

Hydracel High Pressure Pump

Mfg: Hydracell

Model: D10 SL SE SHEHC

Stock No. HDPH038.5a

Serial No. 99260

Hydracell High pressure Pump.

- Model D10 SL SE SHEHC,
- S/N 99260.
- Inlet (1) 1-1/2 in.,
- Outlet (1) 1 in.
- Inside inlets/outlets (2) 1 in., (1) 1-1/4 in.
- Baldor Motor inverter Drive. 3 hp, 1,750 rpm, 230/460 volt, 60 Hz, 3 phase.
- Overall dimensions 10 in. W, 28-1/2 in. L, 13 in. H.



D-10 Series

Up to 8 gpm (30 l/min)

D-10 Specialized Designs



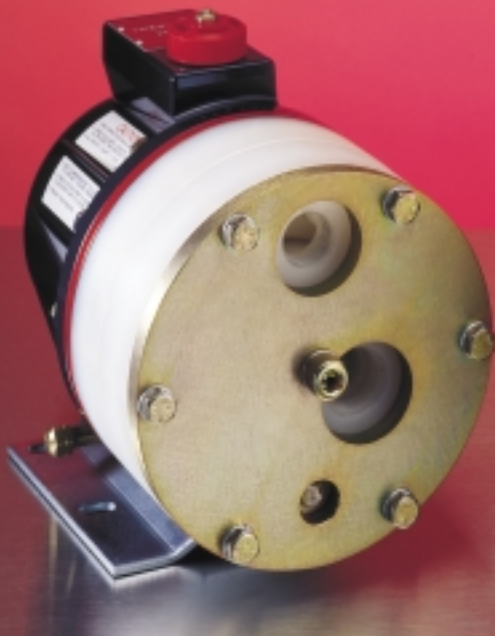
Hydra-Cell Slurry Duty pumps are specifically designed for abrasive slurry applications. See page 72 for complete specifications.



The D-10 Hydra-Cell can be equipped with welded flange pump heads for critical performance applications such as oil/gas installations and chemical process facilities. See page 50.



The D-10 Hydra-Cell is available with a motor adaptor flange for shaft coupler mounting to industry standard sized motor frames. See page 50.



D-10 with polypropylene pump head



D-10 with brass pump head

Hydra-Cell[®]
SIMPLY BUILT TO LAST

D-10 Series Performance

flow

model	max flow		max input rpm
	gpm	l/min	
D-10-X	8	30.3	1450
D-10-E	8	30.3	1750
D-10-S	6	22.7	1750
D-10-I	4	15.1	1750
D-10-X	5.4	20.4	1150
D-10-E	5.4	20.4	1150
D-10-S	4.1	15.5	1150
D-10-I	2.8	10.6	1150

pressure

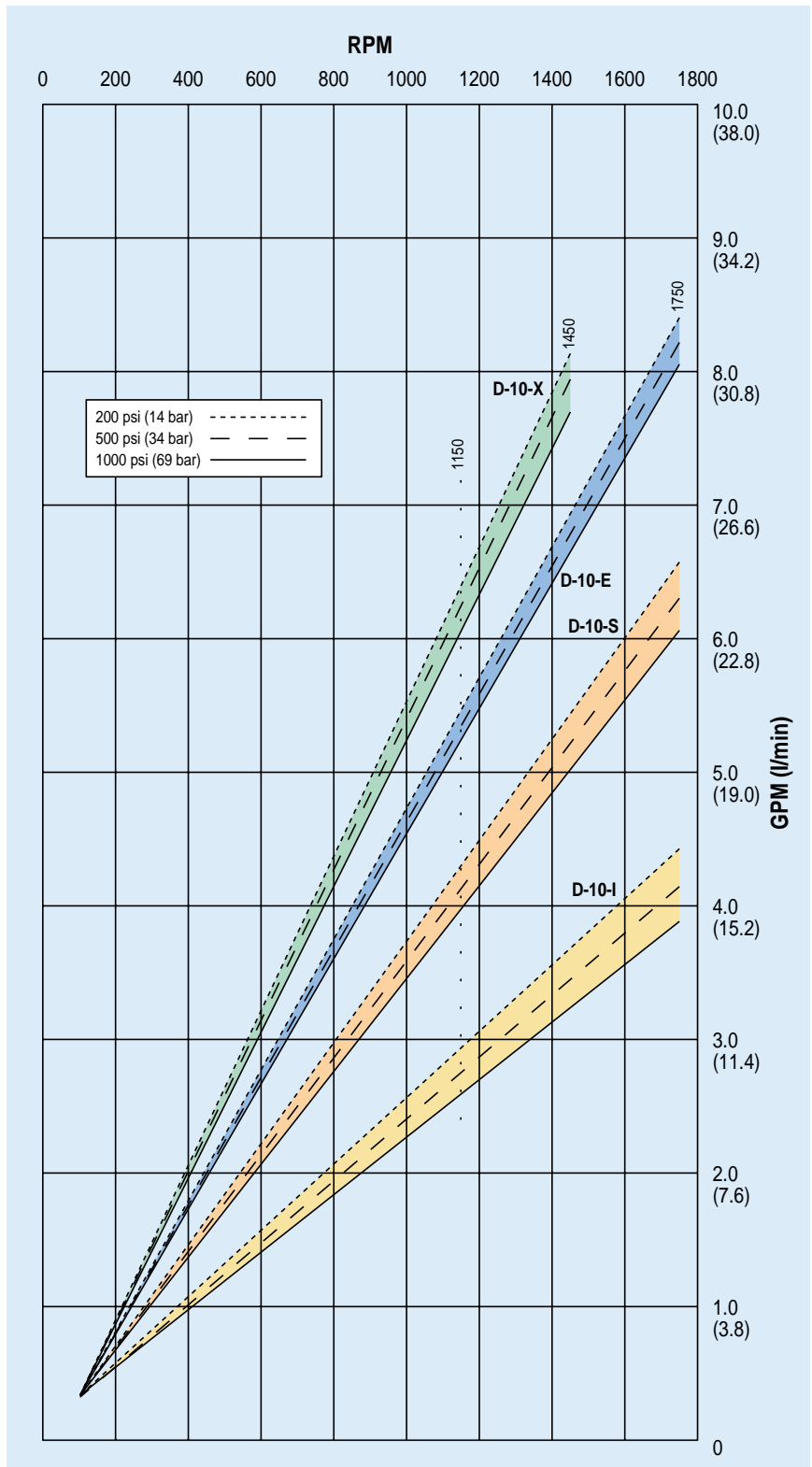
Maximum Inlet Pressure:

