

DATA SHEET

DIRECT DRIVE PLUNGER PUMP



Brass Model: 67DX39G11



FEATURES

- Triplex plunger design ensures high efficiency and low pulsation.
- Compact flange mount permits easy, direct mounting to most gas engines.*
- Integral regulating unloader with built-in bypass ensures system pressure control and pump protection.
- Stacked stainless steel valve design promotes long life and easy servicing.
- Fixed chemical injector aids in cleaning flexibility.
- Includes crankcase oil.
- Pump comes standard with NBR seals. Alternative seal materials are available for higher temperature or chemical compatibility.

*Gas Mounting Flange: SAE J609, Flange B, Extension 4 (1"Ø), Shaft Length= 3 1/4", Pilot Ø= 5 3/4", BC. Ø= 6 1/2", Thread 3/8"-16 UNC TAP.

| SPECIFICATIONS | U.S. Measure | Metric Measure |
|---|----------------------|--------------------|
| Flow | 3.9 gpm | 14.8 lpm |
| Pressure Range | 100–4000 psi | 6.9–276 bar |
| Pump RPM | 3450 rpm | 3450 rpm |
| Inlet Pressure Range | Flooded to 75 psi | Flooded to 5.2 bar |
| Max. Liquid Temperature | 140° F | 60° C |
| Bore | 0.551" | 14 mm |
| Stroke | 0.405" | 10.3 mm |
| Crankcase Capacity | 13.5 oz | 0.4 l |
| Inlet Port (1) | 1/2" NPT(F) | 1/2" NPT(F) |
| Discharge Port (1) | 3/8" NPT(F) | 3/8" NPT(F) |
| Discharge Port With Chemical Injector (1) | 3/8" NPT(M) | 3/8" NPT(M) |
| Inlet Auxiliary Port (1) | 1/4" NPT(F) | 1/4" NPT(F) |
| Shaft Diameter (Hollow) | 1" | 25.4 mm |
| Weight | 17 lbs | 7.7 kg |
| Dimensions | 11.50 x 8.82 x 7.99" | 292 x 224 x 203 mm |

TORQUE AND HORSEPOWER REQUIREMENTS

| | FLOW | | PRESSURE | | | | | | PUMP RPM | |
|-------------|------|------|-------------|-----|-------------|-----|-------------|-----|----------|-----|
| | GPM | LPM | PSI | | BAR | | PSI | | | BAR |
| | | | 2500 | 172 | 3200 | 220 | 4000 | 276 | | |
| Torque | 3.9 | 14.8 | 10.2 ft-lbs | | 13.0 ft-lbs | | 16.3 ft-lbs | | 3450 | |
| Horsepower* | | | 8.6 hp | | 10.9 hp | | 13.7 hp | | | |

