

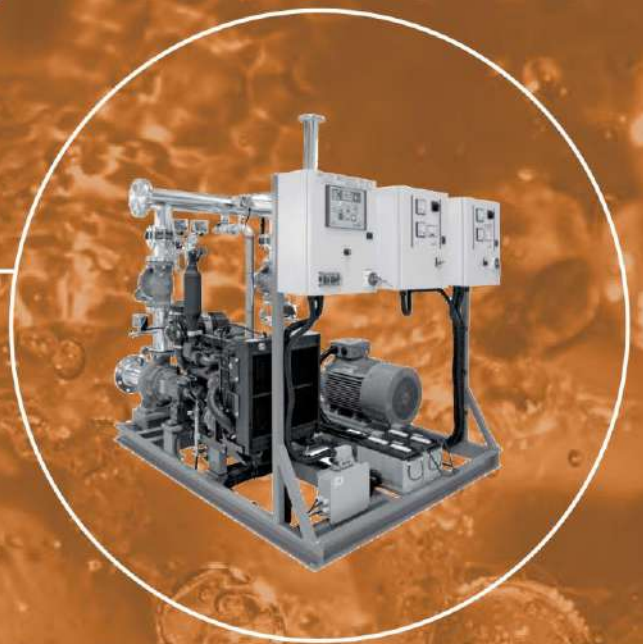
elmech systems^t

— ΕΝΕΡΓΕΙΑ / ΑΝΤΛΗΣΗ / ΠΥΡΟΣΒΕΣΗ

automatic Pump

Bands Application Fire

FF



hydro[®]
Be pumping partners

GENERAL FEATURES - Performance

SERIES FF ..



**SERIES
FFE ..**



**SERIES
FFD ..**



TECHNICAL DESCRIPTION PUMPING ASSEMBLY

1. Pump stations ELMECH FF, FFE & FFD constructed in accordance with the Greek and European fire standards, adapted to the technical requirements of each application, according to the study of engineer each project.
2. Each band represents a single or divided construction and comprises / the pump / s, a / the motor / s, the diesel engine, the pressure vessel, its / their electrical / ear panel / s control and automation with automation equipment and piping with appropriate hydraulic assembly of the construction parts.
 Details the main specific materials and core sequences of pumping assemblies described hereinafter.
3. General technical charaktiristika complex:



3.1. Main / backup K or pump	
pump Type	: Centrifugal single-stage or multistage free shaft horizontal mounting
Maximum temp / Co pump / mind fluid	: 90 ° C (to 140 ° C specific construction)
Construction materials	: • Shell / body cast. <ul style="list-style-type: none"> • Impeller / s from cast iron or brass • Shaft steel or stainless steel • Sealing with packing or mechanical / kg gland • closed type self-lubricating bearings.
<i>Pump-motor Coupling via flex connector (coupler)</i>	



3.2. ELECTRONIC or p Let primary or backup pump	
Type of engine	: Asynchronous, Three Phase squirrel cage, free shaft, horizontal positioning B ₃
Voltage / Start	: 3x400V / 50Hz / star-delta
Protection	: IP 68
Insulation class	: F
Speed	: 2.900 RPM
Construction materials	: • Shell / body cast. <ul style="list-style-type: none"> • Shaft steel or stainless steel • closed type self-lubricated bearings
<i>Pump-motor Coupling via flex connector (coupler)</i>	



3.3. Petrelaiokini t or Ras primary or backup pump	
Type of engine	: Diesel four-stroke one or more cylinders, air-cooled or water-cooled, with mechanical fuel spillage
Start	: With starter 12V or 24V battery via / mation
lubrication	: With oil SAE 30 or SAE 40
Speed	: 3.000 RPM
Construction materials	: • Trunk from high strength aluminum alloy <ul style="list-style-type: none"> • cast iron or aluminum cylinder and head
<i>Pump-motor Coupling via flex connector (coupler)</i>	



3.4. Auxiliary (jo c k ey) electrically driven pump	
pump Type	: Centrifugal single-stage or multistage, horizontal or vertical positioning monoblock construction
Maximum temp / Co pump / mind fluid	: 35 ° C (to 120 ° C specific construction)
Construction materials	: • Shell / body cast iron or stainless steel <ul style="list-style-type: none"> • Impeller / s from Noryl or stainless steel • Shaft steel or stainless steel • Sealing with packing or mechanical / kg gland
Voltage / Start	: 3x400V / 50Hz / Direct
Speed	: 2.900 RPM
<i>Monoblock structure, direct pump-motor coupling for KCNQ axis.</i>	