250 psi (17.3 bar)

Pressure Variable To:

Metallic Heads: 1000 psi (69 bar)

Non-Metallic Heads: 250 psi (17.3 bar)



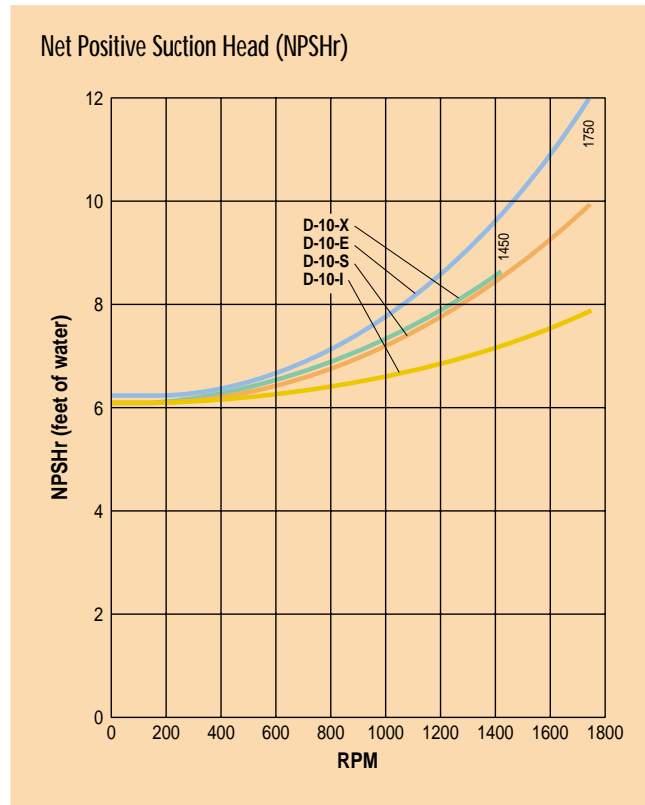
D-10 Series Specifications

Maximum Capacity			
	rpm	gpm	l/min
D-10-X	1450	8	30.3
D-10-E	1750	8	30.3
D-10-S	1750	6	22.7
D-10-I	1750	4	15.1

Delivery @ max pressure		
	revs/gal	revs/liter
D-10-X	185	49
D-10-E	219	58
D-10-S	292	78
D-10-I	437	115

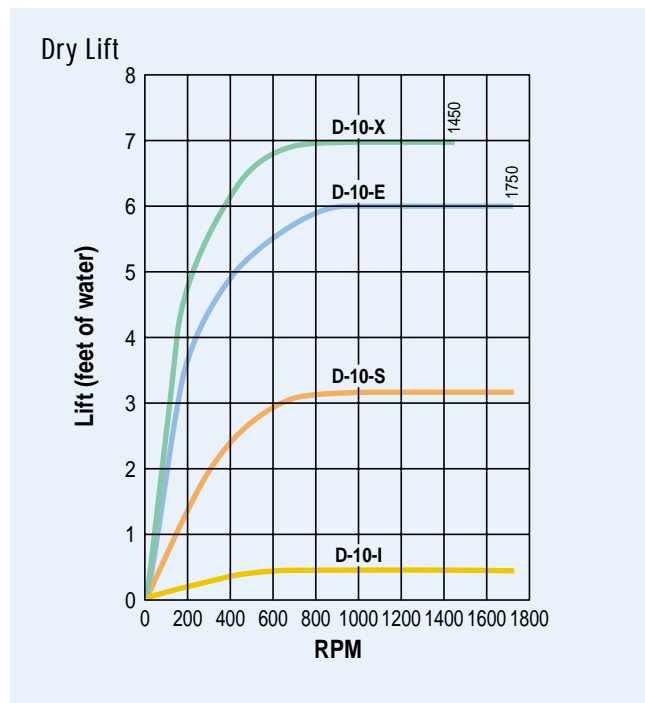
Max Inlet Pressure	250 psi (17.3 bar)
Pressure Variable to	Metallic Head: 1000 psi (69 bar) Non-Metallic Head: 250 psi (17.3 bar)
Max Temperature	250°F (refer to engineering section, page 94 for temperatures above 180°F)
Inlet Port	1 inch NPT
Discharge Port	3/4 inch NPT
Shaft Diameter	7/8 inch
Shaft Rotation	Bi-directional
Bearings	Tapered roller bearings
Oil Capacity	1.1 US quart (1.05 liters), see page 88 for oil selection and specification.

