



VANCS SERIES - PSF

(FRP) EFFLUENT PUMPS

SPECIFICATIONS

■ FEATURES

1. Enclosed, FRP (Fiberglass Reinforced Plastic), impeller provides for high head pumping of effluent or water.
2. Double inside mechanical seals with silicon carbide faces, running in an oil filled chamber and further protected by a lip seal, provides for the most durable seal design available.
2. Highly efficient, continuous duty, air filled, copper wound motor with class E, insulation minimizes the cost of operation.
4. Built in thermal & amperage sensing, protector prevents motor failure due to overloading, single phasing (in three phase units), 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. Utilization of application appropriate FRP & stainless steel components increases corrosion resistance in a wide variety of applications.

■ APPLICATIONS

1. Residential, commercial, effluent, wastewater and site drainage.
2. Chemical spill containment.
3. Decorative waterfalls, fountains and fish ponds.
4. Raw water supply from rivers or lakes.



■ SPECIFICATIONS

Discharge Size
Horsepower Range
Performance Range Capacity
Head
Maximum water temperature
Materials of Construction
Casing (upper)/(lower)
Impeller
Shaft
Motor Frame
Fasteners

Mechanical Seal
Elastomers

Impeller Type
Solids Handling Capability

Bearings

Motor Nomenclature
Type, Speed, Hz.
Voltage, Phase

Insulation

Accessories

Operational Mode

■ STANDARD

2" ~ 3" N.P.T. (50 ~ 80mm)
1/3 ~ 5Hp. (.25 ~ 3.7 kW)
6.6 ~ 203.4 G.P.M. (.03 ~ .85 m³/min)
16.4 ~ 111.5 Ft. (5.0 ~ 33.99 m)
104° F. (40° C.)

FRP (ABS + G20) / ABS
FRP (ABS + G20)
403 Stainless Steel
304 Stainless Steel
304 Stainless Steel

Silicon Carbide
NBR (Nitril Buna Rubber)

Enclosed, Multi-vane
.32 ~.51" (8~13 mm)

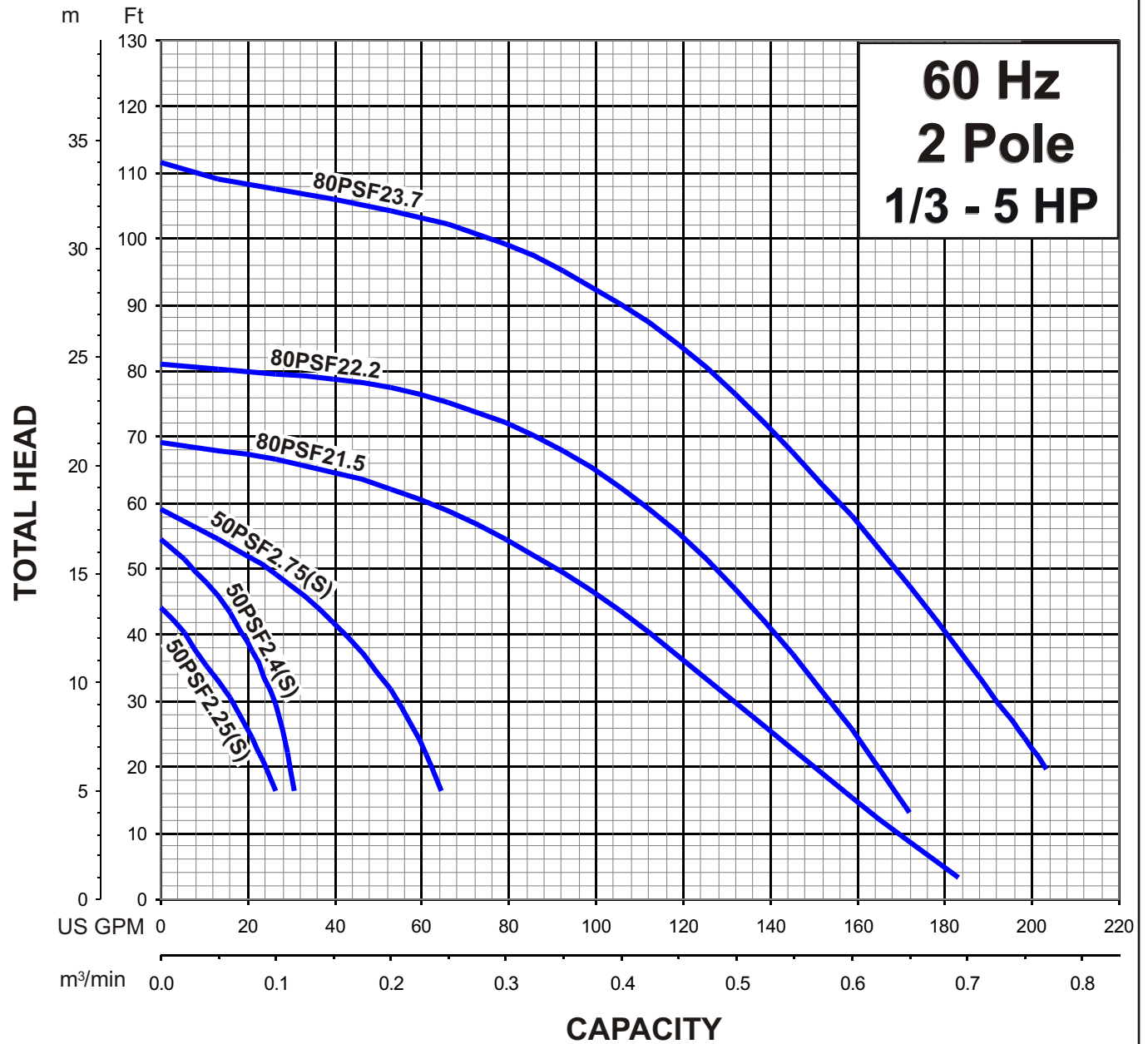
Pre-lubricated, Double Shielded

Air Filled, 3600 Rpm, 60 Hz.
115 or 230 V., 1 Phase.,
208-220, 230, 460, or 575 V. 3 Phase
Class E

Submersible Power Cable 32' (10 m)

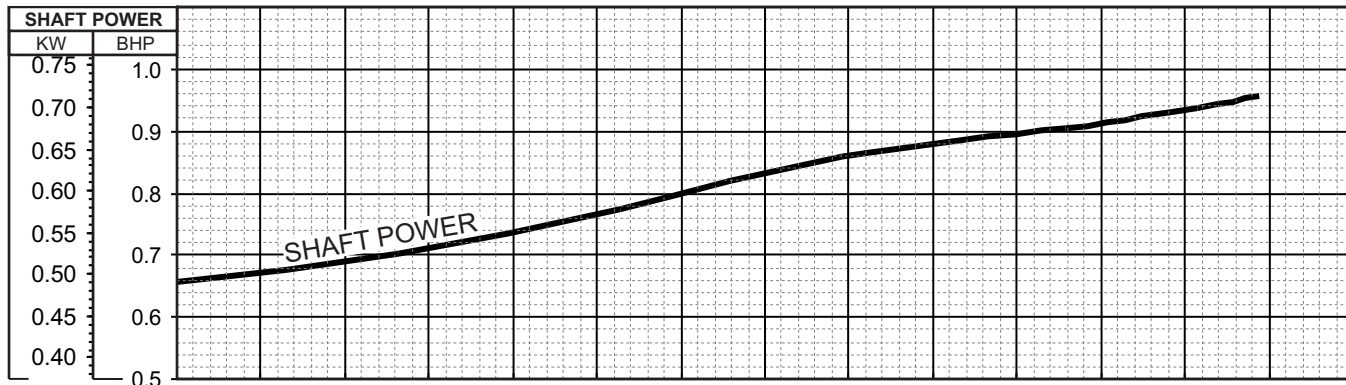
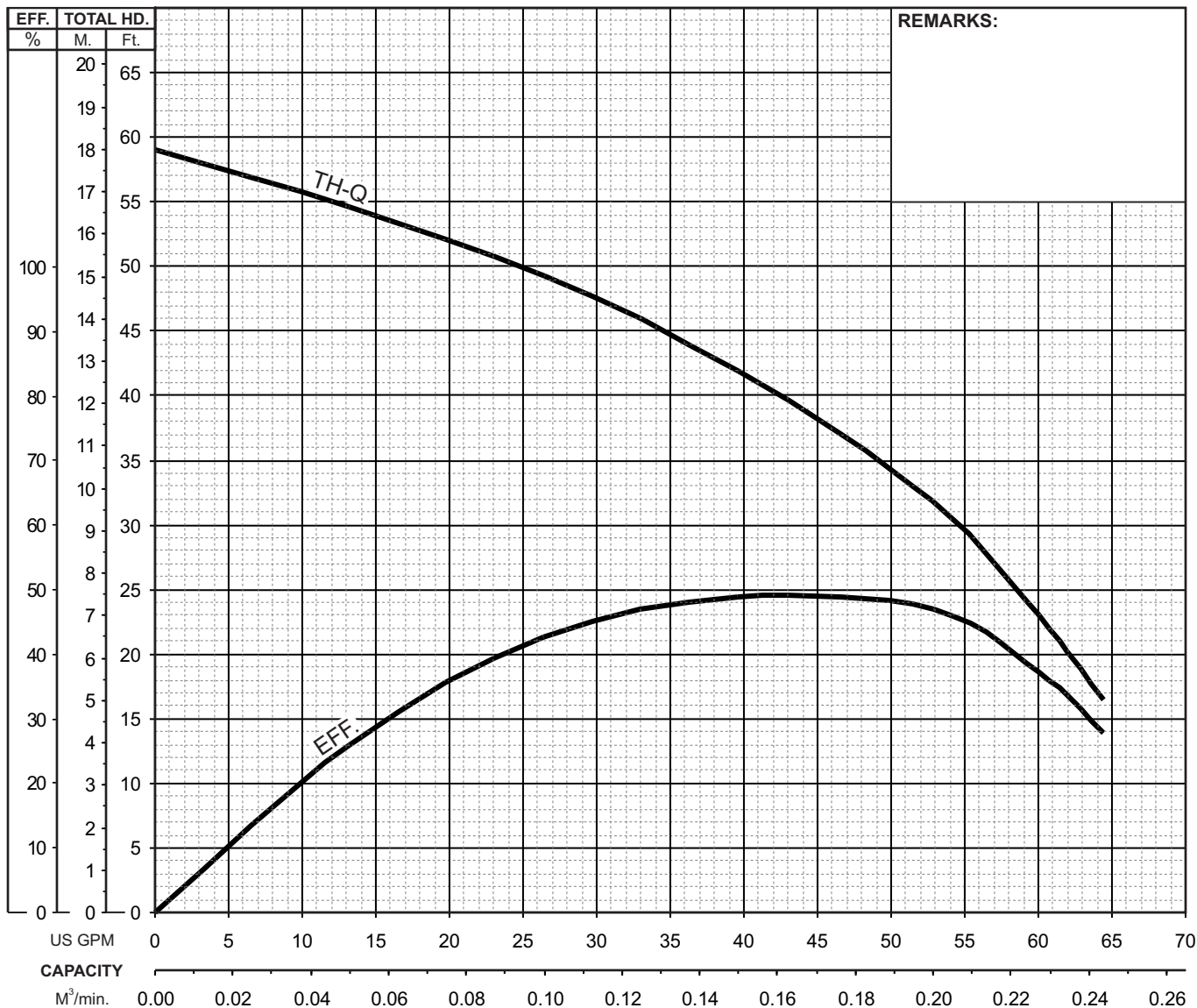
■ OPTIONS

Length as Required
Model A(Automatic), Model
AW (Automatic Alternating)
TOK (FRP) Slide rail system

**VANCS - SERIES - PSF**
(FRP) EFFLUENT PUMPS**PERFORMANCE
RANGE****PERFORMANCE RANGE**


TSURUMI PUMP
VANCS - SERIES - PSF
(FRP) EFFLUENT PUMPS
PERFORMANCE
CURVE

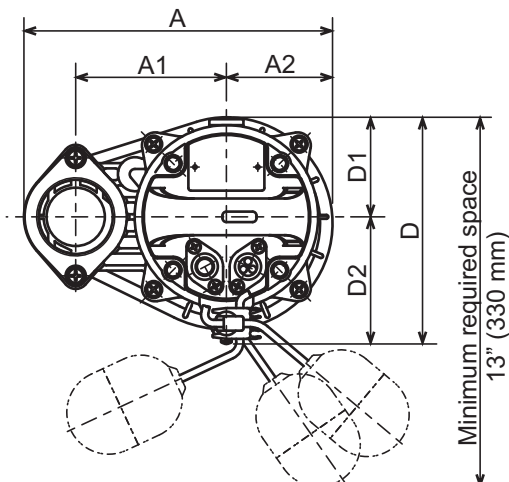
MODEL	BORE	HP	KW	RPM	SOLIDS DIA	LIQUID	SG.	VISCOSITY	TEMP.
50PSF(A/W)2.75-63	2" / 50mm	1	0.75	3375	0.315" / 8mm	Water	1.0	1.123 cSt.	60°F
PUMP TYPE	PHASE	VOLTAGE	AMPERAGE	HZ	STARTING METHOD	INS. CLASS			
Effluent Pump	3	208-220/460	3.2-3.2 / 1.5	60	Direct On Line	E			
CURVE No.	DATE	PHASE	VOLTAGE	AMPERAGE	HZ	STARTING METHOD	INS. CLASS		
-	-	-	-	-	-	-	-		



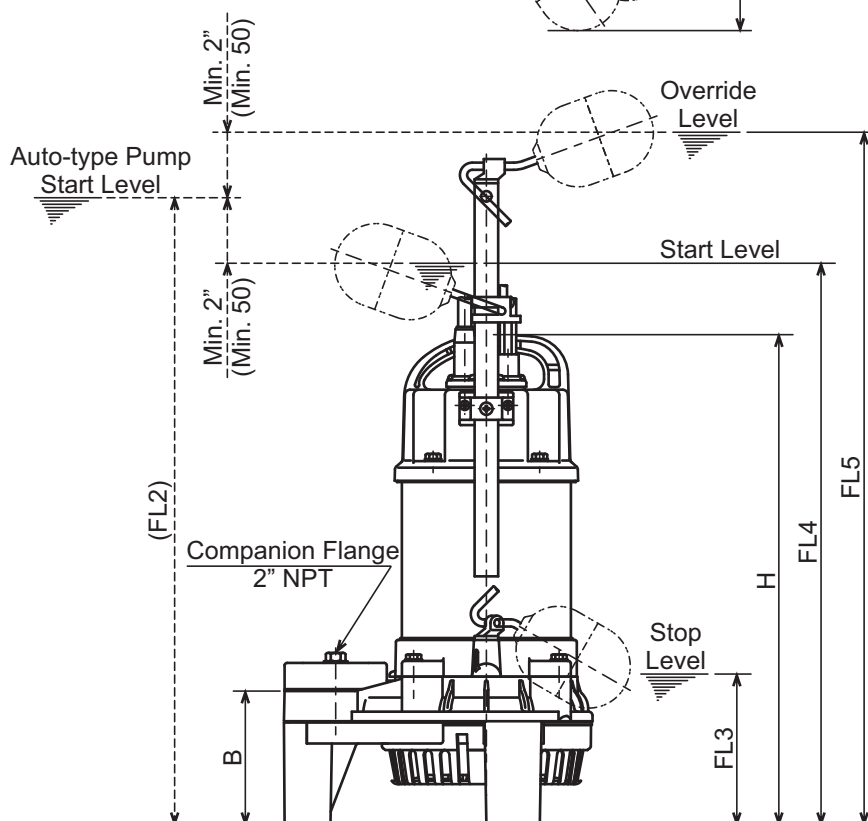


VANCS-SERIES - PSF **(FRP) EFFLUENT PUMPS**

DIMENSIONS



50PSFW2.25S-63
50PSFW2.25-63
50PSFW2.4S-63
50PSFW2.4-63
50PSFW2.75S-63
50PSFW2.75-63



DIMENSIONS:USCS (Inch)

Model	HP	NOM. SIZE	Pump & Motor								Stop	Start	Override	Wt. (lbs.)
			A	A1	A2	B	D	D1	D2	H	FL3	Max.FL4	Max.FL5	
50PSFW2.25S-63	1/3	2"	9 5/16	4 1/2	3 3/16	4	6 13/16	3	3 13/16	14 3/4	4 1/2	21 7/8	25 7/8	17.4
50PSFW2.25-63	1/3	2"	9 5/16	4 1/2	3 3/16	4	6 13/16	3	3 13/16	14 5/16	4 1/2	21 1/2	25 3/8	15.2
50PSFW2.4S-63	1/2	2"	9 5/16	4 1/2	3 3/16	4	6 13/16	3	3 13/16	14 3/4	4 1/2	21 7/8	25 7/8	17.4
50PSFW2.4-63	1/2	2"	9 5/16	4 1/2	3 3/16	4	6 13/16	3	3 13/16	14 3/4	4 1/2	21 7/8	25 7/8	17.2
50PSFW2.75S-63	1	2"	9 5/16	4 1/2	3 3/16	4	6 13/16	3	3 13/16	15 1/2	4 1/2	22 3/4	26 5/8	21.4
50PSFW2.75-63	1	2"	9 5/16	4 1/2	3 3/16	4	6 13/16	3	3 13/16	15 1/4	4 1/2	22 1/2	26 3/8	20.0

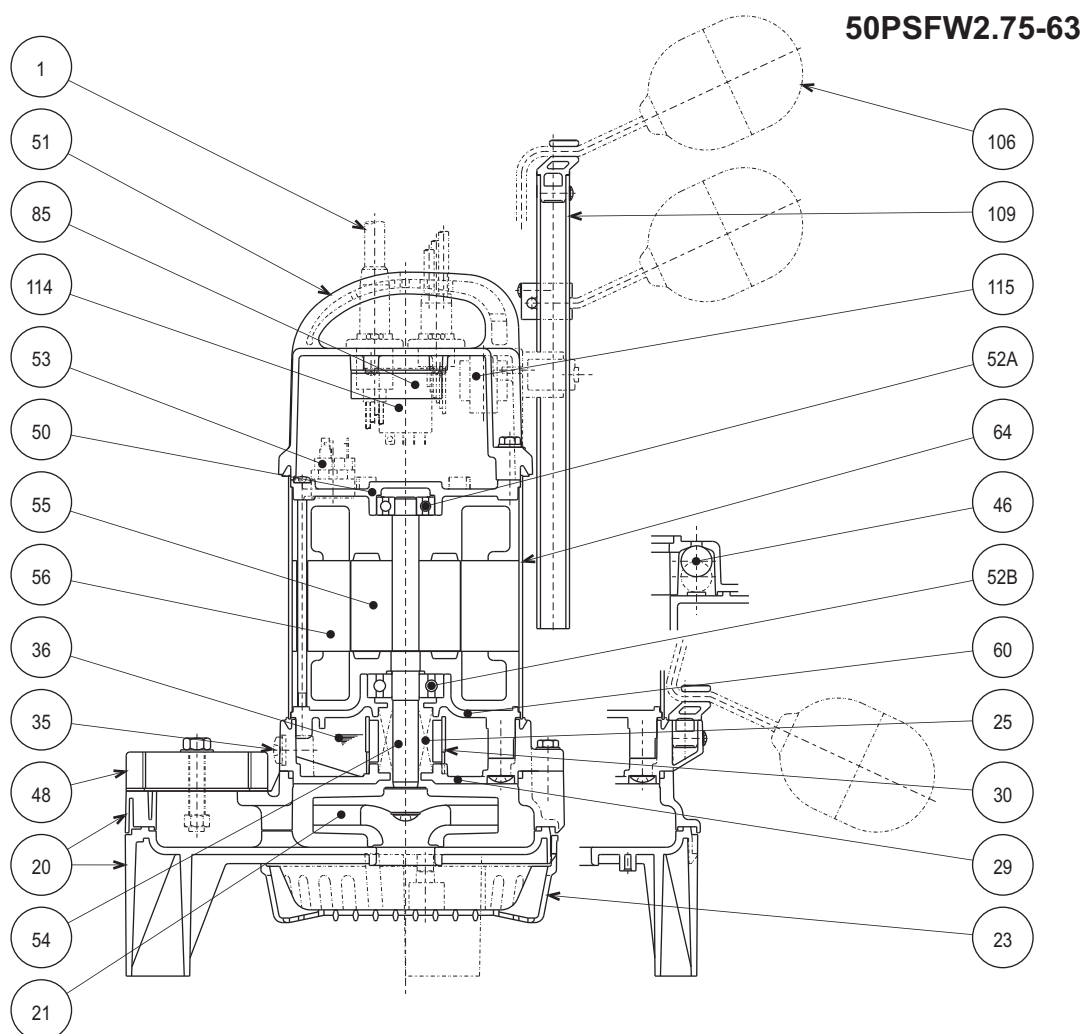
DIMENSIONS:METRIC (mm)

Model	kW	NOM. SIZE	Pump & Motor								Stop	Start	Override	Wt. (kg)
			A	A1	A2	B	D	D1	D2	H	FL3	Max.FL4	Max.FL5	
50PSFW2.25S-63	0.25	50	236	115	81	102	173	76	97	374	115	557	657	7.9
50PSFW2.25-63	0.25	50	236	115	81	102	173	76	97	363	115	546	646	6.9
50PSFW2.4S-63	0.40	50	236	115	81	102	173	76	97	374	115	557	657	7.9
50PSFW2.4-63	0.40	50	236	115	81	102	173	76	97	374	115	557	657	7.8
50PSFW2.75S-63	0.75	50	236	115	81	102	173	76	97	394	115	577	677	9.7
50PSFW2.75-63	0.75	50	236	115	81	102	173	76	97	388	115	571	671	9.1



VANCS - SERIES - PSF **(FRP) EFFLUENT PUMP5**

SECTIONAL VIEW



PART#	DESCRIPTION	MAIN MATERIAL / NOTE	RELATED ASTM, AISI CODE	RELATED EN CODE	QTY
1	Power Cable	PVC Sheath AWG16/4-32ft			1
20	Pump Casing	ABS Plastic w/GF20			1
21	Impeller	PPO Plastic w/GF20			1
23	Suction Strainer	ABS Plastic			1
25	Mechanical Seal	Silicon Carbide / W-14HL			1
29	Oil Casing	PPS Plastic w/(GF+MD)50			1
30	Oil Lifter	PBT Plastic			1
35	Oil Plug	Stainless Steel	S 30400	1.4301	1
36	Lubricant	White Mineral Oil ISO VG32			
46	Air Valve	Glass Ball			1
48	Companion Flange	PBT Plastic w/GF30 / NPT 2"			1
50	Motor Bracket	Aluminum Alloy Die Casting	B85 383.0	EN 1706 AC-46100	1
51	Motor Head Cover	PPS Plastic w/(GF+MD)50			1
52A	Upper Bearing	#6201ZZC3			1
52B	Lower Bearing	#6302ZZC3			1
53	Motor Protector				1
54	Shaft	Stainless Steel	S 30400	1.4301	1
55	Rotor				1
56	Stator				1
60	Bearing Housing	Aluminum Alloy Die Casting	B85 383.0	EN 1706 AC-46100	1
64	Motor Housing	Stainless Steel	S 30400	1.4301	1
85	Relay unit				1
106	Float Set	ABS Plastic			3
109	Float Support Pipe	PVC			1
114	Power Relay				1
115	Transformer				1



VANCS - SERIES - PSF (FRP) EFFLUENT PUMPS

SAMPLE SPECIFICATIONS

1. SCOPE OF SUPPLY -

Furnish and install TSURUMI, VANCS 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, sewage or effluent containing _____ inch (_____ mm) diameter solids 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. The pump discharge size shall be _____ inch, (_____ mm).

2. MATERIALS OF CONSTRUCTION -

Construction of major parts of the pumping unit(s) including pump casing, impeller, motor head cover and intermediate brackets shall be manufactured from recyclable, application appropriate resins. The need for a protective coating shall not be required. All exposed fasteners shall be stainless steel and shall have stainless steel mating anchors integrally cast into the mating part. All units shall be furnished with a NPT discharge companion flange. Impellers shall be of the multi-vane, enclosed design and shall be slip fit to the shaft. The motor shaft shall be machined to provide a positive drive of the impeller. The pump casing shall incorporate an air relief valve.

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. Units shall be fitted with a device that shall provide positive lubrication of top mechanical seal, (down to one third of the standard oil level). The device shall not consume any additional electrical power. Units shall have silicon carbide mechanical seal faces. Mechanical seal hardware shall be Stainless steel.

4. MOTOR -

The pump motor(s) shall be _____ Hp., _____ kW., _____ V., 60 Hz., _____ 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 6 starts per hour. Motor(s) shall be air filled, copper wound, class E insulated with built in thermal and over amperage protection. Motor shaft shall be 403 stainless steel 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. The bearings shall be single row, double shielded, C3, deep groove type ball bearings. Bearing seats shall be rolled carbon steel or aluminum die casting. Motor housing shall be 304 stainless steel. Motors shall be suitable variable speed applications, utilizing a properly sized variable frequency drive. (Only for 3ph.)

5. POWER CABLE AND CABLE ENTRANCE -

The pump power cable shall be suitable for submersible pump applications. The cable entrance shall incorporate built in strain relief, a one piece, three way mechanical compression seal with a fatigue reducing cable 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.



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■ SPECIFICATIONS

Discharge Size
Horsepower Range
Performance Range Capacity
Head
Maximum water temperature
Materials of Construction
Casing (upper)/(lower)
Impeller
Shaft
Motor Frame
Fasteners

Mechanical Seal
Elastomers

Impeller Type
Solids Handling Capability

Bearings

Motor Nomenclature
Type, Speed, Hz.
Voltage, Phase

Insulation

Accessories

Operational Mode

■ STANDARD

2" ~ 3" N.P.T. (50 ~ 80mm)
1/3 ~ 5Hp. (.25 ~ 3.7 kW)
6.6 ~ 203.4 G.P.M. (.03 ~ .85 m³/min)
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104° F. (40° C.)

FRP (ABS + G20) / ABS
FRP (ABS + G20)
403 Stainless Steel
304 Stainless Steel
304 Stainless Steel

Silicon Carbide
NBR (Nitril Buna Rubber)

Enclosed, Multi-vane
.32 ~.51" (8~13 mm)

Pre-lubricated, Double Shielded

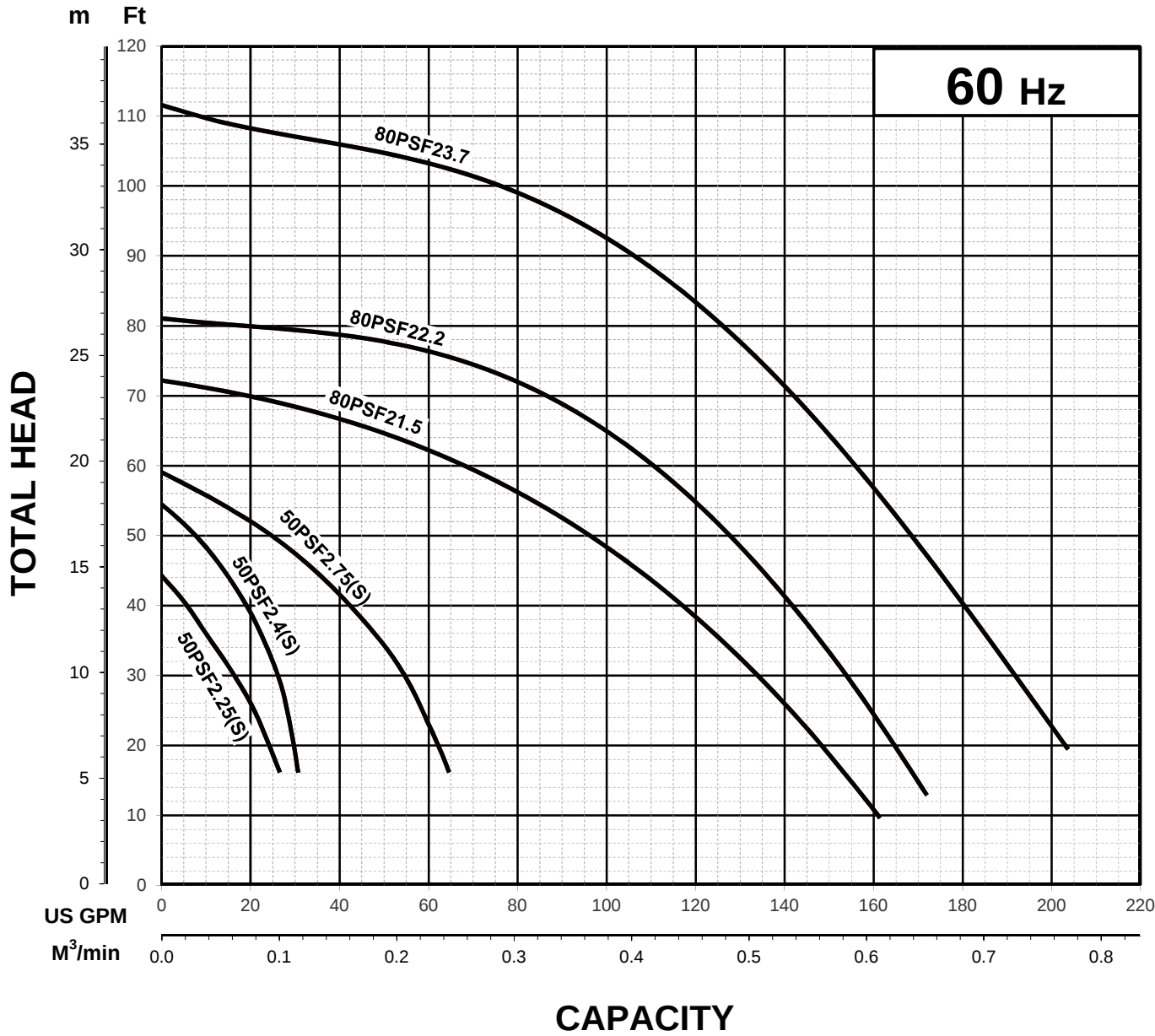
Air Filled, 3600 Rpm, 60 Hz.
115 or 230 V., 1 Phase.,
208-220, 230, 460, or 575 V. 3 Phase
Class E

Submersible Power Cable 32' (10 m)

■ OPTIONS

Length as Required
Model A(Automatic), Model
AW (Automatic Alternating)
TOK (FRP) Slide rail system

GROUP PERFORMANCE RANGE



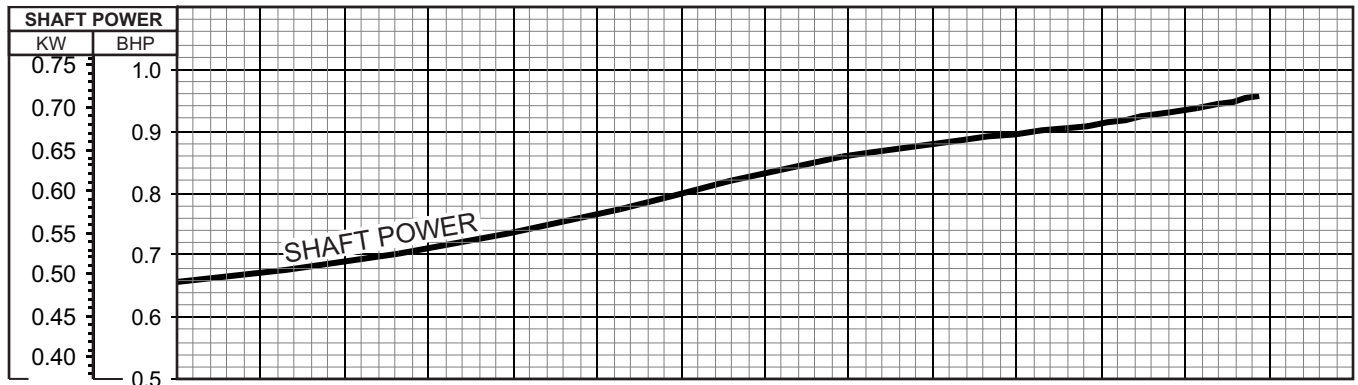
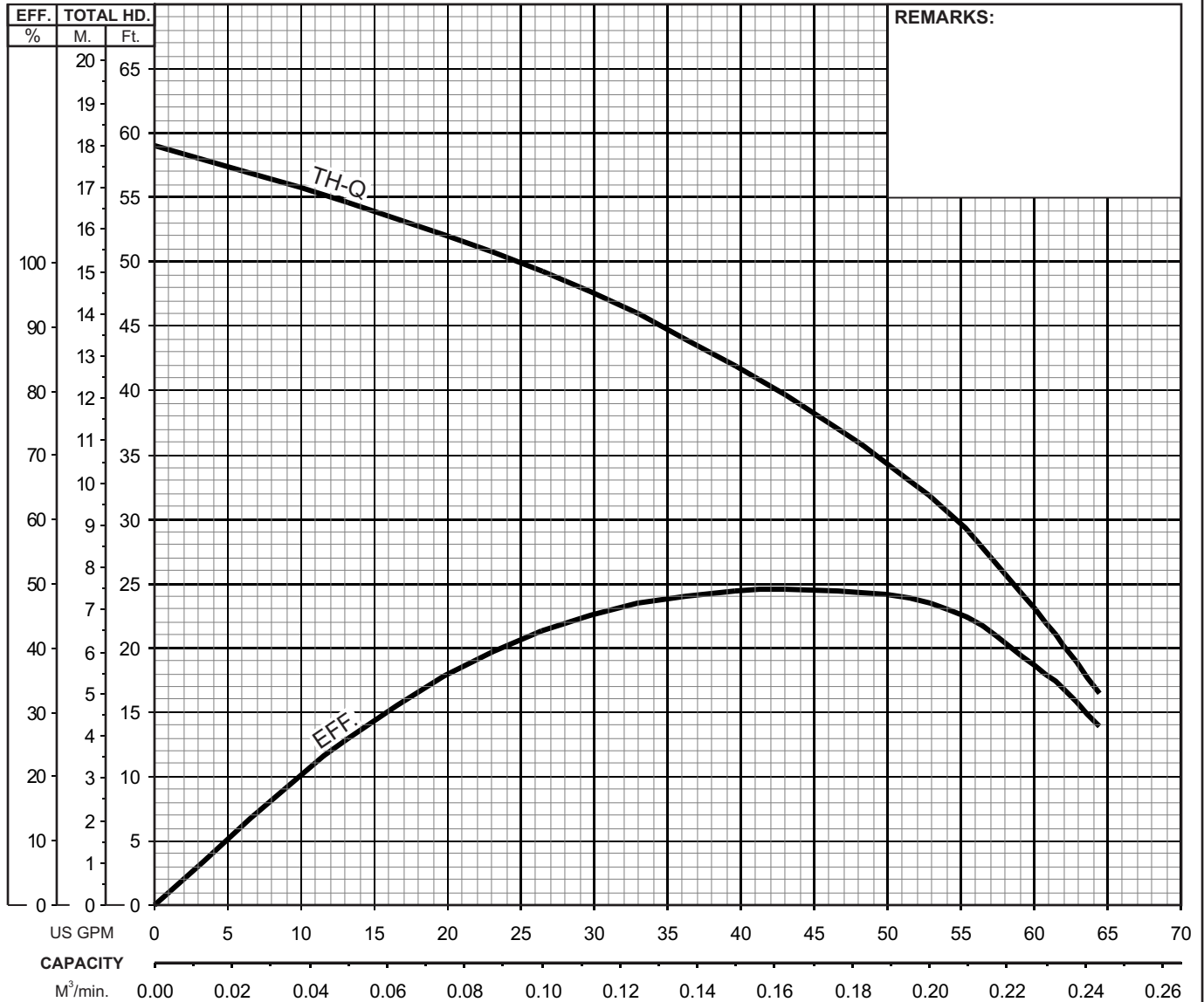
Note



VANCS - SERIES - PSF **(FRP) EFFLUENT PUMPS**

PERFORMANCE **CURVE**

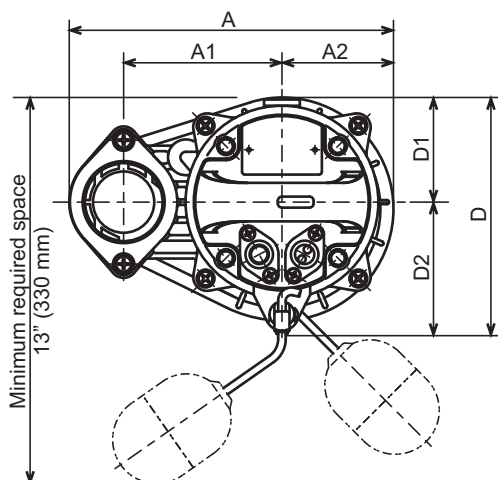
MODEL	BORE	HP	KW	RPM	SOLIDS DIA	LIQUID	SG.	VISCOSITY	TEMP.
50PSF(A/W)2.75S-63	2" / 50mm	1	0.75	3390	0.315" / 8mm	Water	1.0	1.123 cSt.	60°F
PUMP TYPE	PHASE	VOLTAGE	AMPERAGE	HZ	STARTING METHOD	INS. CLASS			
Effluent Pump	Single	115-120 / 230	9.2-9.1 / 4.6	60	Capacitor-Start	E			
CURVE No.	DATE	PHASE	VOLTAGE	AMPERAGE	HZ	STARTING METHOD	INS. CLASS		
-	-	-	-	-	-	-	-		



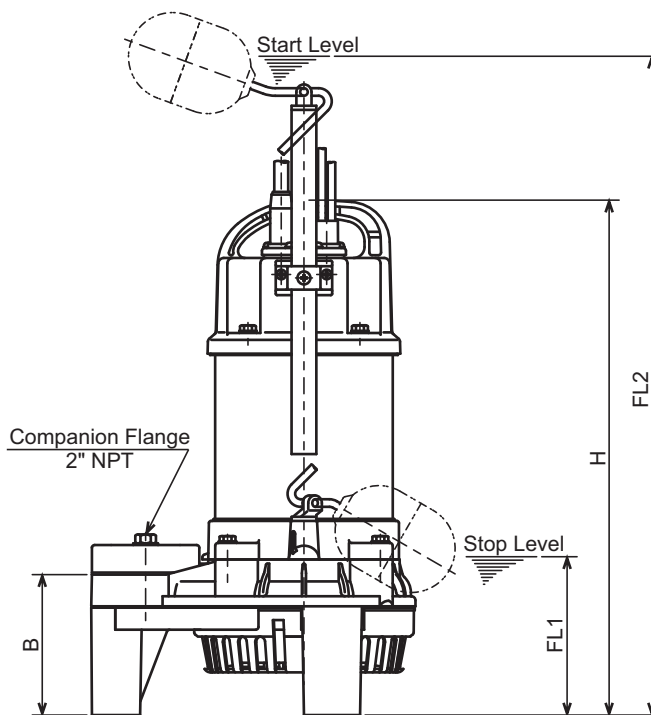


VANCS-SERIES - PSF **(FRP) EFFLUENT PUMPS**

DIMENSIONS



50PSFA2.25S-63
50PSFA2.25-63
50PSFA2.4S-63
50PSFA2.4-63
50PSFA2.75S-63
50PSFA2.75-63



DIMENSIONS:USCS (Inch)

Model	HP	NOM. SIZE	Pump & Motor								Stop	Start	Wt. (lbs.)
			A	A1	A2	B	D	D1	D2	H	FL1	Max.FL2	
50PSFA2.25S-63	1/3	2"	9 5/16	4 1/2	3 3/16	4	6 13/16	3	3 13/16	14 3/4	4 1/2	23 7/8	17.2
50PSFA2.25-63	1/3	2"	9 5/16	4 1/2	3 3/16	4	6 13/16	3	3 13/16	14 5/16	4 1/2	23 1/2	15.0
50PSFA2.4S-63	1/2	2"	9 5/16	4 1/2	3 3/16	4	6 13/16	3	3 13/16	14 3/4	4 1/2	23 7/8	17.2
50PSFA2.4-63	1/2	2"	9 5/16	4 1/2	3 3/16	4	6 13/16	3	3 13/16	14 3/4	4 1/2	23 7/8	17.0
50PSFA2.75S-63	1	2"	9 5/16	4 1/2	3 3/16	4	6 13/16	3	3 13/16	15 1/2	4 1/2	24 5/8	21.1
50PSFA2.75-63	1	2"	9 5/16	4 1/2	3 3/16	4	6 13/16	3	3 13/16	15 1/4	4 1/2	24 1/2	19.8

DIMENSIONS:METRIC (mm)

Model	kW	NOM. SIZE	Pump & Motor								Stop	Start	Wt. (kg)
			A	A1	A2	B	D	D1	D2	H	FL1	Max.FL2	
50PSFA2.25S-63	0.25	50	236	115	81	102	173	76	97	374	115	607	7.8
50PSFA2.25-63	0.25	50	236	115	81	102	173	76	97	363	115	596	6.8
50PSFA2.4S-63	0.40	50	236	115	81	102	173	76	97	374	115	607	7.8
50PSFA2.4-63	0.40	50	236	115	81	102	173	76	97	374	115	607	7.7
50PSFA2.75S-63	0.75	50	236	115	81	102	173	76	97	394	115	627	9.6
50PSFA2.75-63	0.75	50	236	115	81	102	173	76	97	388	115	621	9.0



TSURUMI PUMP

VANCS-SERIES - PU / PN / PSF

DIMENSIONS

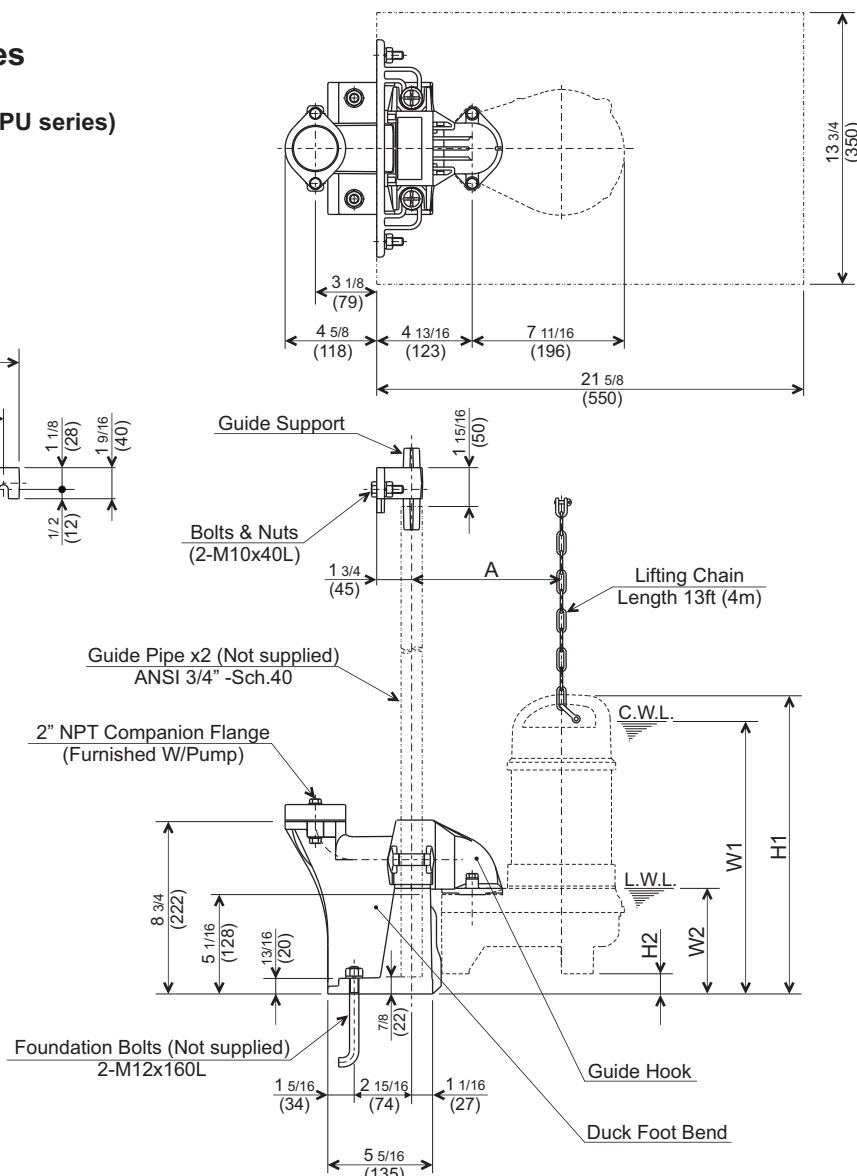
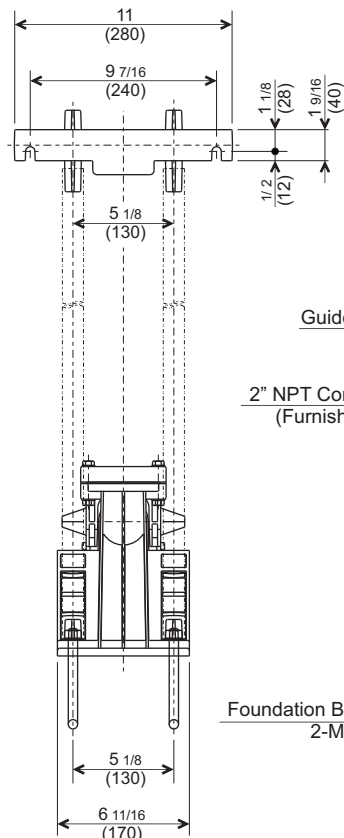
PU / PN / PSF Series

***1/5 - 1HP**

(*1/5HP only available in PU series)

Guide Rail System

Model : TOK4-P



C.W.L. : Continuous running Water Level
L.W.L. : Lowest running Water Level

PU SERIES	Model	OUTPUT HP (kW)	NOM. SIZE inch (mm)	Dimension inch (mm)						Wt. lbs. (kg)
				H1	H2	C.W.L.		L.W.L.	A	
						W1	W2			
	TOK50PU2 15S-64	1/5 (0.15)	2 (50)	16 1/8 (409)	1 1/4 (32)	14 5/8 (372)	5 3/8 (137)	7 3/8 (188)	14.3 (6.5)	
	TOK50PU2 25S-62	1/3 (0.25)	2 (50)	15 3/16 (386)	1 (26)	13 7/8 (351)	5 3/8 (136)	7 5/8 (193)	16.6 (7.5)	
	TOK50PU2 25-62	1/3 (0.25)	2 (50)	14 3/4 (375)	1 (26)	13 1/4 (336)	5 3/8 (136)	7 5/8 (193)	14.3 (6.5)	
	TOK50PU2 4S-62	1/2 (0.4)	2 (50)	15 3/16 (386)	1 (26)	13 7/8 (351)	5 3/8 (136)	7 5/8 (193)	16.6 (7.5)	
	TOK50PU2 4-62	1/2 (0.4)	2 (50)	15 3/16 (386)	1 (26)	13 7/8 (351)	5 3/8 (136)	7 5/8 (193)	16.3 (7.4)	
	TOK50PU2 75S-62	1 (0.75)	2 (50)	16 (406)	1 (26)	14 3/8 (366)	5 3/8 (136)	7 5/8 (193)	20.5 (9.3)	
	TOK50PU2 75-62	1 (0.75)	2 (50)	15 3/4 (400)	1 (26)	14 1/4 (361)	5 3/8 (136)	7 5/8 (193)	19.2 (8.7)	

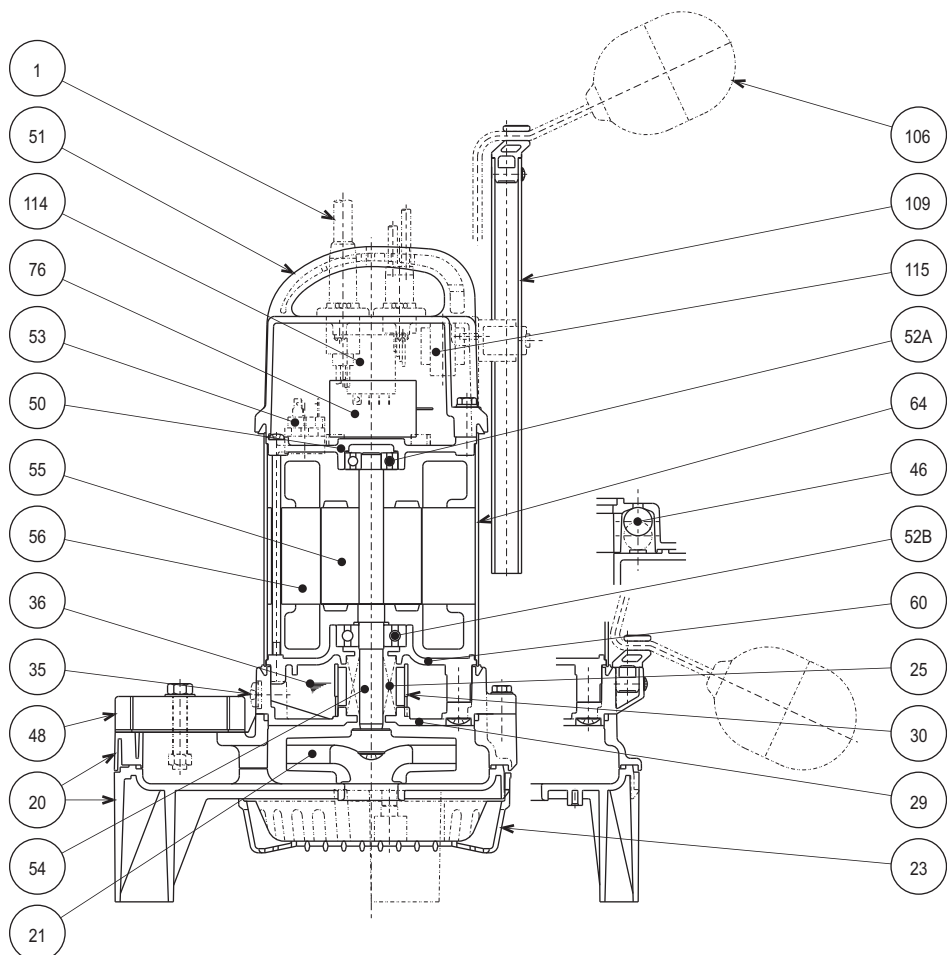
PN SERIES	Model	OUTPUT HP (kW)	NOM. SIZE inch (mm)	Dimension inch (mm)						Wt. lbs. (kg)
				H1	H2	C.W.L.		L.W.L.	A	
						W1	W2			
	TOK50PN2.25S-62	1/3 (0.25)	2 (50)	15 3/16 (386)	1 (26)	13 7/8 (351)	5 3/8 (136)	7 5/8 (193)	16.5 (7.5)	
	TOK50PN2.25-62	1/3 (0.25)	2 (50)	14 3/4 (375)	1 (26)	13 1/4 (336)	5 3/8 (136)	7 5/8 (193)	14.3 (6.5)	
	TOK50PN2.4S-62	1/2 (0.4)	2 (50)	15 3/16 (386)	1 (26)	13 7/8 (351)	5 3/8 (136)	7 5/8 (193)	16.5 (7.5)	
	TOK50PN2.4-62	1/2 (0.4)	2 (50)	15 3/16 (386)	1 (26)	13 7/8 (351)	5 3/8 (136)	7 5/8 (193)	16.3 (7.4)	
	TOK50PN2.75S-62	1 (0.75)	2 (50)	15 3/4 (400)	1 (26)	14 3/8 (366)	5 3/8 (136)	7 5/8 (193)	20.5 (9.3)	
	TOK50PN2.75-62	1 (0.75)	2 (50)	15 1/2 (394)	1 (26)	14 1/4 (361)	5 3/8 (136)	7 5/8 (193)	19.2 (8.7)	

PSF SERIES	Model	OUTPUT HP (kW)	NOM. SIZE inch (mm)	Dimension inch (mm)						Wt. lbs. (kg)
				H1	H2	C.W.L.		A		
						W1	W2			
	TOK50PSF2.25S-62	1/3 (0.25)	2 (50)	15 3/16 (386)	1 (26)	13 7/8 (351)	5 3/8 (136)	7 5/8 (193)	16.8 (7.6)	
	TOK50PSF2.25-62	1/3 (0.25)	2 (50)	14 3/4 (375)	1 (26)	13 1/4 (336)	5 3/8 (136)	7 5/8 (193)	14.6 (6.6)	
	TOK50PSF2.4S-62	1/2 (0.4)	2 (50)	15 3/16 (386)	1 (26)	13 7/8 (351)	5 3/8 (136)	7 5/8 (193)	16.8 (7.6)	
	TOK50PSF2.4-62	1/2 (0.4)	2 (50)	15 3/16 (386)	1 (26)	13 7/8 (351)	5 3/8 (136)	7 5/8 (193)	16.5 (7.5)	
	TOK50PSF2.75S-62	1 (0.75)	2 (50)	15 3/4 (400)	1 (26)	14 3/8 (366)	5 3/8 (136)	7 5/8 (193)	20.7 (9.4)	
	TOK50PSF2.75-62	1 (0.75)	2 (50)	15 1/2 (394)	1 (26)	14 1/4 (361)	5 3/8 (136)	7 5/8 (193)	19.4 (8.8)	



VANCS - SERIES - PSF **(FRP) EFFLUENT PUMP5**

SECTIONAL VIEW

50PSFA2.75S-63


PART#	DESCRIPTION	MAIN MATERIAL / NOTE	RELATED ASTM, AISI CODE	RELATED EN CODE	QTY
1	Power Cable	PVC Sheath AWG14/3-32ft or AWG16/3-32ft (230V)			1
20	Pump Casing	ABS Plastic w/GF20			1
21	Impeller	PPO Plastic w/GF20			1
23	Suction Strainer	ABS Plastic			1
25	Mechanical Seal	Silicon Carbide / W-14HL			1
29	Oil Casing	PPS Plastic w/(GF+MD)50			1
30	Oil Lifter	PBT Plastic			1
35	Oil Plug	Stainless Steel	S 30400	1.4301	1
36	Lubricant	White Mineral Oil ISO VG32			
46	Air Valve	Glass Ball			1
48	Companion Flange	PBT Plastic w/GF30 / NPT 2"			1
50	Motor Bracket	Aluminum Alloy Die Casting	B85 383.0	EN 1706 AC-46100	1
51	Motor Head Cover	PPS Plastic w/(GF+MD)50			1
52A	Upper Bearing	#6201ZZC3			1
52B	Lower Bearing	#6302ZZC3			1
53	Motor Protector				1
54	Shaft	Stainless Steel	S 30400	1.4301	1
55	Rotor				1
56	Stator				1
60	Bearing Housing	Aluminum Alloy Die Casting	B85 383.0	EN 1706 AC-46100	1
64	Motor Housing	Stainless Steel	S 30400	1.4301	1
76	Capacitor				1
106	Float Set	ABS Plastic			2
109	Float Support Pipe	PVC			1
114	Power Relay				1
115	Transformer				1

**TSURUMI PUMP**

VANCS - SERIES - PSF (FRP) EFFLUENT PUMPS

SAMPLE SPECIFICATIONS

1. SCOPE OF SUPPLY -

Furnish and install TSURUMI, VANCS 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, sewage or effluent containing _____ inch (_____mm) diameter solids 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. The pump discharge size shall be _____ inch, (_____mm).

2. MATERIALS OF CONSTRUCTION -

Construction of major parts of the pumping unit(s) including pump casing, impeller, motor head cover and intermediate brackets shall be manufactured from recyclable, application appropriate resins. The need for a protective coating shall not be required. All exposed fasteners shall be stainless steel and shall have stainless steel mating anchors integrally cast into the mating part. All units shall be furnished with a NPT discharge companion flange. Impellers shall be of the multi-vane, enclosed design and shall be slip fit to the shaft. The motor shaft shall be machined to provide a positive drive of the impeller. The pump casing shall incorporate an air relief valve.

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. Units shall be fitted with a device that shall provide positive lubrication of top mechanical seal, (down to one third of the standard oil level). The device shall not consume any additional electrical power. Units shall have silicon carbide mechanical seal faces. Mechanical seal hardware shall be Stainless steel.

4. MOTOR -

The pump motor(s) shall be _____Hp., _____ kW., _____V., 60 Hz., _____ 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 6 starts per hour. Motor(s) shall be air filled, copper wound, class E insulated with built in thermal and over amperage protection. Motor shaft shall be 304 stainless steel 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. The bearings shall be single row, double shielded, C3, deep groove type ball bearings. Bearing seats shall be rolled carbon steel or aluminum die casting. Motor housing shall be 304 stainless steel.

5. POWER CABLE AND CABLE ENTRANCE -

The pump power cable shall be suitable for submersible pump applications. The cable entrance shall incorporate built in strain relief, a one piece, three way mechanical compression seal with a fatigue reducing cable 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.



VANCS SERIES - PSF

(FRP) EFFLUENT PUMPS

SPECIFICATIONS

■ FEATURES

1. Enclosed, FRP (Fiberglass Reinforced Plastic), impeller provides for high head pumping of effluent or water.
2. Double inside mechanical seals with silicon carbide faces, running in an oil filled chamber and further protected by a lip seal, provides for the most durable seal design available.
2. Highly efficient, continuous duty, air filled, copper wound motor with class E, insulation minimizes the cost of operation.
4. Built in thermal & amperage sensing, protector prevents motor failure due to overloading, single phasing (in three phase units), 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. Utilization of application appropriate FRP & stainless steel components increases corrosion resistance in a wide variety of applications.

■ APPLICATIONS

1. Residential, commercial, effluent, wastewater and site drainage.
2. Chemical spill containment.
3. Decorative waterfalls, fountains and fish ponds.
4. Raw water supply from rivers or lakes.



■ SPECIFICATIONS

Discharge Size
Horsepower Range
Performance Range Capacity
Head
Maximum water temperature
Materials of Construction
Casing (upper)/(lower)
Impeller
Shaft
Motor Frame
Fasteners

Mechanical Seal
Elastomers

Impeller Type
Solids Handling Capability

Bearings

Motor Nomenclature
Type, Speed, Hz.
Voltage, Phase

Insulation

Accessories

Operational Mode

■ STANDARD

2" ~ 3" N.P.T. (50 ~ 80mm)
1/3 ~ 5Hp. (.25 ~ 3.7 kW)
6.6 ~ 203.4 G.P.M. (.03 ~ .85 m³/min)
16.4 ~ 111.5 Ft. (5.0 ~ 33.99 m)
104° F. (40° C.)

FRP (ABS + G20) / ABS
FRP (ABS + G20)
403 Stainless Steel
304 Stainless Steel
304 Stainless Steel

Silicon Carbide
NBR (Nitril Buna Rubber)

Enclosed, Multi-vane
.32 ~.51" (8~13 mm)

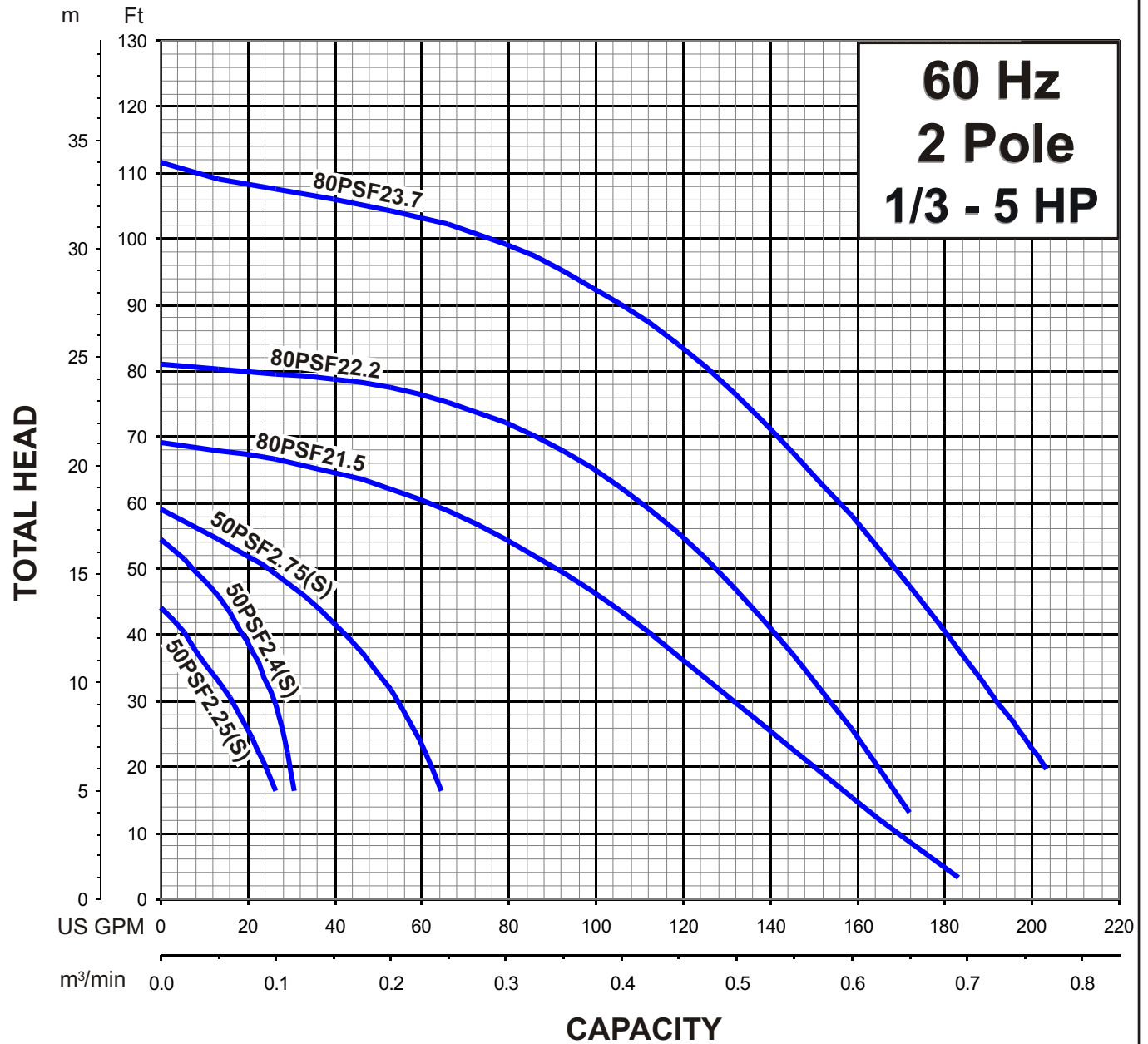
Pre-lubricated, Double Shielded

Air Filled, 3600 Rpm, 60 Hz.
115 or 230 V., 1 Phase.,
208-220, 230, 460, or 575 V. 3 Phase
Class E

Submersible Power Cable 32' (10 m)

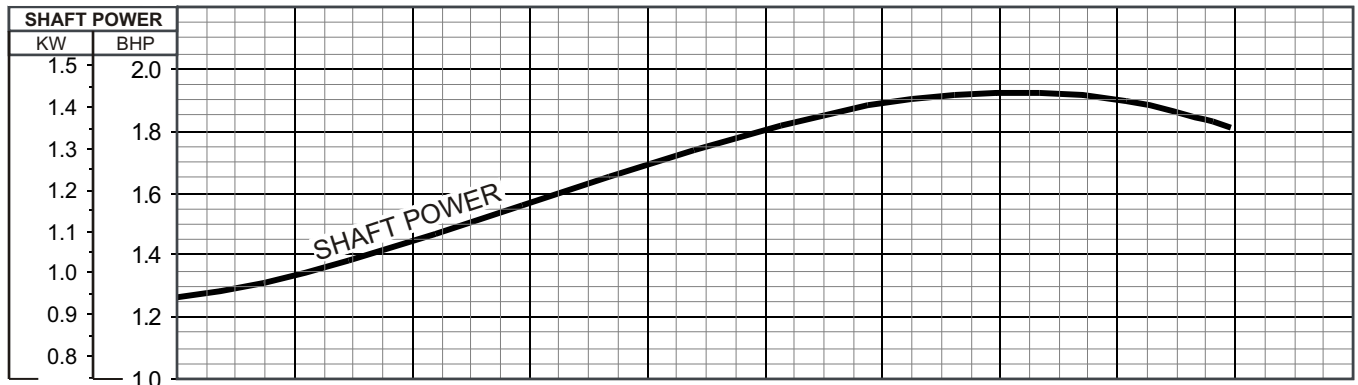
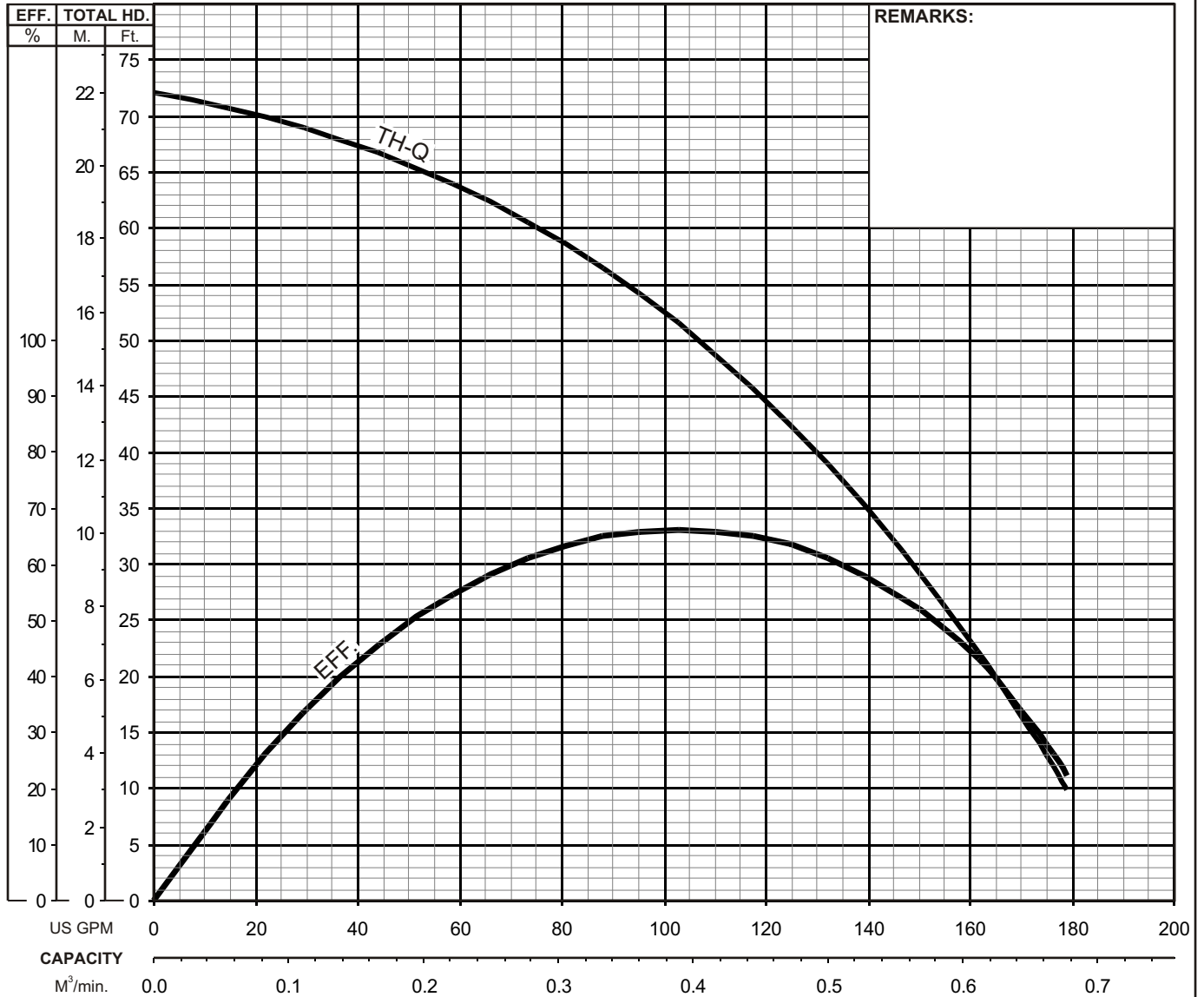
■ OPTIONS

Length as Required
Model A(Automatic), Model
AW (Automatic Alternating)
TOK (FRP) Slide rail system

