

25 Frame Plunger Pump

Standard Brass Model

Stainless Steel Model

2510

2511

FEATURES

Superior Design

- Triplex plunger design provides smoother liquid flow.
- V-Packings are completely lubricated and cooled by the liquid being pumped.
- Inlet and discharge valve assemblies interchange for easier maintenance.
- Lubricated Lo-Pressure Seals provide double protection against external leakage.
- Oil bath crankcase assures optimum lubrication.
- Close tolerance concentricity of the ceramic plunger maximizes seal life.

Quality Materials

- Precision design 316SSL valves and seats are hardened and polished for ultimate seating and extended valve life.
- Forged brass or stainless steel manifolds are strong and corrosion resistance.
- Special concentric, high-density, polished, solid ceramic plungers provide true wear surface and extended seal life.
- Specially formulated, CAT PUMP exclusive, V-Packings offer unmatched performance and seal life.
- Die cast aluminum crankcase provides high strength, minimum weight and precision tolerance control.
- Chrome-moly crankshaft gives unmatched strength and surface hardness.
- Oversized crankshaft bearings with greater loading capacity mean longer bearing life.

Easy Maintenance

- Wet-end is easily serviced without entering crankcase, requiring less time and effort.
- Valve assemblies are accessible without disturbing piping, for quick service.
- Preset packings mean no packing gland adjustment is necessary, reducing maintenance costs.

⚠ WARNING

All systems require both a primary pressure regulating device (i.e., regulator, unloader) and a secondary pressure safety relief device (i.e., pop-off valve, safety valve). Failure to install such relief devices could result in personal injury or damage to the pump or to system components. CAT PUMPS does not assume any liability or responsibility for the operation of a customer's high pressure system.

SPECIFICATIONS

U.S. Measure Metric Measure

MODEL 2510

Flow20 GPM (76 L/M)
Pressure Range100 to 2000 PSI (7 to 140 BAR)

MODEL 2511

Flow20 GPM (76 L/M)
Pressure Range100 to 1500 PSI (7 to 105 BAR)

COMMON SPECIFICATIONS

RPM1450 RPM (1450 RPM)
Inlet Pressure RangeFlooded to 70 PSI (Flooded to 4.9 BAR)
Bore0.984" (25 mm)
Stroke1.516" (38.5 mm)
Crankcase Capacity84 oz. (2.5 L)
Maximum Liquid Temperature140°F (60°C)

Above 130°F call CAT PUMPS for inlet conditions and elastomer recommendations.

Inlet Ports (2).....1-1/4" NPTF (1-1/4" NPTF)
Discharge Ports (2)3/4" NPTF (3/4" NPTF)
Pulley Mounting.....Either Side (Either Side)
Shaft Diameter.....1.181" (30 mm)
Weight (2510)79 lbs. (36 kg)
(2511)75 lbs. (34 kg)
Dimensions20.16 x 15.04 x 8.66" (512 x 382 x 220 mm)

ELECTRIC HORSEPOWER REQUIREMENTS

MODEL	FLOW		PRESSURE					RPM
			PSI 1000	PSI 1200	PSI 1500	PSI 1800	PSI 2000	
	U.S. GPM	L/M	BAR 70	BAR 85	BAR 105	BAR 125	BAR 140	
2510	20	76	13.7	16.5	20.6	24.7	27.5	1450
	18	68	12.3	14.8	18.5	22.2	24.7	1305
	15	57	10.3	12.4	15.4	18.5	20.6	1088
2511	20	76	13.7	16.5	20.6	N/A	N/A	1450
	18	68	12.3	14.8	18.5	N/A	N/A	1305
	15	57	10.3	12.4	15.4	N/A	N/A	1088

DETERMINING THE PUMP R.P.M. $\frac{\text{Rated G.P.M.}}{\text{Rated R.P.M.}}$ = "Desired" G.P.M. / "Desired" R.P.M.

