

35 Frame Plunger Pump

Standard Brass Model

3520

Stainless Steel Model

3521

Nickel Aluminum Bronze Model

3527

FEATURES

Superior Design

- Triplex plunger design gives smoother fluid flow.
- V-Packings are completely lubricated and cooled by the fluid being pumped.
- Inlet and discharge valve assemblies interchange for easier maintenance.
- Lubricated Lo-Pressure Seals provide double protection against external leakage.
- Oil bath crankcase assures optimum lubrication.
- Close tolerance concentricity of the ceramic plunger maximizes seal life.

Quality Materials

- All stainless steel valves are heat treated and seats are roller burnished for a positive seal and extended valve life.
- Forged Brass, 316 Stainless Steel or Nickel Aluminum Bronze manifolds for strength and corrosion resistance.
- Special concentric, high density, polished, graphite impregnated, soid ceramic plungers are abrasion resistant and result in extended seal life.
- Specially formulated, CAT PUMP exclusive, V-Packings offer unmatched performance and seal life.
- Die cast aluminum crankcase provides high strength, minimum weight and precision tolerance control.
- Chrome-moly crankshaft gives unmatched strength and surface hardness.
- Oversized crankshaft bearings with greater loading capacity means longer bearing life.

Easy Maintenance

- Wet-end is easily serviced without entering crankcase, requiring less time and effort.
- Valve assemblies are accessible without disturbing piping, for quick service.
- Preset packings mean no packing gland adjustment is necessary, reducing maintenance costs.

SPECIFICATIONS

	U.S. Measure	Metric Measure
Flow.....	23 GPM	(87 L/M)
Pressure Range.....	100 to 2000 PSI	(7 to 140 BAR)
Maximum Inlet Pressure	Flooded to 70 PSI	(Flooded to 4.9 BAR)
RPM	800 RPM	(800 RPM)
Bore.....	1.260"	(32 mm)
Stroke.....	1.890"	(48 mm)
Crankcase Capacity.....	4.2 Qts.	(4 L)
Maximum Fluid Temperature.....	160°F	(71°C)
Inlet Ports (2)	1-1/2" NPT	(1-1/2 NPT)
Discharge Ports (2)	1" NPT	(1" NPT)
Pulley Mounting	Either Side	(Either Side)
Shaft Diameter	1.378"	(35 mm)
Weight.....	139 lbs.	(63 kg)
Dimensions.....	24.15" x 18.11" x 9.33"	(613.5 x 460 x 237 mm)

HORSEPOWER REQUIREMENTS

FLOW		PRESSURE				RPM
		PSI 1200	PSI 1500	PSI 1800	PSI 2000	
U.S. GPM	L/M	BAR 85	BAR 105	BAR 125	BAR 140	
23	87	18.9	23.7	28.4	31.6	800
20	76	16.5	20.6	24.7	27.5	696
18	68	14.8	18.6	22.3	26.3	626

See complete Drive Packages [Incls: Pulleys, Belts, Hubs, Key] Tech Bulletin 03.

DETERMINING THE PUMP R.P.M.	$\frac{\text{Rated G.P.M.}}{\text{Rated R.P.M.}}$	=	$\frac{\text{"Desired" G.P.M.}}{\text{"Desired" R.P.M.}}$
DETERMINING THE REQUIRED H.P.	$\frac{\text{GPM x PSI}}{1460}$	=	Electric Brake H. P. Required
DETERMINING MOTOR PULLEY SIZE	$\frac{\text{Motor Pulley O.D.}}{\text{Pump R.P.M.}}$	=	$\frac{\text{Pump Pulley O.D.}}{\text{Motor R.P.M.}}$

