

AF **50Hz**
SERIES
SUBMERSIBLE SEWAGE
WASTEWATER PUMPS



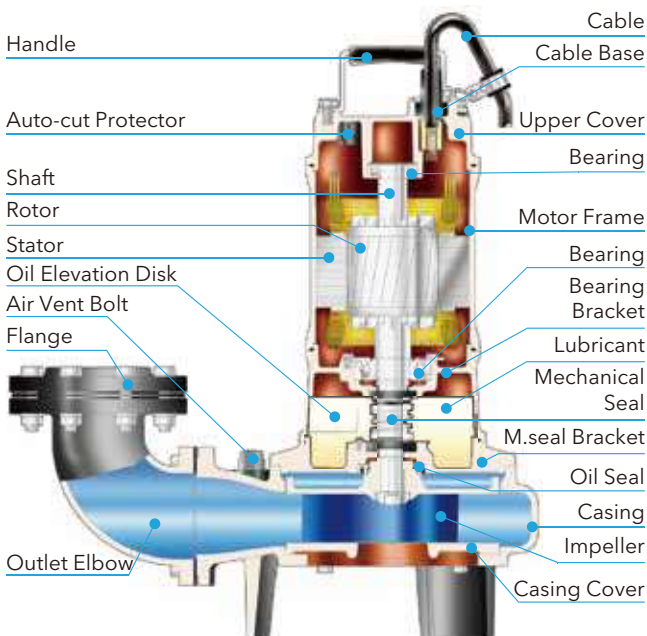
FEATURES

- 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 50Hz
	Motor 2P (3000rpm) / 4P (1500rpm) • Dry Motor
	Insulation Class B (0.5~1HP) • Class F (2~5HP) • Class H (7.5~20HP)
	Protection IP68
	Protector Auto-cut (0.5~10HP) • MTS & MS (15~20HP)
	Bearing Ball type
	M.seal Double M.seals
Material	Impeller Vortex (U) • Open (P) • Channel (E)
	Upper Cover FC200 / GG-20
	Motor Frame FC200 / GG-20
	Shaft SUS410 / X10Cr13 (2P : 0.5~1HP) SUS403 / X5Cr13 (2P : 2~10HP • 4P : 0.5~5HP) SUS420J2 / X30Cr13 (2P : 15~20HP • 4P : 7.5~10HP)
	M.seal CA/CE & SiC/SiC
	Casing FC200 / GG-20
	Impeller FC200 / GG-20 (0.5~15HP) • SCS14 / G-X6CrNiMo1810 (20HP)
Cable VCT/H07RN-F	
Optional	Pumps can be customized to fit specifications Floating Switch (2P : 0.5~3HP • 4P : 0.5~2HP)



