

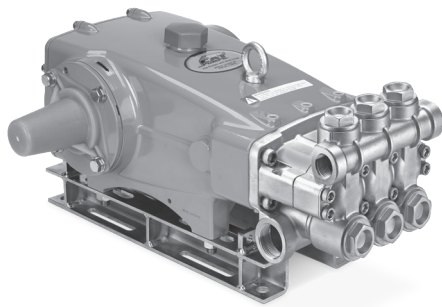
# DATA SHEET

## 35 FRAME PLUNGER PUMPS



**Brass Model: 3535**

**Brass Flushed Model: 3535C**



Model 3535 Shown  
(Mounting rails sold separately, shaft protector included)

### 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.
- Model 3535C offers an external flush for high temperature or low lubricity liquids.
- Pump comes standard with NBR seals. Alternative seal materials are available for higher temperature or chemical compatibility.

### SPECIFICATIONS

	U.S. Measure	Metric Measure
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
Max. Liquid Temp. (NBR)	160° F	71° C
<b>Alternative seals available for higher temperatures up to 200° F</b>		
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)
Flush Ports (2)	¼" NPT(F)	¼" 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	—	160° F	(71° C)
FPM	.0110	180° F	(82° C)
EPDM	.0220	160° F	(71° C)
FFKM	.0770	200° F	(93° C)

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

$$\text{DETERMINING THE PUMP RPM} \quad \frac{\text{Rated gpm}}{\text{Rated rpm}} = \frac{\text{Desired gpm}}{\text{Desired rpm}}$$

$$\text{DETERMINING THE REQUIRED HP} \quad \frac{\text{Hp (Electric Brake)}}{1460} = \frac{\text{gpm x psi}}{1460}$$

$$\text{DETERMINING MOTOR PULLEY SIZE} \quad \frac{\text{Motor Pulley OD}}{\text{Pump rpm}} = \frac{\text{Pump Pulley OD}}{\text{Motor rpm}}$$

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

# PARTS LIST

ITEM	PART NUMBER	DESCRIPTION	QTY
	<b>3535/C</b>	<b>MATL</b>	
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	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 Locking Washer (M10)	3
22	126593	STCP R Washer, Flat (M10.5)	6
23	122045	STZP Screw, HH (M10 x 55)	6
25	29325	FCM Crankshaft, Dual End (M48)	1
31	828710	PE Protector, Oil 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, HHC Sems (M8 x 25)	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 Pins, 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	NBR S Seal, Oil, Crankcase	3
75	43865	S Slinger, Barrier	3
88	45676	S Washer, Keyhole (M16)	3
90	43921	CC Plunger (M40 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	814279	PVDF Retainer, Seal, 2-Piece	3
101	44112	— Wick, Long Tab	3
106	† 44113	NBR Seal, Low-Pressure with SS-Spring	3
110	<b>49464</b>	BBCP R Manifold, Inlet	1
	<b>49464C</b>	BBCP R Manifold, Inlet, Flushed (Model 3535C)	1
112	11379	NBR O-Ring, Inlet Manifold-70D	3
117	44585	S Screw, HSH (M14 x 40) (See Tech Bulletin 074)	4
126	46494	BB Adapter, Female	3
127	44609	STG V-Packing	6
128	43928	BB Adapter, Male	3
141	49519	SS Spring, Large Coil	3
155	48860	NBR O-Ring, V-Packing Spacer-90D	6
156	48362	D Backup Ring, V-Packing Spacer	6
157	49478	BB Spacer, V-Packing	3
162	48363	D Backup Ring, Valve Seat	6
163	26142	NBR O-Ring, Seat- 80D	6
164	44727	S Seat, Stepped	6
166	43932	S Valve	6
167	44109	SS Spring	6
168	44728	PVDF Retainer, Spring	6
170	44729	SS Washer, Spring Retainer	6
171	44644	SS Coil Spring (70 kg), 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	49465	BBCP R Manifold, Discharge (See Tech Bulletins 099, 109)	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 Part Numbers are unique to a particular pump model. Italics are optional items.**

† Production parts different from service parts. \* Review individual parts in each kit for material identification.

R Components comply with RoHS Directive For additional technical information see [www.catpumps.com/literature/tech-bulletins](http://www.catpumps.com/literature/tech-bulletins). See Service Bulletin 001.

