



35 Frame Plunger Pump

Forged Brass Model

3545

Stainless Steel Model

3541

FEATURES

Superior Design

- Triplex plunger design gives smoother fluid flow.
- V-Packings are completely lubricated and cooled by the fluid being pumped.
- Inlet and discharge valve assemblies interchange for easier maintenance.
- Lubricated Lo-Pressure Seal provides double protection against external leakage.
- Oil bath crankcase assures optimum lubrication.
- Close tolerance concentricity of the ceramic plunger maximizes seal life.

Quality Materials

- All stainless steel valves are heat treated and seats are roller burnished for a positive seal and extended valve life.
- Forged brass and 316 stainless steel manifolds for strength and corrosion resistance.
- Special concentric, high density, polished, graphite impregnated, soid ceramic plungers are abrasion resistant and result in extended seal life.
- Specially formulated, CAT PUMP exclusive, V-Packings offer unmatched performance and seal life.
- Die cast aluminum crankcase provides high strength, minimum weight and precision tolerance control.
- 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.
- Valve assemblies are accessible without disturbing piping, for quick service.
- Preset packings mean no packing gland adjustment is necessary, reducing maintenance costs.

SPECIFICATIONS

	U.S. Measure	Metric Measure
Volume	45 GPM	(171 L/M)
Discharge Pressure	100 to 1000 PSI	(7 to 70 BAR)
Maximum Inlet Pressure	Flooded to 70 PSI	(Flooded to 4.9 BAR)
RPM	800 RPM	(800 RPM)
Bore.....	1.772"	(45 mm)
Stroke.....	1.890"	(48 mm)
Crankcase Capacity.....	4.2 Qts.	(4 L)
Maximum Fluid Temperature	140°F	(60°C)
Inlet Ports (2)	1-1/2" NPT	(1-1/2" NPT)
Discharge Ports (2)	1" NPT	(1" NPT)
Pulley Mounting	Either Side	(Either Side)
Shaft Diameter	1.378"	(35 mm)
Weight.....	139 lbs.	(63 kg)
Dimensions	24.1" x 18.1" x 11.4"	(612 x 460 x 290 mm)

HORSEPOWER REQUIREMENTS

FLOW		PRESSURE			RPM
		PSI 800	PSI 900	PSI 1000	
U.S. GPM	L/M	BAR 55	BAR 63	BAR 70	
45	171	24.7	27.8	30.9	800
40	152	22.0	24.7	27.4	712
35	133	19.2	21.6	24.0	622

See complete Drive Packages [Incls: Pulleys, Belts, Hubs, Key] Tech Bulletin 03.

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.	$\frac{\text{GPM x PSI}}{1460}$	=	Electric Brake H. P. Required
DETERMINING MOTOR PULLEY SIZE	$\frac{\text{Motor Pulley O.D.}}{\text{Pump R.P.M.}}$	=	$\frac{\text{Pump Pulley O.D.}}{\text{Motor R.P.M.}}$

Note: Consult engine manufacturer when using gas or diesel engine. Refer to pump Service Manual for important Inlet Condition Check-List, Start-up Procedure, Tech Bulletins and Pump Maintenance information.

