

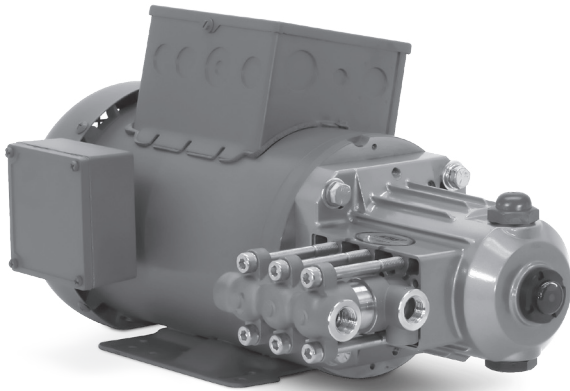
# DATA SHEET

## DIRECT DRIVE PLUNGER PUMPS



**Stainless Steel  
Models:**

**2SF05SEEL, 2SF10SEEL, 2SF15SEEL,  
2SF22SEEL**



Motorized pump unit 2SF22SEELD Shown

SPECIFICATIONS	U.S. Measure	Metric Measure
<b>Model 2SF05SEEL</b>		
Flow	0.5 gpm	1.9 lpm
Stroke	0.071"	1.8 mm
<b>Model 2SF10SEEL</b>		
Flow	1.0 gpm	3.8 lpm
Stroke	0.122"	3.1 mm
<b>Model 2SF15SEEL</b>		
Flow	1.5 gpm	5.7 lpm
Stroke	0.177"	4.5 mm
<b>Model 2SF22SEEL</b>		
Flow	2.2 gpm	8.3 lpm
Stroke	0.248"	6.3 mm

### FEATURES

- Unique spring loaded inlet valves and the flow through ceramic plungers provides a smooth, steady flow.
- Hollow shaft direct drive to provide the smallest possible footprint for challenging spaces.
- Standard NBR seals with alternative options for temperature and chemical compatibility.

### COMMON SPECIFICATIONS

	U.S.	Metric
Pressure Range	100 - 1200 psi	6.9 - 83 bar
Pump RPM	1725 rpm	1725 rpm
Inlet Pressure Range	Flooded to 60 psi	Flooded to 4.1 bar
Max. Liquid Temp. (NBR)	160° F	71° C
<b>Alternative seals available for high temp up to 180° F</b>		
Bore	0.709"	18 mm
Crankcase Capacity	10.1 oz.	0.30 l
Inlet Port (1)	3/8" NPT(F)	3/8" NPT(F)
Discharge Ports (2)	3/8" NPT(F)	3/8" NPT(F)
By-Pass Return Port (1)	1/4" NPT(F)	1/4" NPT(F)
Shaft Diameter	5/8"	15.9 mm
Weight (Pump Only)	8.9 lbs.	4 kg
Dimensions (Pump Only)	6.8 x 8.7 x 5.2"	173 x 221 x 133 mm

### 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)
IPFE	.0770	180° F (82° C)
HT	.3000	180° F (82° C)
STHT	.3400	180° F (82° C)

See Reference Document 99TCH002 for inlet conditions and RPM at high temperature.

$$\text{DETERMINING THE PUMP R.P.M.} \quad \frac{\text{Rated gpm}}{\text{Rated rpm}} = \frac{\text{"Desired" gpm}}{\text{"Desired" rpm}}$$

$$\text{DETERMINING THE REQUIRED H.P.} \quad \text{Hp (Electric Brake)} = \frac{\text{gpm} \times \text{psi}}{1460}$$

