



Model 30RS.CO2 Shown  
(Rails Sold Separately)

## 5 Frame Plunger Pumps

### Models

**30.CO2**  
**30RS.CO2**

### FEATURES

- Triplex design delivers high efficiency and low pulsation.
- Durable high pressure seals are lubricated and cooled by pumped liquid.
- Pre-set Lo-Pressure seals provide secondary protection against external leaks and require no packing adjustment.
- Special high-density, polished, concentric plungers provide a true wear surface and extended seal life.
- Special formulated seals offer unmatched performance and extended life.
- Wet-end easily serviced without entering crankcase.

### SPECIFICATIONS

U.S. Measure

Metric Measure

#### MODELS 30.CO2, 30RS.CO2

|                                                                                                            |                      |                      |
|------------------------------------------------------------------------------------------------------------|----------------------|----------------------|
| Flow .....                                                                                                 | 0.68 gpm             | (2.57 lpm)           |
| Pressure Range .....                                                                                       | 100 to 2200 psi      | (7 to 155 bar)       |
| RPM .....                                                                                                  | 450 RPM              | (450 RPM)            |
| Inlet Pressure Range .....                                                                                 | 300 to 400 psi       | (21 to 27 bar)       |
| <b>Note:</b> Temperature and pressure must be maintained to keep incoming CO <sub>2</sub> in liquid state. |                      |                      |
| Minimum Liquid Temperature .....                                                                           | -20°F                | (-29°C)              |
| Bore .....                                                                                                 | 0.787"               | (20 mm)              |
| Stroke .....                                                                                               | 0.315"               | (8 mm)               |
| Crankcase Capacity .....                                                                                   | 18 oz.               | (.55 l)              |
| Inlet Ports (2) .....                                                                                      | 1/2" NPTF            | (1/2" NPTF)          |
| Discharge Ports (2) .....                                                                                  | 3/8" NPTF            | (3/8" NPTF)          |
| Shaft Diameter .....                                                                                       | 0.787"               | (20 mm)              |
| Weight .....                                                                                               | 20.1 lbs.            | (9.1 kg)             |
| Dimensions .....                                                                                           | 11.69 x 8.35 x 5.28" | (297 x 212 x 134 mm) |

### ELECTRIC HORSEPOWER REQUIREMENTS

| FLOW        |      | PRESSURE    |             |             |             | RPM |
|-------------|------|-------------|-------------|-------------|-------------|-----|
|             |      | psi<br>1200 | psi<br>1500 | psi<br>2000 | psi<br>2200 |     |
| U.S.<br>gpm | l/m  | bar<br>85   | bar<br>105  | bar<br>140  | bar<br>155  |     |
| 0.68        | 2.57 | .56         | .70         | .93         | 1.02        | 450 |

**DETERMINING  
THE PUMP R.P.M.**

$$\frac{\text{Rated gpm}}{\text{Rated rpm}} = \frac{\text{"Desired" gpm}}{\text{"Desired" rpm}}$$

**DETERMINING  
THE REQUIRED H.P.**

$$\frac{\text{gpm} \times \text{psi}}{1460} = \text{Electric Brake H. P. Required}$$

**DETERMINING  
MOTOR PULLEY SIZE**

$$\frac{\text{Motor Pulley O.D.}}{\text{Pump rpm}} = \frac{\text{Pump Pulley O.D.}}{\text{Motor rpm}}$$

### ⚠ 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/cautions-warnings](http://www.catpumps.com/cautions-warnings) or can be requested directly from CAT PUMPS.

### WARRANTY

View the Limited Warranty on-line at [www.catpumps.com/warranty](http://www.catpumps.com/warranty).

See complete Drive Packages [Incls: Pulleys, Belts, Hubs, Key] Tech Bulletin 003.  
Refer to pump **Service Manual** for repair procedure and additional technical information.