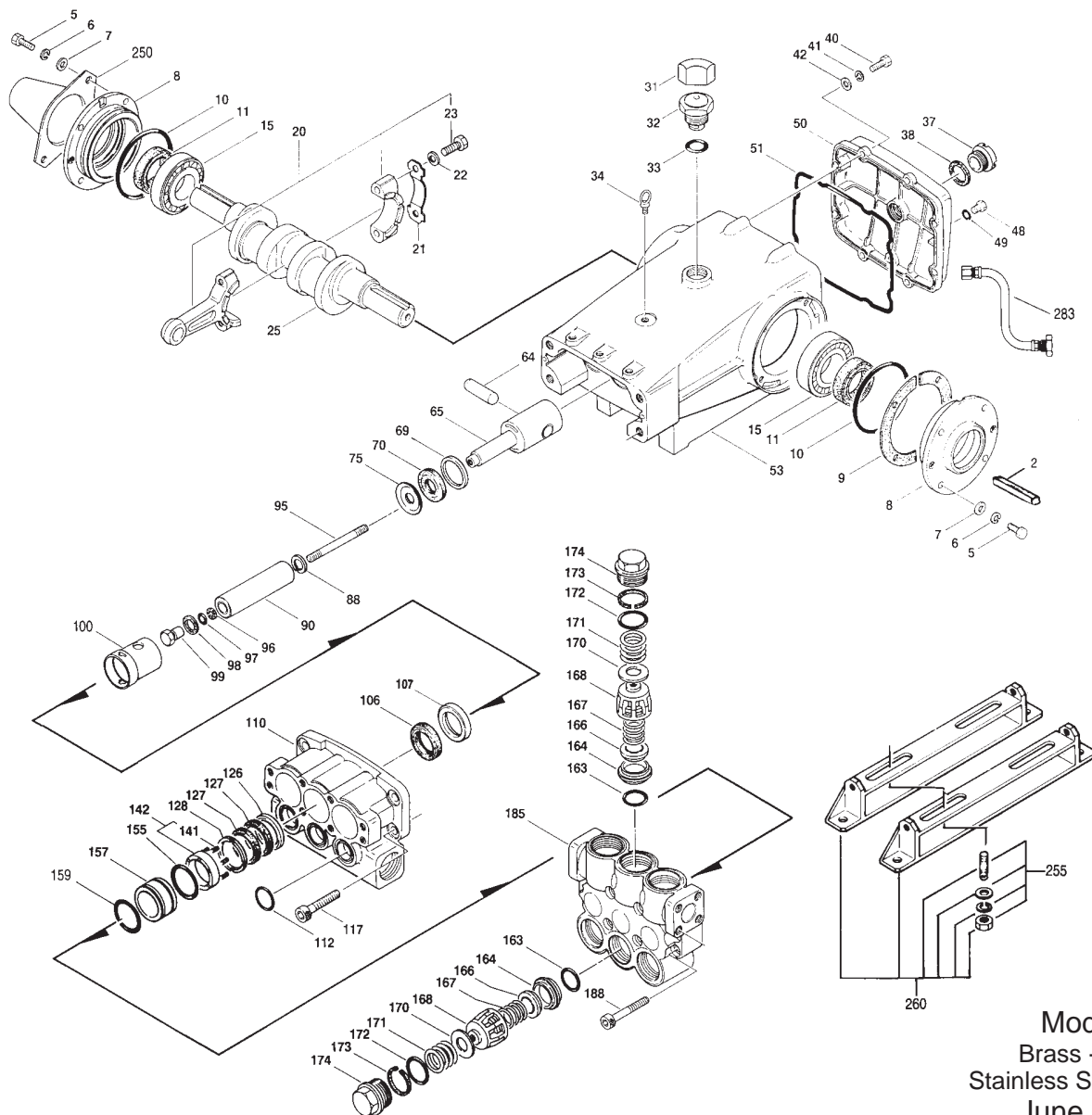
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PARTS LIST