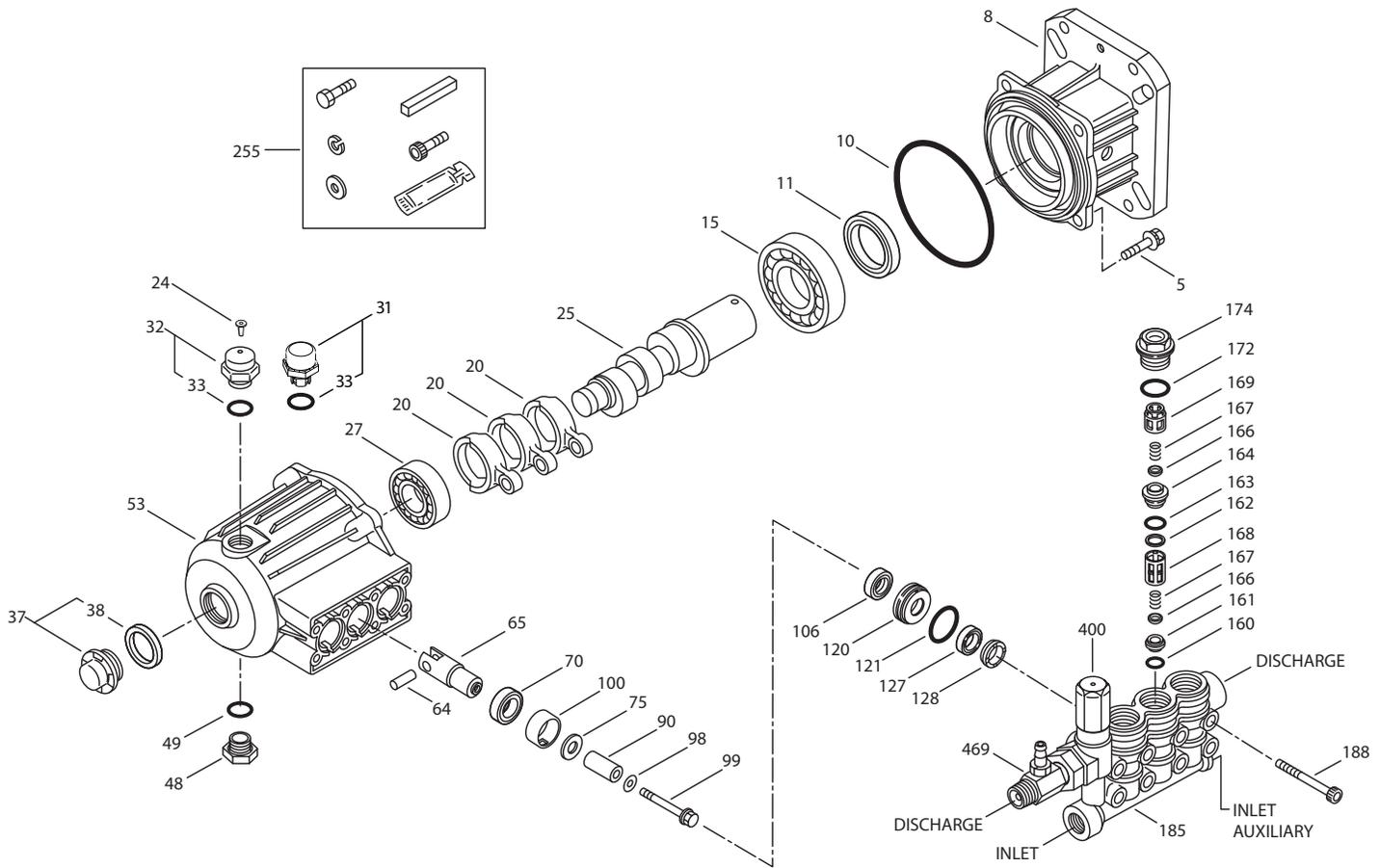
*HP is for estimate only. Torque values of the engine at given rpm should be used to determine correct size of engine.

Consult engine manufacturer for actual torque available at required speed.

| | | | | |
|--------------------------------------|---|---|---|---|
| DETERMINING THE PROPER TORQUE | Torque (ft-lbs) | = | 3.6 x | $\frac{\text{gpm} \times \text{psi}}{\text{rpm}}$ |
| DETERMINING THE REQUIRED HP | Engine hp (Estimated) | = | $\frac{\text{gpm} \times \text{psi}}{1140}$ | |
| DETERMINING THE PUMP RPM | $\frac{\text{Rated gpm}}{\text{Rated rpm}}$ | = | $\frac{\text{Desired gpm}}{\text{Desired rpm}}$ | |

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

EXPLODED VIEW



PARTS LIST

| ITEM | P/N | MATL | DESCRIPTION | QTY |
|------|--------|--------|---|-----|
| 5 | 127285 | STCP R | Screw, HH, Sems (M8 x 25) | 4 |
| 8 | 49361 | AL | Cover, Adapter Bearing | 1 |
| 10 | 14043 | NBR | O-Ring, Bearing Cover | 1 |
| 11 | 125351 | NBR | Seal, Oil Crankshaft | 1 |
| 15 | 146421 | STL | Bearing, Ball - Inner | 1 |
| 20 | 49364 | TNM | Rod, Connecting | 3 |
| 24 | 549608 | LDPE | Plug, Oil Cap | 1 |
| 25 | 49391 | CM | Crankshaft (10.3mm) | 1 |
| 27 | 49363 | STL | Bearing, Ball - Outer | 1 |
| 31 | 549726 | — | Cap, Vented with O-Ring (Rain Cap) | 1 |
| 32 | 547961 | RTP | Cap, Oil Filler with O-Ring | 1 |
| 33 | 14179 | NBR | O-Ring, Filler Cap-70D | 1 |
| 37 | 92241 | PC | Gauge, Oil Bubble with Gasket-80D | 1 |
| 38 | 44428 | NBR | Gasket, Flat, Oil Gauge-80D | 1 |
| 48 | 44842 | NY | Plug, Drain | 1 |
| 49 | 14179 | NBR | O-Ring, Drain Plug-70D | 1 |
| 53 | 49352 | AL | Crankcase | 1 |
| 64 | 49366 | CM | Pin, Crosshead | 3 |
| 65 | 49368 | BB | Rod, Plunger | 3 |
| 70 | 47215 | NBR | Seal, Oil Crankcase | 3 |
| 75 | 49370 | S | Slinger, Barrier | 3 |
| 90 | 49367 | CC | Plunger (M14 x 28) | 3 |
| 98 | 46730 | NBR | Washer, Seal-90D | 3 |
| 99 | 49369 | S | Retainer, Plunger (See Tech Bulletin 074) | 3 |
| 100 | 49371 | NY | Retainer, Seal | 3 |

