

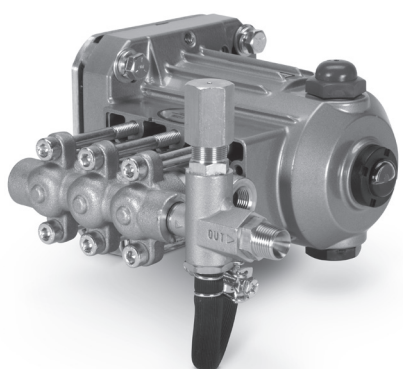
DATA SHEET

DIRECT DRIVE PLUNGER PUMPS



Brass Electric Models: 2SFX20ES, 2SFX30ES

Brass Gas Models: 2SFX30GS, 2SFX30GZ



Model 2SFX30GS Shown
(Unloader and bypass hose included with pump)

FEATURES

- Available in two configurations: hollow-shaft pump for direct mounting to gas engine or electric motor, or as complete motorized units.
- Includes regulating unloader, bypass hose and crankcase oil.
- Pump comes standard with NBR seals. Alternative seal materials are available for higher temperature or chemical compatibility.

COMMON SPECIFICATIONS

| | U.S. | Metric |
|-------------------------------|-------------------|--------------------|
| Inlet Pressure Range | Flooded to 75 psi | Flooded to 5.2 bar |
| Pump RPM | 3450 rpm | 3450 rpm |
| Bore | 0.708" | 18 mm |
| Max. Liquid Temperature (NBR) | 160° F | 71° C |

Alternate seals available for higher temperatures up to 180° F

| | | |
|------------------------|---------------------|--------------------|
| Crankcase Capacity | 10.1 oz | 0.3 l |
| Inlet Port (1) | 3/8" NPT(F) | 3/8" NPT(F) |
| Discharge Port (1) * | 3/8" NPT(F) | 3/8" NPT(F) |
| Discharge Port (1) | 3/8" NPT(M) | 3/8" NPT(M) |
| Bypass Port (1) | 1/4" NPT(F) | 1/4" NPT(F) |
| Weight (Pump Only) | 11.83 lbs | 4.8 kg |
| Dimensions (Pump Only) | 9.13 x 6.65 x 6.50" | 232 x 169 x 165 mm |

*2SFX30GZ Discharge manifold has a closed port on the engine side.

SPECIFICATIONS

| | U.S. Measure | Metric Measure |
|-------------------------|--------------|----------------|
| 2SFX20ES | | |
| Flow | 2.0 gpm | 7.6 lpm |
| Max. Discharge Pressure | 2000 psi | 138 bar |
| Stroke | 0.122" | 3.1 mm |
| 2SFX30ES | | |
| Flow | 3.0 gpm | 11.4 lpm |
| Max. Discharge Pressure | 1500 psi | 103 bar |
| Stroke | 0.181" | 4.6 mm |
| 2SFX30GS | | |
| Flow | 3.0 gpm | 11.4 lpm |
| Max. Discharge Pressure | 2000 psi | 138 bar |
| Stroke | 0.189" | 4.8 mm |
| 2SFX30GZ | | |
| Flow | 3.0 gpm | 11.4 lpm |
| Max. Discharge Pressure | 2500 psi | 172 bar |
| Stroke | 0.189" | 4.8 mm |

ES = **Electric** 5/8" hollow shaft with bolt mount, NEMA 56C

GS, GZ = **Gas** 3/4" hollow shaft with bolt mount and adapter.

Gas Mounting Flange: SAE J609, Flange A, Extension 3 (3/4" Ø),

Shaft Length = 2.296, Pilot Ø = 1 1/8", B.C. Ø = 3 5/8", Thread = 5/16"- 24 UNC Tap

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

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) |
| HT | .3000 | 180° F | (82° C) |

See **Tech Bulletin 002** for inlet conditions and RPM at high-temperature.

ELECTRIC HORSEPOWER REQUIREMENTS

| MODELS | FLOW | | PRESSURE | | | | | | | | PUMP RPM |
|----------|------|------|----------|----|--------|-----|--------|-----|--------|-----|-------------|
| | | | PSI | | BAR | | PSI | | BAR | | |
| | GPM | LPM | 1200 | 83 | 1500 | 103 | 2000 | 138 | 2500 | 172 | |
| 2SFX20ES | 2.0 | 7.6 | 1.6 hp | | 2.1hp | | 2.7 hp | | N/A | | 3450 |
| 2SFX30ES | 3.0 | 11.4 | 2.5 hp | | 3.1 hp | | 4.1 hp | | 5.1 hp | | 3450 |