ITEM	PART NUMBER		DESCRIPTION	QTY		
● 2	30055	STL	30055	STL	Key (M10x6x32)	1 ●
● 5	34021	STL	34021	STL	Key (M10x8x70)	1 ●
6	92508	STZP	89277	SS	Screw, Sems HHC (M8x25)	8
7	—	—	15846	S	Lockwasher, Split (M8)	8
8	44542	AL	44542	AL	Washer (M8)	8
9	701138	F	701138	F	Cover, Bearing	2
10	44543	—	44543	—	Cover, Bearing (Use w/701137, 39, 40, 45, 46)	2
11	12398	NBR	12398	NBR	Shim, Bearing Cover	4
15	13296	NBR	13296	NBR	O-Ring, Bearing Cover	2
20	29326	STL	29326	STL	Seal, Oil, Crankshaft	2
21	46611	HS	46611	HS	Bearing, Roller	2
22	44940	STZP	44940	STZP	Rod, Connecting Assembly	3
23	43641	STL	43641	STL	Washer, Locking (M10)	3
25	88155	STL	88155	STL	Washer (M10.5x1.5)	6
31	29325	FCM	29325	FCM	Screw, HH (M10x60F)	3
32	828710	—	828710	—	Crankshaft, Dual End	1
33	43211	—	43211	—	Protector, Cap	1
34	14177	NBR	14177	NBR	Cap, Oil Filler	1
35	44319	STZP	44319	STZP	O-Ring, Oil Filler Cap - 70	1
36	701145	AL	701145	AL	Bolt, Eye (M12)	1
37	701146	AL	701146	AL	Rivet, Serial Plate (Use w/701137, 38, 39, 40, 46)	4
38	43987	—	43987	—	Name Plate (Use w/701137, 38, 39, 40, 45)	1
40	44428	NBR	44428	NBR	Gauge, Oil, Bubble	1
41	92508	STZP	89277	SS	Gasket, Flat	1
42	—	—	15846	S	Screw, Sems HHC (M8x25)	8
48	25625	STCP	25625	STCP	Lockwasher, Split (M8)	8
49	23170	NBR	23170	NBR	Washer (M8)	8
50	45936	AL	45936	AL	Plug, Drain (1/4"x11)	1
51	701139	F	701139	F	O-Ring, Drain Plug	1
53	16612	NBR	16612	NBR	Cover, Crankcase	1
55	44559	AL	44559	AL	Cover, Crankcase (Use w/701137, 38, 40, 45, 46)	1
56	701137	F	701137	F	O-Ring, Crankcase Cover	1
57	27488	S	27488	S	Crankcase	1 ●
58	27790	POP	27790	POP	Crankcase (Use w/701138, 39, 40, 45, 46)	1 ●
64	—	—	—	—	Pin, Guide	2
65	43864	S	43864	S	Pan, Oil	1
69	45116	SSZZ	45116	SSZZ	Washer (M6)	2
70	29338	S	29338	S	Lockwasher, Split (M6)	2
75	100488	NBR	100488	NBR	Pin, Rist	3
85	44739	FPM	44739	FPM	Rod, Plunger	3
88	43865	S	43865	S	Washer, Oil Seal	3
90	44112	SS	44112	SS	Seal, Oil, Crankcase	3
95	45676	SS	45676	SS	Seal, Oil, Crankcase	3
96	46806	CC	46806	CC	Seal, Oil, Crankcase	3
97	89778	SS	89778	SS	Slinger, Barrier	3
107	20189	PTFE	20189	PTFE	Wick, Long Tab	3
110	11345	NBR	11345	NBR	Washer, Keyhole (M16)	3
112	11375	FPM	11375	FPM	Plunger	3
117	701490	EPDM	701490	EPDM	Stud, Plunger Retainer (M10x122)	3
126	44085	SS	44085	SS	Back-up-Ring, Plunger Retainer	3
127	44084	SS	44084	SS	O-Ring, Plunger Retainer	3
128	814279	PVDF	814279	PVDF	O-Ring, Plunger Retainer	3
155	46809	NBR	48384	NBR	O-Ring, Plunger Retainer	3
157	44740	FPM	44740	FPM	Gasket, Plunger Retainer	3
159	46945	EPDM	46945	EPDM	Retainer, Seal	3
163	46811	S	48380	SS	Seal, LPS w/SS-Spg	3
164	46808	BB	48375	SS	Seal, LPS w/SS-Spg	3
166	18688	NBR	18688	NBR	Spacer, LPS	3
167	14183	FPM	14183	FPM	Manifold, Inlet	1 ●
168	701659	EPDM	701659	EPDM	O-Ring, Inlet Manifold - 70	3
169	44606	STZP	44585	SS	O-Ring, Inlet Manifold	3
170	46812	BB	48383	D	Screw, HSH (M14x40)	4
171	46813	PTFE	46813	PTFE	Adapter, Female	3
	44741	FPM	44741	FPM	V-Packing (White)	6
	46813	EPDM	46813	EPDM	V-Packing (White)	6
	46814	BB	48386	SS	Adapter, Male	3
	45113	SS	45113	SS	Spring, Coil	6/18
	46824	BB	48382	SS	Spacer w/Coil Springs	3
	17784	NBR	17784	NBR	O-Ring, Spacer - 80	3
	20138	FPM	20138	FPM	O-Ring, Spacer	3
	46816	BB	48381	SS	Spacer, V-Packing	3
	17784	NBR	17784	NBR	O-Ring, Spacer - 80	3
	20138	FPM	20138	FPM	O-Ring, Spacer	3
	701658	EDPM	701658	EDPM	O-Ring, Spacer	3
	26143	NBR	26143	NBR	O-Ring, Seat - 80	6
	14331	FPM	14331	FPM	O-Ring, Seat	6
	701660	EPDM	701660	EPDM	O-Ring, Seat	6
	46822	S	48393	SS	Seat	6
	43932	S	44108	SS	Valve	6
	43933	S	44109	SS	Spring, Valve	6
	44728	PVDF	44728	PVDF	Retainer, Spring	6
	44729	SS	44729	SS	Washer, Spring Retainer	6
	44644	SS	44644	SS	Coil Spring (70kg), Valve Plug	6

