

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.
- 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.

⚠ 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 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.

35 Frame Plunger Pump

Brass
Standard and Flushed **3535, 3535C**

Stainless Steel
Standard and Flushed **3531, 3531C**

Nickel Aluminum Bronze
Standard **3537**

SPECIFICATIONS

	U.S. Measure	Metric Measure
Flow	36 gpm	(136l/m)
Pressure Range.....	100 to 1200 psi	(7 to 85 bar)
Inlet Pressure Range	Flooded to 70 psi	(Flooded to 4.9 bar)
RPM.....	800 rpm	(800 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)
Flushing Ports (2) (3531C,3535C).....	1/4" NPTF	1/4" 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 (3535, 3535C)	23.87 x 18.11 x 9.72"	(606.5 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
U.S.		psi	psi	psi		
gpm	l/m	800	1000	1200		
		bar	bar	bar		Consult CAT PUMPS for Pump and Motor Pulley Sizes
		55	70	85		
36	136	19.8	24.7	29.7	800	
30	114	16.5	20.6	24.7	667	
25	95	13.7	17.2	20.6	556	

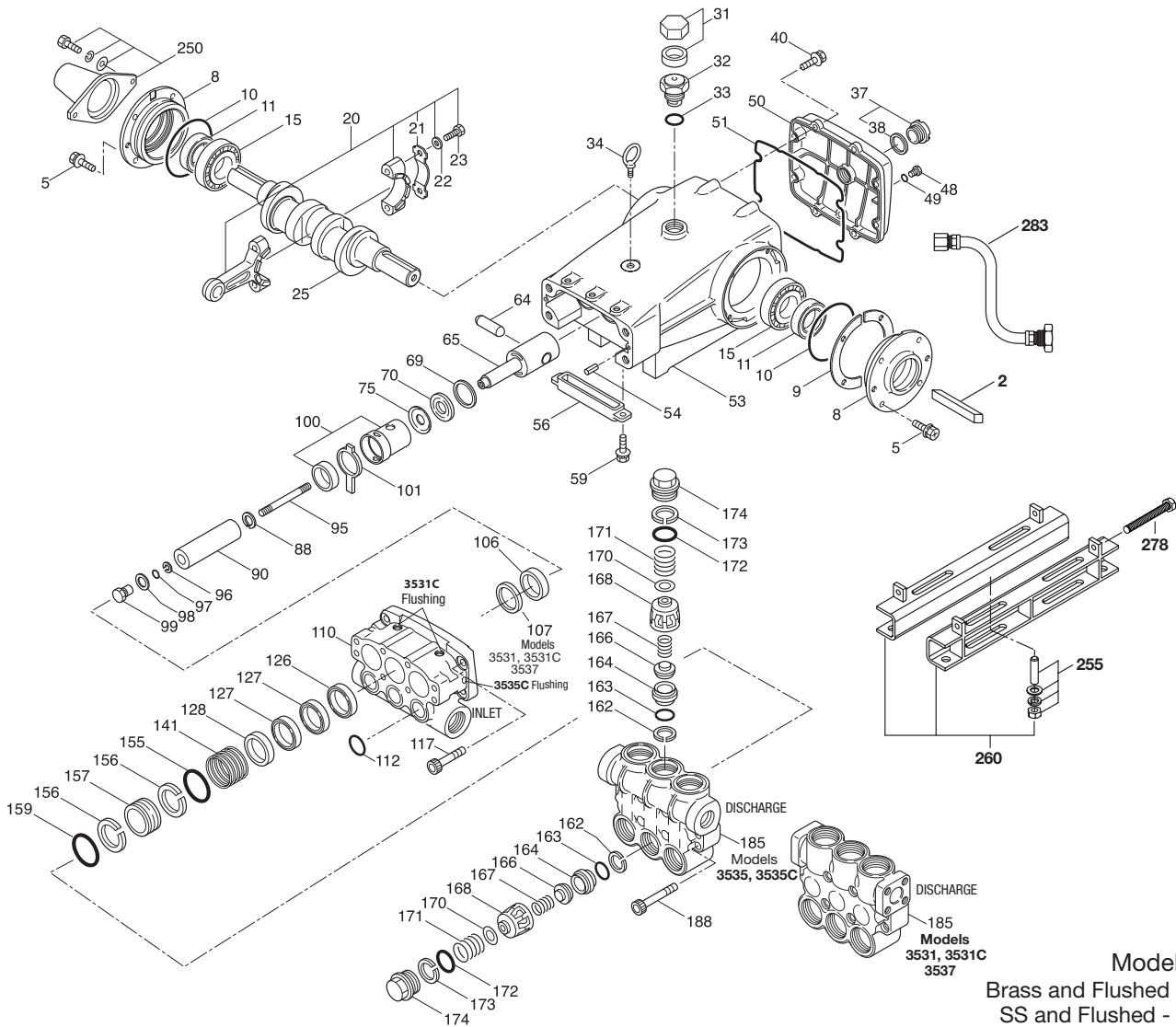
DETERMINING THE PUMP rpm	$\frac{\text{Rated gpm}}{\text{Rated rpm}}$	=	$\frac{\text{"Desired" gpm}}{\text{"Desired" rpm}}$
DETERMINING THE REQUIRED H.P.	$\frac{\text{gpm x psi}}{1460}$	=	Electric Brake H. P. Required
DETERMINING MOTOR PULLEY SIZE	$\frac{\text{Motor Pulley O.D.}}{\text{Pump rpm}}$	=	$\frac{\text{Pump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

