

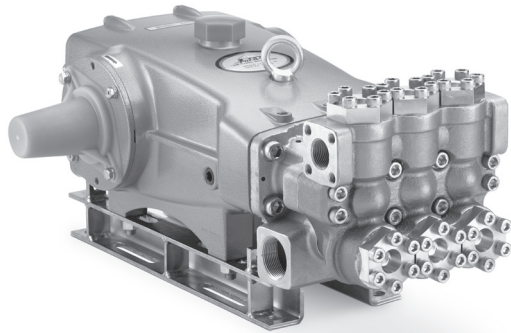
# DATA SHEET

## 35 FRAME PLUNGER PUMPS



**Stainless Steel Models:** **3501, 3511**

**Stainless Steel Flushed Models:** **3501C, 3511C**



Model 3511 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 adjustment.
- Special high-density, polished, concentric plungers provide a true wear surface and extended seal life.
- Standard NBR seals with alternative options for temperature and chemical compatibility.

### COMMON SPECIFICATIONS

	U.S.	Metric
Inlet Pressure Range	Flooded – 70 psi	Flooded – 4.8 bar
Max. Liquid Temp. (NBR)	160° F	71° C
<b>Alternative seals available for high temp up to 200° F</b>		
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)
Flushing Ports (2) (3501C, 3511C)	1/4" NPT(F)	1/4" NPT(F)
Discharge Ports (2) (3501, 3501C)	3/4" NPT(F)	3/4" NPT(F)
Discharge Ports (2) (3511, 3511C)	1" NPT(F)	1" NPT(F)
Pulley Mounting	Either Side	Either Side
Shaft Diameter	1.378"	35 mm
Weight	130 lbs.	59 kg
Dimensions	24.51 x 18.11 x 9.72"	623 x 460 x 247 mm

### SPECIFICATIONS

	U.S. Measure	Metric Measure
<b>Models 3501, 3501C</b>		
Flow	10 gpm	38 lpm
Pressure Range	100 – 5000 psi	6.9 – 345 bar
Pump RPM*	915 rpm	915 rpm
Bore	0.787"	20 mm
<b>Models 3511, 3511C</b>		
Flow	14 gpm	53 lpm
Pressure Range	100 – 3000 psi	6.9 – 207 bar
Pump RPM*	800 rpm	800 rpm
Bore	0.984"	25 mm

\*Pump minimum is 100 RPM.

### ALTERNATIVE SEAL CONFIGURATION

MATERIAL	SUFFIX CODE	MAXIMUM TEMPERATURE	
NBR	—	160° F	(71° C)
FPM	.0110	180° F	(82° C)
EPDM	.0220	160° F	(71° C)
IPFE	.0770	200° F	(93° C)
HT	.3000	180° F	(82° C)
STHT	.3400	190° F	(88° C)

See Reference Document 99TCH002 for inlet conditions and RPM at high temperature.

<b>DETERMINING THE PUMP R.P.M.</b>	Rated gpm	=	"Desired" gpm
	Rated rpm	=	"Desired" rpm
<b>DETERMINING THE REQUIRED H.P.</b>	Hp (Electric Brake)	=	gpm x psi 1460
<b>DETERMINING MOTOR PULLEY SIZE</b>	Motor Pulley O.D. Pump rpm	=	Pump Pulley O.D. Motor rpm

Refer to pump **Service Manual** for repair procedure and additional technical information.