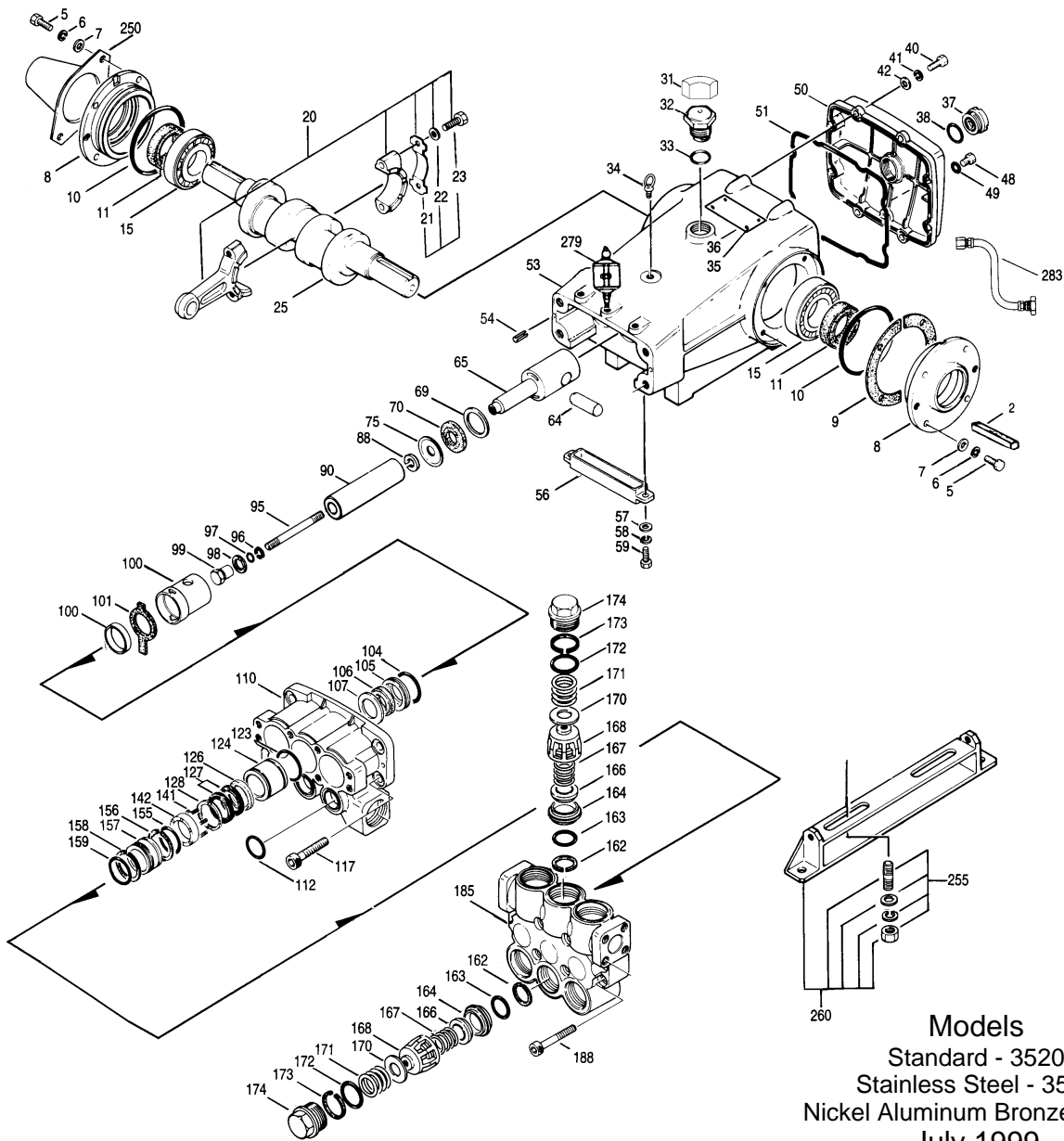
Note: Consult engine manufacturer when using gas or diesel engine.
Refer to pump Service Manual for important Inlet Condition Check-List, Start-up Procedure, Tech Bulletins and Pump Maintenance information.

