

DATA SHEET

25 FRAME PLUNGER PUMPS

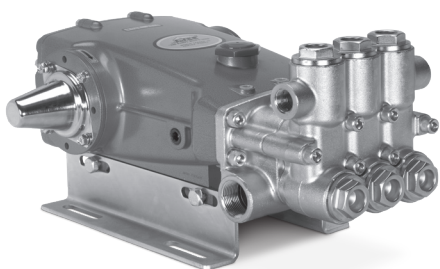


Brass **2510**

Model:

Stainless Steel **2511**

Model:



Model 2510 Shown
(Rails and shaft protector sold separately)

FEATURES

- Triplex plunger design ensures high efficiency and low pulsation.
- V-packings and low-pressure seals are completely lubricated and cooled by pumped liquid, greatly increasing service life.
- Belt-driven option provides precise flow setting.
- Direct-drive option offers a compact footprint for SAE hydraulic motors with a bell housing/flexible coupler assembly.
- Pump comes standard with NBR seals. Alternative seal materials are available for higher temperature or chemical compatibility.

SPECIFICATIONS

U.S. Measure

Metric Measure

2510

Flow	20 gpm	76 lpm
Pressure Range	100–2000 psi	6.9–138 bar

2511

Flow	20 gpm	76 lpm
Pressure Range	100–1500 psi	6.9–103 bar

COMMON

SPECIFICATIONS

U.S.

Metric

Pump RPM*	1450 rpm	1450 rpm
Inlet Pressure Range	Flooded to 70 psi	Flooded to 4.8 bar
Max. Liquid Temperature (NBR)	160° F	71° C

Alternative seals available for higher temperature up to 200° F

Bore	0.984"	25 mm
Stroke	1.516"	38.5 mm
Crankcase Capacity	84 oz	2.5 l
Inlet Ports (2)	1¼" NPT(F)	1¼" NPT(F)
Discharge Ports (2)	¾" NPT(F)	¾" NPT(F)
Shaft Diameter	1.181"	30 mm
Pulley Mounting	Either side	Either side
Weight (2510)	79 lbs	36 kg
(2511)	75 lbs	34 kg
Dimensions	20.45 x 15.04 x 8.46"	519 x 382 x 215 mm

*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)
FFKM	.0770	200° F (93° C)
STHT	.3400	190° F (88° C)

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

DETERMINING THE PUMP RPM

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

DETERMINING THE REQUIRED HP

$$\frac{\text{hp}}{\text{(Electric Brake)}} = \frac{\text{gpm} \times \text{psi}}{1460}$$

DETERMINING MOTOR PULLEY SIZE

$$\frac{\text{Motor Pulley OD}}{\text{Pump rpm}} = \frac{\text{Pump Pulley OD}}{\text{Motor rpm}}$$

