



# Marlow Pumps

## Prime Line<sup>®</sup> Self-Priming Centrifugal Pumps



Marlow Pumps

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[www.marlowpump.com](http://www.marlowpump.com)

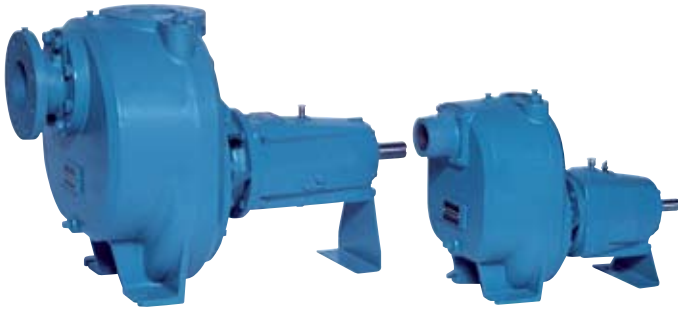


ITT Industries

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## A Full Range of Product Features

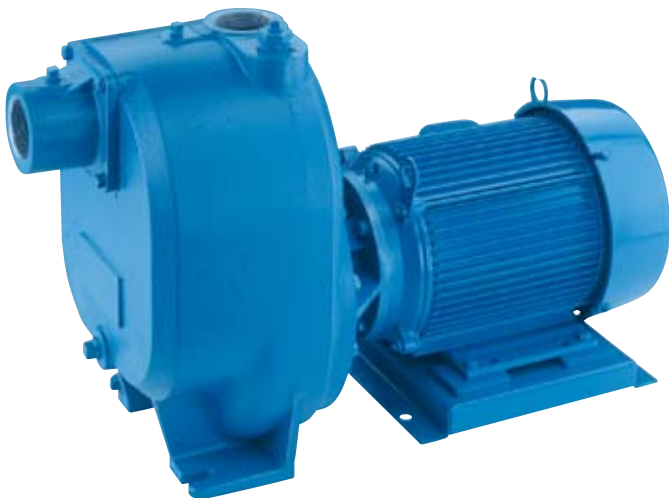
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### Marlow Pumps Prime Line®... The Ultimate Self Priming Centrifugal Pump

The Prime Line is ideally suited for suction lift applications, by our patented diffuser priming design with trimmable diameter impellers to provide the highest efficiencies available in the industry. Not only are the efficiencies higher initially, but they stay that way longer because of the reduced wear characteristics inherent in the Prime Line's diffuser design. Trimming impellers to operate at your design point mean lower horsepower required which translates into lower energy costs.

Prime Line self priming pumps are available in a wide variety of metallurgies including Cast Iron and Bronze-Fitted construction. Prime Line is offered in frame mounted (2" to 6") and close coupled (up to 4") models.



### Capabilities:

- Sizes 2" through 6"
- Capacities to 2,200 GPM
- Heads to 250 feet
- Temperature to 200° F (94° C)
- Suction Lifts to 25 feet
- Solids Handling to 1"
- Cast Iron or Cast Iron Bronze Fitted

### Performance Features:

#### Rugged Construction

- Robust design for dependable, long service life.

#### Maintenance Friendly

- Back pull-out design, positive seating elastomer check valve, cartridge bearing frame, and many more product features minimize downtime.

#### Superior Priming and Re-priming

- Marlow self priming pumps are designed to provide unparalleled priming performance. Trimmed impeller hydraulics are matched to anticipated suction lifts to insure an acceptable dry suction leg prime time along with optimum pumping efficiency.

#### Efficient Operation

- High efficiency, trimmable impeller designs provide the ability to select specific operating conditions while reducing power usage and operating costs.

### Typical Applications:

- Irrigation
- Light Industrial
- Municipal Water Transfer
- Sump Evacuation

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## Self Priming Designs that Optimize Efficiency and Performance

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### Features:

When it comes to self priming centrifugal pumps, Marlow Pumps offers you the best possible system design to reduce your overall operating costs. The benefits are obvious to your bottom line:

- Better priming and re-priming
- Higher hydraulic efficiencies
- Smoother pumping operation
- Optimum hydraulic performance
- Pump selection over a wide performance range
- Reduced and easier maintenance
- Trimmable impellers
- Buna, Viton® or Teflon® mechanical seals



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### Advantages of Diffuser Priming:

- The multi-vaned, replaceable diffuser delivers balanced 360° efficient priming and pumping action. Radial loads are practically non-existent meaning longer bearing, mechanical seal and shaft life.
- Diffuser priming pumps maintain efficiency longer than single or double volute pumps as the multiple vanes are less susceptible to wear.
- The inexpensive replacement of the impeller and diffuser restores a Prime Line pump to its original high performance and efficiency.





