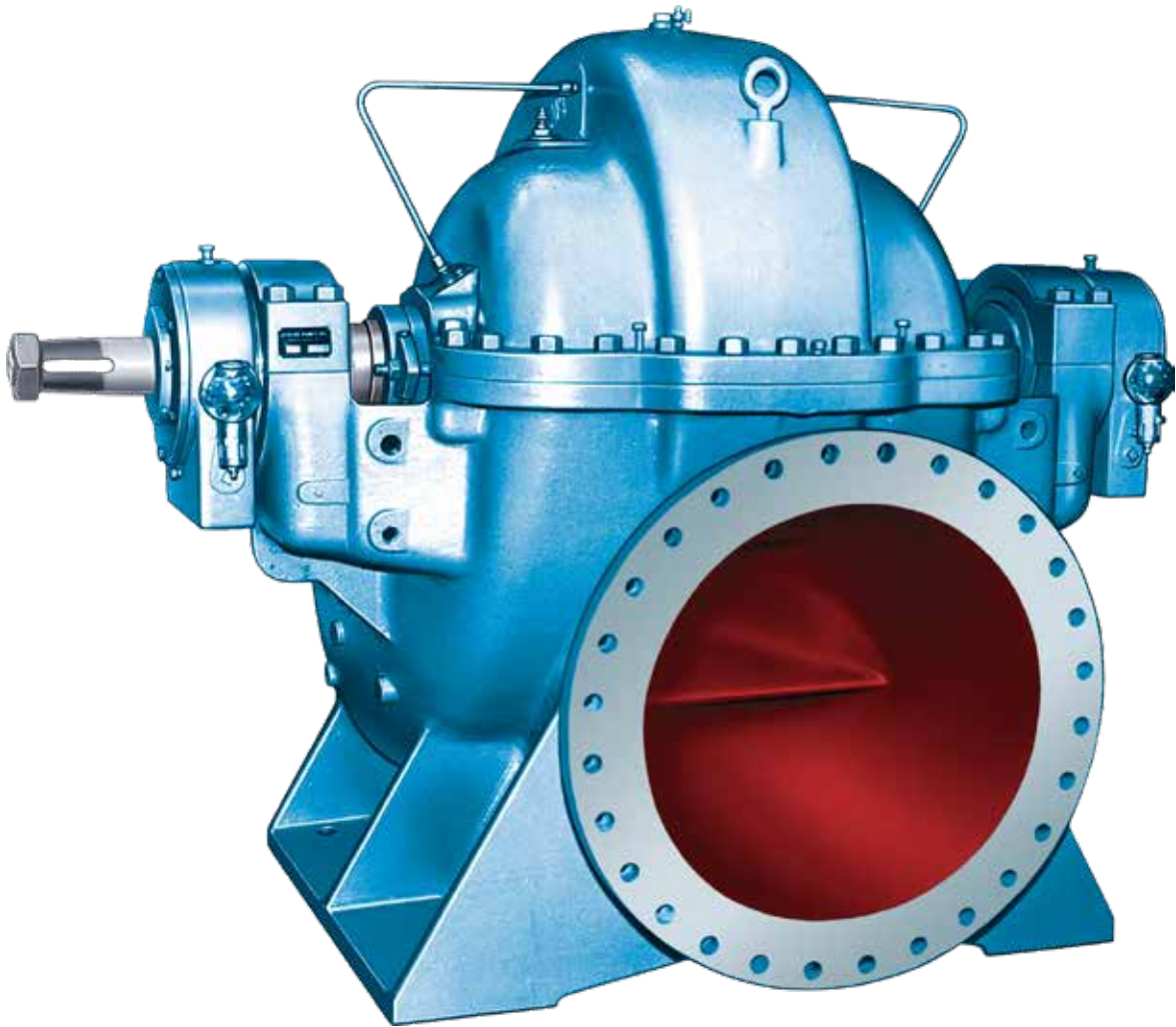


3420

Large Capacity, Single Stage, Double Suction Pump



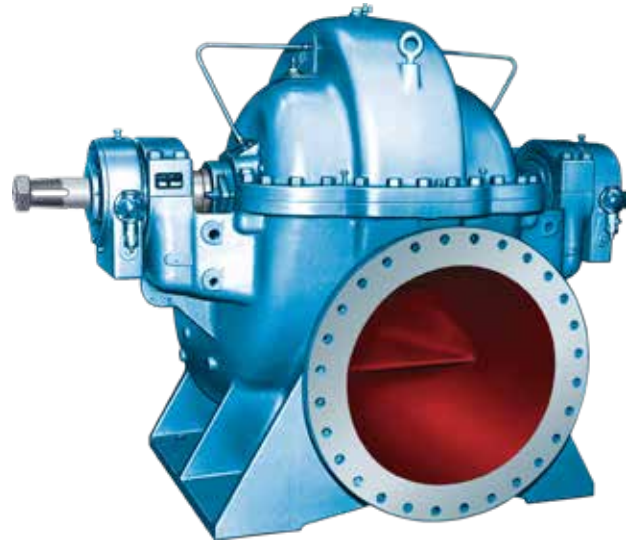
3420

Double Suction Pumps Designed for a Wide Range of Heavy Duty Industrial, Municipal and Power Generation Services

- Capacities to 74,000 GPM (16,807 m³/h)
- Heads to 500 feet (152 m)
- Temperatures to 350°F (176°C)
- Working Pressures to 330 PSIG (2275 kPa)

Design Features

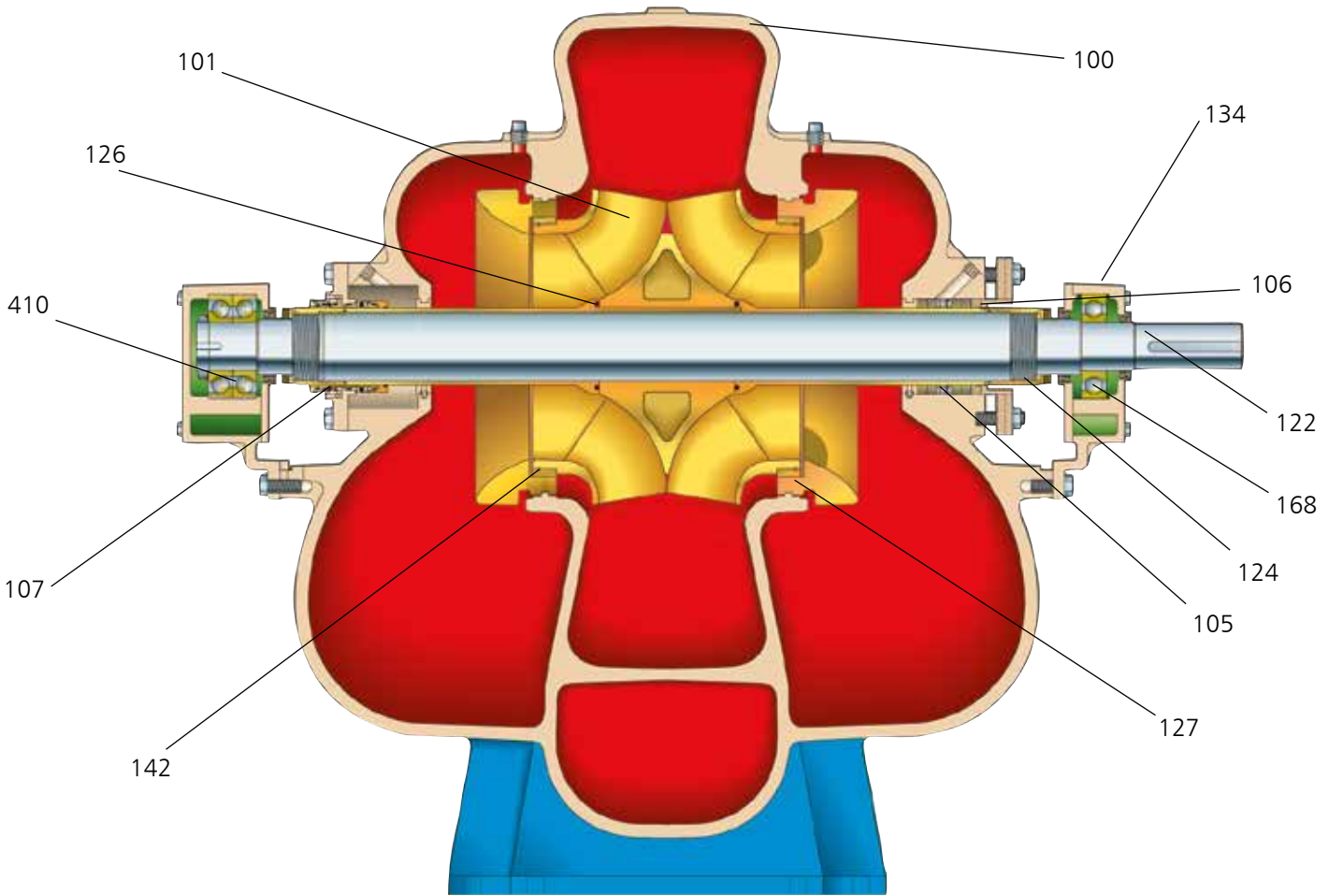
- **Horizontally Split Casing** - In-line suction and discharge nozzles in lower half casing for ease of inspection/maintenance.
- **Double Suction Impeller** - Assures Hydraulic Axial Balance for lower thrust bearing loads, longer pump life, and low maintenance.
- **Wear Rings** - Easily replaceable wear rings renew running clearances, protect against impeller, casing wear. Overall cost of operation is minimized.
- **Sealing Flexibility** - Choice of packing or wide range of mechanical seals.
- **Installation Versatility** - Horizontal or vertical mounting, clockwise or counter clockwise rotation.
- **Material Flexibility** - Available in a wide variety of metals from cast iron to stainless steels.



