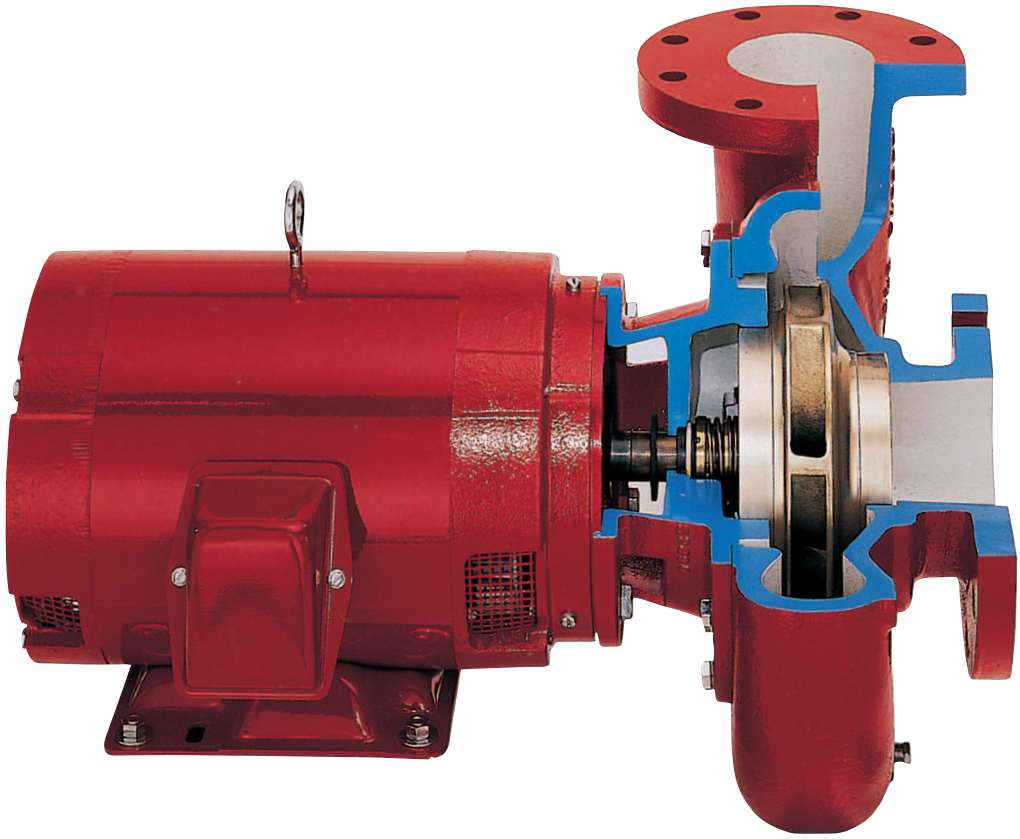
Series 1531 Pumps

THE INDUSTRY STANDARD IN END SUCTION PUMP DESIGN

B-305G

Bell & Gossett
a xylem brand

Series 1531 Close - Coupled Pumps



Standard Design Features

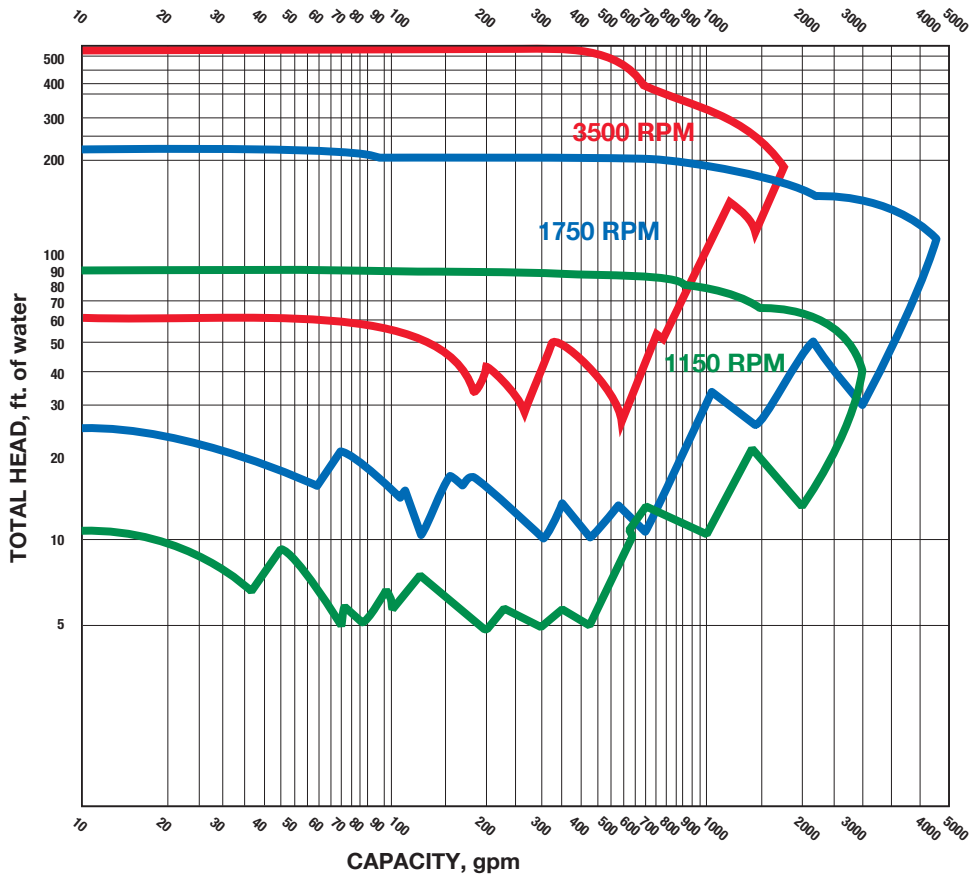
1. **Self-flushing mechanical seals** ensure maximum seal face lubrication, heat dissipation and debris removal without vulnerable, external flush tubing. As much as 25 percent of the total pump flow continuously flushes the seal faces.
2. **Back pull-out** design allows one service tech ease of maintenance.
3. **Aluminum bronze shaft sleeve** construction is standard. Special sealing between the sleeve and shaft prevents corrosion of the shaft by the pumped fluid.
4. **Enclosed, balanced impeller** for quiet, vibration free performance. Impellers are precision fitted to the shaft and positively locked with a shaft key.
5. **Heavy duty cast iron volute** construction for 175 PSI working pressure.
6. **Jacking bolts** provide ease of volute disassembly.
7. **Gauge tappings** on the suction and discharge flanges along with volute vent and drain tappings are standard.
8. **Hydrostatic testing** of each pump is standard.