Weight	
Metallic Heads:	48 lbs (21.8 kg)
Non-Metallic Heads:	35 lbs (15.9 kg)



Calculating Required Horsepower

$$\frac{15 \times \text{rpm}}{63,000} + \frac{\text{gpm} \times \text{psi}}{1,460} = \text{electric motor HP}$$

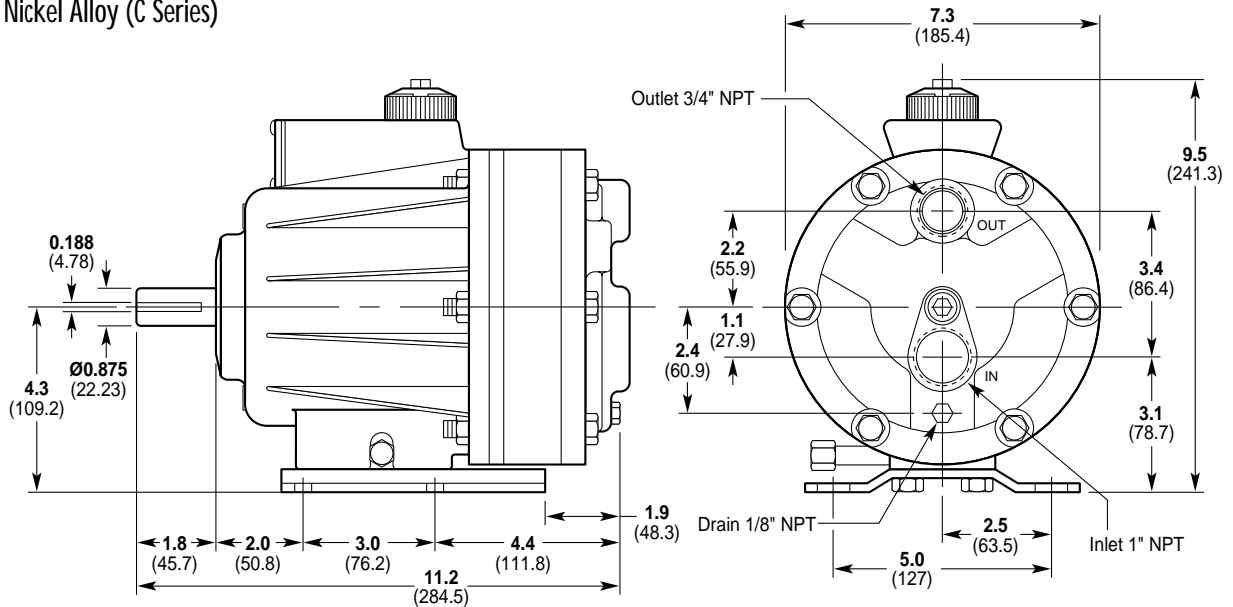


For installation guidelines and other pump selection design considerations, refer to pages 92-95.

D-10 Series Dimensions

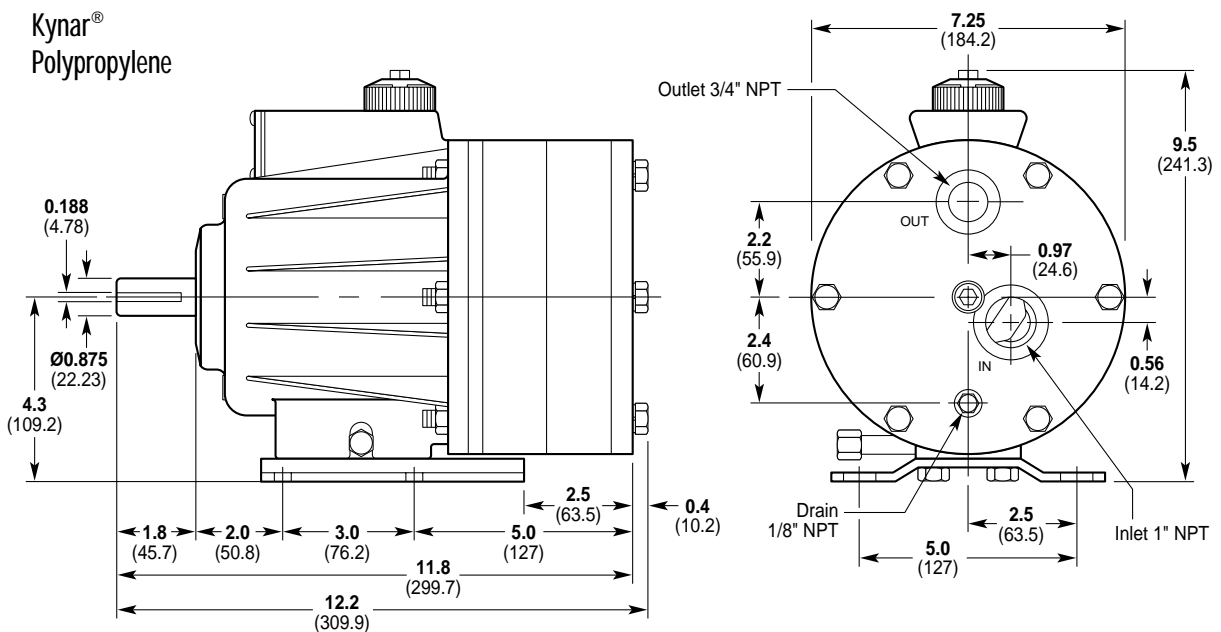
D-10 Models with Metallic Pumping Head

Brass
Cast Iron
316 Stainless Steel
Nickel Alloy (C Series)



D-10 Models with Non-metallic Pump Head

Kynar®
Polypropylene



D-10 Series Options

Materials of Construction

D-10 Hydra-Cell pumps are manufactured in a variety of heavy-duty materials to meet specific pumping needs. Refer to the design section for more information on appropriate material selection and chemical compatibility. Other customized materials are available by special order. Contact factory application engineering department for further information.



