

150 Frame R-Series Duplex Stainless Steel Reciprocating Process Pumps

Models **152R060**
152R080
152R100

FEATURES

Superior Design

- Triplex plunger design gives smooth low-pulsation liquid flow.
- Interchangeable inlet and discharge valve assemblies accessible without removing the head for easy servicing.
- Standard oil bath crankcase lubrication assures optimum lubrication.
- Packing design offers strength under pressure and requires no packing adjustment.

Quality Materials

- Duplex stainless steel seats and springs and Delrin valves offer corrosion resistance and extended life.
- Duplex stainless steel manifold head offers strength and corrosion resistance.
- Special concentric, high density, solid ceramic plungers provide a true wear surface and extended seal life.
- Special PTFE blend V-Packings offer unmatched seal life.
- Spheroid graphite cast iron crankcase provides strength, vibration dampening and flame and spark resistance.
- Chrome-moly, nitrated crankshaft offers high-strength and greater surface hardness.
- High strength connecting rods provide exceptional bearing quality and long life.

Easy Maintenance

- Ceramic plungers, seals and V-Packings are serviceable from the top of the crankcase permitting easy in-field servicing.
- V-Packings require no adjustment reducing maintenance time.

⚠ WARNING

All systems require both a primary pressure regulating device (i.e., regulator, unloader) and a secondary pressure safety relief device (i.e., pop-off valve, safety valve). Failure to install such relief devices could result in personal injury or damage to the pump or to system components. CAT PUMPS does not assume any liability or responsibility for the operation of a customer's high pressure system.

SPECIFICATIONS

	U.S. Measure	Metric Measure	U.S. Measure	Metric Measure
MODEL 152R060	STANDARD		API	
Flow	115 GPM	(435 l/m)	86 GPM	(326 l/m)
Barrels Per Day (U.S., Petroleum)	—	—	2948 bbl/d	(2864 bbl/d)
Pressure Range*	100 to 1200 PSI	(7 to 85 bar)	100 to 1200 PSI	(7 to 85 bar)
Maximum RPM	360 RPM	(360 min ⁻¹)	270 RPM	(270 min ⁻¹)
Bore	2.36"	(60 mm)	2.36"	(60 mm)
MODEL 152R080	STANDARD		API	
Flow	200 GPM	(765 l/m)	150 GPM	(580 l/m)
Barrels Per Day (U.S., Petroleum)	—	—	5142 bbl/d	(4996 bbl/d)
Pressure Range*	100 to 1200 PSI	(7 to 85 bar)	100 to 1200 PSI	(7 to 85 bar)
Maximum RPM	355 RPM	(355 min ⁻¹)	270 RPM	(270 min ⁻¹)
Bore	3.15"	(80 mm)	3.15"	(80 mm)
MODEL 152R100	STANDARD		API	
Flow	260 GPM	(985 l/m)	240 GPM	(905 l/m)
Barrels Per Day (U.S., Petroleum)	—	—	8228 bbl/d	(7994 bbl/d)
Pressure Range*	100 to 1000 PSI	(7 to 70 bar)	100 to 1000 PSI	(7 to 70 bar)
Maximum RPM	295 RPM	(295 min ⁻¹)	270 RPM	(270 min ⁻¹)
Bore	3.94"	(100 mm)	3.94"	(100 mm)

*Relief pressure should be set at maximum 10% over system pressure.

