

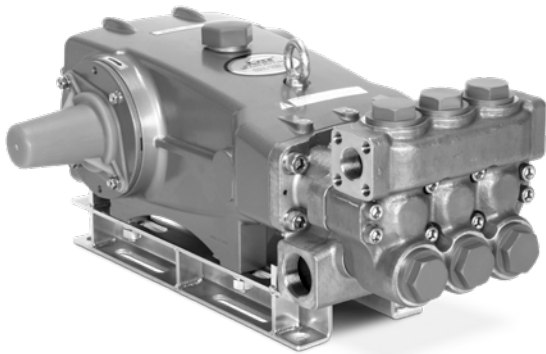
# DATA SHEET

## 35 FRAME PLUNGER PUMPS



**Stainless Steel Model:** **3521DHS**

**Flushed Stainless Steel Model:** **3521C**



Model 3521DHS Shown  
(Shaft protector included, mounting rails sold separately)

SPECIFICATIONS	U.S. Measure	Metric Measure
Flow	25 gpm	94.6 lpm
Pump Pressure Range	100 to 2000 psi	6.9 to 138 bar
Pump RPM*	870 rpm	870 rpm
Inlet Pressure Range	Flooded to 70 psi	Flooded to 4.8 bar
Max. Liquid Temp. (NBR)	160° F	71° C

Alternative seals available for high temp up to 200° F

Bore	1.260"	32 mm
Stroke	1.890"	48 mm
Crankcase Capacity	4.2 Qts.	4 l
Inlet Ports (2)	1-1/2" NPT(F)	1-1/2" NPT (F)
Flush Ports (2) "C"	1/4" NPT (F)	1/4" NPT (F)
Discharge Ports (2)	1" NPT (F)	1" NPT (F)
Shaft Diameter	1.378"	35 mm
Pulley Mounting	Either Side	Either Side
Weight	139 lbs.	63 kg
Dimensions	24.33 x 18.11 x 9.72"	618 x 460 x 247 mm

\*Pump minimum is 100 RPM.

### FEATURES

- Triplex design delivers high efficiency and low pulsation.
- Durable dual V-Packings are lubricated and cooled by pumped liquid.
- Pre-set Lo-Pressure seals provide secondary protection against external leaks and require no packing adjustments.
- Special flushed inlet manifold on model 3521C permits external flush for added cooling with high temperature liquids or lubrication with low lubricity liquids.
- Standard NBR seals or alternative options for temperature and chemical compatibility.

### 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	200° F (93° C)

See Reference Document 99REF017 for inlet conditions and RPM at high temperature.

