



AF SEWAGE PUMPS

150~400mm

The right pump
for waste water treatment



HCP PUMP MANUFACTURER CO., LTD

MDL-2715E
2006.05

You need the submersible pumps.

Recommend to use submersible pump

The submersible pump is widely accepted by the industry all over the world since it was developed, it is the best method to save the cost and easy for operation, the following are the features of HCP pumps:

■ Compact

The submersible pump comprise an electric motor and pump portion directly coupled, the advantages are not only smaller in size and cost effective, but also they are more easier to use than other types of pumps.

■ Lower operation cost

When operating under the water, almost no need basic construction to support the pump, it can be installed in most of the locations.

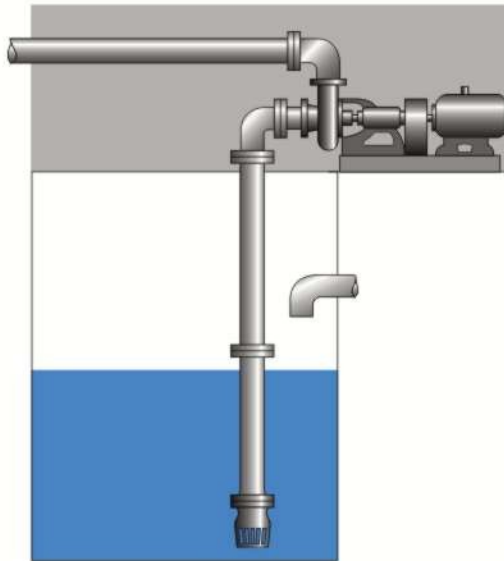
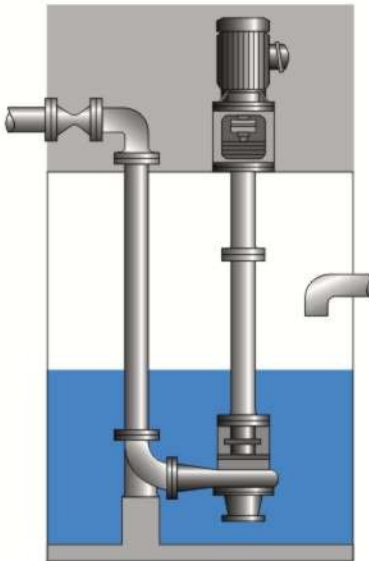
■ Less equipment needed

No need suction pipe, only connecting discharge pipe for operation, the difficulties of suction head, excess piping and valves, as well as shaft alignment can be avoided, also no shelter needed to reduce the cost of basic construction.

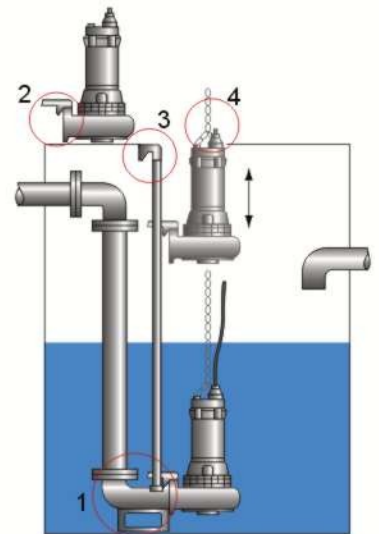
■ Improving working environment

Less space needed at ground level to increase the availability of floor space, the submersible pump can be installed in uneven sump with quiet operation.

PAST



NOW



TOS installation

■ GUIDE RAIL SYSTEM

The TOS body was bolted and fixed on the sump floor, through the stainless steel chain the guide rail steer the pump to the TOS body, it locks and releases automatically to the discharge connection.

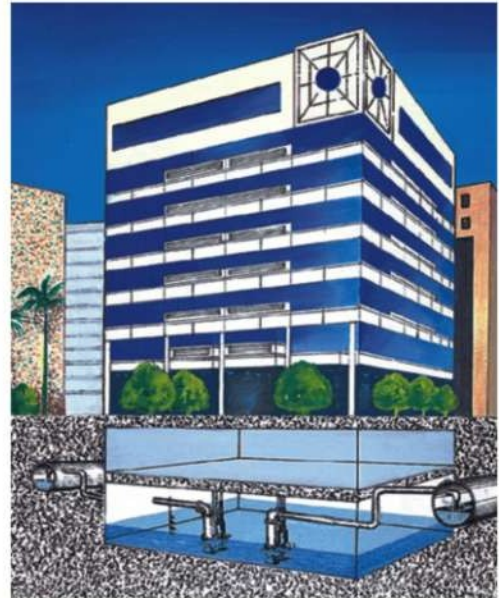
To ensure working convenience and safety, the worker can hoist up the pump in short time without emptying the sump or go down the sump to remove the pump, due the pump can be installed and removed easily, whenever the pump is needed inspection or maintenance, the standby pump can be installed to avoid the loss and inconvenience during the down time.

■ TOS accessories of guide rail system:

- ① TOS body..... 1 set.
- ② Sliding hook..... 1 pc.
- ③ Fix rod..... 1 pc.
- ④ SUS304 chain..... 1 pc.

■ FEATURES

- International standard design: cable, autocut, dry-motor, silicon carbide mechanical seals, high grade cast iron offering highest quality and performance.
- Multiple impeller designs to handle solids laden sewage and/or fibrous substance.
- Superior abrasion resistant mechanical seal manufactured with silicon carbide to ensure the best seal effect.
- For extra protection, an oil seal ring has been installed under the oil chamber. This lip seal helps prevent the ingress of silt and sand into the lower seal chamber.
- Full product range offers low to high head and flow capabilities, with compact and easy installation. Also, available with TOS Guide Rail system, which allows automatic remote connection and disconnection without entry to the sump being required.



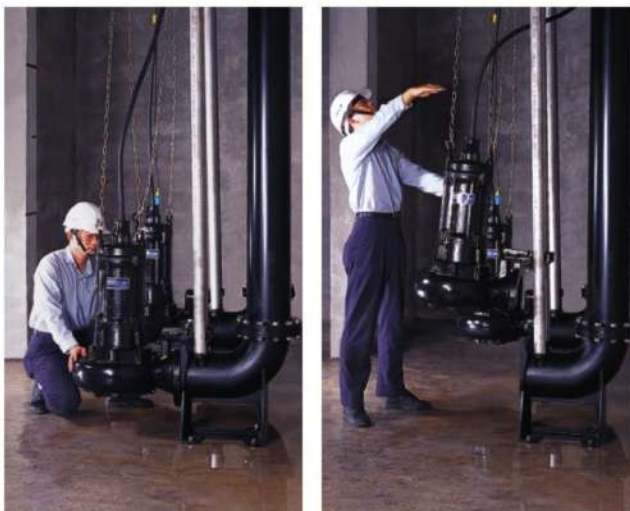
● Waste water treatment in building

■ APPLICATIONS

- Drainage of waste water from the liberation tank, purifying tank and sewage tank in water treatment plant.
- Drainage of waste water and inclusion containing fibrous admixtures from leather factory, dyeing factory and food processing factory.
- Sewage management, accumulated water, septic tank, stock farm.
- Pumping sewage from single and multifamily dwellings.
- Pumping sewage from hotels, restaurants, schools and public buildings.