Services

- **Process** - Quench water, stripper bottoms, reboiler circulation, cooling tower
- **Pulp & Paper** - Primary and secondary cleaner, filtrate, mill water supply shower, fan pump, headbox supply, shower
- **Primary Metals**- Cooling Water, Quenceh and Leaching
- **Municipal** - High Lift, Low Lift, Wash Water, Waste Water, Raw Water
- **Power Generation** - Cooling Tower, Component Cooling, Service Water, Ash Sluicing, Heater Drain
- **Marine** - Bilge and Ballast, Cargo, Cooling Water, Fire Pump
- **General** - River Water, Brine, Sea Water

Sectional View



Parts List and Materials of Construction

Part Number	Part Description	Bronze Fitted	316SS Fitted	All 316SS
100	Casing	Cast Iron		316SS
101	Impeller	Bronze	316SS	
105	Lantern Ring	Teflon		
106	Packing	Graphite Impregnated Yarn		
107	Packing Gland	316SS		
250	Mechanical Seal Gland	316SS		
122	Shaft	Carbon Steel		
124	Shaft Sleeve Nut	Bronze	Nitronic 60	
126	Shaft Sleeve ¹	316SS		
127	Casing Wear Ring	Bronze	Nitronic 60	
134	Bearing Housings	Cast Iron		
142	Impeller Wear Ring	Bronze	316SS	
168 & 410	Bearings	Steel (Anti-Friction)		

¹ Also available in hardened/hard metal coated materials

3420 Large Capacity, Single Stage, Double Suction Pumps

Heavy Duty Design Features for a Wide Range of Water Supply and Process Services

HIGH THRUST CAPABILITY

Bearings designed to handle unexpected thrust. Secured with locknut and washer.

