



# ITT

Commercial Water

## Goulds Pumps

### Marlow Series Prime Line<sup>®</sup>

Self-Priming Centrifugal Pumps



Goulds Pumps is a brand of ITT Corporation.

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

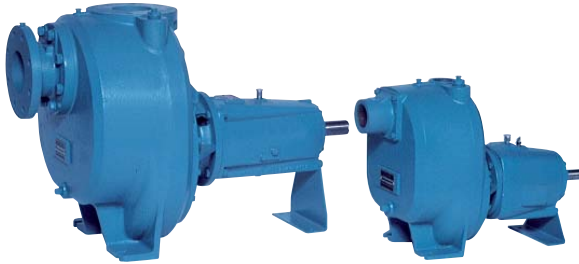
*Engineered for life*



# ITT

## GOULDS PUMPS Commercial Water

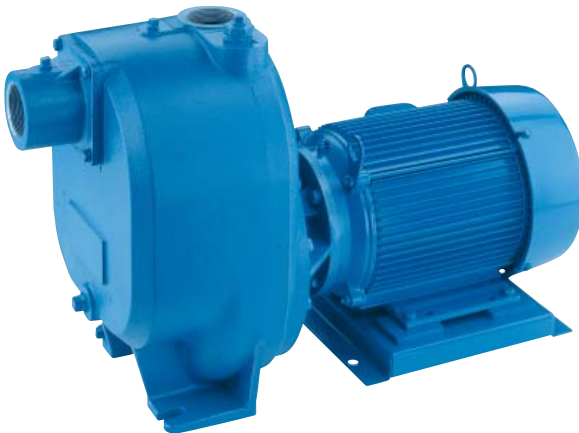
### A Full Range of Product Features



#### Goolds 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 Cast Iron 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 impellers and diffusers

#### 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

- 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



# ITT

## GOULDS PUMPS Commercial Water

### Self Priming Designs that Optimize Efficiency and Performance

#### Features:

When it comes to self priming centrifugal pumps, Goulds 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 EPR mechanical seals



#### 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.





# ITT

**GOULDS PUMPS**  
Commercial Water

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

### **SUCTION/DISCHARGE GAUGE TAPS**

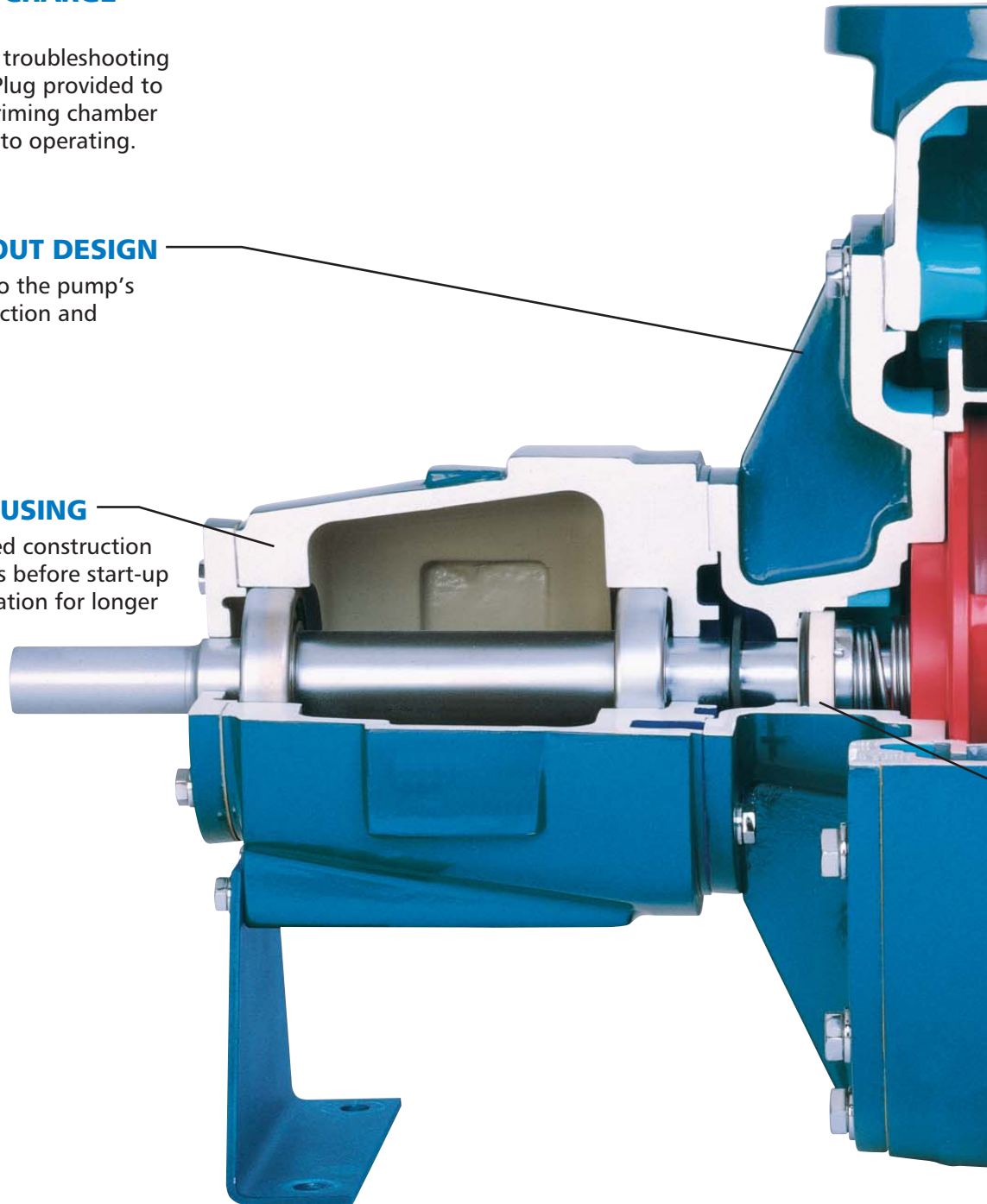
Are provided for troubleshooting diagnostics. Fill Plug provided to initially fill the priming chamber with liquid prior to operating.

