



**Barmesa[®]
Pumps**

Discharge diameters
1.5", 2", 3", 4", 5", 6", 8", 10", 12", 14"
HP
1 to 500



**Split Coupled Vertical
In-Line Pumps
BVL**

Split Coupled Vertical In-Line Pumps

- ▶ Capacities up to 12,000 GPM
- ▶ Heads up to 560 ft
- ▶ Temperatures up to 194° F

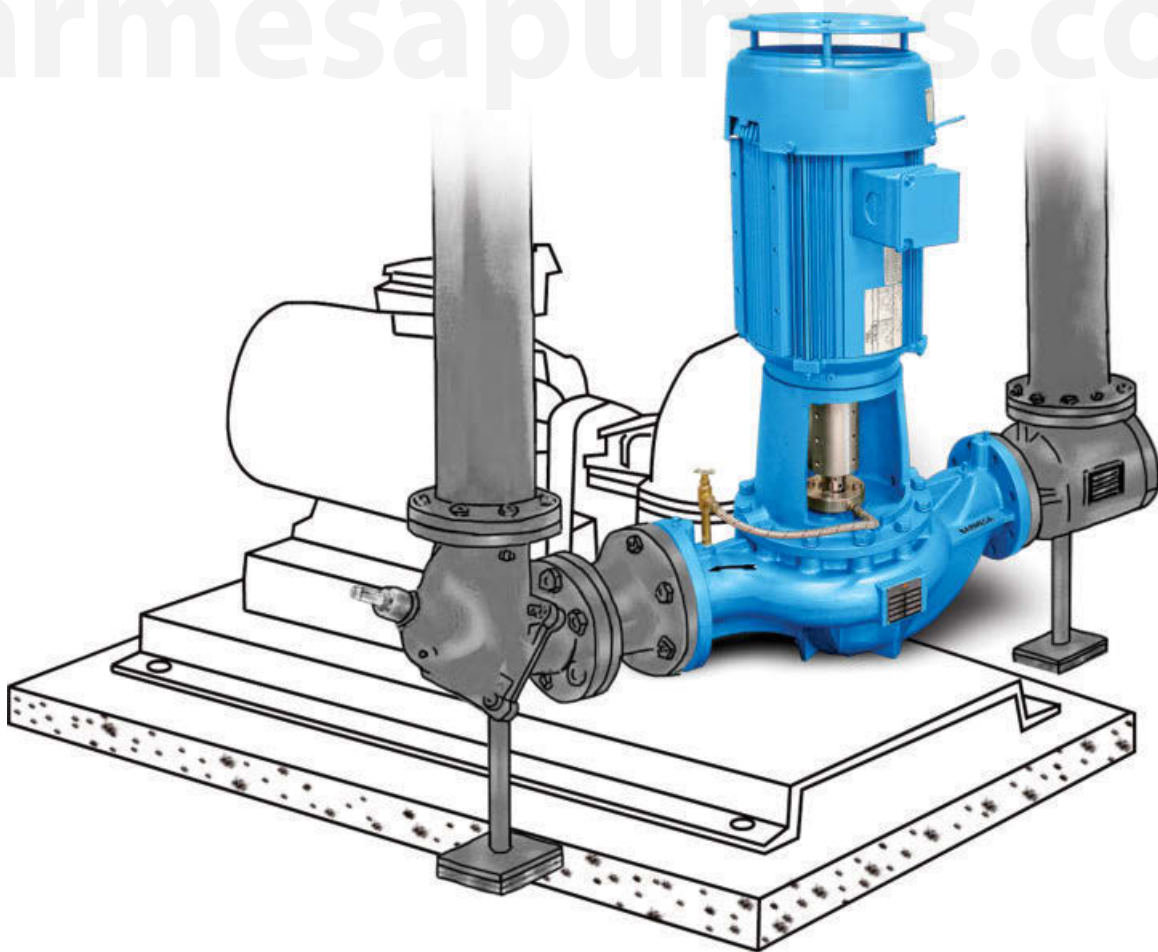
Typical Applications

- ▶ Air conditioning
- ▶ Condensed water
- ▶ Chilled water
- ▶ Service water

Advantages

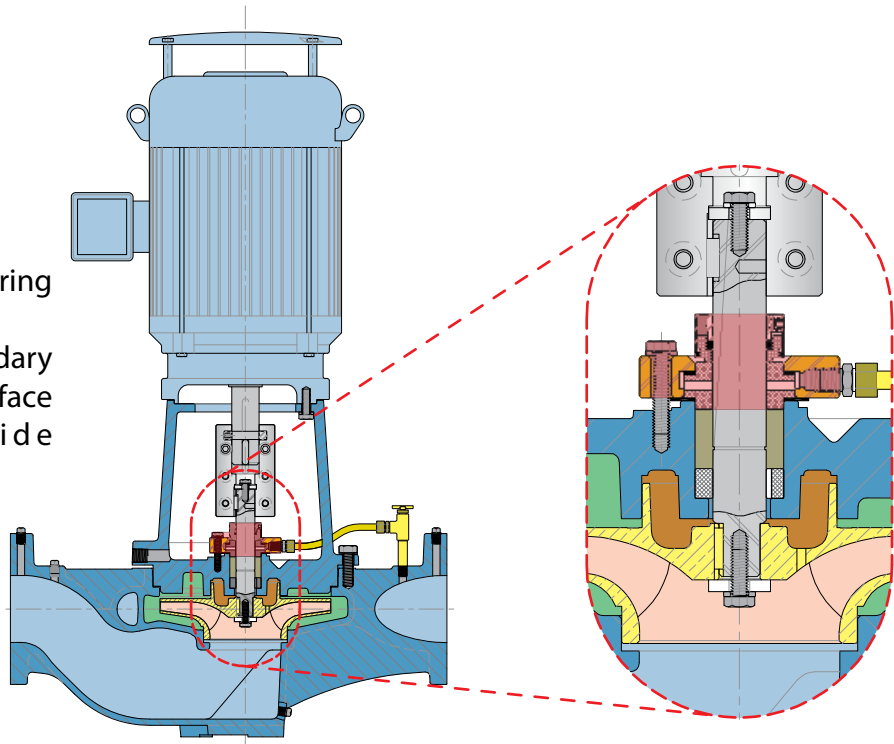
- ▶ The BVL Pump does not require field alignment or a foundation.
- ▶ Saving space, it may take three times less space than the horizontal split case pump.
- ▶ Coupling allows all mechanical seals components to be removed for servicing without disturbing other components. Reinstalling it gets the pump back to its original specifications.
- ▶ Highly reliable due to the rotating assembly and the dynamically balanced impeller assuring a silent operation.
- ▶ Simplifies pipes fixing considerably. The pump is supported by the pipes avoiding misalignment.
- ▶ Installation and servicing costs are highly reduced.
