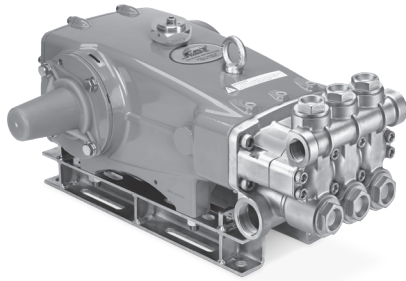


# DATA SHEET

## 35 FRAME PLUNGER PUMP



**Brass Model: 3520.44101**



Model 3520.44101 Shown  
(Shaft protector included, mounting rails sold separately)

### FEATURES

- Field- tested, high pressure triplex pump configured for high-temperature TEG (triethylene glycol) applications up to 240° F/115° C. May be used in other high-temperature applications with fluids possessing adequate lubrication properties. Contact Cat Pumps for more information.
  - Positive displacement technology delivers optimum energy efficiency.
  - TEG\* pump configuration option consists of following modifications.
    - FPM elastomers and O-ring material throughout the pump
    - Stainless steel vented oil filler cap assembly
    - Stainless steel sight gauge assembly and aluminum adapter
    - Aluminum seal retainers
    - Special PTFE blended V-packings and low-pressure seals
- \* TEG pump configuration is denoted by adding “.44101” to the end of the pump model.

### SPECIFICATIONS

	U.S.	Metric
Flow	25 gpm	94.6 lpm
Pressure Range	100–2000 psi	6.9–138 bar
Inlet Pressure Range	Flooded to 70 psi	Flooded to 4.8 bar
Pump RPM*	870 rpm	870 rpm
Bore	1.260"	32 mm
Stroke	1.890"	48 mm
Crankcase Capacity	4.2 qts	4 l
Max. Liquid Temperature	240° F	115° C
Inlet Ports (2)	1½" NPT(F)	1½" NPT(F)
Discharge Ports (2)	1" NPT(F)	1" NPT(F)
Shaft Diameter	1.378"	35 mm
Pulley Mounting	Either Side	Either Side
Weight	139 lbs	63 kg
Dimensions	24.83 x 18.11 x 10.17"	630 x 460 x 258 mm

\*Pump minimum is 100 RPM.

### ELECTRIC HORSEPOWER REQUIREMENTS

FLOW		PRESSURE								PUMP RPM
GPM	LPM	PSI		BAR		PSI		BAR		
		1200	83	1500	103	1800	124	2000	138	
<b>Horsepower</b>										
25	94.6	20.5 hp		25.7 hp		30.8 hp		34.2 hp		870
20	76	16.5 hp		20.6 hp		24.7 hp		27.4 hp		696
18	68	14.8 hp		18.5 hp		22.2 hp		24.7 hp		626

**DETERMINING THE PUMP RPM**

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

**DETERMINING THE REQUIRED HP**

$$\text{hp (Electric Brake)} = \frac{\text{gpm} \times \text{psi}}{1460}$$

**DETERMINING MOTOR PULLEY SIZE**

$$\frac{\text{Motor Pulley OD}}{\text{Pump rpm}} = \frac{\text{Pump Pulley OD}}{\text{Motor rpm}}$$

Refer to pump Service Manual for repair procedure and additional technical information.

