

5150/VJC

Vertical Cantilever Bottom Suction Pumps



5150/VJC

Vertical Cantilever Pumps Designed to Handle Corrosive/
Extremely Abrasive Slurries

- Capacities to 1817 m³/h | 8000 GPM
- Heads to 79 m | 260 ft
- Temperatures to 93° C | 200° F
- Pit Depths to 3.4 m | 11 ft
- Solids to 98 mm | 3 7/8 in

Design Features

- **Cantilever Design** - No submerged bearings.
- **External Impeller Adjustment** - Maintains pump efficiency and performance.
- **Dual Volute Casing** - Eliminates radial unbalance; reduces wear.
- **Materials of Construction** - Available in a wide range of corrosive/abrasive resistant alloys.
- **Heavy-Duty Bearings Bottom Suction** - Removes solids from sump floor.
- **Removable Suction Liner**
Maximum Interchangeability

Services

- Steel Mills
- Power Plants
- Foundries
- Alumina Refineries
- Cement Mills
- Phosphoric Acid Plants
- Coal Prep Plants
- Phosphate Mines
- Iron Ore Slurry
- Mine Slurry



Application Flexibility

Direct or Belt Drive

Goulds offers drive arrangements to meet specific user requirements.



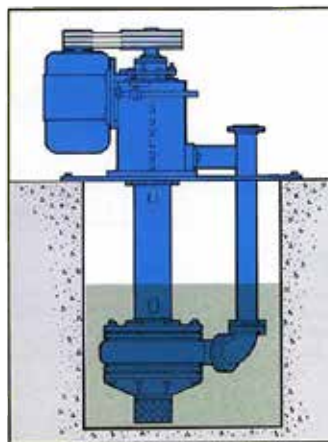
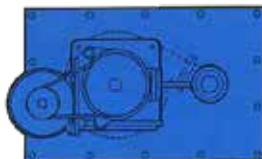
Direct drive offers simplicity, ease of installation and minimum maintenance.



Belt drive allows use of standard speed motors with full diameter impellers. Adapts pump to meet any head or capacity. Extends wear life through low operating speeds.

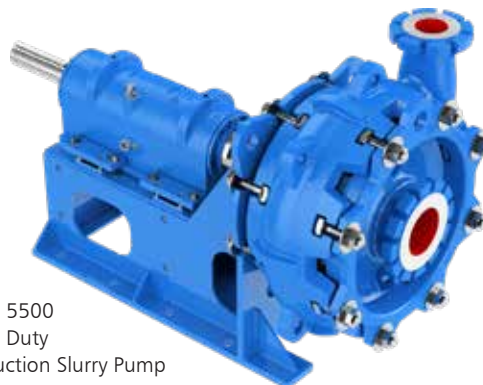
Optional Floor Plate

Optional floor plate enhances removal of pump from the sump. Custom designed floor plates can be provided to fit your sump.



Horizontal Pumps

Goulds makes a complete line of horizontal abrasive slurry pumps in sizes from 1" to 14" discharge with capacities to 3636 m³/h | 16,000 GPM and heads to 120 m | 395 ft. Pumps are available in side suction or end suction configurations.



Model 5500
Severe Duty
End Suction Slurry Pump

Construction

Parts List and Materials of Construction

Item No.	Part Name	Material		
		Standard		Optional*
		Cast Iron (VJC)	HC600	316SS
100	Casing	Cast Iron	HC600	316
100B	Suction Liner	Cast Iron	HC600	316
101	Impeller	Cast Iron	HC600	316
103	Casing Ring (5150)	—	HC600	316
109	Bearing End Cover	Cast Iron		
112	Thrust Bearing	Steel		
122	Shaft	1144 Steel		316
123	Deflector	Rubber		
126	Shaft Sleeve	416		
134	Thrust Bearing Housing	Cast Iron		
168	Radial Bearing	Steel		
178	Impeller Key (5150)	Steel		316
182	Suction Cover (5150)	—	HC600	316
182	Suction Cover (VJC)	Cast Iron		316
192	Pipe Column	Steel		316
195	Discharge Pipe	Steel		316
228A	Bearing Frame	Cast Iron		
304	Impeller Nut (5150)	316		
315	Discharge elbow	Steel	Cast iron-5150/Steel-VJC	316
333	Labyrinth Seal	Carbon Filled PTFE		
473	Throttle Busing (VJC)	Cast Iron	HC600	316

* For other materials, contact factory.

