

# DATA SHEET

## OPEN IMPELLER CENTRIFUGAL PUMPS



*The Pumps with Nine Lives*

**Stainless Steel  
Models:**

**6K151CT2, 6K151CT4, 6K201CT2, 6K201CT4,  
6K301CT4, 6K401CT4**



Model 6K201CT2 Shown

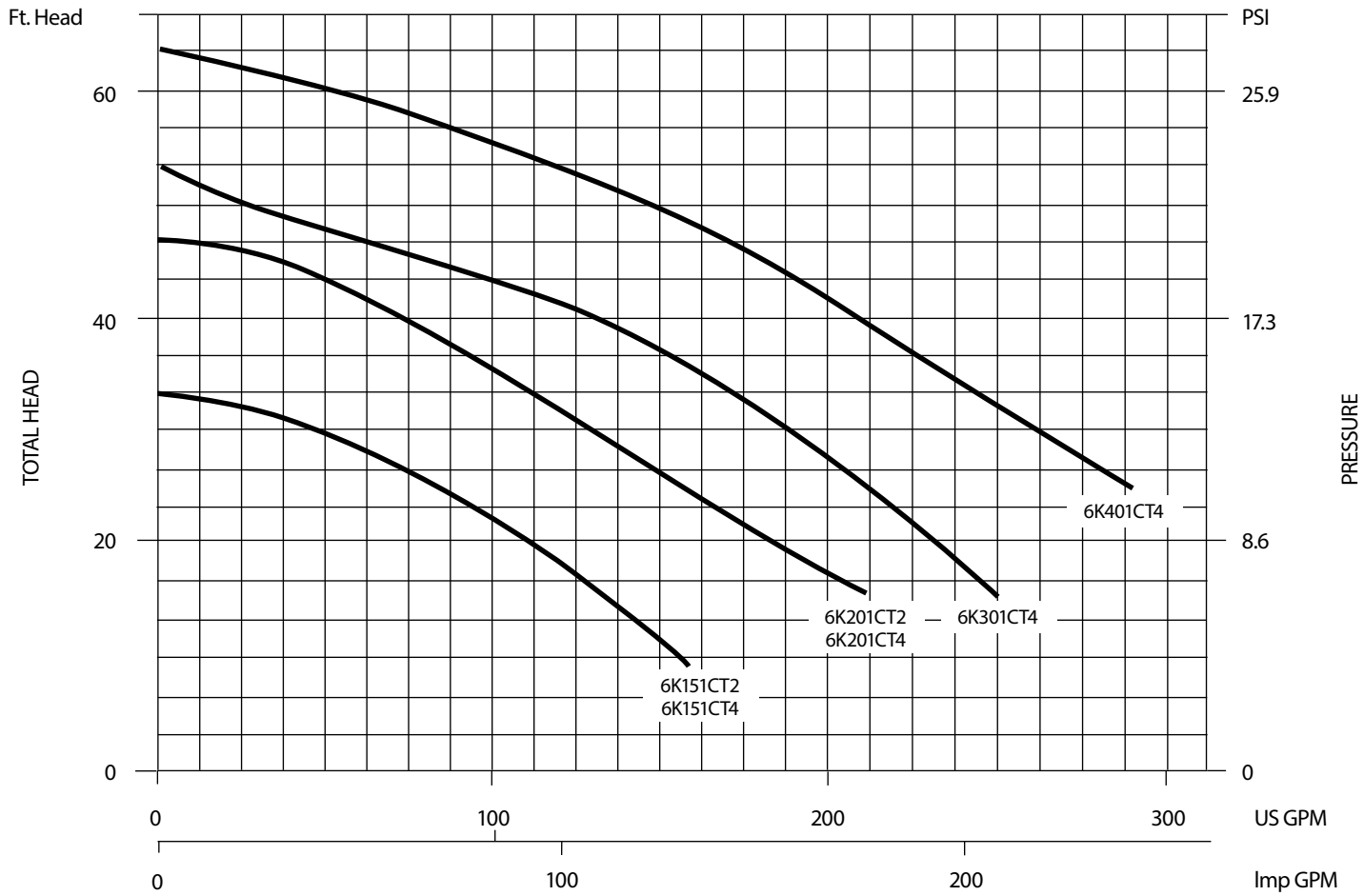
### FEATURES

- 304 SS Liquid-end construction offers corrosion resistance and increases operating life over typical cast iron models.
- Open impeller for suspended solids in liquid and dirty water; solids handling to 3/4" (spherical).
- Back pullout design permits easy disassembly and reassembly of seals and impeller.
- High quality mechanical shaft seal and o-rings for chemical duty applications.
- Close coupled, TEFC motorized packages for compact and easy installation.
- Under casing foot support to reduce misalignment from pipe loads.
- Top centerline discharge port to ensure self-venting.