● Waste water treatment in industry



● Tos-Guide Rail System Installation



● Actual Accomplishment

■ SPECIFICATION

Diameter(mm)		150~400	
Pumping liquid	Liquid temp	0~40°C	
	Liquid nature	Aquaculture water · industrial water and sewage	
	Max depth	30m	
Pump	Structure	Impeller	Enclosed channel non-clogging impeller
		Mech. Seal	Double Mechanical seal
		Protector	WD water detector(Optional)
	Material	Upper cover	FC-200
		Bearing	Heavy duty bearing
		Impeller	FC-200
		Casing	FC-200
		Wear ring	Stainless steel
		M. Seal	Silicon carbide
Motor	Type	Dry motor	
	Insulation · polarity	F Class · 4P/6P	
	Frequency	50Hz/60Hz	
	Protector	Miniature thermal protector(MTP)	
	Material	Frame	FC-200
		Main shaft	SUS420J2
		Cable	2PNCT

■ SPECIAL SPECIFICATION

Motor change	· Complete series 3 phase 200V~480V, other specified rated voltages
Material change	· Impeller material stainless steel
Other change	· WD water detector and bearing over-heat protector are depend on each pump.
	· Lengthen the cable · Discharge change

◎Coating

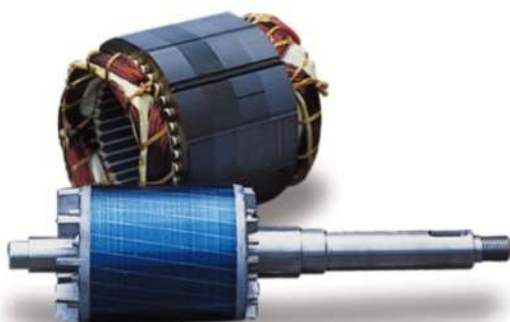
Pump surface coated with thickened Epoxy resisting corrupted from the corroding liquid. To provide better protection to pump. If pump is going to pumping strong corroding liquid could still chose the better materials.

◎Bearing

Adopting heavy duty and high quality imported bearing which perform better loading ability to prolong life. The design has qualified with following specification: bearing's dimension, basic rated load, install environment.

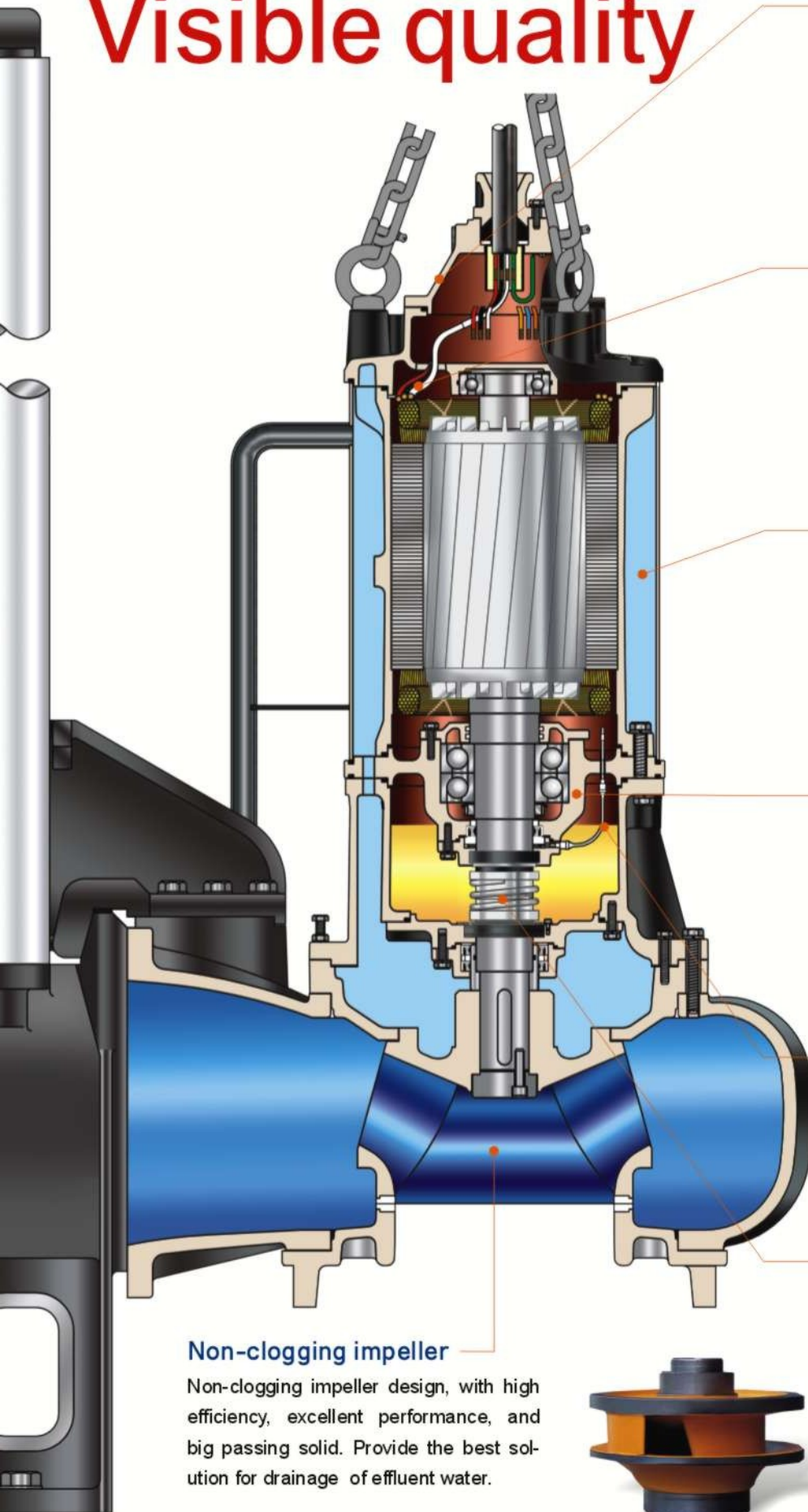
◎Electric motor

The motor are produced under strict quality control procedure. The stator winding is impregnated with vanish resin and keep in the oven for cure up to 8 hours for whole process to insure better insulating ability. To provide long run life ability.