DETERMINING THE REQUIRED H.P. $\frac{\text{GPM} \times \text{PSI}}{1460}$ = Electric Brake H. P. Required

DETERMINING MOTOR PULLEY SIZE $\frac{\text{Motor Pulley O.D.}}{\text{Pump R.P.M.}}$ = $\frac{\text{Pump Pulley O.D.}}{\text{Motor R.P.M.}}$

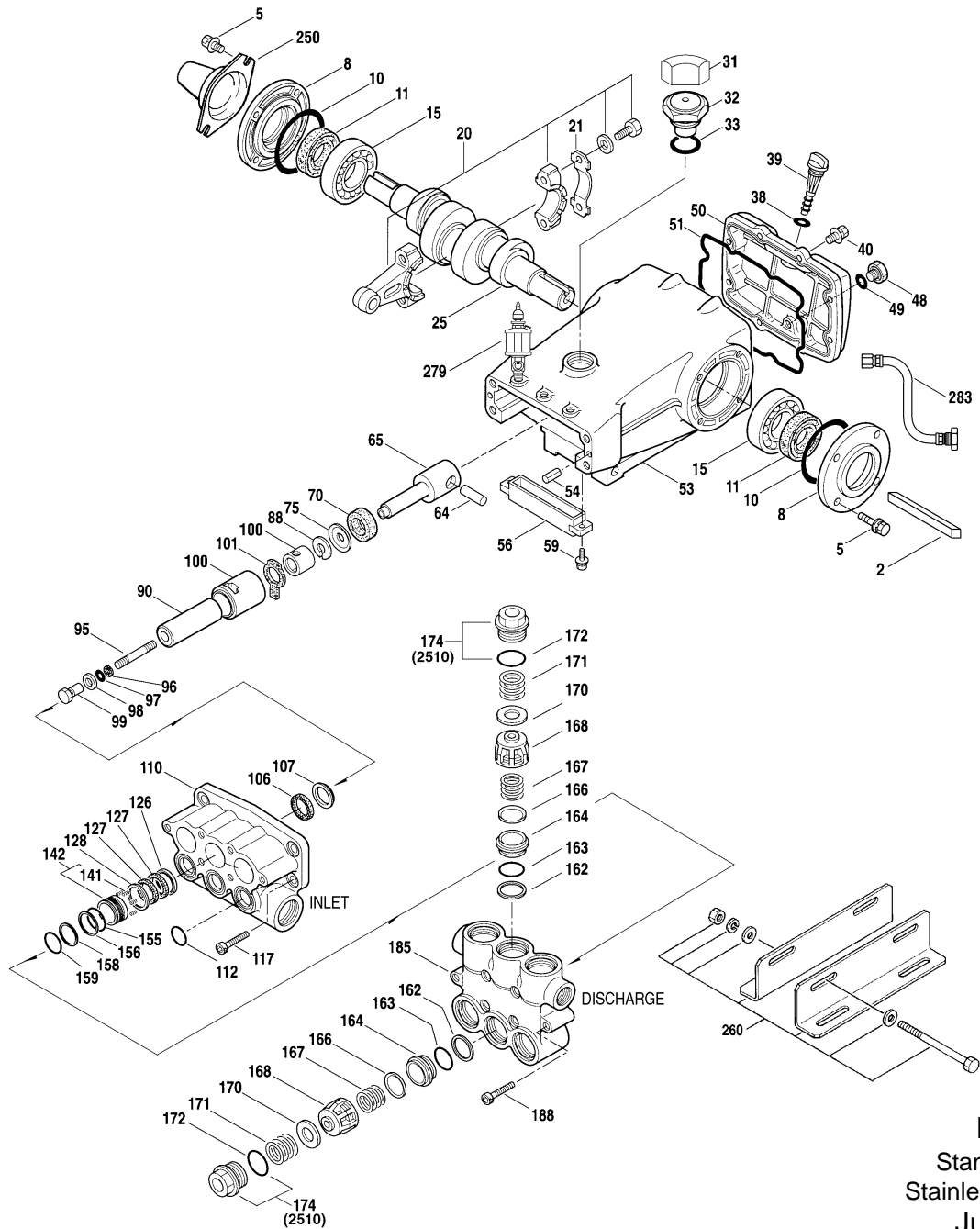
See complete Drive Packages [Incls: Pulleys, Belts, Hubs, Key] Tech Bulletin 003.
Refer to pump **Service Manual** for repair procedure, additional technical information and **pump warranty**.

