

# DATA SHEET

## 35 FRAME PLUNGER PUMPS



**Standard and Flushed  
Brass**

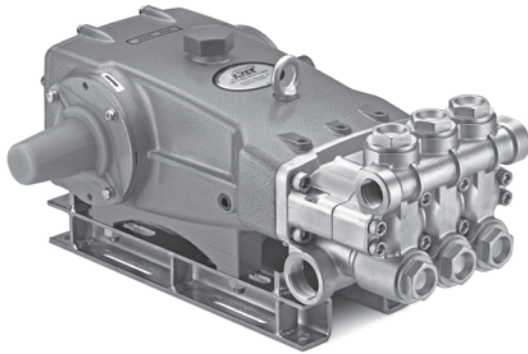
**3535, 3535C**

**Standard and Flushed  
Stainless Steel**

**3531, 3531C**

**Nickel Aluminum  
Bronze**

**3537**



Model 3535 Shown  
(Shaft protector included, mounting rails sold separately)

### 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.
- Wet-end easily serviced without entering crankcase.
- Standard NBR seals with alternative options for temperature and chemical compatibility
  - FPM – .0110
  - EPDM – .0220

### SPECIFICATIONS

	U.S. Measure	Metric Measure
Flow	36 gpm	136 lpm
Pressure Range	100 to 1200 psi	6.9 to 83 bar
Inlet Pressure Range	Flooded to 70 psi	Flooded to 4.8 bar
RPM	800 rpm	800 rpm
Bore	1.575"	40 mm
Stroke	1.890"	48 mm
Crankcase Capacity	4.2 qts.	4 l
Max. Liquid Temperature	160° F	70° C

Above 130° F call Cat Pumps for inlet conditions and elastomer recommendations.

Inlet Ports (2)	1-1/2" NPT(F)	1-1/2" NPT(F)
Flushing Ports (2) (3531C, 3535C)	1/4" NPT(F)	1/4" NPT(F)
Discharge Ports (2)	1" NPT(F)	1" NPT(F)
Pulley Mounting	Either Side	Either Side
Shaft Diameter	1.378"	35 mm
Weight	139 lbs.	63 kg
Dimensions (3535, 3535C)	23.89 x 18.11 x 9.72"	607 x 460 x 247 mm
Dimensions (3531, 3531C, 3537)	24.33 x 18.11 x 9.72"	618 x 460 x 247 mm

### ELECTRIC HORSEPOWER REQUIREMENTS

FLOW		PRESSURE			RPM	DRIVE	
		psi 800	psi 1000	psi 1200			
U.S. gpm	lpm	bar 55	bar 69	bar 83	800	Consult Cat Pumps for Pump and Motor Pulley Sizes	
36	136	19.8	24.7	29.7			
30	114	16.5	20.6	24.7			667
25	95	13.7	17.2	20.6			556

