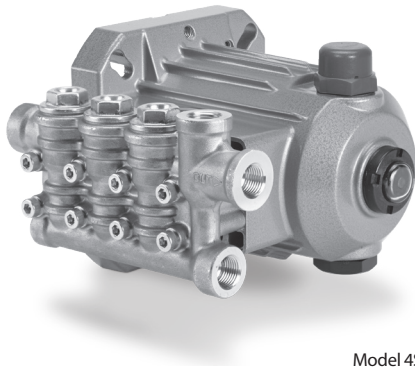


# DATA SHEET

## DIRECT DRIVE PLUNGER PUMP



**Brass Model: 4SP21EL**



Model 4SP21EL

### FEATURES

- Triplex plunger design ensures high efficiency and low pulsation.
- Specially-formulated high-pressure seals and concentric, solid ceramic plungers provides a true wear surface and extended seal life.
- Compact, direct mounting to NEMA 56C motor with 5/8" shaft.
- Stacked stainless steel valve design promotes long life and easy servicing.
- Crankcase can be vented (for misting or other applications) or completely sealed (for portable extractors).
- Includes crankcase oil.

SPECIFICATIONS	U.S. Measure	Metric Measure
Flow	2.1 gpm	7.9 lpm
Pressure Range	100–2000 psi	6.9–138 bar
Pump RPM	1750 rpm	1750 rpm
Inlet Pressure Range	Flooded to 60 psi	Flooded to 4.1 bar
Max. Liquid Temperature	140° F	60° C
Above 130°F call Cat Pumps for inlet conditions and elastomer recommendations.		
Bore	0.630"	16 mm
Stroke	0.319"	8.1 mm
Crankcase Capacity	10.15 oz	0.30 l
Inlet Port	3/8" NPT(F)	3/8" NPT(F)
Accessory Inlet Port	1/4" NPT(F)	1/4" NPT(F)
Discharge Port (3)	3/8" NPT(F)	3/8" NPT(F)
Shaft Diameter (Hollow - Electric)	5/8"	15.9 mm
Weight	10.6 lbs	4.8 kg
Dimensions	7.80 x 6.70 x 5.28"	198 x 171 x 134 mm

### ELECTRIC HORSEPOWER REQUIREMENTS

FLOW		PRESSURE				PUMP RPM	
GPM	LPM	PSI	BAR	PSI	BAR		
		1200	83	1500	103		2000
		<b>Horsepower</b>					
2.1	7.9	1.4 hp		2.2 hp		2.9 hp	1750

**DETERMINING THE PUMP RPM**

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

**DETERMINING THE REQUIRED HP**

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

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

## PARTS LIST

ITEM	PART NUMBER	MATL	DESCRIPTION	QTY
5	549360	STCP R	Screw, HHC Sems (M6 x 14) (See Tech Bulletin 074)	3
8	547153	AL	Cover, Bearing	1
10	14041	NBR	O-Ring, Bearing Cover - 70D	1
11	55337	NBR	Seal, Oil	1
15	14488	STL	Bearing, Ball, Inner	1
20	547020	TNM	Assembly, Connecting Rod	3
25	132605	CM	Crankshaft, 5/8", (8.1 mm)	1
26	12385	STL	Ring, Retaining	1
27	15710	STL	Bearing, Ball, Outer	1
32	549726	—	Cap, Vented with O-Ring	1
33	14179	NBR	O-Ring, Oil Filler Cap-70D	1
37	92241	PC	Gauge, Oil, Bubble with Gasket-80D (See Tech Bulletin 074)	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	547099	AL	Crankcase	1
64	16948	CM	Pin, Crosshead	3
65	49982	BB	Rod, Plunger	3
69	126259	STCP R	Washer, Oil Seal	3
70	25301	NBR	Seal, Oil	3
88	132607	S	Washer	3
90	132606	CC	Plunger (M16 x 24.6)	3
98	46730	NBR	Washer, Seal-90D	3
99	542405	S	Retainer, Plunger (M6 x 35) (See Tech Bulletin 074)	3
100	44869	PVDF	Retainer, Seal	3
106	48222	NBR	Seal, Low-Pressure with S-Spring	3
120	132608	BB	Case, Seal	3
121	13977	NBR	O-Ring, Seal Case-70D	3
125	547157	SNG	Seal, High-Pressure	3
160	17428	NBR	O-Ring, Inlet Seat-80D	3
161	547077	S	Seat, Inlet	3
162	48361	D	Backup Ring, Discharge Seat	3
163	670085	NBR	O-Ring, Discharge Seat-90D	3
164	547076	S	Seat, Discharge	3
166	547098	S	Valve	6
167	134579	S	Spring	6
168	543988	PVDF	Retainer, Spring, Inlet	3
169	49764	PVDF	Retainer, Spring, Discharge	3
172	142807	NBR	O-Ring, Valve Plug-90D	3
174	547104	BB	Plug, Valve with O-Ring (M20) (See Tech Bulletin 074)	3
185	132609	FBB	Head, Manifold	1
188	549357	STCP R	Screw, HSH (M6 x 60) (See Tech Bulletin 074)	8
197	941516	BB	Assembly, Garden Hose (3/8")	1
255	30516	STZP R	Mount, Bolt Assembly	1
300	76968	NBR	Kit, Seal (Includes: 98, 106, 121, 125)	1
310	76976	NBR	Kit, Valve (Includes: 160, 161, 162-164, 166-169, 172)	1
—	6107	—	Oil, Bottle (21 oz) ISO 68 Hydraulic (Fill to Specific Crankcase Capacity Prior to Start-up)	1

