

35 Frame Plunger Pump

Model

3560

FEATURES

Superior Design

- Triplex plunger design provides a smooth liquid flow.
- V-Packings are completely lubricated and cooled by the liquid being pumped.
- Stacked valve design for ease in servicing.
- Lubricated Lo-Pressure Seals provide double protection against external leakage.
- Oil bath crankcase assures optimum lubrication.
- Close tolerance concentricity of the ceramic plunger maximizes seal life.

Quality Materials

- High strength connecting rods and plunger rods offer greater load capacity and extended drive-end life.
- All stainless steel valves are heat treated and seats are roller burnished for a positive seal and extended valve life.
- Forged Brass inlet manifold and 316 Stainless Steel discharge manifold for strength and corrosion resistance.
- Special concentric, high-density, polished, solid ceramic plungers provide a true wear surface and extended seal life.
- Specially formulated, CAT PUMP exclusive, V-Packings offer unmatched performance and seal life.
- Proven lightweight, high tensile strength, die cast aluminum crankcase common on all 35 and 38 Frame pumps.
- Chrome-moly crankshaft gives unmatched strength and surface hardness.
- Oversized crankshaft bearings with greater loading capacity means longer bearing life.

Easy Maintenance

- Wet-end is easily serviced without entering crankcase, requiring less time and effort.
- Stacked valve assemblies are accessible without disturbing piping, for quick service.
- Preset packings mean no packing gland adjustment is necessary, reducing maintenance costs.

⚠ 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

Flow*	20 GPM	(76 L/M)
Pressure Range*	100 to 4000 PSI	(7 to 275 BAR)
Inlet Pressure Range	Flooded to 70 PSI	(Flooded to 4.9 BAR)
RPM	1160 RPM	(1160 RPM)
Bore	0.984"	(25 mm)
Stroke	1.890"	(48 mm)
Crankcase Capacity	4.2 Qts.	(4 L)
Maximum Liquid Temperature	160°F	(71°C)

Above 130°F call CAT PUMPS for inlet conditions and elastomer recommendations.

Inlet Ports (2)	1-1/2" NPTF	(1-1/2" NPTF)
Discharge Ports (2)	1" NPTF	(1" NPTF)
Pulley Mounting	Either Side	(Either Side)
Shaft Diameter	1.378"	(35 mm)
Weight	142 lbs.	(64.4 kg)
Dimensions	23.54 x 18.11 x 9.88"	(598 x 460 x 251 mm)

*Contact CAT PUMPS for continuous duty applications.

Alternate Specifications

Flow	25 GPM	(95 L/M)
Pressure Range	100 to 3000 PSI	(7 to 210 BAR)
RPM	1450 RPM	(1450 RPM)

ELECTRIC HORSEPOWER REQUIREMENTS

FLOW		PRESSURE				RPM	DRIVE
		PSI 2500	PSI 3000	PSI 3500	PSI 4000		
U.S. GPM	L/M	BAR 175	BAR 310	BAR 245	BAR 275	1450 1160	Consult CAT PUMPS for Pump and Motor Pulley Sizes
25	95	42.8	51.4	N/A	N/A		
20	76	34.2	41.1	47.9	54.8		

DETERMINING THE PUMP R.P.M.	$\frac{\text{Rated G.P.M.}}{\text{Rated R.P.M.}}$	=	$\frac{\text{"Desired" G.P.M.}}{\text{"Desired" R.P.M.}}$
DETERMINING THE REQUIRED H.P.	$\frac{\text{GPM} \times \text{PSI}}{1460}$	=	Electric Brake H. P. Required
DETERMINING MOTOR PULLEY SIZE	$\frac{\text{Motor Pulley O.D.}}{\text{Pump R.P.M.}}$	=	$\frac{\text{Pump Pulley O.D.}}{\text{Motor R.P.M.}}$