| ITEM | P/N | MATL | DESCRIPTION | QTY |
|------|--------|--------|---|-----|
| 106 | 45188 | NBR | Seal, LPS with S-Spring | 3 |
| 120 | 49374 | BB | Case, Seal | 3 |
| 121 | 13977 | NBR | O-Ring, Seal Case-70D | 3 |
| 127 | 49606 | PTFE | V-Packing (Black) | 3 |
| 128 | 49605 | D | Adapter, Male | 3 |
| 160 | 26129 | NBR | O-Ring, Inlet Valve Seat-70D | 3 |
| 161 | 49378 | S | Seat, Inlet | 3 |
| 162 | 48361 | D | Backup Ring, Discharge Seat | 3 |
| 163 | 43358 | NBR | O-Ring, Discharge Seat-70D | 3 |
| 164 | 49376 | S | Seat, Discharge | 3 |
| 166 | 547098 | S | Valve | 6 |
| 167 | 49354 | S | Spring | 6 |
| 168 | 49377 | PVDF | Retainer, Spring, Inlet | 3 |
| 169 | 547441 | PVDF | Retainer, Spring, Discharge | 3 |
| 172 | 49382 | NBR | O-Ring, Valve Plug-90D | 3 |
| 174 | 49380 | BB | Plug, Valve (See Tech Bulletin 074) | 3 |
| 185 | 49372 | BB | Head, Manifold | 1 |
| 188 | 126512 | STCP R | Screw, HSH (M8 x 65) (See Tech Bulletin 074) | 8 |
| 197 | 941517 | BB | Assembly, GH [½" NPT(M) x ¾" GH(F)] | 1 |
| 255 | 31445 | STZP | Assembly, Bolt Mount, Gas | 1 |
| 300 | 76262 | NBR | Kit, Seal (Includes: 98, 106, 121, 127, 128) | 1 |
| 310 | 76260 | NBR | Kit, Valve Pre-Assembled (Includes: 160-164, 166, 167, 168, 169, 172) | 1 |
| 400 | — | — | Unloader, Integral (See Individual Parts) | 1 |
| 469 | 7367 | BB | Injector, Chemical Fixed | 1 |

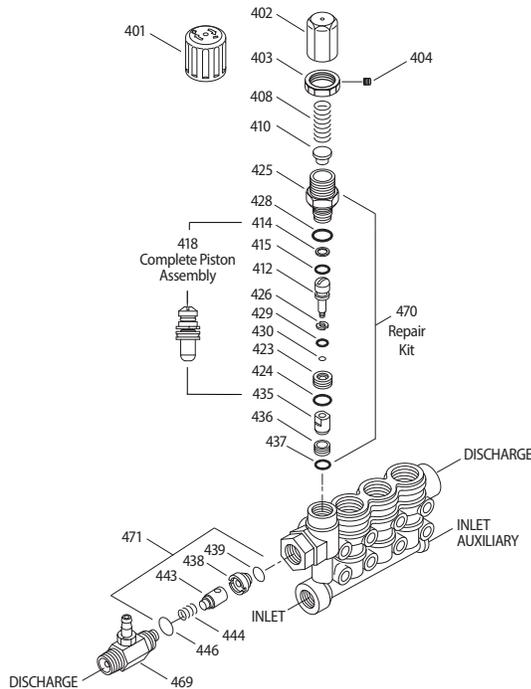
Italics are optional items. R Components comply with RoHS Directive.

MATERIAL CODES (Not Part of Part Number): AL=Aluminum BB=Brass CC=Ceramic CM=Chrome-moly D=Acetal LDPE=Low Density Polyethylene
 NBR=Medium Nitrile (Buna-N) NY=Nylon PC=Poly Carbonate PTFE=Pure Polytetrafluoroethylene PVDF=Polyvinylidene Fluoride RTP=Reinforced Composite S=304SS
 STCP=Steel/Chrome Plated STL=Steel STZP=Steel/Zinc Plated TNM=Special High Strength