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# Prime Line... There's More to a Great Pump than Meets the Eye – *The Inside Story*

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## SUCTION/DISCHARGE GAUGE TAPS

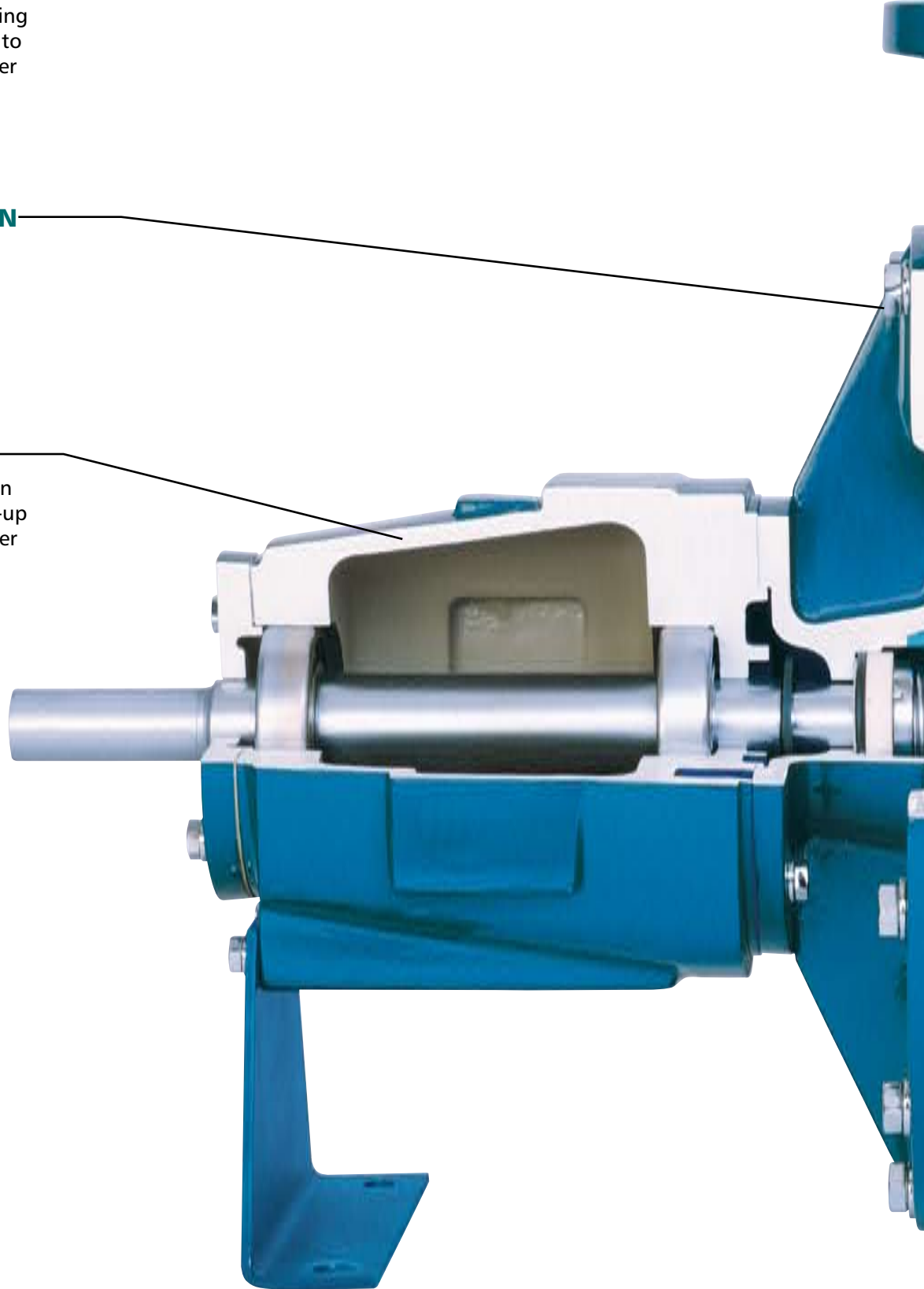
Are provided for troubleshooting diagnostics. Fill Plug provided to initially fill the priming chamber with liquid prior to operating.