COMMON SPECIFICATIONS

Inlet Pressure Range	Flooded to 50 PSI	(Flooded to 3.5 bar)
Minimum RPM	75 RPM	(75 min ⁻¹)
Stroke	5.91"	(150 mm)
Crankcase Capacity	22.4 Gals	(85 l)
Lubrication	Splash	(splash)
Maximum Temperature	120°F	(50°C)
Inlet Ports (2) Flange Required	6.0"	(150 mm)
Discharge Ports (2) Flange Required	4.0"	(100 mm)
Shaft Diameter	3.937"	(100 mm)
Weight	3087 Lbs	(1400 kg)
Dimensions	68.11 x 42.13 x 22.05"	(1730 x 1070 x 560 mm)

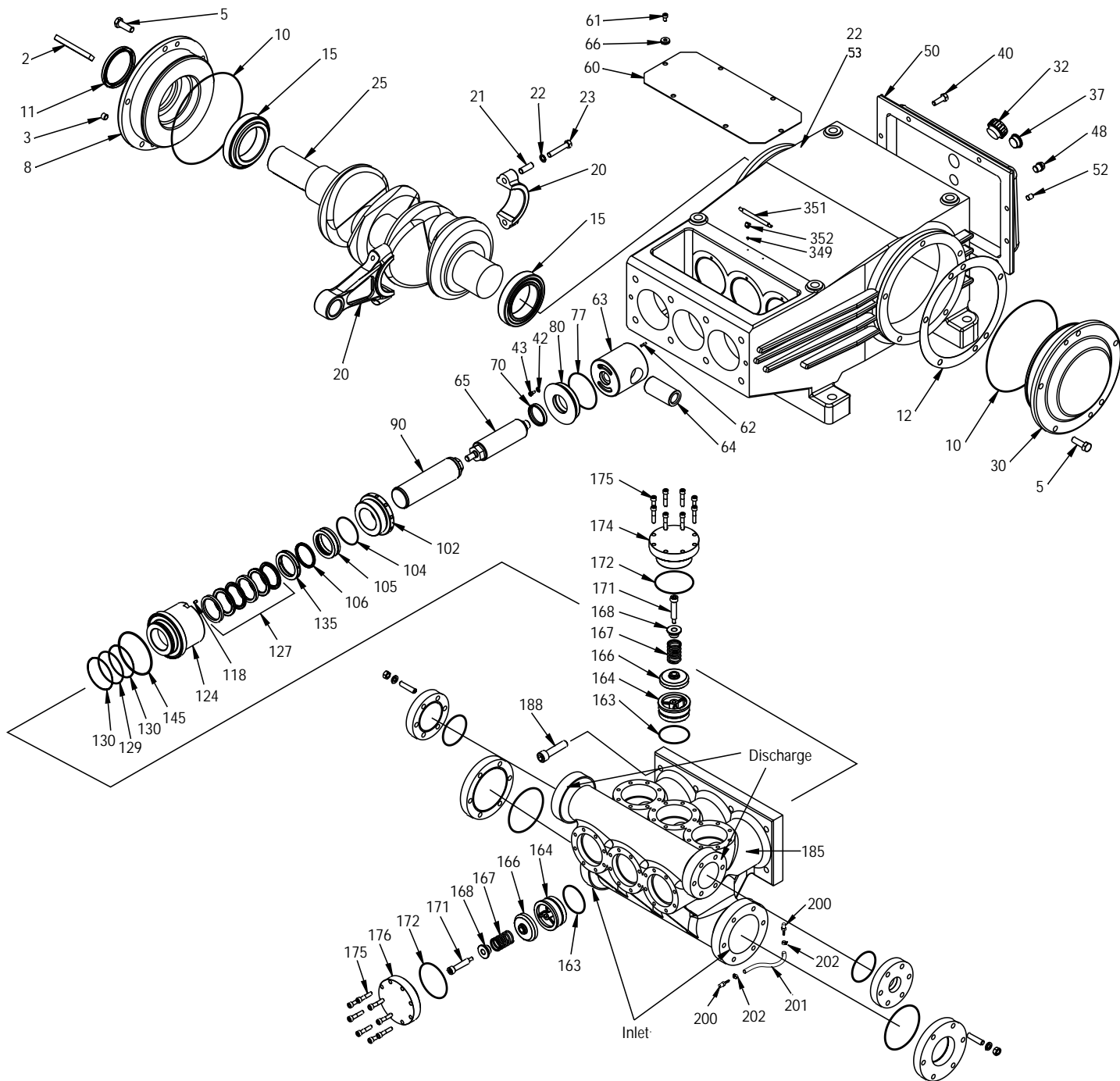
ELECTRIC HORSEPOWER REQUIREMENTS

MODEL	FLOW		PRESSURE		RPM
	U.S. GPM	l/m	PSI	PSI	
			1000 bar	1200 bar	
152R060	115	435	79	95	360
152R060 API	86	326	59	71	270
152R080	200	765	137	165	355
152R080 API	150	580	103	123	270
152R100	260	985	178	N/A	295
152R100 API	240	905	164	N/A	270

“Customer confidence is our greatest asset”