Pumping Head
 316 Stainless Steel
 Brass
 Cast Iron
 Kynar®
 Nickel Alloy (Hastelloy Remelt, CMW12D)
 Polypropylene



Valves
 17-4 PH Stainless Steel
 17-7 PH Stainless Steel
 Ceramic
 Hastelloy® C
 Nitronic 50



Diaphragms & O-rings
 Buna-N
 Buna-N-XS
 EPDM
 Neoprene
 Teflon®
 Viton®
 Viton®-XT



Valve Springs
 17-7 PH Stainless Steel
 Elgiloy®
 Hastelloy® C



Valve Seats
 17-4 PH Stainless Steel
 316 Stainless Steel
 Ceramic
 Hastelloy®



Valve Spring Retainers
 17-7 PH Stainless Steel
 Celcon®
 Hastelloy® C
 Kynar®
 Nylon (Zytel®)
 Polypropylene

D-10 Series Accessories

Options, Accessories and Custom Designs

- Valves, page 78
- Hydra-Oil, page 88
- Couplers, page 87
- Hose Connectors, page 87
- Tool Kits, page 90

Welded Flange Pump Heads

The D-10 Hydra-Cell can be equipped with welded flange pump heads for critical performance applications such as oil/gas installations and chemical process facilities.

Design Features

- 316 stainless steel flanges
- Ductile iron pump housing
- 1" ANSI pipe flange inlet; 3/4" ANSI pipe flange outlet

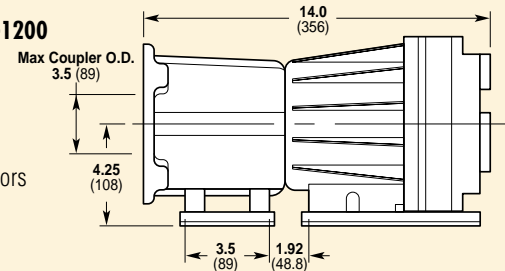
Ordering Information

Contact factory for complete specifications and ordering information.

Pump/Motor Adapters

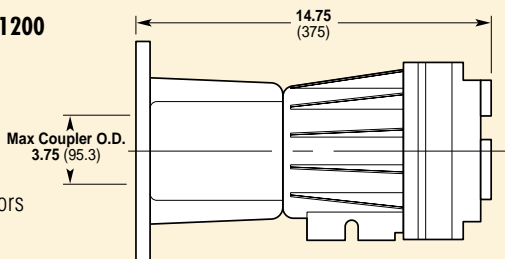
A04-001-1200

For:
 56C
 143TC
 145TC
 frame motors



A04-002-1200

For:
 182TC
 184TC
 213TC
 215TC
 frame motors



D-10 Series How To Order

Ordering Information

A complete D-10 Series Model Number contains 12 digits including 8 customer-specified design options: for example D10XLBNHFCA.

1	2	3	4	5	6	7	8	9	10	11	12
D	1	0		L							

4 Hydraulic End Cam

- X** Max 8 gpm (32.2 lpm) @ 1450 rpm
- E** Max 8 gpm (30.3 lpm) @ 1750 rpm
- S** Max 6 gpm (22.7 lpm) @ 1750 rpm
- I** Max 4 gpm (15.1 lpm) @ 1750 rpm

6 Pumping Head Material

- B** Brass
- C** Cast Iron (nickel plated)
- M** Kynar® (with Hastelloy® C followers & follower screws)
- N** Polypropylene (with Hastelloy® C followers & follower screws)
- P** Polypropylene (with 316 stainless steel followers & follower screws)
- S** 316 Stainless Steel
- T** Nickel Alloy (Hastelloy Remelt, CMW12D)

7 Diaphragm & O-ring Material

- E** EPDM (requires order code C or D-30 or 40 wt EPDM-compatible oil)
- G** Viton®-XT
- J** Teflon® (available with E and S cams only; 1200 rpm max; cannot be used with non-metallic heads)
- N** Buna-N
- P** Neoprene
- T** Buna-N-XS
- V** Viton®

8 Valve Seat Material

- C** Ceramic
- H** 17-4 PH Stainless Steel
- S** 316 Stainless Steel
- T** Hastelloy® C

9 Valve Material

- C** Ceramic
- F** 17-4 PH Stainless Steel (machined)
- H** 17-7 PH Stainless Steel (stamped)
- N** Nitronic 50
- T** Hastelloy® C

10 Valve Springs

- E** Elgiloy®
- H** 17-7 PH Stainless Steel
- T** Hastelloy® C

11 Valve Spring Retainers

- C** Celcon
- H** 17-7 PH Stainless Steel
- M** Kynar®
- P** Polypropylene
- T** Hastelloy® C
- Y** Nylon (Zytel)

12 Hydra-Oil

- A** 10W30 (standard)
- B** 40-wt for continuous-duty (use with 316 SST or Hastelloy pump head (standard))
- C** 30-wt EPDM-compatible oil
- D** 40-wt high-temp EPDM-compatible oil
- E** 30-wt food-contact oil
- F** 40-wt high-temp food-contact oil
- G** 5W30 cold-temp severe duty oil
- H** 15W50 high-temp severe-duty synthetic oil

PARTS MANUAL

Hydra-Cell[®]

INDUSTRIAL PUMPS

IMPORTANT

Record your pump model number and serial number here for easy reference:

Model No. _____

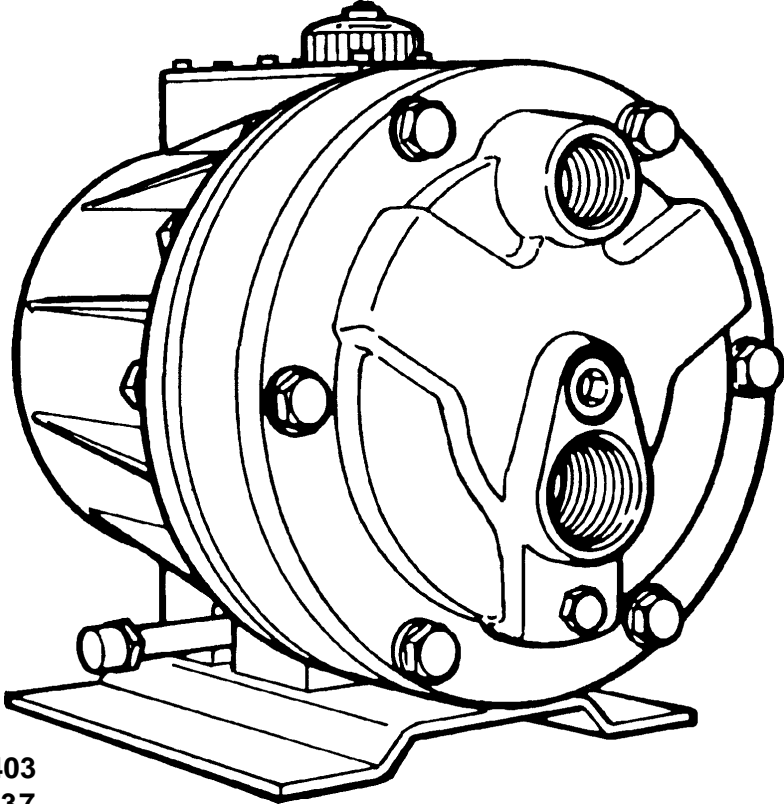
Serial No. _____

Date of Purchase _____

When ordering parts or making inquiries about this pump, please mention the model and serial numbers.

MODEL: D-10

WITH METALLIC PUMP HEAD



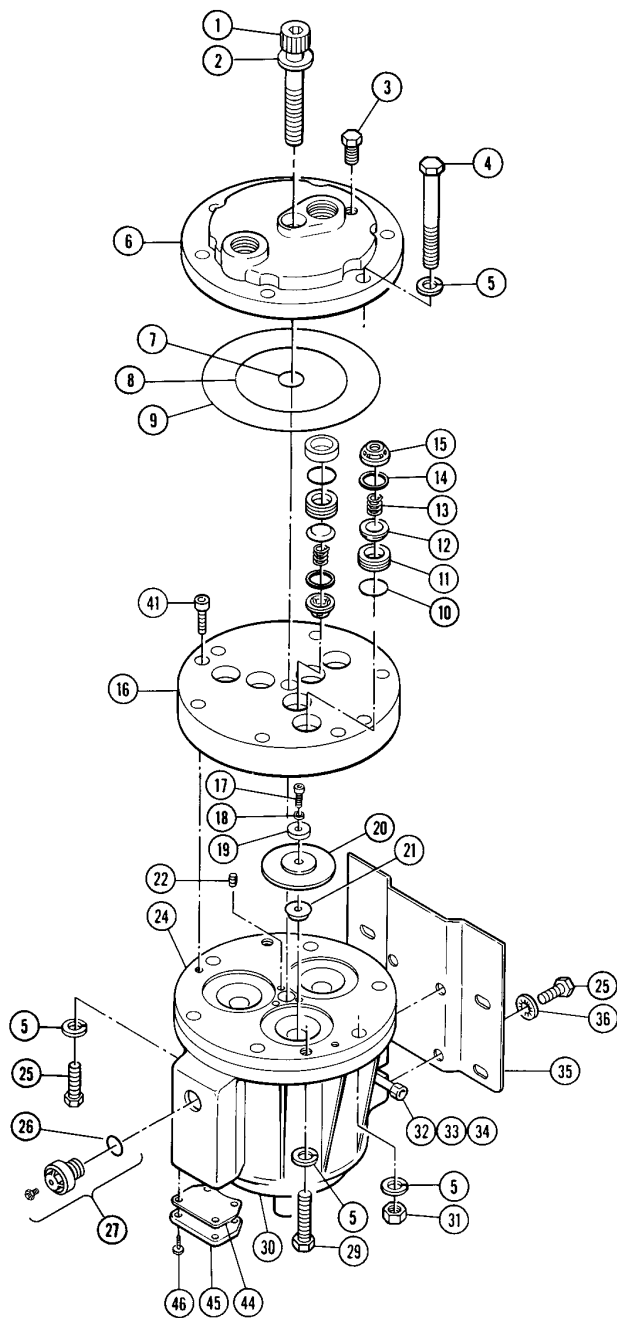
WANNER ENGINEERING, INC.