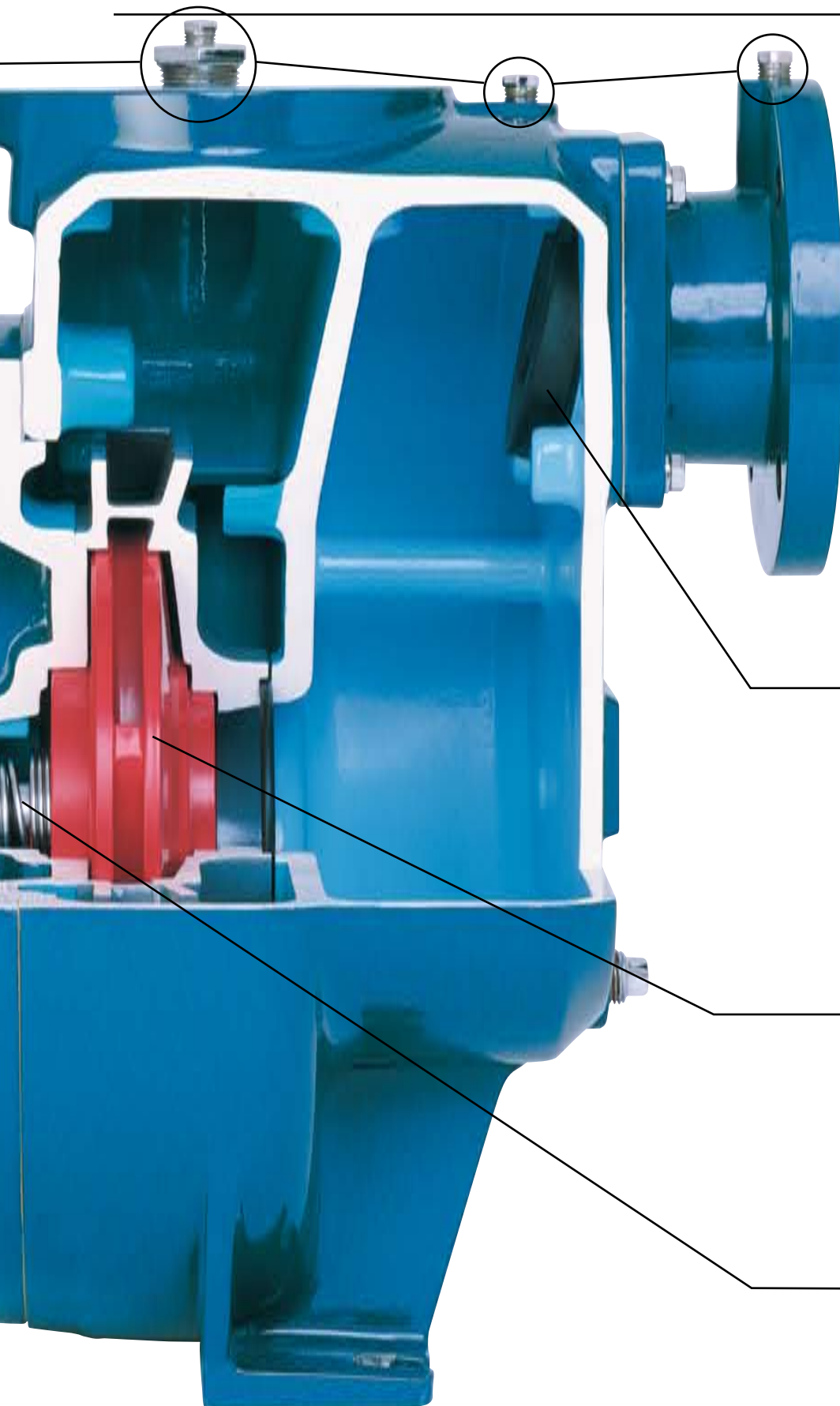
## BACK PULL-OUT DESIGN

For easy access to the pump's interior for inspection and maintenance.

## CARTRIDGE BEARING HOUSING

Modular, enclosed construction protects bearings before start-up and during operation for longer service life.





**INTEGRAL STEEL-WEIGHTED, RUBBER MOLDED CHECK VALVE**

Retains liquid in the priming chamber to reduce re-prime time by preventing siphoning after system shutdown. Positive seating of the check valve also retains liquid in the suction piping further alleviating a prolonged prime cycle. Re-priming is immediate.

**HIGH EFFICIENCY IMPELLER**

Designs for lower operating costs. Two" through 6" Prime Line pump impellers are trimmable allowing you to obtain your precise operating point, resulting in lower horsepower requirements.

