

**F/FN** **60Hz**  
SERIES  
SUBMERSIBLE SEWAGE  
EFFLUENT PUMPS



# F/FN

## FEATURES

- U/P type impellers are designed to meet the various different operating ranges in wastewater applications.
- F/FN-UL non-clog models, capable passing larger solid.
- HCP's professional assembly line, complimented with a synthetic production test to ensure each IP68 motor with highest level of final pump quality.
- Oil Elevation Disk design in the oil chamber to ensure the mechanical seals lubrication and to extend the service life of pump.
- Standard accessories include : cable with an epoxy resin sealed water-resistant cable base, Auto-cut Protector, double mechanical seals, Food grade lubricant and lip seal design.

## APPLICATIONS

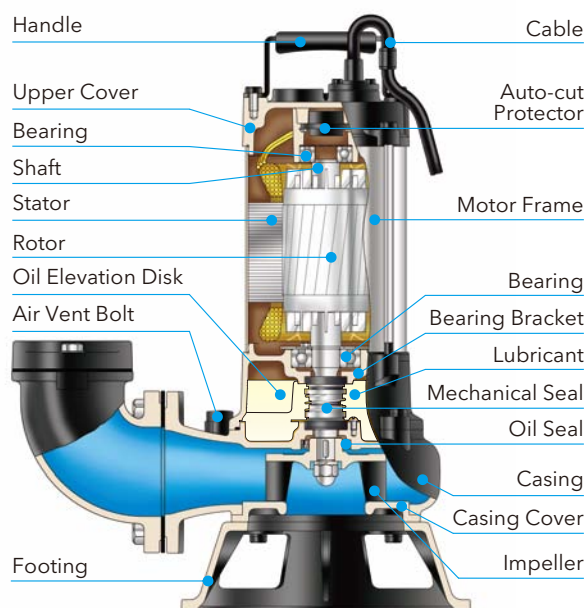
- Drainage of sewage from the building basements, hotel industry, and waste water from factories.
- Drainage of sewage from industrial process factories.
- Emptying of septic tanks, cesspits and sewage pump stations.
- Pumping surface and drainage water from garages and sprinkler systems.

## PRODUCT NOMENCLATURE

F/FN	–	3	2	U	L
Type		Discharge inch	HP	Impeller type (U/P)	Larger solid handling

## SPECIFICATIONS

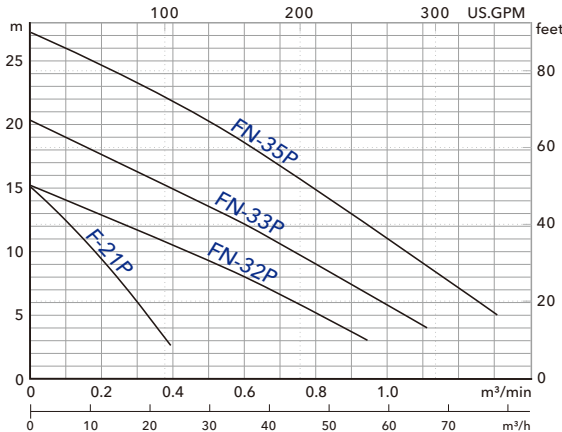
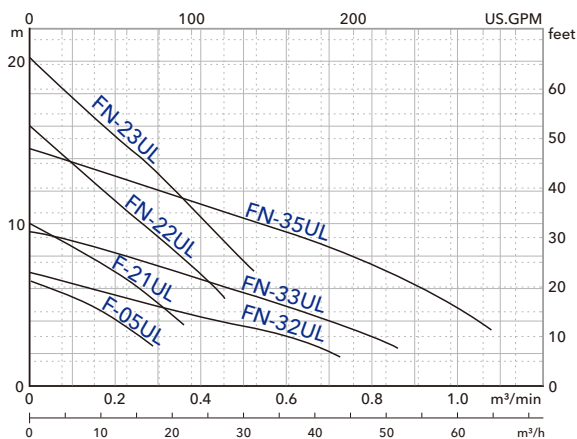
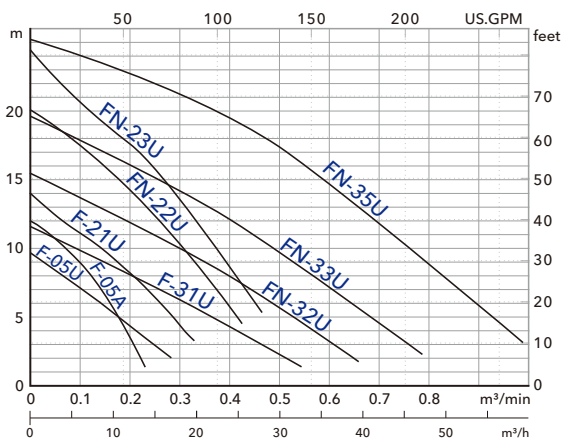
Item		Description
Limits Of Use	Liquid Temp.	0~40°C (32~104°F)
	Applications	General wastewater • Sewage and Industrial water
Type	Frequency	60Hz
	Motor	2P ( 3600rpm ) • Dry Motor ( F- 05A : Oil Motor )
	Insulation	Class B(0.5~1HP) • Class F(2~5HP)
	Protection	IP68
	Protector	Auto-cut (0.5HP 1Ø : Thermal)
	Bearing	Ball Type
	M.seal	Double M.seals (F-05A : Single M.seals)
Material	Impeller	Vortex • Open
	Upper Cover	FC200
	Motor Frame	SUS304
	Shaft	SUS410(0.5~1HP) • SUS403(2~5HP)
	M.seal	CA/CE & SiC/SiC (F-05A : CA/CE)
	Casing	FC200
	Impeller	FC200 (F-05A : PA)
Optional	Cable	VCT or H07RN-F or SJOW/SOW
Optional	Pumps can be customized to fit specifications Floating Switch (2P : 0.5~3HP)	



