

# Excel Series II Fire Pumps

Foam Systems | Deluge Systems | Hydrant Systems Sprinkler Systems | Hose Reel Systems | Hose Rack System

### About us



SFFECO is an ISO9001 certified manufacturing company by BRE Global, is a market leader and specialize in manufacturing of fire-fighting equipment in the world. SFFECO has a long standing established reputation for pioneering innovation ever since its foundation in 1983.

SFFECO has its own state-of-the-art manufacturing plants in Riyadh and Dubai producing end-to-end range of products for the fire fighting industry matching international standards in quality. SFFECO with its innovative approach provides the entire gamut of products that caters to the needs of the Fire Protection and Fire Fighting industry. This makes SFFECO a one-stop-shop for customers, fulfilling their end-to-end needs in products, solutions and services for the industry.

SFFECO continually expands upon its knowledge and services to keep its clients updated with the latest Fire Fighting Technology in the world. The product range manufactured by SFFECO confirms and holds approval to international standards.

SFFECO Reputation for Quality & Reliability has made its trusted name through out G.C.C & other Countries Worldwide for its Products. SFFECO is not only rich in History & Quality, but on continuous improvement, & development of product features.

SFFECO is a member of National Fire Protection Association (NFPA), British Standards Institution (BSI), Fire Protection Association (FPA), as well as Approved Vendor to Many Governmental, & Semi - Governmental Sectors in G.C.C.

SFFECO Vision to develop with Wisdom & Prosper in Harmony, and continue to be the leader in the Fire Protection industry providing excellent service & superior products for many years to come.



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# SFFECO Fire Pump System Technology



Due to its local expertise, SFFECO has the opportunity and privilege to develop innovative pump assembly units, as well as to custom design pump packages for clients based on their individual needs. Furthermore, SFFECO is committed to supplying pump units that comply with Local Authority Requirements as well as NFPA - 20 Selection and Operation Procedures. SFFECO Fire Pumps are SASO Approved.

SFFECO Excel Series II Fire Pumps are pre-fabricated skids, where this developed technology assures providing Compact Design Pump Sets, Easily Handled, Installed, & Maintained, where all Pumping Elements, Drivers, & Controllers are all skid mounted, Pre-piped, Wired, & Factory tested.

Excel Series II Pump control panels feature a human machine interface. The HMI Controller is a tool that will help the pump operators to visualize and monitor the process, provide control targets and set-points, execute programs and initiate sequences, and troubleshoot problems via alarms, and events.

SFFECO Excel Series II Fire Pumps are Standard Packages start from 50 GPM size up to 1500 GPM, with pressure range from 6 bars up to 14 bars. This wide Range of Pumping & Head Characteristics has made Excel Series II suitable in various market sectors such as; Government Buildings, Commercial & Residential Towers, Ware houses, Factories etc.



## **Fire Pump Components**





- Space Saving Design Efficiency:
- Nothing beat Excel Series II packages since allows to fit in to small spaces.
- Easy to Install & Handle:
- Available in capacities from 50 GPM up to 1500 GPM and pressure range up to 12 BAR.
- Pre- fabricated, pre-piped wired, factory tested unit.
- In compliances with local civil defense requirement & NFPA 20 selection & operation procedure.
- Pumps coupled with heavy duty trouble free electrical & diesel drivers.
- Dynamic balanced pumps impellers.
- Pump set piping is hydrostatically tested to ensure piping integrity.

### The Standard Models of "Excel Series II" are EDJ, DJ and EJ.

Other specifications are also available as per customer request.

"Excel Series II" Packages Offers Completed Skid Mounted Unit including High quality Horizontal End Suction / Split Case Pumps / Vertical Turbine Pumps that coupled with Heavy duty (Electrical/ Diesel) drivers that assembled with full discharge line control Gate & Butterfly Check Valves along with flexible joints. Pressure Switches & Gauge fitted on well Supported Header, where all pre-piped, wired, & fabricated in Common Compact Skid is Fully Automatic Operated through latest Design Control Panel.