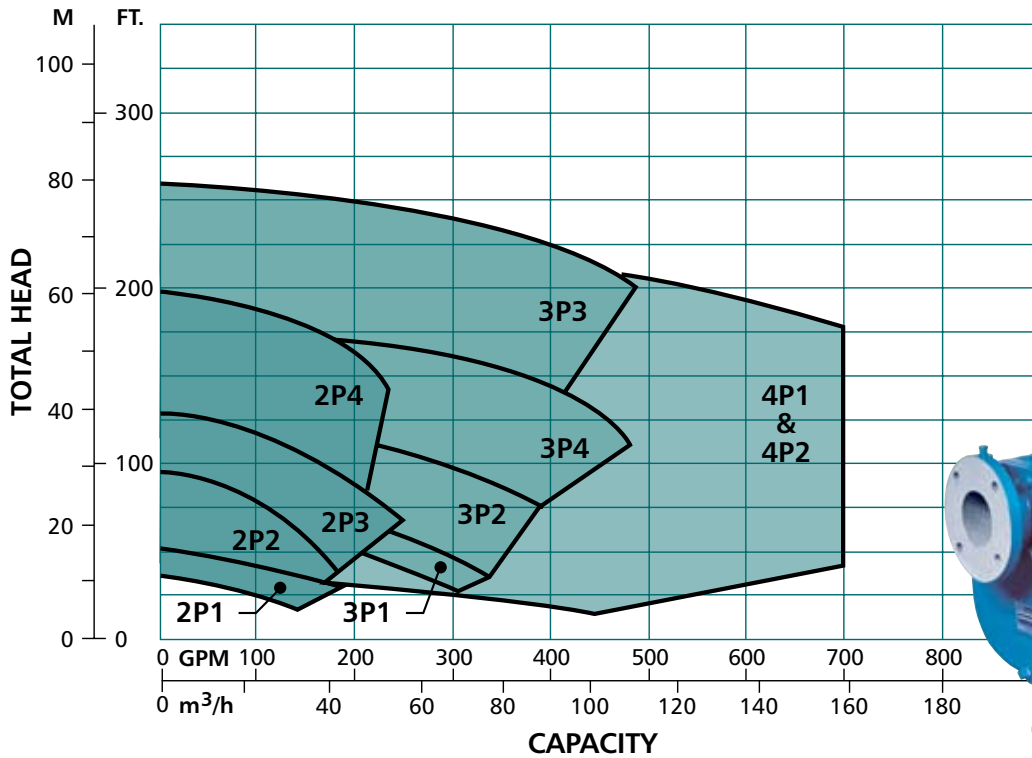
**SELF LUBRICATED MECHANICAL SEAL**

Can be fitted with Buna, Viton or Teflon elastomers to match your liquid handling needs.

## Hydraulic Coverage

The performance curves shown were taken from actual tests of standard production Prime Line pumps. For pump performance curves for specific Prime Line sizes, please contact the factory.

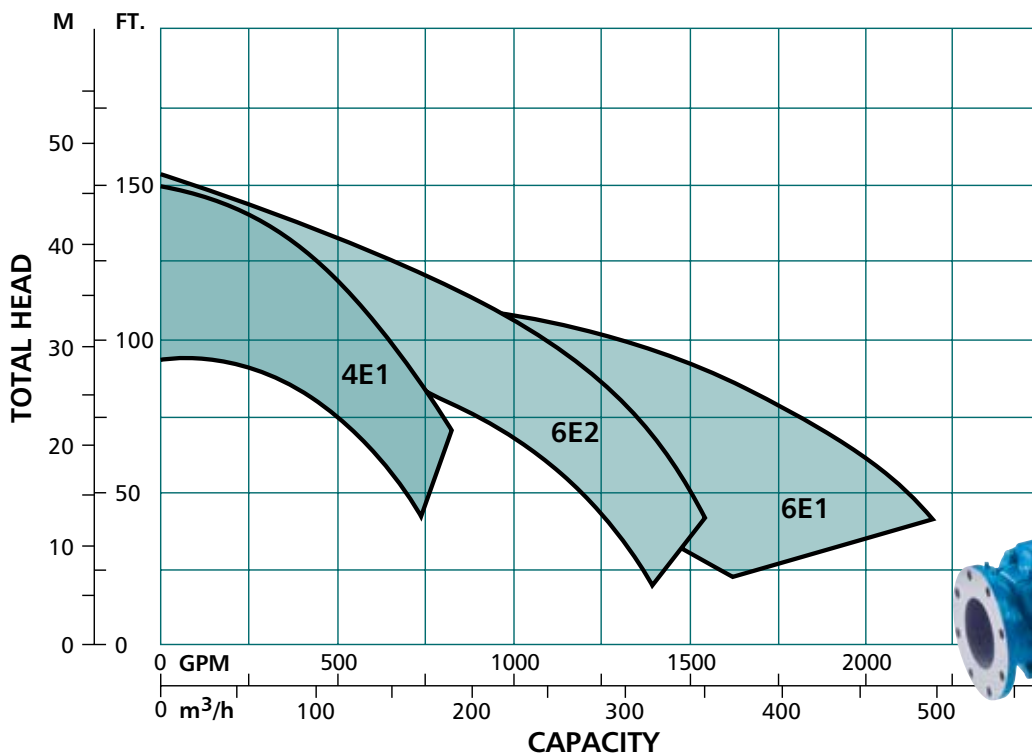
### 2" (51 mm) through 4" (102 mm)