### **BACK PULL-OUT DESIGN**

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

### **CARTRIDGE BEARING HOUSING**

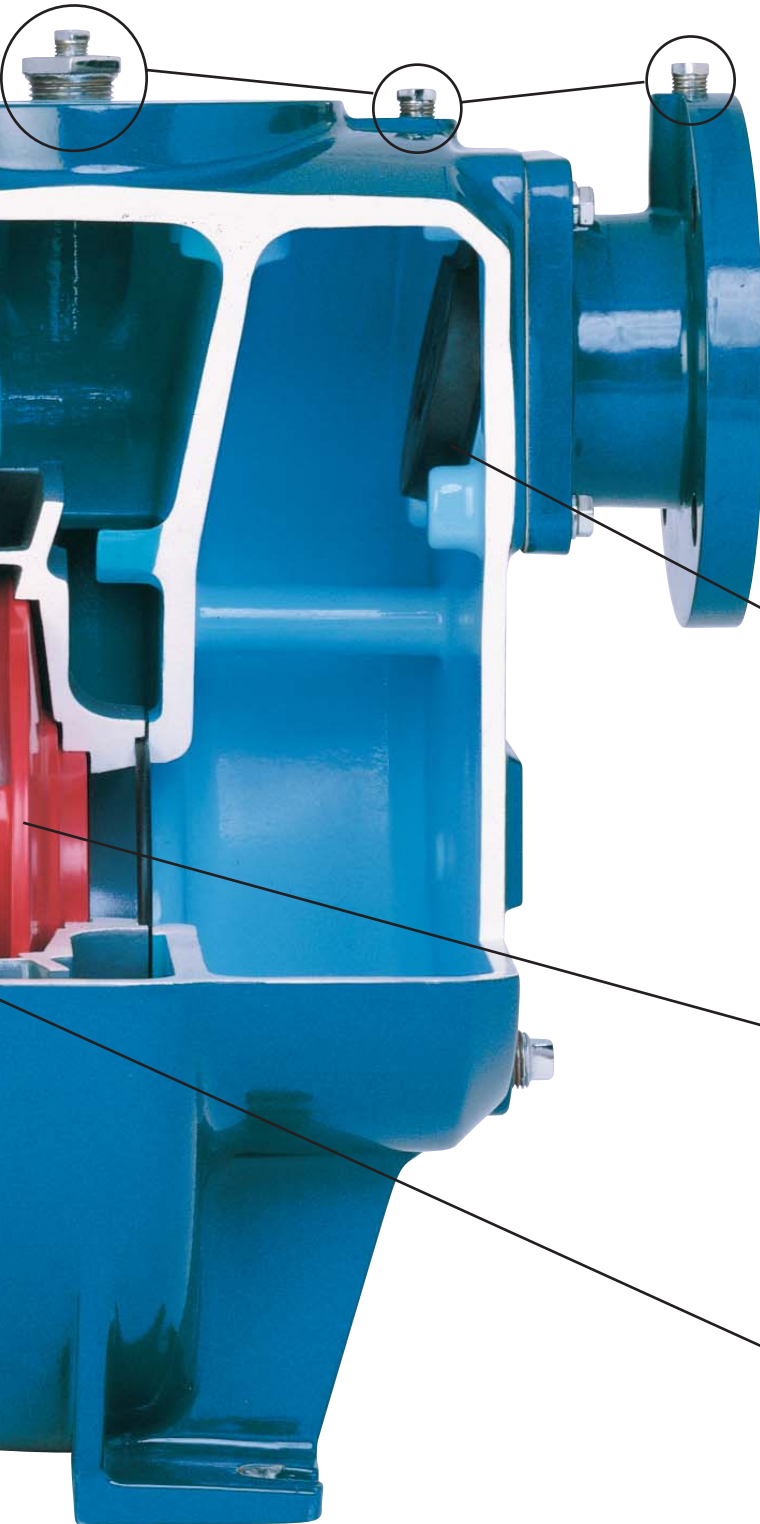
Modular, enclosed construction protects bearings before start-up and during operation for longer service life.