"Customer confidence is our greatest asset"

PARTS LIST

ITEM	PART NUMBER		PART NUMBER		PART NUMBER		DESCRIPTION	QTY
	3520	MATL	3521	MATL	3527	MATL		
2	34021	STL	34021	STL	34021	STL	Key (M10x8x70)	1
5	118824	S	—	—	—	—	Screw, HHC (M8x25)	8
5	—	—	89277	S	89277	S	Screw, HH (M8x25)	8
6	—	—	13534	S	13534	S	Lockwasher, Split (M8)	8
7	—	—	15846	S	15846	S	Lockwasher, Split (M8)	8
8	44542	AL	44542	AL	44542	AL	Cover, Bearing	2
9	701138	F	701138	F	701138	F	Cover, Bearing (Use w/701137, 39, 40, 45, 47)	2
10	44543	—	44543	—	44543	—	Shim, Split, Bearing Cover	1
11	12398	NBR	12398	NBR	12398	NBR	O-Ring, Bearing Cover	2
15	13296	NBR	13296	NBR	13296	NBR	Seal, Oil, Crankshaft	2
20	29326	STL	29326	STL	29326	STL	Bearing	2
21	46611	HS	46611	HS	46611	HS	Rod, Connecting Assy (Incls: 44941, 43641, 88155)	3
22	44940	STZP	44940	STZP	44940	STZP	Locking Washer	3
23	43641	STL	43641	STL	43641	STL	Washer (M10)	6
25	88155	STL	88155	STL	88155	STL	Screw, HH (M10x60F)	3
31	29325	FCM	29325	FCM	29325	FCM	Crankshaft, Dual End	1
32	828710	—	828710	—	828710	—	Protector, Oil Cap	1
33	43211	—	43211	—	43211	—	Cap, Oil Filler	1
34	14177	NBR	14177	NBR	14177	NBR	O-Ring, Oil Filler Cap - 70	1
35	44319	STZP	44319	STZP	44319	STZP	Bolt, Eye (M12x1.75)	1
36	701145	AL	701145	AL	701145	AL	Rivet, Serial Plate (Use w/701137, 38, 39, 40, 47)	4
37	701147	AL	701147	AL	701147	AL	Name Plate (Use w/701137, 38, 39, 40, 45)	1
38	43987	—	43987	—	43987	—	Gauge, Oil, Bubble	1
40	44428	NBR	44428	NBR	44428	NBR	Gasket, Flat	1
41	118824	S	—	—	—	—	Screw, HHC (M8x25)	8
42	—	—	89277	S	89277	S	Screw, HH (M8x25)	8
48	—	—	13534	S	13534	S	Lockwasher, Split (M8)	8
49	25625	STCP	25625	STCP	25625	STCP	Lockwasher, Split (M8)	8
50	23170	NBR	23170	NBR	23170	NBR	Plug, Drain (1/4"x11)	1
51	45936	AL	45936	AL	45936	AL	O-Ring, Drain Plug	1
53	701139	F	701139	F	701139	F	Cover, Rear	1
54	16612	NBR	16612	NBR	16612	NBR	Cover, Rear (Use w/701138, 39, 40, 45, 47)	1
55	44559	AL	44559	AL	44559	AL	O-Ring, Cover	1
56	701137	F	701137	F	701137	F	Crankcase w/Guide Pins	1
57	27488	S	27488	S	27488	S	Crankcase w/Guide Pins (Use w/701138, 39, 40, 45, 47)	1
58	27790	POP	27790	POP	27790	POP	Pins, Guide	2
59	—	—	19933	S	19933	S	Pan, Oil	1
64	—	—	15849	S	15849	S	Washer (M6)	2
65	—	—	89618	S	89618	S	Lockwasher, Split (M6)	2
69	92538	S	—	—	—	—	Screw, HHC (M6x16)	2
70	43864	S	43864	S	43864	S	Screw, Sems HHC (M6x16)	2
75	45116	SSZZ	45116	SSZZ	45116	SSZZ	Pin, Rist	3
88	29338	S	29338	S	29338	S	Rod, Plunger	3
90	100488	NBR	100488	NBR	100488	NBR	Washer, Oil Seal	3
95	44739	FPM	44739	FPM	44739	FPM	Seal, Oil, Crankcase	3