"Excel Series II" Innovated design has different Combinations & Models that suite different clients requirements, as well as Hazard application needs.

In line with our policy of continuous product improvement, SFFECO reserves the right to modify specifications without prior notice



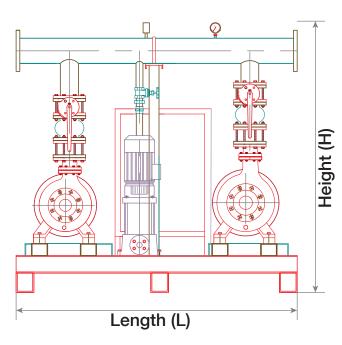


### **Model: EDJ** Electrical + Diesel + Jockey

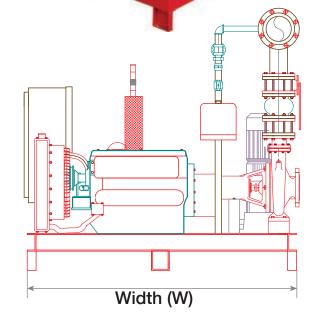
Consist of Main End Suction Pump driven by Electrical Motor, Stand by End Suction Diesel Pump driven by Diesel Engine, & Vertical multistage (Jockey) (Maintenance) Pump that all are assembled with discharge line accessories, as well as connected with Skid Mounted Control Panel.

#### Standard Models:-









### Specifications

(GPM)	W	H L		DIESEL	MOTOR	JOCKEY	(KG)	HEADDER	
	(MM)	(MM)	(MM)	(HP)	(HP)	(HP/GPM)		PIPE	
1000 Gpm @ 7 bar	1800	1770	1950	110	100	5.5/50	1575	6″	
750 Gpm @ 7 bar	1750	1590	1950	85	75	5.5/50	1350	6″	
500 Gpm @ 7 bar	1650	1570	1680	60	50	5.5/50	1160	6″	
350 Gpm @ 7 bar	1500	1440	1680	40	40	3/20	1135	4″	
250/300 Gpm @ 7 bar	1200	1390	1230	40	30	3/17.6	800	4″	
120/150 Gpm @ 7 bar	1200	1330	1230	40	20	3/17.6	724	2.5″	
50 Gpm @ 7 bar	800	1150	1230	12	5.5	3/17.6	315	2″	

Note: Other models or capacities are also provided as per customer requirement.

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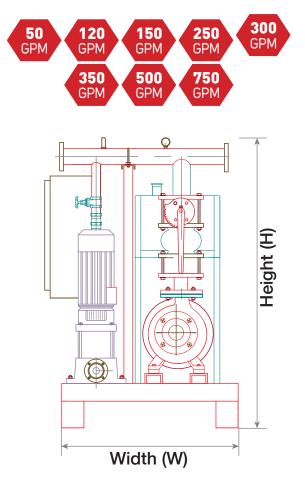
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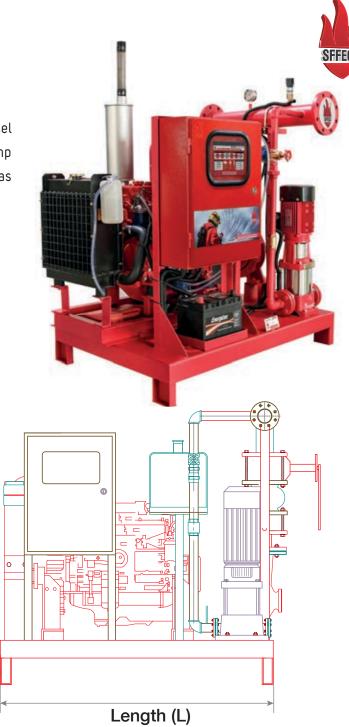
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### **Model: DJ** Diesel + Jockey

Consist of Main End Suction Diesel Pump driven by Diesel Engine, & Vertical Multistage Jockey (maintenance) Pump that all are assembled with discharge line accessories, as well as connected with Skid Mounted Control Panel.