# ITT

## GOULDS PUMPS Commercial Water



### **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 EPR elastomers to match your liquid handling needs.



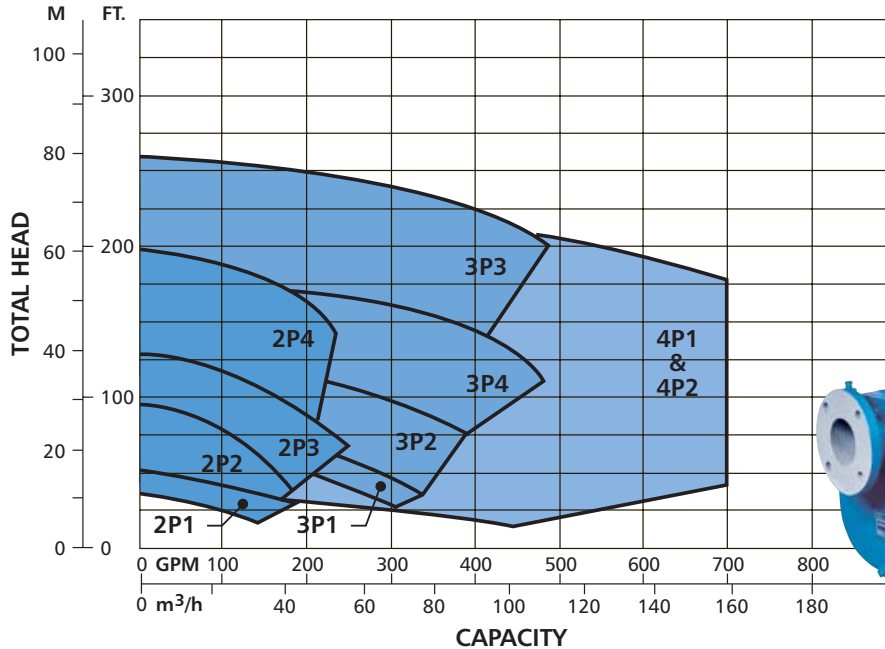
# ITT

## GOULDS PUMPS Commercial Water

### 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.

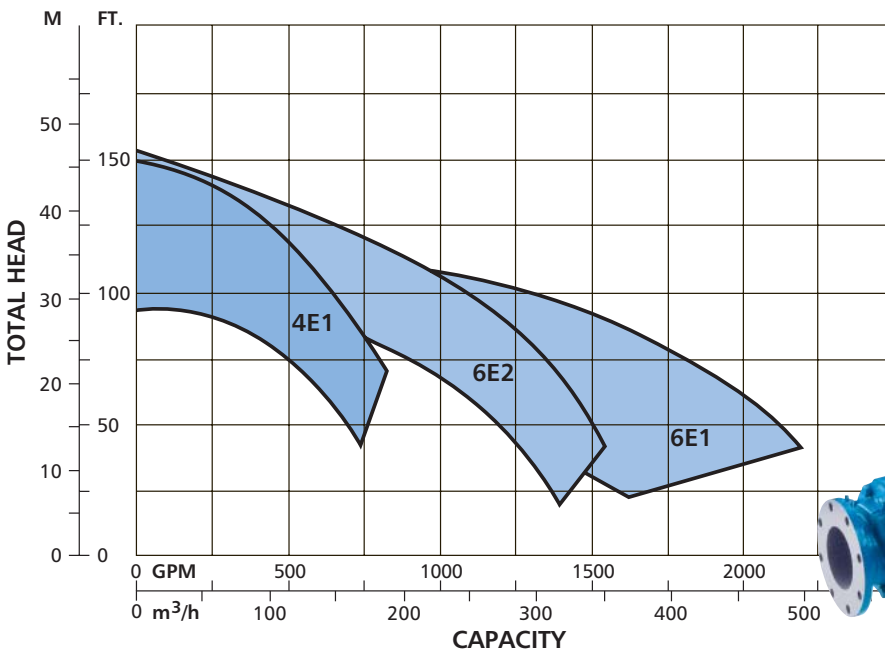
### 2" (51 mm) through 4" (102 mm)



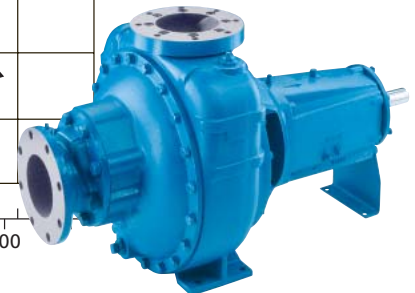
- Capacities to 700 GPM (160 m³/h).
- Heads to 250 feet (76 m).
- Temperatures to 200° F (94° C).
- Suction Lifts to 25 feet (7.6 m).
- Solids Handling to 5/8" (16 mm).