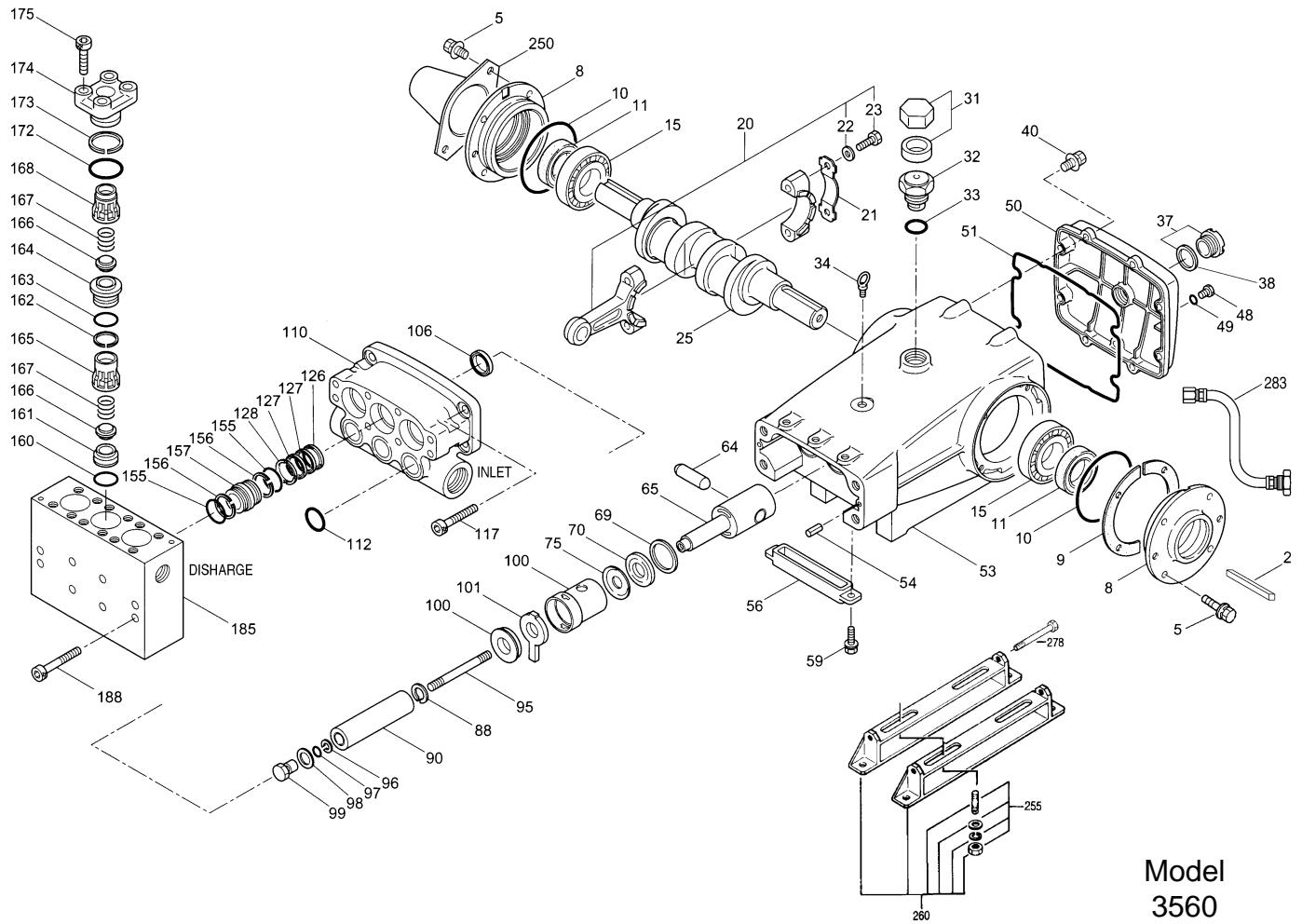
See complete Drive Packages [Incls: Pulleys, Belts, Hubs, Key] Tech Bulletin 003.
Refer to pump **Service Manual** for repair procedure, additional technical information and **pump warranty**.

"Customer confidence is our greatest asset"