- ▶ Minimum time required for maintenance.
- ▶ Servicing can be done without disassembling it.

BVL PUMP vs. SPLIT CASE PUMP



Mechanical Seal

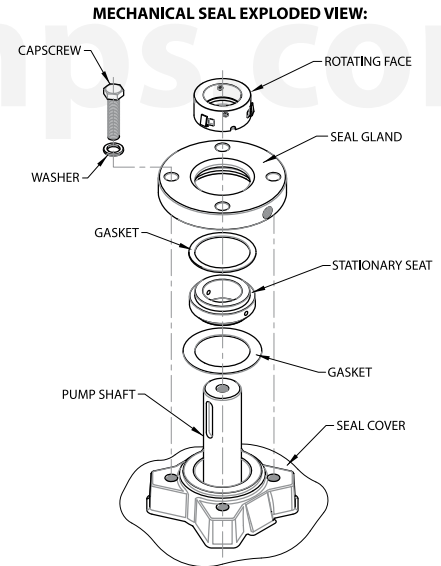
- ▶ Stainless steel multi-spring outside balanced type.
- ▶ Materials: viton secondary seal, carbon rotating face and silicon carbide stationary seat.



Mechanical seal on the BVL pump.

Mechanical seal diameters as follows:

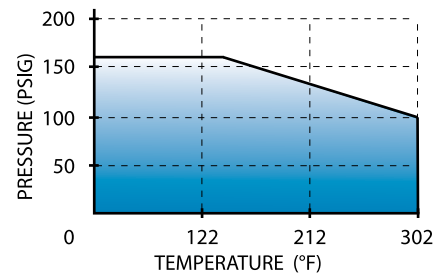
GROUP	FRAME	FLANGE	SHAFT MOTOR DIAMETER	SPACE BETWEEN SHAFTS	MECHANICAL SEAL DIAMETER
S	143 - 145	TC	7/8"	1 3/8"	1 1/8"
	182 - 184		1 1/8"	2 1/2"	
	213 - 215		1 3/8"	2"	
	254 - 256		1 5/8"	1 3/8"	
M	284 - 286	TSC	1 5/8"	2 3/4"	1 5/8"
	324 - 326		1 7/8"	2 7/8"	
	364 - 365		1 7/8"	2 7/8"	
	404 - 405		2 1/8"	2 3/8"	
	284 - 286	TC	1 7/8"	1 3/8"	
	324 - 326		2 1/8"	1 3/8"	
	364 - 365		2 3/8"	1 3/8"	
	445 - 446	TSC	2 3/8"	1 3/8"	
	182 - 184	TC	1 1/8"	2 1/2"	
	213 - 215		1 3/8"	2"	
254 - 256	1 5/8"		1 3/8"		
324 - 326	TC		2 1/8"	1 3/8"	2 1/8"
364 - 365		2 3/8"	1 3/8"		
404 - 405		2 7/8"	2 5/8"		
444 - 445		3 3/8"	1 3/8"		
447 - 449		3 3/8"	1 3/8"		