### 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).

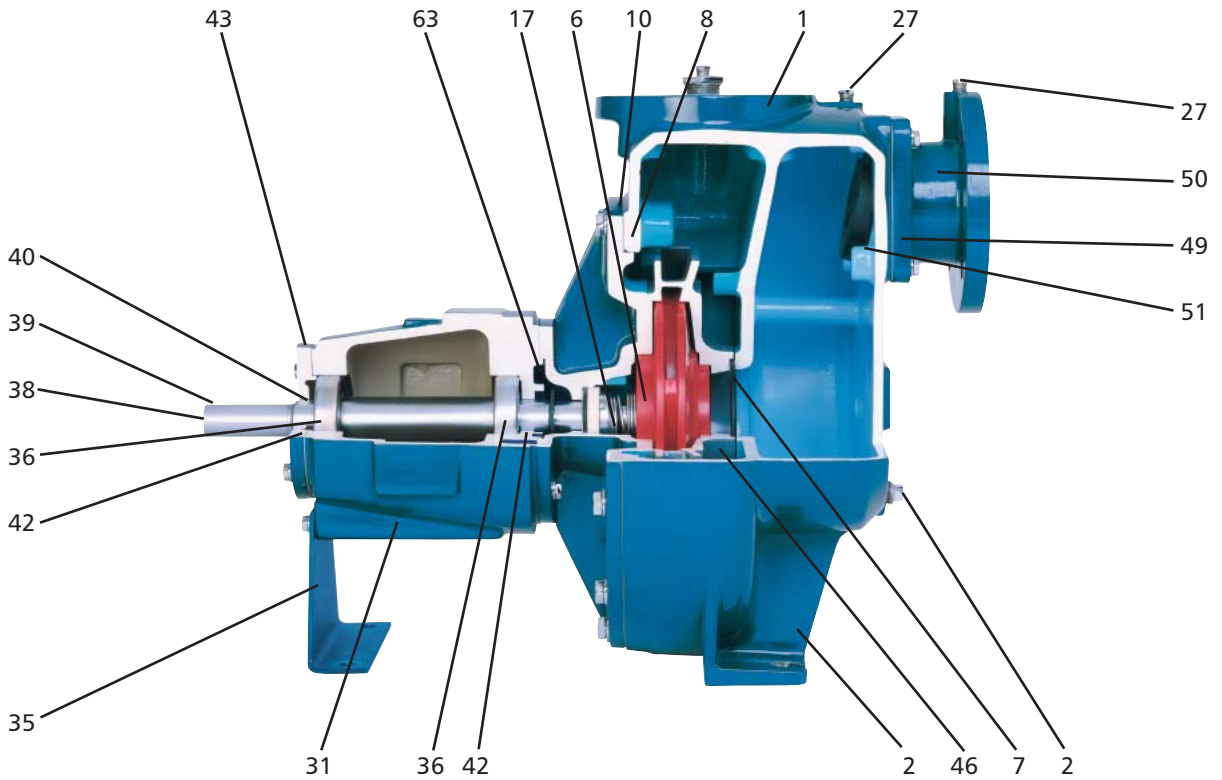




# ITT

## GOULDS PUMPS Commercial Water

### 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**	Bolt, Impeller	Steel
5**	Washer, Impeller	Steel
6	Impeller, Closed	Cast Iron
7*	O-ring, Diffuser	Buna-N
8	Gasket, Diecut Case	Lexide
10	Seal Housing	Cast Iron
17*	Seal, Single Mech	Misc
24**	Shaft Sleeve	316 SS
27	Pipe Plug, Gauge	Steel
29**	Grease Fitting (ML Frm)	Steel
31	Housing, Bearing	Cast Iron
35	Foot, Mounting	Steel
