

## PARTS MANUAL

# Hydra-Cell<sup>®</sup>

## INDUSTRIAL PUMPS

MODELS: F-20 F-21 F-22  
G-20 G-21 G-22

### IMPORTANT

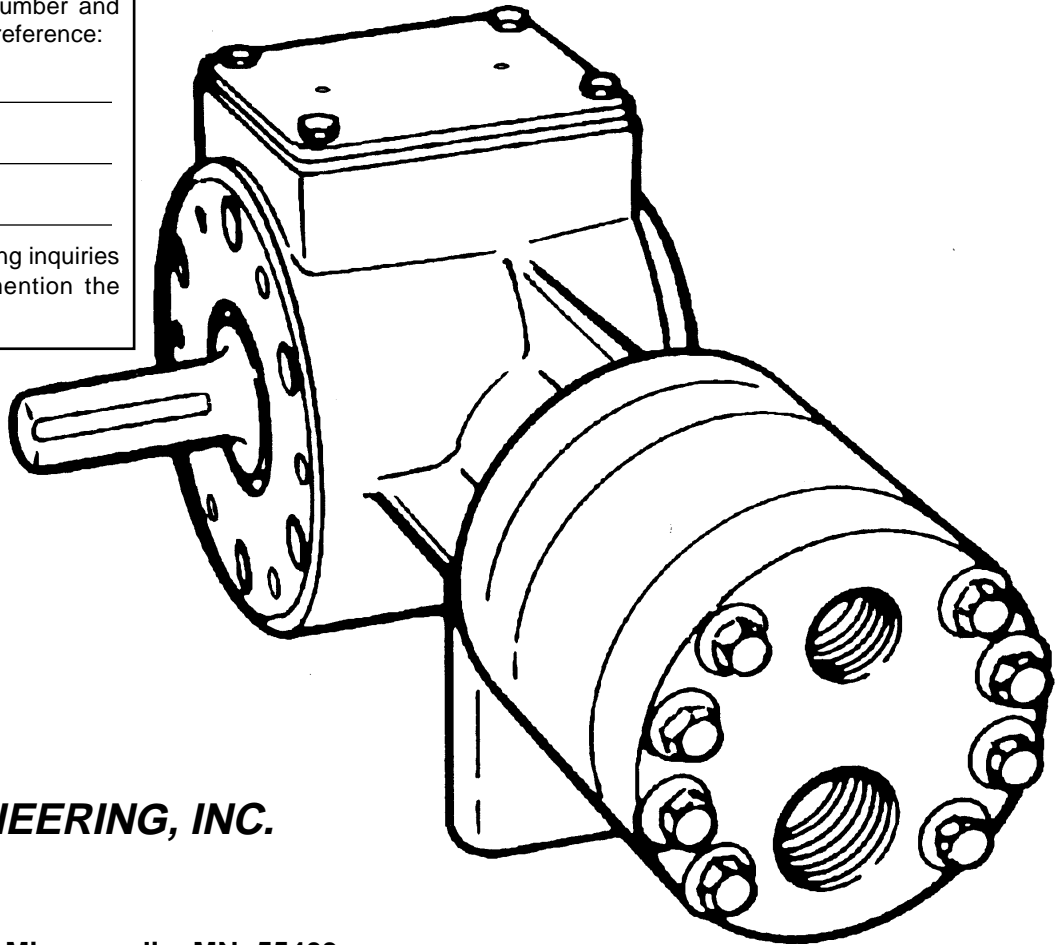
Record your pump model number and serial number here for easy reference:

Model No. \_\_\_\_\_

Serial No. \_\_\_\_\_

Date of Purchase \_\_\_\_\_

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



**WANNER ENGINEERING, INC.**

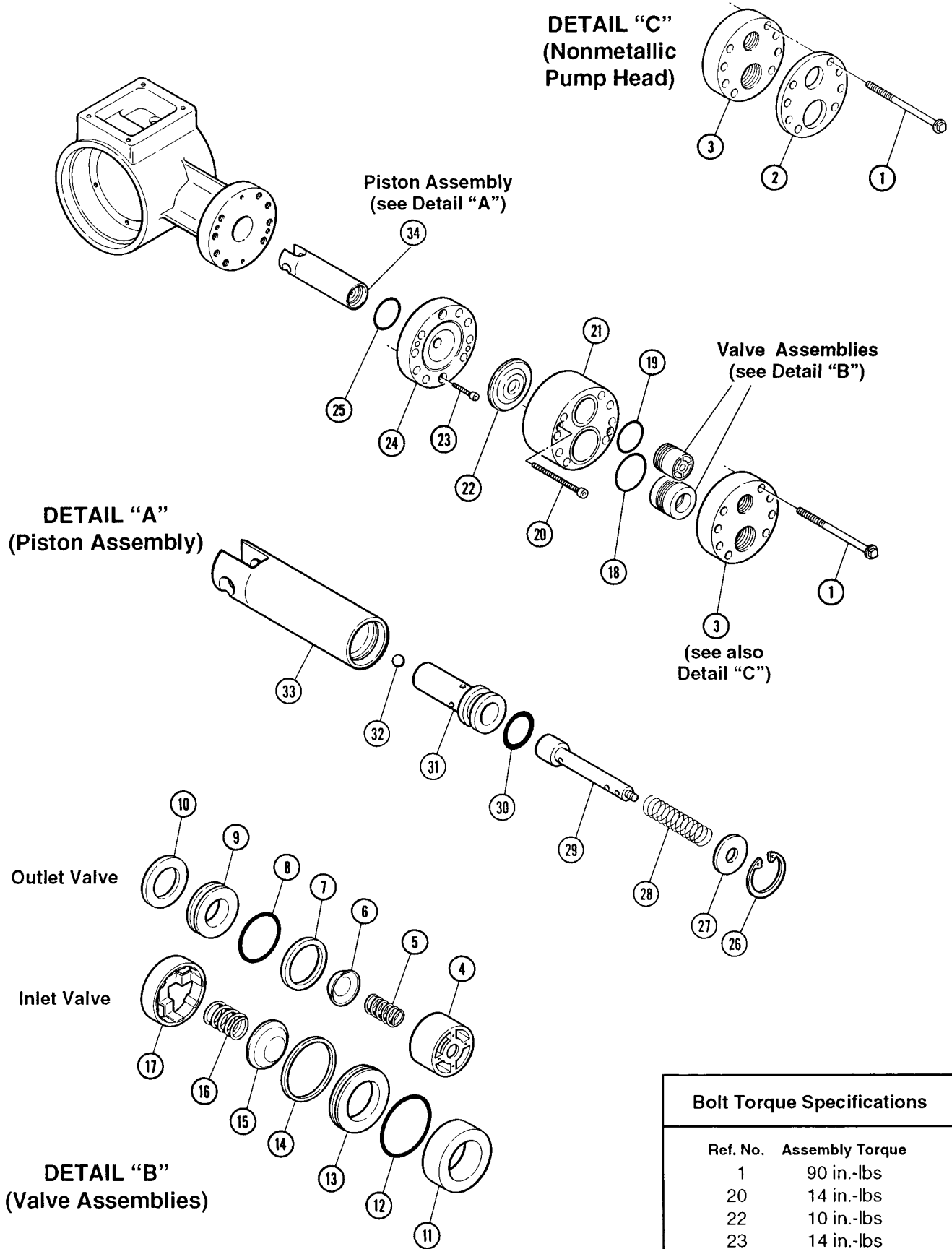
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Document Fax Back System (510) 745-0440

# Fluid End



Bolt Torque Specifications	
Ref. No.	Assembly Torque
1	90 in.-lbs
20	14 in.-lbs
22	10 in.-lbs
23	14 in.-lbs

