

DATA SHEET

35 FRAME PLUNGER PUMPS

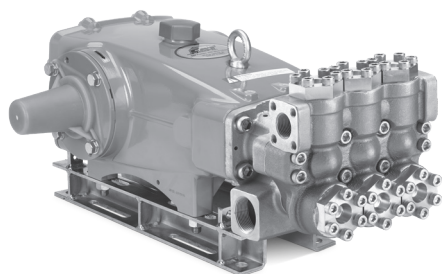


**Stainless Steel
Models:**

3501, 3511DHS

**Stainless Steel
Flushed Model:**

3511CHS



Model 3511CHS Shown
(Shaft protector included, mounting rails sold separately)

FEATURES

- Triplex plunger design ensures high efficiency and low pulsation.
- Advanced connecting rod and plunger rod materials optimize drive-end operation for continuous-duty applications.
- V-packings and low-pressure seals are completely lubricated and cooled by pumped liquid, greatly increasing service life.
- Model 3511CHS offers an external flush for high-temperature or low-lubricity liquids.
- Pump comes standard with NBR seals. Alternative seal materials are available for higher temperature or chemical compatibility.

COMMON SPECIFICATIONS	U.S.	Metric
Inlet Pressure Range	Flooded to 70 psi	Flooded to 4.8 bar
Max. Liquid Temp. (NBR)	160° F	71° C
Alternative seals available for higher temperatures up to 200° F		
Stroke	1.890"	48 mm
Crankcase Capacity	4.2 qts	4 l
Inlet Ports (2)	1½" NPT(F)	1½" NPT(F)
Flushing Ports (2) (3511CHS)	¼" NPT(F)	¼" NPT(F)
Discharge Ports (2) (3501)	¾" NPT(F)	¾" NPT(F)
Discharge Ports (2) (3511DHS)	1" NPT(F)	1" NPT(F)
Shaft Diameter	1.378"	35 mm
Pulley Mounting	Either Side	Either Side
Weight	130 lbs	59 kg
Dimensions	24.60 x 18.11 x 9.72"	625 x 460 x 247 mm

SPECIFICATIONS

U.S. Measure

Metric Measure

Model 3501

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

Models 3511DHS, 3511CHS

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)
FFKM	.0770	200° F	(93° C)
HT	.3000	180° F	(82° C)
STHT	.3400	190° F	(88° C)

See **Tech Bulletin 002** for inlet conditions and RPM at higher temperatures.

