

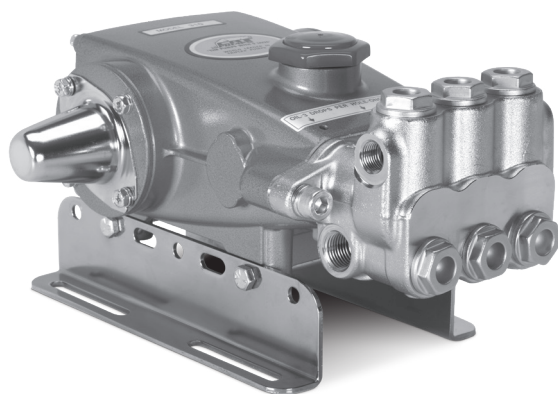
# DATA SHEET

## 5 FRAME PLUNGER PUMP



Special Brass  
Model:

**310BQ**



Model 310BQ Shown  
(Rails and Shaft Protector Sold Separately)

### FEATURES

- Triplex design offers high-efficiency and low-pulsation.
- Durable high-pressure seals are lubricated and cooled by pumped liquid.
- Pre-set low-pressure seals provide secondary protection against external leaks and require no packing adjustment.
- "Q" option is designed for applications where a reduced sound level is desirable.

### SPECIFICATIONS

	U.S. Measure	Metric Measure
Flow	4.0 gpm	15 lpm
Pressure Range	100 to 2200 psi	6.9 to 152 bar
Pump RPM*	950 rpm	950 rpm
Inlet Pressure Range	-5 to 60 psi	-0.35 to 4.1 bar
Max. Liquid Temp. (NBR)	160° F	71° C
<b>Alternate seals available for higher temperatures up to 190° F</b>		
Stroke	0.709"	18 mm
Bore	0.787"	20 mm
Crankcase Capacity	18 oz.	0.53 l
Inlet Ports (2)	½" NPT(F)	½" NPT(F)
Discharge Ports (2)	⅜" NPT(F)	⅜" NPT(F)
Shaft Diameter	0.787"	20 mm
Weight	19.8 lbs.	9 kg
Dimensions	11.86 x 10.0 x 5.24"	301 x 254 x 133 mm

\*Pump minimum is 100 RPM.

### ALTERNATE SPECIFICATIONS

	U.S. Measure	Metric Measure
Flow	5.0 gpm	19 lpm
Pressure Range	100 to 1500 psi	6.9 to 103 bar
Pump RPM*	1190 rpm	1190 rpm

\*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)
HT	.3000	180° F (82° C)
STHT	.3400	190° F (88° C)

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

<b>DETERMINING THE PUMP R.P.M.</b>	$\frac{\text{Rated gpm}}{\text{Rated rpm}} = \frac{\text{"Desired" gpm}}{\text{"Desired" rpm}}$
<b>DETERMINING THE REQUIRED H.P.</b>	$\frac{\text{HP (Electric Brake)}}{1460} = \frac{\text{gpm x psi}}{1460}$
<b>DETERMINING MOTOR PULLEY SIZE</b>	$\frac{\text{Motor Pulley O.D.}}{\text{Pump rpm}} = \frac{\text{Pump Pulley O.D.}}{\text{Motor rpm}}$

