

DATA SHEET

35 FRAME PLUNGER PUMPS



**Brass
Model**

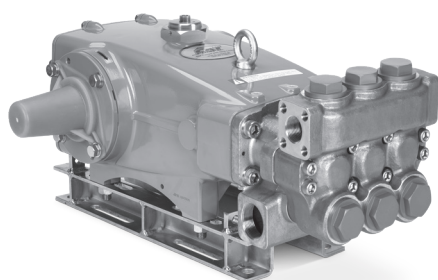
3535.44101

**Stainless Steel
Model**

3531DHS.44101

**Nickel Aluminum
Bronze Model**

3537HS.44101



Model 3531DHS.44101 Shown
(Shaft protector included, mounting rails sold separately)

FEATURES

- Field- tested, high-pressure triplex pump is 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 promotes optimum energy efficiency.
- TEG* pump configuration option is designed to withstand high temperatures and demanding continuous-duty environments:
 - Elastomers and O-ring materials made from heat-resistant FPM material
 - Stainless steel vented oil filler cap assembly and aluminum seal retainers resist melting and misshaping
 - Stainless steel oil sight gauge with aluminum adapter holds up against higher-temperature drive-end operation
 - Special PTFE-blended V-packings and low-pressure seals increase durability and longevity with high-temperature fluids

* TEG pump configuration is denoted by adding ".44101" to the end of the pump model.

SPECIFICATIONS

	U.S.	Metric
Flow	36 gpm	136 lpm
Pressure Range	100–1200 psi	6.9–83 bar
Pump RPM*	800 rpm	800 rpm
Inlet Pressure Range	Flooded to 70 psi	Flooded to 4.8 bar
Maximum Liquid Temperature	240° F	115° C
Bore	1.575"	40 mm
Stroke	1.890"	48 mm
Crankcase Capacity	4.2 qts	4 l
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 (3535.44101)	23.86 x 18.11 x 9.72"	607 x 460 x 247 mm
Dimensions (3531DHS.44101) (3537HS.44101)	24.33 x 18.11 x 9.72"	618 x 460 x 247 mm

ALTERNATE SPECIFICATIONS **

3531DHS.44101, 3537HS.44101

	U.S.	Metric
Flow	40 gpm	151 lpm
Pressure Range	100–2000 psi	6.9–138 bar
Pump RPM*	888 rpm	888 rpm

*Pump minimum is 100 RPM.

** Intermittent Duty Cycle Defined As:

Operating pump at maximum rated flow and pressure for no more than 50% of time in any given hour.

ELECTRIC HORSEPOWER REQUIREMENTS

FLOW		PRESSURE						PUMP RPM
GPM	LPM	PSI	BAR	PSI	BAR	PSI	BAR	
		800	55	1000	69	1200	83	
Horsepower								
36	136	19.8 hp		24.7 hp		29.7 hp		800
30	114	16.5 hp		20.6 hp		24.7 hp		667

