

# ARMSTRONG

## Series 4280



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**motralec**

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*Motor Mounted Centrifugal Pumps*

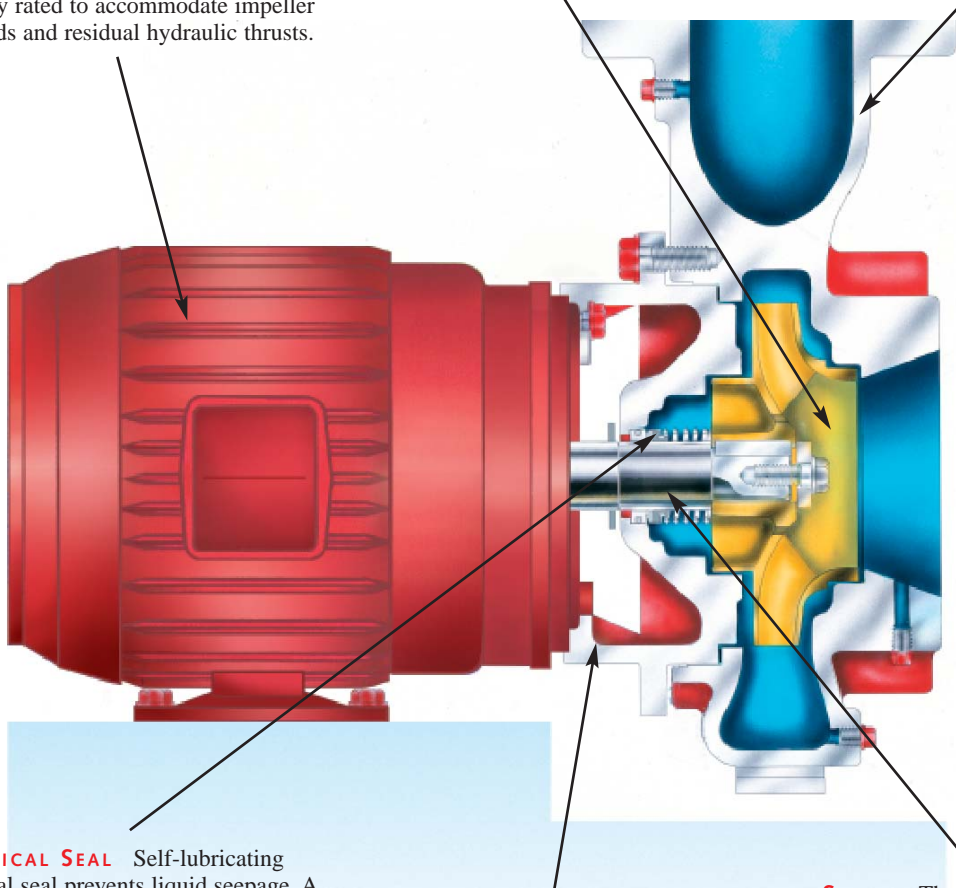
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# MOTOR MOUNTED CENTRIFUGAL PUMPS

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

**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.

**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.



**MECHANICAL SEAL** Self-lubricating mechanical seal prevents liquid seepage. A carbon face rotating against a stationary "O" ring 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 shaft sleeve affords protection in the wetted area.

## SERIES 4280 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 only, or motor and pump feet for convenience

# MATERIALS OF CONSTRUCTION

PUMP	Flange Rating (psig)	Motor Frame	Construction	Casing	Impeller	Capscrew (Impeller)	Washer (Impeller)	Gasket (Casing)	Adapter Bracket	Shaft Sleeve	Motor Shaft	Water Slinger	Seal Washer	Seal Seat	Seal Hardware	Seal Elastomer	Seal Spring
4280	125	JM/JP	BF	CI	BZ	SS-5	SS-2	F	CI	BR	S	N	C	CE	SS-2	EP	SS-5
4280	125	JM/JP	AI	CI	CI	SS-5	SS-2	F	CI	SS-5	S	N	C	CE	SS-2	EP	SS-5
4280	125	JM/JP	AB	BZ	BZ	SS-5	SS-2	F	BZ	BR	S	N	C	CE	SS-2	EP	SS-5
4280	250	JM/JP	DBF	DI	BZ	SS-5	SS-2	F	DI	BR	S	N	C	TC	SS-2	EP	SS-5