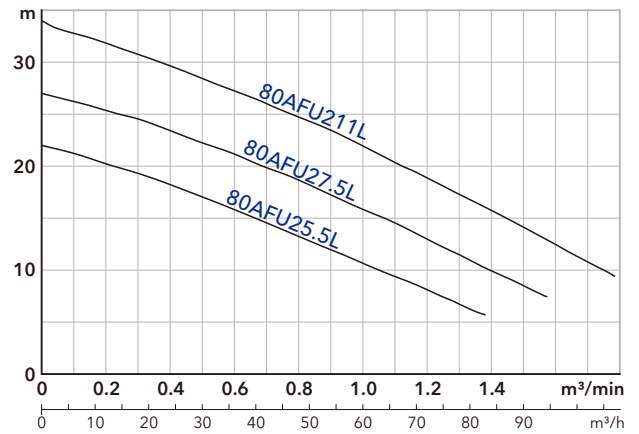
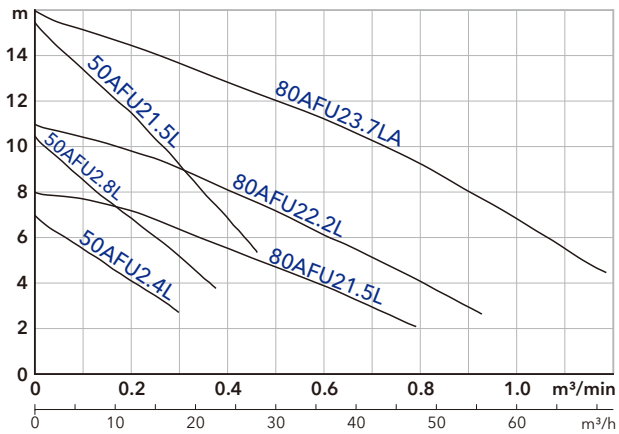
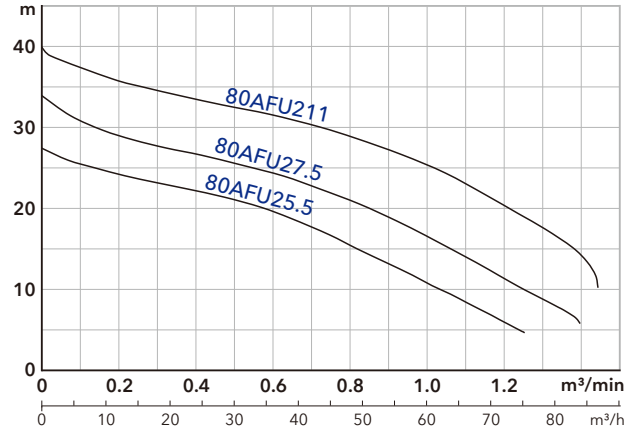
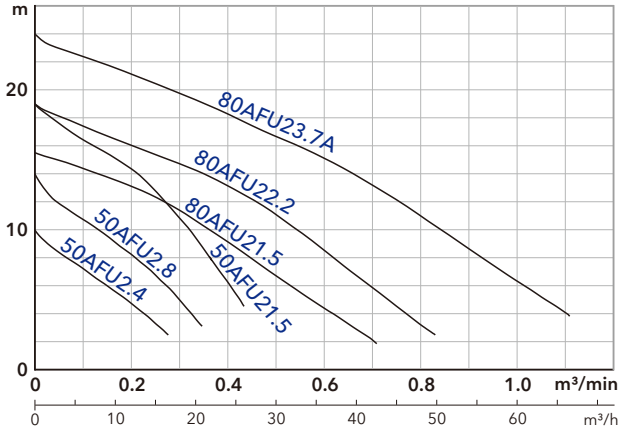
50AFU2.4/2.8



50AFU2.4L/2.8L

50AFU21.5
50AFU21.5L80AFU21.5/22.2
80AFU21.5L/22.2L80AFU23.7A
80AFU23.7LA80AFU25.5/27.5
80AFU21180AFU25.5L/27.5L
80AFU211L

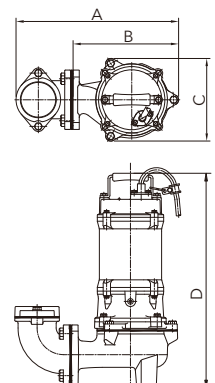
PERFORMANCE CURVES



PERFORMANCE SPECS.