Replace as a set

EXPLODED VIEW



Models
 Brass - 3545
 Stainless Steel - 3541
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172	89827 NBR	89827 NBR	O-Ring, Valve Plug - 90	6
	11747 FPM	11747 FPM	O-Ring, Valve Plug	6
	◆ 701494 EPDM	◆ 701494 EPDM	O-Ring, Valve Plug	6
173	48364 D	48364 D	Back-up-Ring, Valve Plug	6
174	46444 FBB	48419 SSNP	Plug, Valve	6
● 185	46820 FBB	48376 SS	Manifold, Discharge	1 ●
188	89980 STZP	89981 SS	Screw, HSH (M12x70)	8
● 250	44516 NY	44516 NY	Protector, Shaft w/2 89283 Screws (Included with Pump)	1 ●
●	701140 F	701140 F	Protector, Shaft (Use w/701137, 38, 39, 45, 46)	1 ●
● 255	34039 SS	34039 SS	Kit, Stud Mount	1 ●
● 260	92674 STZP	92674 STZP	Assy, Box Mounting	1 ●
● 275	990013 STL	990013 STL	Hub, "B", (M35), (Keyway M10x8x70) [See complete Drive Packages Tech Bulletin 03]	1 ●
● 283	34334	34334	Kit, Oil Drain	1 ●
290	6108	6108	Gasket, Liquid (1.5 oz.)	1
● 299	814834 BB	816669 SS	Head, Complete	1 ●
300	33234 NBR	33834 NBR	Kit, Seal (Incls: 97, 106, 112, 127, 155, 159)	1
	31261 FPM	31261 FPM	Kit, Seal (Incls: 97, 106, 112, 127, 155, 159)	1
	◆ 33223 EPDM	◆ 33223 EPDM	Kit, Seal (Incls: 97, 106, 112, 127, 155, 159)	1
310	33235 NBR	33835 NBR	Kit, Valve (Incls: 163, 164, 166, 167, 168, 170, 172, 173)	2
	31262 FPM	31262 FPM	Kit, Valve (Incls: 163, 164, 166, 167, 168, 170, 172, 173)	1
	◆ 31235 EPDM	◆ 31264 EPDM	Kit, Valve (Incls: 163, 164, 166, 167, 168, 170, 172, 173)	1
● —	—	—	C.A.T. (For R.O. or Industrial Applications)	1 ●
● —	—	—	Adapter (2 per C.A.T.) (See Data Sheet for complete selection)	2 ●
—	6565.3	6565.3	Plunger Pump Service Video	1

● Industrial discount. **Bold print part numbers are unique to a particular pump model.** *Italics are optional items.* ◆Silicone oil/grease required.

