



Model 56 Shown
(Rails Sold Separately)

FEATURES

- Triplex design delivers high efficiency and low pulsation.
- Durable dual V-Packings are lubricated and cooled by pumped liquid.
- Pre-Set Lo-Pressure Seals provide secondary protection against external leaks and require no packing adjustment.
- Special high density, polished, concentric plungers provide a true wear surface and extended seal life.
- Optional HT, FPM elastomers for compatibility with many liquids and temperatures up to 200°F.

COMMON SPECIFICATIONS

Bore	0.708"	(18 mm)
Inlet Pressure Range.....	Flooded to 60 psi	(Flooded to 4 bar)
Crankcase Capacity.....	25 oz.	(0.75 l)
Standard Liquid Temperature	160°F	(71°C)
Above 130°F call CAT PUMPS for inlet conditions and elastomer recommendations.		
Inlet Ports (2).....	1/2" NPTF	(1/2" NPTF)
Discharge Ports (2).....	3/8" NPTF	(3/8" NPTF)
Shaft Diameter	0.945"	(24 mm)
Weight.....	29.25 lbs.	(13.3 kg)
Weight w/Gearbox.....	36.8 lbs.	(16.7 kg)
Dimensions.....	13.93 x 8.2 x 6.41"	(354 x 208 x 163 mm)

*See Gearbox Data Sheet 8051-8078 for maximum engine rpm.

⚠ CAUTIONS AND WARNINGS

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

Read all CAUTIONS and WARNINGS before commencing service or operation of any high pressure system. The CAUTIONS and WARNINGS are included in each service manual and with each Accessory Data sheet. CAUTIONS and WARNINGS can also be viewed online at www.catpumps.com/cautions-warnings or can be requested directly from CAT PUMPS.

WARRANTY

View the Limited Warranty on-line at www.catpumps.com/warranty.

7 Frame Plunger Pump

Standard Models 56, 57, 59, 60

**Gearbox Models 56G1, 59G1
60G1**

SPECIFICATIONS

MODELS	U.S. Measure		Metric Measure	
	U.S. Measure	Metric Measure	U.S. Measure	Metric Measure
	56		Alternate or 56G1*	
Flow	5.5 gpm	(21 l/m)	8 gpm	(30 l/m)
Pressure Range.....	100 to 3500 psi (7 to 245 bar)		100 to 1800 psi (7 to 125 bar)	
Pump RPM	1210 rpm	(1210 rpm)	1760 rpm	(1760 rpm)
Engine RPM	—	—	3600 rpm	(3600 rpm)
Stroke.....	0.945"	(24 mm)	0.945"	(24 mm)

MODEL

	57	
Flow	4.5 gpm	(17 l/m)
Pressure Range.....	100 to 4000 psi (7 to 275 bar)	
Pump RPM	1285 rpm	(1285 rpm)
Stroke.....	0.728"	(18.5 mm)

MODELS

	59, 59G1*		60, 60G1*	
Flow	5.5 gpm	(21 l/m)	4.5 gpm	(17 l/m)
Pressure Range.....	100 to 3500 psi (7 to 245 bar)		100 to 4000 psi (7 to 275 bar)	
Pump RPM	1570 rpm	(1570 rpm)	1570 rpm	(1570 rpm)
Engine RPM	3200 rpm	(3200 rpm)	3200 rpm	(3200 rpm)
Stroke.....	0.728"	(18.5 mm)	0.591"	(15 mm)

ELECTRIC HORSEPOWER REQUIREMENTS

MODEL	FLOW		PRESSURE					MOTOR PULLEY SIZE Using 1725 RPM Motor & Std. Pump Pulley	
			psi 1800	psi 2500	psi 3000	psi 3500	psi 4000		
			U.S. gpm	l/m	bar 125	bar 175	bar 210		
56	5.5	21	6.8	9.4	11.3	13.2	N/A	1210	6.9
56 ALT.	8.0	30	9.9	N/A	N/A	N/A	N/A	1760	Direct Drive
56G1	8.0	30	9.9	N/A	N/A	N/A	N/A	1760	Gearbox
57	4.5	17	5.6	7.7	9.3	10.8	12.3	1285	7.3
59, 59G1	5.5	21	6.8	9.4	11.3	13.2	N/A	1570	Gearbox
60, 60G1	4.5	17	5.6	7.7	9.3	10.8	12.3	1570	Gearbox

