

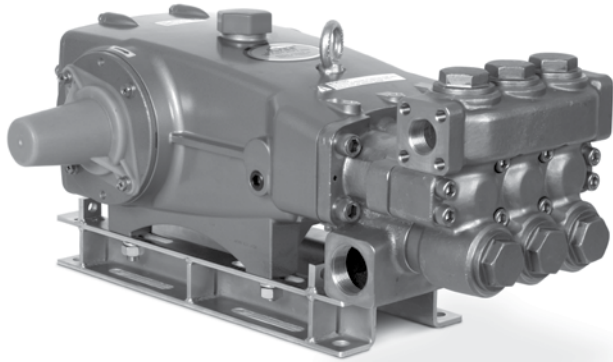
DATA SHEET

35 FRAME PLUNGER PUMPS



Stainless Steel Model: **3531HS**

Nickel Aluminum Bronze Model: **3537HS**



Model 3537HS Shown
(Shaft protector included, mounting rails sold separately)

SPECIFICATIONS	U.S. Measure	Metric Measure
Flow*	40 gpm	151 lpm
Pressure Range*	100 to 2000 psi	7 to 138 bar
Pump RPM**	888 rpm	888 rpm
Inlet Pressure Range	Flooded to 70 psi	Flooded to 4.8 bar
Max. Liquid Temperature	160° F	70° C
Above 130°F call Cat Pumps for inlet conditions and elastomer recommendations.		
Bore	1.575"	40 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)
Discharge Ports (2)	1" NPT(F)	1" NPT(F)
Shaft Diameter	1.378"	35 mm
Pulley Mounting	Either Side	Either Side
Weight	139lbs.	63 kg
Dimensions	24.33 x 18.11 x 9.72"	618 x 460 x 247 mm

* Intermittent Duty Only

**Pump minimum is 100 RPM.

Intermittent Duty Cycle Defined As:

Operating pump at stated flow and pressure for no more than 50% of time in any given hour.

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 high-density, polished, concentric plungers provide a true wear surface and extended seal life.
- Specially formulated Seals and V-Packings offer unmatched performance and extended life.
- Wet-end easily serviced without entering crankcase.
- Standard NBR seals with alternative options for temperature and chemical compatibility
 - FPM – .0110
 - EPDM – .0220

ELECTRIC HORSEPOWER REQUIREMENTS

FLOW		PRESSURE			PUMP RPM
		psi 1000 bar 69	psi 1200 bar 83	psi 2000 bar 138	
gpm	lpm				
40	151	27.4	32.9	54.8	888

