CECO Dean Pump

pH Series
Bulletin

pH2140 Telescoping Guard

pH2140 C-Face Adapter

CECO ENVIRONMENTAL

CECO Dean pH Series Centrifugal Process Pumps

- **Capacities to 3200 GPM (726 m^3/hr)**
- **Heads to 800 feet (245 m)**
- **Pumping temperatures to 500°F (260°C)**
- **Working pressures to 375 PSIG (2585 kPa)**

Experience

Dean Pump is recognized as an industry leader in the design and manufacture of horizontal centrifugal process pumps used extensively in the chemical and petrochemical industries, power plants, pulp and paper, mining, pharmaceutical and food processing industries.

When Dean Pump introduced the pH centrifugal process pump in 1958, the chemical processing industry recognized it as the model for the proposed ASA Standard Chemical Pump. Shortly thereafter, the Manufacturing Chemist Association (MCA) adopted, with minor changes, the service proven Dean pH pump as the American Voluntary Standard (AVS). Subsequently, the American National Standards Institute approved the AVS Specifications as national standard B123.1-1971. This standard was later revised and approved as ANSI/ASME B73.1M-1984. Dean Series pH pumps continue to meet or exceed the latest revised B73.1 standard.

Dean Series pH centrifugal process pumps are designed to insure long, continuous service life at low cost. Each phase in the production of these pumps is meticulously monitored by an independent quality control department.

Pump Sizes

The Dean Series pH pump is an end-suction back pull out design regularly available in 22 sizes and divided into four size classifications:

- the pH2110 Series in 5 sizes
- the pH2140 Series in 11 sizes
- the pH2170/pH3170 Series in 4 sizes
- the pH2180 Series in 2 sizes

Materials

Standard materials of construction include ductile iron, 316SS, CD4MCu, and Alloy 20. Additional higher metal alloys (Hastelloy B and C, Titanium, etc.) are available upon request. (Standard Materials of Construction chart is available on Page 3).

Parts Interchangeability

The Series pH provides the ultimate in standardization of process pumps. With wide parts interchangeability among pump sizes, fewer parts are required for inventory. A complete stock of spare parts is readily available from Dean Pump or its network of stocking distributors, thereby reducing shipping time to a minimum.

All Series pH parts, with the exception of the casing (and in some sizes, the impeller), are interchangeable with the Series pHP Self-Priming Pump.

Shaft Sealing

Dean Pump offers a broad line of mechanical seals and standard packing sets to solve the most difficult sealing problems. This feature gives Series pH pumps the versatility to handle a wide range of chemical services. A variety of seal chambers such as standard bore, jacketed, large taper bore, and large cylindrical bore are available for specific applications.

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CECO Dean Pumps
ANSI/ASME B73.1 Horizontal Process Pumps

Mechanical Design Specifications

PUMP TYPE	pH2110 pHP2110	pH2140 pHP2140	pH2170	pH3170	pH2180
Direction of Rotation (Viewed from Coupling End)	CW	CW	CW	CW	CW
Horsepower Rating					
@ 3500 rpm	35 HP	100 HP	—	200 HP	—
@ 1750 rpm	15 HP	40 HP	100 HP	100 HP	125 HP
@ 1150 rpm	10 HP	30 HP	60 HP	—	75 HP
Hydrostatic Test Pressure	430 psig	430 psig	430 psig	565 psig	450 psig
Corrosion Allowance	1/8"	1/8"	1/8"	1/8"	1/8"
Impeller Balance	Single Plane Dynamic Balance				
Flanges ANSI Class	150	150	150	300	300
Facing – standard	F.F.	F.F.	F.F.	F.F.	F.F.
– optional	R.F.	R.F.	R.F.	R.F.	R.F.
Finish	125 Ra	125 Ra	125 Ra	125 Ra	125 Ra
Stuffing box jacket pressure maximum	125 psig	125 psig	125 psig	125 psig	125 psig
Bearing housing cooler pressure maximum	125 psig	125 psig	125 psig	125 psig	125 psig
Maximum Suction Pressure	275 psig	275 psig	275 psig	375 psig	300 psig
Bearings:					
Thrust Bearing	5306	5309	7311 BG	7311 BG	5312
Radial Bearing	6207	6309	6311	6311	6312
Lubrication	Oil	Oil	Oil	Oil	Oil
Approximate oil capacity of bearing housing	26 oz	42 oz	36 oz	36 oz	64 oz
Seal Chamber Dimensions:					
Tapered Seal Chamber					
Length (Depth)	2 3/8"	3 1/16"	3 1/16"	3 1/16"	4 5/8"
Inside Diameter (Bore)	2 7/8"	3 1/2"	3 7/8"	3 7/8"	4 1/4"
Shaft Sleeve Diameter	1 3/8"	1 3/4"	2 1/8"	2 1/8"	2 1/4"
Cylindrical Seal Chamber					
Length (Depth)	1 7/8"	2 1/4"	2 3/16"	2 3/16"	3 5/16"
Inside Diameter (Bore)	2 7/8"	3 1/2"	3 7/8"	3 7/8"	4 1/4"
Shaft Sleeve Diameter	1 3/8"	1 3/4"	2 1/8"	2 1/8"	2 1/4"
Stuffing Box Dimensions:					
Length (Depth)	2 1/8"	2 3/4"	2 3/4"	2 3/4"	3 7/8"
Inside Diameter (Bore)	2"	2 1/2"	2 7/8"	2 7/8"	3 1/4"
Shaft Sleeve Diameter	1 3/8"	1 3/4"	2 1/8"	2 1/8"	2 1/4"
Lantern Gland Width	7/16"	5/8"	5/8"	5/8"	3/4"
Packing Size – Square	5/16"	3/8"	3/8"	3/8"	1/2"
Number of Rings with Lantern Ring	5	5	5	5	6
Number of Rings without Lantern Ring	6	7	7	7	7
Spacing with Lantern Ring	2-G-3	2-G-3	2-G-3	2-G-3	3-G-3
Pump Shaft Dimensions:					
Span Between Bearings	3 15/16"	6 3/8"	5 15/16"	5 15/16"	8 7/16"
Span Between Radial Bearing and Impeller	5 13/16"	7 7/8"	8 3/16"	8 3/16"	10 3/4"
Diameter Under the Sleeve	1 1/8"	1 1/2"	1 7/8"	1 7/8"	2"
Diameter with No Sleeve	1 3/8"	1 3/4"	2 1/8"	2 1/8"	2 1/4"
Diameter at Coupling	7/8"	1 1/8"	1 5/8"	1 5/8"	1 5/8"
Diameter Between Bearings	1 1/2"	2 1/8"	2 5/8"	2 5/8"	2 3/4"
Diameter at Impeller	3/4"	1 1/4"	1 1/4"	1 1/4"	1 5/8"
L^3/D^4 Ratio					
Sleeved Shaft	123	96	44	44	78
Solid Shaft (No Sleeve)	55	52	27	27	48

