

CENTRAC B

Metering Pumps

CENTRAC B PUMPS

CENTRAC pumps combine a unique constant stroke length drive mechanism and electronic variable speed drive technology. The unique drive system provides a steady state accuracy of $\pm 0.5\%$ over the entire turndown range. This is twice the accuracy of the standard $\pm 1\%$ of most metering pumps. Greater accuracy means better control of the treatment process and more efficient chemical usage.

General Specifications

Drive

Helical Gear and Scotch Yoke (all moving parts submerged in oil)

Liquid End

High Performance Diaphragm (hydraulically balanced)

Multiplexing

Simplex or Duplex

Maximum Performance Ratings (per head)

1430 GPM @ 85 PSIG to 4.1 GPM @ 3675 PSIG

Capacity Control

(AC) Electronic Variable Frequency with 100:1 Turndown

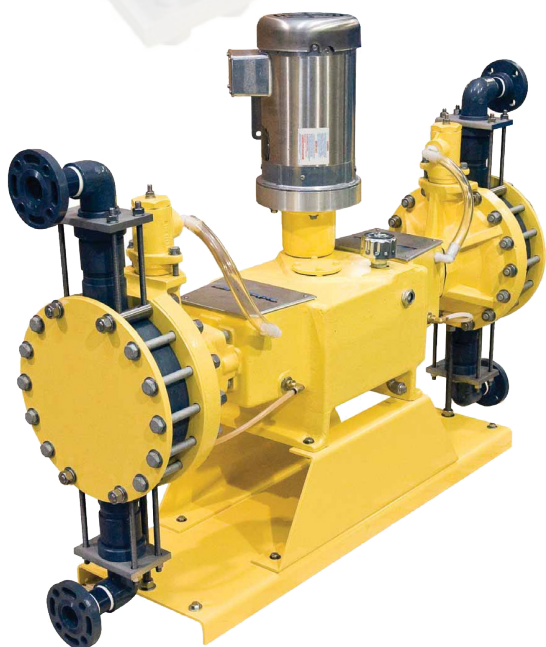
(DC) Electronic Servo Speed Drive with 100:1 Turndown

Maximum Stroking Speed

162 SPM

Accuracy

0.5% Steady State Accuracy Over 100:1 Turndown



CENTRAC B DUPLEX



**CENTRAC B SIMPLEX
W/LOCAL OPERATOR STATION**

Motor & Controller Specifications

Standard Voltages

460 VAC, 3 Phase, 50/60 Hz

120 VAC (up to 1 HP)

230 VAC, 3 Phase, 50/60 Hz (up to 3 HP)

230 VAC, 1 Phase, 50/60 Hz (up to & including 4 HP)

Maximum Distances

Controller to Motor: 250 ft.

Duty Cycle

Continuous

Input Control Signal

4–20 mA, Direct or Reverse Acting Standard

Feedback Signal

4–20 mA

Encoder

Motor Description

Servo DC TENV Watertight - Optional

Explosion Proof Optional

Standard AC

Options

Process diaphragm rupture leak detection

Auto degassing valve for off-gassing process fluids

Special check valves for slurries, viscous & high specific-gravity process fluids

