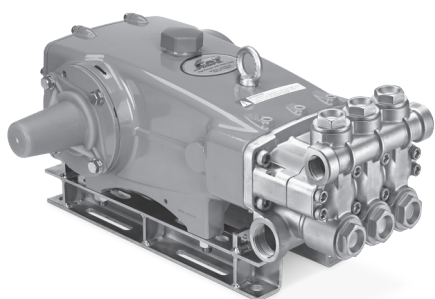


DATA SHEET

35 FRAME PLUNGER PUMP



Forged Brass **3545**
Model:



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 | $\text{Hp (Electric Brake)} = \frac{\text{gpm} \times \text{psi}}{1460}$ |
| 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, 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 | NBR S | 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 |

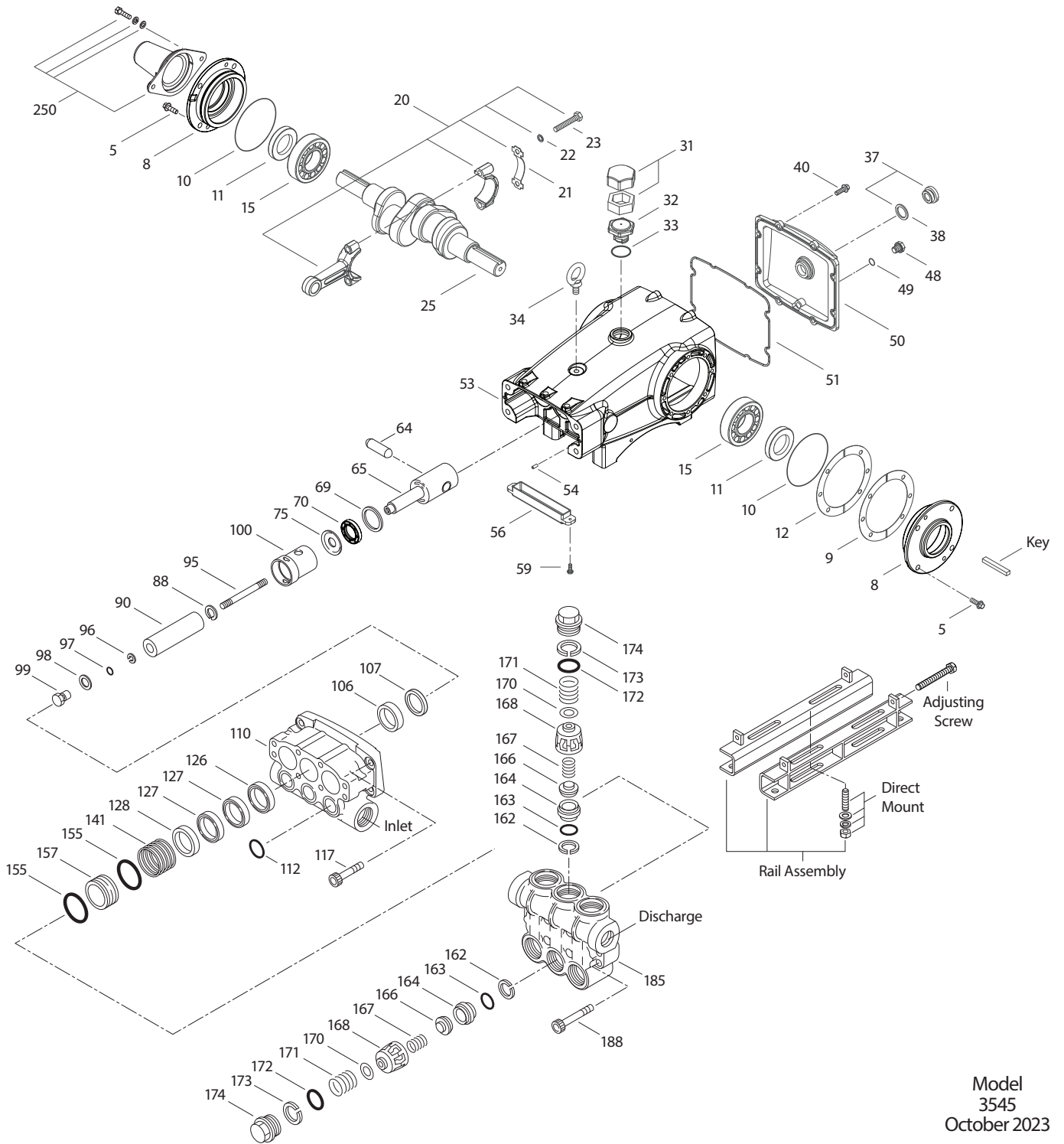
Bold print part numbers are unique to a particular pump model. † Production parts are different than repair parts.

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) NBR S=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



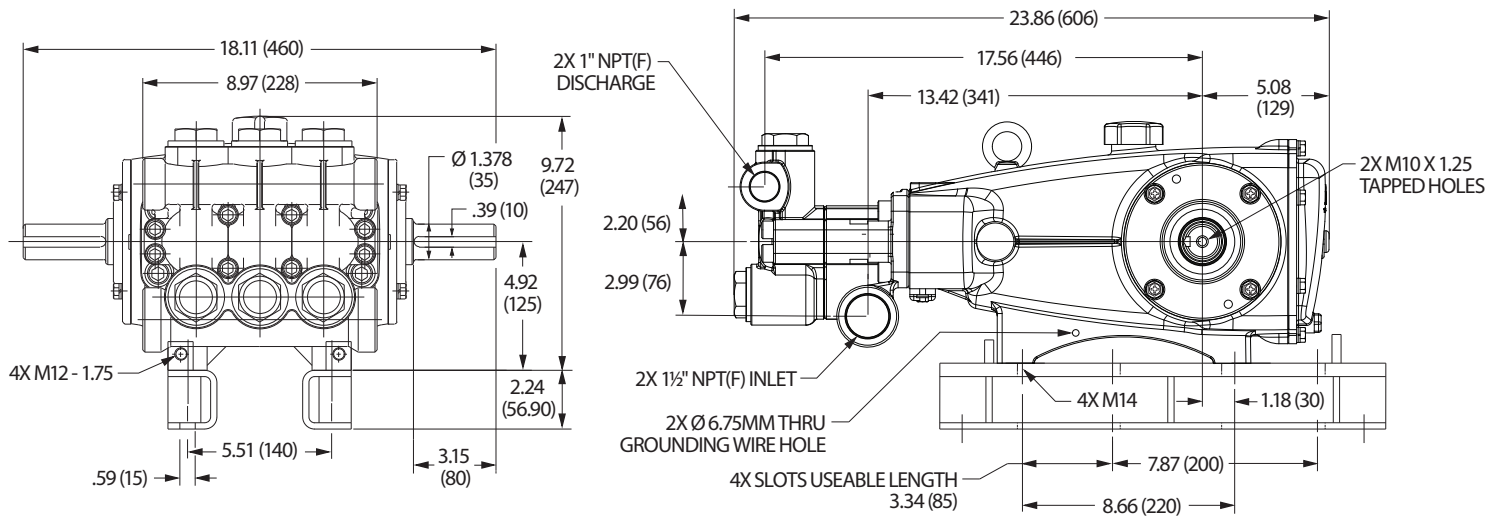
Model
3545
October 2023

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 (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