**VANCS - SERIES - PSF**
(FRP) EFFLUENT PUMPS**PERFORMANCE
RANGE****PERFORMANCE RANGE**

**TSURUMI PUMP**
VANCS - SERIES - PSF
(FRP) EFFLUENT PUMPS
PERFORMANCE
CURVE

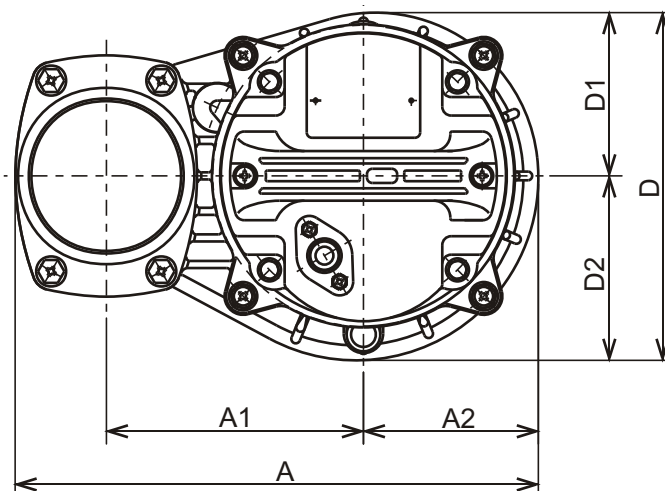
MODEL		BORE	HP	KW	RPM	SOLIDS DIA		LIQUID		SG.	VISCOSITY	TEMP.
80PSF(A/W)21.5-62		3"/80mm	2	1.5	3455	0.512"/ 13mm		Water		1.0	1.123 CST	60°F
PUMP TYPE		PHASE	VOLTAGE		AMPERAGE		HZ	STARTING METHOD			INS. CLASS	
Effluent Pump		3	208 - 220 / 440		6.9 - 6.6 / 3.6		60	Direct On Line			E	
CURVE No.	DATE	PHASE	VOLTAGE		AMPERAGE		HZ	STARTING METHOD			INS. CLASS	
-	-	-	-		-		-	-			-	



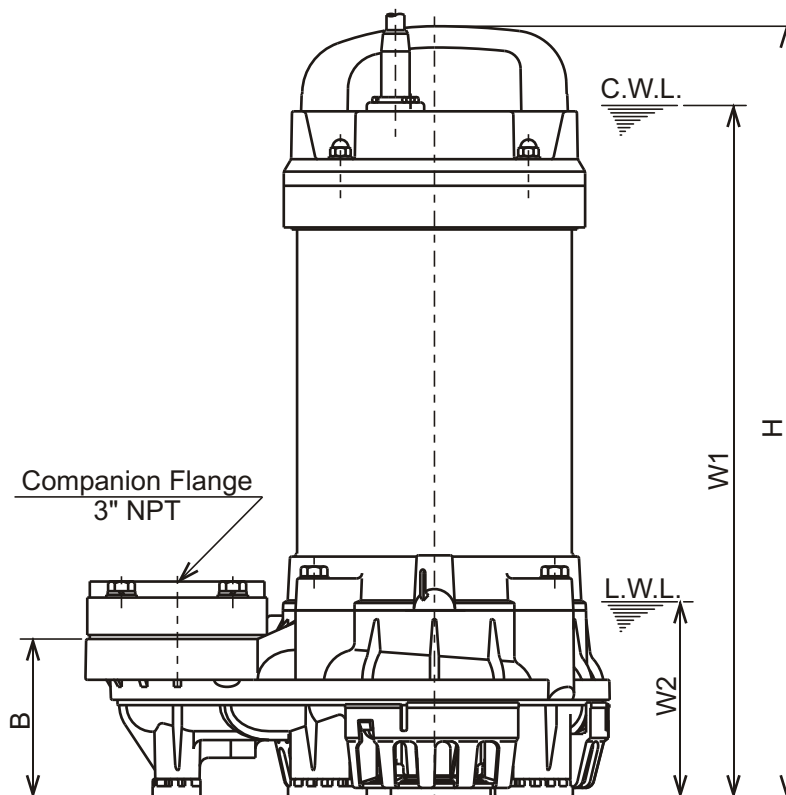


VANCS - SERIES - PSF (FRP) EFFLUENT PUMPS

DIMENSIONS



80PSF21.5-62



C.W.L. : Continuous running Water Level
L.W.L. : Lowest running Water Level

DIMENSIONS:USCS (In ch)

Model	HP	NOM. SIZE	Pump & Motor								C.W.L.	L.W.L.	Wt. (lbs.)
			A	A1	A2	B	D	D1	D2	H	W1	W2	
80PSF21.5-62	2	3"	11 5/8	5 11/16	3 7/8	3 1/2	7 11/16	3 5/8	4 1/8	17 1/8	15 3/8	4 3/8	35.2

DIMENSIONS:METRIC (mm)

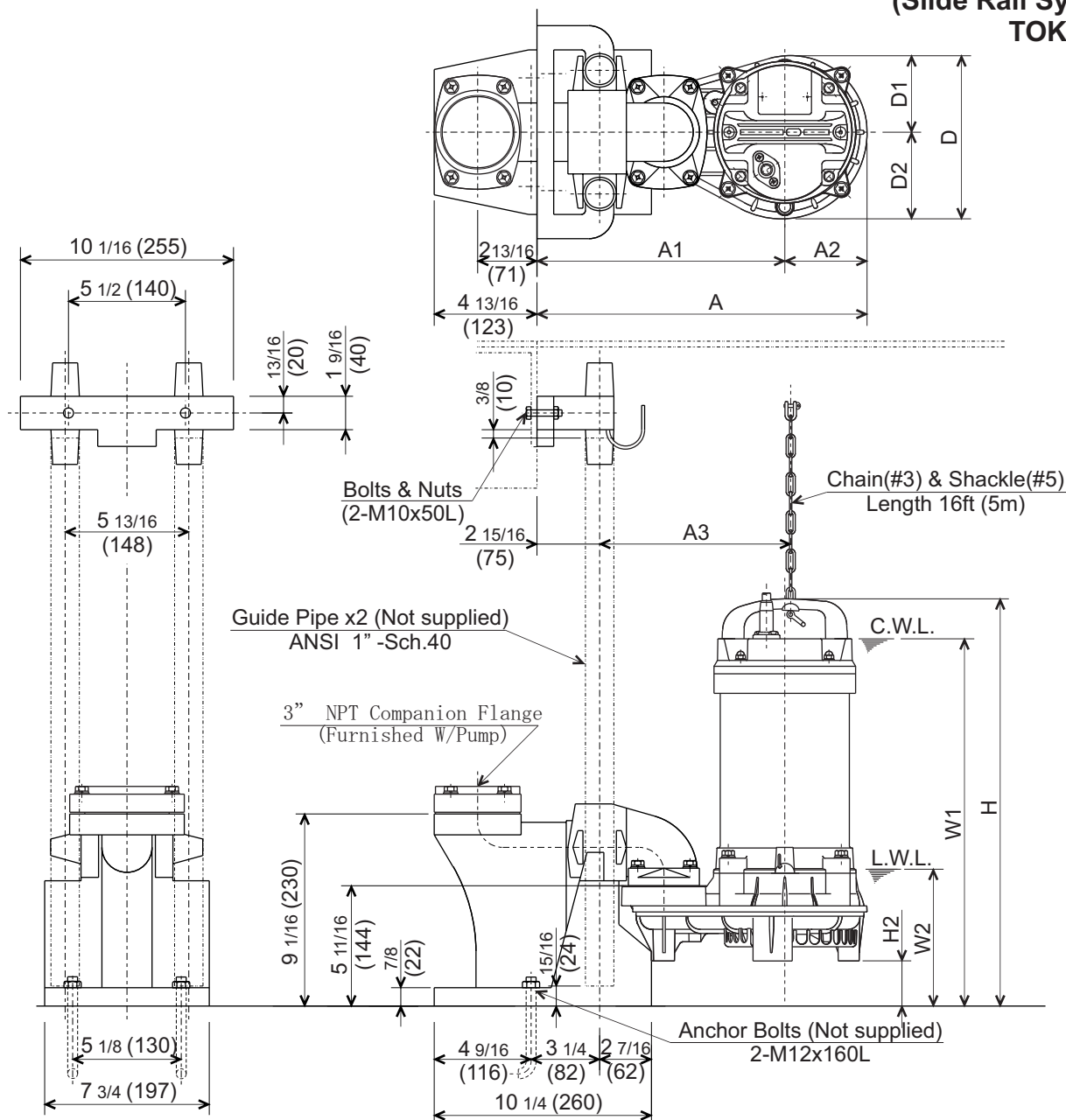
Model	kW	NOM. SIZE	Pump & Motor								C.W.L.	L.W.L.	Wt. (kg)
			A	A1	A2	B	D	D1	D2	H	W1	W2	
80PSF21.5-62	1.5	80	295	145	99	89	196	92	104	435	390	110	16.0



VANCS-SERIES - PSF **(FRP) EFFLUENT PUMPS**

DIMENSIONS

TOK80PSF21.5 **(Slide Rail System** **TOK2-65)**



C.W.L. : Continuous running Water Level
 L.W.L. : Lowest running Water Level

DIMENSIONS:USCS (Inch)

Model	HP	NOM. SIZE	Pump & Motor										C.W.L.	L.W.L.	Wt. (lbs.)
			A	A1	A2	A3	D	D1	D2	H	H2		W1	W2	
TOK80PSF21.5	2	3"	15 9/16	11 11/16	3 7/8	9 1/16	7 11/16	3 5/8	4 1/8	19 1/4	2 1/8		17 3/8	6 1/2	34.8

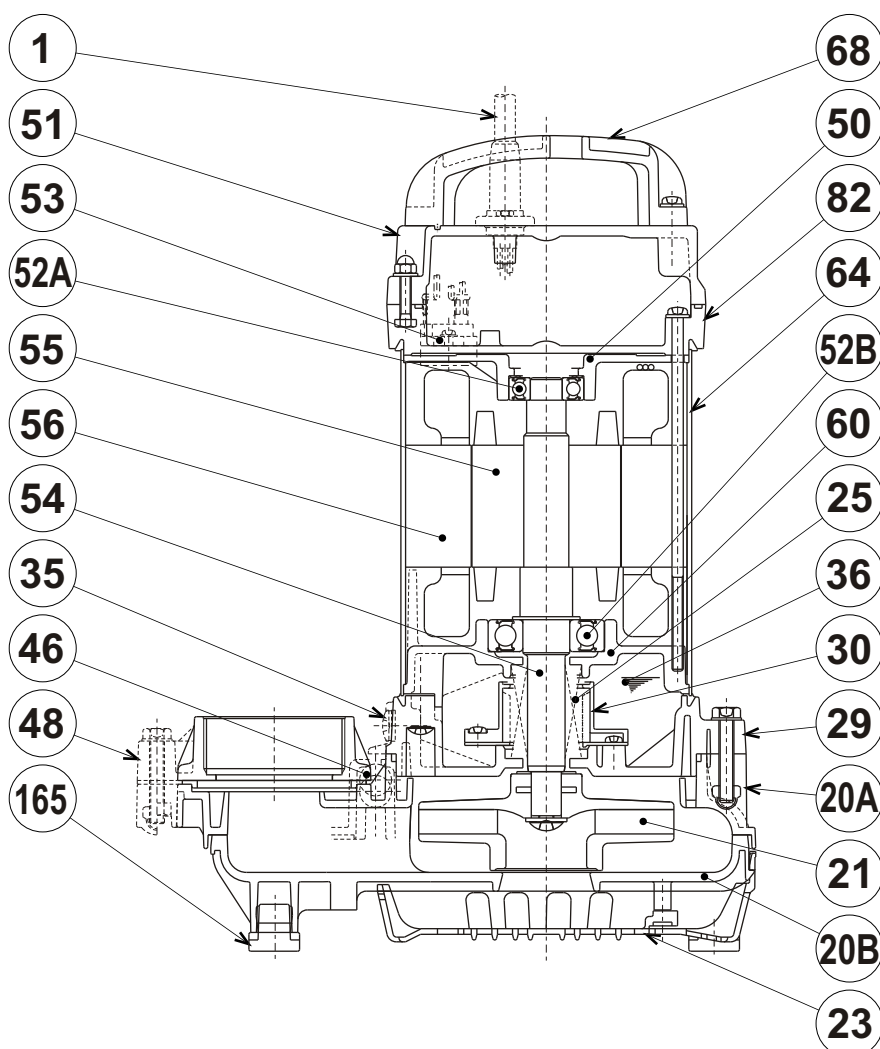
DIMENSIONS:METRIC (mm)

Model	kW	NOM. SIZE	Pump & Motor										C.W.L.	L.W.L.	Wt. (kg)
			A	A1	A2	A3	D	D1	D2	H	H2		W1	W2	
TOK80PSF21.5	1.5	80	396	297	99	231	196	92	104	489	54		441	164	15.8



VANCS - SERIES - PSF **(FRP) EFFLUENT PUMPS**

SECTIONAL VIEW

80PSF21.5-62


PART#	DESCRIPTION	MAIN MATERIAL / NOTE	RELATED ASTM, AISI CODE	RELATED EN CODE	QTY
1	Power Cable	PVC Sheath AWG16/4-32ft			1
20A	Upper Pump Casing	PA+ABS Plastic w/GF30			1
20B	Lower Pump Casing	PA+ABS Plastic w/GF30			1
21	Impeller	PPO Plastic w/GF20			1
23	Suction Strainer	ABS Plastic			1
25	Mechanical Seal	Silicon Carbide / H-20A			1
29	Oil Casing	PPS Plastic w/(GF+MD)50			1
30	Oil Lifter	PBT Plastic W/(GF+MD)40			1
35	Oil Plug	Stainless Steel	S 30400	1.4301	1
36	Lubricant	White Mineral Oil ISO VG32			
46	Air Valve	Glass Ball			1
48	Companion Flange	PVC / NPT 3"			1
50	Motor Bracket	Aluminum Alloy Die Casting	B85 383.0	EN 1706 AC-46100	1
51	Motor Head Cover	PPS Plastic w/GF40			1
52A	Upper Bearing	#6203ZZC3			1
52B	Lower Bearing	#6305ZZC3			1
53	Motor Protector				1
54	Shaft	Stainless Steel	S 30400	1.4301	1
55	Rotor				1
56	Stator				1
60	Bearing Housing	Aluminum Alloy Die Casting	B85 383.0	EN 1706 AC-46100	1
64	Motor Housing	Stainless Steel	S 30400	1.4301	1
68	Handle	ABS Plastic			1
82	Motor Head Cover Spacer	PPS Plastic w/GF40			1
165	Rubber Cusion	Nitrile Butadiene Rubber			5



VANCS - SERIES - PSF (FRP) EFFLUENT PUMPS

SAMPLE SPECIFICATIONS

1. SCOPE OF SUPPLY -

Furnish and install TSURUMI, VANCS 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, sewage or effluent containing _____ inch (_____ mm) diameter solids 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. The pump discharge size shall be _____ inch, (_____ mm).

2. MATERIALS OF CONSTRUCTION -

Construction of major parts of the pumping unit(s) including pump casing, impeller, motor head cover and intermediate brackets shall be manufactured from recyclable, application appropriate resins. The need for a protective coating shall not be required. All exposed fasteners shall be stainless steel and shall have stainless steel mating anchors integrally cast into the mating part. All units shall be furnished with a NPT discharge companion flange. Impellers shall be of the multi-vane, enclosed design and shall be slip fit to the shaft. The motor shaft shall be machined to provide a positive drive of the impeller. The pump casing shall incorporate an air relief valve.

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. Units shall be fitted with a device that shall provide positive lubrication of top mechanical seal, (down to one third of the standard oil level). The device shall not consume any additional electrical power. Units shall have silicon carbide mechanical seal faces. Mechanical seal hardware shall be Stainless steel.

4. MOTOR -

The pump motor(s) shall be _____ Hp., _____ kW., _____ V., 60 Hz., _____ 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 6 starts per hour. Motor(s) shall be air filled, copper wound, class E insulated with built in thermal and over amperage protection. Motor shaft shall be 403 stainless steel 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. The bearings shall be single row, double shielded, C3, deep groove type ball bearings. Bearing seats shall be rolled carbon steel or aluminum die casting. Motor housing shall be 304 stainless steel. Motors shall be suitable variable speed applications, utilizing a properly sized variable frequency drive. (Only for 3ph.)

5. POWER CABLE AND CABLE ENTRANCE -

The pump power cable shall be suitable for submersible pump applications. The cable entrance shall incorporate built in strain relief, a one piece, three way mechanical compression seal with a fatigue reducing cable 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.



VANCS SERIES - PSF

(FRP) EFFLUENT PUMPS

SPECIFICATIONS

FEATURES

1. Enclosed, FRP (Fiberglass Reinforced Plastic), impeller provides for high head pumping of effluent or water.
2. Double inside mechanical seals with silicon carbide faces, running in an oil filled chamber and further protected by a lip seal, provides for the most durable seal design available.
2. Highly efficient, continuous duty, air filled, copper wound motor with class E, insulation minimizes the cost of operation.
4. Built in thermal & amperage sensing, protector prevents motor failure due to overloading, single phasing (in three phase units), 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. Utilization of application appropriate FRP & stainless steel components increases corrosion resistance in a wide variety of applications.

APPLICATIONS

1. Residential, commercial, effluent, wastewater and site drainage.
2. Chemical spill containment.
3. Decorative waterfalls, fountains and fish ponds.
4. Raw water supply from rivers or lakes.



SPECIFICATIONS

Discharge Size
Horsepower Range
Performance Range Capacity
Head
Maximum water temperature
Materials of Construction
Casing (upper)/(lower)
Impeller
Shaft
Motor Frame
Fasteners

Mechanical Seal
Elastomers

Impeller Type
Solids Handling Capability

Bearings

Motor Nomenclature
Type, Speed, Hz.
Voltage, Phase

Insulation

Accessories

Operational Mode

STANDARD

2" ~ 3" N.P.T. (50 ~ 80mm)
1/3 ~ 5Hp. (.25 ~ 3.7 kW)
6.6 ~ 203.4 G.P.M. (.03 ~ .85 m³/min)
16.4 ~ 111.5 Ft. (5.0 ~ 33.99 m)
104° F. (40° C.)

FRP (ABS + G20) / ABS
FRP (ABS + G20)
403 Stainless Steel
304 Stainless Steel
304 Stainless Steel

Silicon Carbide
NBR (Nitril Buna Rubber)

Enclosed, Multi-vane
.32 ~.51" (8~13 mm)

Pre-lubricated, Double Shielded

Air Filled, 3600 Rpm, 60 Hz.
115 or 230 V., 1 Phase.,
208-220, 230, 460, or 575 V. 3 Phase
Class E

Submersible Power Cable 32' (10 m)

OPTIONS

Length as Required
Model A(Automatic), Model
AW (Automatic Alternating)
TOK (FRP) Slide rail system



VANCS - SERIES - PSF (FRP) EFFLUENT PUMPS

SAMPLE SPECIFICATIONS

1. SCOPE OF SUPPLY -

Furnish and install TSURUMI, VANCS 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, sewage or effluent containing _____ inch (_____ mm) diameter solids 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. The pump discharge size shall be _____ inch, (_____ mm).

2. MATERIALS OF CONSTRUCTION -

Construction of major parts of the pumping unit(s) including pump casing, impeller, motor head cover and intermediate brackets shall be manufactured from recyclable, application appropriate resins. The need for a protective coating shall not be required. All exposed fasteners shall be stainless steel and shall have stainless steel mating anchors integrally cast into the mating part. All units shall be furnished with a NPT discharge companion flange. Impellers shall be of the multi-vane, enclosed design and shall be slip fit to the shaft. The motor shaft shall be machined to provide a positive drive of the impeller. The pump casing shall incorporate an air relief valve.

3. MECHANICAL SEAL -

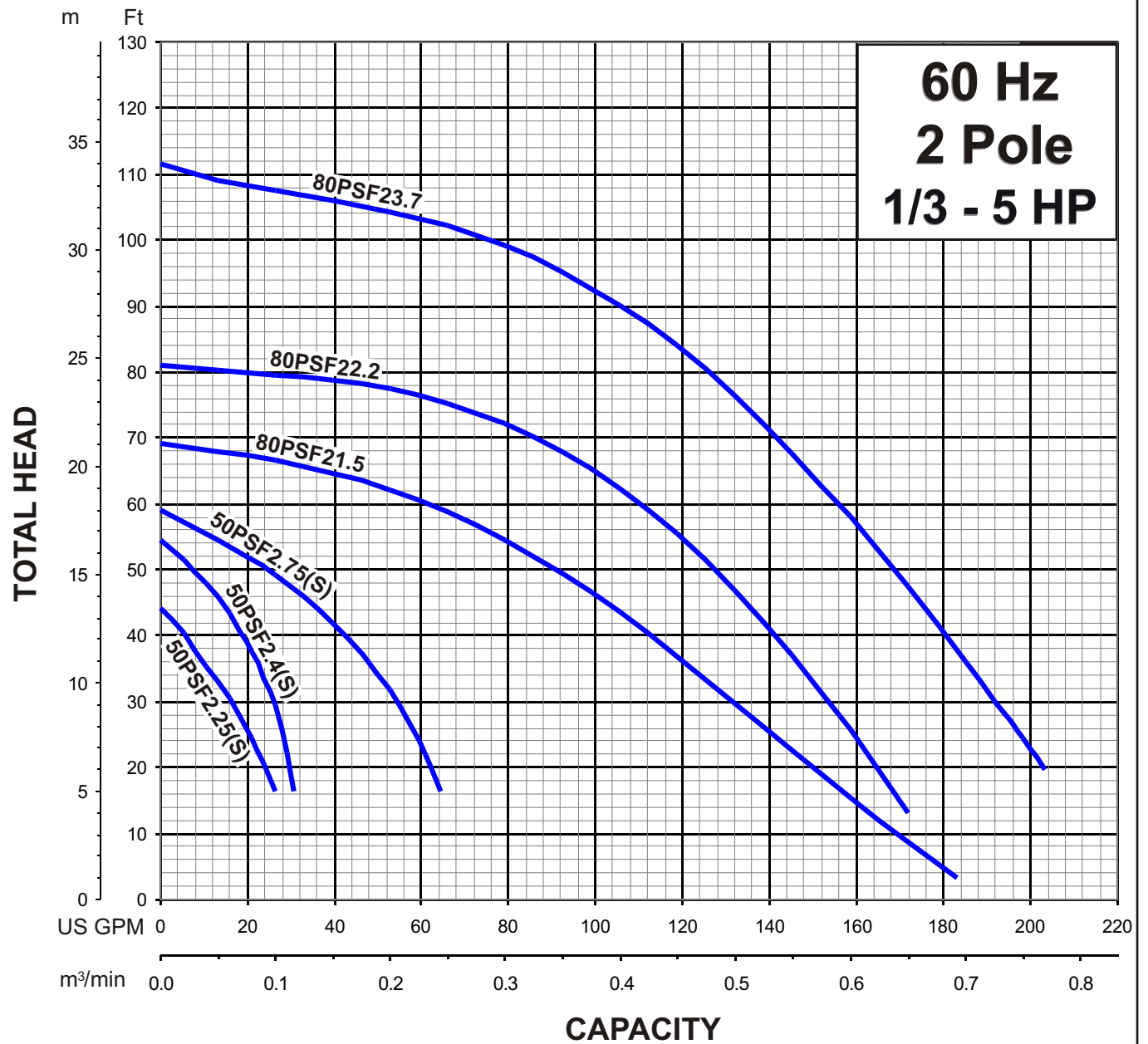
All units shall be furnished with a dual inside mechanical shaft seal located completely out of the pumpage, running in a separate oil filled chamber. Units shall be fitted with a device that shall provide positive lubrication of top mechanical seal, (down to one third of the standard oil level). The device shall not consume any additional electrical power. Units shall have silicon carbide mechanical seal faces. Mechanical seal hardware shall be Stainless steel.

4. MOTOR -

The pump motor(s) shall be _____ Hp., _____ kW., _____ V., 60 Hz., _____ 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 6 starts per hour. Motor(s) shall be air filled, copper wound, class E insulated with built in thermal and over amperage protection. Motor shaft shall be 403 stainless steel 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. The bearings shall be single row, double shielded, C3, deep groove type ball bearings. Bearing seats shall be rolled carbon steel or aluminum die casting. Motor housing shall be 304 stainless steel. Motors shall be suitable variable speed applications, utilizing a properly sized variable frequency drive. (Only for 3ph.)

5. POWER CABLE AND CABLE ENTRANCE -

The pump power cable shall be suitable for submersible pump applications. The cable entrance shall incorporate built in strain relief, a one piece, three way mechanical compression seal with a fatigue reducing cable 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.

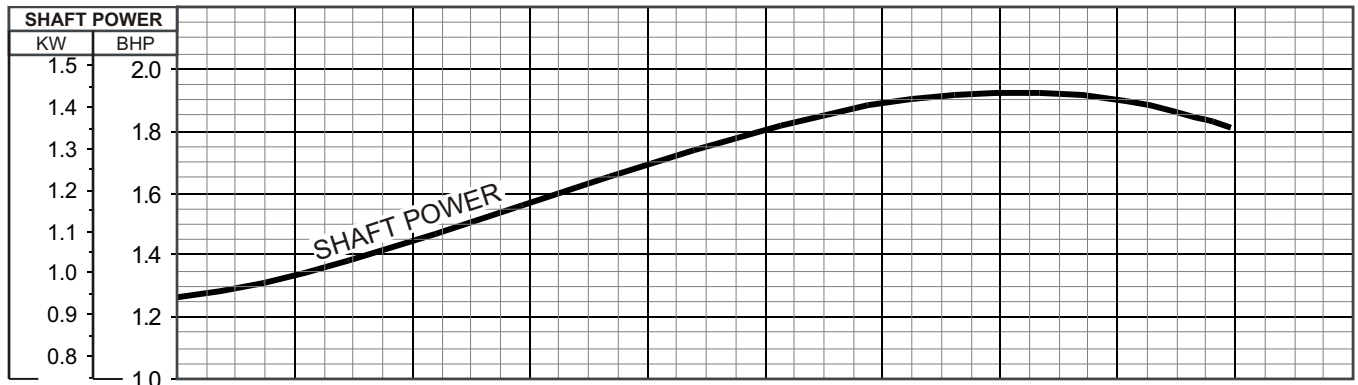
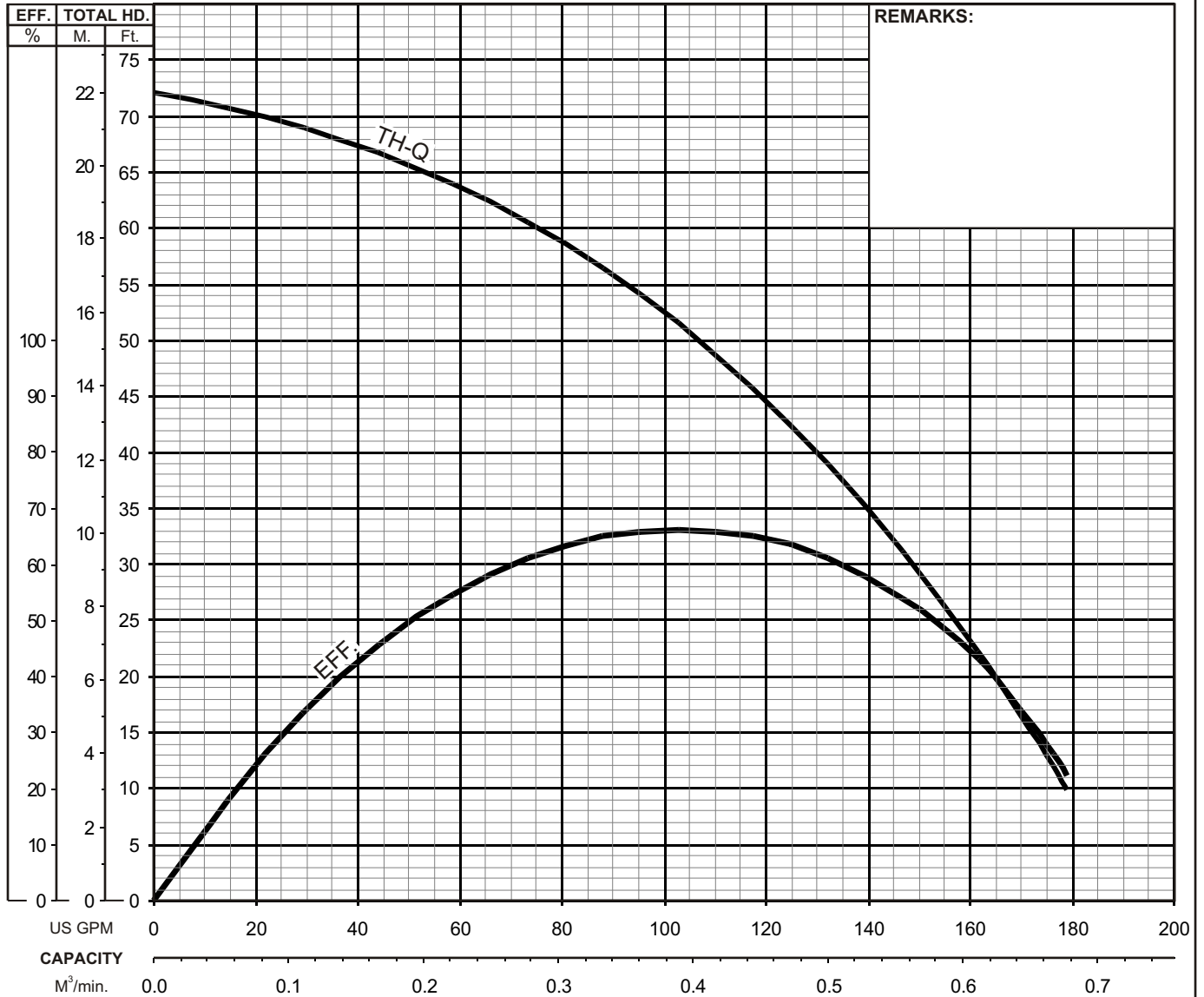
**VANCS - SERIES - PSF**
(FRP) EFFLUENT PUMPS**PERFORMANCE
RANGE****PERFORMANCE RANGE**



VANCS - SERIES - PSF **(FRP) EFFLUENT PUMPS**

PERFORMANCE **CURVE**

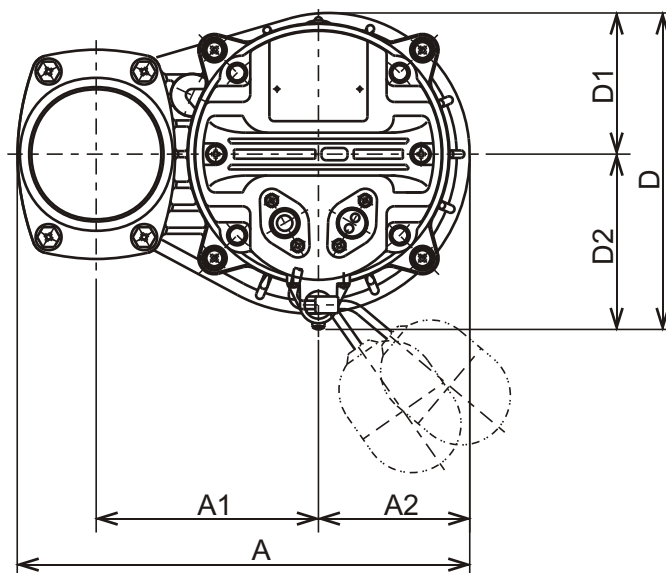
MODEL	BORE	HP	KW	RPM	SOLIDS DIA	LIQUID	SG.	VISCOSITY	TEMP.
80PSF(A/W)21.5-62	3"/80mm	2	1.5	3455	0.512"/ 13mm	Water	1.0	1.123 CST	60°F
PUMP TYPE	PHASE	VOLTAGE	AMPERAGE	HZ	STARTING METHOD	INS. CLASS			
Effluent Pump	3	208 - 220 / 440	6.9 - 6.6 / 3.6	60	Direct On Line	E			
CURVE No.	DATE	PHASE	VOLTAGE	AMPERAGE	HZ	STARTING METHOD	INS. CLASS		
-	-	-	-	-	-	-	-		



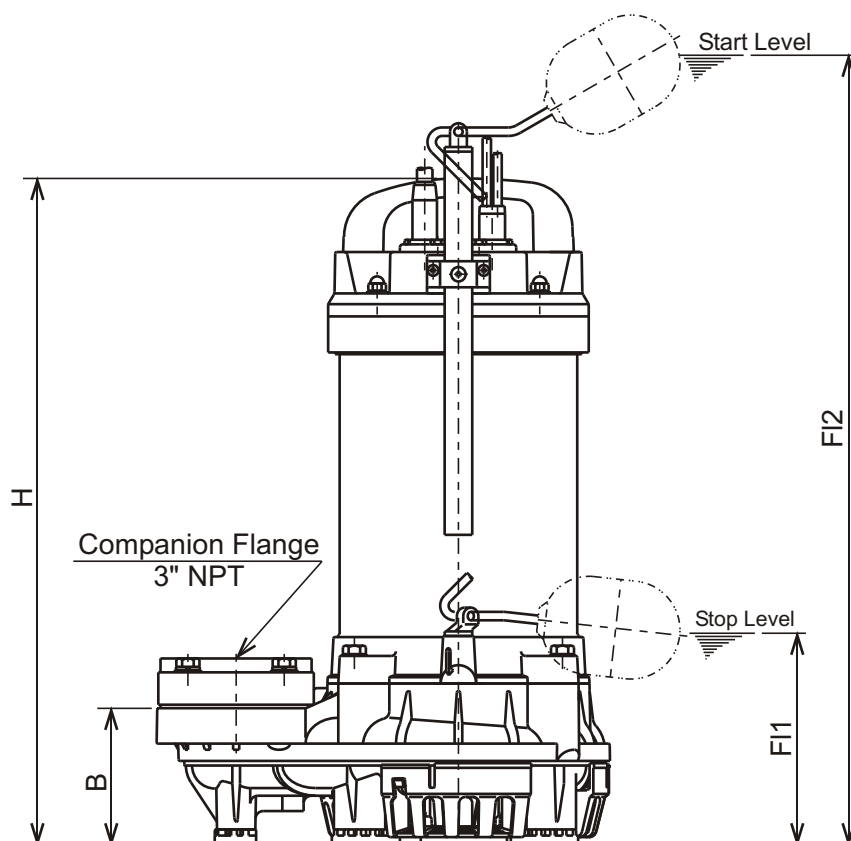


VANCS - SERIES - PSF (FRP) EFFLUENT PUMPS

DIMENSIONS



80PSFA21.5-62

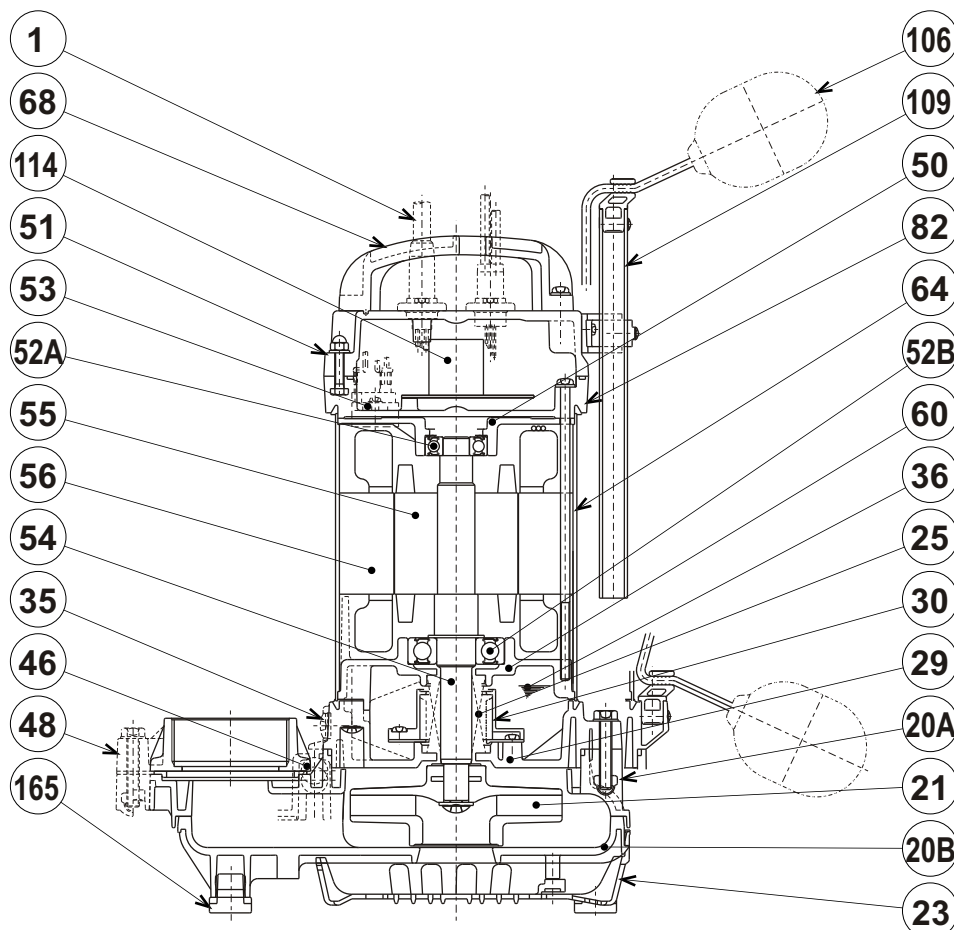


DIMENSIONS:USCS (Inch)

Model	HP	NOM. SIZE	Pump & Motor								Stop	Start	Wt. (lbs.)
			A	A1	A2	B	D	D1	D2	H	FL1	Max.FL2	
80PSFA21.5-62	2	3"	11 5/8	5 11/16	3 7/8	3 1/2	8 1/8	3 5/8	4 1/2	17 1/8	5 3/8	24 1/2	36.8

DIMENSIONS:METRIC (mm)

Model	kW	NOM. SIZE	Pump & Motor								Stop	Start	Wt. (kg)
			A	A1	A2	B	D	D1	D2	H	FL1	Max.FL2	
80PSFA21.5-62	1.5	80	295	145	99	89	206	92	114	435	138	623	16.7

**TSURUMI PUMP**
VANCS - SERIES - PSF
(FRP) EFFLUENT PUMPS
SECTIONAL VIEW**80PSFA21.5-62**

PART#	DESCRIPTION	MAIN MATERIAL / NOTE	RELATED ASTM, AISI CODE	RELATED EN CODE	QTY
1	Power Cable	PVC Sheath AWG16/4-32ft			1
20A	Upper Pump Casing	PA+ABS Plastic w/GF30			1
20B	Lower Pump Casing	PA+ABS Plastic w/GF30			1
21	Impeller	PPO Plastic w/GF20			1
23	Suction Strainer	ABS Plastic			1
25	Mechanical Seal	Silicon Carbide / H-20A			1
29	Oil Casing	PPS Plastic w/(GF+MD)50			1
30	Oil Lifter	PBT Plastic W/(GF+MD)40			1
35	Oil Plug	Stainless Steel	S 30400	1.4301	1
36	Lubricant	White Mineral Oil ISO VG32			
46	Air Valve	Glass Ball			1
48	Companion Flange	PVC / NPT 3"			1
50	Motor Bracket	Aluminum Alloy Die Casting	B85 383.0	EN 1706 AC-46100	1
51	Motor Head Cover	PPS Plastic w/GF40			1
52A	Upper Bearing	#6203ZZC3			1
52B	Lower Bearing	#6305ZZC3			1
53	Motor Protector				1
54	Shaft	Stainless Steel	S 30400	1.4301	1
55	Rotor				1
56	Stator				1
60	Bearing Housing	Aluminum Alloy Die Casting	B85 383.0	EN 1706 AC-46100	1
64	Motor Housing	Stainless Steel	S 30400	1.4301	1
68	Handle	ABS Plastic			1
82	Motor Head Cover Spacer	PPS Plastic w/GF40			1
106	Float Set	ABS Plastic			2
109	Float Support Pipe	PVC			1
114	Power Relay				1
165	Rubber Cushion	Nitrile Butadiene Rubber			5



VANCS SERIES - PSF

(FRP) EFFLUENT PUMPS

SPECIFICATIONS

■ FEATURES

1. Enclosed, FRP (Fiberglass Reinforced Plastic), impeller provides for high head pumping of effluent or water.
2. Double inside mechanical seals with silicon carbide faces, running in an oil filled chamber and further protected by a lip seal, provides for the most durable seal design available.
2. Highly efficient, continuous duty, air filled, copper wound motor with class E, insulation minimizes the cost of operation.
4. Built in thermal & amperage sensing, protector prevents motor failure due to overloading, single phasing (in three phase units), 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. Utilization of application appropriate FRP & stainless steel components increases corrosion resistance in a wide variety of applications.

■ APPLICATIONS

1. Residential, commercial, effluent, wastewater and site drainage.
2. Chemical spill containment.
3. Decorative waterfalls, fountains and fish ponds.
4. Raw water supply from rivers or lakes.



■ SPECIFICATIONS

Discharge Size
Horsepower Range
Performance Range Capacity
Head
Maximum water temperature
Materials of Construction
Casing (upper)/(lower)
Impeller
Shaft
Motor Frame
Fasteners

Mechanical Seal
Elastomers

Impeller Type
Solids Handling Capability

Bearings

Motor Nomenclature
Type, Speed, Hz.
Voltage, Phase

Insulation

Accessories

Operational Mode

■ STANDARD

2" ~ 3" N.P.T. (50 ~ 80mm)
1/3 ~ 5Hp. (.25 ~ 3.7 kW)
6.6 ~ 203.4 G.P.M. (.03 ~ .85 m³/min)
16.4 ~ 111.5 Ft. (5.0 ~ 33.99 m)
104° F. (40° C.)

FRP (ABS + G20) / ABS
FRP (ABS + G20)
403 Stainless Steel
304 Stainless Steel
304 Stainless Steel

Silicon Carbide
NBR (Nitril Buna Rubber)

Enclosed, Multi-vane
.32 ~ .51" (8~13 mm)

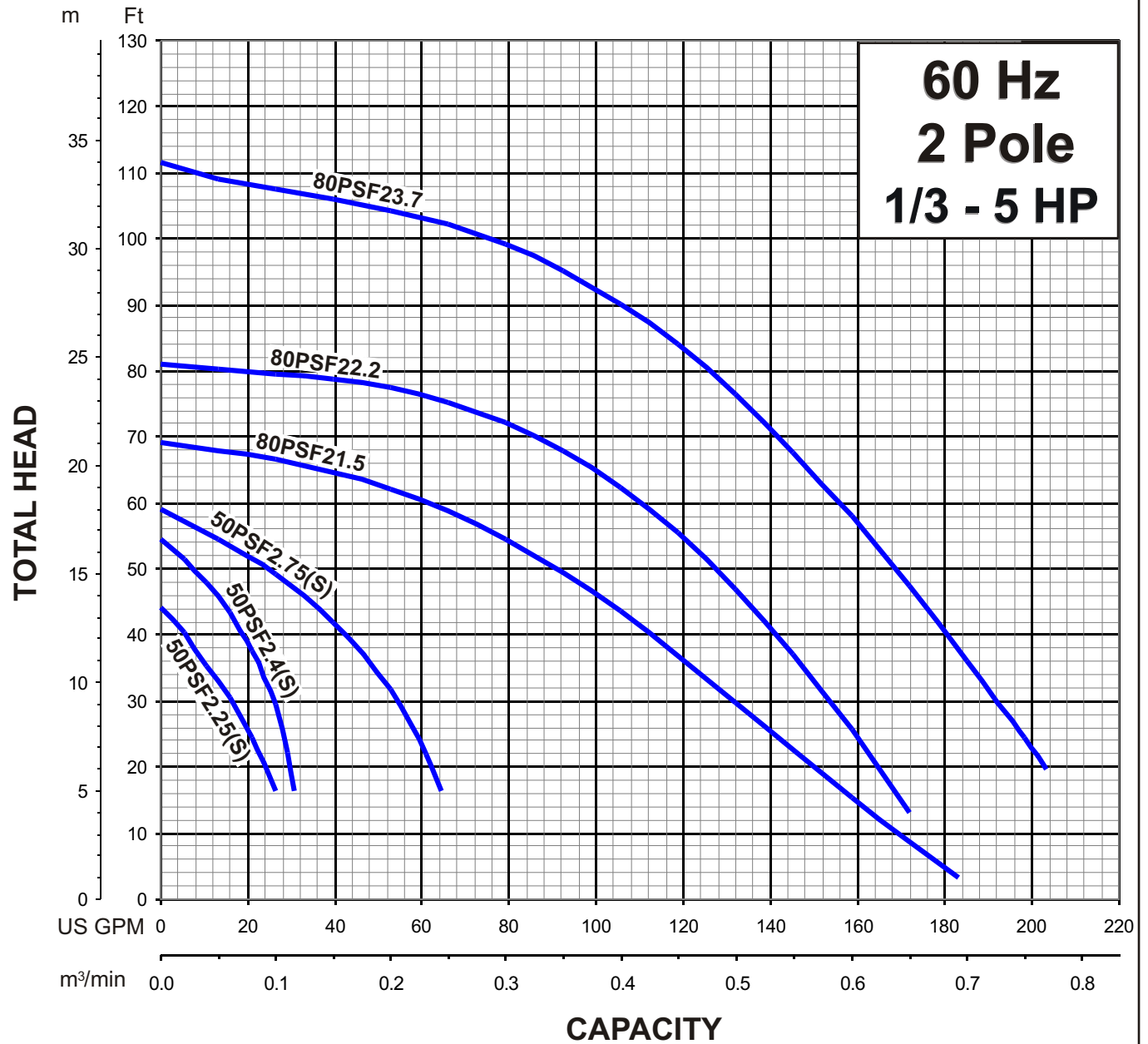
Pre-lubricated, Double Shielded

Air Filled, 3600 Rpm, 60 Hz.
115 or 230 V., 1 Phase.,
208-220, 230, 460, or 575 V. 3 Phase
Class E

Submersible Power Cable 32' (10 m)

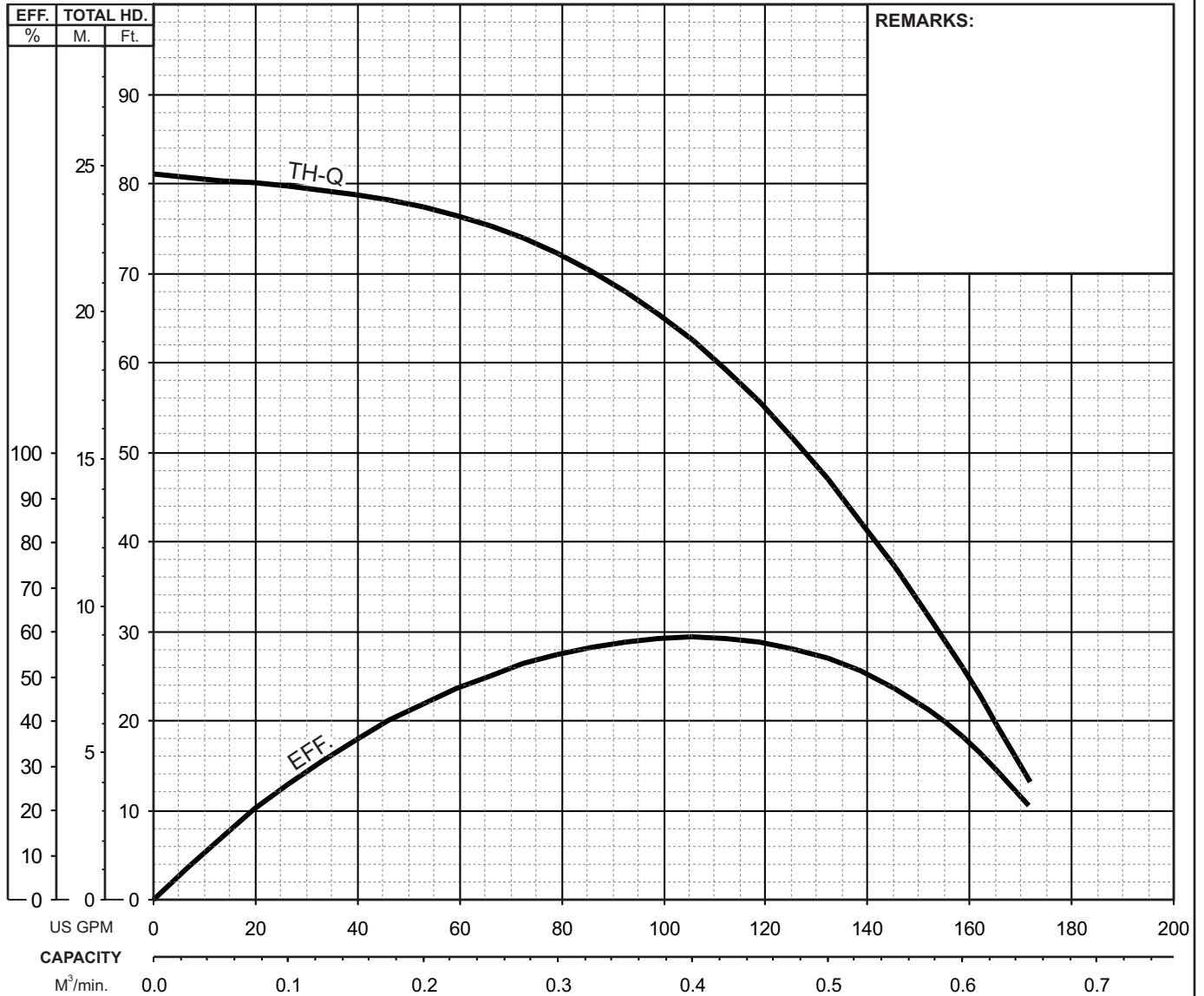
■ OPTIONS

Length as Required
Model A(Automatic), Model
AW (Automatic Alternating)
TOK (FRP) Slide rail system

**VANCS - SERIES - PSF**
(FRP) EFFLUENT PUMPS**PERFORMANCE
RANGE****PERFORMANCE RANGE**

**TSURUMI PUMP**
VANCS - SERIES - PSF
(FRP) EFFLUENT PUMPS
PERFORMANCE
CURVE

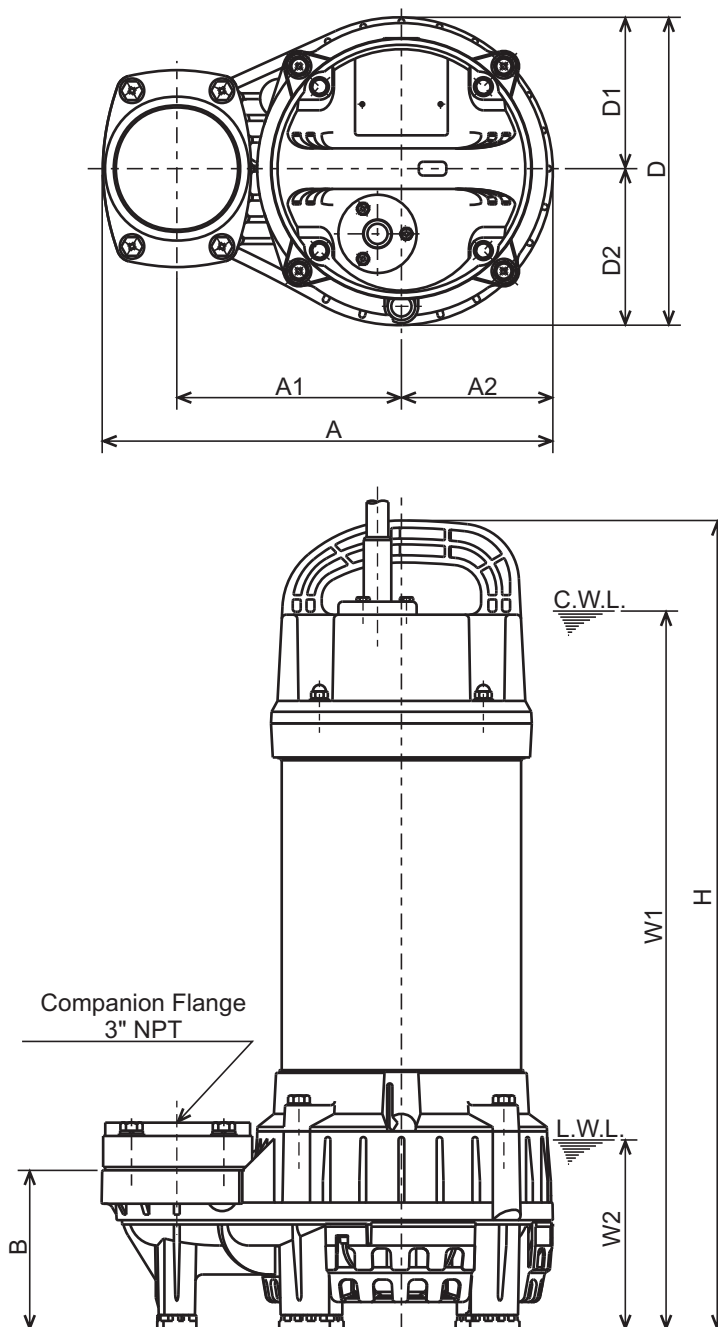
MODEL		BORE	HP	KW	RPM	SOLIDS DIA		LIQUID		SG.	VISCOSITY	TEMP.
80PSF(A/W)22.2-61		3"/80mm	3	2.2	3490	0.512"/ 13mm		Water		1.0	1.123 cSt	60°F
PUMP TYPE		PHASE	VOLTAGE		AMPERAGE		HZ	STARTING METHOD			INS. CLASS	
Effluent Pump		3	208-220/460/575		9.1-8.5/4.2/3.3		60	Direct On Line			E	
CURVE No.	DATE	PHASE	VOLTAGE		AMPERAGE		HZ	STARTING METHOD			INS. CLASS	
-	-	-	-		-		-	-			-	





VANCS - SERIES - PN (FRP) EFFLUENT PUMPS

DIMENSIONS



80PSF22.2-61
80PSF23.7-61

C.W.L. : Continuous running Water Level
L.W.L. : Lowest running Water Level

DIMENSIONS:USCS (Inch)

Model	HP	NOM. SIZE	Pump & Motor								C.W.L.	L.W.L.	Wt. (lbs.)
			A	A1	A2	B	D	D1	D2	H	W1	W2	
80PSF22.2-61	3	3"	12 1/4	6 1/8	4 1/8	4 5/16	8 3/8	4 1/8	4 1/4	22	19 5/8	5 1/8	48
80PSF23.7-61	5	3"	12 1/4	6 1/8	4 1/8	4 5/16	8 3/8	4 1/8	4 1/4	23 3/8	21 1/8	5 1/8	59

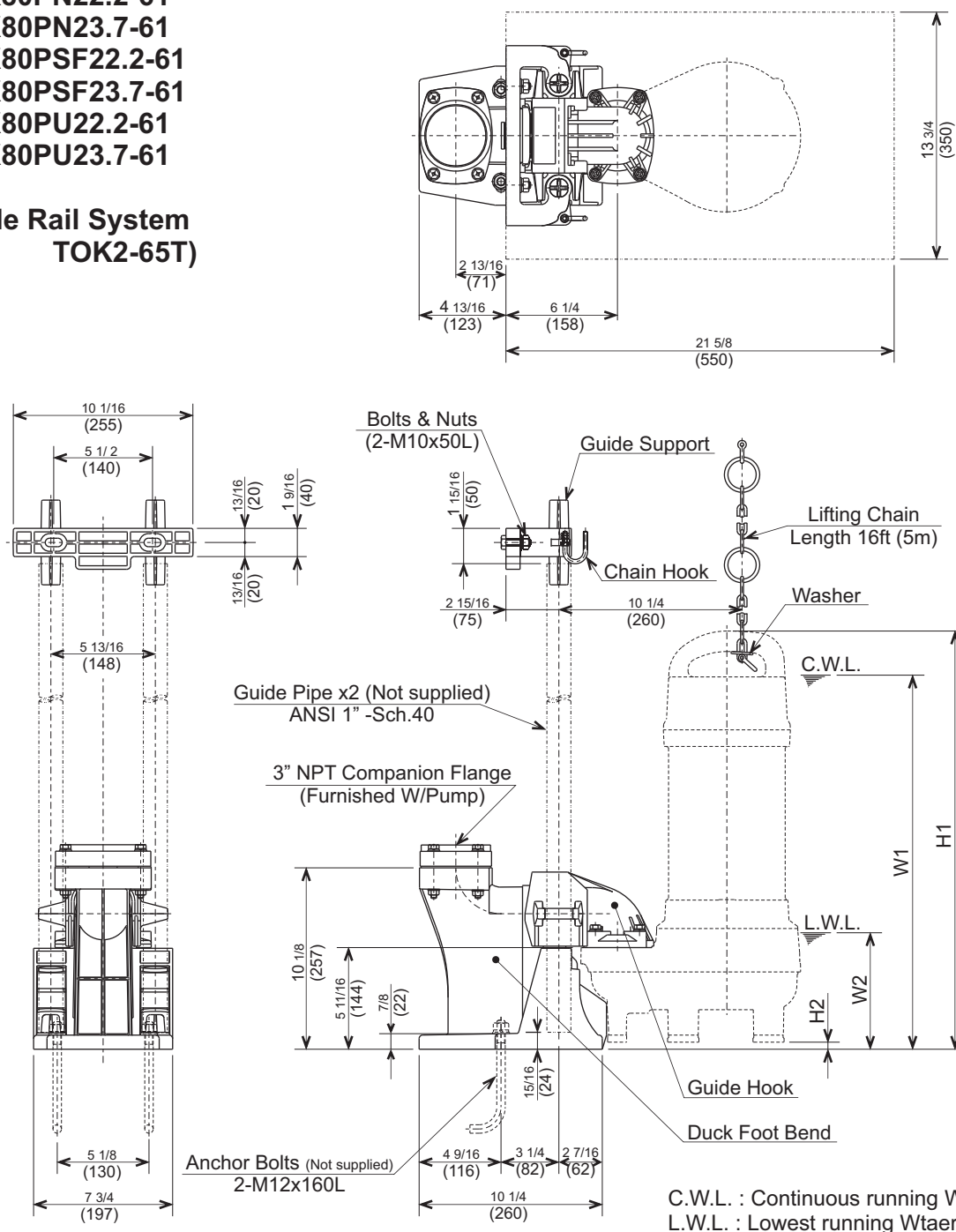
DIMENSIONS:METRIC (mm)

Model	kW	NOM. SIZE	Pump & Motor								C.W.L.	L.W.L.	Wt. (kg)
			A	A1	A2	B	D	D1	D2	H	W1	W2	
80PSF22.2-61	2.2	80	311	155	105	110	212	104	108	559	500	130	22
80PSF23.7-61	3.7	80	311	155	105	110	212	104	108	594	535	130	27

**TSURUMI PUMP****VANCS-SERIES PN/PSF/PU****DIMENSIONS**

TOK80PN22.2-61
 TOK80PN23.7-61
 TOK80PSF22.2-61
 TOK80PSF23.7-61
 TOK80PU22.2-61
 TOK80PU23.7-61

(Slide Rail System
 TOK2-65T)



C.W.L. : Continuous running Water Level
 L.W.L. : Lowest running Water Level

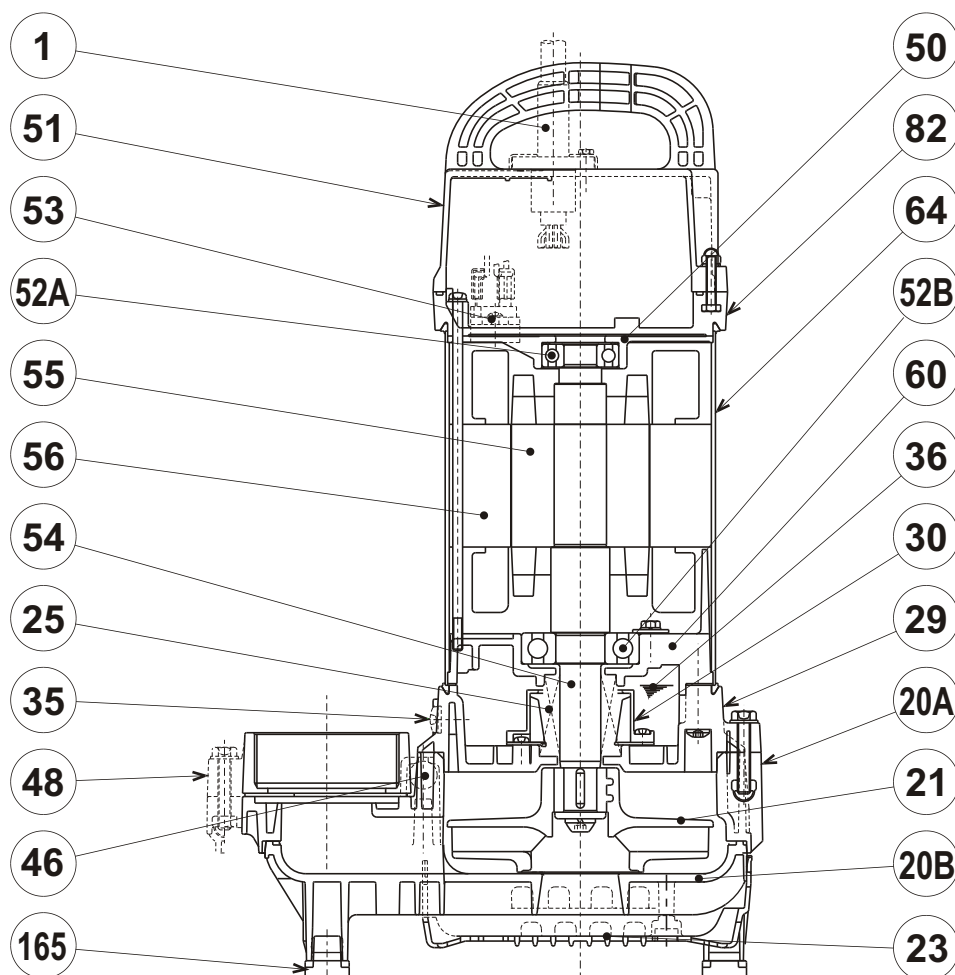
Model	OUTPUT HP (kW)	NOM. SIZE inch (mm)	Dimension inch (mm)				Wt. lbs. (kg)
			H1	H2	C.W.L. W1	L.W.L. W2	
TOK80PN22.2-61	3 (2.2)	3 (80)	23 3/8 (593)	1 5/16 (34)	20 7/8 (530)	6 1/2 (165)	48 (22)
TOK80PN23.7-61	5 (3.7)	3 (80)	24 3/4 (628)	1 5/16 (34)	22 1/4 (565)	6 1/2 (165)	59 (27)
TOK80PSF22.2-61	3 (2.2)	3 (80)	23 3/8 (593)	1 5/16 (34)	20 7/8 (530)	6 1/2 (165)	48 (22)
TOK80PSF23.7-61	5 (3.7)	3 (80)	24 3/4 (628)	1 5/16 (34)	22 1/4 (565)	6 1/2 (165)	59 (27)
TOK80PU22.2-61	3 (2.2)	3 (80)	23 3/8 (593)	3/8 (10)	20 7/8 (530)	6 1/2 (165)	48 (22)
TOK80PU23.7-61	5 (3.7)	3 (80)	24 3/4 (628)	3/8 (10)	22 1/4 (565)	6 1/2 (165)	59 (27)



VANCS - SERIES - PSF (FRP) EFFLUENT PUMPS

SECTIONAL VIEW

80PSF22.2-61
80PSF23.7-61



PART#	DESCRIPTION	MAIN MATERIAL / NOTE	RELATED ASTM, AISI CODE	RELATED EN CODE	QTY
1	Power Cable (80PSF22.2-61)	PVC Sheath AWG14/4-32ft			1
	Power Cable (80PSF23.7-61)	PVC Sheath AWG12/4-32ft			
20A	Upper Pump Casing	PA+ABS Plastic w/GF30			1
20B	Lower Pump Casing	PA+ABS Plastic w/GF30			1
21	Impeller	PPO Plastic w/GF20			1
23	Suction Strainer	ABS Plastic			1
25	Mechanical Seal	Silicon Carbide / H-25AT			1
29	Oil Casing	PPS Plastic w/(GF+MD)50			1
30	Oil Lifter	PBT Plastic w/(GF+MD)40			1
35	Oil Plug	Stainless Steel	S 30400	1.4301	1
36	Lubricant	White Mineral Oil ISO VG32			
46	Air Valve	Glass Ball			1
48	Companion Flange	PVC / NPT 3"			1
50	Motor Bracket	Aluminum Alloy Die Casting	B85 383.0	EN 1706 AC-46100	1
51	Motor Head Cover	PPS Plastic w/GF40			1
52A	Upper Bearing	#6204ZZC3			1
52B	Lower Bearing	#6306ZZC3			1
53	Motor Protector				1
54	Shaft	Stainless Steel	S 30400	1.4301	1
55	Rotor				1
56	Stator				1
60	Bearing Housing	Aluminum Alloy Die Casting	B85 383.0	EN 1706 AC-46100	1
64	Motor Housing	Stainless Steel	S 30400	1.4301	1
82	Motor Head Cover Spacer	PPS Plastic w/GF40			1
165	Rubber Cushion	Nitrile Butadiene Rubber			5



VANCS - SERIES - PSF (FRP) EFFLUENT PUMPS

SAMPLE SPECIFICATIONS

1. SCOPE OF SUPPLY -

Furnish and install TSURUMI, VANCS 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, sewage or effluent containing _____ inch (_____ mm) diameter solids 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. The pump discharge size shall be _____ inch, (_____ mm).

2. MATERIALS OF CONSTRUCTION -

Construction of major parts of the pumping unit(s) including pump casing, impeller, motor head cover and intermediate brackets shall be manufactured from recyclable, application appropriate resins. The need for a protective coating shall not be required. All exposed fasteners shall be stainless steel and shall have stainless steel mating anchors integrally cast into the mating part. All units shall be furnished with a NPT discharge companion flange. Impellers shall be of the multi-vane, enclosed design and shall be slip fit to the shaft. The motor shaft shall be machined to provide a positive drive of the impeller. The pump casing shall incorporate an air relief valve.

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. Units shall be fitted with a device that shall provide positive lubrication of top mechanical seal, (down to one third of the standard oil level). The device shall not consume any additional electrical power. Units shall have silicon carbide mechanical seal faces. Mechanical seal hardware shall be Stainless steel.

4. MOTOR -

The pump motor(s) shall be _____ Hp., _____ kW., _____ V., 60 Hz., _____ 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 6 starts per hour. Motor(s) shall be air filled, copper wound, class E insulated with built in thermal and over amperage protection. Motor shaft shall be 403 stainless steel 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. The bearings shall be single row, double shielded, C3, deep groove type ball bearings. Bearing seats shall be rolled carbon steel or aluminum die casting. Motor housing shall be 304 stainless steel. Motors shall be suitable variable speed applications, utilizing a properly sized variable frequency drive. (Only for 3ph.)

5. POWER CABLE AND CABLE ENTRANCE -

The pump power cable shall be suitable for submersible pump applications. The cable entrance shall incorporate built in strain relief, a one piece, three way mechanical compression seal with a fatigue reducing cable 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.



VANCS SERIES - PSF

(FRP) EFFLUENT PUMPS

Specifications

■ FEATURES

1. Enclosed, FRP (Fiberglass Reinforced Plastic), impeller provides for high head pumping of effluent or water.
2. Double inside mechanical seals with silicon carbide faces, running in an oil filled chamber and further protected by a lip seal, provides for the most durable seal design available.
2. Highly efficient, continuous duty, air filled, copper wound motor with class E, insulation minimizes the cost of operation.
4. Built in thermal & amperage sensing, protector prevents motor failure due to overloading, single phasing (in three phase units), 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. Utilization of application appropriate FRP & stainless steel components increases corrosion resistance in a wide variety of applications.

■ APPLICATIONS

1. Residential, commercial, effluent, wastewater and site drainage.
2. Chemical spill containment.
3. Decorative waterfalls, fountains and fish ponds.
4. Raw water supply from rivers or lakes.



■ SPECIFICATIONS

Discharge Size
Horsepower Range
Performance Range Capacity
Head
Maximum water temperature
Materials of Construction
Casing (upper)/(lower)
Impeller
Shaft
Motor Frame
Fasteners

Mechanical Seal
Elastomers

Impeller Type
Solids Handling Capability

Bearings

Motor Nomenclature
Type, Speed, Hz.
Voltage, Phase

Insulation

Accessories

Operational Mode

■ STANDARD

2" ~ 3" N.P.T. (50 ~ 80mm)
1/3 ~ 5Hp. (.25 ~ 3.7 kW)
6.6 ~ 203.4 G.P.M. (.03 ~ .85 m³/min)
16.4 ~ 111.5 Ft. (5.0 ~ 33.99 m)
104° F. (40° C.)