Data Table No. 1 - Alternative AC Vector Duty Motor Sizing for 100:1 turndown

Plunger Diameter (INCH)	No. of Heads.	Max. Capacity Plastic LE (GPH) @ 150 psig	Max. Capacity Metallic LE (GPH) @ 200 psig	AC Vector Duty Motor Types Sizes (Torques) & Pressure Limits in PSIG				
				1.0 HP (3.0 LBS-FT)	1.5 HP 4.5 LBS-FT)	2 HP (6.0 LBS-FT)	3 HP (9.0 LBS-FT)	5 HP (15.0 LBS-FT)
3/8" (9.5 mm)	Simplex	5.5	4.1	2404	3607	3675	----	----
	Duplex	11.0	8.2	1924	2885	3675	----	----
7/16" (11 mm)	Simplex	7.7	7.0	1767	2650	3533	3675	----
	Duplex	15.4	14.7	1413	2120	2826	3675	----
9/16" (14 mm)	Simplex	12.9	12.6	1069	1603	2137	3206	3675
	Duplex	25.8	25.2	855	1282	1710	2535	3675
5/8" (16 mm)	Simplex	16.1	17.5	866	1298	1731	2597	3675
	Duplex	32.2	35.0	692	1039	1385	2077	3439
3/4" (20 mm)	Simplex	24.3	24	601	902	1202	1803	2986
	Duplex	48.6	48	481	721	1245	1443	2388
1" (25 mm)	Simplex	45	45	338	507	676	1014	1679
	Duplex	90	90	270	406	541	811	1343
1-1/4" (32 mm)	Simplex	70	70	216	325	433	649	1075
	Duplex	140	140	173	260	346	519	860
1-1/2" (38 mm)	Simplex	100	100	150	225	301	451	746
	Duplex	200	200	120	180	240	361	597
2" (51 mm)	Simplex	180	180	85	127	169	254	420
	Duplex	360	360	68	101	135	203	336
2-1/2" (64 mm)	Simplex	280	280	54	81	108	162	269
	Duplex	560	560	43	65	87	130	215
3-1/2" (89 mm)	Simplex	550	550	XXXX	41	55	83	137
	Duplex	1100	1100	XXXX	XXXX	44	66	110
4" (102 mm)	Simplex	715	715	XXXX	XXXX	42	63	105
	Duplex	1430	1430	XXXX	XXXX	XXXX	51	84

*Maximum liquid end pressure for Centrac B pumps is 4,000 psig at this time

NOTES:

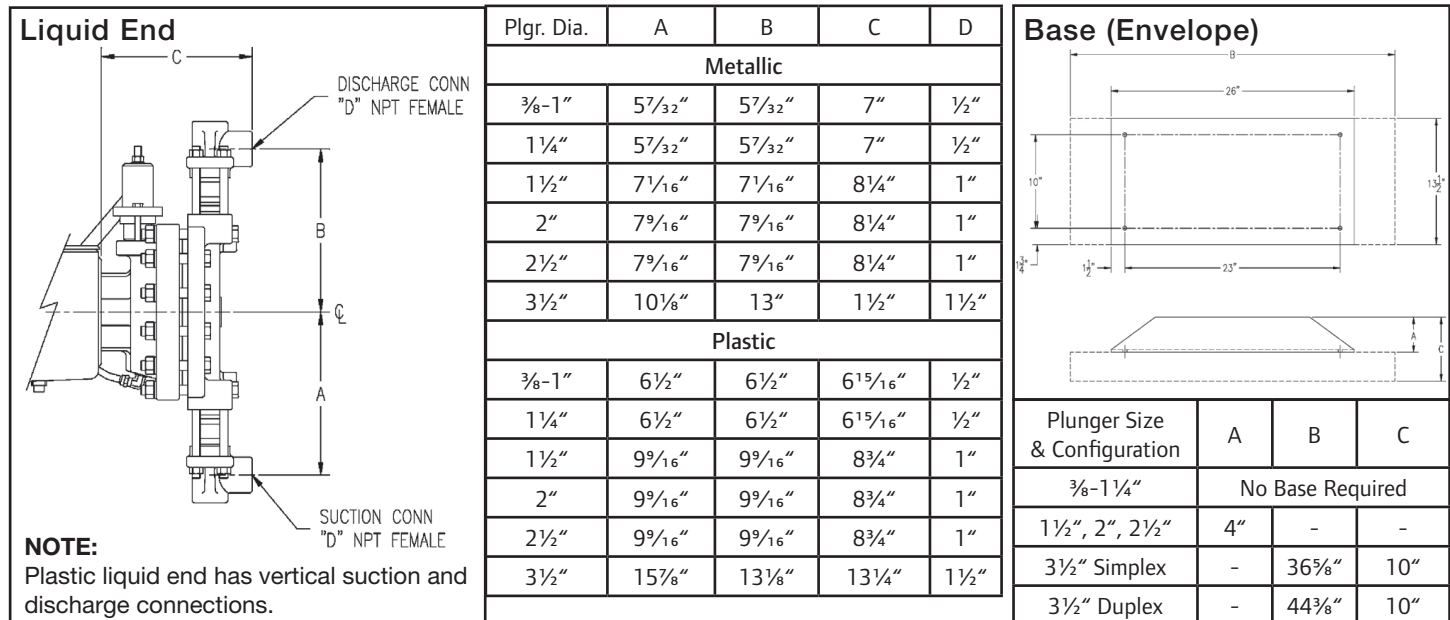
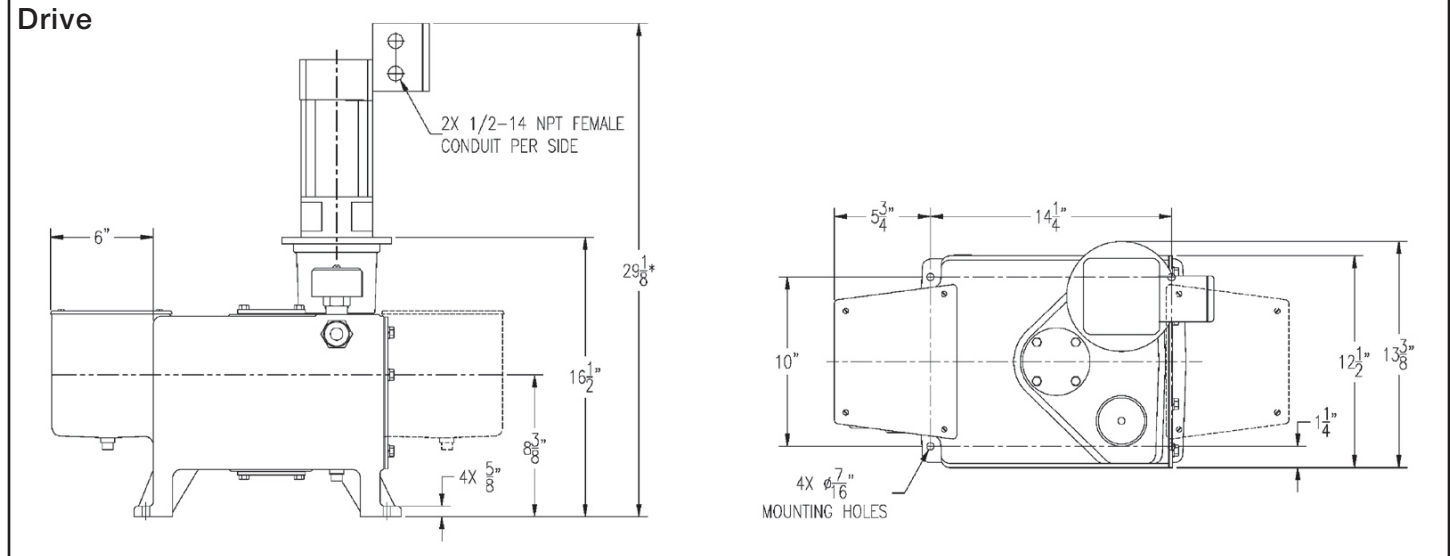
- Capacities listed in Table 1 & 2 are for discharge pressures up to 200 psig. Capacity will decrease by 0.8% for each 100 psig over 200 psig. Horsepower ratings shown are for 230 VAC/460 VAC incoming power supplies.
- For pumps having double diaphragms with and without leak detection, overall capacity must be de-rated by an additional 5%.
- Plastic HPD liquid ends are limited to maximum pressure of 150 PSIG @ 68° F, and are linearly de-rated to 65 PSIG @ 140° F. Minimum operating temperature is 32° F (0° C). Maximum temperature on metallic heads is 194° F (90° C). Higher temperature applications are available — consult factory.
- Capacity is shown at 162 SPM (100:1 turndown).
- Maximum speed can be set below 162 SPM where required. Consult factory.
- Minimum capacity is 1% (100:1 turndown) of actual maximum flow at full speed of 162 spm.
- Data Table No. 1 above has boxes that are yellow shaded. These are the low-flow HPD Centrac B pump plunger sizes that have flow rates and pressure limitations.
- For AC vector duty motor application, use the Data Table No. 1. Turndown of the AC motor must be rated for 100:1 or more, for constant torque application at the minimum torque ratings listed on the table.
- Consult Pump User Manual for proper design of suction lines. Refer to Data Table No. 2 for the maximum allowable Centrac B pump inlet suction pressures. Minimum NPSH is 3 psia.

