



## 1K Series Stainless Steel Submersible Pumps

### Models

# 1K100-1K505

### FEATURES

- 304SSL construction offers corrosion resistance and increases operating life over typical cast iron models.
- Unique bulge formed components eliminates harsh radius and welds and provides greater efficiency and durability.
- Lubricated double mechanical seal offers dependable performance with a variety of liquids.
- Air filled, continuous-duty motors for reliable, long term operation.
- Single phase motor features permanent split capacitor and thermal protection with automatic reset for added protection and extend motor life.
- Versatile, reliable operation whether fully or partially submerged.
- Multiple sizes from 1/3 to 1-1/2 hp offers application flexibility.
- Sealed float switch for automatic operation.

### Quality Materials

- Casing is 304SSL for durability over traditional cast iron.
- Semi-open impeller is 304SSL for long life, durability and economy. (1K100 and 1K102 feature RTP-Noryl.)
- Shaft is 304SSL for dependable, long life.
- Motor frame is 304SSL for dependability.
- Fasteners are all 304SS for durability.
- Shaft Seals are special blend NBR and FPM for compatibility and long life.
- Sealed Bearings for longer life.

### SPECIFICATIONS

	U.S. Measure
Flow Range	.....up to 88 gpm
Pressure Range	..... up to 24 psi
	..... up to 55 Ft. Head
RPM	.....3450 RPM
Discharge Fitting	1/3 HP ..... 1-1/4 NPT
	1/2-1-1/2 HP ..... 1-1/2 NPT
Motor Phase	Single ..... Class F 115V
	Three ..... Class F 230V
	Three ..... Class F 460V
Cycle	..... 60 Hz
Cable Length	1 PH .....[Gauge AWG 16, UL/CSA 3-Prong] 20 Ft.
	3 PH ..... [Gauge AWG 16, UL/CSA] 20 Ft.
Float Operation	..... Manual or Automatic
Maximum Starts/Hour	.....20
Maximum Temperature	.....(Continuous) 122°F
	(Intermittent)..... 140°F
Maximum Solids Diameter	..... 3/8"
Weight (see charts)	..... 11-31 lbs.
Dimensions (see charts)	
	Length .....10.25-17.18"
	Diameter .....6.37-8.25"

CAPACITY IN GALLONS PER MINUTE (GPM)											
MODEL	FEET OF HEAD										
	5	10	15	20	25	30	35	40	45	50	55
1K100-103	45	39	31	21	5						
1K201-205		73	67	60	51	40	27	9			
1K301-305			74	67	58	49	39	28	16		
1K404-405				82	75	65	55	42	27		
1K504-505				88	81	74	65	54	43	25	

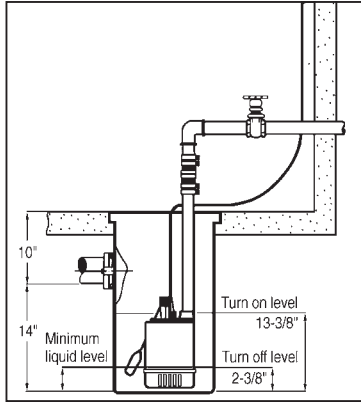
## GENERAL SAFETY AND OPERATION

1. Use with the proper electrical receptacle. On single phase models cord is supplied with a grounding type, 3-prong plug.  
NOTE: DO NOT USE GROUNDING ADAPTER.
2. Do not use if outer covering of cord becomes excessively cut or worn.
3. Each pump comes with a built-in handle for lifting. For added convenience, the 899045 25 ft. marine rope can be attached to the handle.

### WARNING

**Do not lift with power cord. This can cause damage to the connection and result in shock or serious injury.**

4. Continued cycling on and off is an indication the motor is in overload. Make certain the pump is level and adequately submersed in liquid.  
NOTE: CONTINUED OPERATION WITH EXCESSIVE CYCLING WILL OVERHEAT AND BURN OUT MOTOR.
5. All automatic models come with a float switch to shut -off unit when liquid level drops below safe operation. For field retro-fit, the 899080 [115V] float switch can be added to automate the manual units.



## TROUBLESHOOTING

### PUMP WON'T START

- Blown fuse or tripped circuit
- Low voltage line
- Defective motor
- Impeller clogged
- Check power supply.
- Check power supply.
- Overheated and burned out unit must be replaced.
- Check for proper particle size. Maximum 3/8" and 2% concentrate and raise from bottom of pit.
- Reposition pump in liquid with minimum 2-3/8" liquid.

### PUMP CYCLES ON AND OFF

- Insufficient liquid
- Pump run dry
- Liquid temperature to high
- Reposition pump in pit or remove if liquid is too low.
- Keep liquid within pump limits. Remove if liquid is low.
- Keep liquid within pump limits.