### SPECIFICATIONS

	U.S. Measure	
Flow	up to 250 gpm	
Pressure Range	15 to 28 psi	
	35 to 65 Ft. Head	
Maximum Working Pressure	116 psi	
Minimum Inlet Pressure to Prime	Flooded	
RPM	3450 rpm	
Inlet Port	6K151CT2, CT4, 6K201CT2, CT4 2" NPT(F) 6K301CT4, 6K401CT4 2 1/2" NPT(F) (All equipped with external hose barb)	
Discharge Port (All Models)	2" NPT(F) Equipped with external hose barb	
Horsepower Range	1.5 to 4 hp	
Motor Options	IP55 Frame TEFC Class F	
	1.5 hp	230V-1Ph, 230/460V-3Ph
	2.0 hp	230V-1Ph, 230/460V-3Ph
	3.0 hp	230/460V-3Ph
	4.0 hp	230/460V-3Ph
	Cycle	60 Hz
Maximum Temperature	194° F	
Weight	See Chart	
Dimensions	See Chart	

## Selection Chart – 3450 rpm



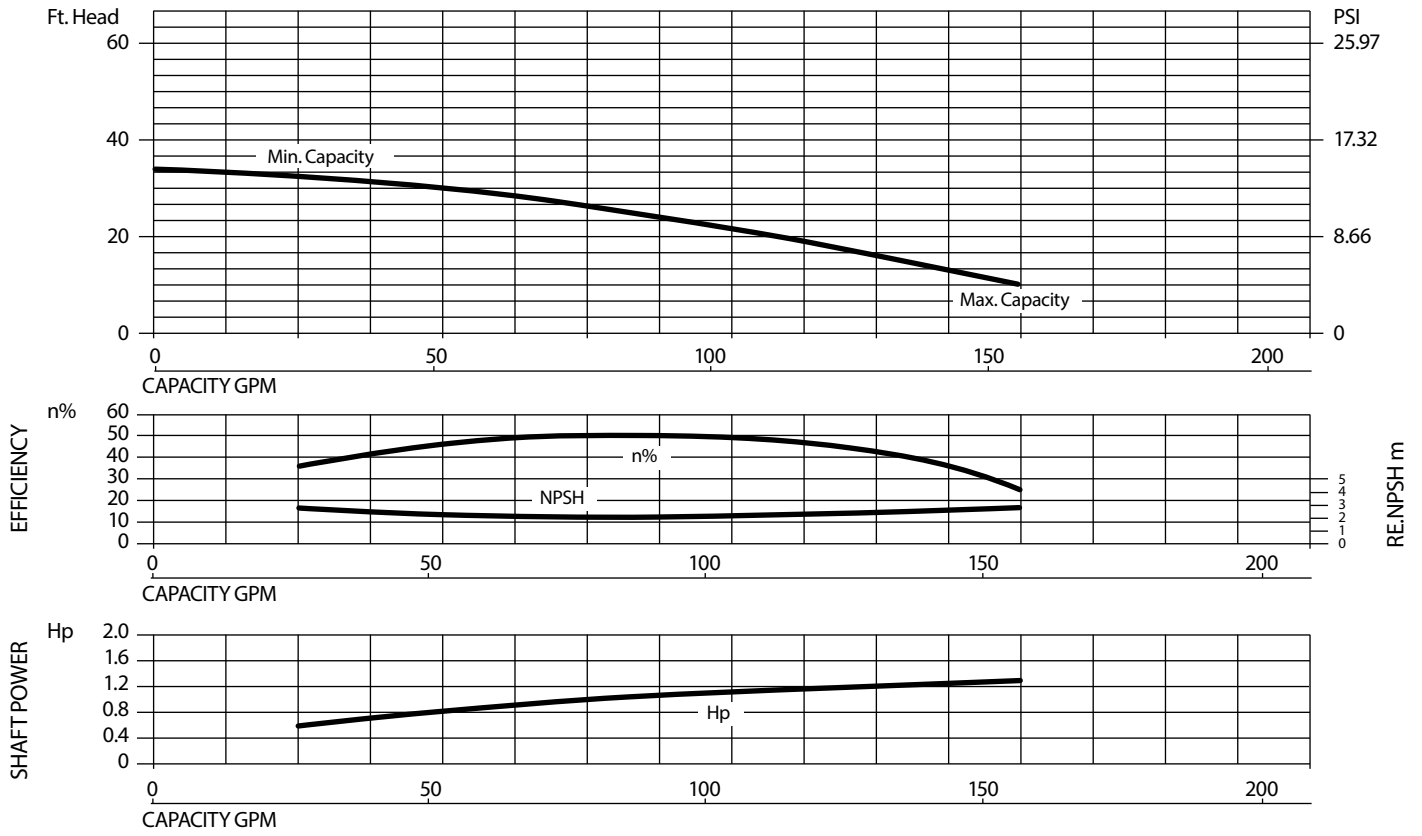
## 6K Pump Series Selection Chart

Pump Series					HP	RPM
6	K					
		1	5		1.5	3450
		2	0		2.0	3450
		3	0		3.0	3450
		4	0		4.0	3450
				1	1 = NCC Standard Seal Assy (Carbon/Ceramic/Buna)	
				C	C = Italian motor	
				T	T = TEFC	
				2	230V, Single Phase, 60Hz	
				4	230/460V, Three Phase, 60Hz	

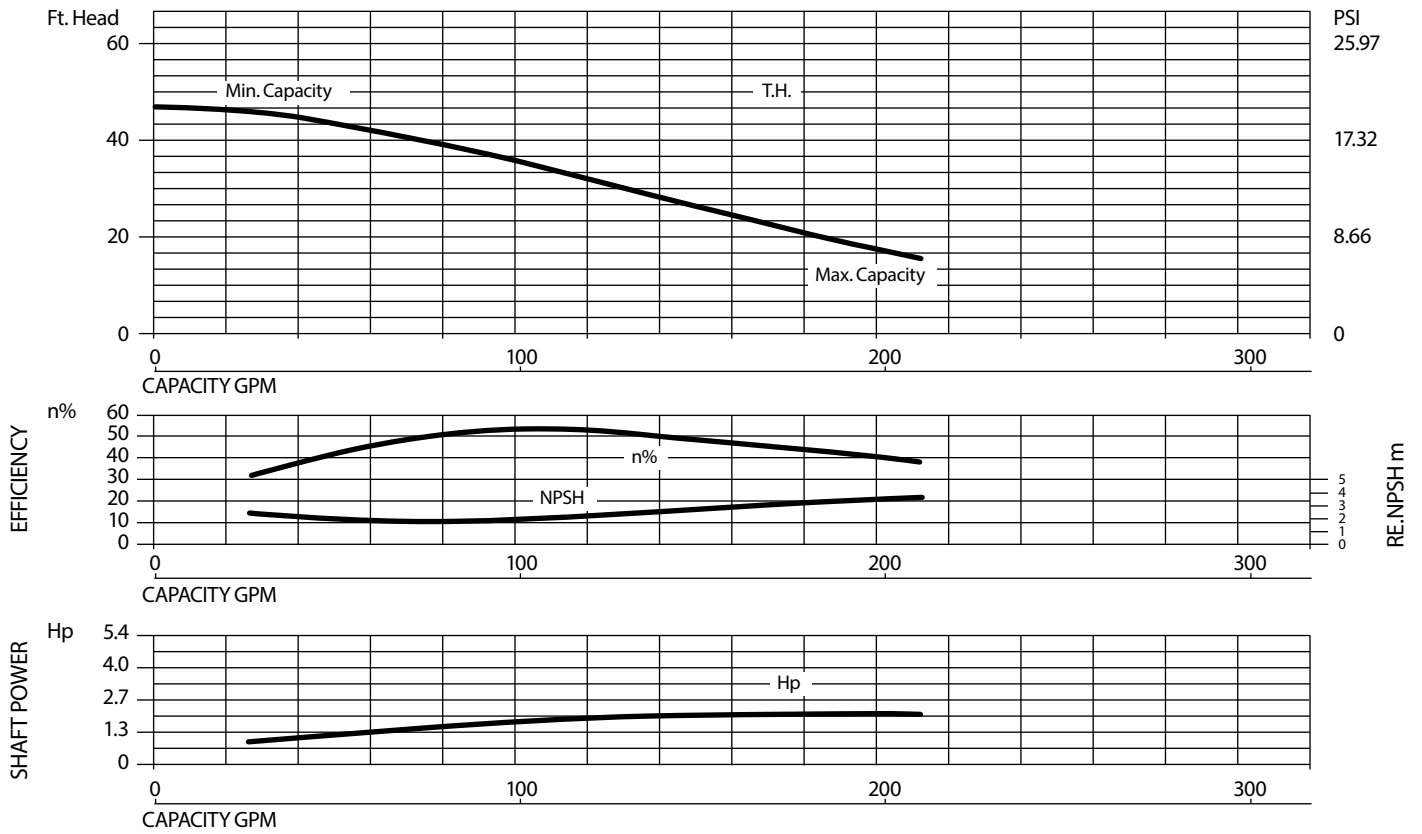
### Example:

6K201CT4 = 2 hp, 3 phase, 3450 rpm, TEFC, 230/460V motor and pump

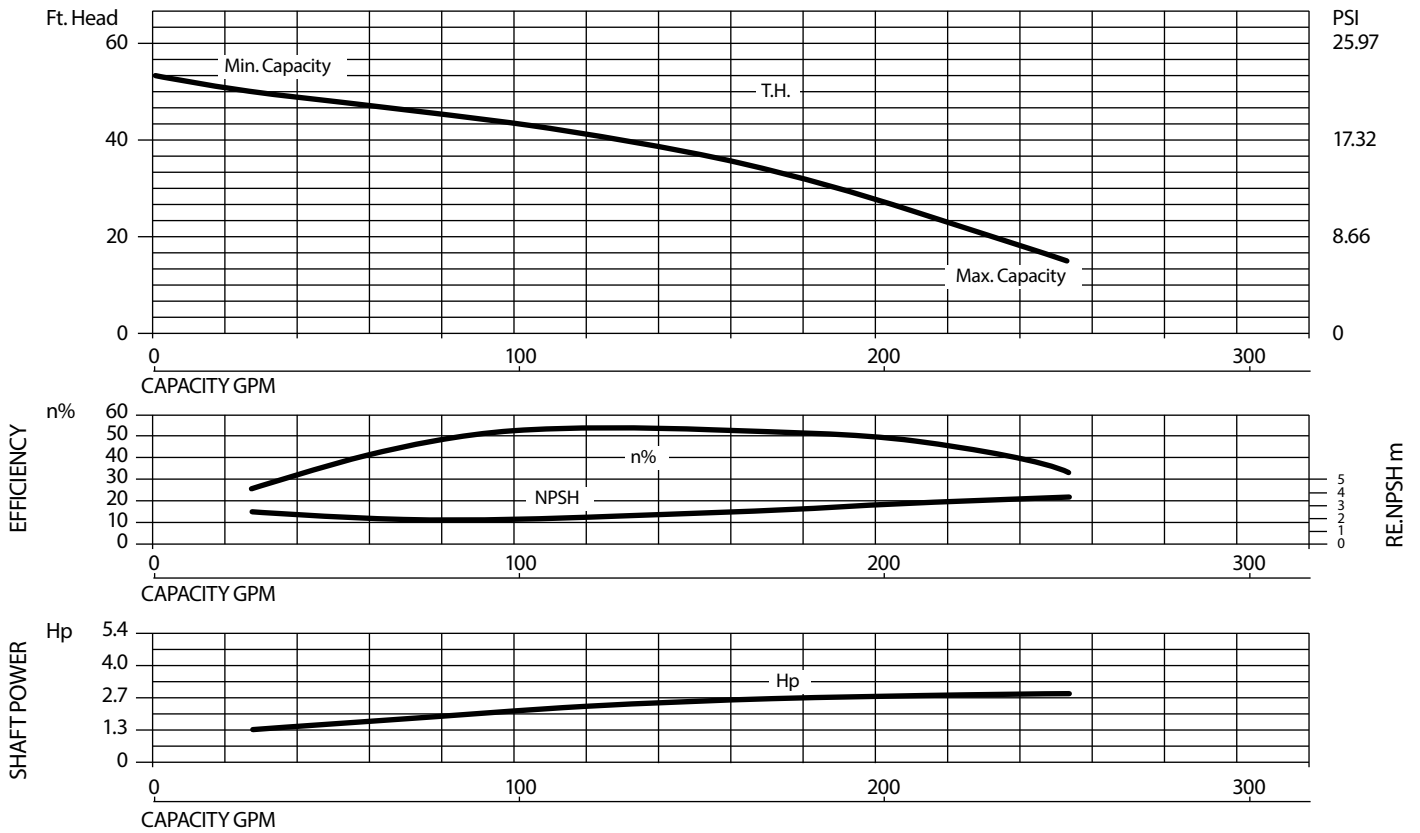
### 6K151CT2, 6K151CT4 – 1 1/2 HP Performance Curve 3450 rpm