RENEWABLE CASE WEAR RINGS

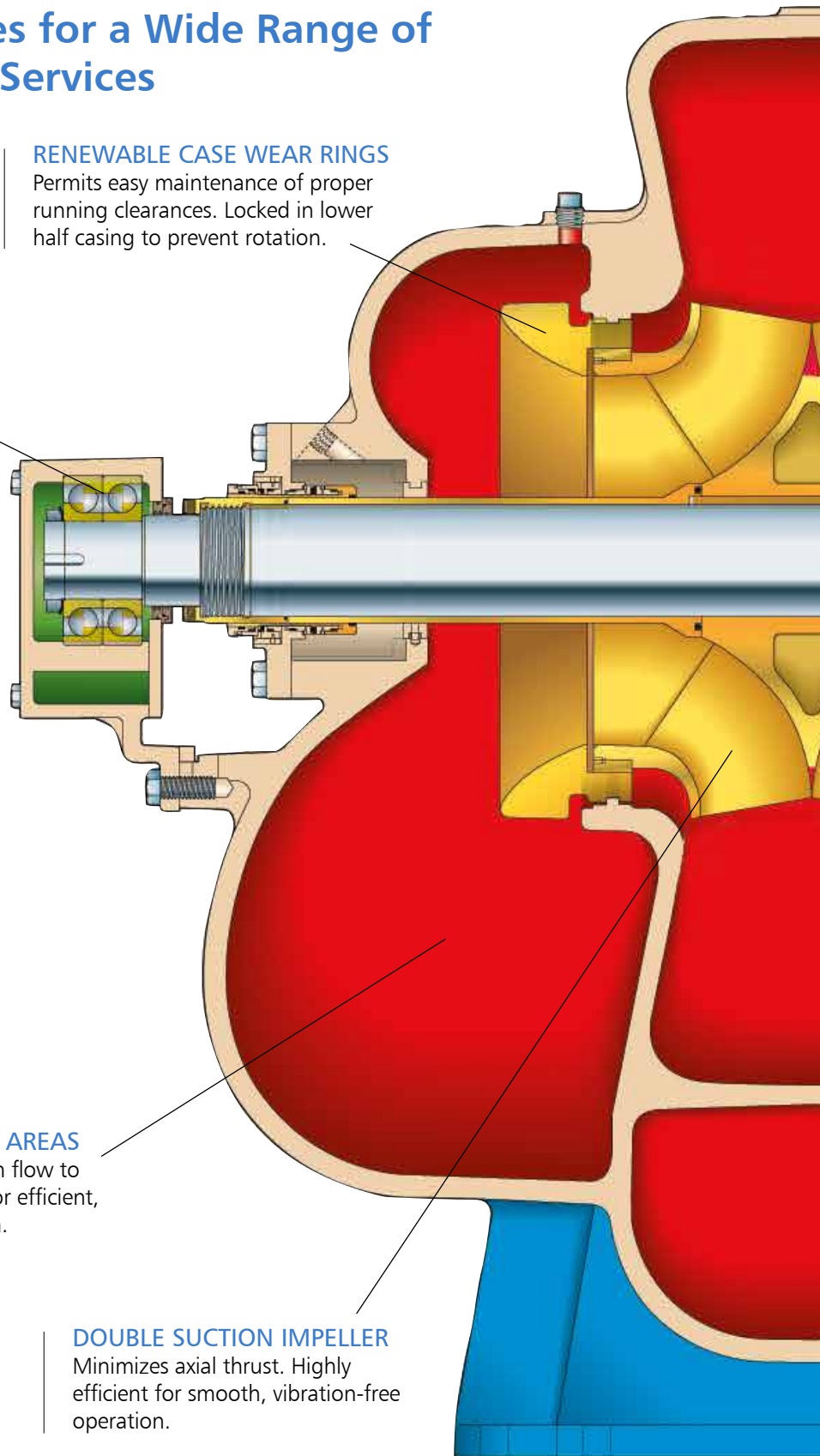
Permits easy maintenance of proper running clearances. Locked in lower half casing to prevent rotation.

LARGE INLET AREAS

Assures smooth flow to impeller inlet for efficient, quiet operation.

DOUBLE SUCTION IMPELLER

Minimizes axial thrust. Highly efficient for smooth, vibration-free operation.



HEAVY DUTY CASING

Casing walls designed to withstand pressure extremes. Rugged design resists external forces and vibrations. Both suction and discharge connections in lower half casing. Removal of upper half casing permits inspection, maintenance and removal of the complete rotating element without disturbing piping or driver.

RENEWABLE IMPELLER WEAR RINGS

A must for proper maintenance of running clearances. Rings are mechanically locked onto impeller hubs.

POSITIVE LIQUID SEALING

O-rings between impeller and sleeves, and O-rings between sleeves and sleeve nuts protect shaft from pumpage or confined corrosion attack.

