

# DATA SHEET

## 15 FRAME PLUNGER PUMPS



**Brass  
Model**

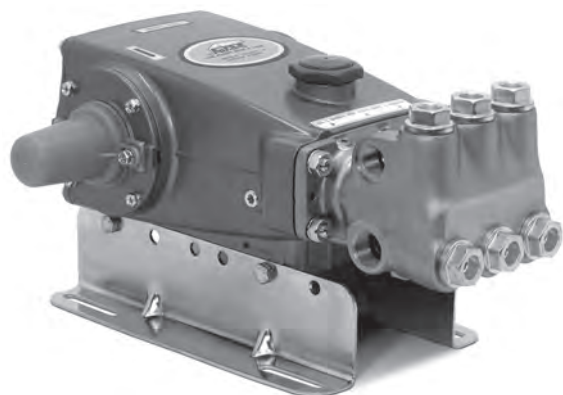
**660**

**Stainless Steel  
Model**

**661D**

**Stainless Steel  
Flushed Model**

**661C**



Model 660 Shown  
(Mounting rails sold separately)

SPECIFICATIONS	U.S. Measure	Metric Measure
Flow	10 gpm	38 lpm
Pressure Range	100 to 3000 psi	6.9 to 207 bar
Pump RPM*	1429 rpm	1429 rpm
Inlet Pressure Range	Flooded to 60 psi	Flooded to 4.1 bar
Max. Liquid Temp. (NBR)	160° F	71° C
<b>Alternate seals available for high temperature up to 200° F</b>		
Bore	0.787"	20 mm
Stroke	1.181"	30 mm
Crankcase Capacity	42 oz.	1.26 l
Inlet Ports (2)	3/4" NPT(F)	3/4" NPT(F)
Flushing Ports (2) (661C)	1/8" NPT(F)	1/8" NPT(F)
Discharge Ports (2)	1/2" NPT(F)	1/2" NPT(F)
Pulley Mounting	Either Side	Either Side
Shaft Diameter	1.181"	30 mm
Weight	44 lbs.	19.9 kg
Dimensions	16.28 x 12.99 x 6.44"	413.5 x 330 x 163.5 mm

\*Pump minimum is 100 RPM.

### FEATURES

- Triplex design delivers high efficiency and low pulsation.
- Durable V-Packings are lubricated and cooled by the liquid being pumped.
- 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.
- Special ported manifold (Model 661C) permits an external flush liquid providing cooling for hi-temp liquids and lubrication for low lubricity liquids.
- Standard NBR seals with alternative options for temperature and chemical compatibility.

### 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	180° F	(82° C)

See Reference Document 99REF017 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)	=	$\frac{\text{gpm} \times \text{psi}}{1460}$
	<b>DETERMINING MOTOR PULLEY SIZE</b>	$\frac{\text{Motor Pulley O.D.}}{\text{Pump rpm}}$	= $\frac{\text{Pump Pulley O.D.}}{\text{Motor rpm}}$

