

Unique Solutions For Unique Situations



Installation Manual

Operation Manual

FS SERIES Heavy Duty Dewatering & Fountain Pumps



1. PRIOR TO OPERATION

- A.** Be sure to provide adequate grounding and install the leakage breaker without fail. It is important that the pump be properly grounded and provided with leakage breaker to prevent the users from serious electric shock injury.
- B.** Make sure the voltage of the power supply is identical to the one indicated on the nameplate (label) of the pump. Do not plug into other voltage or phase than what is the indicated on the pump nameplate.
- C.** Do not have a "dry-run" in the air, it will damage the pump.
- D.** Do not use the electrical cable to carry the pump. Do not lift or lower the pump by the cable, please carry with pump handle.
- E.** Extension of power cable: If the power cable has to be extended, select the proper cable size within the allowable length. If cable is extended too far, a drop in voltage may occur, which will stop the running of the motor and damage the pump. To prevent any possible accident, do not use the pump in a pond, swimming pool or bath tub if there are people present.



**THREADED
NPT AVAILABLE**
(Up to 2" on Models
MUFS250, MUFS400 & MUFS750 only)

2. CARE UNDER OPERATION

- A.** The motor protection device is built-in to shut off the circuit automatically and to prevent the motor from burning out when the motor is over loaded due to the clogging by foreign particles or plug-in to wrong power source (Voltage, Frequency, etc.). Should the pump stop suddenly, check the piping, the pump itself and the connection of electrical cable to the power source. The motor protector automatically trips off in a few seconds if there is any abnormality. Resume the operation after clearing the trouble and leave the pump as is.
- B.** Consult your Munro dealer if you are unable to find the trouble. Unauthorized disassembly or assembly is prohibited as it will probably result in inferiority in performance or damage to the motor.



3. CARE AFTER OPERATION

You do not need to take any special care of your pump after operation, however note the following points:

- A.** If freezing temperatures are expected, remove pump from water and store in a dry place.
- B.** If pump is left in the water for a long period of time without running, pump may show signs of rusting and possibly accumulate floating matter which will shorten the life of your pump. In this case, let the pump run in clean water to remove floating matter from inside the pump. Thoroughly dry and store.

4. APPLICATIONS

Light, Rugged, Abrasion & Corrosion-Resistant

- A.** Newly designed double casing with circumferential flow system assures superior cooling and excellent durability for long continuous running.
- B.** Abrasion and corrosion-resistant casings and impellers are suitable for sea water transfer, light chemical, and the food industry.
- C.** Wastewater discharge for households, industries, and small municipalities.
- D.** Construction sites and civil engineering projects including subways, tunnels and dams.
- E.** Utilities: Telecommunications, power and generation plants.

5. TROUBLE-SHOOTING

To prevent serious accidents, disconnect the power supply before inspecting the pump

CONDITIONS OF DISORDER	REASONS	COUNTERMEASURE
<i>Pump fails to start.</i>	No power is supplied. (Power outage)	Contact power company or an electrical repair shop.
	Open circuit or poor connection of the cabtyre cable.	Check if there is an open circuit in the cabtyre cable or wiring.
	Impeller is obstructed.	Inspect the pump and remove the obstruction.
<i>Pump starts but stops immediately, causing the motor protector to actuate.</i>	Impeller is obstructed.	Inspect the pump and remove the obstruction.
	Voltage drop.	Correct the voltage to the rated voltage, or use an extension cable that meets the standard.
	A 50 Hz model is operated at 60 Hz.	Check the nameplate and replace the pump or impeller.
	The strainer is obstructed, and the pump was operated dry for a long period.	Remove the obstruction.
	Motor sounds abnormal or will not run.	Repair the motor or replace with a new motor.
	The pump is picking up too much sediment.	Place a concrete block under the pump to prevent pump from picking up sediment.
<i>The pump's head and pumping volume is lower.</i>	The impeller is worn.	Replace impeller.
	The hose appears to be clogged.	Minimize the number of bends in the hose. (in an area with a large amount of debris, use the pump in a meshed basket.)
	The strainer is obstructed or buried.	Remove the obstruction. Place a concrete block under the pump to prevent pump from picking up sediment.
	The motor rotates in reverse.	Interchange the power supply terminal connection.
<i>The pump generates noise or vibration.</i>	The bearing of the motor may be damaged.	Replace the bearing. Contact an authorized service center or the dealer where you purchased the equipment.