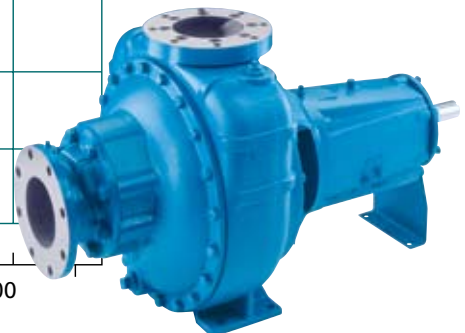
- Capacities to 700 GPM (160 m³/h).
- Heads to 250 feet (76 m).
- Temperatures to 200° F (94° C).
- Suction Lifts to 25 feet (7.6 m).
- Solids Handling to 5/8" (16 mm).



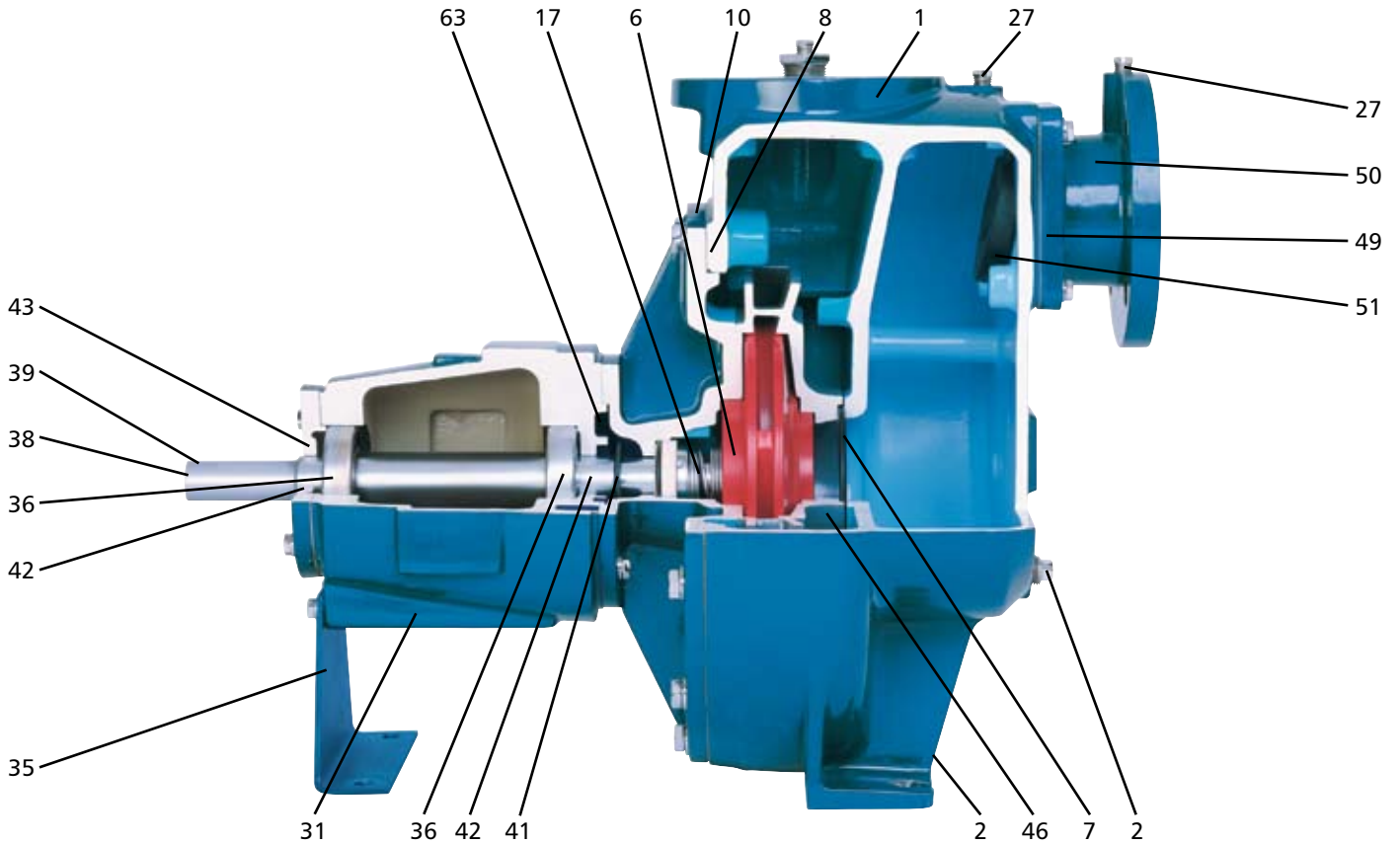
### 4" (102 mm) through 6" (152 mm)