INTEGRAL UNLOADER

SPECIFICATIONS

| | U.S. | Metric |
|---------------------------------------|--------------|-------------|
| Flow | 3.9 gpm | 14.8 lpm |
| PSI Range | 100–4000 psi | 6.9–276 bar |
| Inlet Port | ½" NPT(F) | ½" NPT(F) |
| Discharge Port With Chemical Injector | ¾" NPT(M) | ¾" NPT(M) |



PARTS LIST

| ITEM | P/N | MATL | DESCRIPTION | QTY |
|------|--------|--------|---|-----|
| 401 | 49100 | NY | Handle, Adjusting (Black) | 1 |
| 402 | 49099 | BB | Cap, Adjusting | 1 |
| 403 | 125521 | BB | Nut, Locking (M25 x 1) | 1 |
| 404 | 88953 | S | Screw, Set (M4 x 4) | 1 |
| 408 | 45198 | ZP R | Spring, Pressure | 1 |
| 410 | 49101 | STZP R | Retainer, Spring | 1 |
| 412 | 49103 | S | Stem, Piston | 1 |
| 414 | 129638 | PTFE | Backup Ring, Piston Stem | 1 |
| 415 | 49104 | NBR | O-Ring, Piston Stem–90D | 1 |
| 418 | — | BB | Assembly, Piston (Included in Repair Kit) | 1 |
| 423 | 49105 | BB | Retainer, Valve | 1 |
| 424 | 49106 | NBR | O-Ring, Valve Retainer–70D | 1 |
| 425 | 49102 | BB | Retainer, Piston | 1 |
| 426 | 49107 | S | Washer | 1 |
| 428 | 26133 | NBR | O-Ring, Piston Retainer–80D | 1 |
| 429 | 22056 | NBR | O-Ring, Valve Retainer–70D | 1 |
| 430 | 49123 | D | Backup Ring, Valve Retainer | 1 |
| 435 | 49383 | S | Valve/Ball Assembly | 1 |
| 436 | 49384 | S | Seat | 1 |
| 437 | 13965 | NBR | O-Ring, Seat–70D | 1 |
| 438 | 49386 | D | Seat, Check Valve | 1 |
| 439 | 13963 | NBR | O-Ring, Check Valve Seat–70D | 1 |
| 443 | 49245 | BB | Valve, Check with NBR O-Ring | 1 |
| 444 | 117275 | S | Spring, Check Valve | 1 |
| 446 | 26133 | NBR | O-Ring, Body–80D | 1 |
| 460 | 126974 | BB | Fitting, Discharge [¾" NPT(M)] (Not Shown) | 1 |
| 468 | 76708 | NBR | Kit, O-Ring (Includes: 414, 415, 424, 428, 429, 430, 437, 439, 446) | 1 |
| 469 | 7367 | BB | Injector, Chemical Fixed | 1 |
| 470 | 31556 | NBR | Kit, Repair (Includes: 418, 425, 428, 436, 437) | 1 |
| 471 | 76188 | NBR | Kit, Check Valve (Includes: 438–446) | 1 |

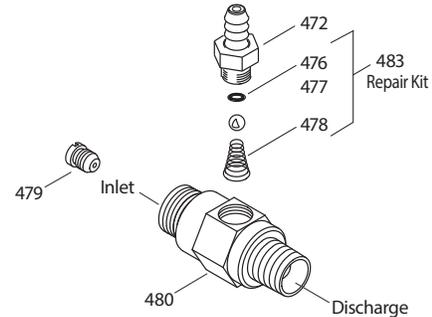
Italics are optional items. R Components comply with RoHS Directive.

MATERIAL CODES (Not Part of Part Number): BB=Brass D=Acetal
 NBR=Medium Nitrile (Buna-N) NY=Nylon PTFE=Pure Polytetrafluoroethylene
 S=304SS STZP=Steel/Zinc Plated ZP=Zinc Plated

MODEL 7367 FIXED CHEMICAL INJECTOR

SPECIFICATIONS

| | U.S. | Metric |
|----------------|---------------|-----------------|
| Flow | 3.9 gpm | 14.8 lpm |
| Nozzle Orifice | 2.1 mm | 2.1 mm |
| Hose Barb | ¼" | ¼" |
| Inlet Port | M20 x 1.0 | M20 x 1.0 |
| Discharge Port | ¾" NPT(M) | ¾" NPT(M) |
| Weight | 5.3 oz | 0.15 kg |
| Dimensions | 2 x 1 x 1.75" | 51 x 25 x 44 mm |