Visible quality



Cable base

Enforced water resisting ability by epoxy encapsulated at the point where the cord enters the enclosure through the cord grommet and also at the point where the cord conductors exit the cord jacket, completely to insulating from humidity and water.

Motor over-heat protector

Installed MTP - Miniature Thermal Protector which is embedded in the windings of the motor. When the temperature of the windings increases to MTP acting point, and external motor protection circuit is activated to protect the motor from over heating.

Cooling jacket

The water flow through motor outer side, cooling down the temperature of motor. Could lower the pump's operation water level. To reach the lowest possible operation level. Increasing the pumping range. (Over 37Kw, CJ is requisite specification.)

Bearing over-heat protector (optional)

Installed BTP - Bearing Thermal Protector on the bearing side. When there is abnormal temperature raised over the rated temperature. The protector will open cutting off the power supply, to prolong the bearing life.

WD Water detector(optional)

Installed in the mechanical seal room to detect any water leakage from water infiltrating. To send a signal to control panel to send warning messages, preventing motor failure. To save maintenance cost.

High quality mechanical seal

The mechanical seal are made of silicon carbide. The better ability to resist against abrasion and heat with long life to prevent water leaking into the motor.

Non-clogging impeller

Non-clogging impeller design, with high efficiency, excellent performance, and big passing solid. Provide the best solution for drainage of effluent water.

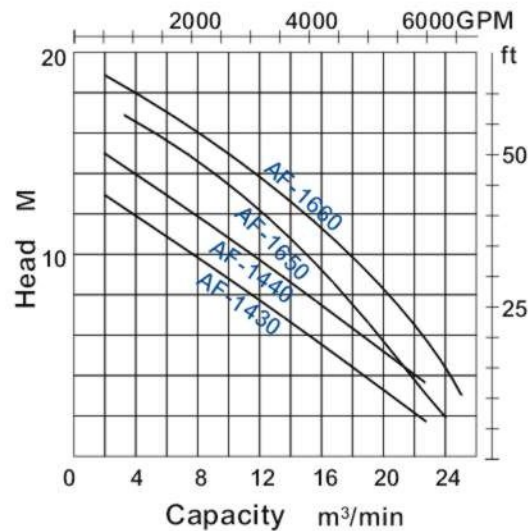
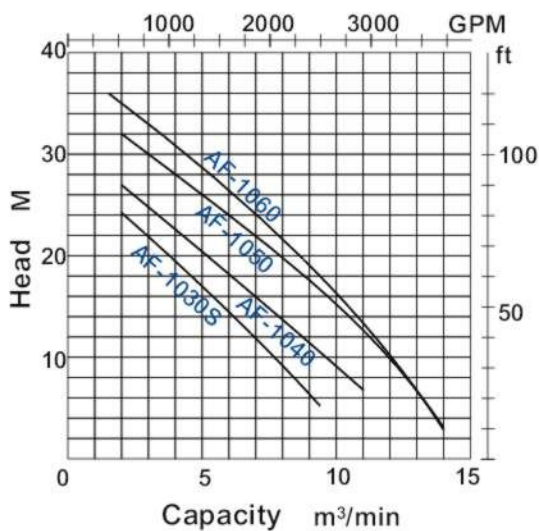
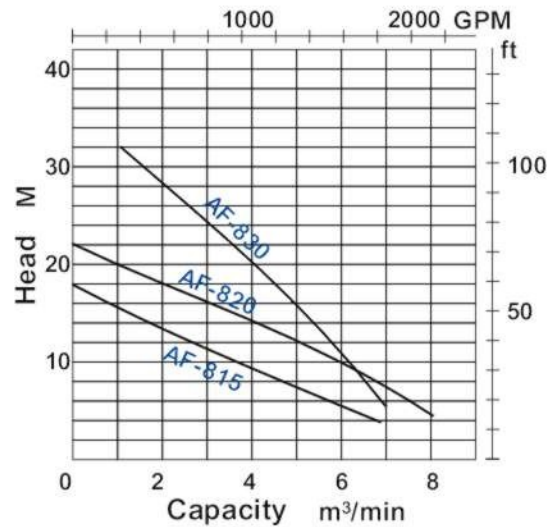
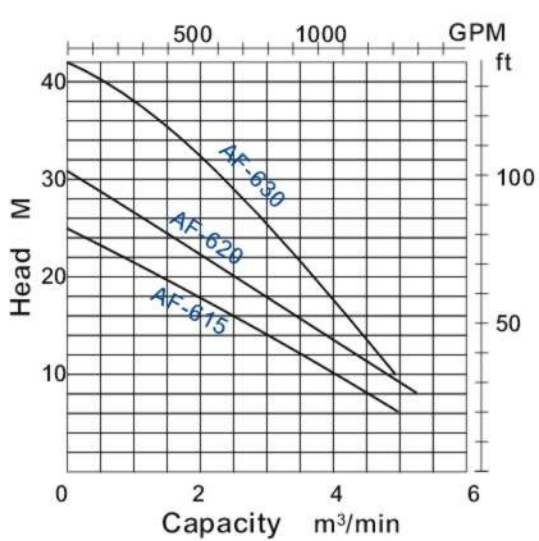


AF 60Hz(150~400mm)

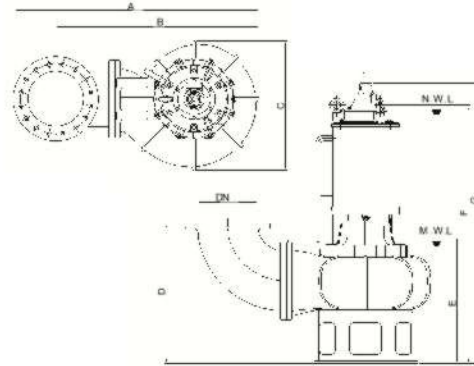
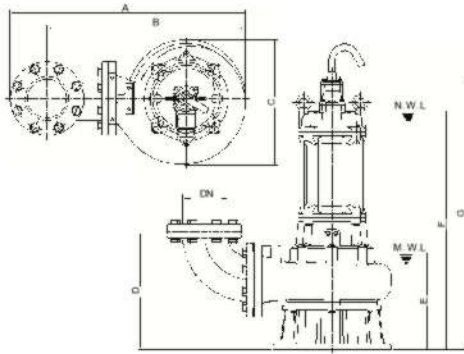
■ SPECIFICATION