Optional Equipment

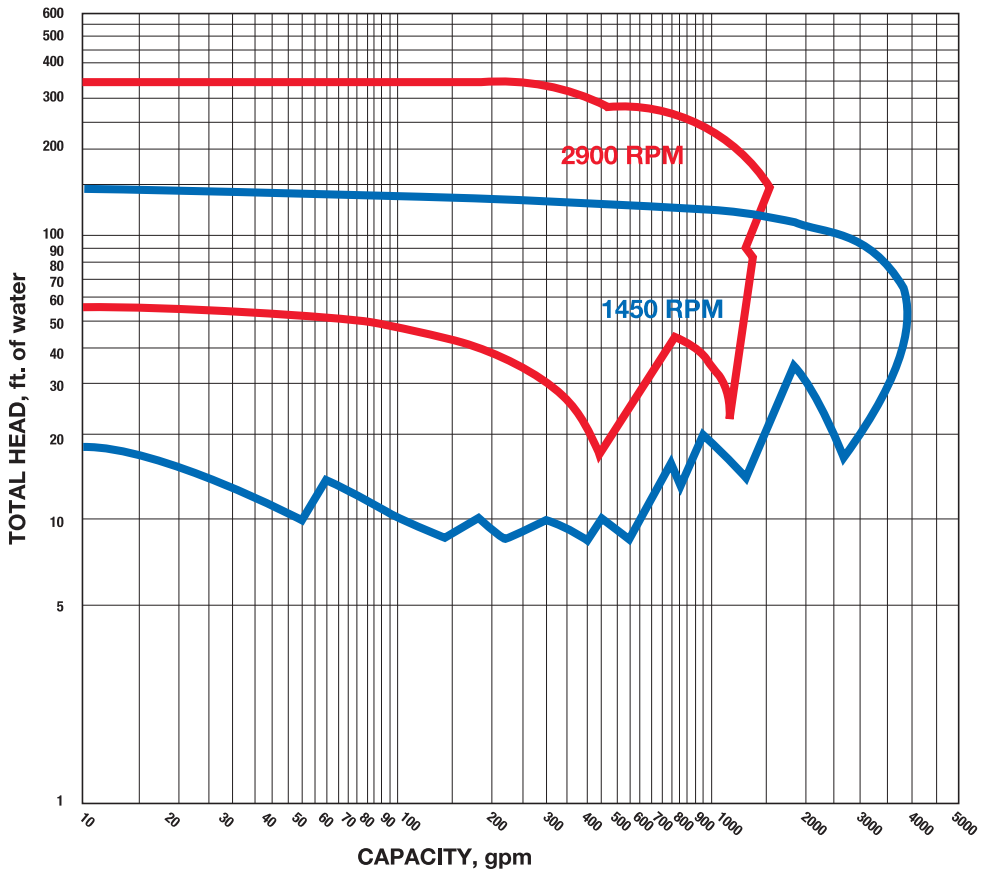
• All iron construction • Vertical mounting • Footed volute
• Bronze casing wear ring • Mechanical seal construction