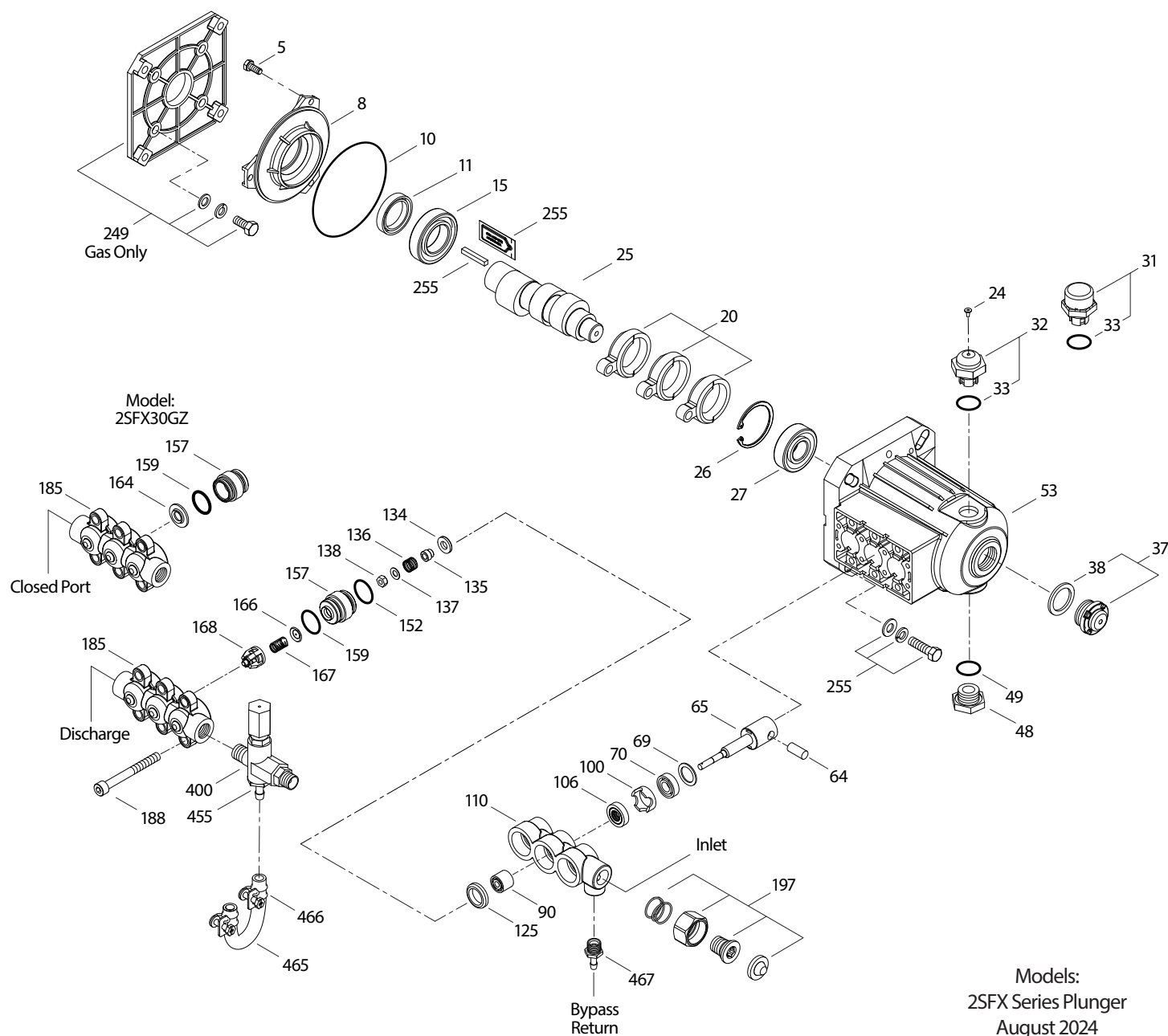
DETERMINING

$$\text{THE REQUIRED HP} = \frac{\text{hp (Electric Brake)}}{\text{hp}} = \frac{\text{gpm} \times \text{psi}}{1460} \quad \text{hp (Gas Brake)} = \frac{\text{gpm} \times \text{psi}}{1140}$$