"Customer confidence is our greatest asset"

PARTS LIST

ITEM	PART NUMBER		DESCRIPTION	QTY
2	990036	2510 MATL STL	Key (M8x7x40)	1
5	92508 STZP	2511 MATL S	Screw, HHC Sems (M8x25)	8
	126544 STCP R	—	Screw, HHC Sems (M8x25)	8
8	27773	27773	AL Cover, Bearing	2
10	27772	27772	NBR O-Ring, Bearing Cover - 70D	2
11	27771	27771	NBR Seal, Oil, Crankshaft - 70D	2
15	26512	26512	STL R Bearing, Ball	2
20	48613	48613	TNM Rod, Connecting Assembly (Includes: Lockwasher, Washer, Screw)	3
21	126562	126562	STCP R Washer, Locking	3
25	48704	48704	FCM Crankshaft, Dual-End	1
31	828710	828710	— Protector, Oil Cap w/Foam Gasket	1
32	43211	43211	ABS Cap, Oil Filler	1
33	14177	14177	NBR O-Ring, Oil Filler Cap - 70D	1
38	11338	11338	NBR O-Ring, Dip Stick - 70D	1
39	27769	27769	ABS Dip Stick	1
40	92508 STZP	125753 S	Screw, HHC Sems (M8x25)	8
	126544 STCP R	—	Screw, HHC Sems (M8x25)	8
48	25625	25625	STCP Plug, Drain (1/4"x19BSP)	1
49	23170	23170	NBR O-Ring, Drain Plug - 70D	1
50	27768	27768	AL Cover, Rear	1
51	27767	27767	NBR O-Ring, Rear Cover - 70D	1
53	27762	27762	AL Crankcase w/Guide Pins	1
54	27488	27488	S Pin, Guide	2
56	27790	27790	POP Pan, Oil	1
59	92519 STZP	92538 S	Screw, HHC Sems (M6x16)	2
	125824 STCP R	—	Screw, HHC Sems (M6x16)	2
64	27784	27784	CM Pin, Crosshead	3
65	‡ 48592	‡ 48592	SSHS Rod, Plunger	3
70	27785	27785	NBR Seal, Crankcase Oil - 70D	3
75	110669	110669	S Slinger, Barrier	3
88	110670	110670	S Washer, Keyhole	3
90	48535	48535	CC Plunger, Ceramic (M25x110)	3
95	48534 STZP	48679 SS	Stud, Plunger Retainer (M7x88 and M7x87)	3
	126549 STCP R	—	Stud, Plunger Retainer (M7x88)	3
96	20184	20184	PTFE Back-up-Ring, Plunger Retainer	3
97	14190	14190	NBR O-Ring, Plunger Retainer - 70D	3
	14161	14161	FPM O-Ring, Plunger Retainer - 70D	3
98	44069	44069	SSL Gasket, Plunger Retainer	3
99	44068	44068	SSL Retainer, Plunger (M7)	3
100	110672	110672	NY Retainer, LPS, Front	3
	111116	111116	NY Retainer, LPS, Rear	3
101	48487	48487	— Wick, Long Tab	3
106	44086	44086	NBR Seal, LPS w/SS-Spg	3
	45846	45846	FPM Seal, LPS w/SS-Spg	3
107	48537 BB	48668 SS	Washer, LPS	3
110	48536 BB	48667 SS	Manifold, Inlet	1
112	11379	11379	NBR O-Ring, Inlet Manifold - 70D	3
	14183	14183	FPM O-Ring, Inlet Manifold	3
117	126510 STCP R	88398 S	Screw, HSH (M12x35 and M12x40)	4
126	48538 BB	48669 D	Adapter, Female	3
127	44610	44610	STG* V-Packing	6
128	48539 BB	113025 SS	Adapter, Male	3
141	48672	48672	SS Spring, Coil [12/02]	18
142	48550 BB	48670 SS	Spacer w/Coil Springs	3
155	17629	17629	NBR O-Ring, Spacer-Rear - 80D	3
	14183	14183	FPM O-Ring, Spacer-Rear	3
156	28243	28243	PTFE Back-up-Ring, Spacer-Rear	3
158	28243	28243	PTFE Back-up-Ring, Spacer-Front	3
159	17629	17629	NBR O-Ring, Spacer-Front - 80D	3
	14183	14183	FPM O-Ring, Spacer-Front	3
162	48363	48363	D Back-up-Ring, Seat	6
163	26142	26142	NBR O-Ring, Seat - 80D	6
	14330	14330	FPM O-Ring, Seat	6
164	48544 SS	48676 SSL	Seat	6
166	45839	45839	SSL Valve	6
167	45840	45840	SS Spring	6
168	110682	110682	PVDF Retainer, Spring	6
170	44794	44794	SS Washer, Spring Retainer	6
171	48689	48689	SS Spring, Coil [12/02]	6
172	17667	17667	NBR O-Ring, Valve Plug - 80D	6
	11745	11745	FPM O-Ring, Valve Plug	6
174	120693 BB	49295 SS	Plug, Valve (w/O-Ring Model 2510 Only)	6
185	48543 BB	48674 SS	Manifold, Discharge	1
188	126511 STCP R	88399 S	Screw, HSH (M12x80)	6
250	26516	26516	STCP Protector, Shaft	1
260	30614	30614	STZP Mount, Rail, Assy	1
269	30206	30206	F Pulley (10") [See Drive Packages, Tech Bulletin 003]	1
270	30059	30059	STL Hub, "H", M30 (Keyway M8) [See Drive Packages, Tech Bulletin 003]	1
279	30278	30278	STZP Oilers (1 oz.)	3
281	30967	30967	— Glass, Oiler	3
282	10069	10069	NBR Gasket, Oiler	3

