



3" Vortex Pumps

Model Number Identification Chart

	K	3	RN	50	-	21	M	2	Y
Keen Pump									
Discharge Size: 3 = 3" 4 = 4"									
Pump Model									
Horsepower (HP x 10) 30 = 3 HP 50 = 5 HP 75 = 7-1/2 HP 100 = 10 HP 150 = 15 HP 200 = 20 HP 250 = 25 HP 300 = 30 HP 400 = 40 HP 500 = 50 HP									
Voltage/Phase 01 = 208/1 21 = 230/1 03 = 208/3 23 = 230/3 43 = 460/3 53 = 575/3									
Manual Pump Operation									
Speed 2 = 3450 RPM 4 = 1750 RPM 6 = 1150 RPM									
Frequency Blank = 60 Hz Y = 50 Hz									



Pump Model: **K3RN**

Physical Data:

Discharge Size	ANSI 3" Horizontal
Solids Size	3"
Impeller Type	Balanced, Vortex, 8 Vane
Power/Control Cable Length	40' Standard
Paint	Blue, Water Reducible Enamel, One Coat, Air Dried – Standard

Motor Construction:

Motor Type	Enclosed Submersible Oil Filled
NEMA Insulation Code	Class F
Service Factor	1.2
NEMA Design Type	B (3Ø) L (1Ø)
Single Phase Configuration	External Start and Run Components
Motor Protection	Thermal Sensors Embedded in the Windings
Maximum Stator Temperature	311°F (155°C)
Power Cord Type	SOOW - 600V, 90° C; Type W - 2000V, 90° C
Control Cord Type	16-4 or 18-5 - SOOW - 600V, 90° C

Materials of Construction:

Cord Entry	Cast Iron, ASTM A48, Class 35
Motor Housing	Cast Iron, ASTM A48, Class 35
Bearing Housing	Cast Iron, ASTM A48, Class 35
Volute	Cast Iron, ASTM A48, Class 35
Impeller	Ductile Iron, ASTM A536, 60-40-18
Shaft	ANSI 400 Stainless Steel
Inboard Mechanical Seal	Silicone Carbide / Silicone Carbide
Outboard Mechanical Seal	Silicone Carbide / Silicone Carbide
Fasteners	ANSI 18-8 Stainless Steel
O-Rings	Nitrile Rubber
Upper Bearing	Conrad Style Single Row Deep Groove Ball Bearing
Lower Bearing	Conrad Style Single Row Deep Groove Ball Bearing
Line Bearing	Bronze, CDA 836



Pump Model: **K3RN – 1150 RPM**

Thermal Data:

Maximum Liquid	140° F (60° C)
Maximum Stator	311° F (155° C)
Heat Sensor	Open: 257° F (125° C) Max. / 239° F (115° C) Min.
	Closed: 194° F (90° C) Max. / 119° F (48° C) Min.
Oil Flash Point	390° F (199° C)

Electrical Data:

RPM					1150						
Electrical Ratings					Heat Sensor	24VDC 5AMPS	115VAC 5AMPS	230VAC 5AMPS			
					Seal Fail	300VAC 5mAMPS					
Voltage Tolerance					± 10%						
HP	Voltage	Phase	NEC Code	Service Factor	Full Load AMPS	SF Amps	Locked Rotor AMPS	Run KW	Start KVA	Run KVA	
1	208	1	H	1.2	9.6	11.5	33.6	2.0	7.0	2.6	
	230				8.6	10.4	30.3				
1	208	3	J	1.2	6.6	7.9	21.0	1.7	7.6	2.1	
	230				6.2	7.4	18.9				
	460				3.1	3.7	9.5				
2	208	1	H	1.2	18.9	22.7	66.2	13.8	5.1	5.1	
	230				17.0	20.4	59.6				
2	208	3	G	1.2	9.9	11.9	34.7	2.8	12.5	3.5	
	230				8.9	10.7	31.2				
	460				4.5	5.4	15.6				
3	208	1	F	1.0	22.7	22.7	79.5	4.7	16.5	6.1	
	230				20.5	20.5	71.6				
3	208	3	G	1.0	14.3	14.3	50.1	4.1	18.0	6.0	
	230				12.9	12.9	45.1				
	460				6.4	6.4	22.5				

Motor Efficiencies & Power Factor

HP	Phase	Motor Efficiency %				Power Factor %			
		Service Factor Load	100% Load	75% Load	50% Load	Service Factor Load	100% Load	75% Load	50% Load
1	1	60	60	59	53	75	73	66	57
1	3	65	62	56	52	75	72	67	61
2	1	63	61	60	50	76	74	70	62
2	3	65	64	60	52	78	76	71	60
3	1	68	65	59	55	75	70	64	54
3	3	65	64	60	57	79	78	71	59



Pump Model: **K3RN – 1750 RPM**

Thermal Data:

Maximum Liquid	140° F (60° C)
Maximum Stator	311° F (155° C)
Heat Sensor	Open: 257° F (125° C) Max. / 239° F (115° C) Min.
	Closed: 194° F (90° C) Max. / 119° F (48° C) Min.
Oil Flash Point	390° F (199° C)

Electrical Data:

RPM					1750						
Electrical Ratings					Heat Sensor	24VDC 5AMPS	115VAC 5AMPS	230VAC 5AMPS			
					Seal Fail	300VAC 5mAMPS					
Voltage Tolerance					± 10%						
HP	Voltage	Phase	NEC Code	Service Factor	Full Load AMPS	SF Amps	Locked Rotor AMPS	Run KW	Start KVA	Run KVA	
3	208	1	E	1.2	26.2	31.4	66.9	4.0	13.9	5.2	
	230				23.8	28.6	60.2				
3	208	3	H	1.2	16.3	19.6	57.1	4.6	20.6	5.8	
	230				14.7	17.6	51.4				
	460				7.3	8.8	25.7				
5	208	1	F	1.2	37.1	44.5	129.9	7.7	26.9	10.0	
	230				33.4	40.1	116.9				
5	208	3	F	1.2	26.2	31.4	73.9	6.0	26.5	7.5	
	230				23.8	28.6	66.5				
	460				11.9	14.3	33.3				
7.5	208	3	F	1.2	32.1	38.5	112.4	9.1	40.4	11.3	
	230				28.9	34.7	101.2				
	460				14.5	17.4	50.6				
10	208	3	E	1.0	38.5	38.5	134.8	11.0	48.5	13.6	
	230				34.7	34.7	121.4				
	460				17.3	17.3	60.7				

Motor Efficiencies & Power Factor

HP	Phase	Motor Efficiency %				Power Factor %			
		Service Factor Load	100% Load	75% Load	50% Load	Service Factor Load	100% Load	75% Load	50% Load
3	1	66	66	64	56	87	83	79	70
3	3	71	70	69	63	81	80	79	71
5	1	65	65	64	59	86	83	76	62
5	3	78	78	75	70	79	76	71	60
7.5	3	77	76	74	69	75	70	64	54
10	3	75	76	75	70	79	78	71	59