96	43865	S	43865	S	43865	S	Seal, Oil, Crankcase	3
97	45676	SS	45676	SS	45676	SS	Slinger, Barrier	3
99	43957	CC	43957	CC	43957	CC	Washer, Keyhole (M16)	3
100	89778	SS	89778	SS	89778	SS	Plunger	3
101	20189	PTFE	20189	PTFE	20189	PTFE	Stud, Plunger Retainer (M10x122)	3
102	11345	NBR	11345	NBR	11345	NBR	Back-up-Ring, Plunger Retainer	3
103	11375	FPM	11375	FPM	11375	FPM	O-Ring, Plunger Retainer	3
104	44085	SS	44085	SS	44085	SS	O-Ring, Plunger Retainer	3
105	44084	SS	44084	SS	44084	SS	Gasket, Retainer	3
106	814279	PVDF	814279	PVDF	814279	PVDF	Retainer, Plunger (M10)	3
107	44106	—	44106	—	44106	—	Retainer, Seal, 2 Pc.	3
108	43875	NBR	43875	NBR	43875	NBR	Wick, Long Tab	3
109	44826	FPM	44826	FPM	44826	FPM	O-Ring, Inlet Adapter	3
110	43961	S	45562	SS	45562	SS	O-Ring, Inlet Adapter	3
111	44098	NBR	44098	NBR	44098	NBR	Inlet Adapter	3
112	44827	FPM	44827	FPM	44827	FPM	Seal, LPS w/SS-Spg	3
113	43962	S	44101	SS	44101	SS	Seal, LPS w/SS-Spg	3
114	46392	CBB	45365	SS	45124	NAB	Washer	3
115	11379	NBR	11379	NBR	11379	NBR	Manifold, Inlet	1
116	14183	FPM	14183	FPM	14183	FPM	O-Ring, Inlet Manifold	3
117	44585	S	44585	S	44585	S	O-Ring, Inlet Manifold	3
118	12391	NBR	12391	NBR	12391	NBR	Screw, HSH (M14x40)	4
119	13266	FPM	13266	FPM	13266	FPM	O-Ring, V-Packing Cylinder	3
120	46348	BB	45563	SS	45563	SS	O-Ring, V-Packing Cylinder	3
121	43963	BB	48390	D	48390	D	Cylinder, V-Packing	3
122	—	—	45564	SS	45564	SS	Adapter, Female	3
123	44608	SNG	44608	SNG	44608	SNG	Adapter, Female	3
124	44829	FPM	44829	FPM	44829	FPM	V-Packing	6
125	43965	BB	45565	SS	45565	SS	V-Packing	6
126	45113	SS	45113	SS	45113	SS	Adapter, Male	3
127	46349	BB	45566	SS	45566	SS	Spring, Coil	3
128	25495	NBR	25495	NBR	25495	NBR	Spacer, w/Coil Springs	6/18
129	11748	FPM	11748	FPM	11748	FPM	O-Ring, V-Packing Spacer - 70	3
130	48371	D	48371	D	48371	D	O-Ring, V-Packing Spacer	3
131	43966	BB	45674	SS	45674	SS	Back-up-Ring, V-Packing Spacer	3
132	48362	D	48362	D	48362	D	Spacer, V-Packing	3
133	18697	NBR	18697	NBR	18697	NBR	Back-up-Ring, V-Packing Spacer	3
134	20137	FPM	20137	FPM	20137	FPM	O-Ring, V-Packing Spacer	3
135	44614	PTFE	44614	PTFE	44614	PTFE	O-Ring, V-Packing Spacer	3
136	26142	NBR	26142	NBR	26142	NBR	Back-up-Ring, Valve Seat	6
137	14330	FPM	14330	FPM	14330	FPM	O-Ring, Seat	6
138	44727	S	44612	SS	44612	SS	O-Ring, Seat	6
139	43932	S	44108	SS	44108	SS	Seat, Stepped	6
140	44109	SS	44109	SS	44109	SS	Valve	6
141	44728	PVDF	44728	PVDF	44728	PVDF	Spring	6
142	44729	SS	44729	SS	44729	SS	Retainer, Spring	6
143	44730	S	44644	SS	44644	SS	Washer, Spring Retainer	6
144	—	—	—	—	—	—	Coil Spring (70kg), Valve Plug	6