Max. Allowable Pump Suction Pressure (psi) With 2 Yr. Min. Thrust Bearing Life

PUMP SIZE	With Balance Holes			Without Balance Holes			Values of Fn		
pH/pHP	3500 RPM	1750 RPM	1150 RPM	3500 RPM	1750 RPM	1150 RPM	3500 RPM	1750 RPM	1150 RPM
							psi	psi	psi
1 x 1 1/2 x 6 pH2110	maximum allowable suction pressure = maximum allowable discharge pressure less developed head						18	4.5	2.0
1 1/2 x 3 x 6							18	4.5	2.0
2 x 3 x 6							18	4.5	2.0
1 x 1 1/2 x 8							22	5.5	3.5
1 1/2 x 3 x 8/ 1 1/2 x 1 1/2 x 8							18	4.5	2.0
1 x 2 x 8 1/2 pH2140	110	185	200	180	200	205	25.2	6.3	2.7
1 1/2 x 3 x 8 1/2	115	185	200	190	195	205	25.2	6.3	2.7
2 x 3 x 8 1/2	115	185	200	190	195	205	25.2	6.3	2.7
3 x 4 x 8 1/2 #1	110	180	200	210	200	205	39.0	9.7	4.2
3 x 4 x 8 1/2 #2		175	200		230	220		9.7	4.2
1 x 2 x 10	110	180	200	185	195	205	25.2	6.3	2.7
1 1/2 x 3 x 10/ 2 x 2 x 10	110	180	200	185	195	205	25.2	6.3	2.7
2 x 3 x 10/ 3 x 3 x 10	110	180	200	190	185	205	25.5	6.3	2.7
3 x 4 x 10 #1/ 4 x 4 x 10	110	180	200	210	205	210	25.2	6.3	2.7
3 x 4 x 10 #2		180	200		200	205		9.7	4.2
1 1/2 x 3 x 11 1/2		105	180		180	200	25.2	6.3	2.7
2 x 3 x 11 1/2		105	180		180	200	25.2	6.3	2.7
3 x 4 x 11 1/2		170	200		190	200		14.0	6.0
4 x 6 x 11 1/2		150	180		200	205		14.0	6.0
1 1/2 x 3 x 13 1/2		165	195		185	200		6.3	2.7
2 x 3 x 13 1/2		165	195		185	200		6.3	2.7
3 x 4 13 1/2/ 4 x 4 13 1/2		165	195		185	200		6.3	2.7
4 x 6 x 13 1/2 pH2170		240	260		240	260		23	10.0
1 1/2 x 3 x 13 1/2 pH3170	300						25.2		
2 x 3 x 13 1/2	300						25.2		
3 x 4 x 13 1/2	285						25.2		
4 x 6 x 13 1/2 pH2180		225	275		275	275		22.0	10.0
6 x 8 x 13 1/2		225	275		275	275		15.0	6.7

Seal Chamber Pressure:

With Balance Holes: Seal chamber pressure = suction pressure

Without Balance Holes: Pumps are normally furnished without balance holes. Seal chamber pressure = (suction pressure) + (Fn x sp. gr.)

*Seal pressure developed by impeller with a 1.0 specific gravity (water at ambient temp 60°F/16°C)

Standard Materials of Construction

Part No.	Part Name		Class 22	Class 50	Class 60	CD4MCu	Hast.	Titanium
3	Impeller		C.I. (1)	316 (12)	Alloy20 (2)	CD4MCu	Hast.	Titanium
5	Casing		D.I. (10)	316 (12)	Alloy20 (2)	CD4MCu	Hast.	Titanium
5A	Casing Drain Plug		1020 Steel	316 S/S	Alloy20	316 S/S	Hast.	Titanium
5C	Casing Stud Nut	⑥	Steel (4)					
5D	Casing Capscrew Casing Stud Nut	②▲‡ ⑥	Steel (11) Steel (6)					
7	Cradle Spacer	①✖‡	D.I. (13)					
7G	Spacer to Brg. Hsg. Capscr.	① † ✖‡	1020 Steel					
9	Bearing Housing Foot	①	C.I. (1)					
10	Shaft Sleeve	▲ † ✖‡	316 S/S		Alloy 20	316 S/S	Hast.	Titanium
10K	Sleeve Key	▲ † ✖‡	304 S/S					
13	Seal Chamber Gland		316 S/S		Alloy 20	316 S/S	Hast.	Titanium
14	Gland Stud		304 S/S		Alloy 20	304 S/S	Hast.	Titanium
15	Gland Nut		304 S/S		Alloy 20	304 S/S	Hast.	Titanium
17	Lantern Ring	⑦▲ †	Teflon ■					
	Lantern Ring	④✖‡	C.I. (1)	316 S/S	Alloy 20			
22	Casing Back Cover	✖‡	D.I. (10)	316 (12)	Alloy 20 (2)	CD4MCu	Hast.	Titanium
22A	Back Cover to Cradle Capscrew	▲ † ✖‡	1020 Steel					
25	Radial Bearing	▲ † ✖‡	—	—	—	—	—	—
25A	Thrust Bearing	▲ † ✖‡	—	—	—	—	—	—
26	Bearing Housing	† ✖‡	D.I. (13) for pH2110 & pHP2110, C.I. (1) for all others					
27	Seal Ring	① † ✖‡	C.I. (1)					
28	Bearing End Cover	▲ † ✖‡	C.I. (1)					
28A	Bearing End Cover Capscrew	▲ † ✖‡	1020 Steel					
28B	End Cover Adjusting Screw	▲ † ✖‡	1020 Steel					
28C	Adjusting Screw Locking Nut	▲ † ✖‡	1020 Steel					
29	Pump Shaft	▲ † ✖‡	Steel (5)					
31	Thrust Bearing Lock Nut	① † ✖‡	1020 Steel					
31A	Thrust Bearing Lock Washer	① † ✖‡	1020 Steel					
56	Casing Foot	⑤	C.I. (1)					
56A	Casing Foot Capscrew	⑤ †	1020 Steel					
56B	Casing Foot Dowel	⑤ †	1020 Steel					
75A	Tapered Retaining Ring	③▲	Steel					
75B	Large Retaining Ring	⑦▲ †	Steel					
76	Labyrinth Seal – Front	▲ † ✖‡	Bronze & Viton ■					
76A	Labyrinth Seal – Rear	▲ † ✖‡	Bronze & Viton ■					
77	Casing Gasket	✖‡	Teflon ■					
77A	Impeller Gasket	▲ † ✖‡	Teflon ■					
77B	End Cover Gasket	▲ † ✖‡	Buna (7)					
80	Vent	▲ † ✖‡	—					
83	Motor Support (C Face)	⑦▲ †	C.I. (1)					
95A	Mechanical Seal Stationary	▲ † ✖‡						
95B	Mechanical Seal Rotary	▲ † ✖‡						
109	Oil Cooler	▲ † ✖‡	S/S Tubing with Steel Fins and Steel Fittings					
231	Bearing Lock Ring	④✖‡	1020 Steel					
231A	Bearing Lock Ring Screw	④✖‡	1020 Steel					
231B	Bearing Lock Ring Washer	④✖‡	1020 Steel					

① pH2140, pH2170, pH3170, pH2180 and pHP2140 only
② pH2110, pH2140, pH2170, pH2180, pHP2110 and pHP2140 only
③ pH2110, and pHP2110 only
④ pH2170, pH3170, and pH2180 only
⑤ pH2140 and pHP2140 only
⑥ pH3170 only
⑦ pH2110, pH2140, pHP2110, and pHP2140 only
▲ Denoted parts are interchangeable in all pH2110 and pHP2110 pumps
† Denoted parts are interchangeable in all pH2140 and pHP2140 pumps
✖ Denoted parts are interchangeable in all pH2170 and pH3170 pumps
‡ Denoted parts are interchangeable in all pH2180 pumps
■ Registered Trademark of the E.I. DuPont Company

MATERIAL SPECIFICATIONS (REFER TO NUMBERS IN PARENTHESES)

(1) Cast Iron
(2) Alloy 20 S/S: ASTM #A744, Grade CN-7M
(3) Cast Steel: ASTM #A216, Grade WCB
(4) Steel: ASTM #A194, Grade 2
(5) Alloy Steel: 125,000 TS, 100,000 YP
(6) Steel: ASTM #A193, Grade B7
(7) Buna "N" Rubber
(8) Fibre Sheet — Non-Asbestos Fibre
(9) Manila Paper
(10) Ductile Iron: ASTM A395
(11) Steel: ASTM #A449
(12) 316 S/S: ASTM #A744 Grade CF-8M
(13) Ductile Iron: ASTM A536

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CECO Dean Pumps
ANSI/ASME B73.1 Horizontal Process Pumps

1. CASING COVER
Standard bore, jacketed, large taper bore, large cylindrical bore. Designed to provide the best environment for the specific application and service conditions.