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=Nickel Aluminum Bronze NBR=Medium Nitrile (Buna-N) NBR S=Buna, Silicone Free NY=Nylon PC=Poly Carbonate PE=Polyethylene POP=Polypropylene

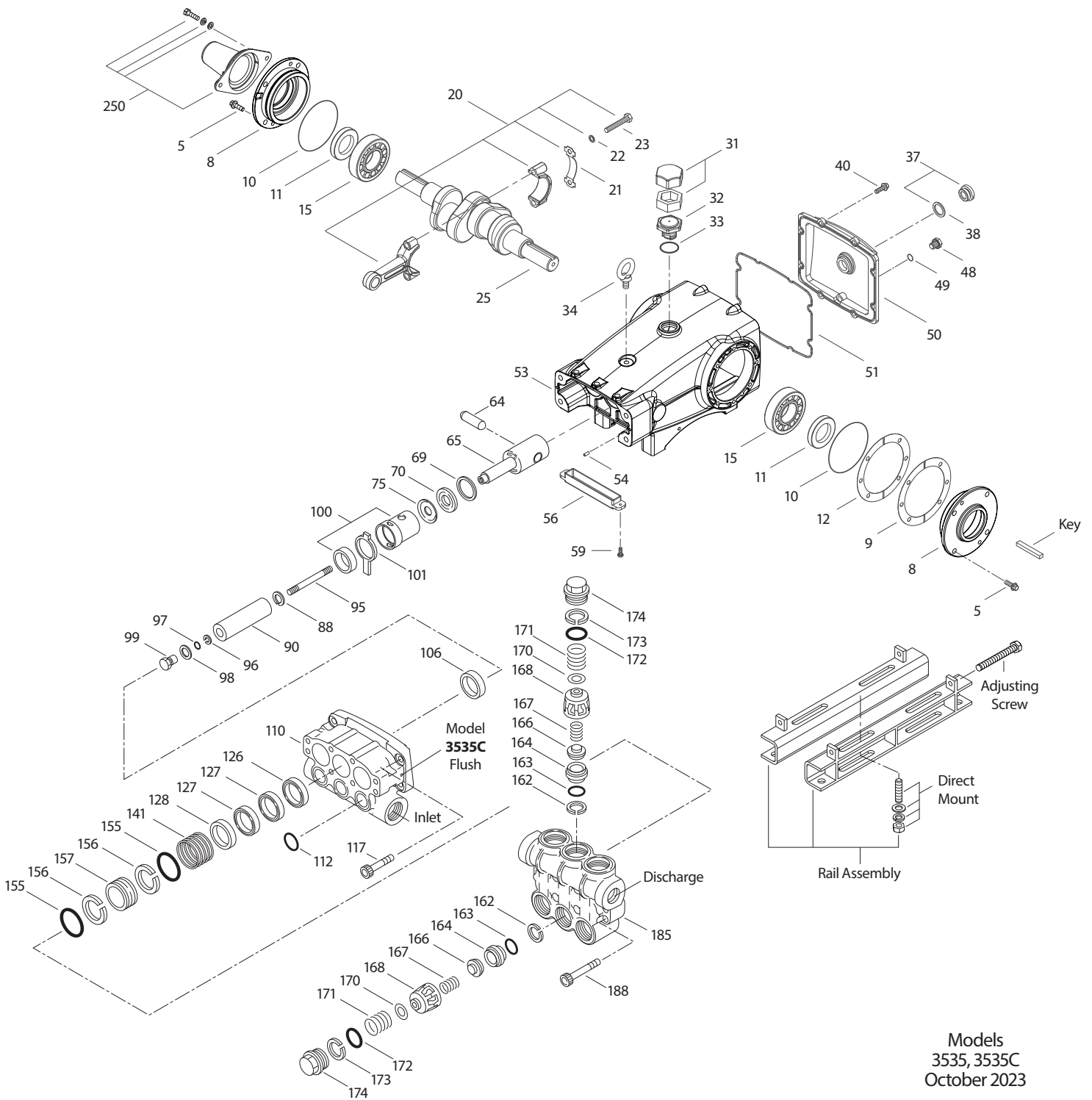
PTFE=Pure Polytetrafluoroethylene PVDF=Polyvinylidene Fluoride S=304SS SS=316SSSSD=Duplex Stainless Steel SSZZ=316SS/Zamak

STCP=Steel/Chrome Plated SFG=Special Blend (FPM) STG=Special Blend (PTFE) White STL=Steel STZP=Steel/Zinc Plated

