



AF 60Hz SERIES

SUBMERSIBLE SEWAGE WASTEWATER PUMPS



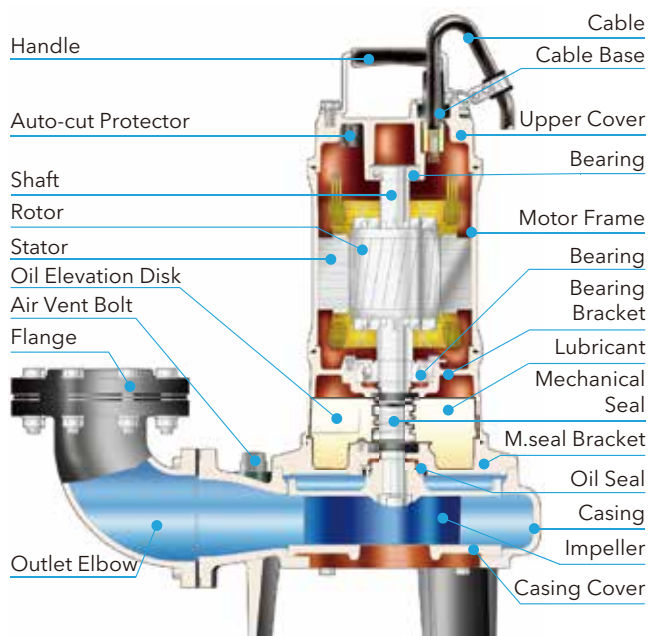
FEATURES

- Pump body is made of cast iron and with high solids epoxy coating which offers the highest quality and performance.
- Triangular handle is designed for easy handling on Guide Rail System (model above 5HP).
- Oil Elevation Disk design in the oil chamber to ensure the mechanical seals lubrication and to extend the service life of pump.
- Eco-friendly Food Grade Lubricant to keep wastewater applications a toxic free environment.
- Non-clogging impeller designs :

U Type Vortex Impeller	P Type Open Impeller	E Type Channel Impeller
		
U type non-clogging impeller produces a vortex (whirlpool effect) which allows slurry, long fibrous materials and solid waste to pass through, without contact with the impeller.	P type impeller is open and comes with one or two vanes. The impeller is excellent to use for waste materials to prevent clogging.	Enclosed channel impeller features high efficiency, large capacity, large solid passage and non-clogging.

APPLICATIONS

- Residential buildings, hospitals, commercial buildings and household usages.
- Livestock farming, pig farming, dairy farming and sewage treatment.
- Food industry, pulp and paper industry, mining, dyeing and finishing factory, leather factory, steel manufacturer, electronics industry and wastewater treatment.
- Hydraulic engineering and flood control.
- Sanitary sewer pumping.



PRODUCT NOMENCLATURE

80	AF	P	2	1.5
Discharge mm	Type	Impeller type (U/P/E)	Pole	kW
AF	16	50		
Type	Discharge inch	HP		

SPECIFICATIONS (Discharge 50~100mm)

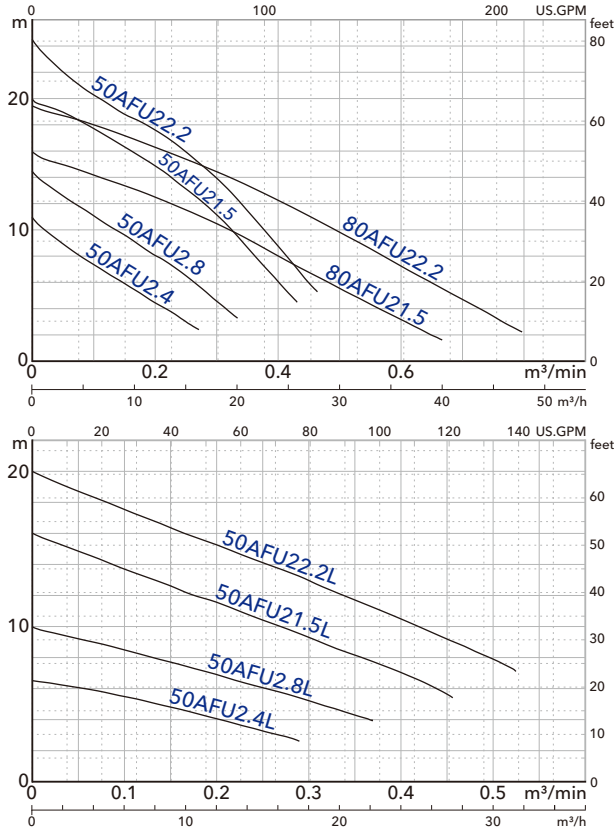
Item	Description
Limits of Use	Liquid Temp. 0~40°C (32~104°F)
	Applications Wastewater • Sewage • Industrial Wastewater
Type	Frequency 60Hz
	Motor 2P (3600rpm) / 4P (1800rpm) • Dry Motor
	Insulation Class B (0.5~1HP) • Class F (2~5HP) • Class H (7.5~20HP)
	Protection IP68
	Protector Auto-cut / MTS / MTS & MS
	Bearing Ball type
	M.seal Double M.seals
	Impeller Vortex (U) • Open (P) • Channel (E)
Material	Upper Cover FC200 / ASTM-30
	Motor Frame FC200 / ASTM-30
	Shaft SUS410/ASTM 410 (2P : 0.5~1HP) SUS403/ASTM 403 (2P : 2~10HP • 4P : 0.5~5HP) SUS420J2/ASTM 420 F (2P : 15HP~20HP • 4P : 7.5~10HP)
	M.seal CA/CE & SiC/SiC
	Casing FC200 / ASTM-30
	Impeller FC200 / ASTM-30 (0.5~15HP) • SCS14 / A744 CF-8M (20HP)
	Cable VCT or SJOW/SOW/SOOW
Optional	Pumps can be customized to fit specifications Floating Switch (2P : 0.5~3HP • 4P : 0.5~2HP)