36	Bearing	Steel

Item Number	Part Name	Material
37**	Key, Impeller	Steel
38	Shaft	Steel
39**	Key, Coupling	Steel
40	Retainer, Bearing	Steel
41	Gasket, Diecut	Lexide
42	Lip Seal	Buna/Steel
43	Cap, Bearing	Cast Iron
46	Diffuser	Cast Iron
49	Gasket, Diecut	Lexide
50	Inlet, Suction	Cast Iron
51*	Valve, Check	Buna-N
53**	Keeper	Stainless Steel
54**	Shoulder Bolt	Stainless Steel
63	Slinger	Rubber

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

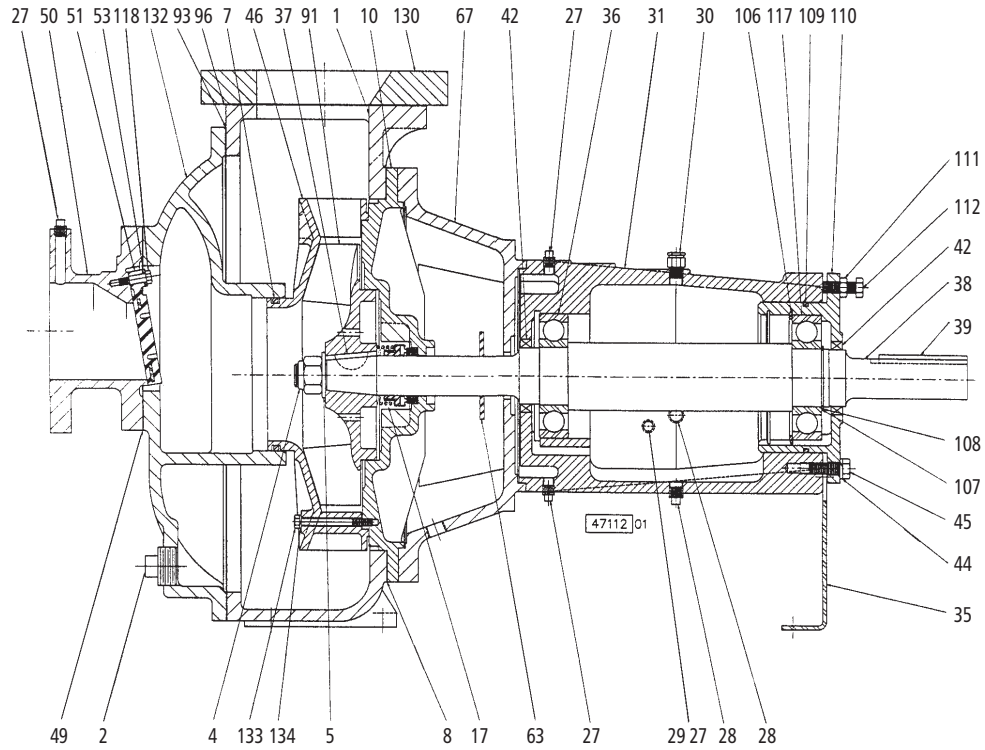
\*\* Not shown.



