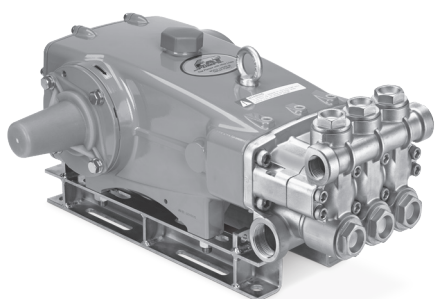


DATA SHEET

35 FRAME PLUNGER PUMP



Forged Brass
Model: **3545**



Model 3545 Shown
(Shaft protector included, mounting rails sold separately)

FEATURES

- Triplex plunger design ensures high efficiency and low pulsation.
- V-packings and low-pressure seals are completely lubricated and cooled by pumped liquid, greatly increasing service life.
- Pump comes standard with NBR seals. Alternative seal materials are available for higher temperature or chemical compatibility.

SPECIFICATIONS	U.S. Measure	Metric Measure
Flow	45 gpm	170 lpm
Pressure Range	100–1000 psi	6.9–69 bar
Pump RPM*	765 rpm	765 rpm
Inlet Pressure Range	Flooded to 70 psi	Flooded to 4.8 bar
Max. Liquid Temp. (NBR)	140° F	60° C
Alternative seals available for higher temperatures up to 200° F		
Bore	1.772"	45 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	23.86 x 18.11 x 9.72"	606 x 460 x 247 mm

*Pump minimum is 100 RPM.

ALTERNATIVE SEAL CONFIGURATION

MATERIAL	SUFFIX CODE	MAXIMUM TEMPERATURE	
NBR	—	140° F	(60° C)
FPM	.0110	180° F	(82° C)
EPDM	.0220	160° F	(71° C)
FFKM	.0770	200° F	(93° C)
STHT	.3400	190° F	(88° C)

See **Tech Bulletin 002** for inlet conditions and RPM at higher temperatures.

DETERMINING THE PUMP RPM	$\frac{\text{Rated gpm}}{\text{Rated rpm}} = \frac{\text{Desired gpm}}{\text{Desired rpm}}$
DETERMINING THE REQUIRED HP	$\frac{\text{Hp (Electric Brake)}}{1460} = \frac{\text{gpm} \times \text{psi}}{1460}$
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, HH Sems (M10 x 25) (See Tech Bulletin 074)	8
8	134604	ALE	Cover, Bearing	2
9	815279	FBR	Shim, Split, 2-Piece	2
10	12398	NBR	O-Ring, Bearing Cover--70D	2
11	13296	NBR	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) (See Tech Bulletin 074)	3
21	126749	STCP R	Washer, Locking (M10)	6
22	126593	STCP R	Washer, Flat (M10)	6
23	122045	STZP	Screw, HH (M10 x 55)	6
25	29325	FCM	Crankshaft, Dual End (M48)	1
31	828710	PE	Protector, Cap with 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 (M12 x 1.75) (For Lifting Pump Only)	1
37	92241	PC	Gauge, Oil, Bubble with Gasket (See Tech Bulletin 074)	1
38	44428	NBR	Gasket, Flat, Oil Gauge--80D	1
40	125753	S	Screw, HH Sems (M8 x 25) (See Tech Bulletin 074)	8
48	25625	STCP	Plug, Drain (1/4" x 19 BSP)	1
49	23170	NBR	O-Ring, Drain Plug--70D	1
50	45936	ALE	Cover, Rear	1
51	16612	NBR	O-Ring, Crankcase Cover--70D	1
53	134784	ALE	Crankcase Assembly (Includes: 54)	1
54	27488	S	Pin, Guide	2
56	27790	POP	Pan, Oil	1
59	92538	S	Screw, HHC Sems (M6 x 16)	2
64	43864	CM	Pin, Crosshead	3
65	† 45116	SSZZ	Rod, Plunger	3
69	126587	STCP R	Washer, Oil Seal	3
70	100488	NBRS	Seal, Oil, Crankcase	3
75	43865	S	Slinger, Barrier	3
88	45676	S	Washer, Keyhole (M16)	3
90	46806	CC	Plunger (M45 x 145)	3
95	† 89778	SS	Stud, Plunger Retainer (M10 x 135)	3
96	20189	PTFE	Backup Ring, Plunger Retainer	3
97	11345	NBR	O-Ring, Plunger Retainer--70D	3
98	44085	SS	Gasket, Retainer	3
99	† 44084	SS	Retainer, Plunger (M10) (See Tech Bulletin 074)	3
100	44119	PPG	Retainer, Seal	3
106	46809	NBR	Seal, Low-Pressure with S-Spring	3
107	46811	BB	Spacer, Low-Pressure Seal	3
110	49482	BBCP R	Manifold, Inlet	1
112	18688	NBR	O-Ring, Inlet Manifold--70D	3
117	44585	S	Screw, HSH (M14 x 40) (See Tech Bulletin 074)	4
126	46812	BB	Adapter, Female	3
127	46813	STGS	V-Packing	6
128	46814	BB	Adapter, Male	3
141	49483	SS	Spring, Coil, Large	3
155	17784	NBR	O-Ring, V-Packing Spacer--80D	6
157	49484	BB	Spacer, V-Packing	3
163	26143	NBR	O-Ring, Seat--80D	6
164	46822	S	Seat	6
166	43932	S	Valve	6
167	44109	SS	Spring, Valve	6
168	44728	PVDF	Retainer, Spring	6
170	44729	SS	Washer, Spring Retainer	6
171	44644	SS	Coil Spring (70kg), Valve Plug	6
172	89827	NBR	O-Ring, Valve Plug--90D	6
173	48364	D	Backup Ring, Valve Plug	6
174	46444	FBB	Plug, Valve (See Tech Bulletin 074)	6
185	49486	BBCP R	Manifold, Discharge	1
188	89981	S	Screw, HSH (M12 x 70) (See Tech Bulletin 074)	8
250	855042	NY	Protector, Shaft with Two (2) Screws, Lockwashers and Washers	1