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

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

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

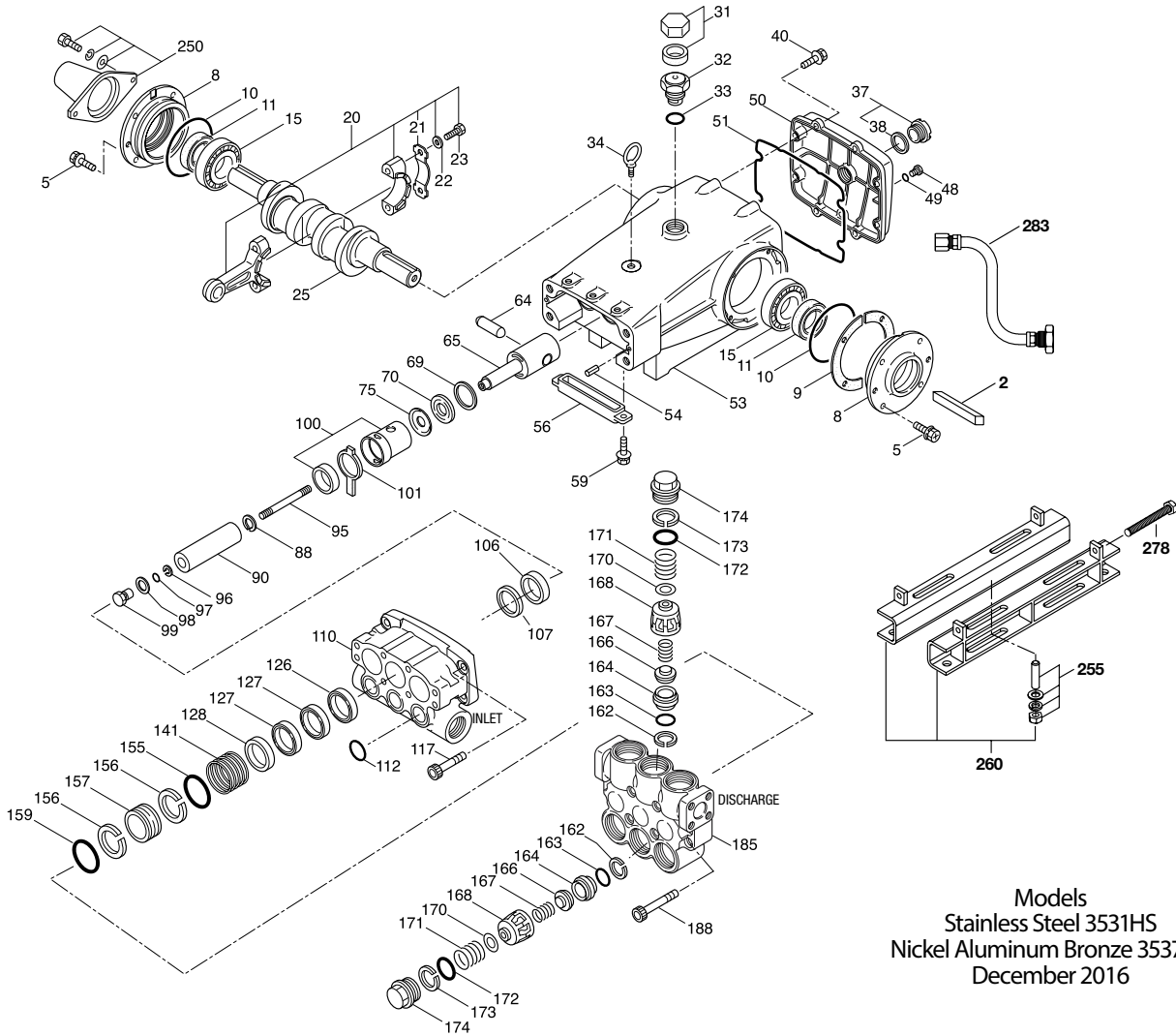
$$\frac{\text{DETERMINING MOTOR PULLEY SIZE}}{\text{Motor Pulley O.D.}} = \frac{\text{Pump Pulley O.D.}}{\text{Motor rpm}}$$

See complete Drive Packages [Includes: pulleys, belts, hubs, key] Tech Bulletin 003. Refer to pump **Service Manual** for repair procedure and additional technical information.