Series 1531 Selection Charts

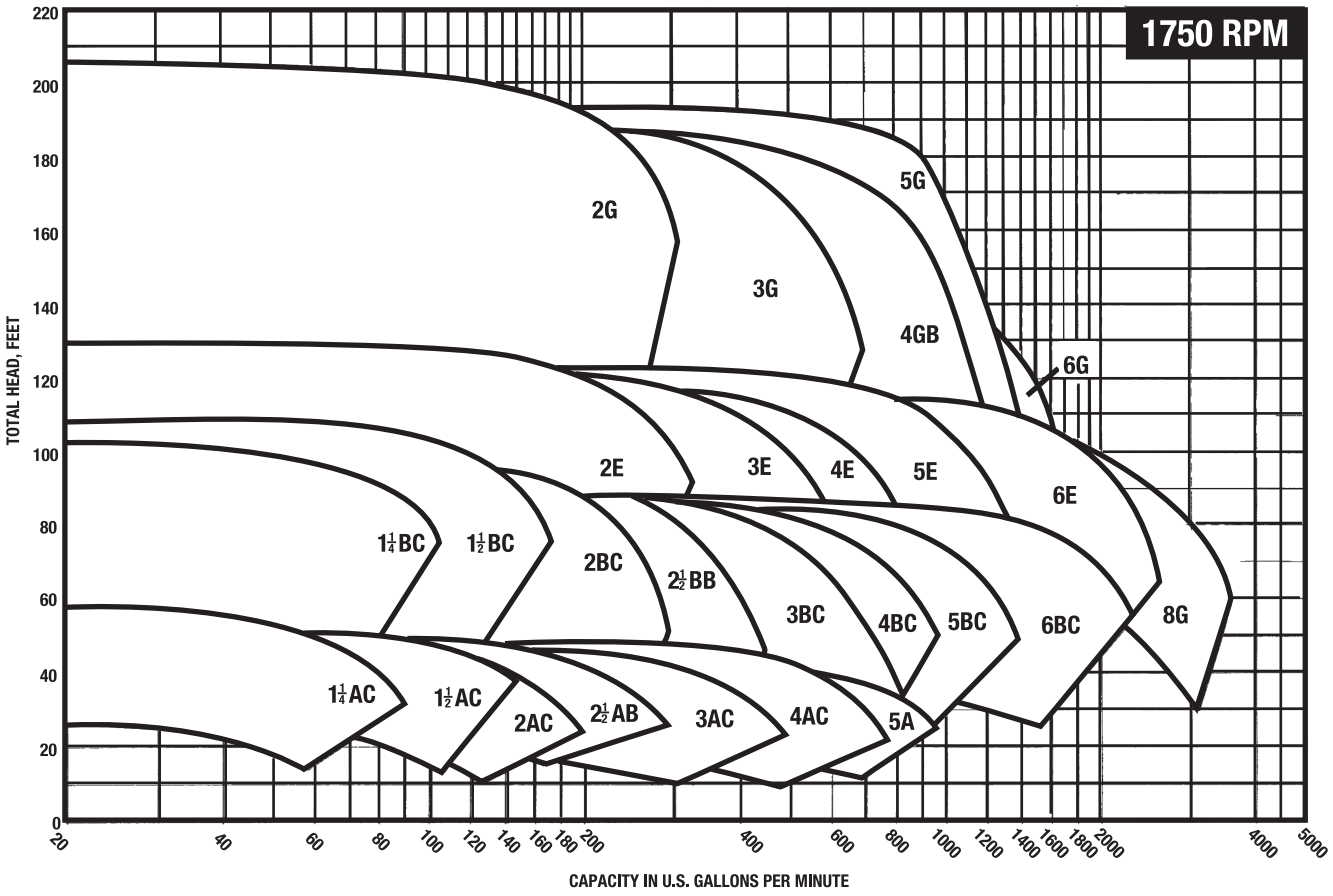
60 Hz

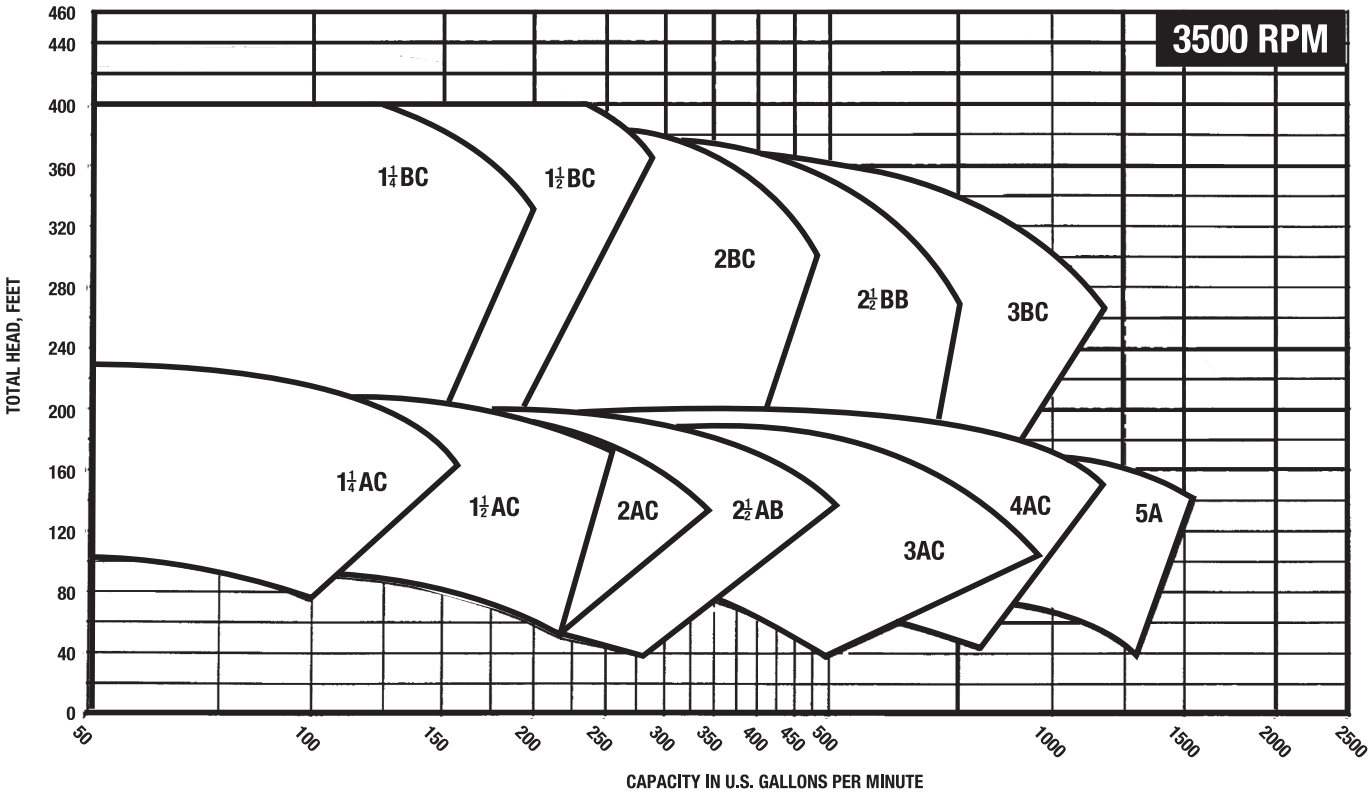


50 Hz



Series 1531 Performance Curves





Series 1531 Dimensions

Standard working pressure 175 PSI (12 BAR). Flanges drilled and faced per 125# ANSI Standards*.

SIZE OF PUMP AND DISCHARGE	SUCTION	PUMP DIMENSIONS FIGURE 1 – INCHES (MM)					
		DD	X	Z	AB (MAX)[1]	A (MAX)[1]	CP (MAX)[1]
1 1/4 AC (NPT)	1 1/2 NPT	4 3/4 (121)	5 (127)	4 1/2 (114)	10 3/4 (273)	10 1/2 (267)	25 1/2 (648)
1 1/2 AC (NPT)	2 NPT	5 (127)	6 (152)	4 5/8 (117)	10 3/4 (273)	12 1/2 (318)	32 1/4 (819)
2 AC	2 1/2	5 1/2 (140)	6 1/2 (165)	4 3/4 (121)	10 3/4 (273)	12 1/2 (318)	34 1/2 (876)
