



**CHECKBALL PISTON PUMPS
PF4300 SERIES, 11 & 12 DESIGN**

PF43*-****-11
PF43***-****-12**

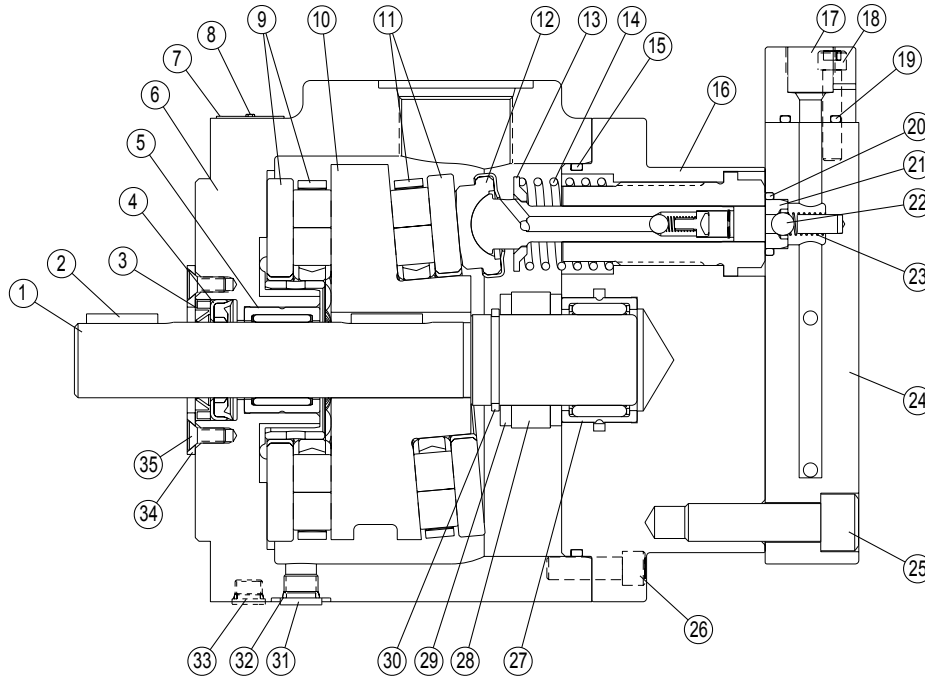


TABLE A – PARTS LIST

ID Number	Part Number	Part Description	Quantity Required
1	See Table B	Shaft	1
2	1024.325	Key (Internal and External) ^①	1 or 2
3	See Kit Table C	Wiper	1
4	See Kit Table C	Shaft Seal	1
5	431.520	Shaft Bearing (Housing)	1
6	3042.900	Housing ^②	1
7	1137.026	Nameplate	1
8	1001.003	Screw (Nameplate)	4
9	1100.155	Thrust Bearing Set ^③	1
10	See Table D	Wobble (Cam) Plate	1
11	1117.155	Thrust Bearing Set ^③	1
12	See Kit Table E	Piston Subassembly ^④	3, 5 or 6
13	See Kit Table E	Piston Retainer ^④	3, 5 or 6
14	See Kit Table E	Spring (Piston Return) ^④	3, 5 or 6
15	See Kit Table C	O-ring (Housing/Barrel)	1
16	See Table D	Barrel	1
17	See Kit Table F	Outlet Block	1
18	See Kit Table F	Socket-head Capscrew ^⑤	4
19	See Kit Table F	O-ring (Outlet Block)	1
20	See Kit Table E	O-ring (Outlet Seat) ^④	3, 5 or 6
21	See Kit Table E	Outlet Seat ^④	3, 5 or 6
22	See Kit Table E	Checkball (Outlet) ^④	3, 5 or 6
23	See Kit Table E	Spring (Outlet) ^④	3, 5 or 6
24	See Kit Table E	Cover Assembly Kit	1
25	14130.028	Socket-head Capscrew ^{⑥⑦}	5 or 6