DETERMINING THE PUMP R.P.M.

$$\frac{\text{Rated gpm}}{\text{Rated rpm}} = \frac{\text{"Desired" gpm}}{\text{"Desired" rpm}}$$

DETERMINING THE REQUIRED H.P.

$$\frac{\text{gpm} \times \text{psi}}{1460} = \text{Electric Brake H. P. Required}$$

DETERMINING MOTOR PULLEY SIZE

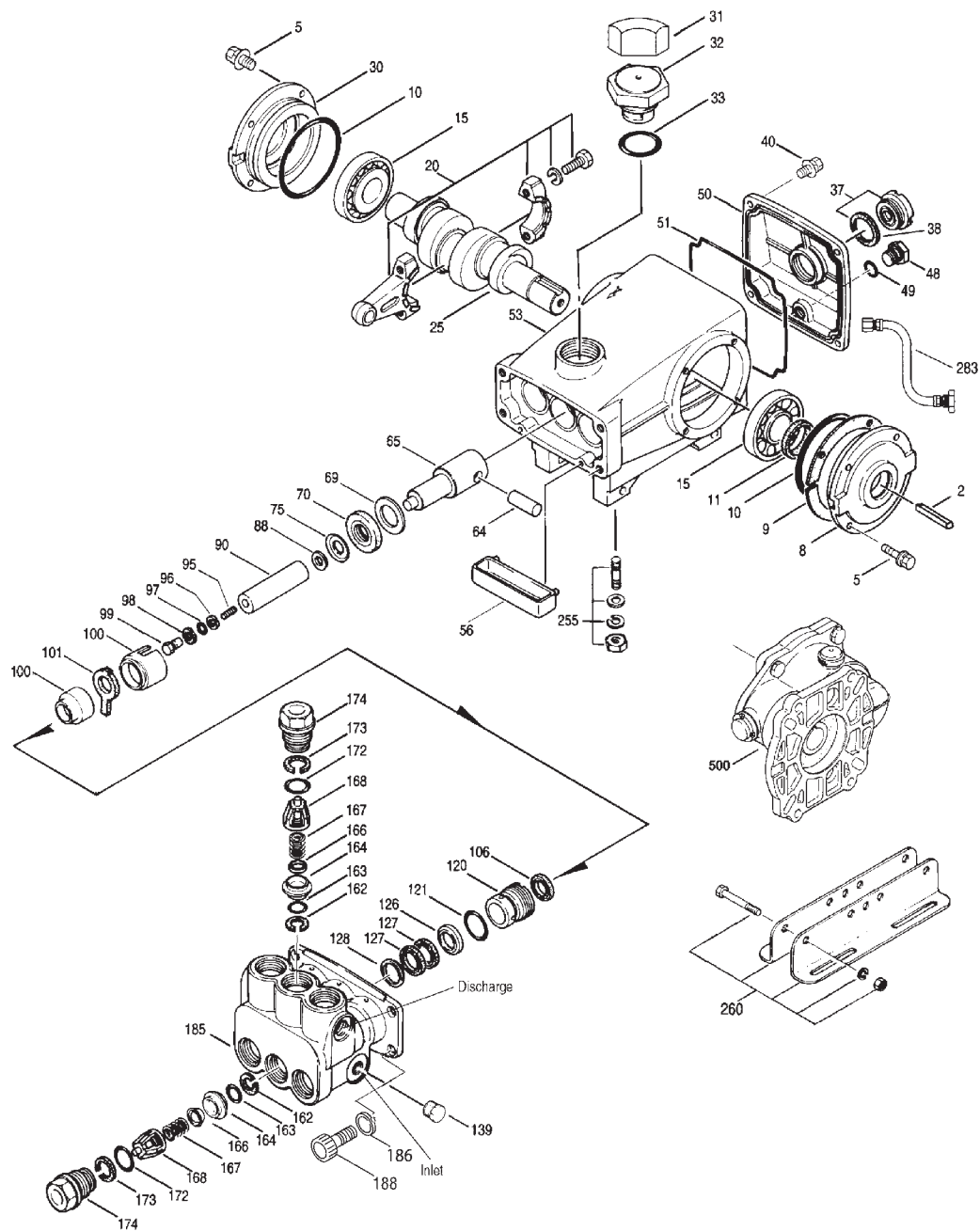
$$\frac{\text{Motor Pulley O.D.}}{\text{Pump rpm}} = \frac{\text{Pump Pulley O.D.}}{\text{Motor rpm}}$$