### Standard Models:-





### Specifications

(GPM)	W (MM)	H (MM)	L (MM)	DIESEL (HP)	JOCKEY (HP/GPM)	(KG)	HEADDER PIPE
750 Gpm @ 7 bar	1100	1590	1950	85	5.5/50	910	6″
500 Gpm @ 7 bar	1000	1570	1680	60	5.5/50	670	6″
250/300 Gpm @ 7 bar	800	1390	1230	40	3/17.5	520	4″
120/150 Gpm @ 7 bar	800	1160	1230	40	3/17.5	484	2″
50 Gpm @ 7 bar	850	1150	880	12	3/17.5	197	1.5″

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Note: Other models or capacities are also provided as per customer requirement.



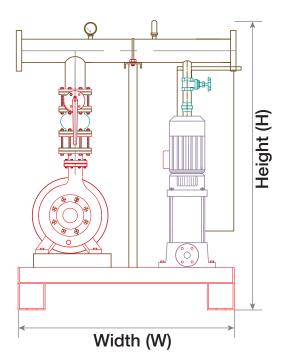


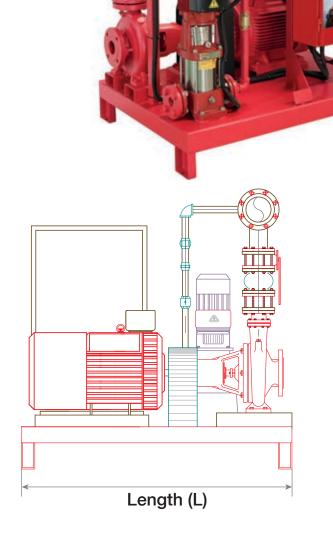
### **Model: EJ** Electrical + Jockey

Consist of Main End Suction Pump driven by Electrical Motor, & Vertical Multistage Jockey (maintenance) Pump that all are assembled with discharge line accessories, as well as connected with Skid Mounted Control Panel.

#### Standard Models:-







### Specifications

(GPM)	W (MM)	H (MM)	L (MM)	MOTOR (HP)	JOCKEY (HP/GPM)	(KG)	HEADDER PIPE
500	900	1550	1400	50	5.5/50	570	6″
250/300	800	1370	1230	30	3/17.6	420	4″
120/150	800	1140	1230	20	3/17.6	309	2″
50	700	1300	900	5.5	3/17.6	175	1.5″

Note: Other models or capacities are also provided as per customer requirement.

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Page

### **End Suction** Centrifugal Fire Pump





#### General

The casing is a heavy duty design. Back pull out design for fast and easy maintenance. Replaceable wear ring to assure optimum efficiency.

Removable and adjustable support foot provides added rigidity and ease of maintenance. Stainless steel shaft sleeve prevents damage to the shaft reduces the maintenance cost. Mechanical seal or soft packing on request.

#### Features

- ✤ Capacity up to 1500 GPM.
- Rear pull out design supplied as standard with spacer coupling that allow removal of rotating elements without disturbing piping Connection.
- Hydraulically balanced Impeller, assure smooth operation& long bearing life limit
- Available in Electrical motor or Diesel Engine driven configuration.
- Suitable for Commercial, Residential & Industrial applications.
- $\boldsymbol{\diamondsuit}$  Top centre line discharge with foot supported casing







