NMFIRE®
Protect life,love and history

CENTRIFUGAL FIRE PUMP
SPLIT CASE

Electric Motor Driven Pump Set
Diesel Engine Driven pump Set
Containerised Pump Set
NFPA20 Package

AUTHORIZED DEALER
CAE ENGINEERING PTE LTD
YOUR PUMPING SYSTEMS SOLUTION PROVIDER
WEBSITE: WWW.CAEGROUP.COM.SG

The protection of life and property is not just a promise

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TRUST
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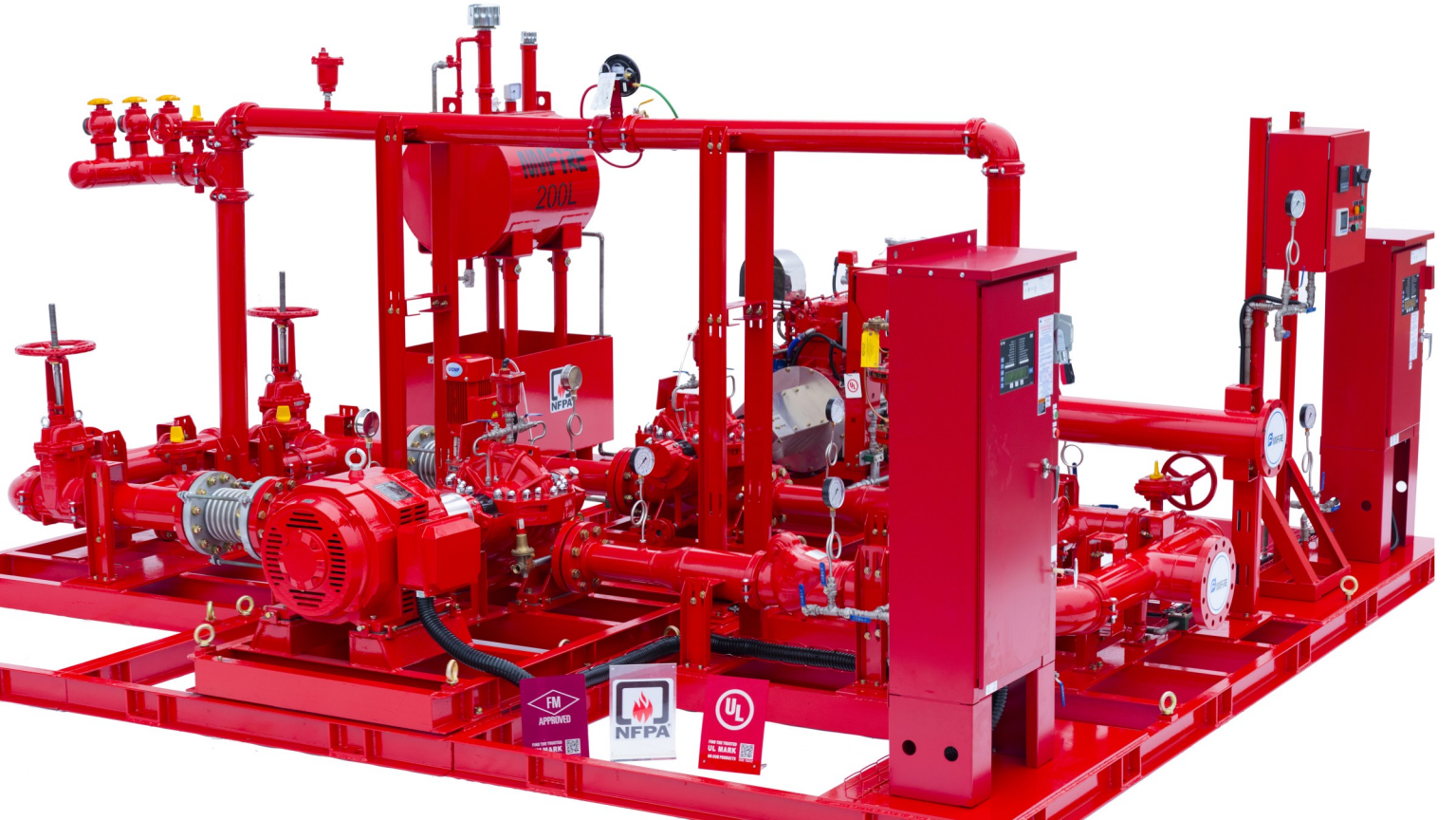
NMFIRE
CDLF16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FIRE PUMP APPLICATION