Data Table No. 2 - Centrac B Maximum Allowable Suction Pressure Range

No. of Heads	3/8" - 1" Plunger	1-1/4" Plunger	1-1/2" Plunger	2" Plunger	2-1/2" Plunger	3-1/2" -4" Plunger
Simplex	100 psig	100 psig	70 psig	40 psig	25 psig	15 psig
Duplex	100 psig	100 psig	70 psig	40 psig	25 psig	15 psig

Pump Dimensions

Dimensions shown are approximate for TENV and are not for construction. Consult Milton Roy for exact engineering dimensions.



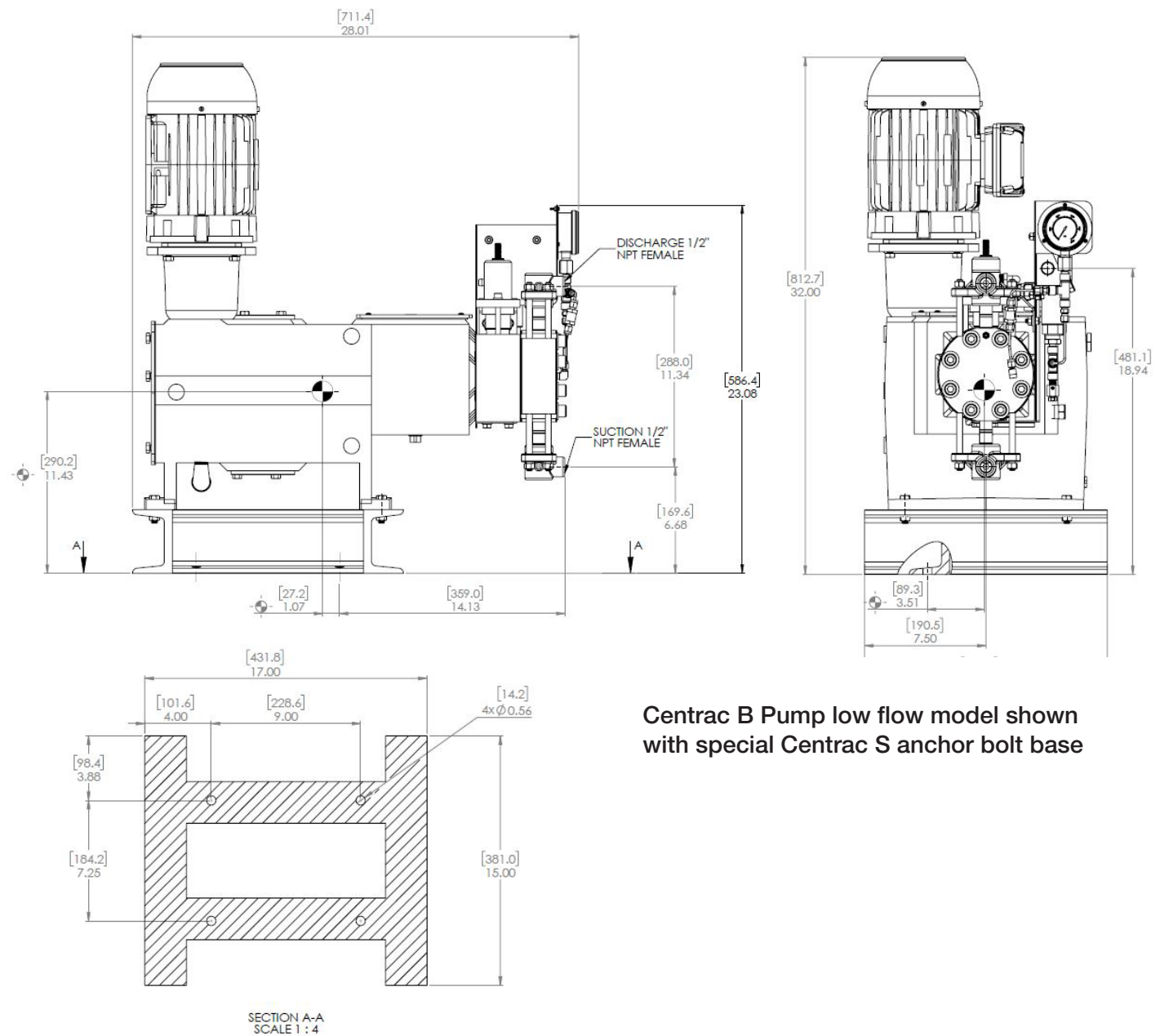
HIGH PERFORMANCE DIAPHRAGM (HPD) LIQUID END MATERIALS OF CONSTRUCTION

Materials of Construction	Diaphragm (3)	Diaphragm Head	Port Connection	Ball Seat (4)	Ball Check (4)	Ball Guide
316 SS (1)	PTFE/Elastomer Bond	316 SS	316 SS	316 SS	316 SS	316 SS
Alloy 20 (1)	PTFE/Elastomer Bond	Alloy 20	Alloy 20	Alloy 20	Alloy 20	Alloy 20
Plastic- PVC (2)	PTFE/Elastomer Bond	PVC	PVC	PVC (5)	Ceramic (5)	PVC (5)
Plastic- PVDF (2)	PTEF/Elastomer Bond	PVDF	PVDF	PVDF (5)	Ceramic (5)	PVDF (5)
HAS C	PTFE/Elastomer Bond	HAS C22	HAS C22	HAS C22	HAS C22	HAS C22

NOTES:

1. Temperature range for metallic versions is 10° to 194° F.
2. Temperature range for plastic versions is 10° to 140° F.
3. Diaphragm isolates displacement chamber and contour plate from process liquid.
4. Special ball check and seat materials are available to severe slurry service. Contact factory.
5. Double ball standard only in plastic liquid ends. Double ball optional on all other liquid ends.