Hz	Type	Power HP(kW)	Discharge Inch(mm)	Phase ϕ	Pole	Start Method	Head M	Capacity m ³ /min	Head ft	Capacity GPM	Weight Kg(lb)	Solid passage mm
60	AF-615	15(11)	6(150)	3	4	Y- Δ	16	2.5	53	660	260(570)	70
	AF-620	20(15)	6(150)	3	4	Y- Δ	20	2.5	65	660	270(595)	70
	AF-630	30(22)	6(150)	3	4	Y- Δ	29	2.5	96	660	232(510)	76
	AF-815	15(11)	8(200)	3	4	Y- Δ	8.5	4.5	28	1200	277(610)	70
	AF-820	20(15)	8(200)	3	4	Y- Δ	13	4.5	43	1200	290(640)	70
	AF-830	30(22)	8(200)	3	4	Y- Δ	18	4.5	60	1200	310(680)	76
	AF-1030S	30(22)	10(250)	3	4	Y- Δ	12	7	40	1850	750(1650)	60
	AF-1040	40(30)	10(250)	3	4	Y- Δ	16	7	53	1850	755(1665)	60
	AF-1050	50(37)	10(250)	3	4	Y- Δ	22	7	73	1850	765(1690)	60
	AF-1060	60(45)	10(250)	3	4	Y- Δ	24	7	80	1850	770(1700)	60
	AF-1430	30(22)	14(350)	3	8	Y- Δ	6.5	14	21	3700	950(2095)	120
	AF-1440	40(30)	14(350)	3	6	Y- Δ	8.5	14	28	3700	955(2105)	120
	AF-1650	50(37)	16(400)	3	6	Y- Δ	7.5	18	25	4750	965(2125)	120
	AF-1660	60(45)	16(400)	3	6	Y- Δ	10	18	33	4750	970(2140)	120

■ PERFORMANCE CURVES

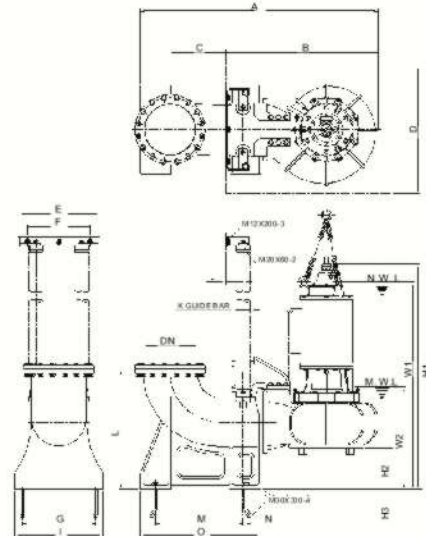
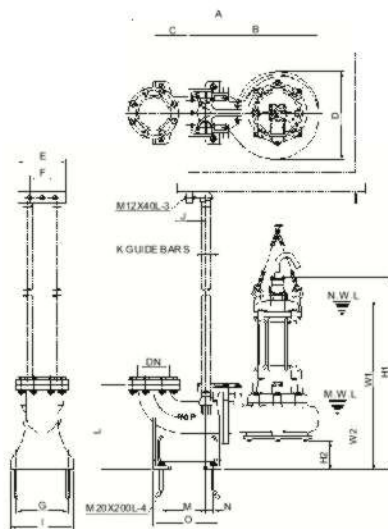


EXTERNAL DIMENSTON



TYPE	DN	A	B	C	D	E	F	G
AF-615	150	895	755	477	450	367	905	1026
AF-620	150	806	666	455	385	329	801	938
	150	895	755	477	450	367	905	1026
AF-630	150	850	710	497	398	332	900	1021
AF-815	200	1045	880	501	483	372	910	1032
AF-820	200	1045	880	501	483	372	910	1032
AF-830	200	896	731	479	411	285	878	998
	200	1120	955	620	650	475	1220	1340

TYPE	DN	A	B	C	D	E	F	G
AF-1030S	250	1273	1070	676	684	660	1500	1621
AF-1040	250	1273	1070	676	684	660	1500	1621
AF-1050	250	1273	1070	676	684	660	1500	1621
AF-1060	250	1273	1070	676	684	660	1500	1621
AF-1430	350	1564	1277	813	884	800	1645	1764
AF-1440	350	1564	1277	813	884	800	1645	1764
AF-1650	400	1564	1277	813	884	800	1645	1764
AF-1660	400	1564	1277	813	884	800	1645	1764



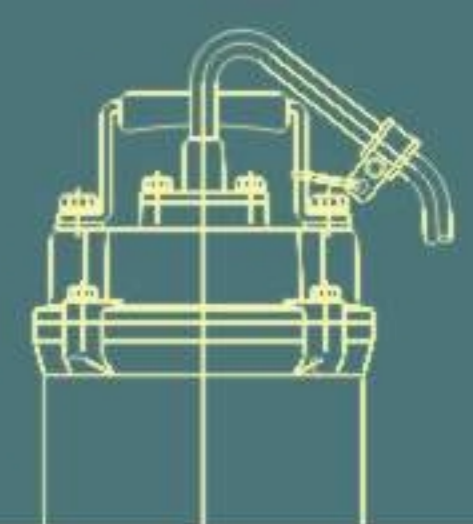
TYPE	DN	A	B	C	D	E	F	G	I	J	K	L	M	N	O	W1	W2	H1	H2
AF-615	150	1035	708	187	449	260	135	280	340	95	2"	455	240	40	370	922	384	1043	153
AF-620	150	922	721	170	455	245	100	200	245	70	2"	325	176	24	280	798	329	948	10
	150	1035	708	187	449	260	135	280	340	95	2"	455	240	40	370	922	384	1043	153
AF-630	150	966	765	170	497	245	100	200	245	70	2"	325	176	24	280	881	332	1031	10
AF-815	200	1159	757	230	491	300	175	320	380	95	2"	545	269	41	400	410	948	1070	176
AF-820	200	1159	757	230	491	300	175	320	380	95	2"	545	269	41	400	410	948	1070	176
AF-830	200	1123	721	230	479	300	175	320	380	95	2"	545	269	41	400	983	420	1133	135
	200	1465	1070	230	620	320	280	280	350	100	1 1/2"	550	200	80	370	1220	470	1340	150
AF-1030S	250	1558	1025	330	676	460	340	360	460	120	2 1/2"	650	385	45	560	1412	602	1562	203
AF-1040	250	1558	1025	330	676	460	340	360	460	120	2 1/2"	650	385	45	560	1412	602	1562	203
AF-1050	250	1558	1025	330	676	460	340	360	460	120	2 1/2"	650	385	45	560	1412	602	1562	203
AF-1060	250	1558	1025	330	676	460	340	360	460	120	2 1/2"	650	385	45	560	1412	602	1562	203
AF-1430	350	1943	1203	440	813	650	500	580	700	135	4"	950	691	19	950	1625	872	1775	372
AF-1440	350	1943	1203	440	813	650	500	580	700	135	4"	950	691	19	950	1625	872	1775	372
AF-1650	400	1943	1203	440	813	650	500	580	700	135	4"	950	691	19	950	1625	872	1775	372
AF-1660	400	1943	1203	440	813	650	500	580	700	135	4"	950	691	19	950	1625	872	1775	372

● We reserve the right to alter specifications of product at any time without giving prior notice.

