

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

35 Frame Plunger Pump

Nickel Aluminum Bronze Standard

3537HS

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.
- Interchangeable inlet and discharge valves for easy servicing.
- Wet-end easily serviced without entering crankcase.

SPECIFICATIONS

	U.S. Measure	Metric Measure
Flow*	40 gpm	(151 lpm)
Pressure Range*	100 to 2000 psi	(7 to 140 bar)
Inlet Pressure Range	Flooded to 70 psi	(Flooded to 4.9 bar)
RPM	888 rpm	(888 rpm)
Bore	1.575"	(40 mm)
Stroke	1.890"	(48 mm)
Crankcase Capacity	4.2 Qts.	(4 l)
Maximum Liquid Temperature	160°F	(70°C)
Above 130°F call CAT PUMPS for inlet conditions and elastomer recommendations.		
Inlet Ports (2)	1-1/2" NPTF	(1-1/2 NPTF)
Discharge Ports (2)	1" NPTF	(1" NPTF)
Pulley Mounting	Either Side	(Either Side)
Shaft Diameter	1.378"	(35 mm)
Weight	139 lbs.	(63 kg)
Dimensions	24.33 x 11x9.72"(618 x 460x 247mm)	

* Intermittent Duty Only.

ELECTRIC HORSEPOWER REQUIREMENTS

FLOW		PRESSURE			rpm	DRIVE CAT PUMPS for Pump and Motor Pulley Sizes
U.S. gpm	lpm	psi 1000	psi 1200	psi 2000		
40	151	27.4	32.9	54.8	888	

DETERMINING THE PUMP rpm	$\frac{\text{Rated gpm}}{\text{Rated rpm}}$	=	$\frac{\text{"Desired" gpm}}{\text{"Desired" rpm}}$
DETERMINING THE REQUIRED H.P.	$\frac{\text{gpm} \times \text{psi}}{1460}$	=	$\frac{\text{Electric Brake H. P. Required}}{\text{H. P. Required}}$
DETERMINING MOTOR PULLEY SIZE	$\frac{\text{Motor Pulley O.D.}}{\text{Pump rpm}}$	=	$\frac{\text{Pump Pulley O.D.}}{\text{Motor rpm}}$

See complete Drive Packages [Incls: Pulleys, Belts, Hubs, Key] Tech Bulletin 003. Refer to pump **Service Manual** for repair procedure and additional technical information.

⚠ 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.