# PARTS LIST

ITEM	PART NUMBER	MATL	PART NUMBER	MATL	DESCRIPTION	QTY
	<b>3501/C</b>		<b>3511/C</b>			
5	96049	S	96049	S	Screw, HH Sems (M10x25) (See Tech Bulletin 125) [06/18]	8
8	134604	ALE	134604	ALE	Cover, Bearing (See Tech Bulletin 125) [06/18]	2
9	815279	FBR	815279	FBR	Shim, Split, 2 pc (See Tech Bulletin 125) [06/18]	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	126725	BZ	Rod, Connecting Assy (Incls: 21, 22, 23)	3
21	126749	STCP R	126749	STCP R	Washer, Locking (M10)	3
22	126593	STCP R	126593	STCP R	Washer, Flat (M10)	6
23	122045	STZP	122045	STZP	Screw, HH (M10x55)	6
25	29325	FCM	29325	FCM	Crankshaft, Dual End (M48)	1
31	828710	PE	828710	PE	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	PC	92241	PC	Gauge, Bubble Oil w/Gasket - 80D	1
38	44428	NBR	44428	NBR	Gasket, Flat Oil Gauge - 80D	1
40	125753	S	125753	S	Screw, HH 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	ALE	45936	ALE	Cover, Rear (See Tech Bulletin 118)	1
51	16612	NBR	16612	NBR	O-Ring, Cover - 70D	1
53	134784	ALE	134784	ALE	Crankcase Assy (Incls: 34, 54) (See Tech Bulletin 118, 125) [06/18]	1
54	27488	S	27488	S	Pin, 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	<b>45118</b>	SSZZ	<b>45116</b>	SSZZ	Rod, Plunger	3
69	126587	STCP R	126587	STCP R	Washer, Oil Seal	3
70	100488	NBRS	100488	NBRS	Seal, Oil, Crankcase	3
	<i>44739</i>	<i>FPM</i>	<i>44739</i>	<i>FPM</i>	<i>Seal, Oil, Crankcase</i>	<i>3</i>
75	<b>43506</b>	S	<b>43865</b>	S	Slinger, Barrier	3
87	<b>49667</b>	SSL	<b>109608</b>	SS	Collar	3
88	<b>45675</b>	S	<b>45676</b>	S	Washer, Keyhole	3
90	<b>43945</b>	CC	<b>43866</b>	CC	Plunger (M20x145) Model 3501, 3501C, Plunger (M25x145) Model 3511, 3511C	3
95	<b>89779</b>	S	<b>89778</b>	SS	Stud, Retainer (M7x123) Model 3501, 3501C, Stud, Retainer (M10x135) Model 3511, 3511C	3
96	<b>20184</b>	PTFE	<b>20189</b>	PTFE	Back-up-Ring, Plunger Retainer	3
97	<b>14190</b>	NBR	<b>11345</b>	NBR	O-Ring, Plunger Retainer - 70D	3
98	<b>44069</b>	SS	<b>44085</b>	SS	Gasket, Plunger Retainer (M7) Model 3501, 3501C, Gasket, Plunger Retainer (M10) Model 3511, 3511C	3
99	<b>44068</b>	SS	<b>44084</b>	SS	Retainer, Plunger (M7) Model 3501, 3501C, Retainer, Plunger (M10) Model 3511, 3511C	3
100	814279	PVDF	814279	PVDF	Retainer, Seal [See Tech Bulletin 105]	3
101	<b>44095</b>	—	<b>44096</b>	—	Wick	3
104	43875	NBR	43875	NBR	O-Ring, Adapter - 70D	3
105	<b>701344</b>	SS	<b>113022</b>	SS	Adapter, LPS	3
106	<b>44071</b>	NBR	<b>44086</b>	NBR	Seal, LPS w/SS-Spg	3
107	<b>44074</b>	SS	<b>44089</b>	SS	Washer, LPS	3
110	45365	SS	45365	SS	Manifold, Inlet	1
	<i>125397</i>	<i>SS</i>	<i>125397</i>	<i>SS</i>	<i>Manifold, Inlet, Flushed (1/4" Inlet Port) 3501C, 3511C</i>	<i>1</i>
112	11379	NBR	11379	NBR	O-Ring, Inlet Manifold - 70D	3
117	44585	S	44585	S	Screw, HSH (M14x40)	4
123	12391	NBR	12391	NBR	O-Ring, V-Packing Cylinder - 70D	3
124	<b>49666</b>	SSL	<b>113023</b>	SS	Cylinder, V-Packing	3
126	<b>44164</b>	SS	<b>113024</b>	SS	Adapter, Female	3
127	<b>44607</b>	STG	<b>44610</b>	STG	V-Packing Model 3501, 3501C, V-Packing Model 3511, 3511C	9/6
128	<b>44165</b>	SS	<b>113025</b>	SS	Adapter, Male	3
155	<b>17622</b>	NBR	<b>11379</b>	NBR	O-Ring, V-Packing Spacer	3/6
156	<b>28675</b>	PTFE	<b>28243</b>	PTFE	Back-up-Ring, V-Packing Spacer	3/6
157	<b>49668</b>	SSL	<b>113026</b>	SS	Spacer, V-Packing	3
159	<b>12390</b>	NBR	—	—	O-Ring, V-Packing Cylinder - 70D	3
162	21985	PTFE	21985	PTFE	Back-up-Ring, Seat	6
163	26089	NBR	26089	NBR	O-Ring, Seat - 80D	6
164	49671	SS	49671	SS	Seat	6
166	44081	SS	44081	SS	Valve	6
167	44082	SS	44082	SS	Spring	6
168	44735	PVDF	44735	PVDF	Retainer, Spring	6
170	44794	SS	44794	SS	Washer, Spring Retainer	6
171	44793	SS	44793	SS	Spring, Coil, Valve Plug	6
172	15853	NBR	15853	NBR	O-Ring, Valve Plug - 70D	6
173	20224	PTFE	20224	PTFE	Back-up-Ring, Valve Plug	6
174	45603	SS	45603	SS	Plug, Valve	6
175	87951	S	87951	S	Screw, HSH (M10x30)	36
185	<b>49669</b>	SSD	<b>49672</b>	SSD	Manifold, Discharge	1
188	89981	S	89981	S	Screw, HSH (M12x70)	8
250	855042	NY	855042	NY	Protector, Shaft, w/2 Screws, Lockwashers and Washers (Included with Pump) (See Tech Bulletin 125)	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 R Components comply with RoHS Directive.