- Capacities to 2000 GPM (450 m³/h).
- Heads to 130 feet (40 m).
- Temperatures to 200° F (94° C).
- Suction Lifts to 25 feet (7.6 m).
- Solids Handling to 1" (25 mm).



## Sectional View: 2P, 3P, 4P



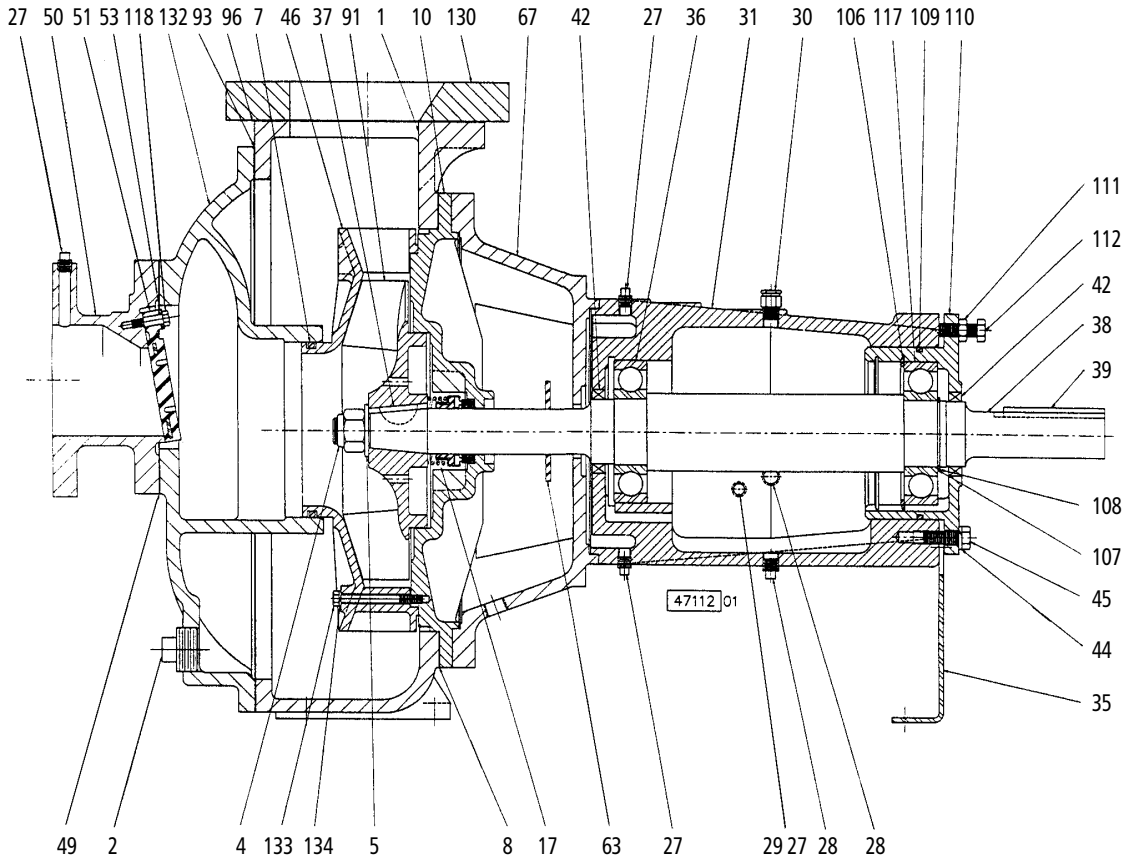
### Parts List and Materials of Construction