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

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): AL=Aluminum

BB=Brass CC=Ceramic CM=Chrome-Moly D=Acetal FBB=Forged Brass NBR=Medium Nitrile (Buna-N) NY=Nylon PC=Poly Carbonate

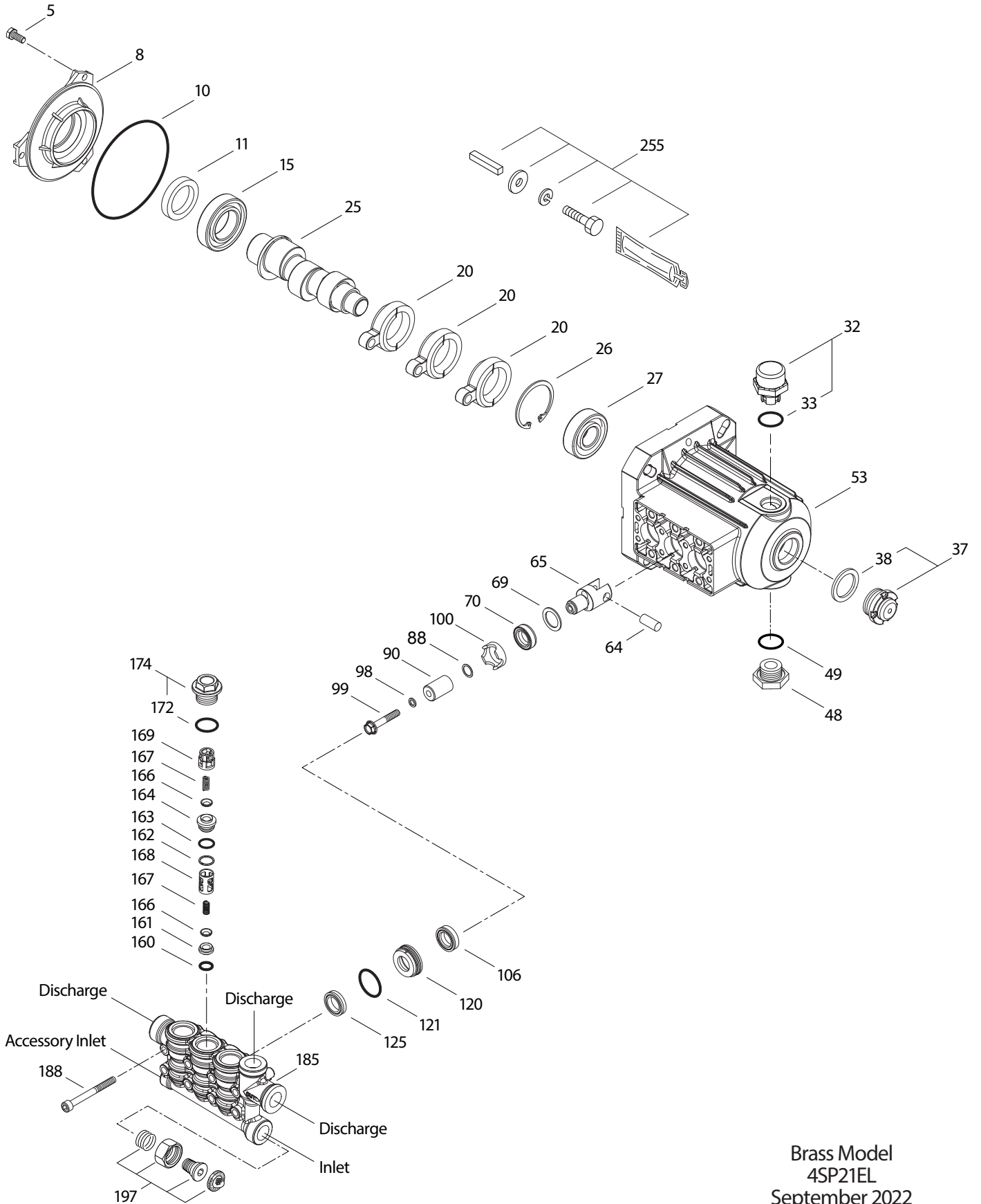
PVDF=Polyvinylidene Fluoride S=304SS SNG=Special Blend (Buna) STCP=Steel/Chrome Plated STL=Steel STZP=Steel/Zinc Plated