FRP (ABS + G20) / ABS
FRP (ABS + G20)
403 Stainless Steel
304 Stainless Steel
304 Stainless Steel

Silicon Carbide
NBR (Nitril Buna Rubber)

Enclosed, Multi-vane
.32 ~ .51" (8~13 mm)

Pre-lubricated, Double Shielded

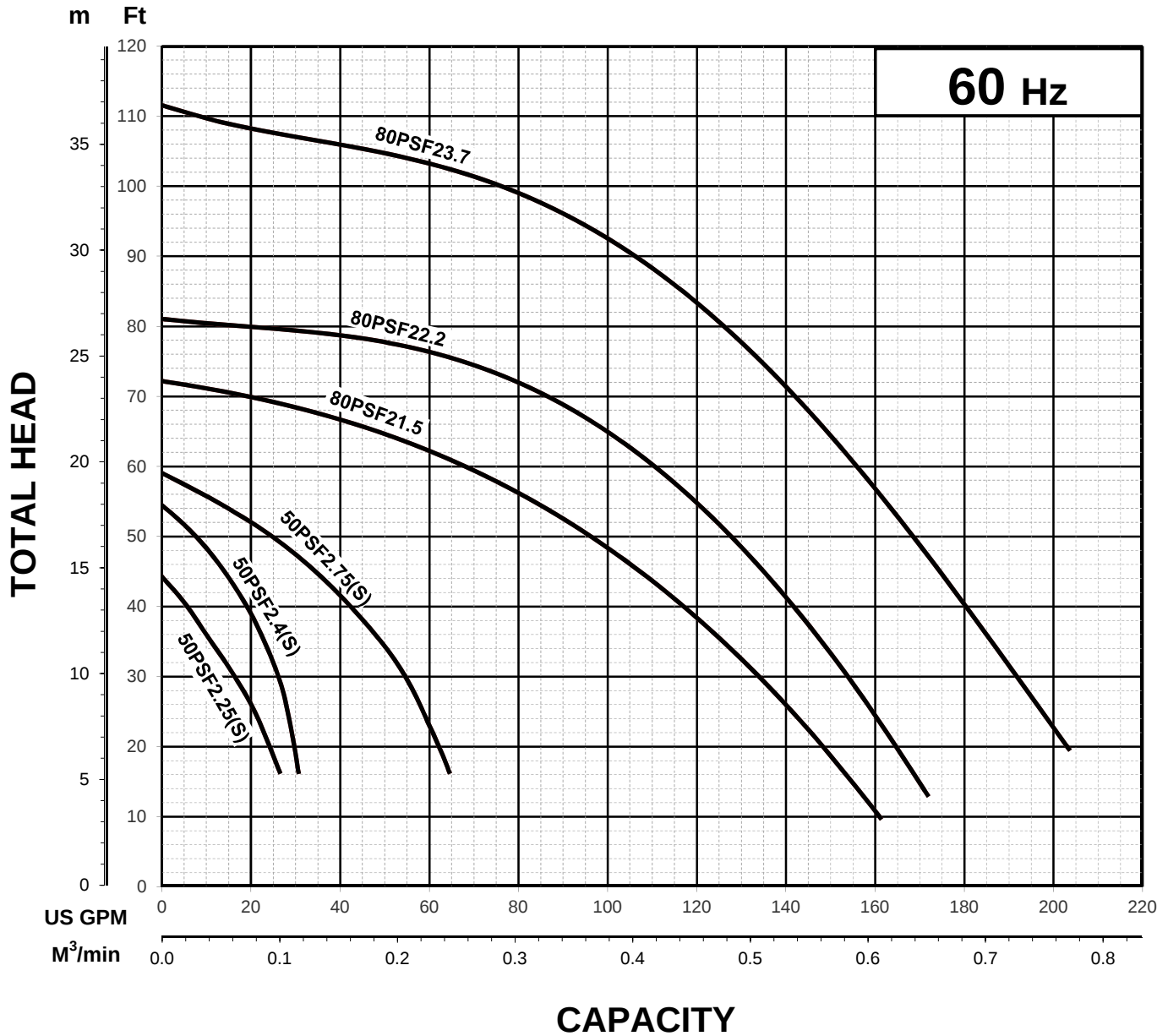
Air Filled, 3600 Rpm, 60 Hz.
115 or 230 V., 1 Phase.,
208-220, 230, 460, or 575 V. 3 Phase
Class E

Submersible Power Cable 32' (10 m)

■ OPTIONS

Length as Required
Model A(Automatic), Model
AW (Automatic Alternating)
TOK (FRP) Slide rail system

GROUP PERFORMANCE RANGE



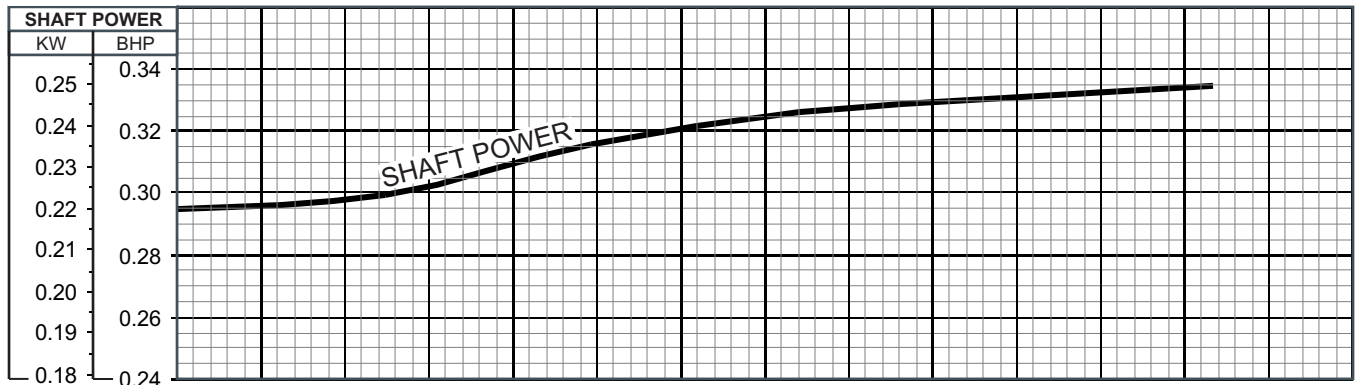
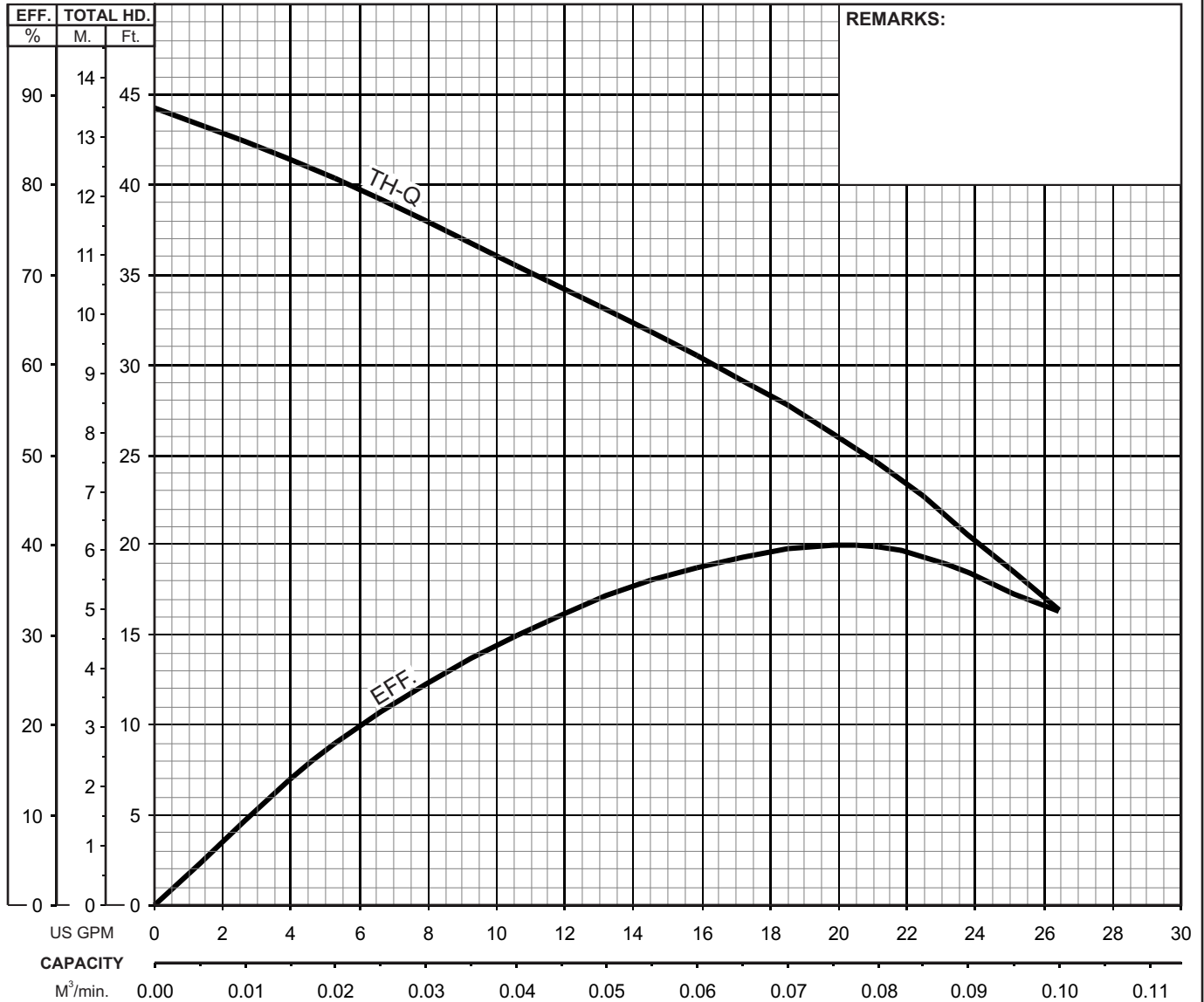
Note



VANCS - SERIES - PSF **(FRP) EFFLUENT PUMPS**

PERFORMANCE **CURVE**

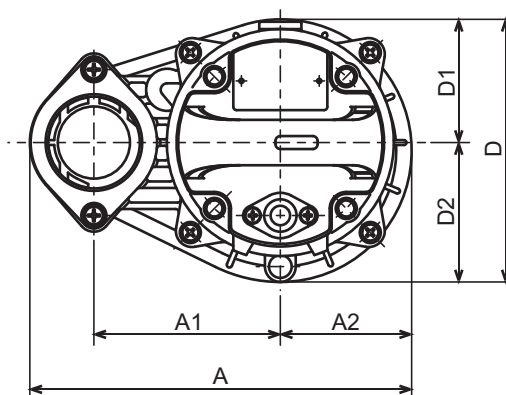
MODEL	BORE	HP	KW	RPM	SOLIDS DIA	LIQUID	SG.	VISCOSITY	TEMP.
50PSF(A/W)2.25S-63	2" / 50mm	0.34	0.25	3485	0.315" / 8mm	Water	1.0	1.123 cSt.	60°F
PUMP TYPE	PHASE	VOLTAGE	AMPERAGE	HZ	STARTING METHOD	INS. CLASS			
Effluent Pump	Single	115-120 / 230	4.6-4.6 / 2.3	60	Capacitor-Start	E			
CURVE No.	DATE	PHASE	VOLTAGE	AMPERAGE	HZ	STARTING METHOD	INS. CLASS		
-	-	-	-	-	-	-	-		



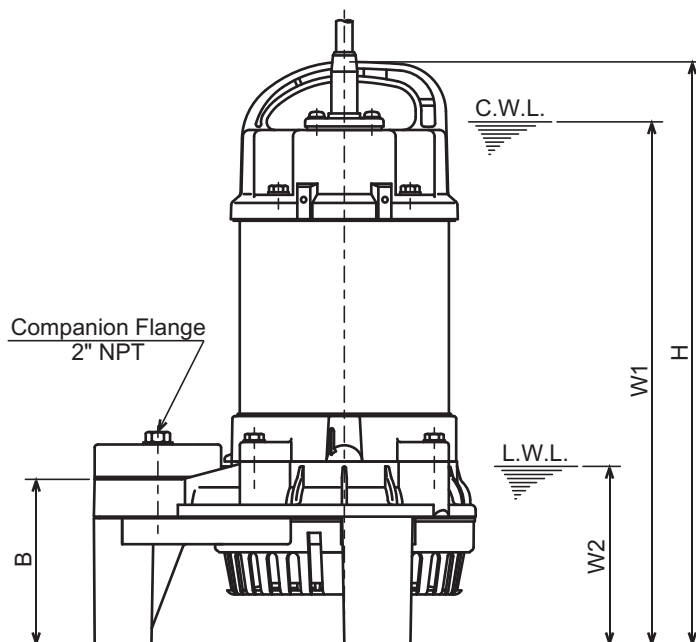


VANCS-SERIES - PSF **(FRP) EFFLUENT PUMPS**

DIMENSIONS



50PSF2.25S-63
50PSF2.25-63
50PSF2.4S-63
50PSF2.4-63
50PSF2.75S-63
50PSF2.75-63



C.W.L. :Continuous running Water Level
 L.W.L. :Lowest running Water Level

DIMENSIONS:USCS (Inch)

Model	HP	NOM. SIZE	Pump & Motor								C.W.L.	L.W.L.	Wt. (lbs.)
			A	A1	A2	B	D	D1	D2	H	W1	W2	
50PSF2.25S-63	1/3	2"	9 5/16	4 1/2	3 3/16	4	6 3/8	3	3 3/8	14 3/16	12 3/4	4 3/8	16.1
50PSF2.25-63	1/3	2"	9 5/16	4 1/2	3 3/16	4	6 3/8	3	3 3/8	13 3/4	12 1/4	4 3/8	13.7
50PSF2.4S-63	1/2	2"	9 5/16	4 1/2	3 3/16	4	6 3/8	3	3 3/8	14 3/16	12 3/4	4 3/8	16.1
50PSF2.4-63	1/2	2"	9 5/16	4 1/2	3 3/16	4	6 3/8	3	3 3/8	14 3/16	12 3/4	4 3/8	15.6
50PSF2.75S-63	1	2"	9 5/16	4 1/2	3 3/16	4	6 3/8	3	3 3/8	14 15/16	13 5/8	4 3/8	19.8
50PSF2.75-63	1	2"	9 5/16	4 1/2	3 3/16	4	6 3/8	3	3 3/8	14 3/4	13 1/4	4 3/8	18.5

DIMENSIONS:METRIC (mm)

Model	kW	NOM. SIZE	Pump & Motor								C.W.L.	L.W.L.	Wt. (kg)
			A	A1	A2	B	D	D1	D2	H	W1	W2	
50PSF2.25S-63	0.25	50	236	115	81	102	162	76	86	360	325	110	7.3
50PSF2.25-63	0.25	50	236	115	81	102	162	76	86	349	310	110	6.2
50PSF2.4S-63	0.40	50	236	115	81	102	162	76	86	360	325	110	7.3
50PSF2.4-63	0.40	50	236	115	81	102	162	76	86	360	325	110	7.1
50PSF2.75S-63	0.75	50	236	115	81	102	162	76	86	380	345	110	9.0
50PSF2.75-63	0.75	50	236	115	81	102	162	76	86	374	335	110	8.4



VANCS-SERIES - PU / PN / PSF WITH TOK GUIDE RAIL SYSTEM

DIMENSIONS

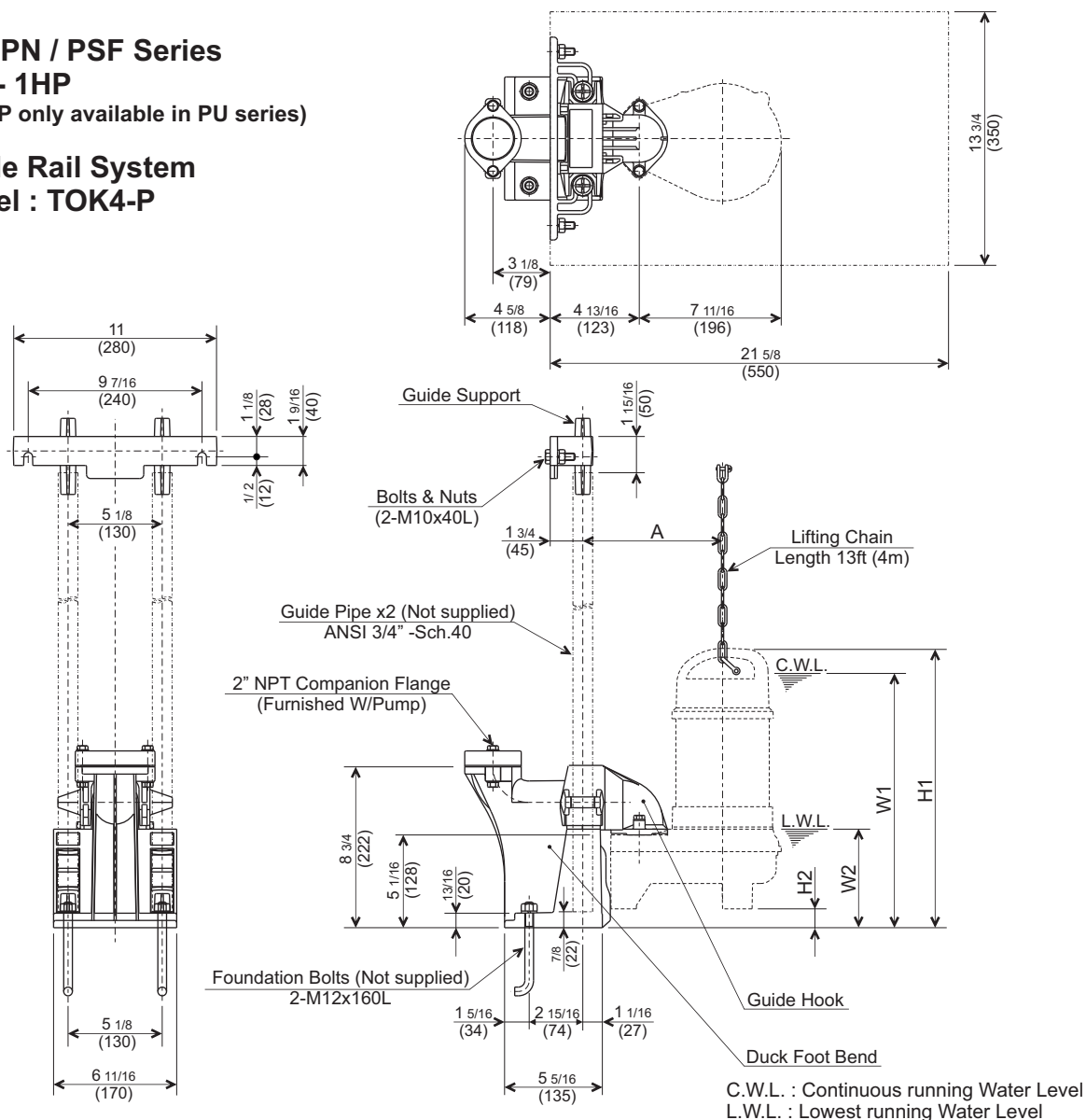
PU / PN / PSF Series

***1/5 - 1HP**

(*1/5HP only available in PU series)

Guide Rail System

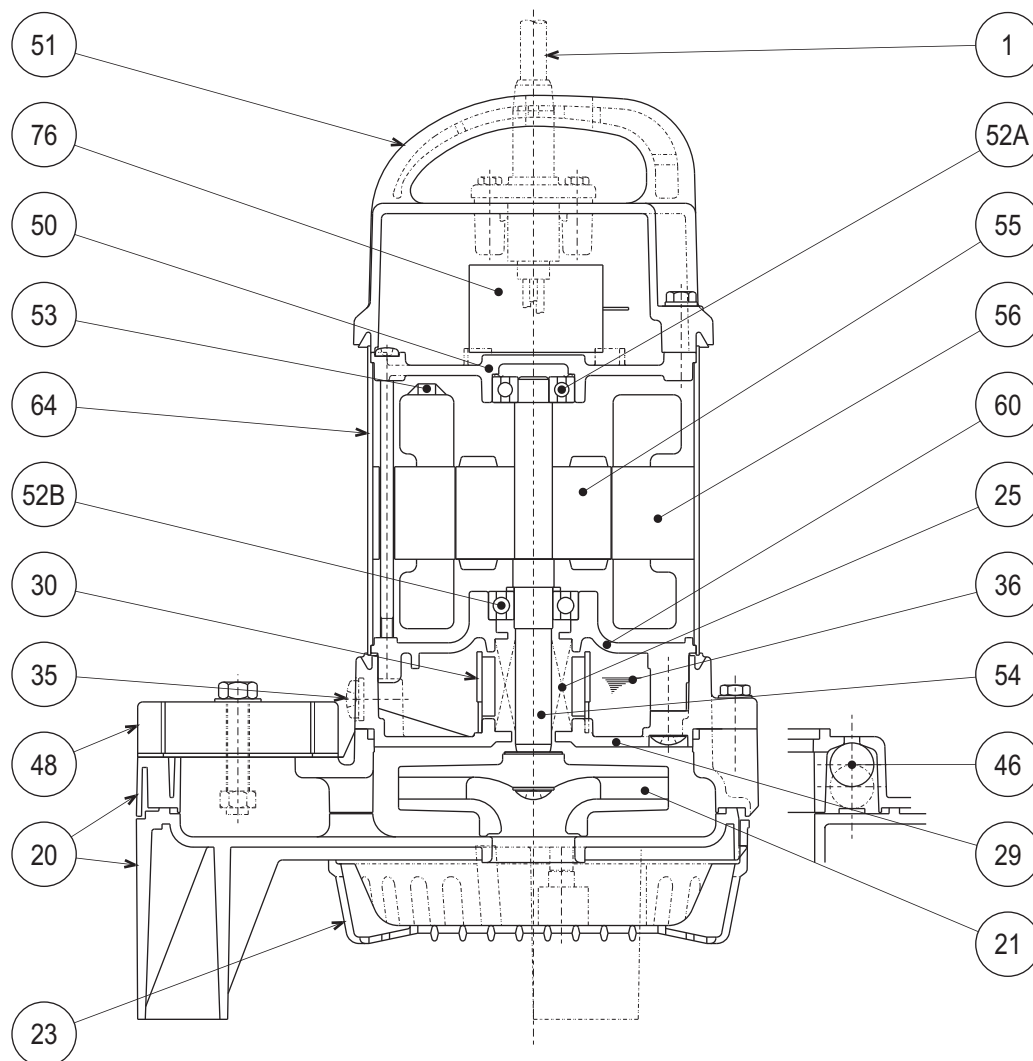
Model : TOK4-P



PU SERIES	Model	OUTPUT HP (KW)	NOM. SIZE inch (mm)	Dimension inch (mm)						Wt. lbs. (kg)
				H1	H2	C.W.L.		L.W.L.	A	
						W1	W2			
	TOK50PU2.15S-64	1/5 (0.15)	2 (50)	16 1/8 (409)	1 1/4 (32)	14 5/8 (370)	5 3/8 (135)	7 3/8 (188)	14.3 (6.5)	
	TOK50PU2.25S-63	1/3 (0.25)	2 (50)	15 3/16 (386)	1 (26)	13 3/4 (350)	5 3/8 (135)	7 5/8 (193)	16.5 (7.5)	
	TOK50PU2.25-63	1/3 (0.25)	2 (50)	14 3/4 (375)	1 (26)	13 1/4 (335)	5 3/8 (135)	7 5/8 (193)	14.3 (6.5)	
	TOK50PU2.4S-63	1/2 (0.4)	2 (50)	15 3/16 (386)	1 (26)	13 3/4 (350)	5 3/8 (135)	7 5/8 (193)	16.5 (7.5)	
	TOK50PU2.4-63	1/2 (0.4)	2 (50)	15 3/16 (386)	1 (26)	13 3/4 (350)	5 3/8 (135)	7 5/8 (193)	16.3 (7.4)	
	TOK50PU2.75S-63	1 (0.75)	2 (50)	16 (406)	1 (26)	14 5/8 (370)	5 3/8 (135)	7 5/8 (193)	20.5 (9.3)	
	TOK50PU2.75-63	1 (0.75)	2 (50)	15 3/4 (400)	1 (26)	14 1/4 (360)	5 3/8 (135)	7 5/8 (193)	19.2 (8.7)	

PN SERIES	Model	OUTPUT HP (kW)	NOM. SIZE inch (mm)	Dimension inch (mm)						Wt. lbs. (kg)
				H1	H2	C.W.L.	L.W.L.	A		
						W1	W2			
	TOK50PN2.25S-63	1/3 (0.25)	2 (50)	15 3/16 (386)	1 (26)	13 3/4 (350)	5 3/8 (135)	7 5/8 (193)	16.5 (7.5)	
	TOK50PN2.25-63	1/3 (0.25)	2 (50)	14 3/4 (375)	1 (26)	13 1/4 (335)	5 3/8 (135)	7 5/8 (193)	14.3 (6.5)	
	TOK50PN2.4S-63	1/2 (0.4)	2 (50)	15 3/16 (386)	1 (26)	13 3/4 (350)	5 3/8 (135)	7 5/8 (193)	16.5 (7.5)	
	TOK50PN2.4-63	1/2 (0.4)	2 (50)	15 3/16 (386)	1 (26)	13 3/4 (350)	5 3/8 (135)	7 5/8 (193)	16.3 (7.4)	
	TOK50PN2.75S-63	1 (0.75)	2 (50)	16 (406)	1 (26)	14 5/8 (370)	5 3/8 (135)	7 5/8 (193)	20.5 (9.3)	
	TOK50PN2.75-63	1 (0.75)	2 (50)	15 3/4 (400)	1 (26)	14 1/4 (360)	5 3/8 (135)	7 5/8 (193)	19.2 (8.7)	

PSF SERIES	Model	OUTPUT HP (kW)	NOM. SIZE inch (mm)	Dimension inch (mm)						Wt. lbs. (kg)
				H1	H2	C.W.L.		A		
						W1	W2			
	TOK50PSF2.25S-63	1/3 (0.25)	2 (50)	15 3/16 (386)	1 (26)	13 3/4 (350)	5 3/8 (135)	7 5/8 (193)	17.0 (7.7)	
	TOK50PSF2.25-63	1/3 (0.25)	2 (50)	14 3/4 (375)	1 (26)	13 1/4 (335)	5 3/8 (135)	7 5/8 (193)	14.6 (6.6)	
	TOK50PSF2.4S-63	1/2 (0.4)	2 (50)	15 3/16 (386)	1 (26)	13 3/4 (350)	5 3/8 (135)	7 5/8 (193)	17.0 (7.7)	
	TOK50PSF2.4-63	1/2 (0.4)	2 (50)	15 3/16 (386)	1 (26)	13 3/4 (350)	5 3/8 (135)	7 5/8 (193)	16.5 (7.5)	
	TOK50PSF2.75S-63	1 (0.75)	2 (50)	16 (406)	1 (26)	14 5/8 (370)	5 3/8 (135)	7 5/8 (193)	20.7 (9.4)	
	TOK50PSF2.75-63	1 (0.75)	2 (50)	15 3/4 (400)	1 (26)	14 1/4 (360)	5 3/8 (135)	7 5/8 (193)	19.4 (8.8)	

**TSURUMI PUMP**
VANCS - SERIES - PSF
(FRP) EFFLUENT PUMPS
SECTIONAL VIEW
50PSF2.25S-63
50PSF2.4S-63


PART#	DESCRIPTION	MAIN MATERIAL / NOTE	RELATED ASTM, AISI CODE	RELATED EN CODE	QTY
1	Power Cable	PVC Sheath AWG16/3-32ft			1
20	Pump Casing	ABS Plastic w/GF20			1
21	Impeller	PPO Plastic w/GF20			1
23	Suction Strainer	ABS Plastic			1
25	Mechanical Seal	Silicon Carbide / W-14HL			1
29	Oil Casing	PPS Plastic w/(GF+MD)50			1
30	Oil Lifter	PBT Plastic			1
35	Oil Plug	Stainless Steel	S 30400	1.4301	1
36	Lubricant	White Mineral Oil ISO VG32			
46	Air Valve	Glass Ball			1
48	Companion Flange	PBT Plastic w/GF30 / NPT 2"			1
50	Motor Bracket	Aluminum Alloy Die Casting	B85 383.0	EN 1706 AC-46100	1
51	Motor Head Cover	PPS Plastic w/(GF+MD)50			1
52A	Upper Bearing	#6201ZZC3			1
52B	Lower Bearing	#6202ZZC3			1
53	Motor Protector				1
54	Shaft	Stainless Steel	S 30400	1.4301	1
55	Rotor				1
56	Stator				1
60	Bearing Housing	Aluminum Alloy Die Casting	B85 383.0	EN 1706 AC-46100	1
64	Motor Housing	Stainless Steel	S 30400	1.4301	1
76	Capacitor				1

**TSURUMI PUMP**
VANCS - SERIES - PSF
(FRP) EFFLUENT PUMPS
SAMPLE
SPECIFICATIONS
1. SCOPE OF SUPPLY -

Furnish and install TSURUMI, VANCS 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, sewage or effluent containing _____ inch (_____mm) diameter solids 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. The pump discharge size shall be _____ inch, (_____mm).

2. MATERIALS OF CONSTRUCTION -

Construction of major parts of the pumping unit(s) including pump casing, impeller, motor head cover and intermediate brackets shall be manufactured from recyclable, application appropriate resins. The need for a protective coating shall not be required. All exposed fasteners shall be stainless steel and shall have stainless steel mating anchors integrally cast into the mating part. All units shall be furnished with a NPT discharge companion flange. Impellers shall be of the multi-vane, enclosed design and shall be slip fit to the shaft. The motor shaft shall be machined to provide a positive drive of the impeller. The pump casing shall incorporate an air relief valve.

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. Units shall be fitted with a device that shall provide positive lubrication of top mechanical seal, (down to one third of the standard oil level). The device shall not consume any additional electrical power. Units shall have silicon carbide mechanical seal faces. Mechanical seal hardware shall be Stainless steel.

4. MOTOR -

The pump motor(s) shall be _____ Hp., _____ kW., _____ V., 60 Hz., _____ 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 6 starts per hour. Motor(s) shall be air filled, copper wound, class E insulated with built in thermal and over amperage protection. Motor shaft shall be 403 stainless steel 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. The bearings shall be single row, double shielded, C3, deep groove type ball bearings. Bearing seats shall be rolled carbon steel or aluminum die casting. Motor housing shall be 304 stainless steel.

5. POWER CABLE AND CABLE ENTRANCE -

The pump power cable shall be suitable for submersible pump applications. The cable entrance shall incorporate built in strain relief, a one piece, three way mechanical compression seal with a fatigue reducing cable 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.



VANCS SERIES - PSF

(FRP) EFFLUENT PUMPS

SPECIFICATIONS

■ FEATURES

1. Enclosed, FRP (Fiberglass Reinforced Plastic), impeller provides for high head pumping of effluent or water.
2. Double inside mechanical seals with silicon carbide faces, running in an oil filled chamber and further protected by a lip seal, provides for the most durable seal design available.
2. Highly efficient, continuous duty, air filled, copper wound motor with class E, insulation minimizes the cost of operation.
4. Built in thermal & amperage sensing, protector prevents motor failure due to overloading, single phasing (in three phase units), 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. Utilization of application appropriate FRP & stainless steel components increases corrosion resistance in a wide variety of applications.

■ APPLICATIONS

1. Residential, commercial, effluent, wastewater and site drainage.
2. Chemical spill containment.
3. Decorative waterfalls, fountains and fish ponds.
4. Raw water supply from rivers or lakes.



■ SPECIFICATIONS

Discharge Size
Horsepower Range
Performance Range Capacity
Head
Maximum water temperature
Materials of Construction
Casing (upper)/(lower)
Impeller
Shaft
Motor Frame
Fasteners

Mechanical Seal
Elastomers

Impeller Type
Solids Handling Capability

Bearings

Motor Nomenclature
Type, Speed, Hz.
Voltage, Phase

Insulation

Accessories

Operational Mode

■ STANDARD

2" ~ 3" N.P.T. (50 ~ 80mm)
1/3 ~ 5Hp. (.25 ~ 3.7 kW)
6.6 ~ 203.4 G.P.M. (.03 ~ .85 m³/min)
16.4 ~ 111.5 Ft. (5.0 ~ 33.99 m)
104° F. (40° C.)

FRP (ABS + G20) / ABS
FRP (ABS + G20)
403 Stainless Steel
304 Stainless Steel
304 Stainless Steel

Silicon Carbide
NBR (Nitril Buna Rubber)

Enclosed, Multi-vane
.32 ~.51" (8~13 mm)

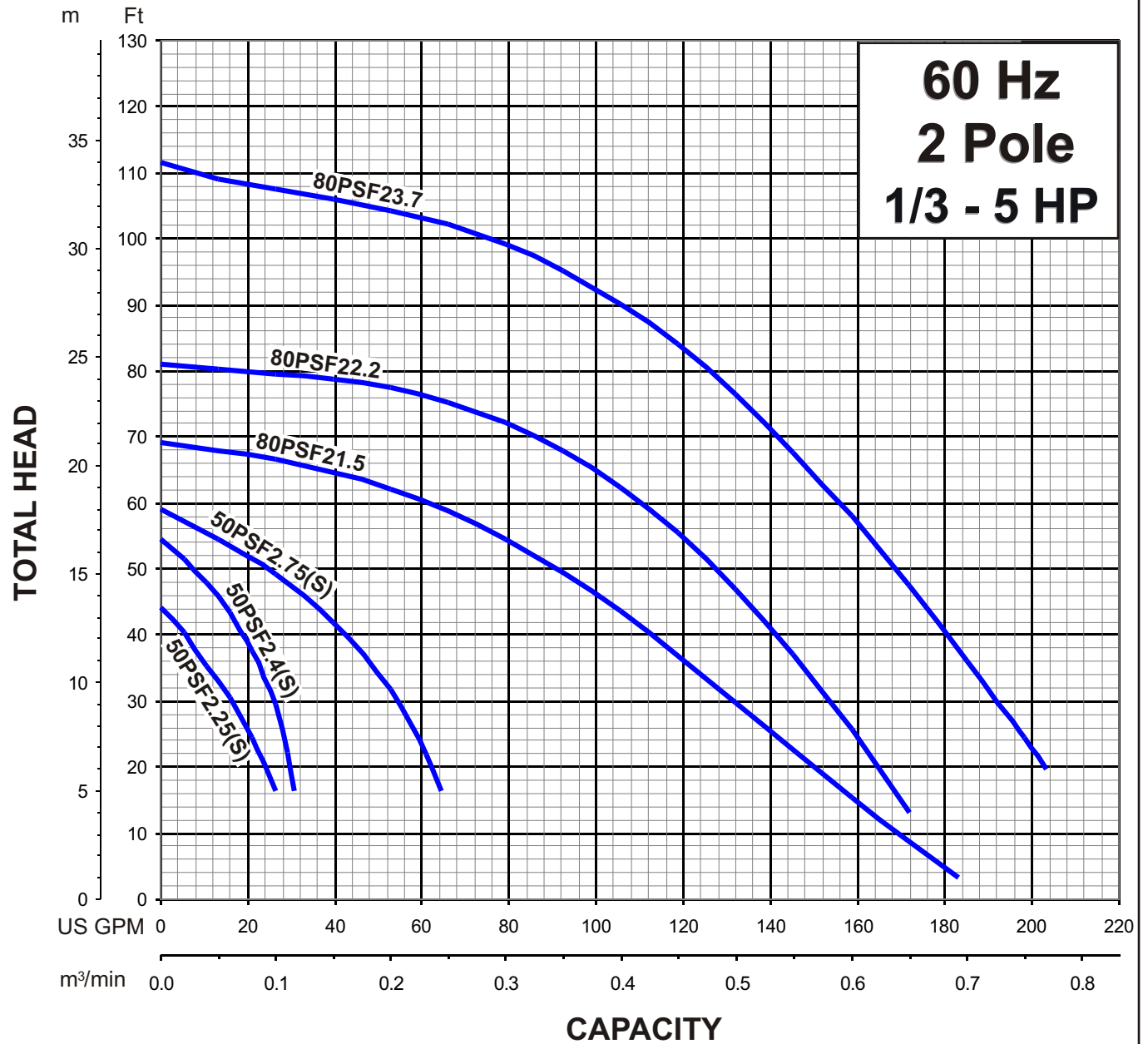
Pre-lubricated, Double Shielded

Air Filled, 3600 Rpm, 60 Hz.
115 or 230 V., 1 Phase.,
208-220, 230, 460, or 575 V. 3 Phase
Class E

Submersible Power Cable 32' (10 m)

■ OPTIONS

Length as Required
Model A(Automatic), Model
AW (Automatic Alternating)
TOK (FRP) Slide rail system

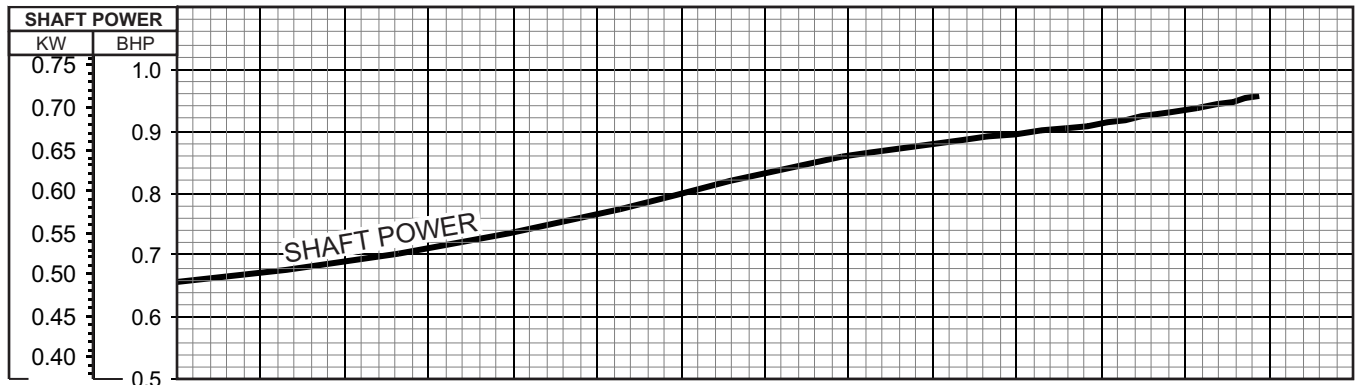
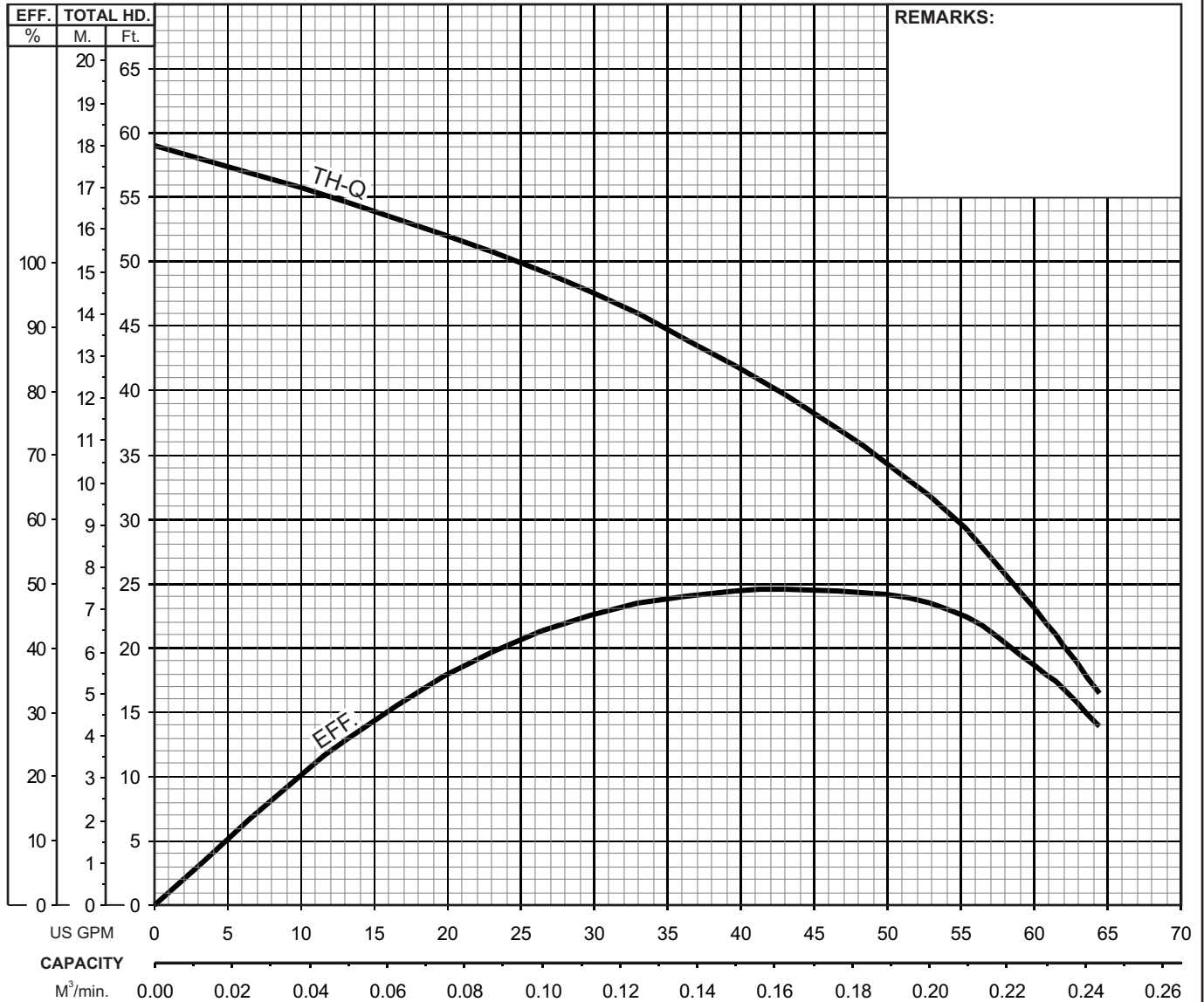
**VANCS - SERIES - PSF**
(FRP) EFFLUENT PUMPS**PERFORMANCE
RANGE****PERFORMANCE RANGE**



VANCS - SERIES - PSF **(FRP) EFFLUENT PUMPS**

PERFORMANCE **CURVE**

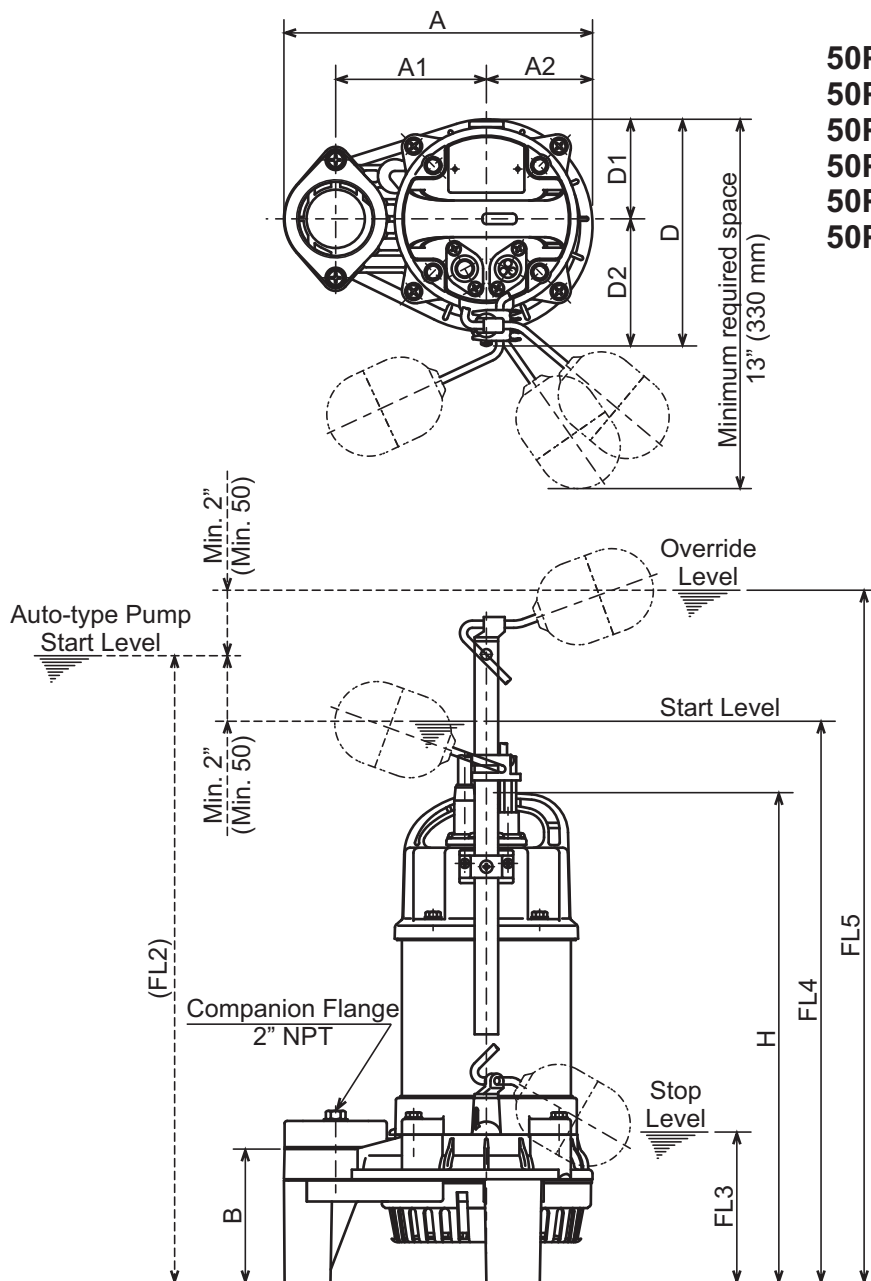
MODEL	BORE	HP	KW	RPM	SOLIDS DIA	LIQUID	SG.	VISCOSITY	TEMP.
50PSF(A/W)2.75S-63	2" / 50mm	1	0.75	3390	0.315" / 8mm	Water	1.0	1.123 cSt.	60°F
PUMP TYPE	PHASE	VOLTAGE	AMPERAGE	HZ	STARTING METHOD	INS. CLASS			
Effluent Pump	Single	115-120 / 230	9.2-9.1 / 4.6	60	Capacitor-Start	E			
CURVE No.	DATE	PHASE	VOLTAGE	AMPERAGE	HZ	STARTING METHOD	INS. CLASS		
-	-	-	-	-	-	-	-		





VANCS-SERIES - PSF **(FRP) EFFLUENT PUMPS**

DIMENSIONS



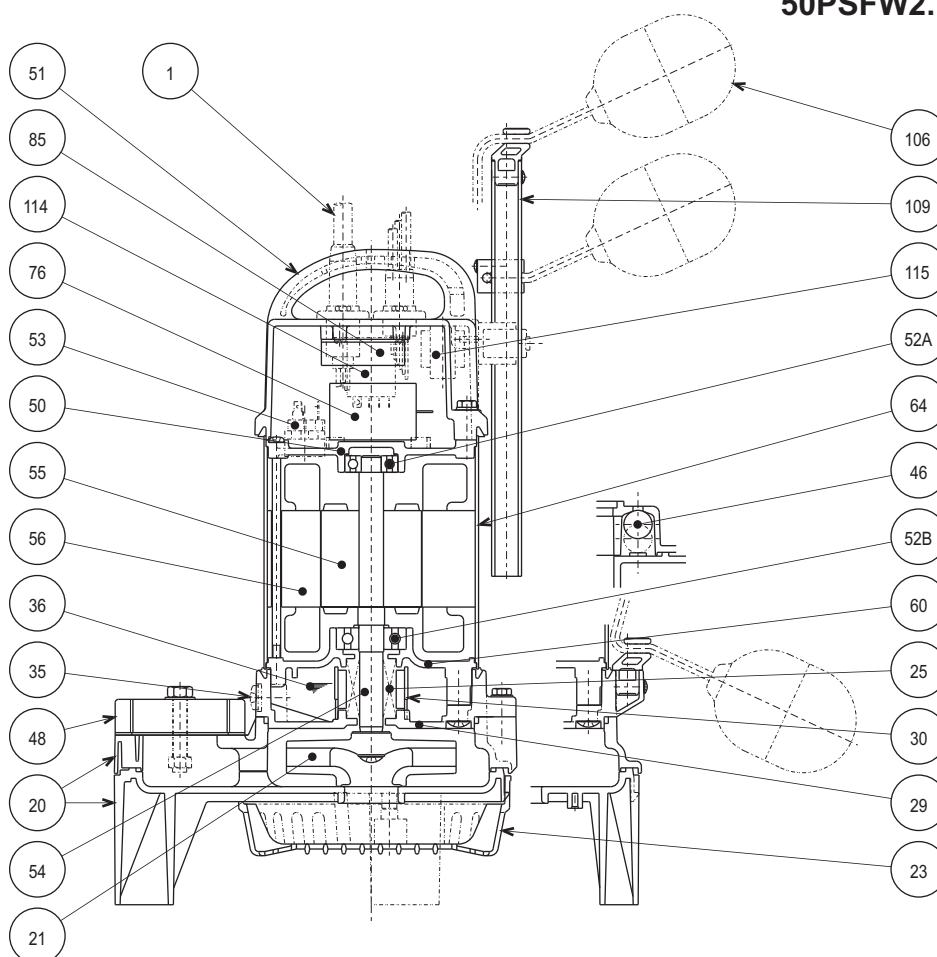
50PSFW2.25S-63
50PSFW2.25-63
50PSFW2.4S-63
50PSFW2.4-63
50PSFW2.75S-63
50PSFW2.75-63

DIMENSIONS:USCS (Inch)

Model	HP	NOM. SIZE	Pump & Motor								Stop	Start	Override	Wt. (lbs.)
			A	A1	A2	B	D	D1	D2	H	FL3	Max.FL4	Max.FL5	
50PSFW2.25S-63	1/3	2"	9 5/16	4 1/2	3 3/16	4	6 13/16	3	3 13/16	14 3/4	4 1/2	21 7/8	25 7/8	17.4
50PSFW2.25-63	1/3	2"	9 5/16	4 1/2	3 3/16	4	6 13/16	3	3 13/16	14 5/16	4 1/2	21 1/2	25 3/8	15.2
50PSFW2.4S-63	1/2	2"	9 5/16	4 1/2	3 3/16	4	6 13/16	3	3 13/16	14 3/4	4 1/2	21 7/8	25 7/8	17.4
50PSFW2.4-63	1/2	2"	9 5/16	4 1/2	3 3/16	4	6 13/16	3	3 13/16	14 3/4	4 1/2	21 7/8	25 7/8	17.2
50PSFW2.75S-63	1	2"	9 5/16	4 1/2	3 3/16	4	6 13/16	3	3 13/16	15 1/2	4 1/2	22 3/4	26 5/8	21.4
50PSFW2.75-63	1	2"	9 5/16	4 1/2	3 3/16	4	6 13/16	3	3 13/16	15 1/4	4 1/2	22 1/2	26 3/8	20.0

DIMENSIONS:METRIC (mm)

Model	kW	NOM. SIZE	Pump & Motor								Stop	Start	Override	Wt. (kg)
			A	A1	A2	B	D	D1	D2	H	FL3	Max.FL4	Max.FL5	
50PSFW2.25S-63	0.25	50	236	115	81	102	173	76	97	374	115	557	657	7.9
50PSFW2.25-63	0.25	50	236	115	81	102	173	76	97	363	115	546	646	6.9
50PSFW2.4S-63	0.40	50	236	115	81	102	173	76	97	374	115	557	657	7.9
50PSFW2.4-63	0.40	50	236	115	81	102	173	76	97	374	115	557	657	7.8
50PSFW2.75S-63	0.75	50	236	115	81	102	173	76	97	394	115	577	677	9.7
50PSFW2.75-63	0.75	50	236	115	81	102	173	76	97	388	115	571	671	9.1

**TSURUMI PUMP**
VANCS - SERIES - PSF
(FRP) EFFLUENT PUMPS
SECTIONAL VIEW**50PSFW2.75S-63**

PART#	DESCRIPTION	MAIN MATERIAL / NOTE	RELATED ASTM, AISI CODE	RELATED EN CODE	QTY
1	Power Cable	PVC Sheath AWG14/3-32ft or AWG16/3-32ft (230V)			1
20	Pump Casing	ABS Plastic w/GF20			1
21	Impeller	PPO Plastic w/GF20			1
23	Suction Strainer	ABS Plastic			1
25	Mechanical Seal	Silicon Carbide / W-14HL			1
29	Oil Casing	PPS Plastic w/(GF+MD)50			1
30	Oil Lifter	PBT Plastic			1
35	Oil Plug	Stainless Steel	S 30400	1.4301	1
36	Lubricant	White Mineral Oil ISO VG32			
46	Air Valve	Glass Ball			1
48	Companion Flange	PBT Plastic w/GF30 / NPT 2"			1
50	Motor Bracket	Aluminum Alloy Die Casting	B85 383.0	EN 1706 AC-46100	1
51	Motor Head Cover	PPS Plastic w/(GF+MD)50			1
52A	Upper Bearing	#6201ZZC3			1
52B	Lower Bearing	#6302ZZC3			1
53	Motor Protector				1
54	Shaft	Stainless Steel	S 30400	1.4301	1
55	Rotor				1
56	Stator				1
60	Bearing Housing	Aluminum Alloy Die Casting	B85 383.0	EN 1706 AC-46100	1
64	Motor Housing	Stainless Steel	S 30400	1.4301	1
76	Capacitor				1
85	Relay Unit				1
106	Float Set	ABS Plastic			3
109	Float Support Pipe	PVC			1
114	Power Relay				1
115	Transformer				1



VANCS - SERIES - PSF (FRP) EFFLUENT PUMPS

SAMPLE SPECIFICATIONS

1. SCOPE OF SUPPLY -

Furnish and install TSURUMI, VANCS 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, sewage or effluent containing _____ inch (_____ mm) diameter solids 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. The pump discharge size shall be _____ inch, (_____ mm).

2. MATERIALS OF CONSTRUCTION -

Construction of major parts of the pumping unit(s) including pump casing, impeller, motor head cover and intermediate brackets shall be manufactured from recyclable, application appropriate resins. The need for a protective coating shall not be required. All exposed fasteners shall be stainless steel and shall have stainless steel mating anchors integrally cast into the mating part. All units shall be furnished with a NPT discharge companion flange. Impellers shall be of the multi-vane, enclosed design and shall be slip fit to the shaft. The motor shaft shall be machined to provide a positive drive of the impeller. The pump casing shall incorporate an air relief valve.

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. Units shall be fitted with a device that shall provide positive lubrication of top mechanical seal, (down to one third of the standard oil level). The device shall not consume any additional electrical power. Units shall have silicon carbide mechanical seal faces. Mechanical seal hardware shall be Stainless steel.

4. MOTOR -

The pump motor(s) shall be _____ Hp., _____ kW., _____ V., 60 Hz., _____ 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 6 starts per hour. Motor(s) shall be air filled, copper wound, class E insulated with built in thermal and over amperage protection. Motor shaft shall be 403 stainless steel 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. The bearings shall be single row, double shielded, C3, deep groove type ball bearings. Bearing seats shall be rolled carbon steel or aluminum die casting. Motor housing shall be 304 stainless steel. Motors shall be suitable variable speed applications, utilizing a properly sized variable frequency drive. (Only for 3ph.)

5. POWER CABLE AND CABLE ENTRANCE -

The pump power cable shall be suitable for submersible pump applications. The cable entrance shall incorporate built in strain relief, a one piece, three way mechanical compression seal with a fatigue reducing cable 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.



VANCS SERIES - PSF

(FRP) EFFLUENT PUMPS

SPECIFICATIONS

FEATURES

1. Enclosed, FRP (Fiberglass Reinforced Plastic), impeller provides for high head pumping of effluent or water.
2. Double inside mechanical seals with silicon carbide faces, running in an oil filled chamber and further protected by a lip seal, provides for the most durable seal design available.
2. Highly efficient, continuous duty, air filled, copper wound motor with class E, insulation minimizes the cost of operation.
4. Built in thermal & amperage sensing, protector prevents motor failure due to overloading, single phasing (in three phase units), 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. Utilization of application appropriate FRP & stainless steel components increases corrosion resistance in a wide variety of applications.

APPLICATIONS

1. Residential, commercial, effluent, wastewater and site drainage.
2. Chemical spill containment.
3. Decorative waterfalls, fountains and fish ponds.
4. Raw water supply from rivers or lakes.



SPECIFICATIONS

Discharge Size
Horsepower Range
Performance Range Capacity
Head
Maximum water temperature
Materials of Construction
Casing (upper)/(lower)
Impeller
Shaft
Motor Frame
Fasteners

Mechanical Seal
Elastomers

Impeller Type
Solids Handling Capability

Bearings

Motor Nomenclature
Type, Speed, Hz.
Voltage, Phase

Insulation

Accessories

Operational Mode

STANDARD

2" ~ 3" N.P.T. (50 ~ 80mm)
1/3 ~ 5Hp. (.25 ~ 3.7 kW)
6.6 ~ 203.4 G.P.M. (.03 ~ .85 m³/min)
16.4 ~ 111.5 Ft. (5.0 ~ 33.99 m)
104° F. (40° C.)

FRP (ABS + G20) / ABS
FRP (ABS + G20)
403 Stainless Steel
304 Stainless Steel
304 Stainless Steel

Silicon Carbide
NBR (Nitril Buna Rubber)

Enclosed, Multi-vane
.32 ~.51" (8~13 mm)

Pre-lubricated, Double Shielded

Air Filled, 3600 Rpm, 60 Hz.
115 or 230 V., 1 Phase.,
208-220, 230, 460, or 575 V. 3 Phase
Class E

Submersible Power Cable 32' (10 m)

OPTIONS

Length as Required
Model A(Automatic), Model
AW (Automatic Alternating)
TOK (FRP) Slide rail system



VANCS - SERIES - PSF (FRP) EFFLUENT PUMPS

SAMPLE SPECIFICATIONS

1. SCOPE OF SUPPLY -

Furnish and install TSURUMI, VANCS 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, sewage or effluent containing _____ inch (_____ mm) diameter solids 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. The pump discharge size shall be _____ inch, (_____ mm).

2. MATERIALS OF CONSTRUCTION -

Construction of major parts of the pumping unit(s) including pump casing, impeller, motor head cover and intermediate brackets shall be manufactured from recyclable, application appropriate resins. The need for a protective coating shall not be required. All exposed fasteners shall be stainless steel and shall have stainless steel mating anchors integrally cast into the mating part. All units shall be furnished with a NPT discharge companion flange. Impellers shall be of the multi-vane, enclosed design and shall be slip fit to the shaft. The motor shaft shall be machined to provide a positive drive of the impeller. The pump casing shall incorporate an air relief valve.

3. MECHANICAL SEAL -

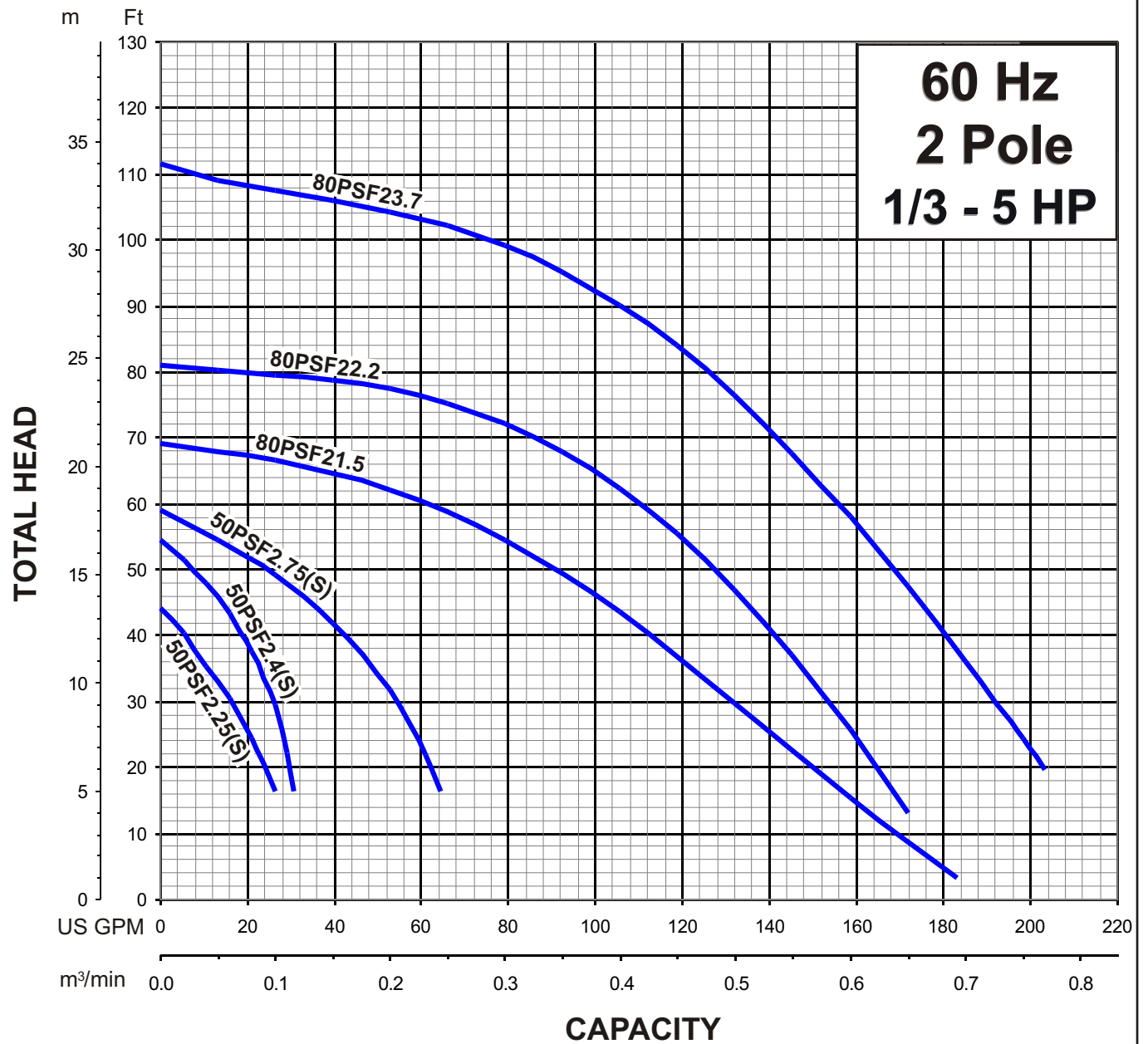
All units shall be furnished with a dual inside mechanical shaft seal located completely out of the pumpage, running in a separate oil filled chamber. Units shall be fitted with a device that shall provide positive lubrication of top mechanical seal, (down to one third of the standard oil level). The device shall not consume any additional electrical power. Units shall have silicon carbide mechanical seal faces. Mechanical seal hardware shall be Stainless steel.

4. MOTOR -

The pump motor(s) shall be _____ Hp., _____ kW., _____ V., 60 Hz., _____ 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 6 starts per hour. Motor(s) shall be air filled, copper wound, class E insulated with built in thermal and over amperage protection. Motor shaft shall be 403 stainless steel 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. The bearings shall be single row, double shielded, C3, deep groove type ball bearings. Bearing seats shall be rolled carbon steel or aluminum die casting. Motor housing shall be 304 stainless steel. Motors shall be suitable variable speed applications, utilizing a properly sized variable frequency drive. (Only for 3ph.)

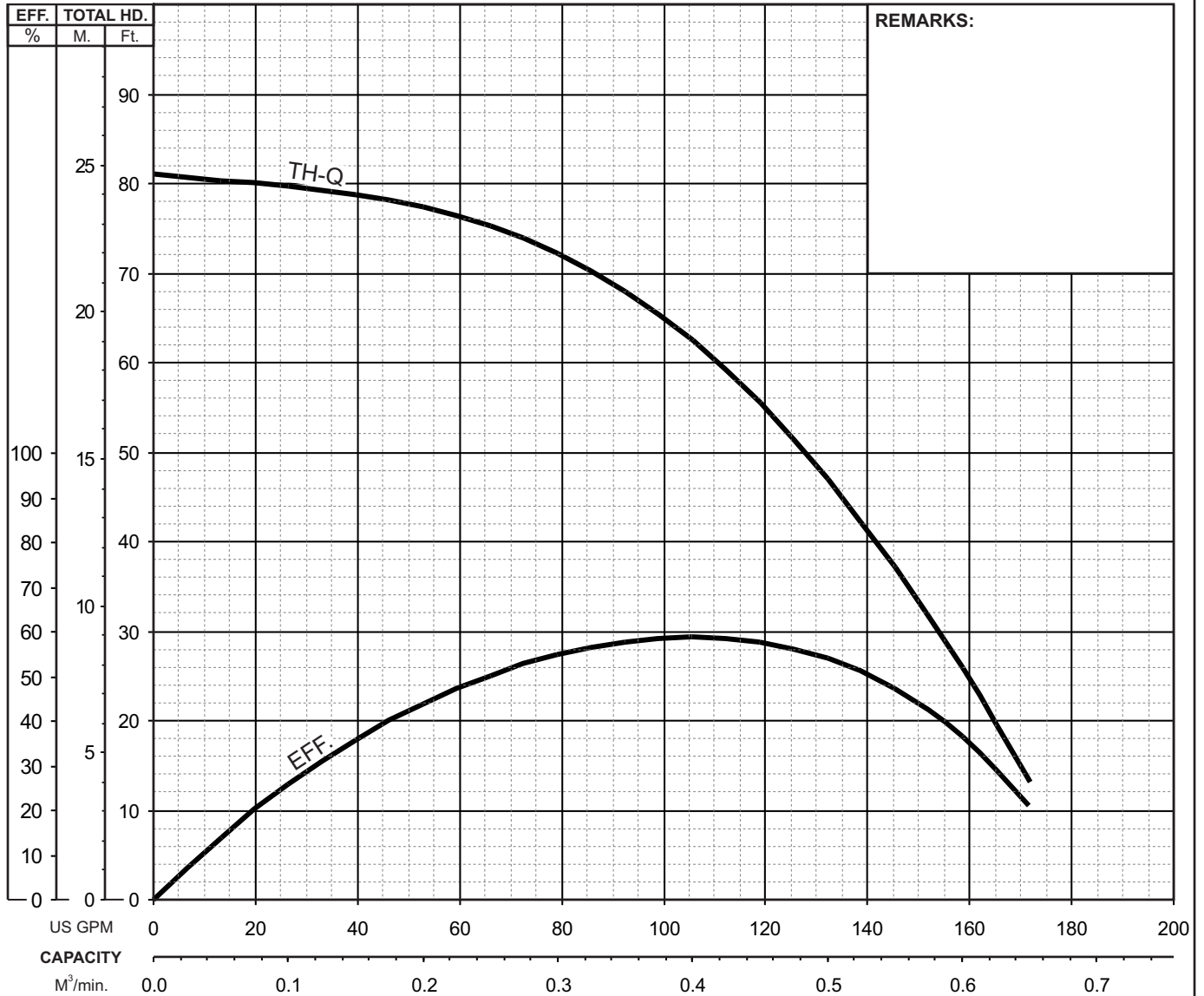
5. POWER CABLE AND CABLE ENTRANCE -

The pump power cable shall be suitable for submersible pump applications. The cable entrance shall incorporate built in strain relief, a one piece, three way mechanical compression seal with a fatigue reducing cable 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.