3.5. pressure Vessels the membrane	
container type	: Vertical or horizontal, with replaceable membrane from EPDM, Butyl or SBR
Maximum temp / Co pump / mind fluid	35 ° C (to 120 ° C specific construction)
Maximum operating pressure	: 10 bar (as 16bar special construction)
Construction materials	From specific steel resistant to high pressure, electrostatically painted, corrosion protection
<i>Supplied with angle and flexible connectivity</i>	



3.6. Switchboard let control Automation	
table Type	: Made of steel sheet DKP electrostatic painted, protection degree IP55, equipped with all necessary instruments and automation devices.
Control Instruments - Automation	: • General three-pole switch and general insurance • Fuses for protecting Jockey pump • Fuses to protect auxiliary circuit • Transformer 230V / 24VAC for the safe operation of the control circuits of electric pumps and pressure switches • Primer pump DOL jockey pump • Thermal protection jockey pump • Primer star delta main electropump • Chronicle triangle star • Thermal protection main electropump • starting the diesel pump main unit with adjustable length mizarismatos, maximum number of start attempts, LED indicators for indication effort and boot failure. • Pump starting automation jockey and main pump via pressure switches • Automation pump outage jockey into If the main motorized pump • Ability of the diesel main pump independent of the existence of voltage 400V AC for operation during power outages • Dialing switches 1-0-2 MANUAL EKTOS-AUTOMATIC (one for each pump) • Exemplary R delivery tubes, S, T • Exemplary low pressure light oil diesel • Earthed socket tight for power external battery charger • Siren connectivity for alarm in case of diesel boot failure • Automation siren and fault indication • Automation of protection against running dry
<i>Mounted on the band or independent wall mounting</i>	



12V battery (included)



12V battery charger (included)



3.7. Pressure switches a u t omatismou	
Type pressure switches	: Display of differential pressure control
Maximum temp / Co pump / mind fluid	120 ° C
Maximum operating pressure	: 10 bar (as 16bar special construction)
<i>Each pump is controlled by a separate pressure switch</i>	



3.8. hydraulic hexa p t STEPS	
Valve Type	: Brass bolts spherical gross section or butterfly
Type check valves	: Stolen tongue or spring
Shock-absorbing panels	: Flatzota or screwed tires (optional)
<i>The hydraulic components are fully connected to the band</i>	

AUTOMATIC FIRE PUMP STATIONS APPLICATIONS

Elmech FF_L
Fully automatic pumping stations **three pumps, main motorized stand the diesel and auxiliary / jockey pump.** M according to the technical requirements of each application, ideal for use in residential-office complexes, schools, warehouses, factories, hotels, hospitals, S.Markets.

FF_L

Code	Type cp / Tosh	type pumps	Main Electrical / a	backup Diesel	Jockey	pressure vessel	intersection collective / indices of	Length	Width	Height	Weight	Provision m ³ /h						
												head						
												m.Y.S						
FF0032450	FF 32-45	32-200	5.5	7.5	1.1	100	65	130	95	145	360	48	40					
FF0032550	FF 32-55	32-200	7.5	7.5	1.5	100	65	130	95	145	380	60	52					
FF0032700	FF 32-70	32-200	9.2	10.5	1.5	100	65	130	95	145	410	72	66					
FF0040450	FF 40-45	40-200	7.5	7.5	1.5	100	80	140	100	150	430	52	50	46				
FF0040600	FF 40-60	40-200	11	13	1.5	100	80	140	100	150	490	64	62	58				
FF0040700	FF 40-70	40-200	15	16	1.5	100	80	140	100	150	535	72	70	67				
FF0045750	FF 45-80	40-250	15	16	2.2	200	80	145	110	150	590	84	82	77				
FF0045900	FF 45-90	40-250	18.5	21	2.2	200	80	145	110	150	650	92	90	87				
FF0045100	FF 45-100	40-250	22	30	2.2	200	80	145	110	150	740	106	104	100				
FF0050450	FF 50-45	50-200	11	13	1.5	100	100	155	130	150	510		49	47	45	40		
FF0050550	FF 50-55	50-200	15	16	1.5	100	100	155	130	150	560		60	58	56	52		
FF0050700	FF 50-70	50-200	18.5	21	2.2	200	100	155	130	150	670		72	71	70	66		
FF0055750	FF 55-75	50-250	22	31	2.2	300	125	160	140	165	790		78	74	70	60		
FF0055850	FF 55-85	50-250	30	37	2.2	300	125	165	140	165	950		92	90	86	79	67	
FF0055100	FF 55-100	50-250	37	45	2.2	300	125	175	150	165	1050		105	103	98	92	80	
FF0055105	FF 55-105	65 / 260-2	37	45	3.0	500	125	190	150	165	1150				121	116	100	59
FF0055120	FF 55-120	65 / 260-2	45	45	3.0	500	125	200	150	165	1240				143	137	120	83