\*Review material codes for individual items (STG generally may be used as alternate). For additional technical information see [www.catpumps.com/literature/tech-bulletins](http://www.catpumps.com/literature/tech-bulletins).

MATERIAL CODES (Not Part of Part Number): ABS=ABS Plastic ALE=Aluminum Epoxy BZ=Bronze CC=Ceramic CM=Chrome-Moly EPDM=Ethylene Propylene Diene Monomer

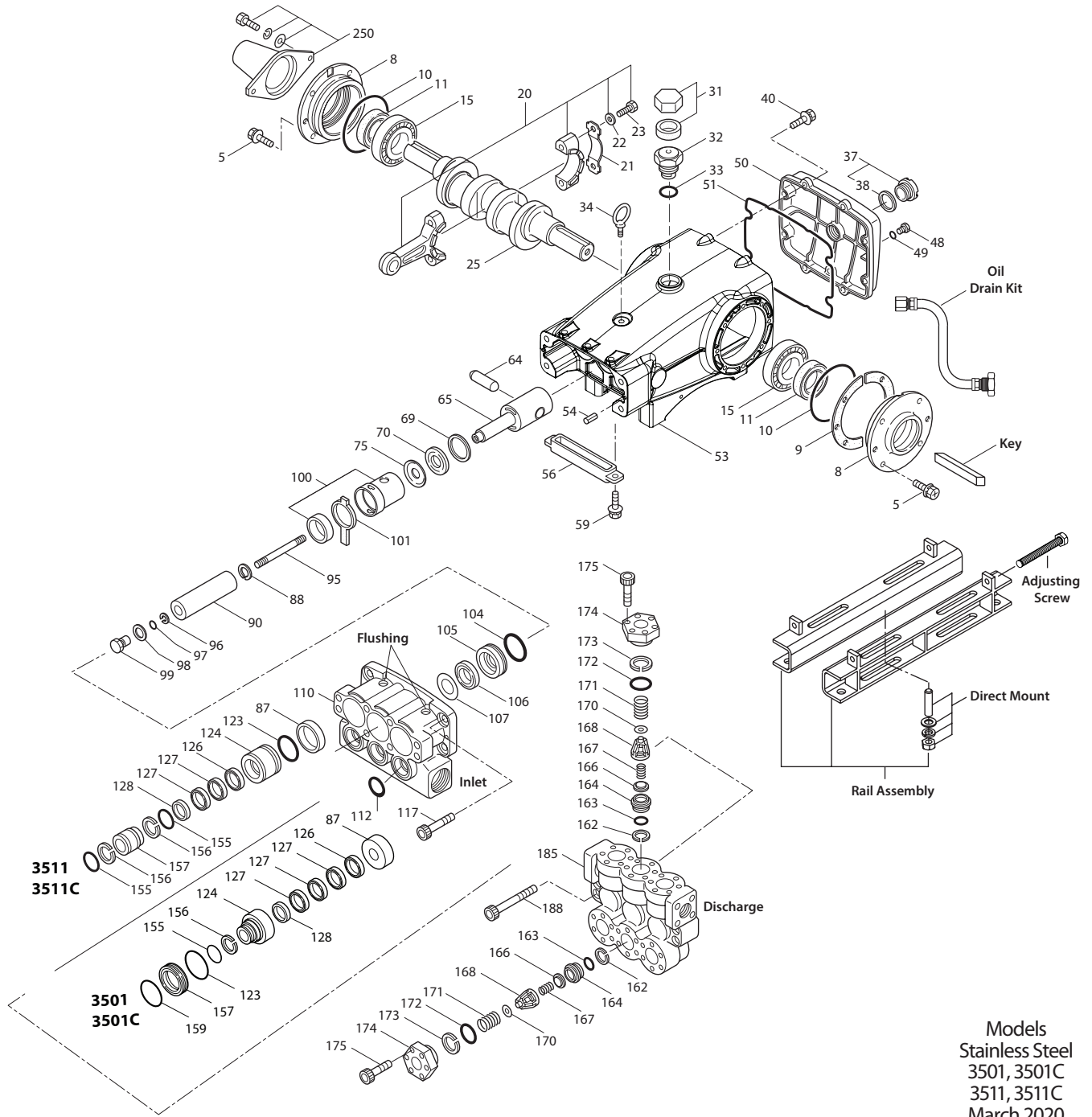
F=Cast Iron FBR=Fiber FCM=Forged Chrome-moly FPM=Fluorocarbon NBR=Medium Nitrile (Buna-N) NBRS=Buna, Silicone Free NY=Nylon PC=Poly Carbonate

