



NK - SERIES
SEMI-VORTEX - DEWATERING PUMP

SPECIFICATIONS

FEATURES

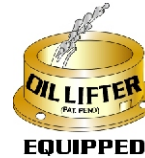
1. Semi-vortex, Ductile Iron impeller with ethylene propylene casing, increases wear resistance when pumpage contains abrasive particles.
2. Double inside mechanical seals with silicon carbide faces, (both top and bottom) running in an oil filled chamber and further protected by a lip seal running against a replaceable, 430 stainless steel shaft sleeve, provides for the most durable seal design available.
3. Highly efficient, continuous duty air filled, copper wound motor with class B, insulation minimizes the cost of operation.
4. Built in thermal & amperage sensing, protector prevents motor failure due to-

overloading or accidental run -dry conditions.

5. Double shielded, permanently lubricated, high temperature C3 ball bearings rated for a B-10 life of 60,000 hours, extend operational life.
6. Top discharge, flow-thru design enables operation at low water levels for extended periods.

APPLICATIONS

1. Residential, commercial, industrial wastewater and construction site drainage.
2. Effluent transfer.
3. Decorative waterfalls and fountains.
4. Raw water supply from rivers or lakes..



SPECIFICATIONS

- Discharge Size
- Horsepower Range
- Performance Range Capacity Head
- Maximum water temperature
- Materials of Construction
 - Casing
 - Impeller
 - Shaft
 - Motor Frame
 - Fasteners
- Mechanical Seal
 - Upper Seal
 - Lower Seal
 - Elastomers
- Impeller Type
- Solids Handling Capability
- Bearings
- Motor Nomenclature
 - Type, Speed, Hz.
 - Voltage, Phase
 - Insulation
- Accessories
- Operational Mode

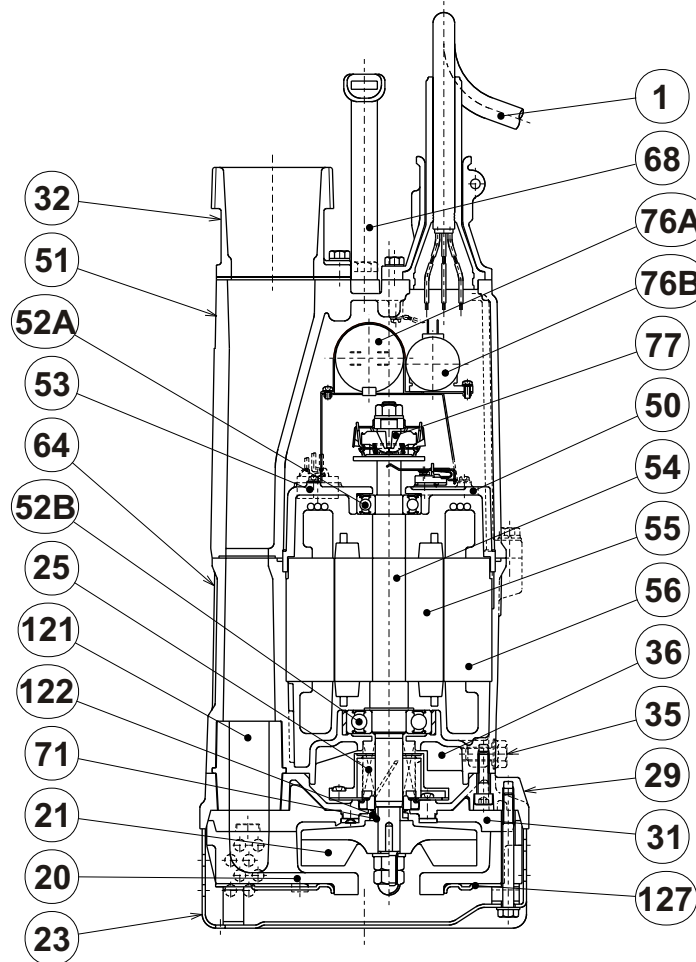
STANDARD

- 3" Npt (80 mm)
- 2 ~ 3 Hp. (1.5 ~ 2.2 Kw)
- 30 ~ 130 Gpm. (.11 ~ .49 m³/min)
- 6 ~ 74 Ft. (1.82 ~ 22.5 m)
- 130° F. (54.4° C.)
- Ethylene Propylene Rubber
- Ductile Cast Iron
- 403 Stainless Steel
- Aluminum alloy
- 304 Stainless Steel
- Silicon Carbide/Silicon Carbide
- Silicon Carbide/Silicon Carbide
- NBR (Nitril Buna Rubber)
- Semi-vortex, solids handling.
- Screen Size
- Prelubricated, Double Shielded
- Air Filled, 3600 Rpm, 60 Hz.
- 115/230 V., 1 Ph, 230 V. 1 Ph (NK2-22)
- Class B
- Submersible Power Cable 32' (9.75 m)
- Manual