PARTS LIST

ITEM	PART NUMBER				DESCRIPTION	QTY		
	152R060	MATL	152R080	MATL	152R100	MATL		
2	890602	STL	890602	STL	890602	STL	Key (M28x16x170)	1
3	891238	STL	891238	STL	891238	STL	Screw, Grub (M20x20)	4
4	891275	SS	891275	SS	891275	SS	Plate, Serial No.	1
5	891228	STL	891228	STL	891228	STL	Screw, HH (M20x60)	10
8	891235	F	891235	F	891235	F	Cover, Bearing	1
10	890215	FPM	890215	FPM	890215	FPM	O-Ring, Bearing Cover - 70D	2
11	890270	NBR	890270	NBR	890270	NBR	Seal, Oil	1
12	890230	POP	890230	POP	890230	POP	Shim Set	1
15	891240	STL	891240	STL	891240	STL	Bearing, Roller	2
20	891220	HS	891220	HS	891220	HS	Rod, Connecting (Incls: 21, 22, 23)	3
21	891221	STL	891221	STL	891221	STL	Sleeve, Alignment	6
22	891222	STL	891222	STL	891222	STL	Washer, Flat (M16)	6
23	891223	STL	891223	STL	891223	STL	Screw, Lock (M16x90)	6
25	891210	CM	891210	CM	891210	CM	Crankshaft, Single End	1
30	891230	F	891230	F	891230	F	Cover, Bearing, Blind	1
32	891234	NY	891234	NY	891234	NY	Cap, Filler w/Gasket	1
35	891226	SS	891226	SS	891226	SS	Rivet (M2.9x6.5)	6
36	891202	SS	891202	SS	891202	SS	Nameplate	1
37	891233	—	891233	—	891233	—	Gauge, Oil Bubble w/Gasket	1
40	890295	STL	890295	STL	890295	STL	Screw, HH (M16x50)	10
42	891237	SS	891237	SS	891237	SS	Washer, Flat (M8)	6
43	891225	SS	891225	SS	891225	SS	Screw, HSH (M8x15)	6
48	891232	AL	891232	AL	891232	AL	Plug, HH Drain	1
50	891284	F	891284	F	891284	F	Cover, Rear	1
52	891244	STL	891244	STL	891244	STL	Screw, Grub (M16)	2
53	891200	F	891200	F	891200	F	Crankcase	1
60	891201	—	891201	—	891201	—	Cover, Rod Box	1
61	891224	SS	891224	SS	891224	SS	Screw, HSH (M10x15)	2
62	891282	STL	891282	STL	891282	STL	Pin, Roll (M6x25)	3
63	891280	F	891280	F	891280	F	Crosshead	3
64	891281	STL	891281	STL	891281	STL	Pin, Crosshead	3
65	891261	SS	891261	SS	891261	SS	Rod, Plunger	3
66	891236	RBR	891236	RBR	891236	RBR	Grommet, Cover	6
70	890275	PTFE	890275	PTFE	890275	PTFE	Seal, Oil - 70D	3
77	890216	FPM	890216	FPM	890216	FPM	O-Ring, Carrier	3
80	891255	SS	891255	SS	891255	SS	Carrier, Oil Seal	3
90	890401	CC	—	—	—	—	Plunger (M60.3x262)	3
	—	—	890402	CC	—	—	Plunger (M80x262)	3
	—	—	—	—	890403	CC	Plunger (M100x262)	3
102	890372	NAB	890371	NAB	890370	NAB	Adjuster, Packing	3
104	890203	NBR	890204	NBR	890205	NBR	O-Ring, Spacer - 70D	3