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

# PARTS LIST

ITEM	PART NUMBER	MATL	DESCRIPTION	MODEL	QTY
5	547445	S	Screw, HHC Sems (M6x14) [3/03]	All	3
8	547153	AL	Cover, Bearing [3/03]	All	1
10	14041	NBR	O-Ring, Bearing Cover-70D [3/03]	All	1
11	55337	NBR	Seal, Oil, Crankshaft -70D [3/03]	All	1
15	14488	STL	Bearing, Ball - Inner	All	1
20	547046	TNM	Rod, Connecting	All	3
25	<b>831987</b>	CM	Crankshaft, 1.8mm	05SEEL	1
	<b>46109</b>	CM	Crankshaft, 3.1mm	10SEEL	1
	<b>44931</b>	CM	Crankshaft, 4.5mm	15SEEL	1
	<b>45160</b>	CM	Crankshaft, 6.3mm	22SEEL	1
26	12385	STL	Ring, Retaining, Bearing	All	1
27	15710	STL	Bearing, Ball - Outer	All	1
31	549726	—	Cap, Vented w/O-Ring (Rain Cap)	All	1
32	547961	RTP	Cap, Oil Filler w/O-Ring	All	1
33	14179	NBR	O-Ring, Oil Filler Cap - 70D	All	1
37	92241	PC	Gauge, Oil w/Gasket - 80D	All	1
38	44428	NBR	Gasket, Flat, Oil Gauge - 80D	All	1
48	44842	NY	Plug, Drain	All	1
49	14179	NBR	O-Ring, Drain Plug - 70D	All	1
53	547285	AL	Crankcase (See Tech Bulletin 92)	All	1
64	16948	CM	Pin, Crosshead	All	3
65	834203	SSTO	Rod, Plunger (See Tech Bulletin 124)	All	3
69	126259	STCP R	Washer, Oil Seal	All	3
70	25461	NBR	Seal, Oil Crankcase	All	3
90	544697	CC	Plunger, Ceramic (M18x18)	All	3
100	44869	PVDF	Retainer, Seal	All	3
106	547683	NBR	Seal, LPS w/SS-Spg	All	3
	◆ 545192	FPM	Seal, LPS w/SS-Spg	All	3
	546507	EPDM	Seal, LPS w/SS-Spg	All	3
	76443	ST	Seal, LPS	All	3
110	547704	SS	Manifold, Inlet	All	1
125	44652	SNG	Seal, HPS w/SS	All	3
	46652	HT	Seal, Hi-Temp, 2-Pc w/S-Support	All	3
	76052	ST4	Seal, HPS w/s	All	3
134	543691	SS	Valve, Inlet (See Tech Bulletin 91)	All	3
	33873	D	Valve, Inlet (See Tech Bulletin 91)	All	3
135	543689	SS	Spacer	All	3
136	543690	SS	Spring, Inlet Valve	All	3
137	88575	S	Washer, Conical (M6)	All	3
138	543692	SS	Nut (M6)	All	3
152	† 26089	NBR	O-Ring, Adapter Spacer, Inner-80D	All	3
	11377	FPM	O-Ring, Adapter Spacer, Inner-80D	All	3
	◆ 46647	EPDM	O-Ring, Adapter Spacer, Inner-80D	All	3
	703244	IPFE	O-Ring, Adapter Spacer, Inner	All	3
157	544700	SS	Adapter, Valve	All	3
159	† 26089	NBR	O-Ring, Adapter Spacer, Outer-80D	All	3
	11377	FPM	O-Ring, Adapter Spacer, Outer-80D	All	3
	◆ 46647	EPDM	O-Ring, Adapter Spacer, Outer-80D	All	3
	703244	IPFE	O-Ring, Adapter Spacer, Outer	All	3
164	544293	SS	Seat	All	3
166	543669	SS	Valve	All	3
167	543700	SS	Spring	All	3
168	44565	PVDF	Retainer, Spring	All	3
185	547705	SS	Manifold, Discharge	All	1
188	544701	S	Screw, HSH (M8x80)	All	6
255	30517	STZP R	Assy, Bolt Mount	All	1
300	34973	NBR	Kit, Seal (Incls: 106, 125, 152, 159) <b>Standard</b>	All	1
	33453	FPM	Kit, Seal (Incls: 106, 125, 152, 159) <b>.0110</b>	All	1
	◆ 30536	EPDM*	Kit, Seal (Incls: 106, 125, 152, 159) <b>.0220</b>	All	1
	33953	HT	Kit, Seal Hi-Temp (Incls: 106, 125, 134, 152, 159) <b>.3000</b>	All	1
	76969	IPFE	Kit, Seal (Incls: 106, 125, 152, 159) <b>.0770</b>	All	1
310	34972	NBR	Kit, Valve (Incls: 152, 159, 164, 166, 167, 168) <b>Standard, .3000</b>	All	1
	33454	FPM	Kit, Valve (Incls: 152, 159, 164, 166, 167, 168) <b>.0110</b>	All	1
	◆ 30546	EPDM	Kit, Valve (Incls: 152, 159, 164, 166, 167, 168) <b>.0220</b>	All	1
	76596	IPFE	Kit, Valve (Incls: 152, 159, 164, 166, 167, 168) <b>.0770</b>	All	1
311	39668	NBR	Kit, Inlet Valve w/SS-IV (Incls: 134-138, 152, 159) <b>Standard</b>	All	1
	34974	NBR	Kit, Inlet Valve w/D-IV (Incls: 134-138, 152, 159) <b>.3000</b>	All	1
	33460	FPM	Kit, Inlet Valve w/D-IV (Incls: 134-138, 152, 159) <b>.0110</b>	All	1
	◆ 30556	EPDM	Kit, Inlet Valve w/D-IV (Incls: 134-138, 152, 159) <b>.0220</b>	All	1
	76586	IPFE	Kit, Inlet Valve w/SS-IV (Incls: 134-138, 152, 159) <b>.0770</b>	All	1
—	6107	—	Oil, Bottle (21 oz) ISO-68 Hydraulic (Fill to specified crankcase capacity prior to start-up)	All	1

**Bold print part numbers are unique to a particular pump model. Italics are optional items. ◆ Silicone oil/grease required.**

[ ] Date of latest production change. † Production parts are different than repair parts. R Components comply with RoHS Directive.