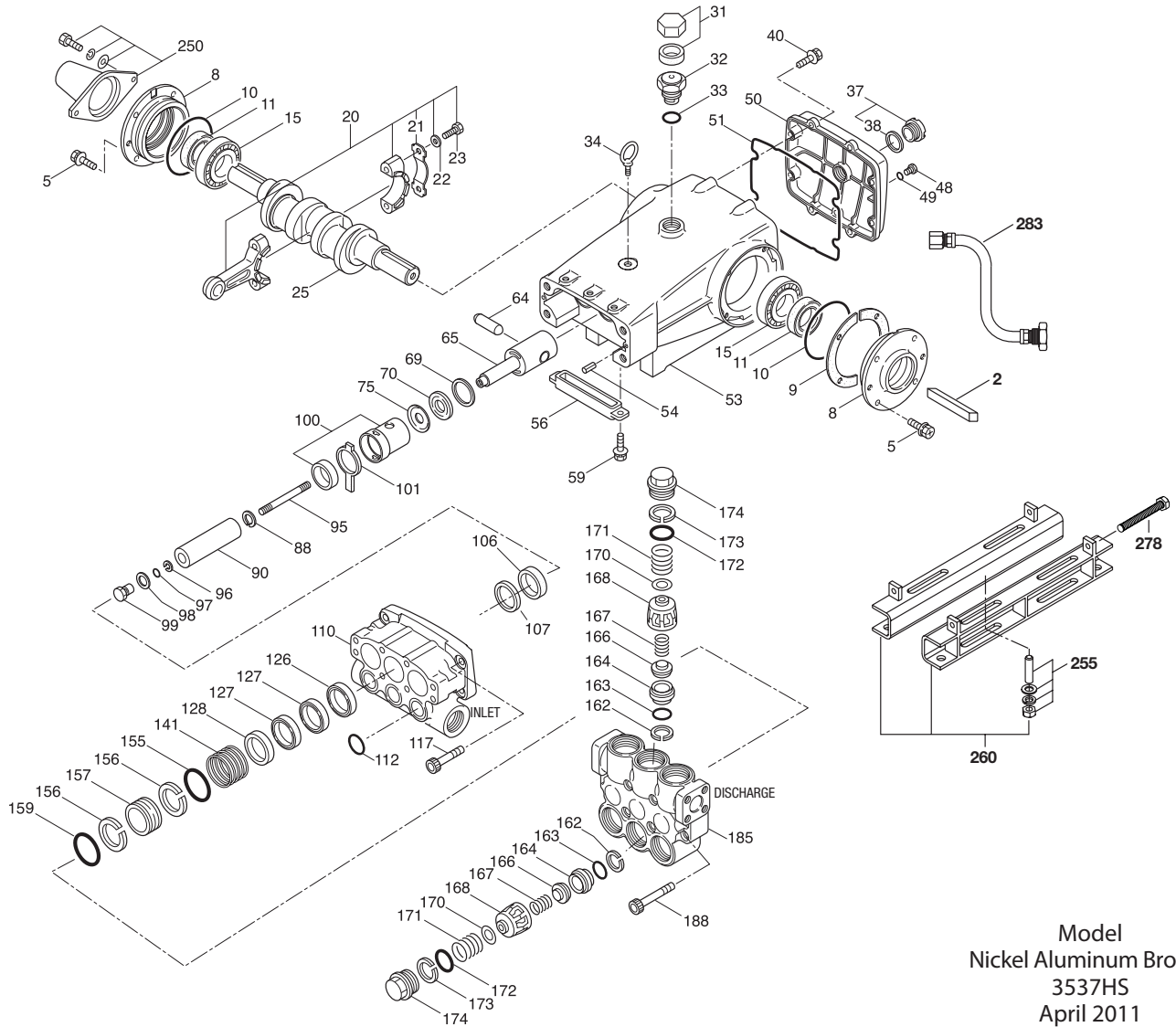
WARRANTY

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

PARTS LIST

ITEM	PART NUMBER	DESCRIPTION	QTY	
	3537HS MATL			
2	34021	STL	Key (M10x8x70)	1
5	125753	S	Screw, HHC Sems (M8x25)	8
8	44542	AL	Cover, Bearing	2
9	815279	FBR	Shim, Split 2-Pc	2
10	12398	NBR	O-Ring, Bearing Cover - 70D	2
11	13296	NBR	Seal, Oil, Crankshaft	2
15	29326	STL	Bearing, Roller	2
20	126725	BZ R	Rod, Connecting Assy (Incls: 21,22,23) [10/00]	3
21	126749	STCP R	Locking Washer (M10)	3
22	126593	STCP R	Washer, Flat (M10)	6
23	122045	STZP	Screw, HH (M10x55)	6
25	29325	FCM	Crankshaft, Dual End	1
31	828710	—	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	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	1
51	16612	NBR	O-Ring, Crankcase Cover - 70D	1
53	44487	AL	Crankcase Assy (Incls: 34, 54)	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	49166	SSHB	Rod, Plunger	3
69	126587	STCP R	Washer, Oil Seal	3
70	100488	NBR	Seal, Oil, Crankcase	3
	44739	FPM	Seal, Oil, Crankcase	3
	43865	S	Slinger, Barrier	3
88	45676	S	Washer, Keyhole (M16)	3
90	43921	CC	Plunger (M40x145)	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
	11375	FPM	O-Ring, Plunger Retainer	3
	◆ 701490	EPDM	O-Ring, Plunger Retainer	3
98	44085	SS	Gasket, Retainer	3
99	44084	SS	Retainer, Plunger (M10)	3
100	814279	PVDF	Retainer, Seal, 2 Pc. (See Tech Bulletin 105)	3
101	44112	—	Wick, Long Tab	3
106	44113	NBR	Seal, LPS w/SS-Spg	3
	44740	FPM	Seal, LPS w/SS-Spg	3
	◆ 46955	EPDM	Seal, LPS w/S-Spg	3
107	44115	NAB	Spacer, Lo-Pressure Seal	3
110	45124	NAB	Manifold, Inlet	1
112	11379	NBR	O-Ring, Inlet Manifold - 70D	3
	14183	FPM	O-Ring, Inlet Manifold	3
	◆ 701491	EPDM	O-Ring, Inlet Manifold - 70D	3
117	44585	S	Screw, HSH (M14x40)	4
126	48391	D	Adapter, Female (See Tech Bulletin 087)	3
	45367	SS	Adapter Female	3
127	44609	STG*	V-Packing	6
	44741	SFG	V-Packing	6
128	45368	SS	Adapter, Male	3
141	49519	SS	Spring, Large Coil (See Tech Bulletin 108)	3
155	48860	NBR	O-Ring, V-Packing Spacer - 90D	3
	20137	FPM	O-Ring, V-Packing Spacer - 70D	3
	◆ 701492	EPDM	O-Ring, V-Packing Spacer	3
156	48362	D	Back-up-Ring, V-Packing Spacer	3
157	49521	NAB	Spacer, V-Packing (See Tech Bulletin 108)	3