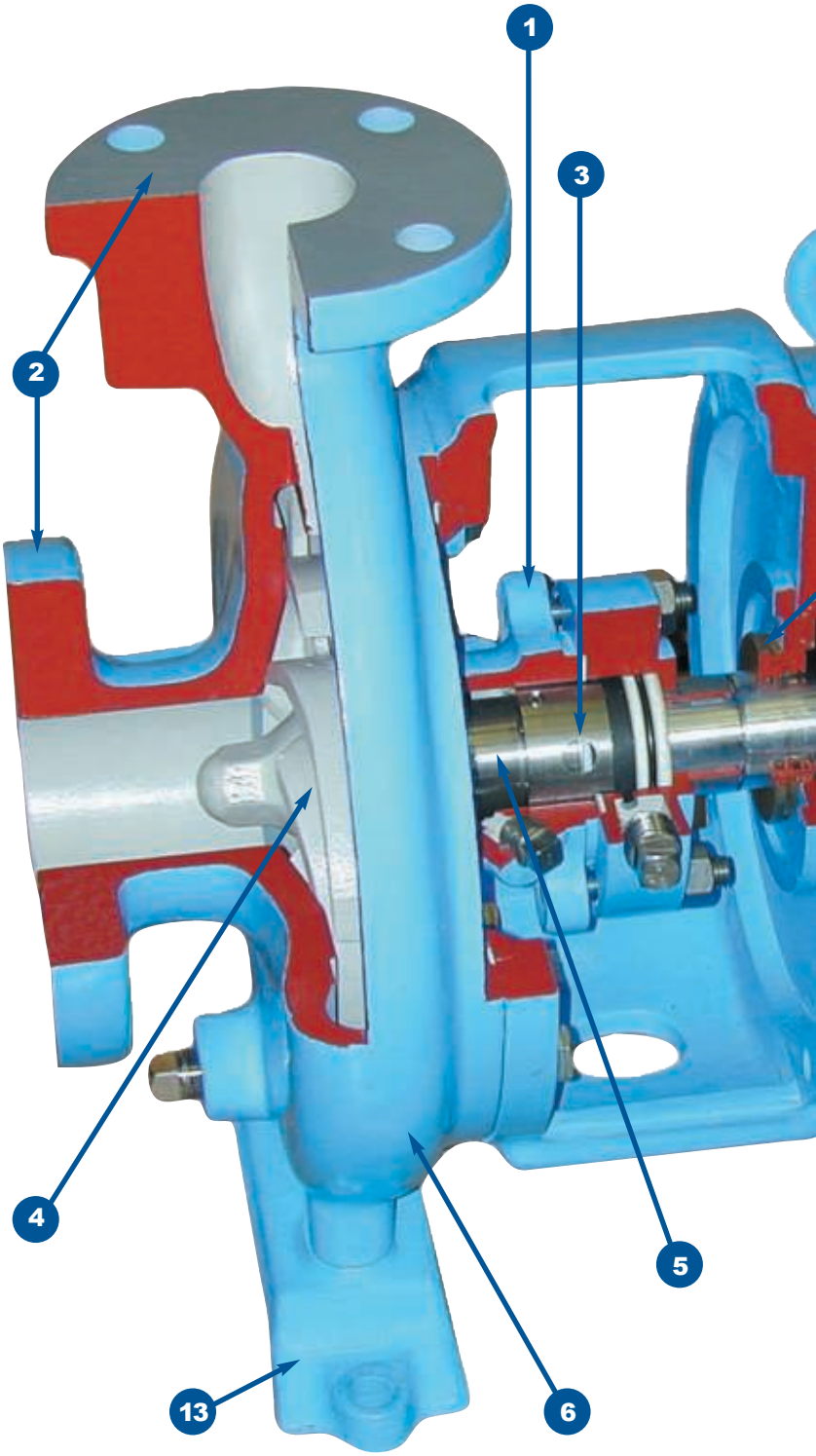
2. INTEGRAL ONE-PIECE CASING FLANGES
Flanges dimensioned according to ANSI/ASME B16.5 Class 150 for the pH2110/pH2140/pH2170 and Class 300 for the pH3170/pH2180. Flat face flanges are standard with raised face flanges avail- able as an option.

3. SEALING FLEXIBILITY
Choice of packed box or mechanical seal. Wide range of sealing arrangements (inside/outside, single/ double, balanced/ unbalanced,e t c .) available to meet specific application and service conditions.

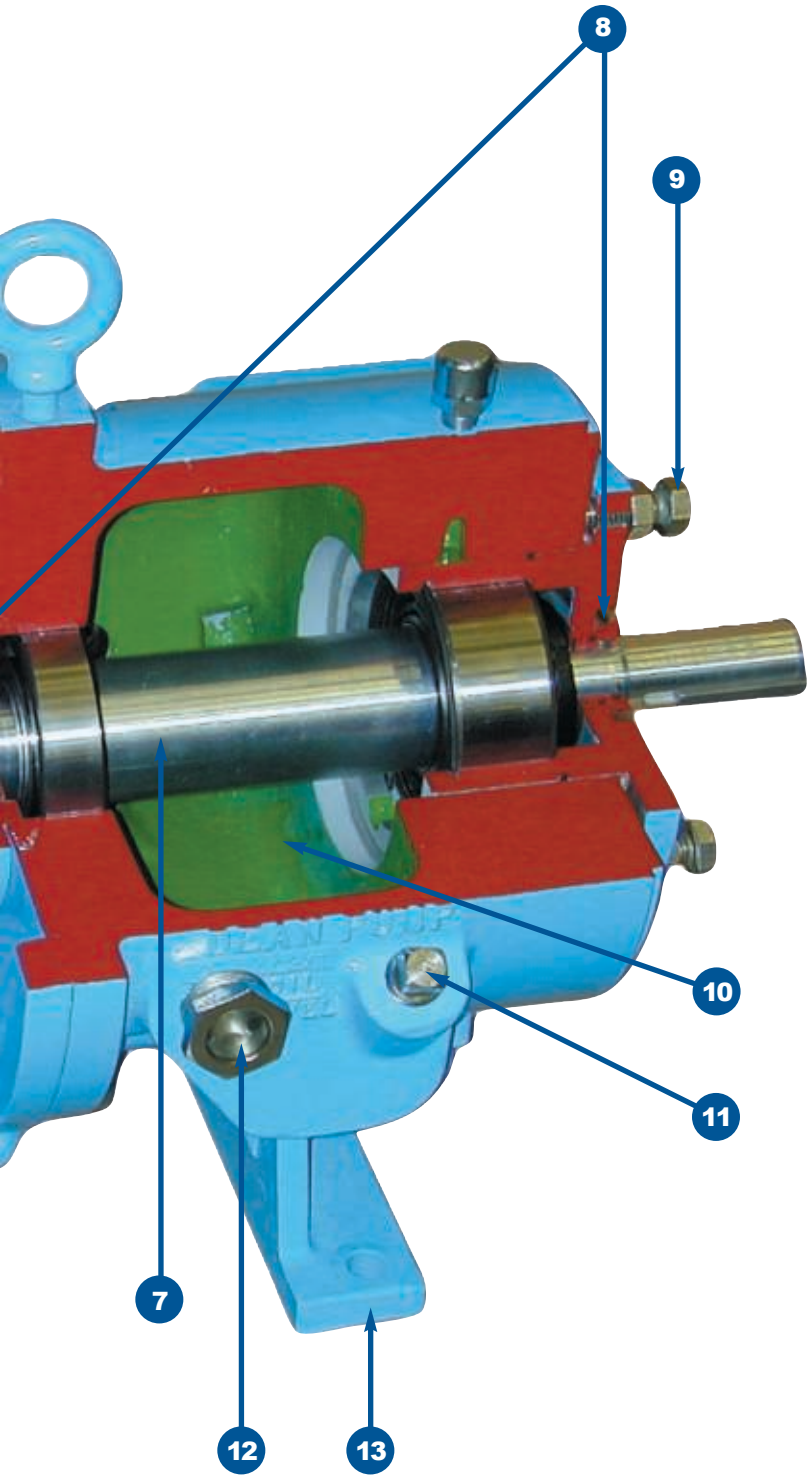
4. FULLY OPEN IMPELLER
The fully open design provides smooth inlet passages for solids handling and stringy material, low NPSH, and minimum stuffing box pressure. The impeller design transmits low axial loads on the bearings.