## PARTS LIST

ITEM	PART NUMBER	MATL	DESCRIPTION	QTY
5	96049	S	Screw, HHC Sems (M10 x 25)(See Tech Bulletin 074)	8
8	134604	ALE	Cover, Bearing	2
9	815279	FBR	Shim, Split 2-Piece	2
10	76173	FPM	O-Ring, Bearing Cover	2
11	76172	FPM	Seal, Oil, Crankshaft	2
12	855049	S	Shim, Split 2-Piece	0-2
15	29326	STL	Bearing, Roller	2
20	121467	TNM	Rod, Connecting Assembly (Includes: 21, 22, 23)	3
21	126749	STCP R	Washer, Locking	3
22	126593	STCP R	Shim, Washer (M10)	6
23	122045	STZP	Screw, HH (M10 x 55) (See Tech Bulletin 074)	6
25	29325	FCM	Crankshaft, Dual-End (M48)	1
32	997574	SS	Cap, Filler with O-Ring	1
34	126743	STCP R	Bolt, Eye (M12 x 1.75) (For Lifting Pump Only)	1
36	76792	SS	Gauge, Sight	1
37	76791	AL	Adapter, Sight	1
38	44428	NBR	Gasket, Flat, Adapter-80D	1
40	125753	S	Screw, HHC Sems (M8 x 25) (See Tech Bulletin 074)	8
48	25625	STCP	Plug, Drain (1/4" x 19 BSP)	1
49	30322	FPM	O-Ring, Drain Plug	1
50	45936	ALE	Cover, Rear	1
51	76174	FPM	O-Ring, Rear Cover-75D	1
53	134784	ALE	Crankcase Assembly (Includes: 54)	1
54	27488	S	Pin, Guide	2
64	43864	CM	Pin, Crosshead	3
65	† 45116	SSZZ	Rod, Plunger	3
69	126587	STCP R	Washer, Oil Seal	3
70	44739	FPM	Seal, Oil, Crankcase	3
75	43865	S	Slinger, Barrier	3
88	45676	S	Washer, Keyhole	3
90	43957	CC	Plunger (M32 x 145)	3
95	89778	SS	Stud, Plunger Retainer (M10 x 135)	3
96	20189	PTFE	Backup Ring, Plunger Retainer	3
97	11375	FPM	O-Ring, Plunger Retainer	3
98	44085	SS	Gasket, Plunger Retainer	3
99	44084	SS	Retainer, Plunger (M10) (See Tech Bulletin 074)	3
100	999324	AL	Retainer, Seal	3
104	44826	FPM	O-Ring, Inlet Adapter-70D	3
105	49741	BB	Adapter, Inlet	3
106	76298	ST2	Seal, Low-Pressure with S-Spring	3
107	43962	S	Washer, Low-Pressure Seal	3
110	49464	BBCP	Manifold, Inlet	1
112	14183	FPM	O-Ring, Inlet Manifold	3
117	44585	S	Screw, HSH (M14 x 40) (See Tech Bulletin 074)	4
122	49744	BB	Spacer	3
123	13266	FPM	O-Ring, V-Packing Cylinder-70D	3
124	49742	BB	Cylinder, V-Packing	3
126	43963	BB	Adapter, Female	3
127	76608	ST4	V-Packing	6
128	43965	BB	Adapter, Male	3
141	49743	SS	Spring, Coil	3
158	20464	PTFE	Backup Ring, V-Packing Cylinder	3
159	20137	FPM	O-Ring, V-Packing Cylinder-70D	3
162	44614	PTFE	Backup Ring, Valve Seat	6
163	14330	FPM	O-Ring, Valve Seat	6
164	† 44612	SS	Seat	6
166	† 44108	SS	Valve	6
167	44109	SS	Spring	6
168	44728	PVDF	Retainer, Spring	6
170	44729	SS	Washer, Spring Retainer	6
171	44644	SS	Spring, Coil	6
172	11747	FPM	O-Ring, Valve Plug-90D	6
173	20388	PTFE	Backup Ring, Valve Plug	6
174	46444	FBB	Plug, Valve	6
185	49465	BBCP R	Manifold, Discharge	1
188	89981	S	Screw, HSH (M12 x 70) (See Tech Bulletin 074)	8
250	855042	NY	Protector, Shaft	1