6. AFTER-CARE:

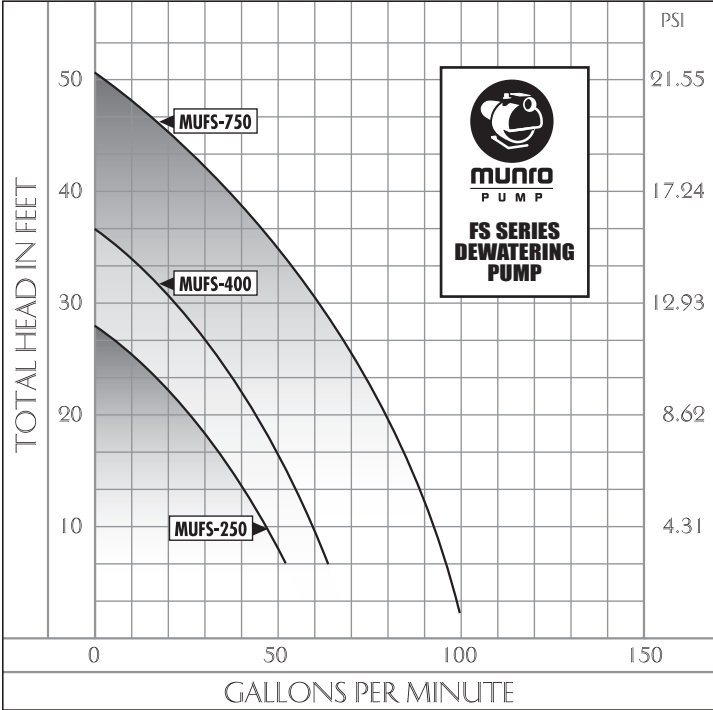
If you can not find out the reason for trouble, please consult an authorized dealer or an authorized service center.