PARTS LIST

| ITEM | PART NUMBER | MATL | DESCRIPTION | MODEL USED | QTY |
|------|---------------|--------|--|----------------------|-----|
| 5 | 549360 | STCP R | Screw, HH (M6 x 14) (See Tech Bulletins 074, 092) | All Models | 3 |
| 8 | 547153 | AL | Cover, Bearing, Inner (See Tech Bulletin 092) | All Models | 1 |
| 10 | 14041 | NBR | O-Ring, Bearing Cover–70D (See Tech Bulletin 092) | All Models | 1 |
| 11 | 55337 | NBR | Seal, Oil (See Tech Bulletin 092) | All Models | 1 |
| 15 | 14488 | STL | Bearing Inner, Ball | All Models | 1 |
| 20 | 547046 | TNM | Rod, Connecting | All Models | 3 |
| 24 | 549608 | LPDE | Plug, Oil Cap (Remove Before Start-Up) | All Models | 1 |
| 25 | 46109 | FCM | Crankshaft, 3450 RPM, 5/8" (3.1mm) | 2SFX20ES | 1 |
| | 832644 | FCM | Crankshaft, 3450 RPM, 5/8" (4.6mm) | 2SFX30ES | 1 |
| | 546334 | FCM | Crankshaft, 3450 RPM, 3/4" (4.8mm) | GS, GZ Models | 1 |
| | | | | | |
| 26 | 12385 | STL | Ring, Retaining | All Models | 1 |
| 27 | 15710 | STL | Bearing Outer, Ball | All Models | 1 |
| 31 | 549726 | — | Cap, Vented with O-Rings (Rain Cap) | All Models | 1 |
| 32 | 547961 | RTP | Cap, Oil Filler with O-Ring | All Models | 1 |
| 33 | 14179 | NBR | O-Ring, Oil Filler Cap–70D | All Models | 1 |
| 37 | 92241 | PC | Gauge, Oil, Bubble with Gasket (See Tech Bulletin 074) | All Models | 1 |
| 38 | 44428 | NBR | Gasket, Oil Gauge–80D | All Models | 1 |
| 48 | 44842 | NY | Plug, Drain (1/2" NPT[F]) | All Models | 1 |
| 49 | 14179 | NBR | O-Ring, Drain Plug–70D | All Models | 1 |
| 53 | 547285 | AL | Crankcase (See Tech Bulletin 092) | All Models | 1 |
| 64 | 16948 | CM | Pin, Crosshead | All Models | 3 |
| 65 | 540073 | SZZ | Rod, Plunger, Unchromed | 2SFX20, 30 | 3 |
| | 542958 | SHS | Rod, Plunger | 2SFX30GZ | 3 |
| 69 | 126259 | STCP R | Washer (M24) | All Models | 3 |
| 70 | 25461 | NBR | Seal, Oil | All Models | 3 |
| 90 | 45847 | CC | Plunger (M18 x 14) | All Models | 3 |
| 100 | 44869 | PVDF | Retainer, Seal | All Models | 3 |
| 106 | † 44876 | NBR | Seal, Low-Pressure with SS–Spring | All Models | 3 |
| | 545192 | FPM | Seal, Low-Pressure with SS–Spring | All Models | 3 |
| | ◆ 546507 | EPDM | Seal, Low-Pressure with SS–Spring | All Models | 3 |
| | 44874 | BB | Manifold, Inlet | All Models | 1 |
| 125 | 43245 | SNG | Seal, High-Pressure with S-Support | All Models | 3 |
| | 46652 | HT | Seal, High-Pressure, High-Temperature, 2-Piece with S-Support (See Tech Bulletin 073) | All Models except GZ | 3 |
| | 76052 | ST4 | Seal, High-Pressure with S-Support | All Models | 3 |
| 134 | 45854 | S | Valve, Inlet | All Models | 3 |
| | 33873 | D | Valve, Inlet, High-Temperature | All Models | 3 |
| 135 | 549520 | S | Spacer | All Models | 3 |
| 136 | 44872 | S | Spring, Inlet | All Models | 3 |
| 137 | 88575 | S | Washer, Conical (M6) | All Models | 3 |
| 138 | 81240 | SS | Nut, Hex (M6) (See Tech Bulletin 074) | All Models | 3 |
| 152 | † 26089 | NBR | O-Ring, Adapter–80D | All Models | 3 |
| | 11377 | FPM | O-Ring, Adapter–80D | All Models | 3 |
| | ◆ 46647 | EPDM | O-Ring, Adapter–80D | All Models | 3 |
| 157 | 45859 | BB | Adapter, Discharge, Seat | All Models except GZ | 3 |
| | 44878 | BB | Spacer, Discharge, Valve | 2SFX30GZ | 3 |
| 159 | † 26089 | NBR | O-Ring, Adapter–80D | All Models | 3 |
| | 11377 | FPM | O-Ring, Adapter–80D | All Models | 3 |
| | ◆ 46647 | EPDM | O-Ring, Adapter–80D | All Models | 3 |
| 164 | 44881 | S | Seat | 2SFX30GZ | 3 |
| 166 | 43723 | S | Valve | All Models | 3 |
| 167 | 541062 | S | Spring | All Models | 3 |
| 168 | 44565 | PVDF | Retainer, Spring | All Models | 3 |
| 185 | † 44879 | BB | Manifold, Discharge | All Models | 1 |
| 188 | 126762 | STCP R | Screw, HSH (M8 x 75) (See Tech Bulletin 074) | All Models | 6 |
| 197 | 941516 | BB | GH Assembly, (3/8" NPT[M] x 3/4" GH[F]) | All Models | 1 |
| 249 | 30520 | — | Assembly, Adapter Mount, Gas | All Gas Models | 1 |
| 255 | 30517 | STZP | Assembly, Bolt Mount | All Models | 1 |
| 285 | 80228 | STL | Screw (M8 1.25 x 80) (Not Shown) | All Models | 2 |
| 300 | 34053 | NBR | Kit, Seal (Includes: 106, 125, 152, 159) Standard | All Models | 1 |
| | 33953 | HT | Kit, Seal, High-Temperature (Includes: 106, 125, 134, 152, 159) .3000 (See Tech Bulletin 073) | All Models | 1 |
| | 33453 | FPM | Kit, Seal (Includes: 106, 125, 152, 159) .0110 | All Models | 1 |
| | ◆ 30536 | EPDM* | Kit, Seal (Includes: 106, 125, 152, 159) .0220 | All Models | 1 |

EXPLODED VIEW



| ITEM | PART NUMBER | MATL | DESCRIPTION | MODEL USED | QTY |
|------|---------------|------|--|----------------------|-----|
| 310 | 34056 | NBR | Kit, Discharge Valve (Includes: 152, 157, 159, 166, 167, 168) Standard, .3000 | All except GZ | 1 |
| | 34052 | NBR | Kit, Discharge Valve (Includes: 152, 159, 164, 166, 167, 168) Standard | 2SFX30GZ | 1 |
| 311 | 34668 | NBR | Kit, Inlet Valve (Includes: 134–137, 152, 159) Standard | All Models | 1 |
| 400 | 7500XS | BB | Unloader, Regulating | Standard 2SFX Models | 1 |
| | 7625 | BB | Unloader, Regulating | 2SFX30GZ | 1 |
| — | 6107 | — | Oil, Bottle (21 oz) (Fill to Specified Crankcase Capacity prior to Start-up) | All Models | 1 |

Bold Part Numbers are unique to a particular pump model.

Italics are optional items. † Production parts are different than 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.

Effective with 1/90 Mfg. date 45853, 14036, 44861, 92519 have been replaced with new one piece crankcase.

