



## Technical specifications and instructions



### **3 Frame Piston pump**

**Brass models**

**280-290**

**Stainless steel models**

**281-291**

### Specifications (\*)

	<b>Model 280-281</b>	<b>Model 290-291</b>
<b>Flow</b>	13 l/min	13 l/min
<b>Pressure range</b>	7 to 70 bar	7 to 85 bar
<b>RPM</b>	1420 RPM	1200 RPM
<b>Stroke</b>	10 mm	12 mm
<b>Weight</b>	5,3 kg	5,5 kg

### Common specifications

<b>Inlet pressure range</b>	-0,6 to 2,8 bar
<b>Bore</b>	20 mm
<b>Crankcase capacity</b>	0,3 l
<b>Maximum liquid temperature</b>	71° C
<b>Inlet ports (1)</b>	1/2" NPTF
<b>Chemical injection port (1)</b>	1/4" NPTF
<b>Discharge ports (2)</b>	3/8" NPTF
<b>Discharge port (1)</b>	1/2" NPTF
<b>Shaft diameter</b>	16,5 mm
<b>Dimensions (280)</b>	270 x 223 x 134,5 mm
<b>Dimensions (290)</b>	275 x 223 x 134,5 mm

(\*) Abnormalities permitted only after consultation and written confirmation from Cat Pumps.



# Parts list

Item	Num. 280 281	Mat.	Num. 290 291	Mat.	Description	Qty
2	30047	STL	30047	STL	Key (M5x5x24)	1
5	92519	STZP	92519	STZP	Screw, HHC sems (M6x16)	8
	125824	STCP R	125824	STCP R	Screw, HHC sems (M6x16)	8
8	27950	AL	27950	AL	Cover, bearing	2
10	26536	NBR	26536	NBR	O-ring, bearing cover – 70D	2
11	24159	NBR	24159	NBR	Seal, oil, crankshaft	2
15	14487	STL R	14487	STL R	Bearing, ball	2
20	<b>122041</b>	<b>TNM</b>	<b>48867</b>	<b>TNM</b>	Rod, connecting assy {280-8/02, 290-9/02}	3
25	<b>26239</b>	<b>FCM</b>	<b>43804</b>	<b>FCM</b>	Crankshaft	1
31	828710	-	818710	-	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
37	92241	-	92241	-	Gauge, oil, bubble w/gasket – 80D	1
38	44428	NBR	44428	NBR	Gasket, flat, oil gauge – 80D	1
40	92520	STZP	92520	STZP	Screw, HHC sems (M6x20)	4
	126541	STCP R	126541	STCP R	Screw, HHC sems (M6x20)	4
48	25625	STCP	25625	STCP	Plug, drain (1/4" x 19 BSP)	1
49	23170	NBR	23170	NBR	O-ring, drain plug – 70D	1
50	48772	AL	48772	AL	Cover, rear {07/08} (see TB 104)	1
51	48773	NBR	48773	NBR	O-ring, rear cover {07/08} (see TB 104)	1
53	128361	AL	128361	AL	Crankcase, 4 screws {07/08} (see TB 104)	1
55	<b>126546</b>	<b>STCP R</b>	-	-	Stud (M8x41.4)	2
64	16948	CM	16948	CM	Pin, crosshead	3
65	<b>29612</b>	<b>SZZ</b>	<b>101800</b>	<b>SZZ</b>	Rod, piston	3
69	126259	STCP R	126259	STCP R	Washer, oil seal	3
70	25301	NBR	25301	NBR	Seal, oil – 80D	3
71	126189	STCP R	126189	STCP R	Washer, oil seal	3
75	25327	S	25327	S	Slinger, barrier	3
77	25392	NBR	25392	NBR	O-ring, sleeve	6
	28771	FPM	28771	FPM	O-ring, sleeve	6
	28772	PTFE	28772	PTFE	O-ring, sleeve	6
80	29614	SCP	29614	SCP	Sleeve	3
	29743	S	29743	S	Sleeve (unchromed)	3
81	-	-	<b>29003</b>	<b>PTFE</b>	Back-up-ring, sleeve	3
100	28597	PVDF	28597	PVDF	Retainer, seal	3
106	30315	NBR	30315	NBR	Seal, LPS, Prrrrm-A-Lube	3
	30325	FPM	30325	FPM	Seal, LPS, Prrrrm-A-Lube	3
109	22177	BBCP	22177	BBCP	Plug, HH (1/4" NPT)	1
110	25128	BBCP	25128	BBCP	Manifold, inlet	1
	25635	SS	25635	SS	Manifold, inlet	1
117	-	-	<b>85680</b>	<b>STCP</b>	Stud (M8x99,5)	2
118	22160	BBCP	22160	BBCP	Elbow (1/2" NPT)	1
119	27004	S	27004	S	Valve, inlet	3
130	<b>22021</b>	<b>S</b>	<b>30543</b>	<b>S</b>	Piston	3
131	-	-	<b>30544</b>	<b>PTFE</b>	Bac-cup ring	3
133	43172	FPM	43172	FPM	Cup, piston	3
133	-	-	<b>43474</b>	<b>FPM</b>	Assy, bac-cup (incls 130,131,133) (290 only)	3
133	29089	SNG	29089	SNG	Cup, V-hot	3
	30145	TG	30145	TG	Cup-piston, w/FPM o-ring (1000 psi max)	3
135	<b>27003</b>	<b>S</b>	<b>27983</b>	<b>S</b>	Spacer, piston	3
136	27002	S	27002	S	Retainer, piston	3
137	27006	S	27006	S	Washer, conical (M6)	3