PARTS LIST

ITEM	P/N	MATL	DESCRIPTION	QTY
2	34021	STL	Key (M10x8x70)	1
5	125753	S	Screw, HHC, Sems (M8x25)	8
8	44542	AL	Cover, Bearing	2
9	815279	FBR	Shim, Split, 2-Pc	2
10	12398	NBR	O-Ring, Bearing Cover - 70D	2
11	13296	NBR	Seal, Oil, Crankshaft	2
15	29326	STL	Bearing, Roller	2
20	121467	TNM	Rod, Connecting Assy (Incls: 21, 22, 23)	3
21	126749	STCP R	Washer, Locking (M10)	3
22	126574	STZP R	Washer, Flat (M10)	6
23	122045	STZP	Screw, HH (M10x55)	6
25	29325	FCM	Crankshaft, Dual End	1
31	828710	—	Protector, Oil Cap w/ Foam Gasket	1
32	43211	ABS	Cap, Oil Filler	1
33	14177	NBR	O-Ring, Oil Filler Cap - 70D	1
34	126743	STCP R	Bolt, Eye (M12x1.75) (For Lifting Pump Only)	1
37	92241	—	Gauge, Oil, Bubble w/Gasket	1
38	44428	NBR	Gasket, Flat, Oil Gauge - 80D	1
40	125753	S	Screw, HHC, Sems (M8x25)	8
48	25625	STCP	Plug, Drain (1/4"x19BSP)	1
49	23170	NBR	O-Ring, Drain Plug - 70D	1
50	45936	AL	Cover, Crankcase	1
51	16612	NBR	O-Ring, Crankcase - 70D	1
53	44487	AL	Crankcase Assy (Incls: 34, 54)	1
54	27488	S	Pins, Guide	2
56	27790	POP	Pan, Oil	1
59	92538	S	Screw, HHC, Sems (M6x16)	2
64	43864	CM	Pin, Crosshead	3
65	49076	SSHB	Rod, Plunger	3
69	126587	STCP R	Washer, Oil Seal	3
70	100488	NBR	Seal, Oil, Crankcase	3
75	110669	S	Slinger, Barrier	3
88	110670	S	Washer, Keyhole (M16)	3
90	48535	CC	Plunger (M25x110)	3
95	48534	STZP	Stud, Plunger Retainer (M7x88)	3
	126549	STCP R	Stud, Plunger Retainer (M7x88)	3
96	20184	PTFE	Back-up-Ring, Plunger Retainer	3
97	14190	NBR	O-Ring, Plunger Retainer - 70D	3
	14161	FPM	O-Ring, Plunger Retainer - 70D	3
98	44069	SSL	Gasket, Retainer	3
99	44068	SSL	Retainer, Plunger (M7)	3
100	44119	PPG	Retainer, Seal Rear	3
	49038	NY	Retainer, Seal LPS	3
101	44096	—	Wick, Long Tab	3
106	44086	NBR	Seal, LPS w/SS-Spg - 85D	3
	45846	FPM	Seal, LPS w/SS-Spg	3
110	49081	FBB	Manifold, Inlet	1
112	11379	NBR	O-Ring, Inlet Manifold - 70D	3
	14183	FPM	O-Ring, Inlet Manifold	3
117	44585	S	Screw, HSH (M14x40)	4
126	48538	BB	Adapter, Female	3
127	44610	STG*	V-Packing	6
128	48539	BB	Adapter, Male	3
155	17629	NBR	O-Ring, Spacer V/P - 80D	6
	14183	FPM	O-Ring, Spacer V/P	6
156	28243	PTFE	Back-up-Ring, Spacer V/P	6
157	49082	BB	Spacer, V/P	3
160	49092	NBR	O-Ring, Seat, Inlet - 80D	3
	49155	FPM	O-Ring, Seat, Inlet - 70D	3
161	49091	S	Seat, Inlet	3
162	49088	PTFE	Back-up-Ring, Discharge Seat	3
163	49087	NBR	O-Ring, Seat, Discharge - 70D	3
	49154	FPM	O-Ring, Seat, Discharge - 70D	3
164	49086	S	Seat, Discharge	3
165	49090	PVDF	Retainer, Spring, Inlet	3
166	49089	S	Valve	6
167	44109	SS	Spring	6
168	49085	PVDF	Retainer, Spring, Discharge	3
172	18690	NBR	O-Ring, Valve Plug - 70D	3
	11744	FPM	O-Ring, Valve Plug	3
173	20369	PTFE	Back-up-Ring, Valve Plug	3
174	49093	BB	Plug, Valve	3