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

# PARTS LIST

ITEM	PART NUMBER	MATL	PART NUMBER	MATL	DESCRIPTION	QTY
	<b>660</b>		<b>661C/661D</b>			
5	<b>126540</b>	STCP R	<b>49651</b>	S	Screw, HHC Sems (M8x20) (See Tech Bulletin 128)	8
8	134805	ALE	134805	ALE	Cover, Bearing (See Tech Bulletin 118, 128)	2
9	855043	FBR	855043	FBR	Split Shim, Bearing Cover, 2 Pc. (See Tech Bulletin 128)	2
10	11340	NBR	11340	NBR	O-Ring, Bearing Case - 70D	2
11	43495	NBR	43495	NBR	Seal, Oil, Crankshaft - 70D	2
12	855044	S	855044	S	Split Shim, Bearing Cover, 2 Pc. (See Tech Bulletin 128)	2
15	39060	STL	39060	STL	Bearing, Roller	2
20	48600	TNM	48600	TNM	Rod Assy, Connecting [11/00]	3
25	43494	FCM	43494	FCM	Crankshaft - Dual End (M30)	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, Filler Cap - 70D	1
37	92241	PC	92241	PC	Gauge, Oil, Bubble w/Gasket - 80D	1
38	44428	NBR	44428	NBR	Gasket, Flat, Oil Gauge - 80D	1
40	<b>126541</b>	STCP R	<b>92542</b>	S	Screw, HHC Sems (M6x20)	4
48	25625	STCP	25625	STCP	Plug, Drain (1/4"x19BSP)	1
49	23170	NBR	23170	NBR	O-Ring, Drain Plug - 70D	1
50	133576	ALE	133576	ALE	Cover, Rear (See Tech Bulletin 118, 128)	1
51	44834	NBR	44834	NBR	O-Ring, Rear Cover - 70D	1
53	<b>134836</b>	ALE	<b>134848</b>	ALE	Crankcase (Incls: 54, 55) (See Tech Bulletin 118, 128)	1
54	27488	S	27488	S	Pin, Guide	2
55	<b>126545</b>	STCP R	<b>44005</b>	S	Stud (M10x45) (See Tech Bulletin 128)	4
56	44664	POP	44664	POP	Pan, Oil	1
64	43507	CM	43507	CM	Pin, Crosshead	3
65	<b>48228</b>	SHS	—	—	Rod, Plunger, Long	3
	—	—	<b>48892</b>	SSHB	Rod, Plunger, Short [3/02]	3
69	126592	STCP R	126592	STCP R	Washer, Seal	3
70	43500	NBR	43500	NBR	Seal, Oil, Crankcase - 80D	3
75	43506	S	43506	S	Slinger, Barrier	3
88	45675	S	45675	S	Washer, Keyhole	3
89	<b>43505</b>	BB	<b>45880</b>	SS	Spacer, Plunger	3
90	43300	CC	43300	CC	Plunger (M20x77)	3
95	—	—	<b>89651</b>	SS	Stud, Plunger Retainer (M6x70)	3
96	43235	PTFE	43235	PTFE	Back-up-Ring, Plunger Retainer	3
97	17399	NBR	17399	NBR	O-Ring, Plunger Retainer - 80D	3
98	<b>45891</b>	CU	<b>44041</b>	SS	Gasket, Plunger Retainer	3
99	—	—	<b>44031</b>	SS	Retainer, Plunger (M6)	3
	<b>104360</b>	S	—	—	Retainer w/stud, Plunger (M5)	3
100	855001	POP	855001	POP	Retainer, Seal, 2-Pc. (See Tech Bulletin #098)	3
101	43508	—	43508	—	Wick, Long Tab	3
106	† 44071	NBR	† 44071	NBR	Seal, LPS w/SS-Spg	3
120	<b>49291</b>	BB	<b>49284</b>	SSNP	Case, Seal [07/05]	3
121	14762	NBR	14762	NBR	O-Ring, Seal Case - 70D	3
126	<b>43515</b>	BB	<b>49152</b>	PTFE	Adapter, Female [01/04]	3
127	† 44607	STG	† 44607	STG	V-Packing	6
128	<b>43517</b>	BB	<b>44165</b>	SS	Adapter, Male	3
139	<b>20326</b>	BBCP	<b>44382</b>	SS	Plug, Inlet [3/4" NPT(M)]	1
162	43248	PTFE	43248	PTFE	Back-up-Ring, Seat	6
163	43249	NBR	43249	NBR	O-Ring, Seat - 80D	6
164	<b>43722</b>	S	<b>44037</b>	SS	Seat	6
166	<b>43721</b>	S	<b>48793</b>	SS	Valve	6
167	<b>43751</b>	S	<b>44039</b>	SS	Spring	6
168	44564	PVDF	44564	PVDF	Retainer, Spring	6
172	17617	NBR	17617	NBR	O-Ring, Valve Plug - 90D	6
174	<b>43850</b>	BB	<b>49293</b>	SS	Plug, Valve	6
185	<b>45975</b>	NAB	<b>48780</b>	SSD	Head, Manifold	1
	—	—	<b>49338</b>	SS	Head, Manifold Flushed (1/8" Flushing Port) 661C Only	1
192	<b>126231</b>	STCP R	<b>15847</b>	S	Lockwasher (M10)	4
194	<b>126522</b>	STCP R	<b>81258</b>	S	Nut, Hex (M10)	4
250	<b>855046</b>	NY	—	NY	Protector, Shaft w/Two Screws (See Tech Bulletin 128)	1
	—	—	<b>855047</b>	NY	Protector, Shaft w/Two SS Screws (See Tech Bulletin 128)	1