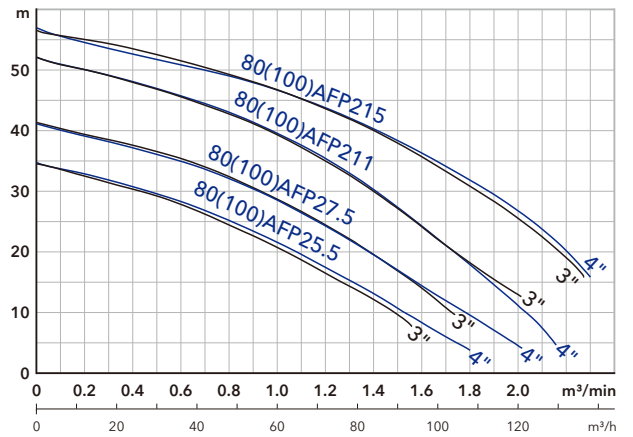
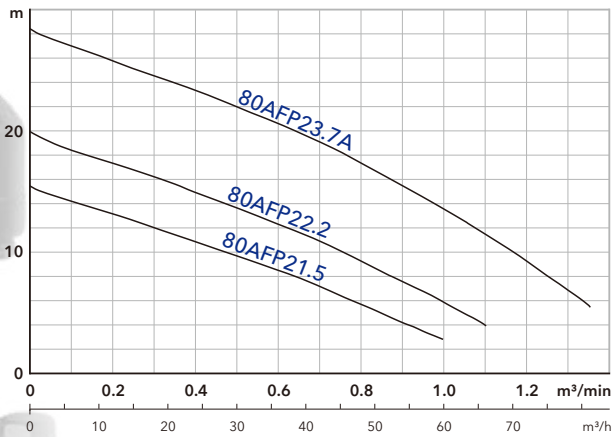
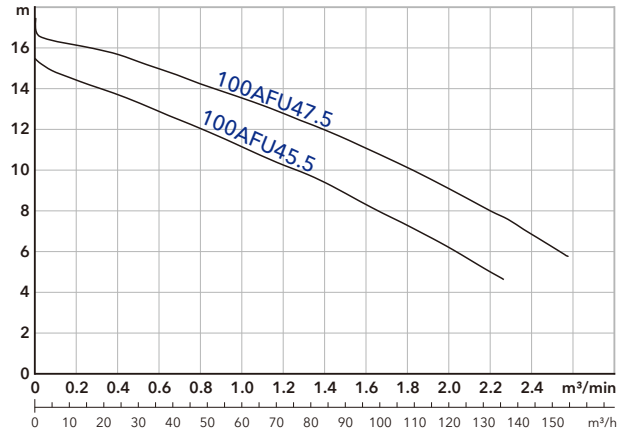
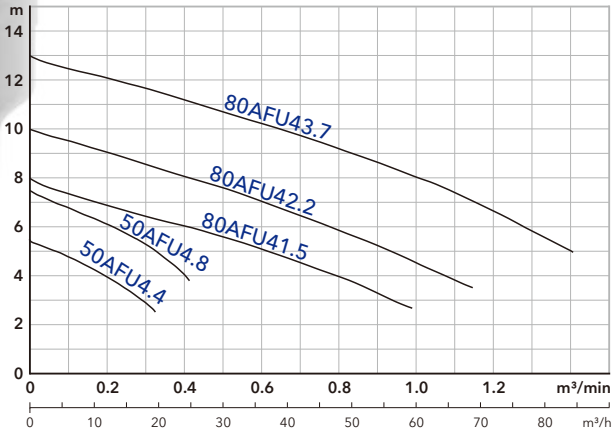
※ Note : Weight Without Cable & Elbow Set.
Start Method : Y-D = STAR-DELTA