EXPLODED VIEW



Models
 Standard - 3520
 Stainless Steel - 3521
 Nickel Aluminum Bronze - 3527
 July 1999

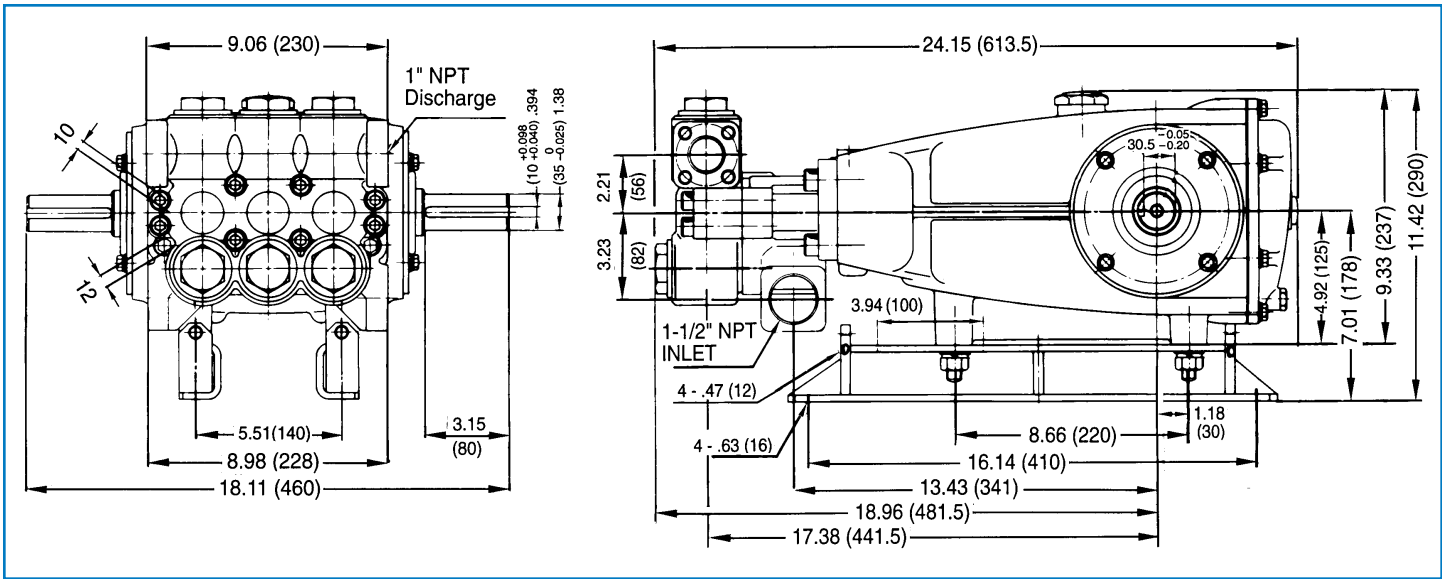
	3520	MATL	3521	MATL	3527	MATL		
172	89827	NBR	89827	NBR	89827	NBR	O-Ring, Valve Plug - 90	6
	11747	FPM	11747	FPM	11747	FPM	O-Ring, Valve Plug	6
173	20388	PTFE	20388	PTFE	20388	PTFE	Back-up-Ring, Valve Plug	6
174	46444	FBB	48419	SSNP	44643	NAB	Plug, Valve	6
● 185	46394	CBB	46326	SS	46335	NAB	Manifold, Discharge	1 ●
188	89981	S	89981	S	89981	S	Screw, HSH (M12x70)	8
● 250	44516	NY	44516	NY	44516	NY	Protector, Shaft w/2 89283 screws (Included with pump)	1 ●
●	701140	F	701140	F	701140	F	Protector, Shaft (Use w/701137, 38, 39 45, 47)	1 ●
● 255	34018	STZP	34018	STZP	34018	STZP	Mount, Stud Kit	1 ●
●	34039	SS	34039	SS	34039	SS	Mount, Stud Kit	1 ●
● 260	92674	STZP	92674	STZP	92674	STZP	Mounting, Box Assy	1 ●
275	—	—	—	—	—	—	Pulley, Hub & Key[See Drive Packages, Tech Bulletin 03]	1
● 283	34334	—	34334	—	34334	—	Kit, Oil Drain	1 ●
● 279	30278	—	30278	—	30278	—	Oiler (1 oz.)	3 ●
281	30967	—	30967	—	30967	—	Glass, Oiler	3
282	10069	—	10069	—	10069	—	Gasket, Oiler	3
● 299	814822	BB	814797	SS	815438	NAB	Head, Complete	1 ●
300	31039	NBR	31039	NBR	31039	NBR	Kit, Seal (Incls: 97, 104, 106, 112, 123, 127, 155, 156, 158, 159)	1
	33259	FPM	33259	FPM	33259	FPM	Kit, Seal (Incls: 97, 104, 106, 112, 123, 127, 155, 156, 158, 159)	1
310	34235	NBR	34017	NBR	34017	NBR	Kit, Valve (Incls: 162, 163, 164, 166, 167, 168, 170, 172, 173)	2
	31255	FPM	31255	FPM	31255	FPM	Kit, Valve (Incls: 162, 163, 164, 166, 167, 168, 170, 172, 173)	2
● —	714500	SS	714500	SS	714500	SS	C.A.T. (For R.O. or Industrial Applications)	1 ●
● —	—	—	—	—	—	—	Adapter (2 per C.A.T.) (See Data Sheet for complete selection)	2 ●
● —	6565.3	—	6565.3	—	6565.3	—	Service Video	1