Item Number	Part Name	Material
1	Casing	Cast Iron
2	Pipe Plug, Drain	Steel
4	Locknut, Impeller	Steel
5	Washer, Curved	Steel
6	Impeller, Closed	Cast Iron/Bronze
7*	O-ring	Buna-N
8	Gasket, Diecut Case	Lexide
10	Cover, Stuffing Box	Cast Iron
17*	Seal, Single Mech	Misc
27	Pipe Plug, Gauge	Steel
29	Grease Fitting	Steel
30	Vent, Filter	Misc
31	Housing, Bearing	Cast Iron
35	Foot, Mounting	Steel
36	Bearing	Steel
37	Key, Impeller	Steel

Item Number	Part Name	Material
38	Shaft	Steel
39	Key, Coupling	Steel
40	Retainer, Bearing	Misc
41	Deflector	Buna-N
42	Lip Seal	Buna/Steel
43	Cap, Bearing	Cast Iron
46	Diffuser	Cast Iron/Bronze
49	Gasket, Diecut	Lexide
50	Inlet, Suction	Cast Iron
51*	Valve, Check	Buna-N
52	Spacer	Stainless Steel
53	Keeper	Stainless Steel
60	Bushing	Steel
61	Fitting, Hydraulic	Steel
63	Slinger	Rubber
118	Shoulder Screw	Stainless Steel

\*Item #7, #17 and #51 are available in Viton® as an optional item.

## Sectional View: 4E and 6E



### Parts List and Materials of Construction

Item Number	Part Name	Material
1	Casing	Ductile Iron
2	Pipe Plug	Cast Iron
4	Locknut, Impeller	Steel
5	Washer, Curved	Stainless Steel
7*	Gasket, Molded	Buna-N Rubber
8	Gasket, Diecut	Composite
10	Cover, Stuffing Box	Cast Iron
17*	Seal, Single Mechanical	Carbon vs. Ceramic
27	Pipe Plug	Steel
28	Pipe Plug	Steel
29	Oiler (optional)	—
30	Vent, Filter	Steel
31	Housing, Bearing	Cast Iron
35	Foot, Mounting	Steel
36	Bearing	#313
37	Key, Impeller	Steel
38	Shaft	Steel
39	Key, Coupling	Steel
42	Retainer	Steel/Rubber
44	Lockwasher	Stainless Steel
45	Capscrew	Stainless Steel