Pole	Model	Output HP(kW)	Discharge Inch(mm)	Phase Ø	Start Method	Head m	Standard		Solid Passage mm	Weight kg		Dimensions mm				
							m³/min	m³/h		1Ø	3Ø	A	B	C	D	
												1Ø	3Ø			
2P	50AFU2.4	0.5 (0.4)	2" (50)	1/3	Capacitor DOL	6	0.15	9	35	19	18	235	-	154	417	417
	50AFU2.8	1 (0.75)	2" (50)	1/3	Capacitor DOL	8	0.2	12	35	20	19	235	-	154	417	417
	50AFU21.5	2 (1.5)	2" (50)	1/3	Capacitor DOL	14	0.2	12	35	33	29	288	-	202	532	477
	80AFU21.5	2 (1.5)	3" (80)	1/3	Capacitor DOL	8.5	0.4	24	50	35	32	397	260	202	574	519
	80AFU22.2	3 (2.2)	3" (80)	1/3	Capacitor DOL	12.5	0.4	24	50	38	34	397	260	202	601	519
	80AFU23.7A	5 (3.7)	3" (80)	3	DOL	16.5	0.5	30	50	-	46	481	286	222	-	573
	80AFU25.5	7.5 (5.5)	3" (80)	3	DOL	20	0.6	36	50	-	68	501	309	258	-	665
	80AFU27.5	10 (7.5)	3" (80)	3	DOL	24.5	0.6	36	50	-	74	501	309	258	-	665
	80AFU211	15 (11)	3" (80)	3	Y-D/DOL	32	0.6	36	50	-	85	501	309	258	-	705
	50AFU2.4L	0.5 (0.4)	2" (50)	1/3	Capacitor DOL	4	0.2	13.2	50	20	19	307	201	164	447	447
	50AFU2.8L	1 (0.75)	2" (50)	1/3	Capacitor DOL	6	0.25	15	50	22	21	307	201	164	447	447
	50AFU21.5L	2 (1.5)	2" (50)	1/3	Capacitor DOL	10	0.25	15	50	34	30	288	-	202	562	507
	80AFU21.5L	2 (1.5)	3" (80)	1/3	Capacitor DOL	4.5	0.5	30	76	38	34	402	265	221	626	571
	80AFU22.2L	3 (2.2)	3" (80)	1/3	Capacitor DOL	7	0.5	30	76	40	36	402	265	221	653	571
	80AFU23.7LA	5 (3.7)	3" (80)	3	DOL	11	0.6	36	76	-	48	481	286	235	-	625
	80AFU25.5L	7.5 (5.5)	3" (80)	3	DOL	13	0.8	48	76	-	70	506	314	273	-	717
80AFU27.5L	10 (7.5)	3" (80)	3	DOL	17.5	0.8	48	76	-	76	506	314	273	-	717	
80AFU211L	15 (11)	3" (80)	3	Y-D/DOL	25.5	0.8	48	76	-	87	506	314	273	-	757	





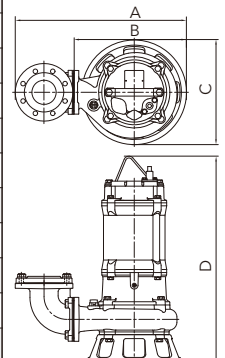
PERFORMANCE CURVES



PERFORMANCE SPECS.

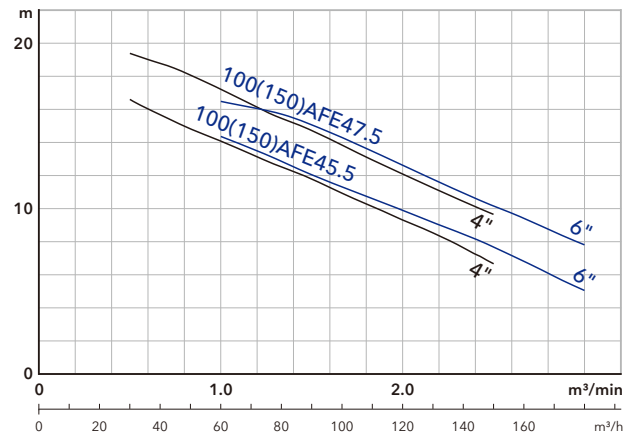
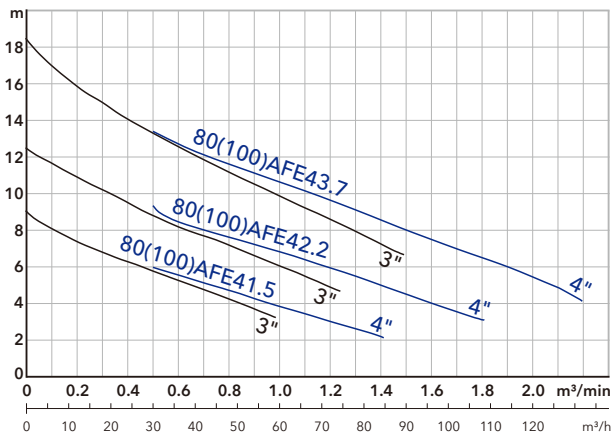
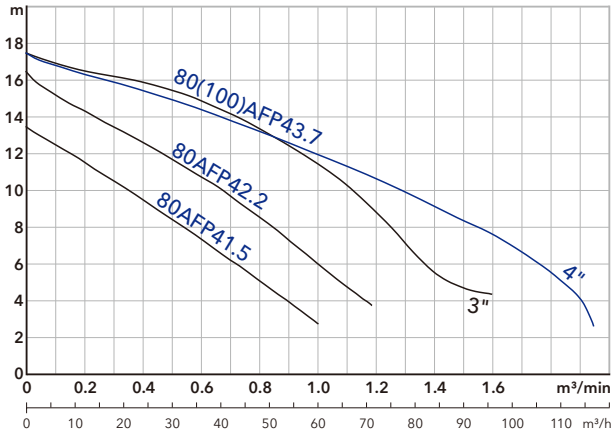
※ Note : Weight Without Cable & Elbow Set.
Start Method : Y-D = STAR-DELTA