● Industrial discount. **Bold print part numbers are unique to a particular pump model.** *Italics are optional items.*

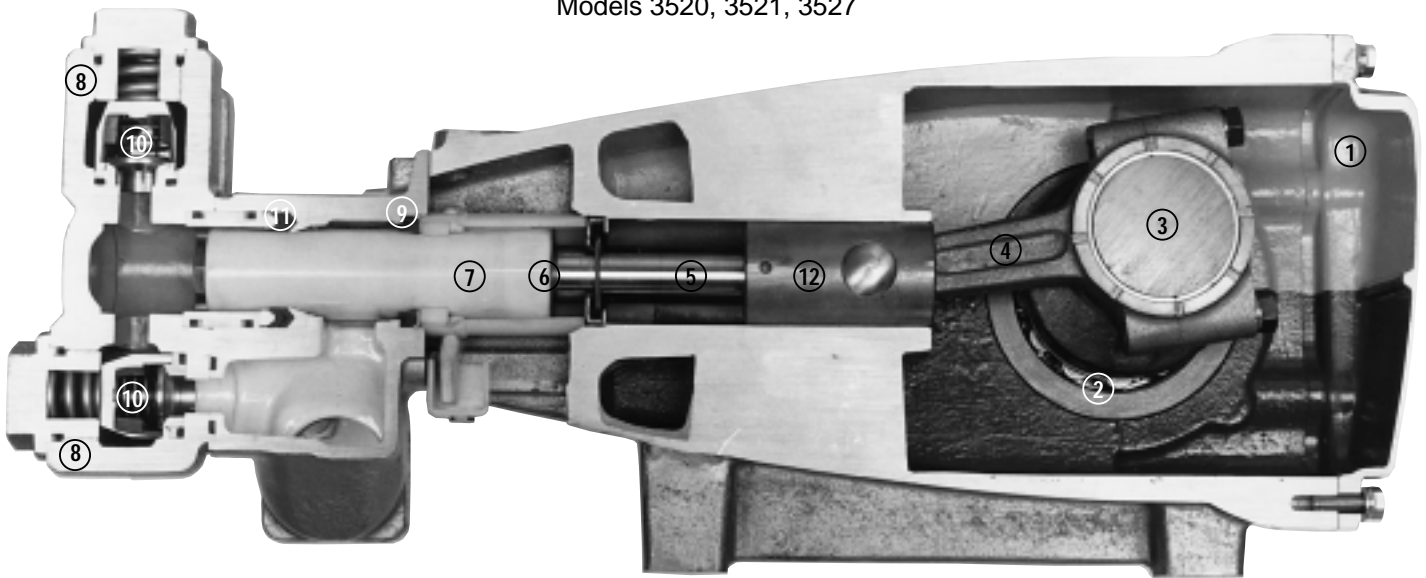
Pressurized Inlet and C.A.T. highly recommended for Hi-Temp, R.O. and industrial applications.