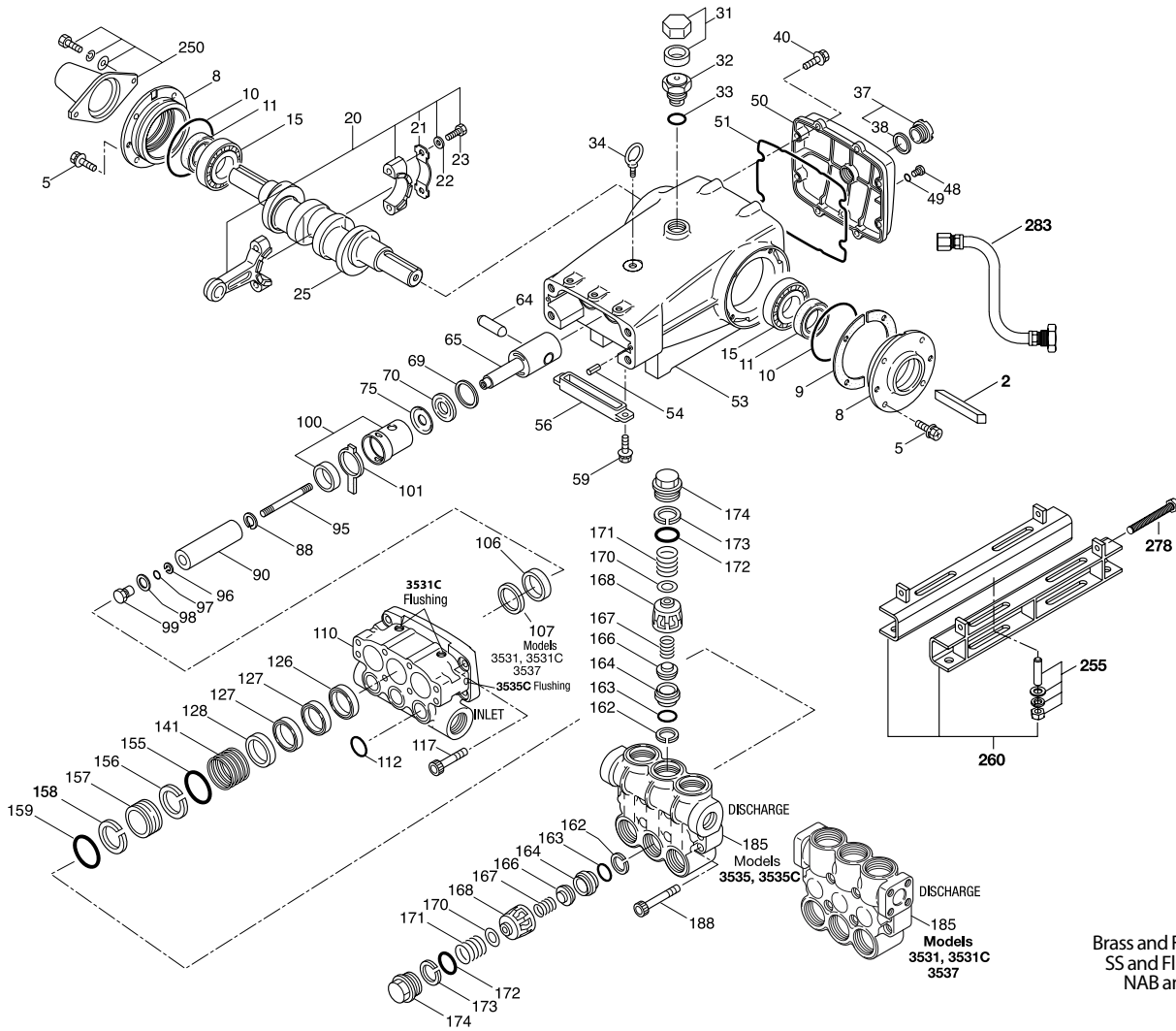
<b>DETERMINING THE PUMP R.P.M.</b>	$\frac{\text{Rated gpm}}{\text{Rated rpm}}$	=	$\frac{\text{"Desired" gpm}}{\text{"Desired" rpm}}$
<b>DETERMINING THE REQUIRED H.P.</b>	$\frac{\text{gpm} \times \text{psi}}{1460}$	=	$\frac{\text{Electric BrakeH. P. Required}}{\text{H. P. Required}}$
<b>DETERMINING MOTOR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