Note: Discard Key which may come standard with most motors and engines and **use only the key included in this kit.**

MATERIAL CODES (Not Part of Part Number): AL=Aluminum BB=Brass CC=Ceramic CM=Chrome-moly D=Acetal EPDM=Ethylene Propylene Diene Monomer FCM=Forged Chrome-moly FPM=Fluorocarbon HT=Hi-Temp (EPDM Alternative) LPDE=Low Density Polyethylene NBR=Medium Nitrile (Buna-N) NY=Nylon PC=Poly Carbonate PVDF=Polyvinylidene Fluoride RTP=Reinforced Composite S=304SS SHS=304SS/High Strength SNG=Special Blend (Buna) SS=316SS ST4=Special PTFE 4 STL=Steel STCP=Steel/Chrome-Plated STZP=Steel/Zinc Plated SZZ=304SS/Zamak TNM=Special High Strength

Center raised pilot guide on the **Adapter Plate** ensures proper alignment of pump and engine. Before mounting pump onto engine, inspect engine for **recessed seal and bearing guide** to permit adapter to completely seat into recess and four bosses to be flush with engine face.

7500XS UNLOADER for “ES” and “GS” Pump Models

SPECIFICATIONS

| | U.S. | Metric |
|-----------------------|-------------------|----------------------|
| Flow Range | 0.5–6.0 gpm | 2–23 lpm |
| Pressure Range | 100–2000 psi | 6.9–138 bar |
| Maximum Temperature | 190° F | 88° C |
| Inlet Port, Rear | ¾" NPT(M) | ¾" NPT(M) |
| Discharge Port, Front | ¾" NPT(M) | ¾" NPT(M) |
| Bypass Port, Barb | ¼" | ¼" |
| Weight | 14 oz | 0.40 kg |
| Dimensions | 3.0 x 1.0 x 4.25" | 76.2 x 25.4 x 108 mm |

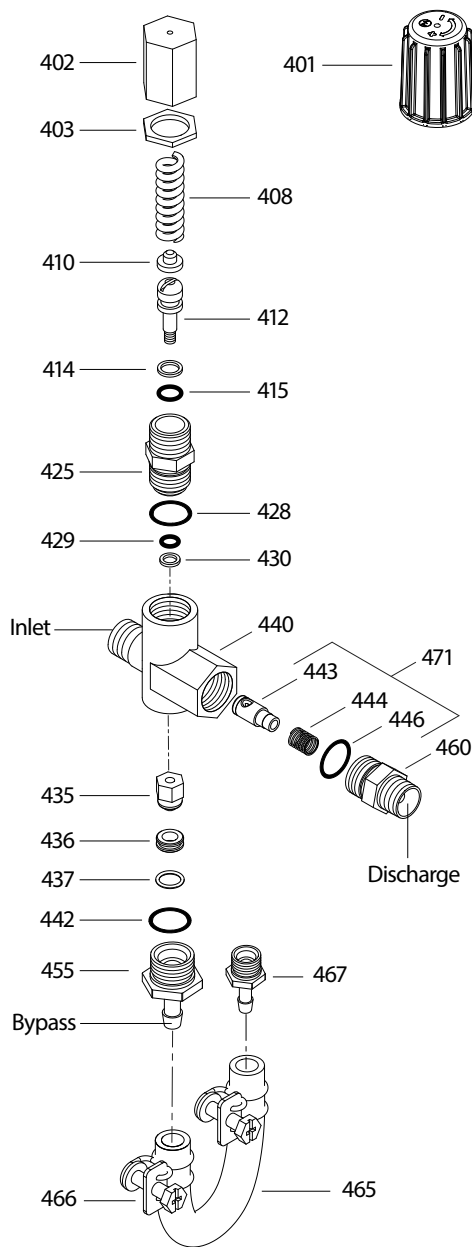
PARTS LIST

| ITEM | P/N | MATL | DESCRIPTION | QTY |
|------|--------|--------|--|-----|
| 401 | 32088 | NY | Handle, Black | 1 |
| 402 | 540081 | BB | Cap, Adjusting | 1 |
| 403 | 31047 | BB | Nut, Lock | 1 |
| 408 | 32094 | STZP R | Spring, Pressure | 1 |
| 410 | 107672 | BB | Retainer, Spring | 1 |
| 412 | 45694 | S | Stem (M5) | 1 |
| 414 | — | PTFE | Backup Ring, Piston Stem | 1 |
| 415 | — | NBR | O-Ring, Piston Stem–70D | 1 |
| 425 | 107673 | BB | Retainer, Piston | 1 |
| 428 | — | NBR | O-Ring, Retainer–70D | 1 |
| 429 | — | NBR | O-Ring, Body | 1 |
| 430 | — | PTFE | Backup Ring, Body | 1 |
| 435 | 45696 | BB | Valve and Ball Assembly (M5) | 1 |
| 436 | 107680 | S | Seat | 1 |
| 437 | — | NBR | O-Ring, Seat–70D | 1 |
| 440 | — | BB | Body | 1 |
| 442 | — | NBR | O-Ring, Bypass Fitting–70D | 1 |
| 443 | 541060 | BB | Valve, Check with O-Ring | 1 |
| | 549468 | SS | Valve, Check with FPM O-Ring | 1 |
| | 831515 | SS | Valve, Check with EPDM O-Ring | 1 |
| 444 | 45924 | S | Spring, Check Valve | 1 |
| 446 | — | NBR | O-Ring, Discharge Fitting–70D | 1 |
| 455 | 45865 | BB | Barb, Hose, Bypass Fitting | 1 |
| 460 | 107681 | BB | Fitting, Discharge (¾" NPT[M]) | 1 |
| 465 | 46140 | — | Bypass Hose (5½" x ¼") | 1 |
| | 45983 | — | Bypass Hose (8½" x ¼") (UMS) | 1 |
| 466 | 34365 | S | Clamp, Hose | 2 |
| 467 | 45868 | BB | Barb, Hose, Inlet Manifold | 1 |
| 468 | 32097 | NBR | Kit, O-Ring .3000 (Includes: 414, 415, 428, 429, 430, 437, 442, 446) | 1 |
| | 31627 | FPM | Kit, O-Ring .0110 (Includes: 414, 415, 428, 429, 430, 437, 442, 446) | 1 |
| | 31959 | EPDM | Kit, O-Ring .0220 (Includes: 414, 415, 428, 429, 430, 437, 442, 446) | 1 |
| 471 | 32176 | NBR | Kit, Check Valve (Includes: 443, 444, 446) | 1 |

Italics are optional items. R Components comply with RoHS Directive.