50AFU2.4/2.8 50AFU2.4L/2.8L 50AFU21.5/22.2 80AFU21.5/22.2 80AFU23.7A 80AFU25.5/27.5 80AFU25.5L/27.5L
50AFU21.5L/22.2L 80AFU21.5L/22.2L 80AFU23.7LA 80AFU211 80AFU211L

AE

PERFORMANCE CURVES



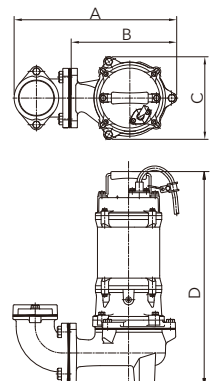
※ Note : Weight Without Cable & Elbow Set.

Start Method : Y-D = STAR-DELTA

*External Capacitor : Required external capacitors & start relay.

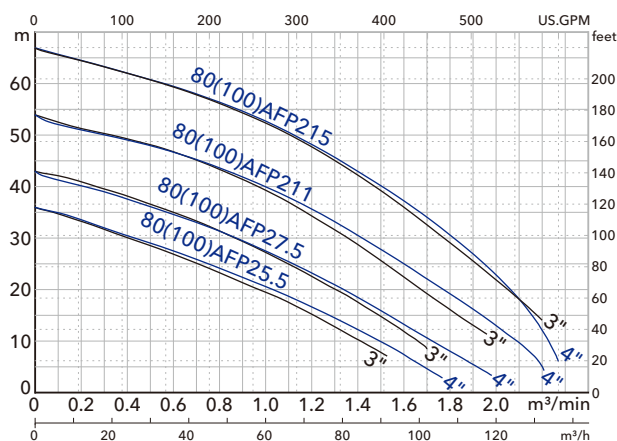
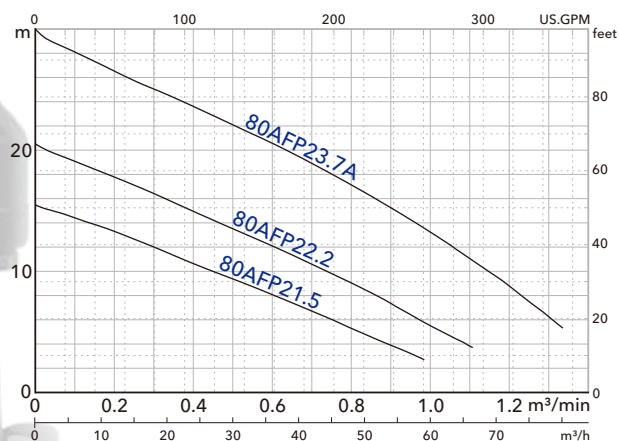
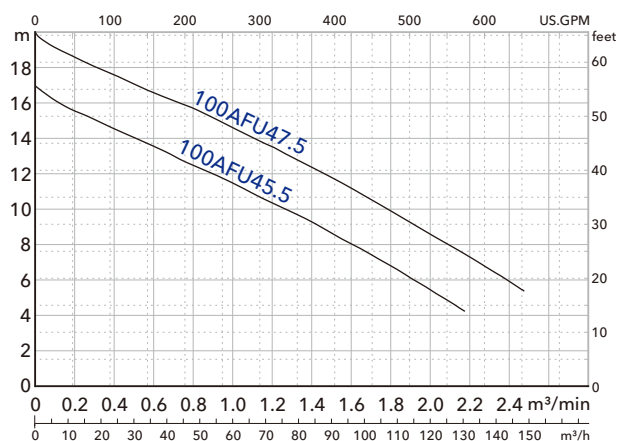
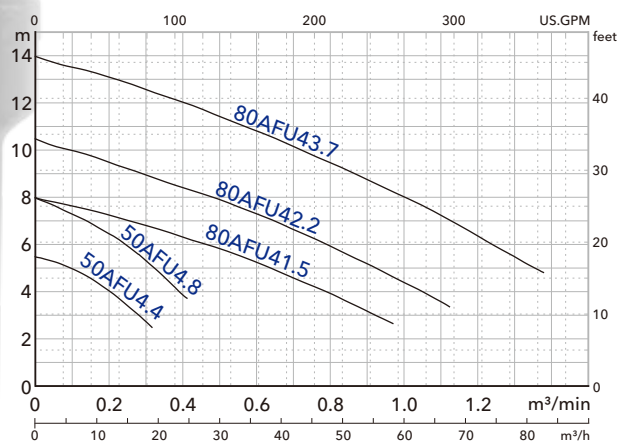
PERFORMANCE SPECS.