TNM=Special High Strength ZP=Zinc Plated

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

# EXPLODED VIEW



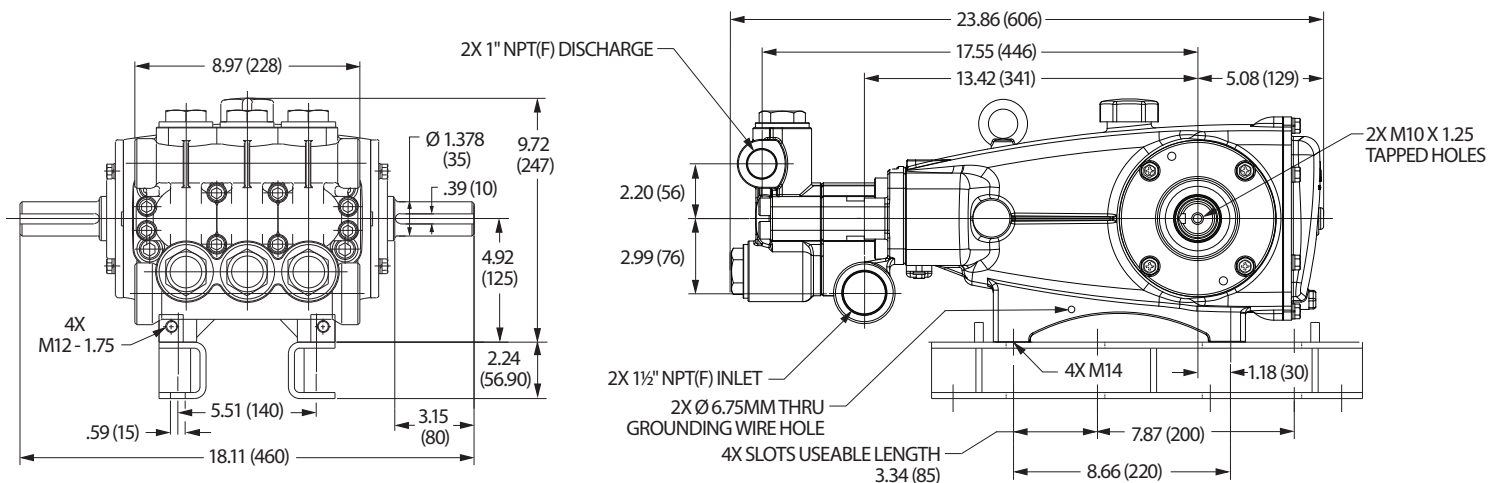
Models  
3535, 3535C  
October 2023

## 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	Screw, Adjusting (M12 x 100)	2
30278	Oiler (1 oz) (Not Shown)	3
34314	Kit, Oil Drain (3/8" x 48") (Not Shown)	1
819000	Assembly, Crankcase, Cast Iron Conversion	1

## SERVICE PARTS

PART	DESCRIPTION	QTY
<b>31040</b>	Kit, Seal – Standard NBR	1
<b>34235</b>	Kit, Valve – Standard NBR	2
6100	Oil, Case (12–21 oz bottles) (Fill to Specified 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
<b>818427</b>	Head, Complete with NBR Seals and O-Rings (Model 3535)	1



Model 3535

## SEAL KITS One (1) seal kit required per pump

PUMP MODELS	NBR (STD)	FPM (.0110)	EPDM (.0220)◆
3535, 3535C	31040 *	33055	33262 *

ITEM (Included in Seal Kits)	DESCRIPTION			QTY	
97	11345	11375	701490	O-Ring, Plunger Retainer	3
106	44113	44740	46955	Seal, Low-Pressure with SS-Spring	3
112	11379	14183	701491	O-Ring, Inlet Manifold	3
127	44609	44741	44609	V-Packing	6
155	48860	20137	701492	O-Ring, V-Packing Spacer	6
156	48362	48362	48362	Backup 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)◆
3535, 3535C	34235	31955	31952

ITEM (Included in Valve Kits)	DESCRIPTION			QTY	
162	48363	48363	48363	Backup Ring, Valve Seat	3
163	26142	14330	701493	O-Ring, Valve Seat	3
164	44727	44612	44612	Seat	3
166	43932	44108	44108	Valve	3
167	44109	44109	44109	Spring	3
168	44728	44728	44728	Retainer, Spring	3
170	44729	44729	44729	Washer, Spring Retainer	3
172	89827	11747	701494	O-Ring, Valve Plug	3
173	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](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)