**VANCS - SERIES - PSF**
(FRP) EFFLUENT PUMPS**PERFORMANCE
RANGE****PERFORMANCE RANGE**


TSURUMI PUMP
VANCS - SERIES - PSF
(FRP) EFFLUENT PUMPS
PERFORMANCE
CURVE

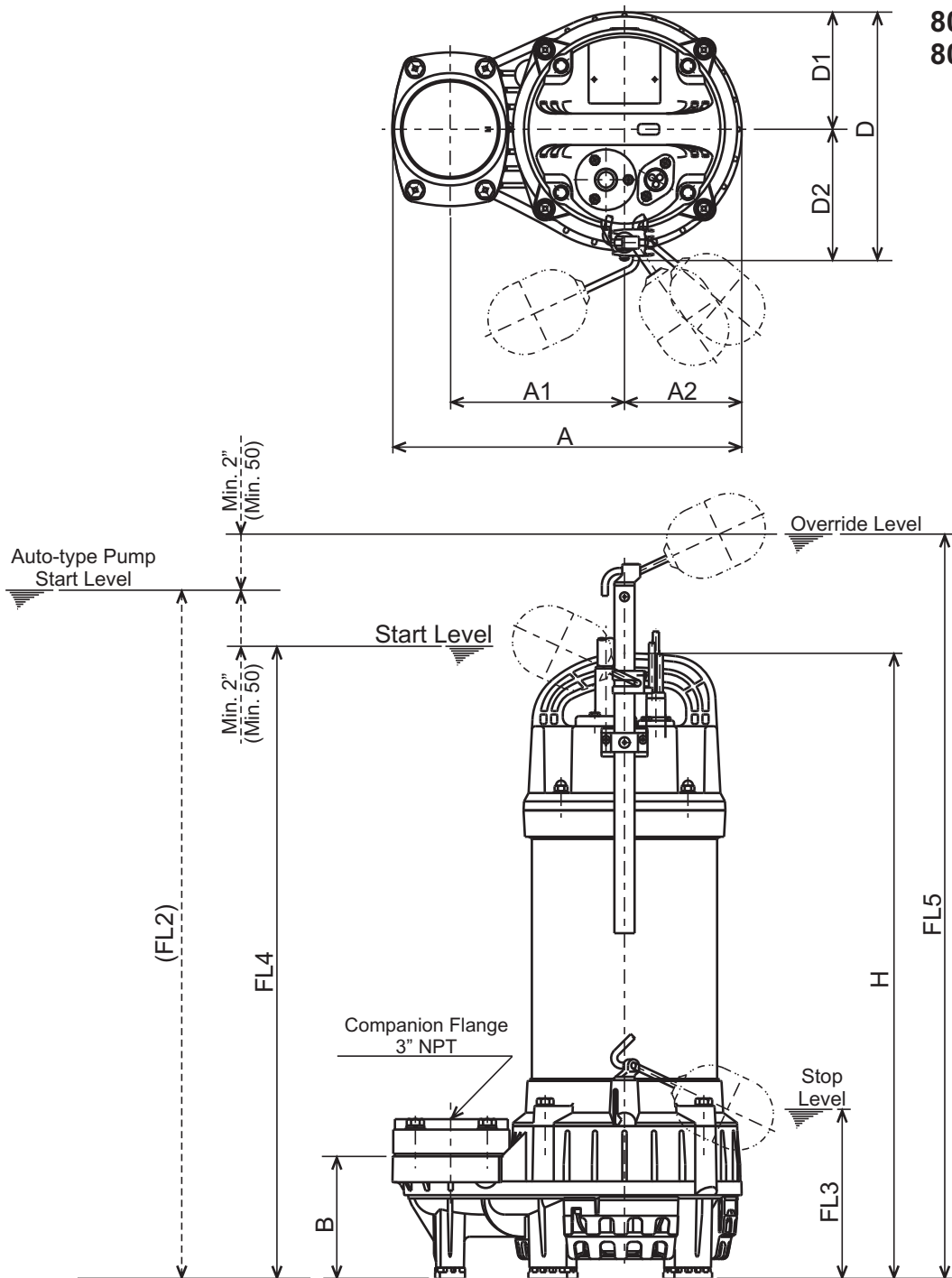
MODEL		BORE	HP	KW	RPM	SOLIDS DIA		LIQUID		SG.	VISCOSITY	TEMP.
80PSF(A/W)22.2-61		3"/80mm	3	2.2	3490	0.512"/ 13mm		Water		1.0	1.123 cSt	60°F
PUMP TYPE		PHASE	VOLTAGE		AMPERAGE		HZ	STARTING METHOD			INS. CLASS	
Effluent Pump		3	208-220/460/575		9.1-8.5/4.2/3.3		60	Direct On Line			E	
CURVE No.	DATE	PHASE	VOLTAGE		AMPERAGE		HZ	STARTING METHOD			INS. CLASS	
-	-	-	-		-		-	-			-	





VANCS - SERIES - PSF **(FRP) EFFLUENT PUMPS**

DIMENSIONS



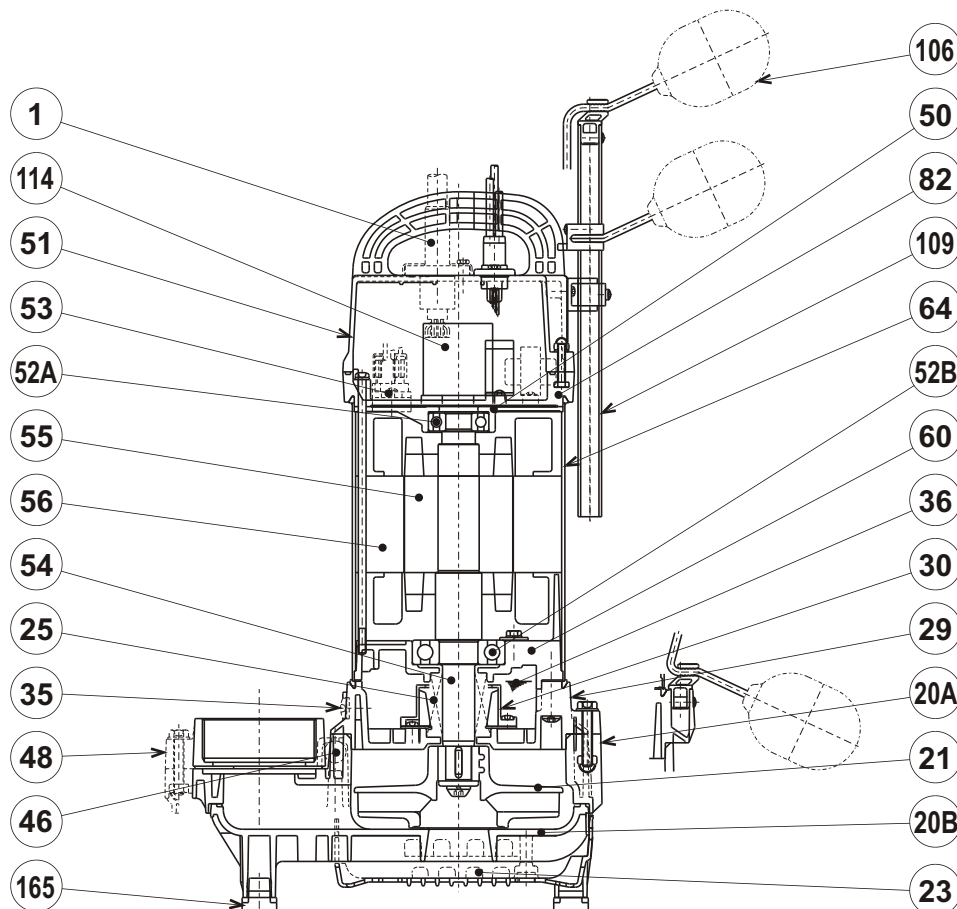
80PSFW22.2-61
80PSFW23.7-61

DIMENSIONS:USCS (Inch)

Model	HP	NOM. SIZE	Pump & Motor								Stop	Start	Override	Wt. (lbs.)
			A	A1	A2	B	D	D1	D2	H	FL3	Max.FL4	Max.FL5	
80PSFW22.2-61	3	3"	12 1/4	6 1/8	4 1/8	4 5/16	8 11/16	4 1/8	4 5/8	22	6	28 1/4	32 1/8	51
80PSFW23.7-61	5	3"	12 1/4	6 1/8	4 1/8	4 5/16	8 11/16	4 1/8	4 5/8	23 3/8	6	29 5/8	33 1/2	62

DIMENSIONS:METRIC (mm)

Model	kW	NOM. SIZE	Pump & Motor								Stop	Start	Override	Wt. (kg)
			A	A1	A2	B	D	D1	D2	H	FL3	Max.FL4	Max.FL5	
80PSFW22.2-61	2.2	80	311	155	105	110	221	104	117	559	152	717	817	23
80PSFW23.7-61	3.7	80	311	155	105	110	221	104	117	594	152	752	852	28

**TSURUMI PUMP**
VANCS - SERIES - PSF
(FRP) EFFLUENT PUMPS
SECTIONAL VIEW
80PSFW22.2-61
80PSFW23.7-61


PART#	DESCRIPTION	MAIN MATERIAL / NOTE	RELATED ASTM, AISI CODE	RELATED EN CODE	QTY
1	Power Cable (80PSFW22.2-61)	PVC Sheath AWG14/4-32ft			1
	Power Cable (80PSFW23.7-61)	PVC Sheath AWG12/4-32ft			
20A	Upper Pump Casing	PA+ABS Plastic w/GF30			1
20B	Lower Pump Casing	PA+ABS Plastic w/GF30			1
21	Impeller	PPO Plastic w/GF20			1
23	Suction Strainer	ABS Plastic			1
25	Mechanical Seal	Silicon Carbide / H-25AT			1
29	Oil Casing	PPS Plastic w/(GF+MD)50			1
30	Oil Lifter	PBT Plastic w/(GF+MD)40			1
35	Oil Plug	Stainless Steel	S 30400	1.4301	1
36	Lubricant	White Mineral Oil ISO VG32			
46	Air Valve	Glass Ball			1
48	Companion Flange	PVC / NPT 3"			1
50	Motor Bracket	Aluminum Alloy Die Casting	B85 383.0	EN 1706 AC-46100	1
51	Motor Head Cover	PPS Plastic w/GF40			1
52A	Upper Bearing	#6204ZZC3			1
52B	Lower Bearing	#6306ZZC3			1
53	Motor Protector				1
54	Shaft	Stainless Steel	S 30400	1.4301	1
55	Rotor				1
56	Stator				1
60	Bearing Housing	Aluminum Alloy Die Casting	B85 383.0	EN 1706 AC-46100	1
64	Motor Housing	Stainless Steel	S 30400	1.4301	1
82	Motor Head Cover Spacer	PPS Plastic w/GF40			1
106	Float Set	ABS Plastic			3
109	Float Support Pipe	PVC			1
114	Power Relay				1
165	Rubber Cushion	Nitrile Butadiene Rubber			5



VANCS SERIES - PSF

(FRP) EFFLUENT PUMPS

Specifications

■ FEATURES

1. Enclosed, FRP (Fiberglass Reinforced Plastic), impeller provides for high head pumping of effluent or water.
2. Double inside mechanical seals with silicon carbide faces, running in an oil filled chamber and further protected by a lip seal, provides for the most durable seal design available.
2. Highly efficient, continuous duty, air filled, copper wound motor with class E, insulation minimizes the cost of operation.
4. Built in thermal & amperage sensing, protector prevents motor failure due to overloading, single phasing (in three phase units), 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. Utilization of application appropriate FRP & stainless steel components increases corrosion resistance in a wide variety of applications.

■ APPLICATIONS

1. Residential, commercial, effluent, wastewater and site drainage.
2. Chemical spill containment.
3. Decorative waterfalls, fountains and fish ponds.
4. Raw water supply from rivers or lakes.



■ SPECIFICATIONS

Discharge Size
Horsepower Range
Performance Range Capacity
Head
Maximum water temperature
Materials of Construction
Casing (upper)/(lower)
Impeller
Shaft
Motor Frame
Fasteners

Mechanical Seal
Elastomers

Impeller Type
Solids Handling Capability

Bearings

Motor Nomenclature
Type, Speed, Hz.
Voltage, Phase

Insulation

Accessories

Operational Mode

■ STANDARD

2" ~ 3" N.P.T. (50 ~ 80mm)
1/3 ~ 5Hp. (.25 ~ 3.7 kW)
6.6 ~ 203.4 G.P.M. (.03 ~ .85 m³/min)
16.4 ~ 111.5 Ft. (5.0 ~ 33.99 m)
104° F. (40° C.)

FRP (ABS + G20) / ABS
FRP (ABS + G20)
403 Stainless Steel
304 Stainless Steel
304 Stainless Steel

Silicon Carbide
NBR (Nitril Buna Rubber)

Enclosed, Multi-vane
.32 ~.51" (8~13 mm)

Pre-lubricated, Double Shielded

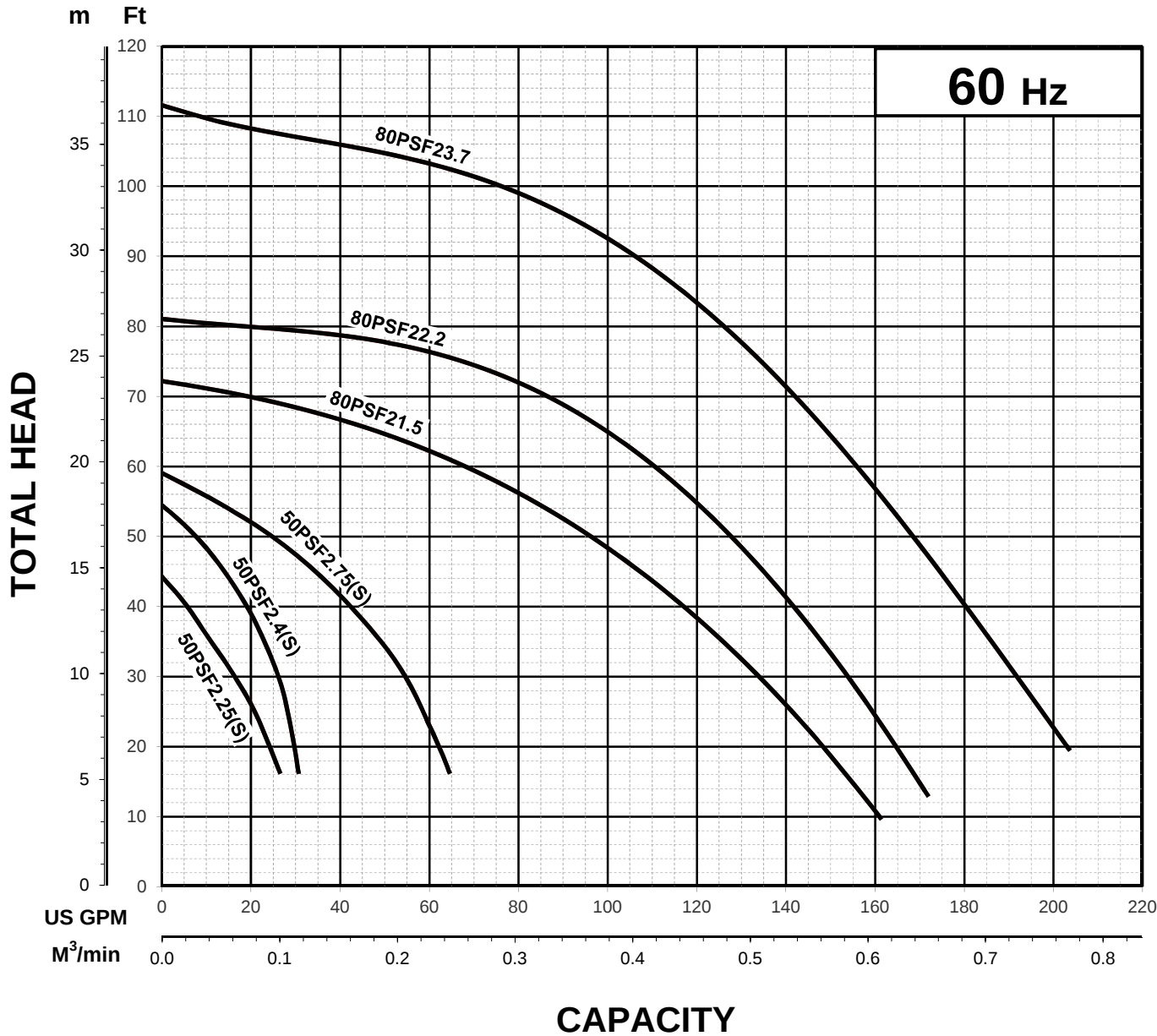
Air Filled, 3600 Rpm, 60 Hz.
115 or 230 V., 1 Phase.,
208-220, 230, 460, or 575 V. 3 Phase
Class E

Submersible Power Cable 32' (10 m)

■ OPTIONS

Length as Required
Model A(Automatic), Model
AW (Automatic Alternating)
TOK (FRP) Slide rail system

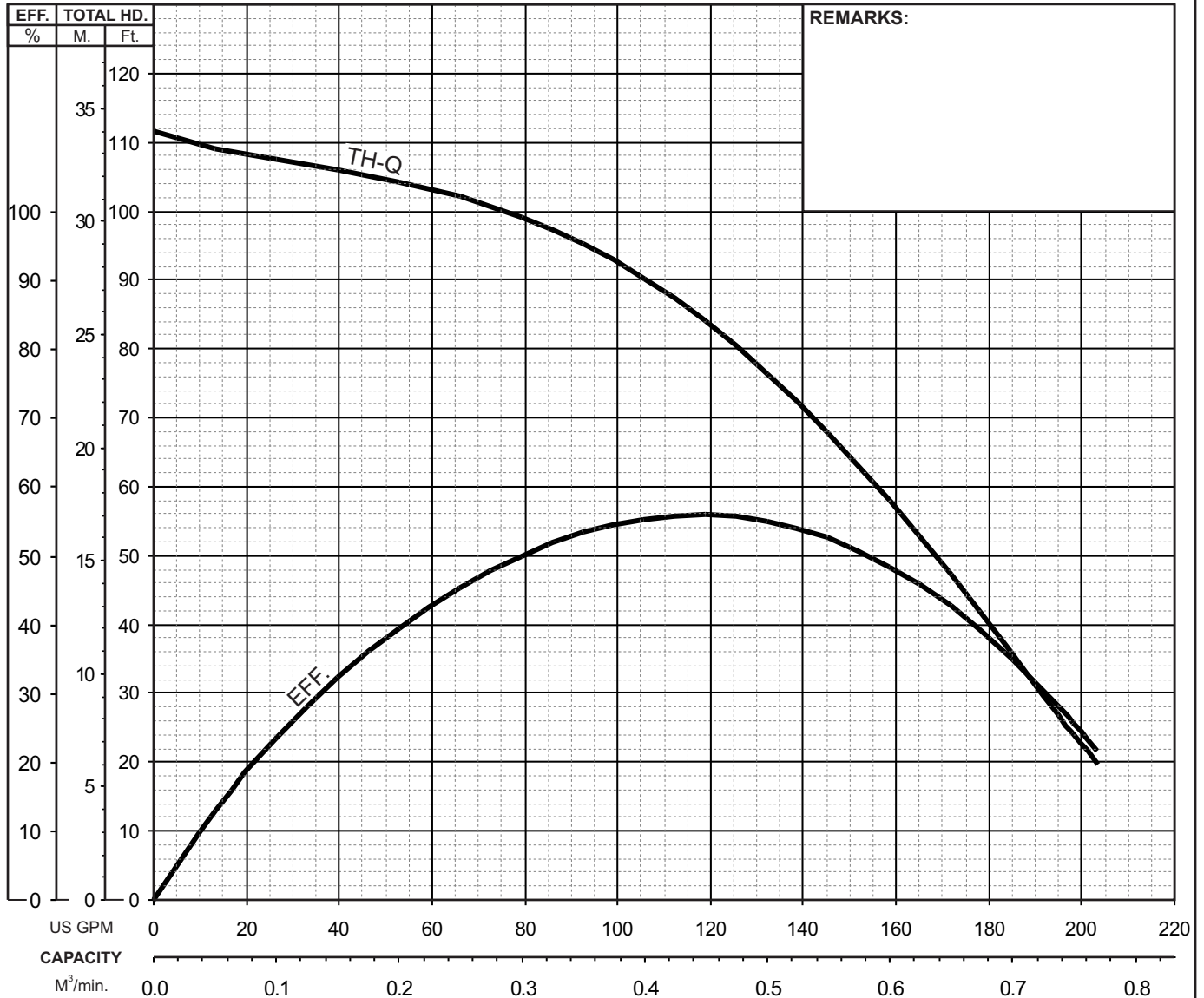
GROUP PERFORMANCE RANGE



Note


TSURUMI PUMP
VANCS - SERIES - PSF
(FRP) EFFLUENT PUMPS
PERFORMANCE
CURVE

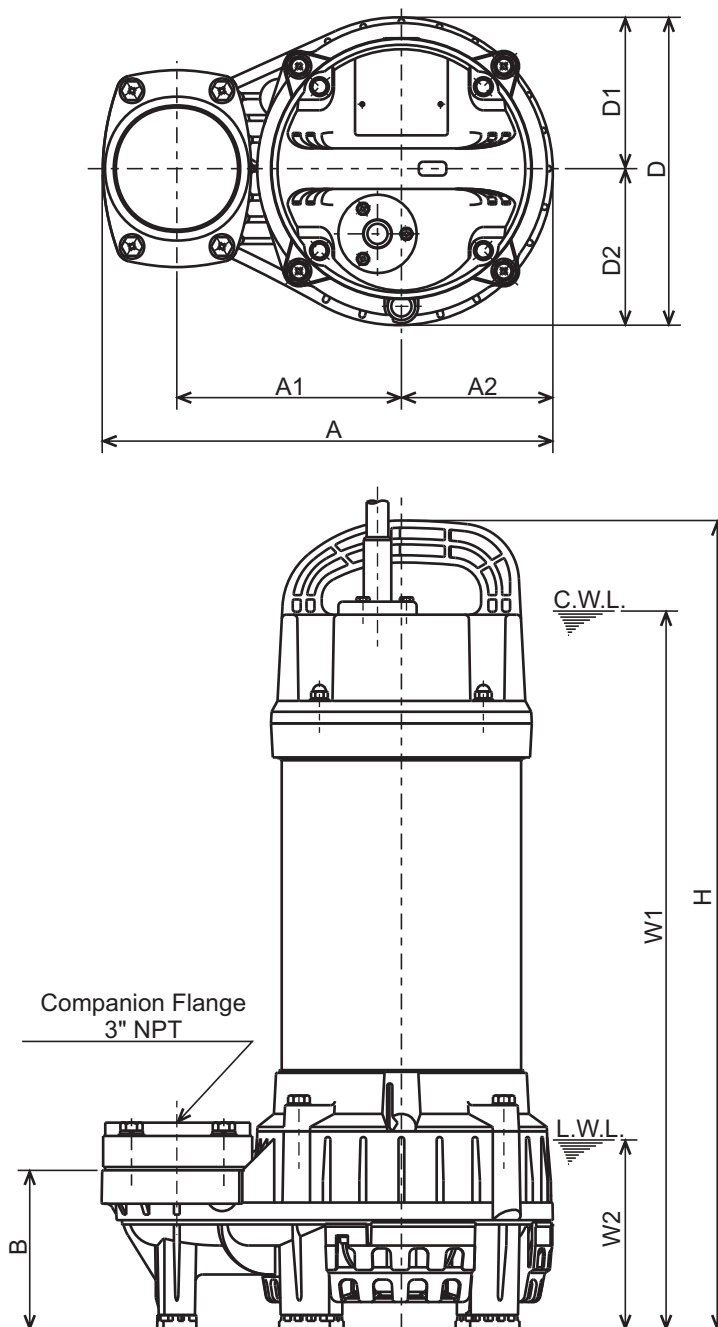
MODEL		BORE	HP	KW	RPM	SOLIDS DIA		LIQUID		SG.	VISCOSITY	TEMP.
80PSF(A/W)23.7-61		3"/80mm	5	3.7	3495	0.512"/ 13mm		Water		1.0	1.123 cSt	60°F
PUMP TYPE		PHASE	VOLTAGE		AMPERAGE		HZ	STARTING METHOD			INS. CLASS	
Effluent Pump		3	208-220/460/575		14.4-13.4/6.5/5.0		60	Direct On Line			E	
CURVE No.	DATE	PHASE	VOLTAGE		AMPERAGE		HZ	STARTING METHOD			INS. CLASS	
-	-	-	-		-		-	-			-	





VANCS - SERIES - PN **(FRP) EFFLUENT PUMPS**

DIMENSIONS



80PSF22.2-61
80PSF23.7-61

C.W.L. : Continuous running Water Level
 L.W.L. : Lowest running Water Level

DIMENSIONS:USCS (Inch)

Model	HP	NOM. SIZE	Pump & Motor								C.W.L.	L.W.L.	Wt. (lbs.)
			A	A1	A2	B	D	D1	D2	H	W1	W2	
80PSF22.2-61	3	3"	12 1/4	6 1/8	4 1/8	4 5/16	8 3/8	4 1/8	4 1/4	22	19 5/8	5 1/8	48
80PSF23.7-61	5	3"	12 1/4	6 1/8	4 1/8	4 5/16	8 3/8	4 1/8	4 1/4	23 3/8	21 1/8	5 1/8	59

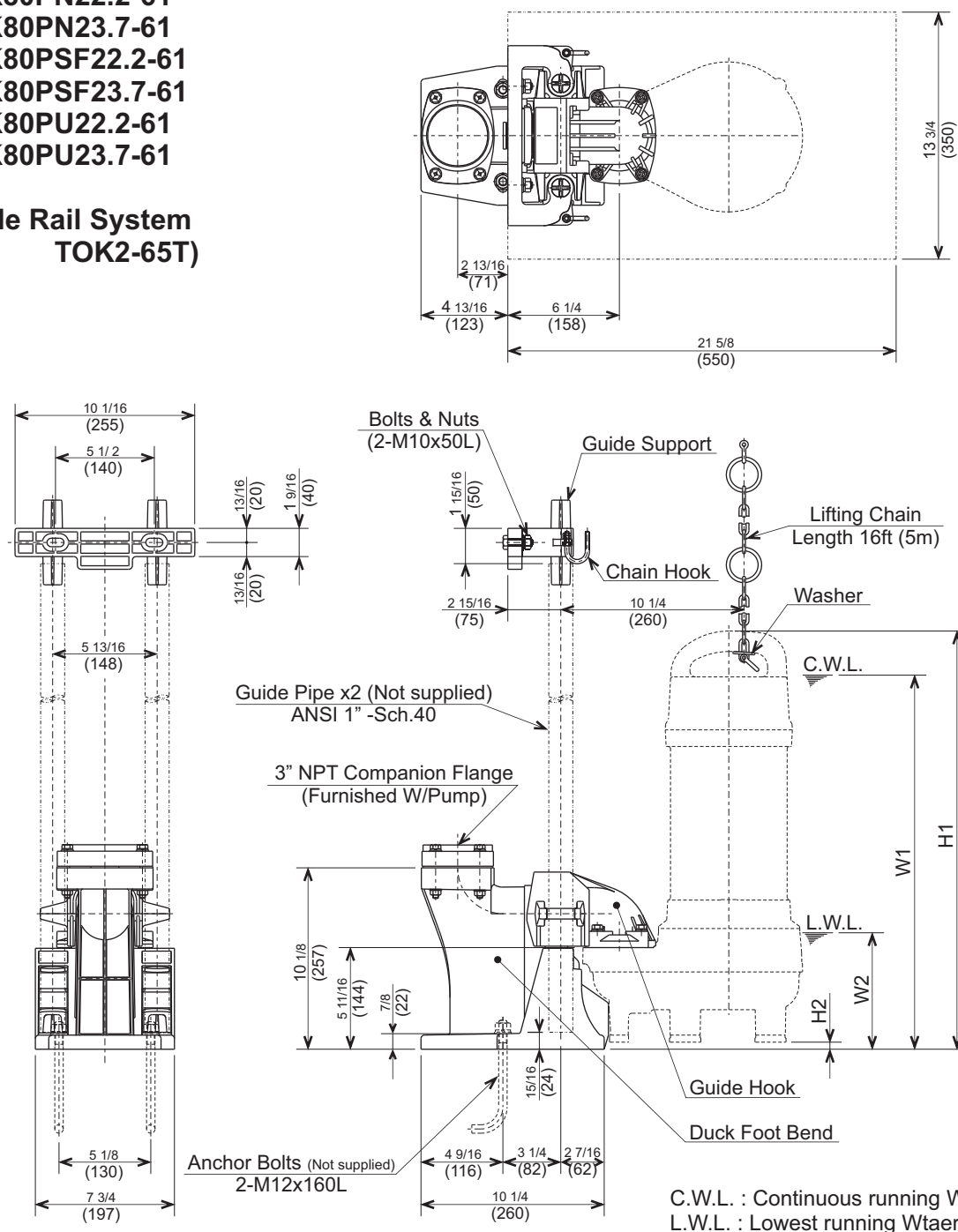
DIMENSIONS:METRIC (mm)

Model	kW	NOM. SIZE	Pump & Motor								C.W.L.	L.W.L.	Wt. (kg)
			A	A1	A2	B	D	D1	D2	H	W1	W2	
80PSF22.2-61	2.2	80	311	155	105	110	212	104	108	559	500	130	22
80PSF23.7-61	3.7	80	311	155	105	110	212	104	108	594	535	130	27

**TSURUMI PUMP****VANCS-SERIES PN/PSF/PU****DIMENSIONS**

TOK80PN22.2-61
 TOK80PN23.7-61
 TOK80PSF22.2-61
 TOK80PSF23.7-61
 TOK80PU22.2-61
 TOK80PU23.7-61

(Slide Rail System
 TOK2-65T)



C.W.L. : Continuous running Water Level
 L.W.L. : Lowest running Water Level

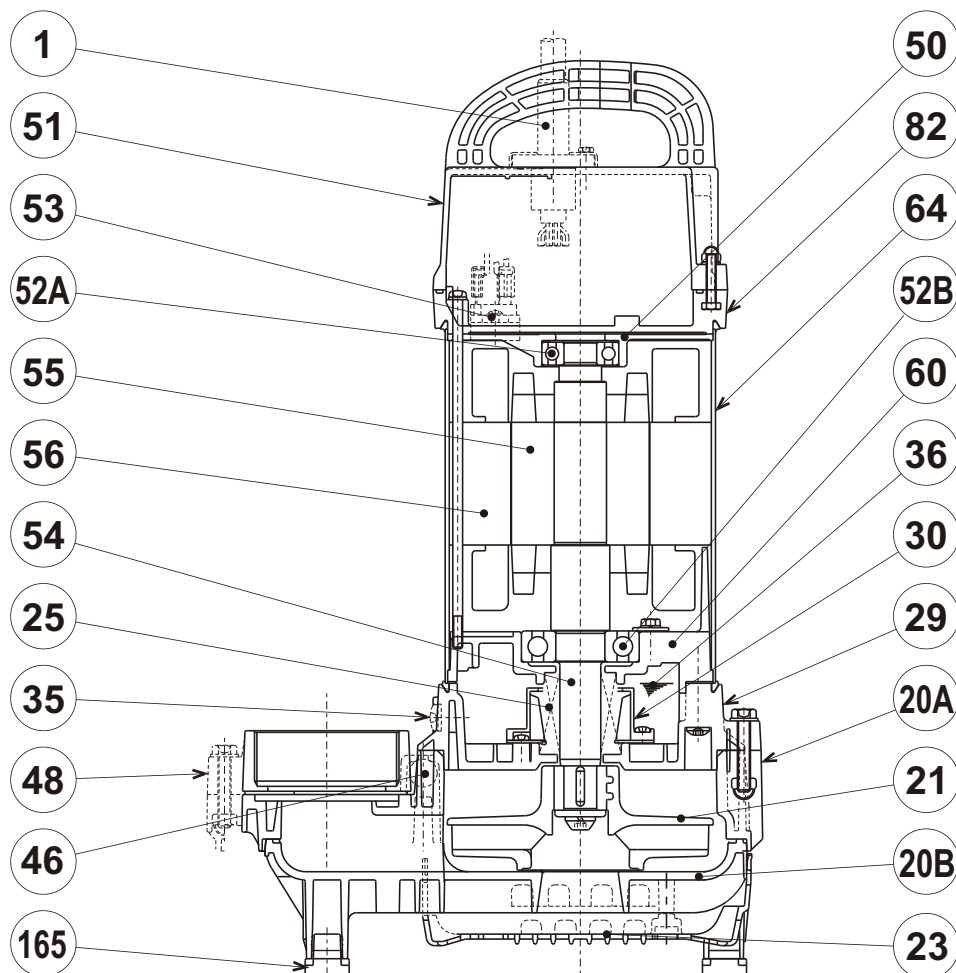
Model	OUTPUT HP (kW)	NOM. SIZE inch (mm)	Dimension inch (mm)				Wt. lbs. (kg)
			H1	H2	C.W.L.	L.W.L.	
					W1	W2	
TOK80PN22.2-61	3 (2.2)	3 (80)	23 3/8 (593)	1 5/16 (34)	20 7/8 (530)	6 1/2 (165)	48 (22)
TOK80PN23.7-61	5 (3.7)	3 (80)	24 3/4 (628)	1 5/16 (34)	22 1/4 (565)	6 1/2 (165)	59 (27)
TOK80PSF22.2-61	3 (2.2)	3 (80)	23 3/8 (593)	1 5/16 (34)	20 7/8 (530)	6 1/2 (165)	48 (22)
TOK80PSF23.7-61	5 (3.7)	3 (80)	24 3/4 (628)	1 5/16 (34)	22 1/4 (565)	6 1/2 (165)	59 (27)
TOK80PU22.2-61	3 (2.2)	3 (80)	23 3/8 (593)	3/8 (10)	20 7/8 (530)	6 1/2 (165)	48 (22)
TOK80PU23.7-61	5 (3.7)	3 (80)	24 3/4 (628)	3/8 (10)	22 1/4 (565)	6 1/2 (165)	59 (27)



VANCS - SERIES - PSF **(FRP) EFFLUENT PUMPS**

SECTIONAL VIEW

80PSF22.2-61
80PSF23.7-61



PART#	DESCRIPTION	MAIN MATERIAL / NOTE	RELATED ASTM, AISI CODE	RELATED EN CODE	QTY
1	Power Cable (80PSF22.2-61)	PVC Sheath AWG14/4-32ft			1
	Power Cable (80PSF23.7-61)	PVC Sheath AWG12/4-32ft			
20A	Upper Pump Casing	PA+ABS Plastic w/GF30			1
20B	Lower Pump Casing	PA+ABS Plastic w/GF30			1
21	Impeller	PPO Plastic w/GF20			1
23	Suction Strainer	ABS Plastic			1
25	Mechanical Seal	Silicon Carbide / H-25AT			1
29	Oil Casing	PPS Plastic w/(GF+MD)50			1
30	Oil Lifter	PBT Plastic w/(GF+MD)40			1
35	Oil Plug	Stainless Steel	S 30400	1.4301	1
36	Lubricant	White Mineral Oil ISO VG32			
46	Air Valve	Glass Ball			1
48	Companion Flange	PVC / NPT 3"			1
50	Motor Bracket	Aluminum Alloy Die Casting	B85 383.0	EN 1706 AC-46100	1
51	Motor Head Cover	PPS Plastic w/GF40			1
52A	Upper Bearing	#6204ZZC3			1
52B	Lower Bearing	#6306ZZC3			1
53	Motor Protector				1
54	Shaft	Stainless Steel	S 30400	1.4301	1
55	Rotor				1
56	Stator				1
60	Bearing Housing	Aluminum Alloy Die Casting	B85 383.0	EN 1706 AC-46100	1
64	Motor Housing	Stainless Steel	S 30400	1.4301	1
82	Motor Head Cover Spacer	PPS Plastic w/GF40			1
165	Rubber Cushion	Nitrile Butadiene Rubber			5

**TSURUMI PUMP**

VANCS - SERIES - PSF (FRP) EFFLUENT PUMPS

SAMPLE SPECIFICATIONS

1. SCOPE OF SUPPLY -

Furnish and install TSURUMI, VANCS 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, sewage or effluent containing _____ inch (_____mm) diameter solids 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. The pump discharge size shall be _____ inch, (_____mm).

2. MATERIALS OF CONSTRUCTION -

Construction of major parts of the pumping unit(s) including pump casing, impeller, motor head cover and intermediate brackets shall be manufactured from recyclable, application appropriate resins. The need for a protective coating shall not be required. All exposed fasteners shall be stainless steel and shall have stainless steel mating anchors integrally cast into the mating part. All units shall be furnished with a NPT discharge companion flange. Impellers shall be of the multi-vane, enclosed design and shall be slip fit to the shaft. The motor shaft shall be machined to provide a positive drive of the impeller. The pump casing shall incorporate an air relief valve.

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. Units shall be fitted with a device that shall provide positive lubrication of top mechanical seal, (down to one third of the standard oil level). The device shall not consume any additional electrical power. Units shall have silicon carbide mechanical seal faces. Mechanical seal hardware shall be Stainless steel.

4. MOTOR -

The pump motor(s) shall be _____Hp., _____kW., _____V., 60 Hz., _____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 6 starts per hour. Motor(s) shall be air filled, copper wound, class E insulated with built in thermal and over amperage protection. Motor shaft shall be 403 stainless steel 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. The bearings shall be single row, double shielded, C3, deep groove type ball bearings. Bearing seats shall be rolled carbon steel or aluminum die casting. Motor housing shall be 304 stainless steel. Motors shall be suitable variable speed applications, utilizing a properly sized variable frequency drive.(Only for 3ph.)

5. POWER CABLE AND CABLE ENTRANCE -

The pump power cable shall be suitable for submersible pump applications. The cable entrance shall incorporate built in strain relief, a one piece, three way mechanical compression seal with a fatigue reducing cable 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.



VANCS SERIES - PSF

(FRP) EFFLUENT PUMPS

SPECIFICATIONS

■ FEATURES

1. Enclosed, FRP (Fiberglass Reinforced Plastic), impeller provides for high head pumping of effluent or water.
2. Double inside mechanical seals with silicon carbide faces, running in an oil filled chamber and further protected by a lip seal, provides for the most durable seal design available.
2. Highly efficient, continuous duty, air filled, copper wound motor with class E, insulation minimizes the cost of operation.
4. Built in thermal & amperage sensing, protector prevents motor failure due to overloading, single phasing (in three phase units), 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. Utilization of application appropriate FRP & stainless steel components increases corrosion resistance in a wide variety of applications.

■ APPLICATIONS

1. Residential, commercial, effluent, wastewater and site drainage.
2. Chemical spill containment.
3. Decorative waterfalls, fountains and fish ponds.
4. Raw water supply from rivers or lakes.



■ SPECIFICATIONS

Discharge Size
Horsepower Range
Performance Range Capacity
Head
Maximum water temperature
Materials of Construction
Casing (upper)/(lower)
Impeller
Shaft
Motor Frame
Fasteners

Mechanical Seal
Elastomers

Impeller Type
Solids Handling Capability

Bearings

Motor Nomenclature
Type, Speed, Hz.
Voltage, Phase

Insulation

Accessories

Operational Mode

■ STANDARD

2" ~ 3" N.P.T. (50 ~ 80mm)
1/3 ~ 5Hp. (.25 ~ 3.7 kW)
6.6 ~ 203.4 G.P.M. (.03 ~ .85 m³/min)
16.4 ~ 111.5 Ft. (5.0 ~ 33.99 m)
104° F. (40° C.)

FRP (ABS + G20) / ABS
FRP (ABS + G20)
403 Stainless Steel
304 Stainless Steel
304 Stainless Steel

Silicon Carbide
NBR (Nitril Buna Rubber)

Enclosed, Multi-vane
.32 ~.51" (8~13 mm)

Pre-lubricated, Double Shielded

Air Filled, 3600 Rpm, 60 Hz.
115 or 230 V., 1 Phase.,
208-220, 230, 460, or 575 V. 3 Phase
Class E

Submersible Power Cable 32' (10 m)

■ OPTIONS

Length as Required
Model A(Automatic), Model
AW (Automatic Alternating)
TOK (FRP) Slide rail system



VANCS - SERIES - PSF (FRP) EFFLUENT PUMPS

SAMPLE SPECIFICATIONS

1. SCOPE OF SUPPLY -

Furnish and install TSURUMI, VANCS 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, sewage or effluent containing _____ inch (_____ mm) diameter solids 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. The pump discharge size shall be _____ inch, (_____ mm).

2. MATERIALS OF CONSTRUCTION -

Construction of major parts of the pumping unit(s) including pump casing, impeller, motor head cover and intermediate brackets shall be manufactured from recyclable, application appropriate resins. The need for a protective coating shall not be required. All exposed fasteners shall be stainless steel and shall have stainless steel mating anchors integrally cast into the mating part. All units shall be furnished with a NPT discharge companion flange. Impellers shall be of the multi-vane, enclosed design and shall be slip fit to the shaft. The motor shaft shall be machined to provide a positive drive of the impeller. The pump casing shall incorporate an air relief valve.

3. MECHANICAL SEAL -

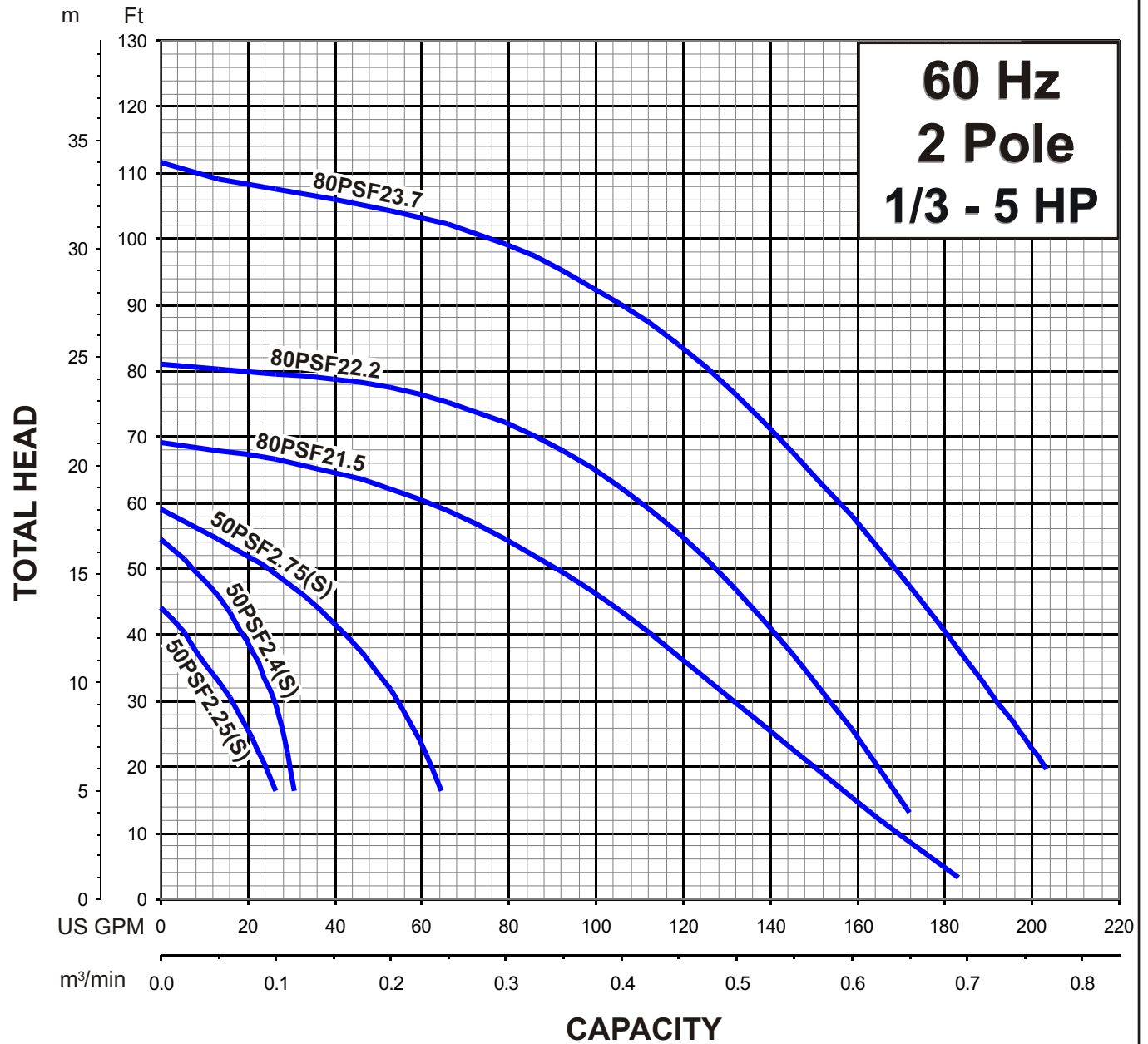
All units shall be furnished with a dual inside mechanical shaft seal located completely out of the pumpage, running in a separate oil filled chamber. Units shall be fitted with a device that shall provide positive lubrication of top mechanical seal, (down to one third of the standard oil level). The device shall not consume any additional electrical power. Units shall have silicon carbide mechanical seal faces. Mechanical seal hardware shall be Stainless steel.

4. MOTOR -

The pump motor(s) shall be _____ Hp., _____ kW., _____ V., 60 Hz., _____ 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 6 starts per hour. Motor(s) shall be air filled, copper wound, class E insulated with built in thermal and over amperage protection. Motor shaft shall be 403 stainless steel 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. The bearings shall be single row, double shielded, C3, deep groove type ball bearings. Bearing seats shall be rolled carbon steel or aluminum die casting. Motor housing shall be 304 stainless steel. Motors shall be suitable variable speed applications, utilizing a properly sized variable frequency drive. (Only for 3ph.)

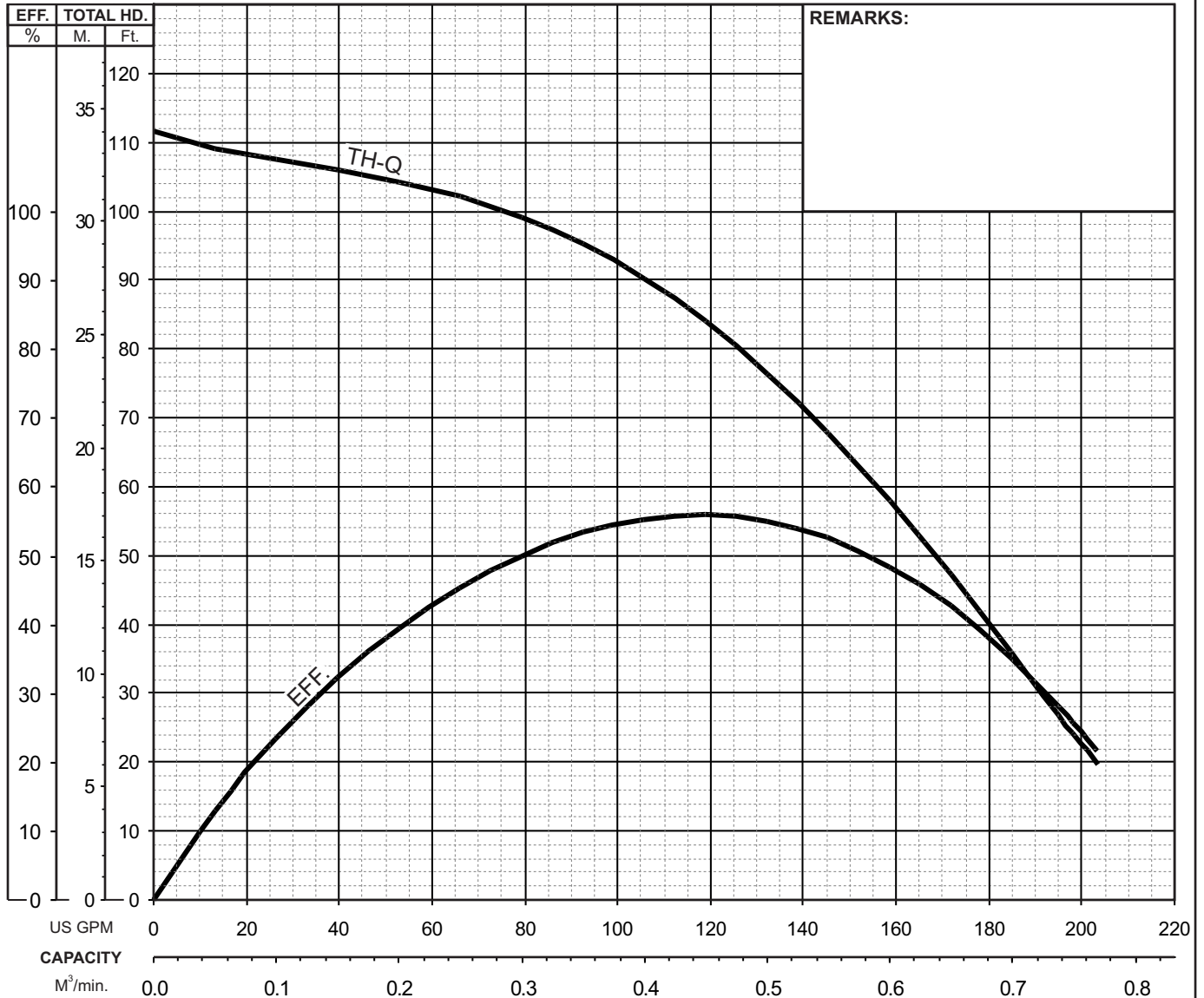
5. POWER CABLE AND CABLE ENTRANCE -

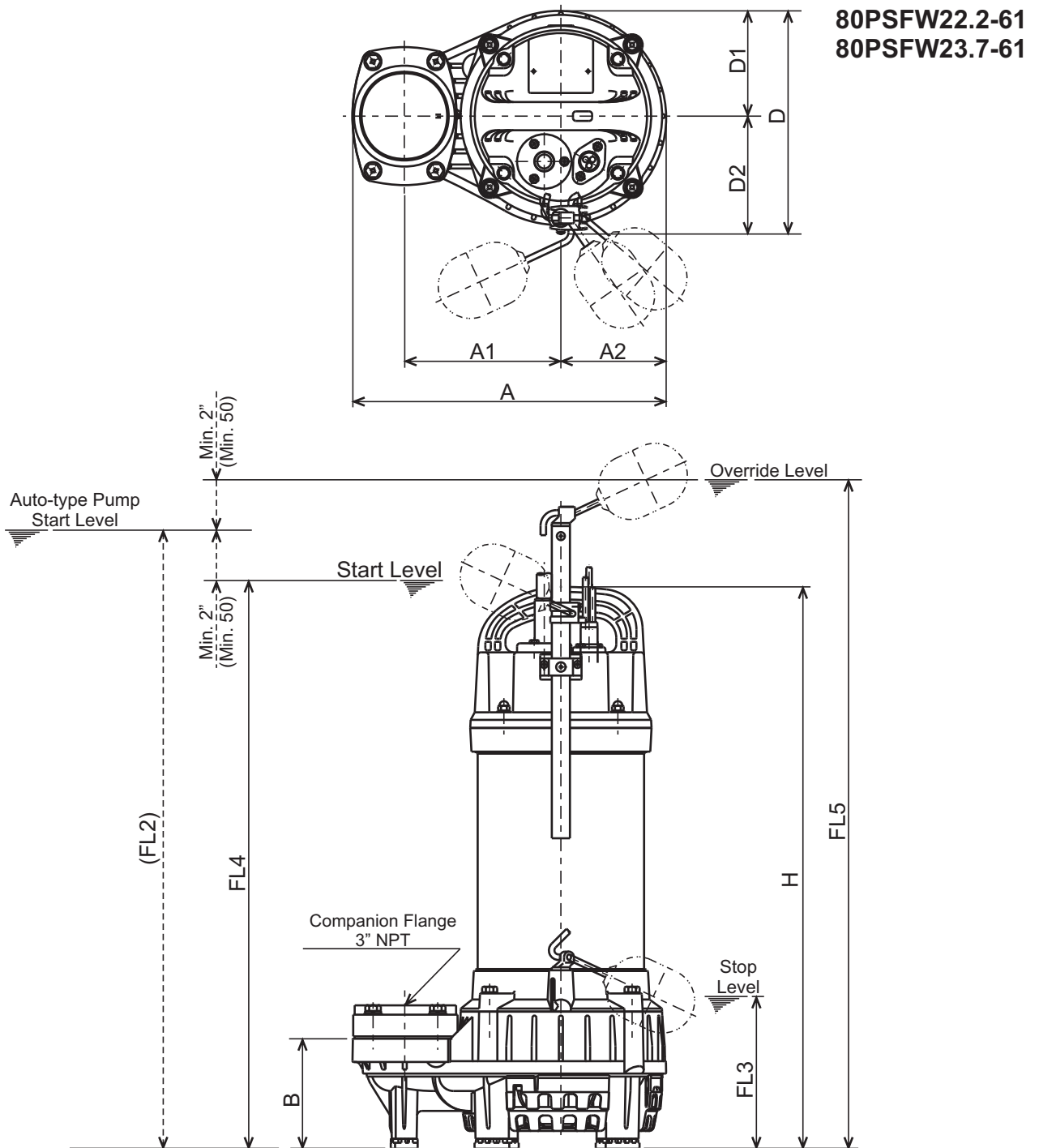
The pump power cable shall be suitable for submersible pump applications. The cable entrance shall incorporate built in strain relief, a one piece, three way mechanical compression seal with a fatigue reducing cable boot. The cable entrance assembly shall contain an anti-wicking block to eliminate water incursion into the motor due to Capillary wicking should the power cable be accidentally damaged.

**VANCS - SERIES - PSF**
(FRP) EFFLUENT PUMPS**PERFORMANCE
RANGE****PERFORMANCE RANGE**

**TSURUMI PUMP**
VANCS - SERIES - PSF
(FRP) EFFLUENT PUMPS
PERFORMANCE
CURVE

MODEL		BORE	HP	KW	RPM	SOLIDS DIA		LIQUID		SG.	VISCOSITY	TEMP.
80PSF(A/W)23.7-61		3"/80mm	5	3.7	3495	0.512"/ 13mm		Water		1.0	1.123 cSt	60°F
PUMP TYPE		PHASE	VOLTAGE		AMPERAGE		HZ	STARTING METHOD			INS. CLASS	
Effluent Pump		3	208-220/460/575		14.4-13.4/6.5/5.0		60	Direct On Line			E	
CURVE No.	DATE	PHASE	VOLTAGE		AMPERAGE		HZ	STARTING METHOD			INS. CLASS	
-	-	-	-		-		-	-			-	

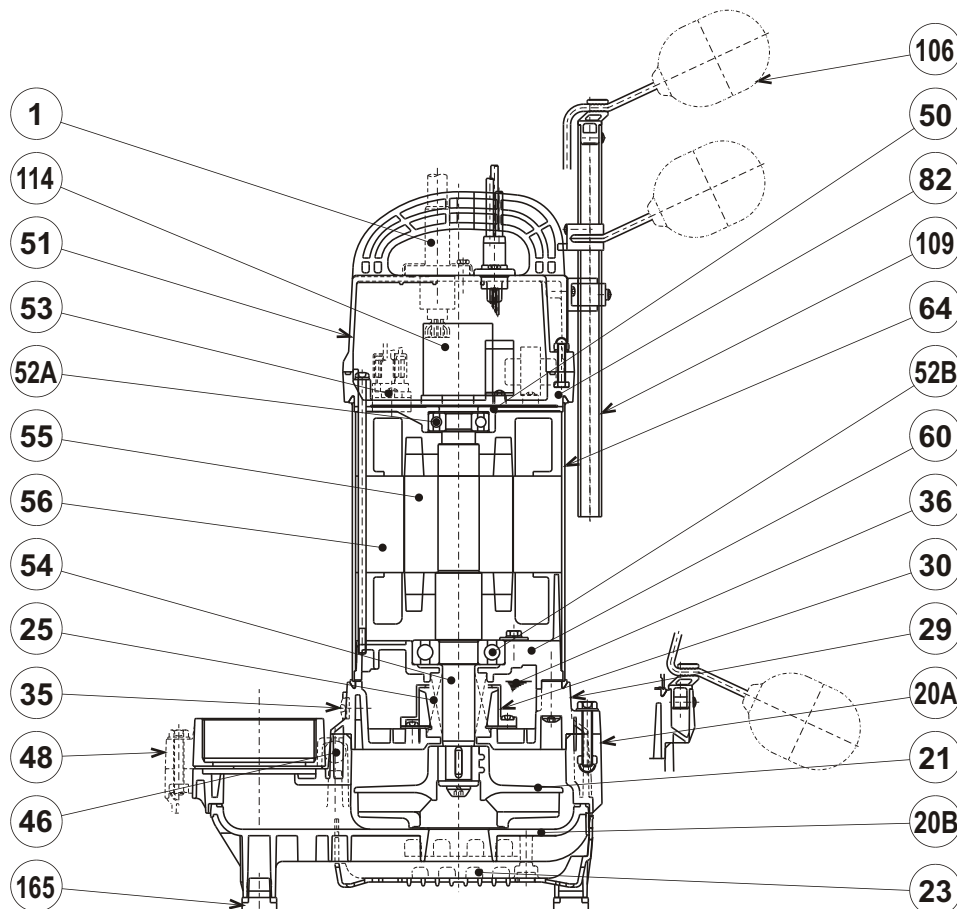



DIMENSIONS:USCS (Inch)

Model	HP	NOM. SIZE	Pump & Motor								Stop	Start	Override	Wt. (lbs.)
			A	A1	A2	B	D	D1	D2	H	FL3	Max.FL4	Max.FL5	
80PSFW22.2-61	3	3"	12 1/4	6 1/8	4 1/8	4 5/16	8 11/16	4 1/8	4 5/8	22	6	28 1/4	32 1/8	51
80PSFW23.7-61	5	3"	12 1/4	6 1/8	4 1/8	4 5/16	8 11/16	4 1/8	4 5/8	23 3/8	6	29 5/8	33 1/2	62

DIMENSIONS:METRIC (mm)

Model	kW	NOM. SIZE	Pump & Motor								Stop	Start	Override	Wt. (kg)
			A	A1	A2	B	D	D1	D2	H	FL3	Max.FL4	Max.FL5	
80PSFW22.2-61	2.2	80	311	155	105	110	221	104	117	559	152	717	817	23
80PSFW23.7-61	3.7	80	311	155	105	110	221	104	117	594	152	752	852	28

**TSURUMI PUMP**
VANCS - SERIES - PSF
(FRP) EFFLUENT PUMPS
SECTIONAL VIEW
80PSFW22.2-61
80PSFW23.7-61


PART#	DESCRIPTION	MAIN MATERIAL / NOTE	RELATED ASTM, AISI CODE	RELATED EN CODE	QTY
1	Power Cable (80PSFW22.2-61)	PVC Sheath AWG14/4-32ft			1
	Power Cable (80PSFW23.7-61)	PVC Sheath AWG12/4-32ft			
20A	Upper Pump Casing	PA+ABS Plastic w/GF30			1
20B	Lower Pump Casing	PA+ABS Plastic w/GF30			1
21	Impeller	PPO Plastic w/GF20			1
23	Suction Strainer	ABS Plastic			1
25	Mechanical Seal	Silicon Carbide / H-25AT			1
29	Oil Casing	PPS Plastic w/(GF+MD)50			1
30	Oil Lifter	PBT Plastic w/(GF+MD)40			1
35	Oil Plug	Stainless Steel	S 30400	1.4301	1
36	Lubricant	White Mineral Oil ISO VG32			
46	Air Valve	Glass Ball			1
48	Companion Flange	PVC / NPT 3"			1
50	Motor Bracket	Aluminum Alloy Die Casting	B85 383.0	EN 1706 AC-46100	1
51	Motor Head Cover	PPS Plastic w/GF40			1
52A	Upper Bearing	#6204ZZC3			1
52B	Lower Bearing	#6306ZZC3			1
53	Motor Protector				1
54	Shaft	Stainless Steel	S 30400	1.4301	1
55	Rotor				1
56	Stator				1
60	Bearing Housing	Aluminum Alloy Die Casting	B85 383.0	EN 1706 AC-46100	1
64	Motor Housing	Stainless Steel	S 30400	1.4301	1
82	Motor Head Cover Spacer	PPS Plastic w/GF40			1
106	Float Set	ABS Plastic			3
109	Float Support Pipe	PVC			1
114	Power Relay				1
165	Rubber Cushion	Nitrile Butadiene Rubber			5



VANCS SERIES - PSF

(FRP) EFFLUENT PUMPS

Specifications

■ FEATURES

1. Enclosed, FRP (Fiberglass Reinforced Plastic), impeller provides for high head pumping of effluent or water.
2. Double inside mechanical seals with silicon carbide faces, running in an oil filled chamber and further protected by a lip seal, provides for the most durable seal design available.
2. Highly efficient, continuous duty, air filled, copper wound motor with class E, insulation minimizes the cost of operation.
4. Built in thermal & amperage sensing, protector prevents motor failure due to overloading, single phasing (in three phase units), 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. Utilization of application appropriate FRP & stainless steel components increases corrosion resistance in a wide variety of applications.

■ APPLICATIONS

1. Residential, commercial, effluent, wastewater and site drainage.
2. Chemical spill containment.
3. Decorative waterfalls, fountains and fish ponds.
4. Raw water supply from rivers or lakes.



■ SPECIFICATIONS

Discharge Size
Horsepower Range
Performance Range Capacity
Head
Maximum water temperature
Materials of Construction
Casing (upper)/(lower)
Impeller
Shaft
Motor Frame
Fasteners

Mechanical Seal
Elastomers

Impeller Type
Solids Handling Capability

Bearings

Motor Nomenclature
Type, Speed, Hz.
Voltage, Phase

Insulation

Accessories

Operational Mode

■ STANDARD

2" ~ 3" N.P.T. (50 ~ 80mm)
1/3 ~ 5Hp. (.25 ~ 3.7 kW)
6.6 ~ 203.4 G.P.M. (.03 ~ .85 m³/min)
16.4 ~ 111.5 Ft. (5.0 ~ 33.99 m)
104° F. (40° C.)

