

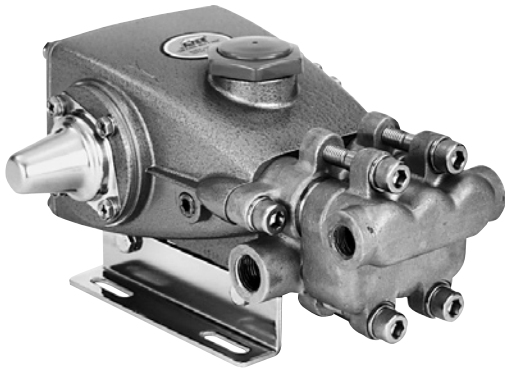
DATA SHEET

3 FRAME PLUNGER PUMPS



Stainless Steel Models: 231, 241, 271

Nickel Aluminum Bronze Models: 237, 247, 277



Shaft protector and mounting rails sold separately

FEATURES

- Triplex design delivers high efficiency and a smooth, low-pulsation flow.
- Nickel Aluminum Bronze for added compatibility in intermittent duty sea water.
- 316 Stainless Steel for added strength and corrosion resistance with aggressive liquids and sea water.
- Installation flexibility with compact direct-drive or belt-drive.
- Standard NBR seals with alternative options for temperature and chemical compatibility
 - FPM – .0110
 - EPDM – .0220
 - IPFE – .0770
 - High Temp, 190°F – .3000
 - High Temp, 200°F – .3400 (Intermittent Run-Dry)

COMMON SPECIFICATIONS

	U.S.	Metric
Bore	0.709"	18 mm
Inlet Pressure Range	Flooded to 60 psi	Flooded to 4.1 bar
Maximum Liquid Temperature	160° F	71° C
Above 130°F call Cat Pumps for inlet conditions and elastomer recommendations.		
Crankcase Capacity	15 oz.	.45 L
Inlet Ports (2)	1/2" NPT(F)	1/2" NPT(F)
Discharge Ports (2)	3/8" NPT(F)	3/8" NPT(F)
Shaft Diameter	0.650"	16.5 mm
Pulley Mounting	Either Side	Either Side
Weight	13.4 lbs.	6.1 kg
Dimensions	10.28 x 8.78 x 5.35"	261 x 223 x 136 mm

SPECIFICATIONS

	U.S. Measure	Metric Measure
231, 237		
Flow	2.3 gpm	8.7 lpm
Pressure Range	100 to 1500 psi	6.9 to 103 bar
Pump RPM*	1725 rpm	1725 rpm
Stroke	0.287"	7.3 mm
241, 247		
Flow	3.6 gpm	13.6 lpm
Pressure Range	100 to 1200 psi	6.9 to 82 bar
Pump RPM*	1725 rpm	1725 rpm
Stroke	0.433"	11 mm
271, 277		
Flow	3.5 gpm	13.2 lpm
Pressure Range	100 to 1500 psi	6.9 to 103 bar
Pump RPM*	1420 rpm	1420 rpm
Stroke	0.500"	12.7 mm

ALTERNATE SPECIFICATIONS

271, 277		
Flow	4.2 gpm	15.9 lpm
Pressure Range	100 to 1000 psi	6.9 to 69 bar
Pump RPM*	1725 rpm	1725 rpm

* Pump minimum is 100 RPM.

ELECTRIC HORSEPOWER REQUIREMENTS

MODELS	FLOW		PRESSURE			RPM
			psi 1000	psi 1200	psi 1500	
	U.S. gpm	lpm	bar 69	bar 82	bar 103	
231, 237	2.3	8.7	1.6	1.9	2.4	1725
271, 277	3.5	13.2	2.4	2.9	3.6	1420
241, 247	3.6	13.6	2.5	3.0	N/A	1725
271, 277 Alternative	4.2	15.9	2.9	N/A	N/A	1725

DETERMINING THE PUMP R.P.M. $\frac{\text{Rated gpm}}{\text{Rated rpm}} = \frac{\text{"Desired" gpm}}{\text{"Desired" rpm}}$

DETERMINING THE REQUIRED H.P. $\frac{\text{Hp (Electric Brake)}}{1460} = \frac{\text{gpm x psi}}{1460}$