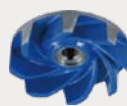




## PERFORMANCE CURVES



### U Type Vortex Impeller



Vortex impeller produces a vortex (whirlpool effect) allowing long fibrous materials and solid waste to pass through, without contact with the impeller.

### P Type Open Impeller

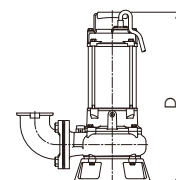
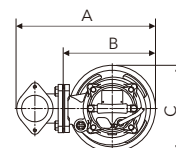


Open impeller (Single or Two Vanes) design. Impeller is excellent to use for waste materials to prevent clogging.

## PERFORMANCE SPECS.

※ Note : Weight Without Cable & Elbow Set.

	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	10 D	30
U Type	F-05A	0.5 (0.4)	2" (50)	1	Capacitor	8-0.1	26-26	10(3/8")	12(26)	-	225	-	161	349	-
	F-05U	0.5 (0.4)	2" (50)	1 3	Capacitor DOL	5.5-0.15	18-40	35(1 3/8")	16(35)	15(33)	243	-	154	424	424
	F-21U	1 (0.75)	2" (50)	1 3	Capacitor DOL	8-0.2	26-52	35(1 3/8")	17(37)	16(35)	243	-	154	424	424
	F-31U	1 (0.75)	3" (80)	1 3	Capacitor DOL	6-0.3	20-80	30(1 1/8")	18(40)	17(37)	276	-	173	445	445
	F-05UL	0.5 (0.4)	2" (50)	1 3	Capacitor Direct	4-0.2	13-52	50(2")	17(37)	16(35)	243	-	164	449	449
	F-21UL	1 (0.75)	2" (50)	1 3	Capacitor DOL	6-0.25	20-66	50(2")	18(40)	17(37)	243	-	164	449	449
	FN-22U	2 (1.5)	2" (50)	1 3	Capacitor DOL	14-0.2	46-52	35(1 3/8")	30(66)	25(55)	288	-	202	546	477
	FN-23U	3 (2.2)	2" (50)	1 3	Capacitor DOL	17.5-0.2	57-52	35(1 3/8")	32(71)	27(60)	288	-	202	546	477
	FN-32U	2 (1.5)	3" (80)	1 3	Capacitor DOL	8-0.4	26-105	50(2")	32(71)	28(62)	402	260	202	588	519
	FN-33U	3 (2.2)	3" (80)	1 3	Capacitor DOL	12-0.4	39-105	50(2")	35(77)	30(66)	402	260	202	600	519
	FN-35U	5 (3.7)	3" (80)	3	DOL	17-0.5	56-132	50(2")	-	33(73)	453	260	202	-	539
	FN-22UL	2 (1.5)	2" (50)	1 3	Capacitor DOL	10-0.25	33-66	50(2")	31(68)	26(57)	288	-	202	576	507
	FN-23UL	3 (2.2)	2" (50)	1 3	Capacitor DOL	14-0.25	46-66	50(2")	33(73)	28(62)	288	-	202	588	507
	FN-32UL	2 (1.5)	3" (80)	1 3	Capacitor DOL	3.5-0.5	12-132	76(3")	35(77)	30(66)	407	265	221	640	571
	FN-33UL	3 (2.2)	3" (80)	1 3	Capacitor DOL	5.5-0.5	18-132	76(3")	37(82)	32(71)	407	265	221	652	571
	FN-35UL	5 (3.7)	3" (80)	3	DOL	9.5-0.6	31-158	76(3")	-	35(77)	458	265	221	-	591
P Type	F-21P	1 (0.75)	2" (50)	1 3	Capacitor DOL	9-0.2	30-52	22(7/8")	20(44)	19(42)	276	-	235	459	459
	FN-32P	2 (1.5)	3" (80)	1 3	Capacitor DOL	8-0.6	26-158	35(1 3/8")	34(75)	30(66)	417	275	260	590	521
	FN-33P	3 (2.2)	3" (80)	1 3	Capacitor DOL	12-0.6	39-158	35(1 3/8")	37(82)	32(71)	417	275	260	602	521
	FN-35P	5 (3.7)	3" (80)	3	DOL	18.5-0.6	61-158	35(1 3/8")	-	35(77)	468	275	260	-	541





## ACCESSORIES : ELBOW / GRS-GUIDE RAIL SYSTEMS

F/FN 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.



ELBOW



GRS

## PRODUCT FEATURES



### 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.



### High Efficiency Dry Motors

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



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