Pole	Model	Output HP(kW)	Discharge Inch(mm)	Phase Ø	Start Method	Standard		Solid Passage mm(inch)	Weight kg(lb)		Dimensions mm					
						m-m³/min	ft-GPM		1Ø	3Ø	A	B	C	D		
2P	50AFU2.4	0.5 (0.4)	2" (50)	1 3	Capacitor DOL	6-0.15	19.7-40	35(1 3/8")	19(42)	18(40)	235	-	154	407	407	
	50AFU2.8	1 (0.75)	2" (50)	1 3	Capacitor DOL	8-0.2	26.2-52	35(1 3/8")	20(44)	19(42)	235	-	154	407	407	
	50AFU21.5	2 (1.5)	2" (50)	1 3	Capacitor DOL	14-0.2	45.9-52	35(1 3/8")	33(73)	29(64)	288	-	202	532	477	
	50AFU22.2	3 (2.2)	2" (50)	1 3	Capacitor DOL	17.5-0.2	57.4-52	35(1 3/8")	35(77)	31(68)	288	-	202	559	477	
	80AFU21.5	2 (1.5)	3" (80)	1 3	Capacitor DOL	8-0.4	26.2-106	50(2")	35(77)	32(71)	397	260	202	574	519	
	80AFU22.2	3 (2.2)	3" (80)	1 3	Capacitor DOL	12-0.4	39.4-106	50(2")	38(84)	34(75)	397	260	202	601	519	
	80AFU23.7A	5 (3.7)	3" (80)	1 3	*External Capacitor DOL	16.5-0.5	54.1-132	50(2")	50(110)	45(99)	481	286	222	605	590	
	80AFU25.5	7.5 (5.5)	3" (80)	3	DOL	19-0.6	62.3-158	50(2")	-	67(148)	501	309	258	-	665	
	80AFU27.5	10 (7.5)	3" (80)	3	DOL	25-0.6	82.0-158	50(2")	-	73(163)	501	309	258	-	665	
	80AFU211	15 (11)	3" (80)	3	Y-D/DOL	33.5-0.6	109.9-158	50(2")	-	84(185)	501	309	258	-	705	
	50AFU2.4L	0.5 (0.4)	2" (50)	1 3	Capacitor DOL	4-0.2	13.1-52	50(2")	20(44)	19(42)	307	201	164	447	447	
	50AFU2.8L	1 (0.75)	2" (50)	1 3	Capacitor DOL	5.5-0.25	18.0-66	50(2")	22(49)	21(46)	307	201	164	447	447	
	50AFU21.5L	2 (1.5)	2" (50)	1 3	Capacitor DOL	10-0.25	32.8-66	50(2")	34(75)	30(66)	288	-	202	562	507	
	50AFU22.2L	3 (2.2)	2" (50)	1 3	Capacitor DOL	14-0.25	45.9-66	50(2")	36(79)	32(71)	288	-	202	589	507	
	80AFU21.5L	2 (1.5)	3" (80)	1 3	Capacitor DOL	3.5-0.5	11.5-132	76(3")	38(84)	34(75)	402	265	221	626	571	
	80AFU22.2L	3 (2.2)	3" (80)	1 3	Capacitor DOL	5.5-0.5	18.0-132	76(3")	40(88)	36(79)	402	265	221	653	571	
	80AFU23.7LA	5 (3.7)	3" (80)	1 3	*External Capacitor DOL	10-0.6	32.8-158	76(3")	53(117)	48(106)	481	286	235	657	642	
	80AFU25.5L	7.5 (5.5)	3" (80)	3	DOL	11.5-0.8	37.7-212	76(3")	-	69(152)	506	314	273	-	717	
	80AFU27.5L	10 (7.5)	3" (80)	3	DOL	16.5-0.8	54.1-212	76(3")	-	75(165)	506	314	273	-	717	
	80AFU211L	15 (11)	3" (80)	3	Y-D/DOL	24.5-0.8	80.4-212	76(3")	-	86(190)	506	314	273	-	757	





PERFORMANCE CURVES



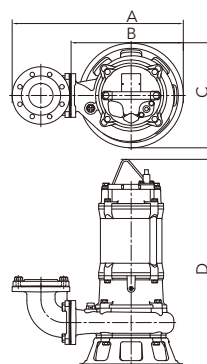
PERFORMANCE SPECS.