EXPLODED VIEW



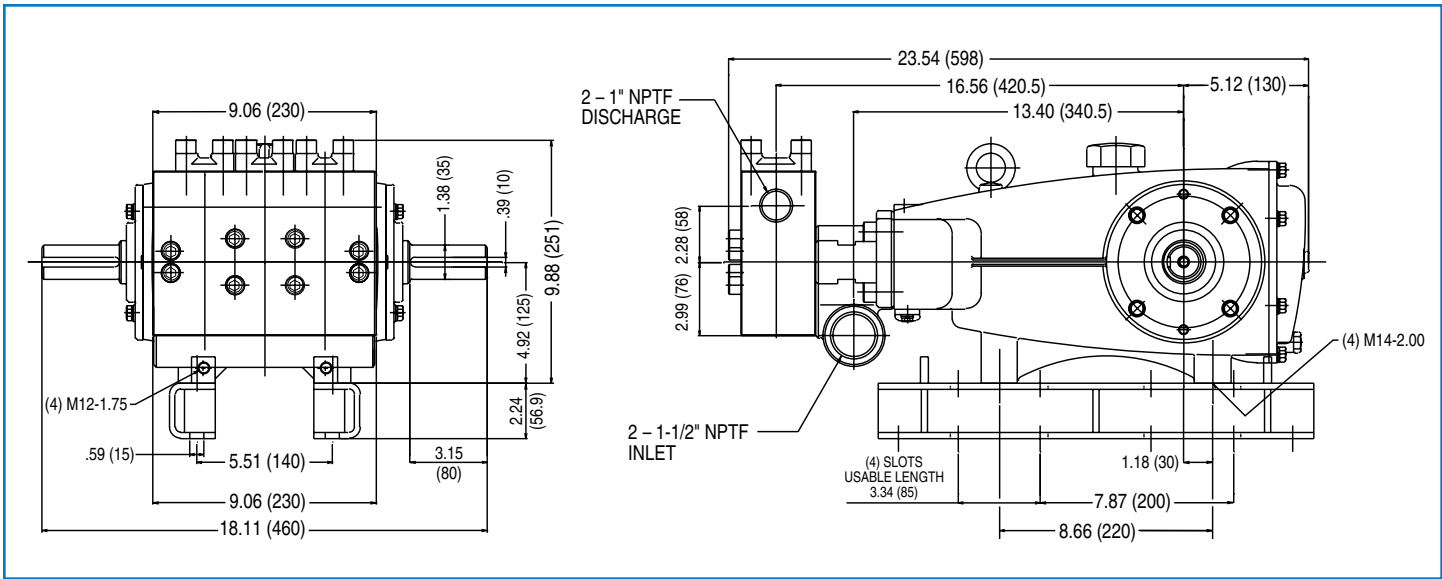
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ITEM	P/N	MATL	DESCRIPTION	QTY
175	550176	S	Screw, HSH (M14x35)	12
185	49084	SSL	Manifold, Discharge	1
188	49045	S	Screw, HSH (M12x95)	8
250	44516	NY	Protector, Shaft w2 Screws, Lockwashers and Washers (Included with Pump)	1
255	34039	SS	Kit, Direct Mount	1
	34018	STCP R	Kit, Direct Mount	1
260	92674	STZP	Mounting, Box Assy (Incls: 34018)	1
275	990013	STL	Hub, B, 35mm, w/Keyway [See Drive Packages, Tech Bulletin 003]	1
278	80540	ZP	Screw, HH (M12x100) (Rail Adjusting Screw)	1
279	30278	STZP	Oiler (1 oz.)	3
281	30967	—	Glass, Oiler	3
282	10069	NBR	Gasket, Oiler	3
283	34314	—	Kit, Oil Drain	1
290	6124	—	Gasket, Liquid (3 oz.)	1
299	816958	BBSS	Complete Head	1
300	31280	NBR*	Kit, Seal (Incls: 97, 106, 112, 127, 155, 156)	1
	31380	FPM*	Kit, Seal (Incls: 97, 106, 112, 127, 155, 156)	1
310	31292	NBR	Kit, Valve (Incls: 160, 161, 162, 163, 164, 165, 166, 167, 168, 172, 173)	1
	31296	FPM	Kit, Valve (Incls: 160, 161, 162, 163, 164, 165, 166, 167, 168, 172, 173)	1
—	819000	F	Assy, Crankcase, Cast Iron Conversion	1
—	899910	—	Assy, MAG-JET	1
—	714500	SS	C.A.T. (Inlet pressure stabilizer for RO and boosted inlet applications)	1
—	714506	SS	Adapters (2 per C.A.T.) (See Data Sheet for complete selection)	2
—	6100	—	Oil, Case (12 Bottles) ISO 68 Multi-viscosity Hydraulic (Fill to specified crankcase capacity prior to start-up)	1

Italics are optional items. * Review material codes for individual items (STG generally may be used as alternate). R Components comply with RoHS Directive.

See Tech Bulletins 003, 024, 035, 036, 043, 074, 077 and 083 for additional information.

MATERIAL CODES (Not Part of Part Number): ABS=ABS Plastic AL=Aluminum BB=Brass BBSS=Brass/316SS CC=Ceramic CM=Chrome-Moly
F=Cast Iron FBB=Forged Brass FBR=Fiber FCM=Forged Chrome-Moly FPM=Fluorocarbon NBR=Medium Nitrile (Buna-N) NBRs=Buna, Silicone Free NY=Nylon
POP=Polypropylene PPG=Glass Filled Polypropylene PTFE=Pure Polytetrafluoroethylene PVDF=Polyvinylidene Fluoride S=304SS SS=316SS
SSHB=316SS/High Strength SSL=316SS/Low Carbon STCP=Steel/Chrome Plated STG=Special Blend PTFE White STL=Steel STZP=Steel/Zinc Plated
TNN=Special High Strength ZP=Zinc Plated



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