

## FIRE FIGHTING/HYDRANT PUMP COMPLY TO NFPA 20 STD

- END SUCTION PUMP-ENF model
- SPLIT CASING PUMP-TNF model
- VERTICAL TURBIN PUMP-NNF model



**We are professional engineers for energy saving pump & piping**

# General

## Application :

- Commercial building : Hotel, hospital, office, mall, etc (Hydrant/nozzel, sprinkler)
- Industry : Process, assembling, convection, chemical (Hydrant/nozzel, sprinkle)
- Power plant (Hydrant nozzel, sprinkle)

## Specification :

### End suction pump :

- Flow rate 100-750 US Gpm
- Maximum head 150 meter
- Maximum working pressure 16 bar

### Split casing pump :

- Flow rate 750-2500 US Gpm
- Maximum head 200 meter
- Maximum working pressure 25 bar

### Vertical turbin pump :

- Flow rate 100-1500 US Gpm
- Maximum head 200 meter
- Maximum working pressure 25 bar

## Electric motor/ Diesel engine :

- Electric motor 3Ph/380V-400V/50Hz/2Pole or 4Pole
- Diesel Engine 300 rpm to 3000 rpm/12V-24V
- Maximum power : 350 kW

## Features :

- Complete package of fire fighting pump (Electric fire pump, diesel engine fire pump, joky pump & panel control) to ensure the optimum benefit and comfort for your commercial building and industrial.
- A wide range fire fighting pump available of 3 option model : End suction pump (ENF model), Split casing pump (TNF model and vertical turbin (NNF model)

## Engineering & pricing solution

The energy saving & long life time of pump is our focus. The pump energy saving is not only determined by pump efficiency, but also depending by pipe diameter, controller, etc. Therefore we are ready to give consultation or training of piping engineering (Free of charge) before purchase the pumps, for as below :

- Calculation to determine the pump flow & total head, pipe diameter & material (inlet/ outlet pipe)
- To avoid cavitation, the suction pipe (negative/positive suction) should be calculated max. suction lift (Hs).
- Selection of pump controller according to the application system
- Selection of pump type according to flow, total head, material and electrical power
- Selection of cheaper price with similar or better pump & application

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Vertical turbin pump/ NNF model : 100-1500 Gpm @ 200 Mtr



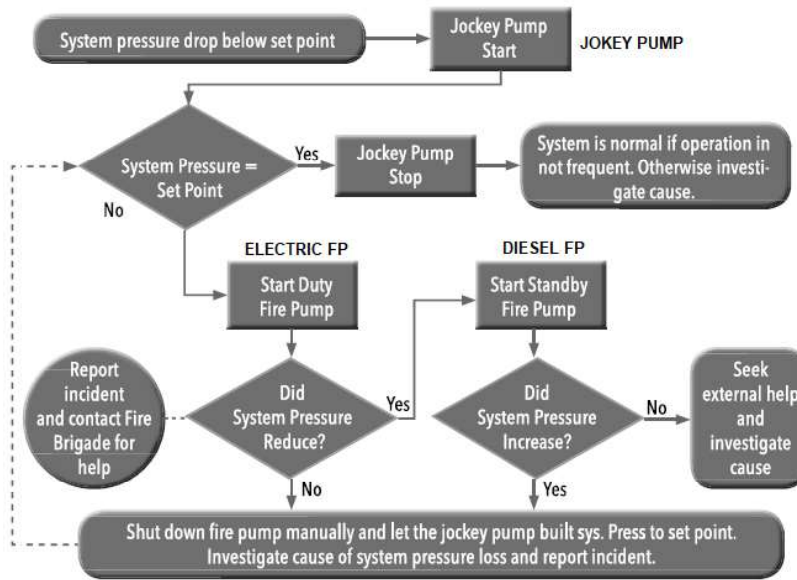
End suction pump/ ENF model : 100-750 Gpm



Split casing pump/ TNF model : 750-2000 Gpm



## Operation flow chart



## Package of fire fighting pump

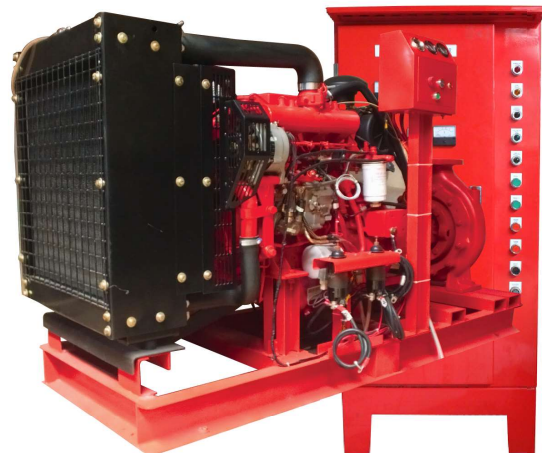
1. Jockey pump & Panel control
2. Electric fire pump & Panel control
3. Diesel fire pump & Panel control



