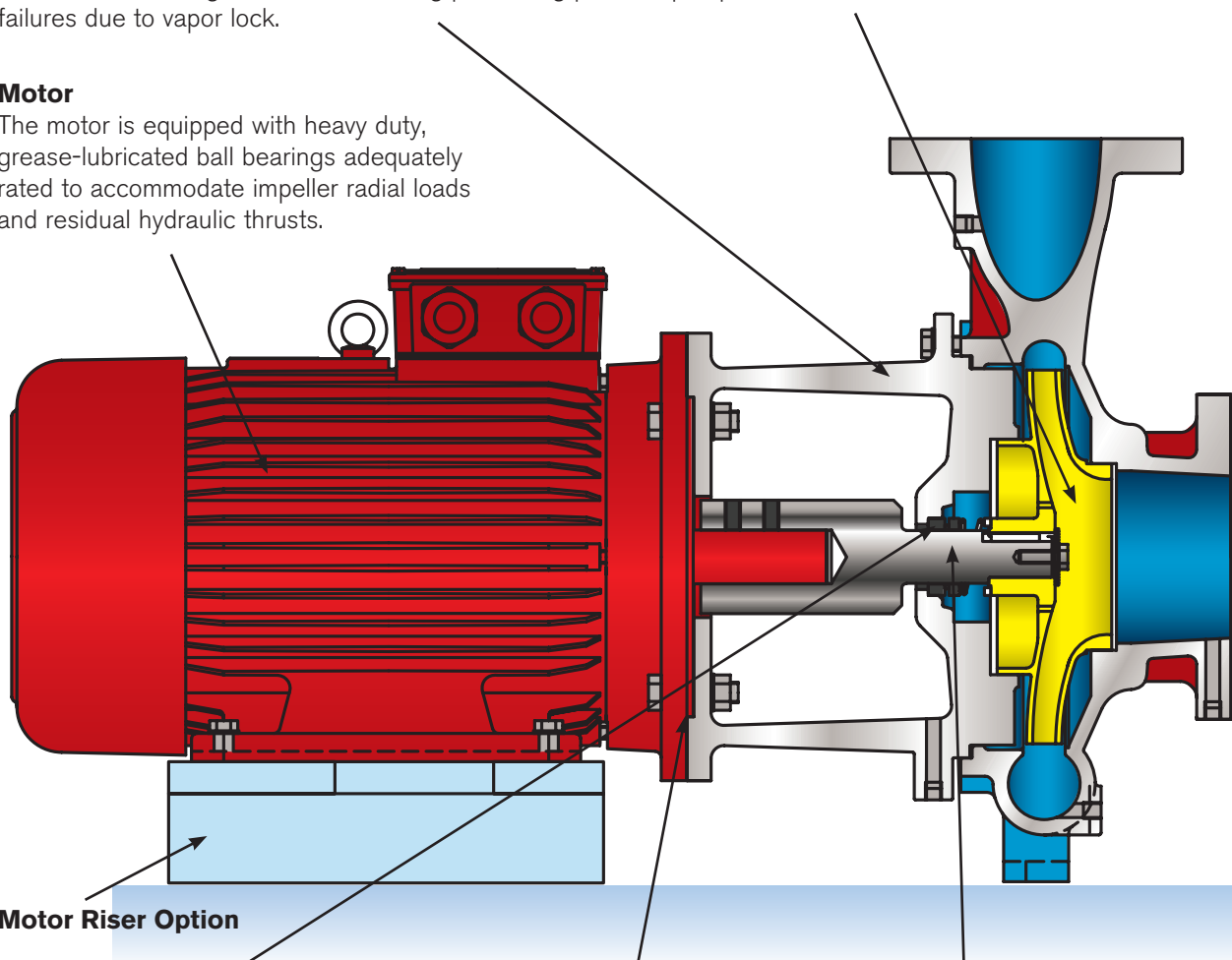
A heavy cylindrical bracket with 360 degree register on both flanges provides a rigid union of pump and motor and establishes perfect alignment.

► Shaft

The impeller is mounted on an extension of the motor shaft with minimum overhang. A stainless steel shaft sleeve affords protection in the wetted area.

► Design Features

- Easy maintenance due to back pull-out design.
- Extensive interchangeability of parts.
- Manufactured and inspected to rigid standards.
- Quiet operation.
- Self venting center-line discharge.
- Confined casing gasket.
- Drilled and tapped gauge connections are standard on suction and discharge ports.
- Mount with motor feet, or motor and pump feet for convenience.



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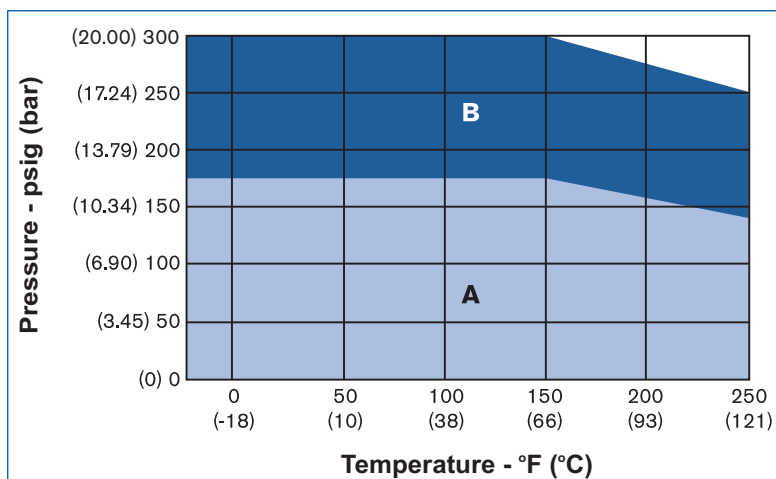
► Materials of Construction