DETERMINING THE PUMP RPM	Rated gpm	=	Desired gpm
	Rated rpm		Desired rpm
DETERMINING THE REQUIRED HP	hp (Electric Brake)	=	gpm x psi 1460
DETERMINING MOTOR PULLEY SIZE	Motor Pulley OD	=	Pump Pulley OD
	Pump rpm		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
	3501		3511DHS/3511CHS			
5	96049	S	96049	S	Screw, HH Sems (M10 x 25) (See Tech Bulletin 074)	8
8	134604	ALE	134604	ALE	Cover, Bearing	2
9	815279	FBR	815279	FBR	Shim, Split, 2-Piece	0-2
10	12398	NBR	12398	NBR	O-Ring, Cover, Bearing	2
11	13296	NBR	13296	NBR	Seal, Oil, Crankshaft	2
12	855049	S	855049	S	Shim, Split, 2-Piece	0-2
15	29326	STL	29326	STL	Bearing, Roller	2
20	126725	BZ R	126725	BZ R	Rod, Assembly, Connecting (Includes: 21, 22, 23) (See Tech Bulletin 074)	3
21	126749	STCP R	126749	STCP R	Washer, Locking (M10)	3
22	126593	STCP R	126593	STCP R	Shim, Washer M10.5 ABS)	6
23	122045	STZP	122045	STZP	Screw, HH (M10 x 55)	6
25	29325	FCM	29325	FCM	Crankshaft, Dual-End (M48)	1
31	828710	PE	828710	PE	Protector, Oil Cap with Foam Gasket	1
32	43211	ABS	43211	ABS	Cap, Oil Filler	1
33	14177	NBR	14177	NBR	O-Ring, Oil Filler Cap	1
34	126743	STCP R	126743	STCP R	Bolt, Eye (M12 x 1.75) (For Lifting Pump Only)	1
37	92241	PC	92241	PC	Gauge, Bubble Oil with Gasket	1
38	44428	NBR	44428	NBR	Gasket, Flat Oil Gauge	1
40	125753	S	125753	S	Screw, HH Sems (M8 x 25) (See Tech Bulletin 074)	8
48	25625	STCP	25625	STCP	Plug, Drain (1/4" x 19 BSP)	1
49	23170	NBR	23170	NBR	O-Ring, Drain Plug	1
50	45936	ALE	45936	ALE	Cover, Rear	1
51	16612	NBR	16612	NBR	O-Ring, Cover	1
53	134784	ALE	134784	ALE	Crankcase Assembly (Includes: 54)	1
54	27488	S	27488	S	Pin, Guide	2
56	27790	POP	27790	POP	Oil Pan	1
59	92538	S	92538	S	Screw, HHC Sems (M6 x 16)	2
64	43864	CM	43864	CM	Pin, Crosshead	3
65	45118	SSZZ	49166	SSHB	Rod, Plunger	3
69	126587	STCP R	126587	STCP R	Washer, Oil Seal	3
70	100488	NBRS	100488	NBRS	Seal, Oil, Crankcase	3
75	43506	S	43865	S	Slinger, Barrier	3
87	49667	SS	109608	SS	Collar	3
88	45675	S	45676	S	Washer, Keyhole	3
90	43945	CC	43866	CC	Plunger (M20 x 145) (Model 3501) (M25 x 145) (Models 3511DHS, 3511CHS)	3
95	89779	S	89778	SS	Stud, Retainer (M7 x 123) (Model 3501) (M10 x 135) (Models 3511DHS, 3511CHS)	3
96	20184	PTFE	20189	PTFE	Backup Ring, Plunger Retainer	3
97	14190	NBR	11345	NBR	O-Ring, Plunger Retainer-70D	3
98	44069	SS	44085	SS	Gasket, Plunger Retainer (M7) (Model 3501) (M10) (Models 3511DHS, 3511CHS)	3
99	44068	SS	44084	SS	Retainer, Plunger (M7) (Model 3501) (M10) (Models 3511DHS, 3511CHS) (See Tech Bulletin 074)	3
100	814279	PVDF	814279	PVDF	Retainer, Seal, 2-Piece	3
101	44095	—	44096	—	Wick	3
104	43875	NBR	43875	NBR	O-Ring, Adapter	3
105	701344	SS	113022	SS	Adapter, Low-Pressure Seal	3
106	44071	NBR	44086	NBR	Seal, Low-Pressure with SS-Spring	3
107	44074	SS	44089	SS	Washer, Low-Pressure Seal	3
110	45365	SS	45365	SS	Manifold, Inlet	1
	—	—	125397	SS	Manifold, Inlet, Flushed (Model 3511CHS)	1
112	11379	NBR	11379	NBR	O-Ring, Inlet Manifold	3
117	44585	S	44585	S	Screw, HSH (M14 x 40) (See Tech Bulletin 074)	4
123	12391	NBR	12391	NBR	O-Ring, V-Packing Cylinder	3
124	49666	SS	113023	SS	Cylinder, V-Packing	3
126	44164	SS	113024	SS	Adapter, Female	3
127	44607	STG	44610	STG	V-Packing (Model 3501) V-Packing (Models 3511DHS, 3511CHS)	9/6
128	44165	SS	113025	SS	Adapter, Male	3
155	132961	NBR	11379	NBR	O-Ring, V-Packing Spacer	3/6
156	28675	PTFE	28243	PTFE	Backup Ring, V-Packing Spacer	3/6
157	49668	SS	113026	SS	Spacer, V-Packing	3
159	12390	NBR	—	—	O-Ring, V-Packing Spacer (Model 3501)	3/0
162	21985	PTFE	21985	PTFE	Backup Ring, Seat	6
163	26089	NBR	26089	NBR	O-Ring, Seat	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	6
173	20224	PTFE	20224	PTFE	Backup Ring, Valve Plug	6
174	45603	SS	45603	SS	Plug, Valve	6
175	87951	S	87951	S	Screw, HSH (M10 x 30) (See Tech Bulletin 074)	36
185	49669	SSD	49672	SSD	Manifold, Discharge	1
188	89981	S	89981	S	Screw, HSH (M12 x 70) (See Tech Bulletin 074)	8
250	855042	POP	855042	POP	Protector, Shaft, With Two (2) Screws, Lockwashers and Washers	1