LABYRINTH BEARING PROTECTION

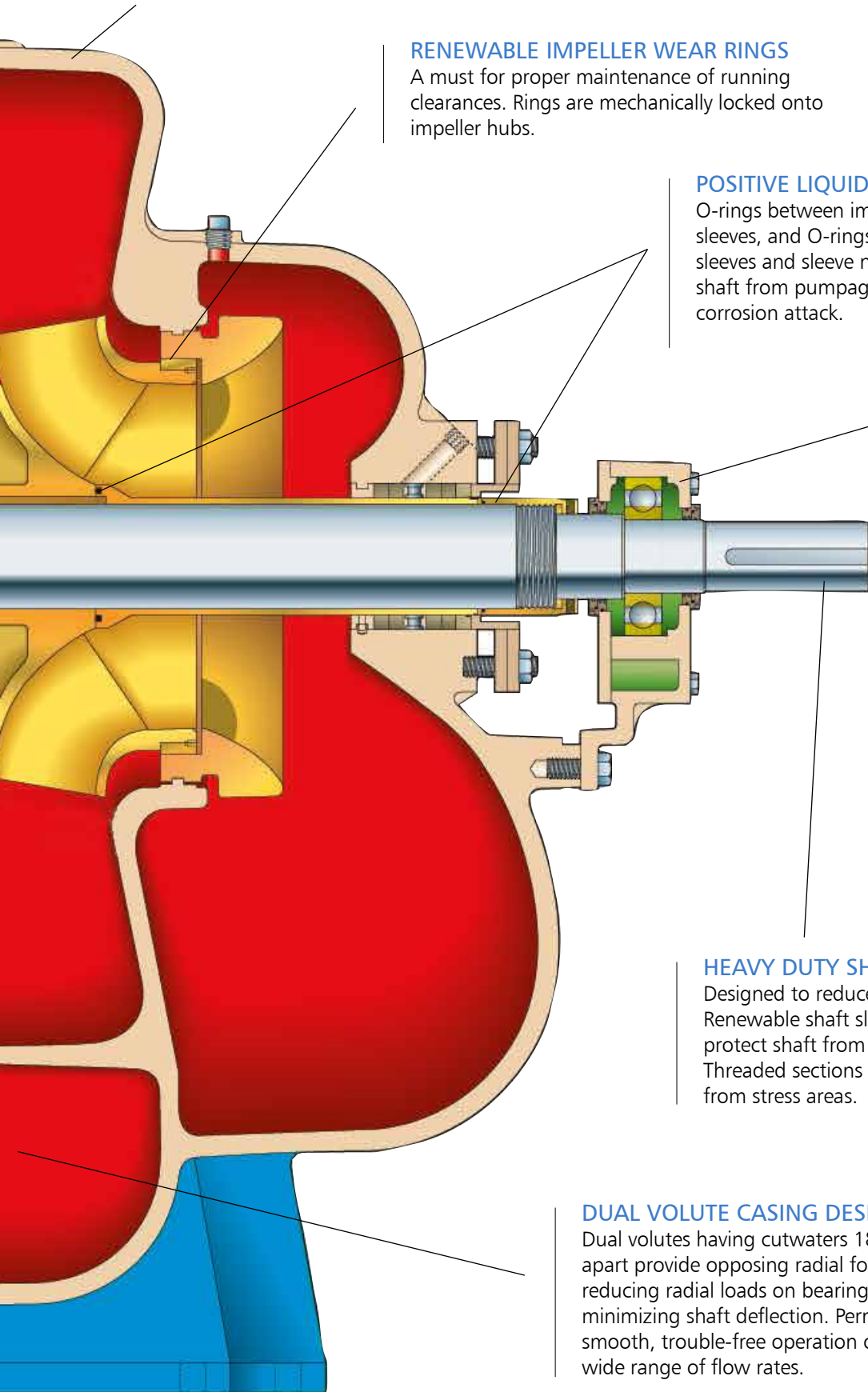
Labyrinth bearing isolators significantly reduce the chance for bearing contamination and greatly improve mean time between failures.