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

# PARTS LIST

ITEM	PART NUMBERS	MATL	DESCRIPTION	QTY
2	30057	STL	Key (M6 x 6 x 25)	1
5	125824	STCP R	Screw, HHC, Sems (M6 x 16) (See Tech Bulletin 074)	8
8	43344	AL	Cover, Bearing	2
10	43343	NBR	O-Ring, Bearing Cover – 70D	2
11	43222	NBR	Seal, Oil, Crankshaft	2
15	127472	STL	Bearing, Ball	2
20	45883	HS	Rod, Connecting Assembly [09/05] (See Tech Bulletin 074)	3
25	43342	FCM	Crankshaft, Dual End – M18	1
31	828710	PE	Protector, Oil Cap with Foam Gasket	1
32	43211	ABS	Cap, Oil Filler	1
33	14177	NBR	O-Ring, Filler Cap – 70D	1
37	92241	PC	Gauge, Oil, Bubble with Gasket (See Tech Bulletin 074)	1
38	44428	NBR	Gasket, Flat, Oil Gauge – 80D	1
40	126541	STCP R	Screw, HHC, Sems (M6 x 20) (See Tech Bulletin 074)	4
48	25625	STCP	Plug, Drain (¼" x 19 BSP)	1
49	23170	NBR	O-Ring, Drain Plug – 70D	1
50	48772	AL	Cover, Rear [10/01] (See Tech Bulletin 090)	1
51	48773	NBR	O-Ring, Rear Cover [10/01] (See Tech Bulletin 090)	1
53	48769	AL	Crankcase [05/02] (See Tech Bulletin 090)	1
56	43355	POP	Pan, Oil	1
64	43351	CM	Pin, Crosshead	3
65	43365	ZZCP	Rod, Plunger	3
70	43228	NBR	Seal, Oil, Crankcase	3
75	43328	S	Slinger, Barrier	3
88	45697	S	Washer, Keyhole (M18 x 10)	3
90	43367	CC	Plunger (M20 x 72)	3
96	43235	PTFE	Backup Ring, Plunger Retainer	3
97	17399	NBR	O-Ring, Plunger Retainer – 80D	3
98	45891	CU	Gasket	3
99	104360	S	Retainer, Plunger with Stud (See Tech Bulletin 074)	3
100	45688	PVDF	Retainer, Seal, 2-Piece [04/06] (See Tech Bulletin 105)	3
101	43302	—	Wick, Long Tab	3
106	43305	NBR	Seal, LPS with S-Spring	3
120	45679	BB	Case, Seal	3
121	14200	NBR	O-Ring, Seal Case – 70D	3
125	833824	SNG	Seal, HPS	3
139	22179	BBCP	Plug, Inlet [½" NPT(M)]	1
162	48361	D	Backup 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, Valve	6
168	44565	PVDF	Retainer, Valve Spring	6
172	17615	NBR	O-Ring, Valve Plug – 75D	6
174	43849	BBCP	Plug, Valve (See Tech Bulletin 074)	6
185	49721	SBCP	Head, Manifold	1
188	126520	STCP R	Screw, HSH, Sems (M10 x 35) (See Tech Bulletin 074)	2
250	118672	STCP	Protector, Shaft	1
255	30243	STZP	Mount, Direct	1
260	30611	STZP	Mounting, Angle Rail	1
265	30659	—	Mount, Assembly (Includes: 30611, 30633, 118672)	1
270	30633	STL	Assembly, Pulley & Key (Includes: 30058, 30057)	1
275	30944	STL	Assembly, Hub & Key (Includes: 30057, 30945)	1
283	34334	—	Kit, Oil Drain ( ⅜" x 24") (See Individual Data Sheet)	1
	76334	—	Kit, Oil Indicator, ( ⅜" x 24) (See Individual Data Sheet)	1
300	76277	NBR	Kit, Seal (Includes: 97, 101, 106, 121, 125)	1
310	30821	NBR	Kit, Valve, Pre-assembled (Includes: 162–164, 166–168, 172)	2
350	30696	STZP	Plier, Reverse	1
351	33004	STZP	Socket, Seal Case (½" 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. For additional technical information see [www.catpumps.com/literature/tech-bulletins](http://www.catpumps.com/literature/tech-bulletins).