Fire Pumps are used to supply water for automatic sprinkler systems, standpipes or fire hydrants. NFPA No. 20 classifies fire pumps as split case, vertical turbine, end suction, or In-Line design. In-Line fire pumps have capacities of 50, 75, 100, 150, 200, 250, 300, 400, 450, 500, and 750 GPM; End Suction pumps are rated for 100, 200, 250, 300, 400, 450, 500, and 750 GPM; Split case and vertical turbine fire pumps are rated 150, 200, 300, 450, 500, 750, 1000, 1250, 1500, 2000, 3000, 3500, 4000, 4500, and 5000 GPM. All fire pumps are rated at 40 pounds per square inch or more of boost.

Fire Pumps of the type described shall meet the following basic requirements:

1.Each pump is to be tested hydrostatically for not less than 5 minutes. The test pressure is to be not less than 1.5 times the maximum working pressure of the pump, but in no case less than 250 psi (1724 kPa).

2. A pump shall develop not less than 65 percent of rated total head when discharging at 1.5 times rated capacity.The maximum net pressure for a fire pump shall not exceed 140 percent of rated head.

3.The maximum pump brake horsepower shall not exceed the HP rating its driver, including service factor.

DRIVERS

Fire Pumps are driven by either electric motors, diesel engine, or steam turbines. The basic standards for drivers are as follows:

MOTORS: NFPA 20 requires all fire pump motor drives to be rated for continuous duty and shall not be used at voltages in excess of 110% of rated voltage. At rated voltage and frequency, the full load ampere rating shall not be exceed (except as allowed by the service factor on motor nameplate) under any pumping condition.

ENGINES: NFPA 20 requires that the engine shall have HP rating listed by a testing laboratories, (UL/FM) or be not less than 10% greater than the maximum brake HP required by the pump. A deduction of 3% of the power shall be made for each 1000 feet rise in altitude above 300 ft. and 1% for each 10 degrees F. Above 77 degrees F. Ambient temp. Minimum instrumentation and control shall include: adjustable speed governor, over speed shutdown device set approx. 20% above rated engine speed, tachometer with hour meter, oil pressure gauge and temperature gauge.

NM FIRE SPLIT CASE PUMP
STANDARD CONSTRUCTION

ROTATION: Rotation is clockwise for engine driven pump, motor driven pump can be antic–clockwise or clockwise. Counter–rotation possible with similar parts.