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

PARTS LIST

ITEM	PART NUMBER	MATL	PART NUMBER	MATL	DESCRIPTION	QTY
	2510		2511			
5	126544	STCP R	125753	S	Screw, HHC Sems (M8 x 25) (See Tech Bulletin 074)	8
8	134966	ALE	134966	ALE	Cover, Bearing (See Tech Bulletins 118, 135)	2
10	27772	NBR	27772	NBR	O-Ring, Bearing Cover–70D	2
11	27771	NBR	27771	NBR	Seal, Oil, Crankshaft	2
15	26512	STL R	26512	STL R	Bearing, Ball	2
20	48613	TNM	48613	TNM	Assembly, Rod, Connecting (Includes: Lockwasher, Washer, Screw) (See Tech Bulletin 074)	3
21	126562	STCP R	126562	STCP R	Washer, Locking	3
25	49795	FCM	49795	FCM	Crankshaft, Dual-End (M38.5)	1
32	43211	ABS	43211	ABS	Cap, Oil Filler	1
33	14177	NBR	14177	NBR	O-Ring, Oil Filler Cap–70D	1
36	129343	RBR	129343	RBR	Gasket, Flat	1
37	92241	PC	92241	PC	Gauge, Bubble, Oil with Gasket–80D (See Tech Bulletin 074)	1
38	44428	NBR	44428	NBR	Gasket, Flat, Oil Guage–80D	1
39	27769	ABS	27769	ABS	Dip Stick	1
40	126544	STCP R	125753	S	Screw, HHC Sems (M8 x 25) (See Tech Bulletin 074)	8
48	25625	STCP	25625	STCP	Plug, Drain (¼" x 19 BSP)	1
49	23170	NBR	23170	NBR	O-Ring, Drain Plug–70D	1
50	133582	ALE	133582	ALE	Cover, Rear (See Tech Bulletins 118, 126)	1
51	27767	NBR	27767	NBR	O-Ring, Rear Cover–70D	1
53	133609	ALE	133609	ALE	Crankcase Assembly (Includes: 54) (See Tech Bulletins 118, 135)	1
54	27488	S	27488	S	Pin, Guide	2
56	27790	POP	27790	POP	Pan, Oil	1
57	22981	STCP R	22981	STCP R	Washer, Pan, Oil	2
59	125824	STCP R	92538	S	Screw, HHC Sems (M6 x 16)	2
64	27784	CM	27784	CM	Pin, Crosshead	3
65	48719	SSHS	48719	SSHS	Rod, Plunger	3
70	27785	NBR	27785	NBR	Seal, Crankcase Oil	3
75	110669	S	110669	S	Slinger, Barrier	3
88	110670	S	110670	S	Washer, Keyhole	3
90	48535	CC	48535	CC	Plunger, Ceramic (M25 x 110)	3
95	126549	STCP R	48679	SS	Stud, Plunger Retainer (M7 x 103)	3
96	20184	PTFE	20184	PTFE	Backup Ring, Plunger Retainer	3
97	14190	NBR	14190	NBR	O-Ring, Plunger Retainer–70D	3
98	44069	SS	44069	SS	Gasket, Plunger Retainer	3
99	44068	SS	44068	SS	Retainer, Plunger (M7) (See Tech Bulletin 074)	3
100	49788	NY	49788	NY	Retainer, Low-Pressure, Front	3
	49789	NY	49789	NY	Retainer, Low-Pressure, Rear	3
101	48487	—	48487	—	Wick, Long Tab	3
106	44086	NBR	44086	NBR	Seal, Low-Pressure with SS-Spring	3
107	48537	BB	48668	SS	Washer, Low-Pressure	3
110	48536	BBCP	48667	SS	Manifold, Inlet	1
112	11379	NBR	11379	NBR	O-Ring, Inlet Manifold–70D	3
117	126510	STCP R	88398	S	Screw, HSH (M12 x 35 and M12 x 40) (See Tech Bulletin 074)	4
126	48538	BB	48669	D	Adapter, Female	3
	—	—	<i>76667</i>	SS	<i>Adapter, Female (Model 2511)</i>	3
127	44610	STG	44610	STG	V-Packing	6
128	48539	BB	113025	SS	Adapter, Male	3
141	48672	SS	48672	SS	Spring, Coil	18
142	48550	BB	48670	SS	Spacer with Coil Springs	3
155	17629	NBR	17629	NBR	O-Ring, Spacer – Rear–80D	3
156	28243	PTFE	28243	PTFE	Backup Ring, Spacer – Rear	3
158	28243	PTFE	28243	PTFE	Backup Ring, Spacer – Front	3
159	17629	NBR	17629	NBR	O-Ring, Spacer – Front–80D	3
162	48363	D	48363	D	Backup Ring, Seat	6
163	26142	NBR	26142	NBR	O-Ring, Seat–80D	6
164	48544	S	48676	SS	Seat	6
166	45839	SS	45839	SS	Valve	6
167	45840	SS	45840	SS	Spring	6
168	110682	PVDF	110682	PVDF	Retainer, Spring	6
170	44794	SS	44794	SS	Washer, Spring Retainer	6
171	48689	SS	48689	SS	Spring, Coil	6
172	17667	NBR	17667	NBR	O-Ring, Valve Plug–80D	6
174	120693	BBCP	49295	SS	Plug, Valve (120693 Includes O-Ring) (See Tech Bulletin 074)	6
185	48543	BBCP	48674	SS	Manifold, Discharge	1
188	126511	STCP R	88399	S	Screw, HSH (M12 x 80) (See Tech Bulletin 074)	6