HEAVY DUTY SHAFT

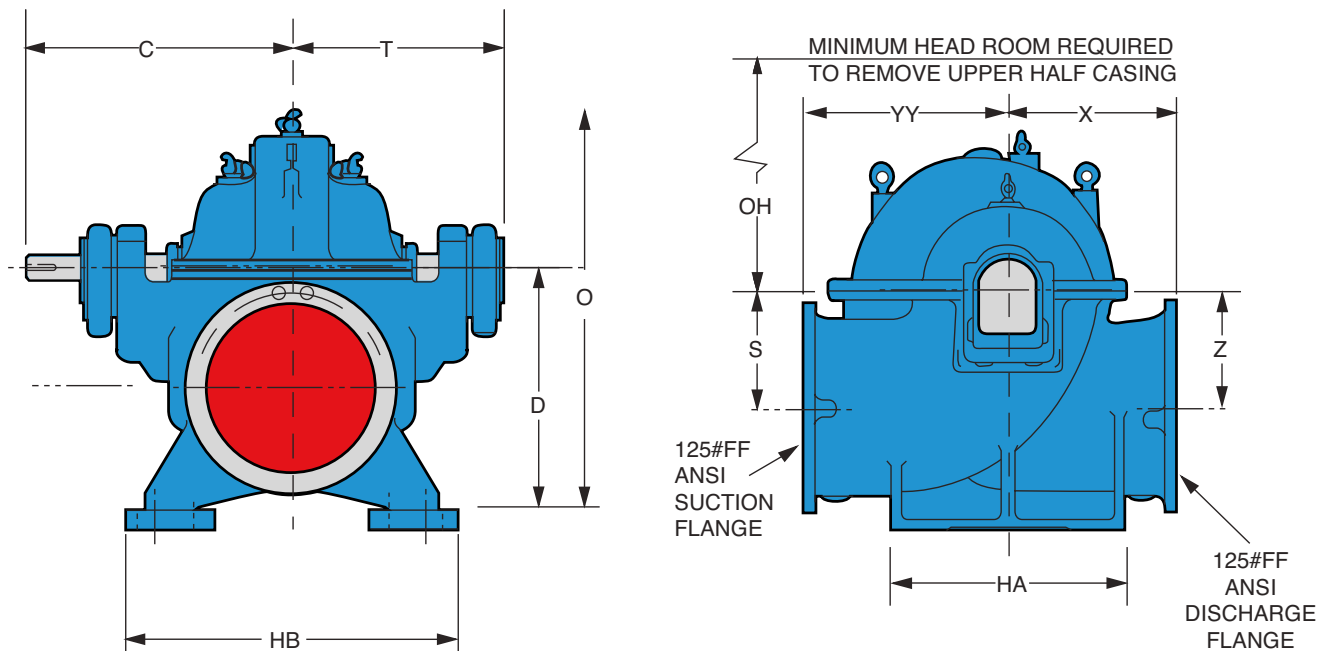
Designed to reduce deflection. Renewable shaft sleeves fully protect shaft from pumpage. Threaded sections removed from stress areas.

DUAL VOLUTE CASING DESIGN

Dual volutes having cutwaters 180° apart provide opposing radial forces reducing radial loads on bearings and minimizing shaft deflection. Permits smooth, trouble-free operation over wide range of flow rates.