## PARTS LIST

| ITEM | PART NUMBER | MATL   | DESCRIPTION                                                                                    | QTY |
|------|-------------|--------|------------------------------------------------------------------------------------------------|-----|
| 2    | 30057       | STL    | Key (M6x6x25)                                                                                  | 1   |
| 5    | 125824      | STCP R | Screw, HHC Sems (M6x16)                                                                        | 8   |
| 8    | 43745       | AL     | Cover, Bearing                                                                                 | 1   |
| 10   | 43343       | NBR    | O-Ring, Bearing Case - 70D                                                                     | 2   |
| 11   | 43222       | NBR    | Seal, Oil, Crankshaft - 70D                                                                    | 1   |
| 15   | 14480       | STL    | Bearing, Ball                                                                                  | 2   |
| 20   | 45883       | HS     | Rod, Connecting, Assy                                                                          | 3   |
| 25   | 44923       | FCM    | Crankshaft, Single End                                                                         | 1   |
| 30   | 44944       | AL     | Cover, Blind Shaft                                                                             | 1   |
| 31   | 828710      | PE     | Protector, Oil Cap w/Foam Gasket                                                               | 1   |
| 32   | 43211       | ABS    | Cap, Oil Filler                                                                                | 1   |
| 33   | 14177       | NBR    | O-Ring, Filler Cap - 70D                                                                       | 1   |
| 37   | 92241       | —      | Gauge, Oil, Bubble w/Gasket - 80D                                                              | 1   |
| 38   | 44428       | NBR    | Gasket, Flat, Oil Gauge - 80D                                                                  | 1   |
| 40   | 126541      | STCP R | Screw, HHC Sems (M6x20)                                                                        | 4   |
| 48   | 25625       | STCP   | Plug, Drain (1/4"x19BSP)                                                                       | 1   |
| 49   | 23170       | NBR    | O-Ring, Drain Plug - 70D                                                                       | 1   |
| 50   | 48772       | AL     | Cover, Rear                                                                                    | 1   |
| 51   | 48773       | NBR    | O-Ring, Crankcase Cover                                                                        | 1   |
| 53   | 48774       | AL     | Crankcase                                                                                      | 1   |
| 64   | 43351       | CM     | Pin, Crosshead                                                                                 | 3   |
| 65   | 45908       | ZZCP   | Rod, Plunger, Short                                                                            | 3   |
| 70   | 43228       | NBR    | Seal, Oil, Crankcase                                                                           | 3   |
| 75   | 43328       | S      | Slinger, Barrier                                                                               | 3   |
| 88   | 45697       | S      | Washer, Keyhole (M18)                                                                          | 3   |
| 90   | 43367       | CC     | Plunger (M20x72)                                                                               | 3   |
| 95   | 126558      | STCP R | Stud, Plunger Retainer (M6x64.5)                                                               | 3   |
| 96   | 43235       | PTFE   | Back-up-Ring, Plunger Retainer                                                                 | 3   |
| 97   | 17399       | NBR    | O-Ring, Plunger Retainer - 80D                                                                 | 3   |
| 98   | 45891       | CU     | Gasket                                                                                         | 3   |
| 99   | 46504       | S      | Retainer, Plunger (M6)                                                                         | 3   |
| 100  | 701765      | SS     | Retainer, Seal                                                                                 | 3   |
| 106  | 701763      | SFTA   | Seal, LPS w/NIH-Spg                                                                            | 3   |
| 120  | 45679       | BB     | Case, Seal                                                                                     | 3   |
| 121  | 14200       | NBR    | O-Ring, Seal Case - 70D                                                                        | 3   |
| 125  | 701764      | SFTA   | Seal, HPS w/SS                                                                                 | 3   |
| 139  | 22179       | BBCP   | Plug, Inlet (1/2" NPT) (Not Shown)                                                             | 1   |
| 162  | 48361       | D      | Back-up-Ring, Seat                                                                             | 6   |
| 163  | 43358       | NBR    | O-Ring, Seat - 70D                                                                             | 6   |
| 164  | 43725       | S      | Seat                                                                                           | 6   |
| 166  | 43723       | S      | Valve                                                                                          | 6   |
| 167  | 43750       | S      | Spring                                                                                         | 6   |
| 168  | 44565       | PVDF   | Retainer, Spring                                                                               | 6   |
| 172  | 17615       | NBR    | O-Ring, Valve Plug - 75D                                                                       | 6   |
| 174  | 46756       | BB     | Plug, Valve                                                                                    | 6   |
| 185  | 45062       | BB     | Head, Manifold                                                                                 | 1   |
| 188  | 126520      | STCP R | Screw, HSH Sems (M10x35)                                                                       | 2   |
| 196  | 43633       | BB     | Plug, Discharge, (3/8" NPT) (Not Shown)                                                        | 1   |
| 260  | 30611       | STZP   | Rail Mounting, Angle - B                                                                       | 1   |
| 270  | 30633       | STL    | Pulley & Key Assy (Incls: 30058, 30057)                                                        | 1   |
| 275  | 30944       | STL    | Hub & Key Assy (Incls: 30945, 30057)                                                           | 1   |
| 300  | 76152       | NBR*   | Kit, Seal (Incls: 97,106,121,125)                                                              | 1   |
| 310  | 30821       | NBR    | Kit, Valve (Incls: 162,163,164,166,167,168,172)                                                | 2   |
| 350  | 30696       | STZP   | Plier, Reverse                                                                                 | 1   |
| 351  | 33004       | STZP   | Seal Case Socket, 1/2" Drive                                                                   | 1   |
| —    | 6107        | —      | Oil, Bottle (21 oz.) ISO 68 Hydraulic (Fill to specified crankcase capacity prior to start-up) | 1   |