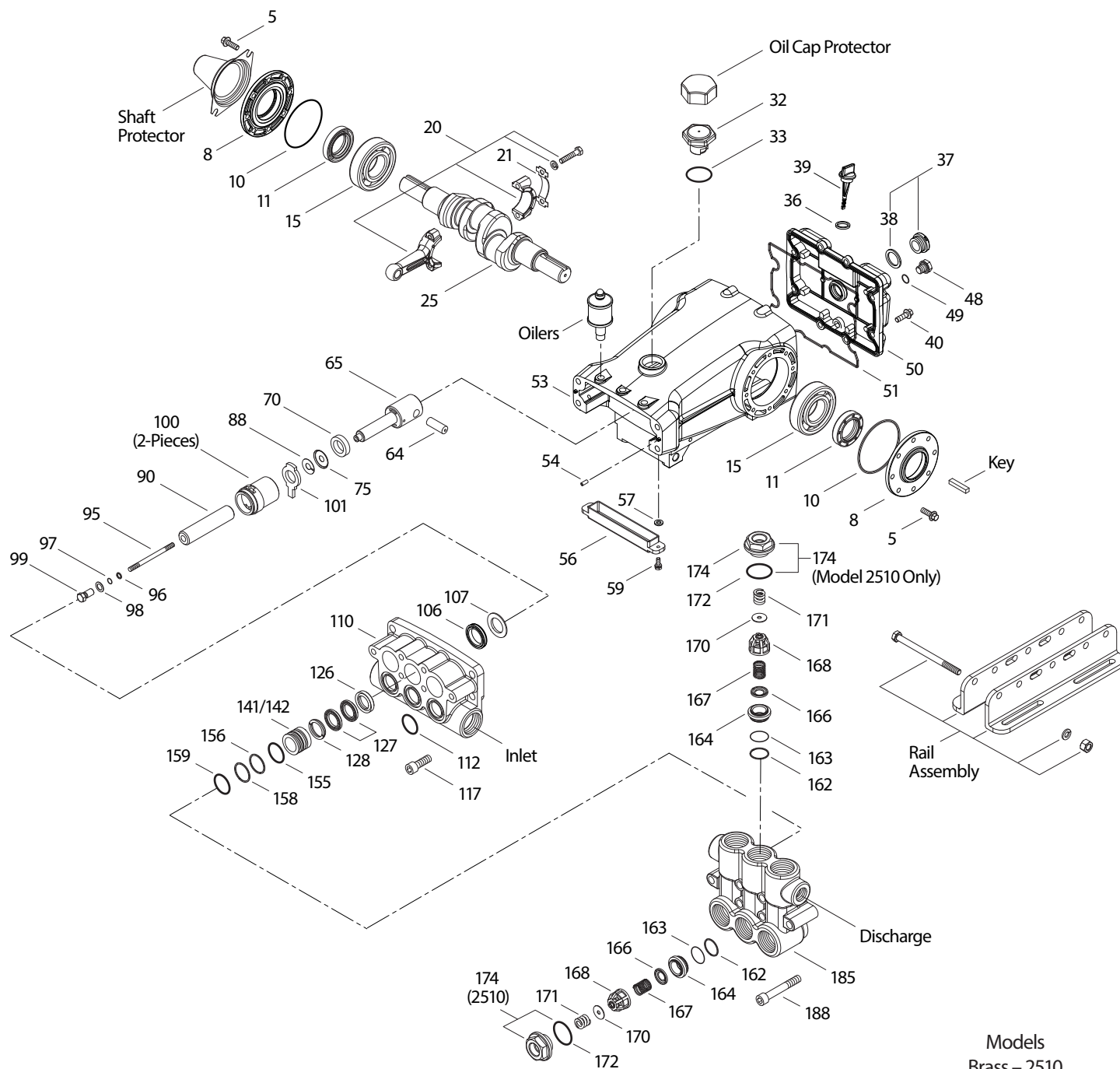
Bold part numbers are unique to a particular pump model. *Italics are optional items.* R Components comply with RoHS Directive.

* Review material codes for individual items (STG generally may be used as alternate). For additional technical information see www.catpumps.com/literature/tech-bulletins

MATERIAL CODES (Not Part of Part Number): ABS=ABS Plastic ALE=Aluminum Epoxy BB=Brass BBCP=Brass/Chrome Plated CC=Ceramic CM=Chrome-Moly
D=Acetal FCM=Forged Chrome-Moly FPM=Fluorocarbon NBR=Medium Nitrile (Buna-N) NY=Nylon PC=Poly Carbonate PE=Polyethylene POP=Polypropylene
PTFE=Pure Polytetrafluoroethylene PVDF=Polyvinylidene Fluoride S=304SS SS=316SS SSHS=316SS/High Strength STCP=Steel/Chrome Plated
STG=Special Blend PTFE White STHT=Special PTFE High Temp STL=Steel ST2=Special PTFE 2
STZP=Steel/Zinc Plated TNM=Special High Strength

Optional Parts and Accessories and Service Parts listed on page 3. Standard and optional Seal and Valve Kits listed on page 4.