Materials of Construction

Material Specifications	
Cast iron	ASTM A48 – Classes 25 and 35
HC600	High Chrome Iron – Similar to ASTM A532 C 1.3 Type A
316SS	Stainless Steel – AISI 316 or ASTM A743, Grado CF8M

Construction Details

			Pump Size														
Model VJC			2x3-14		3x4-14		4x6-14		6x6-14		8x10-18		10x12-22				
Impeller and Casing	Net Weight — Lbs. (kg)		2000 (907)		2080 (943)		2100(953)		2600(1179)		3500 (1588)		6200(2812)				
	Min. Casing Thickness — in. (mm)		.56(14)		.62(16)						.75(19)						
	Max. Solids Size — in. (mm)		7/8 (22)		1-1/8(29)		1-3/8(35)		1-1/2(38)		2(51)		2-1/4(57)				
	Workina Pressure — PRIG (kPa)		127 PRIG (875)														
			Pump Size														
			3X3-12	4X4-14½	4X6-18	4X6-21½	6X6-21½	5X6-15	6X6-17½	6X8-17½	6X8-21	8X8-17½	8X10-17½	8X10-21	10X12-21	12X14-21¾	
Model 5150					¾ (22)	1 (25)	1-½ (28)	¾ (22)		1-½ (28)		¾ (19)		1-½ (28)	1-¾ (35)		
Min. Casing Thickness — In. (mm)			¾ (16)		¾ (22)	1 (25)	1-½ (28)	¾ (22)		1-½ (28)		¾ (19)		1-½ (28)	1-¾ (35)		
Max. Solids Size — In. (mm)			¾ (16)	¾ (22)	1-½ (29)	1-¾ (32)		2 (51)	1-¾ (44)	1-½ (38)	3-¾ (98)	2-¾ (70)	2-¾ (70)	2-¾ (73)	3-¾ (86)		
Working Pressure — PSIG (kPa)			150 (1034)														
SHAFT AND BEARING DATA																	
			Bearing Frame														
			C2		C3		C4		C5A		C5		C6A		C6		
Shaft	Diameter at Coupling (Size 6x6-12 and Larger)		2.875		2.875		2.875 (3.375)		2.875		2.875 (3.375)		2.875 (3.375)		2.875 (3.375)		
	Dia. Between Bearings		4.0		5.0		5.75		7.0		7.0		8.125		8.125		
	Dia. at Outboard Bearing		3.150		3.346		4.331		3.346		3.812		4.331		4.50		
	Dia. at Inboard Bearing		3.543		4.724		5.512		6.692		6.692		7.784		7.784		
	Bearing Span		24.63		29.25		33.0		29.6		31.75		33.0		34.38		
Bearings	Outboard¹		7216 Duplex		7317 Duplex		7322 Duplex		7317 Duplex		90381 Duplex		7322 Duplex		HM926740 HM926710D		
	Inboard²		6218		6224		6228		61834		23034		61804		2394D		

1) Outboard bearings are duplex angular contact bearings on frame sizes C2, C3, C4, C5A, & C6A; and are double row tapered roller bearings on the C5 and C6 frames.

2) Inboard bearings are single row deep groove ball bearings on frame sizes C2, C3, C4, C5A, & C6A; and are spherical roller bearings on the C5 and C6 frames.