MATERIAL CODES (Not Part of Part Number): BB=Brass EPDM=Ethylene Propylene Diene Monomer FPM=Fluorocarbon NBR=Medium Nitrile (Buna-N) NY=Nylon
PTFE=Pure Polytetrafluoroethylene S=304SS STZP=Steel/Zinc Plated

EXPLODED VIEW



7625 UNLOADER for "GZ" Pump Models

SPECIFICATIONS

| | U.S. | Metric |
|-----------------------|------------------|--------------------|
| Flow Range | 0.5–7.8 gpm | 2–30 lpm |
| Pressure Range | 100–2500 psi | 6.9–172 bar |
| Maximum Temperature | 194° F | 90° C |
| Inlet Port, Rear | 3/8" BSP(M) | 3/8" BSP(M) |
| Discharge Port, Front | 3/8" BSP(F) | 3/8" BSP(F) |
| Bypass Port, Barb | 1/4" | 1/4" |
| Auxiliary Port, Side | 1/4" BSP(F) | 1/4" BSP(F) |
| Weight | 19.5 oz | 0.55 kg |
| Dimensions | 3.2 x 1.5 x 4.7" | 81 x 38 x 119.4 mm |

PARTS LIST

| ITEM | P/N | MATL | DESCRIPTION | QTY |
|------|-------|--------|--|-----|
| 401 | 32088 | NY | Handle, Black | 1 |
| 402 | 33859 | BB | Cap, Adjusting | 1 |
| 403 | 33857 | BB | Nut, Lock (M18 x 1) | 1 |
| 404 | 33061 | STZP | Screw, Set (M4 x 4) | 1 |
| 408 | 32094 | STZP R | Spring, Pressure | 1 |
| 410 | 32819 | STZP | Retainer, Spring | 1 |
| 412 | 33860 | S | Stem, Valve with O-Ring and Backup Ring | 1 |
| 414 | — | PTFE | Backup Ring, Stem | 1 |
| 415 | — | NBR | O-Ring, Stem | 1 |
| 425 | 33861 | BB | Retainer, Piston | 1 |
| 428 | — | NBR | O-Ring, Retainer | 1 |
| 429 | — | NBR | O-Ring, Body | 1 |
| 430 | — | PTFE | Backup Ring, Body | 1 |
| 435 | 33853 | SSS | Valve and Ball Assembly (M6) | 1 |
| 436 | 33806 | NBR | Seat, with O-Ring | 1 |
| 437 | — | NBR | O-Ring, Seat | 1 |
| 440 | — | BB | Valve Body | 1 |
| 442 | — | NBR | O-Ring, Bypass Fitting–85D | 1 |
| 443 | 76736 | BB | Valve, Check with O-Ring | 1 |
| 444 | 33843 | S | Spring | 1 |
| 446 | — | NBR | O-Ring, Discharge Fitting | 1 |
| 454 | 33865 | BB | Barb, Bypass (3/8" BSP[M] x 1/4") | 1 |
| 455 | 33846 | BB | Fitting, Bypass (3/8" BSP[F]) | 1 |
| 460 | 33847 | BB | Fitting, Discharge (3/8" BSP[F]) | 1 |
| 465 | 46140 | — | Bypass Hose (5 1/2" x 1/4") | 1 |
| 466 | 34365 | S | Clamp, Hose | 2 |
| 467 | 45868 | BB | Barb, Hose, Inlet Manifold | 1 |
| 468 | 76781 | NBR | Kit, O-Ring (Includes: 414, 415, 428, 429, 430, 437, 442, 446) | 1 |

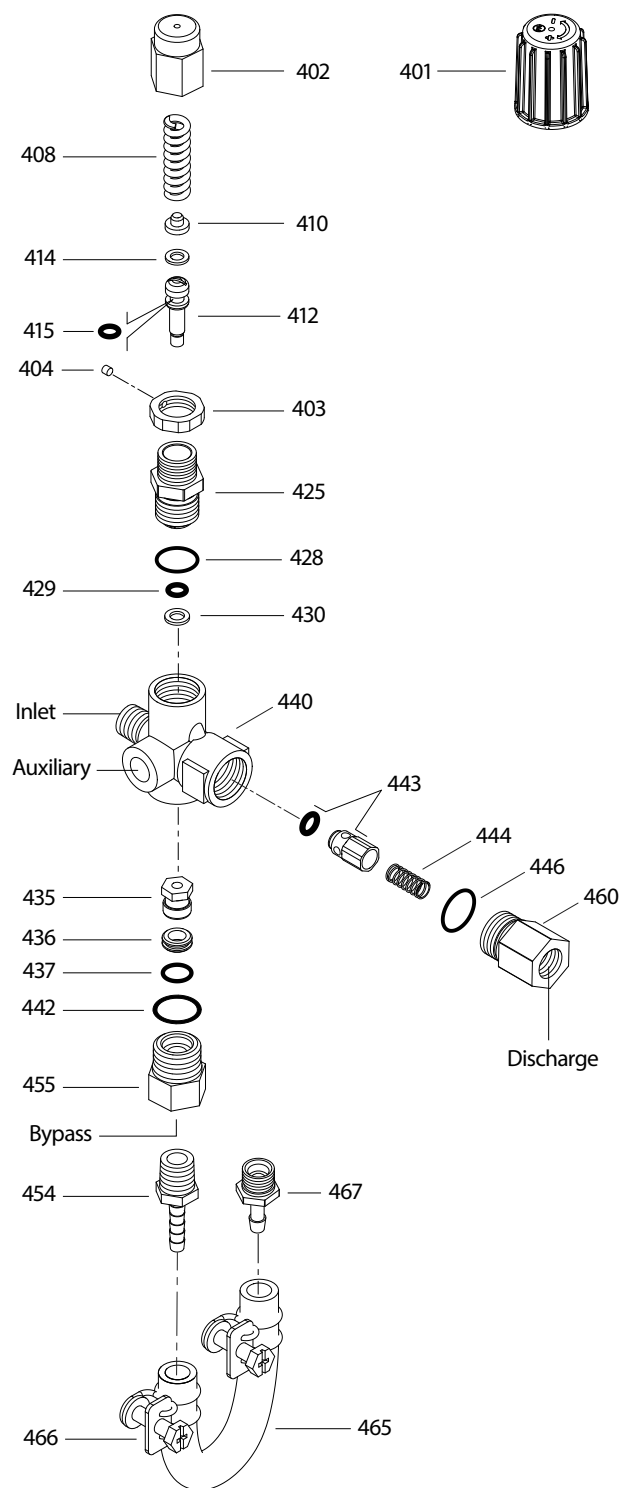
Italics are optional items. R Components comply with RoHS Directive.