Agent:

HCP PUMP MANUFACTURER CO., LTD.

AF TYPE SEWAGE PUMPS



FEATURES

- International standard design: VCT cable, autocut, dry-motor, silicon carbide mechanical seal, high grade cast iron offering highest quality and performance.
- PU/E multiple impeller designs to handle sewage solids laden sewage and/or fibrous substance.
- Superior abrasion resistant mechanical seal manufactured with silicon carbide to ensure the best seal effect.
- Oil lip seal mounted outside of seal chamber stops solids gathering around seal faces.
- Full range offering low to high head and flow capabilities, with compact and easy installation. Also, available with Guide Rail System, which allows automatic remote connection and disconnection without entering the pit.

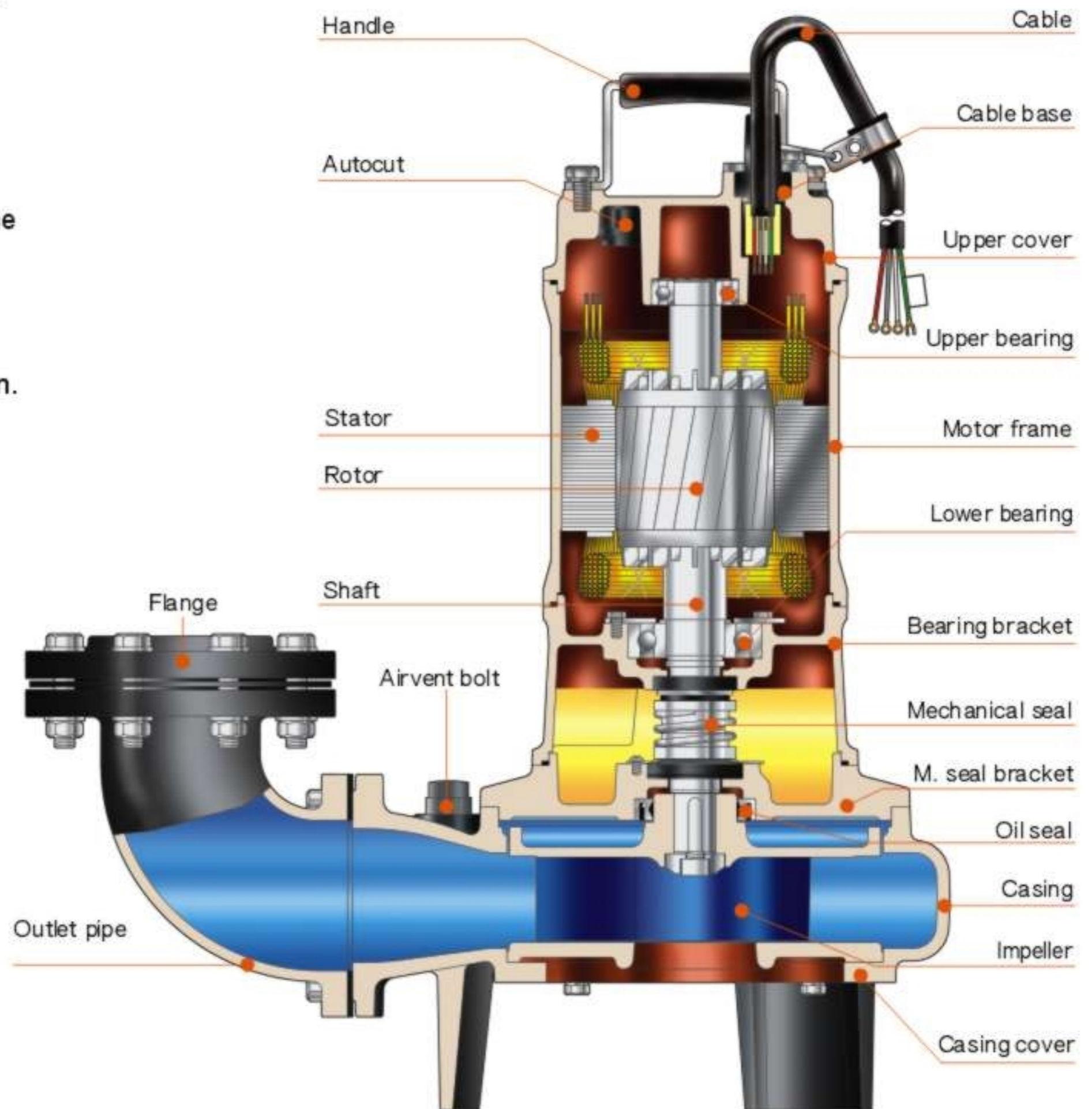
◎ Auto cut

- Equipped with an automatic reset motor protector, which prevents the motor from burning due to high temperature/high amperes and/or locked impeller.



◎ Cable base

- Epoxy resin sealed cable base to prevent moisture from entering into motor.



APPLICATIONS

- Drainage of waste water from the attenuation tank, purifying tank and sewage tank in water treatment plant.
- Drainage of waste water additives containing fibrous admixtures from leather factory, dyeing factory and food processing factory.
- Sewage management, accumulated water, septic tank, stock farm.
- Pumping sewage from single and multifamily dwellings.
- Pumping sewage from hotels, restaurants, schools and public buildings.



- Public facilities drainage

SPECIFICATION

		Disc. diameter(mm)	50 · 80 · 100
Pumping liquid		Liquid temp.	0~40°C
		Liquid nature	Waste water and sewage
		Max depth	30m
Pump	Structure	Impeller	Non-clog U type : Semi-Vortex P type : Semi-open
		Mech seal	Double mechanical seals
		Bearing	Ball type bearing
	Material	Upper cover	FC-200
		Casing	FC-200
		Impeller	FC-200
		M.seal	Sic/Sic
Motor	Type	Dry motor	
	Pole	2P/4P	
	Insulation	B Class(5HP:F Class)	
	Frequency	60Hz	
	Protector	Auto-cut	
	Material	Frame	FC-200
		Main shaft	SUS410/SUS403 SUS420J2(4P:3HP~5HP)
Cable		VCT	

※Pumps can be manufactured with specific requirements.