Elmech FF_M
Fully automatic pumping stations **three pumps, main motorized stand the diesel and auxiliary / jockey pump.** M according to the technical requirements of each application, ideal for use in residential-office complexes, schools, warehouses, factories, hotels, hospitals, S.Markets.

FF_M

Code	Type cp / Tosh	type pumps	Main Electrical / a	backup Diesel	Jockey	pressure vessel	intersection collective / indices of	Length	Width	Height	Weight	Provision m ³ /h					
												head					
												m.Y.S					
FF0060450	FF 60-45	65-200	22	31	1.5	200	125	170	160	165	815	48	45	38			
FF0060550	FF 60-55	65-200	30	37	1.5	200	125	175	160	165	965	60	58	53			
FF0060650	FF 60-65	65-200	37	45	2.2	300	125	175	160	165	1080	68	66	60			
FF0065650	FF 65-65	65-250	37	45	2.2	300	125	180	160	165	1170	74	70	63	55		
FF0065800	FF 65-80	65-250	45	45	3.0	500	125	190	160	165	1280	86	83	76	68		
FF0065900	FF 65-90	65-250	55	55	3.0	500	125	190	165	165	1450	96	94	89	81		
FF0065100	FF 65-100	65-250	75	75	3.0	500	125	190	165	165	1670	108	106	102	95		
FF0010500	FF 100-50	100-200	45	45	3.0	500	150	210	175	175	1500		53	52	51	46	38
FF0010550	FF 100-55	100-200	55	55	3.0	500	150	210	185	175	1670		60	59	58	56	47
FF0010650	FF 100-65	100-200	75	75	4.0	500	150	220	185	175	1890		68	67	66	64	56
FF0015650	FF 150-65	100-250	75	75	4.0	500	200	230	205	190	1870		80	79	78	75	66
FF0015850	FF 150-85	100-250	90	110	5.5	750	200	245	205	190	2180		90	89	88	84	78
FF0015950	FF 150-95	100-250	110	110	5.5	750	200	255	205	190	2280		101	100	99	97	90



- Pump stations are fully assembled including the necessary electrical control and automation panel, pressure switches, diesel starter battery and battery charger.
- Delivered preset and tested ready for connection to the water - supply networks and commissioning.
- Manufactured according to the regulations of the Institutes, the Greek Fire Service and adapt to technical requirements of each application according to the study of engineer of the project.
- On request there is possibility of building in accordance with the European directive EN 12845 and international standards NFPA 20, UL / FM.

These types and dimensions are approximate and may change without notice

AUTOMATIC FIRE PUMP STATIONS APPLICATIONS

FFE L

Elmech FFE L

Fully automatic pumping stations **three pumps, main and backup electrically and auxiliary / jockey pump**. Manufactured according to the technical requirements of each application, ideal for use in offices housing estates, schools, warehouses, factories, hotels, hospitals, etc. S.Markets

