NEWTONUS PUMP

BOOSTER PUMP

(Pressure Switch and Inverter Controller)

We are Professional Engineers
for Energy Saving Pump and Piping

www.newtonuspump.com

General

Application :

-Commercial Building (Shower, toilet, krans, bathub, wastafel, washing, springkle)
-Industrial, power plant (Shower, toilet, bathub, wastafel, washing, sprinkle)
-Water Treatment, desalination (Distribution)
-Agriculture, farming, golf course (Irrigation, sprinkle)
-Mining (Shower, toilet, krans, bathub, wastafel, washing, Sprinkle)
-Residencial (Shower, toilet, krans, bathub, wastafel, washing)

Specification :

-Max. flow 200 M3/hour
-Max. head 250 meter
-Liquid temperatur -15 deg.C to 70 deg.C
-Max. working pressure 16Bar
-Min. Inlet/outlet dia. DN25 & max. inlet/outlet dia. DN350
-Liquid pH 6 - 8, clean liquid non grain/fiber

Booster Vertical Pump with Inverter Controller (VI model) or Pressure Switch Controller (VP model)

Electric motor :

-3Ph/380V-415V/50Hz/4P-2P
-1Ph/220V-240V/50Hz/2P
-Insulation class F, protection clas IP55
-Maximum power : 350 kW

Features :

-The booster pump is solution to save electricity.
-Reduce the cost of building construction, if the booster pump is installed at basement, so it does not need the roof tank
-Two option of booster pump, ie. Inverter booster pump & Pressure switch booster pump.
-The Inverter booster pump will ensure constant pressure and lower water hamer, so that it would provide comfort to occupants or guests of the building.
-The Pressure switch booster is an economical option and lower price

Booster Horisontal Pump with Inverter Controller (HI model) or Pressure Switch Controller (HP 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 trainning 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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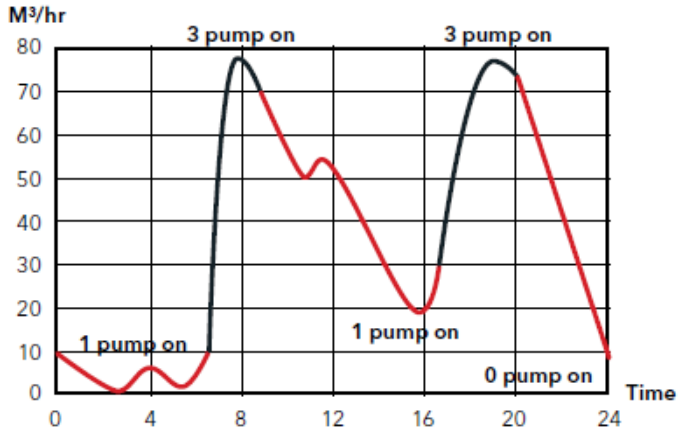
Technical

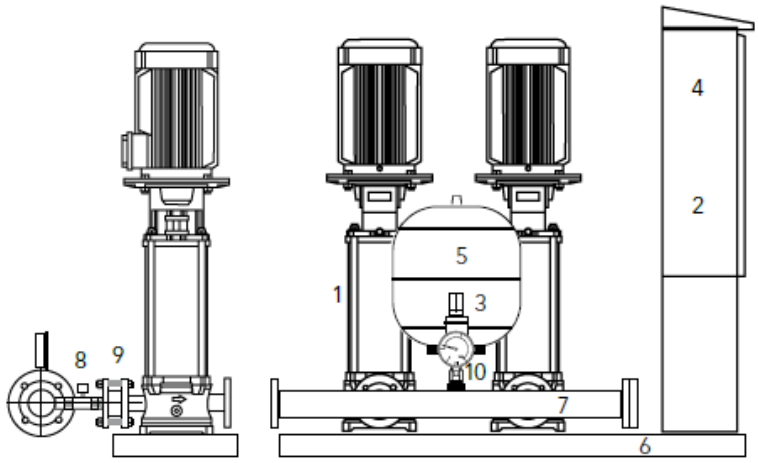
Water consumption characteristic:



Example : Water consumption chart for the hotel

To achieve the optimum pump energy saving, we should to know the characteric of water consumption. This is very important to determine the number of pump, which it will be istalled at the booster. The water consumption characteristic is different for each applicaton for hotel, apartement, mall, office, hospital, residencial, office, etc.

Component & material:

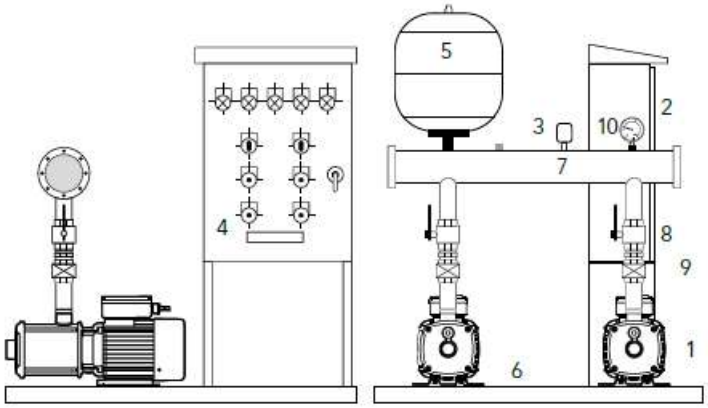


VI model (Booster Vertical Pump with Inverter Controller) &
VP model (Booster Vertical Pump with Pressure Switch Controller)