See Tech Bulletins 03, 24, 40, 41, 50, 52, 53, 64, 69, 74 and 77 for additional information. † Production Parts Nickel Aluminum Bronze, Replacement Parts are 316 Stainless Steel.

MATERIAL CODES (Not Part of Part Number): AL=Aluminum BB=Brass BBCP=Brass/Chrome Plated CC=Ceramic D=Delryn® F=Cast Iron FCM=Forged Chrome-moly FPM=Fluorocarbon (Viton®) HS=High Strength NAB=Nickel Aluminum Bronze NBR=Medium Nitrile (Buna-N) NY=Nylon POP=Polypropylene PTFE=Polytetrafluoroethylene (Teflon®) PVDF=Fluoroplastic (High Strength) S=304SS SS=316SS SNG=Special Blend (Buna) STL=Steel STZP=Steel/Zinc Plated SSNP=316SS/Nickel Plated SSZZ=316SS/Zamak



Models 3520, 3521, 3527



- | | | |
|---|--|---|
| <p>1 Die cast aluminum crankcase means high strength, light weight, and excellent tolerance control.</p> <p>2 Oversized crankshaft bearings provide extended bearing life and pump performance.</p> <p>3 Chrome-moly crankshaft provides unmatched strength and surface hardness for long life.</p> <p>4 Matched oversized high strength connecting rods are noted for superior strength and bearing quality.</p> <p>5 Special stainless steel plunger rods with high strength crossheads for longevity and corrosion resistance.</p> | <p>6 The stainless steel slinger provides back-up protection for the crankcase seal, keeping pumped fluids out of the crankcase.</p> <p>7 Special concentric, high density, polished, graphite impregnated, solid ceramic plungers are abrasion resistant and result in extended seal life.</p> <p>8 Manifolds are a high tensile strength forged brass, 316 stainless steel or nickel aluminum bronze for long term, continuous duty.</p> | <p>9 100% wet seal design adds to service life by allowing pumped fluids to cool and lubricate on both sides.</p> <p>10 Stainless steel valves, seats and springs provide corrosion-resistance, positive seating and long life.</p> <p>11 Specially formulated, CAT PUMP exclusive, V-Packings offer unmatched performance and seal life.</p> <p>12 Crossheads are 360° supported for uncompromising alignment.</p> |
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Products described hereon are covered by one or more of the following U.S. patents 3558244, 3652188, 3809508, 3920356, 3930756 and 5035580

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World Headquarters

CAT PUMPS

1681 - 94th Lane N.E. Minneapolis, MN 55449-4324

Phone (612) 780-5440 — FAX (612) 780-2958

e-mail: sales@catpumps.com

www.catpumps.com

International Inquiries

FAX (612) 785-4329

e-mail: intlsales@catpumps.com



The Pump with "Nine Lives"

CAT PUMPS (U.K.) LTD.

1 Fleet Business Park, Sandy Lane, Church Crookham, Fleet

Hampshire GU13 0BF, England

Phone Fleet 44 1252-622031 — Fax 44 1252-626655

N.V. CAT PUMPS INTERNATIONAL S.A.

Heiveldkens 6A, 2550 Kontich, Belgium

Phone 32-3-450.71.50 — Fax 32-3-450.71.51

e-mail: cpi@catpumps.be www.catpumps.be

CAT PUMPS DEUTSCHLAND GmbH

Buchwiese 2, D-65510 Idstein, Germany

Phone 49 6126-93030 — Fax 49 6126-930333

e-mail: catpumps@t-online.de www.catpumps.de