ID Number	Part Number	Part Description	Quantity Required
26	1071.028	Socket-head Capscrew ^⑧	10
27	1041.155	Shaft Bearing (Barrel)	1
28	1098.132	Thrust Sleeve	1
29	1105.155	Thrust Washer	2
30	1081.049	Retaining Ring	1
31	1564.006	Plug (Drain Port) ^⑨	3
32	See Kit Table C	O-ring (Drain Port Plug)	3
33	1565.006	Plug/O-ring (Vertical Mounting)	1
34	1456.101	Retainer Plate (Shaft Seal)	1
35	1067.048	Screw (Retainer Plate) ^⑩	4

- ① Spline shaft models ("S" Code) have one key (internal only).
- ② If either the Housing (Item #6) or Barrel (Item #16) are replaced, Shaft (Item #1) must be replaced due to revisions in construction.
- ③ One set consists of one thrust bearing and one thrust plate.
- ④ Quantity determined by number of pistons in model. Refer to Table E.
- ⑤ Apply anti-seize compound to threads and shoulder. Torque to 35 lb-ft (47 N-m).
- ⑥ Five-piston models require 5 capscrews. Three-piston and six-piston models require 6 capscrews. Refer to Table E.
- ⑦ Apply anti-seize compound to threads and shoulder. Torque to 180 lb-ft (244 N-m).
- ⑧ Apply anti-seize compound to threads and shoulder. Torque to 40 lb-ft (54 N-m).
- ⑨ Torque to 18 lb-ft (25 N-m).
- ⑩ Apply Loctite #242 or equivalent. Torque to 100 lb-ft (136 N-m).

TABLE B – SHAFT OPTIONS

Shaft Code	Part Description	Part Number
No Code	1.250 Inch Diameter, Keyed	1170.288
S	1.250 Inch Diameter, Spline	1171.288

TABLE C – SEAL KITS

Seal Code	Description	Kit Number
XV	All Fluorocarbon (Viton® or Fluorel®)	KP43009011
XE	All EPR ^①	KP43009012

① Shaft seal wiper not required nor included for models with EPR seals.

TABLE D – WOBBLE (CAM) PLATE/BARREL OPTIONS

Output Flow Code	Part Number	
	Wobble (Cam) Plate	Barrel
03	1170.101	3077.900
04	0428.392	3077.900
05	1170.101	3076.900
08	0428.392	3076.900
09	1237.101	3076.900
10	1139.101	3076.900
06	1170.101	3078.900
12	1139.101	3078.900

SERVICE NOTES

The barrel for “Design 11 & 12” models includes integral piston-bore inserts, as shown at right. This upgraded barrel is factory-assembled and finished. It must be ordered as a complete assembly.

Rebuilding a “Design 10” pump with this barrel will result in an upgraded “Design 12” pump.