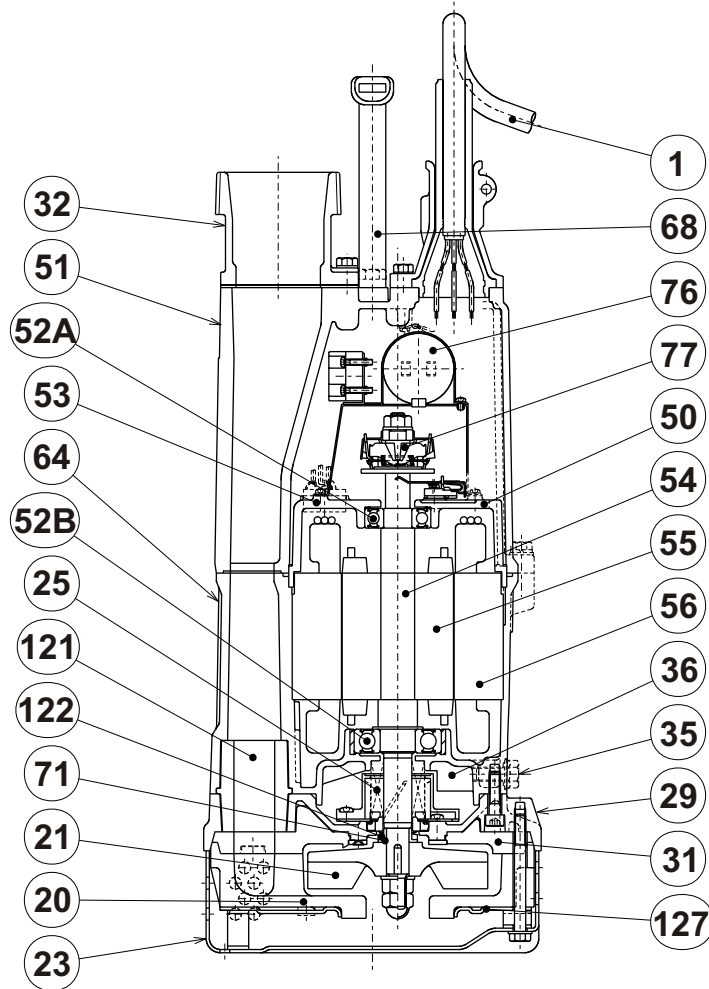
OPTIONS

- Length as Required
- TS-301 Float Switch

NK2-22



ITEM#	DESCRIPTION	MAIN MATERIAL / NOTE	ASTM, AISI CODE	RELATED DIN CODE	Q'TY
1	Power Cable	Chloroprene Sheath AWG14/3-32ft			1
20	Pump Casing	Butadiene Rubber + Natural Rubber			1
21	Impeller	Ductile Cast Iron	A536 Grade 100-70-03	1693/GGG70	1
23	Suction Strainer	Carbon Steel	A109 Class 91	1624-87 St 2,3,4	1
25	Mechanical Seal	Silicon Carbide / H-20			1
	Oil Lifter	ABS Resin			1
29	Oil Casing	Aluminum Alloy Die Casting	B85 , A383	N/A (BS Code LM 2)	1
31	Wear Ring	Butadiene Rubber + Natural Rubber			1
32	Discharge Connection	Cast Iron / NPT 2" (3")	A48 Class 35	1691/GG20	1
35	Oil Plug	Stainless Steel	AISI 304	17440 X5 CrNi 18-9	1
36	Lubricant	Turbine Oil ISO VG32 or SAE10W/20W			
50	Motor Bracket	Cast Iron	A48 Class 30	1691/GG15	1
51	Motor Head Cover	Aluminum Alloy Die Casting	B85 , A383	N/A (BS Code LM 2)	1
52A	Upper Bearing	#6204ZZC3			1
52B	Lower Bearing	#6305ZZC3			1
53	Motor Protector				1
54	Shaft	Stainless Steel	AISI 403	17440 X15 Cr 13	1
55	Rotor				1
56	Stator				1
64	Motor Housing	Aluminum Alloy Die Casting	B85 , A383	N/A (BS Code LM 2)	1
68	Handle	Carbon Steel + Nitrile Butadiene Rubber	A109 Class 91	1624-87 St 2,3,4	1
71	Shaft Sleeve	Stainless Steel	AISI 304	17440 X5 CrNi 18-9	1
76A	Capacitor				1
76B	Capacitor				1
77	Centrifugal Switch				1
121	Duct Sleeve	Styrene Butadiene Rubber			1
122	V-Ring	Nitrile Butadiene Rubber			1
127	Fixing Plate	Carbon Steel	A109 Class 91	1624-87 St 2,3,4	1