PE=Polyethylene POP=Polypropylene PTFE=Pure Polytetrafluoroethylene PVDF=Polyvinylidene Fluoride S=304SS SS=316SS STG=Special Blend PTFE White

SSD=Duplex Stainless Steel SSL=316SS/Low Carbon SSZZ=316SS/Zamak STL=Steel STCP=Steel/Chrome Plated STZP=Steel/Zinc Plated ZP=Zinc Plated

**Standard and optional Seal Kits and Valve Kits listed on pages 3 and 4. Optional Parts and Accessories and Service parts listed on Page 3.**

# EXPLODED VIEW



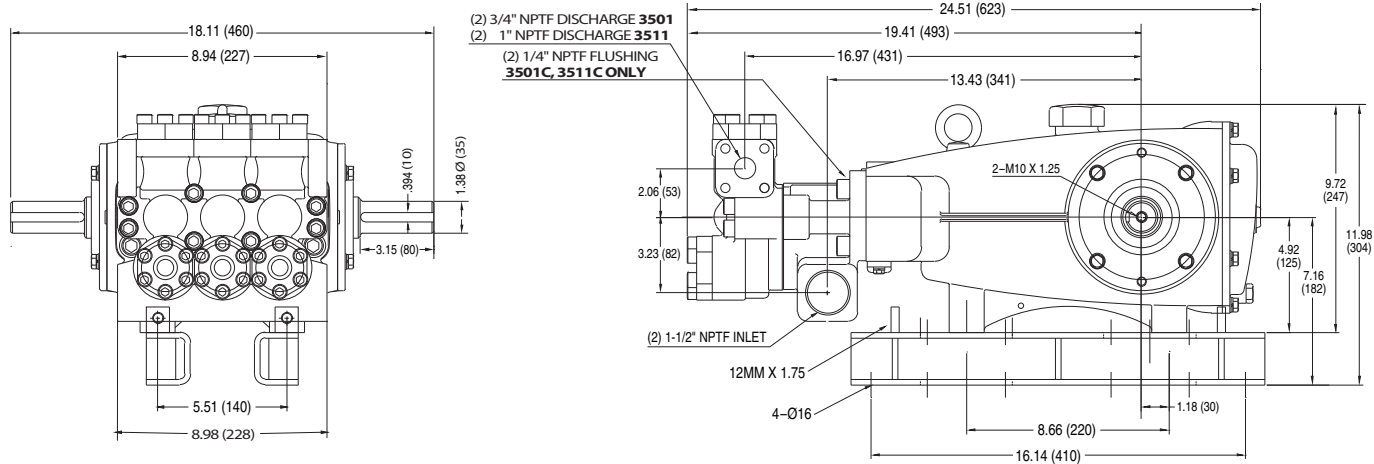
Models  
Stainless Steel  
3501, 3501C  
3511, 3511C  
March 2020