105	890580	SSD	890341	SSD	890340	SSD	Spacer, Packing	3
106	890565	NBR	890566	NBR	890567	NBR	Seal, LPS	3
118	890389	SSD	890389	SSD	890389	SSD	Plug, 1/16" NPT	3
124	890352	SSD	890351	SSD	890350	SSD	Housing, Seal	3
127	890520	SFTK	890521	SFTK	890522	SFTK	V-Packing, Set	3
129	890202	NBR	890202	NBR	890202	NBR	O-Ring, Housing - 70D	3
130	890591	PTFE	890591	PTFE	890591	PTFE	Back-up-Ring, Housing	6
135	—	—	890581	SSD	890582	SSD	Spacer	3
145	890589	D	890589	D	890589	D	Ring, Sealing	3
163	890201	NBR	890201	NBR	890201	NBR	O-Ring, Seat - 70D	6
164	890260	SSD	890260	SSD	890260	SSD	Seat, FV	6
166	890251	D	890251	D	890251	D	Valve, FV	6
167	890320	SS	890320	SS	890320	SS	Spring	6
168	890301	SSD	890301	SSD	890301	SSD	Retainer, Spring	6
171	890280	SSD	890280	SSD	890280	SSD	Stud, Valve Guide	6
172	890217	NBR	890217	NBR	890217	NBR	O-Ring, Plug - 70D	6
174	890290	SSD	890290	SSD	890290	SSD	Plug, Valve Inlet	3
175	891229	SS	891229	SS	891229	SS	Screw, HSH (M12x55)	48
176	891290	SSD	891290	SSD	891290	SSD	Plug, Valve Discharge	3
185	892012	SSD	892012	SSD	892012	SSD	Head, Manifold	1
188	890221	STTC	890221	STTC	890221	STTC	Screw, HSH (M20x80)	8
200	892016	POP	892016	POP	892016	POP	Barb, 1/4" Hose	6
201	892018	RBR	892018	RBR	892018	RBR	Hose, 9"x1/4" LOP	3
202	892019	SS	892019	SS	892019	SS	Clamp, 1/4" Hose	6
290	890999	—	890999	—	890999	—	Loctite 641, 10ML	1
299	891112	SSD	891112	SSD	891112	SSD	Assembly, Head	1
							(Incls: 163, 164, 166, 167, 168, 171, 172, 174, 175, 176, 185, 188, 200, 201, 202)	
300	890036	NBR*	890037	NBR*	890038	NBR*	Kit, Seal (Incls: 70, 77, 104, 106, 127)	1
310	890020	NBR	890020	NBR	890020	NBR	Kit, Valve (Incls: 163, 164, 166, 167, 168, 171, 172, 290)	2
	890022	NBR	890022	NBR	890022	NBR	Kit, Valve w/o Seat & O-Ring (Incls: 166, 167, 168, 171, 172, 290)	2
349	891231	SS	891231	SS	891231	SS	Screw, HSH (M3x5)	2
351	890990	SS	890990	SS	890990	SS	Tool, Packing Adjuster	1
352	890998	STZP	890998	STZP	890998	STZP	Clip, Tool	2
—	891122	SSD	891132	SSD	891142	SSD	Assy, Plunger, Conversion	3
							(Incls: 90, 102, 104-106, 118, 124, 127, 129, 130, 135, 145)	
390	719500	SS	719500	SS	719500	SS	C.A.T. (For R.O. or Industrial Applications)	1
—	890700	SS	890702	SS	890704	SS	Valve, Relief 2"	1
—	701557	SS	701557	SS	701557	SS	Dampener, Pulsation	1