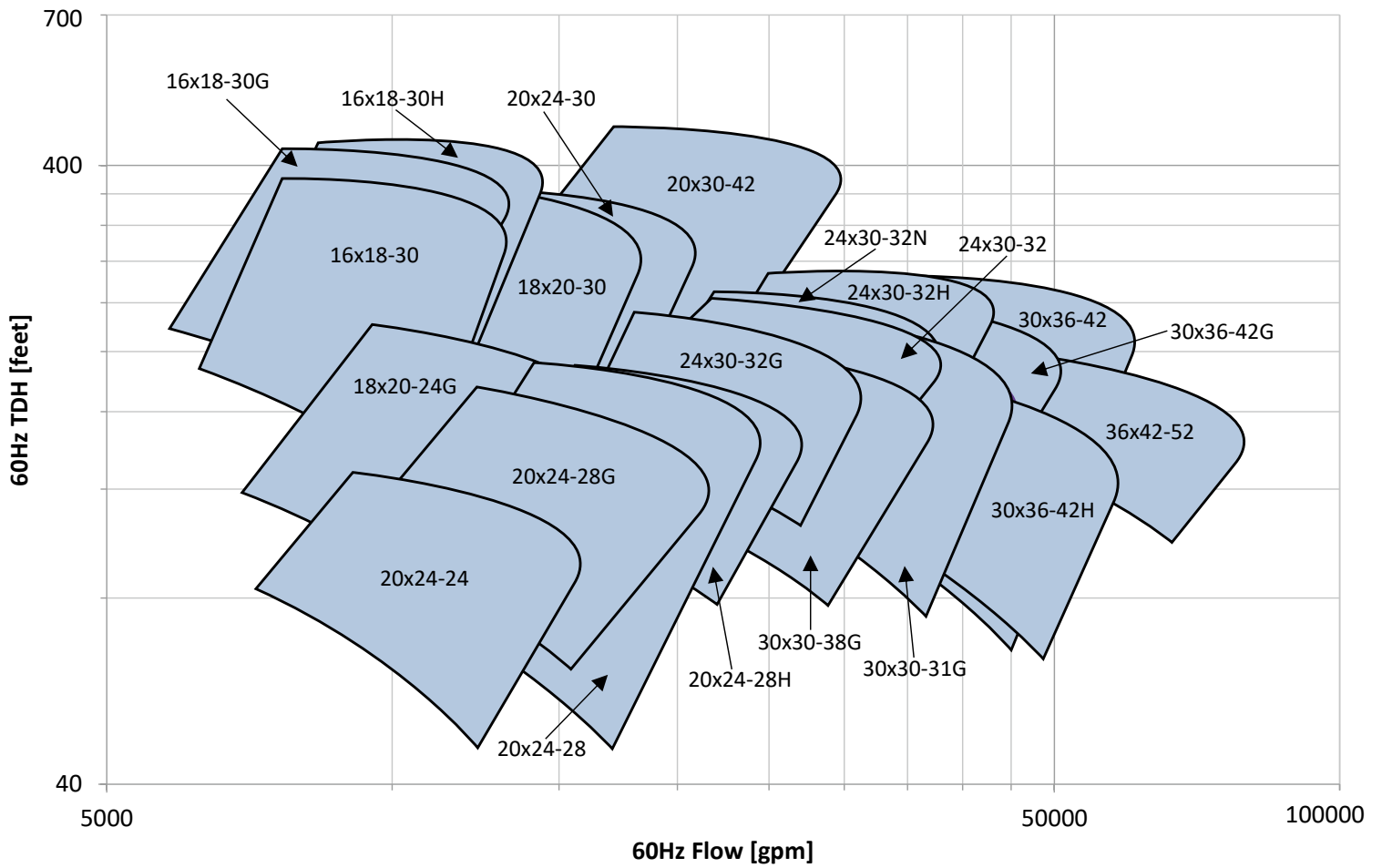
Dimensions and Weights

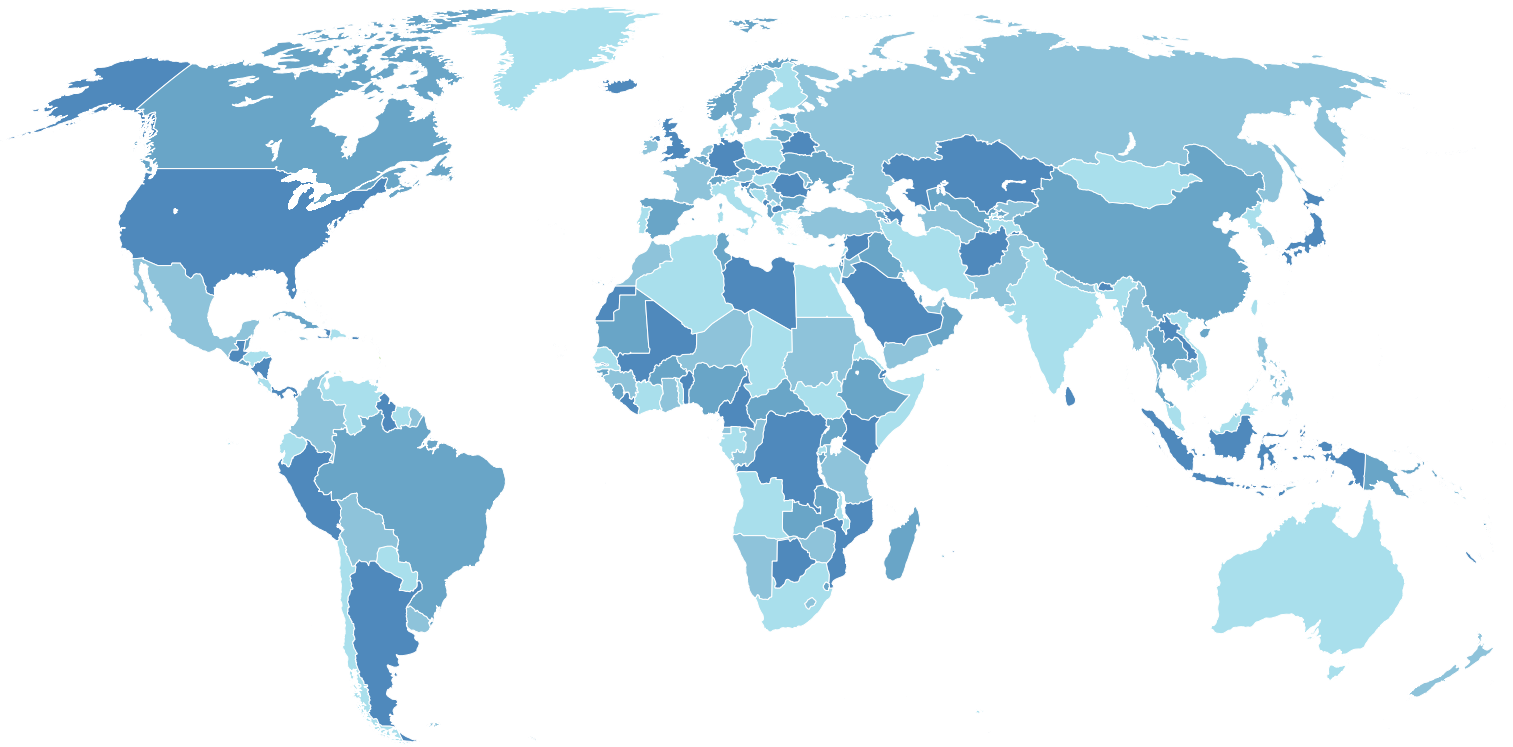


Pump Size	C	T	D	O	OH	S & Z	X	YY	HA	HB	Weight Lbs. (kg)
12X14-15	33.0 (838)	26.8 (679)	26.4 (670)	42.3 (1073)	25.0 (635)	14.8 (375)	17.8 (451)	24.8 (629)	33.0 (838)	24.0 (610)	2600 (1179)
16X18-17/H	33.0 (838)	26.8 (679)	33.5 (851)	54.3 (1378)	31.0 (787)	18.8 (476)	20.9 (530)	31.5 (800)	33.0 (838)	24.0 (610)	3500 (1588)
16X18-30/G/H	44.4 (1127)	36.6 (930)	36.0 (914)	62.3 (1581)	41.3 (1048)	22.5 (572)	28.0 (711)	34.0 (864)	46.0 (1168)	47.0 (1194)	7060 (3202)
18X20-24/G	39.1 (992)	30.8 (783)	35.5 (902)	59.9 (1521)	38.0 (965)	19.5 (495)	20.6 (524)	38.9 (989)	49.0 (1245)	46.0 (1168)	5650 (2563)
18X20-30	44.4 (1127)	36.6 (930)	37.5 (953)	64.3 (1632)	41.8 (1060)	22.8 (578)	29.0 (737)	35.0 (889)	48.0 (1219)	47.0 (1194)	7500 (3402)
20X24-24	44.4 (1127)	36.6 (930)	38.0 (965)	63.8 (1619)	37.8 (959)	20.5 (521)	26.6 (675)	34.0 (864)	42.0 (1067)	47.0 (1194)	7200 (3266)
20X24-28/G/H	37.9 (962)	37.9 (962)	42.1 (1070)	70.3 (1784)	44.0 (1118)	23.1 (587)	24.5 (622)	46.2 (1173)	56.0 (1422)	54.0 (1372)	8650 (3924)