Pole	Model	Output HP(kW)	Discharge Inch(mm)	Phase	Start Method	Head m	Standard		Solid Passage mm	Weight kg		Dimensions mm				
							m³/min	m³/h		1Ø	3Ø	A	B	C	D	
4P	50AFU4.4	0.5 (0.4)	2" (50)	1/3	Capacitor DOL	3.5	0.25	15	50	30	28	347	241	204	526	526
	50AFU4.8	1 (0.75)	2" (50)	1/3	Capacitor DOL	5	0.3	18	50	30	29	347	241	204	526	526
	80AFU41.5	2 (1.5)	3" (80)	1/3	Capacitor DOL	5	0.6	36	76	46	46	447	305	260	697	620
	80AFU42.2	3 (2.2)	3" (80)	3	DOL	7	0.6	36	76	-	57	532	340	288	-	653
	80AFU43.7	5 (3.7)	3" (80)	3	DOL	10	0.6	36	76	-	66	532	340	288	-	693
	100AFU45.5	7.5 (5.5)	4" (100)	3	DOL	11	1.0	60	100	-	96	615	393	337	-	813
2P	100AFU47.5	10 (7.5)	4" (100)	3	DOL	13.5	1.0	60	100	-	105	615	393	337	-	853
	80AFP21.5	2 (1.5)	3" (80)	1/3	Capacitor DOL	8.5	0.6	36	35	37	33	417	275	260	576	603
	80AFP22.2	3 (2.2)	3" (80)	1/3	Capacitor DOL	12	0.6	36	35	40	35	417	275	260	521	521
	80AFP23.7A	5 (3.7)	3" (80)	3	DOL	20.5	0.6	36	32	-	48	498	305	290	-	578
	80(100)AFP25.5	7.5 (5.5)	3" (80) 4" (100)	3	DOL	28 21.5	0.6 1.0	36 60	30	-	75	565 596	373	345	-	689
	80(100)AFP27.5	10 (7.5)	3" (80) 4" (100)	3	DOL	35 28	0.6 1.0	36 60	30	-	81	565 596	373	345	-	689
	80(100)AFP211	15 (11)	3" (80) 4" (100)	3	Y-D/DOL	45 39	0.6 1.0	36 60	30	-	91	565 596	373	345	-	729
	80(100)AFP215	20 (15)	3" (80) 4" (100)	3	Y-D/DOL	49 43.5	0.8 1.2	48 72	30	-	101	565 596	373	345	-	769





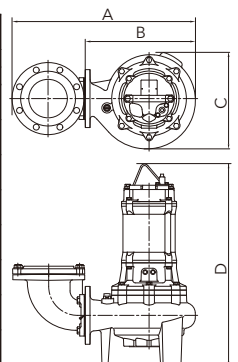
PERFORMANCE CURVES



PERFORMANCE SPECS.