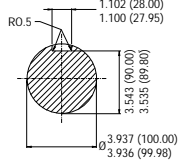
Models
 Duplex Stainless Steel
 152R060, 152R080, 152R100
 September 2005

152R060	MATL	152R080	MATL	152R100	MATL			
—	892092	SS	892092	SS	892092	SS	<i>Flange, Blank, Inlet (Specify Flange Type When Ordering)</i>	1
—	892093	SS	892093	SS	892093	SS	<i>Flange, Blank, Discharge (Specify Flange Type When Ordering)</i>	1
—	892096	SS	892096	SS	892096	SS	<i>Flange, Discharge 2" NPT (Specify Flange Type When Ordering)</i>	1
—	892097	SS	892097	SS	892097	SS	<i>Flange, Inlet 150x4" NPT (Specify Flange Type When Ordering)</i>	1
—	6119	—	6119	—	6119	—	<i>Lubricant, Antiseize (1 oz.)</i>	1
—	6116	—	6116	—	6116	—	<i>Oil, Drum (16 gal.) ISO 100 Multi-viscosity Hydraulic (Fill to specified crankcase capacity prior to start-up)</i>	1-2

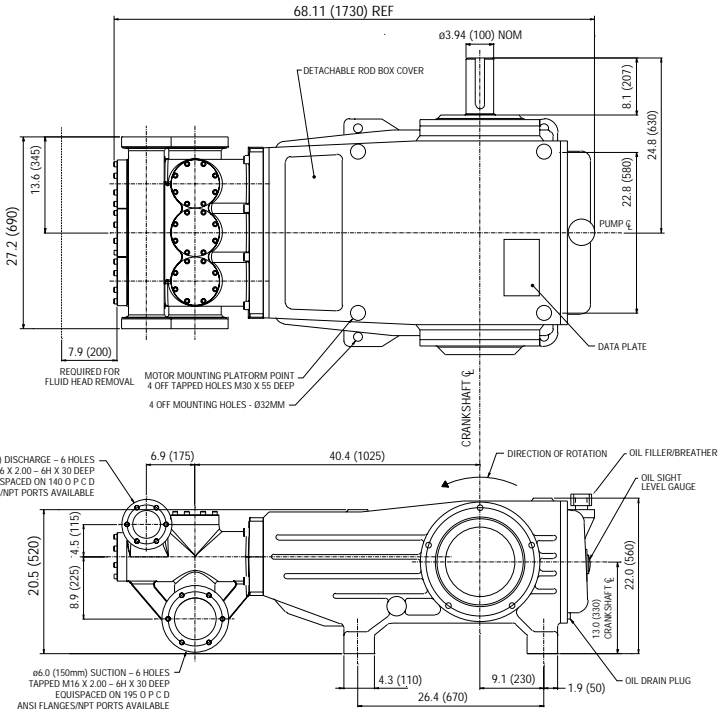
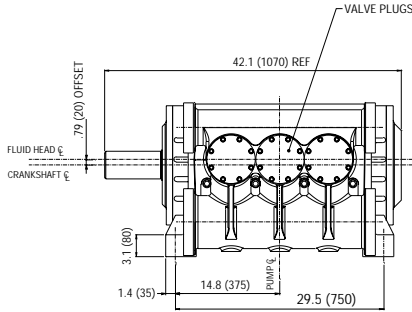
Bold print part numbers are unique to a particular pump model. Italics are optional items

[] Date of latest production change. *Review material codes for individual items (SFTK generally may be used as alternate).