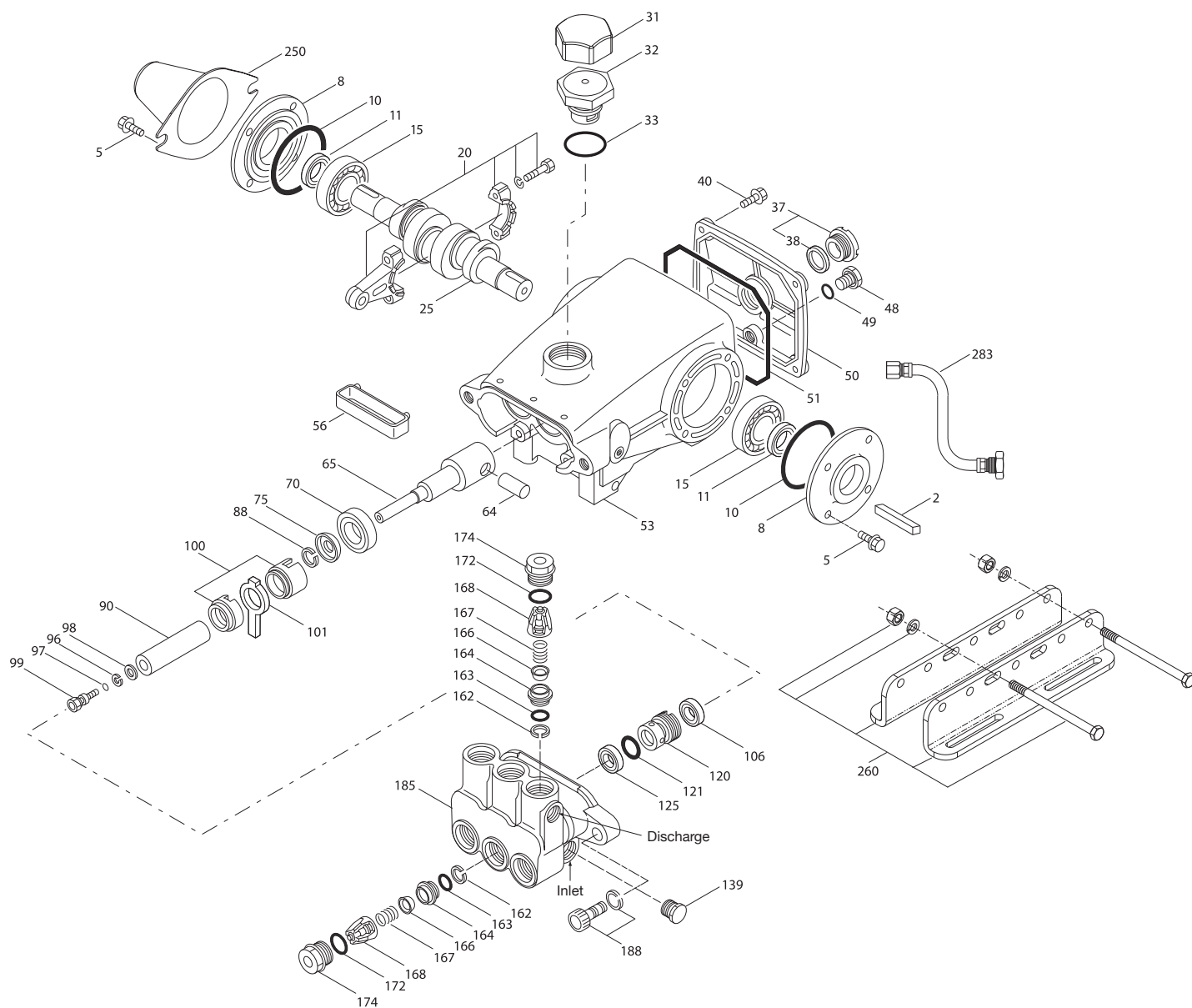
MATERIAL CODES (Not Part of Part Number): ABS=ABS Plastic AL=Aluminum BB=Brass BBCP=Brass/Chrome Plated CC=Ceramic CM=Chrome-moly CU=Copper

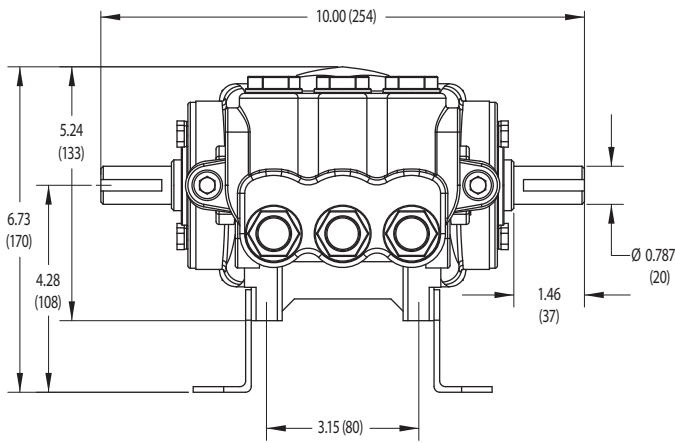
D=Acetal FCM=Forged Chrome-moly HS=High Strength NBR=Medium Nitrile (Buna-N) PC=Poly Carbonate PE=Polyethylene POP=Polypropylene

PTFE=Pure Polytetrafluoroethylene PVDF=Polyvinylidene Fluoride S=304SS SBCP=Special Brass/Chrome Plated SNG=Special Blend (Buna) STL=Steel

STCP=Steel/Chrome Plated STZP=Steel/Zinc Plated ZZCP=Chrome Plated/Steel - Zamak

# EXPLODED VIEW





Model 310BQ



1. Special concentric, high-density, polished, solid ceramic **plungers** provide a true wear surface and extended seal life.
2. **Manifolds** are a high-tensile strength forged brass or special brass for long life, continuous duty and compatibility.
3. 100% **wet seal** design adds to service life by allowing pumped liquids to cool and lubricate on both sides.
4. Stainless steel **valves, seats and springs** provide corrosion-resistance, ultimate seating and extended life.
5. Specially-formulated, Cat Pumps exclusive, **high-pressure seals** offer unmatched performance and seal life.

#### ⚠ 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](http://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](http://www.catpumps.com/literature/cat-pumps-limited-warranty)