1. Jockey pump & Panel control

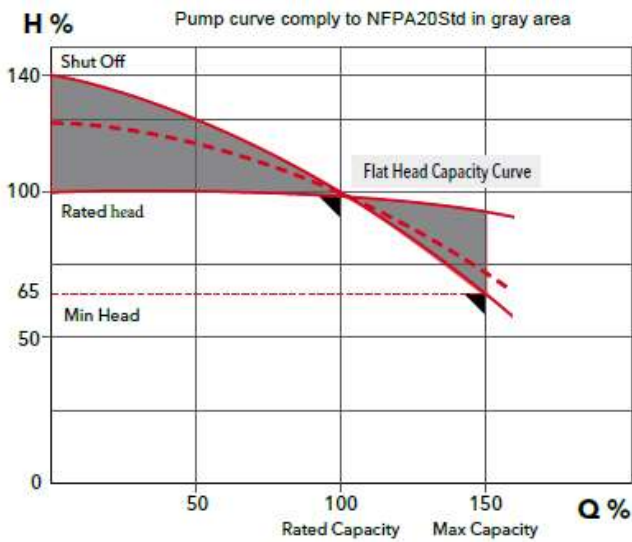


2. Electric fire pump & Panel control



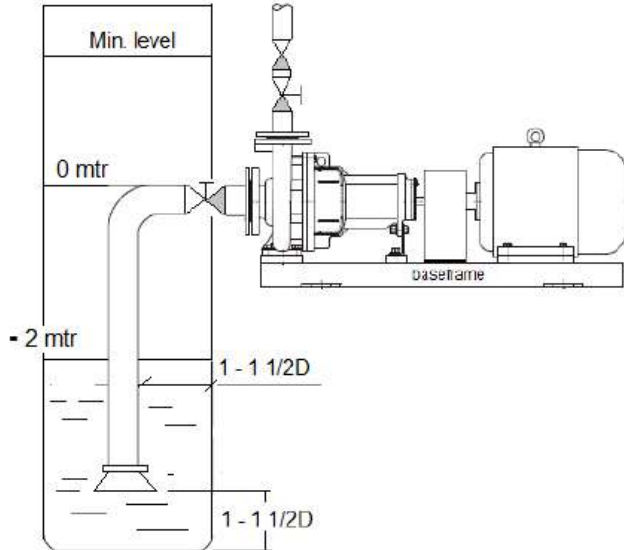
3. Diesel fire pump & Panel control

## Performance curve

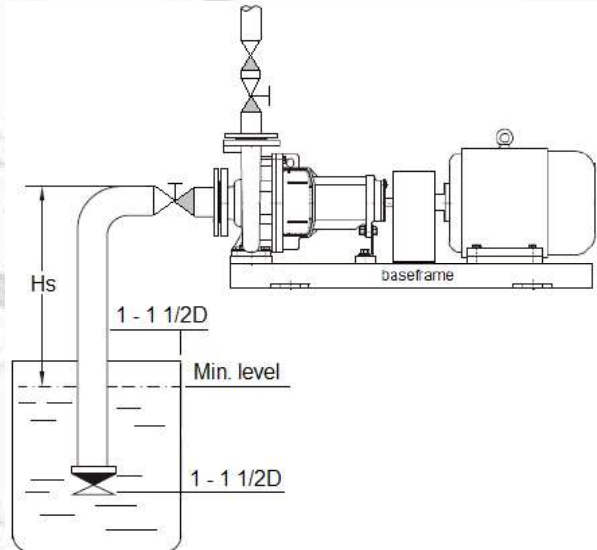


The fire fighting pump curve should be selected according to requirements of NFPA 20Std as above

## Suction piping installation:

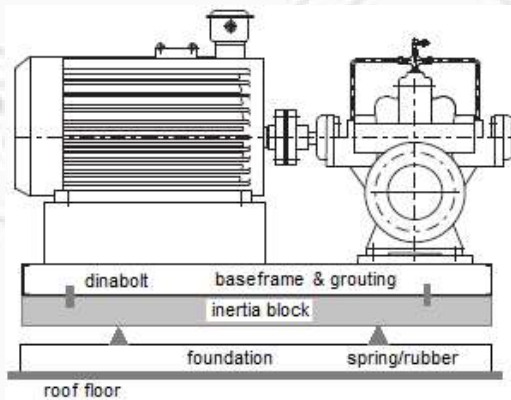


Positive suction, is recommended installation comply to NFPA 20 Std. Pump is permitted to suction of water until minus (-2) meter.



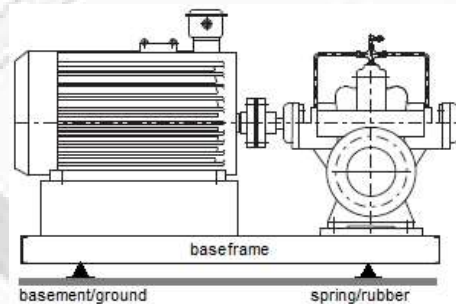
Negative suction, general standard installation.  $H_s$  (Max suction lift)  $> 2$  mtr, should be calculated to avoid cavitation. Recommended  $H_s$  is 1 mtr - 2 mtr.

## Pump installation :

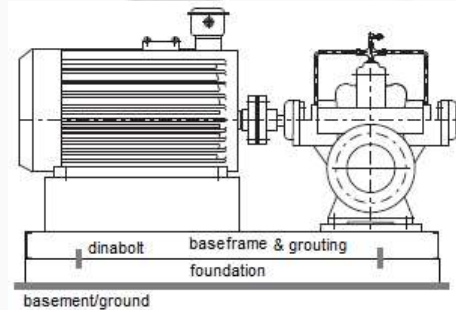


Pump installation on the roof floor.

To avoid high vibration and noise occurring due to effect of rotation, the pump should be installed inertia block & spring/rubber vibration damper. This installation can avoid the damage of building constructions.



Not recommended pump installation. The base frame will deflection and shaft misalignment.



Installation of pump on the basement/ground