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

"Customer confidence is our greatest asset"

PARTS LIST

ITEM	PART NUMBER		DESCRIPTION		QTY	
	3535	3531	3537	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	2
9	815279	FBR	815279	FBR	Shim, Split 2-Pc	4
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	121467	TNM	121467	TNM	Rod, Connecting Assy (Incls: 21,22,23) [10/00]	3
21	126749	STCP R	126749	STCP R	Locking Washer (M10)	3
22	126574	STZP R	126574	STZP R	Washer, Flat (M10)	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	1
51	16612	NBR	16612	NBR	O-Ring, Crankcase Cover - 70D	1
53	44487	AL	44487	AL	Crankcase Assy (Incls: 34, 54)	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	† 45116	SSZZ	45116	SSZZ	Rod, Plunger	3
69	126587	STCP R	126587	STCP R	Washer, Oil Seal	3
70	100488	NBR	100488	NBR	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	—	—	—	—	Spacer, Lo-Pressure Seal	1
110	49464	BBCP R	45365	SS	Manifold, Inlet	3
	49464C	BBCP R	125397	SS	Manifold, Inlet, Flushed (1/4" Flush Ports)	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	46494	BB	48391	D	Adapter, Female (See Tech Bulletin 087)	3
	—	—	45367	SS	Adapter Female	3
127	44609	STG*	44609	STG*	V-Packing	6
	44741	SFG	44741	SFG	V-Packing	6
128	43928	BB	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	49478	BB	49520	SS	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	44727	S	44612	SS	Seat, Stepped	6
166	43932	S	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
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	46444	FBB	49300	SSD	Plug, Valve	6
185	49465	BBCP R	49299	SSD	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



Models
 Brass and Flushed - 3535, 3535C
 SS and Flushed - 3531, 3531C
 NAB and Flushed - 3537
 March 2010

	3535	3531	3537					
	3535C	MATL	3531C	MATL	3537	MATL		
255	34018	STZP R	34018	STZP R	34018	STZP R	Kit, Direct Mount	1
	34039	S	34039	S	34039	S	Kit, Direct Mount	1
260	92674	STZP R	92674	STZP R	92674	STZP R	Mounting, Box Assy (Incls: 34018)	1
275	990013	STL	990013	STL	990013	STL	Hub, 'B' 35mm w/Keyway (See Tech Bulletin 003)	1
278	80540	ZP	80540	ZP	80540	ZP	Screw, HH (M12x100) (Rail Adjusting Screw)	1
279	30278	STZP	30278	STZP	30278	STZP	Oiler (1 oz.)	3
281	30967	—	30967	—	30967	—	Glass, Oiler	3
282	10069	NBR	10069	NBR	10069	NBR	Gasket, Oiler	3
283	34314	—	34314	—	34314	—	Kit, Oil Drain (3/8" x 48")	1
290	6124	—	6124	—	6124	—	Gasket, Liquid (3 oz.)	1
299	818427	BBCP R	818372	SS	814522	NAB	Complete Head (Models 3535,3531,3537 Only)	1
300	31040	NBR*	31040	NBR*	31040	NBR*	Kit, Seal (Incls: 97,106,112,127,155,156,158,159)	1
	33055	FPM	33055	FPM	33055	FPM	Kit, Seal (Incls: 97,106,112,127,155,156,158,159)	1
	◆ 33262	EPDM*	◆ 33262	EPDM*	◆ 33262	EPDM*	Kit, Seal (Incls: 97,106,112,127,155,156,158,159)	1
310	34235	NBR	34017	NBR	34017	NBR	Kit, Valve, Preassembled (Incls: 162,163,164,166,167,168,170,172,173)	2
	31955	FPM	31955	FPM	31955	FPM	Kit, Valve, Preassembled (Incls: 162,163,164,166,167,168,170,172,173)	2
	◆ 31952	EPDM	◆ 31952	EPDM	◆ 31952	EPDM	Kit, Valve, Preassembled (Incls: 162,163,164,166,167,168,170,172,173)	2
—	819000	F	819000	F	819000	F	Assy, Crankcase, Cast Iron Conversion	1
390	714500	SS	714500	SS	714500	SS	C.A.T. (Inlet pressure stabilizer for RO and boosted inlet applications)	1
391	714506	SS	714506	SS	714506	SS	Adapter (2 per C.A.T.) (See Data Sheet for complete selection)	2
392	701828	SS	701828	SS	701828	SS	Elbow Assy used with Adapter Assy 714506	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
—	—	—	6119	—	—	—	Lubricant, Antiseize (1oz) (See Tech Bulletin 095)	1

