

F/FN **50Hz** SERIES
SUBMERSIBLE SEWAGE
EFFLUENT PUMPS



※ V Type: 3"(80mm) Vertical Discharge Model



F/FN

FEATURES

- U/P Type impellers are designed to meet the various different operating ranges in wastewater applications.
- F/FN UL Type Non-clog models, capable passing larger solid.
- F/FN V Type lightweight, portable and easy installation.
- 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 waterresistant cable base, Auto-cut Protector, double mechanical seals, Food grade lubricant and oil seal design.

APPLICATIONS

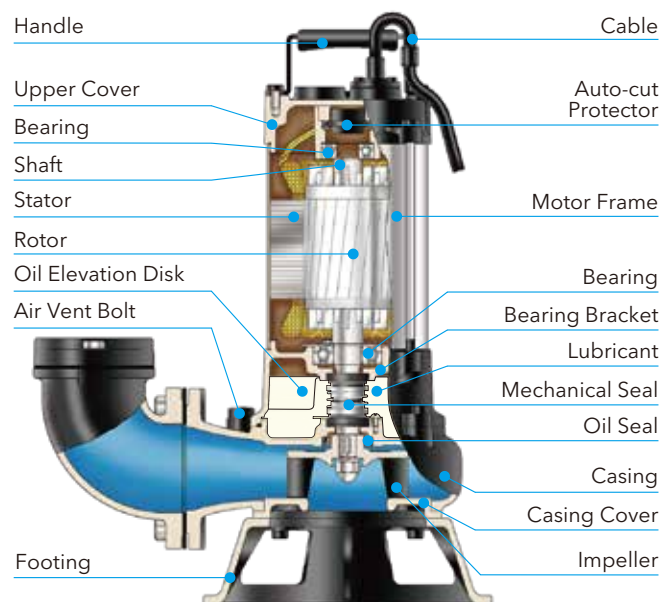
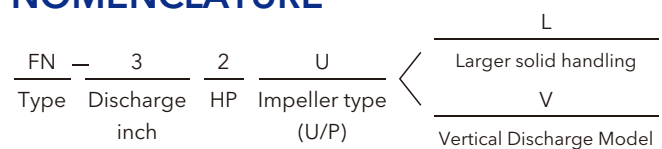
- Drainage of sewage from the building basements, hotel industry, and waste water from factories.
- Drainage of sewage from industrial process factories.
- Emptying of septic tanks, cesspits and sewage pump stations.
- Pumping surface and drainage water from garages and sprinkler systems.

U Type Vortex Impeller	P Type Open Impeller
	
Vortex impeller produces a vortex (whirlpool effect) allowing long fibrous materials and solid waste to pass through, without contact with the impeller.	Open impeller (Single or Two Vanes) design. Impeller is excellent to use for waste materials to prevent clogging.

SPECIFICATIONS

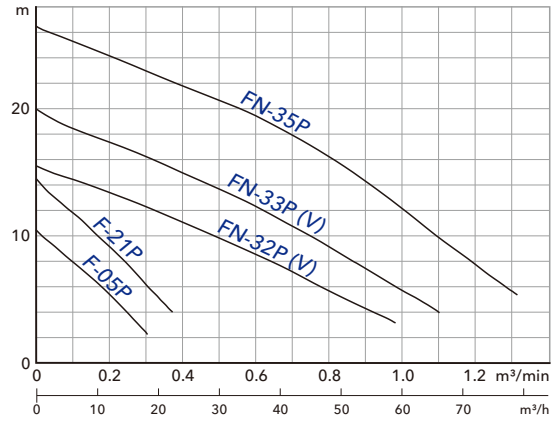
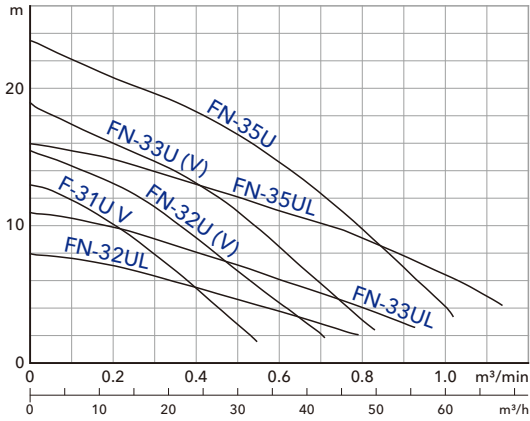
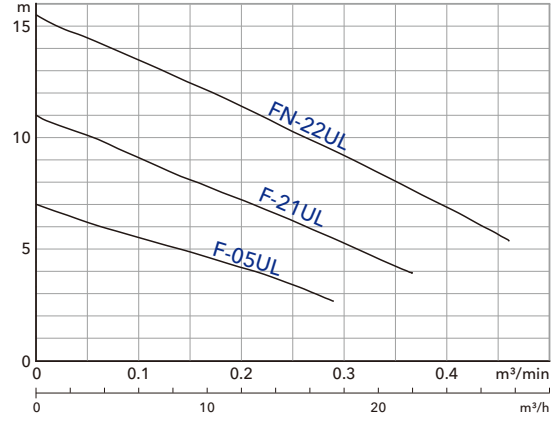
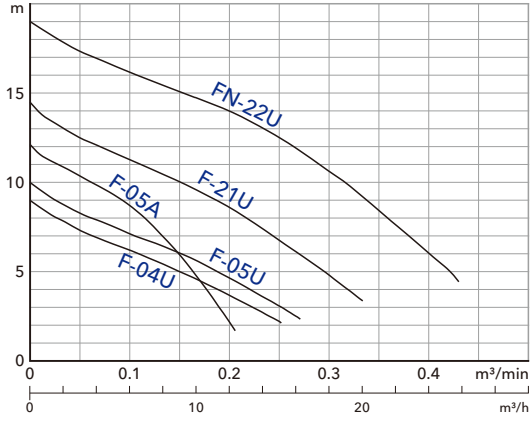
Item	Description
Limits Of Use	Liquid Temp. 0~40°C (32~104°F)
	Applications General wastewater • Sewage and Industrial water
Type	Frequency 50Hz
	Motor 2P (3000rpm) • Dry Motor (F-05A : Oil Motor)
	Insulation Class B (0.5~1HP) • Class F (2~5HP)
	Protection IP68
	Protector Auto-cut (0.5HP 1Ø : Thermal)
	Bearing Ball Type
	M.seal Double M.seals (F-05A : Single M.seals)
	Impeller Vortex • Open
Material	Upper Cover FC200 / GG-20
	Motor Frame SUS304 / X5CrNi18-10
	Shaft SUS410 / X10Cr13 (0.5~1HP) • SUS403 / X5Cr13 (2~5HP)
	M.seal CA/CE & SiC/SiC (F-05A : CA/CE)
	Casing FC200 / GG-20
	Impeller FC200 / GG-20 (F-05A : PA)
	Cable VCT or H07RN-F
Optional	Pumps can be customized to fit specifications Floating Switch (2P : 0.5~3HP)