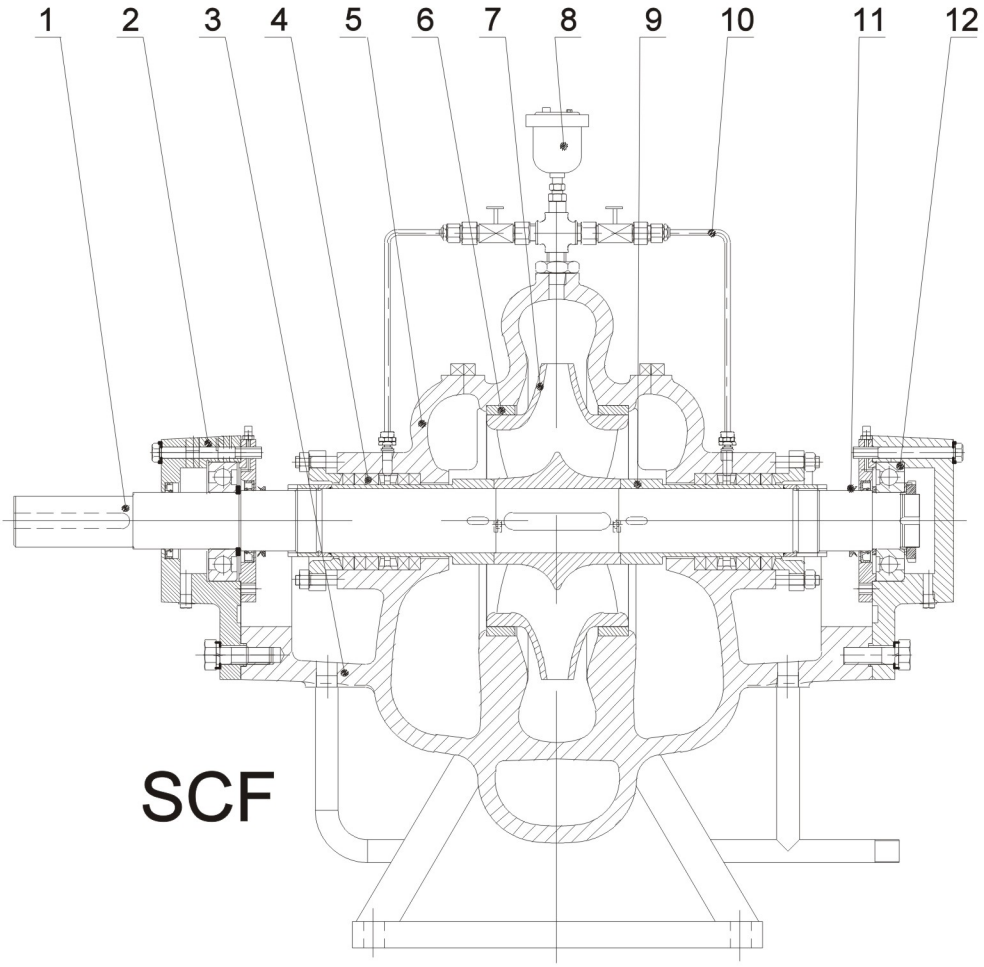
VOLUTE: Double volute casing reduce radial forces on the impeller and consequently the bearing loads. Easy mounting self–aligning upper casing, Heavy duty casing and flanges design for high working pressure. Excellent efficiencies and outstanding NPSH improved by CFD. Replaceable wear rings protect the casing at the impeller running clearances. Smooth surface inside and epoxy coating

IMPELLER: New vane passage design according to UL/FM standards with excellent hydraulic characteristics improved by CFD, lowest BHP reduce the cost of the package system .

Two stage pump mounted back – to – back impellers.