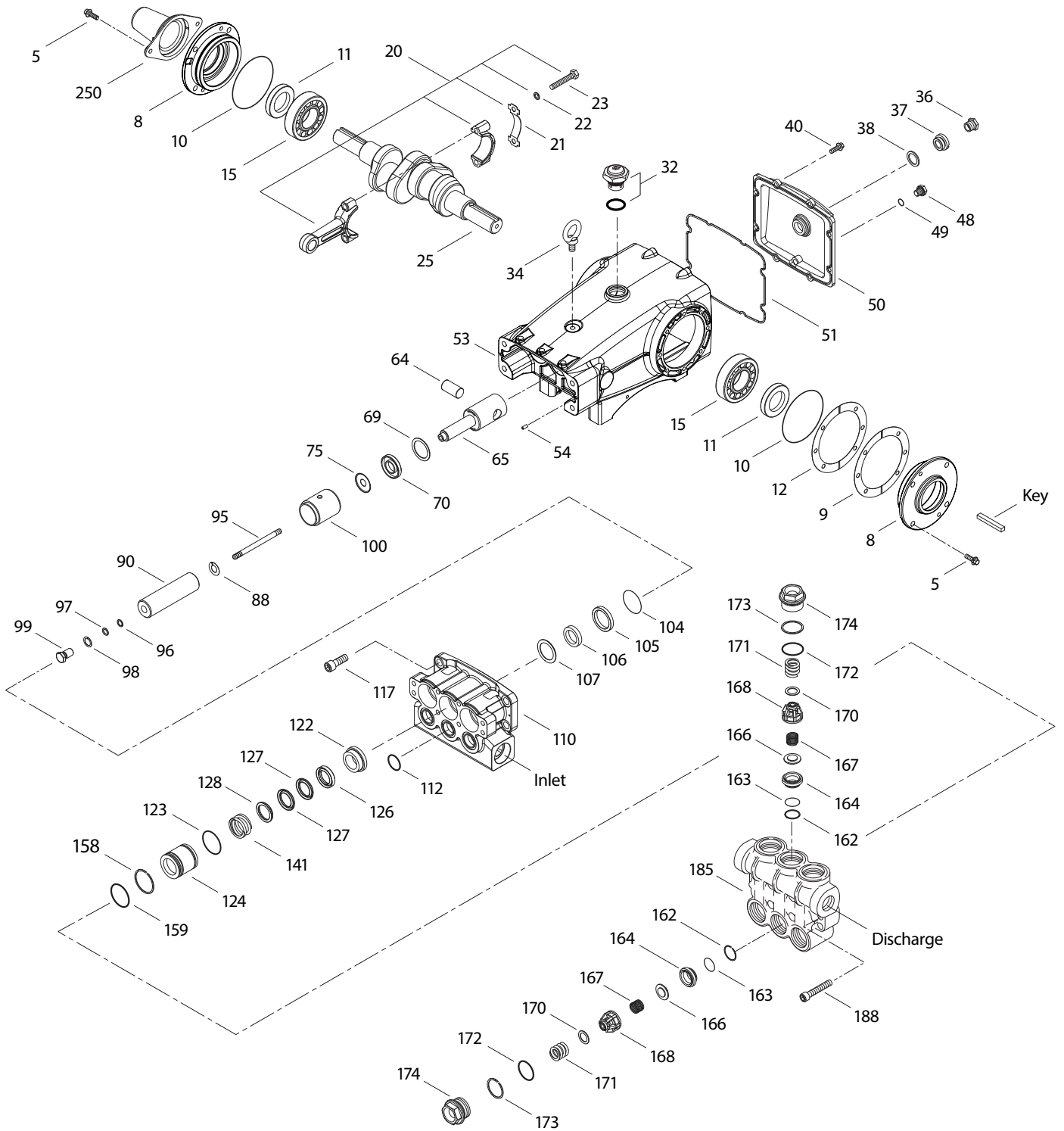
R Components comply with RoHS Directive.

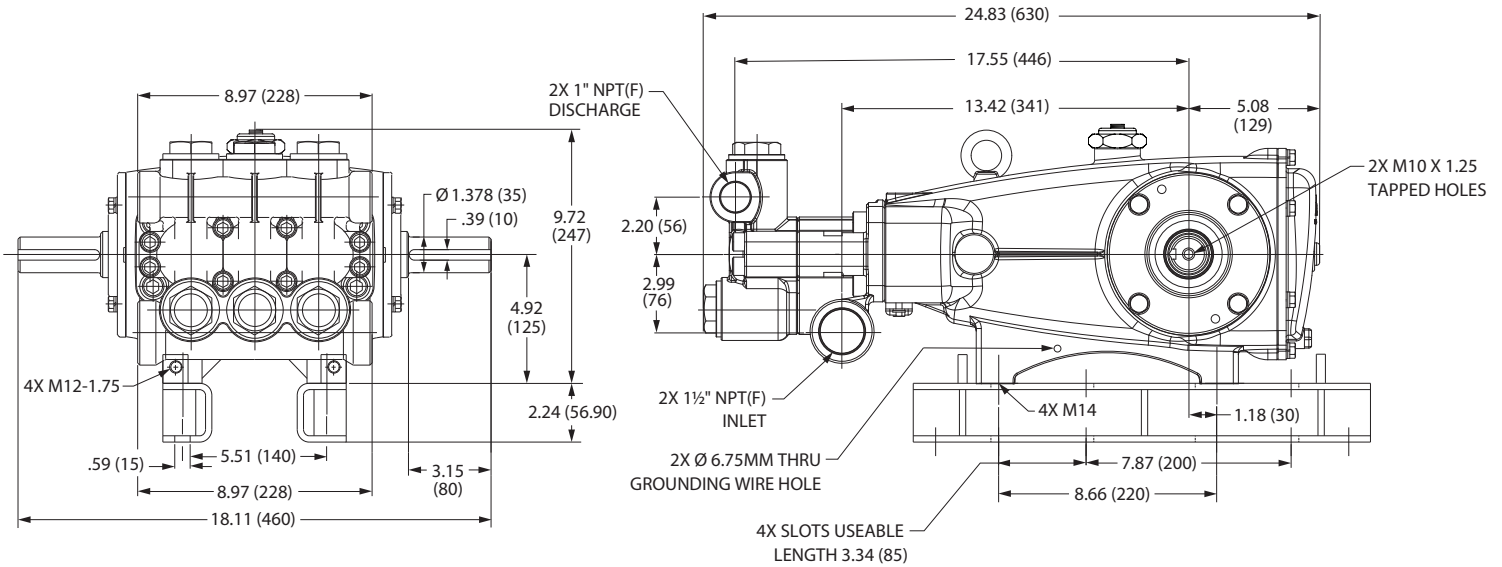
† Production parts different from service parts. \*Review material codes for individual items (ST2/ST4 generally may be used as alternate).