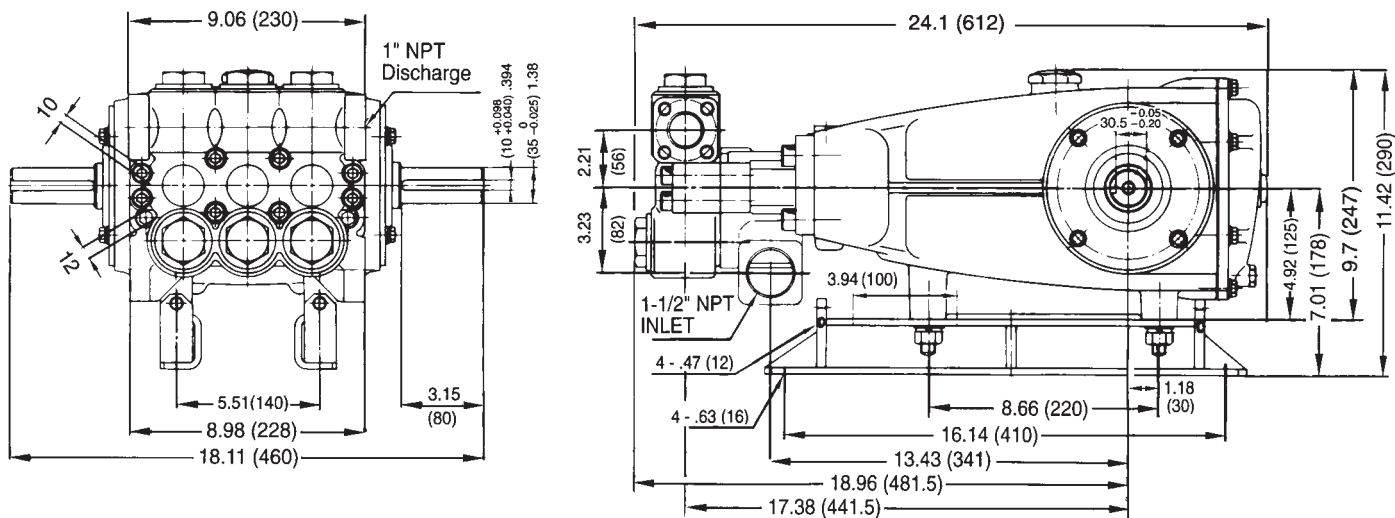
Pressurized Inlet and C.A.T. highly recommended for Hi-Temp, R.O. and industrial applications. See Tech Bulletins 03, 24, 40, 41, 53, 74 and 77 for additional information.

MATERIAL CODES (Not Part of Part Number): AL=Aluminum BB=Brass BBP=Brass/Chrome Plated CC=Ceramic D=Delryn®

EPDM=Ethylene Propylene Diene Monomer F=Cast Iron FBB=Forged Brass FCM=Forged Chrome-moly FPM=Fluorocarbon (Viton®) HS=High Strength

NBR=Medium Nitrile (Buna-N) NY=Nylon POP=Polypropylene PTFE=Polytetrafluoroethylene (Teflon®) PVDF=Fluoroplastic (High Strength)

S=304SS SS=316SS SSNP=316SS/Nickel Plated SSZZ=316SS/Zamak STL=Steel STCP=Steel/Chrome Plated STZP=Steel/Zinc Plated



- 1 Die cast aluminum **crankcase** means high strength, lightweight, and excellent tolerance control.
- 2 Oversized crankshaft **bearings** provide extended bearing life and pump performance.
- 3 Chrome-moly **crankshaft** provides unmatched strength and surface hardness for long life.
- 4 Matched oversized high strength **connecting rods** are noted for superior strength and bearing quality.
- 5 Special stainless steel **plunger rods** with high strength crossheads for longevity and corrosion resistance.
- 6 The stainless steel **slinger** provides back-up protection for the crankcase seal, keeping pumped fluids out of the crankcase.
- 7 Special concentric, high density, polished, graphite impregnated, solid ceramic **plungers** are abrasion resistant and result in extended seal life.
- 8 **Manifolds** are a high tensile strength forged brass or 316 stainless steel for long term, continuous duty.
- 9 100% **wet seal** design adds to service life by allowing pumped fluids to cool and lubricate on both sides.
- 10 Stainless steel **valves, seats and springs** provide corrosion-resistance, positive seating and long life.
- 11 Specially formulated, **V-Packings** offer unmatched performance and seal life.
- 12 **Crossheads** are 360° supported for uncompromising alignment.

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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