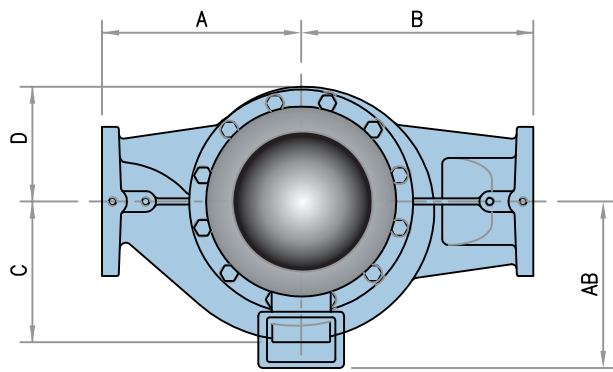
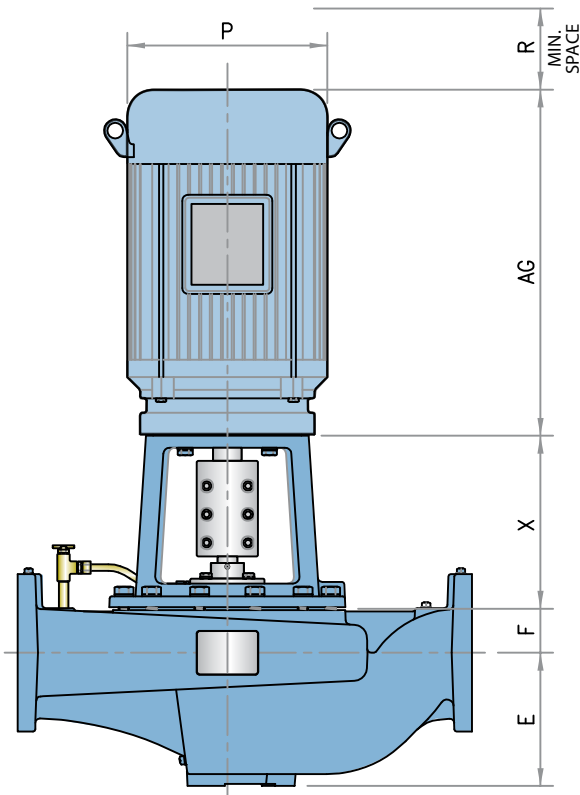
Split spacer coupling allows seal maintenance without disturbing pump or motor.

The outside mounting mechanical seal makes more simple its maintenance because it is accessible and easily replaceable; after removing the coupling, the space left between shafts is enough to remove the seal.

Pressure/temperature chart class 125 flanges



General dimensions



COUPLINGS						
Impeller diameter	Dimensions		Impeller diameter	Dimensions		
	Frames	X		Frames	X	
6"	143 - 145TC	8.75	13"	182 - 256TC	12.5	
	182 - 256TC	10.5		284 - 286TC	13.25	
8"	143 - 145TC	8.25		324 - 326TC	14	
	182 - 256TC	10		444 - 445TC	14.75	
	284 - 286TSC	13		364 - 365TC	15.25	
	324 - 326TSC	13.75		404 - 405TC	16	
10"	143 - 145TC	8.25		14"	444 - 449TC	16.75
	182 - 256TC	10			364 - 365TC	15.26
	284 - 286TC	10			404 - 405TC	16
11.5"	326 - 326TC	135			444 - 446TC	16.5
	182 - 256TC	9.88			447 - 449TC	17
	284 - 286TC	12.88			364 - 365TC	16.75
	324 - 326TC	14.12	15"	404 - 405TC	18.38	
				444 - 449TC	18.38	