5. SHAFT SLEEVE
“Hook” type shaft sleeves are standard. Alloy, hard-facing, hardened chrome 11/13, or ceramic coatings are available as options. Solid shafts are also available.

6. ANSI/ASME B73.1 DIMENSIONAL CASING
Permits maximum interchangeability of pumps with existing ANSI pumps eliminating any need for piping or foundation changes. Back pull-out design for ease of maintenance. Top centerline discharge for self-venting of casing. Casing drain/plug is a standard feature on Ductile Iron construction only.



CECO ENVIRONMENTAL



7. HEAVY DUTY SHAFT AND BEARINGS

Carbon steel shaft (316SS optional) designed for minimum deflection of less than 0.002" (0.05 mm) at the seal faces. Double row thrust bearings and single row radial bearings are sized for a 2 year minimum life and a 10 year average life. With minimized bearing spans and overhung lengths, Dean's L^3/D^4 ratio is one of the best in the business.

8. STANDARD LABYRINTH SEALS

Rugged bronze construction with Viton O-rings. These seals will ensure that the bearings are kept properly lubricated and uncontaminated throughout their project design life.

9. EXTERNAL IMPELLER ADJUSTMENT

No shimming required. Allows field setting of impeller-to-casing clearance. Impeller adjustment is accomplished by adjusting screws in the bearing end cover.

10. LUBRICATION OPTIONS

Oil bath lubrication is standard. Extra large oil reservoir designed for cooler bearing operation. Oil mist lubrication and grease lubrication are optional features. A finned tube oil cooler is also available (as an option) to directly cool oil for lower bearing temperature.

11. FILL PLUG

Easy access to fill plugs supplied on both sides of the bearing housing. Designed to minimize the possibility of overfilling.

12. ONE INCH OIL SIGHT GLASS

Allows for simple and easy monitoring of oil level and condition. Oil sight glass can be installed on either side of the bearing housing, in the field, for best location and ease of viewing. Combination automatic (bottle) oiler/sight glass also available.

13. RIGID BEARING HOUSING AND CASING FEET

Designed to reduce the effect of pipe loads on pump and shaft alignment.

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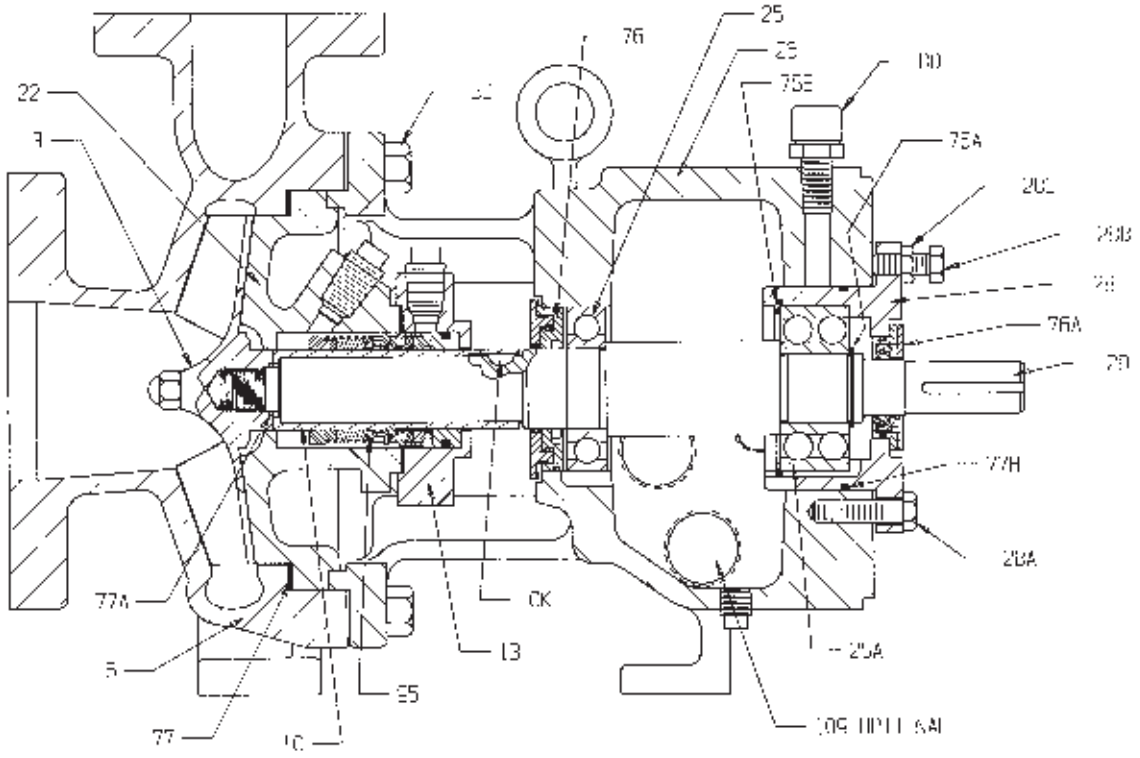
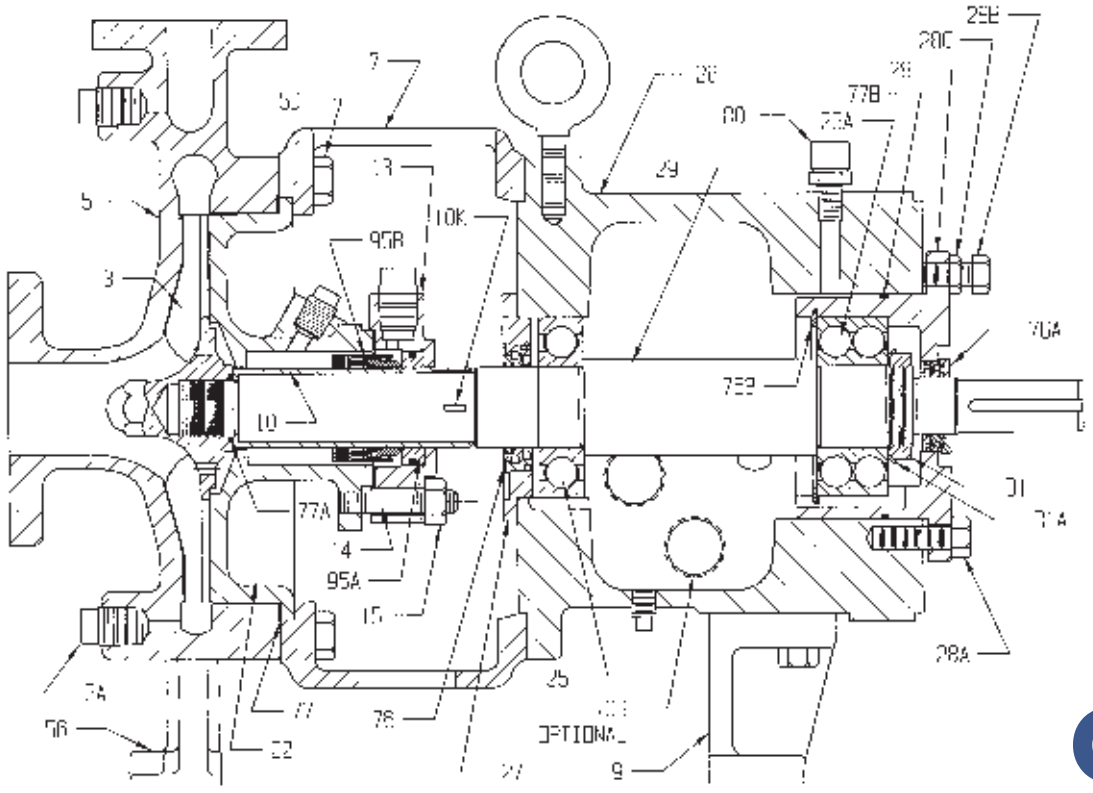
CECO Dean Pumps
ANSI/ASME B73.1 Horizontal Process Pumps