138	27000	S	27000	S	Nut (M6)	3
139	14158	S	14158	S	Cotterpin (M1.6x10)	3
143	23172	NBR	23172	NBR	O-ring, cylinder – 70D	6
	11377	FPM	11377	FPM	O-ring, cylinder – 80D	6
	26961	PTFE	26961	PTFE	O-ring, cylinder	6
150	<b>26112</b>	<b>SCP</b>	<b>101802</b>	<b>SCP</b>	Cylinder	3
	<b>28774</b>	<b>S</b>	<b>43834</b>	<b>S</b>	Cylinder (unchromed)	3
153	-	-	<b>21985</b>	<b>PTFE</b>	Back-up-ring, cylinder	3
164	43434	S	43434	S	Seat, Q.V.	3
	29487	S	29487	S	Seat, F.V	3
166	43723	S	43723	S	Valve, Q.V.	3
	22842	S	22842	S	Valve, F.V.	3
167	43360	S	43360	S	Spring, Q.V.	3
	22031	S	22031	S	Spring, F.V.	3
168	43442	S	43442	S	Retainer, spring, Q.V.	3
	22841	S	22841	S	Retainer, spring, F.V.	3
184	-	-	<b>126521</b>	<b>STCP R</b>	Nut, hex (M8)	2
185	24459	BBCP	24459	BBCP	Manifold, discharge	1
	25634	SS	25634	SS	Manifold, discharge	1
186	<b>15845</b>	<b>STZP</b>	-	-	Lockwasher (M8)	2
	<b>126232</b>	<b>STCP R</b>	-	-	Lockwasher (M8)	2
187	<b>126565</b>	<b>STCP R</b>	-	-	Bolt, cylinder (M8x62,5)	2
188	<b>126813</b>	<b>STCP R</b>	-	-	Shim (M8x13x1.0)	2-4
189	<b>126576</b>	<b>STCP R</b>	-	-	Shim (M8x13x0.5)	2-4
190	<b>126590</b>	<b>STCP R</b>	-	-	Shim (M8x13x0.3)	2-4
191	<b>126591</b>	<b>STCP R</b>	-	-	Shim (M8x13x2.0)	2-4
192	<b>26676</b>	<b>S</b>	-	-	Lockwasher (M8)	2
194	126201	STCP R	126201	STCP R	Nut, hex flange (M8)	2
196	22187	BBCP	22187	BBCP	Plug, HH (3/8"NPT)	1
250	25130	STCP	25130	STCP	Protector, shaft	1
260	30612	STZP R	30612	STZP R	Assy, angle rail	1
270	30246	STL	30246	STL	Pulley assy (incl. 30032, 30047)	1
275	30942	STL	30942	STL	Hub & key assy (incl. 30943,30047)	1
283	34334	-	34334	-	Kit, oil drain (3/8"x24") (see TB 077)	1
298	34961	STZP	34961	STZP	Clutch assy, single groove, 16,5mm, 12VDC	1
	34964	STZP	34964	STZP	Clutch assy, dual groove, 16,5mm, 12VDC	1
300	<b>30023</b>	<b>FPM</b>	-	-	Kit, cup (incl. 133,139,143,355)	1
	-	-	<b>76023</b>	<b>FPM</b>	Kit, cup (incl. 131,133,139,143,355)	1
	701443	TG	701443	TG	Kit, cup (incl. 133,139,143)	1
302	<b>30202</b>	<b>NBR</b>	<b>30860</b>	<b>NBR</b>	Kit, piston (incl. 119-139,143,153,355)	1
304	30272	NBR	30272	NBR	Kit, hot cup (incl. 133,139,143)	1
305	30431	NBR	30431	NBR	Kit, sleeve & seal (incl. 75,77,80,106,139)	1
306	30305	NBR	30305	NBR	Kit, seal (incl. 106,139)	1
310	30686	NBR	30686	NBR	Kit, valve, quiet valves (incl. 143,164,166,167,168)	1
	30024	NBR	30024	NBR	Kit, valve, flat valves (incl. 143,164,166,167,168)	1
355	22130	NY	22130	NY	Insertor, cup	1

**Bold print part numbers are unique to a particular pump model.** *Italics are optional items.* { } Date of latest production change. R Components comply with RoHS Directive.

See 'Tech Bulletins' 002, 003, 012, 016, 017, 020, 024, 026, 030, 033, 034, 036, 074, 077, 083 and 104 for additional information.

All Q.V. parts are necessary for conversions, Q.V. and F.V. parts cannot be mixed.

Material codes (not part or part number)

ABS	ABS plastic	NY	Nylon	STCP	Steel/chrome plated
AL	Aluminum	PTFE	Pure polytetrafluorethylene	STL	Steel
BBCP	Brass/chrome plated	PVDF	Polyvinylidene fluoride	STZP	Steel/zinc plated
CM	Chrome-moly	S	304 stainless steel	SZZ	304 SS / zamak
FCM	Forged chrome-moly	SCP	304 SS / chrome plated	TG	PTFE graphite compound
FPM	Fluorocarbon	SNG	Special blend (Buna)	TNM	Special high strength
NBR	Medium nitrile (Buna-N)	SS	316 stainless steel		