Bold print part numbers are unique to a particular pump model. R Components comply with RoHS Directive.

For additional technical information see 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

FFKM=Perfluoroelastomer FPM=Fluorocarbon NBR=Medium Nitrile (Buna-N) NBRS=Buna, Silicone Free PC=Poly Carbonate PE=Polyethylene

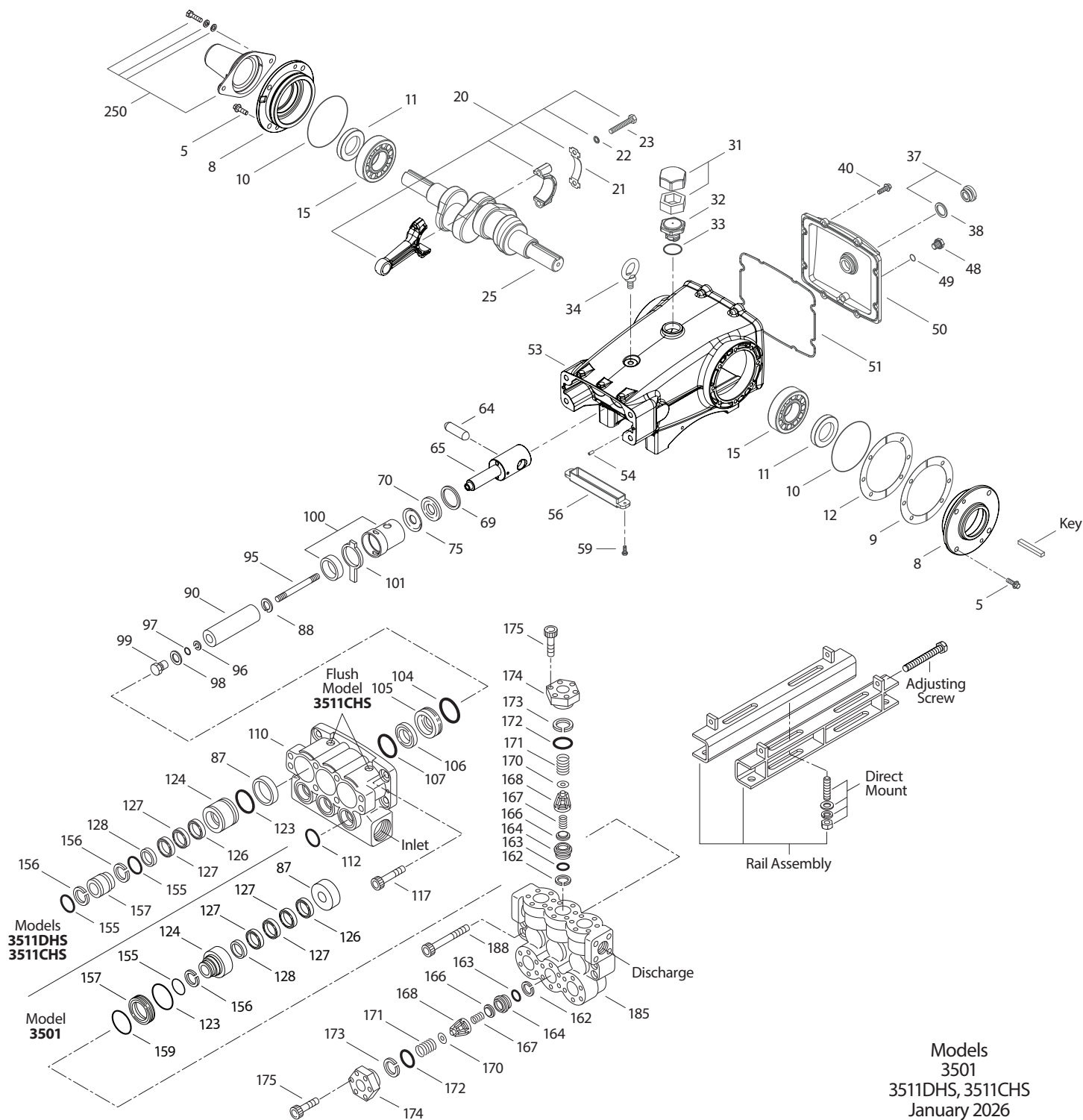
POP=Polypropylene PTFE=Pure Polytetrafluoroethylene PVDF=Polyvinylidene Fluoride S=304SS SS=316SS SFTA=Special Blend PTFE Tan