※ Note : Weight Without Cable & Elbow Set.

Start Method : Y-D = STAR-DELTA

*External Capacitor : Required external capacitors & start relay.

External Capacitor : Required external capacitors & start relay																
Pole	Model	Output HP(kW)	Discharge Inch(mm)	Phase Ø	Start Method	Standard		Solid Passage mm(inch)	Weight kg(lb)		Dimensions mm					
						m-m³/min	ft-GPM		1Ø	3Ø	A	B	C	D		
														1Ø	3Ø	
4P	50AFU4.4	0.5 (0.4)	2" (50)	1/3	Capacitor DOL	3.5-0.25	11.5-66	50(2")	30(66)	28(62)	347	241	204	526	526	
	50AFU4.8	1 (0.75)	2" (50)	1/3	Capacitor DOL	5-0.3	16.4-80	50(2")	30(66)	29(64)	347	241	204	526	526	
	80AFU41.5	2 (1.5)	3" (80)	1/3	Capacitor DOL	5-0.6	16.4-158	76(3")	46(101)	46(101)	447	305	260	697	620	
	80AFU42.2	3 (2.2)	3" (80)	1/3	*External Capacitor DOL	7-0.6	23.0-158	76(3")	67(148)	56(123)	532	340	288	716	661	
	80AFU43.7	5 (3.7)	3" (80)	1/3	*External Capacitor DOL	10.5-0.6	34.5-158	76(3")	70(154)	64(141)	532	340	288	716	696	
	100AFU45.5	7.5 (5.5)	4" (100)	3	DOL	11-1.0	36.1-264	100(4")	-	95(209)	615	393	337	-	813	
	100AFU47.5	10 (7.5)	4" (100)	3	DOL	14.5-1.0	47.6-264	100(4")	-	104(229)	615	393	337	-	853	
2P	80AFP21.5	2 (1.5)	3" (80)	1/3	Capacitor DOL	8-0.6	26.2-158	35(1 3/8")	37(82)	33(73)	417	275	260	576	521	
	80AFP22.2	3 (2.2)	3" (80)	1/3	Capacitor DOL	12-0.6	39.4-158	35(1 3/8")	40(88)	35(77)	417	275	260	603	521	
	80AFP23.7A	5 (3.7)	3" (80)	1/3	*External Capacitor DOL	20.5-0.6	67.3-158	32(1 1/4")	53(117)	48(106)	498	305	290	610	595	
	80(100)AFP25.5	7.5 (5.5)	3" (80) 4" (100)	3	DOL	26.5-0.6 20-1.0	86.9-158 65.6-264	30(1 1/8")	-	74(163)	565 596	373	345	-	689	
	80(100)AFP27.5	10 (7.5)	3" (80) 4" (100)	3	DOL	35-0.6 27-1.0	114.8-158 88.6-264	30(1 1/8")	-	80(176)	565 596	373	345	-	689	
	80(100)AFP211	15 (11)	3" (80) 4" (100)	3	Y-D/DOL	46-0.6 39-1.0	150.9-158 128.0-264	30(1 1/8")	-	90(198)	565 596	373	345	-	729	
	80(100)AFP215	20 (15)	3" (80) 4" (100)	3	Y-D/DOL	57-0.7 47-1.2	187.0-185 154.2-315	30(1 1/8")	-	100(220)	565 596	373	345	-	769	