PARTS LIST

ITEM	PART NUMBER				DESCRIPTION	QTY
	3531HS	MATL	3537HS	MATL		
2	34021	STL	34021	STL	Key (M10x8x70)	1
5	125753	S	125753	S	Screw, HHC Sems (M8x25)	8
8	44542	AL	44542	AL	Cover, Bearing (See Tech Bulletin 118)	2
9	815279	FBR	815279	FBR	Shim, Split 2-Pc	2
10	12398	NBR	12398	NBR	O-Ring, Bearing Cover - 70D	2
11	13296	NBR	13296	NBR	Seal, Oil, Crankshaft	2
15	29326	STL	29326	STL	Bearing, Roller	2
20	126725	BZ R	126725	BZ R	Rod, Connecting Assy (Incls: 21,22,23)	3
21	126749	STCP R	126749	STCP R	Locking Washer (M10)	3
22	126593	STCP R	126593	STCP R	Washer, Flat (M10.5)	6
23	122045	STZP	122045	STZP	Screw, HH (M10x55)	6
25	29325	FCM	29325	FCM	Crankshaft, Dual End	1
31	828710	—	828710	—	Protector, Oil Cap w/Foam Gasket	1
32	43211	ABS	43211	ABS	Cap, Oil Filler	1
33	14177	NBR	14177	NBR	O-Ring, Oil Filler Cap - 70D	1
34	126743	STCP R	126743	STCP R	Bolt, Eye (M12x1.75) (For Lifting Pump Only)	1
37	92241	—	92241	—	Gauge, Oil, Bubble w/Gasket	1
38	44428	NBR	44428	NBR	Gasket, Flat, Oil Gauge - 80D	1
40	125753	S	125753	S	Screw, HHC Sems (M8x25)	8
48	25625	STCP	25625	STCP	Plug, Drain (1/4"x19BSP)	1
49	23170	NBR	23170	NBR	O-Ring, Drain Plug - 70D	1
50	45936	AL	45936	AL	Cover, Rear (See Tech Bulletin 118)	1
51	16612	NBR	16612	NBR	O-Ring, Crankcase Cover - 70D	1
53	44487	AL	44487	AL	Crankcase Assy (Incls: 34, 54) (See Tech Bulletin 118)	1
54	27488	S	27488	S	Pins, Guide	2
56	27790	POP	27790	POP	Pan, Oil	1
59	92538	S	92538	S	Screw, HHC Sems (M6x16)	2
64	43864	CM	43864	CM	Pin, Crosshead	3
65	49166	SSHB	49166	SSHB	Rod, Plunger	3
69	126587	STCP R	126587	STCP R	Washer, Oil Seal	3
70	100488	NBRS	100488	NBRS	Seal, Oil, Crankcase	3
	44739	FPM	44739	FPM	Seal, Oil, Crankcase	3
75	43865	S	43865	S	Slinger, Barrier	3
88	45676	S	45676	S	Washer, Keyhole (M16)	3
90	43921	CC	43921	CC	Plunger (M40x145)	3
95	89778	SS	89778	SS	Stud, Plunger Retainer (M10x135)	3
96	20189	PTFE	20189	PTFE	Back-up-Ring, Plunger Retainer	3
97	11345	NBR	11345	NBR	O-Ring, Plunger Retainer - 70D	3
	11375	FPM	11375	FPM	O-Ring, Plunger Retainer	3
	◆ 701490	EPDM	◆ 701490	EPDM	O-Ring, Plunger Retainer	3
98	44085	SS	44085	SS	Gasket, Retainer	3
99	44084	SS	44084	SS	Retainer, Plunger (M10)	3
100	814279	PVDF	814279	PVDF	Retainer, Seal, 2 Pc. (See Tech Bulletin 105)	3
101	44112	—	44112	—	Wick, Long Tab	3
106	44113	NBR	44113	NBR	Seal, LPS w/SS-Spg	3
	44740	FPM	44740	FPM	Seal, LPS w/SS-Spg	3
	◆ 46955	EPDM	◆ 46955	EPDM	Seal, LPS w/S-Spg	3
107	45381	SS	44115	NAB	Spacer, Lo-Pressure Seal	3
110	45365	SS	45124	NAB	Manifold, Inlet	1
112	11379	NBR	11379	NBR	O-Ring, Inlet Manifold - 70D	3
	14183	FPM	14183	FPM	O-Ring, Inlet Manifold	3
	◆ 701491	EPDM	◆ 701491	EPDM	O-Ring, Inlet Manifold - 70D	3
117	44585	S	44585	S	Screw, HSH (M14x40)	4
126	48391	D	48391	D	Adapter, Female (See Tech Bulletin 087)	3
	45367	SS	45367	SS	Adapter Female	3
127	44609	STG	44609	STG	V-Packing	6
	44741	SFG	44741	SFG	V-Packing	6
128	45368	SS	45368	SS	Adapter, Male	3
141	49519	SS	49519	SS	Spring, Large Coil (See Tech Bulletin 108)	3
155	48860	NBR	48860	NBR	O-Ring, V-Packing Spacer - 90D	3
	20137	FPM	20137	FPM	O-Ring, V-Packing Spacer - 70D	3
	◆ 701492	EPDM	◆ 701492	EPDM	O-Ring, V-Packing Spacer	3
156	48362	D	48362	D	Back-up-Ring, V-Packing Spacer	3
157	49520	SS	49521	NAB	Spacer, V-Packing (See Tech Bulletin 108)	3
158	48362	D	48362	D	Back-up-Ring, V-Packing Spacer	3
159	48860	NBR	48860	NBR	O-Ring, V-Packing Spacer - 90D	3
	20137	FPM	20137	FPM	O-Ring, V-Packing Spacer - 70D	3
	◆ 701492	EPDM	◆ 701492	EPDM	O-Ring, V-Packing Spacer	3
162	48363	D	48363	D	Back-up-Ring, Valve Seat	6
163	26142	NBR	26142	NBR	O-Ring, Seat - 80D	6
	14330	FPM	14330	FPM	O-Ring, Seat	6
	◆ 701493	EPDM	◆ 701493	EPDM	O-Ring, Seat	6
164	44612	SS	44612	SS	Seat, Stepped	6
166	44108	SS	44108	SS	Valve	6
167	44109	SS	44109	SS	Spring	6
168	44728	PVDF	44728	PVDF	Retainer, Spring	6
170	44729	SS	44729	SS	Washer, Spring Retainer	6
171	44644	SS	44644	SS	Coil Spring (70kg), Valve Plug	6