Code	Type cp / Tosh	type pumps	Main Electrical / a	Backup E / a	Jockey	pressure vessel	intersection collective / indices of	Length	Width	Height	Weight	Provision m ³ /h						
												head						
												m.Y.S						
FFE032450	FFE 32-45	32-200	5.5	5.5	1.1	100	65	130	90	145	340	48	40					
FFE032550	FFE 32-55	32-200	7.5	7.5	1.5	100	65	130	90	145	360	60	52					
FFE032700	FFE 32-70	32-200	9.2	9.2	1.5	100	65	130	90	145	380	72	66					
FFE040450	FFE 40-45	40-200	7.5	7.5	1.5	100	80	145	100	150	375	52	50	46				
FFE040600	FFE 40-60	40-200	11	11	1.5	100	80	145	100	150	500	64	62	58				
FFE040700	FFE 40-70	40-200	15	15	1.5	100	80	175	100	150	580	72	70	67				
FFE045750	FFE 45-80	40-250	15	15	2.2	200	80	145	100	150	600	84	82	77				
FFE045900	FFE 45-90	40-250	18.5	18.5	2.2	200	80	145	100	150	640	92	90	87				
FFE045100	FFE 45-100	40-250	22	22	2.2	200	80	145	100	150	640	106	104	100				
FFE050450	FFE 50-45	50-200	11	11	1.5	100	100	155	110	150	545		49	47	45	40		
FFE050550	FFE 50-55	50-200	15	15	1.5	100	100	155	110	150	600		60	58	56	52		
FFE050700	FFE 50-70	50-200	18.5	18.5	2.2	200	100	155	110	150	635		72	71	70	66		
FFE055750	FFE 55-75	50-250	22	22	2.2	300	125	160	125	165	750		78	74	70	60		
FFE055850	FFE 55-85	50-250	30	31	2.2	300	125	165	125	165	910		92	90	86	79	67	
FFE055100	FFE 55-100	50-250	37	37	2.2	300	125	175	130	165	980		105	103	98	92	80	
FFE055105	FFE 55-105 65 / 260-2		37	37	3.0	500	125	190	150	165	1180				121	116	100	59
FFE055120	FFE 55-120 65 / 260-2		45	45	3.0	500	125	205	150	165	1270				143	137	120	83

FFE M

Elmech FF M

Fully automatic pumping stations **three pumps, main and backup electrically and auxiliary / jockey pump**. Manufactured according to the technical requirements of each application, ideal for use in offices housing estates, schools, warehouses, factories, hotels, hospitals, etc. S.Markets

Code	Type cp / Tosh	type pumps	Main Electrical / a	Backup E / a	Jockey	pressure vessel	intersection collective / indices of	Length	Width	Height	Weight	Provision m ³ /h					
												head					
												m.Y.S					
FFE060450	FFE 60-45	65-200	22	22	1.5	200	125	170	160	165	820	48	45	38			
FFE060550	FFE 60-55	65-200	30	31	1.5	200	125	175	160	165	880	60	58	53			
FFE060650	FFE 60-65	65-200	37	37	2.2	300	150	200	175	175	970	68	66	60			
FFE065650	FFE 65-65	65-250	37	37	2.2	300	125	180	160	165	1000	74	70	63	55		
FFE065800	FFE 65-80	65-250	45	45	3.0	500	125	190	160	165	1090	86	83	76	68		
FFE065900	FFE 65-90	65-250	55	55	3.0	500	125	190	165	165	1210	96	94	89	81		
FFE065100	FFE 65-100	65-250	75	75	3.0	500	150	220	175	175	1430	108	106	102	95		
FFE010500	FFE 100-50	100-200	45	45	3.0	500	150	210	175	175	1240		53	52	51	46	38
FFE010550	FFE 100-55	100-200	55	55	3.0	500	150	210	175	175	1350		60	59	58	56	47
FFE010650	FFE 100-65	100-200	75	75	4.0	500	150	220	175	175	1560		68	67	66	64	56
FFE015650	FFE 150-65	100-250	75	75	4.0	500	200	230	205	190	1620		80	79	78	75	66
FFE015850	FFE 150-85	100-250	90	90	5.5	750	200	245	205	190	1880		90	89	88	84	78
FFE015950	FFE 150-95	100-250	110	110	5.5	750	200	255	205	190	2050		101	100	99	97	90



- Pump stations are fully assembled including the necessary electrical control and automation panel and pressure switches.
- Delivered preset and tested ready for connection to the water - supply networks and commissioning.
- Manufactured according to the regulations of the Institutes, the Greek Fire Service and adapt to technical requirements of each application according to the study of engineer of the project.
- On request there is possibility of building in accordance with the European directive EN 12845 and international standards NFPA 20, UL / FM.