Pump Dimensions

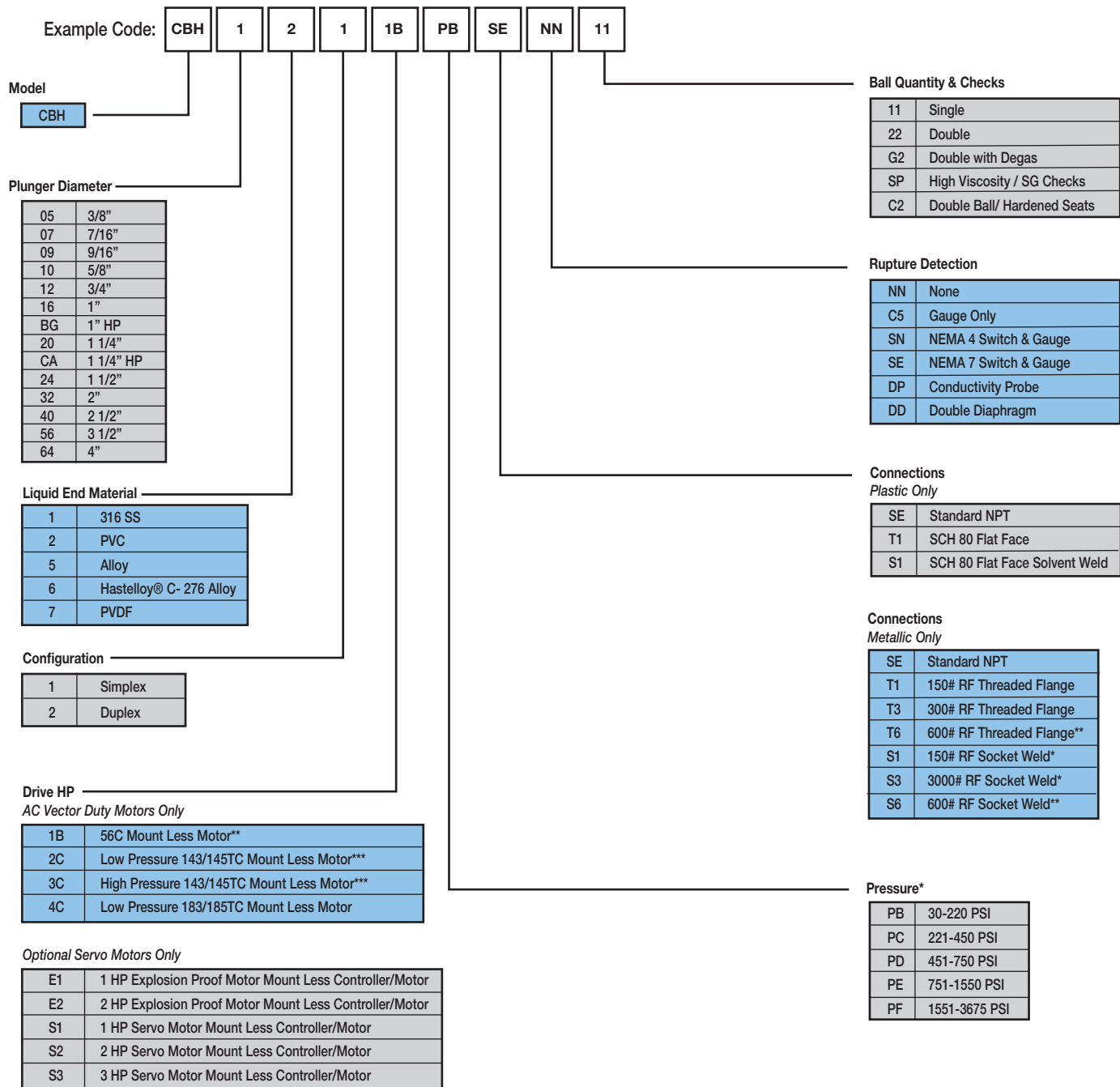


Centrac B Pump low flow model shown with special Centrac S anchor bolt base

Accessories

- Control panels
- Pressure relief valves
- Back pressure valves
- Calibration columns
- Pulsation dampeners
- Tank & standard systems
- Mixers
- Sludge traps
- Dissolving baskets
- Pressure gauges
- Flow meters

Model Code Selection Guide



NOTES:

- * Not all pressure ranges are available with all plunger sizes. See capacity pressure table for proper pressure availability
- ** Not available for 3/12" plunger
- *** Motor mount for standard type motors (AC)

About Ingersoll Rand Inc.

Ingersoll Rand Inc. (NYSE:IR), driven by an entrepreneurial spirit and ownership mindset, is dedicated to helping make life better for our employees, customers and communities. Customers lean on us for our technology-driven excellence in mission-critical flow creation and industrial solutions across 40+ respected brands where our products and services excel in the most complex and harsh conditions. Our employees develop customers for life through their daily commitment to expertise, productivity and efficiency. For more information, visit www.IRco.com.

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