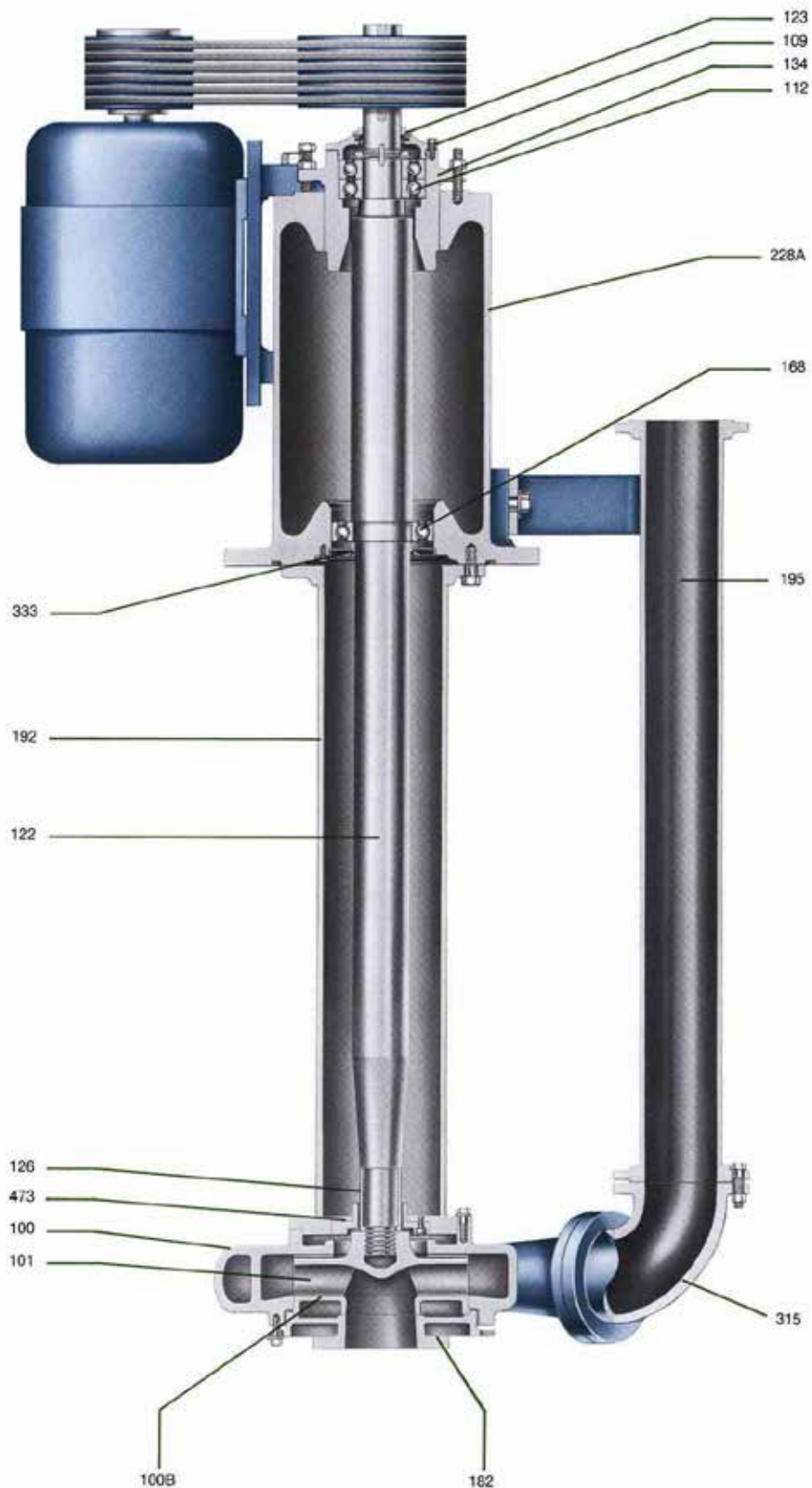
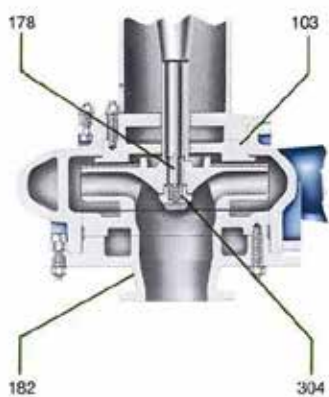
3) All dimensions are in inches.