# ITT

## GOULDS PUMPS Commercial Water

### Sectional View: 4E and 6E



### Parts List and Materials of Construction

Item No.	Description	Materials	Item No.	Description	Materials
1	Casing	Ductile Iron	46	Diffuser	Cast Iron
2	Pipe Plug	Cast Iron	49	Gasket, Diecut	Composite
4	Locknut, Impeller	Steel	50	Inlet, Suction	Cast Iron
5	Washer, Curved	Stainless Steel	51*	Valve, Check	Buna-N Rubber
7*	O-Ring	Buna-N Rubber	53	Keeper	Stainless Steel
8	Gasket, Diecut	Composite	63	Slinger	PVC
10	Housing Seal	Cast Iron	67	Bracket	Cast Iron
17*	Seal, Single Mechanical	Carbon vs. Ceramic	91	Impeller	Cast Iron
27	Pipe Plug	Steel	93	Gasket, Diecut	Composite
28	Pipe Plug	Steel	96	Gasket, Diecut	Composite
29	Oiler (optional)	—	106	Ring, Retaining	Steel
30	Vent, Filter	Steel	107	Shim, Bearing	Steel
31	Housing, Bearing	Cast Iron	108	Ring, Retaining	Steel
35	Foot, Mounting	Steel	109	O-Ring	Buna-N Rubber
36	Bearing	#313	110	Carrier, Bearing	Cast Iron
37	Key, Impeller	Steel	111	Hexnut, Jam	Stainless Steel
38	Shaft	Steel	118	Bolt, Shouldered	Stainless Steel
39	Key, Coupling	Steel	130	Adapter, Plate	Cast Iron
42	Retainer	Steel/Rubber	132	Cover, Casing	Cast Iron
44	Lockwasher	Stainless Steel	133	Capscrew	Stainless Steel
45	Capscrew	Stainless Steel	134	Lockwasher	Stainless Steel

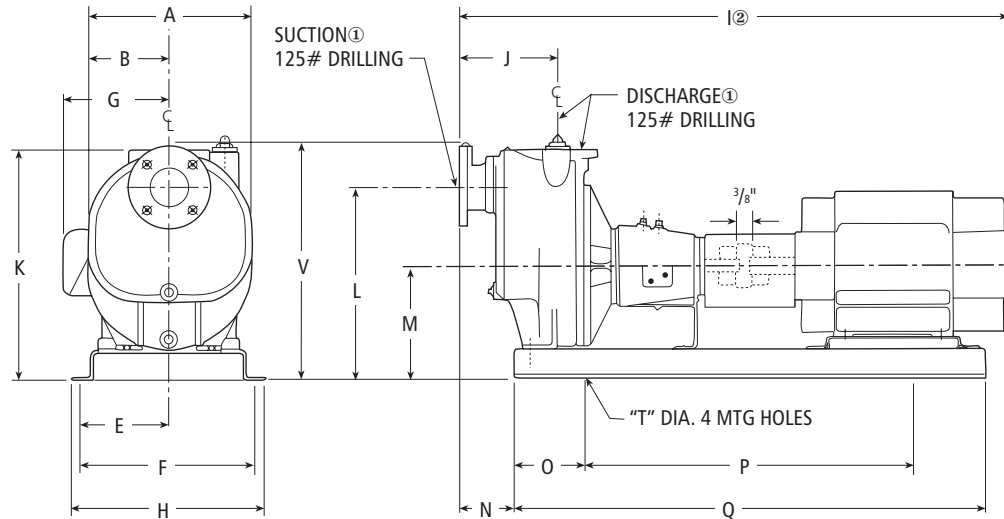
\*Available in Viton® as an option.