7. TECHNICAL SPECIFICATIONS

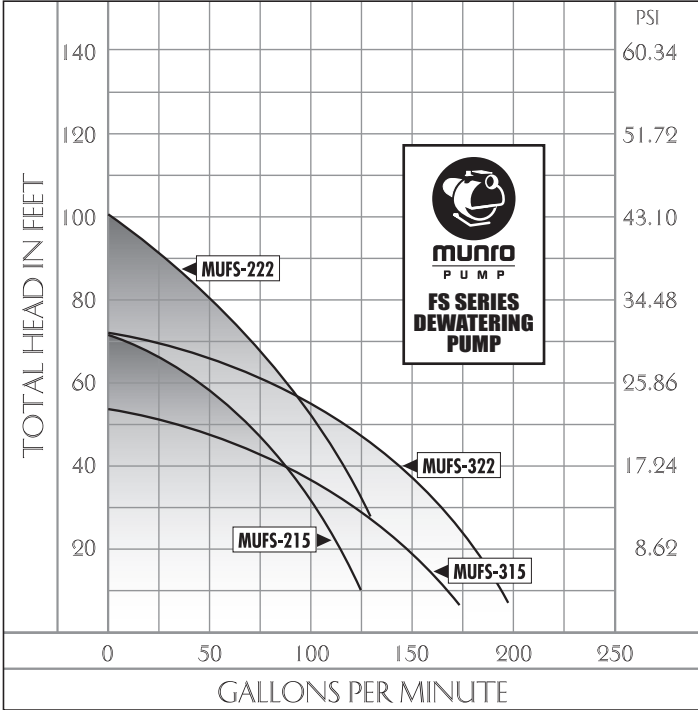
Wt. In Lbs.	Pump Dia. in In.	Solid Pass in In.	Disc. Size In In.	Cord Length In Feet	Volts	Phase	Amps	HP	Part Number
33	7.1	.24	1.5	18	110	1	4	1/3	MUFS250S11
32	7.1	.24	1.5	18	220	1	2.5	1/3	MUFS250S22
33	7.1	.24	2	18	110	1	5.3	1/2	MUFS400S11
33	7.1	.24	2	18	220	1	3	1/2	MUFS400S22
40	7.1	.32	2	18	110	1	10	1	MUFS750S11
37	7.1	.32	2	18	220	1	5	1	MUFS750S22
35	7.1	.32	2	18	220	3	4	1	MUFS750T22
35	7.1	.32	2	18	440	3	2	1	MUFS750T44
83	8.5	.36	2	33	110	1	16	2	MUFS215S11
81	8.5	.36	2	33	220	1	9	2	MUFS215S22
70	8.5	.36	2	33	220	3	6.8	2	MUFS215T22
60	8.5	.36	2	33	440	3	3.5	2	MUFS215T44
83	8.5	.36	3	33	110	1	17	2	MUFS315S11
81	8.5	.36	3	33	220	1	8	2	MUFS315S22
59	8.5	.36	3	33	220	3	6.8	2	MUFS315T22
78	8.5	.36	3	33	440	3	3.5	2	MUFS315T44
88	8.5	.36	2	33	220	3	10.5	3	MUFS222T22
68	8.5	.36	2	33	440	3	5.5	3	MUFS222T44
68	8.5	.36	3	33	220	3	11	3	MUFS322T22
69	8.5	.36	3	33	440	3	5.5	3	MUFS322T44
142	11.2	.4	2	33	220	3	14.5	5	MUFS237T22
122	11.2	.4	2	33	440	3	8	5	MUFS237T44
143	11.2	.4	3	33	220	3	14	5	MUFS337T22
135	11.2	.4	3	33	440	3	8	5	MUFS337T44
145	11.2	.4	4	33	220	3	14	5	MUFS437T22
144	11.2	.4	4	33	440	3	8	5	MUFS437T44
158	11.2	.4	3	33	220	3	20	7.5	MUFS355T22
148	11.2	.4	3	33	440	3	11	7.5	MUFS355T44
133	11.2	.4	4	33	220	3	20	7.5	MUFS455T22
148	11.2	.4	4	33	440	3	11	7.5	MUFS455T44
300	13.8	.6	4	33	220	3	30	10	MUFS475T22
300	13.8	.6	4	33	440	3	16	10	MUFS475T44
300	13.8	.6	6	33	220	3	30	10	MUFS675T22
300	13.8	.6	6	33	440	3	16	10	MUFS675T44
305	13.8	.6	4	33	220	3	35	15	MUFS411T22
307	13.8	.6	4	33	440	3	18	15	MUFS411T44
310	13.8	.6	6	33	220	3	35	15	MUFS611T22
311	13.8	.6	6	33	440	3	18	15	MUFS611T44