These types and dimensions are approximate and may change without notice

AUTOMATIC FIRE PUMP STATIONS APPLICATIONS

FFD_L

Elmech FFD_L

Fully automatic pumping stations **two pumps, the diesel pump main and auxiliary / jockey pump**. Manufactured according to the technical requirements of each application, ideal for use in residential housing - offices, schools, warehouses, factories, hotels, hospitals, etc. S.Markets

Provision
m³/h

15	30	45	60	80	100
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Code	Type cp / Tosh	type pumps	main Diesel	Jockey	pressure vessel	intersection collective / indices of	Length	Width	Height	Weight	head					
											m.Y.S					
											kW	it	mm	cm	kg	
FFD032450	FFD 32-45	32-200	7.5	1.1	100	65	130	65	145	340	48	40				
FFD032550	FFD 32-55	32-200	7.5	1.5	100	65	130	65	145	350	60	52				
FFD032700	FFD 32-70	32-200	10.5	1.5	100	65	130	65	145	385	72	66				
FFD040450	FFD 40-45	40-200	7.5	1.5	100	80	145	75	150	350	52	50	46			
FFD040600	FFD 40-60	40-200	13	1.5	100	65	130	65	145	415	64	62	58			
FFD040700	FFD 40-70	40-200	16	1.5	100	80	145	75	150	520	72	70	67			
FFD045750	FFD 45-80	40-250	16	2.2	100	80	145	75	150	540	84	82	77			
FFD045900	FFD 45-90	40-250	21	2.2	200	80	145	75	150	570	92	90	87			
FFD045100	FFD 45-100	40-250	30	2.2	200	80	145	75	150	620	106	104	100			
FFD050450	FFD 50-45	50-200	13	1.5	100	100	155	85	150	450		49	47	45	40	
FFD050550	FFD 50-55	50-200	16	1.5	200	100	155	85	150	530		60	58	56	52	
FFD050700	FFD 50-70	50-200	21	2.2	300	100	155	85	150	580		72	71	70	66	
FFD055750	FFD 55-75	50-250	31	2.2	300	125	160	90	165	670		78	74	70	60	
FFD055850	FFD 55-85	50-250	37	2.2	300	125	165	90	165	765		92	90	86	79	67
FFD055100	FFD 55-100	50-250	45	2.2	500	125	175	90	165	850		105	103	98	92	80
FFD055105	FFD 55-105	65 / 260-2	45	3.0	500	125	205 150 165 1180					121	116	100		59
FFD055120	FFD 55-120	65 / 260-2	45	3.0	500	125	215 150 165 1270					143	137	120		83

FFD_M

Elmech FFD_M

Fully automatic pumping stations **two pumps, the diesel pump main and auxiliary / jockey pump**. Manufactured according to the technical requirements of each application, ideal for use in residential housing - offices, schools, warehouses, factories, hotels, hospitals, etc. S.Markets

Provision
m³/h

80	110	150	180	250	325
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Code	Type cp / Tosh	type pumps	main Diesel	Jockey	pressure vessel	intersection collective / indices of	Length	Width	Height	Weight	head					
											m.Y.S					
											kW	it	mm	Cm	kg	
FFD060450	FFD 60-45	65-200	30	1.5	200	125	170	85	165	700	48	45	38			
FFD060550	FFD 60-55	65-200	37	1.5	200	125	175	85	165	760	60	58	53			
FFD060650	FFD 60-65	65-200	45	2.2	300	150	200 100	175		860	68	66	60			
FFD065650	FFD 65-65	65-250	45	2.2	300	125	180	95	165	870	74	70	63	55		
FFD065800	FFD 65-80	65-250	45	3.0	500	125	190 100 165			880	86	83	76	68		
FFD065900	FFD 65-90	65-250	55	3.0	500	125	190 100 165			950	96	94	89	81		
FFD065100	FFD 65-100	65-250	75	3.0	500	150	220 100 175 1020 108					106	102	95		
FFD010500	FFD 100-50	100-200	45	3.0	500	150	210 100 175			890		53	52	51	46	38
FFD010550	FFD 100-55	100-200	55	3.0	500	150	210 100 175			970		60	59	58	56	47
FFD010650	FFD 100-65	100-200	75	4.0	500	150	220 100 175 1040					68	67	66	64	56
FFD015650	FFD 150-65	100-250	75	4.0	500	200	230 120 190 1060					80	79	78	75	66
FFD015850	FFD 150-85	100-250	110	5.5	750	200	245 120 190 1120					90	89	88	84	78
FFD015950	FFD 150-95	100-250	110	5.5	750	200	255 120 190 1230					101	100	99	97	90



- Pump stations are fully assembled including the necessary electrical control and automation panel, pressure switches, diesel starter battery and battery charger.
- Delivered preset and tested ready for connection to the water - supply networks and commissioning.
- Manufactured according to the regulations of the Institutes, the Greek Fire Service and adapt to technical requirements of each application according to the study of engineer of the project.
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