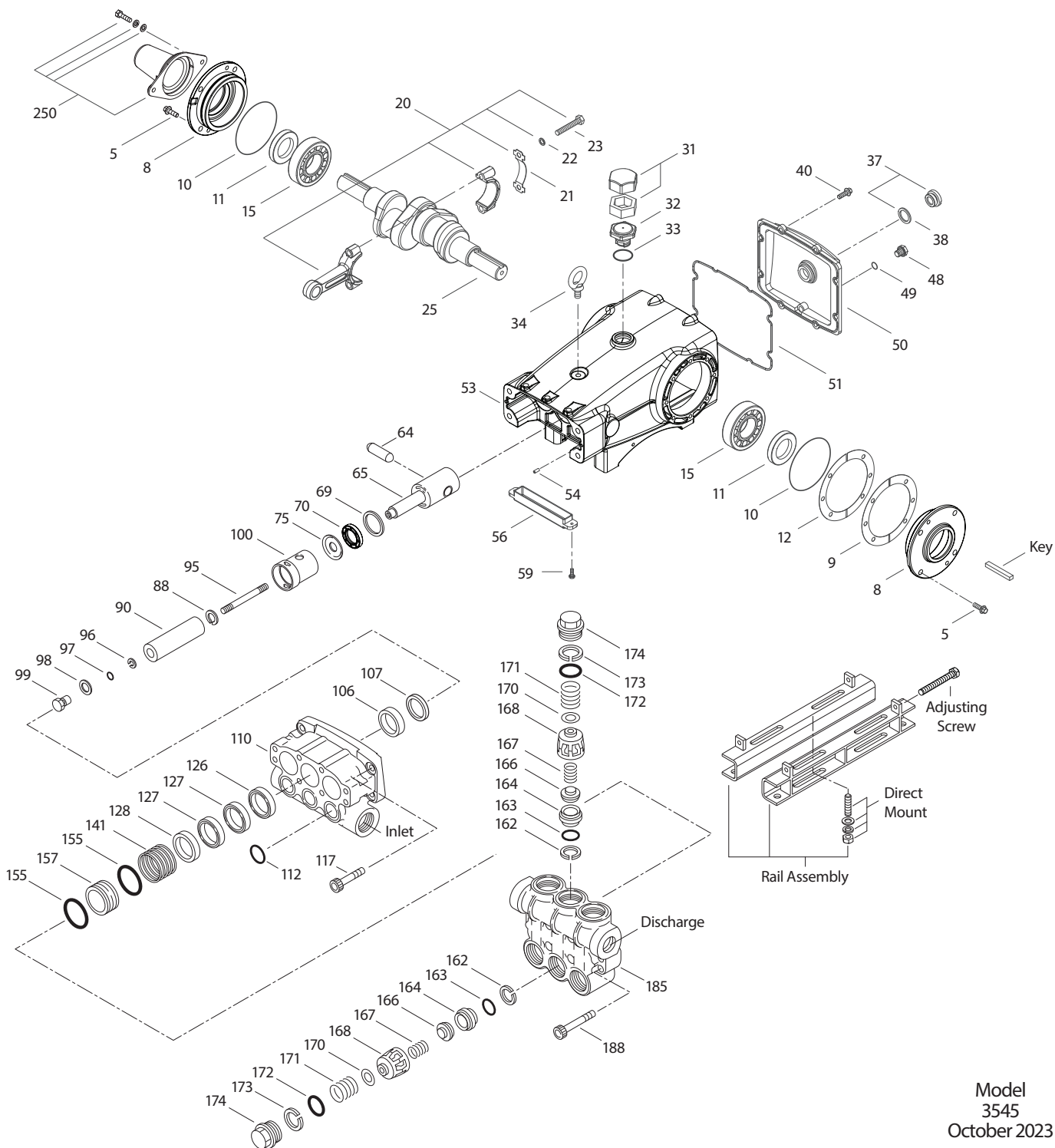
Bold print part numbers are unique to a particular pump model. † Production parts are different than repair parts.