2 1/2 AB	3	5 13/16 (148)	6 (152)	4 11/16 (119)	10 3/4 (273)	12 1/2 (318)	35 1/4 (895)
3 AC	4	6 1/4 (159)	6 (152)	5 (127)	12 5/8 (321)	14 (356)	36 1/8 (918)
4 AC	5	6 7/8 (175)	7 1/2 (191)	5 3/4 (146)	15 1/8 (384)	16 (406)	40 5/8 (1032)
5 A	6	7 7/8 (200)	8 1/2 (216)	6 1/4 (159)	15 1/8 (384)	16 (406)	42 (1067)
1 1/4 BC (NPT)	1 1/2 NPT	6 1/8 (156)	8 (203)	5 1/2 (140)	12 5/8 (321)	14 (356)	35 1/8 (892)
1 1/2 BC (NPT)	2 NPT	6 1/4 (159)	6 1/2 (165)	5 3/4 (146)	15 1/8 (384)	16 (406)	36 3/8 (924)
2 BC	2 1/2	6 1/8 (156)	7 (178)	5 7/8 (149)	15 1/8 (384)	16 (406)	39 (991)
2 1/2 BB	3	7 1/4 (184)	6 3/4 (171)	6 (152)	15 1/8 (384)	16 (406)	39 1/8 (994)