FRP (ABS + G20) / ABS
FRP (ABS + G20)
403 Stainless Steel
304 Stainless Steel
304 Stainless Steel

Silicon Carbide
NBR (Nitril Buna Rubber)

Enclosed, Multi-vane
.32 ~.51" (8~13 mm)

Pre-lubricated, Double Shielded

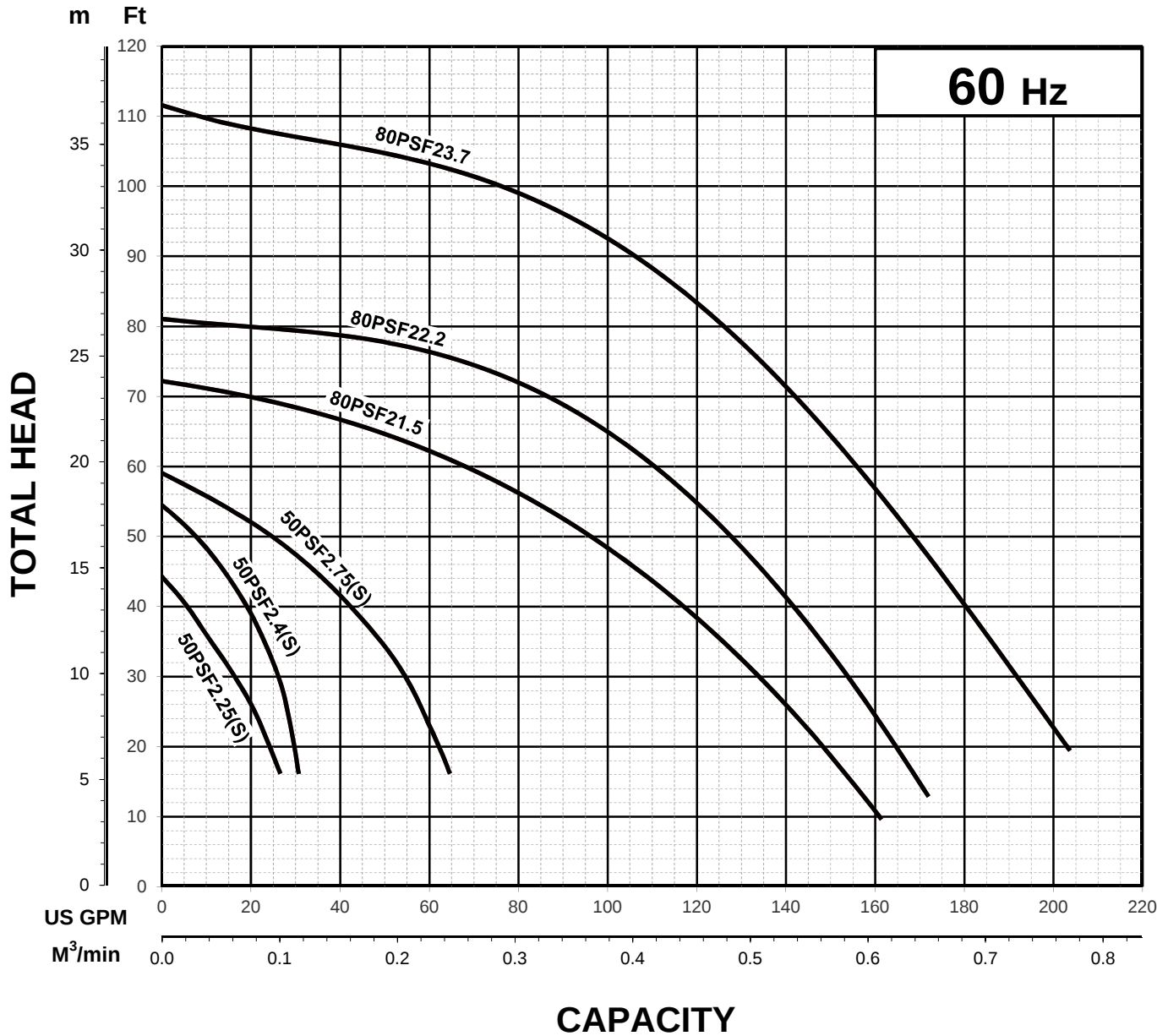
Air Filled, 3600 Rpm, 60 Hz.
115 or 230 V., 1 Phase.,
208-220, 230, 460, or 575 V. 3 Phase
Class E

Submersible Power Cable 32' (10 m)

■ OPTIONS

Length as Required
Model A(Automatic), Model
AW (Automatic Alternating)
TOK (FRP) Slide rail system

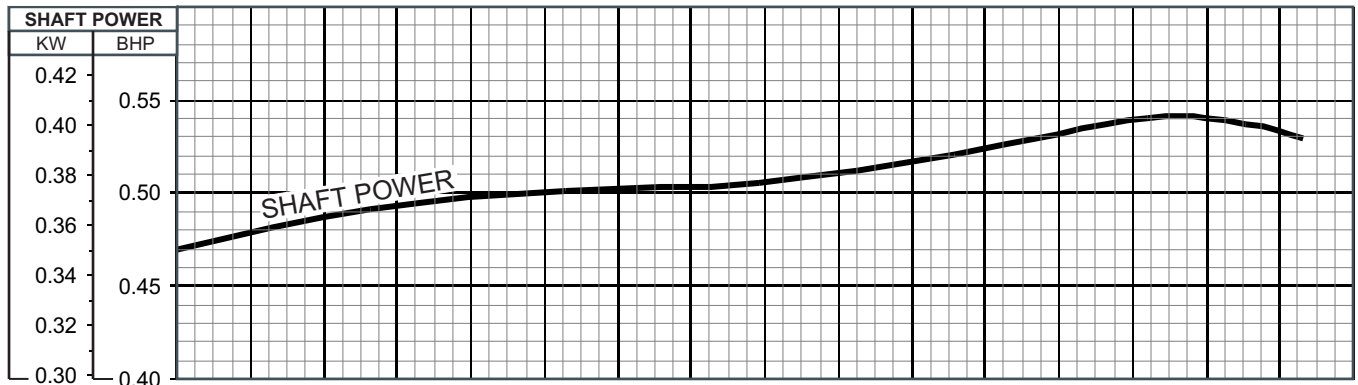
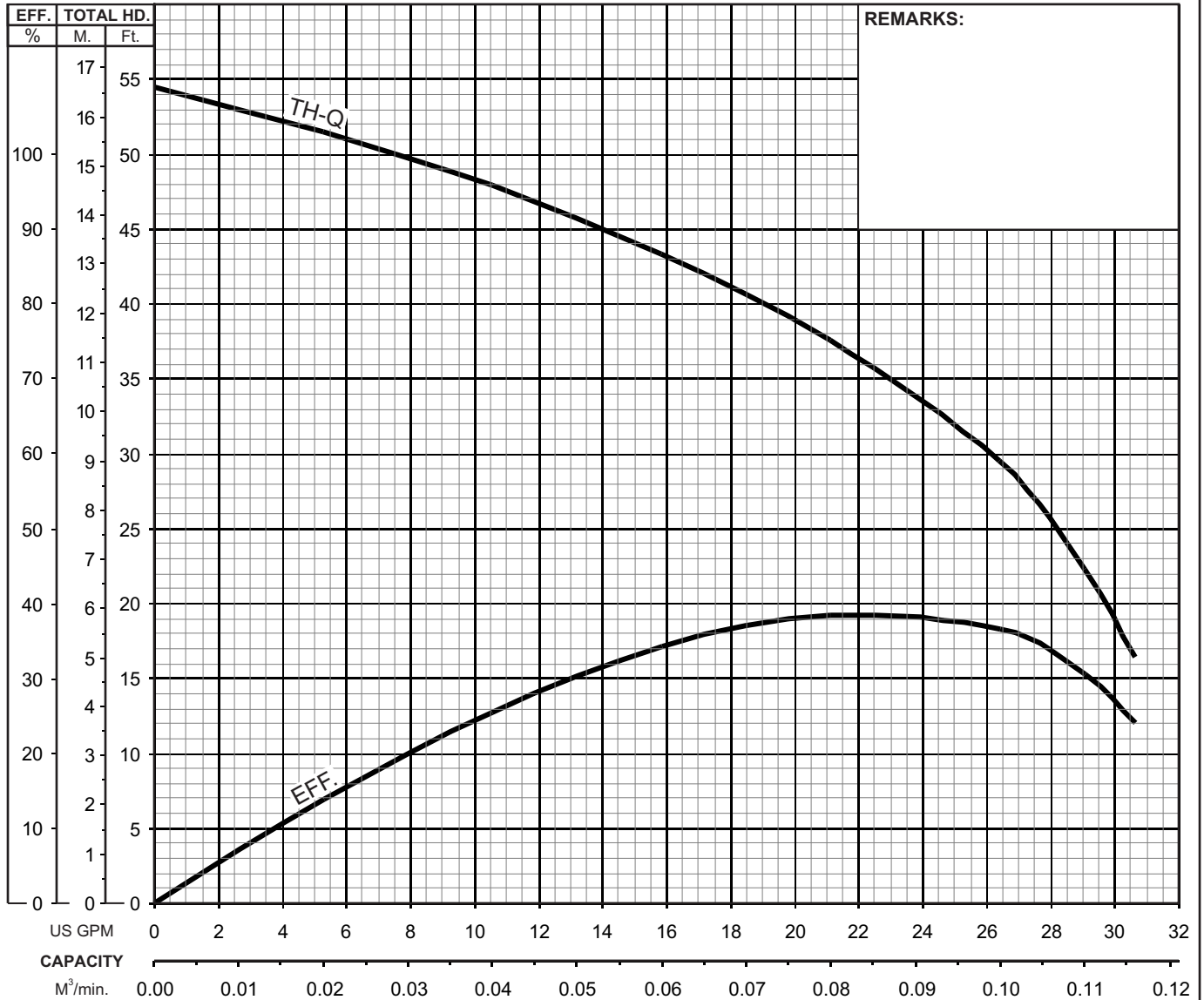
GROUP PERFORMANCE RANGE



Note

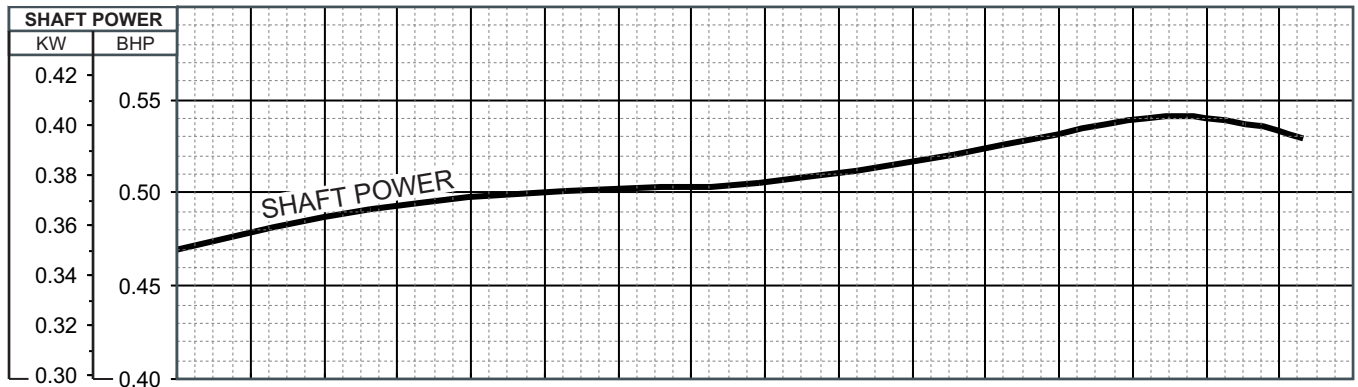
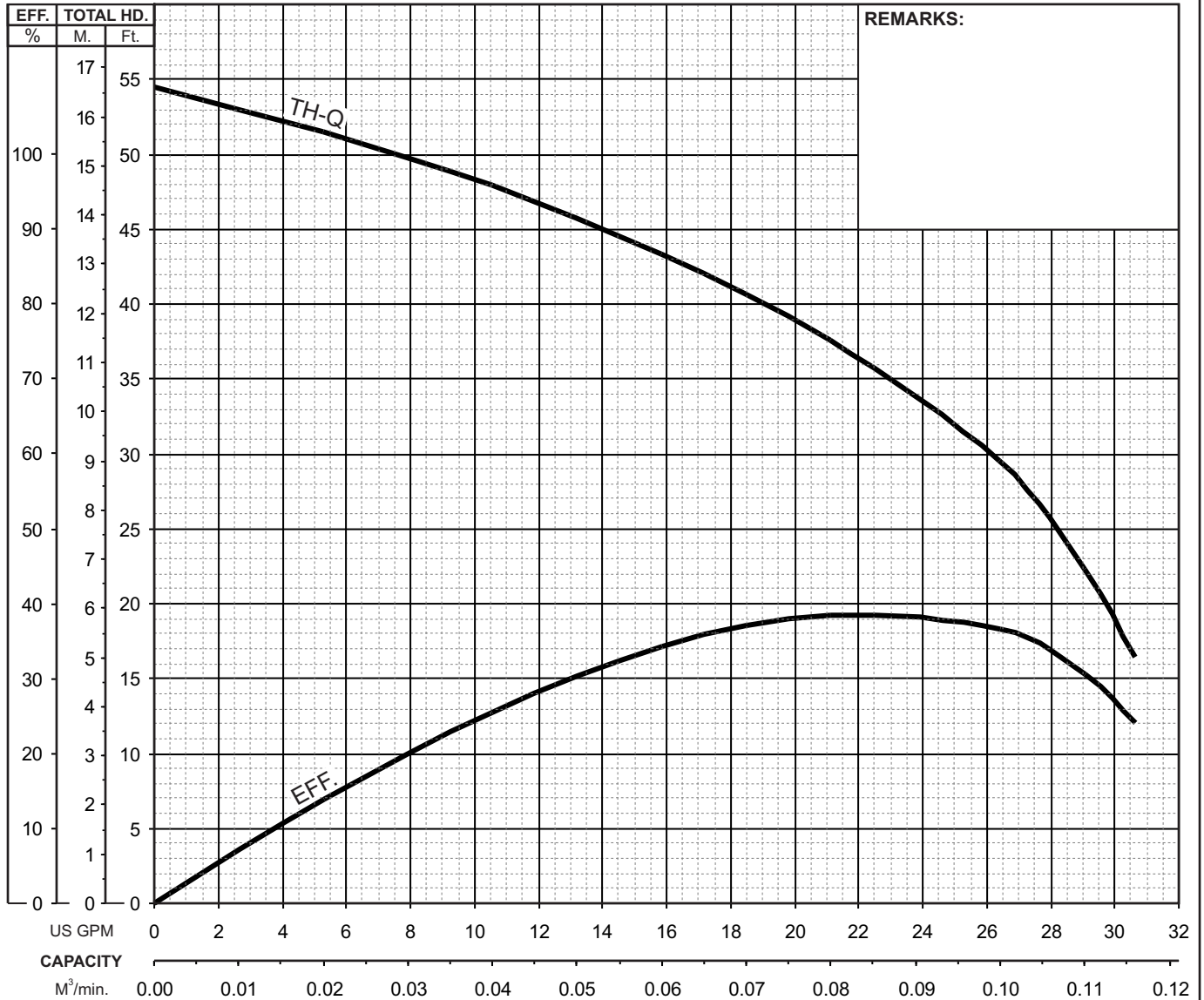
**TSURUMI PUMP**
VANCS - SERIES - PSF
(FRP) EFFLUENT PUMPS
PERFORMANCE
CURVE

MODEL	BORE	HP	KW	RPM	SOLIDS DIA	LIQUID	SG.	VISCOSITY	TEMP.
50PSF(A/W)2.4S-63	2" / 50mm	0.54	0.40	3397	0.315" / 8mm	Water	1.0	1.123 cSt.	60°F
PUMP TYPE	PHASE	VOLTAGE	AMPERAGE	HZ	STARTING METHOD	INS. CLASS			
Effluent Pump	Single	115-120 / 230	5.8-5.8 / 2.9	60	Capacitor-Start	E			
CURVE No.	DATE	PHASE	VOLTAGE	AMPERAGE	HZ	STARTING METHOD	INS. CLASS		
-	-	-	-	-	-	-	-		



**TSURUMI PUMP**
VANCS - SERIES - PSF
(FRP) EFFLUENT PUMPS
PERFORMANCE
CURVE

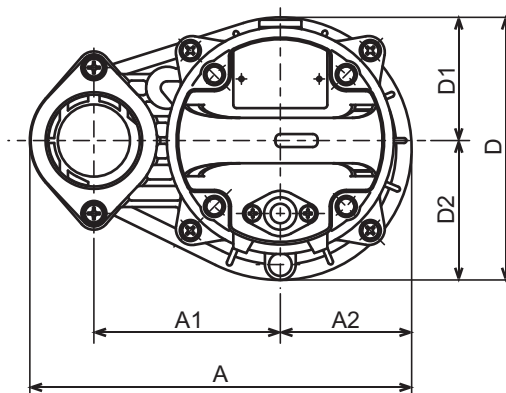
MODEL	BORE	HP	KW	RPM	SOLIDS DIA	LIQUID	SG.	VISCOSITY	TEMP.
50PSF(A/W)2.4-63	2" / 50mm	0.54	0.40	3395	0.315" / 8mm	Water	1.0	1.123 cSt.	60°F
PUMP TYPE	PHASE	VOLTAGE	AMPERAGE	HZ	STARTING METHOD	INS. CLASS			
Effluent Pump	3	208-220/460	2.1-2.0 / 0.95	60	Direct On Line	E			
CURVE No.	DATE	PHASE	VOLTAGE	AMPERAGE	HZ	STARTING METHOD	INS. CLASS		
-	-	-	-	-	-	-	-		



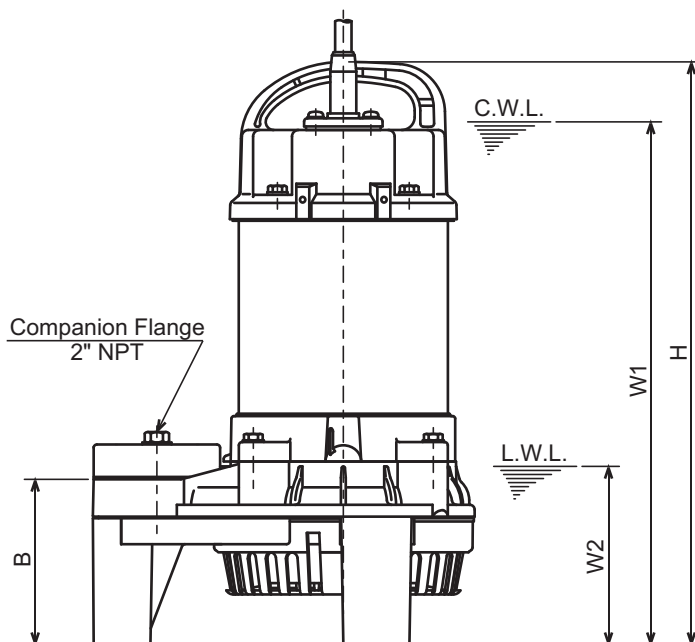


VANCS-SERIES - PSF **(FRP) EFFLUENT PUMPS**

DIMENSIONS



50PSF2.25S-63
50PSF2.25-63
50PSF2.4S-63
50PSF2.4-63
50PSF2.75S-63
50PSF2.75-63



C.W.L. :Continuous running Water Level
 L.W.L. :Lowest running Water Level

DIMENSIONS:USCS (Inch)

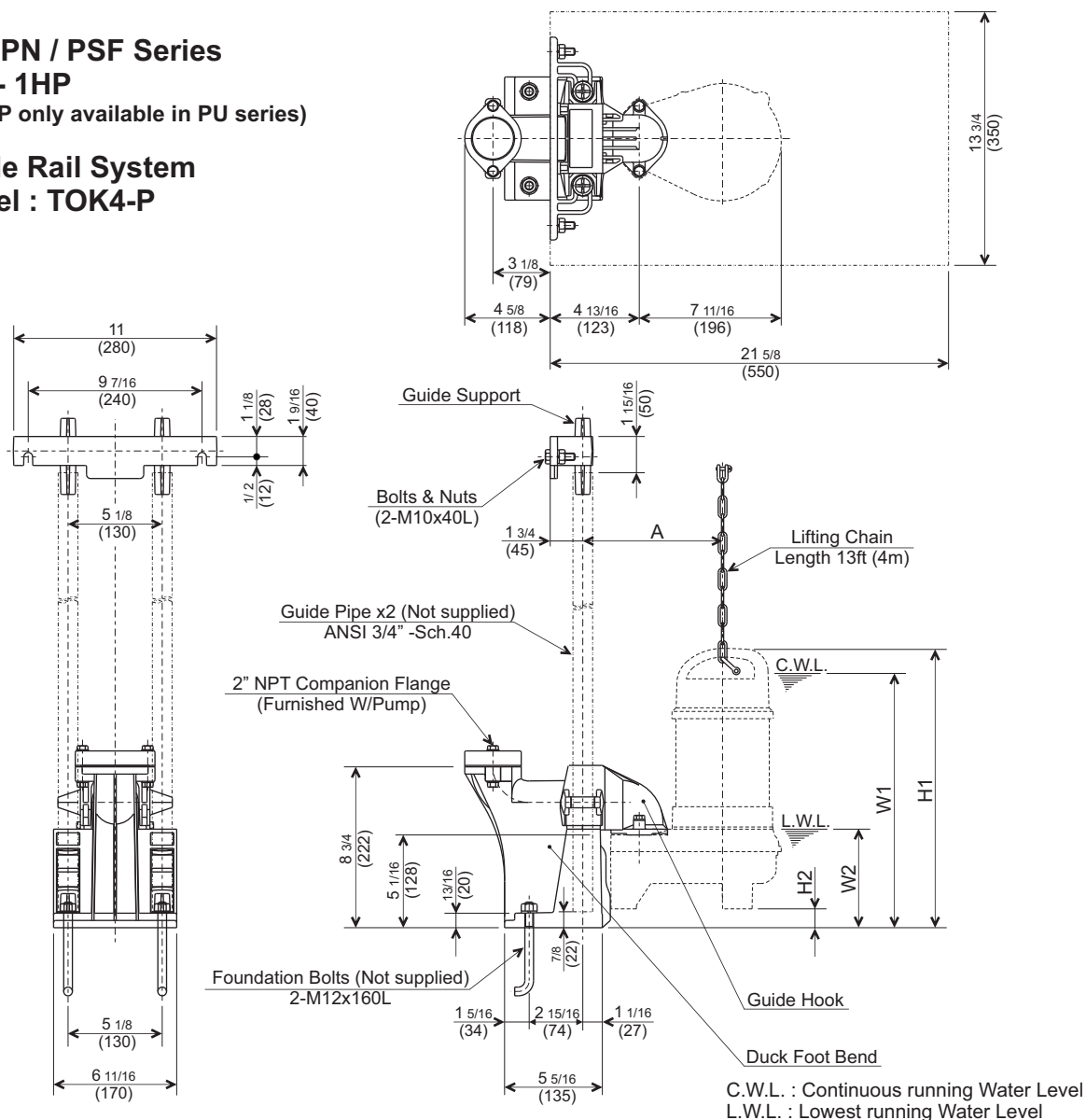
Model	HP	NOM. SIZE	Pump & Motor								C.W.L.	L.W.L.	Wt. (lbs.)
			A	A1	A2	B	D	D1	D2	H	W1	W2	
50PSF2.25S-63	1/3	2"	9 5/16	4 1/2	3 3/16	4	6 3/8	3	3 3/8	14 3/16	12 3/4	4 3/8	16.1
50PSF2.25-63	1/3	2"	9 5/16	4 1/2	3 3/16	4	6 3/8	3	3 3/8	13 3/4	12 1/4	4 3/8	13.7
50PSF2.4S-63	1/2	2"	9 5/16	4 1/2	3 3/16	4	6 3/8	3	3 3/8	14 3/16	12 3/4	4 3/8	16.1
50PSF2.4-63	1/2	2"	9 5/16	4 1/2	3 3/16	4	6 3/8	3	3 3/8	14 3/16	12 3/4	4 3/8	15.6
50PSF2.75S-63	1	2"	9 5/16	4 1/2	3 3/16	4	6 3/8	3	3 3/8	14 15/16	13 5/8	4 3/8	19.8
50PSF2.75-63	1	2"	9 5/16	4 1/2	3 3/16	4	6 3/8	3	3 3/8	14 3/4	13 1/4	4 3/8	18.5

DIMENSIONS:METRIC (mm)

Model	kW	NOM. SIZE	Pump & Motor								C.W.L.	L.W.L.	Wt. (kg)
			A	A1	A2	B	D	D1	D2	H	W1	W2	
50PSF2.25S-63	0.25	50	236	115	81	102	162	76	86	360	325	110	7.3
50PSF2.25-63	0.25	50	236	115	81	102	162	76	86	349	310	110	6.2
50PSF2.4S-63	0.40	50	236	115	81	102	162	76	86	360	325	110	7.3
50PSF2.4-63	0.40	50	236	115	81	102	162	76	86	360	325	110	7.1
50PSF2.75S-63	0.75	50	236	115	81	102	162	76	86	380	345	110	9.0
50PSF2.75-63	0.75	50	236	115	81	102	162	76	86	374	335	110	8.4


TSURUMI PUMP
VANCS-SERIES - PU / PN / PSF
WITH TOK GUIDE RAIL SYSTEM
DIMENSIONS
PU / PN / PSF Series
***1/5 - 1HP**

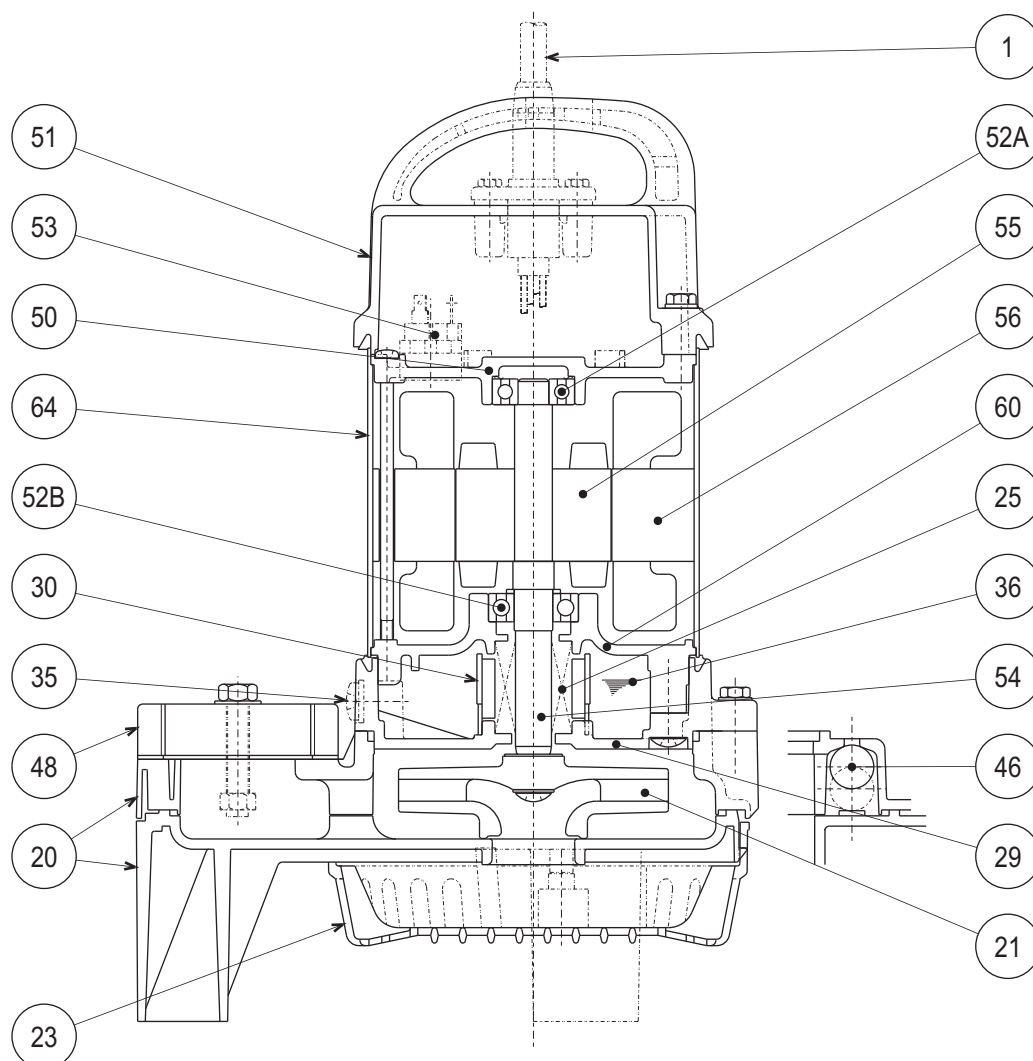
(*1/5HP only available in PU series)

Guide Rail System
Model : TOK4-P


PU SERIES	Model	OUTPUT HP (kW)	NOM. SIZE inch (mm)	Dimension inch (mm)						Wt. lbs. (kg)
				H1	H2	C.W.L.		A		
						W1	W2			
	TOK50PU2.15S-64	1/5 (0.15)	2 (50)	16 1/8 (409)	1 1/4 (32)	14 5/8 (370)	5 3/8 (135)	7 3/8 (188)	14.3 (6.5)	
	TOK50PU2.25S-63	1/3 (0.25)	2 (50)	15 3/16 (386)	1 (26)	13 3/4 (350)	5 3/8 (135)	7 5/8 (193)	16.5 (7.5)	
	TOK50PU2.25-63	1/3 (0.25)	2 (50)	14 3/4 (375)	1 (26)	13 1/4 (335)	5 3/8 (135)	7 5/8 (193)	14.3 (6.5)	
	TOK50PU2.4S-63	1/2 (0.4)	2 (50)	15 3/16 (386)	1 (26)	13 3/4 (350)	5 3/8 (135)	7 5/8 (193)	16.5 (7.5)	
	TOK50PU2.4-63	1/2 (0.4)	2 (50)	15 3/16 (386)	1 (26)	13 3/4 (350)	5 3/8 (135)	7 5/8 (193)	16.3 (7.4)	
	TOK50PU2.75S-63	1 (0.75)	2 (50)	16 (406)	1 (26)	14 5/8 (370)	5 3/8 (135)	7 5/8 (193)	20.5 (9.3)	
	TOK50PU2.75-63	1 (0.75)	2 (50)	15 3/4 (400)	1 (26)	14 1/4 (360)	5 3/8 (135)	7 5/8 (193)	19.2 (8.7)	

PN SERIES	Model	OUTPUT HP (kW)	NOM. SIZE inch (mm)	Dimension inch (mm)						Wt. lbs. (kg)
				H1	H2	C.W.L.	L.W.L.	A		
						W1	W2			
	TOK50PN2.25S-63	1/3 (0.25)	2 (50)	15 3/16 (386)	1 (26)	13 3/4 (350)	5 3/8 (135)	7 5/8 (193)	16.5 (7.5)	
	TOK50PN2.25-63	1/3 (0.25)	2 (50)	14 3/4 (375)	1 (26)	13 1/4 (335)	5 3/8 (135)	7 5/8 (193)	14.3 (6.5)	
	TOK50PN2.4S-63	1/2 (0.4)	2 (50)	15 3/16 (386)	1 (26)	13 3/4 (350)	5 3/8 (135)	7 5/8 (193)	16.5 (7.5)	
	TOK50PN2.4-63	1/2 (0.4)	2 (50)	15 3/16 (386)	1 (26)	13 3/4 (350)	5 3/8 (135)	7 5/8 (193)	16.3 (7.4)	
	TOK50PN2.75S-63	1 (0.75)	2 (50)	16 (406)	1 (26)	14 5/8 (370)	5 3/8 (135)	7 5/8 (193)	20.5 (9.3)	
	TOK50PN2.75-63	1 (0.75)	2 (50)	15 3/4 (400)	1 (26)	14 1/4 (360)	5 3/8 (135)	7 5/8 (193)	19.2 (8.7)	

PSF SERIES	Model	OUTPUT HP (kW)	NOM. SIZE inch (mm)	Dimension inch (mm)						Wt. lbs. (kg)
				H1	H2	C.W.L.		A		
						W1	W2			
	TOK50PSF2.25S-63	1/3 (0.25)	2 (50)	15 3/16 (386)	1 (26)	13 3/4 (350)	5 3/8 (135)	7 5/8 (193)	17.0 (7.7)	
	TOK50PSF2.25-63	1/3 (0.25)	2 (50)	14 3/4 (375)	1 (26)	13 1/4 (335)	5 3/8 (135)	7 5/8 (193)	14.6 (6.6)	
	TOK50PSF2.4S-63	1/2 (0.4)	2 (50)	15 3/16 (386)	1 (26)	13 3/4 (350)	5 3/8 (135)	7 5/8 (193)	17.0 (7.7)	
	TOK50PSF2.4-63	1/2 (0.4)	2 (50)	15 3/16 (386)	1 (26)	13 3/4 (350)	5 3/8 (135)	7 5/8 (193)	16.5 (7.5)	
	TOK50PSF2.75S-63	1 (0.75)	2 (50)	16 (406)	1 (26)	14 5/8 (370)	5 3/8 (135)	7 5/8 (193)	20.7 (9.4)	
	TOK50PSF2.75-63	1 (0.75)	2 (50)	15 3/4 (400)	1 (26)	14 1/4 (360)	5 3/8 (135)	7 5/8 (193)	19.4 (8.8)	

**TSURUMI PUMP**
VANCS - SERIES - PSF
(FRP) EFFLUENT PUMPS
SECTIONAL VIEW
50PSF2.25-63
50PSF2.4-63


PART#	DESCRIPTION	MAIN MATERIAL / NOTE	RELATED ASTM, AISI CODE	RELATED EN CODE	QTY
1	Power Cable	PVC Sheath AWG16/4-32ft			1
20	Pump Casing	ABS Plastic w/GF20			1
21	Impeller	PPO Plastic w/GF20			1
23	Suction Strainer	ABS Plastic			1
25	Mechanical Seal	Silicon Carbide / W-14HL			1
29	Oil Casing	PPS Plastic w/(GF+MD)50			1
30	Oil Lifter	PBT Plastic			1
35	Oil Plug	Stainless Steel	S 30400	1.4301	1
36	Lubricant	White Mineral Oil ISO VG32			
46	Air Valve	Glass Ball			1
48	Companion Flange	PBT Plastic w/GF30 / NPT 2"			1
50	Motor Bracket	Aluminum Alloy Die Casting	B85 383.0	EN 1706 AC-46100	1
51	Motor Head Cover	PPS Plastic w/(GF+MD)50			1
52A	Upper Bearing	#6201ZZC3			1
52B	Lower Bearing	#6202ZZC3			1
53	Motor Protector				1
54	Shaft	Stainless Steel	S 30400	1.4301	1
55	Rotor				1
56	Stator				1
60	Bearing Housing	Aluminum Alloy Die Casting	B85 383.0	EN 1706 AC-46100	1
64	Motor Housing	Stainless Steel	S 30400	1.4301	1

**TSURUMI PUMP**

VANCS - SERIES - PSF (FRP) EFFLUENT PUMPS

SAMPLE SPECIFICATIONS

1. SCOPE OF SUPPLY -

Furnish and install TSURUMI, VANCS 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, sewage or effluent containing _____ inch (_____mm) diameter solids 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. The pump discharge size shall be _____ inch, (_____mm).

2. MATERIALS OF CONSTRUCTION -

Construction of major parts of the pumping unit(s) including pump casing, impeller, motor head cover and intermediate brackets shall be manufactured from recyclable, application appropriate resins. The need for a protective coating shall not be required. All exposed fasteners shall be stainless steel and shall have stainless steel mating anchors integrally cast into the mating part. All units shall be furnished with a NPT discharge companion flange. Impellers shall be of the multi-vane, enclosed design and shall be slip fit to the shaft. The motor shaft shall be machined to provide a positive drive of the impeller. The pump casing shall incorporate an air relief valve.

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. Units shall be fitted with a device that shall provide positive lubrication of top mechanical seal, (down to one third of the standard oil level). The device shall not consume any additional electrical power. Units shall have silicon carbide mechanical seal faces. Mechanical seal hardware shall be Stainless steel.

4. MOTOR -

The pump motor(s) shall be _____ Hp., _____ kW., _____ V., 60 Hz., _____ 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 6 starts per hour. Motor(s) shall be air filled, copper wound, class E insulated with built in thermal and over amperage protection. Motor shaft shall be 403 stainless steel 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. The bearings shall be single row, double shielded, C3, deep groove type ball bearings. Bearing seats shall be rolled carbon steel or aluminum die casting. Motor housing shall be 304 stainless steel.

5. POWER CABLE AND CABLE ENTRANCE -

The pump power cable shall be suitable for submersible pump applications. The cable entrance shall incorporate built in strain relief, a one piece, three way mechanical compression seal with a fatigue reducing cable 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.



VANCS SERIES - PSF

(FRP) EFFLUENT PUMPS

Specifications

■ FEATURES

1. Enclosed, FRP (Fiberglass Reinforced Plastic), impeller provides for high head pumping of effluent or water.
2. Double inside mechanical seals with silicon carbide faces, running in an oil filled chamber and further protected by a lip seal, provides for the most durable seal design available.
2. Highly efficient, continuous duty, air filled, copper wound motor with class E, insulation minimizes the cost of operation.
4. Built in thermal & amperage sensing, protector prevents motor failure due to overloading, single phasing (in three phase units), 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. Utilization of application appropriate FRP & stainless steel components increases corrosion resistance in a wide variety of applications.

■ APPLICATIONS

1. Residential, commercial, effluent, wastewater and site drainage.
2. Chemical spill containment.
3. Decorative waterfalls, fountains and fish ponds.
4. Raw water supply from rivers or lakes.



■ SPECIFICATIONS

Discharge Size
Horsepower Range
Performance Range Capacity
Head
Maximum water temperature
Materials of Construction
Casing (upper)/(lower)
Impeller
Shaft
Motor Frame
Fasteners

Mechanical Seal
Elastomers

Impeller Type
Solids Handling Capability

Bearings

Motor Nomenclature
Type, Speed, Hz.
Voltage, Phase

Insulation

Accessories

Operational Mode

■ STANDARD

2" ~ 3" N.P.T. (50 ~ 80mm)
1/3 ~ 5Hp. (.25 ~ 3.7 kW)
6.6 ~ 203.4 G.P.M. (.03 ~ .85 m³/min)
16.4 ~ 111.5 Ft. (5.0 ~ 33.99 m)
104° F. (40° C.)

FRP (ABS + G20) / ABS
FRP (ABS + G20)
403 Stainless Steel
304 Stainless Steel
304 Stainless Steel

Silicon Carbide
NBR (Nitril Buna Rubber)

Enclosed, Multi-vane
.32 ~ .51" (8~13 mm)

Pre-lubricated, Double Shielded

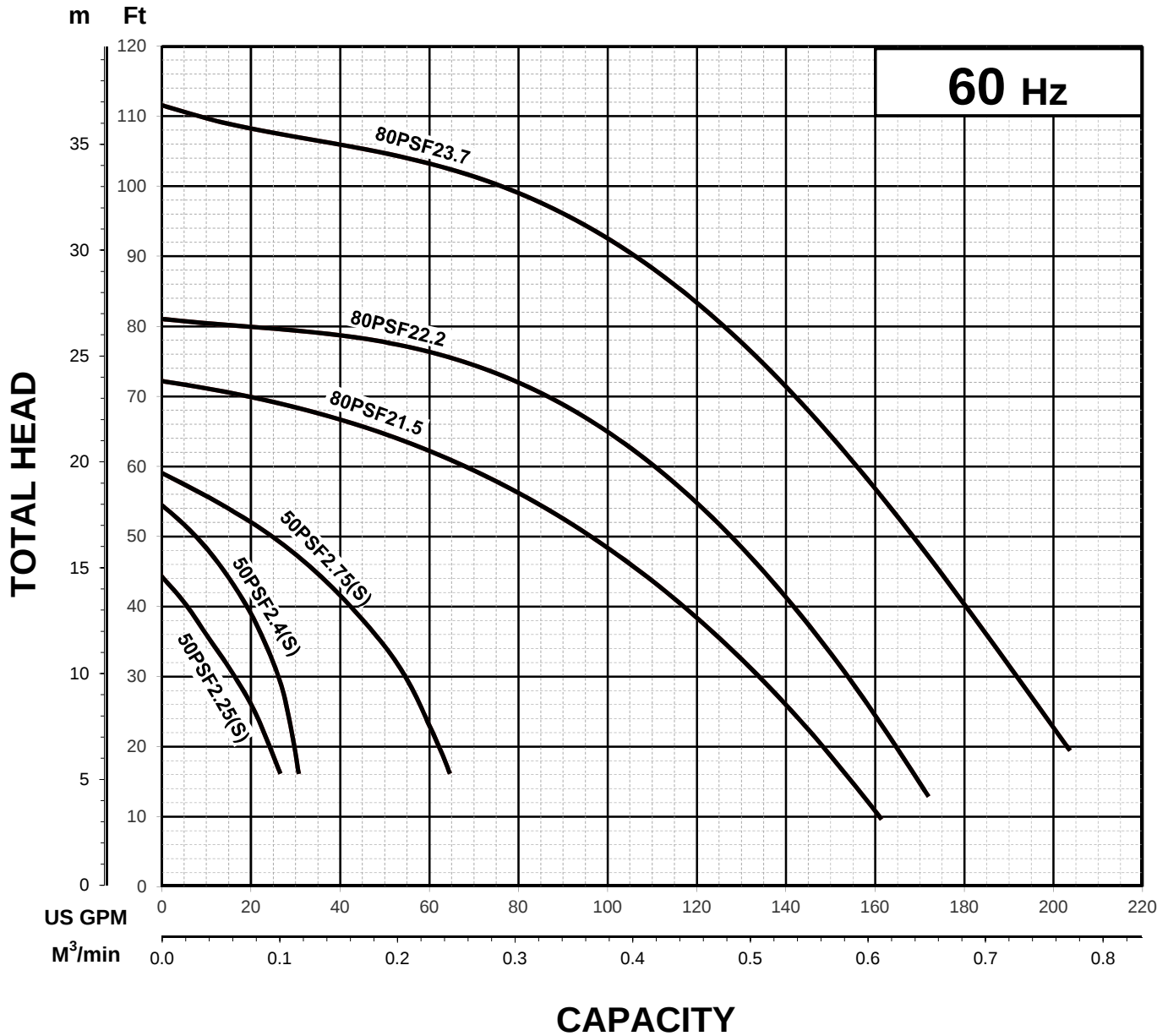
Air Filled, 3600 Rpm, 60 Hz.
115 or 230 V., 1 Phase.,
208-220, 230, 460, or 575 V. 3 Phase
Class E

Submersible Power Cable 32' (10 m)

■ OPTIONS

Length as Required
Model A(Automatic), Model
AW (Automatic Alternating)
TOK (FRP) Slide rail system

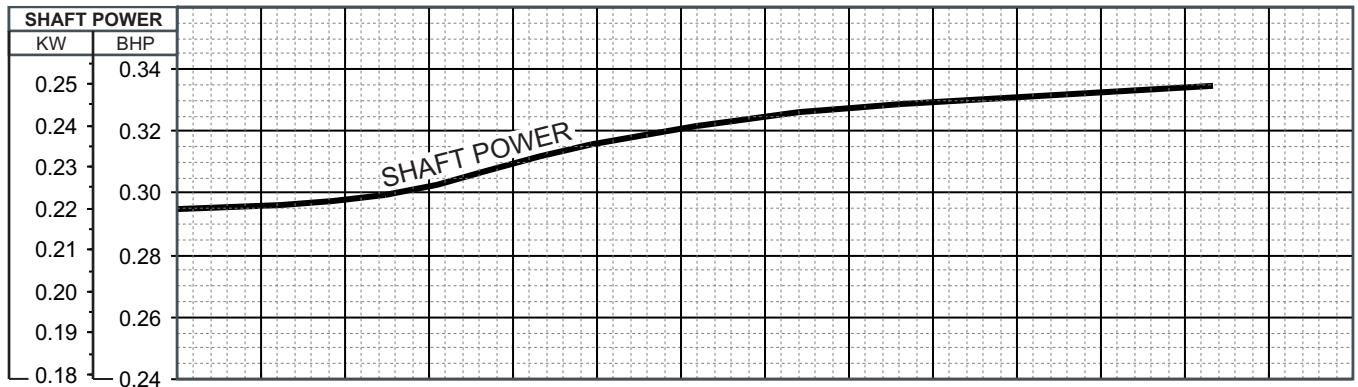
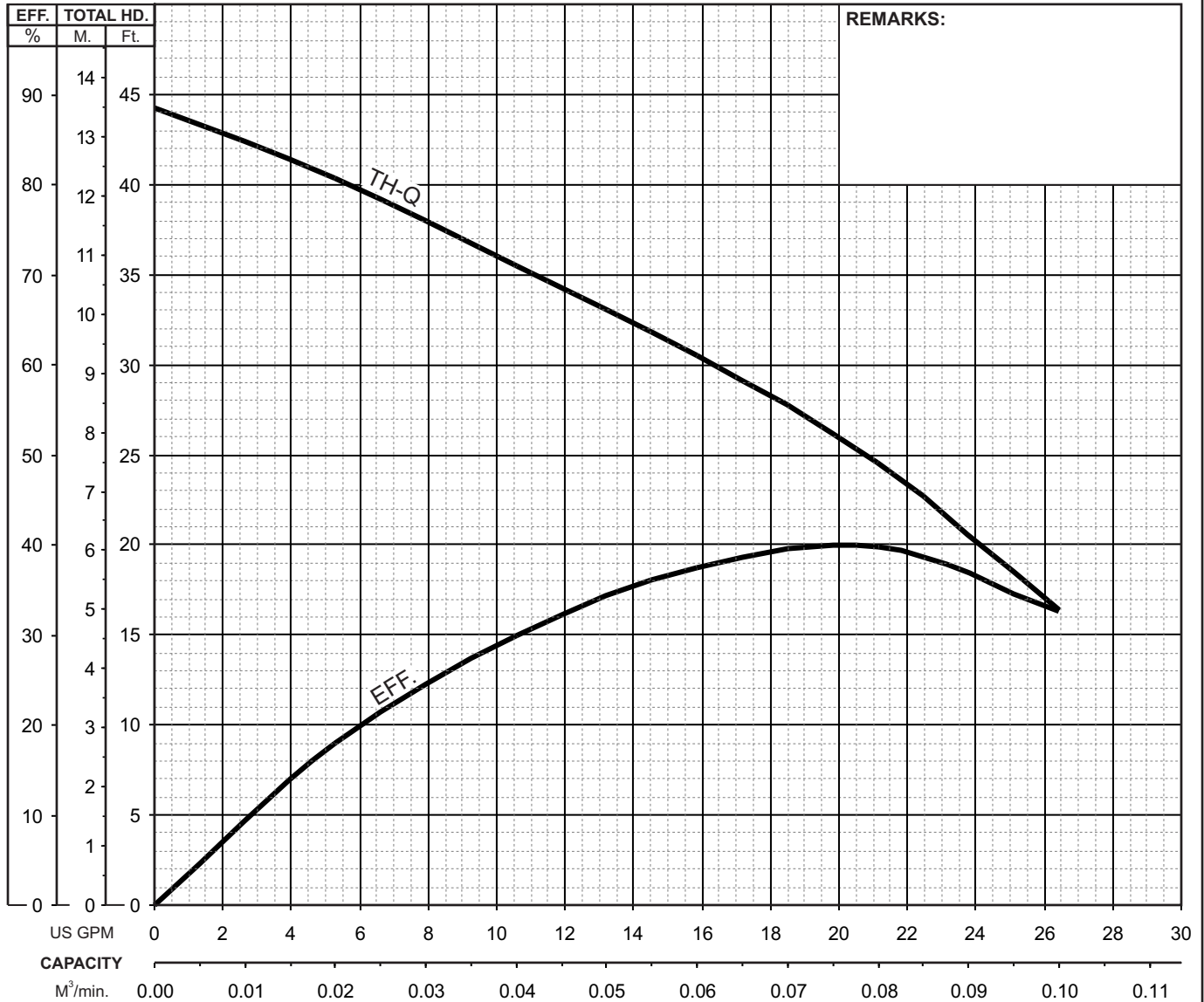
GROUP PERFORMANCE RANGE



Note

**TSURUMI PUMP**
VANCS - SERIES - PSF
(FRP) EFFLUENT PUMPS
PERFORMANCE
CURVE

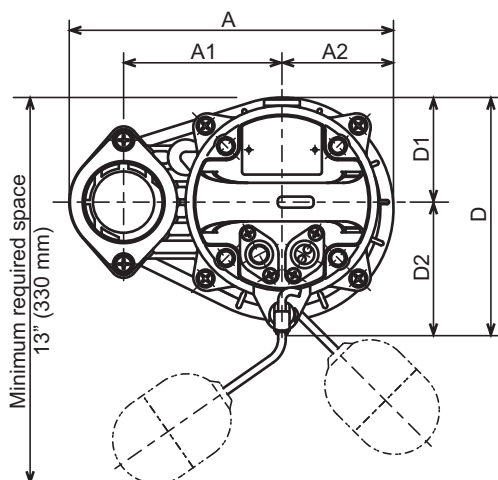
MODEL	BORE	HP	KW	RPM	SOLIDS DIA	LIQUID	SG.	VISCOSITY	TEMP.
50PSF(A/W)2.25-63	2" / 50mm	0.34	0.25	3400	0.315" / 8mm	Water	1.0	1.123 cSt.	60°F
PUMP TYPE	PHASE	VOLTAGE	AMPERAGE	HZ	STARTING METHOD	INS. CLASS			
Effluent Pump	3	208-220/460	1.65-1.6 / 0.75	60	Direct On Line	E			
CURVE No.	DATE	PHASE	VOLTAGE	AMPERAGE	HZ	STARTING METHOD	INS. CLASS		
-	-	-	-	-	-	-	-		



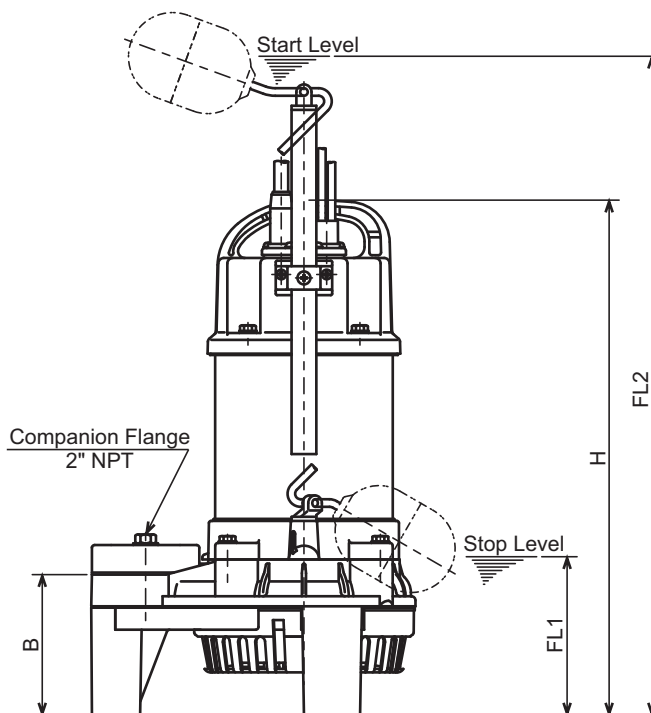


VANCS-SERIES - PSF **(FRP) EFFLUENT PUMPS**

DIMENSIONS



50PSFA2.25S-63
50PSFA2.25-63
50PSFA2.4S-63
50PSFA2.4-63
50PSFA2.75S-63
50PSFA2.75-63



DIMENSIONS:USCS (Inch)

Model	HP	NOM. SIZE	Pump & Motor								Stop	Start	Wt. (lbs.)
			A	A1	A2	B	D	D1	D2	H	FL1	Max.FL2	
50PSFA2.25S-63	1/3	2"	9 5/16	4 1/2	3 3/16	4	6 13/16	3	3 13/16	14 3/4	4 1/2	23 7/8	17.2
50PSFA2.25-63	1/3	2"	9 5/16	4 1/2	3 3/16	4	6 13/16	3	3 13/16	14 5/16	4 1/2	23 1/2	15.0
50PSFA2.4S-63	1/2	2"	9 5/16	4 1/2	3 3/16	4	6 13/16	3	3 13/16	14 3/4	4 1/2	23 7/8	17.2
50PSFA2.4-63	1/2	2"	9 5/16	4 1/2	3 3/16	4	6 13/16	3	3 13/16	14 3/4	4 1/2	23 7/8	17.0
50PSFA2.75S-63	1	2"	9 5/16	4 1/2	3 3/16	4	6 13/16	3	3 13/16	15 1/2	4 1/2	24 5/8	21.1
50PSFA2.75-63	1	2"	9 5/16	4 1/2	3 3/16	4	6 13/16	3	3 13/16	15 1/4	4 1/2	24 1/2	19.8

DIMENSIONS:METRIC (mm)

Model	kW	NOM. SIZE	Pump & Motor								Stop	Start	Wt. (kg)
			A	A1	A2	B	D	D1	D2	H	FL1	Max.FL2	
50PSFA2.25S-63	0.25	50	236	115	81	102	173	76	97	374	115	607	7.8
50PSFA2.25-63	0.25	50	236	115	81	102	173	76	97	363	115	596	6.8
50PSFA2.4S-63	0.40	50	236	115	81	102	173	76	97	374	115	607	7.8
50PSFA2.4-63	0.40	50	236	115	81	102	173	76	97	374	115	607	7.7
50PSFA2.75S-63	0.75	50	236	115	81	102	173	76	97	394	115	627	9.6
50PSFA2.75-63	0.75	50	236	115	81	102	173	76	97	388	115	621	9.0



VANCS-SERIES - PU / PN / PSF WITH TOK GUIDE RAIL SYSTEM

DIMENSIONS

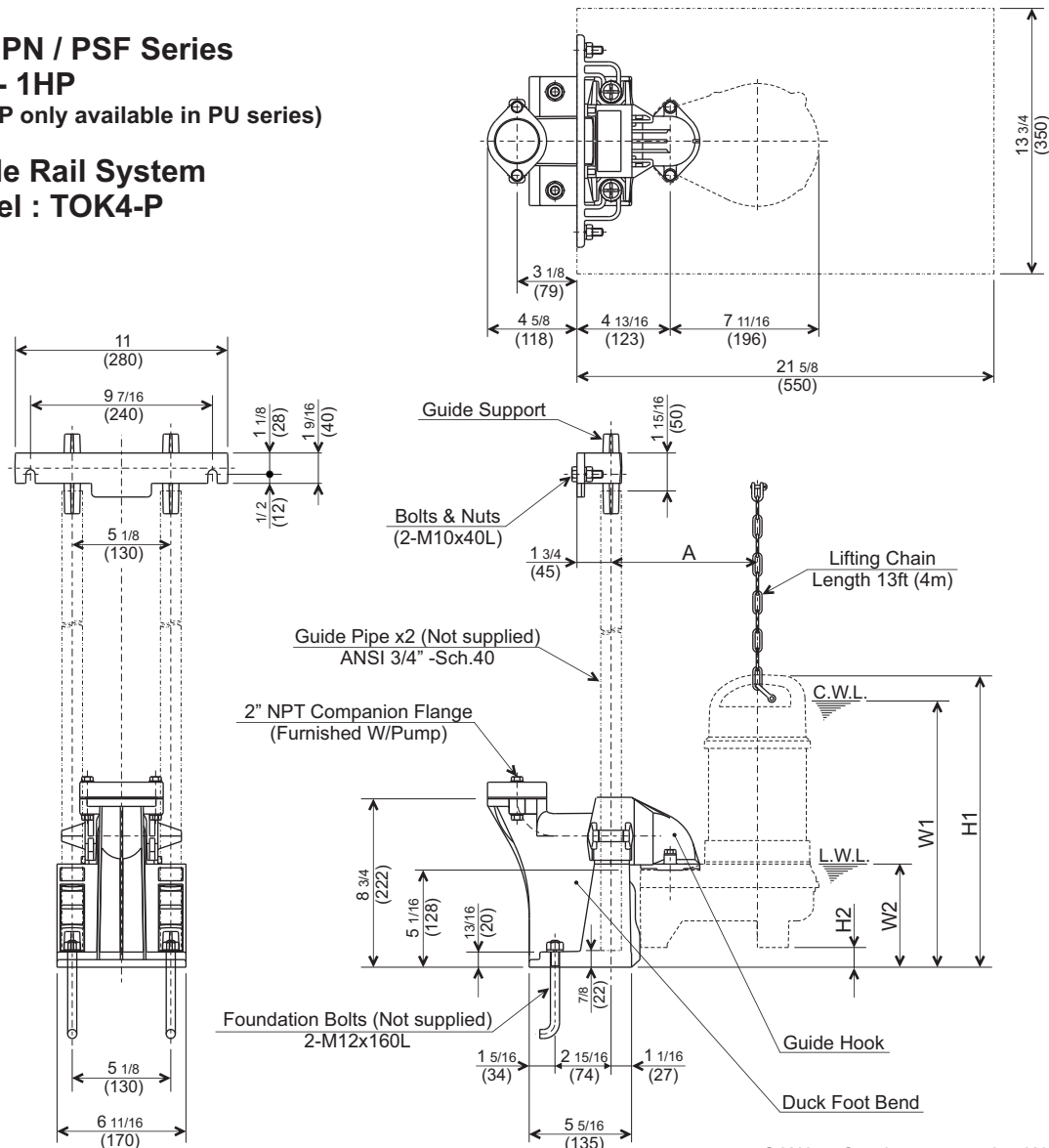
PU / PN / PSF Series

***1/5 - 1HP**

(*1/5HP only available in PU series)

Guide Rail System

Model : TOK4-P



C.W.L. : Continuous running Water Level
L.W.L. : Lowest running Water Level

PU SERIES	Model	OUTPUT HP (kW)	NOM. SIZE inch (mm)	Dimension inch (mm)							Wt. lbs. (kg)
				H1	H2	C.W.L.		L.W.L.		A	
						W1	W2	W1	W2		
	TOK50PU2.15S-64	1/5 (0.15)	2 (50)	16 1/8 (409)	1 1/4 (32)	14 5/8 (372)	5 3/8 (137)	7 3/8 (188)	14.3 (6.5)		
	TOK50PU2.25S-62	1/3 (0.25)	2 (50)	15 3/16 (386)	1 (26)	13 7/8 (351)	5 3/8 (136)	7 5/8 (193)	16.5 (7.5)		
	TOK50PU2.25-62	1/3 (0.25)	2 (50)	14 3/4 (375)	1 (26)	13 1/4 (336)	5 3/8 (136)	7 5/8 (193)	14.3 (6.5)		
	TOK50PU2.4S-62	1/2 (0.4)	2 (50)	15 3/16 (386)	1 (26)	13 7/8 (351)	5 3/8 (136)	7 5/8 (193)	16.5 (7.5)		
	TOK50PU2.4-62	1/2 (0.4)	2 (50)	15 3/16 (386)	1 (26)	13 7/8 (351)	5 3/8 (136)	7 5/8 (193)	16.3 (7.4)		
	TOK50PU2.75S-62	1 (0.75)	2 (50)	16 (406)	1 (26)	14 3/8 (366)	5 3/8 (136)	7 5/8 (193)	20.5 (9.3)		
	TOK50PU2.75-62	1 (0.75)	2 (50)	15 3/4 (400)	1 (26)	14 1/4 (361)	5 3/8 (136)	7 5/8 (193)	19.2 (8.7)		

PN SERIES	Model	OUTPUT HP (kW)	NOM. SIZE inch (mm)	Dimension inch (mm)						Wt. lbs. (kg)
				H1	H2	C.W.L.		A		
						W1	W2			
	TOK50PN2.25S-62	1/3 (0.25)	2 (50)	15 3/16 (386)	1 (26)	13 7/8 (351)	5 3/8 (136)	7 5/8 (193)	16.5 (7.5)	
	TOK50PN2.25-62	1/3 (0.25)	2 (50)	14 3/4 (375)	1 (26)	13 1/4 (336)	5 3/8 (136)	7 5/8 (193)	14.3 (6.5)	
	TOK50PN2.4S-62	1/2 (0.4)	2 (50)	15 3/16 (386)	1 (26)	13 7/8 (351)	5 3/8 (136)	7 5/8 (193)	16.5 (7.5)	
	TOK50PN2.4-62	1/2 (0.4)	2 (50)	15 3/16 (386)	1 (26)	13 7/8 (351)	5 3/8 (136)	7 5/8 (193)	16.3 (7.4)	
	TOK50PN2.75S-62	1 (0.75)	2 (50)	15 3/4 (400)	1 (26)	14 3/8 (366)	5 3/8 (136)	7 5/8 (193)	20.5 (9.3)	
	TOK50PN2.75-62	1 (0.75)	2 (50)	15 1/2 (394)	1 (26)	14 1/4 (361)	5 3/8 (136)	7 5/8 (193)	19.2 (8.7)	

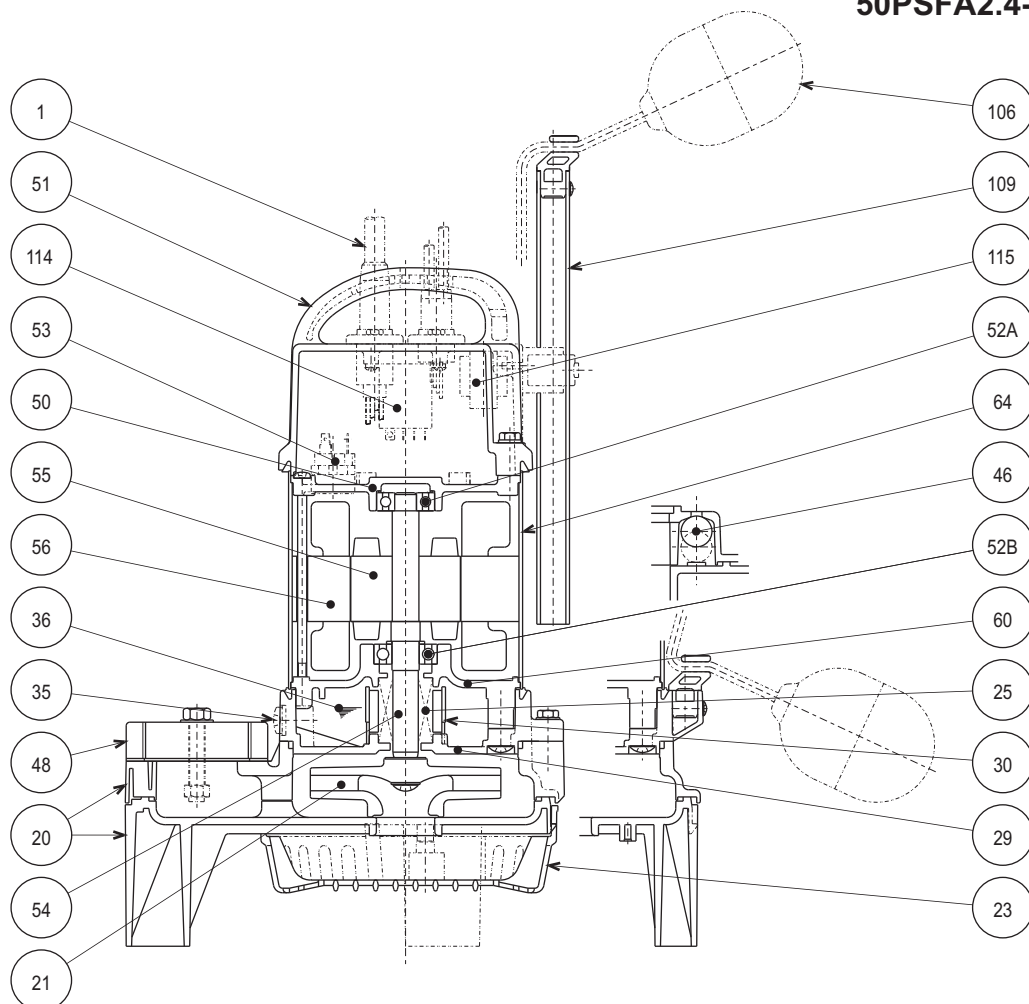
PSF SERIES	Model	OUTPUT HP (kW)	NOM. SIZE inch (mm)	Dimension inch (mm)						Wt. lbs. (kg)
				H1	H2	C.W.L.		L.W.L.	A	
						W1	W2			
	TOK50PSF2.25S-62	1/3 (0.25)	2 (50)	15 3/16 (386)	1 (26)	13 7/8 (351)	5 3/8 (136)	7 5/8 (193)	16.8 (7.6)	
	TOK50PSF2.25-62	1/3 (0.25)	2 (50)	14 3/4 (375)	1 (26)	13 1/4 (336)	5 3/8 (136)	7 5/8 (193)	14.6 (6.6)	
	TOK50PSF2.4S-62	1/2 (0.4)	2 (50)	15 3/16 (386)	1 (26)	13 7/8 (351)	5 3/8 (136)	7 5/8 (193)	16.8 (7.6)	
	TOK50PSF2.4-62	1/2 (0.4)	2 (50)	15 3/16 (386)	1 (26)	13 7/8 (351)	5 3/8 (136)	7 5/8 (193)	16.5 (7.5)	
	TOK50PSF2.75S-62	1 (0.75)	2 (50)	15 3/4 (400)	1 (26)	14 3/8 (366)	5 3/8 (136)	7 5/8 (193)	20.7 (9.4)	
	TOK50PSF2.75-62	1 (0.75)	2 (50)	15 1/2 (394)	1 (26)	14 1/4 (361)	5 3/8 (136)	7 5/8 (193)	19.4 (8.8)	



VANCS - SERIES - PSF **(FRP) EFFLUENT PUMPS**

SECTIONAL VIEW

50PSFA2.25-63
50PSFA2.4-63



PART#	DESCRIPTION	MAIN MATERIAL / NOTE	RELATED ASTM, AISI CODE	RELATED EN CODE	QTY
1	Power Cable	PVC Sheath AWG16/4-32ft			1
20	Pump Casing	ABS Plastic w/GF20			1
21	Impeller	PPO Plastic w/GF20			1
23	Suction Strainer	ABS Plastic			1
25	Mechanical Seal	Silicon Carbide / W-14HL			1
29	Oil Casing	PPS Plastic w/(GF+MD)50			1
30	Oil Lifter	PBT Plastic			1
35	Oil Plug	Stainless Steel	S 30400	1.4301	1
36	Lubricant	White Mineral Oil ISO VG32			
46	Air Valve	Glass Ball			1
48	Companion Flange	PBT Plastic w/GF30 / NPT 2"			1
50	Motor Bracket	Aluminum Alloy Die Casting	B85 383.0	EN 1706 AC-46100	1
51	Motor Head Cover	PPS Plastic w/(GF+MD)50			1
52A	Upper Bearing	#6201ZZC3			1
52B	Lower Bearing	#6202ZZC3			1
53	Motor Protector				1
54	Shaft	Stainless Steel	S 30400	1.4301	1
55	Rotor				1
56	Stator				1
60	Bearing Housing	Aluminum Alloy Die Casting	B85 383.0	EN 1706 AC-46100	1
64	Motor Housing	Stainless Steel	S 30400	1.4301	1
106	Float Set	ABS Plastic			2
109	Float Support Pipe	PVC			1
114	Power Relay				1
115	Transformer				1

**TSURUMI PUMP**
VANCS - SERIES - PSF
(FRP) EFFLUENT PUMPS
SAMPLE
SPECIFICATIONS
1. SCOPE OF SUPPLY -

Furnish and install TSURUMI, VANCS 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, sewage or effluent containing _____ inch (_____mm) diameter solids 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. The pump discharge size shall be _____ inch, (_____mm).

2. MATERIALS OF CONSTRUCTION -

Construction of major parts of the pumping unit(s) including pump casing, impeller, motor head cover and intermediate brackets shall be manufactured from recyclable, application appropriate resins. The need for a protective coating shall not be required. All exposed fasteners shall be stainless steel and shall have stainless steel mating anchors integrally cast into the mating part. All units shall be furnished with a NPT discharge companion flange. Impellers shall be of the multi-vane, enclosed design and shall be slip fit to the shaft. The motor shaft shall be machined to provide a positive drive of the impeller. The pump casing shall incorporate an air relief valve.

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. Units shall be fitted with a device that shall provide positive lubrication of top mechanical seal, (down to one third of the standard oil level). The device shall not consume any additional electrical power. Units shall have silicon carbide mechanical seal faces. Mechanical seal hardware shall be Stainless steel.

4. MOTOR -

The pump motor(s) shall be _____Hp., _____ kW., _____V., 60 Hz., _____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 6 starts per hour. Motor(s) shall be air filled, copper wound, class E insulated with built in thermal and over amperage protection. Motor shaft shall be 304 stainless steel 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. The bearings shall be single row, double shielded, C3, deep groove type ball bearings. Bearing seats shall be rolled carbon steel or aluminum die casting. Motor housing shall be 304 stainless steel.

5. POWER CABLE AND CABLE ENTRANCE -

The pump power cable shall be suitable for submersible pump applications. The cable entrance shall incorporate built in strain relief, a one piece, three way mechanical compression seal with a fatigue reducing cable 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.



VANCS SERIES - PSF

(FRP) EFFLUENT PUMPS

SPECIFICATIONS

■ FEATURES

1. Enclosed, FRP (Fiberglass Reinforced Plastic), impeller provides for high head pumping of effluent or water.
2. Double inside mechanical seals with silicon carbide faces, running in an oil filled chamber and further protected by a lip seal, provides for the most durable seal design available.
2. Highly efficient, continuous duty, air filled, copper wound motor with class E, insulation minimizes the cost of operation.
4. Built in thermal & amperage sensing, protector prevents motor failure due to overloading, single phasing (in three phase units), 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. Utilization of application appropriate FRP & stainless steel components increases corrosion resistance in a wide variety of applications.

■ APPLICATIONS

1. Residential, commercial, effluent, wastewater and site drainage.
2. Chemical spill containment.
3. Decorative waterfalls, fountains and fish ponds.
4. Raw water supply from rivers or lakes.



■ SPECIFICATIONS

Discharge Size
Horsepower Range
Performance Range Capacity
Head
Maximum water temperature
Materials of Construction
Casing (upper)/(lower)
Impeller
Shaft
Motor Frame
Fasteners

Mechanical Seal
Elastomers

Impeller Type
Solids Handling Capability

Bearings

Motor Nomenclature
Type, Speed, Hz.
Voltage, Phase

Insulation

Accessories

Operational Mode

■ STANDARD

2" ~ 3" N.P.T. (50 ~ 80mm)
1/3 ~ 5Hp. (.25 ~ 3.7 kW)
6.6 ~ 203.4 G.P.M. (.03 ~ .85 m³/min)
16.4 ~ 111.5 Ft. (5.0 ~ 33.99 m)
104° F. (40° C.)