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	3535C		PART NUMBER		3537		DESCRIPTION	QTY
	MATL		3531C	MATL	MATL			
2	34021	STL	34021	STL	34021	STL	Key (M10x8x70)	1
5	125753	S	125753	S	125753	S	Screw, HHC Sems (M8x25)	8
8	44542	AL	44542	AL	44542	AL	Cover, Bearing	2
9	815279	FBR	815279	FBR	815279	FBR	Shim, Split 2-Pc	2
10	12398	NBR	12398	NBR	12398	NBR	O-Ring, Bearing Cover - 70D	2
11	13296	NBR	13296	NBR	13296	NBR	Seal, Oil, Crankshaft	2
15	29326	STL	29326	STL	29326	STL	Bearing, Roller	2
20	121467	TNM	121467	TNM	121467	TNM	Rod, Connecting Assy (Incls: 21,22,23) [10/00]	3
21	126749	STCP R	126749	STCP R	126749	STCP R	Locking Washer (M10)	3
22	126593	STCP R	126593	STZP R	126593	STZP R	Washer, Flat (M10.5)	6
23	122045	STZP	122045	STZP	122045	STZP	Screw, HH (M10x55)	6
25	29325	FCM	29325	FCM	29325	FCM	Crankshaft, Dual End (M48)	1
31	828710	PE	828710	PE	828710	PE	Protector, Oil Cap w/Foam Gasket	1
32	43211	ABS	43211	ABS	43211	ABS	Cap, Oil Filler	1
33	14177	NBR	14177	NBR	14177	NBR	O-Ring, Oil Filler Cap - 70D	1
34	126743	STCP R	126743	STCP R	126743	STCP R	Bolt, Eye (M12x1.75) (For Lifting Pump Only)	1
37	92241	—	92241	—	92241	—	Gauge, Oil, Bubble w/Gasket	1
38	44428	NBR	44428	NBR	44428	NBR	Gasket, Flat, Oil Gauge - 80D	1
40	125753	S	125753	S	125753	S	Screw, HHC Sems (M8x25)	8
48	25625	STCP	25625	STCP	25625	STCP	Plug, Drain (1/4"x19BSP)	1
49	23170	NBR	23170	NBR	23170	NBR	O-Ring, Drain Plug - 70D	1
50	45936	AL	45936	AL	45936	AL	Cover, Rear	1
51	16612	NBR	16612	NBR	16612	NBR	O-Ring, Crankcase Cover - 70D	1
53	44487	AL	44487	AL	44487	AL	Crankcase Assy (Incls: 34, 54)	1
54	27488	S	27488	S	27488	S	Pins, Guide	2
56	27790	POP	27790	POP	27790	POP	Pan, Oil	1
59	92538	S	92538	S	92538	S	Screw, HHC Sems (M6x16)	2
64	43864	CM	43864	CM	43864	CM	Pin, Crosshead	3
65	† 45116	SSZZ	45116	SSZZ	45116	SSZZ	Rod, Plunger	3
69	126587	STCP R	126587	STCP R	126587	STCP R	Washer, Oil Seal	3
70	100488	NBRS	100488	NBRS	100488	NBRS	Seal, Oil, Crankcase	3
	44739	FPM	44739	FPM	44739	FPM	Seal, Oil, Crankcase	3
75	43865	S	43865	S	43865	S	Slinger, Barrier	3
88	45676	S	45676	S	45676	S	Washer, Keyhole (M16)	3
90	43921	CC	43921	CC	43921	CC	Plunger (M40x145)	3
95	† 89778	SS	89778	SS	89778	SS	Stud, Plunger Retainer (M10x135)	3
96	20189	PTFE	20189	PTFE	20189	PTFE	Back-up-Ring, Plunger Retainer	3
97	11345	NBR	11345	NBR	11345	NBR	O-Ring, Plunger Retainer - 70D	3
	11375	FPM	11375	FPM	11375	FPM	O-Ring, Plunger Retainer	3
	◆ 701490	EPDM	◆ 701490	EPDM	◆ 701490	EPDM	O-Ring, Plunger Retainer	3