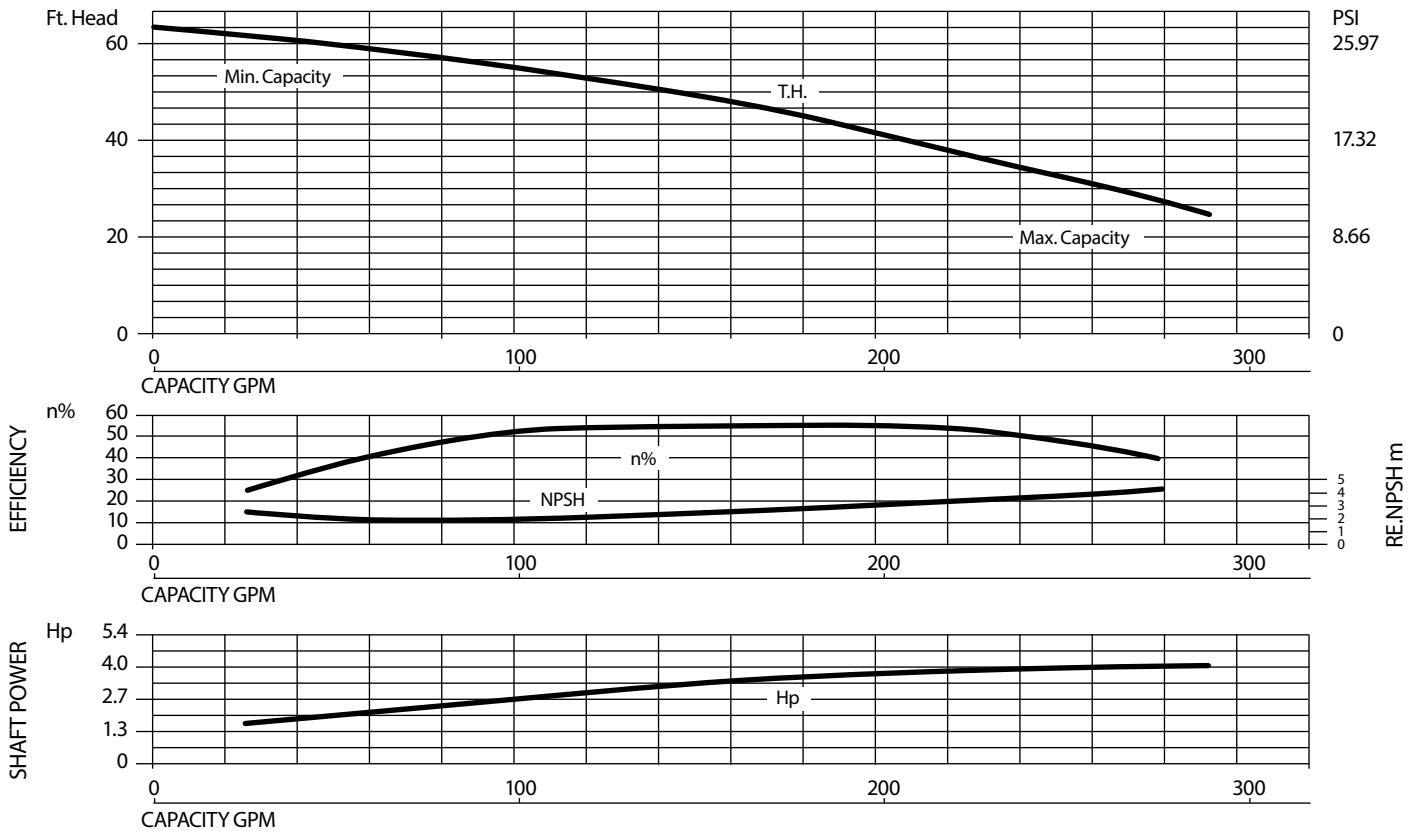
### 6K201CT2, 6K201CT4 – 2 HP Performance Curve 3450 rpm