### Horizontal Split Case

Fire Pump

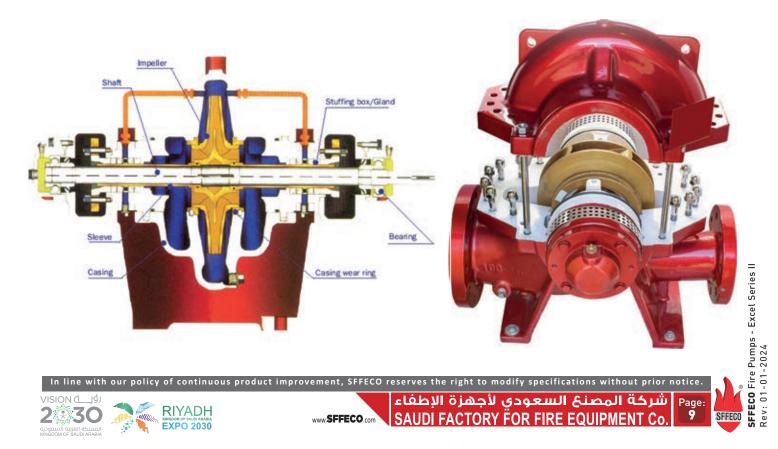




### Specifications

- Capacity up to 2000 GPM.
- Split case design for easy maintenance & Upkeep.
  Due to easy removal of Upper casing &Inner assembly without disturbing piping Including Stuffing boxes, & bearing Housing.
- Engine configuration available in Electrical Motor or Diesel
- Suitable for Commercial, Residential and Industrial Applications.

- Suction & Discharge flanges are on common Horizontal center line.
- High Quality Cast iron Casing with Bronze wearing ring.
- Grease lubrication ball bearing
- Double suction type impeller offers low pulsation.
- Removable drip pocket with tapped drain Outlet stuffing box.



### Vertical Multistage Stainless Steel Centrifugal Pump



#### General

Close coupled vertical multistage pump with all stainless steel parts which are driven by a standard TEFC motor, discharge and suction in the same line.

Aluminum casing, single phase motor. Class F and IP55 are standard supply.

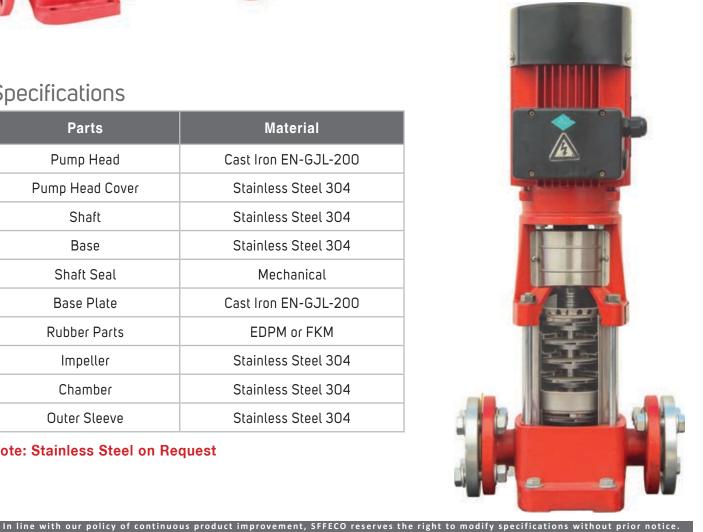
Standard supply for liquid temperature upto 90°C, high temperature pump are available on request. Mechanical seal is Tungsten Carbide / Graphite.

All the parts in contact with liquid are made of 304 Stainless Steel, The suction and discharge head can be made of cast iron on request.

#### **Specifications**

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Parts	Material				
Pump Head	Cast Iron EN-GJL-200				
Pump Head Cover	Stainless Steel 304				
Shaft	Stainless Steel 304				
Base	Stainless Steel 304				
Shaft Seal	Mechanical				
Base Plate	Cast Iron EN-GJL-200				
Rubber Parts	EDPM or FKM				
Impeller	Stainless Steel 304				
Chamber	Stainless Steel 304				
Outer Sleeve	Stainless Steel 304				





Page

10

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# **Electric Motor**



#### Parts:

- Wound Stator 1.
- 2. Housina
- 3. Rotor
- Drive End Shield 4.
- 5. Fan
- 6. Fan Cover
- 7. Keu
- 8. Fan Cover Screw
- 9. Drive End Bearing
- 10. Non-Drive End Circlip
- 11. Drive End Seal
- 12. Non-Drive End Bearing
- 13. Non-Drive End Seal
- 14. Pre Loading Washer
- 15. Terminal Box

