



Vane Type Single Pump

(F3)-V20(*) Series -11, 12 & 22 Designs

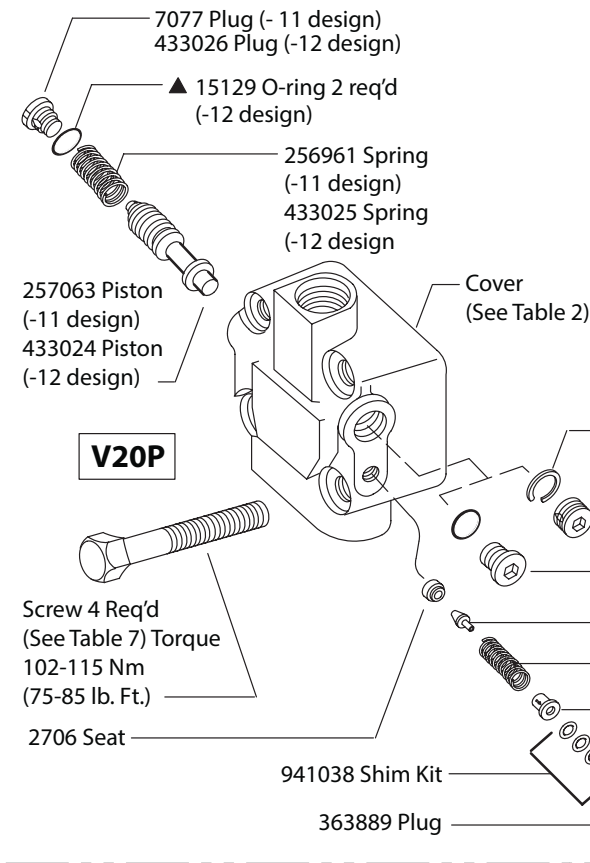


Table 1 (V20F & V20P)

Model	Control Valve S/A (V20F)	Spring (V20P) -11 Design	Spring (V20P) -12 Design
V20*_****_****A	229613	252886	252886
V20*_****_****B	233018	2280	2280
V20*_****_****C	232794	2280	2280
V20*_****_****D	232795	2282	435626
V20*_****_****E	232796	2282	435626
V20*_****_****F	232797	2281	2281
V20*_****_****G	232798	2281	2281
V20*_****_****H	232799	2281	2281
V20*_****_****J	233019	2281	2281
V20*_****_****K	233020	2281	2281