※ Note : Weight Without Cable & Elbow Set.

Pole	Model	Output HP(kW)	Discharge Inch(mm)	Phase	Start Method	Head m	Standard		Solid Passage mm	Weight kg		Dimensions mm					
							m³/min	m³/h		1∅	3∅	A	B	C	D		
4P	80AFP41.5	2 (1.5)	3" (80)	3	1 Capacitor	8	0.5	30	50	47	47	474	332	288	645	567	
	80AFP42.2	3 (2.2)	3" (80)		3 DOL												
	80(100)AFP43.7	5 (3.7)	3" (80)	3	DOL	14.5	0.6	36	50	-	70	550	358	313	-	643	
			4" (100)			11.5	1.0	60				581					
	80(100)AFE41.5	2 (1.5)	3" (80)	3	DOL	5	0.65	39	76	66	61	521	328	287	-	660	
			4" (100)			4.5	0.8	48				551					
	80(100)AFE42.2	3 (2.2)	3" (80)	3	DOL	7	0.8	48	76	-	66	521	328	287	-	660	
			4" (100)			6.5	1.0	60				551					
	80(100)AFE43.7	5 (3.7)	3" (80)	3	DOL	11	0.8	48	76	-	74	539	346	304	-	700	
			4" (100)			10.5	1.0	60				569					
	100(150)AFE45.5	7.5 (5.5)	4" (100)	3	DOL	14	1.0	60	76	-	110	653	430	374	-	786	
			6" (150)			12	1.5	90				713					
100(150)AFE47.5	10 (7.5)	4" (100)	3	DOL	17	1.0	60	76	-	120	653	430	374	-	826		
		6" (150)			15	1.5	90				713						





100(150)AFE411/
415/422/430



150(200)AFE411/
415/422/430



200(250)
AFE422/430



AF-10xx ~ AF-16xx

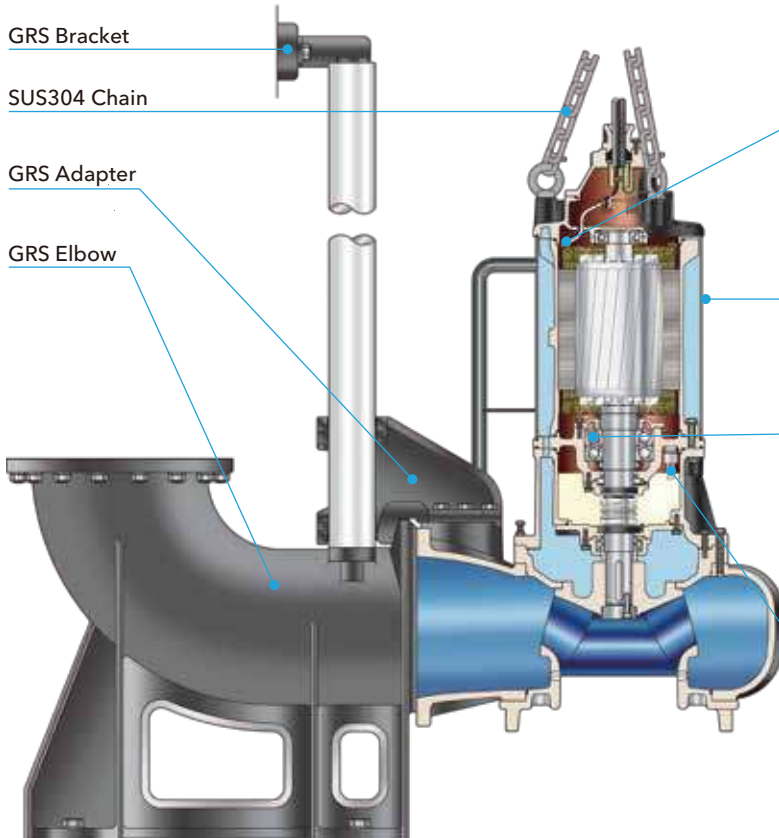


AF-10xx ~ AF-16xx (GRS)