See complete Drive Packages (Includes: Pulleys, Belts, Hubs, Key) Tech Bulletin 003. Refer to pump **Service Manual** for repair procedure and additional technical information.

PARTS LIST

ITEM	PART NUMBER				DESCRIPTION	QTY				
	56	MATL	57	MATL	59	MATL	60	MATL		
2	30067	STL	30067	STL	30067	STL	30067	STL	Key (M8x7.5x25)	1
5	92519	STZP	92519	STZP	92519	STZP	92519	STZP	Screw, HHC Sems (M6x16)	4/8
	125824	STCP R	125824	STCP R	125824	STCP R	125824	STCP R	Screw, HHC Sems (M6x16)	4/8
8	43223	AL	43223	AL	43223	AL	43223	AL	Cover, Bearing [03/10]	1
9	815280	FBR	815280	FBR	815280	FBR	815280	FBR	Shim, Split, 2-Pc	1
10	12393	NBR	12393	NBR	12393	NBR	12393	NBR	O-Ring, Bearing Cover	2
11	43222	NBR	43222	NBR	43222	NBR	43222	NBR	Seal, Oil Crankshaft - 70D	1
15	43221	STL	43221	STL	43221	STL	43221	STL	Bearing, Roller	2
20	48863	TNM	48863	TNM	48863	TNM	48863	TNM	Rod, Connecting [6/02]	3
25	43464	FCM	44947	FCM	46131	FCM	44591	FCM	Crankshaft, Single End	1
30	44948	AL	44948	AL	44948	AL	44948	AL	Cover, Bearing, Blind [03/10]	1
31	828710	—	828710	—	828710	—	828710	—	Protector, Oil Cap w/Foam Gasket	1
32	44666	RTP	44666	RTP	44666	RTP	44666	RTP	Cap, Oil Filler, Domed-Gearbox Models	1
33	14177	NBR	14177	NBR	14177	NBR	14177	NBR	O-Ring, Oil Filler Cap - 70D	1
37	92241	—	92241	—	92241	—	92241	—	Gauge, Oil Bubble w/Gasket - 80D	1
38	44428	NBR	44428	NBR	44428	NBR	44428	NBR	Gasket, Flat Flex, Oil Gauge - 80D	1
40	92520	STZP	92520	STZP	92520	STZP	92520	STZP	Screw, HHC Sems (M6x20)	4
	126541	STCP R	126541	STCP R	126541	STCP R	126541	STCP R	Screw, HHC Sems (M6x20) (See Tech Bulletin 106)	4
48	25625	STCP	25625	STCP	25625	STCP	25625	STCP	Plug, Drain (1/4"x19BSP)	1
49	23170	NBR	23170	NBR	23170	NBR	23170	NBR	O-Ring, Drain Plug - 70D	1
50	127701	AL	127701	AL	127701	AL	127701	AL	Cover, Rear [03/10]	1
51	14047	NBR	14047	NBR	14047	NBR	14047	NBR	O-Ring, Rear Cover (See Tech Bulletin 106)	1
53	127698	AL	127698	AL	129812	AL	129812	AL	Crankcase (M10) [03/10]	1
56	43240	POP	43240	POP	43240	POP	43240	POP	Pan, Oil	1
64	43237	CM	43237	CM	43237	CM	43237	CM	Pin, Crosshead	3
65	48913	SHS	48913	SHS	48913	SHS	48913	SHS	Rod, Plunger, Short [5/02]	3
69	43227	STZP	43227	STZP	43227	STZP	43227	STZP	Washer, Oil Seal	3
	126589	STCP R	126589	STCP R	126589	STCP R	126589	STCP R	Washer, Oil Seal	3
70	43228	NBR	43228	NBR	43228	NBR	43228	NBR	Seal, Oil, Crankcase	3
75	43328	S	43328	S	43328	S	43328	S	Slinger, Barrier	3
88	45697	S	45697	S	45697	S	45697	S	Washer, Keyhole (M18 x M10)	3
90	43232	CC	43232	CC	43232	CC	43232	CC	Plunger (M18x77)	3
95	89649	STZP	89649	STZP	89649	STZP	89649	STZP	Stud, Plunger Retainer (M6x70)	3
	126559	STCP R	126559	STCP R	126559	STCP R	126559	STCP R	Stud, Plunger Retainer (M6x70)	3
96	43235	PTFE	43235	PTFE	43235	PTFE	43235	PTFE	Back-up-Ring, Plunger Retainer	3