MUNRO FS SERIES PERFORMANCE CURVES

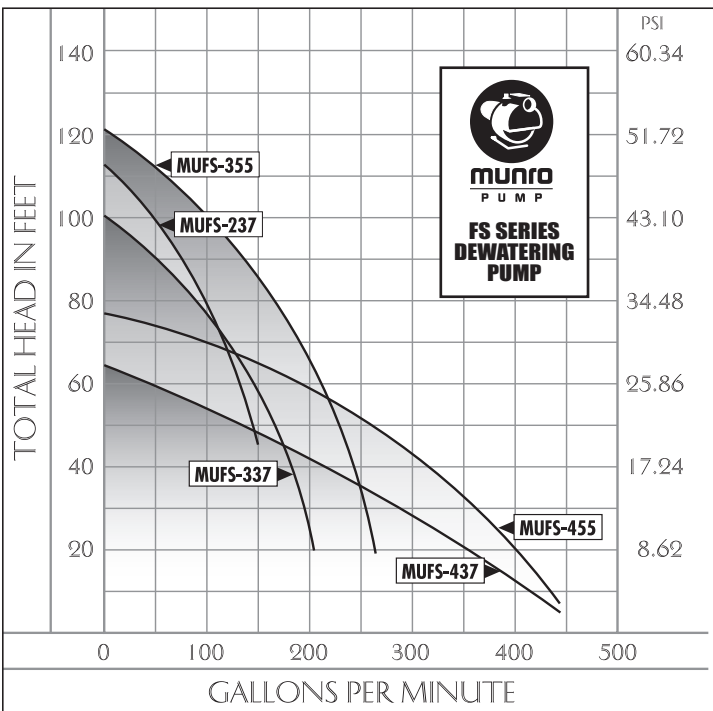
MODELS FS-250 / 400 / 750



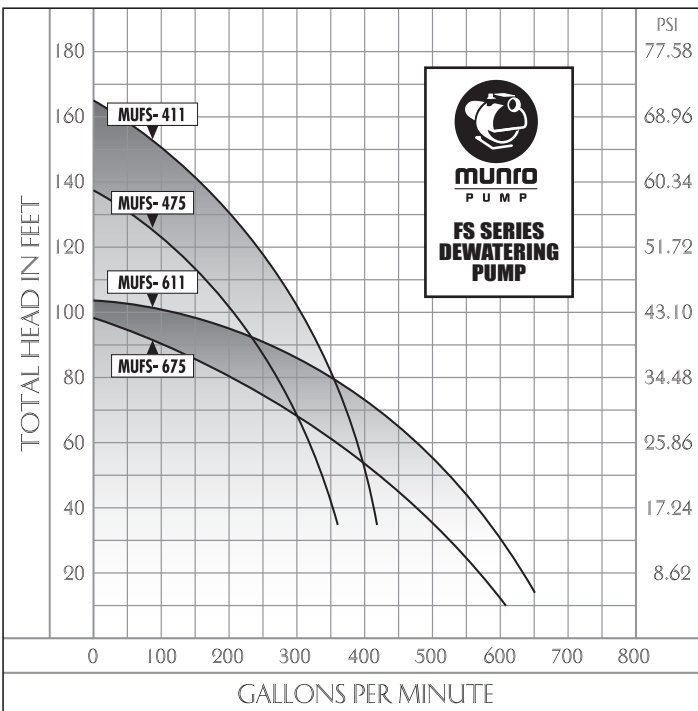