PRODUCT NOMENCLATURE





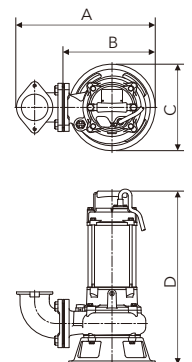
PERFORMANCE CURVES

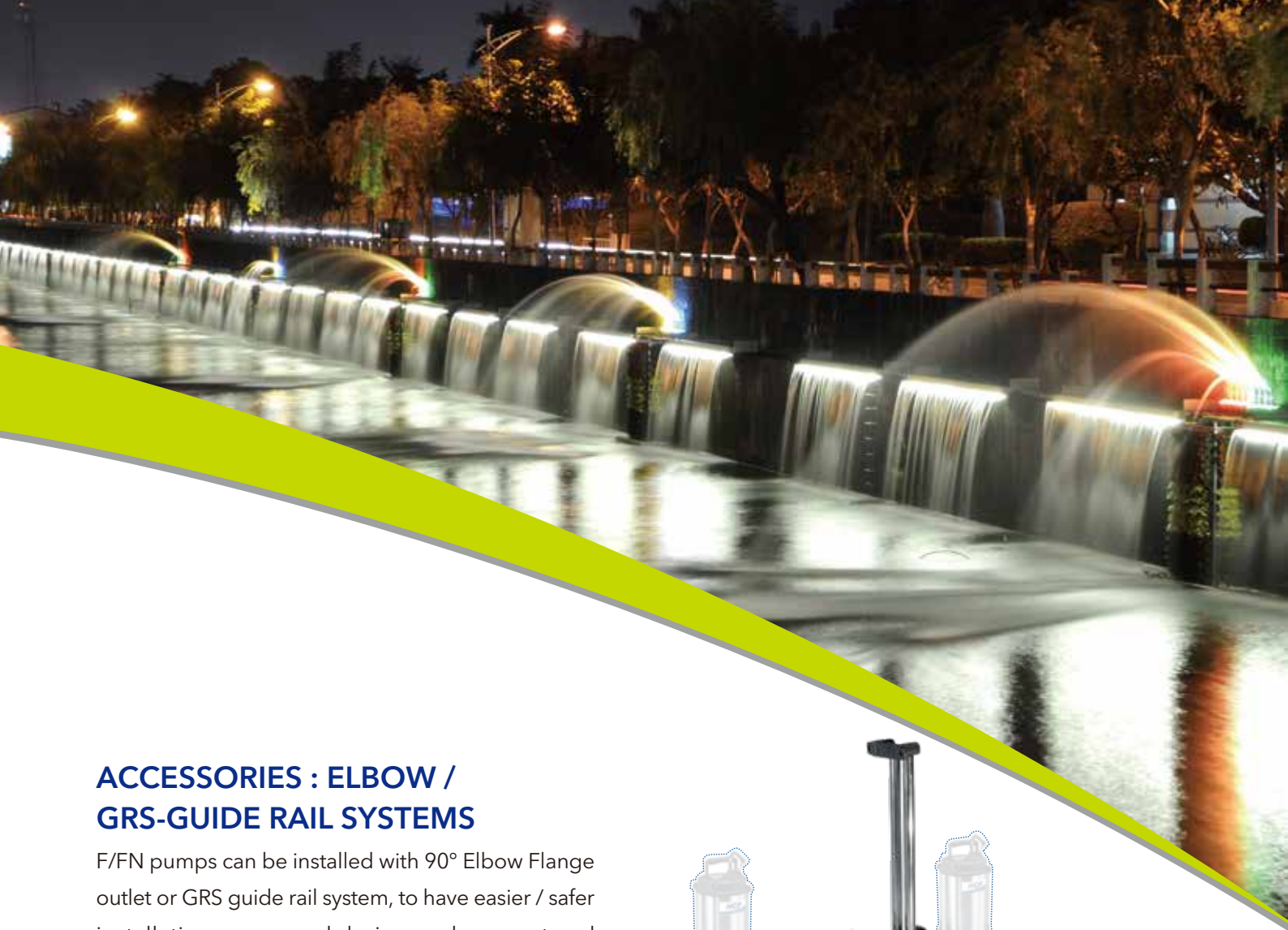


PERFORMANCE SPECS.

※ Note : Weight Without Cable & Elbow Set.

	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	
U Type	F-05A	0.5 (0.4)	2" (50)	1	Capacitor	8	0.12	7.2	10	12	-	225	-	161	349	-
	F-04U	0.5 (0.4)	2" (50)	1	Capacitor	5	0.15	9	35	15	-	243	-	154	382	-
	F-05U	0.5 (0.4)	2" (50)	1 3	Capacitor DOL	6	0.15	9	35	16	15	243	-	154	424	424
	F-21U	1 (0.75)	2" (50)	1 3	Capacitor DOL	8	0.2	12	35	17	16	237	-	154	425	425
	F-31U V	1 (0.75)	3" (80)	1 3	Capacitor DOL	7	0.3	18	30	18	17	278	-	173	456	456
	F-05UL	0.5 (0.4)	2" (50)	1 3	Capacitor DOL	4	0.2	12	50	17	16	243	-	164	449	449
	F-21UL	1 (0.75)	2" (50)	1 3	Capacitor DOL	6	0.25	15	50	18	17	243	-	164	449	449
	FN-22U	2 (1.5)	2" (50)	1 3	Capacitor DOL	14	0.2	12	35	30	25	288	-	202	546	477
	FN-32U	2 (1.5)	3" (80)	1 3	Capacitor DOL	8.5	0.4	24	50	32	28	402	260	202	588	519
	FN-33U	3 (2.2)	3" (80)	1 3	Capacitor DOL	12.5	0.4	24	50	35	30	402	260	202	600	519
	FN-35U	5 (3.7)	3" (80)	3	DOL	16.5	0.5	30	50	-	33	453	260	202	-	539
	FN-22UL	2 (1.5)	2" (50)	1 3	Capacitor DOL	10	0.25	15	50	31	26	288	-	202	576	507