97	17399	NBR	17399	NBR	17399	NBR	17399	NBR	O-Ring, Plunger Retainer - 80D	3
	14160	FPM	14160	FPM	14160	FPM	14160	FPM	O-Ring, Plunger Retainer - 80D	3
98	45891	CU	45891	CU	45891	CU	45891	CU	Gasket, Plunger Retainer	3
99	46504	S	46504	S	46504	S	46504	S	Retainer, Plunger (M6)	3
100	45686	PVDF	45686	PVDF	45686	PVDF	45686	PVDF	Retainer, Seal, Rear	3
	45687	PVDF	45687	PVDF	45687	PVDF	45687	PVDF	Retainer, Seal Adapter, Front	3
101	43239	FBR	43239	FBR	43239	FBR	43239	FBR	Wick, Long Tab	3
106	43243	NBR	43243	NBR	43243	NBR	43243	NBR	Seal, LPS w/S-Spg	3
	44926	FPM	44926	FPM	44926	FPM	44926	FPM	Seal, LPS w/SS-Spg	3
120	45685	BB	45685	BB	45685	BB	45685	BB	Case, Seal	3
121	20285	NBR	20285	NBR	20285	NBR	20285	NBR	O-Ring, Seal Case - 70D	3
	11693	FPM	11693	FPM	11693	FPM	11693	FPM	O-Ring, Seal Case	3
126	44550	BB	44550	BB	44550	BB	44550	BB	Adapter, Female	3
127	44549	SNG	44549	SNG	44549	SNG	44549	SNG	V-Packing	6
	45617	SFG	45617	SFG	45617	SFG	45617	SFG	V-Packing	6
	48300	STG	48300	STG	48300	STG	48300	STG	V-Packing	6
128	45618	BB	45618	BB	45618	BB	45618	BB	Adapter, Male	3
139	43448	BB	43448	BB	43448	BB	43448	BB	Plug, Inlet, (1/2" NPT)	1
162	43248	PTFE	43248	PTFE	43248	PTFE	43248	PTFE	Back-up-Ring, Seat	6
163	43249	NBR	43249	NBR	43249	NBR	43249	NBR	O-Ring, Seat - 80D	6
	44383	FPM	44383	FPM	44383	FPM	44383	FPM	O-Ring, Seat - 70D	6
164	43722	S	43722	S	43722	S	43722	S	Seat	6
166	43721	S	43721	S	43721	S	43721	S	Valve	6
167	43751	S	43751	S	43751	S	43751	S	Spring	6
168	44564	PVDF	44564	PVDF	44564	PVDF	44564	PVDF	Retainer, Spring	6
172	14179	NBR	14179	NBR	14179	NBR	14179	NBR	O-Ring, Valve Plug - 70D	6
	15855	FPM	15855	FPM	15855	FPM	15855	FPM	O-Ring, Valve Plug - 70D	6
173	20213	PTFE	20213	PTFE	20213	PTFE	20213	PTFE	Back-up-Ring, Valve Plug	6
174	45939	BB	45939	BB	45939	BB	45939	BB	Plug, Valve, Extended	6
185	45937	FBB	45937	FBB	45937	FBB	45937	FBB	Head, Manifold, (M10)	1
186	49680	S	49680	S	49680	S	49680	S	Washer, Spring (M10)	4
188	49679	S	49679	S	49679	S	49679	S	Screw, HSH (M10x35)	4
255	30243	STZP	30243	STZP	30243	STZP	30243	STZP	Kit, Direct Mount	1
260	30611	STZP	30611	STZP	30611	STZP	30611	STZP	Assy, Angle Rail, B (2.09" x 9.45")	1
	30645	STZP	30645	STZP	30645	STZP	30645	STZP	Assy, Angle Rail, A (2.95" x 11.81")	1
269	30206	F	30206	F	30206	F	30206	F	Pulley, (10") AB (See Tech Bulletin 003)	1
274	33000	STL	33000	STL	33000	STL	33000	STL	Hub (M24), H Series (See Tech Bulletin 003)	1
283	34334	—	34334	—	34334	—	34334	—	Kit, Oil Drain (See Tech Bulletin 077)	1
298	34628	STZP	34628	STZP	34628	STZP	34628	STZP	Clutch Assy, Single Groove, 24mm, 12VDC	1
	34630	STZP	34630	STZP	34630	STZP	34630	STZP	Clutch Assy, Dual Groove, 24mm, 12VDC	1
	34959	STZP	34959	STZP	34959	STZP	34959	STZP	Clutch Assy, Eight Groove Poly L, 24mm, 12VDC	1
299	814618	FBB	814618	FBB	814618	FBB	814618	FBB	Head, Complete	1