MODELS FS-215 / 315 / 222 / 322



MODELS FS-237 / 337 / 437 / 355 / 455

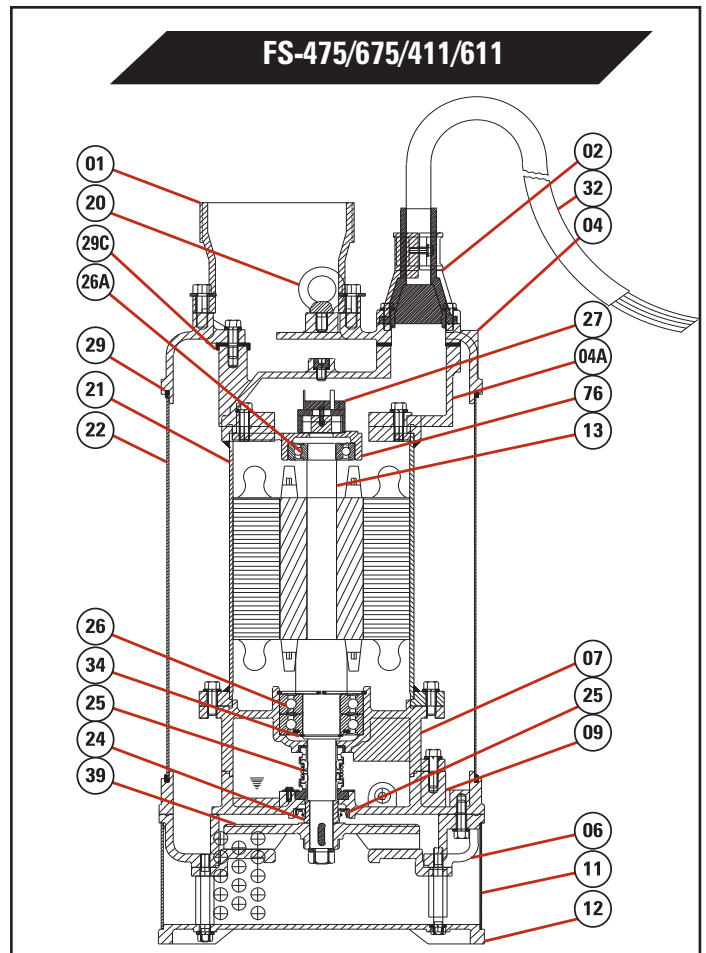