For additional technical information see [www.catpumps.com/literature/tech-bulletins](http://www.catpumps.com/literature/tech-bulletins). MATERIAL CODES (Not Part of Part Number):

AL=Aluminum ALE=Aluminum Epoxy BB=Brass BBCP=Brass/Chrome Plated CC=Ceramic CM=Chrome-Moly FBB=Forged Brass  
 FBR=Fiber FCM=Forged Chrome-moly FPM=Fluorocarbon NBR=Medium Nitrile (Buna-N) NY=Nylon PTFE=Pure Polytetrafluoroethylene  
 PVDF=Polyvinylidene Fluoride S=304SS SS=316SS SSD=Duplex Stainless Steel FPM STL=Steel ST2=Special PTFE2 ST4=Special PTFE4  
 STCP=Steel/Chrome Plated STZP=Steel/Zinc Plated SSZZ=316SS/Zamak TNM=Special High Strength ZP=Zinc Plated

# EXPLODED VIEW



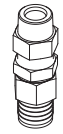


## REPAIR KITS AND PARTS

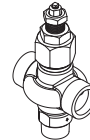
PART NUMBER	DESCRIPTION	QTY
77028	Kit, Seal (Includes Items: 97, 104, 106, 112, 127, 158, 159)	1
77029	Kit, Valve (Includes Items: 162, 163, 164, 166, 167, 168, 170, 172, 173)	2
6107	Oil, Bottle (21 oz) Fill to Specific Crankcase Capacity Prior to Start-up	7
34021	Key (M10 x 8 x 70)	1
6139	Lubricant, Anti-seize (8 oz)	1



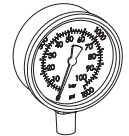
7022



9940.0110



890709



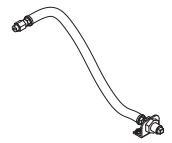
6088

## OPTIONAL PARTS AND ACCESSORIES

PART NUMBER	DESCRIPTION	QTY
7022	Regulator (Primary Pressure Control)	1
890709	Valve, Relief (Secondary Pressure Control)	1
9940.0110	Valve, Pop-Off (Secondary Pressure Control)	1
6088	Gauge, Pressure	1
6013	Dampener, Pulsation	1
92674	Mount, Rail Assembly (Includes: 34018)	1
76334	Kit, Oil Indicator (3/8" x 24") See Individual Data Sheet	1
34334	Kit, Oil Drain (3/8" x 24") See Individual Data Sheet	1
30696	Reverse Pliers (Not Shown)	1
44050	Tool, Sight Gauge Removal (Not Shown)	1



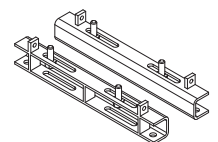
6013



34334



6107



92674

### ⚠ CAUTIONS AND WARNINGS

All high-pressure systems require a primary pressure regulating device (e.g. regulator, unloader) and a secondary pressure relief device (e.g. 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/dynamic-literature/cautions-and-warnings](http://www.catpumps.com/dynamic-literature/cautions-and-warnings) or can be requested directly from Cat Pumps.

### WARRANTY

View the Limited Warranty online at [www.catpumps.com/literature/cat-pumps-limited-warranty](http://www.catpumps.com/literature/cat-pumps-limited-warranty)