50AFU 2.4
50AFU 2.8

50AFU 4.4
50AFU 4.8

AF-15A • 33

AF-35A

AFP

AFU

MULTIPLE IMPELLERS OPTIONS TO SOLVE WASTE WATER DRAINAGE PROBLEMS



● P TYPE IMPELLER

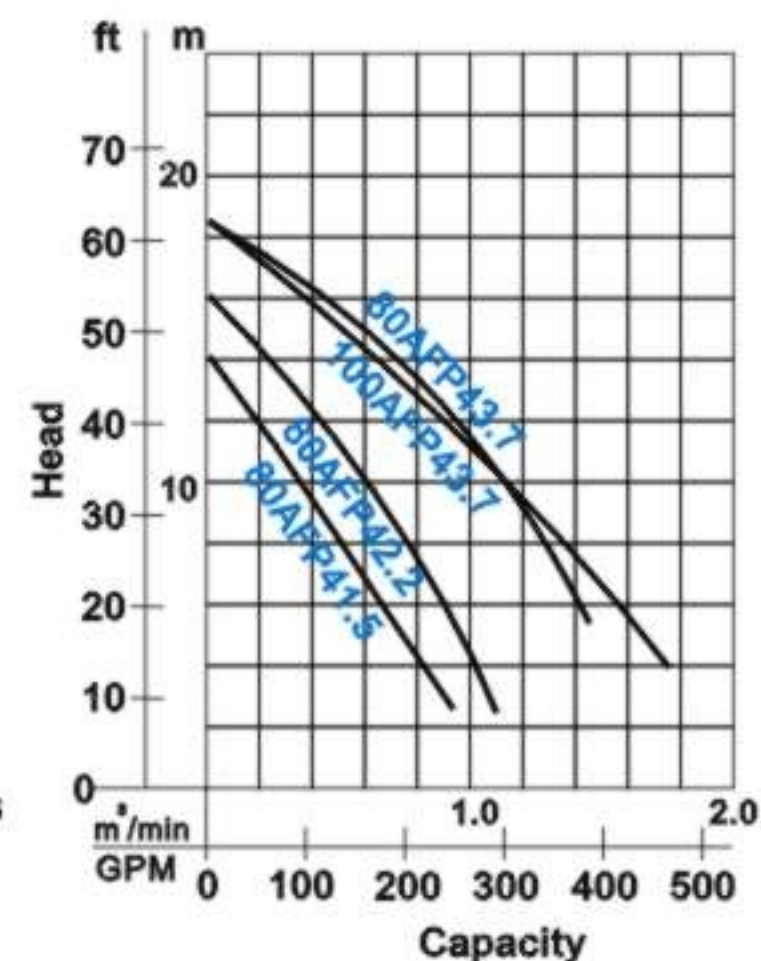
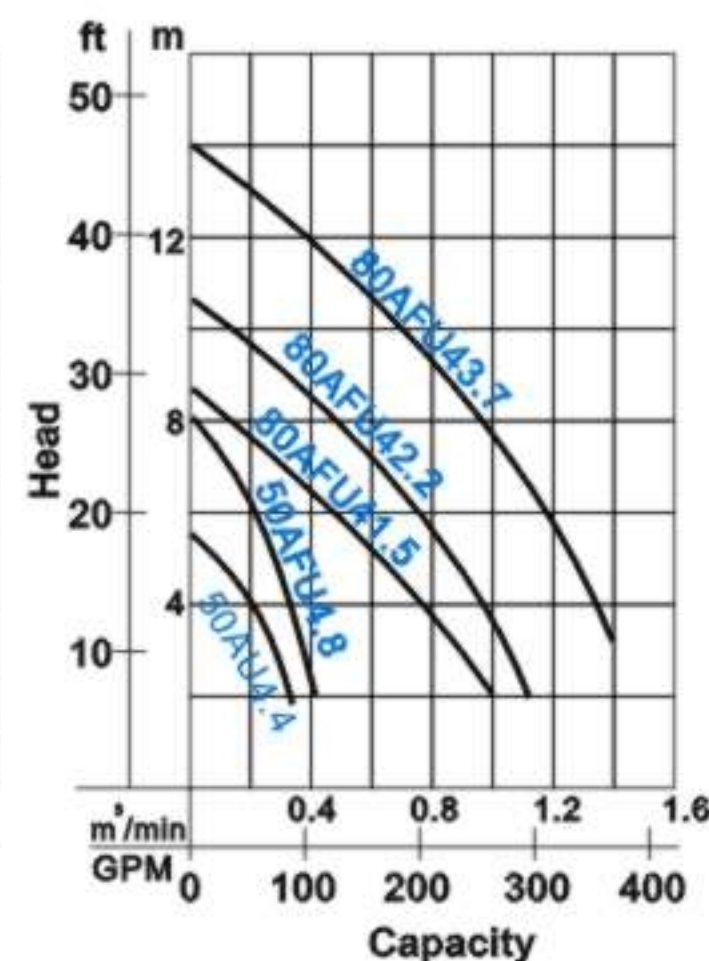
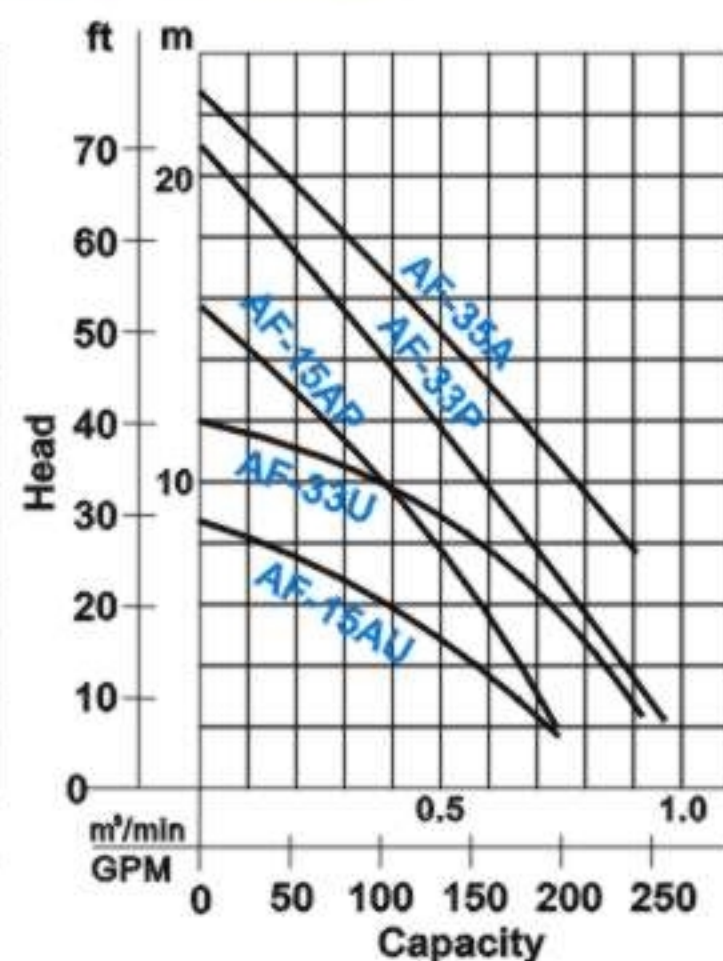
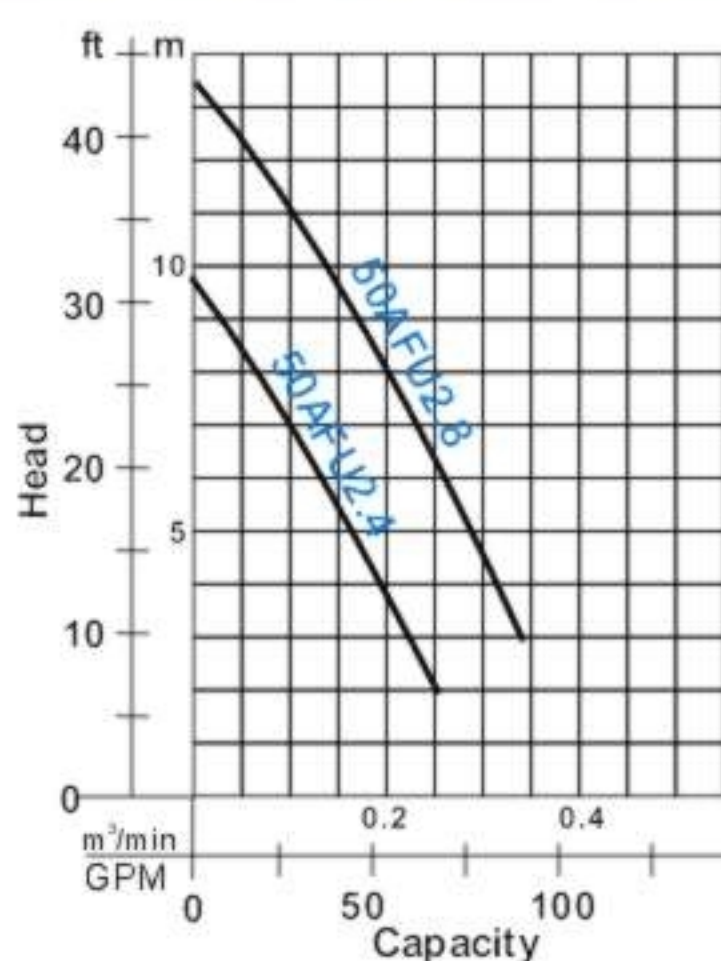
Semi-open impeller enable cutting of delicate materials to prevent clogging.
Optional:
The impeller embedded with a tungsten blade.