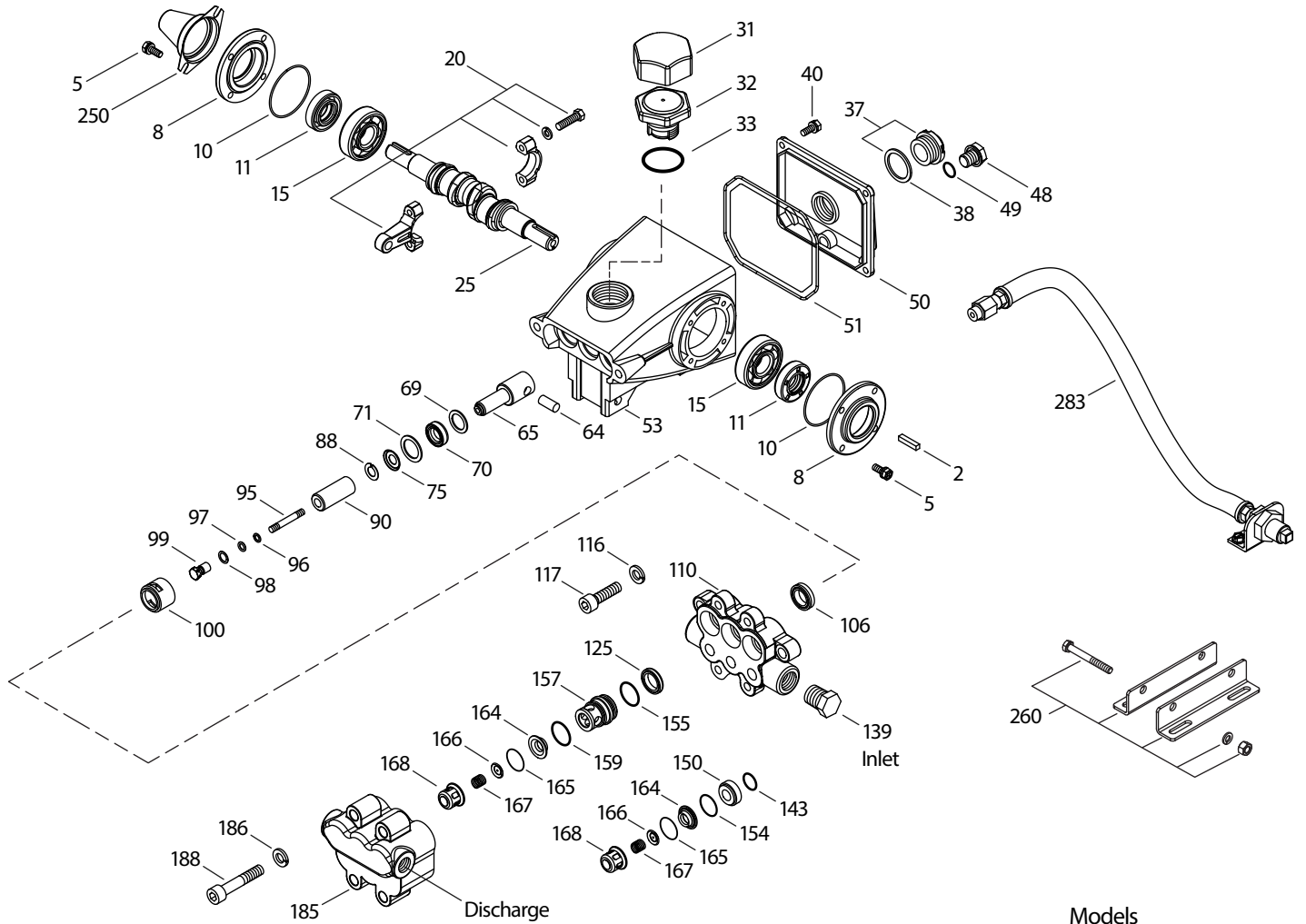
DETERMINING MOTOR PULLEY SIZE $\frac{\text{Motor Pulley O.D.}}{\text{Pump rpm}} = \frac{\text{Pump Pulley O.D.}}{\text{Motor rpm}}$

See complete Drive Packages [Includes: pulleys, belts, hubs, key] Tech Bulletin 003. Refer to pump **Service Manual** for repair procedure and additional technical information.