# Fluid End

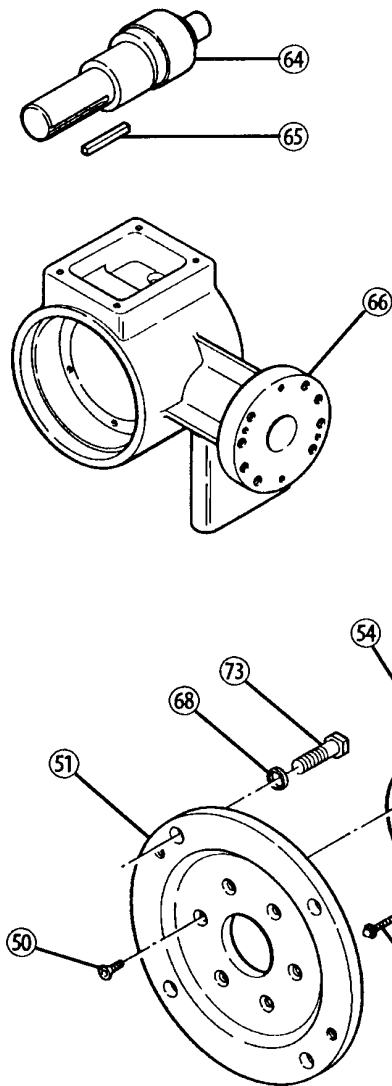
Ref #	Part Number	Description	Quantity/ Pump
1	G20-024-2010	Bolt, hex-head .....	8
2	F20-100-1010	Plate, manifold support (nonmetallic heads) .....	1
3	F20-004-1010	Manifold, brass, NPT .....	1
	F20-004-1012	Manifold, 316 SST, NPT .....	1
	F20-004-1017	Manifold, nickel alloy C series, NPT ..	1
	F20-004-1050	Manifold, polypropylene, NPT .....	11
4	D03-023-2310	Retainer, outlet valve spring, Celcon	1
	D03-023-2316	Retainer, outlet valve spring, Nylon ..	1
	D03-023-2317	Retainer, outlet valve spring, polyprop .....	1
5	D03-022-3113	Valve Spring, outlet, Hastelloy C .....	1
	D03-022-3114	Valve Spring, outlet, Elgiloy .....	1
6	D03-021-1002	Outlet Valve, 17-7 SSt .....	1
	D03-021-1011	Outlet Valve, Nitronic .....	1
	D03-021-1017	Outlet Valve, Hastelloy C .....	1
	D03-021-3300	Outlet Valve, ceramic .....	1
7	D03-092-2110	Tetra Seal, outlet, Buna .....	1
	D03-092-2111	Tetra Seal, outlet, Viton .....	1
	D03-092-2112	Tetra Seal, outlet, Neoprene .....	1
	D03-092-2113	Tetra Seal, outlet, EPDM .....	1
8	D25-046-2120	O-ring, outlet valve seat, Buna .....	1
	D25-046-2121	O-ring, outlet valve seat, Viton .....	1
	D03-035-2112	O-ring, outlet valve seat, Neoprene ..	1
	D03-035-2113	O-ring, outlet valve seat, EPDM .....	1
9	D03-020-1001	Valve Seat, outlet, 316 SST .....	1
	D03-020-1002	Valve Seat, outlet, 17-4 SST .....	1
	D03-020-1017	Valve Seat, outlet, Hastelloy C .....	1
	D03-020-3300	Valve Seat, outlet, ceramic .....	1
10	D03-125-2310	Washer, outlet dampening, Celcon ...	1
	D03-125-2316	Washer, outlet dampening, Nylon .....	1
	D03-125-2317	Washer, outlet dampening, polyprop .	1
11	D10-125-2310	Washer, inlet dampening, Celcon .....	1
	D10-125-2316	Washer, inlet dampening, Nylon .....	1
	D10-125-2317	Washer, inlet dampening, polyprop ...	1
12	D11-035-2120	O-ring, inlet valve seat, Buna .....	1
	D11-035-2121	O-ring, inlet valve seat, Viton .....	1
	D11-035-2122	O-ring, inlet valve seat, Neoprene .....	1
	D11-035-2123	O-ring, inlet valve seat, EPDM .....	1
13	D10-020-1010	Valve Seat, inlet, 17-4 SST, HT .....	1
	D10-020-1011	Valve Seat, inlet, 316 SST .....	1
	D10-020-1017	Valve Seat, inlet, Hastelloy C .....	1
	D10-020-3300	Valve Seat, inlet, ceramic .....	1