pH2110



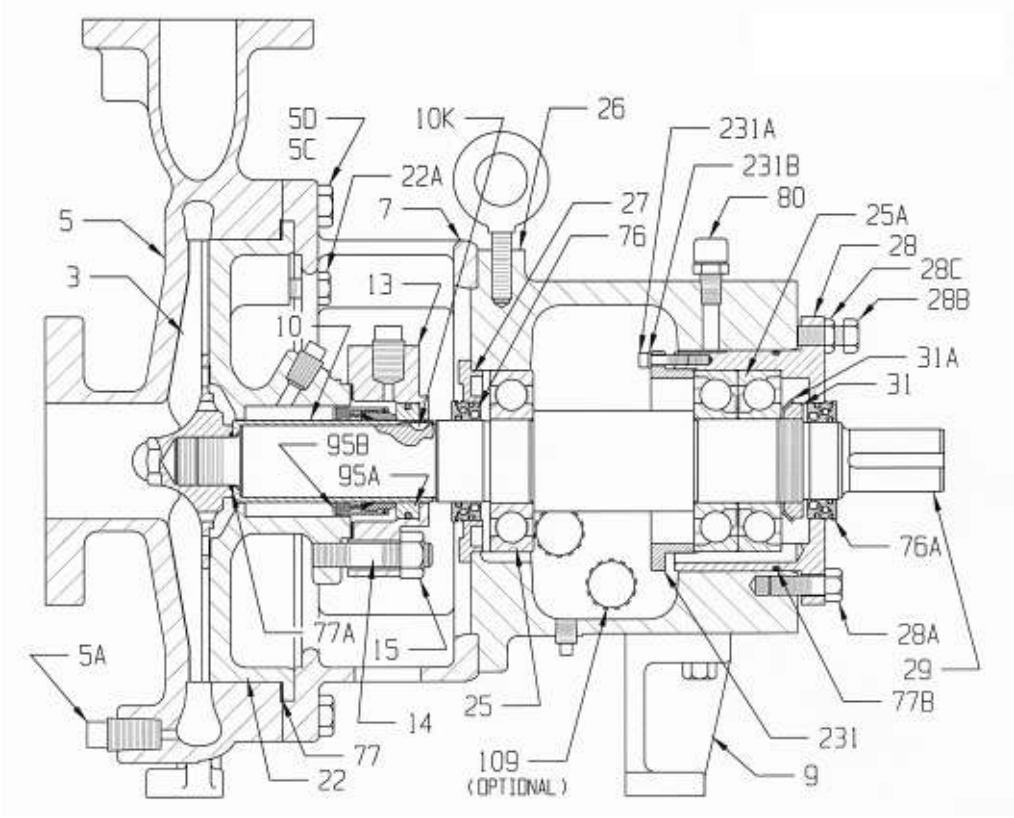
pH2140



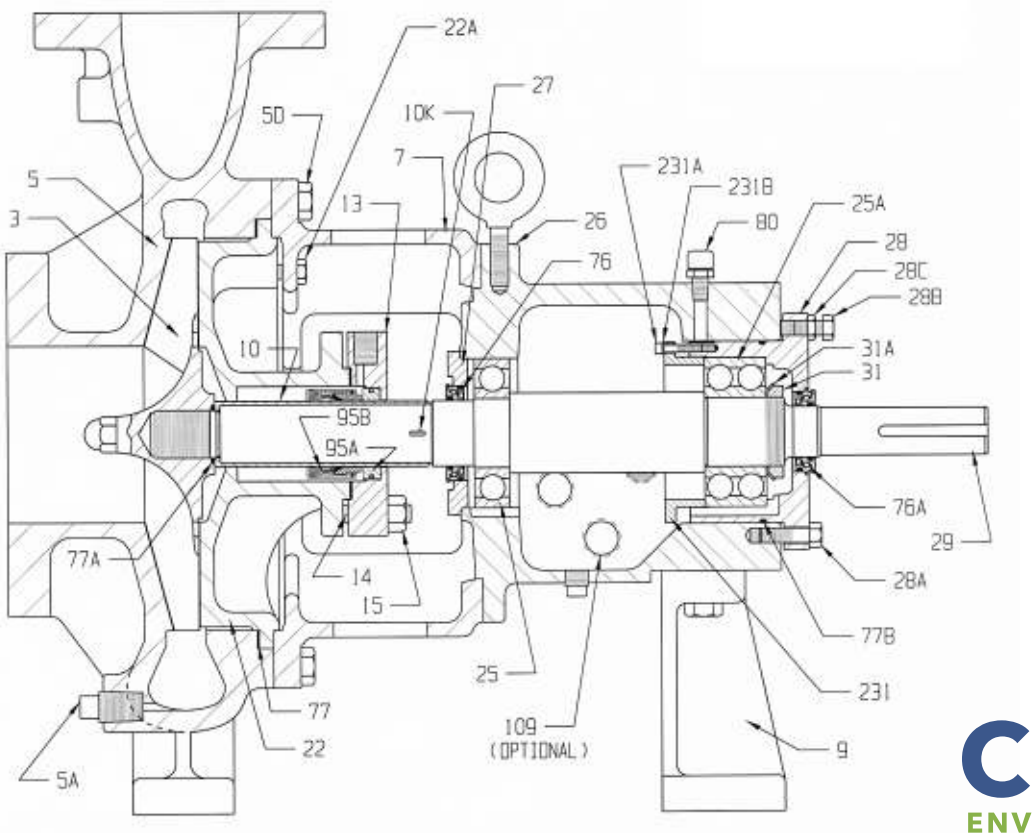
CECO ENVIRONMENTAL

CECO Dean Pumps
ANSI/ASME B73.1 Horizontal Process Pumps

pH2170/pH3170



pH2180



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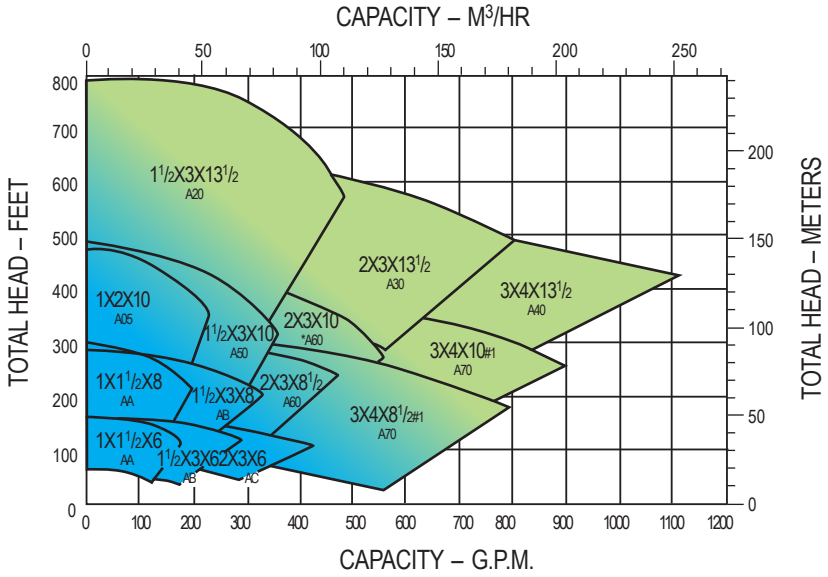
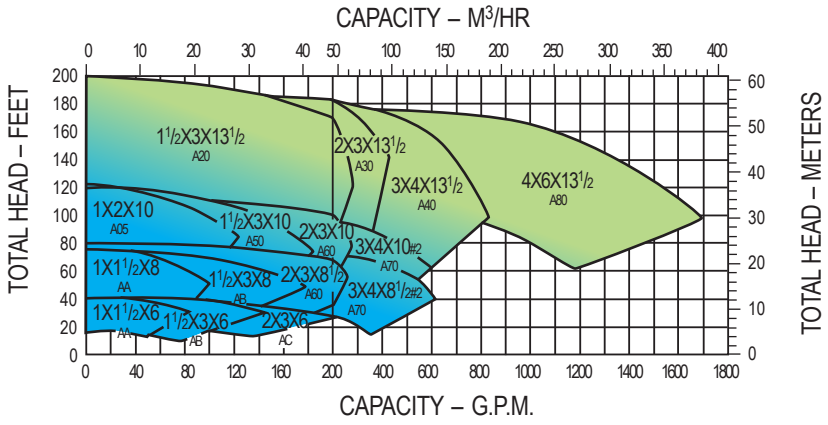
CECO Dean Pumps
pH Series - Head Capacity Range Charts