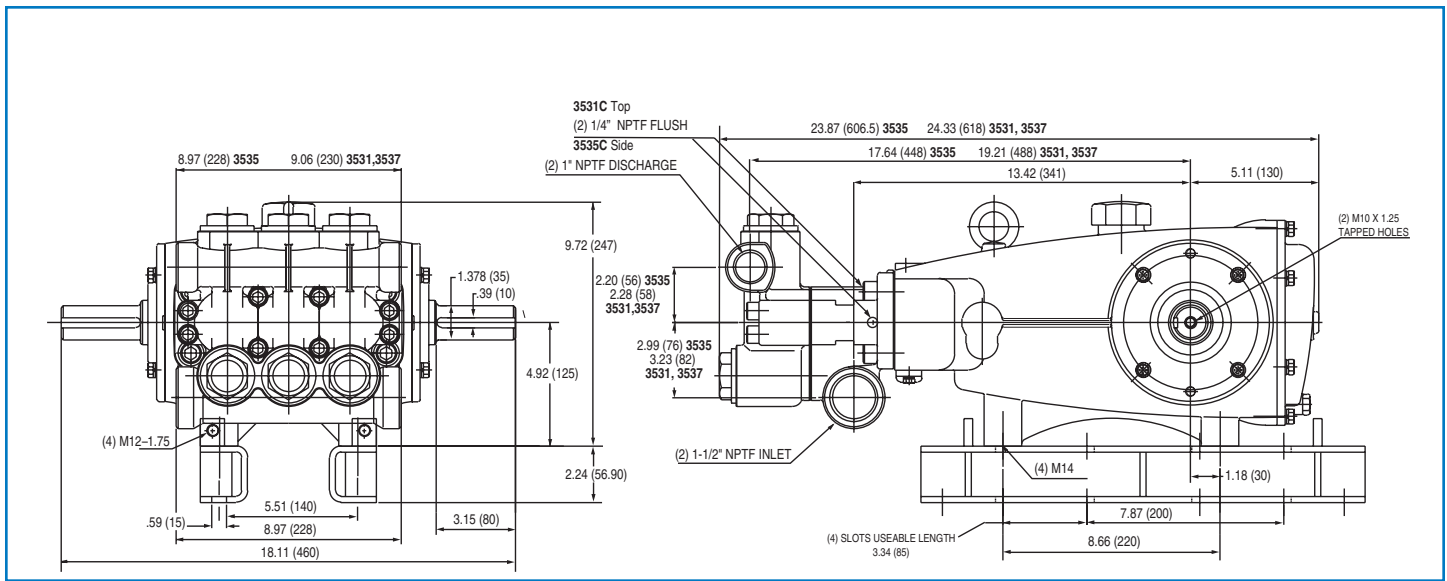
Bold print part numbers are unique to a particular pump model. Italics are optional items. [] Date of latest production change.