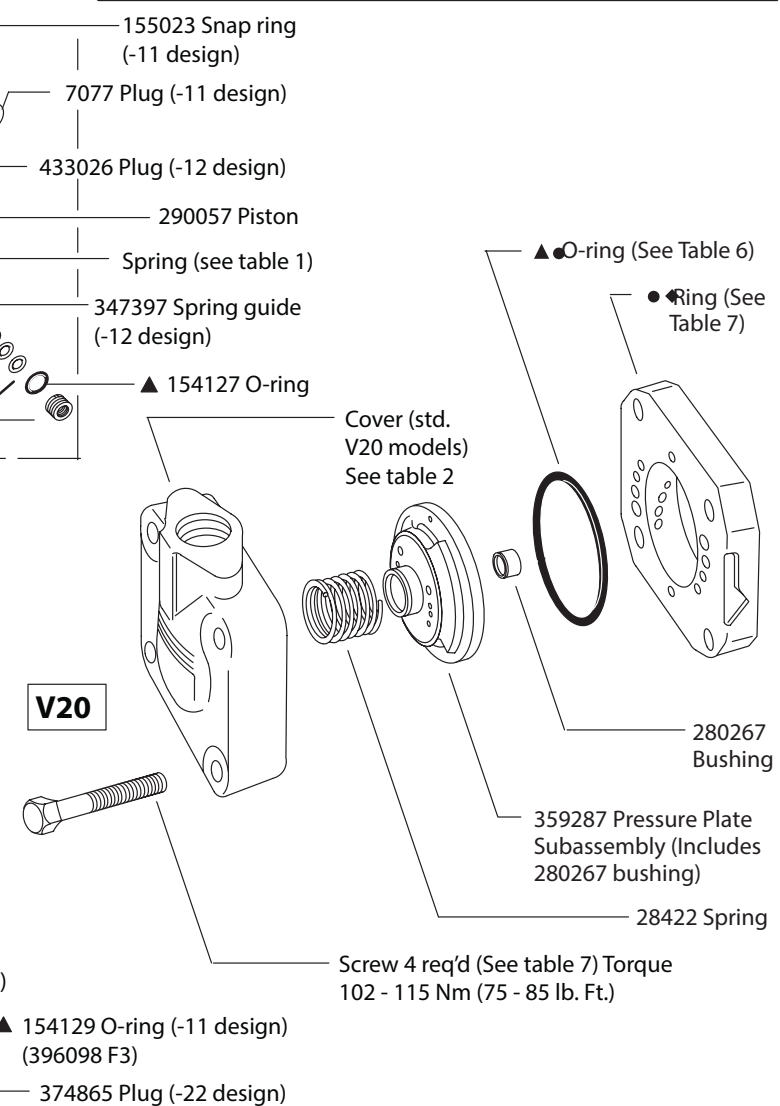
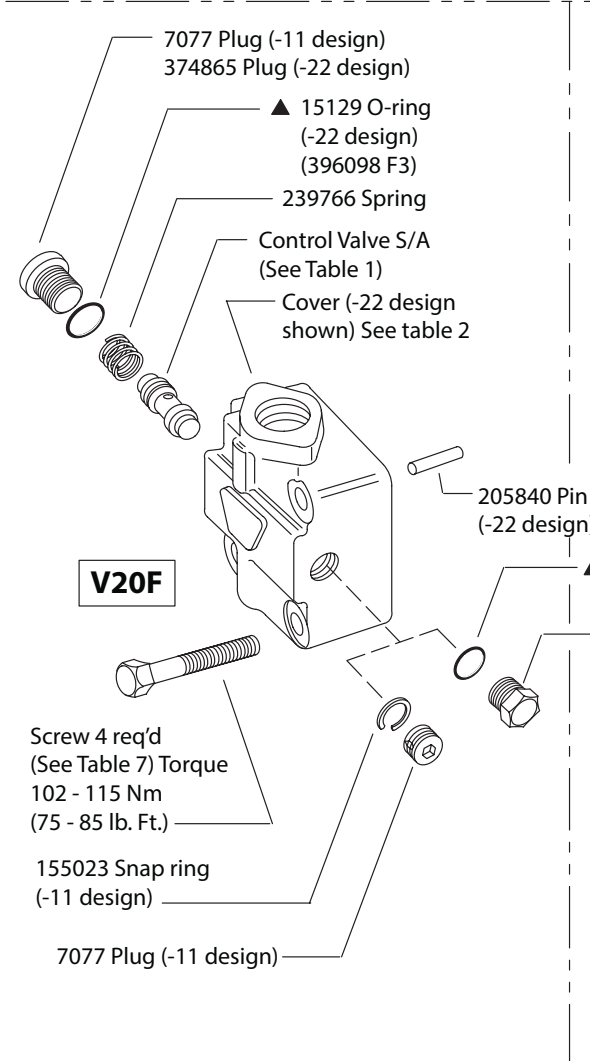


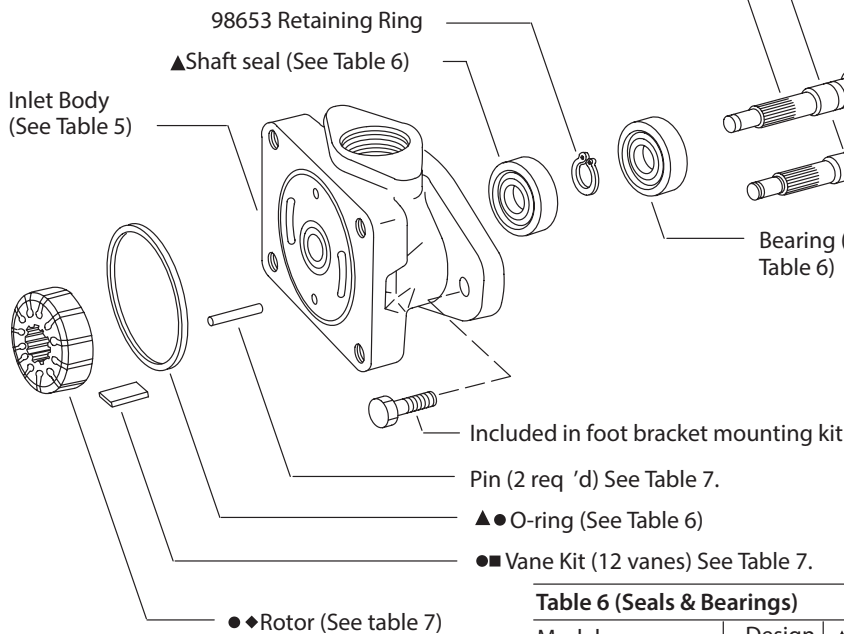
Table 2 (Covers)