80AFP41.5



80AFP42.2
80(100)AFP43.7



80(100)AFE41.5



80(100)AFE42.2
80(100)AFE43.7

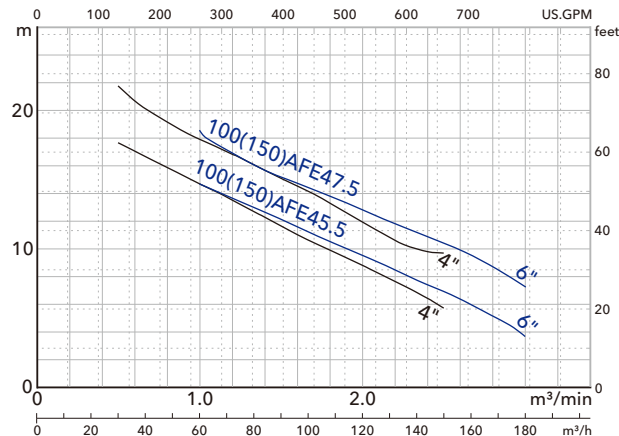
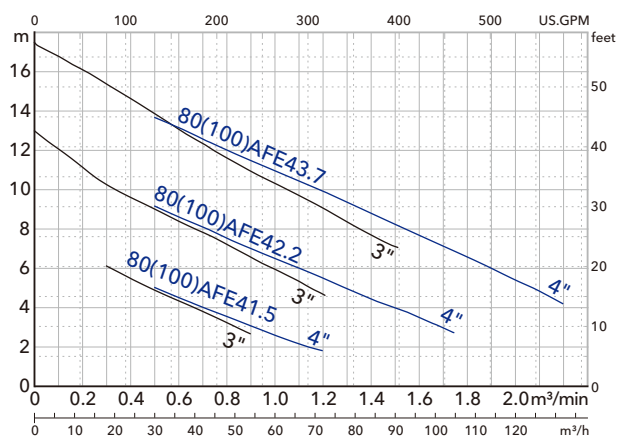
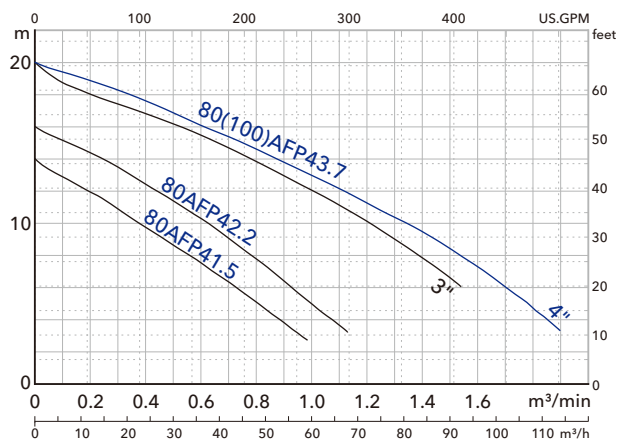


100AFE42.2
100AFE43.7



100(150)AFE45.5
100(150)AFE47.5

PERFORMANCE CURVES



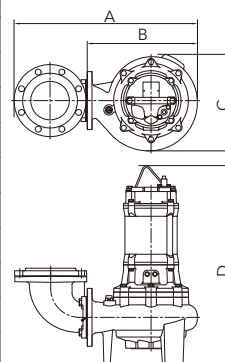
※Note : 100AFE42.2 Performance curves is equivalent to 80(100)AFE42.2 4"
100AFE43.7 Performance curves is equivalent to 80(100)AFE43.7 4"

PERFORMANCE SPECS.

※ Note : Weight Without Cable & Elbow Set.

*External Capacitor : Required external capacitors & start relay.

Pole	Model	Output HP(kW)	Discharge Inch(mm)	Phase Ø	Start Method	Standard		Solid Passage mm(inch)	Weight kg(lb)		Dimensions mm					
						m-m³/min	ft-GPM		1Ø	3Ø	A	B	C	D		
4P	80AFP41.5	2 (1.5)	3" (80)	1 3	Capacitor DOL	8-0.5	26.2-132	50(2")	46(101)	47(104)	474	332	288	645	567	
	80AFP42.2	3 (2.2)	3" (80)	1 3	*External Capacitor DOL	10-0.6	32.8-158	50(2")	71(157)	60(132)	550	358	313	666	611	
	80(100)AFP43.7	5 (3.7)	3" (80) 4" (100)	1 3	*External Capacitor DOL	15-0.6 12.5-1.0	49.2-158 41.0-264	50(2")	75(165)	69(152)	550 581	358	313	666	646	
	80(100)AFE41.5	2 (1.5)	3" (80) 4" (100)	1 3	*External Capacitor DOL	4-0.65 3.5-0.8	13.1-172 11.5-212	76(3")	66(146)	61(134)	521 551	328	287	715	633	
	80(100)AFE42.2	3 (2.2)	3" (80) 4" (100)	1 3	*External Capacitor DOL	7-0.8 6.5-1.0	23.0-212 21.3-264	76(3")	77(170)	66(146)	521 551	328	287	723	663	
	80(100)AFE43.7	5 (3.7)	3" (80) 4" (100)	1 3	*External Capacitor DOL	11.5-0.8 10.5-1.0	37.7-212 34.5-264	76(3")	79(174)	73(161)	521 551	328	287	723	703	
	100AFE42.2	3 (2.2)	4" (100)	1 3	*External Capacitor DOL	6.5-1.0	21.3-264	76(3")	77(170)	68(150)	581	358	308	720	660	
	100AFE43.7	5 (3.7)	4" (100)	1 3	*External Capacitor DOL	10.5-1.0	34.5-264	76(3")	78(172)	75(165)	581	358	308	720	700	
	100(150)AFE45.5	7.5 (5.5)	4" (100) 6" (150)	3	DOL	14.5-1.0 12-1.5	47.6-264 39.4-395	76(3")	-	104(229)	618 678	395	345	-	771	
	100(150)AFE47.5	10 (7.5)	4" (100) 6" (150)	3	DOL	17.5-1.0 15-1.5	57.4-264 49.2-395	76(3")	-	113(249)	618 678	395	345	-	811	