EXPLODED VIEW



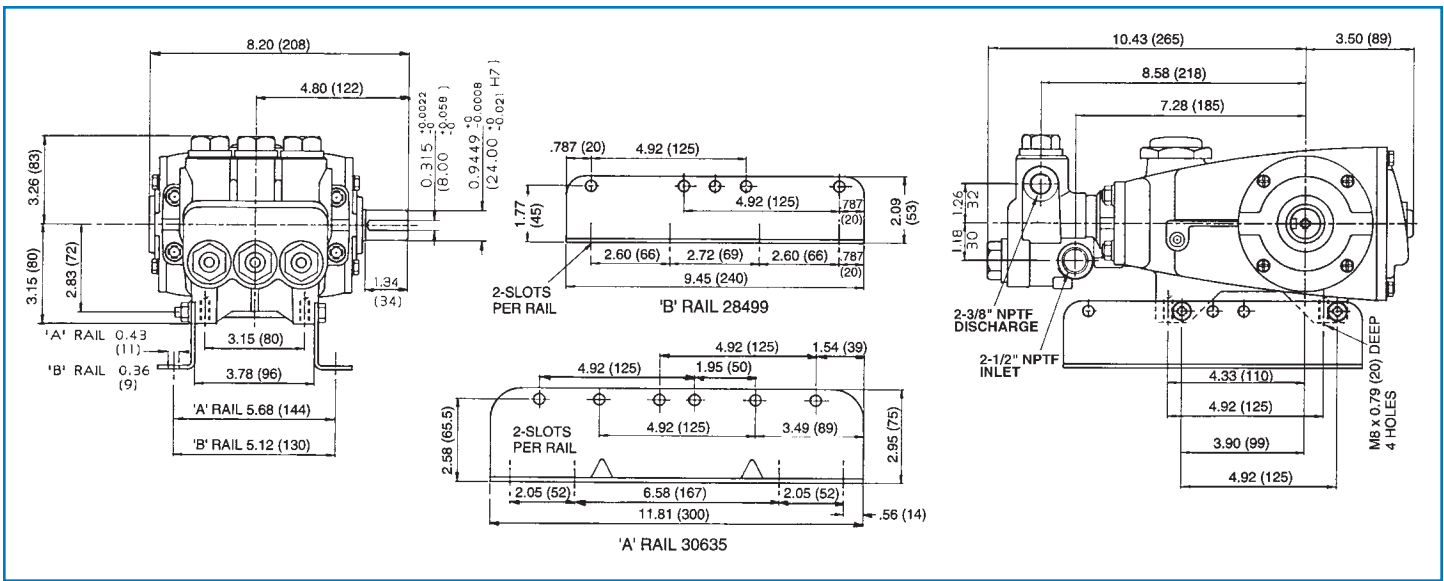
Models
56, 57, 59, 60
56G1, 59G1, 60G1
January 2011