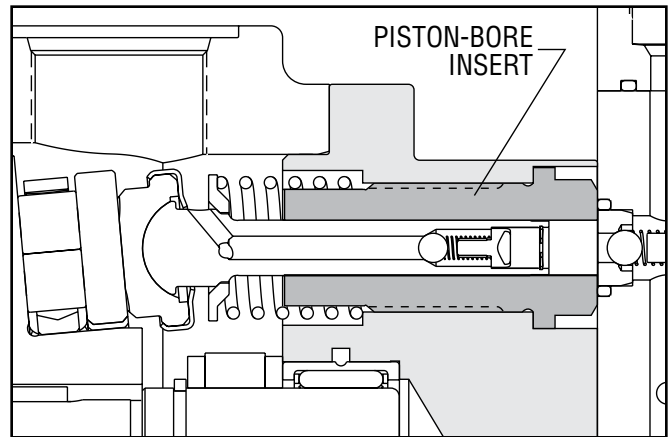
TABLE E – PISTON, COVER AND OUTLET CHECK KITS

Output Flow Code	Number of Pistons	No. Kits Req.	Kit Number		
			Piston Kit	Cover Kit	Outlet Check Kit
03	3	1	KP43039040	KP43039050	KP43039020
04	3	1	KP43039040	KP43039050	KP43039020
05	5	1	KP43059040	KP43059050	KP43059020
08	5	1	KP43059040	KP43059050	KP43059020
09	5	1	KP43059040	KP43039050	KP43059020
10	5	1	KP43059040	KP43059050	KP43059020
06	6	2	KP43039040	KP43069050 ^①	KP43039020
12	6	2	KP43039040	KP43069050 ^①	KP43039020

① Only ONE Cover Kit is required for Output Flow Code 06 & 12.

TABLE F – OUTLET BLOCKS

Port Code	Port Type	Seal Type	Kit Number
No Code	S.A.E.	Flourocarbon	KP94081081
		EPR	KP94081082
A	Coned and Threaded	Flourocarbon	KP94082091
		EPR	KP94082092
B	BSP	Flourocarbon	KP94083081
		EPR	KP94083082



The “Design 11 & 12” barrel with piston-bore inserts is not field-serviceable and must be ordered as a complete assembly.

TYPICAL MODEL CODE

PF43

03

H - S

XV

A

-

12

Pump Type	
PF43	Fixed Displacement Checkball Pump

Output Flow (At 1800 rpm, at maximum pressure) ^{①②}	
03	Standard: 2.2 gpm (8,3 L/min) "H" Option: 2.0 gpm (7,5 L/min)
04	Standard: 3.2 gpm (12,1 L/min) "H" Option: 3.1 gpm (11,7 L/min)
05	Standard: 3.7 gpm (14,0 L/min) "H" Option: 3.6 gpm (13,6 L/min)
06	Standard: 4.4 gpm (16,6 L/min) "H" Option: 4.4 gpm (16,6 L/min)
08	Standard: 5.4 gpm (20,4 L/min) "H" Option: 5.3 gpm (19,9 L/min)
09	Standard: 6.0 gpm (22,7 L/min) "H" Option: 5.9 gpm (22,3 L/min)
10	Standard: 6.8 gpm (25,7 L/min) "H" Option: 6.7 gpm (25,3 L/min)
12	Standard: 8.2 gpm (31,0 L/min) "H" Option: 8.1 gpm (30,7 L/min)

① Output flows based on typical performance at maximum pressure. Refer to performance curves for flows at lower pressures.

② Models PF4303 and PF4304 have three pistons; Models PF4305, PF4308, PF4309 and PF4310 have five pistons; Models PF4306 and PF4312 have six pistons.

Ports	
No Code	Inlet No. 24 S.A.E.; Outlet No. 8 S.A.E. ^①
A	Inlet No. 24 S.A.E.; Outlet 9/16 Medium Pressure Coned and Threaded, .8125-16 U.N.-2B Threaded ^②
B	Inlet No. 24 S.A.E.; Outlet G 1/2 (B.S.P.) ^③

① Not recommended for operation above 8000 psi (560 bar). Contact the fitting manufacturer for the pressure rating of the fitting.

② High pressure port uses Autoclave Medium Pressure, Butech M/P or equivalent fitting.

③ Outlet port uses British Standard Pipe fitting. Not recommended for operation above 10 000 psi (700 bar).

Design Number	
12	Carbon Steel
20	Stainless Steel

Seals	
No Code	All Nitrile
XE	All EPR with High Pressure Shaft Seal ^①
XV	All Fluorocarbon (Viton® or Fluorel®) with High Pressure Shaft Seal

① Contact the sales department for recommended operating conditions for any application using non-petroleum based fluids.

Drive Shaft	
No Code	Keyed, 1.250 inch (31,75 mm) diameter
S	S.A.E. Spline, 1.250 inch (31,75 mm)

Operating Pressure	
No Code	Standard Pressure
H	High Pressure ^①

① Requires "A" or "B" port option.

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