MATERIAL CODES (Not Part of Part Number): BB=Brass

NBR=Medium Nitrile (Buna-N) NY=Nylon PTFE=Pure Polytetrafluoroethylene

S=304SS SSS=416SS STZP=Steel/Zinc Plated

EXPLODED VIEW

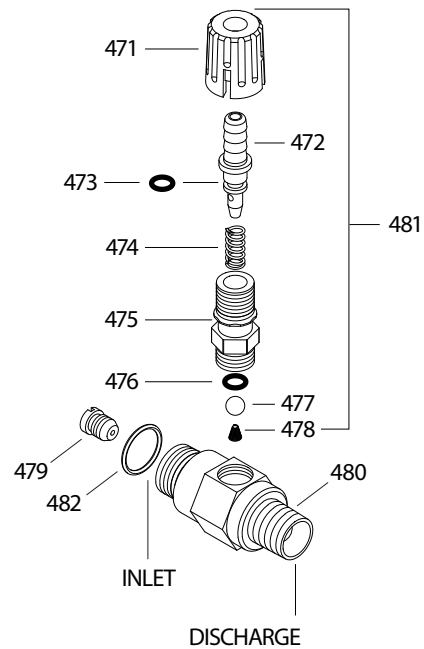


OPTIONAL CHEMICAL INJECTORS

7192, 7193, 7194, 7224 ADJUSTABLE, DOWN STREAM SPECIFICATIONS

| | | U.S. | Metric |
|-------------------------------|------|------------------|-----------------------|
| Flow Range | 7192 | 2–4 gpm | 7.6–15 lpm |
| | 7193 | 3–5 gpm | 11.4–19 lpm |
| | 7194 | 3–6 gpm | 11.4–23 lpm |
| | 7224 | 5–6 gpm | 19–23 lpm |
| Orifice Size | 7192 | 1.8 mm | 1.8 mm |
| | 7193 | 2.1 mm | 2.1 mm |
| | 7194 | 2.3 mm | 2.3 mm |
| | 7224 | 2.3 mm | 2.3 mm |
| Maximum Pressure | | 4050 psi | 279 bar |
| Maximum Temperature | | 195° F | 90° C |
| Inlet Port (7192, 7193, 7194) | | M18 x 1.0 | M18 x 1.0 |
| Inlet Port (7224) | | M22 x 1.5 | M22 x 1.5 |
| Discharge Port | | 3/8" NPT(M) | 3/8" NPT(M) |
| Hose Barb | | 1/4" | 1/4" |
| Weight | | 5.7 oz | 0.16 kg |
| Dimensions | | 2.0 x 1.0 x 3.0" | 50.8 x 25.4 x 76.2 mm |

EXPLODED VIEW



CHEMICAL INJECTOR PERFORMANCE CHART

| Model | Pump Flow | Orifice Size | Maximum Injecting Pressure | Maximum Chemical Draw | Pressure Drop Across Orifice |
|-------|-----------|--------------|----------------------------|-----------------------|------------------------------|
| 7192 | 2 gpm | 1.8 | 225 psi | 60 | 150 |
| 7192 | 3 gpm | 1.8 | 275 psi | 60 | 300 |
| 7192 | 4 gpm | 1.8 | 450 psi | 60 | 500 |
| 7193 | 3 gpm | 2.1 | 225 psi | 54 | 150 |
| 7193 | 4 gpm | 2.1 | 375 psi | 54 | 250 |
| 7193 | 5 gpm | 2.1 | 600 psi | 54 | 400 |
| 7194 | 3 gpm | 2.3 | 150 psi | 50 | 125 |
| 7194 | 4 gpm | 2.3 | 225 psi | 50 | 220 |
| 7224 | 3 gpm | 2.3 | 150 psi | 50 | 125 |
| 7224 | 4 gpm | 2.3 | 225 psi | 50 | 220 |

Optimum performance of chemical injector occurs with a 35 ft high-pressure hose with a minimum 3/8" ID. The type of hose, extended lengths, reduced ID and fittings may create additional back pressures above the maximum injecting pressure rating of the injector and prevent it from drawing chemical.