3 BC	4	7 (178)	7 1/2 (191)	6 1/8 (156)	15 1/8 (384)	16 (406)	40 (1016)
4 BC	5	8 5/8 (219)	8 (203)	7 (178)	10 3/4 (273)	12 1/2 (318)	36 3/8 (924)
5 BC	6	9 1/2 (241)	10 (254)	7 1/2 (191)	12 5/8 (321)	14 (356)	37 1/8 (943)
6 BC	8	10 3/8 (264)	10 1/2 (267)	8 1/4 (210)	15 1/8 (384)	16 (406)	43 1/2 (1105)
2 E	3	7 5/8 (194)	8 (203)	6 1/2 (165)	10 3/4 (273)	12 1/2 (318)	39 1/4 (997)
3 E	4	8 1/2 (216)	9 1/2 (241)	7 3/8 (187)	10 3/4 (273)	12 1/2 (318)	35 1/2 (902)
4 E	5	9 1/4 (235)	9 3/4 (248)	7 1/4 (184)	12 5/8 (321)	14 (356)	35 (889)
5 E	6	9 5/8 (244)	10 1/2 (267)	7 15/16 (202)	15 1/8 (384)	16 (406)	38 (965)
6 E	8	10 7/8 (276)	11 (279)	8 15/32 (215)	15 1/8 (384)	16 (406)	40 5/8 (1032)