● U TYPE IMPELLER

Vortex impellers create a hydraulic passage, allowing long fibrous materials to pass through without any contact with the impeller.
Pump of U type impeller(3 phase) operating in a higher current when reverse, please adjust into fit directions.

■ PERFORMANCE CURVE



■ PERFORMANCE SPEC.

Pole	Model	Power HP (kW)	Discharge Inch (mm)	Phase ϕ	Start Method	Head m	Capacity m³/min	Head feet	Capacity GPM	Weight kg (lb)	solid passage mm	Dimension (mm)		
												Length	Width	Height
2P	50AFU2.4	0.5(0.4)	2"(50)	1	Capacitor	5.5	0.15	18	40	20(44)	35	236	152	418
	3	Direct	20(44)											
	50AFU2.8	1(0.75)	2"(50)	1	Capacitor	8	0.2	26	54	21(46)	35	236	152	418
	3	Direct	21(46)											
	AF-15AU	2(1.5)	3"(80)	1	Capacitor	5	0.5	16	132	42(92)	46	412	250	595
	3	Direct	40(88)	547										
	AF-33U	3(2.2)	3"(80)	3	Direct	9	0.5	30	132	42(92)	46	412	250	570
AF-35A	5(3.7)	3"(80)	3	Direct	15	0.5	50	132	58(128)	56	478	220	588	
AF-15AP	2(1.5)	3"(80)	1	Capacitor	8	0.5	26	132	42(92)	31	412	250	595	
3	Direct	38(84)	547											
AF-33P	3(2.2)	3"(80)	3	Direct	10	0.6	33	160	42(97)	32	412	250	570	
4P	50AFU4.4	0.5(0.4)	2"(50)	1	Capacitor	3.5	0.23	12	61	29(64)	50	346	204	516
	3	Direct	28(62)											
	50AFU4.8	1(0.75)	2"(50)	1	Capacitor	5	0.3	16	80	30(66)	50	346	204	516
	3	Direct	29(64)											
	80AFU41.5	2(1.5)	3"(80)	3	Direct	5	0.6	16	160	60(132)	76	500	256	622
	80AFU42.2	3(2.2)	3"(80)	3	Direct	7	0.6	23	160	71(156)	76	538	289	673
	80AFU43.7	5(3.7)	3"(80)	3	Direct	10.5	0.6	33	160	80(176)	76	538	289	697
	80AFP41.5	2(1.5)	3"(80)	3	Direct	8	0.5	26	132	54(119)	50	530	290	567
	80AFP42.2	3(2.2)	3"(80)	3	Direct	10	0.6	33	160	73(161)	50	553	313	623
	80AFP43.7	5(3.7)	3"(80)	3	Direct	15	0.6	50	160	82(180)	50	553	313	643
100AFP43.7	5(3.7)	4"(100)	3	Direct	11.5	1.0	37	265	84(185)	50	570	313	643	