Sectional View

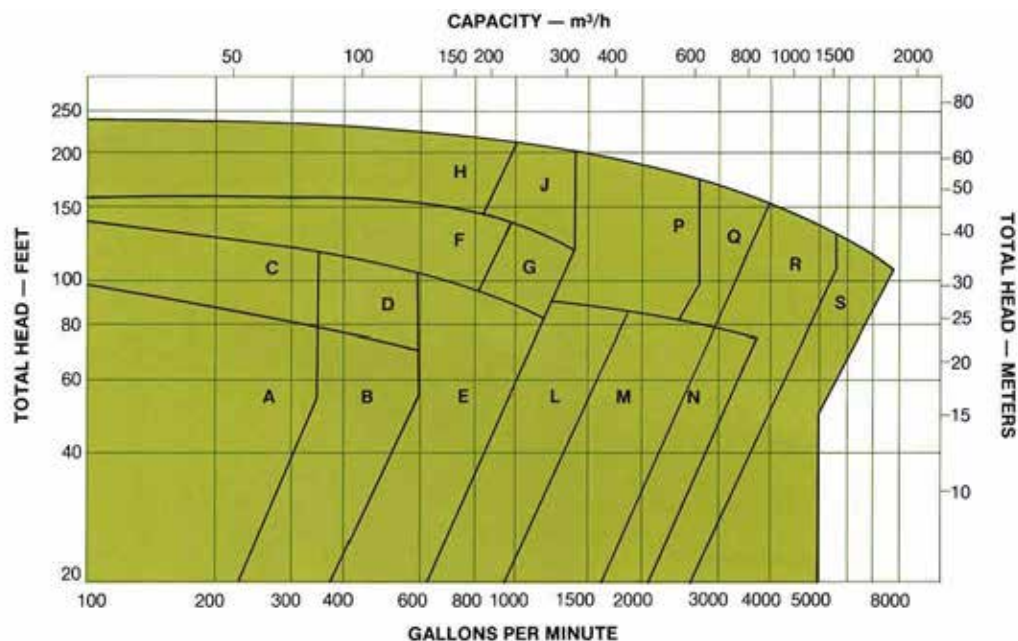


OPTIONAL TAILPIPE
WITH STRAINER

Model 5150

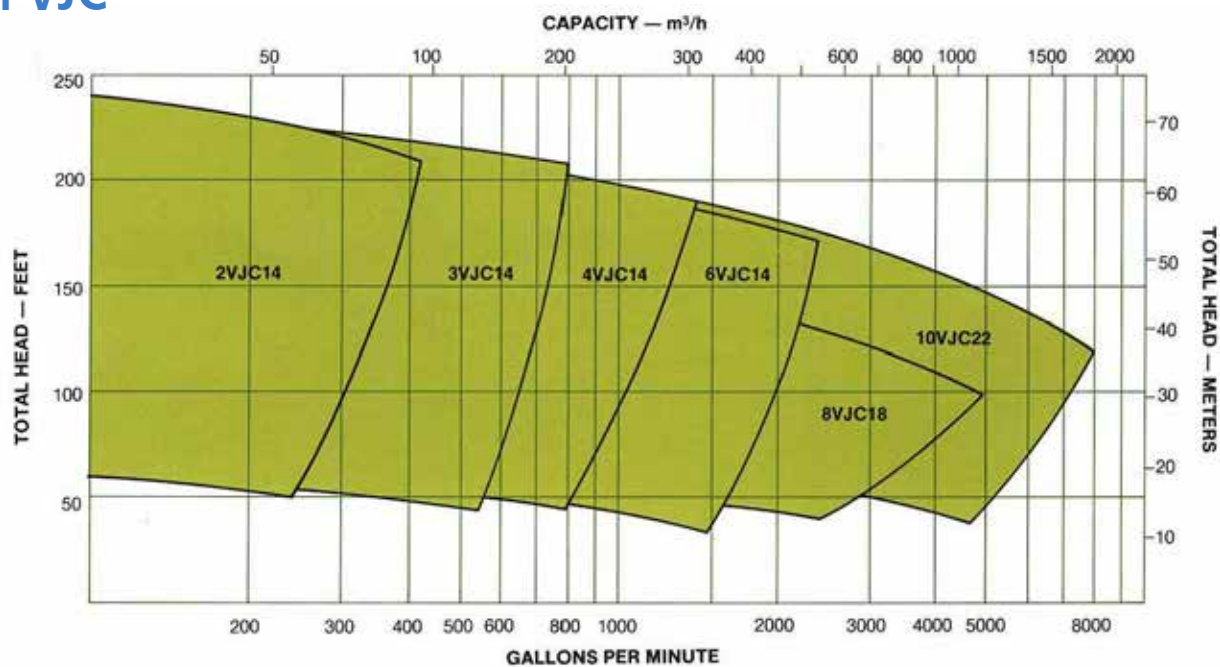


Hydraulic Coverage

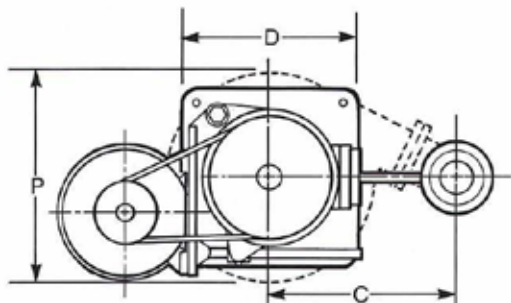


MODEL 5150 PUMP SELECTION CHART			
Code	Pump Size	Code	Pump Size
A	3 x 3 x 12, 3 x 4 x 12, 4 x 4 x 14½, 4 x 5 x 14½	J	6 x 8 x 21, 6 x 6 x 21½
B	4 x 4 x 14½, 4 x 5 x 14½, 5 x 5 x 15	L	6 x 8 x 17½, 6 x 8 x 21, 8 x 10 x 21, 8 x 8 x 17½
C	4 x 4 x 14½, 4 x 5 x 14½, 4 x 6 x 21½	M	8 x 8 x 17½, 8 x 10 x 17½, 6 x 8 x 21, 8 x 10 x 21, 10 x 12 x 21
D	4 x 4 x 14½, 4 x 5 x 14½, 5 x 6 x 15, 4 x 6 x 18, 4 x 6 x 21½	N	8 x 10 x 17½, 10 x 12 x 21
E	5 x 6 x 15, 6 x 6 x 17½, 6 x 8 x 17½, 4 x 6 x 18, 6 x 8 x 21	P	6 x 8 x 21, 8 x 10 x 21, 10 x 12 x 21
F	4 x 6 x 18, 6 x 8 x 21, 4 x 6 x 21½, 6 x 6 x 21½	Q	8 x 10 x 21, 10 x 12 x 21, 12 x 14 x 21½
G	6 x 6 x 17½, 6 x 8 x 21, 8 x 10 x 21, 6 x 6 x 21½	R	10 x 12 x 21, 12 x 14 x 21½
H	4 x 6 x 21½	S	12 x 14 x 21½