12

16. Terminal Box Lid

#### Electric Motor

Hitec multipurpose motors are the ideal choice for installation in arduous environmental conditions. The range offers a variety of induction motors with a power rating of 0.09kW (0.12HP) to high powered motors providing 160kW (220HP). Class F and IP55 are standard supply. Motors for other voltages, frequencies, specifications and non-standard features are available on request.

Hitec motor series are highly engineered to cope up with sudden load increases, longer thermal life, higher altitudes and voltage variants. All the motors are manufactured under strict quality control procedures and are fully tested against the applicable standards.

Hitec uses integrated design management techniques for enhancing the efficiency and durability of its products. Reliability, integrity, simplicity in design and ease of maintenance, all endorse the product as a world leader in electric motors.

Hitec motors can handle load and continue working reliability for long hours. The balanced design and the precision of the motor ensure superb performance.







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### **Diesel Engine** Basic Components

- Flywheel Housing
- Fly Wheel
- Fuel Pipes
- Rigid Mounts
- Fresh Water Circulating Pump
- Thermostat
- Fuel Pump Governor
- Fuel Lift Pump
- Full Flow Fuel Filters
- Full Flow Lub. Oil Filters
- Exhaust manifold
- Intake Manifold Adaptor
- Exhaust Manifold Adaptor



#### General

MegaForce Diesel Engines are specially tailored to meet the customer's specification and optimum performance, thus guaranteeing the product best suited to the application.

Engine Fuel Systems calibrated to specific power and speed requirements, ensure MegaForce Diesel Engines for maximum efficiency.

MegaForce Diesel Engines have long periods of idleness, coupled to routine testing at maximum speed and at times with no load, necessitates a power unit of exceptional qualities. The range offers from small cylinder engine giving an output of 19kW @ 2900 rpm to a high powered configured engine of 400kW. All power units are manufactured to comply with strict control procedures (ISO 9001) and fully tested against the applicable standards in line with client requirements.

12

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Model	Rating kW (HP)	RPM	Configuration	Bores x Stroke (mm)	Diameter (mm)	Length (mm)	Width (mm)	Height (mm)
MFS 25	19 (25)	3000	3 Cylinder /4 Stroke / Inline	80 x 90	42	600	515	608
MFS 40	30 (40)	2900	4 Cylinder /4 Stroke / Inline	85 x 95	48	735	515	645
MFS 60	45 (60)	3000	4 Cylinder /4 Stroke / Inline	95 x 100	48	735	515	650
MFS 85	63 (85)	3000	4 Cylinder /4 Stroke / Inline	102 x 118	60	810	695	780
MFS 110	82 (110)	3000	4 Cylinder /4 Stroke / Inline	113 x 125	60	920	595	800
MFS 130	97 (130)	3000	6 Cylinder /4 Stroke / Inline	113 x 120	60	1280	700	985
MFS 150	112 (150)	3000	6 Cylinder /4 Stroke / Inline	115 x 125	60	1280	700	985
MFS 180	134 (180)	3000	6 Cylinder /4 Stroke / Inline	115 x 125	60	1280	700	995
MFS 220	164 (220)	3000	6 Cylinder/4 Stroke/ Inline T	126 x 130	70	1520	950	1180
MFS 270	201 (270)	3000	6 Cylinder/4 Stroke/ Inline T	126 x 130	70	1520	950	1180
MFS 300	224 (300)	3000	6 Cylinder/4 Stroke/ Inline T	126 x 140	70	1520	950	1180
MFS 320	239 (320)	3000	6 Cylinder/4 Stroke/ Inline T	126 x 140	70	1520	950	1180
MFS 350	261 (350)	2900	6 Cylinder/4 Stroke/ Inline T	126 x 140	70	1520	950	1180
MFS 375	280 (375)	2900	6 Cylinder/4 Stroke/ Inline T	126 x 155	70	1520	950	1200
MFS 425	317 (425)	2900	6 Cylinder/4 Stroke/ Inline T	135 x 169	100	1497	904	1233
MFS 475	354 (475)	2900	6 Cylinder/4 Stroke/ Inline T	135 x 169	100	1497	904	1233
MFS 536	400 (536)	2900	6 Cylinder/4 Stroke/ Inline T	135 x 169	100	1497	904	1233