PARTS LIST

| ITEM | PN | MATL | DESCRIPTION | QTY |
|------|-------|------|---------------------------------------|-----|
| 472 | 49132 | BB | Barb, Fix | 1 |
| 476 | — | NBR | O-Ring, Barb–70D | 1 |
| 477 | — | S | Ball | 1 |
| 478 | — | S | Spring | 1 |
| 479 | — | S | Orifice | 1 |
| 480 | — | BB | Body | 1 |
| 483 | 76176 | NBR | Kit, Repair (Includes: 476, 477, 478) | 1 |

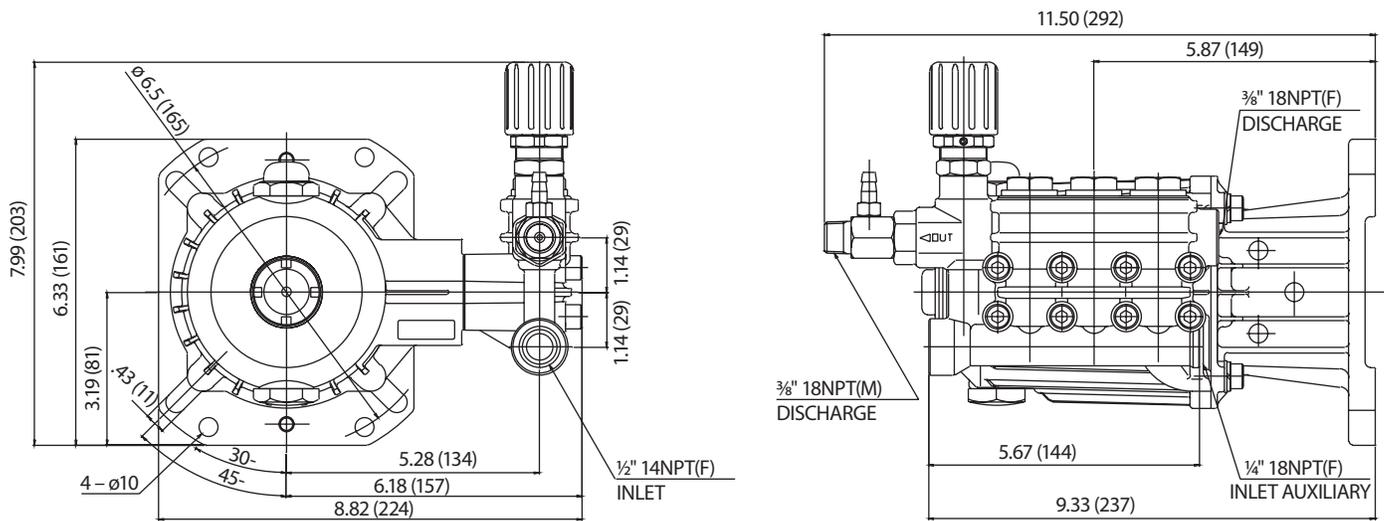
MATERIAL CODES (Not Part of Part Number):
 BB=Brass NBR=Medium Nitrile (Buna-N) S=304SS

CHEMICAL INJECTOR PERFORMANCE CHART

| Orifice Size | Injector Model | Maximum Injecting Pressure | Maximum Chemical Draw | Pressure Drop Across Injector At System Pressure (4000 psi) |
|--------------|----------------|----------------------------|-----------------------|---|
| 2.1 mm | 7367 | 358 psi | 76.8 oz/min | 288 psi |

Optimum performance of chemical injector occurs with 35 ft. high-pressure hose and a minimum ¾" ID. The type of hose, extended lengths, reduced ID and fittings may create back-pressure in excess of the low-pressure nozzle rating and prevent the injector from drawing chemical.

CAUTION: Deduct the pressure drop shown in the performance chart from your desired system pressure to arrive at the maximum high-pressure nozzle rating. This is essential to avoid over-pressurizing the pump.



UNLOADER TYPE:

An integral unloader with built-in bypass is part of the discharge manifold to provide system pressure regulation and pump protection. This pump also includes a fixed chemical injector for chemical application.

OPERATION:

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.

Install a pressure gauge close to the manifold head of the pump to assist in setting system pressure and to periodically monitor system pressure.

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 clockwise. Squeeze the trigger and read the pressure. Repeat this process until the desired system pressure is reached. Thread locking nut up to adjusting cap and tighten set screw. All high-pressure systems should have a secondary relief valve. Set secondary relief valve 200–300 psi above the unloader setting.

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 67DX Service Manual for servicing of seals and valves, torque requirements and Diagnosis and Maintenance chart.

⚠ CAUTIONS AND WARNINGS

All high-pressure systems require a primary pressure regulating device (i.e. regulator, unloader) and a secondary pressure relief device (i.e. 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 on-line at www.catpumps.com/literature/cat-pumps-limited-warranty

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