\*Review individual parts in each kit for material code identification. For additional technical information see [www.catpumps.com/literature/tech-bulletins](http://www.catpumps.com/literature/tech-bulletins).

NOTE: Discard Kit that may come standard with most motors and engines and use only the key included in Bolt kit.

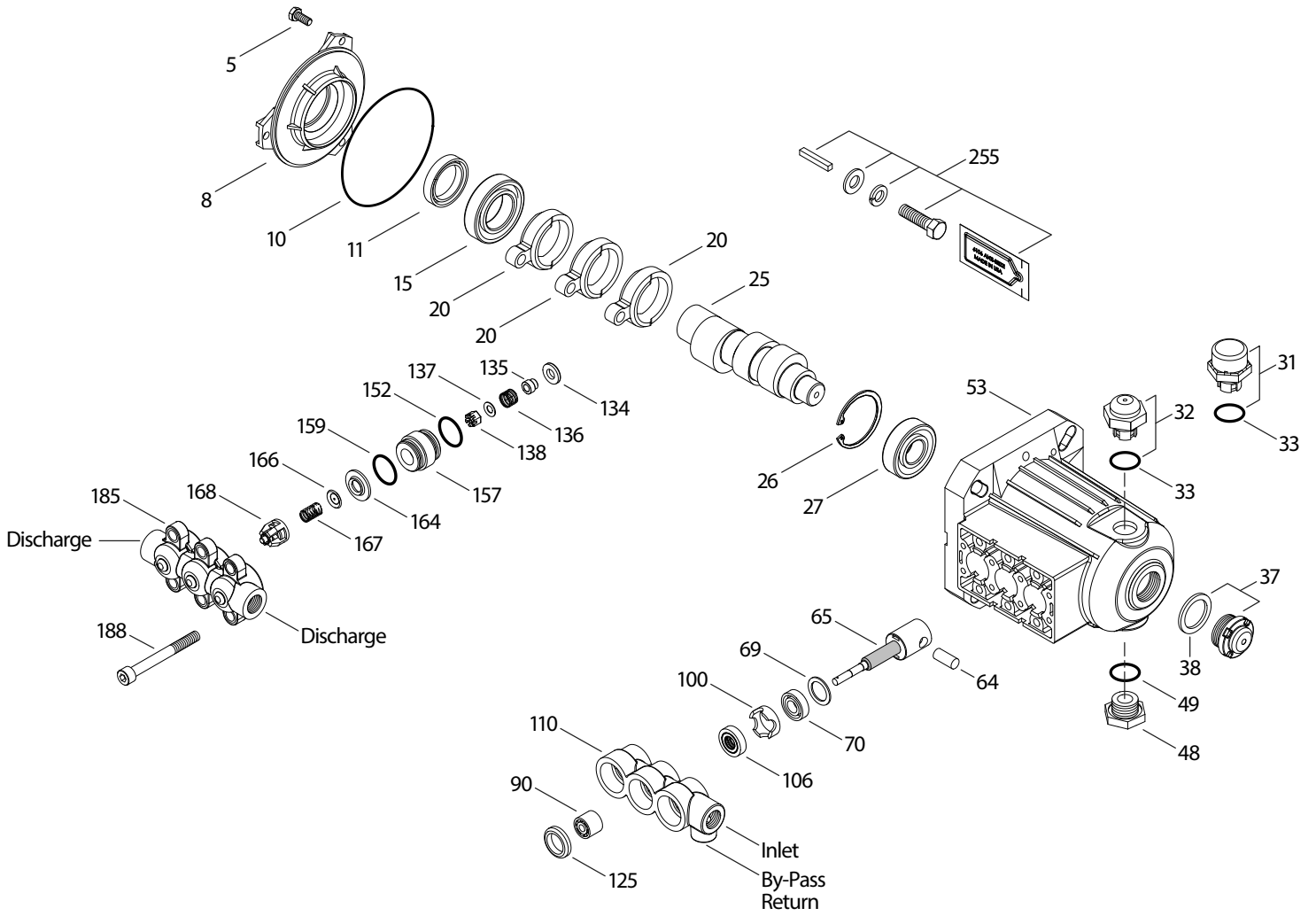
MATERIAL CODES (Not Part of Part Number): AL=Aluminum CC=Ceramic CM=Chrome-Moly D=Acetal EPDM=Ethylene Propylene Diene Monomer FPM=Fluorocarbon