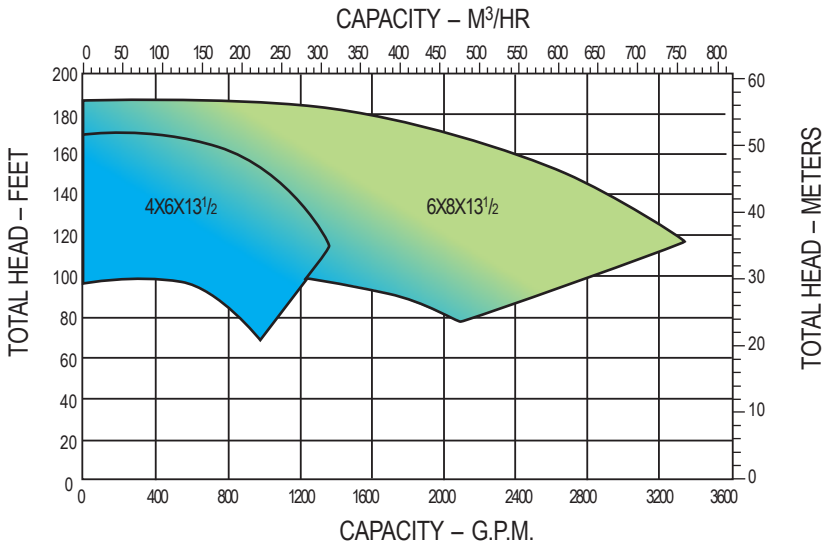
pH2110, pH2140 & pH3170 — 3500 RPM



pH2110, pH2140 & pH2170 — 1750 RPM



pH2180 — 1750 RPM



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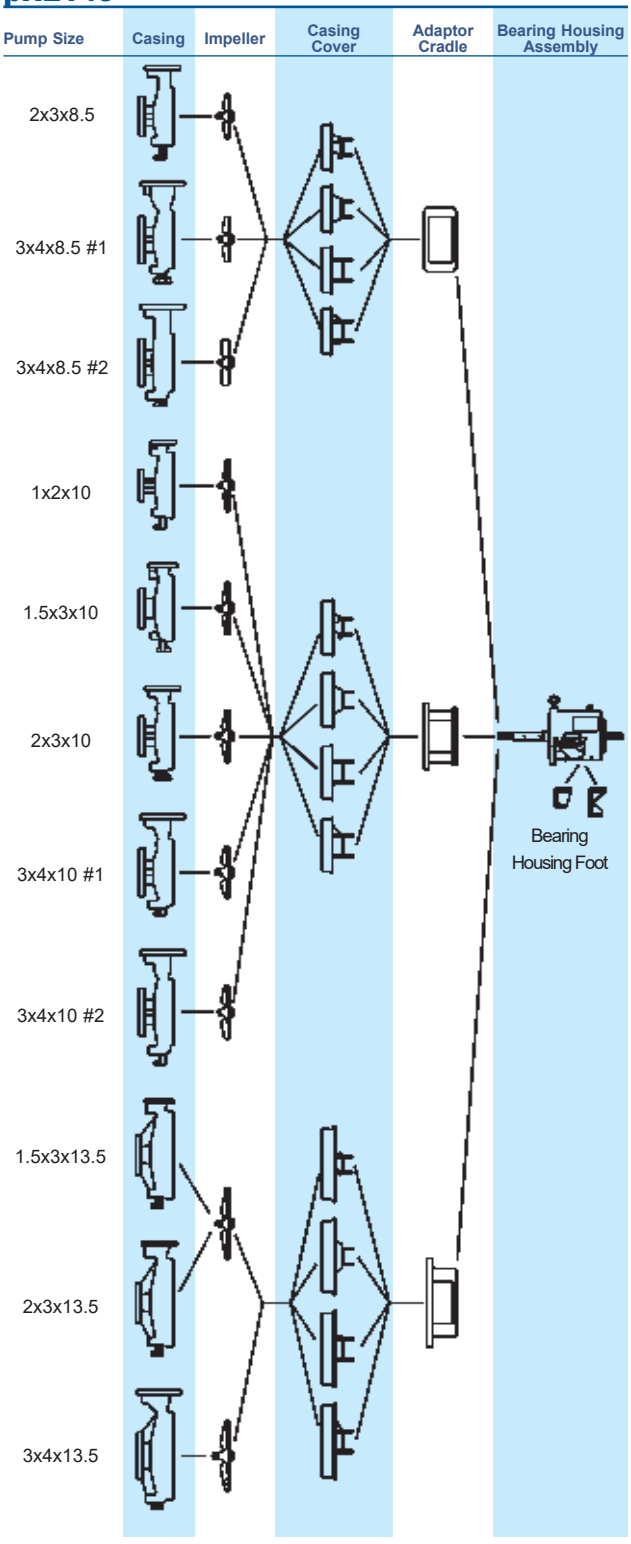
CECO Dean Pumps

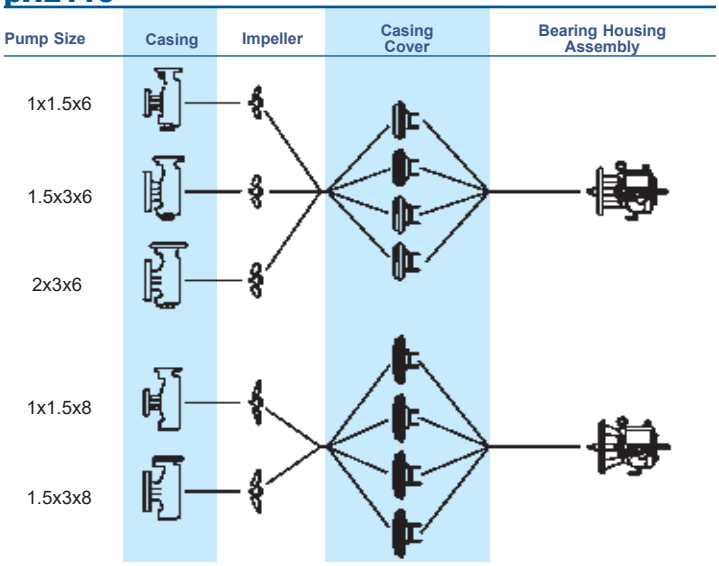
pH Series - Parts Interchangeability of 22 Pump Sizes

pH2140

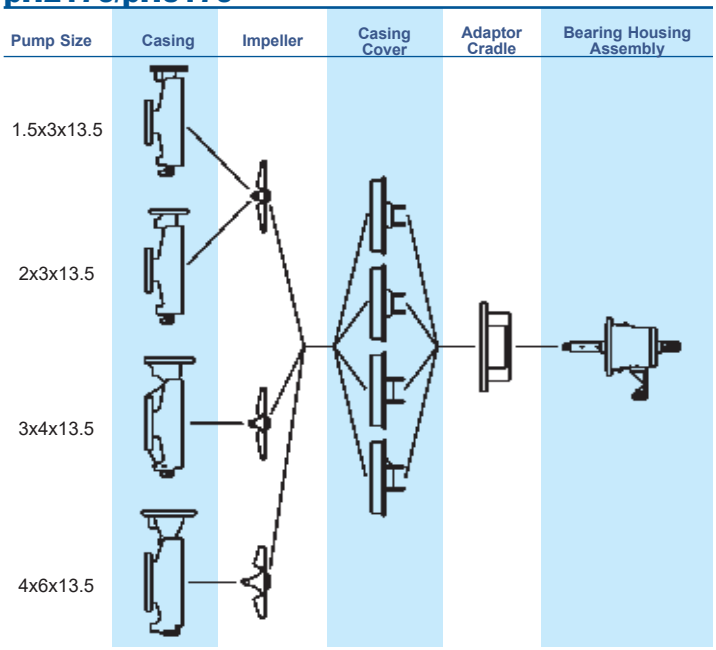


Casing covers with jackets, standard bore, large taper bore, and large cylindrical bore seal cavities are available on all pumps. Bearing housings with finned tube oil coolers are also available on all pumps.