1204 Chestnut Avenue, Minneapolis, MN 55403
TEL: (612) 332-5681 FAX: (612) 332-6937
TOLL-FREE FAX [US only]: (800) 332-6812

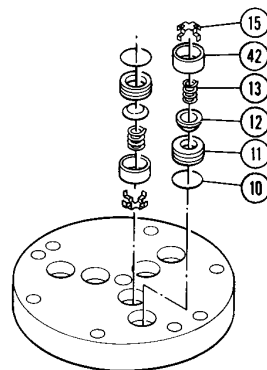
www.hydra-cell.com
email: sales@wannereng.com
Document Fax Back System (510) 745-0440

D-10 Fluid End (with metallic pump head)

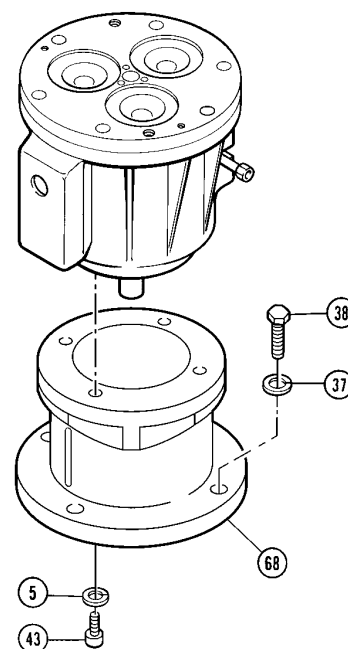
**Model D-10
with Metallic Pump Head**



**Valve Assemblies with
Metal Retainers**



**Pump Housing with
Motor Adapter**



Note: The pump/motor adapter is not supplied with the pump and is purchased separately. The Motor Adapter Kit includes all screws, washers and pins required to connect the adapter to the pump and motor. The kit does not include a shaft coupling.

Ref #	Part Number	Description	Quantity/ Pump
1	D10-081-2012	Cap Screw, socket head, 2-3/4"	1
2	D10-084-2010	Washer, 1/2", flat	1
3	D10-038-2017	Plug, Hastelloy C	1
	D10-038-2210	Plug, brass	1
	D10-038-2211	Plug, 316 SST	1

Ref #	Part Number	Description	Quantity/ Pump
4	D10-024-2010	Bolt, 3-1/2" hex-head	6
5	D10-048-2010	Washer, 3/8" split lock	14
6	D10-004-1002	Manifold, 316 SST, NPT	1
	D10-004-1008	Manifold, brass, NPT	1
	D10-004-1017	Manifold, nickel alloy, C series, NPT ...	1
	D10-004-1034	Manifold, cast iron, NPT	1

D-10 Fluid End (with metallic pump head)