BVL PUMP						
Size	Dimensions					
	A	B	C	D	E	F
1.5 x 1.5 x 6	7	7.25	4.5	4.5	4.5	1.75
2 x 2 x 6	8	7	5.25	4.5	4.88	1.88
3 x 3 x 6	9.75	8.25	5.88	4.75	6	1.88
4 x 4 x 6	12	10	5.88	4.75	7.75	2.25
6 x 6 x 6	17.5	12	8.5	6.35	9.68	4
1.5 x 1.5 x 8	8	8	5.75	5.75	4.63	2.5
2 x 2 x 8	9.5	8.5	5.75	5.75	5.13	2.5
3 x 3 x 8	12	10	6.75	5.75	6.38	2.5
4 x 4 x 8	14	11	8	6.25	8	2.5
5 x 5 x 8	13	12	7.5	6.25	8	2.5
6 x 6 x 8	19.5	13.5	9.75	7.5	10.38	3.25
8 x 8 x 8	22	16	11	8.5	11.5	5.5
2 x 2 x 10	10	9	6.75	6.75	5.38	2.5
3 x 3 x 10	11.5	9.5	7.25	6.75	5.5	2.5
4 x 4 x 10	14	12	7.75	6.88	7.63	2.5
6 x 6 x 10	17	15	10.63	8.25	8.13	2.5
8 x 8 x 10	22	17	11.5	9	9.75	3
4 x 4 x 11.5	15.25	12.75	8.16	7.38	7.69	2.5
5 x 5 x 11.5	17.25	13.75	9.03	8.03	8.88	2.75
6 x 6 x 11.5	18.5	16.5	9.88	8.56	9.75	2.75
8 x 8 x 11.5	22	17.5	12	9.63	10	3.25
3 x 3 x 13	13.5	12	8.75	8.25	6.63	2.5
4 x 4 x 13	15.5	13.5	9.25	8.25	8.13	2.38
4 x 4 x 13L	15.5	13.5	9.25	8.25	8.13	2.38
6 x 6 x 13	19	17	11	9	10.25	2.75
8 x 8 x 13	23	19	12	9.75	10	2.94
10 x 10 x 13	26	21.38	14	11	16	3.25
12 x 12 x 13	22	24.25	17	12	12.5	12
8 x 8 x 15	25.88	22.88	13.88	11.5	12.38	3.25
10 x 10 x 15	26	22.5	14.5	11.5	13.44	3.25
14 x 14 x 15	25	27	20.1	13.5	13.75	13.88

ELECTRIC MOTORS							
Frame	Dimensions						
	AG	AB	P	R	SHAFT Ø		
143TC	9.88	6.5	6.9	5	0.875		
145TC	11.1						
182TC	11.62	7.38	8.9	5	1.125		
184TC	12.62						
213TC	14.88	9	10.62	5	1.375		
215TC	15.88						
254TC	18.5	9.9	12.62	6	1.625		
256TC	20.25						
284TC	23	12.94	14.19	8	1.875		
284TSC					1.625		
286TC					1.875		
286TSC	24.5				1.625		
324TC					27	2.125	
324TSC	26.5	15.75	15.94	10	1.875		
326TC					27	2.125	
326TSC	26.5				1.875		
364TC	28.5	15.75	17.81	12	2.375		
364TSC	28.63	17.69			17.81	12	1.875
365TC							2.375
365TSC			1.875				
404TC	32.5	17.5	19.9	14	2.875		
404TSC					2.125		
405TC					2.875		
405TSC					2.125		
444TC	37.31	19.94	21.9	16	3.375		
444TSC					2.375		
445TC					3.375		
445TSC					2.375		
447TC	40.88	19.94	21.9	20	3.375		
447TSC					2.375		
449TC	45.85				3.375		
449TSC					2.375		