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	P/N	MATL	P/N	MATL	P/N	MATL	DESCRIPTION	QTY
	3531DHS.44101		3535.44101		3537HS.44101			
5	96049	S	96049	S	96049	S	Screw, HHC Sems (M10 x 25) (See Tech Bulletin 074)	8
8	134604	ALE	134604	ALE	134604	ALE	Cover, Bearing	2
9	815279	FBR	815279	FBR	815279	FBR	Shim, Split, 2-Piece	2
10	76173	FPM	76173	FPM	76173	FPM	O-Ring, Bearing Cover	2
11	76172	FPM	76172	FPM	76172	FPM	Seal, Oil, Crankshaft	2
12	855049	S	855049	S	855049	S	Shim, Split, 2-Piece	0-2
15	29326	STL	29326	STL	29326	STL	Bearing, Roller	2
20	126725	BZ	121467	TNM	126725	BZ	Rod, Connecting Assembly (Includes: 21, 22, 23) (See Tech Bulletin 074)	3
21	126749	STCP R	126749	STCP R	126749	STCP R	Washer, Locking	3
22	126593	STCP R	126593	STCP R	126593	STCP R	Shim, Washer (M10.5)	6
23	122045	STZP	122045	STZP	122045	STZP	Screw, HH (M10 x 55)	6
25	29325	FCM	29325	FCM	29325	FCM	Crankshaft, Dual End (M48)	1
32	997574	S	997574	S	997574	S	Cap, Filler with O-Ring	1
34	126743	STCP R	126743	STCP R	126743	STCP R	Bolt, Eye (M12 x 1.75) (For Lifting Pump Only)	1
36	76792	SS	76792	SS	76792	SS	Gauge, Sight	1
37	76791	AL	76791	AL	76791	AL	Adapter, Sight	1
38	44428	NBR	44428	NBR	44428	NBR	Gasket, Flat, Adapter-80D	1
40	125753	S	125753	S	125753	S	Screw, HHC Sems (M8 x 25) (See Tech Bulletin 074)	8
48	25625	STCP	25625	STCP	25625	STCP	Plug, Drain (1/4" x 19 BSP)	1
49	30322	FPM	30322	FPM	30322	FPM	O-Ring, Drain Plug	1
50	45936	ALE	45936	ALE	45936	ALE	Cover, Rear	1
51	76174	FPM	76174	FPM	76174	FPM	O-Ring, Rear Cover-75D	1
53	134784	ALE	134784	ALE	134784	ALE	Crankcase Assembly (Includes: 54)	1
54	27488	S	27488	S	27488	S	Pin, Guide	2
64	43864	CM	43864	CM	43864	CM	Pin, Crosshead	3
65	49166	SSHB †	45116	SSZZ	49166	SSHB	Rod, Plunger	3
69	126587	STCP R	126587	STCP R	126587	STCP R	Washer, Oil Seal	3
70	44739	FPM	44739	FPM	44739	FPM	Seal, Oil, Crankcase	3
75	43865	S	43865	S	43865	S	Slinger, Barrier	3
88	45676	S	45676	S	45676	S	Washer, Keyhole	3
90	43921	CC	43921	CC	43921	CC	Plunger (M40 x 145)	3
95	89778	SS	89778	SS	89778	SS	Stud, Plunger Retainer (M10 x 135)	3
96	20189	PTFE	20189	PTFE	20189	PTFE	Backup Ring, Plunger Retainer	3
97	11375	FPM	11375	FPM	11375	FPM	O-Ring, Plunger Retainer	3
98	44085	SS	44085	SS	44085	SS	Gasket, Plunger Retainer	3
99	44084	SS	44084	SS	44084	SS	Retainer, Plunger (M10) (See Tech Bulletin 074)	3
100	999324	AL	999324	AL	999324	AL	Retainer, Seal	3
106	701066	SFTB	76398	ST4	701066	SFTB	Seal, Low-Pressure S-Spring	3
107	45381	SS	—	—	44115	NAB	Spacer, Low-Pressure	3
110	45365	SS	49464	BBCP R	45124	NAB	Manifold, Inlet	1
112	14183	FPM	14183	FPM	14183	FPM	O-Ring, Inlet Manifold	3
117	44585	S	44585	S	44585	S	Screw, HSH (M14 x 40) (See Tech Bulletin 074)	4
126	45367	SS	46494	BB	45367	SS	Adapter, Female	3
127	76780	ST4	76780	ST4	76780	ST4	V-Packing	6
128	45368	SS	43928	BB	45368	SS	Adapter, Male	3
141	49519	SS	49519	SS	49519	SS	Spring, Coil	3
155	20137	FPM	20137	FPM	20137	FPM	O-Ring, V-Packing Spacer-70D	3
156	20464	PTFE	20464	PTFE	20464	PTFE	Backup Ring, V-Packing Spacer	3
157	49520	SS	49478	BB	49521	NAB	Spacer, V-Packing	3
158	20464	PTFE	20464	PTFE	20464	PTFE	Backup Ring, V-Packing Spacer	3
159	20137	FPM	20137	FPM	20137	FPM	O-Ring, V-Packing Spacer-70D	3
162	44614	PTFE	44614	PTFE	44614	PTFE	Backup Ring, Valve Seat	6
163	14330	FPM	14330	FPM	14330	FPM	O-Ring, Valve Seat	6
164	44612	SS	44727	S	44612	SS	Seat	6
166	44108	SS	43932	S	44108	SS	Valve	6
167	44109	SS	44109	SS	44109	SS	Spring	6
168	44728	PVDF	44728	PVDF	44728	PVDF	Retainer, Spring	6
170	44729	SS	44729	SS	44729	SS	Washer, Spring Retainer	6
171	44644	SS	44644	SS	44644	SS	Spring, Coil	6
172	11747	FPM	11747	FPM	11747	FPM	O-Ring, Valve Plug-90D	6
173	20388	PTFE	20388	PTFE	20388	PTFE	Backup Ring, Valve Plug	6
174	49300	SSD	46444	FBB	44643	NAB	Plug, Valve	6
185	49299	SSD	49465	BBCP R	76335	NAB	Manifold, Discharge	1
188	89981	S	89981	S	89981	S	Screw, HSH (M12 x 70) (See Tech Bulletin 074)	8
250	855042	NY	855042	NY	855042	NY	Protector, Shaft with Two (2) Screws, Lockwashers and Washers	1