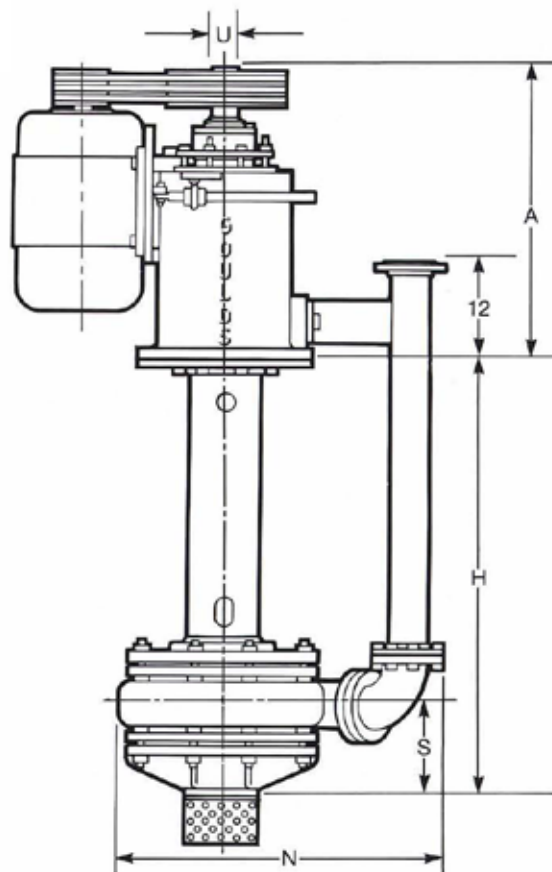
Model VJC



Dimensions and Weights



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

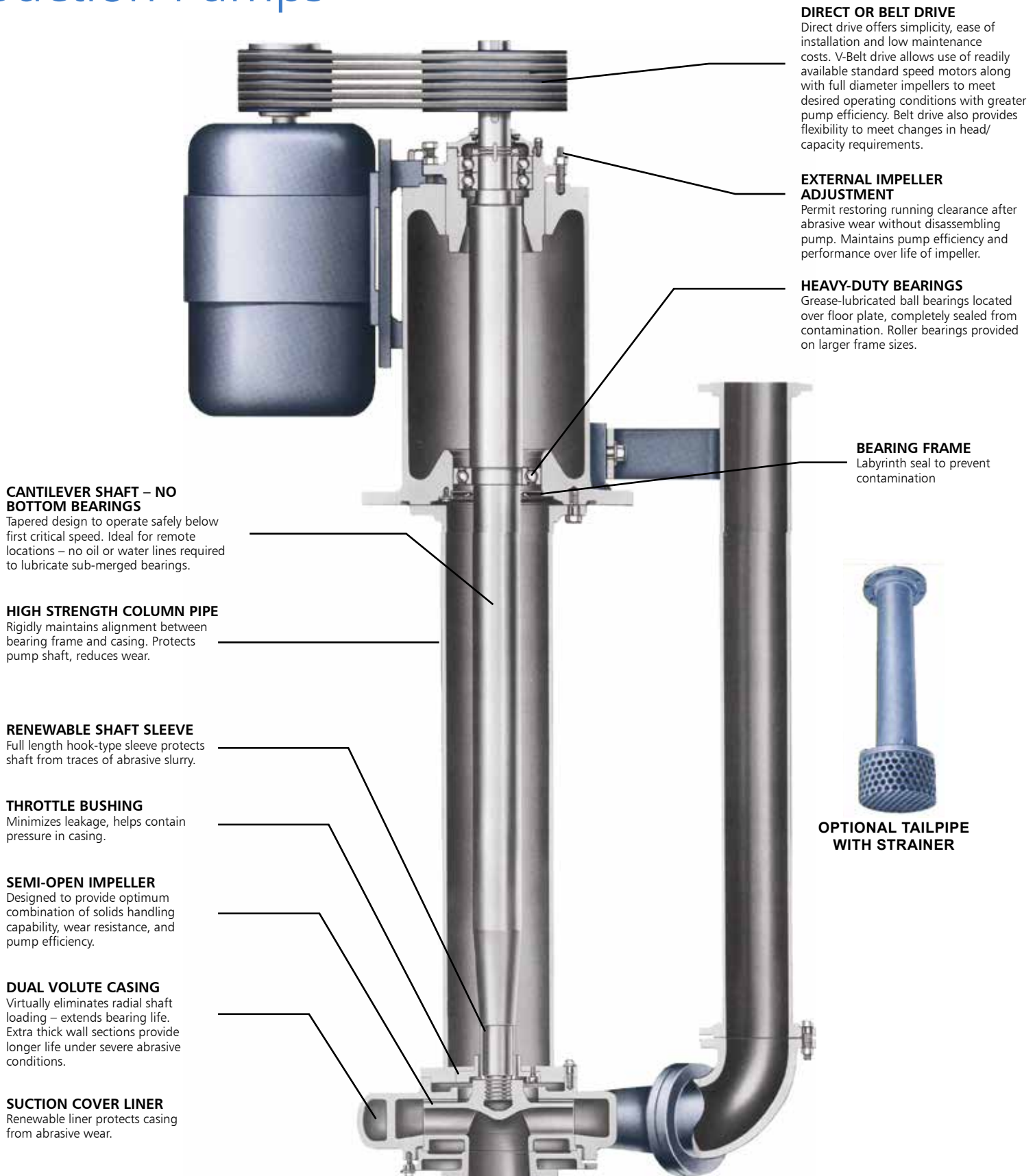


DIMENSIONS						
Model	Pump Size	C	H	N	P	S
VJC	2x3-11	16(406)	48 (1219)	29 (737)	17(432)	4(102)
	2x3-14	17.5(444)	Standard.	31 (787)	19 (483)	4 (102)
	3x4-11	17.8(452)	42 (1067)	31 (787)	19 (483)	4.8 (122)
	3x4-14	19(483)	thru 132	35 (889)	23 (584)	4.8(122)
	4x6-14	19.4 (493)	(3353) avail, in	35 (889)	23 (584)	5.3 (135)
	6x6-14	22.6 (574)	3" (76)	41 (1041)	26 (660)	5.6 (142)
	8x10-18	28.7 (730)	increments.	53 (1346)	37 (940)	9.6 (244)
	10x12-22	35.4 (899)		65(1651)	41 (1041)	9.6 (244)
5150	3x3-12			31 (787)	18 (457)	6.9(175)
	3x4-12	17.3 (439)				
	4x4-14½			33 (838)	20 (508)	7.5 (190)
	4x5-14½	18.5(470)		42 (1067)	26 (660)	
	4x6-18	23.3 (592)	Standard	46(1168)	30 (762)	9.5(241)
	4x6-21½	25.1 (238)	H Dimension	49(1245)		
	6x6-21½	26.5 (673)	is 48 (1219).	38 (965)	23 (584)	9.25 (235)
	5x6-15	20.6 (523)	42 (1067)	46(1168)	29 (737)	11 (279)
	6x6-17½		thru 132 (3353)			11.5(292)
	6x8-17½	26.75 (679)	is available in	50 (1270)	33 (838)	11.25(286)
	6x8-21		3" (76)			11.75 (298)
	8x8-17½	26.4(671)	increments.	58 (1473)	37 (940)	12 (305)
	8x10-21	30.8 (782)		63 (1600)	39(991)	12.5 (317)
	10x12-21	32.6 (828)		66 (1676)		14.25 (362)
	12x14-21½	33.5(851)				