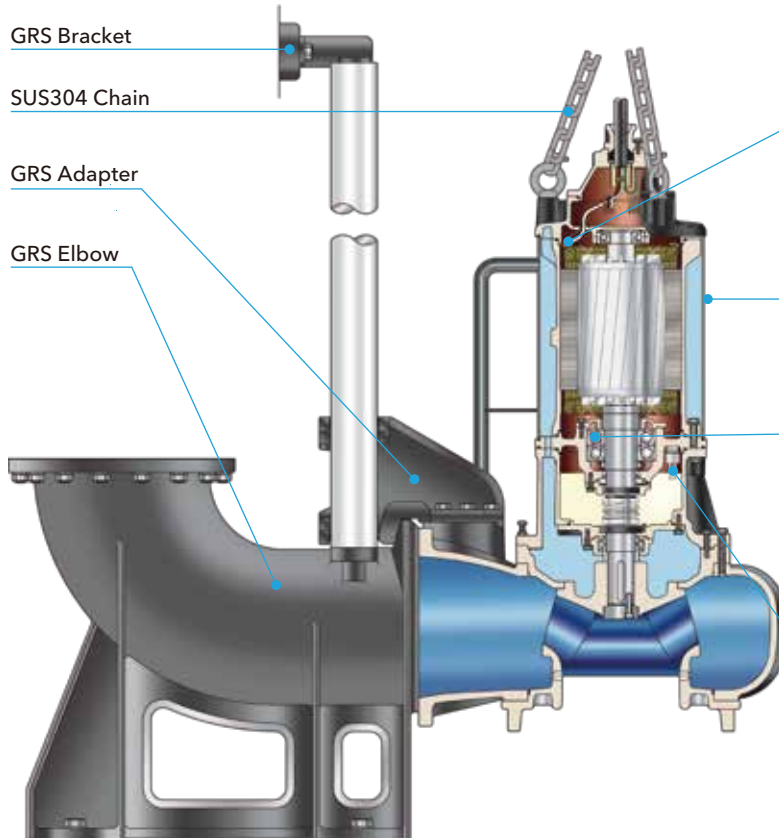




HEAVY DUTY SUBMERSIBLE PUMPS

PRODUCT NOMENCLATURE

AF	16	50
Type	Discharge inch	HP



Motor Thermal Sensor(MTS)

MTS is a bimetal strip sensor embedded in each phase of the stator winding to sense motor from overheating and cause of electrical motor failure. MTS must be connected to control panel, and circuit is Normal : closed; Abnormal: open. MTS is a standard on 15HP and above models, optional on 2~10HP AF models.



Cooling Jacket

A cooling jacket enables a portion of liquid flows through around the motor frame to reduce motor frame temperature during operating. The Cooling Jacket is a standard on component for AF-10xx ~ AF-16xx models.

Bearing Temperature Sensor(BTS)

BTS is a Resistance temperature sensor to measure temperature for lower stationary bearing. BTS must be connected to indicator of temperature control panel, and when the temperature is higher than a pre-settled temperature (100°C recommended), the Control Panel need to cut off power to prevent bearing damage. BTS is an optional component for AF-10xx ~ AF-16xx models.

Moisture Sensor (MS)

MS is Electrode sensor installed in the Mechanical seal chamber to detect water entering cause seals failure, and to prevent water penetrates motor to cause of electrical motor failure. MS must be connected to control panel, and circuit is Normal : open; Abnormal: closed. MS is a standard on 15HP and above models, optional on 2~10HP AF models.



※ Taiwanese Patent No. M613130. All Rights Reserved.

SPECIFICATIONS (Discharge 150~400mm)

Item	Description	
Limits of Use	Liquid Temp.	0~40°C (32~104°F)
	Applications	Wastewater • Sewage • Industrial Wastewater
Type	Frequency	60Hz
	Motor	4P(1800rpm)/6P(1200rpm)/8P(900rpm) • Dry Motor
	Insulation	Class H
	Protection	IP68
	Protector	MTS & MS
	Bearing	Ball type
	M.seal	Double M.seals
	Impeller	Channel (E)
	Upper Cover	FC200 / ASTM-30
Material	Motor Frame	FC200 / ASTM-30
	Shaft	SUS420J2 / ASTM 420 F
	M.seal	CA/CE & SiC/SiC • SiC/SiC & SiC/SiC
	Casing	FC200 / ASTM-30
	Impeller	FCD500 / Gr.65-45-12 • FC200 / ASTM-30
	Cable	VCT/PNCT or SOOW
Optional	Pumps can be customized to fit specifications	