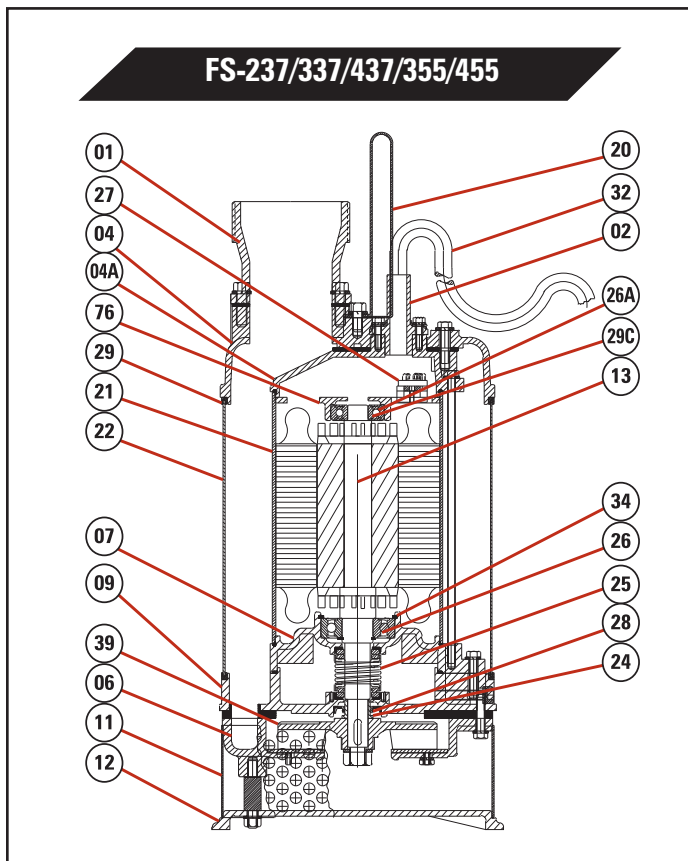
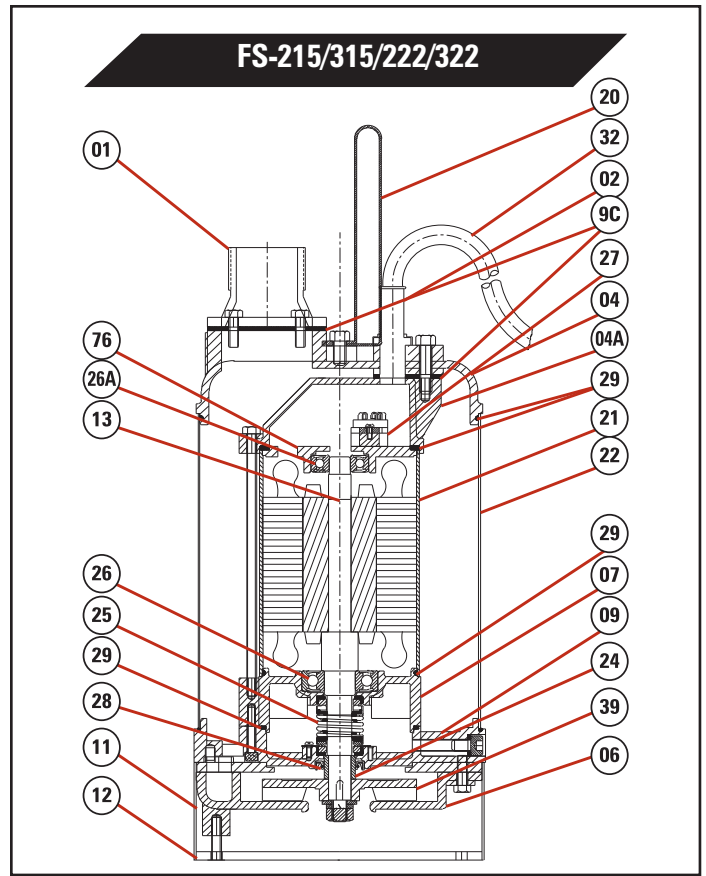
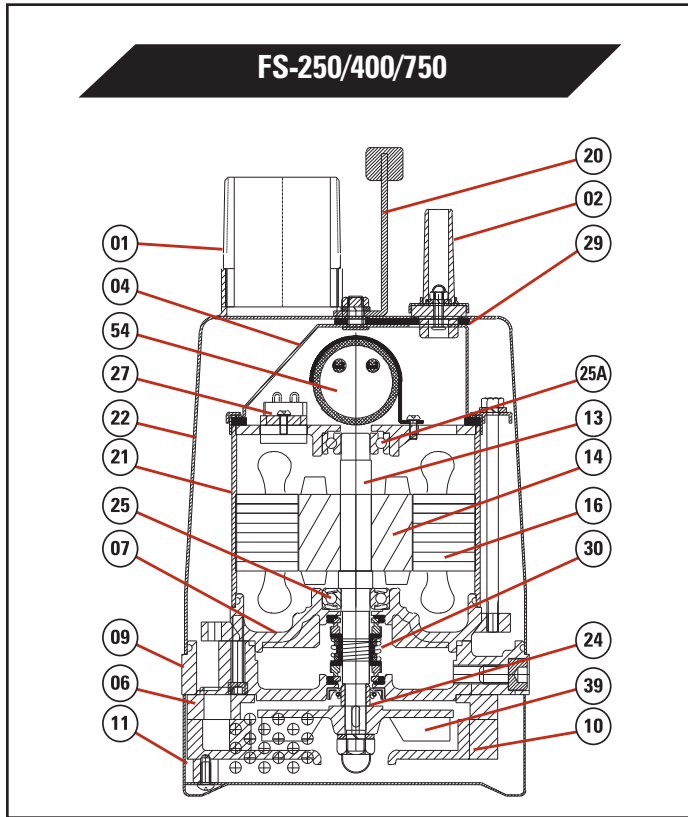