PARTS LIST

ITEM	PART NUMBER 231, 241, 271	MATL	PART NUMBER 237, 247, 277	MATL	DESCRIPTION	QTY
2	30047	STL	30047	STL	Key (M5x5x24)	1
5	92538	S	92538	S	Screw, Sems HHC (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	2
15	14487	STL R	14487	STL R	Bearing, Ball	2
20	48867	TNM	48867	TNM	Rod, Connecting Assy	3
25	46946	FCM	46946	FCM	Crankshaft, Dual End - 231, 237 (M7.3)	1
	46951	FCM	46951	FCM	Crankshaft, Dual End - 241, 247 (M11)	1
	108062	FCM	108062	FCM	Crankshaft, Dual End - 271, 277 (M12.7)	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
37	92241	—	92241	—	Gauge, Oil Bubble w/Gasket - 80D	1
38	44428	NBR	44428	NBR	Gasket, Flat, Oil Gauge - 80D	1
40	92542	S	92542	S	Screw, Sems HHC (M6x20)	6
48	25625	STCP	25625	STCP	Plug, Drain (1/4"x19BSP)	1
49	23170	NBR	23170	NBR	O-Ring, Drain Plug - 70D	1
50	48772	AL	48772	AL	Cover, Rear (See Tech Bulletin 104)	1
51	48773	NBR	48773	NBR	O-Ring, Rear Cover (See Tech Bulletin 104)	1
53	128354	AL	128354	AL	Crankcase (See Tech Bulletin 104)	1
64	16948	CM	16948	CM	Pin, Crosshead	3
65	45114	SSZZ	45114	SSZZ	Rod, Plunger	3
69	126259	STCP R	126259	STCP R	Washer, Oil (M24)	3
70	25301	NBR	25301	NBR	Seal, Oil - 80D	3
71	126189	STCP R	126189	STCP R	Washer, Oil Seal	3
75	43900	S	43900	S	Slinger, Barrier	3
88	45697	S	45697	S	Washer, Keyhole (M18x10)	3
90	43901	CC	43901	CC	Plunger (M18x43)	3
95	126550	STCP R	126550	STCP R	Stud, Plunger Retainer (M6x43)	3
96	43235	PTFE	43235	PTFE	Back-up-Ring, Plunger Retainer	3
97	17399	NBR	17399	NBR	O-Ring, Plunger Retainer - 80D	3
	14160	FPM	14160	FPM	O-Ring, Plunger Retainer - 80D	3
	◆ 46204	EPDM	◆ 46204	EPDM	O-Ring, Plunger Retainer - 70D	3
	701715	IPFE	701715	IPFE	O-Ring, Plunger Retainer	3
98	44041	SS	44041	SS	Gasket, Plunger Retainer (M12.5)	3
99	44031	SS	44031	SS	Retainer, Plunger (M6)	3
100	28597	PVDF	28597	PVDF	Retainer, Seal	3
106	44053	NBR	44053	NBR	Seal, LPS w/SS-Spg	3
	44926	FPM	44926	FPM	Seal, LPS w/SS-Spg	3
	◆ 46651	EPDM	◆ 46651	EPDM	Seal, LPS w/SS-Spg	3
	702390	SFTA	702390	SFTA	Seal, LPS w/SS-Spg	3
	76243	ST2	76243	ST2	Seal, LPS w/S-Spg	3
110	46425	SS	44052	NAB	Manifold, Inlet	1
116	15847	S	15847	S	Lockwasher (M10)	2
117	87950	S	87950	S	Screw, HSH (M10x35)	2
125	44652	SNG	44652	SNG	Seal, HPS w/SS	3
	44925	FPM	44925	FPM	Seal, HPS w/SS	3
	46652	HT	46652	HT	Seal, HPS w/SS, 2-Pc w/S - support	3
	701382	SFTA	701382	SFTA	Seal, HPS w/SS	3
	76052	ST4	76052	ST4	Seal, HPS w/S	3
139	45156	SS	44563	NAB	Plug, Inlet [1/2" NPT(M)]	1
143	17547	NBR	17547	NBR	O-Ring, Inlet Valve Adapter, Rear - 85D	3
	11685	FPM	11685	FPM	O-Ring, Inlet Valve Adapter, Rear - 85D	3
	◆ 46648	EPDM	◆ 46648	EPDM	O-Ring, Inlet Valve Adapter, Rear - 70D	3
	703308	IPFE	703308	IPFE	O-Ring, Inlet Valve Adapter, Rear - 85D	3
150	44060	SS	44060	SS	Adapter, Inlet Valve	3
154	43893	NBR	43893	NBR	O-Ring, Inlet Valve Adapter, Front - 80D	3
	44927	FPM	44927	FPM	O-Ring, Inlet Valve Adapter, Front	3
	◆ 46649	EPDM	◆ 46649	EPDM	O-Ring, Inlet Valve Adapter, Front - 80D	3
	703307	IPFE	703307	IPFE	O-Ring, Inlet Valve Adapter, Front - 80D	3
155	26089	NBR	26089	NBR	O-Ring, Discharge Valve Adapter, Rear - 80D	3
	11377	FPM	11377	FPM	O-Ring, Discharge Valve Adapter, Rear - 80D	3
	◆ 46647	EPDM	◆ 46647	EPDM	O-Ring, Discharge Valve Adapter, Rear - 80D	3
	703244	IPFE	703244	IPFE	O-Ring, Discharge Valve Adapter, Rear - 75D	3
157	44059	SS	44059	SS	Adapter, Discharge Valve	3
159	26089	NBR	26089	NBR	O-Ring, Discharge Valve Adapter, Front - 80D	3
	11377	FPM	11377	FPM	O-Ring, Discharge Valve Adapter, Front - 80D	3
	◆ 46647	EPDM	◆ 46647	EPDM	O-Ring, Discharge Valve Adapter, Front - 80D	3
	703244	IPFE	703244	IPFE	O-Ring, Discharge Valve Adapter, Front - 75D	3
164	44058	SS	44058	SS	Seat	6
165	44001	NBR	44001	NBR	O-Ring, Seat - 80D	6
	44928	FPM	44928	FPM	O-Ring, Seat - 80D	6
	◆ 46650	EPDM	◆ 46650	EPDM	O-Ring, Seat - 80D	6
	703309	IPFE	703309	IPFE	O-Ring, Seat - 80D	6
166	44057	SS	44057	SS	Valve	6
167	44056	SS	44056	SS	Spring	6