NK2-15


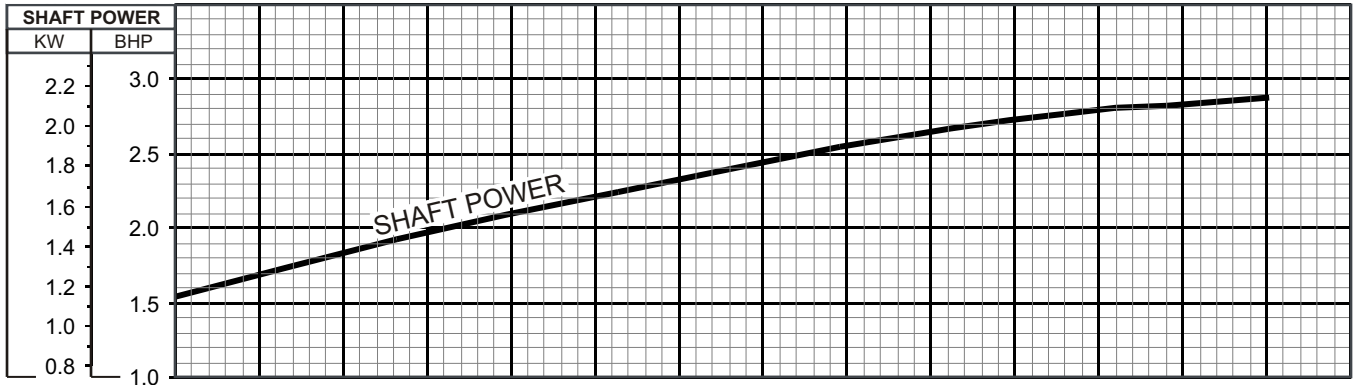
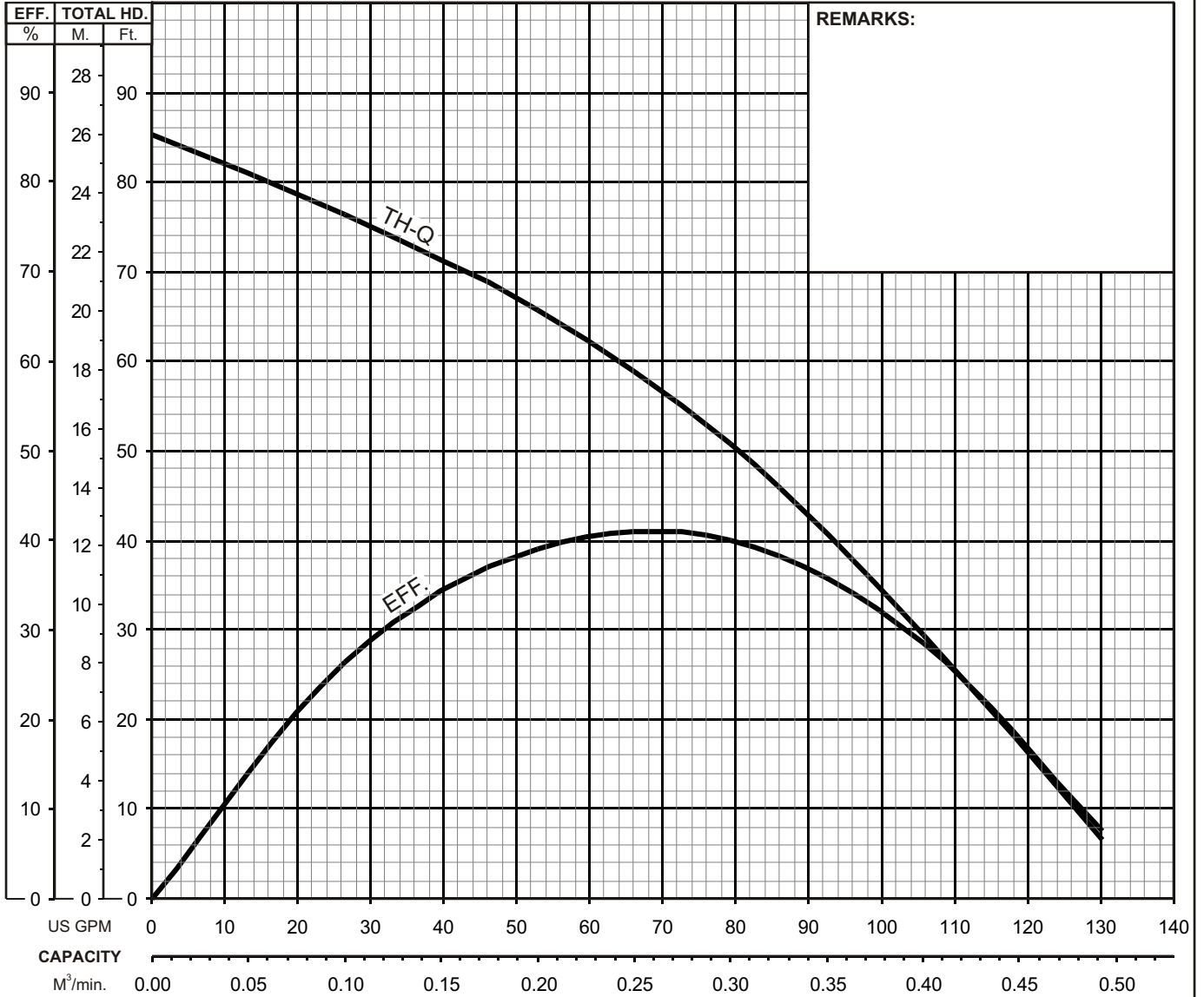
ITEM#	DESCRIPTION	MAIN MATERIAL / NOTE	ASTM, AISI CODE	RELATED DIN CODE	Q'TY
1	Power Cable	Chloroprene Sheath AWG12/3-32ft			1
20	Pump Casing	Butadiene Rubber + Natural Rubber			1
21	Impeller	Ductile Cast Iron	A536 Grade 100-70-03	1693/GGG70	1
23	Suction Strainer	Carbon Steel	A109 Class 91	1624-87 St 2,3,4	1
25	Mechanical Seal	Silicon Carbide / H-20			1
	Oil Lifter	ABS Resin			1
29	Oil Casing	Aluminum Alloy Die Casting	B85 , A383	N/A (BS Code LM 2)	1
31	Wear Ring	Butadiene Rubber + Natural Rubber			1
32	Discharge Connection	Cast Iron / NPT 2" (3")	A48 Class 35	1691/GG20	1
35	Oil Plug	Stainless Steel	AISI 304	17440 X5 CrNi 18-9	1
36	Lubricant	Turbine Oil ISO VG32 or SAE10W/20W			
50	Motor Bracket	Cast Iron	A48 Class 30	1691/GG15	1
51	Motor Head Cover	Aluminum Alloy Die Casting	B85 , A383	N/A (BS Code LM 2)	1
52A	Upper Bearing	#6204ZZC3			1
52B	Lower Bearing	#6305ZZC3			1
53	Motor Protector				1
54	Shaft	Stainless Steel	AISI 403	17440 X15 Cr 13	1
55	Rotor				1
56	Stator				1
64	Motor Housing	Aluminum Alloy Die Casting	B85 , A383	N/A (BS Code LM 2)	1
68	Handle	Carbon Steel + Nitrile Butadiene Rubber	A109 Class 91	1624-87 St 2,3,4	1
71	Shaft Sleeve	Stainless Steel	AISI 304	17440 X5 CrNi 18-9	1
76	Capacitor				1
77	Centrifugal Switch				1
121	Duct Sleeve	Styrene Butadiene Rubber			1
122	V-Ring	Nitrile Butadiene Rubber			1
127	Fixing Plate	Carbon Steel	A109 Class 91	1624-87 St 2,3,4	1