PARTS LIST

| ITEM | P/N | MATL | DESCRIPTION | MODEL USED | QTY |
|------|--------------|------|--|------------|-----|
| 471 | 33949 | NY | Handle, Adjustment | All | 1 |
| 472 | 32941 | BB | Barb, Adjustable with O-Ring | All | 1 |
| 473 | — | NBR | O-Ring, Hose Barb | All | 1 |
| 474 | 33500 | S | Spring, Retainer | All | 1 |
| 475 | 33946 | BB | Retainer, Ball/Seat | All | 1 |
| 476 | 33504 | FPM | O-Ring, Retainer | All | 1 |
| 477 | 34620 | SS | Ball, Seat 1/4" | All | 1 |
| 478 | 33501 | SS | Spring, Ball | All | 1 |
| 479 | 32372 | S | Injector Orifice (1.8 mm) | 7192 | 1 |
| | 32373 | S | Injector Orifice (2.1 mm) | 7193 | 1 |
| | 32374 | S | Injector Orifice (2.3 mm) | 7194 | 1 |
| | 32074 | SSS | Injector Orifice (2.3 mm) | 7224 | 1 |
| 480 | — | BB | Body | All | 1 |
| 481 | 33481 | BBNY | Barb Assembly, Adjustable (Includes: 471, 472, 473, 474, 475, 476, 477, 478) | All | 1 |
| 482 | 13969 | NBR | O-Ring, Body-70D | All | 1 |

Italics are optional items.

Material Codes (Not Part of Part No.): BB=Brass FPM=Fluorocarbon
NBR=Medium Nitrile (Buna-N) NY=Nylon S=304SS SS=316SS SSS=416SS

TROUBLESHOOTING

| PROBLEM | PROBABLE CAUSE | SOLUTION |
|----------------------------------|---|---|
| No Chemical Draw: | <ul style="list-style-type: none"> High-pressure nozzle installed on gun Air leak in chemical suction line Worn injector orifice | <ul style="list-style-type: none"> Install low-pressure nozzle in gun Tighten or replace suction line Replace injector orifice |
| Leaking Around Adjusting Collar: | <ul style="list-style-type: none"> Worn O-ring Debris in injector | <ul style="list-style-type: none"> Replace O-ring Clean out debris from injector |

ELECTRIC MOTOR SPECIFICATIONS (60 hz, 1 hp)

Contact Cat Pumps for additional motor options including the 3 ph, 50 hz, frame sizes, etc.

Note: Use a 1750 RPM motor to reduce the flow rate of a 3450 RPM pump by 50%

Model 8054

| | |
|----------------|----------|
| Horsepower | 1.5 |
| Shaft Diameter | 5/8" |
| Maximum Volts | 115/230 |
| Full Load Amps | 12.1 |
| RPM | 3450 |
| Weight | 32.1 lbs |
| Phase | Single |
| Frame Size | 56C TEFC |
| Service Factor | 1.15 |

Motor has thermal overload manual reset.

Model 999943

| | |
|----------------|--------------|
| Horsepower | 2.0 |
| Shaft Diameter | 5/8" |
| Maximum Volts | 115/230 |
| Full Load Amps | 17.0/9.2–8.5 |
| RPM | 3450 |
| Weight | 32.5 lbs |
| Phase | Single |
| Frame Size | 56C TEFC |
| Service Factor | 1.15 |

Motor has thermal overload manual reset.

Model 8126

| | | |
|----------------|---------------|-------------------|
| Hertz | 60 | 50 |
| Horsepower | 2.5 | 2.5 |
| Shaft Diameter | 5/8" | 5/8" |
| Maximum Volts | 208–230/460 | 190–220/380–415 |
| Full Load Amps | 7.9–7.12/3.56 | 8.2–7.6/4.08–4.01 |
| RPM | 1750 | 1450 |
| Weight | 63 lbs | 63 lbs |
| Phase | Three | Three |
| Frame Size | 56C TEFC | 56C TEFC |
| Service Factor | 1.15 | 1.0 |

Model 8057

| | |
|----------------|---------------|
| Horsepower | 5.0 |
| Shaft Diameter | 3/4" |
| Maximum Volts | 230 |
| Full Load Amps | 22.0 |
| RPM | 3450 |
| Weight | 40 lbs |
| Phase | Single |
| Frame Size | 56C Open Drip |
| Service Factor | 1.15 |

Motor has thermal overload manual reset.

Model 8115

| | | |
|----------------|----------------|-----------|
| Hertz | 60 | 50 |
| Horsepower | 1.5 | 1.5 |
| Shaft Diameter | 5/8" | 5/8" |
| Maximum Volts | 115/208–230 | 110/220 |
| Full Load Amps | 13.8/7.63–6.90 | 17.8/8.90 |
| RPM | 1750 | 1450 |
| Weight | 53.8 lbs | 53.8 lbs |
| Phase | Single | Single |
| Frame Size | 56C TEFC | 56C TEFC |
| Service Factor | 1.85 | 1.65 |

Model 8120

| | | |
|----------------|----------------|-----------|
| Hertz | 60 | 50 |
| Horsepower | 2.0 | 2.0 |
| Shaft Diameter | 5/8" | 5/8" |
| Maximum Volts | 115/208–230 | 110/220 |
| Full Load Amps | 17.2/9.53–8.62 | 20.8/10.4 |
| RPM | 1750 | 1450 |
| Weight | 53.8 lbs | 53.8 lbs |
| Phase | Single | Single |
| Frame Size | 56C TEFC | 56C TEFC |
| Service Factor | 1.40 | 1.25 |