	56 MATL	57 MATL	59 MATL	60 MATL		
300	30799 <i>NBR</i>	30799 <i>NBR</i>	30799 <i>NBR</i>	30799 <i>NBR</i>	Kit, Seal (Incls: 97,101,106,121,127)	1
	34237 <i>FPM</i>	34237 <i>FPM</i>	34237 <i>FPM</i>	34237 <i>FPM</i>	Kit, Seal (Incls: 97,101,106,121,127)	1
	76799 <i>HT</i>	76799 <i>HT</i>	76799 <i>HT</i>	76799 <i>HT</i>	Kit, Seal, "High Temp" (Incls: 97,101,106,121,127)	1
310	33820 <i>NBR</i>	33820 <i>NBR</i>	33820 <i>NBR</i>	33820 <i>NBR</i>	Kit, Valve (Incls: 162-168,172,173)	2
	34238 <i>FPM</i>	34238 <i>FPM</i>	34238 <i>FPM</i>	34238 <i>FPM</i>	Kit, Valve (Incls: 162-168,172,173)	2
350	30696 <i>STZP</i>	30696 <i>STZP</i>	30696 <i>STZP</i>	30696 <i>STZP</i>	Plier, Reverse	1
351	43257 <i>STZP</i>	43257 <i>STZP</i>	43257 <i>STZP</i>	43257 <i>STZP</i>	Tool, Seal Case Removal	1
	33005 <i>STZP</i>	33005 <i>STZP</i>	33005 <i>STZP</i>	33005 <i>STZP</i>	Socket, Seal Case, 1/2" Drive	1
352	44050 <i>STZP</i>	44050 <i>STZP</i>	44050 <i>STZP</i>	44050 <i>STZP</i>	Tool, Oil Gauge Removal	1
500	8071 —	—	8071 —	8071 —	Gearbox-1" (See individual Data Sheet)	1
—	6575 —	6575 —	6575 —	6575 —	Plunger Pump Service DVD	1
—	6107 —	6107 —	6107 —	6107 —	Oil, Bottle (21 oz.) ISO 68 Hydraulic	1-2