	FN-32UL	2 (1.5)	3" (80)	1 3	Capacitor DOL	4.5	0.5	30	76	35	30	407	265	221	640	571
	FN-33UL	3 (2.2)	3" (80)	1 3	Capacitor DOL	7	0.5	30	76	37	32	407	265	221	652	571
FN-35UL	5 (3.7)	3" (80)	3	DOL	11	0.6	36	76	-	35	409	267	202	-	591	
FN-32U V	2 (1.5)	3" (80)	1 3	Capacitor DOL	8.5	0.4	24	50	32	28	319	-	202	588	519	
FN-33U V	3 (2.2)	3" (80)	1 3	Capacitor DOL	12.5	0.4	24	50	35	30	319	-	202	600	519	
P Type	F-05P	0.5 (0.4)	2" (50)	1 3	Capacitor DOL	5.5	0.2	12	22	16	15	276	-	235	459	459
	F-21P	1 (0.75)	2" (50)	1 3	Capacitor DOL	9	0.2	12	26	20	19	276	-	235	459	459
	FN-32P	2 (1.5)	3" (80)	1 3	Capacitor DOL	8.5	0.6	36	35	34	30	417	275	260	590	521
	FN-33P	3 (2.2)	3" (80)	1 3	Capacitor DOL	12	0.6	36	35	37	32	417	275	260	602	521
	FN-35P	5 (3.7)	3" (80)	3	DOL	19	0.6	36	35	-	35	468	275	260	-	541
	FN-32P V	2 (1.5)	3" (80)	1 3	Capacitor DOL	8.5	0.6	36	35	34	30	339	-	260	590	521
	FN-33P V	3 (2.2)	3" (80)	1 3	Capacitor DOL	12	0.6	36	35	37	32	339	-	260	602	521





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. The GRS does not support the V Type Models.



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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