Models 8125/8125W

| | | |
|----------------|-----------|-----------|
| Hertz | 60 | 50 |
| Horsepower | 2.5 | 2.2 |
| Shaft Diameter | 5/8" | 5/8" |
| Maximum Volts | 115/230 | 110/220 |
| Full Load Amps | 20.8/10.4 | 22/11 |
| RPM | 1750 | 1450 |
| Weight | 53.8 lbs | 53.8 lbs |
| Phase | Single | Single |
| Frame Size | 56HC TEFC | 56HC TEFC |
| Service Factor | 1.15 | 1.15 |

Common Motor Specifications

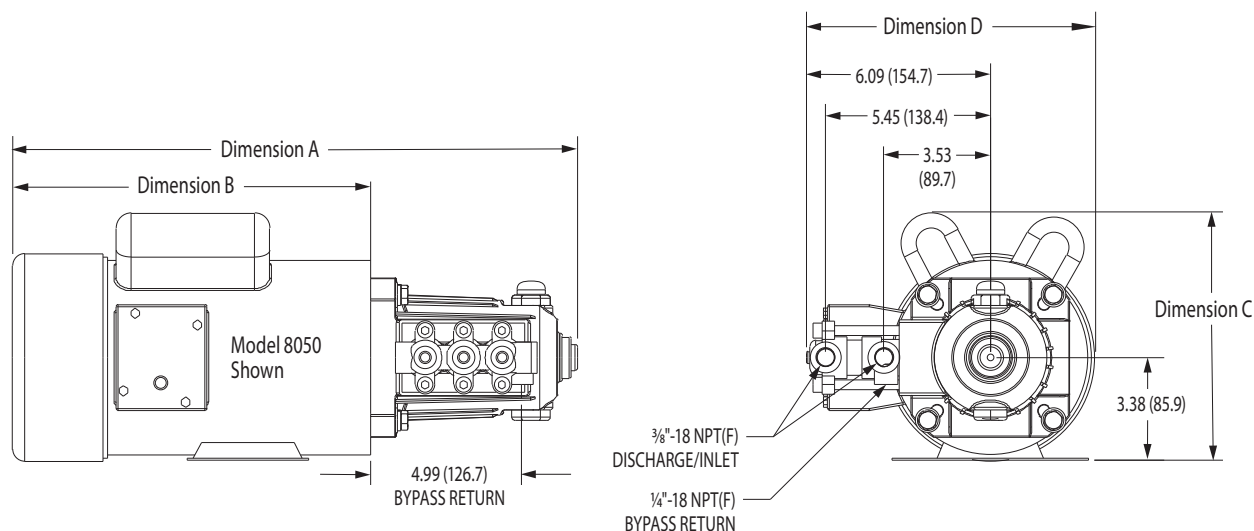
| | |
|-----------------------------|--------|
| Maximum Ambient Temperature | 104° F |
| Hertz | 60 Hz |
| Capacitor Start | Yes |

Note: Motor start-up AMPS may vary, then settle within FULL LOAD AMPS rating after initial run-in time.

Before mounting pump on motor, apply PN 6106 Anti-Seize lubricant to pump shaft.

Refer to **Tech Bulletin 055** for instructions on removing pump from gas engine or electric motor.

MOTOR DIMENSIONS



| MODEL | 8054 | 999943 | 8057 | 8115 | 8120 | 8125/W | 8126 |
|-------------|------------|------------|------------|------------|------------|------------|------------|
| Dimension A | 18.2 (462) | 18.2 (462) | 18.7 (475) | 19.3 (490) | 19.3 (490) | 19.3 (490) | 20.0 (525) |
| Dimension B | 11.3 (287) | 11.3 (287) | 11.8 (300) | 12.4 (315) | 12.4 (315) | 12.4 (315) | 13.1 (350) |
| Dimension C | 8.4 (213) | 8.4 (213) | 9.0 (228) | 9.7 (246) | 9.7 (246) | 9.7 (246) | 8.3 (185) |
| Dimension D | 9.5 (241) | 9.5 (241) | 9.5 (241) | 9.7 (246) | 9.7 (246) | 9.7 (246) | 9.5 (246) |

UNLOADER TYPE

Each pump comes with a pressure-sensitive regulating unloader. This unloader will set system pressure. While in bypass, the line pressure will drop to a low-pressure mode and then quickly build up to set system pressure when the system is back to full use.

INSTALLATION AND START-UP

Install a pressure gauge close to the manifold head of the pump to assist in setting system pressure, and to periodically monitor system pressure. This pump comes with a bypass line and is redirected to the 1/4" NPT(F) port on bottom side of inlet manifold.

Note: If not using a thermal valve, **DO NOT EXCEED 6 MINUTES** in bypass.

Note: For high-temperature seal pumps, **DO NOT USE THERMAL VALVE**. Use optional dual pressure switches and mechanical relays.

Pump should be purged of air before commencing with operation. Liquid must flow through the pump without discharge restriction to ensure full system pressure is reached.

Setting and adjusting the unloader pressure must be done with the system turned on. Start the system with the unloader backed off to the lowest pressure setting (counterclockwise direction). Squeeze the trigger and read the pressure on the gauge at the pump. Do not read pressure at the gun or nozzle. If more pressure is desired, release the trigger, turn adjusting cap one quarter turn in a clockwise direction. Squeeze the trigger and read the pressure. Repeat this process until the desired system pressure is reached. Thread locking nut up to adjusting cap.

Note: Pressure is not set at the factory.

SERVICE

The unloader should be serviced on the same schedule as the seals in the pump. Refer to SF Plunger Pump Service Manual for start-up, servicing of seals and valves, torque requirements, diagnosis and maintenance chart.

⚠ 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