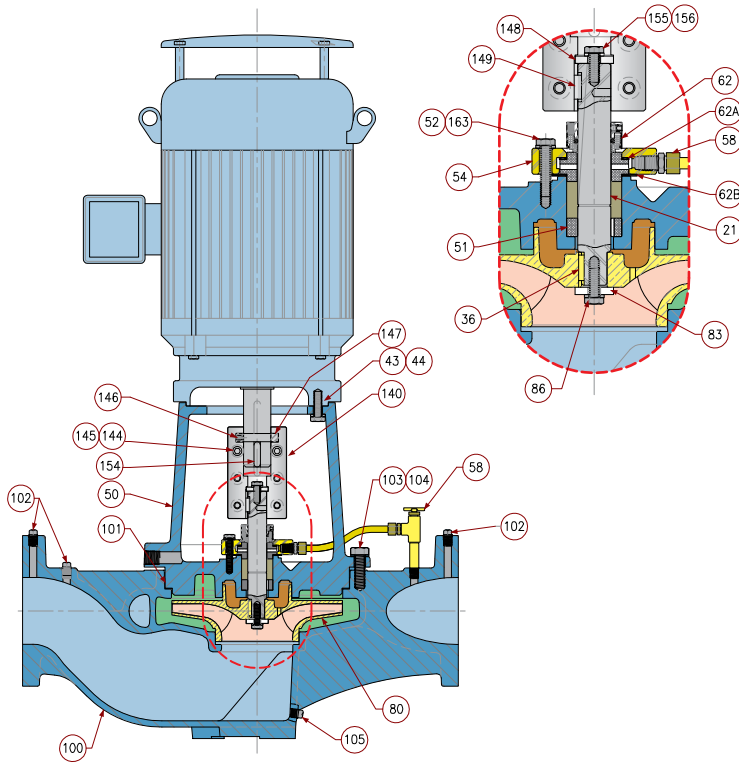
Selection chart

"S" GROUP MECHANICAL SEAL DIAMETER 1 1/8"				
Size	MOTOR FRAME			
	143 - 145TC	182 - 184TC	213 - 215TC	254 - 256TC
1.5 x 1.5 x 6	TC	TC	-	-
2 x 2 x 6	TC	TC	TC	-
3 x 3 x 6	TC	TC	TC	-
4 x 4 x 6	TC	TC	TC	TC
6 x 6 x 6	TC	TC	TC	-
1.5 x 1.5 x 8	TC	TC	TC	-
2 x 2 x 8	TC	TC	TC	TC
3 x 3 x 8	TC	TC	TC	TC
4 x 4 x 8	TC	TC	TC	TC
5 x 5 x 8	TC	TC	TC	TC
6 x 6 x 8	-	TC	TC	TC
8 x 8 x 8	-	TC	TC	TC
2 x 2 x 10	TC	TC	TC	TC
3 x 3 x 10	TC	TC	TC	TC
4 x 4 x 10	-	TC	TC	TC
6 x 6 x 10	-	-	TC	TC
8 x 8 x 10	-	-	TC	TC
4 x 4 x 11.5	-	TC	TC	TC
5 x 5 x 11.5	-	TC	TC	TC
6 x 6 x 11.5	-	TC	TC	TC
8 x 8 x 11.5	-	-	-	TC
Pump shaft	Ø1 1/8"			
TC motor shaft	Ø7/8"	Ø1 1/8"	Ø1 3/8"	Ø1 1/2"
TC space between shafts	1 3/8"	2 1/2"	2"	1 3/8"

"M" GROUP MECHANICAL SEAL DIAMETER Ø1 1/8"									
Size	MOTOR FRAME								
	182 - 184	213 - 215	254 - 256	284 - 286	324 - 326	364 - 365	404 - 405	444 - 445	
2 x 2 x 8	-	-	-	TSC	-	-	-	-	
3 x 3 x 8	-	-	-	TSC	TSC	-	-	-	
4 x 4 x 8	-	-	-	TSC	TSC	TSC	-	-	
5 x 5 x 8	-	-	-	TSC	TSC	-	-	-	
2 x 2 x 10	-	-	-	TSC	TSC	-	-	-	
3 x 3 x 10	-	-	-	TSC	TSC	TSC	-	-	
4 x 4 x 10	-	-	-	TSC	TSC	TSC	-	-	
6 x 6 x 10	-	-	-	TSC	TSC	TSC	TSC	-	
8 x 8 x 10	-	-	-	TSC	TSC	-	-	-	
4 x 4 x 11.5	-	-	-	TC	TC	-	-	-	
5 x 5 x 11.5	-	-	-	TC	TC	-	-	-	
6 x 6 x 11.5	-	-	-	TC	TC	-	-	-	
8 x 8 x 11.5	-	-	-	TC	TC	TC	-	-	
3 x 3 x 13	TC	TC	TC	TC	TC	TC	TSC	TSC	
4 x 4 x 13	TC	TC	TC	TC	TC	-	-	-	
4 x 4 x 13L	TC	TC	TC	TC	TC	-	-	-	
6 x 6 x 13	-	TC	TC	TC	TC	-	-	-	
8 x 8 x 13	-	TC	TC	TC	TC	TC	-	-	
10 x 10 x 13	-	-	-	TC	TC	-	-	-	
Pump shaft	Ø1 1/8"								
TSC motor shaft	-	-	-	Ø1 3/8"	Ø1 1/2"	Ø1 3/8"	Ø2 1/8"	Ø2 3/8"	
TSC space between shafts	-	-	-	2 3/4"	2 1/2"	2 1/2"	2 3/8"	1 3/8"	
TC motor shaft	Ø1 1/8"	Ø1 3/8"	Ø1 1/2"	Ø1 1/8"	Ø2 1/8"	Ø2 3/8"	-	-	
TC space between shafts	2 1/2"	2"	1 3/8"	1 3/8"	1 3/8"	1 3/8"	-	-	

"L" GROUP MECHANICAL SEAL DIAMETER Ø2 1/8"						
TAMAÑO	MOTOR FRAME					
	143 - 145TC	182 - 184TC	213 - 215TC	254 - 256TC	254 - 256TC	
10 x 10 x 13	TC	TC	TC	TC	TC	
12 x 12 x 13	TC	TC	TC	TC	TC	
14 x 14 x 14	-	TC	TC	TC	TC	
8 x 8 x 15	-	TC	TC	TC	TC	
10 x 10 x 15	-	TC	TC	TC	TC	
14 x 14 x 15	-	-	TC	TC	TC	
Pump shaft	Ø2 1/8"					
TC motor shaft	Ø2 1/8"	Ø2 3/8"	Ø2 1/8"	Ø2 3/8"	Ø3 1/8"	
TC space between shafts	1 3/8"		2"		1 3/8"	