EXPLODED VIEW



Models
 Standard - 2510
 Stainless Steel - 2511
 June 2008

	2510	MATL	2511	MATL		
283	34334	—	34334	—	Kit, Oil Drain	1
290	6124	—	6124	—	Gasket, Liquid (3 oz)	1
299	816747	BBCP	816785	SS	Head, Complete	1
300	31280	NBR*	—	—	Kit, Seal (Incls: 97, 106, 112, 127, 155, 156, 158, 159)	1
	—	—	76180	NBR*	Kit, Seal w/FA (Incls: 97, 106, 112, 126, 127, 155, 156, 158, 159)	1
	31380	FPM*	31380	FPM*	Kit, Seal (Incls: 97, 106, 112, 127, 155, 156, 158, 159)	1
310	31285	NBR	31270	NBR	Kit, Valve (Incls: 162, 163, 164, 166, 167, 168, 170, 172)	2
	31385	FPM	31275	FPM	Kit, Valve (Incls: 162, 163, 164, 166, 167, 168, 170, 172)	2
—	714500	SS	714500	SS	C.A.T. (Inlet stabilizer for RO and boosted inlet applications)	1
—	714505	SS	714505	SS	Adapter (2 per C.A.T.) (See Data Sheet for complete selection)	2
—	6100	—	6100	—	Oil, Case (12 Bottles) ISO 68 Multi-viscosity Hydraulic (Fill to specified crankcase capacity prior to start-up)	1
—	—	—	6119	—	Lubricant, Anti-Seize (1 oz.)	1

Bold part numbers are unique to a particular pump model. Italics are optional items. [] Date of latest production change.