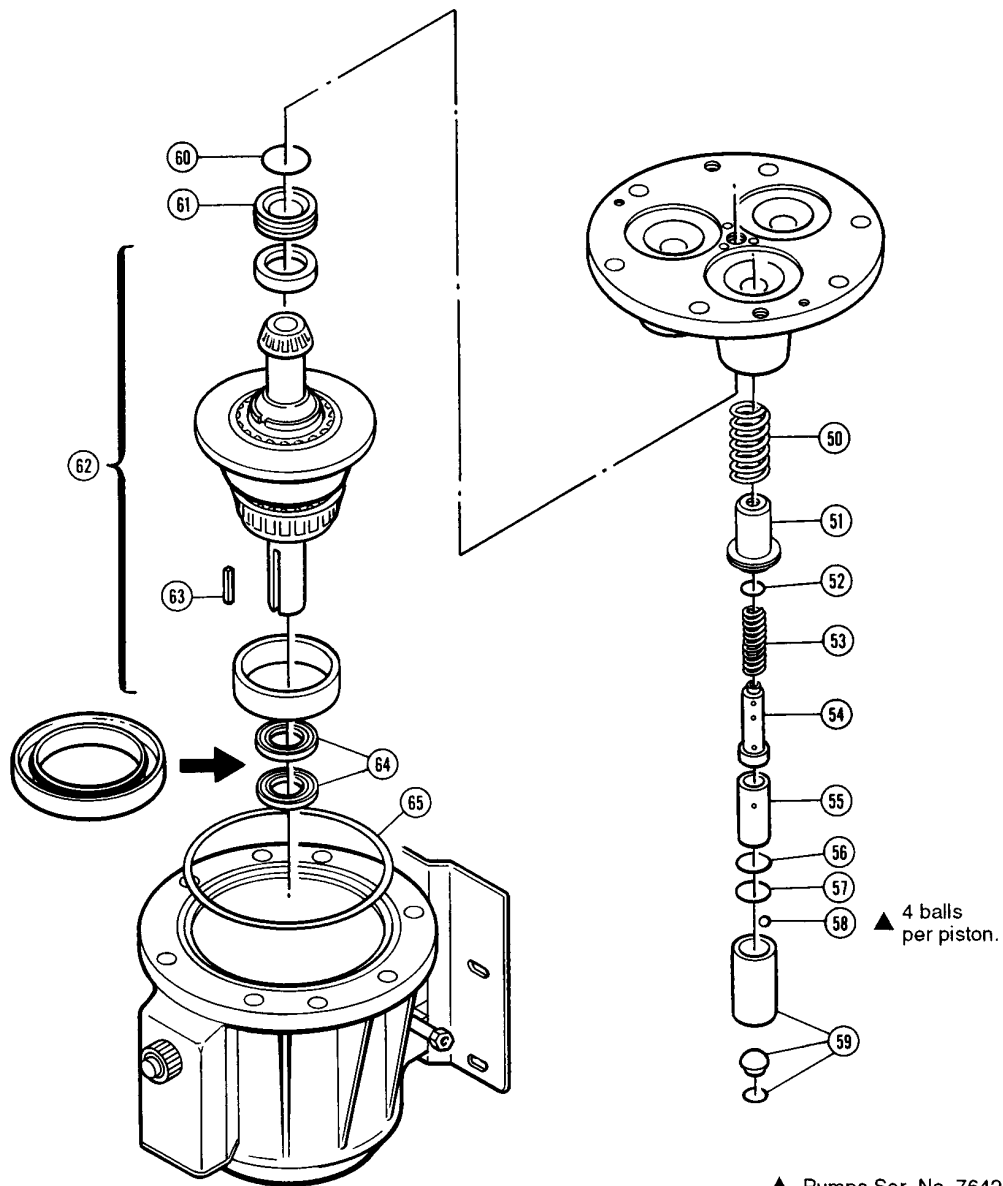
Ref #	Part Number	Description	Quantity/ Pump	Ref #	Part Number	Description	Quantity/ Pump
7	D10-083-2110	O-ring, centerbolt, Buna	1	18	D10-047-2110	O-ring, follower, Buna-N	3
	D10-083-2111	O-ring, centerbolt, Viton	1		D10-047-2111	O-ring, follower, Viton	3
	D10-083-2112	O-ring, centerbolt, Neoprene	1		D10-047-2112	O-ring, follower, Neoprene	3
	D10-083-2113	O-ring, centerbolt, EPDM	1		D10-047-2113	O-ring, follower, EPDM	3
	D10-083-2118	O-ring, centerbolt, Teflon	1		D10-047-2118	O-ring, follower, Teflon	3
8	D10-073-2110	O-ring, inner manifold, Buna	1	19	D10-017-1010	Follower, 316 SST	3
	D10-073-2111	O-ring, inner manifold, Viton	1		D10-017-1011	Follower, Hastelloy C	3
	D10-073-2112	O-ring, inner manifold, Neoprene	1	20	D10-018-2310	Diaphragm, Buna	3
	D10-073-2113	O-ring, inner manifold, EPDM	1		D10-018-2311	Diaphragm, Viton	3
	D10-073-2118	O-ring, inner manifold, Teflon	1		D10-018-2312	Diaphragm, Neoprene	3
9	D10-074-2110	O-ring, outer manifold, Buna	1		D10-018-2313	Diaphragm, EPDM	3
	D10-074-2111	O-ring, outer manifold, Viton	1		D10-018-2315	Diaphragm, Viton XT	3
	D10-074-2112	O-ring, outer manifold Neoprene	1		D10-018-2318	Diaphragm, Teflon	3
	D10-074-2113	O-ring, outer manifold EPDM	1		D10-018-2320	Diaphragm, Buna-N-XS	3
	D10-074-2118	O-ring, outer manifold, Teflon	1	21	D10-016-1010	Plunger	3
10	D10-035-2110	O-ring, valve seat, Buna	6	22	D10-082-2010	Set Screw, 3/8"	3
	D10-035-2111	O-ring, valve seat, Viton	6	24	D10-002-1010	Cylinder Housing	1
	D10-035-2112	O-ring, valve seat, Neoprene	6		D10-002-1210	Cylinder Housing Assembly, Buna ¹ ..	—
	D10-035-2113	O-ring, valve seat, EPDM	6	25	D10-029-2010	Cap Screw, hex-head	5
	D10-035-2118	O-ring valve seat, Teflon	6	26	D10-080-2110	O-ring, oil fill, Buna	1
11	D10-020-1010	Valve seat, 17-4 SST, HT	6	27	D03-039-1210	Cap, oil fill (includes breather and O-ring)	1
	D10-020-1011	Valve seat, 316 SST	6	29	D10-087-2010	Cap Screw, hex-head, 1-1/8"	1
	D10-020-1016	Valve, tungsten carbide	6	30	D10-001-1214	Pump Housing ²	1
	D10-020-1017	Valve seat, Hastelloy C	6		D10-001-1215	Pump Housing Assembly ³	—
	D10-020-3300	Valve seat, ceramic	6	31	D10-028-2010	Nut, hex, 1/2"	6
12	D10-021-1010	Valve, 17-7 SST, stamped, HT	6	32	D10-076-2210	Elbow, brass, 1/8"	1
	D10-021-1011	Valve, Nitronic	6	33	D10-077-2210	Pipe, brass, 1/8"	1
	D10-021-1015	Valve, 17-4 SST, machined, HT	6	34	D10-078-2210	Cap, brass, 1/8"	1
	D10-021-1016	Valve, tungsten carbide	6	35	D10-025-1010	Base	1
	D10-021-1017	Valve, Hastelloy C	6	36	D10-054-2010	Washer, shakeproof, 3/8"	4
	D10-021-3300	Valve, ceramic	6	37	M10-111-2100	Washer, lock, 1/2"	4
13	D10-022-3116	Valve Spring, 17-7 SST, HT	6	38	M10-110-2000	Bolt, 1-1/2"	4
	D10-022-3117	Valve Spring, Elgiloy	6	41	D10-088-2010	Cap Screw, socket-head	2
	D10-022-3123	Valve Spring, Hastelloy C	6	42	D10-129-1012	Spacer, 316 SST	6
14	D10-092-2110	Tetra Seal, Buna	6		D10-129-1023	Spacer, Hastelloy	6
	D10-092-2111	Tetra Seal, Viton	6	43	D10-128-2010	Cap Screw, socket-head	4
	D10-092-2112	Tetra Seal, Neoprene	6	44	D10-106-2310	Gasket, cover	1
	D10-092-2113	Tetra Seal, EPDM	6	45	D10-105-1010	Cover/Nameplate	1
	D10-092-2118	Tetra Seal, Teflon	6	46	G10-090-2010	Screw, M4 x 12	4
15	D10-023-1009	Retainer, valve spring, 17-7 SST, HT	6				
	D10-023-1023	Retainer, valve spring, Hastelloy C ...	6				
	D10-023-2310	Retainer, valve spring, Celcon	6				
	D10-023-2326	Retainer, valve spring, Nylon	6				
	D10-023-2327	Retainer, valve spring, polypropylene ..	6				
	D10-023-2328	Retainer, valve spring, Kynar	6				
16	D10-003-1011	Valve Plate, brass	1				
	D10-003-1012	Valve Plate, 316 SST	1				
	D10-003-1019	Valve Plate, cast iron	1				
	D10-003-1027	Valve Plate, nickel alloy, C series	1				
17	D10-030-2010	Screw, flat-head, SST, 3/8"	3				
	D10-030-2011	Screw, flat-head, Hastelloy C, 3/8"	3				

¹ Cylinder Housing Assembly includes casting (24), bearing, adjusting plate (61), O-ring (60), and set screws (22).