NK - SERIES SEMI-VORTEX - DEWATERING PUMPS

PERFORMANCE CURVE

MODEL	BORE	HP	KW	RPM	SOLIDS DIA	LIQUID	SG.	VISCOSITY	TEMP.
NK2-22	3"/80mm	3	2.2	3465	0.334"/8.5mm	Water	1.0	1.81 CST	60°F
PUMP TYPE		PHASE	VOLTAGE	AMPERAGE		HZ	STARTING METHOD		INS. CLASS
Semi-Vortex - Dewatering Pump		Single	220 / 230	13.0 / 12.5		60	Capacitor Start		B
CURVE No.	DATE	PHASE	VOLTAGE	AMPERAGE		HZ	STARTING METHOD		INS. CLASS
-	-	-	-	-		-	-		-

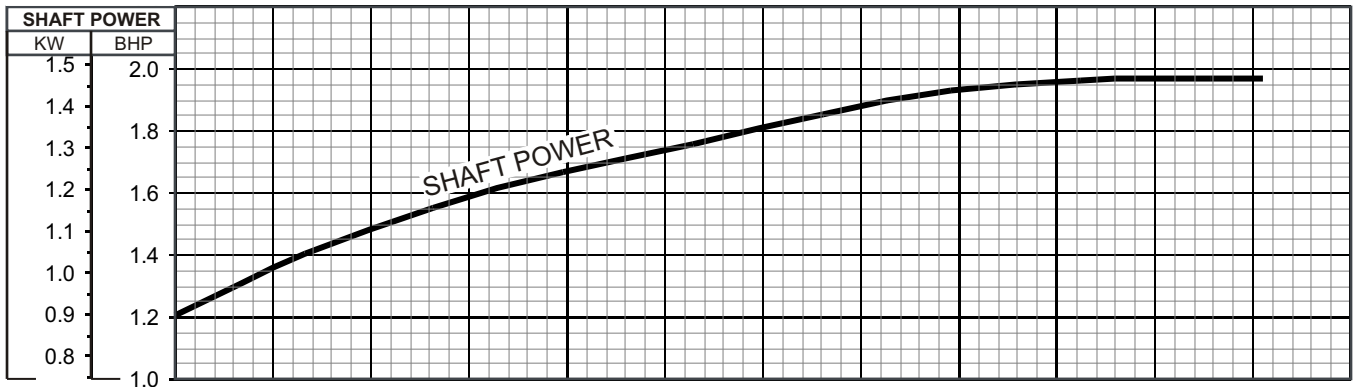
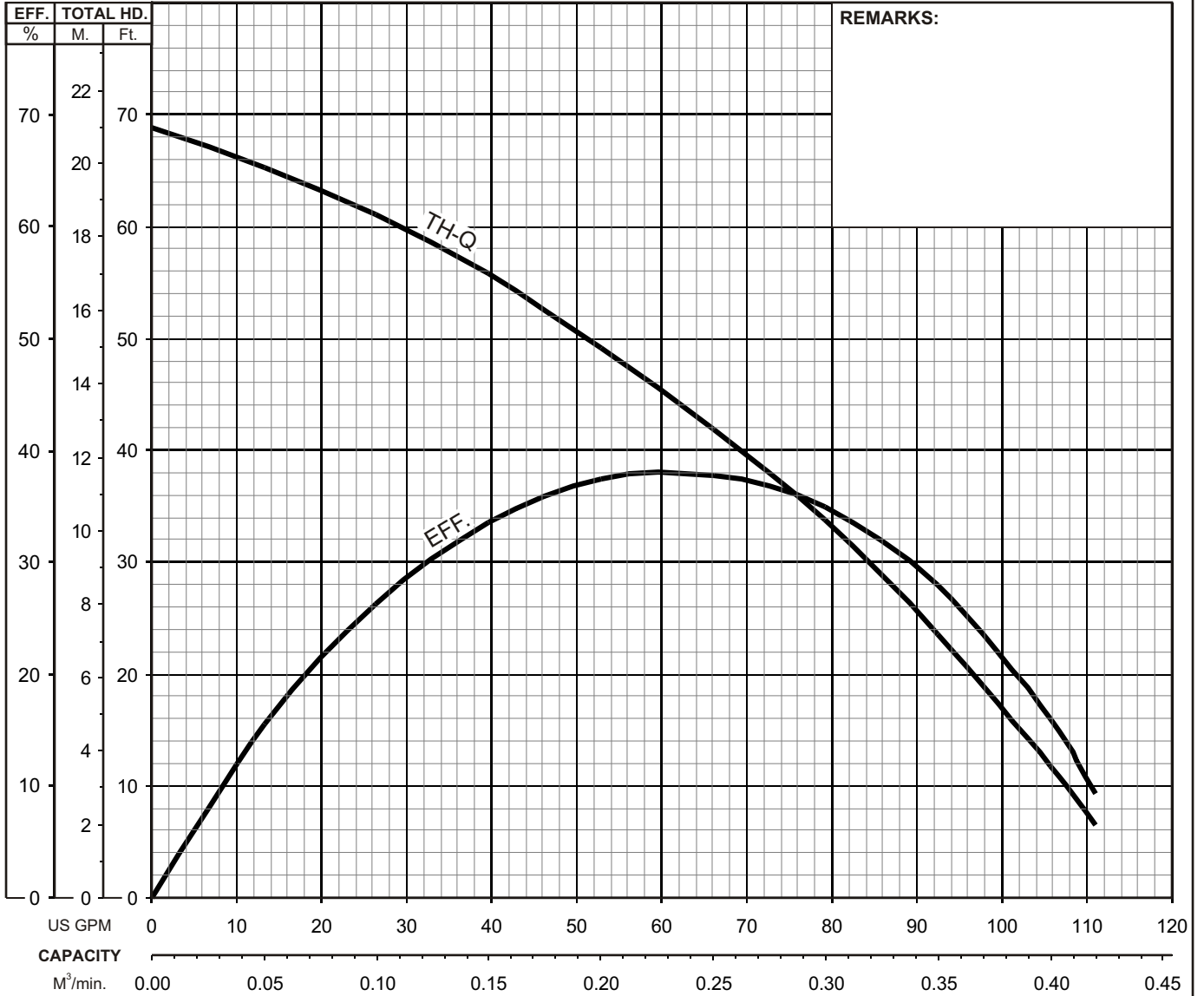