FRP (ABS + G20) / ABS
FRP (ABS + G20)
403 Stainless Steel
304 Stainless Steel
304 Stainless Steel

Silicon Carbide
NBR (Nitril Buna Rubber)

Enclosed, Multi-vane
.32 ~.51" (8~13 mm)

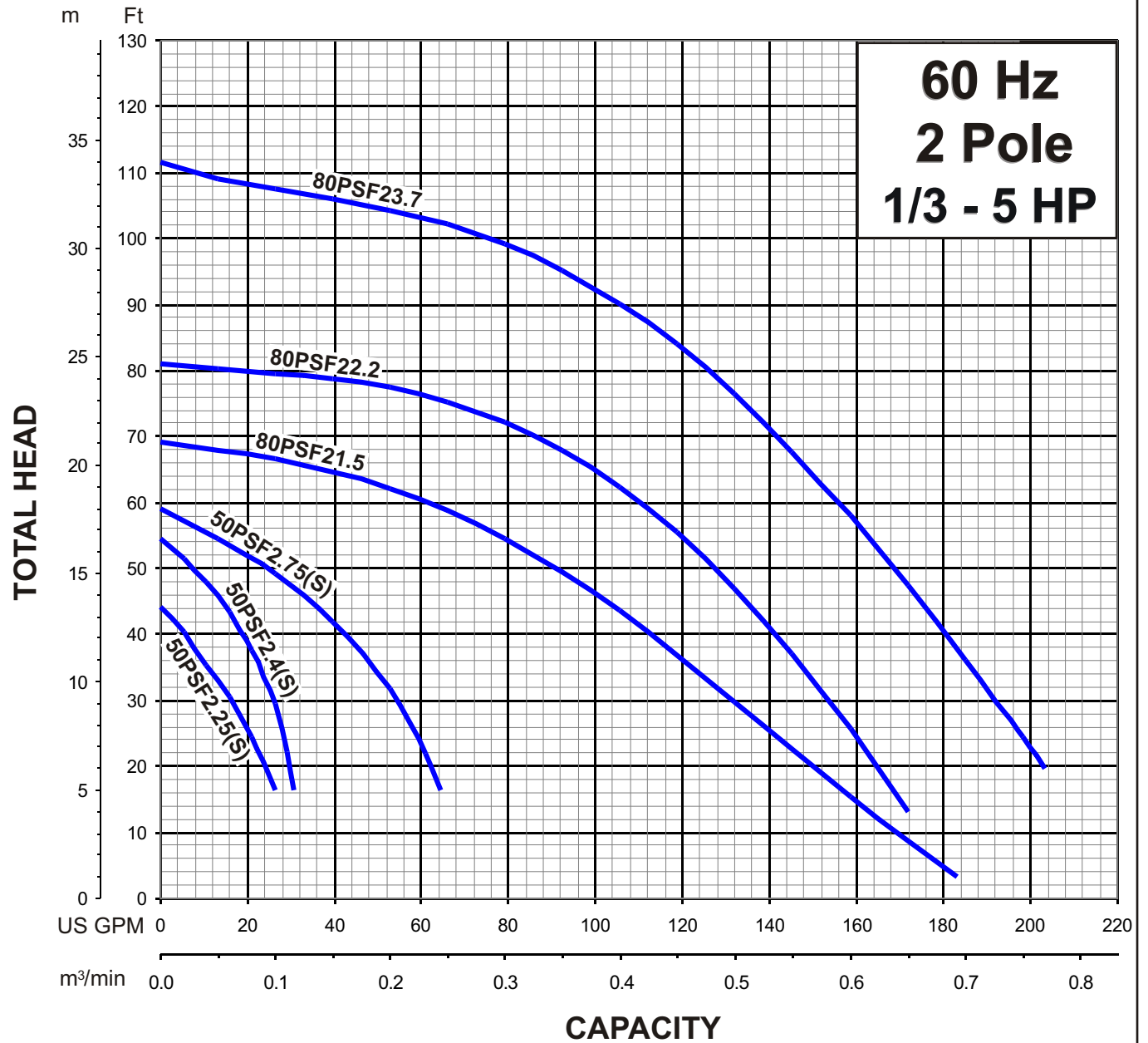
Pre-lubricated, Double Shielded

Air Filled, 3600 Rpm, 60 Hz.
115 or 230 V., 1 Phase.,
208-220, 230, 460, or 575 V. 3 Phase
Class E

Submersible Power Cable 32' (10 m)

■ OPTIONS

Length as Required
Model A(Automatic), Model
AW (Automatic Alternating)
TOK (FRP) Slide rail system

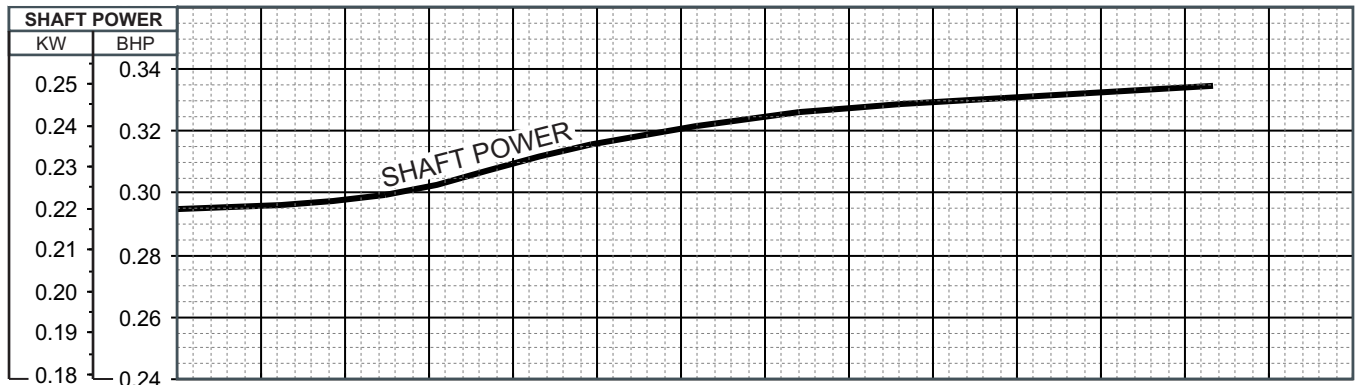
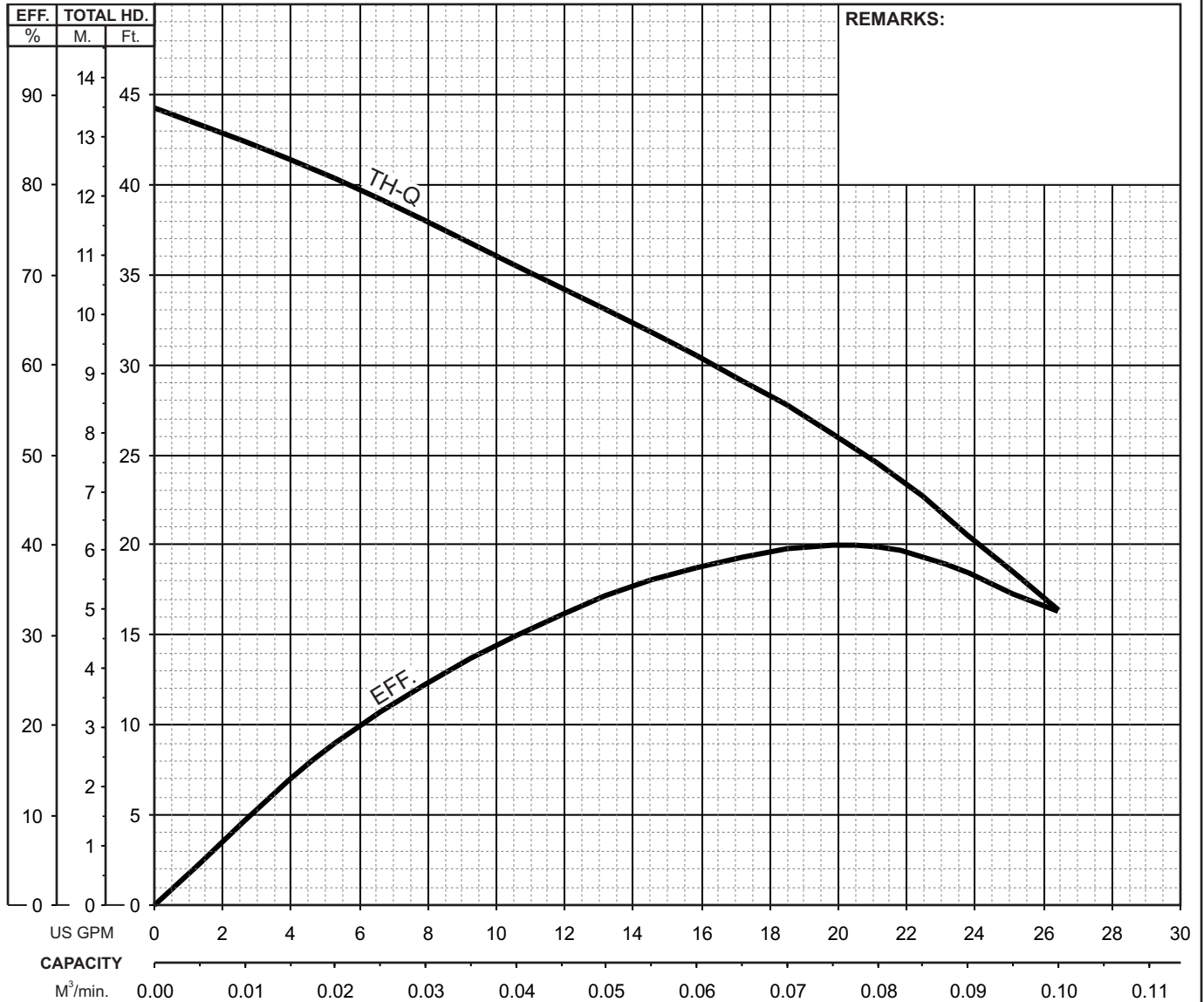
**VANCS - SERIES - PSF**
(FRP) EFFLUENT PUMPS**PERFORMANCE
RANGE****PERFORMANCE RANGE**



VANCS - SERIES - PSF **(FRP) EFFLUENT PUMPS**

PERFORMANCE **CURVE**

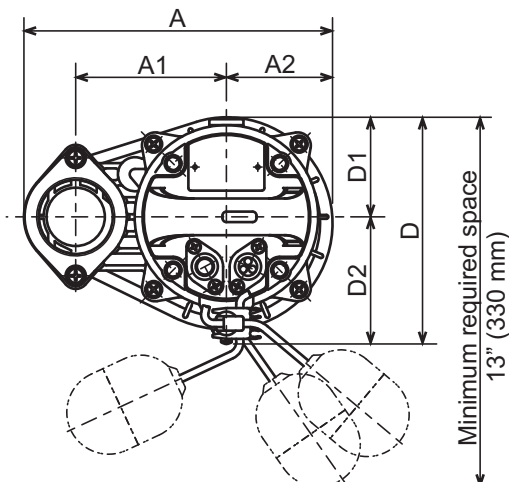
MODEL		BORE	HP	KW	RPM	SOLIDS DIA	LIQUID		SG.	VISCOSITY	TEMP.
50PSF(A/W)2.25-63		2" / 50mm	0.34	0.25	3400	0.315" / 8mm		Water	1.0	1.123 cSt.	60°F
PUMP TYPE		PHASE	VOLTAGE		AMPERAGE		HZ	STARTING METHOD		INS. CLASS	
Effluent Pump		3	208-220/460		1.65-1.6 / 0.75		60	Direct On Line		E	
CURVE No.	DATE	PHASE	VOLTAGE		AMPERAGE		HZ	STARTING METHOD		INS. CLASS	
-	-	-	-		-		-	-		-	



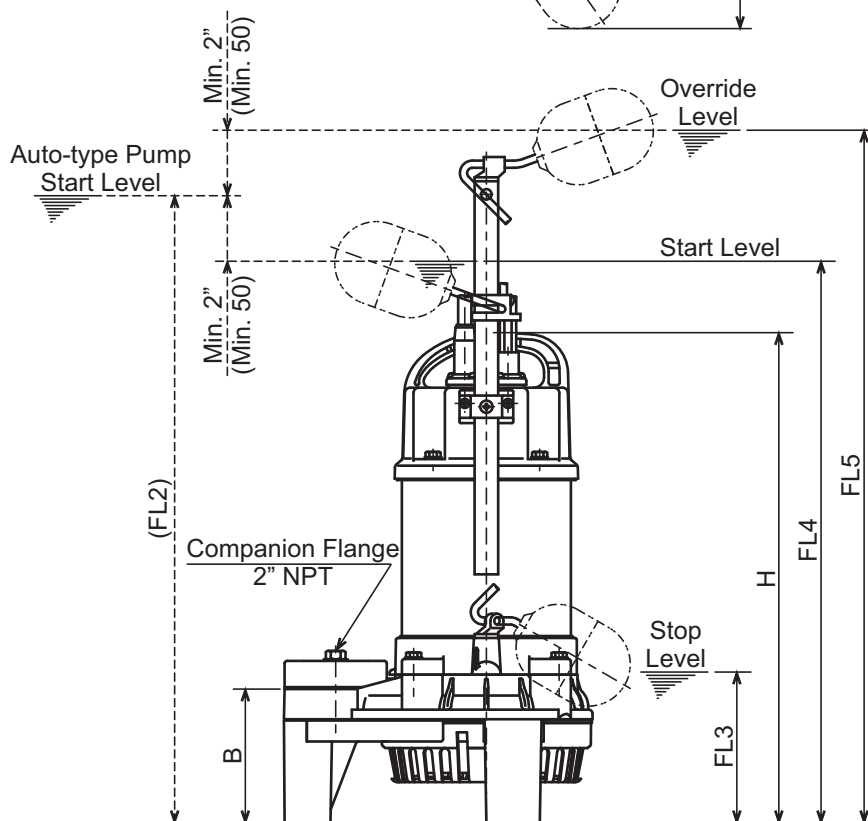


VANCS-SERIES - PSF **(FRP) EFFLUENT PUMPS**

DIMENSIONS



50PSFW2.25S-63
50PSFW2.25-63
50PSFW2.4S-63
50PSFW2.4-63
50PSFW2.75S-63
50PSFW2.75-63



DIMENSIONS:USCS (Inch)

Model	HP	NOM. SIZE	Pump & Motor								Stop	Start	Override	Wt. (lbs.)
			A	A1	A2	B	D	D1	D2	H	FL3	Max.FL4	Max.FL5	
50PSFW2.25S-63	1/3	2"	9 5/16	4 1/2	3 3/16	4	6 13/16	3	3 13/16	14 3/4	4 1/2	21 7/8	25 7/8	17.4
50PSFW2.25-63	1/3	2"	9 5/16	4 1/2	3 3/16	4	6 13/16	3	3 13/16	14 5/16	4 1/2	21 1/2	25 3/8	15.2
50PSFW2.4S-63	1/2	2"	9 5/16	4 1/2	3 3/16	4	6 13/16	3	3 13/16	14 3/4	4 1/2	21 7/8	25 7/8	17.4
50PSFW2.4-63	1/2	2"	9 5/16	4 1/2	3 3/16	4	6 13/16	3	3 13/16	14 3/4	4 1/2	21 7/8	25 7/8	17.2
50PSFW2.75S-63	1	2"	9 5/16	4 1/2	3 3/16	4	6 13/16	3	3 13/16	15 1/2	4 1/2	22 3/4	26 5/8	21.4
50PSFW2.75-63	1	2"	9 5/16	4 1/2	3 3/16	4	6 13/16	3	3 13/16	15 1/4	4 1/2	22 1/2	26 3/8	20.0

DIMENSIONS:METRIC (mm)

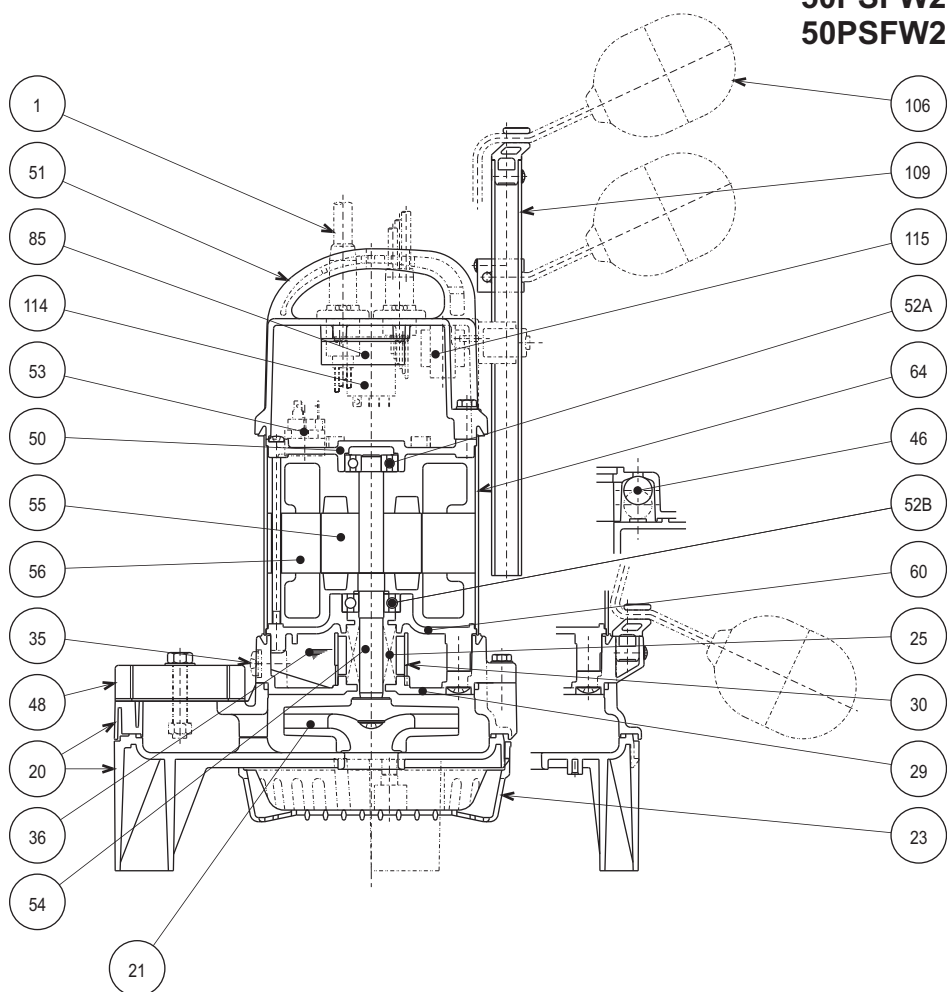
Model	kW	NOM. SIZE	Pump & Motor								Stop	Start	Override	Wt. (kg)
			A	A1	A2	B	D	D1	D2	H	FL3	Max.FL4	Max.FL5	
50PSFW2.25S-63	0.25	50	236	115	81	102	173	76	97	374	115	557	657	7.9
50PSFW2.25-63	0.25	50	236	115	81	102	173	76	97	363	115	546	646	6.9
50PSFW2.4S-63	0.40	50	236	115	81	102	173	76	97	374	115	557	657	7.9
50PSFW2.4-63	0.40	50	236	115	81	102	173	76	97	374	115	557	657	7.8
50PSFW2.75S-63	0.75	50	236	115	81	102	173	76	97	394	115	577	677	9.7
50PSFW2.75-63	0.75	50	236	115	81	102	173	76	97	388	115	571	671	9.1



VANCS - SERIES - PSF **(FRP) EFFLUENT PUMPS**

SECTIONAL VIEW

50PSFW2.25-63
50PSFW2.4-63



PART#	DESCRIPTION	MAIN MATERIAL / NOTE	RELATED ASTM, AISI CODE	RELATED EN CODE	QTY
1	Power Cable	PVC Sheath AWG16/4-32ft			1
20	Pump Casing	ABS Plastic w/GF20			1
21	Impeller	PPO Plastic w/GF20			1
23	Suction Strainer	ABS Plastic			1
25	Mechanical Seal	Silicon Carbide / W-14HL			1
29	Oil Casing	PPS Plastic w/(GF+MD)50			1
30	Oil Lifter	PBT Plastic			1
35	Oil Plug	Stainless Steel	S 30400	1.4301	1
36	Lubricant	White Mineral Oil ISO VG32			
46	Air Valve	Glass Ball			1
48	Companion Flange	PBT Plastic w/GF30 / NPT 2"			1
50	Motor Bracket	Aluminum Alloy Die Casting	B85 383.0	EN 1706 AC-46100	1
51	Motor Head Cover	PPS Plastic w/(GF+MD)50			1
52A	Upper Bearing	#6201ZZC3			1
52B	Lower Bearing	#6202ZZC3			1
53	Motor Protector				1
54	Shaft	Stainless Steel	S 30400	1.4301	1
55	Rotor				1
56	Stator				1
60	Bearing Housing	Aluminum Alloy Die Casting	B85 383.0	EN 1706 AC-46100	1
64	Motor Housing	Stainless Steel	S 30400	1.4301	1
85	Relay Unit				1
106	Float Set	ABS Plastic			3
109	Float Support Pipe	PVC			1
114	Power Relay				1
115	Transformer				1



VANCS - SERIES - PSF (FRP) EFFLUENT PUMPS

SAMPLE SPECIFICATIONS

1. SCOPE OF SUPPLY -

Furnish and install TSURUMI, VANCS 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, sewage or effluent containing _____ inch (_____ mm) diameter solids 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. The pump discharge size shall be _____ inch, (_____ mm).

2. MATERIALS OF CONSTRUCTION -

Construction of major parts of the pumping unit(s) including pump casing, impeller, motor head cover and intermediate brackets shall be manufactured from recyclable, application appropriate resins. The need for a protective coating shall not be required. All exposed fasteners shall be stainless steel and shall have stainless steel mating anchors integrally cast into the mating part. All units shall be furnished with a NPT discharge companion flange. Impellers shall be of the multi-vane, enclosed design and shall be slip fit to the shaft. The motor shaft shall be machined to provide a positive drive of the impeller. The pump casing shall incorporate an air relief valve.

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. Units shall be fitted with a device that shall provide positive lubrication of top mechanical seal, (down to one third of the standard oil level). The device shall not consume any additional electrical power. Units shall have silicon carbide mechanical seal faces. Mechanical seal hardware shall be Stainless steel.

4. MOTOR -

The pump motor(s) shall be _____ Hp., _____ kW., _____ V., 60 Hz., _____ 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 6 starts per hour. Motor(s) shall be air filled, copper wound, class E insulated with built in thermal and over amperage protection. Motor shaft shall be 403 stainless steel 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. The bearings shall be single row, double shielded, C3, deep groove type ball bearings. Bearing seats shall be rolled carbon steel or aluminum die casting. Motor housing shall be 304 stainless steel. Motors shall be suitable variable speed applications, utilizing a properly sized variable frequency drive. (Only for 3ph.)

5. POWER CABLE AND CABLE ENTRANCE -

The pump power cable shall be suitable for submersible pump applications. The cable entrance shall incorporate built in strain relief, a one piece, three way mechanical compression seal with a fatigue reducing cable 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.



VANCS SERIES - PSF

(FRP) EFFLUENT PUMPS

Specifications

■ FEATURES

1. Enclosed, FRP (Fiberglass Reinforced Plastic), impeller provides for high head pumping of effluent or water.
2. Double inside mechanical seals with silicon carbide faces, running in an oil filled chamber and further protected by a lip seal, provides for the most durable seal design available.
2. Highly efficient, continuous duty, air filled, copper wound motor with class E, insulation minimizes the cost of operation.
4. Built in thermal & amperage sensing, protector prevents motor failure due to overloading, single phasing (in three phase units), 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. Utilization of application appropriate FRP & stainless steel components increases corrosion resistance in a wide variety of applications.

■ APPLICATIONS

1. Residential, commercial, effluent, wastewater and site drainage.
2. Chemical spill containment.
3. Decorative waterfalls, fountains and fish ponds.
4. Raw water supply from rivers or lakes.



■ SPECIFICATIONS

Discharge Size
Horsepower Range
Performance Range Capacity
Head
Maximum water temperature
Materials of Construction
Casing (upper)/(lower)
Impeller
Shaft
Motor Frame
Fasteners

Mechanical Seal
Elastomers

Impeller Type
Solids Handling Capability

Bearings

Motor Nomenclature
Type, Speed, Hz.
Voltage, Phase

Insulation

Accessories

Operational Mode

■ STANDARD

2" ~ 3" N.P.T. (50 ~ 80mm)
1/3 ~ 5Hp. (.25 ~ 3.7 kW)
6.6 ~ 203.4 G.P.M. (.03 ~ .85 m³/min)
16.4 ~ 111.5 Ft. (5.0 ~ 33.99 m)
104° F. (40° C.)

FRP (ABS + G20) / ABS
FRP (ABS + G20)
403 Stainless Steel
304 Stainless Steel
304 Stainless Steel

Silicon Carbide
NBR (Nitril Buna Rubber)

Enclosed, Multi-vane
.32 ~ .51" (8~13 mm)

Pre-lubricated, Double Shielded

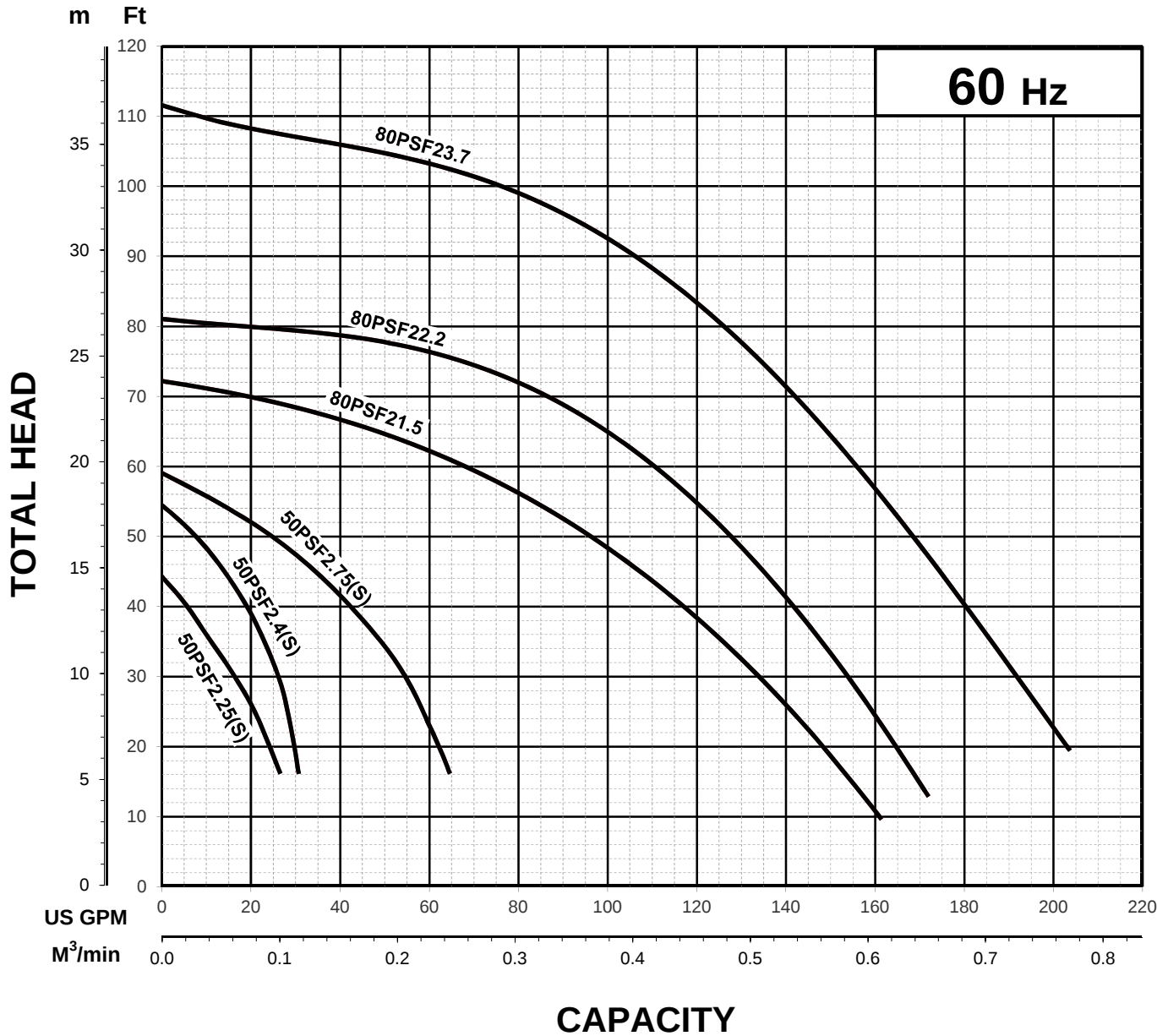
Air Filled, 3600 Rpm, 60 Hz.
115 or 230 V., 1 Phase.,
208-220, 230, 460, or 575 V. 3 Phase
Class E

Submersible Power Cable 32' (10 m)

■ OPTIONS

Length as Required
Model A(Automatic), Model
AW (Automatic Alternating)
TOK (FRP) Slide rail system

GROUP PERFORMANCE RANGE



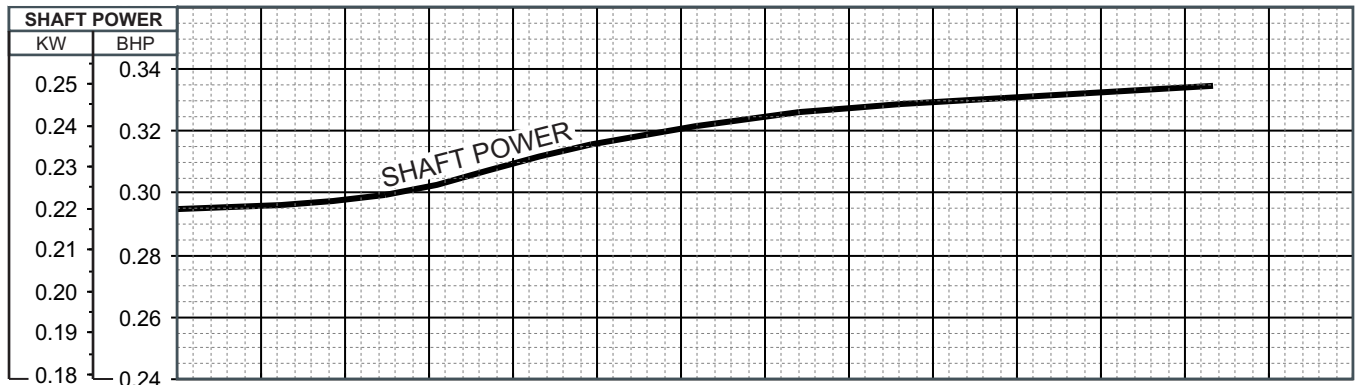
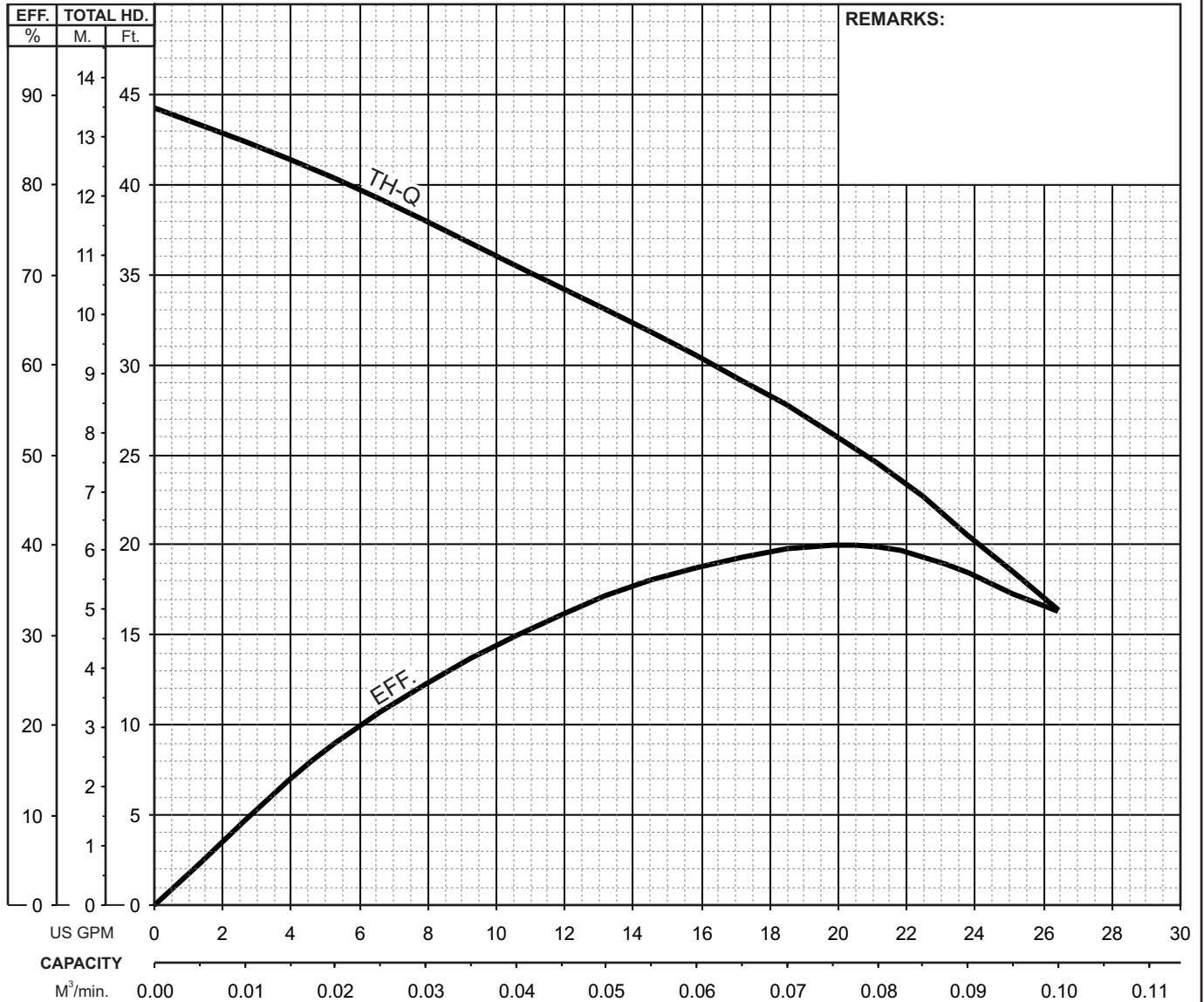
Note



VANCS - SERIES - PSF **(FRP) EFFLUENT PUMPS**

PERFORMANCE **CURVE**

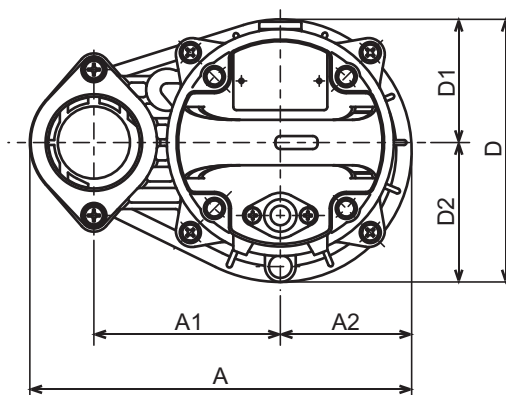
MODEL	BORE	HP	KW	RPM	SOLIDS DIA	LIQUID	SG.	VISCOSITY	TEMP.
50PSF(A/W)2.25-63	2" / 50mm	0.34	0.25	3400	0.315" / 8mm	Water	1.0	1.123 cSt.	60°F
PUMP TYPE	PHASE	VOLTAGE	AMPERAGE	HZ	STARTING METHOD	INS. CLASS			
Effluent Pump	3	208-220/460	1.65-1.6 / 0.75	60	Direct On Line	E			
CURVE No.	DATE	PHASE	VOLTAGE	AMPERAGE	HZ	STARTING METHOD	INS. CLASS		
-	-	-	-	-	-	-	-		



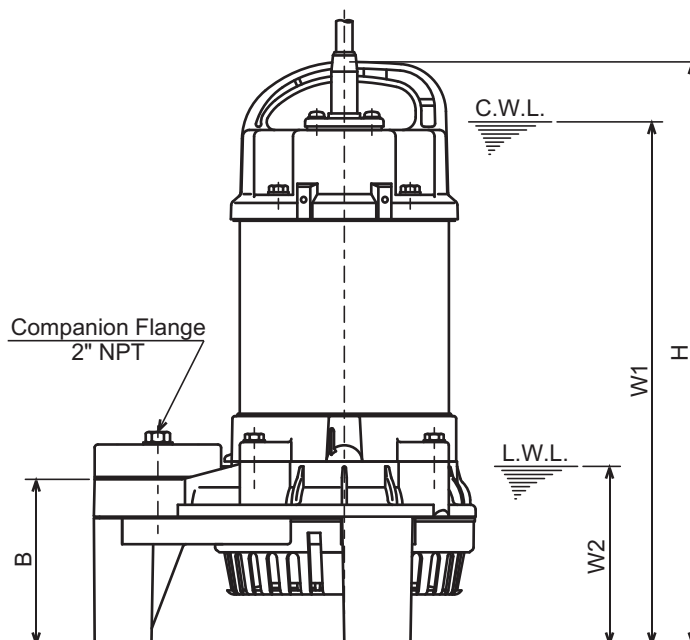


VANCS-SERIES - PSF **(FRP) EFFLUENT PUMPS**

DIMENSIONS



50PSF2.25S-63
50PSF2.25-63
50PSF2.4S-63
50PSF2.4-63
50PSF2.75S-63
50PSF2.75-63



C.W.L. :Continuous running Water Level
 L.W.L. :Lowest running Water Level

DIMENSIONS:USCS (Inch)

Model	HP	NOM. SIZE	Pump & Motor								C.W.L.	L.W.L.	Wt. (lbs.)
			A	A1	A2	B	D	D1	D2	H	W1	W2	
50PSF2.25S-63	1/3	2"	9 5/16	4 1/2	3 3/16	4	6 3/8	3	3 3/8	14 3/16	12 3/4	4 3/8	16.1
50PSF2.25-63	1/3	2"	9 5/16	4 1/2	3 3/16	4	6 3/8	3	3 3/8	13 3/4	12 1/4	4 3/8	13.7
50PSF2.4S-63	1/2	2"	9 5/16	4 1/2	3 3/16	4	6 3/8	3	3 3/8	14 3/16	12 3/4	4 3/8	16.1
50PSF2.4-63	1/2	2"	9 5/16	4 1/2	3 3/16	4	6 3/8	3	3 3/8	14 3/16	12 3/4	4 3/8	15.6
50PSF2.75S-63	1	2"	9 5/16	4 1/2	3 3/16	4	6 3/8	3	3 3/8	14 15/16	13 5/8	4 3/8	19.8
50PSF2.75-63	1	2"	9 5/16	4 1/2	3 3/16	4	6 3/8	3	3 3/8	14 3/4	13 1/4	4 3/8	18.5

DIMENSIONS:METRIC (mm)

Model	kW	NOM. SIZE	Pump & Motor								C.W.L.	L.W.L.	Wt. (kg)
			A	A1	A2	B	D	D1	D2	H	W1	W2	
50PSF2.25S-63	0.25	50	236	115	81	102	162	76	86	360	325	110	7.3
50PSF2.25-63	0.25	50	236	115	81	102	162	76	86	349	310	110	6.2
50PSF2.4S-63	0.40	50	236	115	81	102	162	76	86	360	325	110	7.3
50PSF2.4-63	0.40	50	236	115	81	102	162	76	86	360	325	110	7.1
50PSF2.75S-63	0.75	50	236	115	81	102	162	76	86	380	345	110	9.0
50PSF2.75-63	0.75	50	236	115	81	102	162	76	86	374	335	110	8.4



VANCS-SERIES - PU / PN / PSF **WITH TOK GUIDE RAIL SYSTEM**

DIMENSIONS

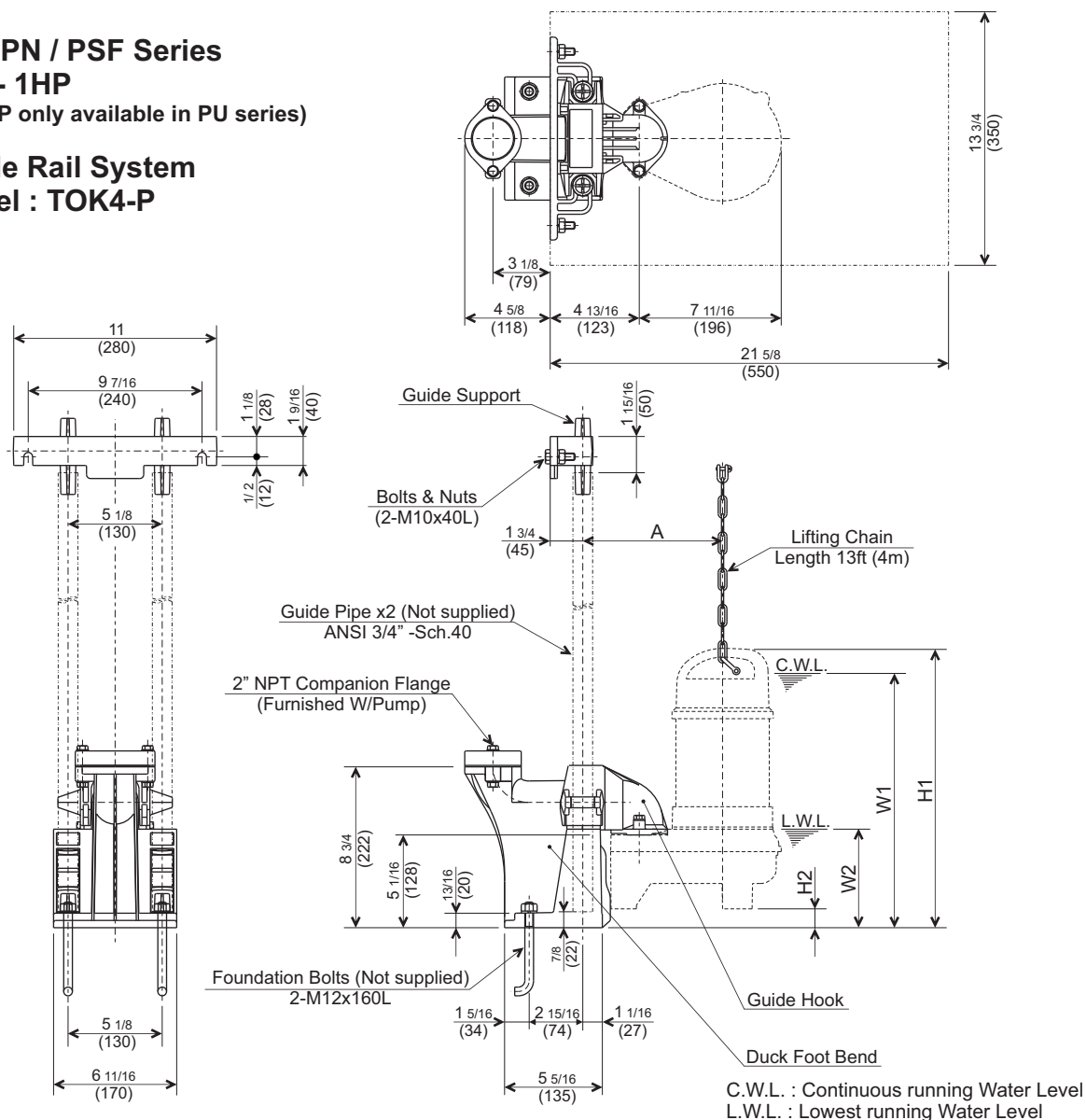
PU / PN / PSF Series

***1/5 - 1HP**

(*1/5HP only available in PU series)

Guide Rail System

Model : TOK4-P

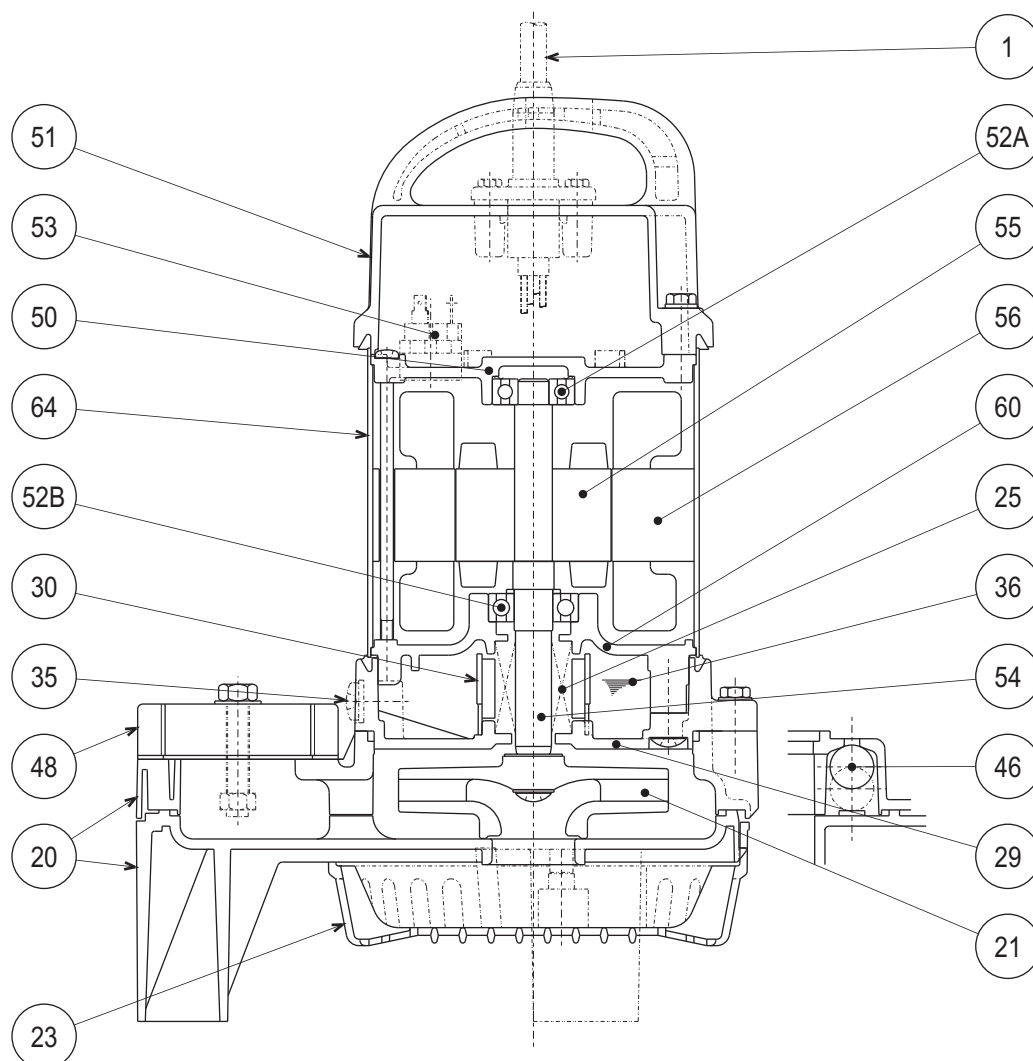


C.W.L. : Continuous running Water Level
 L.W.L. : Lowest running Water Level

PU SERIES	Model	OUTPUT HP (kW)	NOM. SIZE inch (mm)	Dimension inch (mm)						Wt. lbs. (kg)
				H1	H2	C.W.L.	L.W.L.	A		
						W1	W2			
	TOK50PU2.15S-64	1/5 (0.15)	2 (50)	16 1/8 (409)	1 1/4 (32)	14 5/8 (370)	5 3/8 (135)	7 3/8 (188)	14.3 (6.5)	
	TOK50PU2.25S-63	1/3 (0.25)	2 (50)	15 3/16 (386)	1 (26)	13 3/4 (350)	5 3/8 (135)	7 5/8 (193)	16.5 (7.5)	
	TOK50PU2.25-63	1/3 (0.25)	2 (50)	14 3/4 (375)	1 (26)	13 1/4 (335)	5 3/8 (135)	7 5/8 (193)	14.3 (6.5)	
	TOK50PU2.4S-63	1/2 (0.4)	2 (50)	15 3/16 (386)	1 (26)	13 3/4 (350)	5 3/8 (135)	7 5/8 (193)	16.5 (7.5)	
	TOK50PU2.4-63	1/2 (0.4)	2 (50)	15 3/16 (386)	1 (26)	13 3/4 (350)	5 3/8 (135)	7 5/8 (193)	16.3 (7.4)	
	TOK50PU2.75S-63	1 (0.75)	2 (50)	16 (406)	1 (26)	14 5/8 (370)	5 3/8 (135)	7 5/8 (193)	20.5 (9.3)	
	TOK50PU2.75-63	1 (0.75)	2 (50)	15 3/4 (400)	1 (26)	14 1/4 (360)	5 3/8 (135)	7 5/8 (193)	19.2 (8.7)	

PN SERIES	Model	OUTPUT HP (kW)	NOM. SIZE inch (mm)	Dimension inch (mm)						Wt. lbs. (kg)
				H1	H2	C.W.L.	L.W.L.	A		
						W1	W2			
	TOK50PN2.25S-63	1/3 (0.25)	2 (50)	15 3/16 (386)	1 (26)	13 3/4 (350)	5 3/8 (135)	7 5/8 (193)	16.5 (7.5)	
	TOK50PN2.25-63	1/3 (0.25)	2 (50)	14 3/4 (375)	1 (26)	13 1/4 (335)	5 3/8 (135)	7 5/8 (193)	14.3 (6.5)	
	TOK50PN2.4S-63	1/2 (0.4)	2 (50)	15 3/16 (386)	1 (26)	13 3/4 (350)	5 3/8 (135)	7 5/8 (193)	16.5 (7.5)	
	TOK50PN2.4-63	1/2 (0.4)	2 (50)	15 3/16 (386)	1 (26)	13 3/4 (350)	5 3/8 (135)	7 5/8 (193)	16.3 (7.4)	
	TOK50PN2.75S-63	1 (0.75)	2 (50)	16 (406)	1 (26)	14 5/8 (370)	5 3/8 (135)	7 5/8 (193)	20.5 (9.3)	
	TOK50PN2.75-63	1 (0.75)	2 (50)	15 3/4 (400)	1 (26)	14 1/4 (360)	5 3/8 (135)	7 5/8 (193)	19.2 (8.7)	

PSF SERIES	Model	OUTPUT HP (kW)	NOM. SIZE inch (mm)	Dimension inch (mm)						Wt. lbs. (kg)
				H1	H2	C.W.L.	L.W.L.	A		
						W1	W2			
	TOK50PSF2.25S-63	1/3 (0.25)	2 (50)	15 3/16 (386)	1 (26)	13 3/4 (350)	5 3/8 (135)	7 5/8 (193)	17.0 (7.7)	
	TOK50PSF2.25-63	1/3 (0.25)	2 (50)	14 3/4 (375)	1 (26)	13 1/4 (335)	5 3/8 (135)	7 5/8 (193)	14.6 (6.6)	
	TOK50PSF2.4S-63	1/2 (0.4)	2 (50)	15 3/16 (386)	1 (26)	13 3/4 (350)	5 3/8 (135)	7 5/8 (193)	17.0 (7.7)	
	TOK50PSF2.4-63	1/2 (0.4)	2 (50)	15 3/16 (386)	1 (26)	13 3/4 (350)	5 3/8 (135)	7 5/8 (193)	16.5 (7.5)	
	TOK50PSF2.75S-63	1 (0.75)	2 (50)	16 (406)	1 (26)	14 5/8 (370)	5 3/8 (135)	7 5/8 (193)	20.7 (9.4)	
	TOK50PSF2.75-63	1 (0.75)	2 (50)	15 3/4 (400)	1 (26)	14 1/4 (360)	5 3/8 (135)	7 5/8 (193)	19.4 (8.8)	

**TSURUMI PUMP**
VANCS - SERIES - PSF
 (FRP) EFFLUENT PUMPS
SECTIONAL VIEW
50PSF2.25-63
50PSF2.4-63


PART#	DESCRIPTION	MAIN MATERIAL / NOTE	RELATED ASTM, AISI CODE	RELATED EN CODE	QTY
1	Power Cable	PVC Sheath AWG16/4-32ft			1
20	Pump Casing	ABS Plastic w/GF20			1
21	Impeller	PPO Plastic w/GF20			1
23	Suction Strainer	ABS Plastic			1
25	Mechanical Seal	Silicon Carbide / W-14HL			1
29	Oil Casing	PPS Plastic w/(GF+MD)50			1
30	Oil Lifter	PBT Plastic			1
35	Oil Plug	Stainless Steel	S 30400	1.4301	1
36	Lubricant	White Mineral Oil ISO VG32			
46	Air Valve	Glass Ball			1
48	Companion Flange	PBT Plastic w/GF30 / NPT 2"			1
50	Motor Bracket	Aluminum Alloy Die Casting	B85 383.0	EN 1706 AC-46100	1
51	Motor Head Cover	PPS Plastic w/(GF+MD)50			1
52A	Upper Bearing	#6201ZZC3			1
52B	Lower Bearing	#6202ZZC3			1
53	Motor Protector				1
54	Shaft	Stainless Steel	S 30400	1.4301	1
55	Rotor				1
56	Stator				1
60	Bearing Housing	Aluminum Alloy Die Casting	B85 383.0	EN 1706 AC-46100	1
64	Motor Housing	Stainless Steel	S 30400	1.4301	1

**TSURUMI PUMP**

VANCS - SERIES - PSF (FRP) EFFLUENT PUMPS

SAMPLE SPECIFICATIONS

1. SCOPE OF SUPPLY -

Furnish and install TSURUMI, VANCS 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, sewage or effluent containing _____ inch (_____mm) diameter solids 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. The pump discharge size shall be _____ inch, (_____mm).

2. MATERIALS OF CONSTRUCTION -

Construction of major parts of the pumping unit(s) including pump casing, impeller, motor head cover and intermediate brackets shall be manufactured from recyclable, application appropriate resins. The need for a protective coating shall not be required. All exposed fasteners shall be stainless steel and shall have stainless steel mating anchors integrally cast into the mating part. All units shall be furnished with a NPT discharge companion flange. Impellers shall be of the multi-vane, enclosed design and shall be slip fit to the shaft. The motor shaft shall be machined to provide a positive drive of the impeller. The pump casing shall incorporate an air relief valve.

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. Units shall be fitted with a device that shall provide positive lubrication of top mechanical seal, (down to one third of the standard oil level). The device shall not consume any additional electrical power. Units shall have silicon carbide mechanical seal faces. Mechanical seal hardware shall be Stainless steel.

4. MOTOR -

The pump motor(s) shall be _____ Hp., _____ kW., _____ V., 60 Hz., _____ 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 6 starts per hour. Motor(s) shall be air filled, copper wound, class E insulated with built in thermal and over amperage protection. Motor shaft shall be 403 stainless steel 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. The bearings shall be single row, double shielded, C3, deep groove type ball bearings. Bearing seats shall be rolled carbon steel or aluminum die casting. Motor housing shall be 304 stainless steel.

5. POWER CABLE AND CABLE ENTRANCE -

The pump power cable shall be suitable for submersible pump applications. The cable entrance shall incorporate built in strain relief, a one piece, three way mechanical compression seal with a fatigue reducing cable 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.



VANCS SERIES - PSF

(FRP) EFFLUENT PUMPS

Specifications

■ FEATURES

1. Enclosed, FRP (Fiberglass Reinforced Plastic), impeller provides for high head pumping of effluent or water.
2. Double inside mechanical seals with silicon carbide faces, running in an oil filled chamber and further protected by a lip seal, provides for the most durable seal design available.
2. Highly efficient, continuous duty, air filled, copper wound motor with class E, insulation minimizes the cost of operation.
4. Built in thermal & amperage sensing, protector prevents motor failure due to overloading, single phasing (in three phase units), 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. Utilization of application appropriate FRP & stainless steel components increases corrosion resistance in a wide variety of applications.

■ APPLICATIONS

1. Residential, commercial, effluent, wastewater and site drainage.
2. Chemical spill containment.
3. Decorative waterfalls, fountains and fish ponds.
4. Raw water supply from rivers or lakes.



■ SPECIFICATIONS

Discharge Size
Horsepower Range
Performance Range Capacity
Head
Maximum water temperature
Materials of Construction
Casing (upper)/(lower)
Impeller
Shaft
Motor Frame
Fasteners

Mechanical Seal
Elastomers

Impeller Type
Solids Handling Capability

Bearings

Motor Nomenclature
Type, Speed, Hz.
Voltage, Phase

Insulation

Accessories

Operational Mode

■ STANDARD

2" ~ 3" N.P.T. (50 ~ 80mm)
1/3 ~ 5Hp. (.25 ~ 3.7 kW)
6.6 ~ 203.4 G.P.M. (.03 ~ .85 m³/min)
16.4 ~ 111.5 Ft. (5.0 ~ 33.99 m)
104° F. (40° C.)

FRP (ABS + G20) / ABS
FRP (ABS + G20)
403 Stainless Steel
304 Stainless Steel
304 Stainless Steel

Silicon Carbide
NBR (Nitril Buna Rubber)

Enclosed, Multi-vane
.32 ~.51" (8~13 mm)

Pre-lubricated, Double Shielded

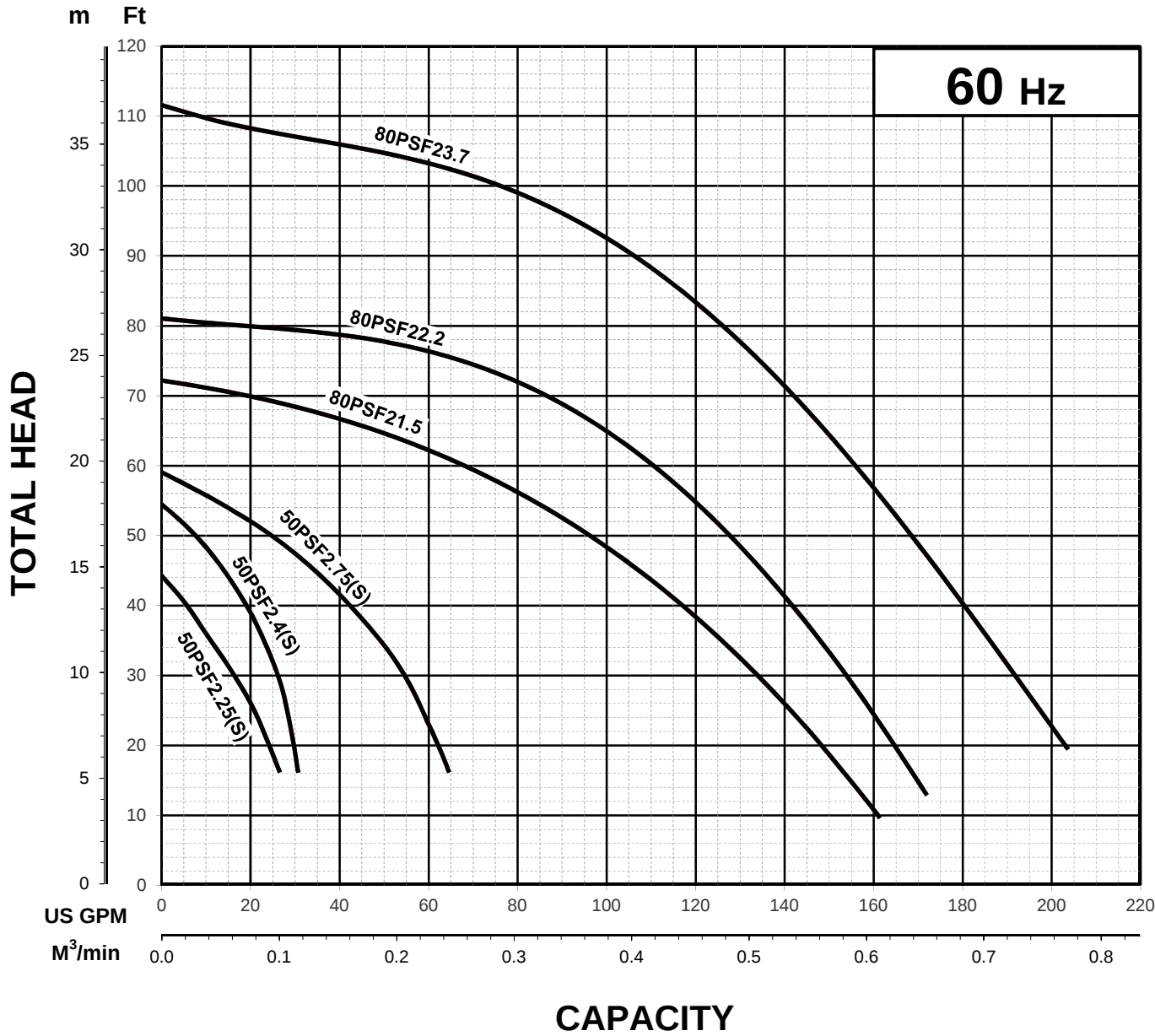
Air Filled, 3600 Rpm, 60 Hz.
115 or 230 V., 1 Phase.,
208-220, 230, 460, or 575 V. 3 Phase
Class E

Submersible Power Cable 32' (10 m)

■ OPTIONS

Length as Required
Model A(Automatic), Model
AW (Automatic Alternating)
TOK (FRP) Slide rail system

GROUP PERFORMANCE RANGE



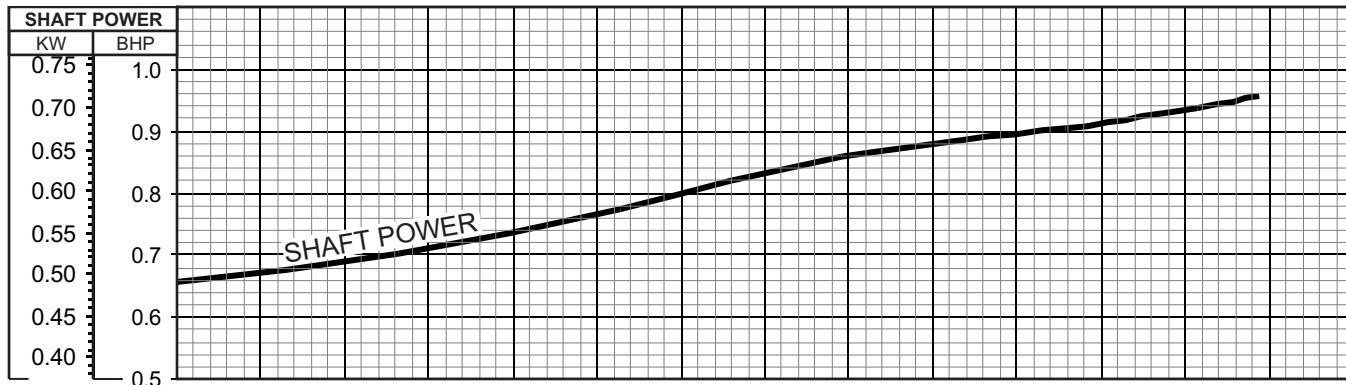
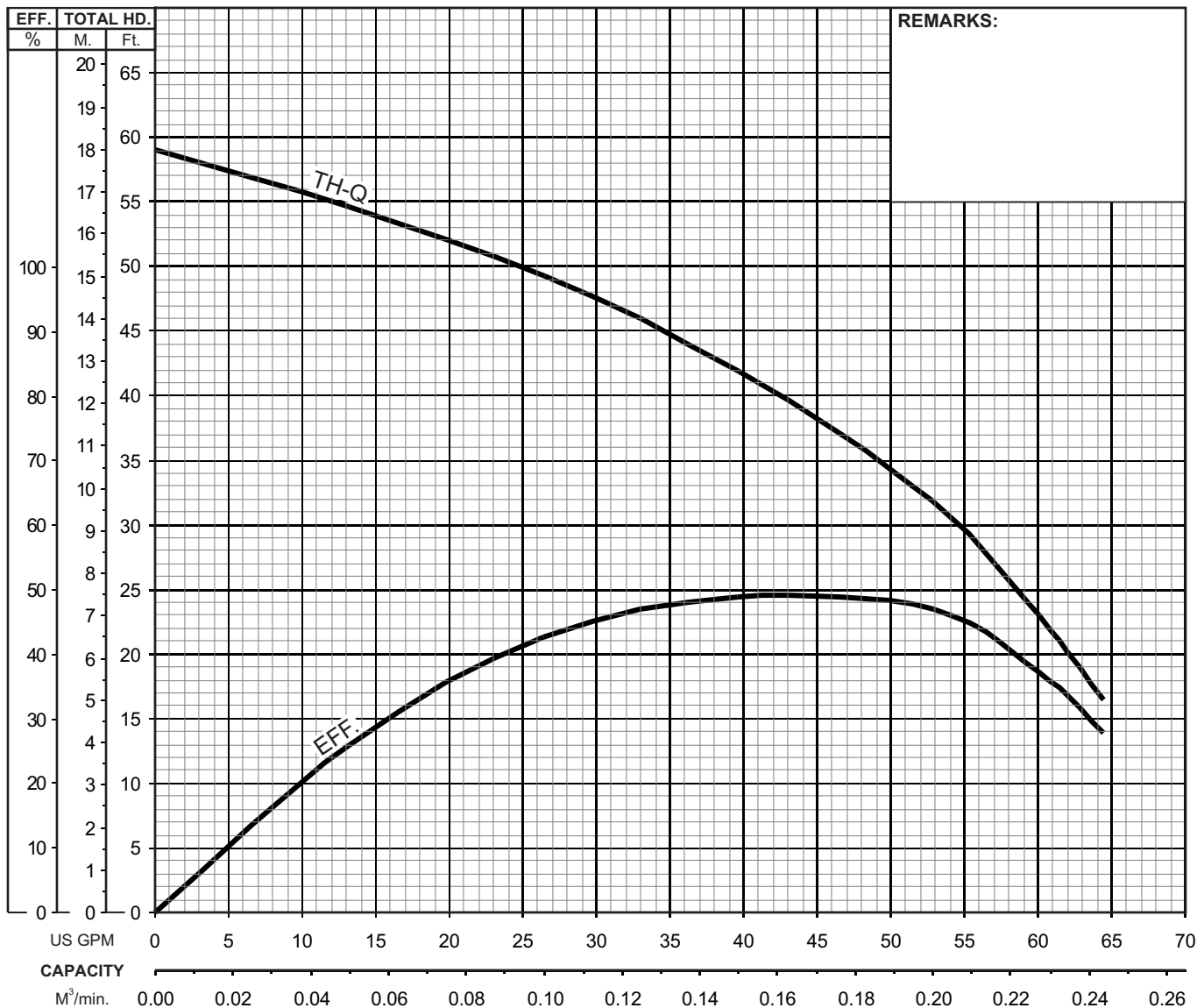
Note



VANCS - SERIES - PSF **(FRP) EFFLUENT PUMPS**

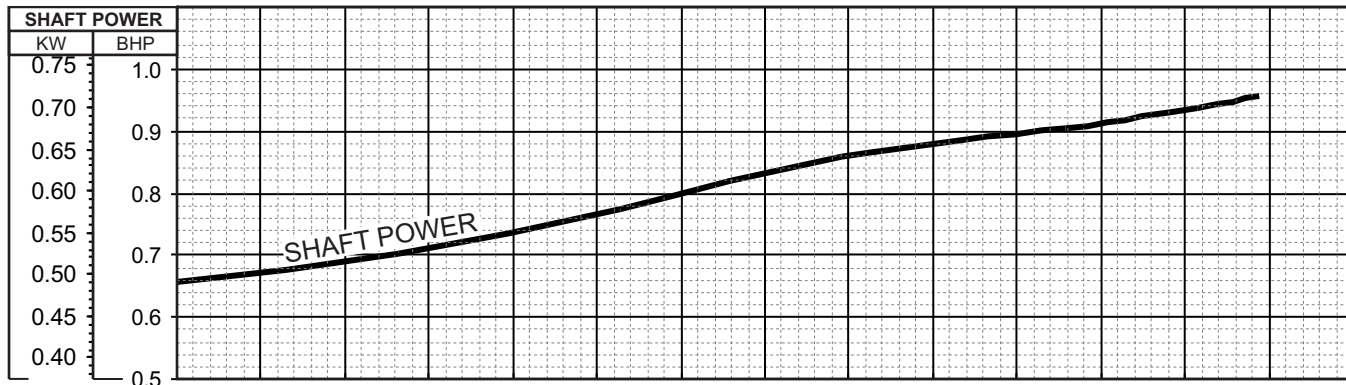
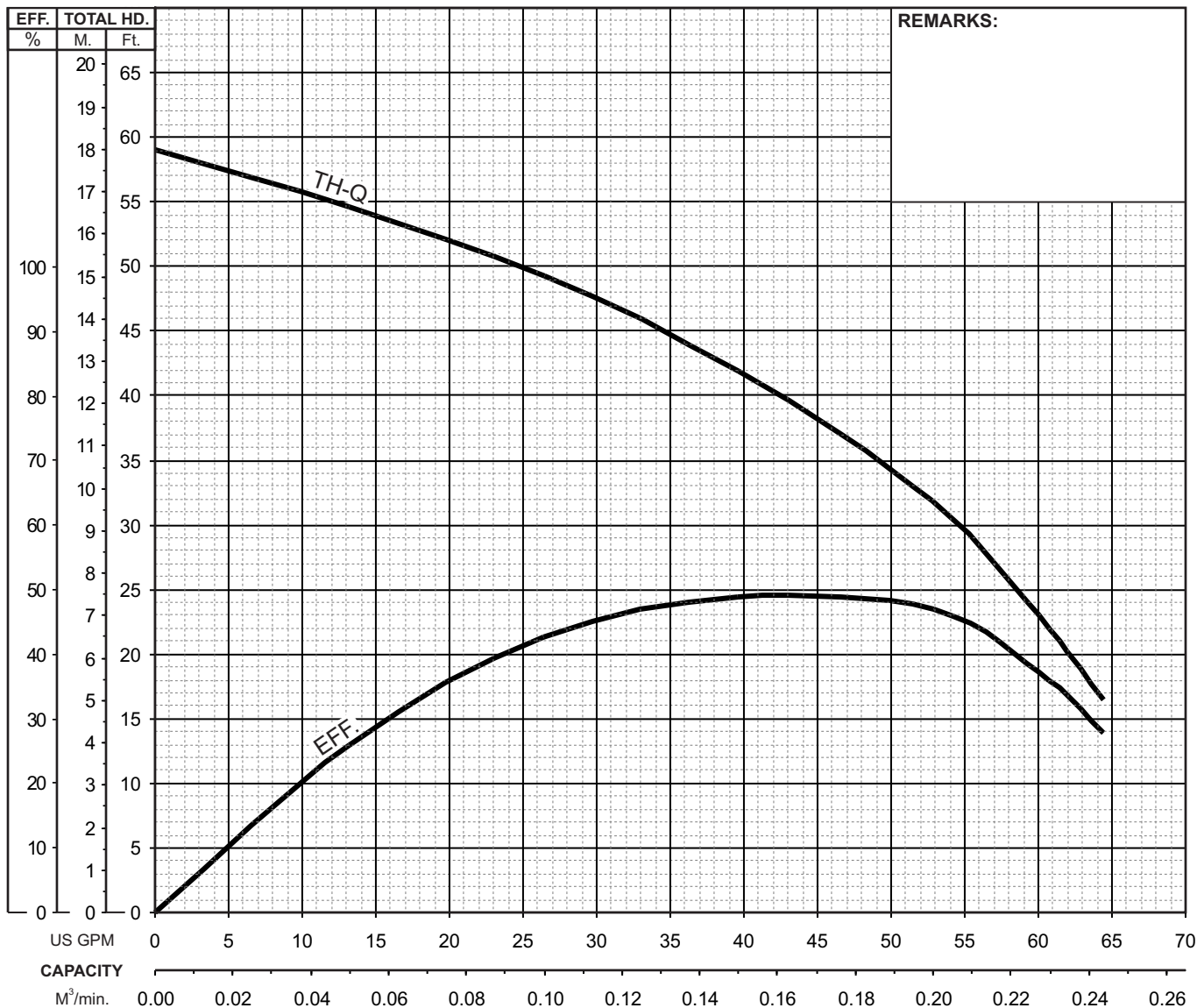
PERFORMANCE **CURVE**

MODEL		BORE	HP	KW	RPM	SOLIDS DIA		LIQUID		SG.	VISCOSITY	TEMP.
50PSF(A/W)2.75S-63		2" / 50mm	1	0.75	3390	0.315" / 8mm		Water		1.0	1.123 cSt.	60°F
PUMP TYPE		PHASE	VOLTAGE		AMPERAGE		HZ	STARTING METHOD			INS. CLASS	
Effluent Pump		Single	115-120 / 230		9.2-9.1 / 4.6		60	Capacitor-Start			E	
CURVE No.	DATE	PHASE	VOLTAGE		AMPERAGE		HZ	STARTING METHOD			INS. CLASS	
-	-	-	-		-		-	-			-	




TSURUMI PUMP
VANCS - SERIES - PSF
(FRP) EFFLUENT PUMPS
PERFORMANCE
CURVE

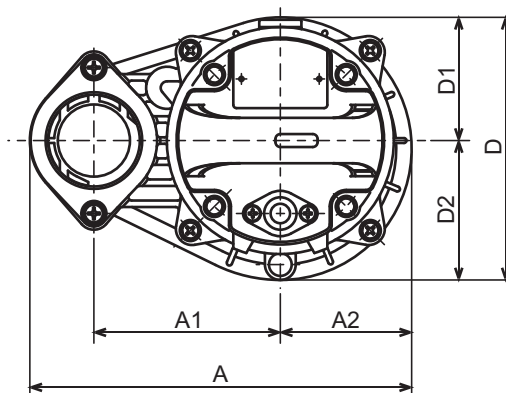
MODEL	BORE	HP	KW	RPM	SOLIDS DIA	LIQUID	SG.	VISCOSITY	TEMP.
50PSF(A/W)2.75-63	2" / 50mm	1	0.75	3375	0.315" / 8mm	Water	1.0	1.123 cSt.	60°F
PUMP TYPE	PHASE	VOLTAGE	AMPERAGE	HZ	STARTING METHOD	INS. CLASS			
Effluent Pump	3	208-220/460	3.2-3.2 / 1.5	60	Direct On Line	E			
CURVE No.	DATE	PHASE	VOLTAGE	AMPERAGE	HZ	STARTING METHOD	INS. CLASS		
-	-	-	-	-	-	-	-		



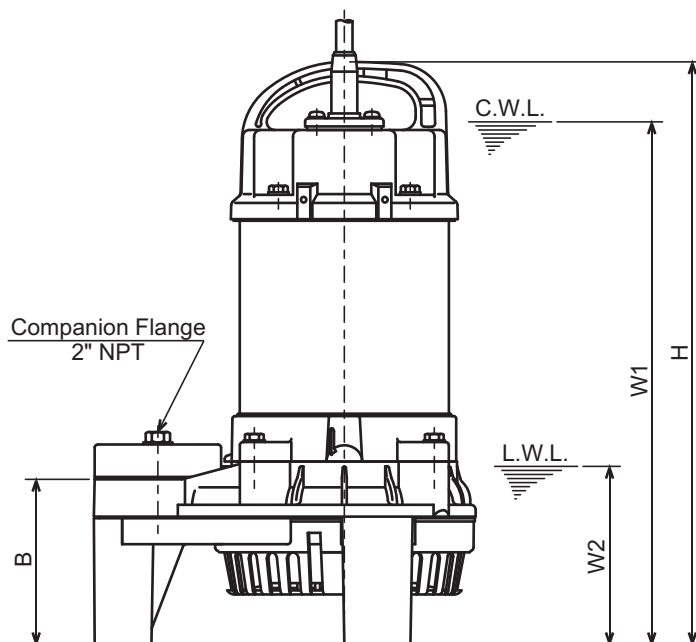


VANCS-SERIES - PSF **(FRP) EFFLUENT PUMPS**

DIMENSIONS



50PSF2.25S-63
50PSF2.25-63
50PSF2.4S-63
50PSF2.4-63
50PSF2.75S-63
50PSF2.75-63



C.W.L. :Continuous running Water Level
 L.W.L. :Lowest running Water Level

DIMENSIONS:USCS (Inch)