# ITT

## GOULDS PUMPS Commercial Water

### Dimensions — 2P – 4P Frame Mounted



### Pump, Base, Coupling and Guard

Model	Frame	Suction ①	Discharge ①	A	B	E	F	Open G	Encl. G	H	I ②	J	K	L	M	N	O	P	Q	T	V	
2P1 2P2 2P3 2P4	143T	2" NPT Female (51)	2" NPT Female (51)	12¼ (311)	6⅞ (156)	7½ (191)	15 (381)	—	6½ (165)	17 (432)	38⅞ (972)	8⅛ (227)	19½ (495)	16⅞ (416)	8¾ (222)	4⅝ (118)	26 (660)	42 (1067)	20⅞ (509)			
	145T							6⅞ (160)	39 (991)													
	182T							7⅞ (195)	42⅞ (1076)													
	184T							8⅛ (227)	46½ (1181)													
	213T							—	6½ (165)		38 (965)											
	215T							6⅞ (160)	38⅞ (987)													
3P1 3P2	145T	3" (76)	3" (76)	15½ (391)	7¾ (197)	9½ (241)	19 (483)	—	6½ (165)	20½ (521)	47¾ (1213)	9⅞ (232)	21½ (546)	18 (457)	10½ (267)	4¾ (121)	8 (203)	32 (813)	48 (1219)	1⅞ (18)	22⅞ (564)	
	182T							6⅞ (160)	48⅞ (1229)													
	184T							7⅞ (195)	51¾ (1315)													
	213T							8⅛ (227)	55 (1397)													
	215T							11½ (292)	11⅞ (302)		60¼ (1530)											
	254T							13⅞ (344)	14⅞ (357)		58¾ (1492)											
3P3 3P4	145T	4" (102)	4" (102)	19¼ (489)	9⅝ (245)	7⅞ (195)	8⅞ (227)	7⅞ (195)	8⅞ (227)	54½ (1384)	58½ (1486)	11⅞ (294)	26 (660)	20½ (521)	12½ (318)	7½ (191)	32 (813)	48 (1219)	26⅞ (675)			
	182T							7⅞ (195)	54½ (1384)													
	184T							8⅞ (227)	58½ (1486)													
	213T							11½ (292)	11⅞ (302)													60¼ (1530)
	215T							13⅞ (344)	14⅞ (357)													58¾ (1492)
	254T							13⅞ (344)	14⅞ (357)													61¼ (1556)
4P1 4P2	213T	4" (102)	4" (102)	19¼ (489)	9⅝ (245)	7⅞ (195)	8⅞ (227)	7⅞ (195)	8⅞ (227)	54½ (1384)	58½ (1486)	11⅞ (294)	26 (660)	20½ (521)	12½ (318)	7½ (191)	32 (813)	48 (1219)	26⅞ (675)			
	215T							7⅞ (195)	8⅞ (227)													
	254T							11½ (292)	11⅞ (302)													60¼ (1530)
	256T							13⅞ (344)	14⅞ (357)													58¾ (1492)

① 125# drilling except 2PL series (2" NPT female).

② Actual dimension may vary depending on motor.

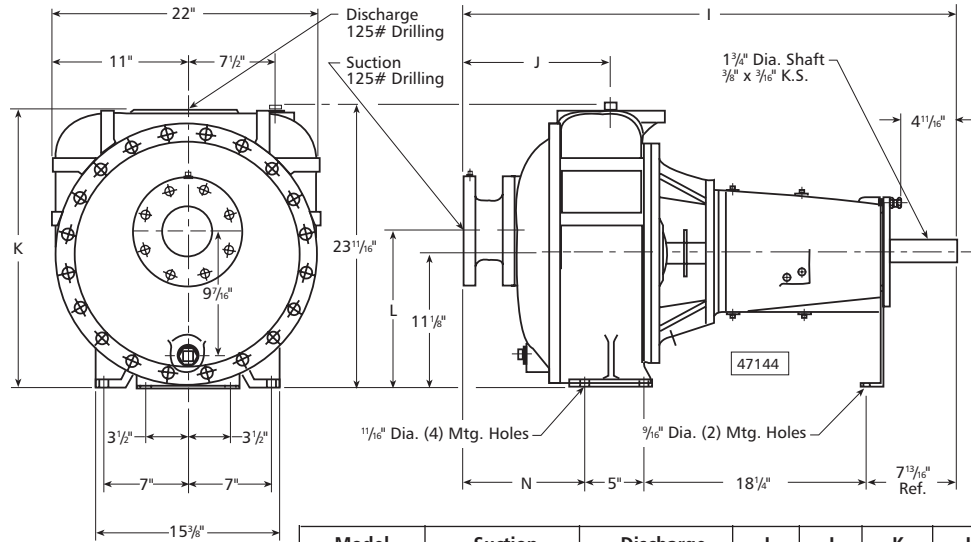
All dimensions are in inches and millimeters (mm). Do not use for construction.