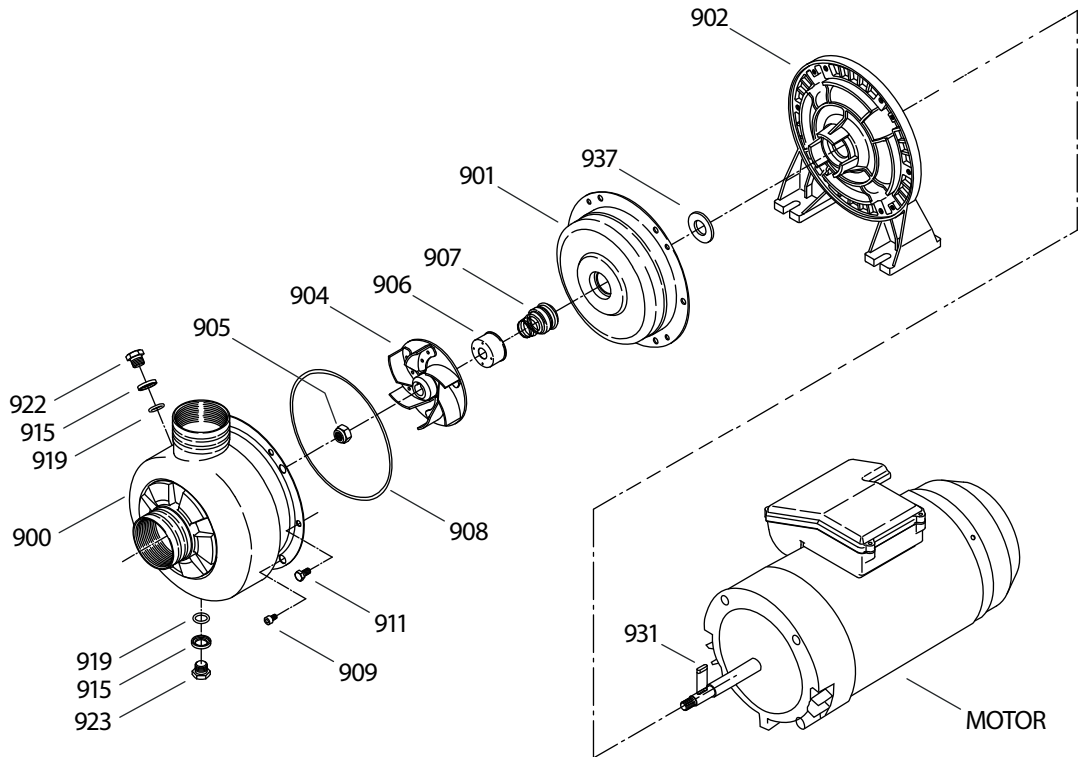
### 6K301CT4 – 3 HP Performance Curve 3450 rpm