Model	HP	NOM. SIZE	Pump & Motor								C.W.L.	L.W.L.	Wt. (lbs.)
			A	A1	A2	B	D	D1	D2	H	W1	W2	
50PSF2.25S-63	1/3	2"	9 5/16	4 1/2	3 3/16	4	6 3/8	3	3 3/8	14 3/16	12 3/4	4 3/8	16.1
50PSF2.25-63	1/3	2"	9 5/16	4 1/2	3 3/16	4	6 3/8	3	3 3/8	13 3/4	12 1/4	4 3/8	13.7
50PSF2.4S-63	1/2	2"	9 5/16	4 1/2	3 3/16	4	6 3/8	3	3 3/8	14 3/16	12 3/4	4 3/8	16.1
50PSF2.4-63	1/2	2"	9 5/16	4 1/2	3 3/16	4	6 3/8	3	3 3/8	14 3/16	12 3/4	4 3/8	15.6
50PSF2.75S-63	1	2"	9 5/16	4 1/2	3 3/16	4	6 3/8	3	3 3/8	14 15/16	13 5/8	4 3/8	19.8
50PSF2.75-63	1	2"	9 5/16	4 1/2	3 3/16	4	6 3/8	3	3 3/8	14 3/4	13 1/4	4 3/8	18.5

DIMENSIONS:METRIC (mm)

Model	kW	NOM. SIZE	Pump & Motor								C.W.L.	L.W.L.	Wt. (kg)
			A	A1	A2	B	D	D1	D2	H	W1	W2	
50PSF2.25S-63	0.25	50	236	115	81	102	162	76	86	360	325	110	7.3
50PSF2.25-63	0.25	50	236	115	81	102	162	76	86	349	310	110	6.2
50PSF2.4S-63	0.40	50	236	115	81	102	162	76	86	360	325	110	7.3
50PSF2.4-63	0.40	50	236	115	81	102	162	76	86	360	325	110	7.1
50PSF2.75S-63	0.75	50	236	115	81	102	162	76	86	380	345	110	9.0
50PSF2.75-63	0.75	50	236	115	81	102	162	76	86	374	335	110	8.4



VANCS-SERIES - PU / PN / PSF WITH TOK GUIDE RAIL SYSTEM

DIMENSIONS

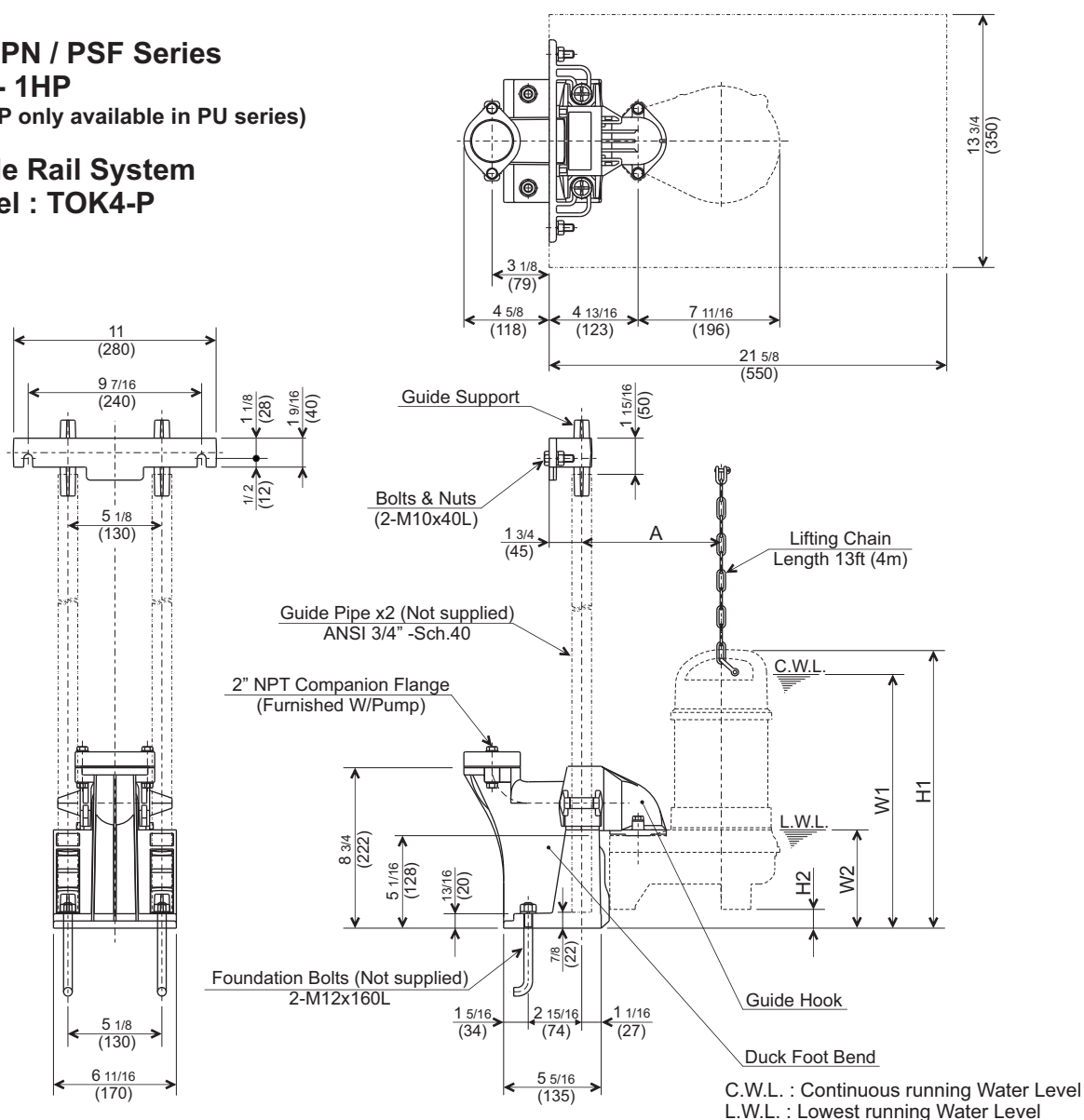
PU / PN / PSF Series

***1/5 - 1HP**

(*1/5HP only available in PU series)

Guide Rail System

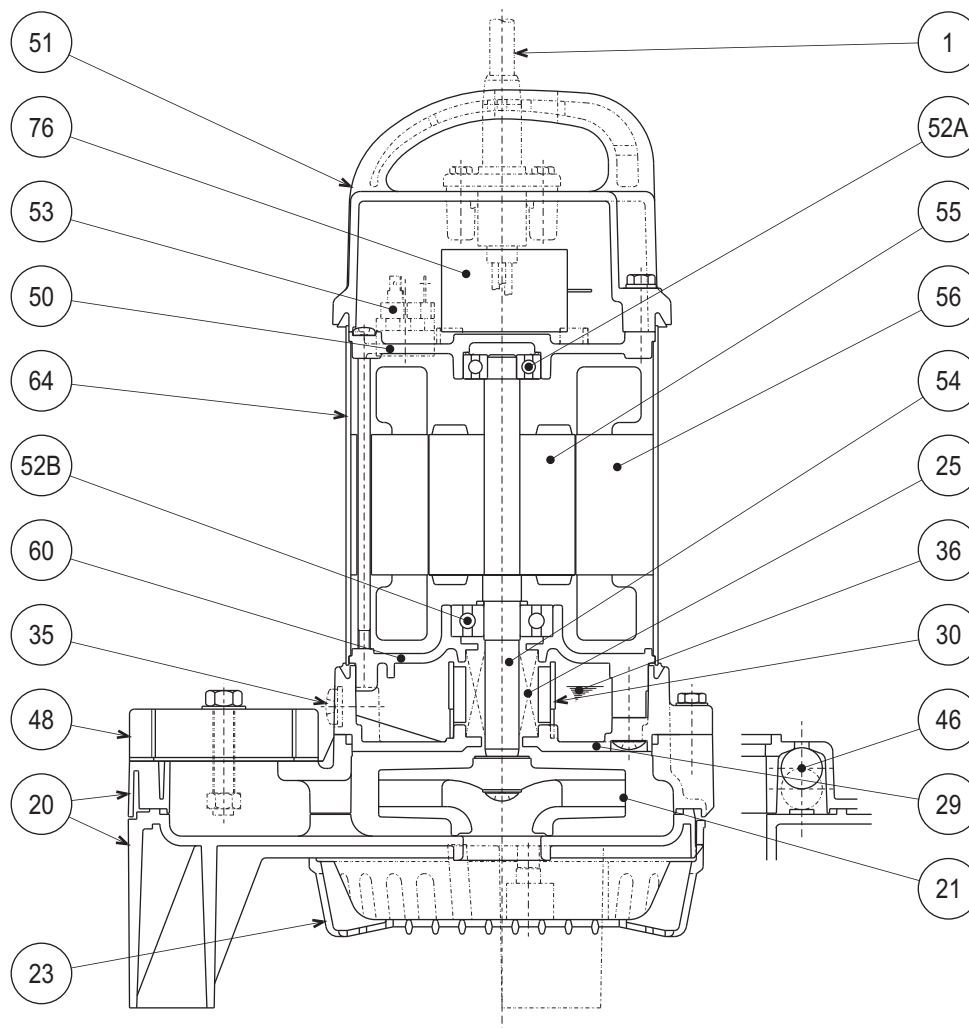
Model : TOK4-P



PU SERIES	Model	OUTPUT HP (kW)	NOM. SIZE inch (mm)	Dimension inch (mm)						Wt. lbs. (kg)
				H1	H2	C.W.L.		A		
						W1	W2			
	TOK50PU2.15S-64	1/5 (0.15)	2 (50)	16 1/8 (409)	1 1/4 (32)	14 5/8 (370)	5 3/8 (135)	7 3/8 (188)	14.3 (6.5)	
	TOK50PU2.25S-63	1/3 (0.25)	2 (50)	15 3/16 (386)	1 (26)	13 3/4 (350)	5 3/8 (135)	7 5/8 (193)	16.5 (7.5)	
	TOK50PU2.25-63	1/3 (0.25)	2 (50)	14 3/4 (375)	1 (26)	13 1/4 (335)	5 3/8 (135)	7 5/8 (193)	14.3 (6.5)	
	TOK50PU2.4S-63	1/2 (0.4)	2 (50)	15 3/16 (386)	1 (26)	13 3/4 (350)	5 3/8 (135)	7 5/8 (193)	16.5 (7.5)	
	TOK50PU2.4-63	1/2 (0.4)	2 (50)	15 3/16 (386)	1 (26)	13 3/4 (350)	5 3/8 (135)	7 5/8 (193)	16.3 (7.4)	
	TOK50PU2.75S-63	1 (0.75)	2 (50)	16 (406)	1 (26)	14 5/8 (370)	5 3/8 (135)	7 5/8 (193)	20.5 (9.3)	
	TOK50PU2.75-63	1 (0.75)	2 (50)	15 3/4 (400)	1 (26)	14 1/4 (360)	5 3/8 (135)	7 5/8 (193)	19.2 (8.7)	

PN SERIES	Model	OUTPUT HP (kW)	NOM. SIZE inch (mm)	Dimension inch (mm)						Wt. lbs. (kg)
				H1	H2	C.W.L.	L.W.L.	A		
						W1	W2			
	TOK50PN2.25S-63	1/3 (0.25)	2 (50)	15 3/16 (386)	1 (26)	13 3/4 (350)	5 3/8 (135)	7 5/8 (193)	16.5 (7.5)	
	TOK50PN2.25-63	1/3 (0.25)	2 (50)	14 3/4 (375)	1 (26)	13 1/4 (335)	5 3/8 (135)	7 5/8 (193)	14.3 (6.5)	
	TOK50PN2.4S-63	1/2 (0.4)	2 (50)	15 3/16 (386)	1 (26)	13 3/4 (350)	5 3/8 (135)	7 5/8 (193)	16.5 (7.5)	
	TOK50PN2.4-63	1/2 (0.4)	2 (50)	15 3/16 (386)	1 (26)	13 3/4 (350)	5 3/8 (135)	7 5/8 (193)	16.3 (7.4)	
	TOK50PN2.75S-63	1 (0.75)	2 (50)	16 (406)	1 (26)	14 5/8 (370)	5 3/8 (135)	7 5/8 (193)	20.5 (9.3)	
	TOK50PN2.75-63	1 (0.75)	2 (50)	15 3/4 (400)	1 (26)	14 1/4 (360)	5 3/8 (135)	7 5/8 (193)	19.2 (8.7)	

PSF SERIES	Model	OUTPUT HP (kW)	NOM. SIZE inch (mm)	Dimension inch (mm)						Wt. lbs. (kg)
				H1	H2	C.W.L.		A		
						W1	W2			
	TOK50PSF2.25S-63	1/3 (0.25)	2 (50)	15 3/16 (386)	1 (26)	13 3/4 (350)	5 3/8 (135)	7 5/8 (193)	17.0 (7.7)	
	TOK50PSF2.25-63	1/3 (0.25)	2 (50)	14 3/4 (375)	1 (26)	13 1/4 (335)	5 3/8 (135)	7 5/8 (193)	14.6 (6.6)	
	TOK50PSF2.4S-63	1/2 (0.4)	2 (50)	15 3/16 (386)	1 (26)	13 3/4 (350)	5 3/8 (135)	7 5/8 (193)	17.0 (7.7)	
	TOK50PSF2.4-63	1/2 (0.4)	2 (50)	15 3/16 (386)	1 (26)	13 3/4 (350)	5 3/8 (135)	7 5/8 (193)	16.5 (7.5)	
	TOK50PSF2.75S-63	1 (0.75)	2 (50)	16 (406)	1 (26)	14 5/8 (370)	5 3/8 (135)	7 5/8 (193)	20.7 (9.4)	
	TOK50PSF2.75-63	1 (0.75)	2 (50)	15 3/4 (400)	1 (26)	14 1/4 (360)	5 3/8 (135)	7 5/8 (193)	19.4 (8.8)	

**TSURUMI PUMP**
VANCS - SERIES - PSF
(FRP) EFFLUENT PUMP5
SECTIONAL VIEW**50PSF2.75S-63**

PART#	DESCRIPTION	MAIN MATERIAL / NOTE	RELATED ASTM, AISI CODE	RELATED EN CODE	QTY
1	Power Cable	PVC Sheath AWG14/3-32ft or AWG16/3-32ft (230V)			1
20	Pump Casing	ABS Plastic w/GF20			1
21	Impeller	PPO Plastic w/GF20			1
23	Suction Strainer	ABS Plastic			1
25	Mechanical Seal	Silicon Carbide / W-14HL			1
29	Oil Casing	PPS Plastic w/(GF+MD)50			1
30	Oil Lifter	PBT Plastic			1
35	Oil Plug	Stainless Steel	S 30400	1.4301	1
36	Lubricant	White Mineral Oil ISO VG32			
46	Air Valve	Glass Ball			1
48	Companion Flange	PBT Plastic w/GF30 / NPT 2"			1
50	Motor Bracket	Aluminum Alloy Die Casting	B85 383.0	EN 1706 AC-46100	1
51	Motor Head Cover	PPS Plastic w/(GF+MD)50			1
52A	Upper Bearing	#6201ZZC3			1
52B	Lower Bearing	#6302ZZC3			1
53	Motor Protector				1
54	Shaft	Stainless Steel	S 30400	1.4301	1
55	Rotor				1
56	Stator				1
60	Bearing Housing	Aluminum Alloy Die Casting	B85 383.0	EN 1706 AC-46100	1
64	Motor Housing	Stainless Steel	S 30400	1.4301	1
76	Capacitor				1

**TSURUMI PUMP**

VANCS - SERIES - PSF (FRP) EFFLUENT PUMPS

SAMPLE SPECIFICATIONS

1. SCOPE OF SUPPLY -

Furnish and install TSURUMI, VANCS 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, sewage or effluent containing _____ inch (_____mm) diameter solids 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. The pump discharge size shall be _____ inch, (_____mm).

2. MATERIALS OF CONSTRUCTION -

Construction of major parts of the pumping unit(s) including pump casing, impeller, motor head cover and intermediate brackets shall be manufactured from recyclable, application appropriate resins. The need for a protective coating shall not be required. All exposed fasteners shall be stainless steel and shall have stainless steel mating anchors integrally cast into the mating part. All units shall be furnished with a NPT discharge companion flange. Impellers shall be of the multi-vane, enclosed design and shall be slip fit to the shaft. The motor shaft shall be machined to provide a positive drive of the impeller. The pump casing shall incorporate an air relief valve.

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. Units shall be fitted with a device that shall provide positive lubrication of top mechanical seal, (down to one third of the standard oil level). The device shall not consume any additional electrical power. Units shall have silicon carbide mechanical seal faces. Mechanical seal hardware shall be Stainless steel.

4. MOTOR -

The pump motor(s) shall be _____ Hp., _____ kW., _____ V., 60 Hz., _____ 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 6 starts per hour. Motor(s) shall be air filled, copper wound, class E insulated with built in thermal and over amperage protection. Motor shaft shall be 403 stainless steel 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. The bearings shall be single row, double shielded, C3, deep groove type ball bearings. Bearing seats shall be rolled carbon steel or aluminum die casting. Motor housing shall be 304 stainless steel.

5. POWER CABLE AND CABLE ENTRANCE -

The pump power cable shall be suitable for submersible pump applications. The cable entrance shall incorporate built in strain relief, a one piece, three way mechanical compression seal with a fatigue reducing cable 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.



VANCS SERIES - PSF

(FRP) EFFLUENT PUMPS

SPECIFICATIONS

FEATURES

1. Enclosed, FRP (Fiberglass Reinforced Plastic), impeller provides for high head pumping of effluent or water.
2. Double inside mechanical seals with silicon carbide faces, running in an oil filled chamber and further protected by a lip seal, provides for the most durable seal design available.
2. Highly efficient, continuous duty, air filled, copper wound motor with class E, insulation minimizes the cost of operation.
4. Built in thermal & amperage sensing, protector prevents motor failure due to overloading, single phasing (in three phase units), 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. Utilization of application appropriate FRP & stainless steel components increases corrosion resistance in a wide variety of applications.

APPLICATIONS

1. Residential, commercial, effluent, wastewater and site drainage.
2. Chemical spill containment.
3. Decorative waterfalls, fountains and fish ponds.
4. Raw water supply from rivers or lakes.



SPECIFICATIONS

Discharge Size
Horsepower Range
Performance Range Capacity
Head
Maximum water temperature
Materials of Construction
Casing (upper)/(lower)
Impeller
Shaft
Motor Frame
Fasteners

Mechanical Seal
Elastomers

Impeller Type
Solids Handling Capability

Bearings

Motor Nomenclature
Type, Speed, Hz.
Voltage, Phase

Insulation

Accessories

Operational Mode

STANDARD

2" ~ 3" N.P.T. (50 ~ 80mm)
1/3 ~ 5Hp. (.25 ~ 3.7 kW)
6.6 ~ 203.4 G.P.M. (.03 ~ .85 m³/min)
16.4 ~ 111.5 Ft. (5.0 ~ 33.99 m)
104° F. (40° C.)

FRP (ABS + G20) / ABS
FRP (ABS + G20)
403 Stainless Steel
304 Stainless Steel
304 Stainless Steel

Silicon Carbide
NBR (Nitril Buna Rubber)

Enclosed, Multi-vane
.32 ~.51" (8~13 mm)

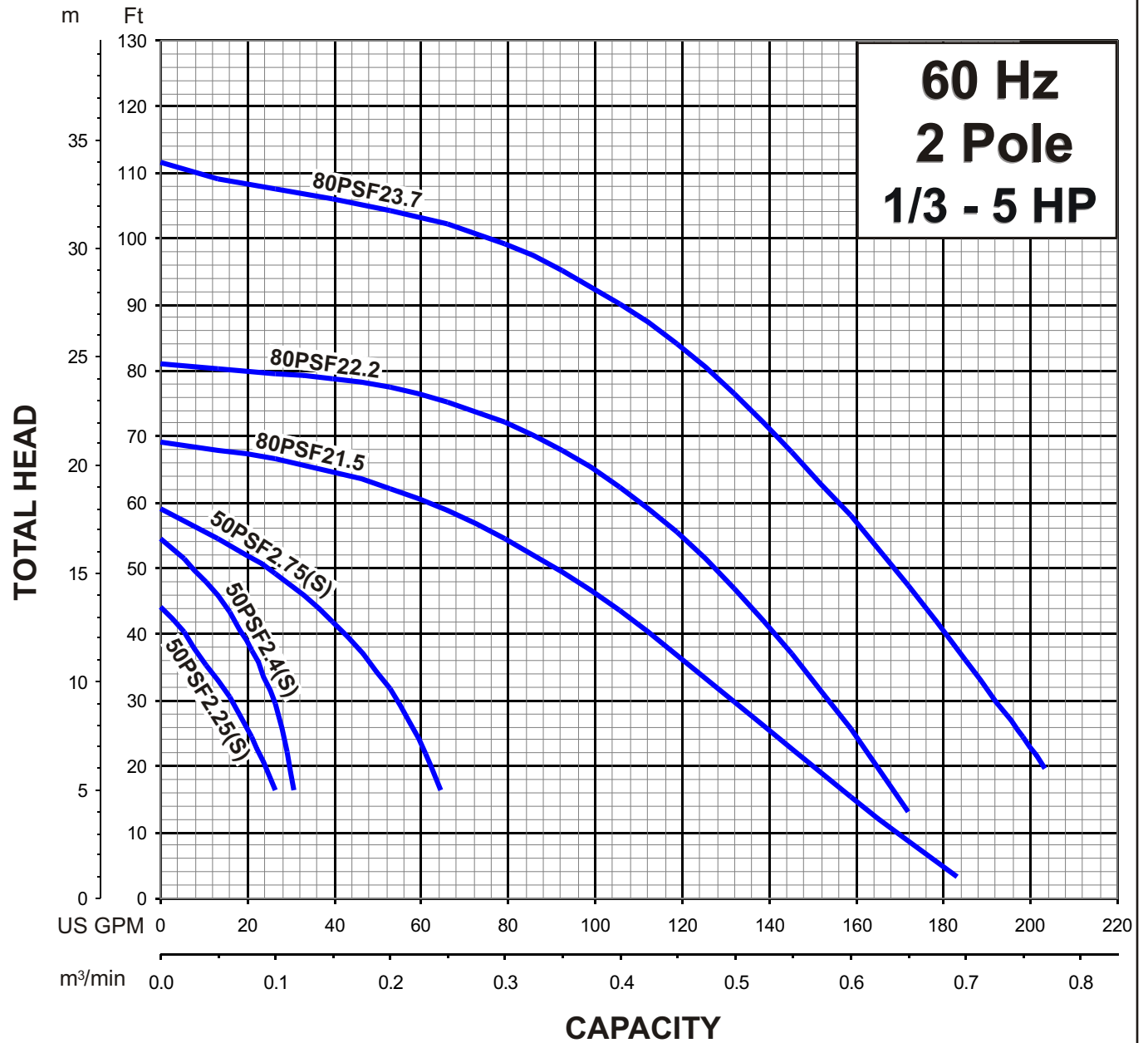
Pre-lubricated, Double Shielded

Air Filled, 3600 Rpm, 60 Hz.
115 or 230 V., 1 Phase.,
208-220, 230, 460, or 575 V. 3 Phase
Class E

Submersible Power Cable 32' (10 m)

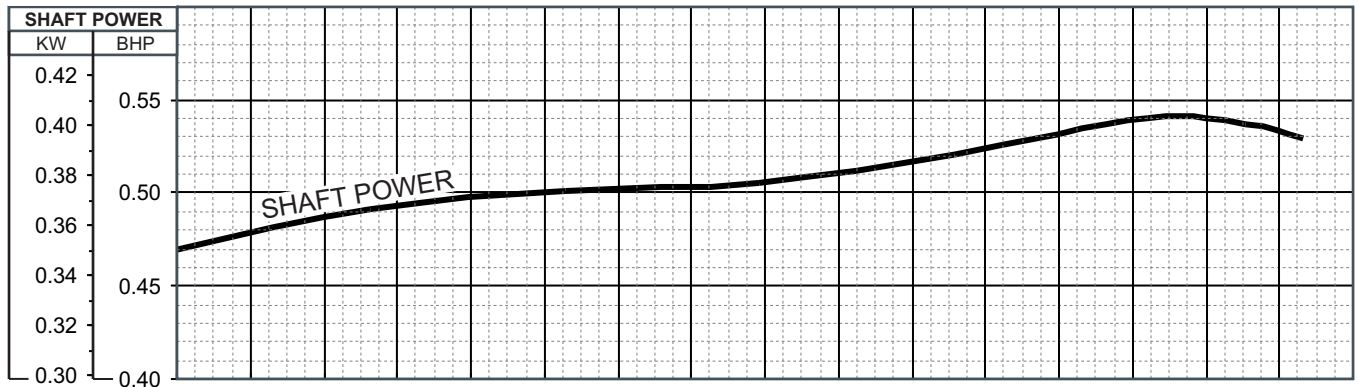
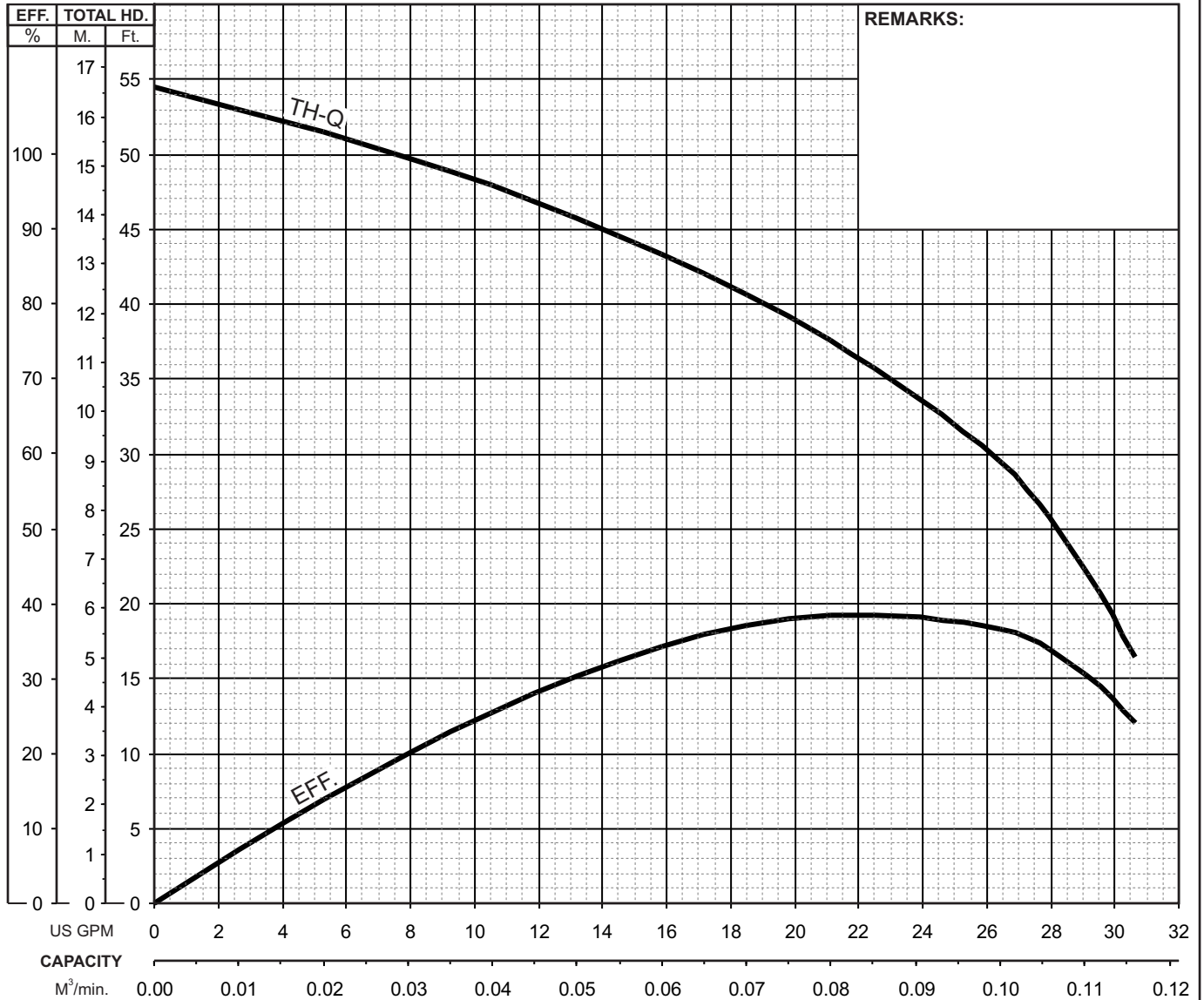
OPTIONS

Length as Required
Model A(Automatic), Model
AW (Automatic Alternating)
TOK (FRP) Slide rail system

**VANCS - SERIES - PSF**
(FRP) EFFLUENT PUMPS**PERFORMANCE
RANGE****PERFORMANCE RANGE**

**TSURUMI PUMP**
VANCS - SERIES - PSF
(FRP) EFFLUENT PUMPS
PERFORMANCE
CURVE

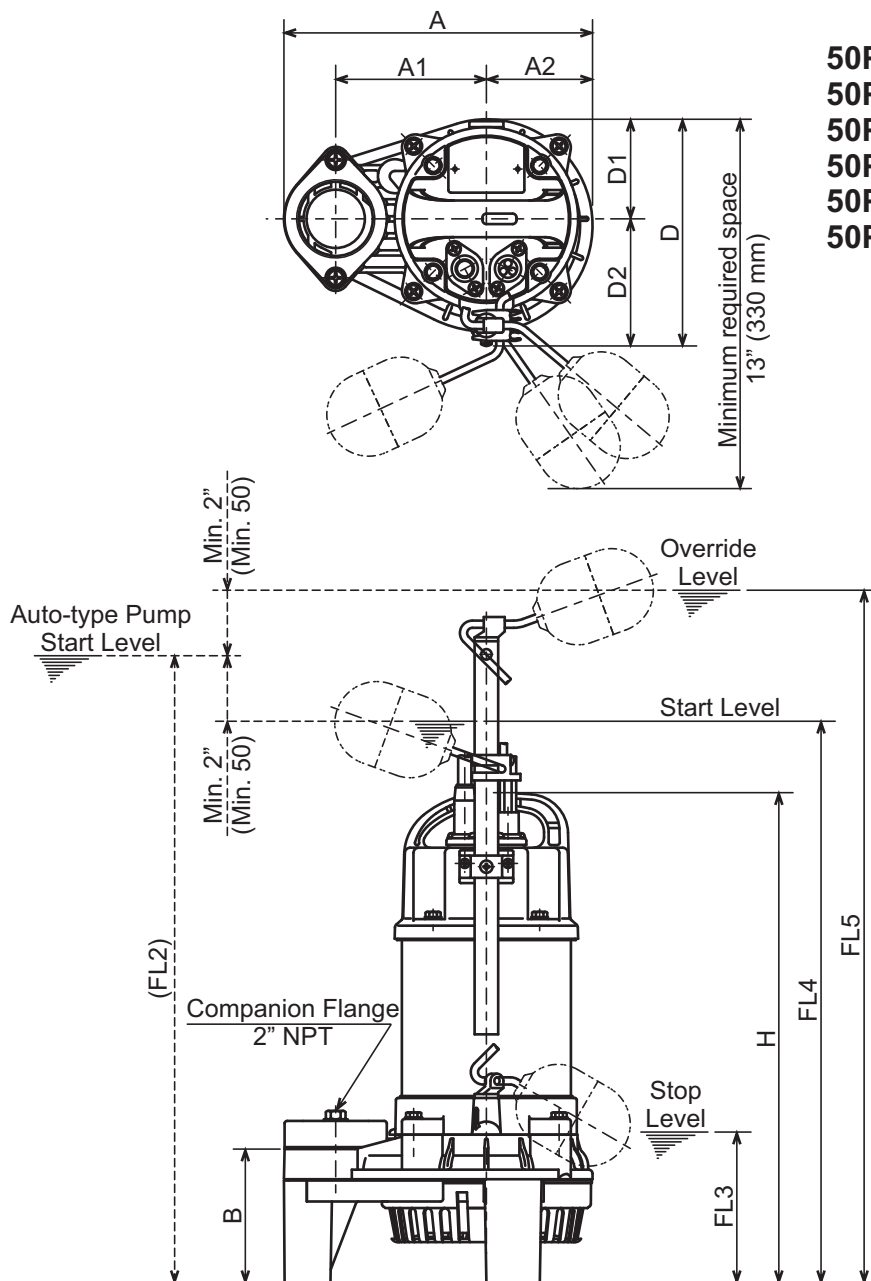
MODEL	BORE	HP	KW	RPM	SOLIDS DIA	LIQUID	SG.	VISCOSITY	TEMP.
50PSF(A/W)2.4-63	2" / 50mm	0.54	0.40	3395	0.315" / 8mm	Water	1.0	1.123 cSt.	60°F
PUMP TYPE	PHASE	VOLTAGE	AMPERAGE	HZ	STARTING METHOD	INS. CLASS			
Effluent Pump	3	208-220/460	2.1-2.0 / 0.95	60	Direct On Line	E			
CURVE No.	DATE	PHASE	VOLTAGE	AMPERAGE	HZ	STARTING METHOD	INS. CLASS		
-	-	-	-	-	-	-	-		





VANCS-SERIES - PSF **(FRP) EFFLUENT PUMPS**

DIMENSIONS



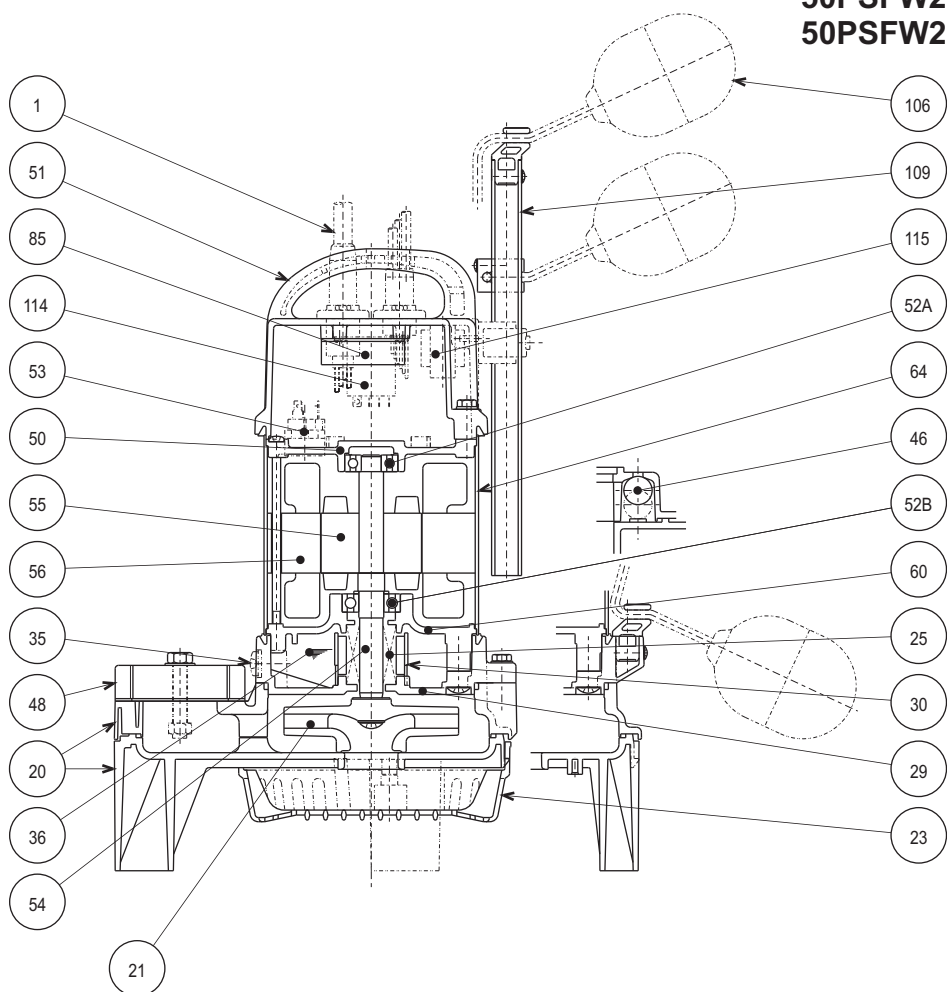
50PSFW2.25S-63
50PSFW2.25-63
50PSFW2.4S-63
50PSFW2.4-63
50PSFW2.75S-63
50PSFW2.75-63

DIMENSIONS:USCS (Inch)

Model	HP	NOM. SIZE	Pump & Motor								Stop	Start	Override	Wt. (lbs.)
			A	A1	A2	B	D	D1	D2	H	FL3	Max.FL4	Max.FL5	
50PSFW2.25S-63	1/3	2"	9 5/16	4 1/2	3 3/16	4	6 13/16	3	3 13/16	14 3/4	4 1/2	21 7/8	25 7/8	17.4
50PSFW2.25-63	1/3	2"	9 5/16	4 1/2	3 3/16	4	6 13/16	3	3 13/16	14 5/16	4 1/2	21 1/2	25 3/8	15.2
50PSFW2.4S-63	1/2	2"	9 5/16	4 1/2	3 3/16	4	6 13/16	3	3 13/16	14 3/4	4 1/2	21 7/8	25 7/8	17.4
50PSFW2.4-63	1/2	2"	9 5/16	4 1/2	3 3/16	4	6 13/16	3	3 13/16	14 3/4	4 1/2	21 7/8	25 7/8	17.2
50PSFW2.75S-63	1	2"	9 5/16	4 1/2	3 3/16	4	6 13/16	3	3 13/16	15 1/2	4 1/2	22 3/4	26 5/8	21.4
50PSFW2.75-63	1	2"	9 5/16	4 1/2	3 3/16	4	6 13/16	3	3 13/16	15 1/4	4 1/2	22 1/2	26 3/8	20.0

DIMENSIONS:METRIC (mm)

Model	kW	NOM. SIZE	Pump & Motor								Stop	Start	Override	Wt. (kg)
			A	A1	A2	B	D	D1	D2	H	FL3	Max.FL4	Max.FL5	
50PSFW2.25S-63	0.25	50	236	115	81	102	173	76	97	374	115	557	657	7.9
50PSFW2.25-63	0.25	50	236	115	81	102	173	76	97	363	115	546	646	6.9
50PSFW2.4S-63	0.40	50	236	115	81	102	173	76	97	374	115	557	657	7.9
50PSFW2.4-63	0.40	50	236	115	81	102	173	76	97	374	115	557	657	7.8
50PSFW2.75S-63	0.75	50	236	115	81	102	173	76	97	394	115	577	677	9.7
50PSFW2.75-63	0.75	50	236	115	81	102	173	76	97	388	115	571	671	9.1

**TSURUMI PUMP**
VANCS - SERIES - PSF
(FRP) EFFLUENT PUMPS
SECTIONAL VIEW
50PSFW2.25-63
50PSFW2.4-63


PART#	DESCRIPTION	MAIN MATERIAL / NOTE	RELATED ASTM, AISI CODE	RELATED EN CODE	QTY
1	Power Cable	PVC Sheath AWG16/4-32ft			1
20	Pump Casing	ABS Plastic w/GF20			1
21	Impeller	PPO Plastic w/GF20			1
23	Suction Strainer	ABS Plastic			1
25	Mechanical Seal	Silicon Carbide / W-14HL			1
29	Oil Casing	PPS Plastic w/(GF+MD)50			1
30	Oil Lifter	PBT Plastic			1
35	Oil Plug	Stainless Steel	S 30400	1.4301	1
36	Lubricant	White Mineral Oil ISO VG32			
46	Air Valve	Glass Ball			1
48	Companion Flange	PBT Plastic w/GF30 / NPT 2"			1
50	Motor Bracket	Aluminum Alloy Die Casting	B85 383.0	EN 1706 AC-46100	1
51	Motor Head Cover	PPS Plastic w/(GF+MD)50			1
52A	Upper Bearing	#6201ZZC3			1
52B	Lower Bearing	#6202ZZC3			1
53	Motor Protector				1
54	Shaft	Stainless Steel	S 30400	1.4301	1
55	Rotor				1
56	Stator				1
60	Bearing Housing	Aluminum Alloy Die Casting	B85 383.0	EN 1706 AC-46100	1
64	Motor Housing	Stainless Steel	S 30400	1.4301	1
85	Relay Unit				1
106	Float Set	ABS Plastic			3
109	Float Support Pipe	PVC			1
114	Power Relay				1
115	Transformer				1



VANCS - SERIES - PSF (FRP) EFFLUENT PUMPS

SAMPLE SPECIFICATIONS

1. SCOPE OF SUPPLY -

Furnish and install TSURUMI, VANCS 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, sewage or effluent containing _____ inch (_____ mm) diameter solids 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. The pump discharge size shall be _____ inch, (_____ mm).

2. MATERIALS OF CONSTRUCTION -

Construction of major parts of the pumping unit(s) including pump casing, impeller, motor head cover and intermediate brackets shall be manufactured from recyclable, application appropriate resins. The need for a protective coating shall not be required. All exposed fasteners shall be stainless steel and shall have stainless steel mating anchors integrally cast into the mating part. All units shall be furnished with a NPT discharge companion flange. Impellers shall be of the multi-vane, enclosed design and shall be slip fit to the shaft. The motor shaft shall be machined to provide a positive drive of the impeller. The pump casing shall incorporate an air relief valve.

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. Units shall be fitted with a device that shall provide positive lubrication of top mechanical seal, (down to one third of the standard oil level). The device shall not consume any additional electrical power. Units shall have silicon carbide mechanical seal faces. Mechanical seal hardware shall be Stainless steel.

4. MOTOR -

The pump motor(s) shall be _____ Hp., _____ kW., _____ V., 60 Hz., _____ 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 6 starts per hour. Motor(s) shall be air filled, copper wound, class E insulated with built in thermal and over amperage protection. Motor shaft shall be 403 stainless steel 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. The bearings shall be single row, double shielded, C3, deep groove type ball bearings. Bearing seats shall be rolled carbon steel or aluminum die casting. Motor housing shall be 304 stainless steel. Motors shall be suitable variable speed applications, utilizing a properly sized variable frequency drive. (Only for 3ph.)

5. POWER CABLE AND CABLE ENTRANCE -

The pump power cable shall be suitable for submersible pump applications. The cable entrance shall incorporate built in strain relief, a one piece, three way mechanical compression seal with a fatigue reducing cable 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.



VANCS SERIES - PSF

(FRP) EFFLUENT PUMPS

SPECIFICATIONS

■ FEATURES

1. Enclosed, FRP (Fiberglass Reinforced Plastic), impeller provides for high head pumping of effluent or water.
2. Double inside mechanical seals with silicon carbide faces, running in an oil filled chamber and further protected by a lip seal, provides for the most durable seal design available.
2. Highly efficient, continuous duty, air filled, copper wound motor with class E, insulation minimizes the cost of operation.
4. Built in thermal & amperage sensing, protector prevents motor failure due to overloading, single phasing (in three phase units), 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. Utilization of application appropriate FRP & stainless steel components increases corrosion resistance in a wide variety of applications.

■ APPLICATIONS

1. Residential, commercial, effluent, wastewater and site drainage.
2. Chemical spill containment.
3. Decorative waterfalls, fountains and fish ponds.
4. Raw water supply from rivers or lakes.



■ SPECIFICATIONS

Discharge Size
Horsepower Range
Performance Range Capacity
Head
Maximum water temperature
Materials of Construction
Casing (upper)/(lower)
Impeller
Shaft
Motor Frame
Fasteners

Mechanical Seal
Elastomers

Impeller Type
Solids Handling Capability

Bearings

Motor Nomenclature
Type, Speed, Hz.
Voltage, Phase

Insulation

Accessories

Operational Mode

■ STANDARD

2" ~ 3" N.P.T. (50 ~ 80mm)
1/3 ~ 5Hp. (.25 ~ 3.7 kW)
6.6 ~ 203.4 G.P.M. (.03 ~ .85 m³/min)
16.4 ~ 111.5 Ft. (5.0 ~ 33.99 m)
104° F. (40° C.)

FRP (ABS + G20) / ABS
FRP (ABS + G20)
403 Stainless Steel
304 Stainless Steel
304 Stainless Steel

Silicon Carbide
NBR (Nitril Buna Rubber)

Enclosed, Multi-vane
.32 ~.51" (8~13 mm)

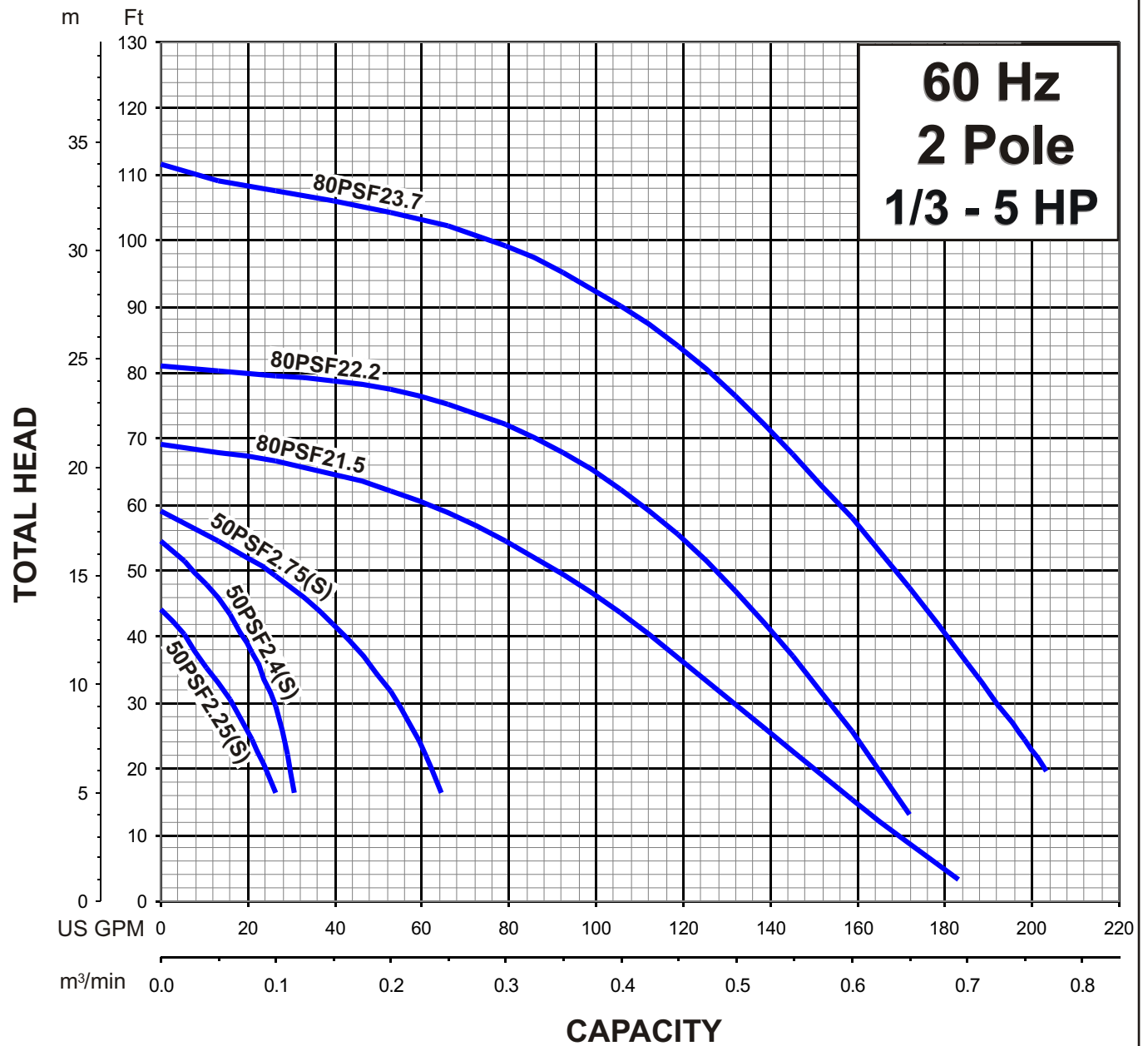
Pre-lubricated, Double Shielded

Air Filled, 3600 Rpm, 60 Hz.
115 or 230 V., 1 Phase.,
208-220, 230, 460, or 575 V. 3 Phase
Class E

Submersible Power Cable 32' (10 m)

■ OPTIONS

Length as Required
Model A(Automatic), Model
AW (Automatic Alternating)
TOK (FRP) Slide rail system

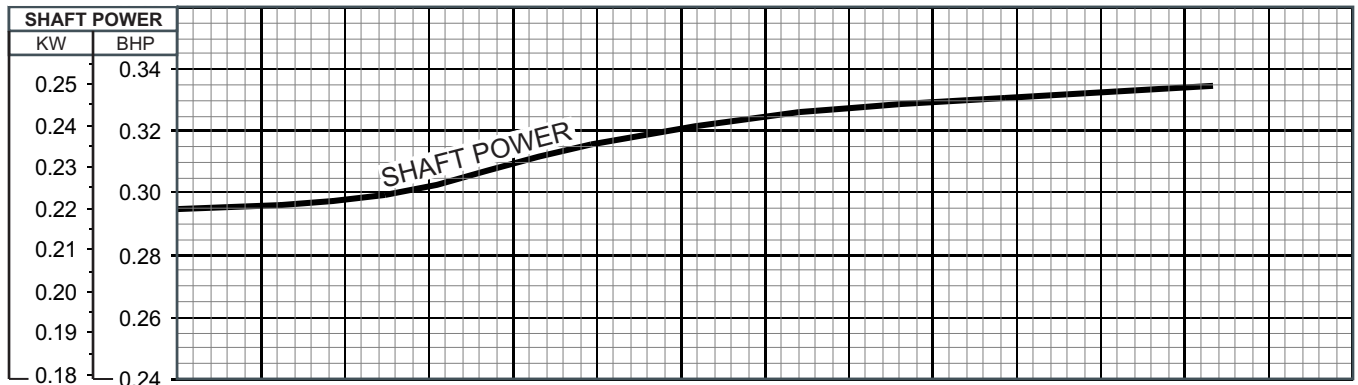
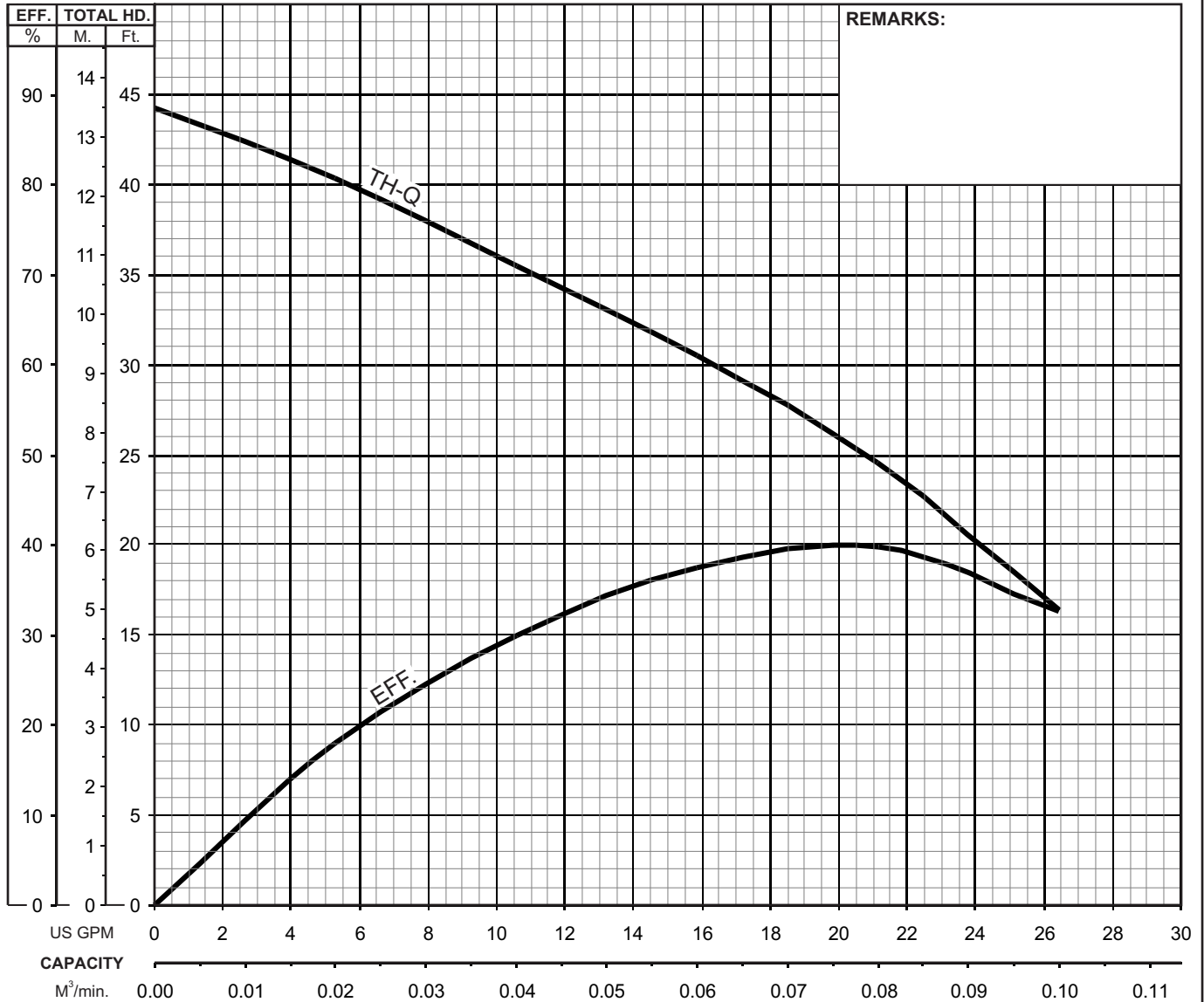
**VANCS - SERIES - PSF**
(FRP) EFFLUENT PUMPS**PERFORMANCE
RANGE****PERFORMANCE RANGE**



VANCS - SERIES - PSF **(FRP) EFFLUENT PUMPS**

PERFORMANCE **CURVE**

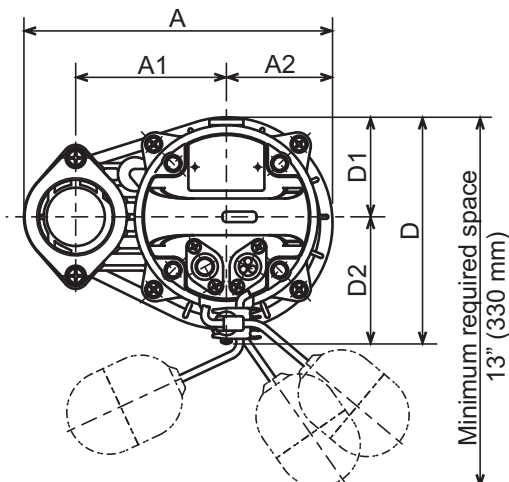
MODEL	BORE	HP	KW	RPM	SOLIDS DIA	LIQUID	SG.	VISCOSITY	TEMP.
50PSF(A/W)2.25S-63	2" / 50mm	0.34	0.25	3485	0.315" / 8mm	Water	1.0	1.123 cSt.	60°F
PUMP TYPE	PHASE	VOLTAGE	AMPERAGE	HZ	STARTING METHOD	INS. CLASS			
Effluent Pump	Single	115-120 / 230	4.6-4.6 / 2.3	60	Capacitor-Start	E			
CURVE No.	DATE	PHASE	VOLTAGE	AMPERAGE	HZ	STARTING METHOD	INS. CLASS		
-	-	-	-	-	-	-	-		



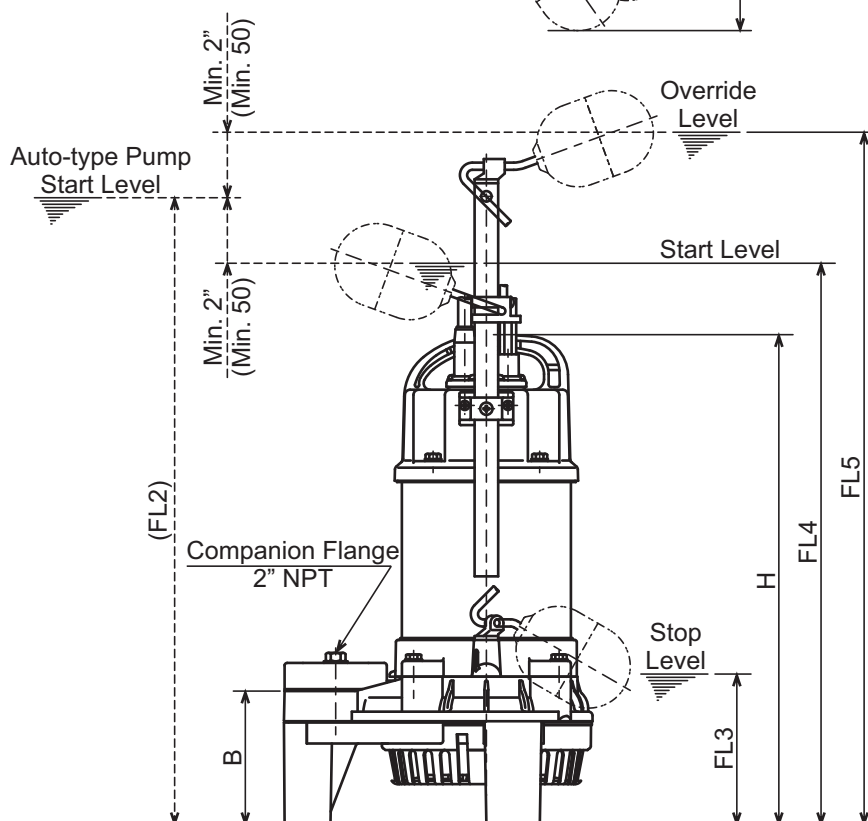


VANCS-SERIES - PSF **(FRP) EFFLUENT PUMPS**

DIMENSIONS



50PSFW2.25S-63
50PSFW2.25-63
50PSFW2.4S-63
50PSFW2.4-63
50PSFW2.75S-63
50PSFW2.75-63

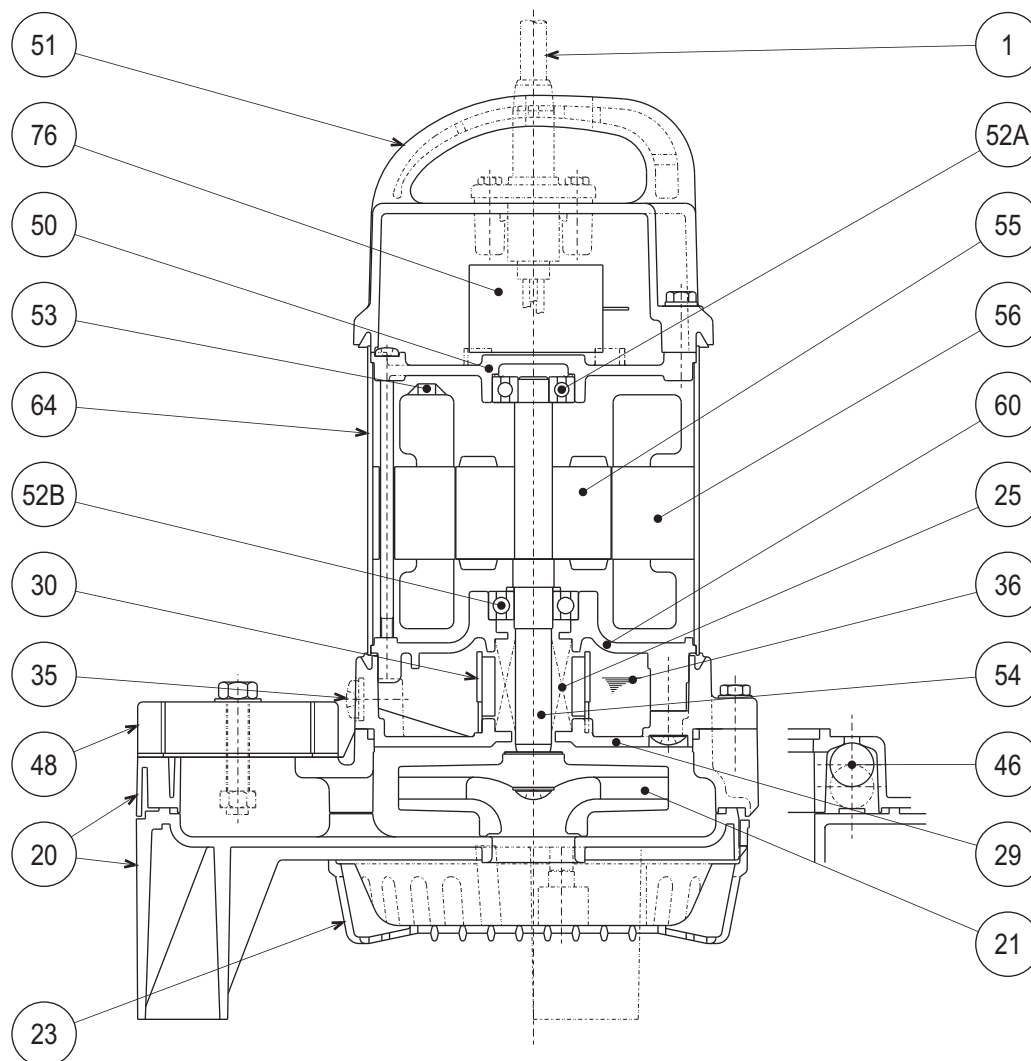


DIMENSIONS:USCS (Inch)

Model	HP	NOM. SIZE	Pump & Motor								Stop	Start	Override	Wt. (lbs.)
			A	A1	A2	B	D	D1	D2	H	FL3	Max.FL4	Max.FL5	
50PSFW2.25S-63	1/3	2"	9 5/16	4 1/2	3 3/16	4	6 13/16	3	3 13/16	14 3/4	4 1/2	21 7/8	25 7/8	17.4
50PSFW2.25-63	1/3	2"	9 5/16	4 1/2	3 3/16	4	6 13/16	3	3 13/16	14 5/16	4 1/2	21 1/2	25 3/8	15.2
50PSFW2.4S-63	1/2	2"	9 5/16	4 1/2	3 3/16	4	6 13/16	3	3 13/16	14 3/4	4 1/2	21 7/8	25 7/8	17.4
50PSFW2.4-63	1/2	2"	9 5/16	4 1/2	3 3/16	4	6 13/16	3	3 13/16	14 3/4	4 1/2	21 7/8	25 7/8	17.2
50PSFW2.75S-63	1	2"	9 5/16	4 1/2	3 3/16	4	6 13/16	3	3 13/16	15 1/2	4 1/2	22 3/4	26 5/8	21.4
50PSFW2.75-63	1	2"	9 5/16	4 1/2	3 3/16	4	6 13/16	3	3 13/16	15 1/4	4 1/2	22 1/2	26 3/8	20.0

DIMENSIONS:METRIC (mm)

Model	kW	NOM. SIZE	Pump & Motor								Stop	Start	Override	Wt. (kg)
			A	A1	A2	B	D	D1	D2	H	FL3	Max.FL4	Max.FL5	
50PSFW2.25S-63	0.25	50	236	115	81	102	173	76	97	374	115	557	657	7.9
50PSFW2.25-63	0.25	50	236	115	81	102	173	76	97	363	115	546	646	6.9
50PSFW2.4S-63	0.40	50	236	115	81	102	173	76	97	374	115	557	657	7.9
50PSFW2.4-63	0.40	50	236	115	81	102	173	76	97	374	115	557	657	7.8
50PSFW2.75S-63	0.75	50	236	115	81	102	173	76	97	394	115	577	677	9.7
50PSFW2.75-63	0.75	50	236	115	81	102	173	76	97	388	115	571	671	9.1

**TSURUMI PUMP**
VANCS - SERIES - PSF
(FRP) EFFLUENT PUMPS
SECTIONAL VIEW
50PSF2.25S-63
50PSF2.4S-63


PART#	DESCRIPTION	MAIN MATERIAL / NOTE	RELATED ASTM, AISI CODE	RELATED EN CODE	QTY
1	Power Cable	PVC Sheath AWG16/3-32ft			1
20	Pump Casing	ABS Plastic w/GF20			1
21	Impeller	PPO Plastic w/GF20			1
23	Suction Strainer	ABS Plastic			1
25	Mechanical Seal	Silicon Carbide / W-14HL			1
29	Oil Casing	PPS Plastic w/(GF+MD)50			1
30	Oil Lifter	PBT Plastic			1
35	Oil Plug	Stainless Steel	S 30400	1.4301	1
36	Lubricant	White Mineral Oil ISO VG32			
46	Air Valve	Glass Ball			1
48	Companion Flange	PBT Plastic w/GF30 / NPT 2"			1
50	Motor Bracket	Aluminum Alloy Die Casting	B85 383.0	EN 1706 AC-46100	1
51	Motor Head Cover	PPS Plastic w/(GF+MD)50			1
52A	Upper Bearing	#6201ZZC3			1
52B	Lower Bearing	#6202ZZC3			1
53	Motor Protector				1
54	Shaft	Stainless Steel	S 30400	1.4301	1
55	Rotor				1
56	Stator				1
60	Bearing Housing	Aluminum Alloy Die Casting	B85 383.0	EN 1706 AC-46100	1
64	Motor Housing	Stainless Steel	S 30400	1.4301	1
76	Capacitor				1



VANCS - SERIES - PSF (FRP) EFFLUENT PUMPS

SAMPLE SPECIFICATIONS

1. SCOPE OF SUPPLY -

Furnish and install TSURUMI, VANCS 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, sewage or effluent containing _____ inch (_____ mm) diameter solids 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. The pump discharge size shall be _____ inch, (_____ mm).

2. MATERIALS OF CONSTRUCTION -

Construction of major parts of the pumping unit(s) including pump casing, impeller, motor head cover and intermediate brackets shall be manufactured from recyclable, application appropriate resins. The need for a protective coating shall not be required. All exposed fasteners shall be stainless steel and shall have stainless steel mating anchors integrally cast into the mating part. All units shall be furnished with a NPT discharge companion flange. Impellers shall be of the multi-vane, enclosed design and shall be slip fit to the shaft. The motor shaft shall be machined to provide a positive drive of the impeller. The pump casing shall incorporate an air relief valve.

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. Units shall be fitted with a device that shall provide positive lubrication of top mechanical seal, (down to one third of the standard oil level). The device shall not consume any additional electrical power. Units shall have silicon carbide mechanical seal faces. Mechanical seal hardware shall be Stainless steel.

4. MOTOR -

The pump motor(s) shall be _____ Hp., _____ kW., _____ V., 60 Hz., _____ 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 6 starts per hour. Motor(s) shall be air filled, copper wound, class E insulated with built in thermal and over amperage protection. Motor shaft shall be 403 stainless steel 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. The bearings shall be single row, double shielded, C3, deep groove type ball bearings. Bearing seats shall be rolled carbon steel or aluminum die casting. Motor housing shall be 304 stainless steel. Motors shall be suitable variable speed applications, utilizing a properly sized variable frequency drive.(Only for 3ph.)

5. POWER CABLE AND CABLE ENTRANCE -

The pump power cable shall be suitable for submersible pump applications. The cable entrance shall incorporate built in strain relief, a one piece, three way mechanical compression seal with a fatigue reducing cable 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.



VANCS SERIES - PSF

(FRP) EFFLUENT PUMPS

Specifications

■ FEATURES

1. Enclosed, FRP (Fiberglass Reinforced Plastic), impeller provides for high head pumping of effluent or water.
2. Double inside mechanical seals with silicon carbide faces, running in an oil filled chamber and further protected by a lip seal, provides for the most durable seal design available.
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■ APPLICATIONS

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2. Chemical spill containment.
3. Decorative waterfalls, fountains and fish ponds.
4. Raw water supply from rivers or lakes.



■ SPECIFICATIONS

Discharge Size
Horsepower Range
Performance Range Capacity
Head
Maximum water temperature
Materials of Construction
Casing (upper)/(lower)
Impeller
Shaft
Motor Frame
Fasteners

Mechanical Seal
Elastomers

Impeller Type
Solids Handling Capability

Bearings

Motor Nomenclature
Type, Speed, Hz.
Voltage, Phase

Insulation

Accessories

Operational Mode

■ STANDARD

2" ~ 3" N.P.T. (50 ~ 80mm)
1/3 ~ 5Hp. (.25 ~ 3.7 kW)
6.6 ~ 203.4 G.P.M. (.03 ~ .85 m³/min)
16.4 ~ 111.5 Ft. (5.0 ~ 33.99 m)
104° F. (40° C.)