Dimensions are subject to change. Not to be used for construction purposes unless certified.
[1]Varies with motor manufacturer.

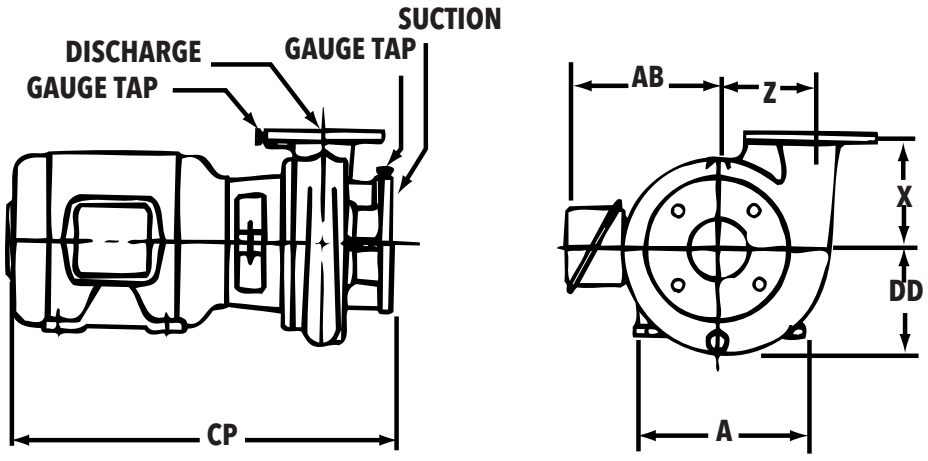


FIGURE 1

Series 1531 Dimensions

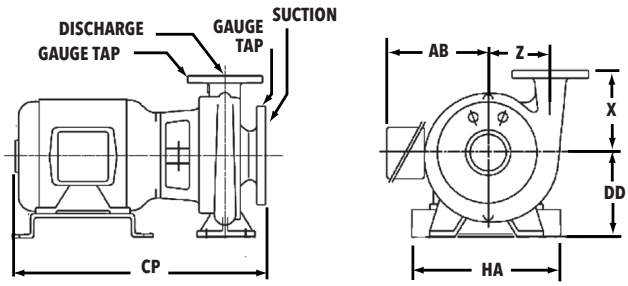


FIGURE 2

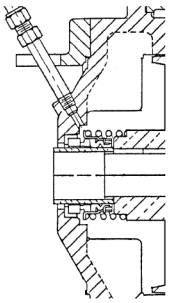
SIZE OF PUMP AND DISCHARGE	SUCTION	PUMP DIMENSIONS FIGURE 2 – INCHES (MM)					
		DD	X	Z	AB (MAX)[1]	HA (MAX)[1]	CP (MAX)[1]
2G	3	10 (254)	9 (229)	7 1/4 (184)	11 1/2 (292)	14 (356)	31 7/8 (810)
3G	4	10 (254)	9 1/2 (241)	8 (203)	14 5/8 (371)	15 3/4 (400)	34 1/16 (865)
4GB	5	11 (279)	10 (254)	8 9/16 (217)	14 5/8 (371)	15 3/4 (400)	36 1/16 (916)
5G	6	12 (305)	13 (330)	9 (229)	14 5/8 (371)	22 1/2 (571)	36 5/16 (922)
6G	8	12 (305)	14 (357)	9 5/16 (236)	14 5/8 (371)	22 1/2 (571)	37 1/16 (941)
8G**	10*	14 3/8 (365)	17 5/16 (440)	0	15 7/8 (403)	27 1/2 (698)	40 27/64 (1026)