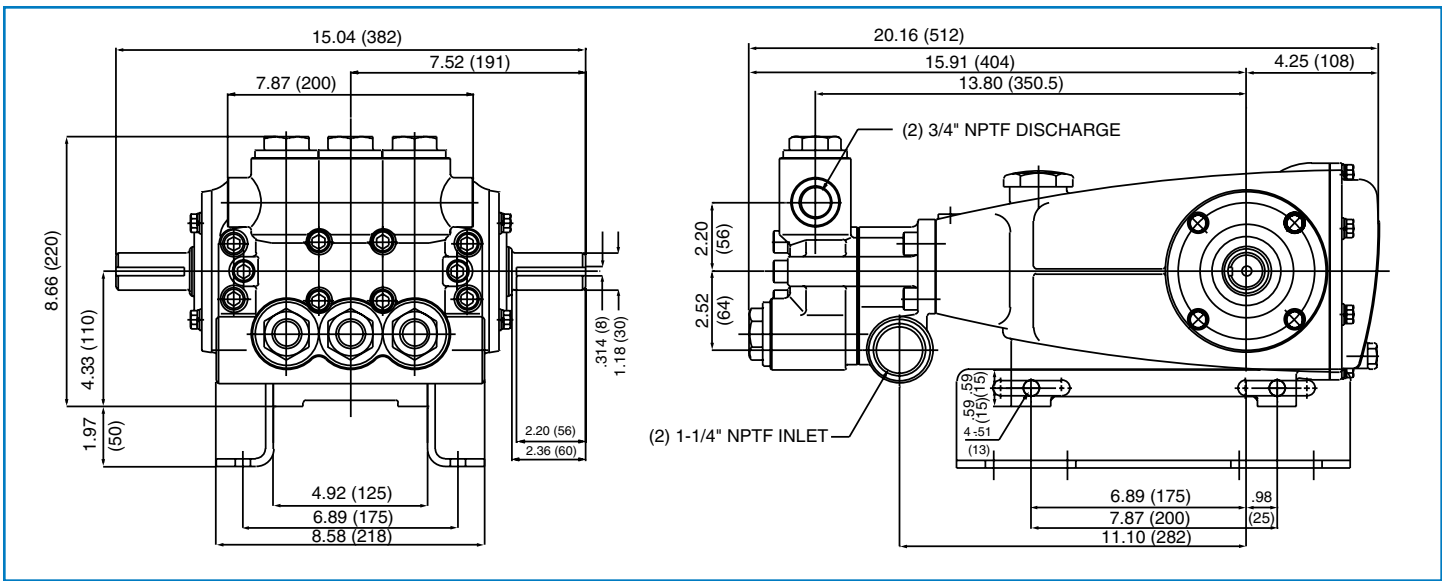
‡ Production parts 304SS, replacement parts are 316SS. R Components comply with RoHS Directive.

* Review material codes for individual items (STG generally may be used as alternate).