ACCESSORIES : ELBOW / GRS-GUIDE RAIL SYSTEMS



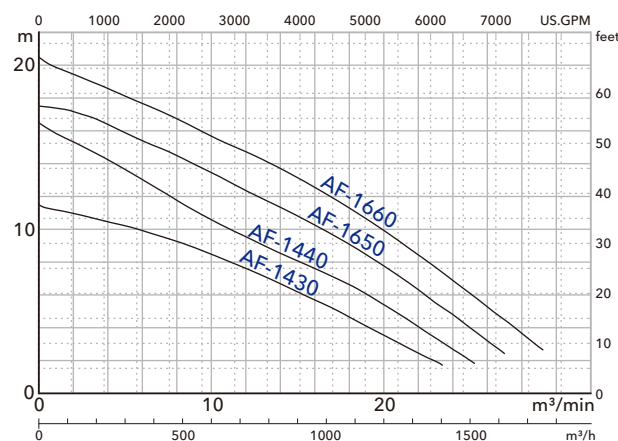
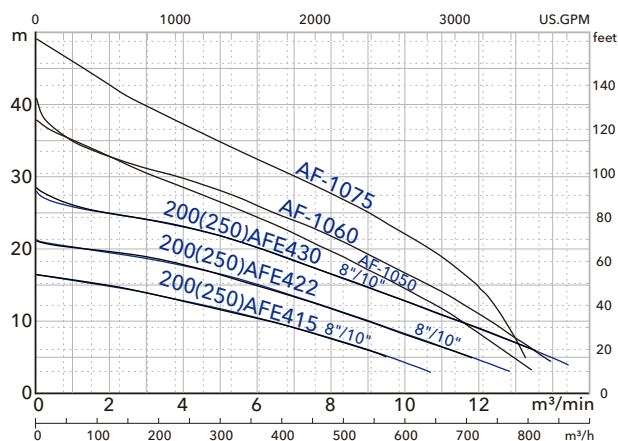
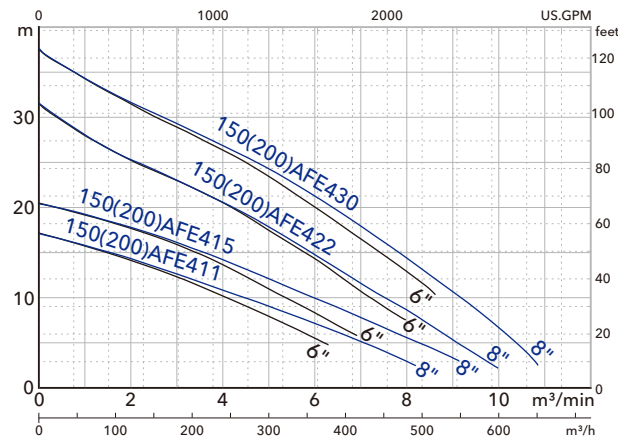
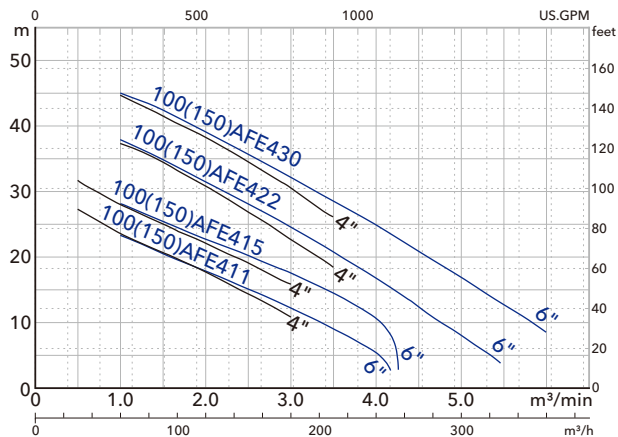
ELBOW

GRS

AF pumps can be installed with 90° Elbow Flange outlet or GRS guide rail system, to have easier / safer installation or removal during replacement and maintenance.



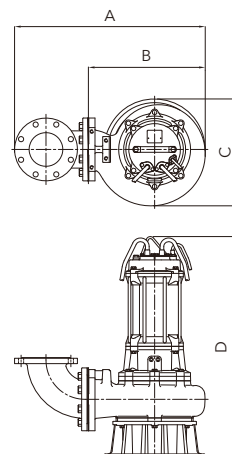
PERFORMANCE CURVES



PERFORMANCE SPECS.