### 6K401CT4 – 4 HP Performance Curve 3450 rpm



## EXPLODED VIEW



## PARTS LIST

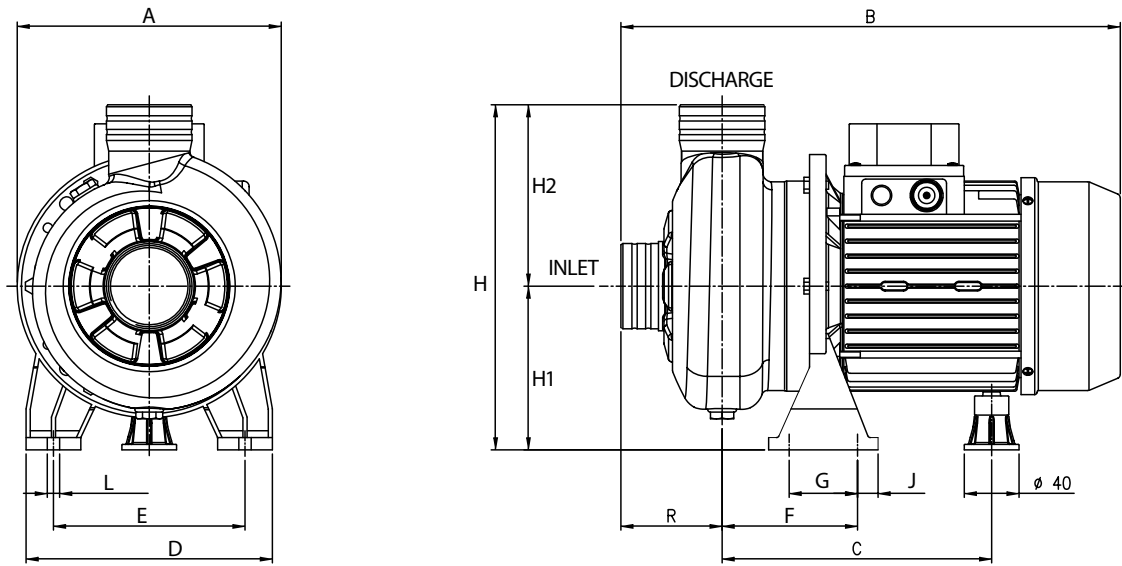
PART ITEM NUMBER	MATL	DESCRIPTION	QTY
900	S	Casing (6K151CT2, 6K151CT4, 6K201CT2, 6K201CT4)	1
	S	Casing (6K301CT4, 6K401CT4)	1
901	S	Cover, Casing	1
902	AL	Bracket, Motor (6K151CT2, 6K151CT4, 6K201CT2, 6K201CT4)	1
	AL	Bracket, Motor (6K301CT4, 6K401CT4)	1
904	S	Impeller (6K151CT2, 6K151CT4)	1
	S	Impeller (6K201CT2, 6K201CT4)	1
	S	Impeller (6K301CT4)	1
	S	Impeller (6K401CT4)	1
905	See Seal Kit	Nut, Impeller (M10 X 1.25)	1
906	See Seal Kit	Protector, Mechanical Seal (6K151CT2, 6K151CT4, 6K201CT2, 6K201CT4)	1
	See Seal Kit	Protector, Mechanical Seal (6K301CT4, 6K401CT4)	1
907	See Seal Kit	Seal, Shaft Assy	1
908	See Seal Kit	O-Ring, Case	1
909	S	Screw, Hex Head (M6 x 1.0 x 12.5mm)	6
911	S	Screw, Socket Head (M5 x 0.8 x 8mm)	4
915	S	Washer, Plug	2
919	See Seal Kit	O-Ring, Plug	2
922	S	Plug, Priming	1
923	S	Plug, Drain	1
931	See Seal Kit	Key	1
937	See Seal Kit	Ring, Casing	1
940	899304	Kit, Seal (Includes: 905 - 908, 919, 931, 937)	1

*Italics are optional items.*

*MATERIAL CODES (Not Part of Part Number)*

AL = Aluminum NBR = Medium Nitrile (Buna-N) NCC = Carbon/Ceramic/Buna S = 304SS

## DIMENSIONS



Model	HP	SIZE		PUMP & MOTOR													WEIGHT LBS	
		Suction	Discharge	A	B	C	D	E	F	G	H	H1	H2	J	L	R	1 PH/3 PH	
6K151CT2/4	1.5	2" NPT(F)	2" NPT(F)	7.63	14.38	7.88	7.13	5.500	4.25	2.00	10.00	4.75	5.25	0.63	0.375	2.88	36/34	
6K201CT2/4	2	2" NPT(F)	2" NPT(F)	7.63	14.38	7.88	7.13	5.500	4.25	2.00	10.00	4.75	5.25	0.63	0.375	2.88	42/38	
6K301CT4	3	2.5" NPT(F)	2" NPT(F)	7.63	15.38	8.50	7.13	5.500	4.25	2.00	10.00	4.75	5.25	0.63	0.375	3.13	-/45	
6K401CT4	4	2.5" NPT(F)	2" NPT(F)	7.63	16.38	9.50	7.13	5.500	4.25	2.00	10.00	4.75	5.25	0.63	0.375	3.13	-/53	

## TROUBLESHOOTING

Problem	Solution
No flow or low flow	<ul style="list-style-type: none"> <li>• Check rotation of pump</li> <li>• Check liquid supply to pump</li> </ul>
Leaking	<ul style="list-style-type: none"> <li>• Replace shaft seal</li> <li>• Check case cover o-ring</li> </ul>
Noise	<ul style="list-style-type: none"> <li>• Check liquid supply to pump</li> <li>• Check viscosity of liquid</li> <li>• Review NPSH requirements</li> </ul>
Leaking	<ul style="list-style-type: none"> <li>• Secure plumbing to and from pump</li> <li>• Check impeller and replace as needed</li> </ul>

## GENERAL SAFETY AND OPERATION

### Selection

Review the Selection Chart to find the performance range and pump model suited to your application requirements. Then review the Performance Curve Chart to verify the most efficient performance and inlet conditions required.