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	50Hz
	Motor	4P (1500rpm) / 6P (1000rpm) • Dry Motor
	Insulation	Class H
	Protection	IP68
	Protector	MTS & MS
	Bearing	Ball type
	M.seal	Double M.seals
	Impeller	Channel (E)
Material	Upper Cover	FC200 / GG-20
	Motor Frame	FC200 / GG-20
	Shaft	SUS420J2 / X30Cr13
	M.seal	CA/CE & SiC/SiC • SiC/SiC & SiC/SiC
	Casing	FC200 / GG-20
	Impeller	FC200 / GG-20
	Cable	VCT/PNCT/H07RN-F
Optional	Pumps can be customized to fit specifications	

ACCESSORIES : ELBOW / GRS-GUIDE RAIL SYSTEMS



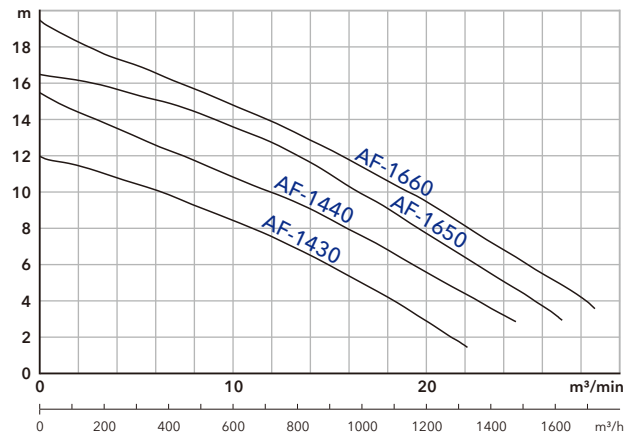
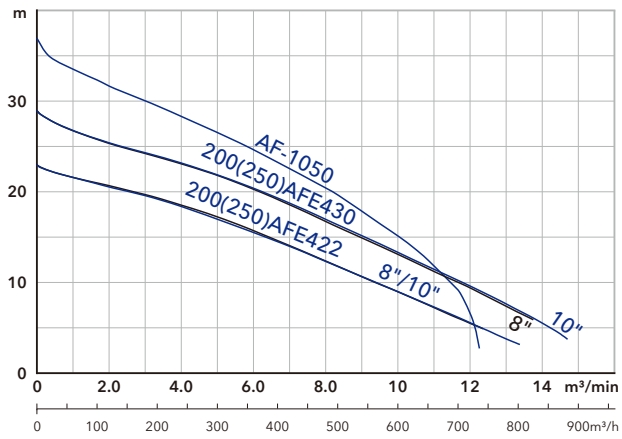
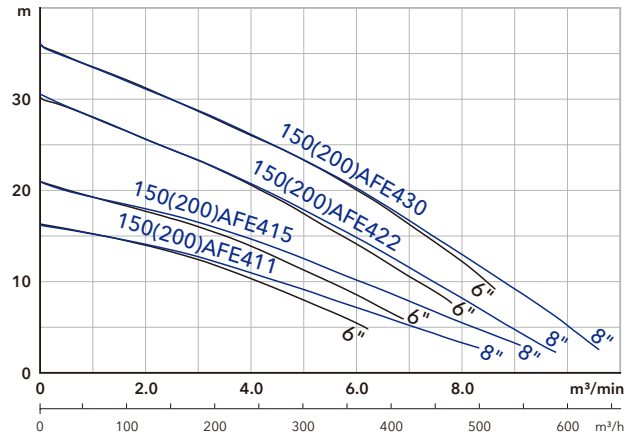
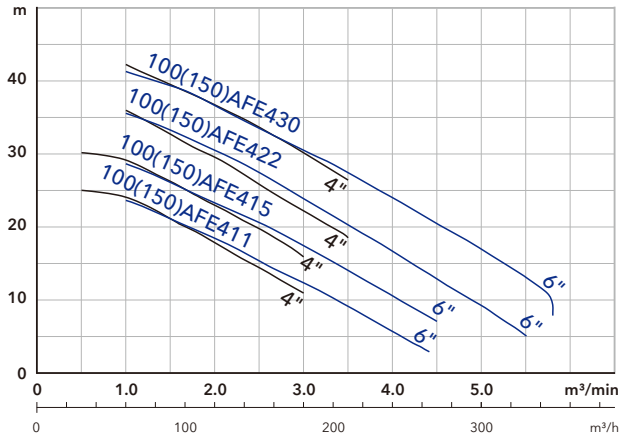
ELBOW