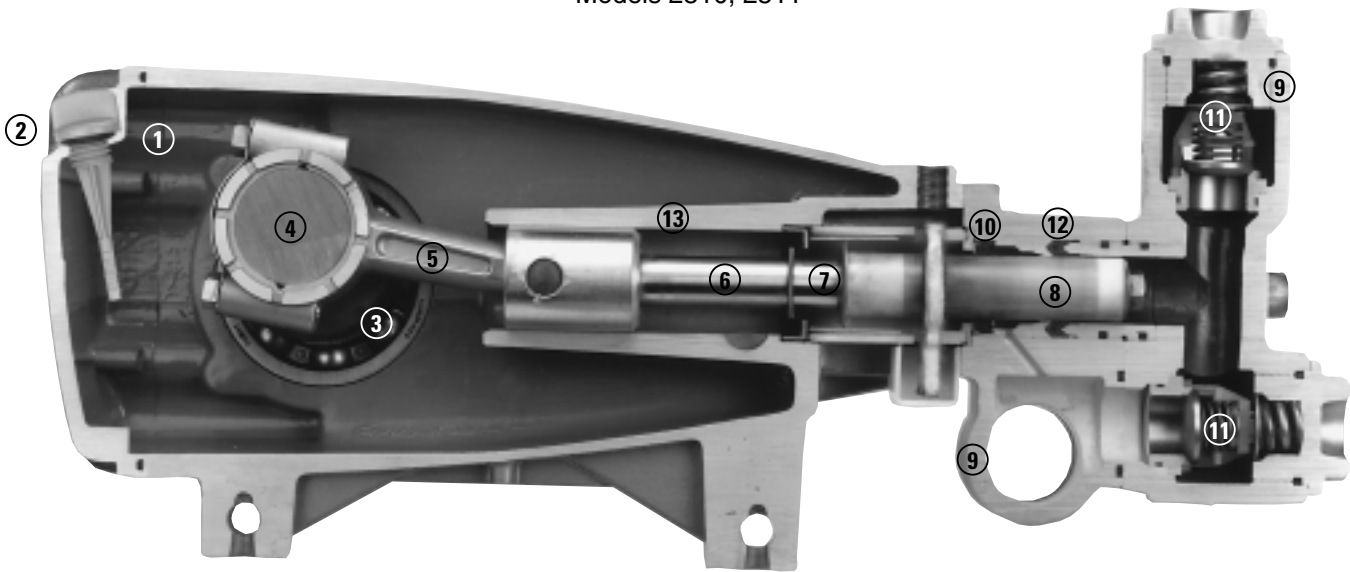
See Tech Bulletins 003, 024, 035, 036, 043, 074, 077, 083 and 085 for additional information.

C.A.T. highly recommended for pressurized inlet, R.O. and Industrial applications.

MATERIAL CODES (Not Part of Part Number): ABS=ABS Plastic AL=Aluminum BB=Brass BBCP=Brass/Chrome Plated CC=Ceramic CM=Chrome-Moly D=Acetal F=Cast Iron FCM=Forged Chrome-Moly FPM=Fluorocarbon NBR=Medium Nitrile (Buna-N) NY=Nylon POP=Polypropylene PTFE=Pure Polytetrafluoroethylene PVDF=Polyvinylidene Fluoride S=304SS SS=316SS SSHS=316SS/High Strength SSL=316SS/Low Carbon STCP=Steel/Chrome Plated STG=Special Blend PTFE White STL=Steel STZP=Steel/Zinc Plated TNM=Special High Strength



Models 2510, 2511



- 1 Die cast aluminum **crankcase** means high strength, light weight, and excellent tolerance control.
- 2 **Dipstick** offers top access for easy oil level check.
- 3 Oversized crankshaft **bearings** provide extended bearing life and pump performance.
- 4 Chrome-moly **crankshaft** provides unmatched strength and surface hardness for long life.
- 5 Matched oversized TNM **connecting rods** noted for superior tensile strength and bearing quality.
- 6 Special stainless steel **plunger rods** with high strength crossheads for longevity and corrosion resistance.
- 7 The stainless steel **slinger** provides back-up protection for the crankcase seal, keeping pumped liquids out of the crankcase.
- 8 Special concentric, high-density, polished, solid ceramic **plungers** provide a true wear surface and extended seal life.
- 9 **Manifolds** are a high strength forged brass or stainless steel for long-term, continuous duty.
- 10 100% wet **seal** design adds to service life by allowing pumped liquids to cool and lubricate on both sides of seals.
- 11 Stainless steel **valves, seats and springs** provide corrosion-resistance, ultimate seating and extended life.
- 12 Specially formulated, CAT PUMP exclusive, **V-Packings** offer unmatched performance and seal life.
- 13 **Crossheads** are 360° supported for uncompromising alignment.

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