※ Note : Weight Without Cable & Elbow Set.
Start Method : Y-D = STAR-DELTA

Start Method: Y-D = STAR-DELTA														
Pole	Model	Output HP(kW)	Discharge Inch(mm)	Phase Ø	Start Method	Standard		Solid Passage mm(inch)	Weight kg(lb)	Dimensions mm				
						m-m³/min	ft-GPM			3Ø	A	B	C	D
4P	100(150)AFE411	15 (11)	4" (100) 6" (150)	3	Y-D/DOL	23.5-1.0 15-2.5	77.1-264 49.2-660	76(3")	160(353)	702 741	458	400	908	
	100(150)AFE415	20 (15)	4" (100) 6" (150)	3	Y-D/DOL	28-1.0 20-2.5	91.9-264 65.6-660	76(3")	171(377)	702 741	458	400	908	
	100(150)AFE422	30 (22)	4" (100) 6" (150)	3	Y-D/DOL	37-1.0 28-2.5	121.4-264 91.9-660	76(3")	223(492)	743 803	520	449	973	
	100(150)AFE430	40 (30)	4" (100) 6" (150)	3	Y-D/DOL	44.5-1.0 35.5-2.5	146.0-264 116.5-660	76(3")	242(534)	743 803	520	449	1013	
	150(200)AFE411	15 (11)	6" (150) 8" (200)	3	Y-D/DOL	13-2.5 9.5-4.5	42.7-660 31.2-1190	80(3 1/8")	196(432)	838 893	545	450	1076	
	150(200)AFE415	20 (15)	6" (150) 8" (200)	3	Y-D/DOL	16-2.5 13-4.5	52.5-660 42.7-1190	80(3 1/8")	206(454)	838 893	545	450	1076	
	150(200)AFE422	30 (22)	6" (150) 8" (200)	3	Y-D/DOL	24-2.5 19-4.5	78.7-660 62.3-1190	80(3 1/8")	272(600)	865 920	572	485	1132	
	150(200)AFE430	40 (30)	6" (150) 8" (200)	3	Y-D/DOL	30-2.5 25-4.5	98.4-660 82.0-1190	80(3 1/8")	293(646)	865 920	572	485	1172	
	200(250)AFE415	20 (15)	8" (200) 10" (250)	3	Y-D/DOL	12-4.5 9-7.0	39.4-1190 29.5-1850	100x79 (4"x3 1/8")	225(496)	960 1023	592	484	1114	
	200(250)AFE422	30 (22)	8" (200) 10" (250)	3	Y-D/DOL	16.5-4.5 13-7.0	54.1-1190 42.7-1850	100x82 (4"x3 1/4")	292(644)	1010 1073	642	524	1177	
	200(250)AFE430	40 (30)	8" (200) 10" (250)	3	Y-D/DOL	22-4.5 17.5-7.0	72.2-1190 57.4-1850	100x82 (4"x3 1/4")	311(686)	1010 1073	642	524	1217	
	AF-1050	50 (37)	10" (250)	3	Y-D/DOL	22-7.0	72-1850	60(2 3/8")	686(1512)	1273	786	676	1621	
	AF-1060	60 (45)	10" (250)	3	Y-D/DOL	24-7.0	79-1850	60(2 3/8")	691(1523)	1273	786	676	1621	
	AF-1075	75 (55)	10" (250)	3	Y-D/DOL	30-7.0	98-1850	60(2 3/8")	681(1501)	1273	786	676	1621	
	8P	AF-1430	30 (22)	14" (350)	3	Y-D/DOL	6.5-14.0	21-3700	120(4 3/4")	833(1836)	1544	908	813	1763
	6P	AF-1440	40 (30)	14" (350)	3	Y-D/DOL	8.5-14.0	28-3700	120(4 3/4")	828(1825)	1544	908	813	1763
		AF-1650	50 (37)	16" (400)	3	Y-D/DOL	7.5-18.0	25-4760	120(4 3/4")	965(2127)	1558	908	813	1763
		AF-1660	60 (45)	16" (400)	3	Y-D/DOL	10-18.0	33-4760	120(4 3/4")	970(2138)	1558	908	813	1763





PRODUCT FEATURES



High Efficiency Dry Motor

All stator coils are treated with insulating varnish procedures to achieve the best insulation, efficiency and durability.



Epoxy Cable Base

An epoxy resin seal cable base prevents moisture from entering the motor through the core wires.



Double Mechanical Seals

Superior abrasion resistant mechanical seal is manufactured with silicon carbide to ensure the best seal effect.



Auto-cut Protector

Automatic On/Off motor protector to prevent motor burn out due to high temperature and excess amperage draw. The Protector can revert when the motor temperature returns to normal. Auto-cut Protector is a standard component for pump 10HP or below.



High Solids Epoxy Coating

High Solids Epoxy Coating greater than 100 μm , provides resistance to salty sea water, industrial wastewater, and chemical fluids, creating an anti-corrosion layer on metal surface that prevents corrosion.



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