### PUMP OPERATES BUT DELIVERS LITTLE FLOW

- Impeller clogged
- Low voltage
- Worn seals
- Check liquid and particle size. Flush impeller area.
- Check power supply.
- Replace pump unit.

## AUTOMATIC MODELS

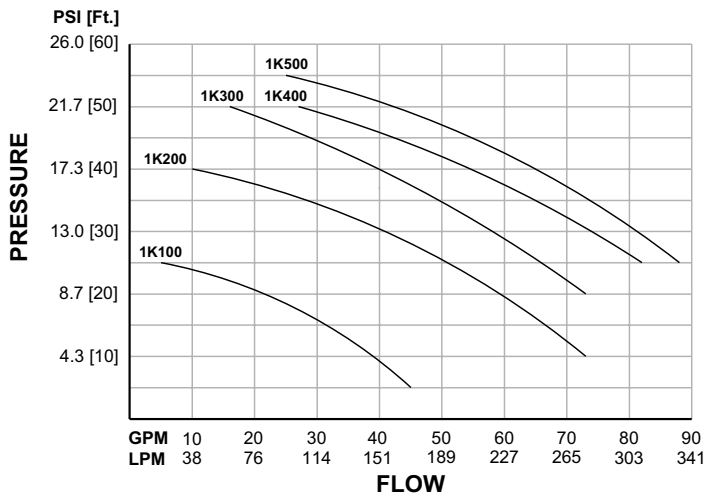
Model	HP	Phase	Volts	Amps	Pump-Motor Dimensions (in.)					Wt. (lbs.)
					A	B	C	D	E (NPT)	
1K100	1/3	1*	115	4.0	10.25	8.06	6.37	2.26	1.25	11
1K101	1/3	1*	115	4.0	10.25	8.06	6.37	2.26	1.25	11
1K201	1/2	1*	115	9.0	17.18	13.62	8.25	2.62	1.50	27
1K301	3/4	1*	115	12.2	17.18	13.62	8.25	2.62	1.50	27

## MANUAL MODELS

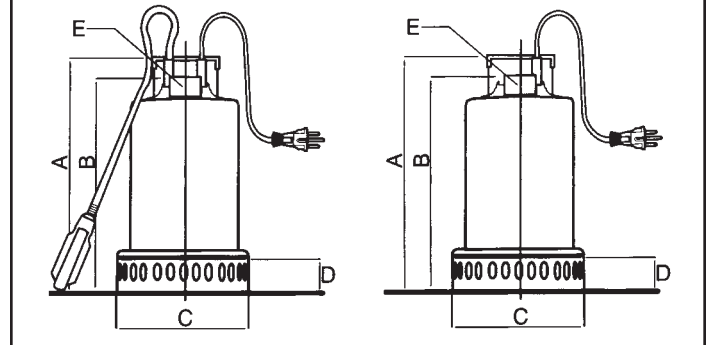
Model	HP	Phase	Volts	Amps	Pump-Motor Dimensions (in.)					Wt. (lbs.)
					A	B	C	D	E (NPT)	
1K102	1/3	1*	115	4.0	10.25	8.66	6.37	2.37	1.25	11
1K103	1/3	1*	115	4.0	10.25	8.66	6.37	2.37	1.25	11
1K203	1/2	1*	115	9.0	17.18	13.62	8.25	2.37	1.50	27
1K204	1/2	3	230	3.1	13.87	12.37	8.25	2.37	1.50	27
1K205	1/2	3	460	1.55	13.87	12.37	8.25	2.37	1.50	27
1K303	3/4	1*	115	12.2	17.18	13.37	8.25	2.37	1.50	28
1K304	3/4	3	230	3.8	13.87	12.37	8.25	2.37	1.50	28
1K305	3/4	3	460	2.0	13.87	12.37	8.25	2.37	1.50	28
1K404	1	3	230	4.8	14.81	13.37	8.25	2.37	1.50	31
1K405	1	3	460	2.5	14.81	13.37	8.25	2.37	1.50	31
1K504	1-1/2	3	230	5.3	14.81	13.37	8.25	2.37	1.50	31
1K505	1-1/2	3	460	2.7	14.81	13.37	8.25	2.37	1.50	31

\*Only single phase has motor over-load and auto-reset.

## 1K SERIES PERFORMANCE RANGES



## DIMENSIONAL



## WARRANTY

**This pump is warranted for one year from date of purchase.**  
Improper installation and use will void the warranty.  
Tampering with the power cord, 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  
www.catpumps.com