98	44085	SS	44085	SS	44085	SS	Gasket, Retainer	3
99	† 44084	SS	44084	SS	44084	SS	Retainer, Plunger (M10)	3
100	814279	PVDF	814279	PVDF	814279	PVDF	Retainer, Seal, 2 Pc. (See Tech Bulletin 105)	3
101	44112	—	44112	—	44112	—	Wick, Long Tab	3
106	† 44113	NBR	44113	NBR	44113	NBR	Seal, LPS w/SS-Spg	3
	44740	FPM	44740	FPM	44740	FPM	Seal, LPS w/SS-Spg	3
	◆ 46955	EPDM	◆ 46955	EPDM	◆ 46955	EPDM	Seal, LPS w/S-Spg	3
107	—	—	45381	SS	44115	NAB	Spacer, Lo-Pressure Seal	3
110	49464	BBCP R	45365	SS	45124	NAB	Manifold, Inlet	1
	49464C	BBCP R	125397	SS	—	—	Manifold, Inlet, Flushed (1/4" Flush Ports)	1
112	11379	NBR	11379	NBR	11379	NBR	O-Ring, Inlet Manifold - 70D	3
	14183	FPM	14183	FPM	14183	FPM	O-Ring, Inlet Manifold	3
	◆ 701491	EPDM	◆ 701491	EPDM	◆ 701491	EPDM	O-Ring, Inlet Manifold - 70D	3
117	44585	S	44585	S	44585	S	Screw, HSH (M14x40)	4
126	46494	BB	48391	D	48391	D	Adapter, Female (See Tech Bulletin 087)	3
	—	—	45367	SS	45367	SS	Adapter Female	3
127	44609	STG*	44609	STG*	44609	STG*	V-Packing	6
	44741	SFG	44741	SFG	44741	SFG	V-Packing	6
128	43928	BB	45368	SS	45368	SS	Adapter, Male	3
141	49519	SS	49519	SS	49519	SS	Spring, Large Coil (See Tech Bulletin 108)	3
155	48860	NBR	48860	NBR	48860	NBR	O-Ring, V-Packing Spacer - 90D	3
	20137	FPM	20137	FPM	20137	FPM	O-Ring, V-Packing Spacer - 70D	3
	◆ 701492	EPDM	◆ 701492	EPDM	◆ 701492	EPDM	O-Ring, V-Packing Spacer	3
156	48362	D	48362	D	48362	D	Back-up-Ring, V-Packing Spacer	3
157	49478	BB	49520	SS	49521	NAB	Spacer, V-Packing (See Tech Bulletin 108)	3
158	48362	D	48362	D	48362	D	Back-up-Ring, V-Packing Spacer	3
159	48860	NBR	48860	NBR	48860	NBR	O-Ring, V-Packing Spacer - 90D	3
	20137	FPM	20137	FPM	20137	FPM	O-Ring, V-Packing Spacer - 70D	3
	◆ 701492	EPDM	◆ 701492	EPDM	◆ 701492	EPDM	O-Ring, V-Packing Spacer	3
162	48363	D	48363	D	48363	D	Back-up-Ring, Valve Seat	6
163	26142	NBR	26142	NBR	26142	NBR	O-Ring, Seat - 80D	6
	14330	FPM	14330	FPM	14330	FPM	O-Ring, Seat - 70D	6
	◆ 701493	EPDM	◆ 701493	EPDM	◆ 701493	EPDM	O-Ring, Seat	6
164	44727	S	44612	SS	44612	SS	Seat, Stepped	6
166	43932	S	44108	SS	44108	SS	Valve	6
167	44109	SS	44109	SS	44109	SS	Spring	6
168	44728	PVDF	44728	PVDF	44728	PVDF	Retainer, Spring	6
170	44729	SS	44729	SS	44729	SS	Washer, Spring Retainer	6
171	44644	SS	44644	SS	44644	SS	Coil Spring (70kg), Valve Plug	6
172	89827	NBR	89827	NBR	89827	NBR	O-Ring, Valve Plug - 90D	6
	11747	FPM	11747	FPM	11747	FPM	O-Ring, Valve Plug - 90D	6
	◆ 701494	EPDM	◆ 701494	EPDM	◆ 701494	EPDM	O-Ring, Valve Plug - 70D	6