Dimensions are subject to change. Not to be used for construction purposes unless certified.
[1]Varies with motor manufacturer.
*8G suction flange drilled and tapped per ANSI B16.1 standard.
**8G is Stuffing Box Configuration only.

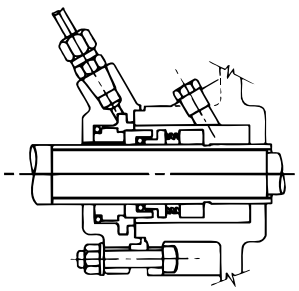
Consult Publication B-360 "Performance Curves" for required horsepower.

Series 1531 Construction features and options

STANDARD	OPTIONAL
Cast Iron Volute	All Iron Construction
Alloy Steel Shaft	Bronze Casing Wear Ring
Bronze Shaft Sleeve	Stainless Steel Shaft Sleeve
Internal Flushed Seal	Bypass Flush Line Stuffing Box Configuration
Buna/Carbon-Ceramic Seal	(Standard Configuration only) EPR/Tungsten Carbide-Carbon Seal EPR/Silicone Carbide-Silicone Carbide Seal Stuffing Box Configuration EPR/Tungsten Carbide-Carbon Seal



1531-F OPTION
BYPASS FLUSH LINE
INTERNALLY FLUSHED SEAL



1531-S OPTION
FLUSH SINGLE SEAL
STUFFING BOX CONSTRUCTION

SEAL SELECTION GUIDE

STANDARD CONFIGURATION

Buna/Carbon-Ceramic – PH Limitations 7-9; Temperature Range -20 to +225°F

EPR/Tungsten Carbide-Carbon – PH Limitations 7-11; Temperature Range -20 to +250°F

EPR/Silicone Carbide-Silicone Carbide – PH Limitations 7-12.5; Temperature Range -20 to +250°F

Recommended for use on closed or open systems which are relatively free of dirt and/or other abrasive particles.

STUFFING BOX CONFIGURATION

Flushed Single Seal

EPR/Tungsten Carbide-Carbon – PH Limitations 7-11; Temperature Range -20 to +300°F†

Recommended for use on closed or open systems which may contain a high concentration of abrasives. An external flush is required.

Flushed Double Seal

EPR/Carbon-Ceramic – PH Limitations 7-9; Temperature Range 0 to +250°F

Recommended for use on closed or open systems which may contain a high concentration of abrasives. An external flush is required.