R Components comply with RoHS Directive. For additional technical information see www.catpumps.com/literature/tech-bulletins.

MATERIAL CODES (Not Part of Part Number): ABS=ABS Plastic ALE=Aluminum Epoxy BB=Brass BBCP=Brass/Chrome Plated CC=Ceramic CM=Chrome-Moly D=Acetal
 EPDM=Ethylene Propylene Diene Monomer F=Cast Iron FBB=Forged Brass FBR=Fiber FCM=Forged Chrome-moly FFKM=Perfluoroelastomer FPM=Fluorocarbon
 NAB=Nickle Aluminum Bronze NBR=Medium Nitrile (Buna-N) NBRS=Buna, Silicone Free NY=Nylon PC=Polycarbonate PE=Polyethylene
 PPG=Glass Filled Polypropylene PTFE=Pure Polytetrafluoroethylene PVDF=Polyvinylidene Fluoride S=304SS SS=316SS
 SFTB=Special Blend PTFE Black SSZZ=316SS/Zamak STGS=Special Blend PTFE White Silicon Free
 STCP=Steel/Chrome Plated STL=Steel STZP=Steel/Zinc Plated TNM=Special High Strength

Optional Parts and Accessories and Service Parts listed on page 3. Standard and Optional Seal and Valve Kits listed on page 4.