EXPLODED VIEW



Models
 Stainless Steel - 231, 241, 271
 Nickel Aluminum Bronze - 237, 247, 277
 December 2016

ITEM	PART NUMBER	MATL	PART NUMBER	MATL	DESCRIPTION	QTY
	231, 241, 271		237, 247, 277			
168	44055	SS	44055	SS	Retainer, Spring	6
185	46427	SS	44054	NAB	Manifold, Discharge	1
186	15847	S	15847	S	Lockwasher (M10)	4
188	87952	S	87952	S	Screw, HSH (M10x55)	4
250	25130	STCP	25130	STCP	Protector, Shaft	1
260	30612	STZPR	30612	STZPR	Rail, Angle Assy	1
265	30651	—	30651	—	Mount, Assy (30612,30246,25130)	1
270	30246	STL	30246	STL	Pulley & Key Assy (Incls: 30032,30047) (See Tech Bulletin 003)	1
283	34334	—	34334	—	Kit, Oil Drain (3/8"x24")	1
290	6124	—	6124	—	Liquid Gasket (3 oz.)	1
299	814823	SS	815262	NAB	Head, Complete w/NBS Seals and O-Rings	1
300	30983	NBR	30983	NBR	Kit, Seal (Incls: 97,106,125,143,154,155, 159,165) Standard	1
	33609	FPM	33609	FPM	Kit, Seal (Incls: 97,106,125,143,154,155,159,165) .0110	1
	◆ 33914	EPDM*	◆ 33914	EPDM*	Kit, Seal (Incls: 97,106,125,143,154,155,159,165) .0220	1
	33915	HT	33915	HT	Kit, Seal, Hi Temp (Incls: 97,106,125,143,154,155,159,165) .3000	1
	30735	STHT	30735	STHT	Kit, Seal (Incls: 97,106,125,143,154,155,159,165) .3400	1
	76660	IPFE	76660	IPFE	Kit, Seal (Incls: 97,106,125,143,154,155,159,165) .0770	1
310	30982	NBR	30982	NBR	Kit, Valve (Incls: 143,154,155,164,165,166,167,168) Standard, .3000, .3400	1
	31216	FPM	31216	FPM	Kit, Valve (Incls: 143,154,155,164,165,166,167,168) .0110	1
	◆ 31217	EPDM	◆ 31217	EPDM	Kit, Valve (Incls: 143,154,155,164,165,166,167,168) .0220	1
	76690	IPFE	76690	IPFE	Kit, Valve (Incls: 143,154,155,164,165,166,167,168) .0770	1
—	6107	—	6107	—	Oil, Bottle (21 oz.) ISO 68 Hydraulic (Fill to specified crankcase capacity prior to start-up)	1

Bold print part numbers are unique to a particular pump model. *Italics are optional items.* ◆ Silicone oil/grease required.