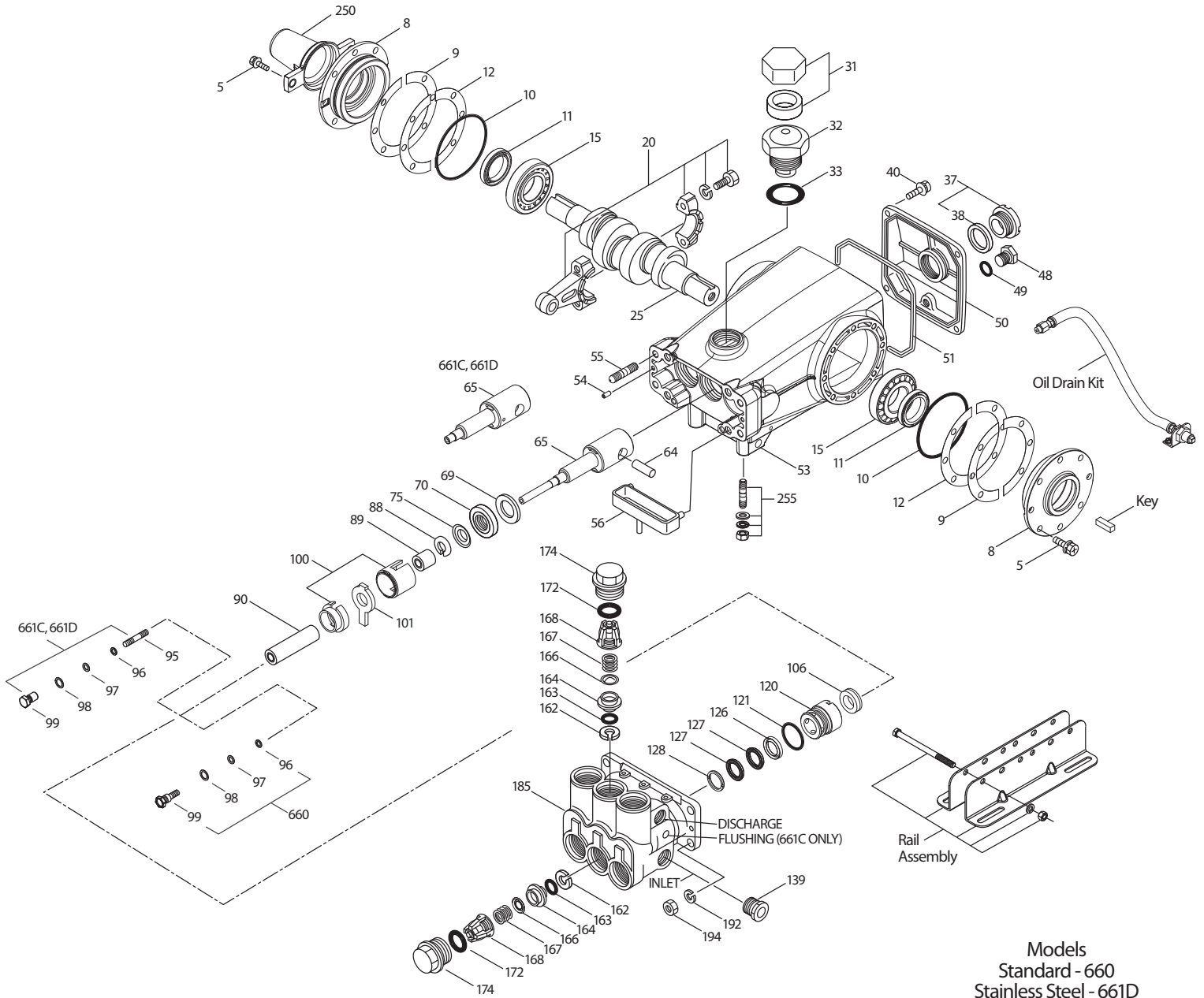
**Bold print part numbers are unique to a particular pump model. Italics are optional items.** ♦ Silicone oil/grease required. † Production parts different from service parts.