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PERFORMANCE CURVE

MODEL	BORE	HP	KW	RPM	SOLIDS DIA	LIQUID	SG.	VISCOSITY	TEMP.
NK2-15	3"/80mm	2	1.5	3440	0.334"/8.5mm	Water	1.0	1.81 CST	60°F
PUMP TYPE	PHASE	VOLTAGE	AMPERAGE	HZ	STARTING METHOD	INS. CLASS			
Semi-Vortex Dewatering Pump	Single	110/115/220/230	23.0/22.0/11.5/11.0	60	Capacitor Start	B			
CURVE No.	DATE	PHASE	VOLTAGE	AMPERAGE	HZ	STARTING METHOD	INS. CLASS		
-	-	-	-	-	-	-	-		




TSURUMI PUMP
**NK - SERIES
SEMI-VORTEX - DEWATERING PUMPS**
**SAMPLE
SPECIFICATIONS**
1. SCOPE OF SUPPLY -

Furnish and install TSURUMI Model _____ Submersible Pump(s). Each unit shall be capable of delivering _____ GPM (_____ m³/min) at _____ Feet (_____ m) TDH. The pump(s) shall be designed to pump waste water, without damage during operation. The pump(s) shall be designed so that the shaft power required (BHP)/(kW) shall not exceed the motor rated output throughout the entire operating range of the pump performance curve. Pump(s) shall be of the top flow through design.

2. MATERIALS OF CONSTRUCTION -

Construction of major parts of the pumping unit(s) shall be as follows: Pump casing shall be synthetic rubber. Motor frame shall be aluminum alloy die casting. Internal and external surfaces coming into contact with the pumpage shall be protected by a fused polymer coating. All exposed fasteners shall be stainless steel. All units shall be furnished with _____" NPT discharge connector. Impellers shall be of the multi-vane, ductile cast iron, semi-vortex design, equipped with back pump out vanes and shall be slip fit to the shaft and key driven.

3. MECHANICAL SEAL -

All units shall be furnished with a dual inside mechanical shaft seal located completely out of the pumpage, running in a separate oil filled chamber and further protected by an exclusionary oil seal located between the bottom seal faces and the fluid being pumped. The oil chamber shall be fitted with a device that shall provide positive lubrication of the top mechanical seal, (down to one third of the standard oil level). The device shall not consume any additional electrical power. Mechanical seals shall rated to preclude the incursion of water up to 42.6 PSI. (98.4 Ft.) submergence. Units shall have silicon carbide versus silicon carbide upper and lower mechanical seal faces. Mechanical seal hardware shall be stainless steel.