EXPLODED VIEW



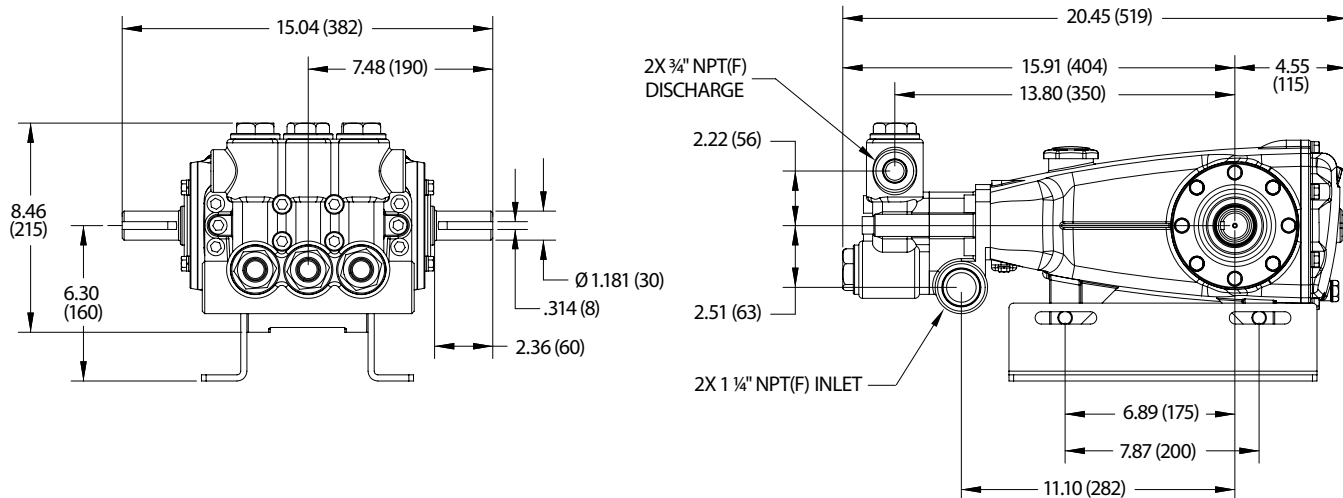
Models
Brass – 2510
Stainless Steel – 2511
September 2023

OPTIONAL PARTS AND ACCESSORIES

PART	DESCRIPTION	QTY
990036	Key (M8 x 7 x 40)	1
30614	Assembly, Rail	1
26516	Protector, Shaft	1
828710	Protector, Oil Cap with Foam Gasket	1
30278	Oiler (1 oz)	3
34334	Kit, Oil Drain (3/8" x 24") (Not Shown)	1
30696	Reverse Pliers (Not Shown)	1

SERVICE PARTS

PART	DESCRIPTION	QTY
31280	Seal Kit – Standard NBR (Model 2510)	1
76180	Seal Kit – Standard NBR (Model 2511)	1
31285	Valve Kit – Standard NBR (Model 2510)	2
31270	Valve Kit – Standard NBR (Model 2511)	2
6107	Oil, Bottle (21 oz) (Fill to Specified Crankcase Capacity Prior to Start-up)	4
6139	Lubricant, Anti-Seize (8 oz) (2511) (See Tech Bulletin 095)	1
6124	Gasket, Liquid (3 oz)	1
816747	Head, Complete – with NBR Seals and O-Rings (Model 2510)	1
816785	Head, Complete – with NBR Seals and O-Rings (Model 2511)	1



SEAL KITS

One (1) seal kit required per pump

PUMP MODELS	NBR (STD)	FPM (.0110)	EPDM (.0220) ♦	FFKM (.0770)	STHT (.3400)
2510	31280 *	31380 *	76200 *	76205 *	76376
2511	76180				

ITEM (Included in Seal Kits)						DESCRIPTION	QTY
97	14190	14161	48239	703586	14190	O-Ring, Plunger Retainer	3
106	44086	45846	49196	76086	76086	Seal, Low-Pressure with SS-Spring	3
112	11379	14183	701491	702705	11379	O-Ring, Inlet Manifold	3
126	48669	—	48669	76669	—	Adapter, Female (Model 2511)	3
127	44610	44610	44610	44610	44610	V-Packing	6
155	17629	14183	701491	702705	17629	O-Ring, Spacer, Rear	3
156	28243	28243	28243	28243	28243	Backup Ring, Spacer, Rear	3
158	28243	28243	28243	28243	28243	Backup Ring, Spacer, Front	3
159	17629	14183	701491	702705	17629	O-Ring, Spacer, Front	3

♦ Silicone oil/grease required *Review material codes for individual items (STG generally may be used as alternative)

VALVE KITS

Two (2) valve kits required per pump

PUMP MODELS	NBR (STD)	FPM (.0110)	EPDM (.0220) ♦	FFKM (.0770)	STHT (.3400)
2510	31285	31385	76197	—	31285
2511	31270	31275	76370	76207	31270

ITEM (Included in Valve Kits)						DESCRIPTION	QTY
162	48363	48363	48363	44614	48363	Backup Ring, Valve Seat	3
163	26142	14330	701493	702808	26142	O-Ring, Valve Seat	3
164	48544	48544	48544	—	48544	Seat, Stepped (Model 2510)	3
	48676	48676	48676	48676	48676	Seat, Stepped (Model 2511)	3
166	45839	45839	45839	45839	45839	Valve	3
167	45840	45840	45840	45840	45840	Spring	3
168	110682	110682	110682	110682	110682	Retainer, Spring	3
170	44794	44794	44794	44794	44794	Washer, Spring Retainer	3
172	17667	11745	48240	702962	17667	O-Ring, Valve Plug	3

♦ Silicone oil/grease required

⚠ 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