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

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

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

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

# PARTS LIST

ITEM	P/N	MATL	DESCRIPTION	QTY
5	96049	S	Screw, HHC Sems (M10x25) (See Tech Bulletin 125) [06/18]	8
8	134604	AL	Cover, Bearing (See Tech Bulletin 118, 125) [06/18]	2
9	815279	FBR	Shim, Split, 2-PC (See Tech Bulletin 125) [06/18]	2
10	12398	NBR	O-Ring, Bearing Cover - 70D	2
11	13296	NBR	Seal, Oil, Crankshaft	2
15	29326	STL	Bearing, Roller	2
20	<b>126725</b>	BZ	Rod, Connecting Assy (Incls: 21, 22, 23) (Model 3521DHS)	3
	<b>121467</b>	TNM	Rod, Connecting Assy (Incls: 21, 22, 23) (Model 3521C)	3
21	126749	STCP R	Washer, Locking	3
22	126593	STCP R	Washer, Flat (M10.5)	6
23	122045	STZP	Screw, HH (M10x55)	6
25	29325	FCM	Crankshaft, Dual End (M48)	1
31	828710	PE	Protector, Oil Cap w/Foam Gasket	1
32	43211	ABS	Cap, Oil Filler	1
33	14177	NBR	O-Ring, Oil Filler Cap - 70D	1
34	126743	STCP R	Bolt, Eye (M12x1.75) (For Lifting Pump Only)	1
37	92241	—	Gauge, Oil, Bubble w/Gasket - 80D	1
38	44428	NBR	Gasket, Flat Oil Gauge - 80D	1
40	125753	S	Screw, HHC Sems (M8x25)	8
48	25625	STCP	Plug, Drain (1/4"x19BSP)	1
49	23170	NBR	O-Ring, Drain Plug - 70D	1
50	45936	AL	Cover, Rear (See Tech Bulletin 118)	1
51	16612	NBR	O-Ring, Cover - 70D	1
53	134784	AL	Crankcase Assy (Incls: 34, 54) (See Tech Bulletin 118, 125, 126) [06/18]	1
54	27488	S	Pins, Guide	2
56	27790	POP	Pan, Oil	1
59	92538	S	Screw, HHC Sems (M6x16)	2
64	43864	CM	Pin, Crosshead	3
65	<b>49166</b>	SSHB	Rod, Plunger (Model 3521DHS)	3
	† <b>45116</b>	SSZZ	Rod, Plunger (Model 3521C)	3
69	126587	STCP R	Washer, Oil Seal	3
70	100488	NBR S	Seal, Oil, Crankcase	3
75	43865	S	Slinger, Barrier	3
88	45676	S	Washer, Keyhole (M16)	3
90	43957	CC	Plunger (M32x145)	3
95	89778	SS	Stud, Plunger Retainer (M10x135)	3
96	20189	PTFE	Back-up-Ring, Plunger Retainer	3
97	11345	NBR	O-Ring, Plunger Retainer - 70D	3
98	44085	SS	Gasket, Retainer	3
99	44084	SS	Retainer, Plunger (M10)	3
100	814279	PVDF	Retainer, Seal (See Tech Bulletin 105)	3
101	44106	—	Wick, Long Tab	3
104	43875	NBR	O-Ring, Inlet Adapter - 70D	3
105	45562	SS	Adapter, Inlet	3
106	44098	NBR	Seal, LPS w/SS-Spg	3
107	44101	SS	Washer	3
110	<b>45365</b>	SS	Manifold, Inlet (Model 3521DHS)	1
	<b>125397</b>	SS	Manifold, Inlet, Flushed (1/4" Flush Ports) (Model 3521C)	1
112	11379	NBR	O-Ring, Inlet Manifold - 70D	3
117	44585	S	Screw, HSH (M14x40)	4
122	49782	SS	Spacer (See Tech Bulletin 114)	3
123	12391	NBR	O-Ring, V-Packing Cylinder - 70D	3
124	49783	SS	Cylinder, V-Packing (See Tech Bulletin 114)	3
126	48390	D	Adapter, Female	3
	45564	SS	Adapter, Female	3
127	44608	STG	V-Packing	6
128	45565	SS	Adapter, Male	3
141	49743	SS	Spring, Coil (See Tech Bulletin 114)	3
158	48362	D	Back-up-Ring, V-Packing Cylinder	3
159	48860	NBR	O-Ring, V-Packing Cylinder - 90D	3
162	48363	D	Back-up-Ring, Valve Seat	6
163	26142	NBR	O-Ring, Seat - 80D	6
164	44612	SS	Seat, Stepped	6
166	44108	SS	Valve	6
167	44109	SS	Spring	6
168	44728	PVDF	Retainer, Spring	6
170	44729	SS	Washer, Spring Retainer	6
171	44644	SS	Coil Spring (70kg), Valve Plug	6
172	89827	NBR	O-Ring, Valve Plug - 90D	6
173	48364	D	Back-up-Ring, Valve Plug	6
174	49300	SSD	Plug, Valve [02/06]	6
185	49299	SSD	Manifold, Discharge (See Tech Bulletins 099 and 109)	1
188	89981	S	Screw, HSH (M12x70)	8
250	855042	NY	Protector, Shaft w/2 Screws Lockwashers and Washers (Included with pump) (See Tech Bulletin 125) [06/18]	1

**Bold print part numbers are unique to a particular pump model.** *Italics are optional items.* [ ] Date of latest production change. † Production Parts different from service parts.

R Components comply with RoHS Directive. View Tech Bulletins 024, 040, 041, 050, 052, 053, 064, 069, 074, 083, 099, 100, 105, 109, 114, 118, 125, 126 and 127 for additional information.

MATERIAL CODES (Not Part of Part Number): ABS=ABS Plastic AL=Aluminum BZ=Bronze CC=Ceramic CM=Chrome-Moly D=Acetal EPDM=Ethylene Propylene Diene Monomer F=Cast Iron FBR=Fiber FCM=Forged Chrome-moly FPM=Fluorocarbon IPFE=Perfluoroelastomer NBR=Medium Nitrile (Buna-N) NBR S=Buna, Silicone Free NY=Nylon PE=Polyethylene