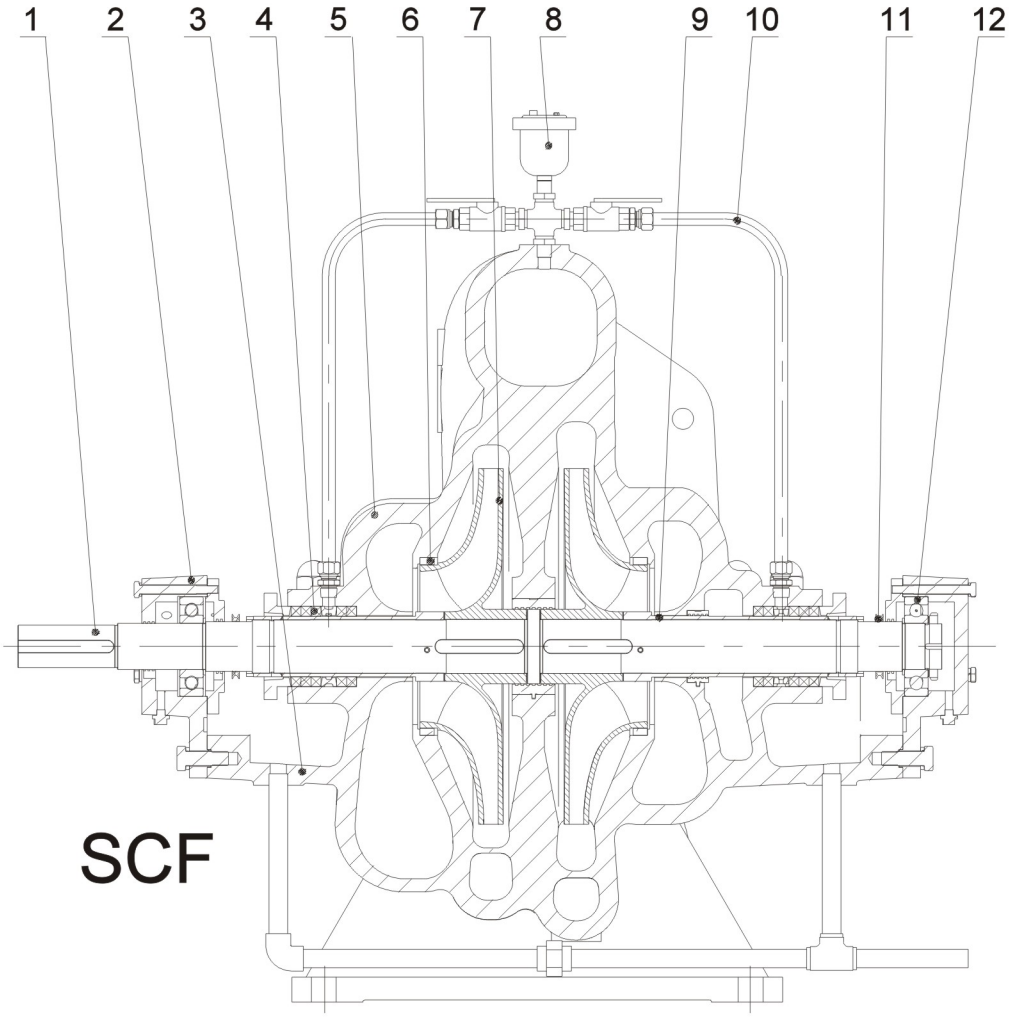
SHAFT: Heavy duty shaft and material design suitable for both 50 & 60 Hz. Short distance between bearings with negligible vibrations. Replaceable shaft protecting sleeves.

ASSEMBLY SECTION AND STANDARD MATERIAL LIST
(SINGLE STAGE)



No.	Name	Material	No.	Name	Material
1	Shaft	Stainless Steel / Duplex Stainless Steel	7	Impeller	Stainless Steel / Duplex Stainless Steel
2	Bearing Housing	Cast Iron	8	Air Release Valve	Stainless Steel / Cast Iron
3	Casing	Ductile Cast Iron / Duplex Stainless Steel	9	Shaft Sleeve	Stainless Steel / Duplex Stainless Steel
4	Packing Seal Assembly	Stainless Steel / Bronze	10	Flushing Pipe	Stainless Steel / Duplex Stainless Steel
5	Upper Casing	Ductile Cast Iron / Duplex Stainless Steel	11	Water-Proof Ring	NBR
6	Casing Seal Ring	Bronze	12	Bearing	SKF

ASSEMBLY SECTION AND STANDARD MATERIAL LIST
(TWO-STAGE)