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.



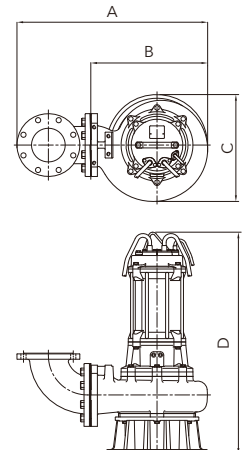
PERFORMANCE CURVES



PERFORMANCE SPECS.

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

Pole	Model	Output HP(kW)	Discharge Inch(mm)	Phase Ø	Start Method	Head m	Standard		Solid Passage mm	Weight kg	Dimensions mm				
							m³/min	m³/h			3Ø	A	B	C	D
4P	100(150)AFE411	15 (11)	4" (100)	3	Y-D/DOL	24	1.0	60	76	164	702	458	400	908	
			6" (150)			15.5	2.5	150			741				
	100(150)AFE415	20 (15)	4" (100)	3	Y-D/DOL	29	1.0	60	76	176	702	458	400	908	
			6" (150)			21	2.5	150			741				
	100(150)AFE422	30 (22)	4" (100)	3	Y-D/DOL	35.5	1.0	60	76	229	743	520	449	973	
			6" (150)			27.5	2.5	150			803				
	100(150)AFE430	40 (30)	4" (100)	3	Y-D/DOL	42	1.0	60	76	250	743	520	449	1013	
			6" (150)			33.5	2.5	150			803				
	150(200)AFE411	15 (11)	15 (11)	6" (150)	3	Y-D/DOL	13	2.5	150	80	198	838	545	450	1076
				8" (200)			9.5	4.5	270			893			
150(200)AFE415	20 (15)	20 (15)	6" (150)	3	Y-D/DOL	17	2.5	150	80	208	838	545	450	1076	
			8" (200)			13.5	4.5	270			893				
150(200)AFE422	30 (22)	30 (22)	6" (150)	3	Y-D/DOL	24	2.5	150	76	276	865	572	485	1132	
			8" (200)			19	4.5	270			920				
150(200)AFE430	40 (30)	40 (30)	6" (150)	3	Y-D/DOL	30	2.5	150	76	298	865	572	485	1172	
			8" (200)			25	4.5	270			920				
200(250)AFE422	30 (22)	30 (22)	8" (200)	3	Y-D/DOL	17.5	4.5	270	100x84	293	1010	642	524	1177	
			10" (250)			13.5	7.0	420			1073				
200(250)AFE430	40 (30)	40 (30)	8" (200)	3	Y-D/DOL	22.5	4.5	270	100x84	315	1010	642	524	1217	
			10" (250)			18.5	7.0	420			1073				
6P	AF-1050	50 (37)	10" (250)	3	Y-D/DOL	22	7.0	420	60	691	1273	786	676	1621	
	AF-1430	30 (22)	14" (350)	3	Y-D/DOL	6.5	14.0	840	120	828	1544	908	813	1763	
	AF-1440	40 (30)	14" (350)	3	Y-D/DOL	8.5	14.0	840	120	833	1544	908	813	1763	
	AF-1650	50 (37)	16" (400)	3	Y-D/DOL	7.5	20.0	1200	120	965	1558	908	813	1763	
	AF-1660	60 (45)	16" (400)	3	Y-D/DOL	10.5	18.0	1080	120	970	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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