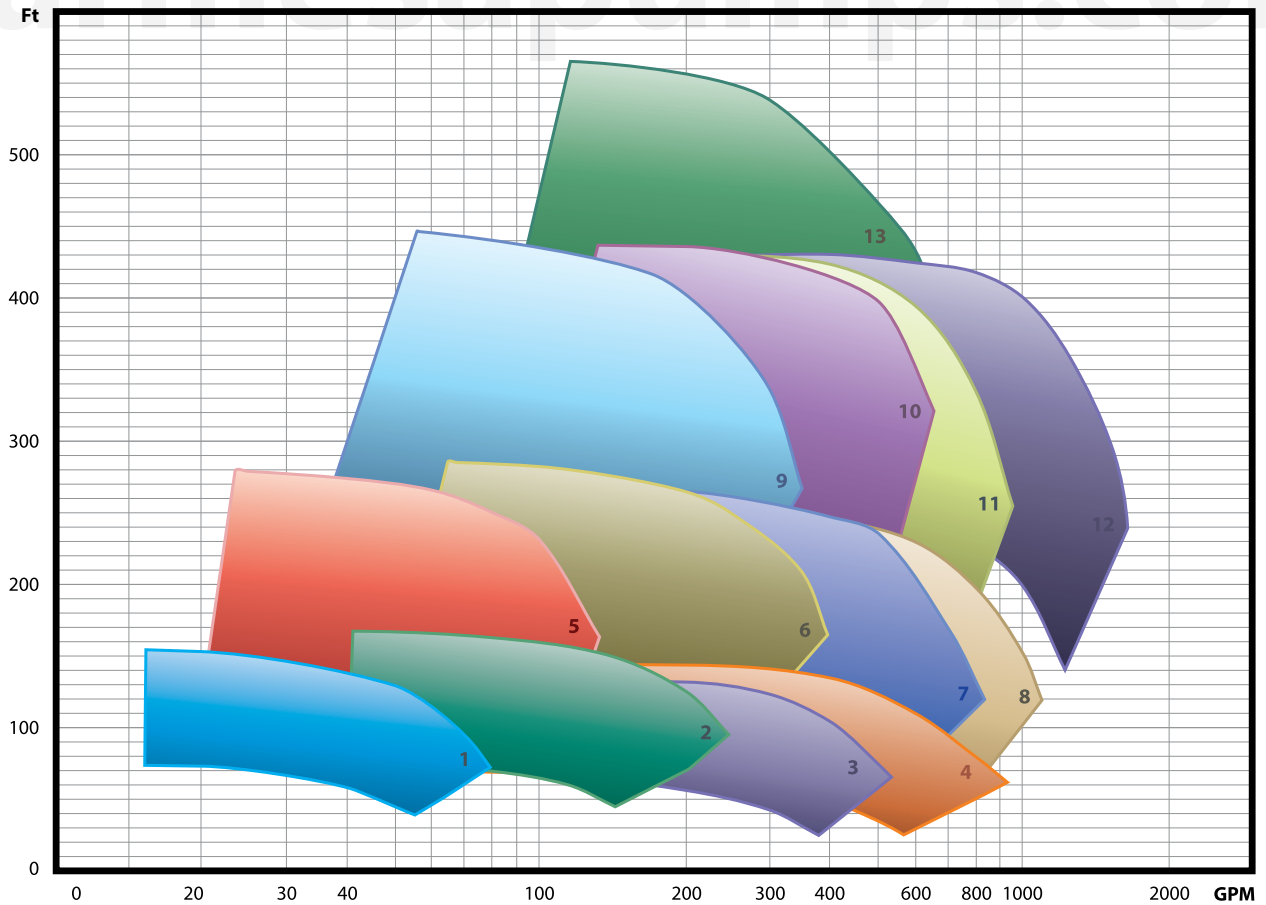
List of materials



ITEM	DESCRIPTION	MATERIAL
21	SHAFT	STAINLESS STEEL 416
36	IMPELLER KEY	CARBON STEEL 1018
40	ADAPTER	CAST IRON ASTM-A48, CLASS 30
43	WASHER	CARBON STEEL
44	MOTOR CAPSCREW	
50	COUPLING	CAST IRON ASTM-A48, CLASS 30
50A	SEAL PLATE	GRAPHITE
51	BUSHING	
52	SEAL COVER CAPSCREW	STAINLESS STEEL 304
54	SEAL GLAND	STAINLESS STEEL 316
58	MALE STRAIGHT CONNECTOR	BRONZE
59	TUBING	COPPER
62	MECHANICAL SEAL	CARBON/SILICON CARBIDE-VITON-SS
62A	UPPER GASKET	NON ASBESTOS OR TEFLON (PTFE)
62B	LOWER GASKET	
63	TEE	BRONZE
64	REDUCING BUSHING	
67	NIPPLE	
68	AIR VENT	CAST IRON OR BRONZE*
80	IMPELLER	
83	IMPELLER WASHER	STAINLESS STEEL 304
86	IMPELLER SCREW	
100	CASING	CAST IRON ASTM-A48, CLASS 30
101	CASING GASKET	NON ASBESTOS OR TEFLON (PTFE)