FRP (ABS + G20) / ABS
FRP (ABS + G20)
403 Stainless Steel
304 Stainless Steel
304 Stainless Steel

Silicon Carbide
NBR (Nitril Buna Rubber)

Enclosed, Multi-vane
.32 ~.51" (8~13 mm)

Pre-lubricated, Double Shielded

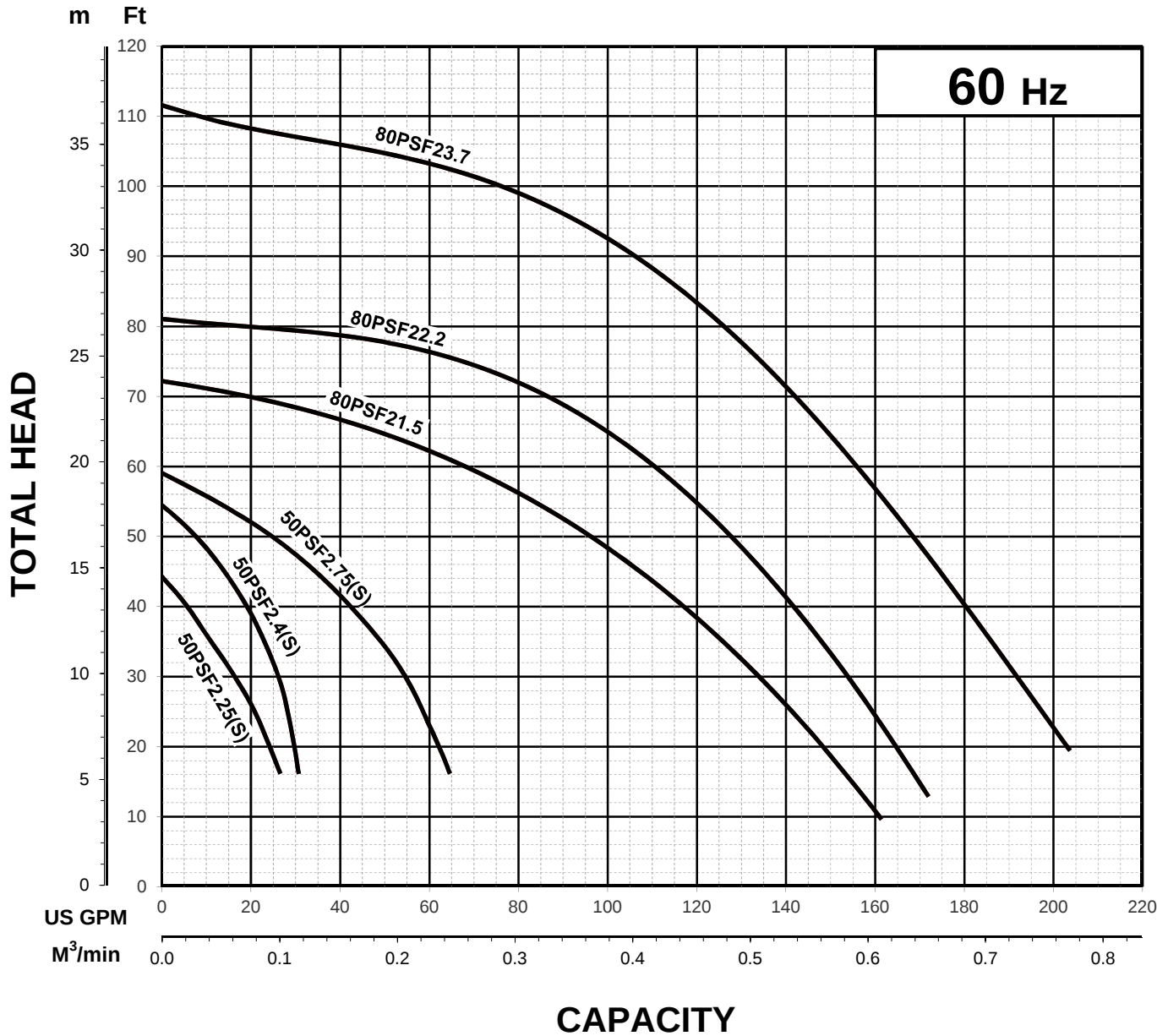
Air Filled, 3600 Rpm, 60 Hz.
115 or 230 V., 1 Phase.,
208-220, 230, 460, or 575 V. 3 Phase
Class E

Submersible Power Cable 32' (10 m)

■ OPTIONS

Length as Required
Model A(Automatic), Model
AW (Automatic Alternating)
TOK (FRP) Slide rail system

GROUP PERFORMANCE RANGE



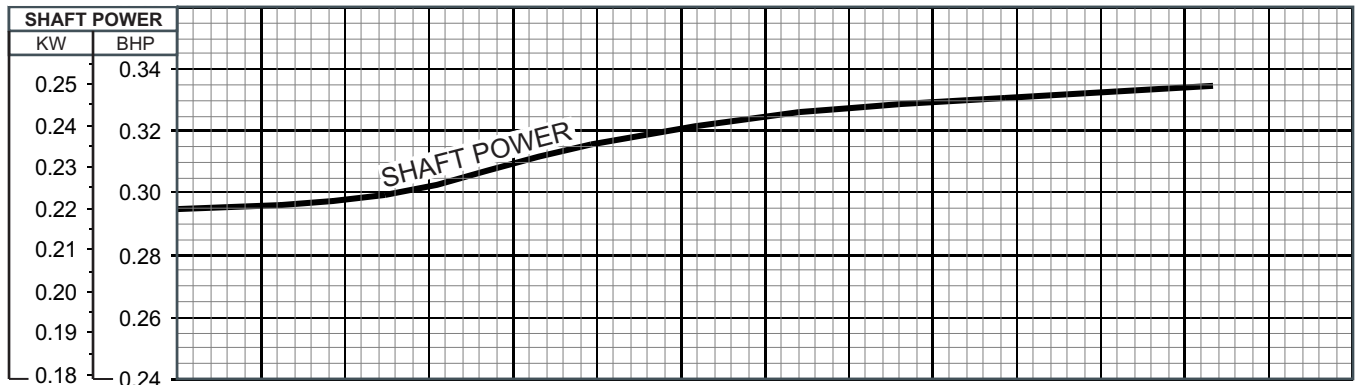
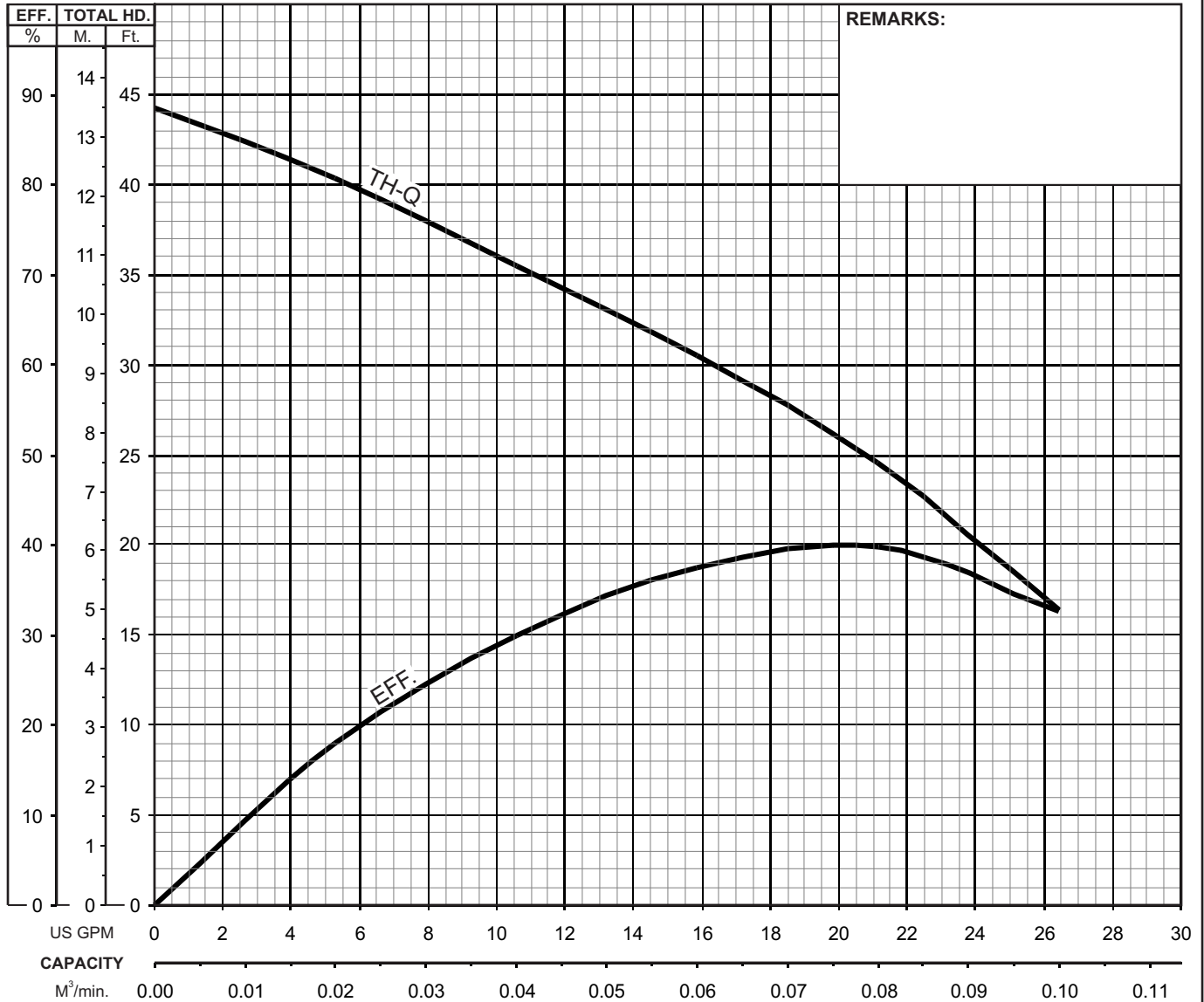
Note



VANCS - SERIES - PSF **(FRP) EFFLUENT PUMPS**

PERFORMANCE **CURVE**

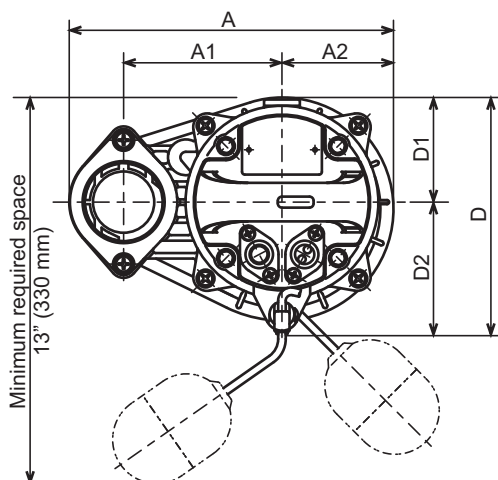
MODEL	BORE	HP	KW	RPM	SOLIDS DIA	LIQUID	SG.	VISCOSITY	TEMP.
50PSF(A/W)2.25S-63	2" / 50mm	0.34	0.25	3485	0.315" / 8mm	Water	1.0	1.123 cSt.	60°F
PUMP TYPE	PHASE	VOLTAGE	AMPERAGE	HZ	STARTING METHOD	INS. CLASS			
Effluent Pump	Single	115-120 / 230	4.6-4.6 / 2.3	60	Capacitor-Start	E			
CURVE No.	DATE	PHASE	VOLTAGE	AMPERAGE	HZ	STARTING METHOD	INS. CLASS		
-	-	-	-	-	-	-	-		



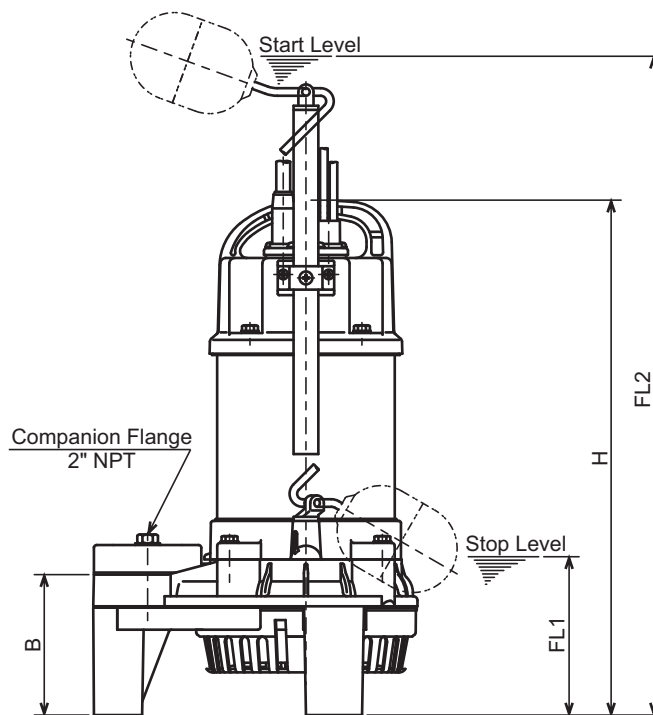


VANCS-SERIES - PSF **(FRP) EFFLUENT PUMPS**

DIMENSIONS



50PSFA2.25S-63
50PSFA2.25-63
50PSFA2.4S-63
50PSFA2.4-63
50PSFA2.75S-63
50PSFA2.75-63



DIMENSIONS:USCS (Inch)

Model	HP	NOM. SIZE	Pump & Motor								Stop		Start		Wt. (lbs.)
			A	A1	A2	B	D	D1	D2	H	FL1	Max.FL2	FL1	Max.FL2	
50PSFA2.25S-63	1/3	2"	9 5/16	4 1/2	3 3/16	4	6 13/16	3	3 13/16	14 3/4	4 1/2	23 7/8	4 1/2	23 7/8	17.2
50PSFA2.25-63	1/3	2"	9 5/16	4 1/2	3 3/16	4	6 13/16	3	3 13/16	14 5/16	4 1/2	23 1/2	4 1/2	23 1/2	15.0
50PSFA2.4S-63	1/2	2"	9 5/16	4 1/2	3 3/16	4	6 13/16	3	3 13/16	14 3/4	4 1/2	23 7/8	4 1/2	23 7/8	17.2
50PSFA2.4-63	1/2	2"	9 5/16	4 1/2	3 3/16	4	6 13/16	3	3 13/16	14 3/4	4 1/2	23 7/8	4 1/2	23 7/8	17.0
50PSFA2.75S-63	1	2"	9 5/16	4 1/2	3 3/16	4	6 13/16	3	3 13/16	15 1/2	4 1/2	24 5/8	4 1/2	24 5/8	21.1
50PSFA2.75-63	1	2"	9 5/16	4 1/2	3 3/16	4	6 13/16	3	3 13/16	15 1/4	4 1/2	24 1/2	4 1/2	24 1/2	19.8

DIMENSIONS:METRIC (mm)

Model	kW	NOM. SIZE	Pump & Motor								Stop		Start		Wt. (kg)
			A	A1	A2	B	D	D1	D2	H	FL1	Max.FL2	FL1	Max.FL2	
50PSFA2.25S-63	0.25	50	236	115	81	102	173	76	97	374	115	607	115	607	7.8
50PSFA2.25-63	0.25	50	236	115	81	102	173	76	97	363	115	596	115	596	6.8
50PSFA2.4S-63	0.40	50	236	115	81	102	173	76	97	374	115	607	115	607	7.8
50PSFA2.4-63	0.40	50	236	115	81	102	173	76	97	374	115	607	115	607	7.7
50PSFA2.75S-63	0.75	50	236	115	81	102	173	76	97	394	115	627	115	627	9.6
50PSFA2.75-63	0.75	50	236	115	81	102	173	76	97	388	115	621	115	621	9.0



VANCS-SERIES - PU / PN / PSF

WITH TOK GUIDE RAIL SYSTEM

DIMENSIONS

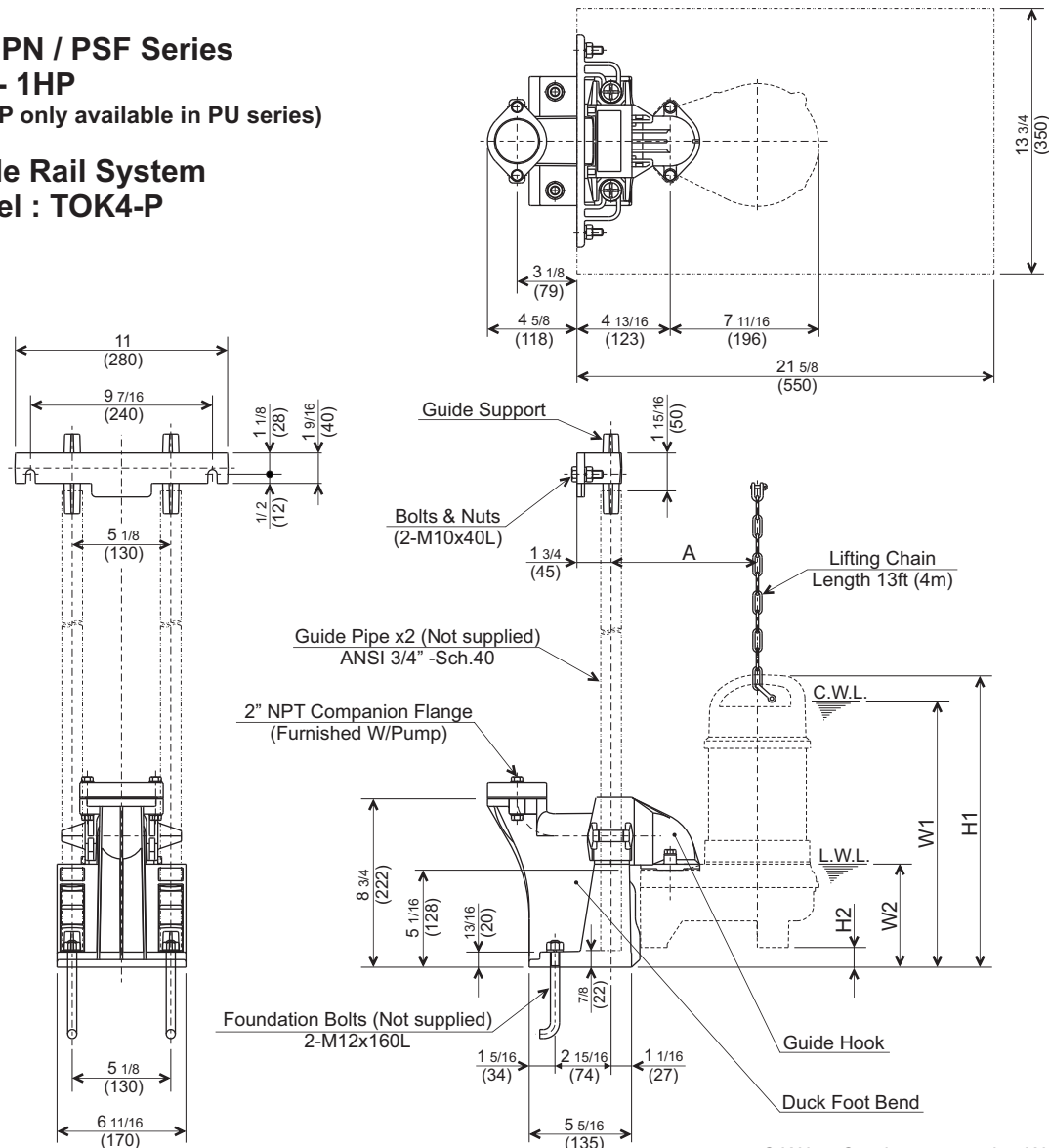
PU / PN / PSF Series

***1/5 - 1HP**

(*1/5HP only available in PU series)

Guide Rail System

Model : TOK4-P

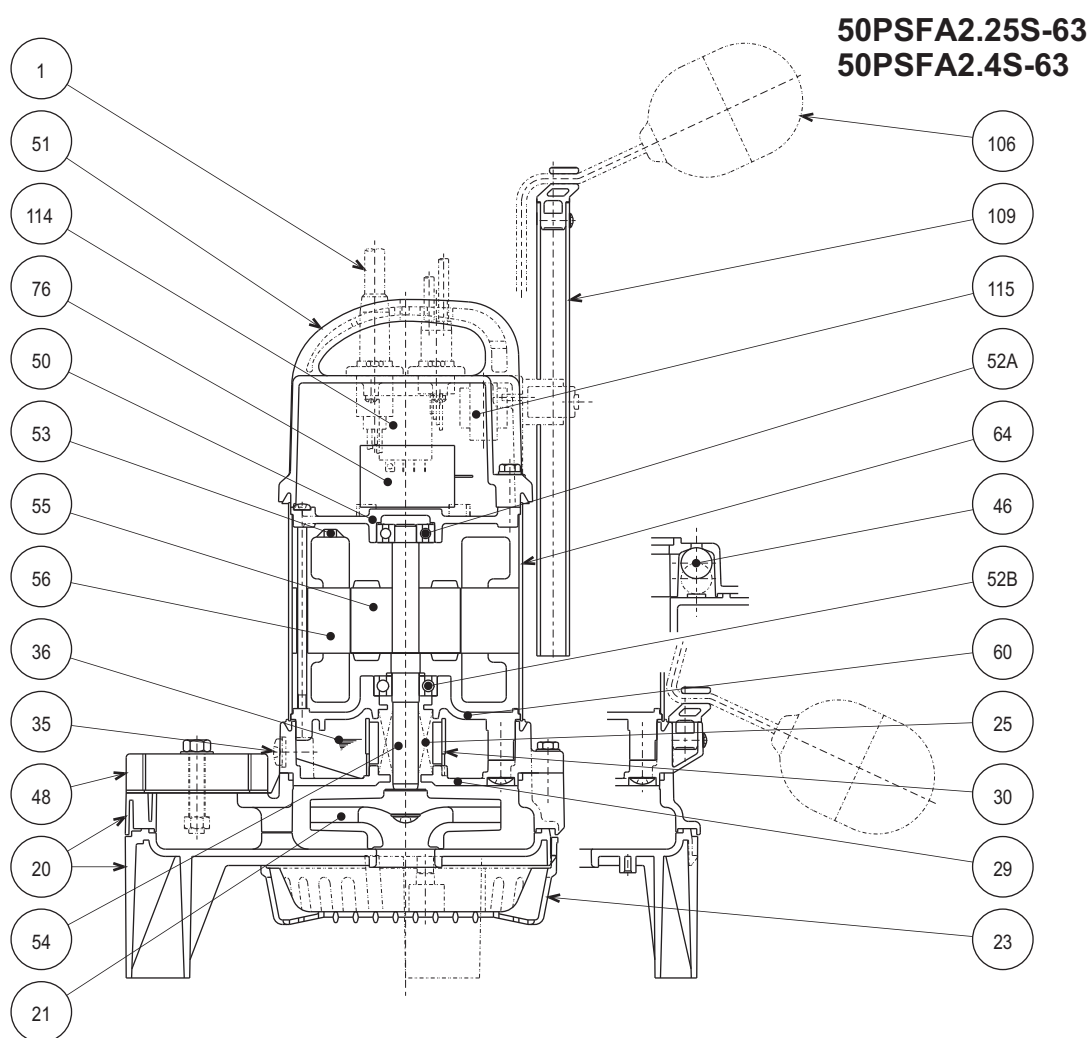


C.W.L. : Continuous running Water Level
L.W.L. : Lowest running Water Level

PU SERIES	Model	OUTPUT HP (kW)	NOM. SIZE inch (mm)	Dimension inch (mm)							Wt. lbs. (kg)
				H1	H2	C.W.L.		L.W.L.		A	
						W1	W2	W1	W2		
	TOK50PU2.15S-64	1/5 (0.15)	2 (50)	16 1/8 (409)	1 1/4 (32)	14 5/8 (372)	5 3/8 (137)	7 3/8 (188)	14.3 (6.5)		
	TOK50PU2.25S-62	1/3 (0.25)	2 (50)	15 3/16 (386)	1 (26)	13 7/8 (351)	5 3/8 (136)	7 5/8 (193)	16.5 (7.5)		
	TOK50PU2.25-62	1/3 (0.25)	2 (50)	14 3/4 (375)	1 (26)	13 1/4 (336)	5 3/8 (136)	7 5/8 (193)	14.3 (6.5)		
	TOK50PU2.4S-62	1/2 (0.4)	2 (50)	15 3/16 (386)	1 (26)	13 7/8 (351)	5 3/8 (136)	7 5/8 (193)	16.5 (7.5)		
	TOK50PU2.4-62	1/2 (0.4)	2 (50)	15 3/16 (386)	1 (26)	13 7/8 (351)	5 3/8 (136)	7 5/8 (193)	16.3 (7.4)		
	TOK50PU2.75S-62	1 (0.75)	2 (50)	16 (406)	1 (26)	14 3/8 (366)	5 3/8 (136)	7 5/8 (193)	20.5 (9.3)		
	TOK50PU2.75-62	1 (0.75)	2 (50)	15 3/4 (400)	1 (26)	14 1/4 (361)	5 3/8 (136)	7 5/8 (193)	19.2 (8.7)		

PN SERIES	Model	OUTPUT HP (kW)	NOM. SIZE inch (mm)	Dimension inch (mm)							Wt. lbs. (kg)
				H1	H2	C.W.L.		L.W.L.	A		
						W1	W2				
	TOK50PN2.25S-62	1/3 (0.25)	2 (50)	15 3/16 (386)	1 (26)	13 7/8 (351)	5 3/8 (136)	7 5/8 (193)	16.5 (7.5)		
	TOK50PN2.25-62	1/3 (0.25)	2 (50)	14 3/4 (375)	1 (26)	13 1/4 (336)	5 3/8 (136)	7 5/8 (193)	14.3 (6.5)		
	TOK50PN2.4S-62	1/2 (0.4)	2 (50)	15 3/16 (386)	1 (26)	13 7/8 (351)	5 3/8 (136)	7 5/8 (193)	16.5 (7.5)		
	TOK50PN2.4-62	1/2 (0.4)	2 (50)	15 3/16 (386)	1 (26)	13 7/8 (351)	5 3/8 (136)	7 5/8 (193)	16.3 (7.4)		
	TOK50PN2.75S-62	1 (0.75)	2 (50)	15 3/4 (400)	1 (26)	14 3/8 (366)	5 3/8 (136)	7 5/8 (193)	20.5 (9.3)		
	TOK50PN2.75-62	1 (0.75)	2 (50)	15 1/2 (394)	1 (26)	14 1/4 (361)	5 3/8 (136)	7 5/8 (193)	19.2 (8.7)		

PSF SERIES	Model	OUTPUT HP (kW)	NOM. SIZE inch (mm)	Dimension inch (mm)						Wt. lbs. (kg)
				H1	H2	C.W.L.	L.W.L.	A		
						W1	W2			
	TOK50PSF2.25S-62	1/3 (0.25)	2 (50)	15 3/16 (386)	1 (26)	13 7/8 (351)	5 3/8 (136)	7 5/8 (193)	16.8 (7.6)	
	TOK50PSF2.25-62	1/3 (0.25)	2 (50)	14 3/4 (375)	1 (26)	13 1/4 (336)	5 3/8 (136)	7 5/8 (193)	14.6 (6.6)	
	TOK50PSF2.4S-62	1/2 (0.4)	2 (50)	15 3/16 (386)	1 (26)	13 7/8 (351)	5 3/8 (136)	7 5/8 (193)	16.8 (7.6)	
	TOK50PSF2.4-62	1/2 (0.4)	2 (50)	15 3/16 (386)	1 (26)	13 7/8 (351)	5 3/8 (136)	7 5/8 (193)	16.5 (7.5)	
	TOK50PSF2.75S-62	1 (0.75)	2 (50)	15 3/4 (400)	1 (26)	14 3/8 (366)	5 3/8 (136)	7 5/8 (193)	20.7 (9.4)	
	TOK50PSF2.75-62	1 (0.75)	2 (50)	15 1/2 (394)	1 (26)	14 1/4 (361)	5 3/8 (136)	7 5/8 (193)	19.4 (8.8)	

**TSURUMI PUMP**
VANCS - SERIES - PSF
(FRP) EFFLUENT PUMPS
SECTIONAL VIEW

PART#	DESCRIPTION	MAIN MATERIAL / NOTE	RELATED ASTM, AISI CODE	RELATED EN CODE	QTY
1	Power Cable	PVC Sheath AWG16/3-32ft			1
20	Pump Casing	ABS Plastic w/GF20			1
21	Impeller	PPO Plastic w/GF20			1
23	Suction Strainer	ABS Plastic			1
25	Mechanical Seal	Silicon Carbide / W-14HL			1
29	Oil Casing	PPS Plastic w/(GF+MD)50			1
30	Oil Lifter	PBT Plastic			1
35	Oil Plug	Stainless Steel	S 30400	1.4301	1
36	Lubricant	White Mineral Oil ISO VG32			
46	Air Valve	Glass Ball			1
48	Companion Flange	PBT Plastic w/GF30 / NPT 2"			1
50	Motor Bracket	Aluminum Alloy Die Casting	B85 383.0	EN 1706 AC-46100	1
51	Motor Head Cover	PPS Plastic w/(GF+MD)50			1
52A	Upper Bearing	#6201ZZC3			1
52B	Lower Bearing	#6202ZZC3			1
53	Motor Protector				1
54	Shaft	Stainless Steel	S 30400	1.4301	1
55	Rotor				1
56	Stator				1
60	Bearing Housing	Aluminum Alloy Die Casting	B85 383.0	EN 1706 AC-46100	1
64	Motor Housing	Stainless Steel	S 30400	1.4301	1
76	Capacitor				1
106	Float Set	ABS Plastic			2
109	Float Support Pipe	PVC			1
114	Power Relay				1
115	Transformer				1

**TSURUMI PUMP**

VANCS - SERIES - PSF (FRP) EFFLUENT PUMPS

SAMPLE SPECIFICATIONS

1. SCOPE OF SUPPLY -

Furnish and install TSURUMI, VANCS 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, sewage or effluent containing _____ inch (_____mm) diameter solids 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. The pump discharge size shall be _____ inch, (_____mm).

2. MATERIALS OF CONSTRUCTION -

Construction of major parts of the pumping unit(s) including pump casing, impeller, motor head cover and intermediate brackets shall be manufactured from recyclable, application appropriate resins. The need for a protective coating shall not be required. All exposed fasteners shall be stainless steel and shall have stainless steel mating anchors integrally cast into the mating part. All units shall be furnished with a NPT discharge companion flange. Impellers shall be of the multi-vane, enclosed design and shall be slip fit to the shaft. The motor shaft shall be machined to provide a positive drive of the impeller. The pump casing shall incorporate an air relief valve.

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. Units shall be fitted with a device that shall provide positive lubrication of top mechanical seal, (down to one third of the standard oil level). The device shall not consume any additional electrical power. Units shall have silicon carbide mechanical seal faces. Mechanical seal hardware shall be Stainless steel.

4. MOTOR -

The pump motor(s) shall be _____Hp., _____ kW., _____V., 60 Hz., _____ 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 6 starts per hour. Motor(s) shall be air filled, copper wound, class E insulated with built in thermal and over amperage protection. Motor shaft shall be 304 stainless steel 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. The bearings shall be single row, double shielded, C3, deep groove type ball bearings. Bearing seats shall be rolled carbon steel or aluminum die casting. Motor housing shall be 304 stainless steel.

5. POWER CABLE AND CABLE ENTRANCE -

The pump power cable shall be suitable for submersible pump applications. The cable entrance shall incorporate built in strain relief, a one piece, three way mechanical compression seal with a fatigue reducing cable 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.



VANCS SERIES - PSF

(FRP) EFFLUENT PUMPS

Specifications

■ FEATURES

1. Enclosed, FRP (Fiberglass Reinforced Plastic), impeller provides for high head pumping of effluent or water.
2. Double inside mechanical seals with silicon carbide faces, running in an oil filled chamber and further protected by a lip seal, provides for the most durable seal design available.
2. Highly efficient, continuous duty, air filled, copper wound motor with class E, insulation minimizes the cost of operation.
4. Built in thermal & amperage sensing, protector prevents motor failure due to overloading, single phasing (in three phase units), 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. Utilization of application appropriate FRP & stainless steel components increases corrosion resistance in a wide variety of applications.

■ APPLICATIONS

1. Residential, commercial, effluent, wastewater and site drainage.
2. Chemical spill containment.
3. Decorative waterfalls, fountains and fish ponds.
4. Raw water supply from rivers or lakes.



■ SPECIFICATIONS

Discharge Size
Horsepower Range
Performance Range Capacity
Head
Maximum water temperature
Materials of Construction
Casing (upper)/(lower)
Impeller
Shaft
Motor Frame
Fasteners

Mechanical Seal
Elastomers

Impeller Type
Solids Handling Capability

Bearings

Motor Nomenclature
Type, Speed, Hz.
Voltage, Phase

Insulation

Accessories

Operational Mode

■ STANDARD

2" ~ 3" N.P.T. (50 ~ 80mm)
1/3 ~ 5Hp. (.25 ~ 3.7 kW)
6.6 ~ 203.4 G.P.M. (.03 ~ .85 m³/min)
16.4 ~ 111.5 Ft. (5.0 ~ 33.99 m)
104° F. (40° C.)

FRP (ABS + G20) / ABS
FRP (ABS + G20)
403 Stainless Steel
304 Stainless Steel
304 Stainless Steel

Silicon Carbide
NBR (Nitril Buna Rubber)

Enclosed, Multi-vane
.32 ~.51" (8~13 mm)

Pre-lubricated, Double Shielded

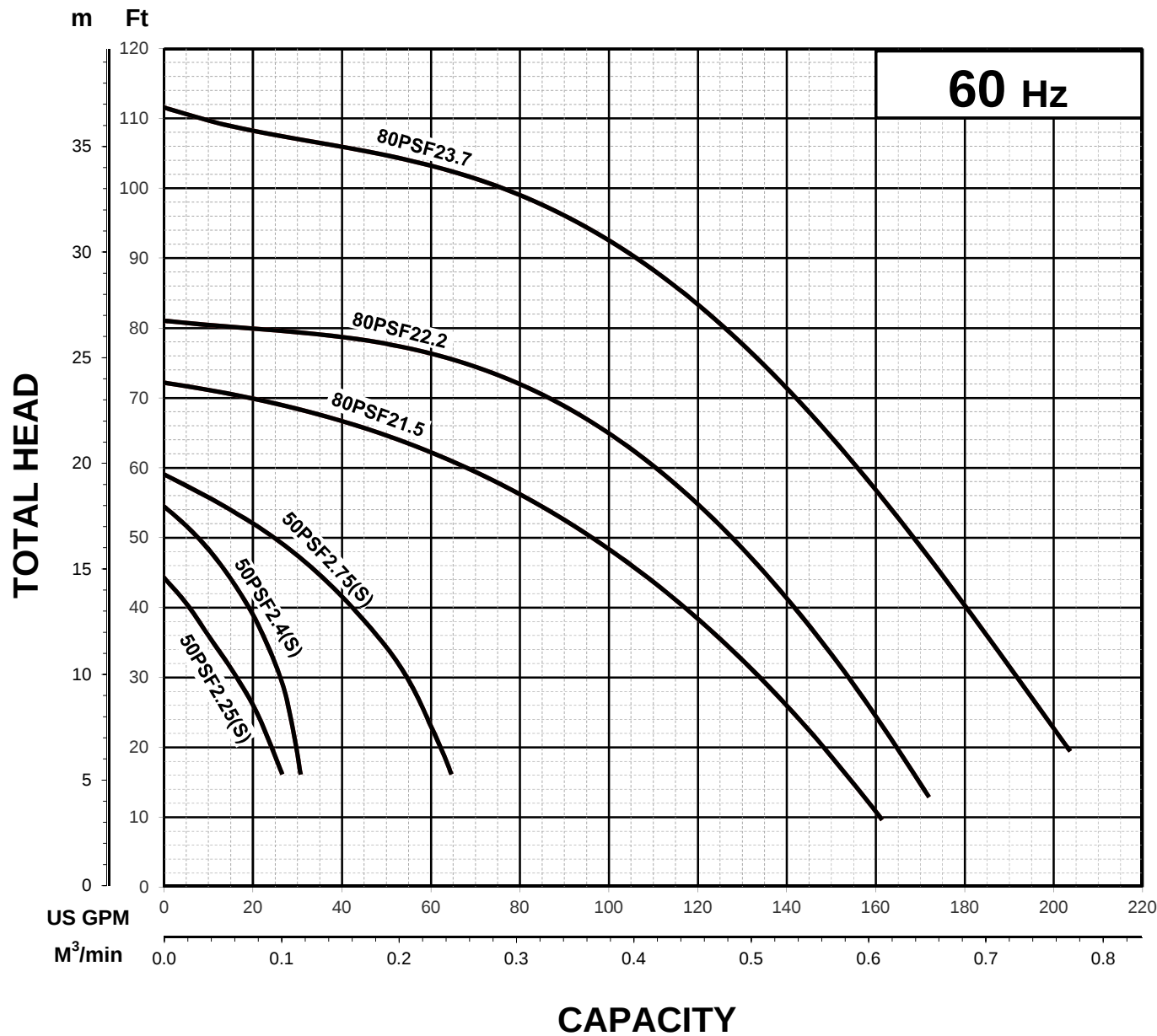
Air Filled, 3600 Rpm, 60 Hz.
115 or 230 V., 1 Phase.,
208-220, 230, 460, or 575 V. 3 Phase
Class E

Submersible Power Cable 32' (10 m)

■ OPTIONS

Length as Required
Model A(Automatic), Model
AW (Automatic Alternating)
TOK (FRP) Slide rail system

GROUP PERFORMANCE RANGE



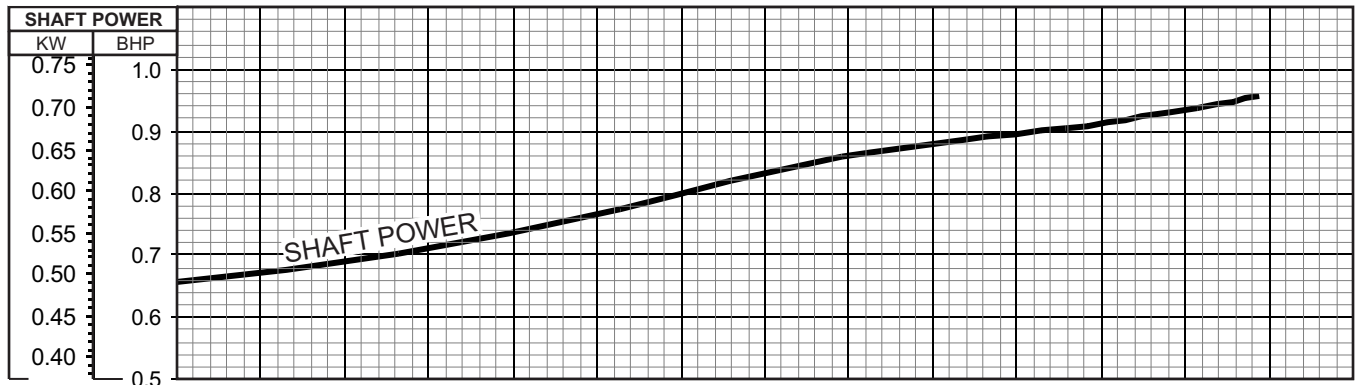
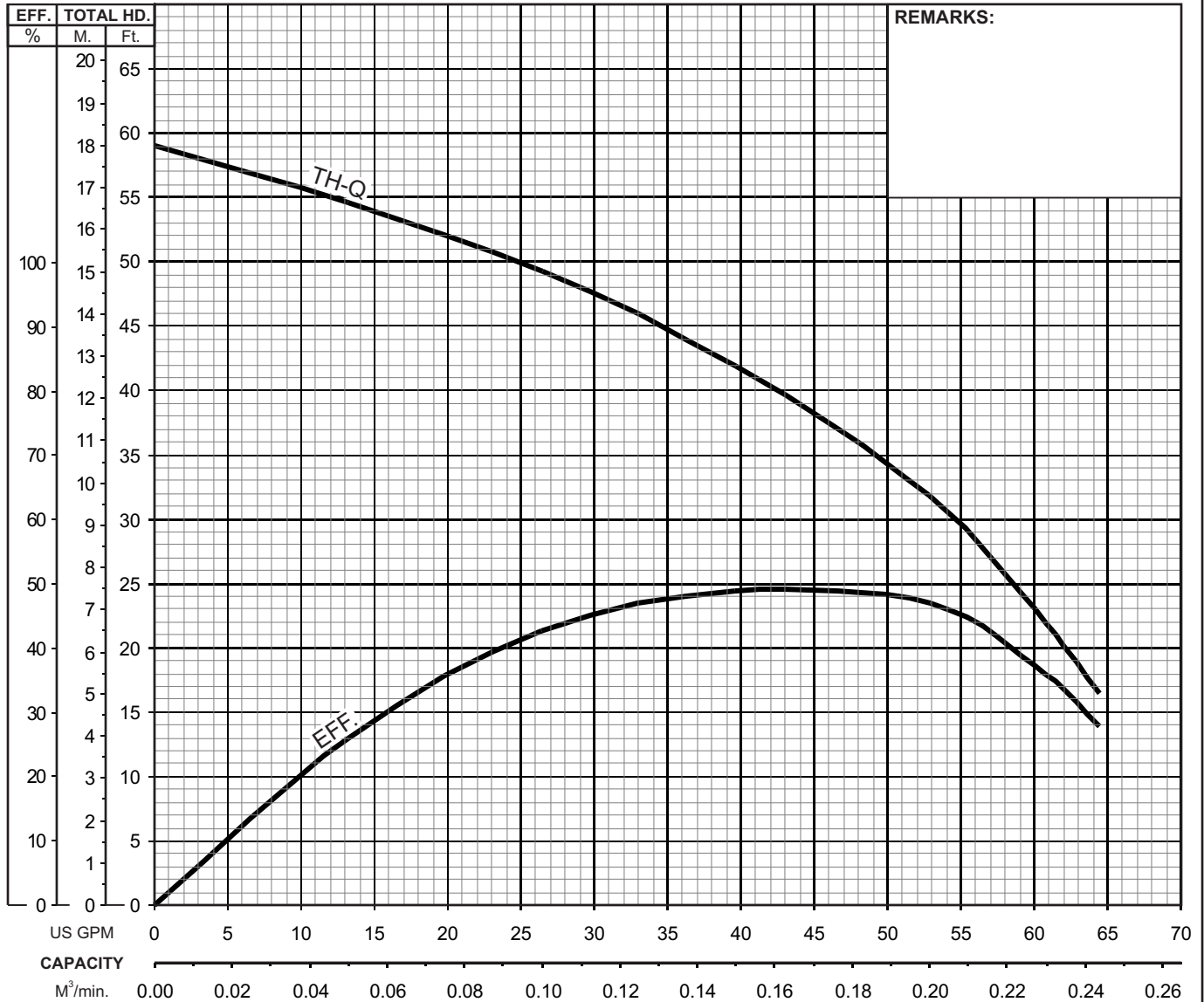
Note



VANCS - SERIES - PSF **(FRP) EFFLUENT PUMPS**

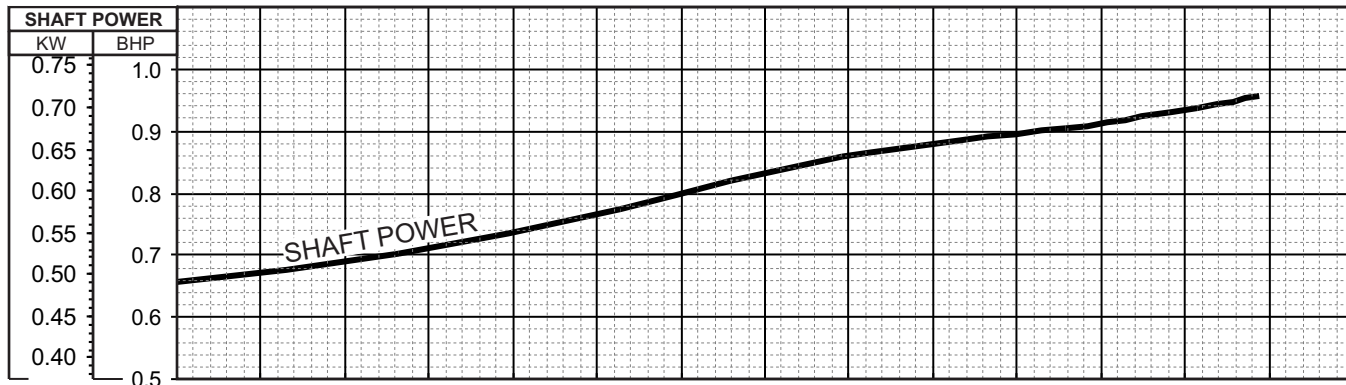
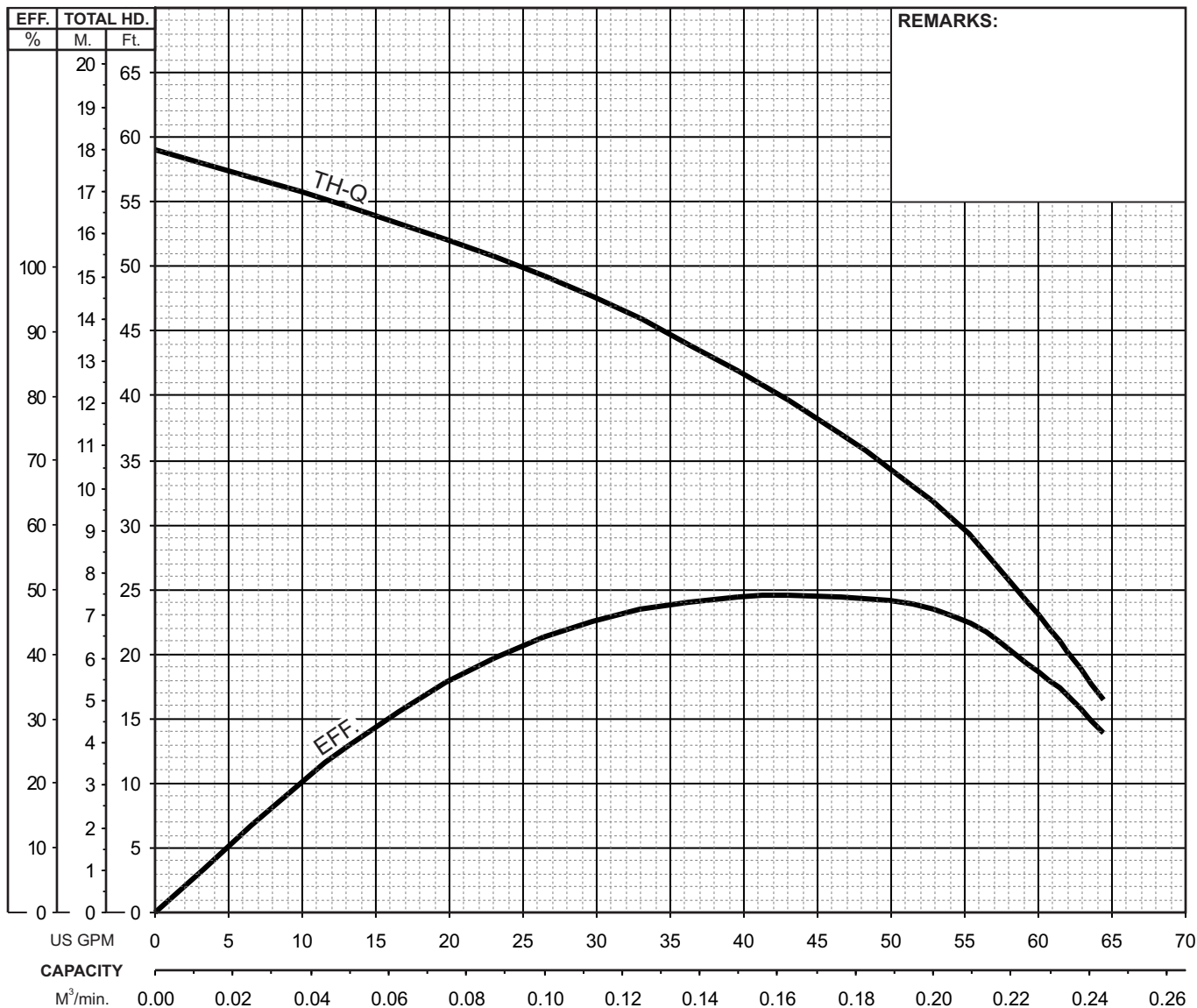
PERFORMANCE **CURVE**

MODEL		BORE	HP	KW	RPM	SOLIDS DIA		LIQUID		SG.	VISCOSITY	TEMP.
50PSF(A/W)2.75S-63		2" / 50mm	1	0.75	3390	0.315" / 8mm		Water		1.0	1.123 cSt.	60°F
PUMP TYPE		PHASE	VOLTAGE		AMPERAGE		HZ	STARTING METHOD			INS. CLASS	
Effluent Pump		Single	115-120 / 230		9.2-9.1 / 4.6		60	Capacitor-Start			E	
CURVE No.	DATE	PHASE	VOLTAGE		AMPERAGE		HZ	STARTING METHOD			INS. CLASS	
-	-	-	-		-		-	-			-	




TSURUMI PUMP
VANCS - SERIES - PSF
(FRP) EFFLUENT PUMPS
PERFORMANCE
CURVE

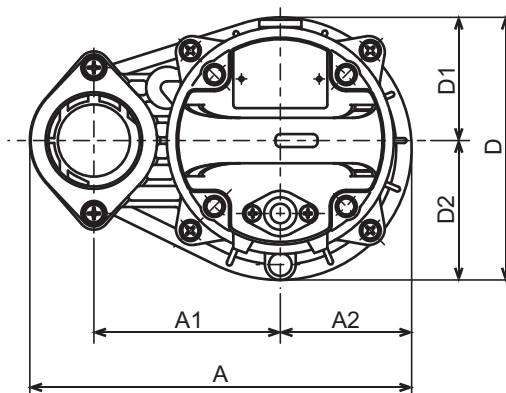
MODEL	BORE	HP	KW	RPM	SOLIDS DIA	LIQUID	SG.	VISCOSITY	TEMP.
50PSF(A/W)2.75-63	2" / 50mm	1	0.75	3375	0.315" / 8mm	Water	1.0	1.123 cSt.	60°F
PUMP TYPE	PHASE	VOLTAGE	AMPERAGE	HZ	STARTING METHOD	INS. CLASS			
Effluent Pump	3	208-220/460	3.2-3.2 / 1.5	60	Direct On Line	E			
CURVE No.	DATE	PHASE	VOLTAGE	AMPERAGE	HZ	STARTING METHOD	INS. CLASS		
-	-	-	-	-	-	-	-		



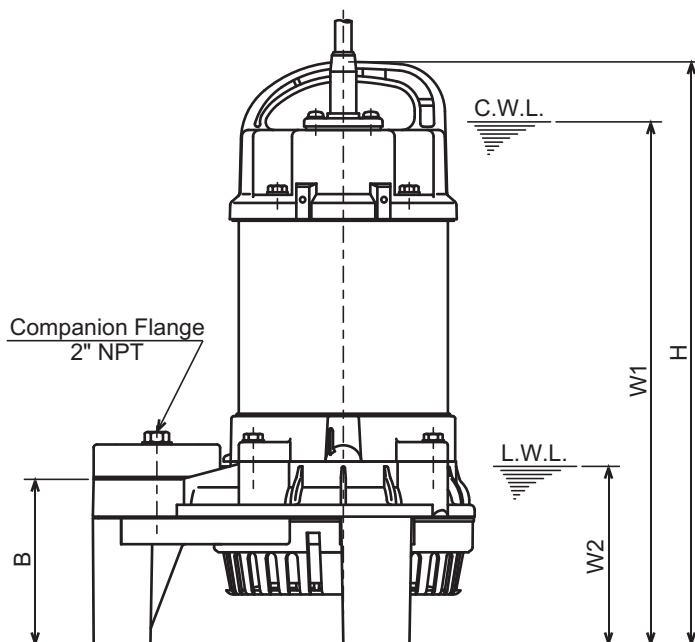


VANCS-SERIES - PSF **(FRP) EFFLUENT PUMPS**

DIMENSIONS



50PSF2.25S-63
50PSF2.25-63
50PSF2.4S-63
50PSF2.4-63
50PSF2.75S-63
50PSF2.75-63



C.W.L. :Continuous running Water Level
 L.W.L. :Lowest running Water Level

DIMENSIONS:USCS (Inch)

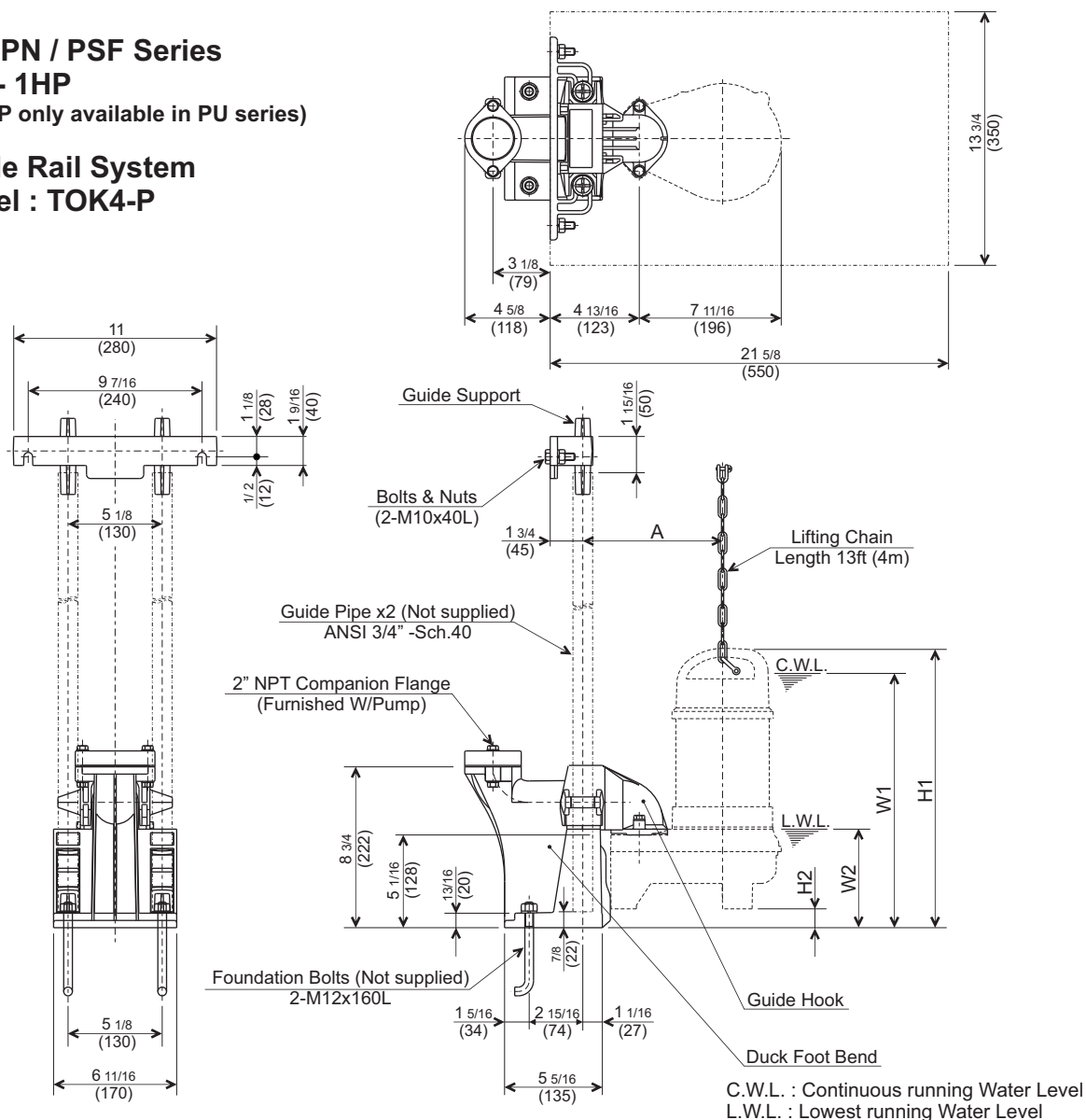
Model	HP	NOM. SIZE	Pump & Motor								C.W.L.	L.W.L.	Wt. (lbs.)
			A	A1	A2	B	D	D1	D2	H	W1	W2	
50PSF2.25S-63	1/3	2"	9 5/16	4 1/2	3 3/16	4	6 3/8	3	3 3/8	14 3/16	12 3/4	4 3/8	16.1
50PSF2.25-63	1/3	2"	9 5/16	4 1/2	3 3/16	4	6 3/8	3	3 3/8	13 3/4	12 1/4	4 3/8	13.7
50PSF2.4S-63	1/2	2"	9 5/16	4 1/2	3 3/16	4	6 3/8	3	3 3/8	14 3/16	12 3/4	4 3/8	16.1
50PSF2.4-63	1/2	2"	9 5/16	4 1/2	3 3/16	4	6 3/8	3	3 3/8	14 3/16	12 3/4	4 3/8	15.6
50PSF2.75S-63	1	2"	9 5/16	4 1/2	3 3/16	4	6 3/8	3	3 3/8	14 15/16	13 5/8	4 3/8	19.8
50PSF2.75-63	1	2"	9 5/16	4 1/2	3 3/16	4	6 3/8	3	3 3/8	14 3/4	13 1/4	4 3/8	18.5

DIMENSIONS:METRIC (mm)

Model	kW	NOM. SIZE	Pump & Motor								C.W.L.	L.W.L.	Wt. (kg)
			A	A1	A2	B	D	D1	D2	H	W1	W2	
50PSF2.25S-63	0.25	50	236	115	81	102	162	76	86	360	325	110	7.3
50PSF2.25-63	0.25	50	236	115	81	102	162	76	86	349	310	110	6.2
50PSF2.4S-63	0.40	50	236	115	81	102	162	76	86	360	325	110	7.3
50PSF2.4-63	0.40	50	236	115	81	102	162	76	86	360	325	110	7.1
50PSF2.75S-63	0.75	50	236	115	81	102	162	76	86	380	345	110	9.0
50PSF2.75-63	0.75	50	236	115	81	102	162	76	86	374	335	110	8.4


TSURUMI PUMP
VANCS-SERIES - PU / PN / PSF
WITH TOK GUIDE RAIL SYSTEM
DIMENSIONS
PU / PN / PSF Series
***1/5 - 1HP**

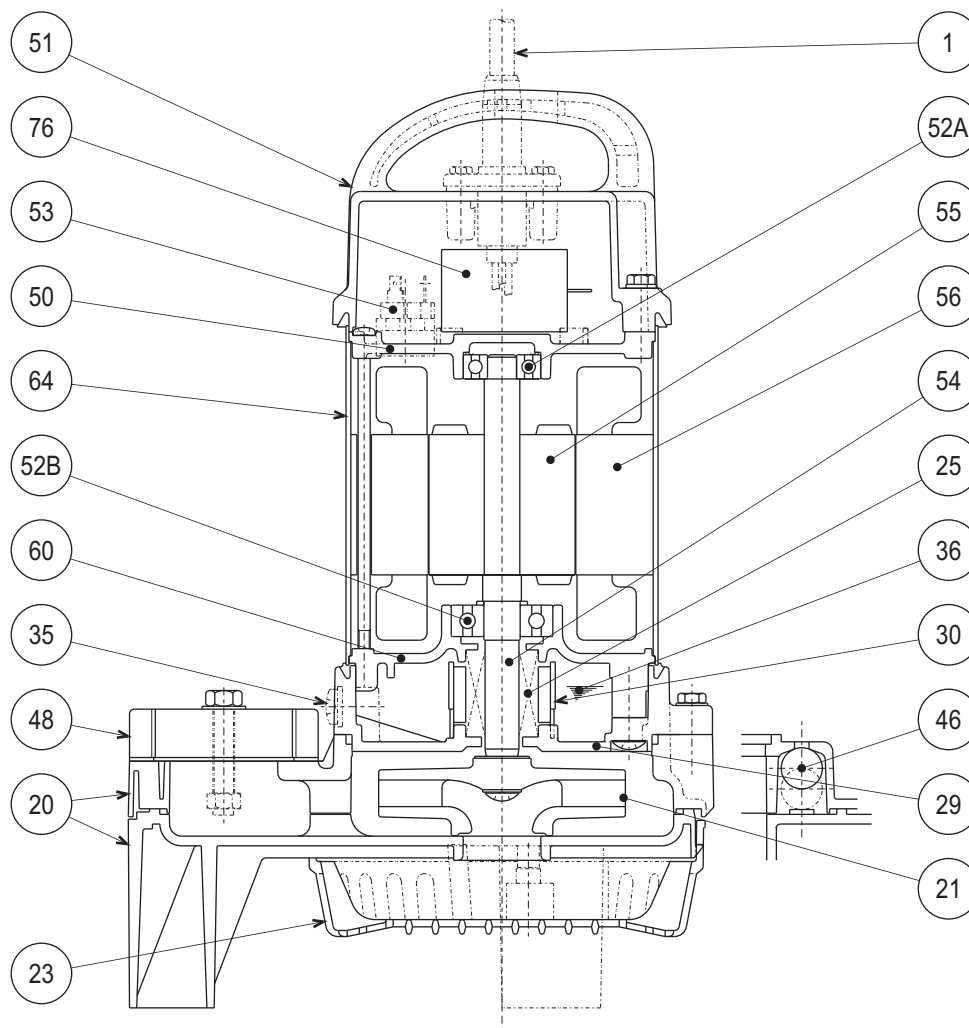
(*1/5HP only available in PU series)

Guide Rail System
Model : TOK4-P


PU SERIES	Model	OUTPUT HP (kW)	NOM. SIZE inch (mm)	Dimension inch (mm)						Wt. lbs. (kg)
				H1	H2	C.W.L.		A		
						W1	W2			
	TOK50PU2.15S-64	1/5 (0.15)	2 (50)	16 1/8 (409)	1 1/4 (32)	14 5/8 (370)	5 3/8 (135)	7 3/8 (188)	14.3 (6.5)	
	TOK50PU2.25S-63	1/3 (0.25)	2 (50)	15 3/16 (386)	1 (26)	13 3/4 (350)	5 3/8 (135)	7 5/8 (193)	16.5 (7.5)	
	TOK50PU2.25-63	1/3 (0.25)	2 (50)	14 3/4 (375)	1 (26)	13 1/4 (335)	5 3/8 (135)	7 5/8 (193)	14.3 (6.5)	
	TOK50PU2.4S-63	1/2 (0.4)	2 (50)	15 3/16 (386)	1 (26)	13 3/4 (350)	5 3/8 (135)	7 5/8 (193)	16.5 (7.5)	
	TOK50PU2.4-63	1/2 (0.4)	2 (50)	15 3/16 (386)	1 (26)	13 3/4 (350)	5 3/8 (135)	7 5/8 (193)	16.3 (7.4)	
	TOK50PU2.75S-63	1 (0.75)	2 (50)	16 (406)	1 (26)	14 5/8 (370)	5 3/8 (135)	7 5/8 (193)	20.5 (9.3)	
	TOK50PU2.75-63	1 (0.75)	2 (50)	15 3/4 (400)	1 (26)	14 1/4 (360)	5 3/8 (135)	7 5/8 (193)	19.2 (8.7)	

PN SERIES	Model	OUTPUT HP (kW)	NOM. SIZE inch (mm)	Dimension inch (mm)						Wt. lbs. (kg)
				H1	H2	C.W.L.	L.W.L.	A		
						W1	W2			
	TOK50PN2.25S-63	1/3 (0.25)	2 (50)	15 3/16 (386)	1 (26)	13 3/4 (350)	5 3/8 (135)	7 5/8 (193)	16.5 (7.5)	
	TOK50PN2.25-63	1/3 (0.25)	2 (50)	14 3/4 (375)	1 (26)	13 1/4 (335)	5 3/8 (135)	7 5/8 (193)	14.3 (6.5)	
	TOK50PN2.4S-63	1/2 (0.4)	2 (50)	15 3/16 (386)	1 (26)	13 3/4 (350)	5 3/8 (135)	7 5/8 (193)	16.5 (7.5)	
	TOK50PN2.4-63	1/2 (0.4)	2 (50)	15 3/16 (386)	1 (26)	13 3/4 (350)	5 3/8 (135)	7 5/8 (193)	16.3 (7.4)	
	TOK50PN2.75S-63	1 (0.75)	2 (50)	16 (406)	1 (26)	14 5/8 (370)	5 3/8 (135)	7 5/8 (193)	20.5 (9.3)	
	TOK50PN2.75-63	1 (0.75)	2 (50)	15 3/4 (400)	1 (26)	14 1/4 (360)	5 3/8 (135)	7 5/8 (193)	19.2 (8.7)	

PSF SERIES	Model	OUTPUT HP (kW)	NOM. SIZE inch (mm)	Dimension inch (mm)						Wt. lbs. (kg)
				H1	H2	C.W.L.		A		
						W1	W2			
	TOK50PSF2.25S-63	1/3 (0.25)	2 (50)	15 3/16 (386)	1 (26)	13 3/4 (350)	5 3/8 (135)	7 5/8 (193)	17.0 (7.7)	
	TOK50PSF2.25-63	1/3 (0.25)	2 (50)	14 3/4 (375)	1 (26)	13 1/4 (335)	5 3/8 (135)	7 5/8 (193)	14.6 (6.6)	
	TOK50PSF2.4S-63	1/2 (0.4)	2 (50)	15 3/16 (386)	1 (26)	13 3/4 (350)	5 3/8 (135)	7 5/8 (193)	17.0 (7.7)	
	TOK50PSF2.4-63	1/2 (0.4)	2 (50)	15 3/16 (386)	1 (26)	13 3/4 (350)	5 3/8 (135)	7 5/8 (193)	16.5 (7.5)	
	TOK50PSF2.75S-63	1 (0.75)	2 (50)	16 (406)	1 (26)	14 5/8 (370)	5 3/8 (135)	7 5/8 (193)	20.7 (9.4)	
	TOK50PSF2.75-63	1 (0.75)	2 (50)	15 3/4 (400)	1 (26)	14 1/4 (360)	5 3/8 (135)	7 5/8 (193)	19.4 (8.8)	

**TSURUMI PUMP**
VANCS - SERIES - PSF
(FRP) EFFLUENT PUMP5
SECTIONAL VIEW**50PSF2.75S-63**

PART#	DESCRIPTION	MAIN MATERIAL / NOTE	RELATED ASTM, AISI CODE	RELATED EN CODE	QTY
1	Power Cable	PVC Sheath AWG14/3-32ft or AWG16/3-32ft (230V)			1
20	Pump Casing	ABS Plastic w/GF20			1
21	Impeller	PPO Plastic w/GF20			1
23	Suction Strainer	ABS Plastic			1
25	Mechanical Seal	Silicon Carbide / W-14HL			1
29	Oil Casing	PPS Plastic w/(GF+MD)50			1
30	Oil Lifter	PBT Plastic			1
35	Oil Plug	Stainless Steel	S 30400	1.4301	1
36	Lubricant	White Mineral Oil ISO VG32			
46	Air Valve	Glass Ball			1
48	Companion Flange	PBT Plastic w/GF30 / NPT 2"			1
50	Motor Bracket	Aluminum Alloy Die Casting	B85 383.0	EN 1706 AC-46100	1
51	Motor Head Cover	PPS Plastic w/(GF+MD)50			1
52A	Upper Bearing	#6201ZZC3			1
52B	Lower Bearing	#6302ZZC3			1
53	Motor Protector				1
54	Shaft	Stainless Steel	S 30400	1.4301	1
55	Rotor				1
56	Stator				1
60	Bearing Housing	Aluminum Alloy Die Casting	B85 383.0	EN 1706 AC-46100	1
64	Motor Housing	Stainless Steel	S 30400	1.4301	1
76	Capacitor				1

**TSURUMI PUMP**

VANCS - SERIES - PSF (FRP) EFFLUENT PUMPS

SAMPLE SPECIFICATIONS

1. SCOPE OF SUPPLY -

Furnish and install TSURUMI, VANCS 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, sewage or effluent containing _____ inch (_____mm) diameter solids 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. The pump discharge size shall be _____ inch, (_____mm).

2. MATERIALS OF CONSTRUCTION -

Construction of major parts of the pumping unit(s) including pump casing, impeller, motor head cover and intermediate brackets shall be manufactured from recyclable, application appropriate resins. The need for a protective coating shall not be required. All exposed fasteners shall be stainless steel and shall have stainless steel mating anchors integrally cast into the mating part. All units shall be furnished with a NPT discharge companion flange. Impellers shall be of the multi-vane, enclosed design and shall be slip fit to the shaft. The motor shaft shall be machined to provide a positive drive of the impeller. The pump casing shall incorporate an air relief valve.

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. Units shall be fitted with a device that shall provide positive lubrication of top mechanical seal, (down to one third of the standard oil level). The device shall not consume any additional electrical power. Units shall have silicon carbide mechanical seal faces. Mechanical seal hardware shall be Stainless steel.

4. MOTOR -

The pump motor(s) shall be _____ Hp., _____ kW., _____ V., 60 Hz., _____ 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 6 starts per hour. Motor(s) shall be air filled, copper wound, class E insulated with built in thermal and over amperage protection. Motor shaft shall be 403 stainless steel 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. The bearings shall be single row, double shielded, C3, deep groove type ball bearings. Bearing seats shall be rolled carbon steel or aluminum die casting. Motor housing shall be 304 stainless steel.

5. POWER CABLE AND CABLE ENTRANCE -

The pump power cable shall be suitable for submersible pump applications. The cable entrance shall incorporate built in strain relief, a one piece, three way mechanical compression seal with a fatigue reducing cable 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.