## OPTIONAL PARTS AND ACCESSORIES

PART	DESCRIPTION	QTY
34021	Key, M10 x 8 x 70	1
76514	Mount, Rail Assembly (S)	1
92674	Mount, Rail Assembly (STZP R)	1
34039	Mount, Direct (S)	1
34018	Mount, Direct (STZP R)	1
990013	Hub, "B", 35 mm (STL)	1
80540	Screwing, Adjusting M12 x 100	2
30278	Oiler (1 oz) (Not Shown)	1
34314	Kit, Oil Drain	1
819000	Assy, Crankcase, Cast Iron Conversion	1

## SERVICE PARTS

PART	DESCRIPTION	QTY
<b>76037</b>	Kit, Seal - Standard NBR (3501,3501C)	1
<b>31038</b>	Kit, Seal - Standard NBR (3511,3511C)	1
<b>76251</b>	Kit, Valve - Standard NBR	2
6100	Oil, Case (12 - 21 oz. bottle)	1
6119	Lubricant, Anti-Seize (2 oz)	1
6124	Gasket, Liquid (3 oz)	1
30696	Plier, Reverse	1
<b>818459</b>	Head, Complete - 3501 w/NBR Seals and O-Rings	1
<b>818438</b>	Head, Complete - 3511 w/NBR Seals and O-Rings	1



Models 3501, 3501C, 3511, 3511C

## SEAL KITS One (1) seal kit required per pump

PUMP MODELS	NBR (STD)	FPM (.0110)	EPDM (.0220)◆	IPFE (.0770)
3501, 3501C	76037*	76235*	76085*	—
3511, 3511C	31038*	31266*	76138*	76038*

ITEM (Included in Seal Kits)					DESCRIPTION	QTY
97	14190	14161	48239	—	O-Ring, Plunger Retainer (3501,3501C)	3
	11345	11375	701490	702961	O-Ring, Plunger Retainer (3511,3511C)	3
104	43875	44826	701656	702977	O-Ring, Adapter	3
106	44071	44381	76071	—	Seal, LPS w/SS-Spg (3501,3501C)	3
	44086	45846	49196	701944	Seal, LPS w/SS-Spg (3511,3511C)	3
112	11379	14183	701491	702705	O-Ring, Inlet Manifold	3
123	12391	13266	701657	703481	O-Ring, V-Packing Cylinder	3
127	44607	44607	44607	—	V-Packing (3501,3501C)	9
	44610	44610	44610	44610	V-Packing (3511,3511C)	6
155	17622	11719	701654	—	O-Ring, V-Packing Spacer (3501,3501C)	3
	11379	14183	701491	702705	O-Ring, V-Packing Spacer (3511,3511C)	6
156	28675	28675	28675	—	Backup-Ring, V-Packing Spacer (3501,3501C)	3
	28243	28243	28243	28243	Backup-Ring, V-Packing Spacer (3511,3511C)	6
159	12390	13264	701749	—	O-Ring, V-Packing Spacer (3501,3501C)	3

◆ Silicone oil/grease required \*Review material codes for individual items (STG generally by be used as alternative)

## VALVE KITS Two (2) valve kits required per pump

PUMP MODELS	NBR (STD)	FPM (.0110)	EPDM (.0220)◆	IPFE (.0770)
3501, 3501C, 3511, 3511C	76251	76798	76351	76451

ITEM (Included in Valve Kits)					DESCRIPTION	QTY
162	21985	21985	21985	21985	Backup-Ring, Valve Seat	3
163	26089	11377	46647	703244	O-Ring, Valve Seat	3
164	49671	49671	49671	49671	Seat	3
166	44081	44081	44081	44081	Valve	3
167	44082	44082	44082	44082	Spring	3
168	44735	44735	44735	44735	Retainer, Spring	3
170	44794	44794	44794	44794	Washer, Spring Retainer	3
172	15853	11720	701481	702974	O-Ring, Valve Plug	3
173	20224	20224	20224	20224	Backup-Ring, Valve Plug	3

◆ Silicone oil/grease required

### ⚠ 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).