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

[ ] Date of latest production change. See Tech Bulletins 003, 024, 036, 074, 077, 078, 083 and 090 for additional information.

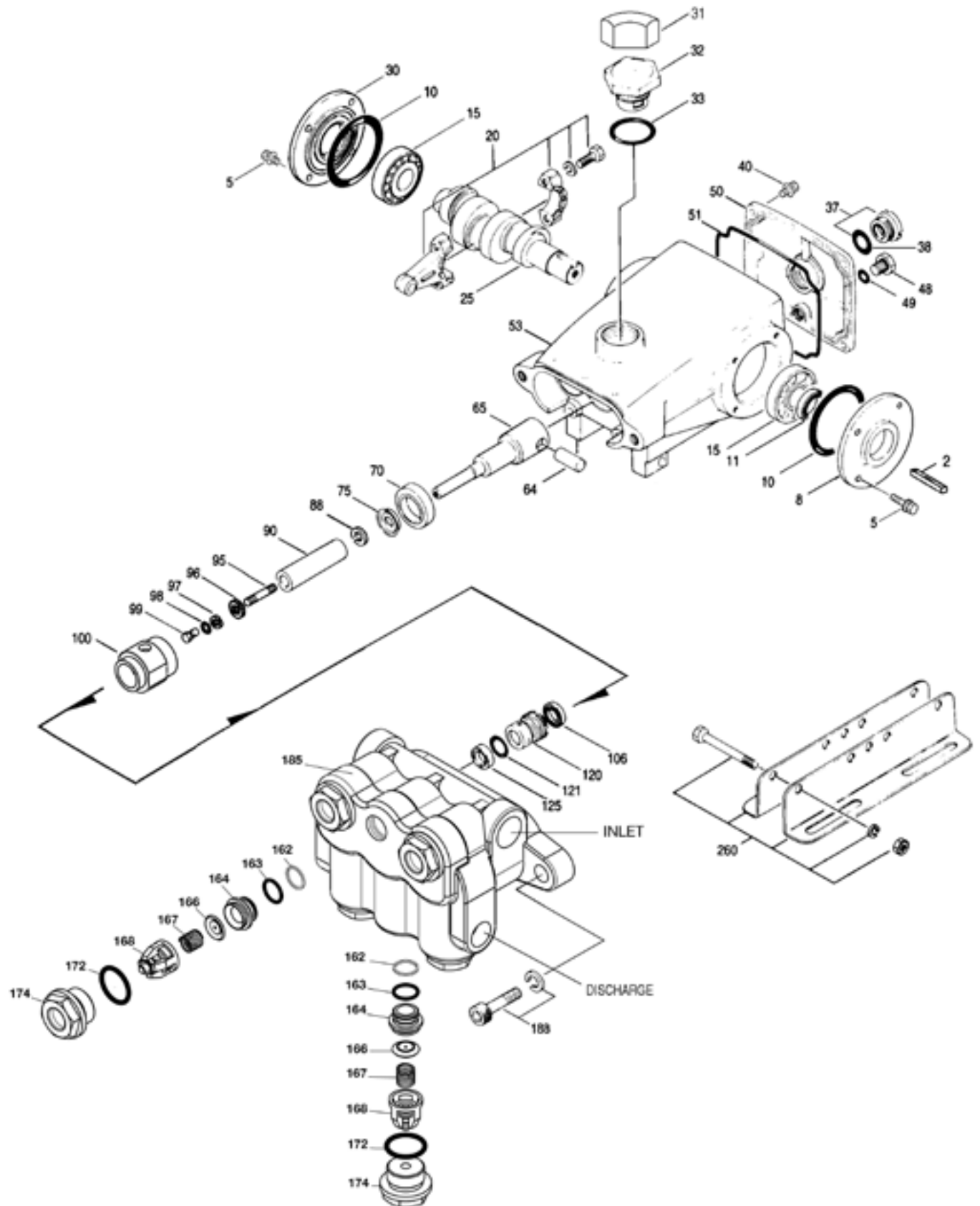
MATERIAL CODES (Not Part of Part Number): ABS=ABS Plastic AL=Aluminum BB=Brass