DIMENSIONS – BEARING FRAMES			
Frame	A	D	U
C-2	38.9 (988)	22 (559)	2.38 (60.4)
C-3 & C5A	45.5(1153)	26 (660)	2.88(73.1)
C-4 & C6A	50.8(1290)	29 (737)	2.88(73.1)
C-5	50.8(1290)	29 (737)	3.38 (85.8)
C-6	53.4(1356)	30 (762)	3.38 (85.8)

FLANGE DIMENSIONS			
I.D.	O.D.	B.C.	Holes
2	6	4.75	4 – ⅜
3	7.5	6.0	4 – ⅜
4	9	7.5	8 – ⅜
5	10	8.5	8 – ⅜
6	11	9.5	8 – ⅜
8	13.5	11.75	8 – ⅜
10	16	14.25	12 – ⅜
12	19	17	12 – 1
14	21	18.25	12 – 1

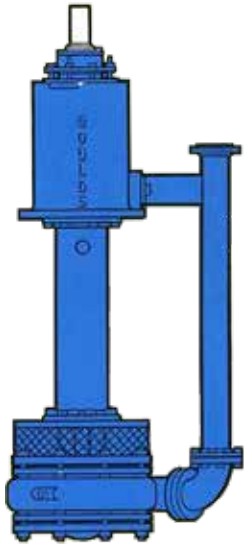
Model VJC Vertical Cantilever Bottom Suction Pumps



One Cantilever Design - Four Pump Models

Model 5100

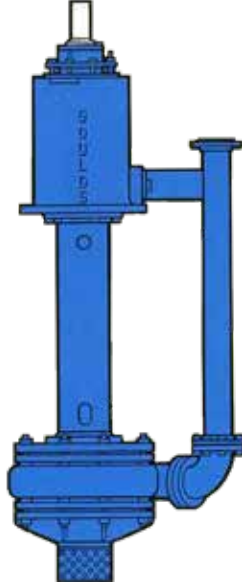
Vertical Cantilever
Top Suction Pump



Designed for wide range of corrosive and severe abrasive slurry services. Top suction design eliminates air binding, provides ease of maintenance. Handles abrasive solids to 3-3/8 in. (86 mm).

Model 5150

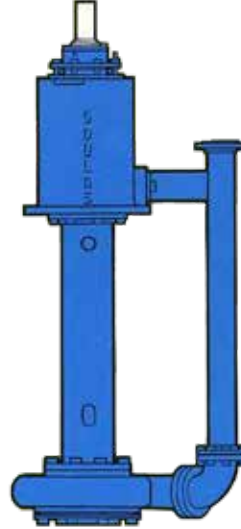
Vertical Cantilever
Bottom Suction Pump



For corrosive and extremely abrasive slurry services. Bottom suction removes solids from sump floor. Handles solids to 3-7/8 in. (98 mm).

Model VJC

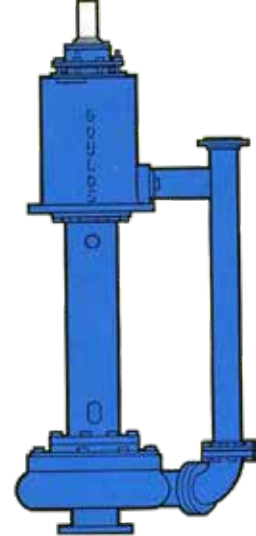
Vertical Cantilever
Bottom Suction Pump



Similar to model 5150, the Model VJC is ideal for corrosives and extremely abrasive slurries.

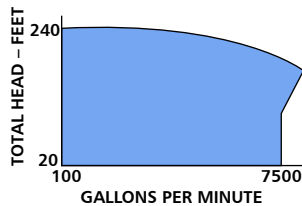
Model VHS

Vertical Cantilever
Recessed Impeller Pump

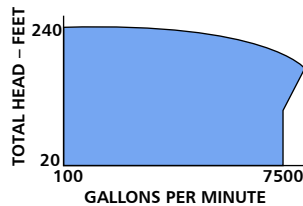


Designed to handle large or fibrous solids. Recessed, non-clog impeller – maximum solid size is equal to pump suction. Solids to 10 in. (254 mm).