# ITT

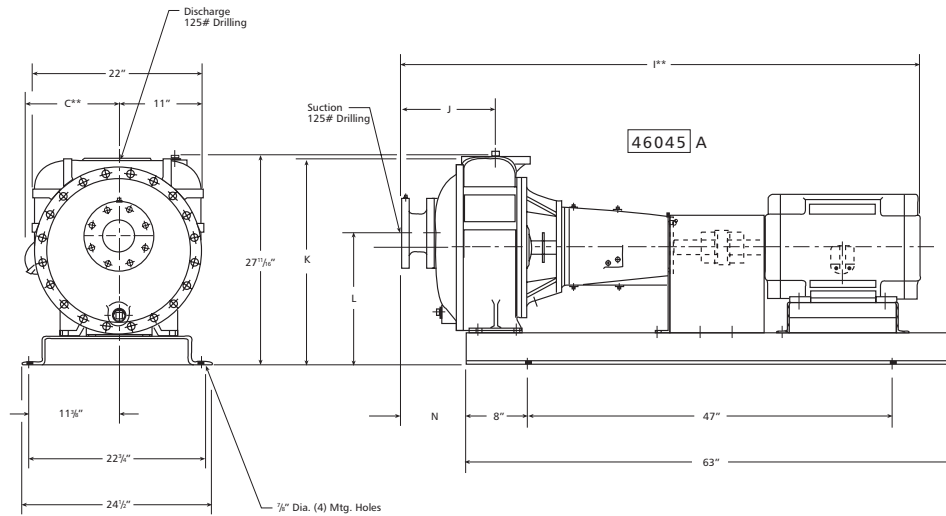
## GOULDS PUMPS Commercial Water

### Prime Line® Dimensions — 4E – 6E



Model	Suction	Discharge	I	J	K	L	N
4E	4	4	40 <sup>3</sup> / <sub>16</sub>	12 <sup>5</sup> / <sub>16</sub>	23	13	9 <sup>13</sup> / <sub>16</sub>
6E	6	6	44 <sup>7</sup> / <sub>16</sub>	15 <sup>3</sup> / <sub>4</sub>	24 <sup>1</sup> / <sub>2</sub>	11 <sup>3</sup> / <sub>8</sub>	13 <sup>1</sup> / <sub>4</sub>

### Pump, Base, Coupling and Motor



Model	Suction	Discharge	Frame	C**	I**	J	K	L	N
4E	4	4	254T	8 <sup>15</sup> / <sub>16</sub>	63 <sup>3</sup> / <sub>16</sub>	12 <sup>5</sup> / <sub>16</sub>	27	17	8 <sup>5</sup> / <sub>16</sub>
			256T		63 <sup>15</sup> / <sub>16</sub>				
			284T		65 <sup>7</sup> / <sub>16</sub>				
			286T		66 <sup>15</sup> / <sub>16</sub>				
6E	6	6	256T	8 <sup>15</sup> / <sub>16</sub>	67 <sup>3</sup> / <sub>8</sub>	15 <sup>3</sup> / <sub>4</sub>	28 <sup>1</sup> / <sub>2</sub>	15 <sup>3</sup> / <sub>8</sub>	11 <sup>3</sup> / <sub>4</sub>
			284T		68 <sup>1</sup> / <sub>8</sub>				
			286T		70 <sup>7</sup> / <sub>8</sub>				
			324T		71 <sup>1</sup> / <sub>16</sub>				
			326T		73 <sup>1</sup> / <sub>16</sub>				



# ITT

**GOULDS PUMPS**  
Commercial Water

## Other Goulds 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-P Engine Driven Pumps

Portable gasoline engine driven with a volute priming system.

- 2" with NPT connections
- Capacities to 140 GPM
- Heads to 90 feet
- 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
- 7/16" Solids Handling



# ITT

Commercial Water



Goulds Pumps, Prime Line, Trash Hog and the ITT Engineered Blocks Symbol are registered trademarks and tradenames of ITT Corporation. Viton and Teflon are registered trademarks of Dupont. Briggs & Stratton is a registered trademark of Briggs & Stratton Corporation.

SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE.

**BRPL May, 2007**

© 2007 ITT Corporation

*Engineered for life*