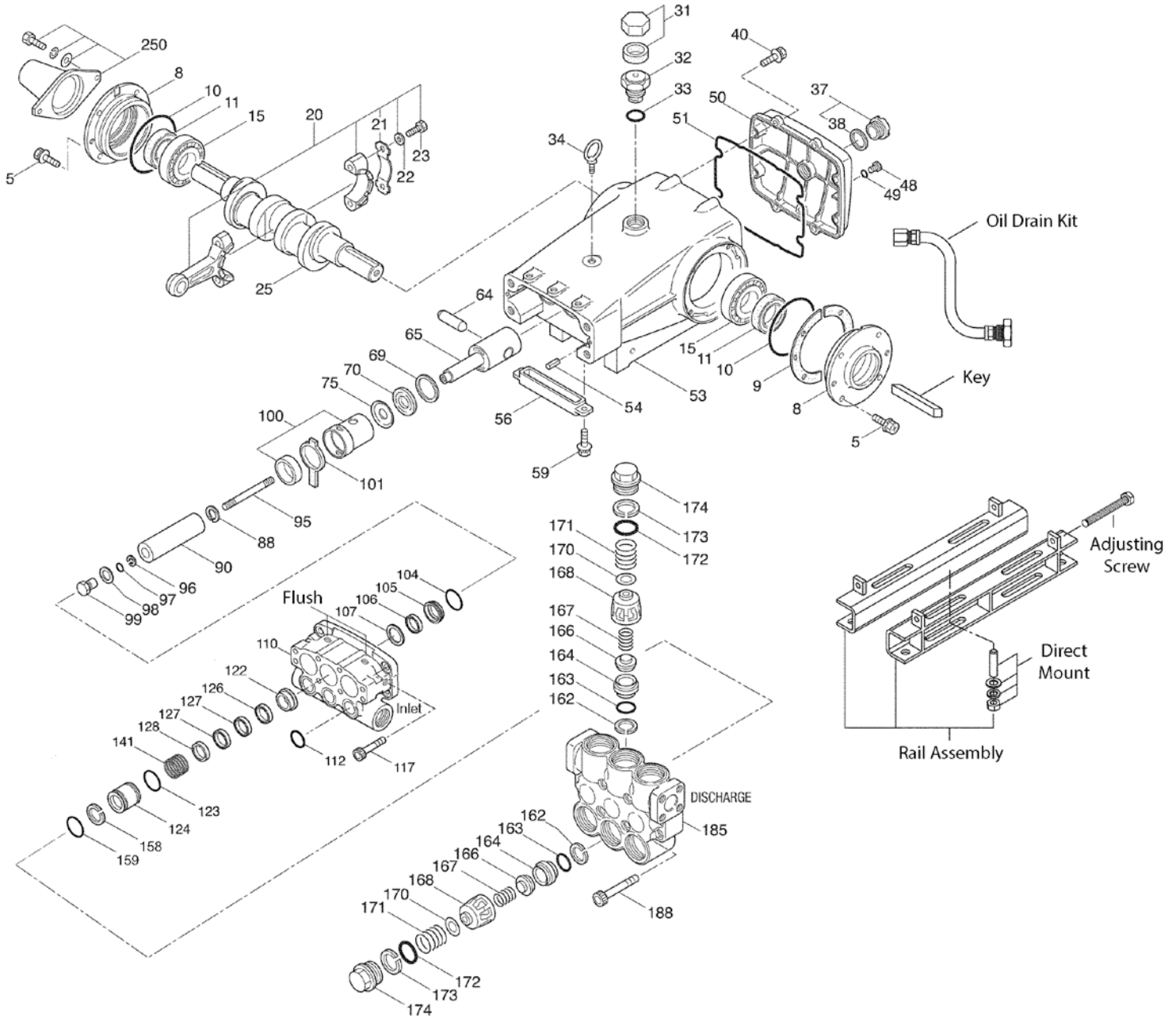
POP=Polypropylene PTFE=Pure Tetrafluoroethylene PVDF=Polyvinylidene Fluoride S=304SS SS=316SS SSD=Duplex Stainless Steel SFG=Special Blend FPM

PPG=Glass Filled Polypropylene ST 2=Special PTFE 2 STG=Special Blend PTFE White STCP=Steel/Chrome Plated STL=Steel STZP=Steel/Zinc Plated SSHB=316SS/High Strength Brass

SSZZ=316SS/Zamak TNM=Special High Strength

**Standard and optional Seal Kits and Valve Kits listed on pages 3 and 4. Optional Parts and Accessories and Service parts listed on Page 3.**