HT=Hi-Temp (EPDM Alternative) IPFE=I-Perfluoroelastomer NBR=Medium Nitrile (Buna-N) NY=Nylon PC=Poly Carbonate PVDF=Polyvinylidene Fluoride

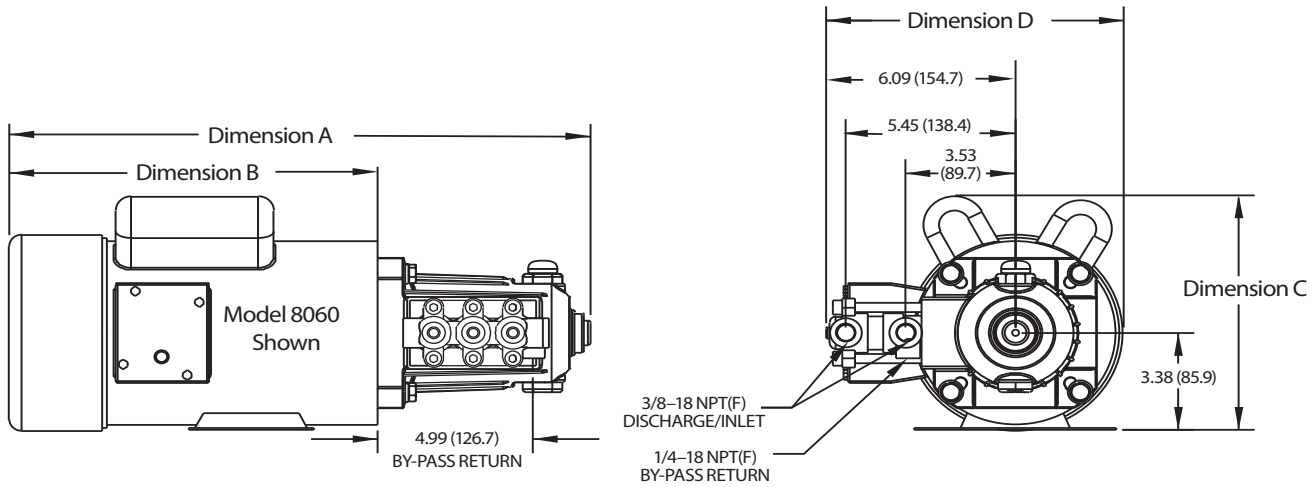
RTP=Reinforced Composite S=304SS SNG=Special Blend (Buna) SS=316SS SSTO=316SS/Titanium Oxide ST=Special PTFE ST4=Special PTFE 4

STL=Steel STCP=Steel/Chrome Plated STZP=Steel/Zinc Plated TNM=Special High Strength

# EXPLODED VIEW



MODEL	8105	8175	8110	8060	8062	8125/8125W
Dimension A	15.9	15.9	17.1	18.7	19.2	19.0
Dimension B	9.0	9.0	10.2	11.8	12.3	12.2
Dimension C	8.2	8.2	8.2	8.1	8.1	9.6
Dimension D	9.1	9.1	9.1	9.5	9.5	9.7



Models 2SF05SEEL, 2SF10SEEL, 2SF15SEEL, 2SF22SEEL

### MOTOR SPECIFICATIONS

MODEL	8105	8175	8110	8060	8062	8125/8125W
HorsePower	0.5	0.75	1.0	1.5	2.0	2.5
Phase	Single	Single	Single	Single	Single	Single
RPM	1750	1745	1750	1725	1725	1750
Frame Size	56C TEFC	56C TEFC	56C TEFC	56C TEFC	56C TEFC	56HC TEFC
Shaft Diameter (inches)	5/8	5/8	5/8	5/8	5/8	5/8
Maximum Volts	115/208-230	115/208-230	115/208-230	115/230	115/230	115/230
Full Load Amps	7.4/3.6-3.7	10.6/5.2-5.3	14/6.8-7.0	14.0/7.0	17.0/8.5	20.8/10.4
Hertz	60	60	60	60	60	60
Service Factor	1.15	1.15	1.15	1.2	1.15	1.15
Max. Ambient Temp. (°F)	104	104	104	104	104	104
Capacitor Start	Yes	Yes	Yes	Yes	Yes	Yes
Thermal Overload-Manual Reset	No	Yes	No	Yes	Yes	No
Weight (lbs.)	25	28	34	42	45.7	52.9

**NOTE:** Motor start-up Amps may vary, then settle within Full Load Amps rating after initial run time.

**Before mounting pump on motor, apply P.N. 6106 Antiseize Lubricant to pump shaft.**

Refer to Tech Bulletin 055 for instructions on removing pump from electric motor.

For electric motor warranty consideration contact motor manufacturer's local Authorized Service Center.

### ⚠ 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).