EXPLODED VIEW



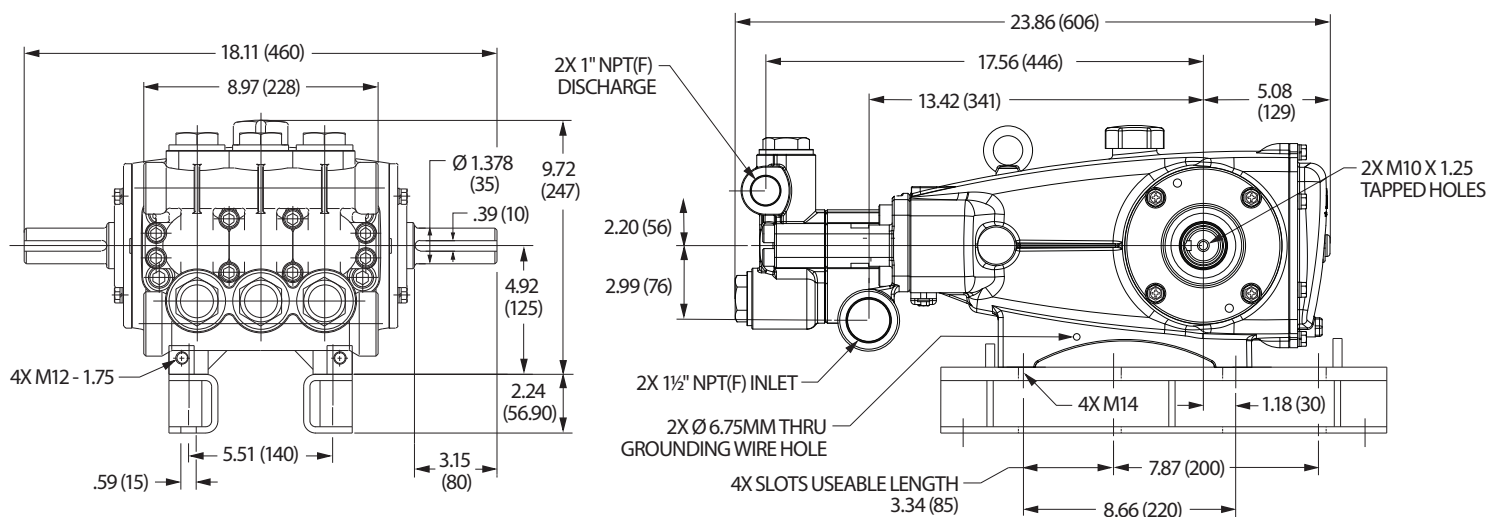
Model
3545
October 2023

OPTIONAL PARTS AND ACCESSORIES

PART	DESCRIPTION	QTY
34021	Key (M10 x 8 x 70)	1
92674	Mount, Rail Assembly (STZP R) (Includes: 34018)	1
34018	Mount, Direct (STZP R)	1
990013	Hub, "B", 35 mm (STL)	1
80540	Screwing, Adjusting (M12 x 100)	2
34314	Kit, Oil Drain ($\frac{3}{8}$ " x 48") (Not Shown)	1
819000	Assembly, Crankcase, Cast Iron Conversion	1

SERVICE PARTS

PART	DESCRIPTION	QTY
33234	Kit, Seal – Standard–NBR	1
33235	Kit, Valve – Standard–NBR	2
6100	Oil, Case (12–21 oz bottles) (Fill to Specific Crankcase Capacity Prior to Start-up)	1
6124	Gasket, Liquid (3 oz)	1
32273	Crankcase Oil Seal Removal and Installation Kit (Not Shown) (Includes: Oil Seals, Guide Tool, Screws, Washers, Driver)	1
30696	Reverse Pliers (Not Shown)	1
818428	Head, Complete with NBR Seals and O-Rings	1



Model 3545

SEAL KITS One (1) seal kit required per pump

PUMP MODELS	NBR (STD)	FPM (.0110)	EPDM (.0220) ♦	FFKM (.0770)	STHT (.3400)
3545	33234 *	31261	33223 *	76615	76209

ITEM (Included in Seal Kits)						DESCRIPTION	QTY
97	11345	11375	701490	702961	11345	O-Ring, Plunger Retainer	3
106	46809	702013	46945	703296	702013	Seal, Low-Pressure with SS-Spring	3
112	18688	11739	701659	704172	18688	O-Ring, Inlet Manifold	3
127	46813	46813	46813	46813	46813	V-Packing	6
155	17784	20138	701658	703292	17784	O-Ring, V-Packing Spacer	6

♦ Silicone oil/grease required *Review material codes for individual items (STG generally may be used as alternative)

VALVE KITS Two (2) valve kits required per pump

PUMP MODELS	NBR (STD)	FPM (.0110)	EPDM (.0220) ♦	FFKM (.0770)	STHT (.3400)
3545	33235	31262	31235	76636	33235

ITEM (Included in Valve Kits)						DESCRIPTION	QTY
163	26143	14331	701660	703293	26143	O-Ring, Valve Seat	3
164	46822	48393	46822	48393	46822	Seat	3
166	43932	44108	43932	44108	43932	Valve	3
167	44109	44109	44109	44109	44109	Spring	3
168	44728	44728	44728	44728	44728	Retainer, Spring	3
170	44729	44729	44729	44729	44729	Washer, Spring Retainer	3
172	89827	11747	701494	703169	89827	O-Ring, Valve Plug	3
173	48364	48364	48364	48364	48364	Backup Ring, Valve Plug	3

♦ Silicone oil/grease required

⚠ 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