102	GAUGE PLUG	GALVANIZED STEEL
103	CASING CAPSCREW	CARBON STEEL
104	WASHER	
105	CASING DRAIN PLUG	GALVANIZED STEEL OR CAST IRON
140	COUPLING	ALUMINIO 6061-T6
144	SOCKET SCREW	CARBON STEEL
145	WASHER	
146	STUD BOLT	
147	MOTOR COUPLER COLLAR	STEEL 1045
148	SHAFT COUPLER COLLAR	STEEL 1018
149	COUPLER KEY	
150	GUARD	STEEL ASTM-A36
154	MOTOR KEY	STEEL 1018
155	CAPSCREW LOCKWASHER	CARBON STEEL
156	COUPLER COLLAR CAPSCREW	STAINLESS STEEL 304
163	WASHER	

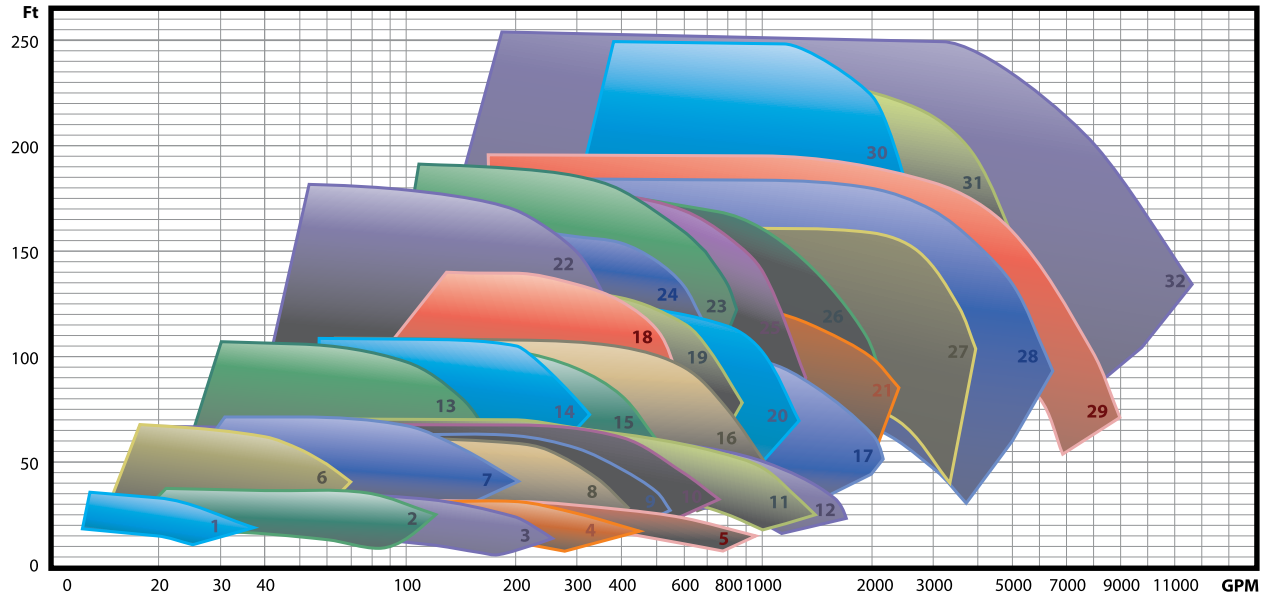
* ASTM-B584, Gr. C84400 (OPTIONAL)

Hydraulic coverage - 3500 RPM



1) 1.5 x 1.5 x 6	3) 3 x 3 x 6	5) 1.5 x 1.5 x 8	7) 3 x 3 x 8	9) 2 x 2 x 10	11) 4 x 4 x 10	13) 3 x 3 x 13
2) 2 x 2 x 6	4) 4 x 4 x 6	6) 2 x 2 x 8	8) 5 x 5 x 8	10) 3 x 3 x 10	12) 6 x 6 x 10	