4. MOTOR-

The pump motor(s) shall be _____ Hp., _____ kW., _____ V., 60 Hz. 1 Phase and shall be NEMA MG-1, Design Type B equivalent. Motor(s) shall be rated at _____ full load amps. Motor(s) shall have a 1.15 service factor and shall be rated for 20 starts per hour. Motor(s) shall be air filled, copper wound, class B insulated with built in thermal and over amperage protection for each winding. Motor shaft shall be 403 stainless steel, fitted with a replaceable stainless steel shaft sleeve and shall be supported by two permanently lubricated, high temperature ball bearings, with a B-10 life rating at best efficiency point of 60,000 hours. Bearings on all units shall be single row, double shielded, C3, deep groove type ball bearing. Motors shall be suitable for across the line start or variable speed applications, utilizing a properly sized variable frequency drive.

5. POWER CABLE AND CABLE ENTRANCE -

The pump power cable shall be suitable for submersible pump applications. The power cable shall be field replaceable utilizing standard submersible pump cable. The cable entrance shall incorporate built in strain relief and a combination three way mechanical compression seal with a fatigue reducing / thermal expansion boot. The cable entrance assembly shall contain an anti-wicking block to eliminate water incursion into the motor due to capillary wicking should the power cable be accidentally damaged.

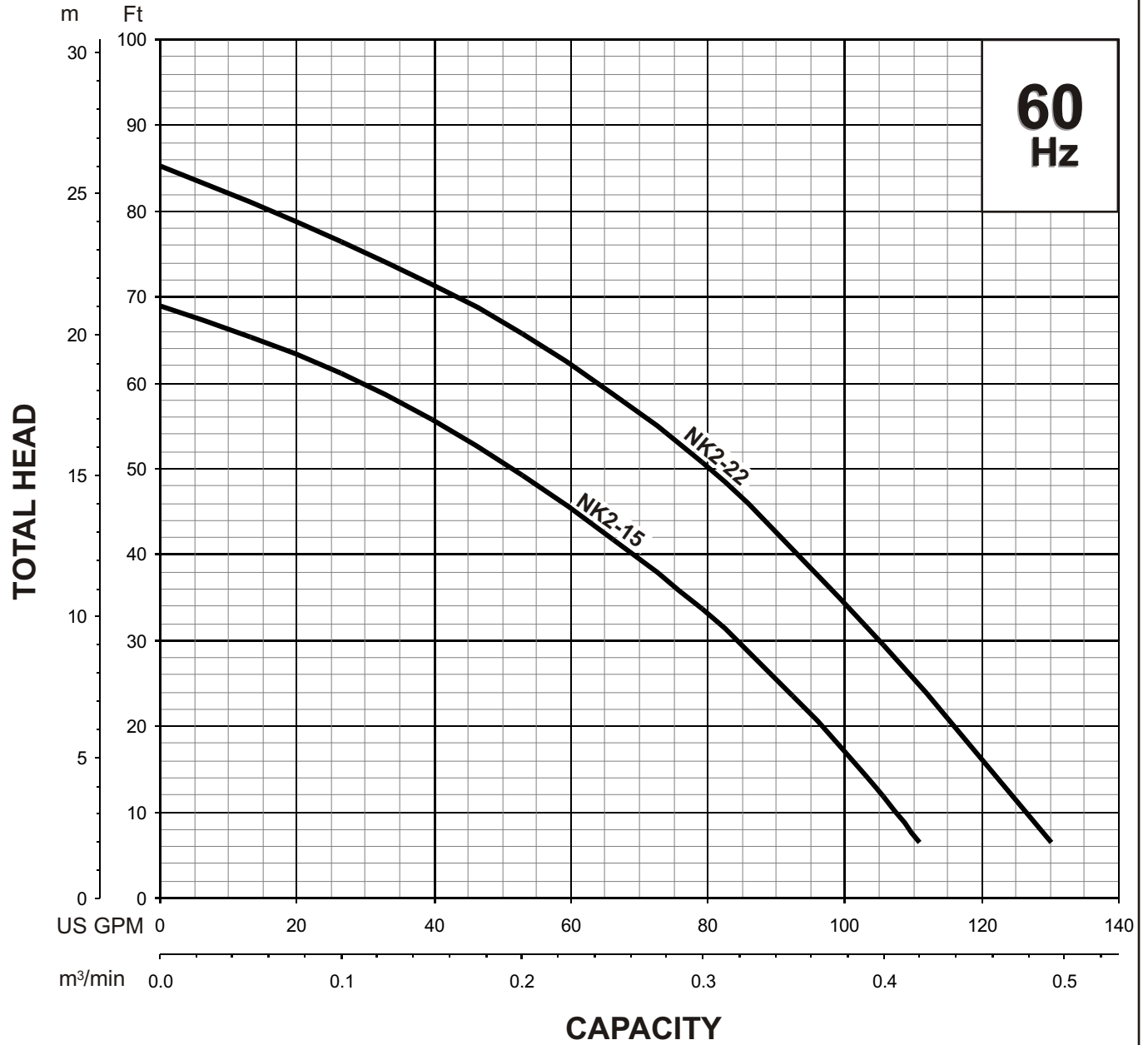


TSURUMI PUMP

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**PERFORMANCE
RANGE**

GROUP PERFORMANCE RANGE

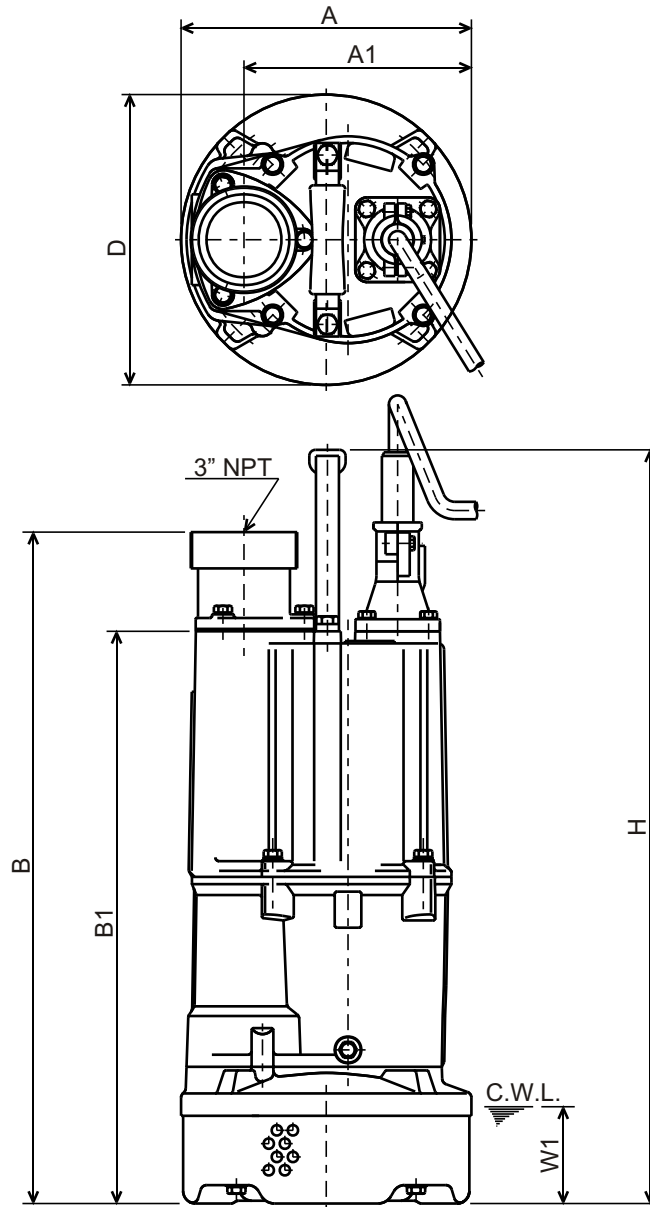




NK - SERIES
SEMI-VORTEX - DEWATERING PUMPS

DIMENSIONS

NK2-15
NK2-22



C.W.L. : Continuous running Water Level

DIMENSIONS:USCS (Inch)

Model	HP	NOM. SIZE	Pump & Motor						C.W.L.	Wt. (lbs.)
			A	A1	B	B1	D	H	W1	
NK2-15	2	3"	9 7/16	7 3/8	21 7/8	18 5/8	9 7/16	24 1/2	3 1/4	63.5
NK2-22	3	3"	9 7/16	7 3/8	21 7/8	18 5/8	9 7/16	24 1/2	3 1/4	64

DIMENSIONS:METRIC (mm)

Model	kW	NOM. SIZE	Pump & Motor						C.W.L.	Wt. (kg)
			A	A1	B	B1	D	H	W1	
NK2-15	1.5	80	240	188	555	473	240	623	80	28.8
NK2-22	2.2	80	240	188	555	473	240	623	80	29.0