TNM=Special High Strength

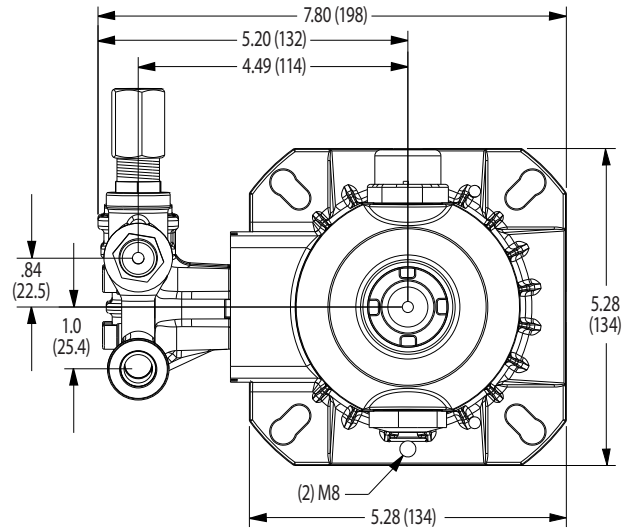
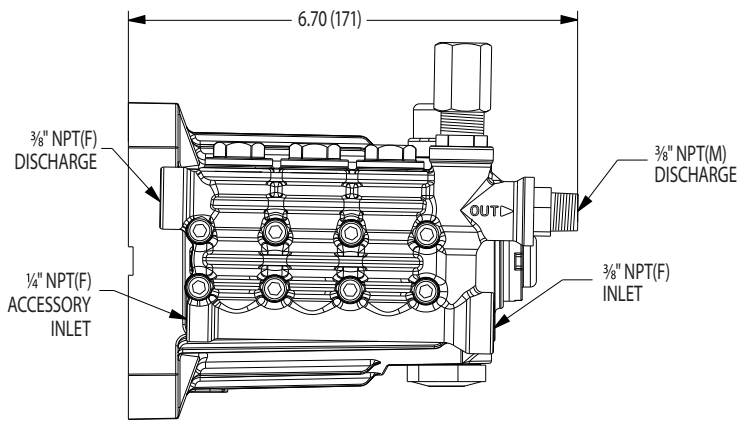
**NOTE:** Discard Key which may come standard with most motors and **use only the key included in this kit.**

**Note:** Pump is shipped with two black caps with O-rings for shipping purposes. Remove black cap with O-ring on top of pump and replace with loose red cap with O-ring as supplied in box.

# EXPLODED VIEWS



Brass Model  
4SP21EL  
September 2022



Model 4SP21EL

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