# EXPLODED VIEW



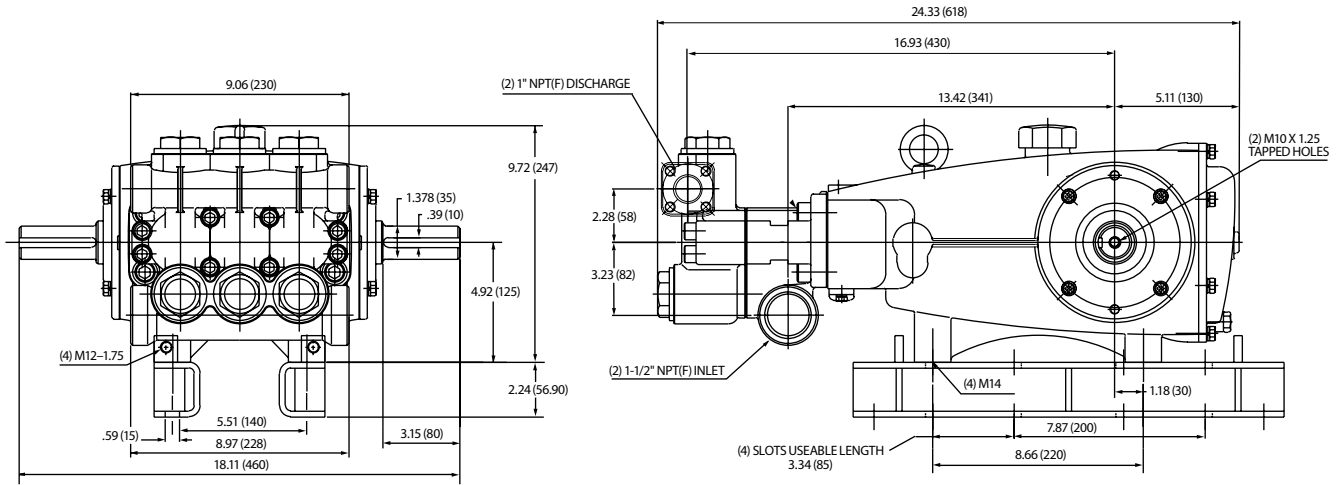
Models  
Stainless Steel 3521DHS, 3521C  
September 2018

## OPTIONAL PARTS AND ACCESSORIES

PART	DESCRIPTION	QTY
76841	Seal Kit – Standard	1
34017	Valve Kit – Standard	2
92674	Mount, Rail Assembly	1
34018	Mount, Direct (STZP R)	1
34039	Mount, Direct (S)	1
990013	Hub, "B", 35 mm (STL) (Not Shown)	1
80540	Screwing, Adjusting M12 x 100	1
30278	Oiler (1 oz) (Not Shown)	3
34314	Kit, Oil Drain	1
30696	Plier, Reverse (Not Shown)	1

## SERVICE PARTS

PART	DESCRIPTION	QTY
6100	Oil, Case (12 - 21 oz. bottle)	1
34021	Key, M10 x 8 x 70	1
6119	Lubricant, Anti-Seize (2 oz)	1
6124	Gasket, Liquid (3 oz)	1
818373	Head, Complete w/NBR Seals and O-Rings	1
819000	Assy, Crankcase, Cast Iron Conversion	1



Models 3521DHS, 3521C

## SEAL KITS One (1) seal kit required per pump

PUMP MODELS	NBR (STD)	FPM (.0110)	EPDM (.0220)◆	IPFE (.0770)
3521DHS, 3521C	76841*	76842	76843 *	76844 *

ITEM (Included in Seal Kits)					DESCRIPTION	QTY
97	11345	11375	701490	702961	O-Ring, Plunger Retainer	3
104	43875	44826	701656	702977	O-Ring, Inlet Adapter	3
106	44098	44827	48244	76298	Seal, LPS w/SS-Spg	3
112	11379	14183	701491	702705	O-Ring, Inlet Manifold	3
123	12391	13266	701657	703481	O-Ring, V-Packing Cylinder	3
127	44608	44829	44608	44608	V-Packing	6
158	48362	48362	48362	48362	Backup-Ring, V-Packing Cylinder	3
159	48860	20137	701492	703159	O-Ring, V-Packing Cylinder	3

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

## VALVE KITS Two (2) valve kits required per pump

PUMP MODELS	NBR (STD)	FPM (.0110)	EPDM (.0220)◆	IPFE (.0770)
3521DHS, 3521C	34017	31955	31952	76617

ITEM (Included in Valve Kits)					DESCRIPTION	QTY
162	48363	48363	48363	48363	Backup-Ring, Valve Seat	3
163	26142	14330	701493	702808	O-Ring, Valve Seat	3
164	44612	44612	44612	44612	Seat, Stepped	3
166	44108	44108	44108	44108	Valve	3
167	44109	44109	44109	44109	Spring	3
168	44728	44728	44728	44728	Retainer, Spring	3
170	44729	44729	44729	44729	Washer, Spring Retainer	3
172	89827	11747	701494	703169	O-Ring, Valve Plug	3
173	48364	48364	48364	48364	Backup-Ring, Valve Plug	3

◆ Silicone oil/grease required

### ⚠ 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).