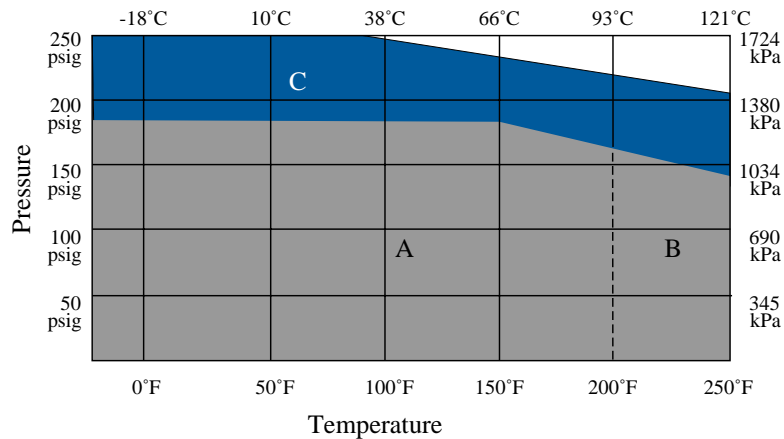
## MATERIALS OF CONSTRUCTION CODE:

BF - Bronze Fitted  
 AI - All Iron  
 AB - All Bronze  
 DBF - Bronze Fitted, Ductile Casing and Adapter Bracket

## MATERIAL SPECIFICATION:

BR	Hard Brass Tubing ASTM B111.687	C	Carbon	F	Fiber
BZ	Cast Bronze ASTM B584 Grade C84400	CE	Ceramic	S	Carbon Steel
CI	Cast Iron ASTM A48 Class 30	DI	Cast Ductile Iron ASTM A536 Grade 65-45-12	SS-2	ASTM A564 Type 18-8
		EP	EPDM elastomer	SS-5	AISI 1010-1018 Type 316
		TC	Tungsten Carbide		

# PRESSURE / TEMPERATURE CHART SERIES 4280



- A- CAST IRON - 125 psig flanges  
Standard Seal
- B- Tungsten Carbide seal seat recommended
- C- DUCTILE IRON - 250 psig flanges  
Tungsten Carbide seal seats supplied

### Notes:

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

# TYPICAL SPECIFICATION

## 1.0 Pumps - Horizontal - Motor Mounted

**1.1** 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.

**1.2** The pumps shall be Armstrong Series 4280 motor mounted horizontal end suction pump.

**1.3** Pump Construction:

- .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.

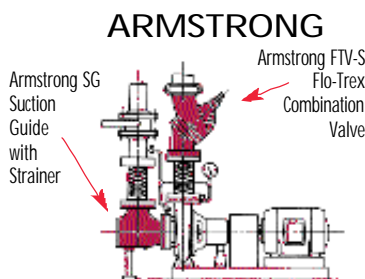
The casing shall be radially split to allow removal of the rotating element without disturbing the pipe connections.

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.

- .2 Pump impeller shall be fully enclosed type. Dynamically balanced.
- .3 Provide a shaft sleeve, extending the full length of the mechanical seal area.
- .4 Mechanical Seal shall be single spring inside type with carbon face rotating against an O-ring mounted seat. EPDM elastomer with stainless steel spring and hardware shall be provided.

**1.4** 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.

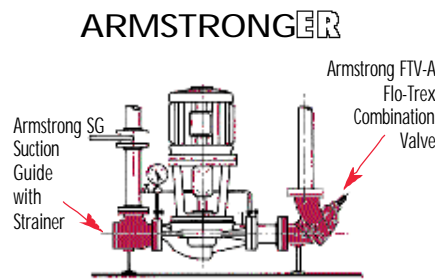
## NEED TO REDUCE SPACE REQUIREMENTS AND INSTALLATION COSTS



Base mounted pump with Suction Guide and Flo-Trex valve.

Eliminates cost and space of:

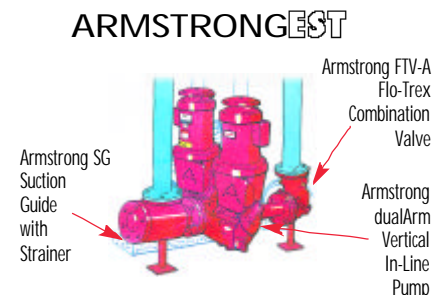
- Suction: Y-Strainer  
 Long Radius Elbow  
 Min. Straight Pipe Run
- Discharge: Long Radius Elbow  
 Check Valve  
 Isolating Valve  
 Throttling Valve



Vertical In-Line with Suction Guide and Flo-Trex Valve.

Eliminates cost and space of:

- All the items listed under base mounted pump, also saves:  
 Inertia Base with spring mounts  
 Flexible Pipe Connectors  
 Grouting  
 Field Alignment  
 Split Couplings available for ease of mechanical seal replacement



*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 Suction Guide and Flo-Trex valve the *dualArm* represents the greatest Life Cycle Value in today's commercial HVAC market.



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