158	48362	D	Back-up-Ring, V-Packing Spacer	3
159	48860	NBR	O-Ring, V-Packing Spacer - 90D	3
	20137	FPM	O-Ring, V-Packing Spacer - 70D	3
	◆ 701492	EPDM	O-Ring, V-Packing Spacer	3
162	48363	D	Back-up-Ring, Valve Seat	6
163	26142	NBR	O-Ring, Seat - 80D	6
	14330	FPM	O-Ring, Seat	6
	◆ 701493	EPDM	O-Ring, Seat	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
	11747	FPM	O-Ring, Valve Plug - 90D	6
	◆ 701494	EPDM	O-Ring, Valve Plug - 70D	6
173	48364	D	Back-up-Ring, Valve Plug	6
174	44643	NAB	Plug, Valve	6
185	76335	NAB	Manifold, Discharge (See Tech Bulletin 099 and 109)	1
188	89981	S	Screw, HSH (M12x70)	8
250	44516	NY	Protector, Shaft w/2 Screws, Lockwashers and Washers (Included With Pump)	1

EXPLODED VIEW



Model
Nickel Aluminum Bronze
3537HS
April 2011

	3537HS	MATL	DESCRIPTION	QTY
255	34018	STZP R	Kit, Direct Mount	1
	34039	S	Kit, Direct Mount	1
260	92674	STZP R	Mounting, Box Assy (Incls: 34018)	1
275	990013	STL	Hub, 'B' 35mm w/Keyway (See Tech Bulletin 003)	1
278	80540	ZP	Screw, HH (M12x100) (Rail Adjusting Screw)	1
279	30278	STZP	Oiler (1 oz.)	3
281	30967	—	Glass, Oiler	3
282	10069	NBR	Gasket, Oiler	3
283	34314	—	Kit, Oil Drain (3/8" x 48")	1
290	6124	—	Gasket, Liquid (3 oz.)	1
299	814522	NAB	Complete Head (Models 3535,3531,3537 Only)	1
300	31040	NBR*	Kit, Seal (Incls: 97,106,112,127,155,156,158,159)	1
	33055	FPM	Kit, Seal (Incls: 97,106,112,127,155,156,158,159)	1
	◆ 33262	EPDM*	Kit, Seal (Incls: 97,106,112,127,155,156,158,159)	1
310	34017	NBR	Kit, Valve, Preassembled (Incls: 162,163,164,166,167,168,170,172,173)	2
	31955	FPM	Kit, Valve, Preassembled (Incls: 162,163,164,166,167,168,170,172,173)	2
	◆ 31952	EPDM	Kit, Valve, Preassembled (Incls: 162,163,164,166,167,168,170,172,173)	2
—	819000	F	Assy, Crankcase, Cast Iron Conversion	1
390	714500	SS	C.A.T. (Inlet pressure stabilizer for RO and boosted inlet applications)	1
391	714506	SS	Adapter (2 per C.A.T.) (See Data Sheet for complete selection)	2
392	701828	SS	Elbow Assy used with Adapter Assy 714506	1
—	6575	—	Plunger Pump Service DVD	1
—	6100	—	Oil, Case (12 Bottles) ISO -68 Hydraulic (Fill to specified crankcase capacity prior to start-up)	1
—	—	—	Lubricant, Antiseize (1oz) (See Tech Bulletin 095)	1