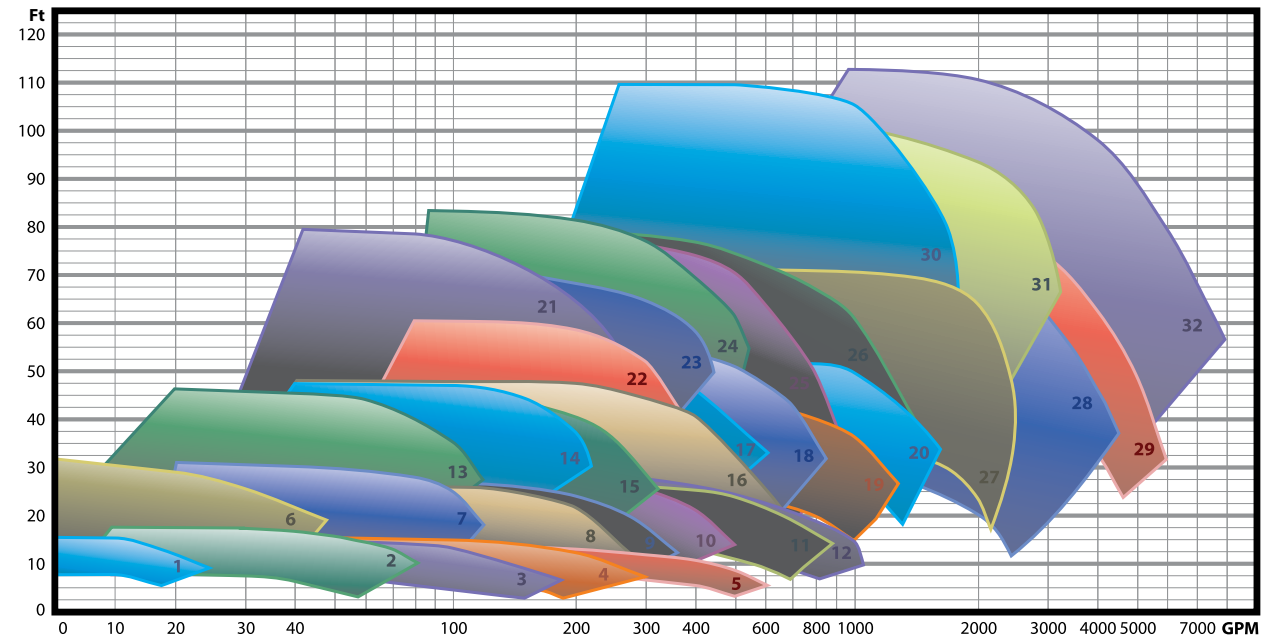
Hydraulic coverage - 1800 RPM



1) 1.5 x 1.5 x 6	6) 1.5 x 1.5 x 8	11) 6 x 6 x 8	16) 6 x 6 x 10	21) 8 x 8 x 11.5	26) 8 x 8 x 13	31) 10 x 10 x 15
2) 2 x 2 x 6	7) 2 x 2 x 8	12) 8 x 8 x 8	17) 8 x 8 x 10	22) 3 x 3 x 13	27) 10 x 10 x 13	32) 14 x 14 x 15
3) 3 x 3 x 6	8) 3 x 3 x 8	13) 2 x 2 x 10	18) 4 x 4 x 11.5	23) 4 x 4 x 13	28) 12 x 12 x 13	
4) 4 x 4 x 6	9) 5 x 5 x 8	14) 3 x 3 x 10	19) 5 x 5 x 11.5	24) 4 x 4 x 13	29) 14 x 14 x 14	
5) 6 x 6 x 6	10) 4 x 4 x 8	15) 4 x 4 x 10	20) 6 x 6 x 11.5	25) 6 x 6 x 13	30) 8 x 8 x 15	

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Hydraulic coverage - 1200 RPM



1) 1.5 x 1.5 x 6	6) 1.5 x 1.5 x 8	11) 6 x 6 x 8	16) 6 x 6 x 10	21) 3 x 3 x 13	26) 8 x 8 x 13	31) 10 x 10 x 15
2) 2 x 2 x 6	7) 2 x 2 x 8	12) 8 x 8 x 8	17) 5 x 5 x 11.5	22) 4 x 4 x 11.5	27) 10 x 10 x 13	32) 14 x 14 x 15
3) 3 x 3 x 6	8) 3 x 3 x 8	13) 2 x 2 x 10	18) 6 x 6 x 11.5	23) 4 x 4 x 13L	28) 12 x 12 x 13	
4) 4 x 4 x 6	9) 5 x 5 x 8	14) 3 x 3 x 10	19) 8 x 8 x 10	24) 4 x 4 x 13	29) 14 x 14 x 14	
5) 6 x 6 x 6	10) 4 x 4 x 8	15) 4 x 4 x 10	20) 8 x 8 x 11.5	25) 6 x 6 x 13	30) 8 x 8 x 15	