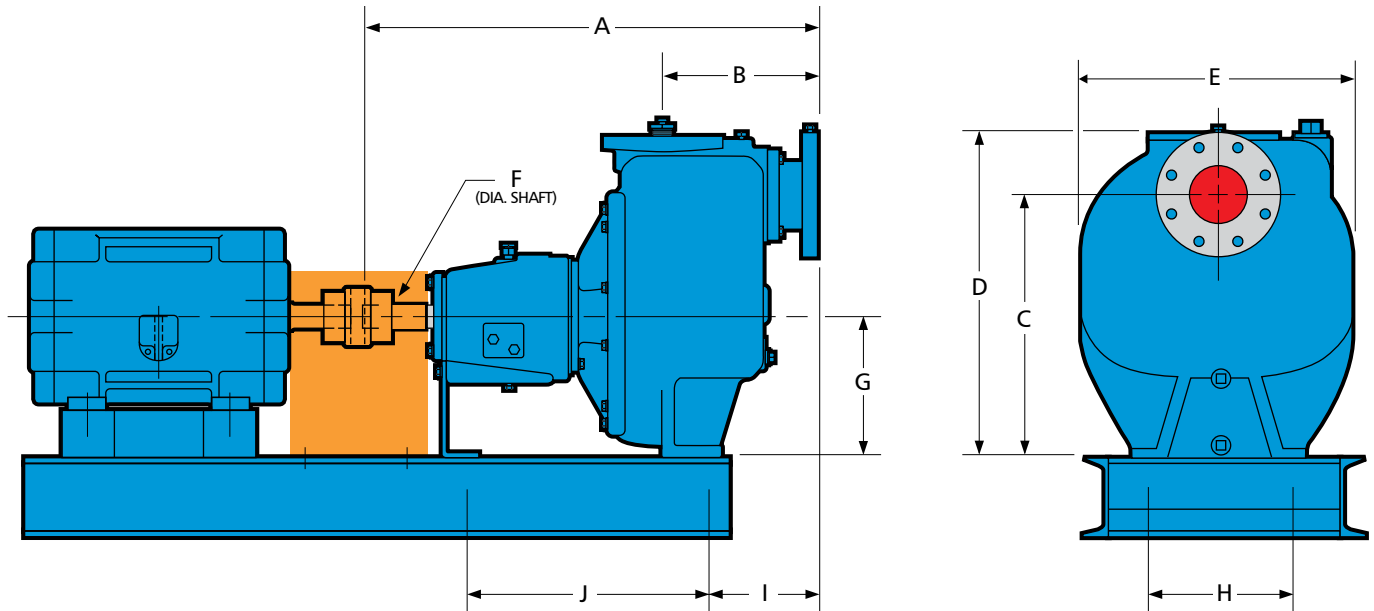
Item Number	Part Name	Material
46	Diffuser	Cast Iron
49	Gasket, Diecut	Composite
50	Inlet, Suction	Cast Iron
51*	Valve, Check	Buna-N Rubber
53	Keeper	Stainless Steel
63	Slinger	PVC
67	Bracket	Cast Iron
91	Impeller, Open	Cast Iron
93	Gasket, Diecut	Composite
96	Gasket, Diecut	Composite
106	Ring, Retaining	Steel
107	Shim, Bearing	Steel
108	Ring, Retaining	Steel
109	Gasket, Molded	Buna-N Rubber
110	Carrier, Bearing	Cast Iron
111	Hexnut, Jam	Stainless Steel
118	Screw, Shouldered	Stainless Steel
130	Adapter, Plate	Cast Iron
132	Cover, Casing	Cast Iron
133	Capscrew	Stainless Steel
134	Lockwasher	Stainless Steel

\*Available in Viton® as an option.



## Dimensions

All dimensions in inches and (mm). Not to be used for construction.



## Dimensions

Model	Port Size		A	B	C	D	E	F	G	H	I	J								
	Suction	Discharge																		
2P1	2 NPT Female (51)	2 NPT Female (51)	25.4 (645)	8.9 (227)	13.9 (352)	17 (432)	12.3 (311)	1.1 (29)	6.3 (159)	8 (203)	5.6 (143)	14.5 (368)								
2P2																				
2P3																				
2P4																				
3P1	3 (76)	3 (76)	26.2 (665)	9.1 (232)	15.5 (394)	19 (483)	15.5 (394)	1.1 (29)	8 (203)	8 (203)	6.6 (168)	14.4 (365)								
3P2																				
3P3			32.8 (833)					1.6 (41)				20.6 (524)								
3P4																				
4P1	4 (102)	4 (102)	35.6 (905)	11.6 (294)	18 (457)	23.5 (597)	19.3 (489)	1.6 (41)	10 (254)	12.5 (318)	8.6 (217)	21.4 (545)								
4P2																				
4E1			40.9 (1038)										12.3 (313)	13 (330)	23 (584)	22 (559)	1.8 (45)	11.1 (283)	14 (356)	9.8 (249)
6E4			6 (152)										6 (152)	44.3 (1126)	15.8 (401)					23.7 (602)
6E6																				

All dimensions are approximate. Refer to factory for exact dimensions.

## Other Marlow Pumps Self-Priming Products



### Trash Hog® Solids Handling Pumps

Self-priming pumps designed to handle debris laden plant wastewater with minimal maintenance.

- Sizes to 12"
- Capacities to 6,000 GPM
- Heads to 140 feet
- Solids Handling to 3"

### Model 2AM32 Engine Driven Pumps

Portable gasoline engine driven with a volute priming system utilizing a Briggs & Stratton® engine.

- 2" with NPT connections
- Capacities to 140 GPM
- Heads to 90 feet
- $\frac{3}{8}$ " Solids Handling



### Model 20EVP Vertical Petroleum Pumps

Heavy duty inline suction and discharge which allows for suction lifts of 10 to 20 feet.

- Optional explosion proof motors
- Capacities to 120 GPM
- Heads to 100 feet
- $\frac{7}{16}$ " Solids Handling

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## Notes

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Viton and Teflon are registered trademarks of Dupont.

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December, 2005  
Printed In U.S.A.  
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Marlow Pumps

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