ST4=Special PTFE 4 STG=Special Blend PTFE White SSD=Duplex Stainless Steel SHB=316SS/High Strength Brass

STHT=Special PTFE High Temp STL=Steel STCP=Steel/Chrome Plated STZP=Steel/Zinc Plated ZP=Zinc Plated

Optional Parts and Accessories and Service Parts listed on page 3. Standard and Optional Seal and Valve Kits listed on page 4.

EXPLODED VIEW



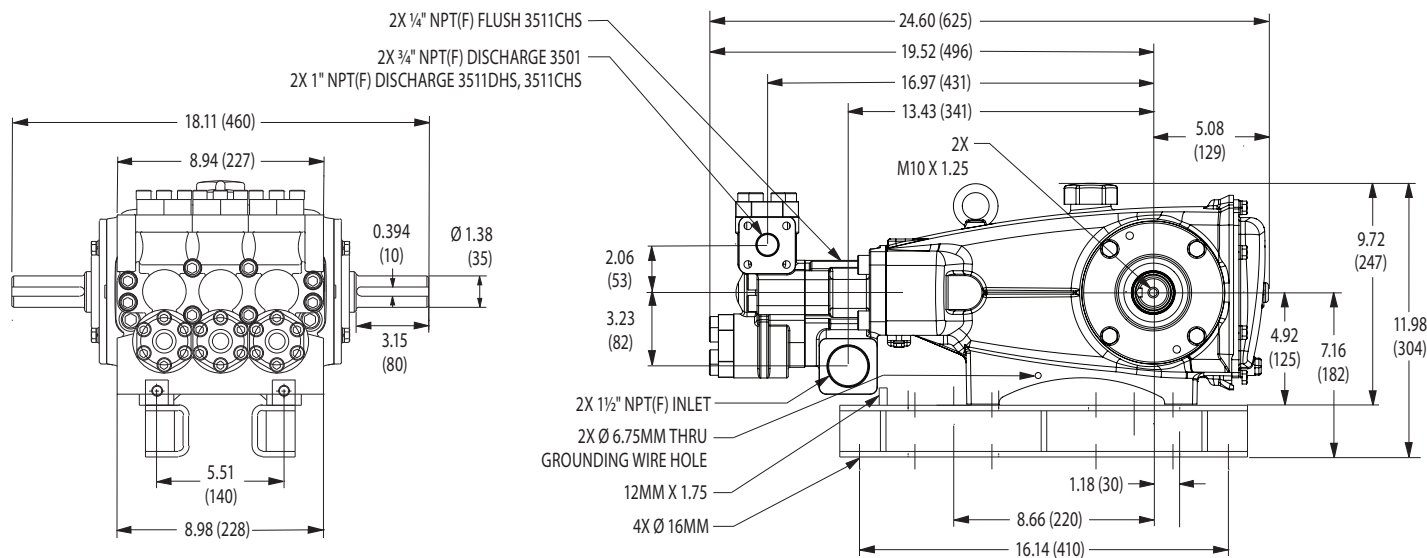
Models
3501
3511DHS, 3511CHS
January 2026