[ ] Date of latest production change. R Components comply with RoHS Directive. \*Review material codes for individual items (STG generally may be used as alternate).

See Tech Bulletins 024, 027, 035, 036, 043, 045, 048, 049, 052, 053, 062, 074, 083, 095, 098, 118 and 128 for additional information.

MATERIAL CODES (Not Part of Part Number): ABS=ABS Plastic ALE=Aluminum Epoxy BB=Brass BBCP=Brass/Chrome Plated CC=Ceramic CM=Chrome-Moly CU=Copper EPDM=Ethylene Propylene Diene Monomer F=Cast Iron FBR=Fiber FCM=Forged Chrome-Moly FPM=Fluorocarbon IPFE=1-Perfluoroelastomer NAB=Nickel Aluminum Bronze NBR=Medium Nitrile (Buna-N) NY=Nylon PC=Poly Carbonate PE=Polyethylene POP=Polypropylene PTFE=Pure Polytetrafluoroethylene PVDF=Polyvinylidene Fluoride S=304SS SFTA=Special Blend PTFE Tan SFTB=Special Blend PTFE Black SHS=304SS/High Strength SS=316SS SSD=Duplex Stainless SSHB=316SS/High Strength Brass SSNP=316SS/Nickel Plated STCP=Steel/Chrome Plated STG=Special Blend PTFE White STL=Steel ST2=Special PTFE 2 STZP=Steel/Zinc Plated TNM=Special High Strength

# EXPLODED VIEW



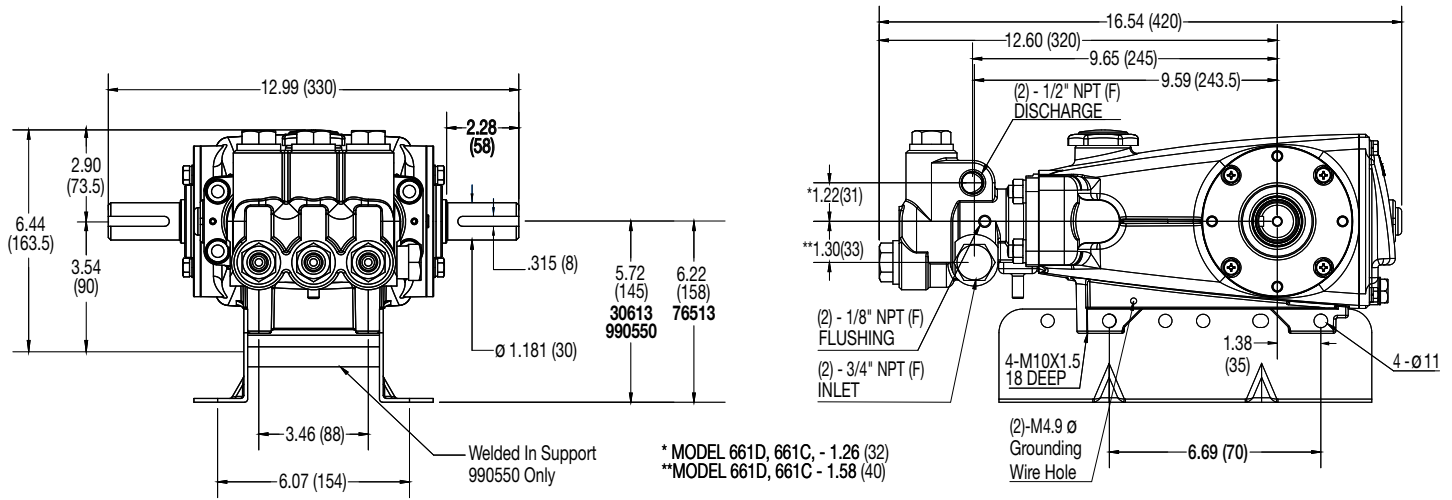
Models  
 Standard - 660  
 Stainless Steel - 661D  
 Stainless Steel Flushed - 661C  
 July 2019