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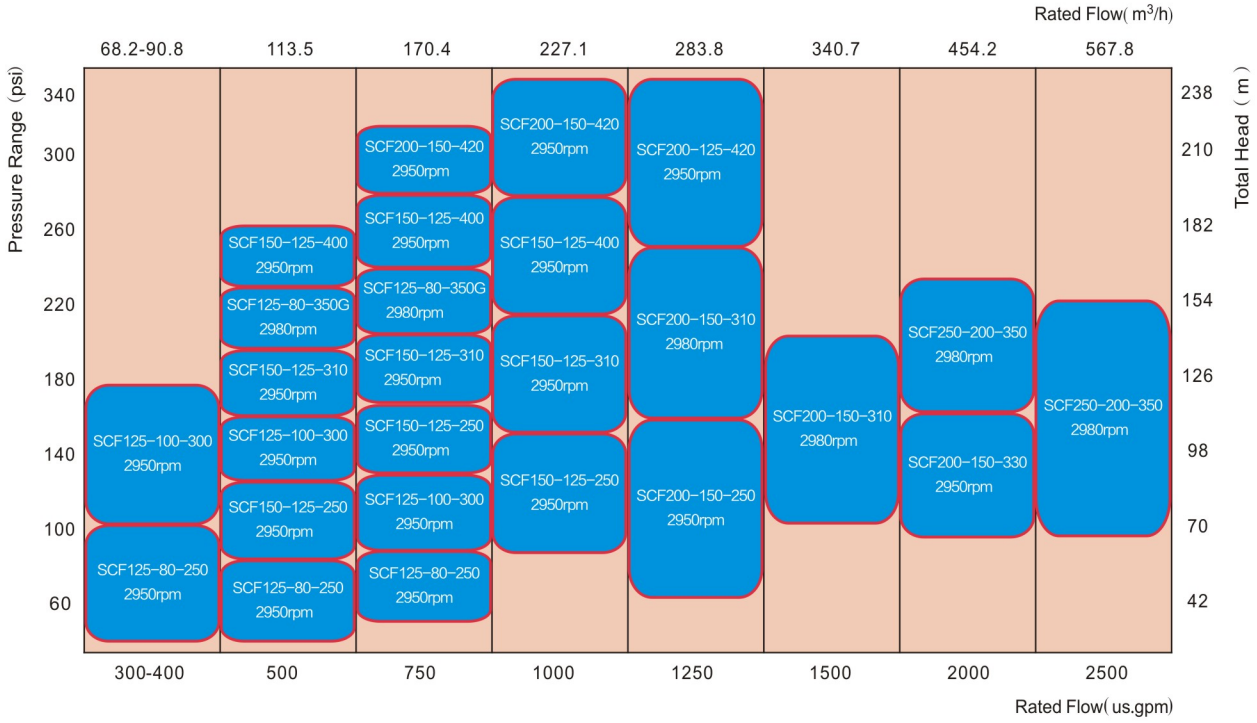
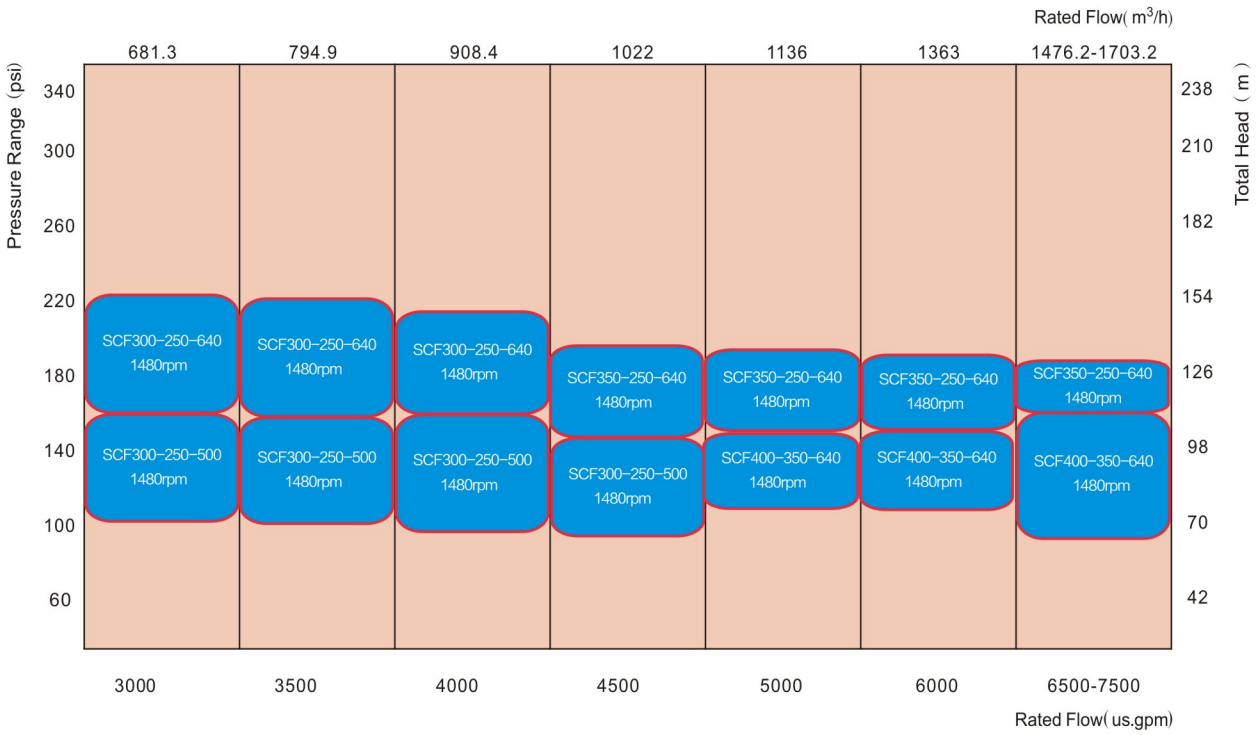