Bold face part numbers are unique to a particular pump model

† Production parts different from service parts. R Components comply with RoHS Directive.

For additional technical information see www.catpumps.com/literature/tech-bulletins. See Service Bulletin 001. MATERIAL CODES (Not Part of Part Number):

AL=Aluminum ALE=Aluminum Epoxy BB=Brass BBCP=Brass/Chrome Plated BZ=Bronze CC=Ceramic CM=Chrome Moly FBB=Forged/Brass

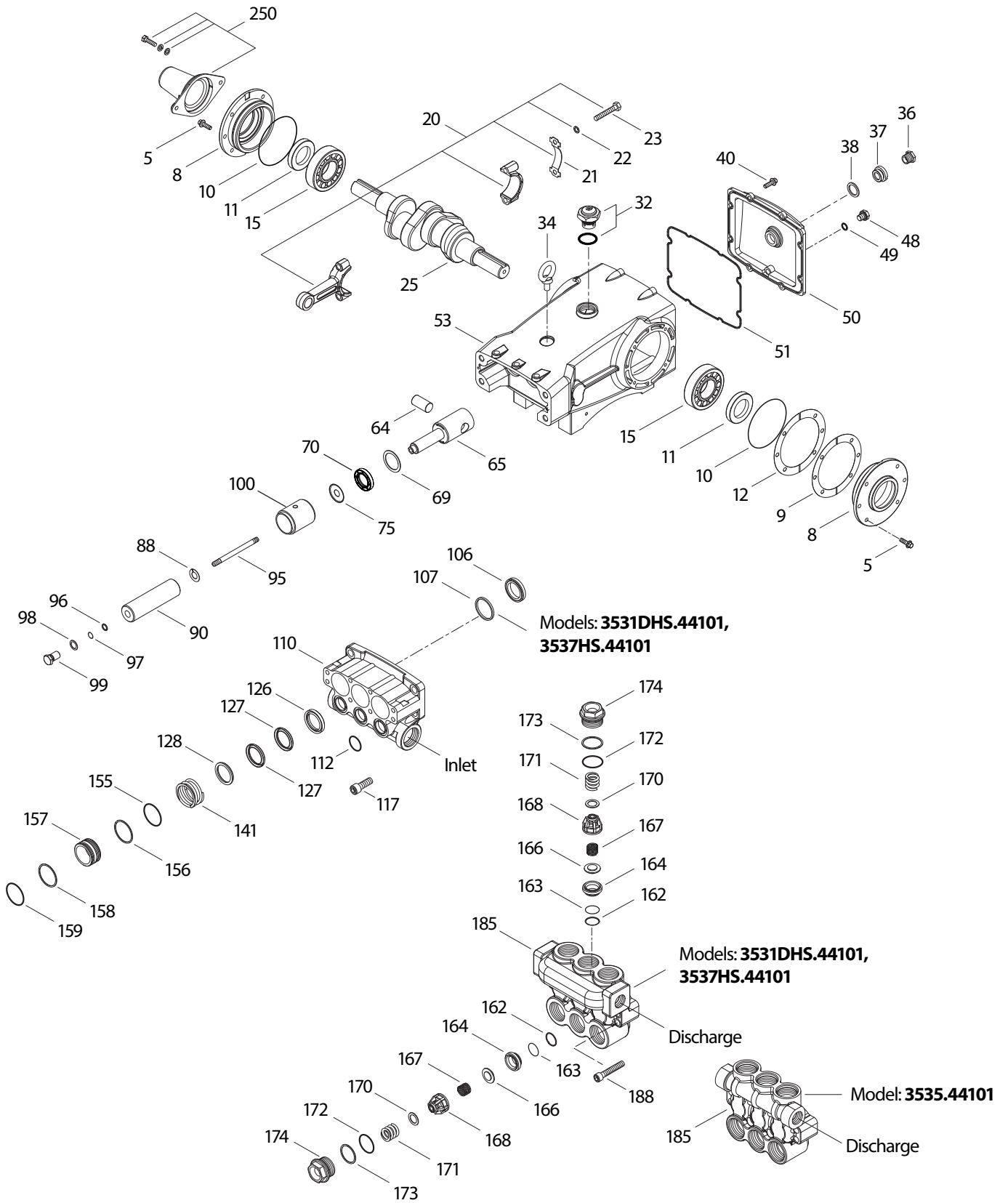
FBR=Fiber FCM=Forged Chrome-moly FPM=Fluorocarbon NBR=Medium Nitrile (Buna-N) NY=Nylon PTFE=Pure Polytetrafluoroethylene

PVDF=Polyvinylidene Fluoride S=304SS SFTB=Special Blend PTFE Black SS=316SS SSD=Duplex Stainless Steel STL=Steel ST4=Special PTFE4

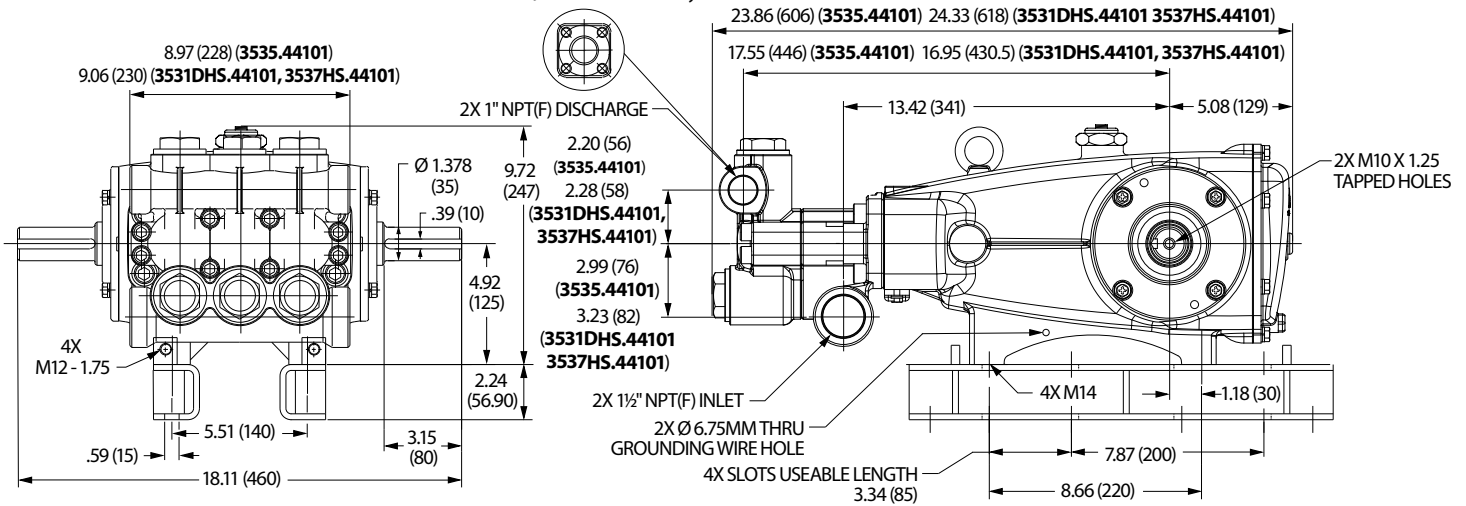
STCP=Steel/Chrome Plated STZP=Steel/Zinc Plated SSHB=316SS/High Strength Brass SSZZ=316SS/Zamak TNM=Special High Strength