Diesel Engines of high capacities is available as per requirement.

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1

# **Fire Pump Controllers**



"Excel Series II" Fire Pump Unit Controller is the Pump Package brain that designed to Control & Monitor the operation of the Main, Standby, and Jockey pumps Drivers, and makes up pumps for both Manual & Automatic modes, as well as turns pumps drivers ON/OFF under specific conditions.

The Fire Pump Package Controller detects signals through set of built in switches that reflect the system Pressure & Flow status enabling fire pump package drivers (Electrical /Diesel /Jockey) to operate in case of pressure in the system is lower than set point, as well as operating the Stand by driver due to power failure and/or substantial drop in pressure.

SFFECO's Excel Series II Controllers are pre-wired, and factory tested before shipment and made ready for immediate usage.

### Control Panel with Optional HMI Controller

The HMI Controller is a tool that will help the pump operators to visualize and monitor the process, provide control targets and set-points, execute programs and initiate sequences, and troubleshoot problems via alarms, and events.

#### Features

- Selective Auto and Manual function
- Quick parameter change facility
- Pressure cut-off PLC based programming
- Automatic or Manual (test) operation
- DOL Start
- Star Delta (Optional)
- Engine RPM (Optional)
- Pressure Status
- Battery Status
- Automatic Battery Charging
- Analogue pressure transmitter
- Variable set points on parameters

- System run time display
- Pressure down buzzer alarm
- Fault trip facility status
- Fault alarm and diagnosis
- Password protected HMI

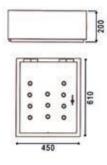
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- Standard dry run protection
- Engine cooling water temperature (Optional)
- Standard cable marking for easy maintenance
- Low maintenance cost and available spare parts
- Compatible with any monitoring systems like BMS (Optional)
- Stainless Steel Enclosures are available for outdoor applications (Optional).











#### Model A

- Wall & Base mounted arrangement.
- Standard up to 250 GPM Skid size.
- Standard as common panel for Electrical, Diesel & Jockey drivers.
- Seperate arrangement is available up on request.

# Model B

- Wall & Base mounted arrangement.
- Standard up to 750 GPM Skid size.
- Standard as common panel for Electrical, Diesel & Jockey drivers.
- Seperate arrangement is available up on request.

### Model C

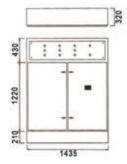
- Standard self standing arrangement.
- Standard up to 1500 GPM (Star Delta) Skid size.
- Standard as common panel for Electrical, Diesel & Jockey drivers.
- Seperate arrangement is available up on request.

### Model D (Optional)

- Standard self standing arrangement.
- Standard as common panel for Electrical, Diesel & Jockey drivers.
- Seperate arrangement is not available.

20





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SFFECO HAS A LONG STANDING ESTABLISHED REPUTATION FOR PIONEERING INNOVATION EVER SINCE ITS FOUNDATION IN 1983.

SFFECO HAS ITS STATE-OF-THE-ART MANUFACTURING PLANTS IN RIYADH AND DUBAI PRODUCING END-TO-END RANGE OF PRODUCTS FOR THE FIRE FIGHTING INDUSTRY MATCHING INTERNATIONAL STANDARDS IN QUALITY.







#### شركة المصنع السعودي لأجهزة الإطفاء SAUDI FACTORY FOR FIRE EQUIPMENT Co.

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