OPTIONAL PARTS AND ACCESSORIES

PART	DESCRIPTION	QTY
34021	Key (M10 x 8 x 70)	1
76514	Mount, Rail Assembly (S) (Includes: 34039)	1
34039	Mount, Direct (S)	1
92674	Mount, Rail Assembly (STZP R) (Includes: 34018)	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)	3
34314	Kit, Oil Drain (3/8" x 48") (Not Shown)	1
819000	Assembly, Crankcase, Cast Iron Conversion (Not Shown)	1

SERVICE PARTS

PART	DESCRIPTION	QTY
76037	Kit, Seal – Standard NBR (Model 3501)	1
31038	Kit, Seal – Standard NBR (Models 3511DHS, 3511CHS)	1
76251	Kit, Valve – Standard–NBR	2
6100	Oil, Case (12–21 oz bottles) (Fill to Specific Crankcase Capacity Prior to Start-up)	1
6139	Lubricant, Anti-Seize (8 oz) (See Tech Bulletin 095)	1
6124	Gasket, Liquid (3 oz)	1
32273	Crankcase Oil Seal Removal and Installation Kit (Not Shown) (Includes: Oil Seals, Guide Tool, Screws, Washers, Driver)	1
30696	Reverse Pliers (Not Shown)	1
818459	Head, Complete with NBR Seals and O-Rings (Model 3501)	1
818438	Head, Complete with NBR Seals and O-Rings (Models 3511DHS)	1



Models 3501, 3511DHS, 3511CHS

SEAL KITS

One (1) seal kit required per pump

PUMP MODELS	NBR (STD)	FPM (.0110)	EPDM (.0220) ♦	FFKM (.0770)
3501	76037*	76235*	76085*	993597*
3511DHS, 3511CHS	31038*	31266*	76138*	76038*

ITEM (Included in Seal Kits)					DESCRIPTION	QTY
97	14190	14161	48239	703586	O-Ring, Plunger Retainer (Model 3501)	3
	11345	11375	701490	702961	O-Ring, Plunger Retainer (Models 3511DHS, 3511CHS)	3
104	43875	44826	701656	702977	O-Ring, Adapter	3
106	44071	44381	76071	703179	Seal, Low-Pressure with SS-Spring (Model 3501)	3
	44086	45846	49196	701944	Seal, Low-Pressure with SS-Spring (Models 3511DHS, 3511CHS)	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	76607	V-Packing (Model 3501)	9
	44610	44610	44610	44610	V-Packing (Models 3511DHS, 3511CHS)	6
155	132961	11719	701654	701716	O-Ring, V-Packing Spacer (Model 3501)	3
	11379	14183	701491	702705	O-Ring, V-Packing Spacer (Models 3511DHS, 3511CHS)	6
156	28675	28675	28675	28675	Backup Ring, V-Packing Spacer (Model 3501)	3
	28243	28243	28243	28243	Backup Ring, V-Packing Spacer (Models 3511DHS, 3511CHS)	6
159	12390	13264	701749	703486	O-Ring, V-Packing Spacer (Model 3501)	3

♦ Silicone oil/grease required *Review material codes for individual items (SFTA, ST 2, STG may be used as alternative)

*Review material codes for individual items (SFTA, ST 2, STG may be used as alternative)

VALVE KITS

Two (2) valve kits required per pump

PUMP MODELS	NBR (STD)	FPM (.0110)	EPDM (.0220) ♦	FFKM (.0770)
3501, 3511DHS, 3511CHS	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 (e.g. regulator, unloader) and a secondary pressure relief device (e.g. 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/dynamic-literature/cautions-and-warnings or can be requested directly from Cat Pumps.

WARRANTY

View the Limited Warranty online at www.catpumps.com/literature/cat-pumps-limited-warranty