◆ 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

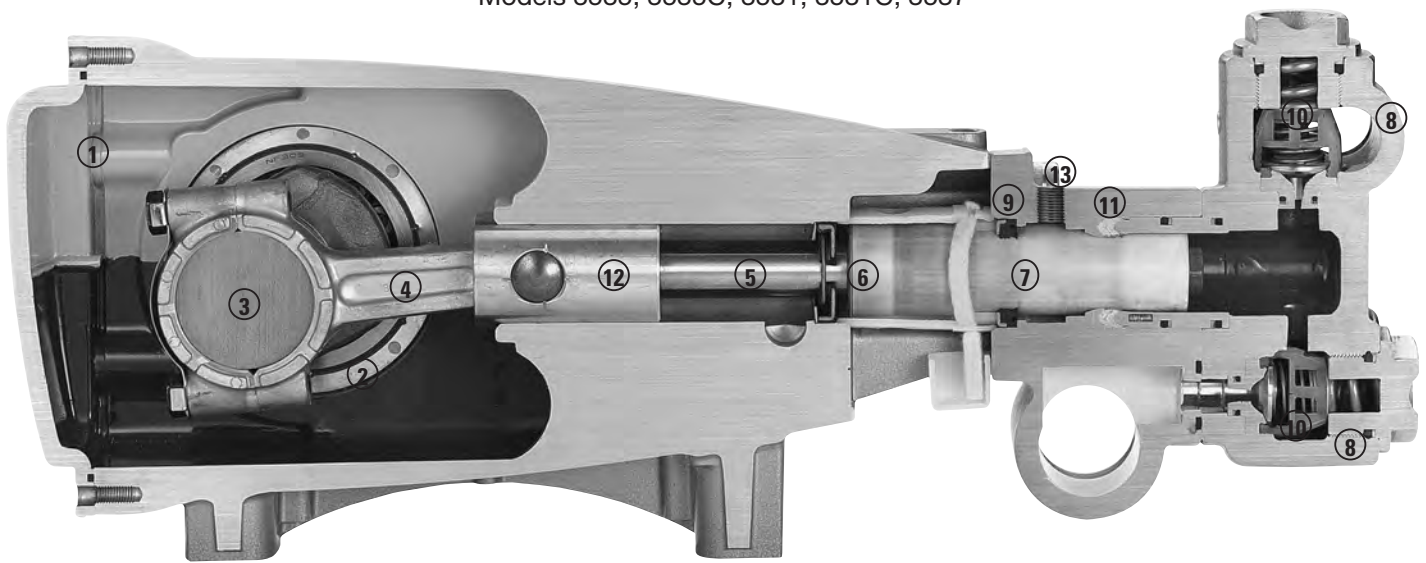
C.A.T. highly recommended for pressurized inlet, R.O. and Industrial applications.

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 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) NBRSS=Buna, Silicone Free NY=Nylon POP=Polypropylene PTFE=Pure Polytetrafluoroethylene PVDF=Polyvinylidene Fluoride S=304SS SS=316SS
 SSD=Duplex Stainless Steel SSL=316/Low Carbon SSZZ=316SS/Zamak STCP=Steel/Chrome Plated STG=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



- 1 Die cast aluminum **crankcase** means high strength, lightweight, and excellent tolerance control.
- 2 Oversized crankshaft **bearings** provide extended bearing life and pump performance.
- 3 Chrome-moly **crankshaft** provides unmatched strength and surface hardness for long life.
- 4 Matched oversized TNM **connecting rods** noted for superior tensile strength and bearing quality.
- 5 Special stainless steel **plunger rods** with high strength crossheads for longevity and corrosion resistance.
- 6 The stainless steel **slinger** provides back-up protection for the crankcase seal, keeping pumped liquids out of the crankcase.
- 7 Special concentric, high-density, polished, solid ceramic **plungers** provide a true wear surface and extended seal life.
- 8 **Manifolds** are a high tensile strength forged brass, 316 stainless steel, duplex stainless or nickel aluminum bronze for long term, continuous duty.
- 9 100% wet **seal** design adds to service life by allowing pumped liquids to cool and lubricate on both sides.
- 10 Stainless steel **valves, seats and springs** provide corrosion-resistance, ultimate seating and extended life.
- 11 Specially formulated, Cat Pump exclusive, **V-Packings** offer unmatched performance and seal life.
- 12 **Crossheads** are 360° supported providing uncompromising alignment.
- 13 Special **Flushed Inlet Manifold** permits external flush for added cooling with high temperature liquids and lubrication with low lubricity liquids.

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