Italics are optional items. [] Date of latest production change.

◆ Silicone oil/grease required. † Production parts differ from service parts.* Review individual parts in each kit for material identification. R Components comply with RoHS Directive
C.A.T. highly recommended for pressurized inlet, R.O. and Industrial applications.

View Tech Bulletins 03, 024, 035, 036, 040, 041, 043, 050, 052, 053, 069, 074, 077, 083, 095, 099, 105, 108 and 109 for additional information.

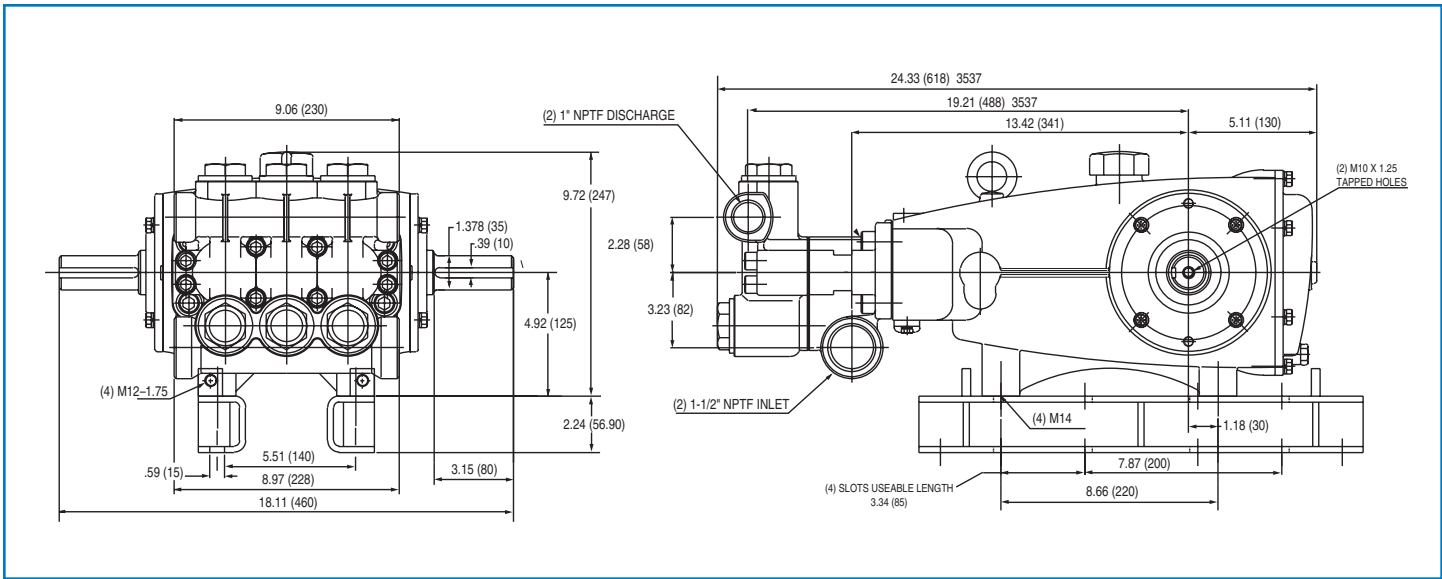
MATERIAL CODES (Not Part of Part Number): ABS=ABS Plastic AL=Aluminum BZ=Bronze CC=Ceramic CM=Chrome-Moly D=Acetal