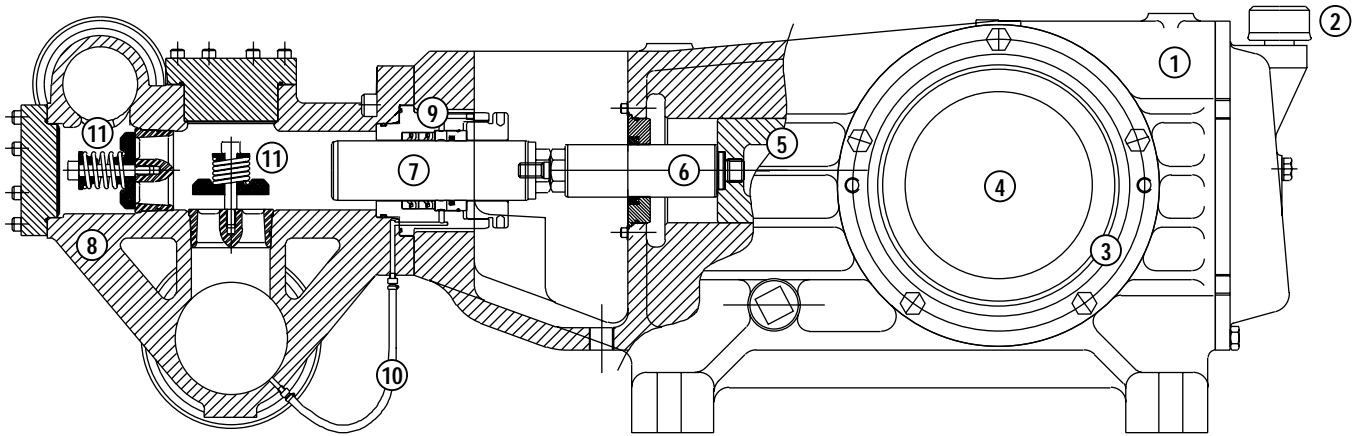
MATERIAL CODES (Not Part of Part Number): AL=Aluminum CC=Ceramic CM=Chrome-Moly D=Acetal F=Cast Iron FPM=Fluorocarbon HS=High Strength
 NAB=Nickel Aluminum Bronze NBR=Medium Nitrile (Buna-N) NY=Nylon POP=Polypropylene PTFE=Pure Polytetrafluoroethylene RBR=Rubber
 SFTK=Polytetrafluoroethylene/Aramid Fiber Blend SS=316SS SSD=Duplex Stainless STL=Steel STTC=Steel PTFE Coated STZP=Steel/Zinc Plated



SHAFT END DETAIL
SCALE 1 : 2



Models 152R060, 152R080, 152R100



- 1 Spheroid graphite cast iron **crankcase** provides strength, vibration dampening and flame and spark resistance.
- 2 Convenient top rear access for **oil filler cap** permits easy access to oil level check.
- 3 Heavy-duty tapered roller crankshaft **bearings** for long life and secure alignment.
- 4 Chrome-moly, nitrided **crankshaft** provides unmatched strength and surface hardness for long life.
- 5 Matched oversized, **connecting rods** noted for superior tensile strength and bearing quality.
- 6 Special 316SS **plunger rods** with high-strength crossheads for longevity and corrosion resistance.
- 7 Special concentric, hardened, polished solid ceramic **plungers** offer resistance to corrosion and a true sealing surface for extended seal life. Plungers are conveniently serviceable from the top of the pump.
- 8 **Manifolds** are a high-strength, corrosion resistant Duplex stainless steel alloy for compatibility and long life.
- 9 High integrity **V-Packings** of PTFE/Aramid Fiber Blend require no-adjustment and provide long life with harsh liquids.
- 10 High pressure V-Packing bleed (weep) **hose** captures leaks as V-Packings begin to wear preventing external leaks.
- 11 Duplex stainless steel **seats** and 316SS **springs** for corrosion resistance and extended life. Acetal **valves** for compatibility and cushioned seating.

Products described hereon are covered by one or more of the following U.S. patents 3558244, 3652188, 3809508, 3920356, 3930756 and 5035580

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