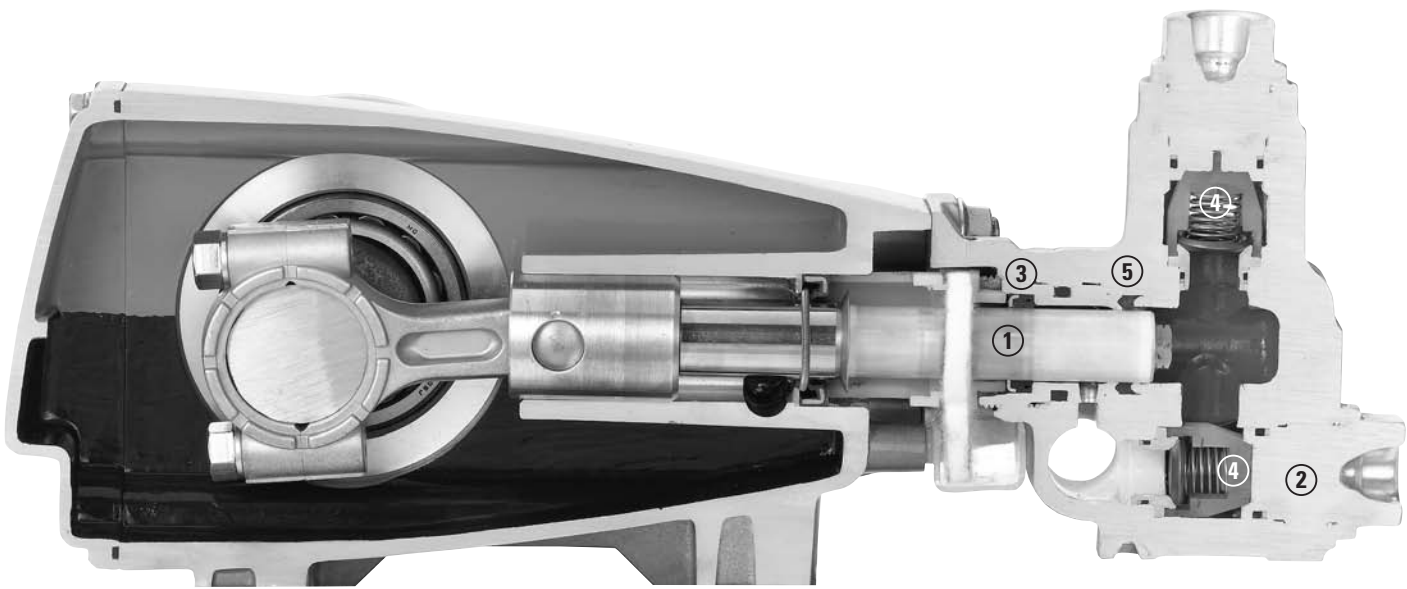
Bold print part numbers are unique to a particular pump model. Italics are optional items. [] Date of latest production change. R Components comply with RoHS Directive.

View Tech Bulletins 002, 003, 024, 027, 035, 036, 043, 051, 054, 058, 067, 074, 077, 083 and 106 for additional information.

MATERIAL CODES (Not Part of Part Number): AL=Aluminum BB=Brass CC=Ceramic CM=Chrome-Moly CU=Copper F=Cast Iron FBB=Forged Brass
FBR=Fiber FCM=Forged Chrome-Moly FPM=Fluorocarbon NBR=Medium Nitrile (Buna-N) POP=Polypropylene PTFE=Pure Polytetrafluoroethylene
PVDF=Polyvinylidene Fluoride RTP=Reinforced Composite S=304SS SFG=Special Blend FPM SHS=304SS/High Strength SNG=Special Blend (Buna)
STCP=Steel/Chrome Plated STG=Special Blend PTFE White STL=Steel STZP=Steel/Zinc Plated TNM=Special High Strength



Models 56, 57, 59, 60, 56G1, 59G1, 60G1



- 1 Special concentric, high-density, polished, solid ceramic **plungers** provide a true wear surface and extended seal life.
- 2 **Manifolds** are a high tensile strength forged brass for long term, continuous duty.
- 3 100% wet **seal** design adds to service life by allowing pumped liquids to cool and lubricate on both sides.
- 4 Stainless steel **valves, seats and springs** provide corrosion-resistance, ultimate seating and extended life.
- 5 Specially formulated, CAT PUMP exclusive, **V-Packings** offer unmatched performance and seal life.



CAT PUMPS

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