# EXPLODED VIEW



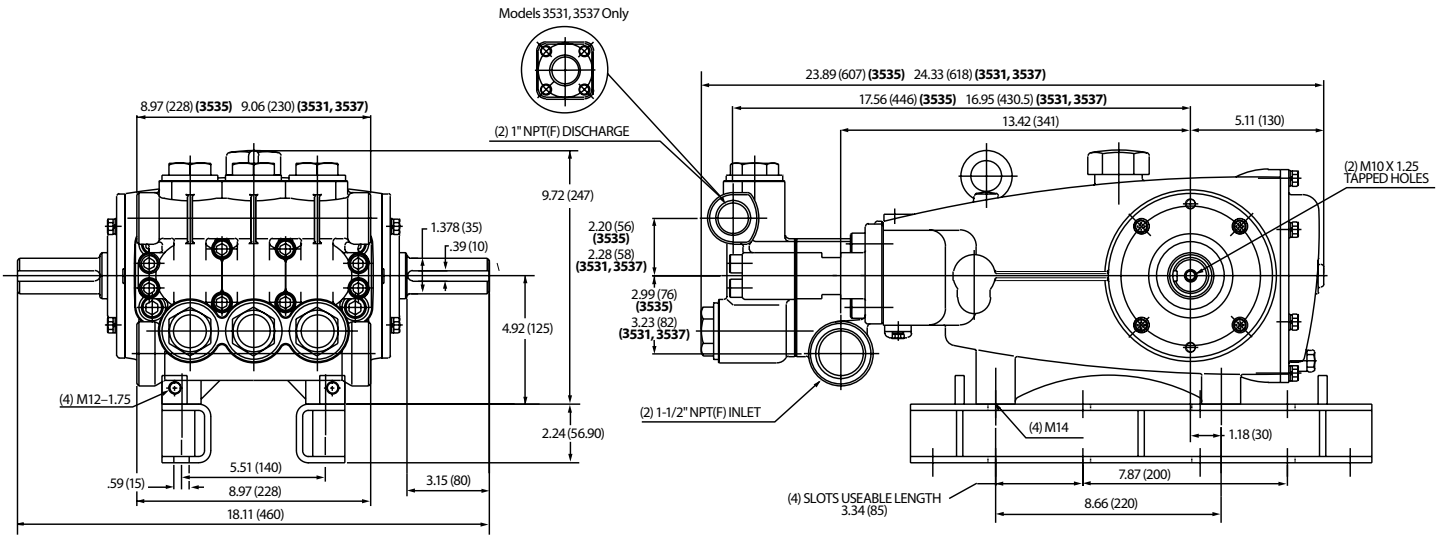
Models  
 Brass and Flushed - 3535, 3535C  
 SS and Flushed - 3531, 3531C  
 NAB and Flushed - 3537  
 April 2015