EPDM=Ethylene Propylene Diene Monomer F=Cast Iron FBR=Fiber FCM=Forged Chrome-moly FPM=Fluorocarbon NAB=Nickel Aluminum Bronze

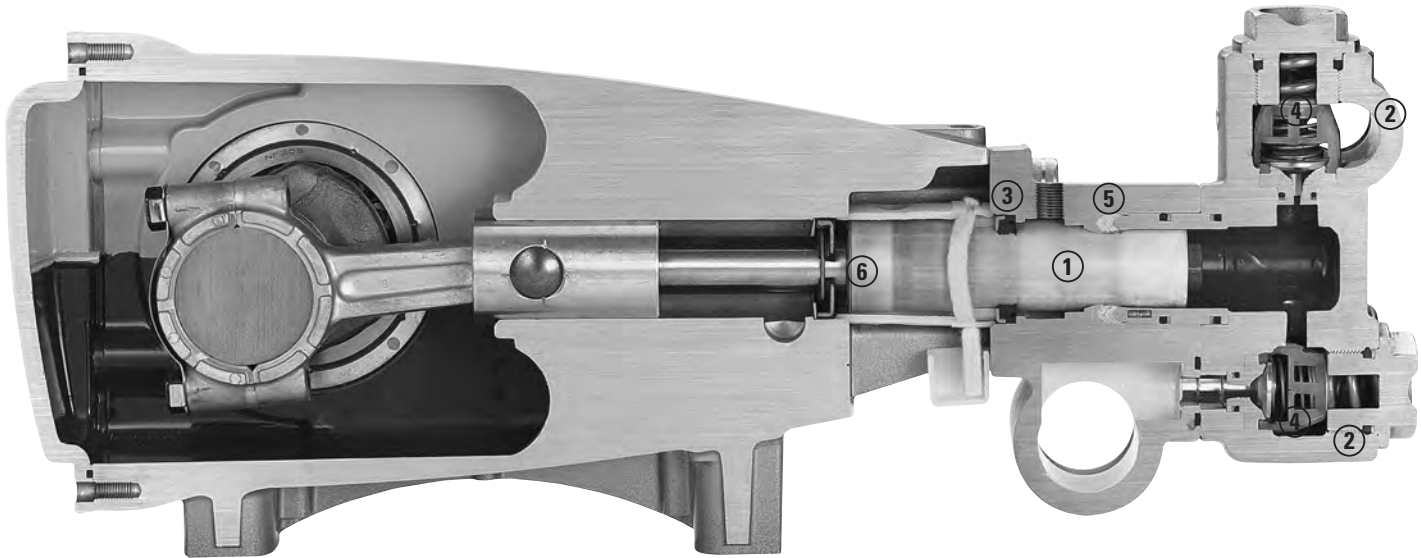
NBR=Medium Nitrile (Buna-N) NBRB=Buna, Silicone Free NY=Nylon POP=Polypropylene PTFE=Pure Polytetrafluoroethylene PVDF=Polyvinylidene Fluoride S=304SS SS=316SS

SSHB=316SS W/High Strength Brass STCP=Steel/Chrome Plated SFG=Special Blend (FPM) STG=Special Blend (PTFE) White

STL=Steel STZP=Steel/Zinc Plated ZP=Zinc Plated



Model 3537HS



- 1** Special concentric, high-density, polished, solid ceramic **plungers** provide a true wear surface and extended seal life.
- 2** **Manifolds** are a high tensile strength nickel aluminum bronze for long term, continuous duty.
- 3** 100% wet **seal** design adds to service life by allowing pumped liquids to cool and lubricate on both sides.
- 4** Stainless steel **valves, seats and springs** provide corrosion-resistance, ultimate seating and extended life.
- 5** Specially formulated, Cat Pump exclusive, **V-Packings** offer unmatched performance and seal life.



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