EXPLODED VIEW



Models
Stainless Steel 3531HS
Nickel Aluminum Bronze 3537HS
December 2016

ITEM	3531HS		3537HS		DESCRIPTION	QTY
	PART NUMBER	MATL	PART NUMBER	MATL		
172	89827	NBR	89827	NBR	O-Ring, Valve Plug - 90D	6
	11747	FPM	11747	FPM	O-Ring, Valve Plug - 90D	6
	◆ 701494	EPDM	◆ 701494	EPDM	O-Ring, Valve Plug - 70D	6
173	48364	D	48364	D	Back-up-Ring, Valve Plug	6
174	49300	SSD	44643	NAB	Plug, Valve	6
185	49299	SSD	76335	NAB	Manifold, Discharge (See Tech Bulletin 099 and 109)	1
188	89981	S	89981	S	Screw, HSH (M12x70)	8
250	44516	NY	44516	NY	Protector, Shaft w/2 Screws, Lockwashers and Washers (Included with pump)	1
255	34018	STZPR	34018	STZPR	Kit, Direct Mount	1
260	92674	STZPR	92674	STZPR	Mounting, Box Assy (Incls: 34018)	1
278	80540	STZP	80540	STZP	Screw, HH (M12x100) (Rail Adjusting Screw)	1
279	30278	STZP	30278	STZP	Oiler (1 oz.) (Not Shown)	3
283	34314	—	34314	—	Kit, Oil Drain (3/8" x 48")	1
290	6124	—	6124	—	Gasket, Liquid (3 oz.)	1
299	818372	SS	814522	NAB	Complete Head w/NBR Seals and O-Rings Standard	1
300	31040	NBR*	31040	NBR*	Kit, Seal (Incls: 97,106,112,127,155,156,158,159) Standard	1
	33055	FPM	33055	FPM	Kit, Seal (Incls: 97,106,112,127,155,156,158,159) .0110	1
	◆ 33262	EPDM*	◆ 33262	EPDM*	Kit, Seal (Incls: 97,106,112,127,155,156,158,159) .0220	1
310	34017	NBR	34017	NBR	Kit, Valve, Preassembled (Incls: 162,163,164,166,167,168,170,172,173) Standard	2
	31955	FPM	31955	FPM	Kit, Valve, Preassembled (Incls: 162,163,164,166,167,168,170,172,173) .0110	2
	◆ 31952	EPDM	◆ 31952	EPDM	Kit, Valve, Preassembled (Incls: 162,163,164,166,167,168,170,172,173) .0220	2
—	6100	—	6100	—	Oil, Case (12 Bottles) ISO -68 Hydraulic (Fill to specified crankcase capacity prior to start-up)	1
—	6119	—	—	—	Lubricant, Antiseize (2 oz) (See Tech Bulletin 095)	1