AF-55 · 75

AF-610 · 615 · 620

AF-815 · 820



● Guide rail system installation



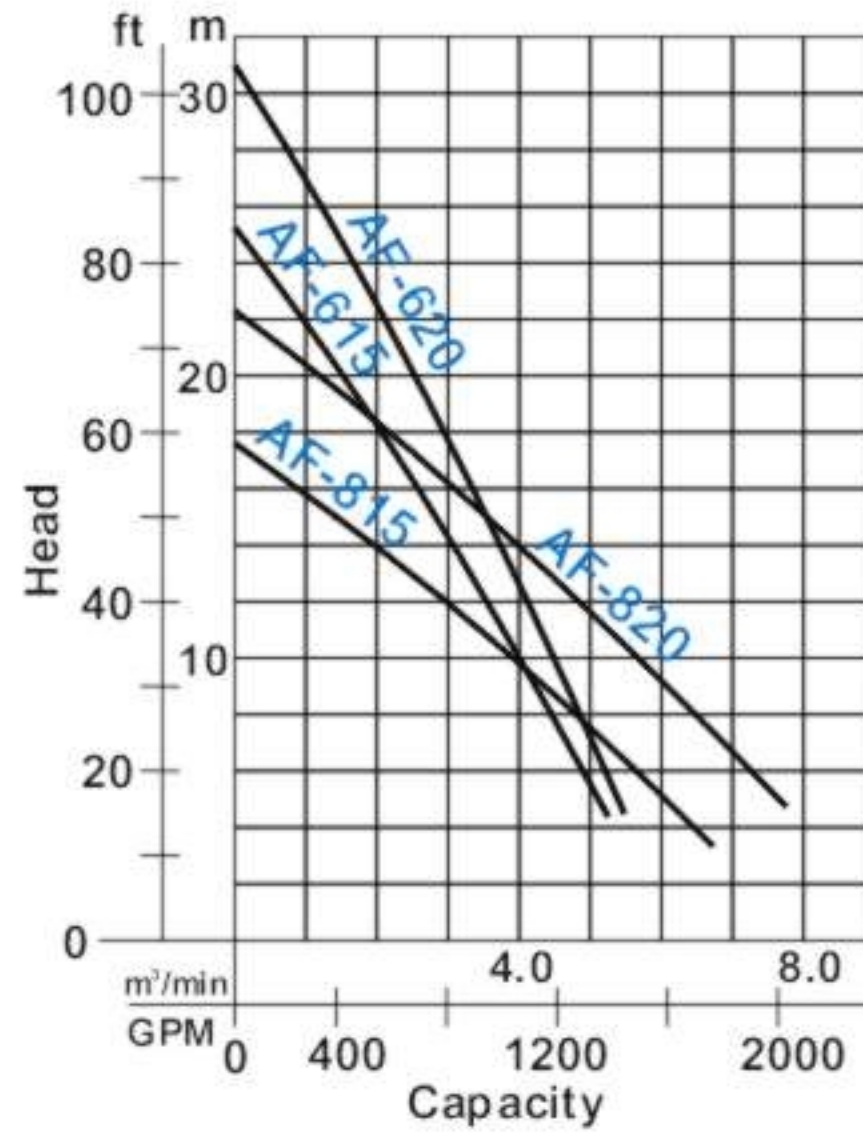
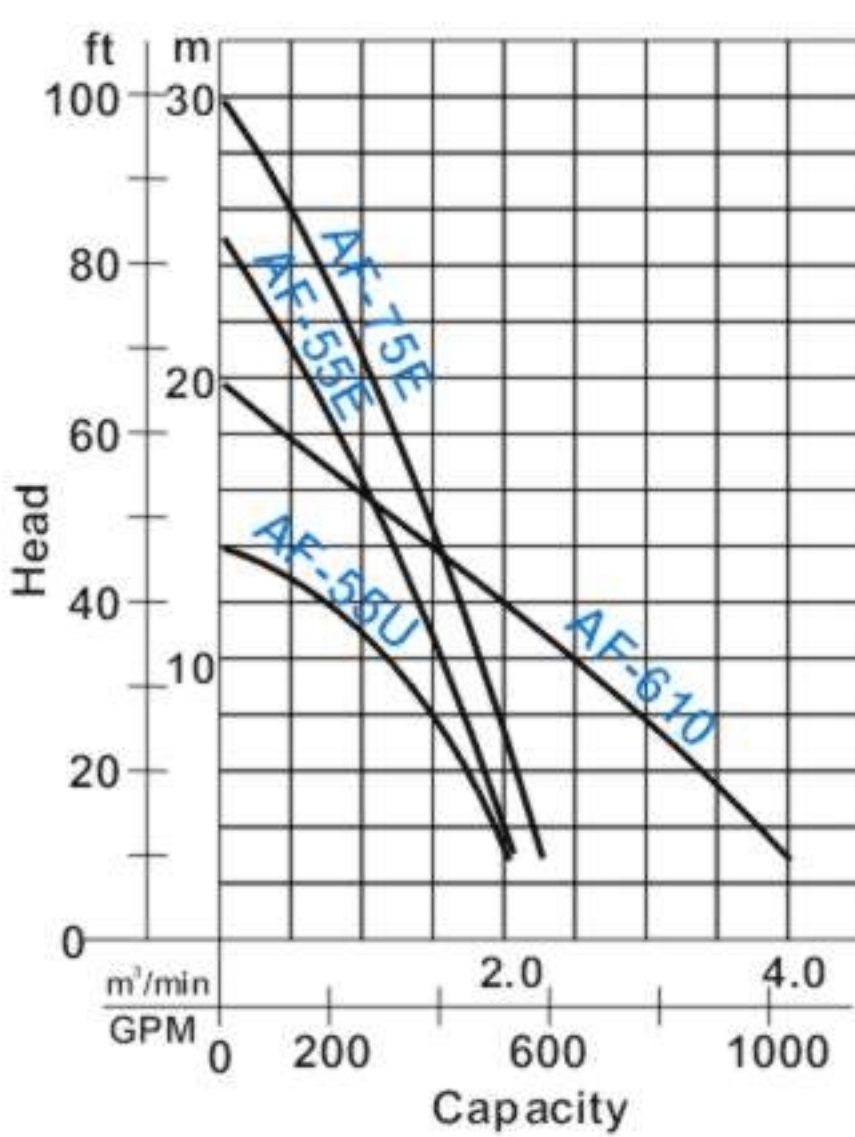
● E TYPE IMPELLERS

Enclosed channel non-clog impeller, allows large solids passage preventing clogging and allowing effective drainage/dewatering for higher head applications with solids laden media.



● Sewer channel

■ PERFORMANCE CURVE



● Multi-drainage waste water treatment plant

■ PERFORMANCE SPEC.

Type	Power HP(kW)	Discharge Inch(mm)	Phase \varnothing	Start Method	Head m	Capacity m ³ /min	Head feet	Capacity GPM	Weight kg(lb)	Solid passage mm	Dimension(mm)		
											Length	Width	Height
AF-55U	7.5(5.5)	4"(100)	3	Direct	11	1.0	36	265	138(304)	65	687	385	807
AF-55E	7.5(5.5)	4"(100)	3	Direct	16	1.0	53	265	143(315)	40	687	385	807
AF-75E	10(7.5)	4"(100)	3	Direct	21	1.0	69	265	160(352)	40	687	385	816
AF-610	10(7.5)	6"(150)	3	Direct	10	2.5	33	662	230(506)	73	888	449	870
AF-615	15(11)	6"(150)	3	Y- Δ	16	2.5	53	662	260(572)	70	895	477	1026
AF-620	20(15)	6"(150)	3	Y- Δ	20	2.5	66	662	270(594)	70	895	477	1026
AF-815	15(11)	8"(200)	3	Y- Δ	8.5	4.5	28	1190	277(609)	70	1045	501	1021
AF-820	20(15)	8"(200)	3	Y- Δ	13	4.5	43	1190	285(627)	70	1045	501	1032