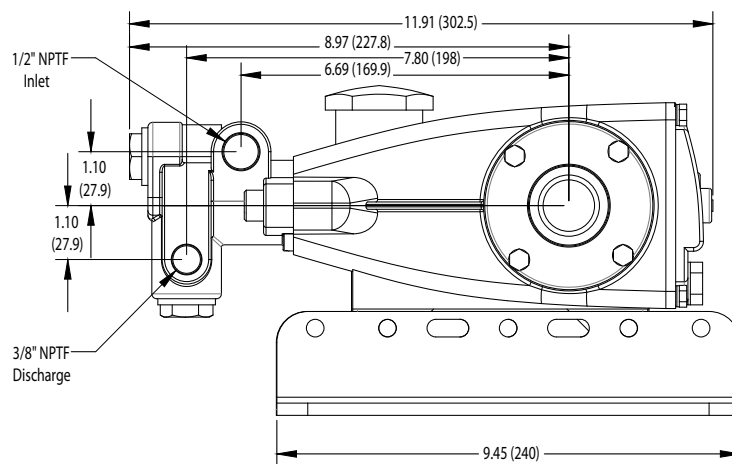
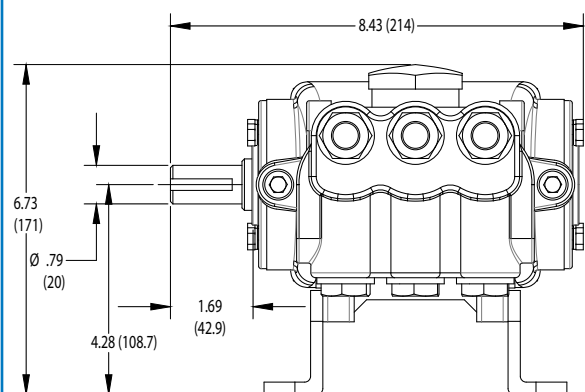
BBCP=Brass/Chrome Plated CC=Ceramic CM=Chrome-Moly CU=Copper D=Acetal FBB=Forged Brass FCM=Forged Chrome-moly HS=High Strength NBR=Medium Nitrile (Buna-N) PE= Polyethylene PTFE=Pure Polytetrafluoroethylene PVDF=Polyvinylidene Fluoride

S=304SS SFTA= Special Blend PTFE (Tan) SNG=Special Blend (Buna) SS= 316 Stainless Steel STL=Steel STCP=Steel/Chrome Plated

STZP=Steel/Zinc Plated ZZ/CP=Zamak/Chrome Plated

## EXPLODED VIEW





Models 30.C02, 30RS.C02



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