1. N (1-6) pumps
2. Panel control
3. Pressure transmitter (VI model) or pressure switch (VP model)
4. N (1-6) unit inverter (only VI model)
5. Diafraghma tank
6. Steel baseframe
7. Steel pipe outlet header
8. 2 x N (1-6) butterfly valve
9. N (1-6) check valve
10. Pressure gauge

Optional of the pumps for Booster VI model & Booster VP model :

- Vertical Inline Multi stage/ VR pump
- Split Casing Inline/ SG pump
- Vertical Inline Single stage/ VN pump



HI model (Booster Horisontal Pump with Inverter Controller) &
HP model (Booster Horisontal Pump with Pressure Switch Controller)

Optional of the pumps for Booster HI model & Booster HP model :

- End Suction Single Satge/ EN pump
- End Suction Multi stage/ HR pump

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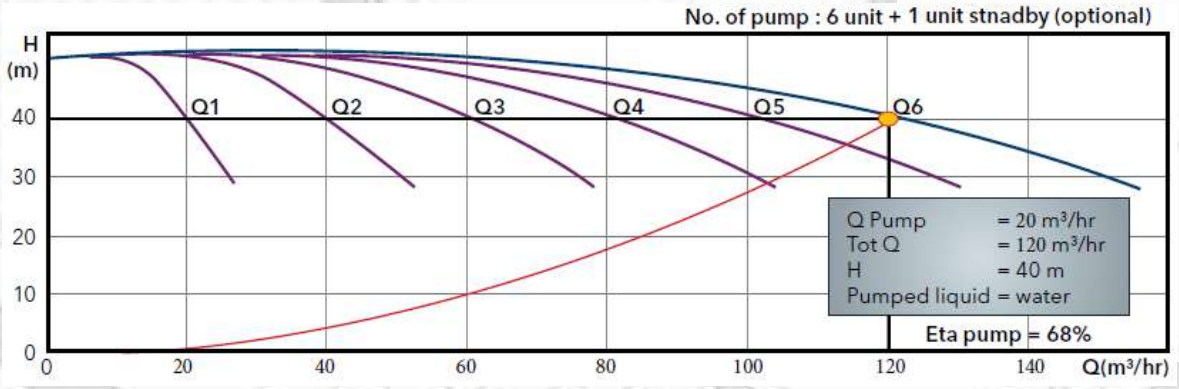
Performance curve:

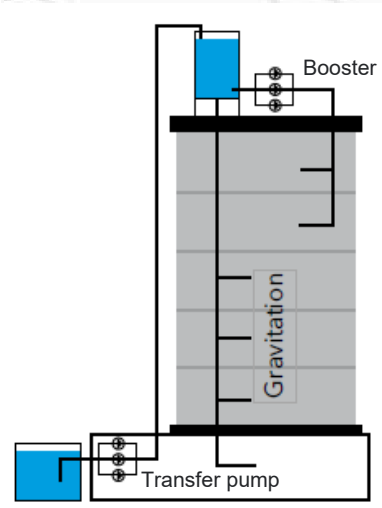


According to basic theory. The booster is consists of 1 - 6 (maximum) paralel pumps, with requirements each pump must have the similar head (H1 =H2=H3=H4=H5=H6) and each pump is permitted to have different flow with the result total flow is Qtot = Q1+Q2+Q3 +Q4+Q5+Q6

The inverter booster is accurate to get the total flow according to basic teory, Qtot =Q1+Q2+Q3+Q4 +Q5+Q6 (Example as the above curve, Q/pump = 20m3/hour. If 6 pumps running, Qtot = 120m3/hr)

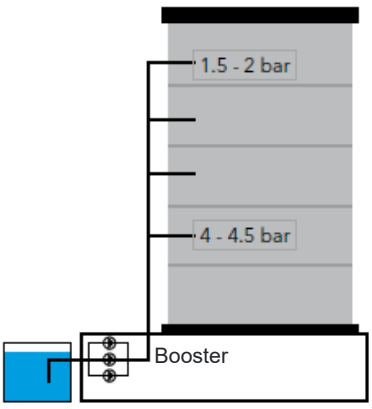
The pressure switch booster is not accurate to get the total flow according to basic teory, Qtot = Q1+Q2+Q3+Q4+Q5+Q6, (Example as the above curve, Q/pump = 20 m3/hr. If 6 pumps running usually the Q tot < 120 m3/hour).To maintain the Q total booster is not reduce, we have to attention of pipe sizing and arrange of valves opening

Booster installation:

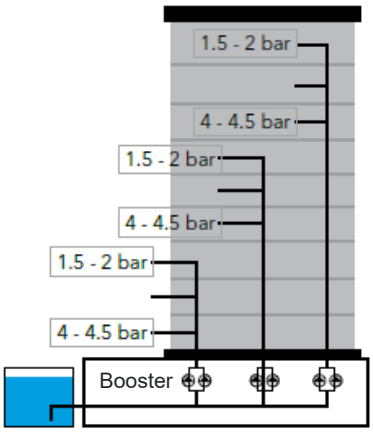


Installation of booster on the roof & gravitation system

Requirements of maximum differential pressure between lowest & highest floor is 3 bar.



Installation of booster on the basement with single piping.



Installation of booster on the basement with zones piping.

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