Pump	Flange Rating (bar)	Motor Frame	Construction	Casing	Impeller	Capscrew (Impeller)	Washer (Impeller)	Gasket (Casing)	Adapter Bracket	Motor Shaft	Shaft Sleeve	Water Slinger	Seal Washer	Seal Seat	Seal Hardware	Seal Elastomer	Seal Spring
4280	16	JM/JP	BF	CI	BZ	SS-5	SS-2	F	CI	S	SS-5	N	C	SiC	SS-2	EP	SS-5
	16	JM/JP	AI	CI	CI	SS-5	SS-2	F	CI	S	SS-5	N	C	SiC	SS-2	EP	SS-5
	16	JM/JP	AB	BZ	BZ	SS-5	SS-2	F	BZ	S	SS-5	N	C	SiC	SS-2	EP	SS-5

* Silicone Carbide seals supplied on 1.25" diameter shaft pumps.

Materials of Construction Code	Materials Specification
BF - Bronze Fitted	BR - Hard Brass Tubing ASTM B111.687
AI - All Iron	BZ - Cast Bronze ASTM B584 Grade C84400
AB - All Bronze	CI - Cast Iron ASTM A48 Class 30
DBF - Bronze Fitted, Ductile Casing and Adapter Bracket	C - Carbon
	DI - Cast Ductile Iron ASTM A536 Grade 65-45-12
	EP - EPDM elastomer
	F - Fiber
	S - Carbon Steel
	SiC - Silicone Carbide
	SS-2 - ASTM A564 Type 18-8
	SS-5 - AISI 1010-1018 Type 316
	TC - Tungsten Carbide

► Pressure/Temperature Chart Series 4280



- A Cast Iron - 125 psig flanges. Standard seal.
- B Ductile Iron - 250 psig flanges. Carbide seal seats supplied.

Notes:

- Hydrostatic test pressure at ambient temperature is 150% maximum working pressure.
- All values are based on clear, clean water. Values may change with other liquids.

► Typical Specifications

Pumps - Horizontal - Motor Mounted

- 1.0 Provide Armstrong single stage, single end suction, motor mounted centrifugal pumps, with rising head characteristics to pump shut off.
Refer to the schedule for pump flows and heads and motor speed, efficiency, enclosure and power requirements.
- 2.0 The pumps shall be Armstrong Series 4280 motor mounted horizontal end suction pump.
- 3.0 Pump Construction:
 - 3.1 Pump casing shall be cast iron, suitable for 175 psig working pressure at 140°F. (Ductile Iron for pressures to 250 psig). The casing shall be hydrostatically tested to 150% maximum working pressure.

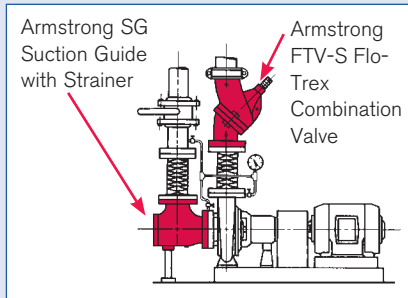
The casing shall be radially split to allow removal of the rotating element without disturbing the pipe connections.

The casing shall be equipped with a drilled and tapped drain connection. Suction and discharge connections shall be provided with drilled and tapped pressure gauge connections.

- 3.2 Pump impeller shall be fully enclosed type. Dynamically balanced.
- 3.3 Provide a shaft sleeve, extending the full length of the mechanical seal area.
- 3.4 Mechanical Seal shall be single spring inside type with carbon face rotating against a silicone carbide O-ring mounted seat. EPDM elastomer with stainless steel spring and hardware shall be provided.
- 4.0 Motor power requirements shown on the pump schedule are the minimum acceptable and have been sized for continuous operation without exceeding the full load nameplate rating over the entire pump curve, exclusive of service factor.

Need to reduce space requirements and installation costs?

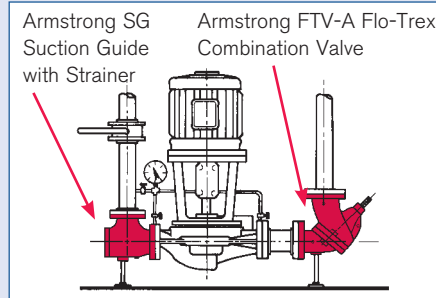
► Base mounted



Base mounted pump with Suction Guide and Flo-Trex valve eliminates cost and space of:

- Suction:
 - Y-strainer,
 - Long radius elbow,
 - Min. straight pipe run.
- Discharge:
 - Check valve,
 - Isolating valve,
 - Throttling valve.

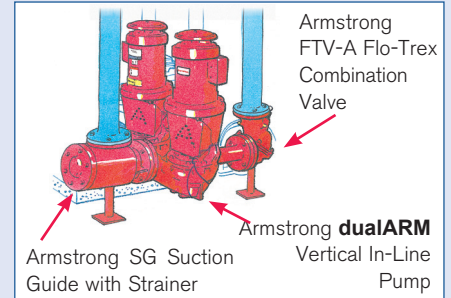
► Vertical In-Line



Vertical In-Line with Suction Guide and Flo-Trex valve eliminates cost and space of all the items listed under base mounted pump, plus the following:

- Inertia base with spring mounts,
- Long radius elbow,
- Flexible pipe connectors,
- Grouting,
- Field alignment,
- Split couplings available for ease of mechanical seal replacement.

► dualARM



dualARM Vertical In-Line incorporates two pumps in a casing with single inlet and outlet connections. Enables standby or parallel operation with only one set of piping. Casing design and port valves allow one pump to be removed for service with the second pump still operating. When installed with a Suction Guide and Flo-Trex valve the **dualARM** represents the greatest Life Cycle Value in today's commercial HVAC market.

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