## OPTIONAL PARTS AND ACCESSORIES

PART	DESCRIPTION	QTY
30661	Kit, Complete Mounting	1
30067	Key, (M8 x 7.5 x 25)	1
30613	Assy, Rail (See Dimensional Drawing)	1
990550	Assy, Rail for Diesel/Gas (See Dimensional Drawing)	1
76513	Assy, Rail (See Dimensional Drawing)	1
30264	Kit, Direct Mount	1
30206	Pulley, 10" (A/B)	1
30059	Hub, "H" (M30)	1
34334	Kit, Oil Drain (3/8" x 24")	1

## SERVICE PARTS

PART	DESCRIPTION	QTY
<b>30798</b>	Seal Kit - Standard NBR	1
<b>30820</b>	Valve Kit - Standard NBR	2
6107	Oil, Bottle (21 oz. bottle)	2
6119	Lubricant, Anti-Seize (2 oz)	1
<b>814561</b>	Head, Complete - W/NBR Seals and O-Rings (Model 660)	1
<b>816780</b>	Head, Complete - W/NBR Seals and O-Rings (Model 661D)	1
<b>818420</b>	Head, Complete - W/NBR Seals and O-Rings (Model 661C)	1
30696	Plier, Reverse	1
33006	Socket, Seal Case	1



Models 660, 661C, 661D

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

PUMP MODELS	NBR (STD)	FPM (.0110)	EPDM (.0220)◆	IPFE (.0770)	STHT (.3400)
660,661C, 661D	<b>30798 *</b>	<b>31033</b>	<b>33919 *</b>	<b>76195 *</b>	<b>76056</b>

ITEM (Included in Seal Kits)						DESCRIPTION	QTY
97	17399	14160	46204	701715	17399	O-Ring, Plunger Retainer	3
100	855001	855001	855001	855001	855001	Retainer, Seal	3
106	44071 <sup>1</sup>	44381 <sup>2</sup>	701974 <sup>3</sup>	703179 <sup>1</sup>	76071 <sup>1</sup>	Seal, LPS (see notes 1, 2, 3)	3
121	14762	11737	46205	701851	14762	O-Ring, Seal Case	3
127	44607	44386	44607	44607	44607	V-Packing	6

◆ Silicone Oil/Grease required

\* Review material codes for individual items (STG generally by be used as alternative)

<sup>1</sup> W/SS-SPG, <sup>2</sup> W/S-SPG, <sup>3</sup> W/NIH-SPG

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

PUMP MODELS	NBR (STD)	FPM (.0110)	EPDM (.0220)◆	IPFE (.0770)
660	<b>30820</b>	<b>31263</b>	<b>31259</b>	
661C, 661D	<b>34387</b>	<b>30987</b>	<b>31258</b>	<b>76385</b>

ITEM (Included in Seal Kits)					DESCRIPTION	QTY
162	43248	43248	43248	43248	Backup-Ring, Valve Seat	6
163	43249	44383	46206	701852	O-Ring, Valve Seat	6
164	43722	43722	43722		Seat (Model 660)	6
	44037	44037	44037	44037	Seat (Models 661C, 661D)	6
166	43721	43721	43721		Valve (Model 660)	6
	48793	48793	48793	48793	Valve (Models 661C, 661D)	6
167	43751	43751	43751		Spring (Model 660)	6
	44039	44039	44039	44039	Spring (Models 661C, 661D)	6
168	44564	44564	44564	44564	Retainer, Spring	6
172	17617	11691	46207	701853	O-Ring, Valve Plug	6

◆ 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).