20X24-30	46.0 (1168)	36.6 (930)	40.5 (1029)	68.0 (1727)	42.5 (1080)	23.5 (597)	29.5 (749)	36.0 (914)	50.0 (1270)	47.0 (1194)	8000 (3629)
24X30-32/G/H/N	44.4 (1127)	39.8 (1010)	44.0 (1118)	74.1 (1883)	45.0 (1143)	22.5 (572)	36.0 (914)	50.0 (1270)	56.0 (1422)	51.0 (1295)	11,500 (5216)
30X30-31/G	50.0 (1270)	42.9 (1089)	53.3 (1353)	86.4 (2196)	50.7 (1287)	33.4 (848)	40.0 (1016)	52.0 (1321)	63.4 (1610)	53.4 (1356)	16,200 (7348)
30X30-38/G	53.0 (1346)	42.9 (1089)	53.3 (1353)	87.5 (2223)	53.3 (1353)	30.8 (781)	36.5 (927)	54.5 (1384)	63.4 (1610)	53.4 (1356)	15,400 (6985)
30X36-42/G/H	60.8 (1545)	47.6 (1210)	58.0 (1473)	97.5 (2477)	62.0 (1575)	34.0 (864)	36.0 (914)	54.5 (1384)	78.0 (1981)	76.0 (1930)	25,250 (11,453)

All dimensions in inches (mm) and are not to be used for construction or installation purposes. Standard rotation is right hand (CW). Optional rotation is left hand (CCW). Steel casings will have 150#RF flanges.

Hydraulic Coverage





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