Ref #	Part Number	Description	Quantity/ Pump
14	D10-092-2110	Tetra Seal, inlet, Buna .....	1
	D10-092-2111	Tetra Seal, inlet, Viton .....	1
	D10-092-2112	Tetra Seal, inlet, Neoprene .....	1
	D10-092-2113	Tetra Seal, inlet, EPDM .....	1
15	D10-021-1010	Inlet Valve, 17-7 SST, stamped HT ...	1
	D10-021-1011	Inlet Valve, Nitronic .....	1
	D10-021-1017	Inlet Valve, Hastelloy C .....	1
	D10-021-3300	Inlet Valve, ceramic .....	1
16	D10-022-3114	Valve Spring, inlet, Elgiloy .....	1
	D10-022-3113	Valve Spring, inlet Hastelloy C .....	1
17	D10-023-2314	Retainer, inlet valve spring Celcon ....	1
	D10-023-2316	Retainer, inlet valve spring, Nylon .....	1
	D10-023-2317	Retainer, inlet valve spring, polypropylene .....	1
18	F20-074-2110	O-ring, inlet manifold, Buna .....	1
	F20-074-2111	O-ring, inlet manifold, Viton .....	1
	F20-074-2112	O-ring, inlet manifold, Neoprene .....	1
	F20-074-2113	O-ring, inlet manifold, EPDM .....	1
19	F20-073-2110	O-ring, outlet manifold, Buna .....	1
	F20-073-2111	O-ring, outlet manifold, Viton .....	1
	F20-073-2112	O-ring, outlet manifold, Neoprene .....	1
	F20-073-2113	O-ring, outlet manifold, EPDM .....	1
20	G20-029-2010	Cap Screw, socket-head .....	2
21	F20-003-1010	Valve Plate, brass .....	1
	F20-003-1012	Valve Plate, 316 SST .....	1
	F20-003-1017	Valve Plate, nickel alloy C series .....	1
	F20-003-1050	Valve Plate, polypropylene .....	1
22	D03-018-1212	Diaphragm, Neoprene .....	1
	D03-018-1213	Diaphragm, EPDM .....	1
	D03-018-1215	Diaphragm, Viton-XT .....	1
	D03-018-1220	Diaphragm, Buna-N-XS .....	1
23	G20-088-2010	Cap-Screw, socket-head .....	2
24	F20-002-1010	Diaphragm Plate .....	1
25	D03-075-2110	O-ring, diaphragm plate, Buna .....	1
26	D03-048-2210	Snap Ring .....	1
27	D03-049-1000	Washer .....	1
28	D03-045-3110	Spring, sleeve valve .....	1
29	D03-044-1000	Valve Plunger .....	1
30	D03-034-2110	O-ring, valve cylinder, Buna .....	1
31	D03-043-1000	Valve Cylinder .....	1
32	D10-015-3010	Ball .....	1
33	D03-014-1004	Piston .....	1
34	D03-014-1210	Piston Assembly .....	1

# Hydraulic End

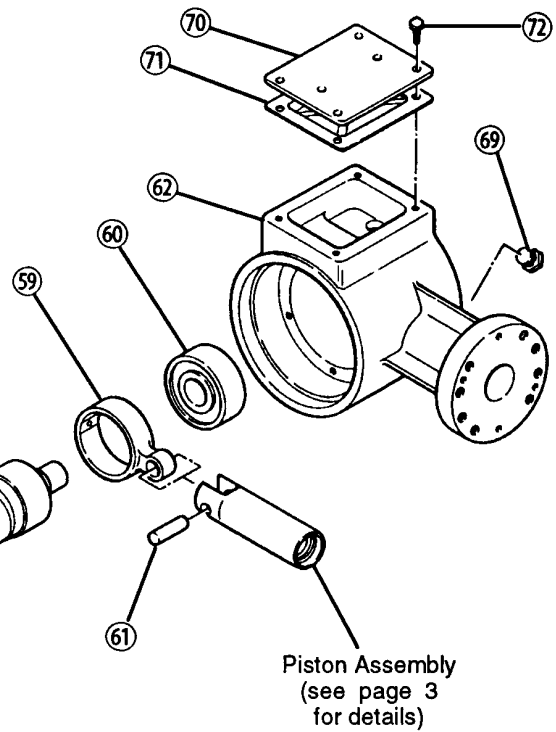
## F21 Pump

- Uses extended shaft (64) instead of (58)
- Housing (66) has legs
- Does not include flange (51) and screws (50)



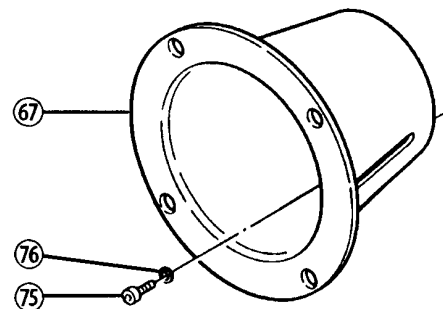
## F20 Pump shown

Refer to detail drawings for other models.



## F22 Pump

- Uses Extended Flange Accessory (67) instead of (51)



Bolt Torque Specifications	
Ref. No.	Assembly Torque
50	35 in.-lbs
52	14 in.-lbs
72	10 in.-lbs
75	35 in.-lbs

# Hydraulic End

Ref #	Part Number	Description	Quantity/ Pump
50	G20-089-2010	Screw, flat-head .....	6
51	F20-120-1010	Flange .....	1
52	G20-086-2010	Cap Screw, hex-flange-head .....	6
53	F20-036-2110	O-ring, back cover screws, Buna .....	6
54	G20-131-1010	Cover .....	1
55	F20-037-2110	O-ring, cover, Buna .....	1
56	F20-031-2110	Seal, Buna .....	1
57	D03-010-2910	Back Bearing .....	1
58	F20-009-1002	Hollow Shaft, 56C direct drive, 5/8" ID, close-coupled, 0.73 GPM @ 1750 RPM .....	1
	F20-009-1003	Hollow Shaft, 56C direct drive, 5/8" ID, close-coupled, 1.00 GPM @ 1750 RPM .....	1
	F20-009-1011	Hollow Shaft, 56C direct drive, 5/8" ID, close-coupled, 0.33 GPM @ 1750 RPM .....	1
	F20-009-1018	Hollow Shaft, 56C direct drive, 5/8" ID, close-coupled, 0.55 GPM @ 1750 RPM .....	1
	F20-009-1067	Hollow Shaft, 56C direct drive, 5/8" ID, close-coupled, 0.20 GPM @ 1750 RPM .....	1
59	D03-132-1000	Connecting Rod .....	1
60	F20-010-2910	Front Bearing .....	1