ITEM	3535C		3531C		3537		DESCRIPTION	QTY
	PART NUMBER	MATL	PART NUMBER	MATL	PART NUMBER	MATL		
173	48364	D	48364	D	48364	D	Back-up-Ring, Valve Plug	6
174	<b>46444</b>	<b>FBB</b>	<b>49300</b>	<b>SSD</b>	<b>44643</b>	<b>NAB</b>	Plug, Valve	6
185	<b>49465</b>	<b>BBCPR</b>	<b>49299</b>	<b>SSD</b>	<b>76335</b>	<b>NAB</b>	Manifold, Discharge (See Tech Bulletin 099 and 109)	1
188	89981	S	89981	S	89981	S	Screw, HSH (M12x70)	8
250	44516	NY	44516	NY	44516	NY	Protector, Shaft w/2 Screws, Lockwashers and Washers (Included With Pump)	1
255	34018	<i>STZPR</i>	34018	<i>STZPR</i>	34018	<i>STZPR</i>	Kit, Direct Mount	1
	34039	S	34039	S	34039	S	Kit, Direct Mount	1
260	92674	<i>STZPR</i>	92674	<i>STZPR</i>	92674	<i>STZPR</i>	Mounting, Box Assy (Incls: 34018)	1
275	990013	<i>STL</i>	990013	<i>STL</i>	990013	<i>STL</i>	Hub, 'B' 35mm w/Keyway (See Tech Bulletin 003) (Not Shown)	1
278	80540	ZP	80540	ZP	80540	ZP	Screw, HH (M12x100) (Rail Adjusting Screw)	1
279	30278	<i>STZP</i>	30278	<i>STZP</i>	30278	<i>STZP</i>	Oiler (1 oz.) (Not Shown)	3
283	34314	—	34314	—	34314	—	Kit, Oil Drain (3/8" x 48")	1
290	6124	—	6124	—	6124	—	Gasket, Liquid (3 oz.)	1
299	818427	<i>BBCPR</i>	818372	<i>SS</i>	814522	<i>NAB</i>	Complete Head (Models 3535, 3531, 3537 Only)	1
300	31040	<i>NBR*</i>	31040	<i>NBR*</i>	31040	<i>NBR*</i>	Kit, Seal (Incls: 97,106,112,127,155,156,158,159) <b>Standard</b>	1
	33055	<i>FPM</i>	33055	<i>FPM</i>	33055	<i>FPM</i>	Kit, Seal (Incls: 97,106,112,127,155,156,158,159) <b>.0110</b>	1
	◆ 33262	<i>EPDM*</i>	◆ 33262	<i>EPDM*</i>	◆ 33262	<i>EPDM*</i>	Kit, Seal (Incls: 97,106,112,127,155,156,158,159) <b>.0220</b>	1
310	34235	<i>NBR</i>	34017	<i>NBR</i>	34017	<i>NBR</i>	Kit, Valve, Preassembled (Incls: 162,163,164,166,167,168,170,172,173) <b>Standard</b>	2
	31955	<i>FPM</i>	31955	<i>FPM</i>	31955	<i>FPM</i>	Kit, Valve, Preassembled (Incls: 162,163,164,166,167,168,170,172,173) <b>.0110</b>	2
	◆ 31952	<i>EPDM</i>	◆ 31952	<i>EPDM</i>	◆ 31952	<i>EPDM</i>	Kit, Valve, Preassembled (Incls: 162,163,164,166,167,168,170,172,173) <b>.0220</b>	2
—	819000	<i>F</i>	819000	<i>F</i>	819000	<i>F</i>	Assy, Crankcase, Cast Iron Conversion	1
—	6575	—	6575	—	6575	—	Plunger Pump Service DVD	1
—	6100	—	6100	—	6100	—	Oil, Case (12 Bottles) ISO-68 Hydraulic (Fill to specified crankcase capacity prior to start-up)	1
—	—	—	<b>6119</b>	—	—	—	Lubricant, Antiseize (2oz) (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. †Production parts differ from service parts.\* 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, 077, 083, 095, 099, 105, 108 and 109 for additional information.

MATERIAL CODES (Not Part of Part Number): ABS=ABS Plastic AL=Aluminum BB=Brass BBCP=Brass/Chrome Plated CC=Ceramic CM=Chrome-Moly D=Acetal EPDM=Ethylene Propylene Diene Monomer F=Cast Iron FBB=Forged Brass FBR=Fiber FCM=Forged Chrome-moly FPM=Fluorocarbon NAB=Nickel Aluminum Bronze NBR=Medium Nitrile (Buna-N) NBRs=Buna, Silicone Free NY=Nylon PE=Polyethylene POP=Polypropylene PTFE=Pure Polytetrafluoroethylene PVDF=Polyvinylidene Fluoride S=304SS SS=316SS SSD=Duplex Stainless Steel SSZZ=316SS/Zamak STCP=Steel/Chrome Plated SFG=Special Blend (FPM) STG=Special Blend (PTFE) White STL=Steel STZP=Steel/Zinc Plated TNM=Special High Strength ZP=Zinc Plated



Models 3535, 3535C, 3531, 3531C, 3537

**⚠ 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).



**CAT PUMPS**

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