Model	-11 Design	-12 Design †	-22 Design †
V20-***F	280690	-	-
V20-***K	375468	-	-
V20-***P	313657	-	-
V20-***R	281145	-	-
V20-***S	293373	-	-
V20-***Y	291045	-	-
V20F-***P-**-2	316090	-	860418
V20F-***S-**-2	306313	-	860441
V20F-***T-**-2	306314	-	860464
V20P-***T-**-2	308121	433030	-

† See Table 3.

USgpm Thru Cover Orifice	Orifice (Drill) Size V20F (-22 design)	V20P (-12design)
2.5	-	.110 " (#35)
3	.120 " (#31)	.120 " (#31)
4	.136 " (#29)	.139 "
5	.147 " (#26)	.155 "
6	.161 " (#20)	.170 "
7	.173 " (#17)	.182 "
8	.187 "	.196 "
9	.199 " (#8)	-
10	.213 " (#3)	-
11	.221 " (#1)	-
12	.250 "	.238 ""

‡ Use cover (part number shown in Table 2) with 2 USgpm orifice to make cover with larger orifice size.



- ▲ Included in seal kit (See Table 6)
- Included in cartridge kit (See Table 7)
- Vane kit (includes 12 vanes) See Table 7.
- ◆ For best performance, use complete cartridge kit (Table 7) for repair.

Model	Shaft	Key	Nut	Shaft Type
V20* -****-1	280372	5881	-	Straight keyed
V20* -****-3	280504	1615	132260	Thd. & Woodruff keyed
V20* -****-6	297330	1609	-	Woodruff-keyed stub
V20* -****-11	280515	-	-	Splined
V20* -****-15	294922	-	-	Splined
V20* -****-38	328096	-	-	Splined
V20* -****-62	582610	-	-	Splined

Table 5 (Inlet Bodies)

Port Type	Mounting Type		
	V20* -1	V20* -4	V20* -6
V20* -*D	583170	583172	-
V20* -*E	345486	-	324045
V20* -*F	297228	-	-
V20* -*P	280689	308628	396975
V20* -*R	313409	341340	-
V20* -*S	294266	574155	295716

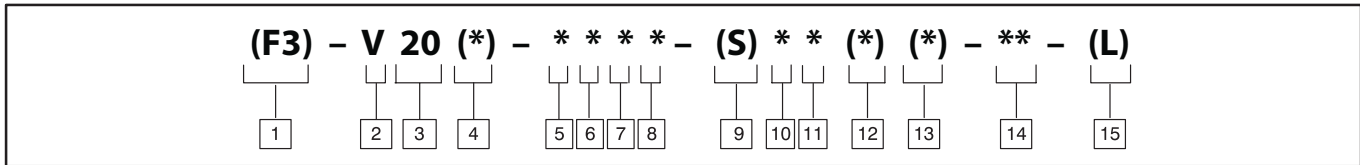
Table 6 (Seals & Bearings)

Model	Design	▲ Seal Kit	▲● O-Ring	▲ Shaft Seal	Bearing
V20	-11	922733	154090	229235	98574
F3 -V20	-11	919805	586589	279499	98574
V20F	-11	922733	154090	229235	98574
F3 -V20F	-11	919805	586589	279499	98574
V20F	-22	02 -137555	154090	229235	98574
F3 -V20F	-22	02 -137556	586589	279499	98574
V20F -****-S	-22	02 -137557	154090	02 -133102	1704
F3 -V20F -****-S	-22	02 -137558	586589	02 -133102	1704
V20P	-11	922733	154090	229235	98574
F3 -V20P	-11	919805	586589	279499	98574
V20P	-12	922733	154090	229235	98574
F3 -V20P	-12	919805	586589	279499	98574