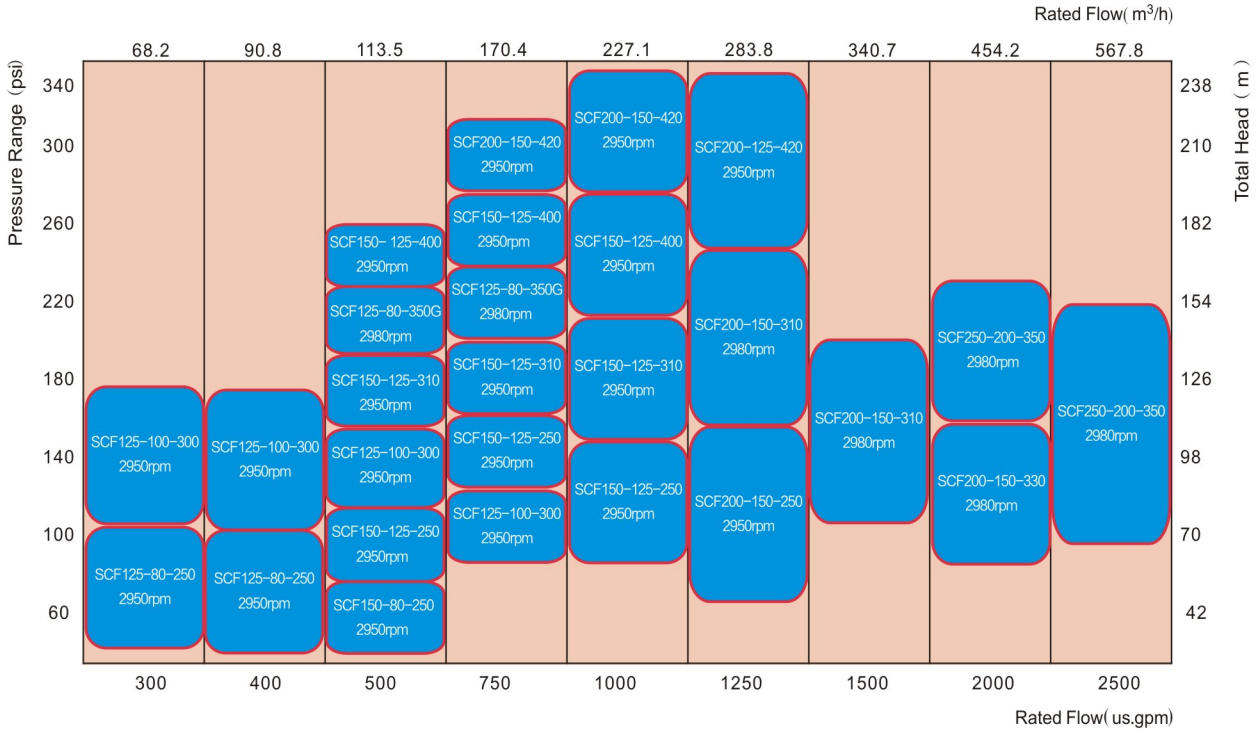
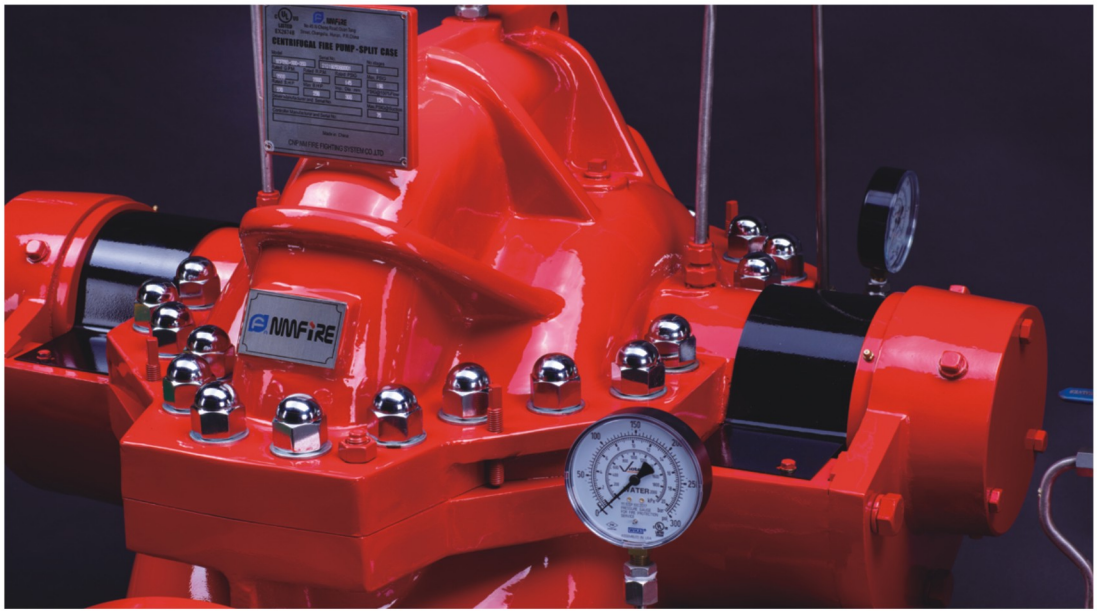
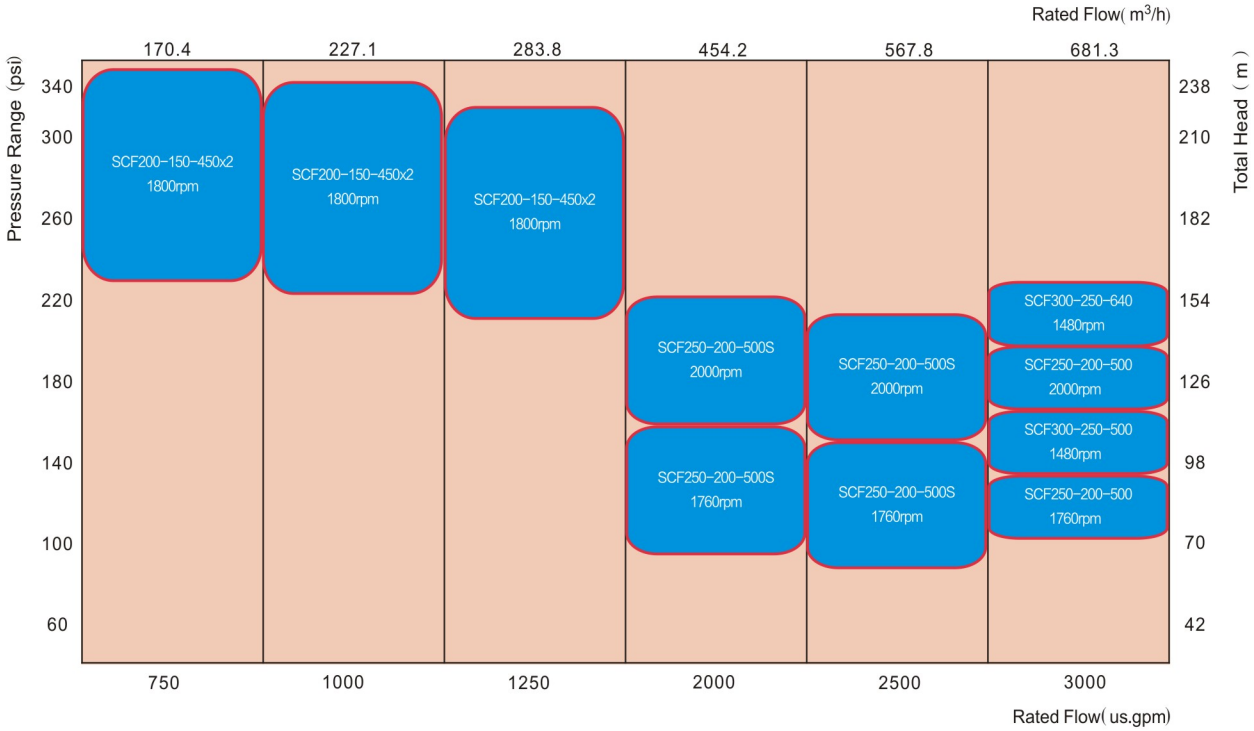