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

◆ Silicone oil/grease required. * Review individual parts in each kit for material identification. R Components comply with RoHS Directive

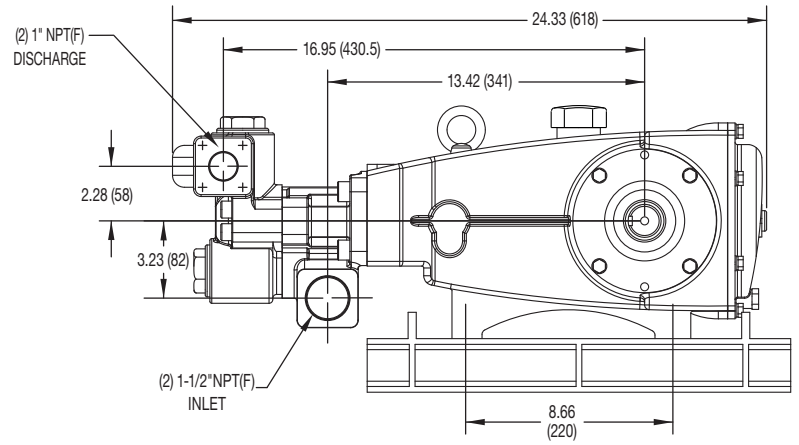
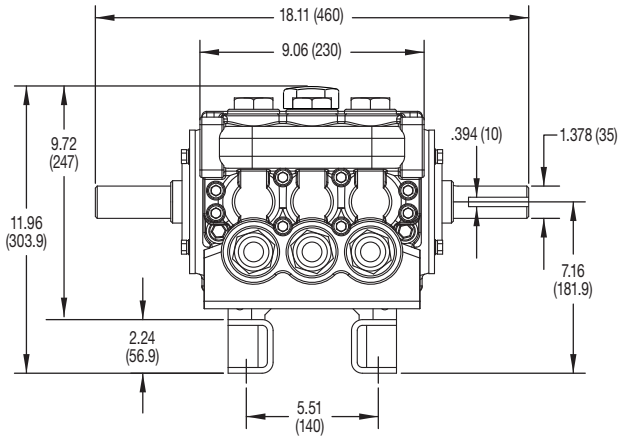
View Tech Bulletins 03, 024, 035, 036, 040, 041, 043, 050, 052, 053, 069, 074, 083, 095, 099, 105, 108, 109 and 118 for additional information.

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 NAB=Nickel Aluminum Bronze NBR=Medium Nitrile (Buna-N) NBRs=Buna, Silicone Free NY=Nylon POP=Polypropylene

PTFE=Pure Polytetrafluoroethylene PVD=Polyvinylidene Fluoride S=304SS SS=316SS SSHB=316SS W/High Strength Brass STCP=Steel/Chrome Plated SFG=Special Blend (FPM)

STG=Special Blend (PTFE) White SSD=Duplex Stainless Steel STL=Steel STZP=Steel/Zinc Plated ZP=Zinc Plated



⚠ 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 or can be requested directly from Cat Pumps.

WARRANTY

View the Limited Warranty on-line at www.catpumps.com/warranty.



CAT PUMPS

1681 - 94TH LANE N.E. MINNEAPOLIS, MN 55449-4324
 PHONE (763) 780-5440 — FAX (763) 780-2958
 e-mail: techsupport@catpumps.com
www.catpumps.com