MODELS FS-475 / 675 / 411 / 611



8. PARTS BREAKDOWN

SEE CHART ON PAGE 7



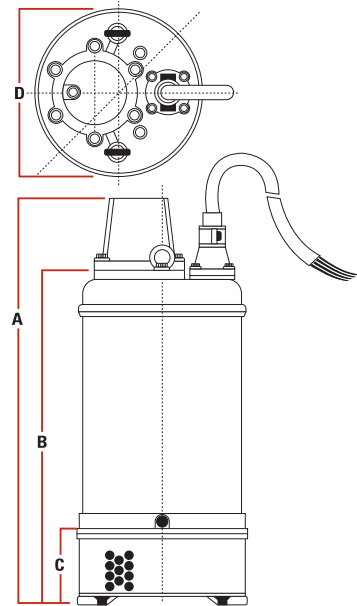
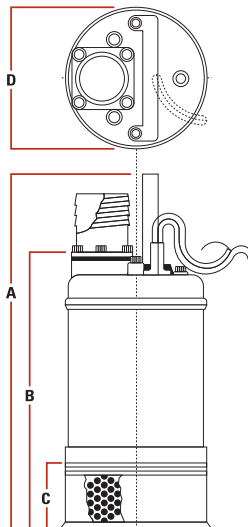
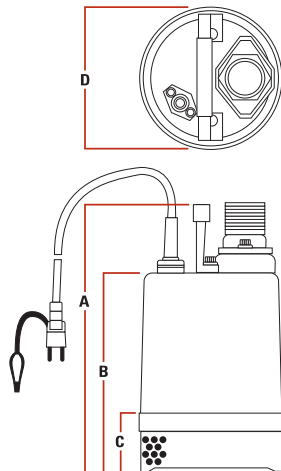
Reference Number	Part Description	MODEL NUMBERS		
		FS250/400/750	FS-215/222/315/322 FS-237/337/437/355/455	FS-475/675 FS-4110/6110
01	Hose Tail	Cast Iron 200	Cast Iron 200	Cast Iron 200
02	Cable Gland	Fiber Plastic	NBR	NBR
04	Upper Cover	SUS304	SUS304	SUS304
04A	Motor Cover		Cast Iron 200	Cast Iron 200
06	Pump Casing	Cast Iron 200	Ductile Iron 50	Ductile Iron 50
07	Bearing Block		Cast Iron 200	Cast Iron 200
09	Seal Block		Cast Iron 200	Cast Iron 200
10	Inlet Plate	Cast Iron 200	Cast Iron 200	Cast Iron 200
11	Strainer	SUS304	SUS304	SUS304
12	Bottom Plate		Ductile Iron 50	Ductile Iron 50
13	Shaft	SUS410	SUS410	SUS410
14	Rotor	Silicon Steel	Silicon Steel	Silicon Steel
16	Stator	Silicon Steel	Silicon Steel	Silicon Steel
20	Handle/Hanger	Steel	Steel	Steel
21	Motor Frame	SUS304	Cast Iron 250	Cast Iron 250
22	Outer Case	SUS304	SUS304	SUS304
24	Shaft Sleeve	SUS304	SUS410	SUS410
25-25A	Bearing			
27	Protector			
28	O'ring	NBR	NBR	NBR
29	Gasket	NBR	NBR	NBR
30	Mechanical Seal	CE/CA+SIC/SIC	CE/CA+SIC/SIC	CE/CA+SIC/SIC
32	Cable			
34	C'ring		SC40	SC40
39	Impeller	Ductile Iron 45	High Chrome Steel	High Chrome Steel
54	Capacitor			
60	Flange	ABS		
76	Bearing block	Cast Iron 200	Cast Iron 200	Cast Iron 200
90	Rubber Liner	NBR	NBR	

9. DIMENSIONS

FS-475/675/411/611

**FS-215/315/222/322
FS-237/337/437/355/455**

FS-250/400/750



Type	A in In.	B in In.	C in In.	D in In.
FS-250/400	13.4	10	3	7.1
FS-750	14.6	11.2	3	7.1
FS-215/315	22	16	2.8	8.5
FS-222/322	22	16	2.8	8.5
FS-237/337/437	25.2	19.6	4.7	11.2
FS-355/455	26.4	20.6	4.7	11.2
FS-475/675	33.2	27.4	6.9	13.8
FS-4110/6110	33.2	27.4	6.9	13.8

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*For more information or details
on this or any other product, contact your
Munro Pump Sales Representative today!*

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