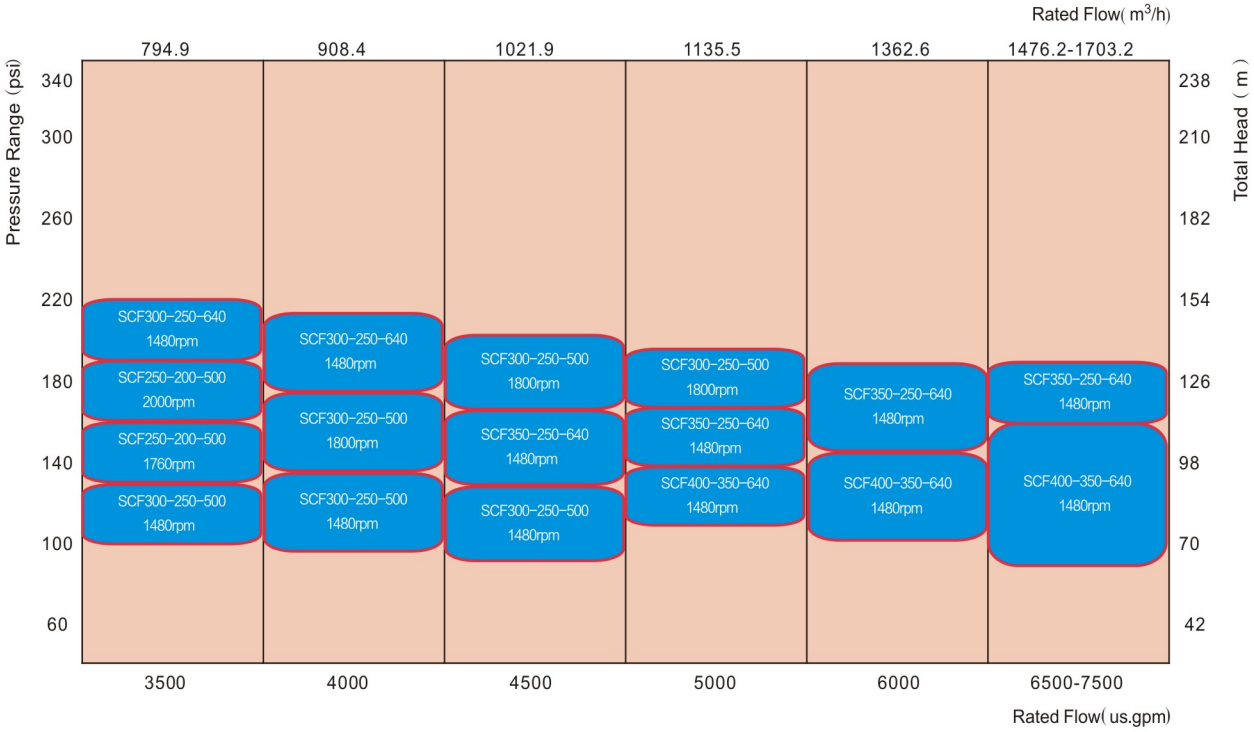
SPLIT CASING FIRE PUMP PERFOMANCE RANGE (MOTOR DRIVEN PUMP 50HZ)





SPLIT CASING FIRE PUMP PERFOMANCE RANGE
(DIESEL DRIVEN PUMP HIGH SPEED)





SPLIT CASING FIRE PUMP PERFOMANCE RANGE
(DIESEL DRIVEN PUMP LOW SPEED)