### Installation

Position pump on a flat surface that is as close as possible to the water source. The following criteria should be considered to assure optimum performance:

- Support and align pipes to minimize stress on pump
- Adequate line size to prevent starvation
- Rigid metal or plastic pipe or reinforced flexible plumbing to prevent collapsing lines
- Properly sealed connections to prevent air leaks
- Good filtration of the liquid to avoid abrasives and solids
- Foot valve may need to be installed at the inlet
- Recommend a non-return valve and a gate valve installed on discharge line near pump outlet

### Operation

The pump comes with a standard seal for fresh water or non harsh liquids. Excessive pH, high viscosity and abrasives will affect the life and performance of the pump. Special shaft seals are available for high temperature or chemical duty applications. Check with Cat Pumps for high viscosity liquids. Make certain there is sufficient liquid supply to the pump before starting operation.

## MAINTENANCE:

This is a low maintenance pump. The shaft seal and impeller are the primary service items. Follow steps below for disassembly and reassembly.

### Disassembly

1. Use a M10 wrench to remove six (6) M6 hex head case screws from motor bracket, remove casing.
2. Use M17 wrench to remove impeller nut.
3. Remove impeller by unthreading from motor shaft.
4. Remove mechanical seal protector.
5. Remove mechanical seal (rotating half) from casing cover.
6. Use a M4 Allen Wrench to remove four (4) M5 socket head casing cover screws from motor bracket.
7. Carefully pry the casing cover away from the motor bracket.
8. Remove casing cover o-ring and casing ring.
9. Lay the casing cover on a flat work surface with mechanical seal (stationary half) facing upwards.
10. Remove mechanical seal.

### Reassembly

11. Slide casing ring over motor shaft up to the lip seal.
12. Lay the casing cover on a flat work surface with small opening facing upwards.  
**NOTE:** Exercise care when handling the shaft seal. It can be easily contaminated by improper handling and will not properly seal. Use the paper cover to press the seal into position and toss the cover when done.
13. Install new mechanical seal (stationary half) with elastomer side down into small opening of casing cover.  
**NOTE:** If seal installation is tight, carefully apply a small amount of lubricant to the outer edge (non-chlorine dish soap). **DO NOT USE OIL OR GREASE**
14. Lubricate and install o-ring onto back side of casing cover.
15. Slide casing cover over motor shaft and align with motor bracket holes and press into place.
16. Install four (4) M5 socket head screws and torque per chart.  
**NOTE:** Exercise care when handling the shaft seal. It can be easily contaminated by improper handling and will not properly seal. Use the paper cover to press the seal into position and toss the cover when done.
17. Install new mechanical seal (rotating half) with carbon/ceramic surfaces mating.
18. Position mechanical seal protector over mechanical seal.
19. Hand thread impeller onto motor shaft with impeller vanes facing casing.
20. Apply Loctite®609 to threads of impeller nut and hand thread onto motor shaft.
21. Rotate impeller to assure proper alignment. Use M17 socket wrench and torque per chart.
22. Install casing over impeller with discharge port facing upwards.
23. Fastener to motor bracket with six (6) M6 hex head screws and torque per chart.

### Torque Chart

	Size	ft. lbs.	Torque in. lbs.	Nm
<b>Impeller Nut</b>	M10 x 1.25	14.8	177	19.2
<b>Pump Casing (Qty 6) (To Motor Bracket)</b>	M6 x 1 x 12.5mm Hex Head Screw	4.0	48	5.2
<b>Pump Casing Cover (Qty 4) (To Motor Bracket)</b>	M5 x 0.8 x 8mm Socket Head Screw	4.0	48	5.2

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**WARRANTY**

**This pump is warranted for one year from date of purchase.** Improper installation and use will void the warranty. Tampering with the impeller or seals will void the 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](mailto:techsupport@catpumps.com)  
[www.catpumps.com](http://www.catpumps.com)