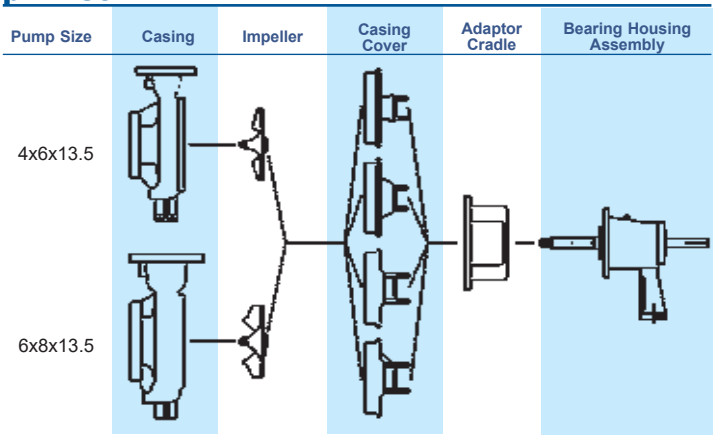
pH2110



pH2170/pH3170



pH2180



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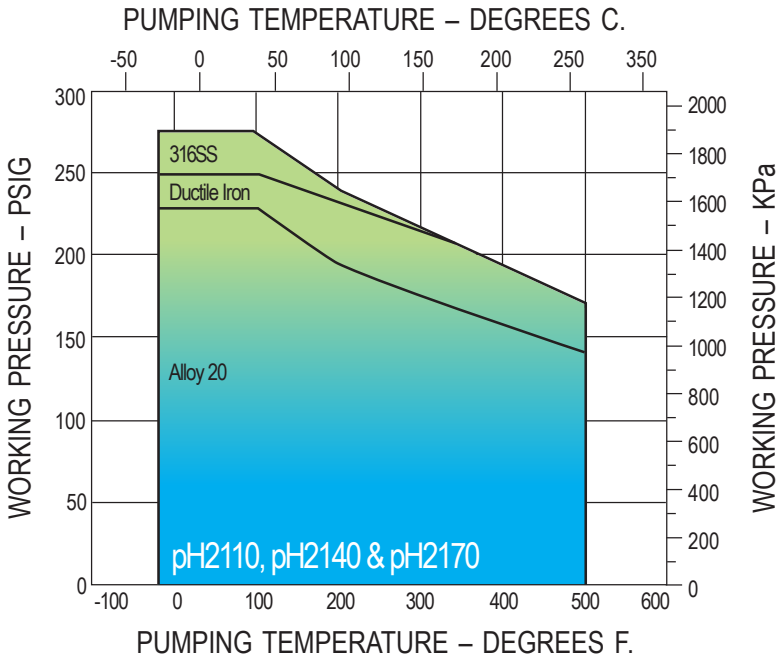
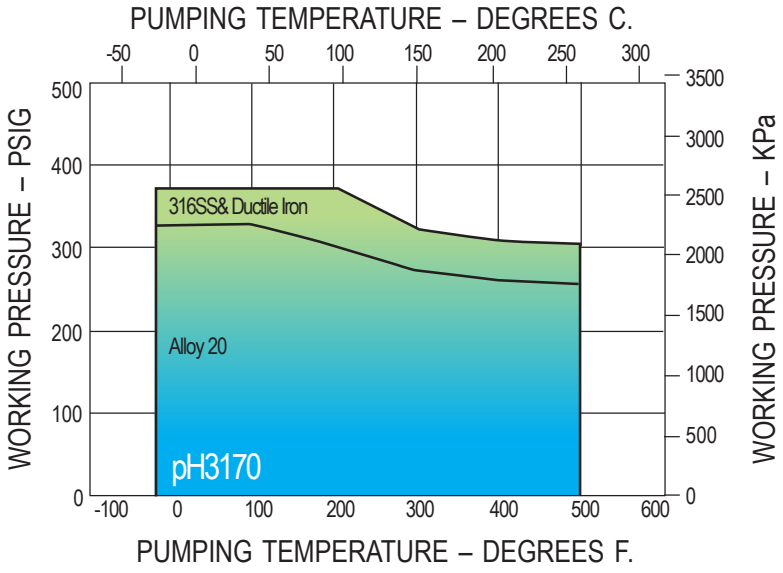
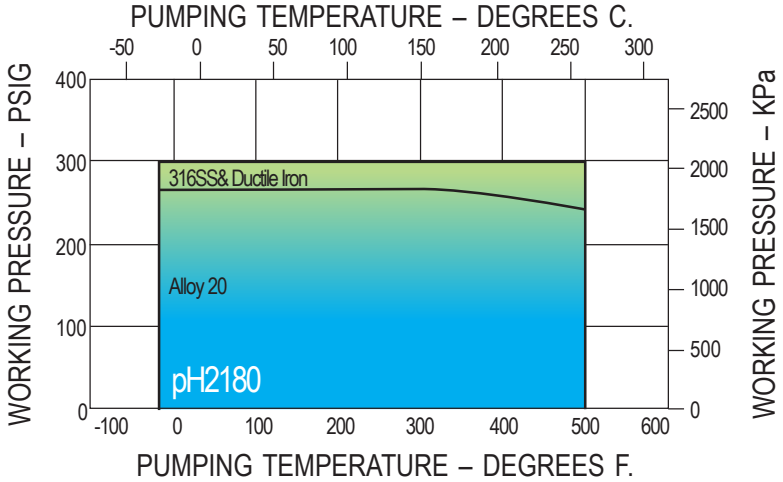
CECO Dean Pumps

pH Series - Working Pressures vs. Temperature







NOTE: For all Series pH pumps: lower temperature capabilities are available for special applications.

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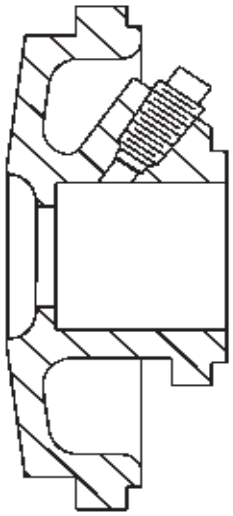
CECO Dean Pumps
pH Series - Extended Seal Life and Flexibility

Dean Pump offers a variety of seal chambers specifically designed to provide optimum seal performance while best suiting a pump user's application and economic concerns.

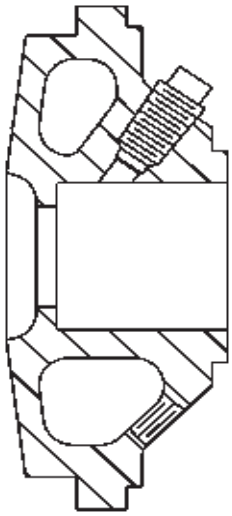
STANDARD BORE STUFFING BOX/SEAL CHAMBER



pH2111
pH2141
pH2171
pH3171
pH2181

- Designed to accommodate either packing or various mechanical seal configurations.