² Pump housing includes housing (30), cover (45), gasket (44), and screws (46).

³ Pump Housing Assembly includes housing (30), drain plug (32, 33, 34), bearing cup, cover (45), gasket (44), and screws (46).

D-10 Hydraulic End (with metallic pump head)



D-10 Hydraulic End(with metallic pump head)

Ref #	Part Number	Description	Quantity/ Pump
50	D10-019-3110	Spring, piston return	3
51	D10-042-1010	Retainer, spring	3
52	D10-046-2110	O-ring, valve cylinder, Buna	3
53	D10-045-3110	Spring, sleeve valve	3
	D10-045-3111	Spring, sleeve valve, Teflon diaphragm	3
54	D10-044-1010	Valve Plunger	3
55	D10-043-1010	Cylinder, valve	3
56	D10-034-2110	O-ring, Buna	3
57	D10-041-1010	Washer, ball retainer	3
58	D10-015-3010	Ball ⁴	12
59	D10-014-1209	Piston, with foot and retainer	3
	D10-014-1210	Piston Assembly, Buna ⁵	–
60	D10-075-2110	O-ring, bearing adjusting plate, Buna	1
61	D10-012-1010	Bearing Adjusting Plate	1

Ref #	Part Number	Description	Quantity/ Pump
62	D10-007-1210	Cam Assembly, 8 gpm @ 1450 rpm ⁶	–
	D10-007-1211	Cam Assembly, 4 gpm @ 1750 rpm ⁶	–
	D10-007-1212	Cam Assembly, 6 gpm @ 1750 rpm ⁶	–
	D10-007-1214	Cam Assembly, 8 gpm @ 1750 rpm ⁶	–
63	D10-085-2210	Key, shaft	1
64	D10-031-2210	Seal , Buna	2
65	D10-037-2110	O-ring, pump housing, Buna	1
68	A04-001-1200	Motor Adaptor, D10, 56C 143/145TC	1
	A04-002-1200	Motor Adaptor, D10, 182/184TC 213/215TC	1
–	D10-111-2401	Label, caution	1
	D10-111-2402	Label, caution	1

⁴ Pump serial numbers 76428 and lower many have one ball per piston.

⁵ Piston Assembly includes cylinder, foot, valve plunger, O-rings, spring retainer, and springs (50-59).

⁶ Cam Assembly includes cam, shaft, wobble plate, and bearings. It is only available as an assembly.

D-10 Series Replacement Parts Kits (with metallic pump head)

Ordering Information

A complete D-10 Replacement Parts Kit contains 11 digits including 6 customer-specified material options: for example D10K52NHFEK

1 D 2 1 3 0 4 5 5 6 2 7 8 9 10 11

4 Kit Designator

- K** Complete Fluid End Kit
- D** Diaphragm Kit
- V** Valve Kit (diaphragm not included)

7 Diaphragm & O-ring Material

- E** EPDM
- G** Viton®-XT
- J** Teflon® (used with metallic heads only)
- N** Buna-N
- P** Neoprene
- T** Buna-N-XS
- V** Viton®

8 Valve Seat Material

- C** Ceramic
- D** Tungsten Carbide
- H** 17-4 PH Stainless Steel
- S** 316 Stainless Steel
- T** Hastelloy® C
- X** Not included in Diaphragm Kit

9 Valve Material

- C** Ceramic
- D** Tungsten Carbide
- F** 17-4 PH Stainless Steel (machined)
- H** 17-7 PH Stainless Steel (stamped)
- N** Nitronic 50
- T** Hastelloy® C
- X** Not included in Diaphragm Kit

10 Valve Springs

- E** Elgiloy®
- H** 17-7 PH Stainless Steel
- T** Hastelloy® C
- X** Not included in Diaphragm Kit

11 Valve Spring Retainers

- C** Celcon
- H** 17-7 PH Stainless Steel
- M** Kynar®
- P** Polypropylene
- M** Kynar®
- T** Hastelloy® C
- Y** Nylon (Zytel)
- X** Not included in Diaphragm Kit

Kit Contents

Part Number*	Description	Qty	Kit Designator		
			K	D	V
D10-018-__	Diaphragm	3	•	•	
D10-047-__	O-ring, follower	3	•	•	
D10-074-__ or					
D10-109-__	O-ring, outer manifold ¹	1	•	•	•
D10-073-__	O-ring, inner manifold	1	•	•	•
D10-083-__	O-ring, center bolt	1	•	•	•
D10-035-__	O-ring, valve seat	6	•		•
D10-020-__	Valve seat	6	•		•
D10-021-__	Valve	6	•		•
D10-022-__	Valve spring	6	•		•
D10-092-__	Tetra seal ²	6	•		•
D10-023-__	Retainer, valve spring	6	•		•
D10-125-__	Washer, dampening ³	6	•		•
D10-129-__	Spacer ⁴	6	•		•
A01-113-3400	Threadlocker	1	•	•	

* Last four digits of part numbers with __ refer to specific material of construction.

¹ D10-074 is provided for metallic heads; D10-109 is provided for non-metallic heads.

² Tetra seal is provided with non-metallic spring retainers only.

³ Dampening washer is provided for non-metallic heads only.

⁴ Spacer is provided with metallic spring retainers only.



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