Ref #	Part Number	Description	Quantity/ Pump
61	D03-133-1000	Pin .....	1
62	G20-001-1010	Pump Housing .....	1
64	F21-009-1002	Crank Shaft, shaft-driven, 5/8" OD 0.73 GPM @ 1750 RPM .....	1
	F21-009-1003	Crank Shaft, shaft-driven, 5/8" OD 1.00 GPM @ 1750 RPM .....	1
	F21-009-1011	Crank Shaft, shaft-driven, 5/8" OD 0.33 GPM @ 1750 RPM .....	1
	F21-009-1018	Crank Shaft, shaft-driven, 5/8" OD 0.55 GPM @ 1750 RPM .....	1
	F21-009-1067	Crank Shaft, shaft-driven, 5/8" OD 0.20 GPM @ 1750 RPM .....	1
65	D10-085-2210	Key, shaft .....	1
66	G21-001-1010	Pump Housing .....	1
67	F20-121-1010	Extended Flange Accessory .....	1
68	D10-048-2010	Lockwasher, 3/8" .....	4
69	D10-038-2210	Plug, drain .....	1
70	F20-105-1010	Cover, oil reservoir .....	1
71	F20-091-1010	Diaphragm, oil reservoir .....	1
72	G20-090-2010	Cap Screw, hex-head .....	4
73	D10-029-2010	Cap Screw, hex-head, 3/8-16 x 1" .....	4

## F22 Extended Flange Accessory (Complete Kit: Part No. A04-005-1200)

Ref #	Part Number	Description	Quantity/ Kit
67	F20-121-1010	Extended Flange Accessory .....	1
68	D10-048-2010	Lockwasher, 3/8" .....	4
74	F20-068-2010	Cap Screw, hex-head .....	4
75	G20-101-2010	Cap Screw, socket-head .....	6
76	G20-050-2010	Lockwasher .....	6

# F-20 Series Replacement Parts Kits

## Ordering Information

A complete F-20, F-21 or F-22 Replacement Parts Kit contains 11 digits including 6 customer-specified material options: for example F20K52GHHEP

1 F 2 2 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®
- P** Neoprene
- T** Buna-N-XS

### 8 Valve Seat Material

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

### 9 Valve Material

- C** Ceramic
- H** 17-7 PH Stainless Steel
- N** Nitronic 50
- T** Hastelloy® C
- X** Not included in Diaphragm Kit

### 10 Valve Springs

- E** Elgiloy®
- T** Hastelloy® C
- X** Not included in Diaphragm Kit

### 11 Valve Spring Retainers

- C** Celcon
- M** Kynar®
- P** Polypropylene
- Y** Nylon
- X** Not included in Diaphragm Kit

## Kit Contents

Part Number*	Description	Qty	Kit Designator		
			K	D	V
D03-018-__	Diaphragm	1	•	•	
F20-073-__	O-ring, outlet manifold	1	•	•	
F20-074-__	O-ring, inlet manifold	1	•	•	
D03-035-__	O-ring, outlet valve seat	1	•		•
D03-020-__	Valve seat, outlet	1	•		•
D03-021-__	Valve, outlet	1	•		•
D03-022-__	Valve spring, outlet	1	•		•
D03-092-__	Tetra seal, outlet	1	•		•
D03-023-__	Retainer, outlet valve spring	1	•		•
D03-125-__	Washer, outlet dampening	1	•		•
D11-035-__	O-ring, inlet valve seat	1	•		•
D10-020-__	Valve seat, inlet	1	•		•
D10-021-__	Valve, inlet	1	•		•
D10-022-__	Valve spring, inlet	1	•		•
D10-092-__	Tetra seal, inlet	1	•		•
D10-023-__	Retainer, inlet valve spring	1	•		•
D10-125-__	Washer, inlet dampening	1	•		•
A01-113-3400	Threadlocker	1	•	•	•

\* Last four digits of part numbers with —\_\_ refer to specific material of construction.



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