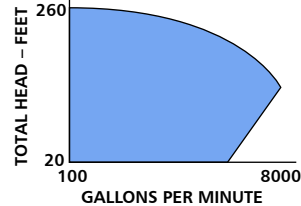
Hydraulic Coverage



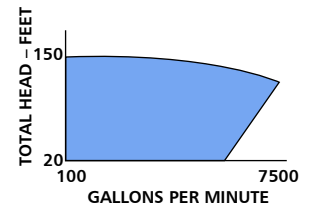
Hydraulic Coverage



Hydraulic Coverage

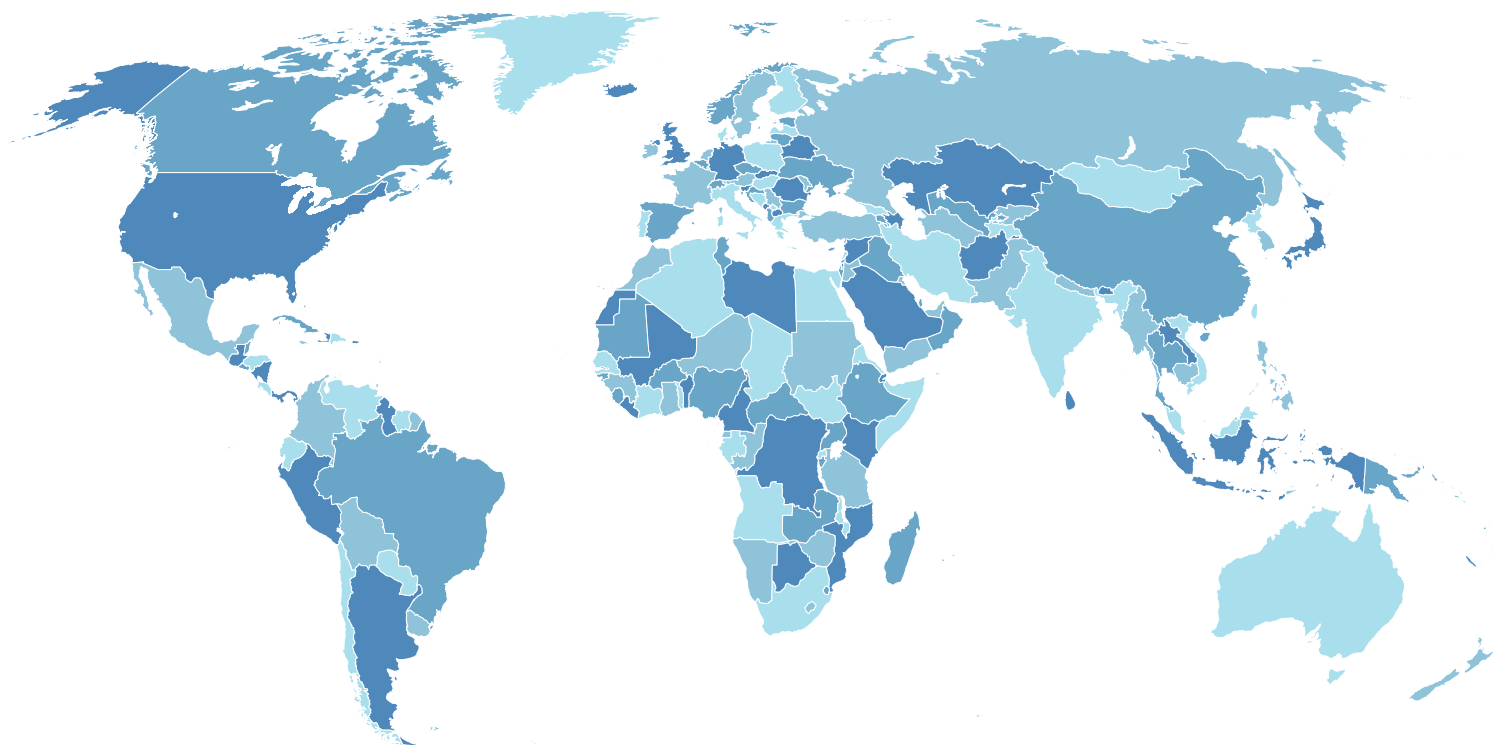


Hydraulic Coverage



Notes

Notes



Visit www.ittproservices.com & www.gouldspumps.com to
find nearest service, sales, and manufacturing locations



— An ITT Brand

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