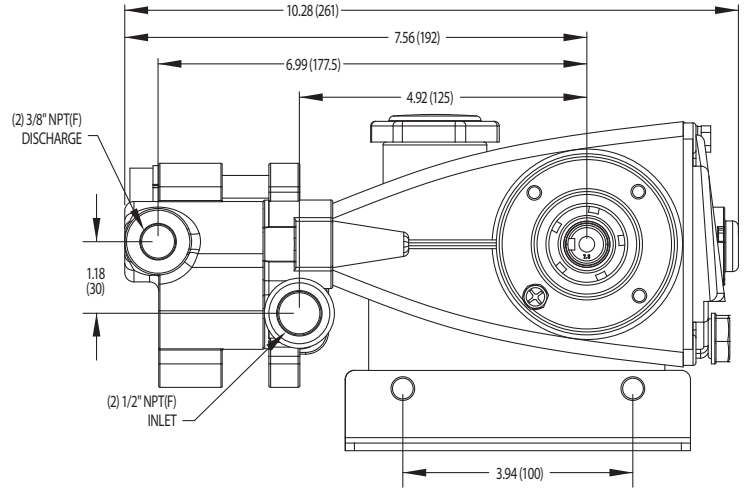
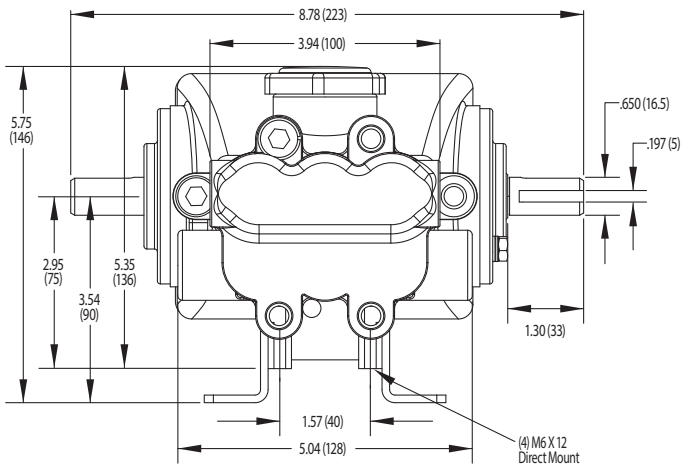
R components comply with RoHS Directive. *Review individual parts in each kit for material code identification.

View Tech Bulletins 002, 003, 024, 033, 034, 036, 043, 049, 052, 053, 067, 073, 074, 083 and 104 for additional information.

MATERIAL CODES (Not Part of Part Number): ABS=ABS Plastic AL=Aluminum CC=Ceramic CM=Chrome-Moly EPDM=Ethylene Propylene Diene Monomer FCM=Forged Chrome-moly FPM=Fluorocarbon HT=Hi-Temp Special IPFE=I-Perfluoroelastomer PTFE (EPDM Alternative)/NAB=Nickel Aluminum Bronze NBR=Medium Nitrile (Buna-N) PTFE=Pure Polytetrafluoroethylene

PVDF=Polyvinylidene Fluoride S=304SS SS=316SS SFTA=Special Blend PTFE SNG=Special Blend (Buna) SSZZ=316SS/Zamak ST2=Special PTFE2 ST4=Special PTFE4

STCP=Steel/Chrome Plated STL=Steel STZP=Steel/Zinc Plated TNM= Special High-Strength



Models 231, 241, 271, 237, 247, 277

⚠ 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 or can be requested directly from Cat Pumps.

WARRANTY

View the Limited Warranty on-line at www.catpumps.com/warranty.



CAT PUMPS

1681 - 94TH LANE N.E. MINNEAPOLIS, MN 55449-4324
 PHONE (763) 780-5440 — FAX (763) 780-2958
 e-mail: techsupport@catpumps.com
www.catpumps.com