Repair Kits and Parts, Optional Parts and Accessories listed on page 4.

EXPLODED VIEW



Models **3531DHS.44101, 3537HS.44101** Only



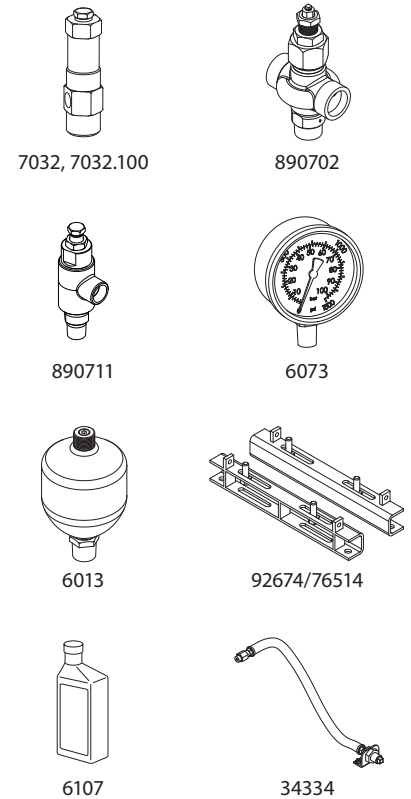
REPAIR KITS AND PARTS

PART NUMBER	DESCRIPTION	QTY
76276* (3531DHS.44101, 3537HS.44101)	Kit, Seal (Includes Items: 97, 106, 112, 127, 155, 156, 158, 159)	1
76269* (3535.44101)		
77029 (3531DHS.44101, 3537HS.44101)	Kit, Valve (Includes Items: 162–164, 166–168, 170–173)	2
76263 (3535.44101)		
6107	Oil, Bottle (21 oz) (Fill to Specified Crankcase Capacity Prior to Start-up)	7
34021	Key (M10 x 8 x 70)	1
6139	Lubricant, Anti-seize (8 oz) (Model 3531DHS.44101)	1

*Review material codes for individual items (ST4 generally may be used as alternate).

OPTIONAL PARTS AND ACCESSORIES

PART NUMBER	DESCRIPTION	QTY
7032, 7032.100	Regulator (Primary Pressure Control)	1
890702	Valve, Relief (Secondary Pressure Control)	1
890711	Valve, Pop-Off (Secondary Pressure Control)	1
6073	Gauge, Pressure	1
6013	Dampener, Pulsation	1
92674	Mount, Rail Assembly (STZP R) (Includes: 34018)	1
76514	Mount, Rail (S) Assembly (Models 3531DHS.44101, 3537HS.44101) (Includes: 34039)	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



⚠ 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 or can be requested directly from Cat Pumps.

WARRANTY

View the Limited Warranty online at www.catpumps.com/literature/cat-pumps-limited-warranty