Packing

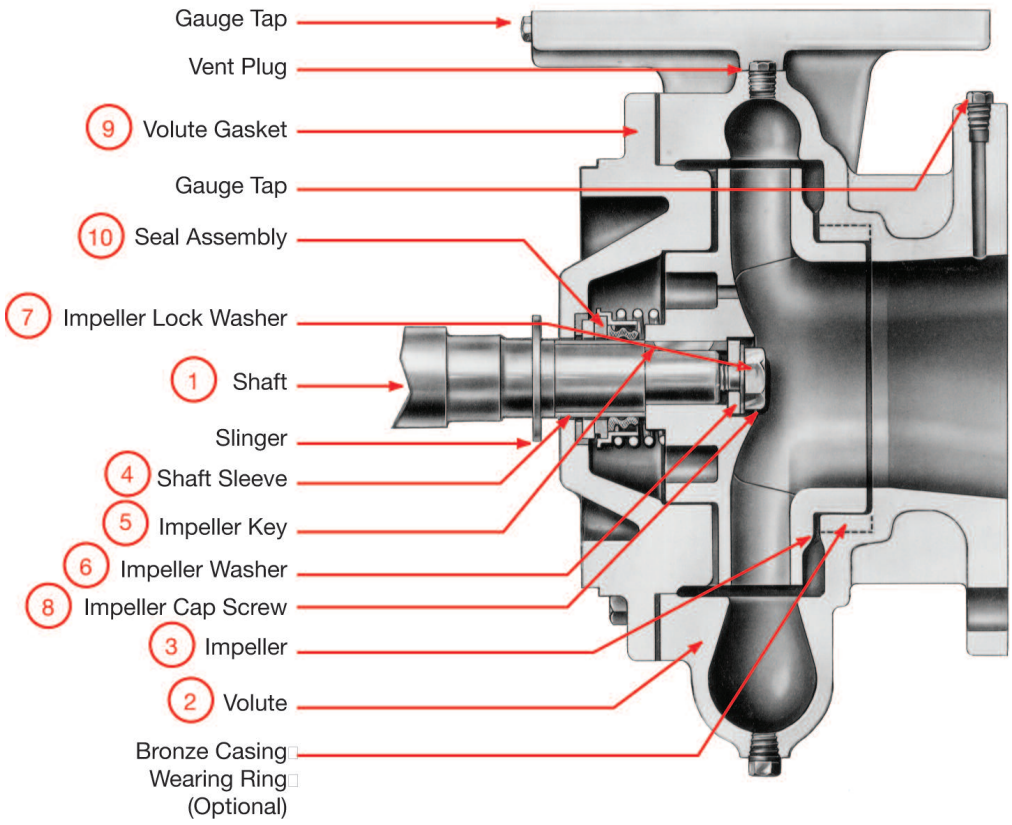
Braided Graphite PTFE-PH Limitations 7-9; Temperature Range 0 to +250°F

Recommended for use on closed or open systems which require a large amount of makeup water, as well as systems which are subjected to widely varying chemical conditions and solids buildup.

† For operating temperatures above 250°F a cooled flush is required and is recommended for temperatures above 225°F for optimum seal life. On closed systems cooling is accomplished by inserting a small heat exchanger in the flush line to cool the seal flushing fluid.

Flush-line Filters and Sediment Separators are available on special request.

Series 1531 Construction features and options



DESCRIPTION	BRONZE FITTED PUMP	ALL IRON PUMP*
1 Shaft	Steel SAE 1144	Steel SAE 1144
2 Volute	Cast Iron ASTM #A159	Cast Iron ASTM #A159
3 Impeller	Cast Bronze ASTM #B854	Cast Iron ASTM #159
4 Shaft Sleeve	Aluminum Bronze ASTM #B111	#304 Stainless Steel ASTM #A312
5 Impeller Key	#304 Stainless Steel	#304 Stainless Steel
6 Impeller Washer	1531 – Brass	Stainless Steel
7 Impeller Lock Washer	#304 Stainless Steel	#304 Stainless Steel
8 Impeller Cap Screw	#304 Stainless Steel	#304 Stainless Steel
9 Volute Gasket	Cellulose Fiber	Cellulose Fiber
10 Seal Assemblies		
Standard Seal		
Bellows	Buna N	Buna N
Faces	Carbon-Ceramic	Carbon-Ceramic
Metal Parts	Brass	Stainless Steel
Spring	Stainless Steel	Stainless Steel
For Stuffing Box		
10A Flushed Single		
O-Rings	EPR	EPR
Faces	Carbon-Tungsten Carbide	Carbon-Tungsten Carbide
Metal Parts	Stainless Steel	Stainless Steel
Spring	Stainless Steel	Stainless Steel
10B Flushed Double		
O-Rings	EPR	EPR
Faces	Carbon-Ceramic	Carbon-Ceramic
Metal Parts	Stainless Steel	Stainless Steel
Spring	Stainless Steel	Stainless Steel
Packed		
Packing	Graphited Braided Yarn	Graphited Braided Yarn
Gland	Bronze	Cast Iron
Lantern Ring	Filled TFE	Filled TFE

*All Iron Construction NOT available in G sizes.

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