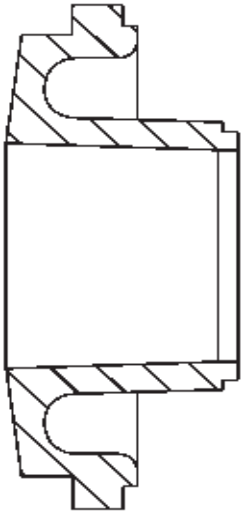
STANDARD BORE JACKETED STUFFING BOX/SEAL CHAMBER



pH2112
pH2142
pH2172
pH3172
pH2182

- Designed to improve heat transfer (heating or cooling) in the seal chamber area or across the entire surface area of the process fluid.
- Regarding material availability, jackets are constructed in the same material as the other pressure containing parts.
- Temperature range for jackets is -20°F (-29°C) to 500°F (260°C).

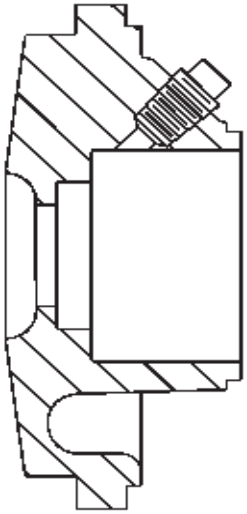
LARGE TAPER BORE SEAL CHAMBER



pH2116
pH2146
pH2176
pH3176
pH2186

- Designed to circulate heat, solids, and vapor out of the seal chamber and away from the seal faces. This will result in lower seal face temperature, and consequently, longer seal life.
- Regarding material availability, taper bore seal chambers are constructed in the same material as other pressure containing parts.
- Often times, flushing is not required but it is available through a gland connection (depending on the application or service conditions).

LARGE CYLINDRICAL BORE SEAL CHAMBER

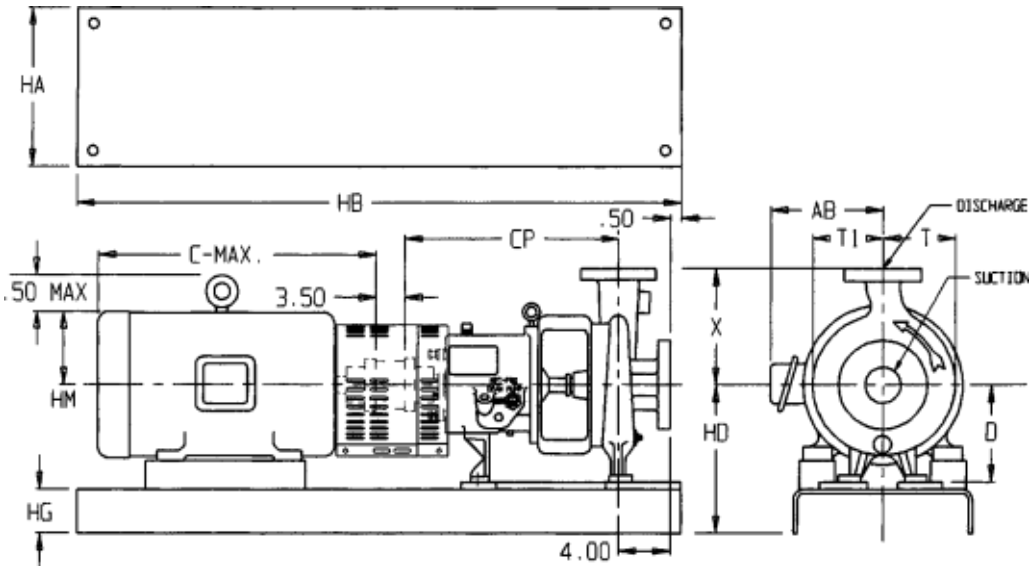


pH2116
pH2146
pH2176
pH3176
pH2186

- Designed with an enlarged seal chamber area thereby resulting in an improved seal life and increased lubrication and cooling.

CECO ENVIRONMENTAL

CECO Dean Pumps
Dimensions of pH2110/pH2140 with "Economy" Baseplate



All Dimensions in inches.

ANSI Pump Size	Pump Size	Discharge					Suction					CP	D	X	T	T1
		Size	O.D.	Thick.	B.C.	Bolts	Size	O.D.	Thick.	B.C.	Bolts					
AA	1x1.5x6	1	4.25	.563	3.13	4-1/2	1.5	5	.688	3.88	4-1/2	13.5	5.25	6.50	5.00	5.00
	1x1.5x8	1	4.25	.563	3.13	4-1/2	1.5	5	.688	3.88	4-1/2	13.5	5.25	6.50	5.50	5.50
AB	1.5x3x6	1.5	5	.688	3.88	4-1/2	3	7.50	.938	6	4-5/8	13.5	5.25	6.50	5.00	5.00
	1.5x3x8	1.5	5	.688	3.88	4-1/2	3	7.50	.938	6	4-5/8	13.5	5.25	6.50	5.50	5.50
AC	2x3x6	2	6	.750	4.75	4-5/8	3	7.50	.938	6	4-5/8	13.5	5.25	7	5.25	5.00
A60	2x3x8.5	2	6	.750	4.75	4-5/8	3	7.50	.938	6	4-5/8	19.5	8.25	9.50	6.25	5.75
A70	3x4x8.5#1	3	7.50	.938	6	4-5/8	4	9	.938	7.50	8-5/8	19.5	8.25	11	7	6.13
	3x4x8.5#2	3	7.50	.938	6	4-5/8	4	9	.938	7.50	8-5/8	19.5	8.25	11	7.63	6.38
A05	1x2x10	1	4.25	.563	3.13	4-1/2	2	6	.750	4.75	4-5/8	19.5	8.25	8.50	5.75	5.75
A50	1.5x3x10	1.5	5	.688	3.88	4-1/2	3	7.50	.938	6	4-5/8	19.5	8.25	8.50	6.25	6.25
A60	2x3x10	2	6	.750	4.75	4-5/8	3	7.50	.938	6	4-5/8	19.5	8.25	9.50	6.75	6.25
A70	3x4x10#1	3	7.50	.938	6	4-5/8	4	9	.938	7.50	8-5/8	19.5	8.25	11	7.38	6.38
	3x4x10#2	3	7.50	.938	6	4-5/8	4	9	.938	7.50	8-5/8	19.5	10	11.75	8.50	7.38
A20	1.5x3x13.5	1.5	5	.688	3.88	4-1/2	3	7.50	.938	6	4-5/8	19.5	10	10.50	8.25	8.25
A30	2x3x13.5	2	6	.750	4.75	4-5/8	3	7.50	.938	6	4-5/8	19.5	10	11.50	8.75	8.25
A40	3x4x13.5	3	7.50	.938	6	4-5/8	4	9	.938	7.50	8-5/8	19.5	10	12.50	9.38	8.50

Frame	C	AB	CP=13.5			CP=19.5			HD			HM
			HA	HB	HG	HA	HB	HG	D=5.25	D=8.25	D=10	
140T	13.75	6.50	10	35	3	12	45	3.75	8.25	12	13.75	3.88
182T	14.63	7.50	10	35	3	12	45	3.75	8.25	12	13.75	5.25
184T	15.63	7.50	12	39	3.25	12	45	3.75	8.50	12	13.75	5.25
210T	19.63	9.50	12	39	3.25	12	45	3.75	8.50	12	13.75	6
250T	24.88	11.00	15	52	4.13	15	52	4.13	10.38	12.38	14.13	7
280T	28.38	12.63	--	--	--	15	52	4.13	--	12.38	14.13	7.75
280TS	27.00	12.63	15	52	4.13	15	52	4.13	11.13	12.38	14.13	7.75
324TS	28.38	14.75	12	45	3.75	18	58	4.75	13.75	13	14.75	8.75
320T	31.38	14.75	--	--	--	18	58	4.75	--	13	14.75	8.75
326TS	29.88	14.75	--	--	--	18	58	4.75	--	13	14.75	8.75
364T	33.13	16.25	--	--	--	18	58	4.75	--	13.75	14.75	9.88
360TS	32.50	16.25	--	--	--	18	58	4.75	--	13.75	14.75	9.88
405TS	35.50	20.25	--	--	--	26	68	4.75	--	14.88	14.88	11

CECO Dean Pump

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