Table 7

Model	●●Ring	●●Rotor	●■ Vane Kit	● Cartridge Kit, Std.	● Cartridge Kit, F3	Pin	Screw (V20)	Screw (V20F & V20P)
V20* -**5	388284	502255	923485	02 -137559	02 -137570	2161	131485	11165
V20* -**6	328150	502255	923485	02 -137560	02 -137571	2161	131485	11165
V20* -**7	328152	502256	923493	02 -137561	02 -137572	2478	131486	9431
V20* -**8	331791	502256	923493	02 -137562	02 -137573	2478	131486	9431
V20* -**9	331789	502256	923493	02 -137563	02 -137574	2478	131486	9431
V20* -**10	374309	502257	923478	02 -137564	02 -137575	16662	131486	96168
V20* -**11	328156	502257	923478	02 -137565	02 -137576	16662	131486	96168
V20* -**12	331806	502258	923479	02 -137566	02 -137577	9603	1319	96168
V20* -**13	331807	502258	923479	02 -137567	02 -137578	9603	1319	96168

Model Code



1 Special seals
 F3 – For mineral oil & fire resistant fluids (Omit if not required)

2 Vane pump

3 Series designation

4 Cover type
 F – Flow control cover
 P – Priority valve cover
 Omit – Standard cover

5 Mounting
 1 – Flange, 2 bolt SAE A size
 2 – Foot bracket at 12 o'clock, viewed from shaft end (11 & 12 designs only)
 3 – Power takeoff (11 & 12 designs only)
 4 – Face type
 6 – Flange, 2 bolt SAE B size
 23 – Foot bracket at 3 o'clock (11 & 12 designs only)
 26 – Foot bracket at 6 o'clock (11 & 12 designs only)
 29 – Foot bracket at 9 o'clock (11 & 12 designs only)

6 Inlet port connection
 D – 1.312-12 UN-2B thread (22 design only)
 E – 1.5 inch dia. 2-bolt flange
 F – 1.156 inch dia. 2-bolt flange
 P – 1-1/4" NPTF
 R – 1" NPTF
 S – 1.625-12 UN-2B thread

7 Ring capacity
 (Rated capacity (USgpm) at 1200 rpm, 6.9 bar (100 psi))

5 – 5 USgpm (22 design only)	9 – 9 USgpm
6 – 6 USgpm	10 – 10 USgpm
7 – 7 USgpm	11 – 11 USgpm
8 – 8 USgpm	12 – 12 USgpm
	13 – 13 USgpm

8 Outlet port connection(s)

Code	Std. cover	Flow control cover	
		Pressure	Tank
F	.687 dia. (11 & 12 designs only).	_____	_____
P	3/4 NPT Thd. (11 & 12 designs only).	.750 – 16 St.Thd.	1/2 NPT Thd.
S	.1062 - 12 St. Thd. (11 & 12 designs only).	.750 – 16 St.Thd.	1.062 – 12 St.Thd.
T	_____	.750 – 16 St.Thd.	.750 – 16 St.Thd.

Priority valve cover
(11 & 12 designs only)

Code	Primary outlet	Secondary outlet	Tank
T	.750 – 16 St.Thd.	.750 – 14 St.Thd.	.750 – 16 St.Thd.

9 Shaft seal type
 S – Double lip seal and open bearings (22 design only)
 Omit – Single lip seal and sealed bearings

10 Shaft type
 1 – Straight, keyed
 3 – Threaded
 6 – Straight stub, keyed
 11 – Splined
 15 – Splined
 38 – Splined
 62 – Splined

11 Outlet or primary outlet port positions
 (Viewed from cover end of pump)
 A – Opposite inlet
 B – 90° CCW from inlet
 C – In line with inlet
 D – 90° CW from inlet

12 Flow rate (V20F & V20P)
 (Through orifice in cover)

2 – 2 USgpm	8 – 8 USgpm
2.5 – 2.5 USgpm (11 & 12 designs only)	9 – 9 USgpm (22 design only)
3 – 3 USgpm	10 – 10 USgpm (22 design only)
4 – 4 USgpm	11 – 11 USgpm (22 design only)
5 – 5 USgpm (22 design only)	12 – 12 USgpm (22 design only)
6 – 6 USgpm	
7 – 7 USgpm	

13 Pressure setting (V20F & V20P)

A – 250 psi	F – 1500 psi
B – 500 psi	G – 1750 psi
C – 750 psi	H – 2000 psi
D – 1000 psi	J – 2250 psi
E – 1250 psi	K – 2500 psi

14 Design
 11 – V20, V20F & V20P
 12 – V20P
 22 – V20F

15 Rotation
 (Viewed from shaft end of pump)
 L – Left hand (counterclockwise)
 Omit – Right hand (clockwise)

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