



**Variable Speed Booster Set
for Water Supply and Industry**

Variable speed drive technology offers a cost-effective method to match driver speed to load demands and represents a state-of-the-art opportunity to reduce operating costs and improve overall productivity.

REGALINE SYSTEM Variable Speed Booster Set consists of two to four vertical multistage centrifugal pumps coupled in parallel and mounted on a common base frame provided with all the necessary fittings and a control panel.

The pumps used in the booster sets are individually tested at the factory – checking all operating parameters in accordance with ISO 9906 Grade 1 and 2 procedures and regulations.

The entire system is tested once it has been assembled – checking all possible parameters including start/stop, control panel operation, alarm settings, etc. Prior to delivery, the booster set is workshop-tested and set according to the customer's requirements and ready for operation.

The booster sets are sized and assembled in an easily transportable form complete with accessories and inlet and discharge manifolds. The installation contractor is only required to make connections for the suction and discharge manifolds and the electrical connections to the control panel.

FEATURES AND ADVANTAGES

- Constant pressure independent of the flow required.
- Reduction of noise.
- Substantial energy saving.
- Practically free maintenance.
- No water hammering.
- Reduction of diaphragm tank volume – a small 20-50 litres diaphragm tank is recommended to accommodate a very small demand without having to start the pump.
- Reduction in frequency of start/stop.
- Increase the booster set performance.
- Simple and easy control and monitoring system.
- Automatic changeover between pumps in operation to ensure all pumps age at the same rate.
- Longer pump life.
- Greater flexibility in selection of pump.
- Performance control panel and 26 monitoring functions available.
- Bus communication possible.
- Dry running protection.
- Motors are TEFC squirrel cage induction type which are easily available.



PUMPS

- Two to four pumps may be selected according to specific requirements.
- Pumps are arranged in parallel operation.
- All hydraulic parts in contact with the fluid are made of SS304 stainless steel. SS316 may be supplied upon request.
- Suction and discharge head in stainless steel construction. Cast iron type may also be supplied.
- Quiet operation.
- Quality silicon carbide or tungsten carbide mechanical seal.

PUMPS

- Standard IEC vertical flanged motor.
- Class F IP55 insulation.

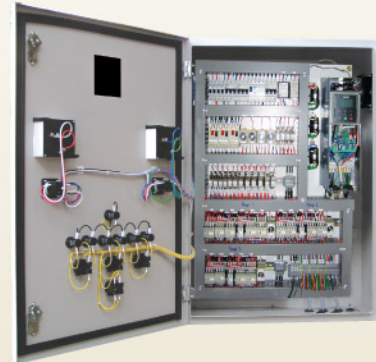


CONTROL PANEL

The control panel incorporates a frequency converter which can switch the system ON/OFF or regulate the operation of up to four parallel pumps by constant pressure regulation.

The control panel has all the parameters necessary for ensuring the best comfort and optimum operation. Some of the functions available include constant pressure, pipe loss compensation, timer programme, alternative set points, pump priority and bus communication.

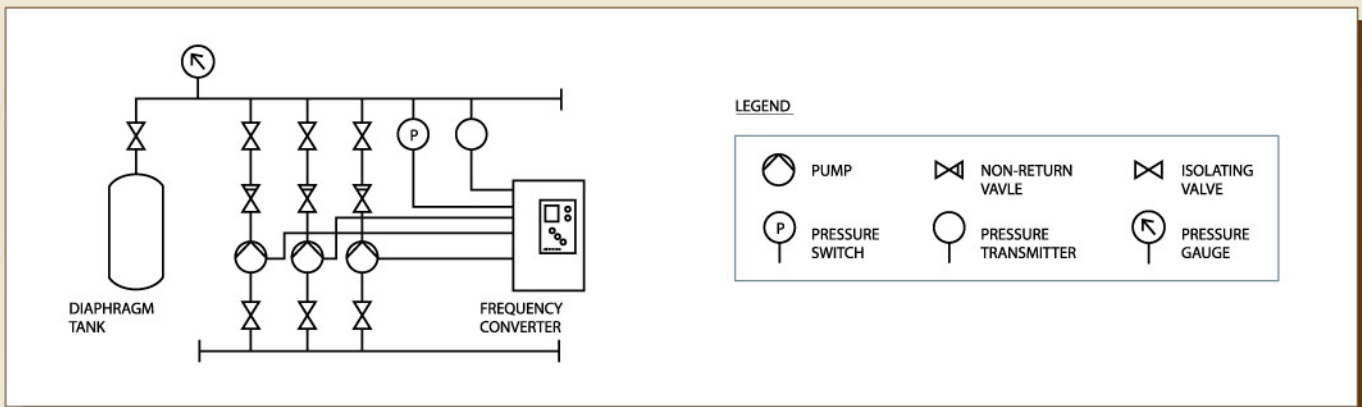
The frequency converter is fully imported and wired up locally using components from renowned manufacturers such as Siemens, Legrand, Telemecanique, etc. Lightning surge protection can also be provided upon request.



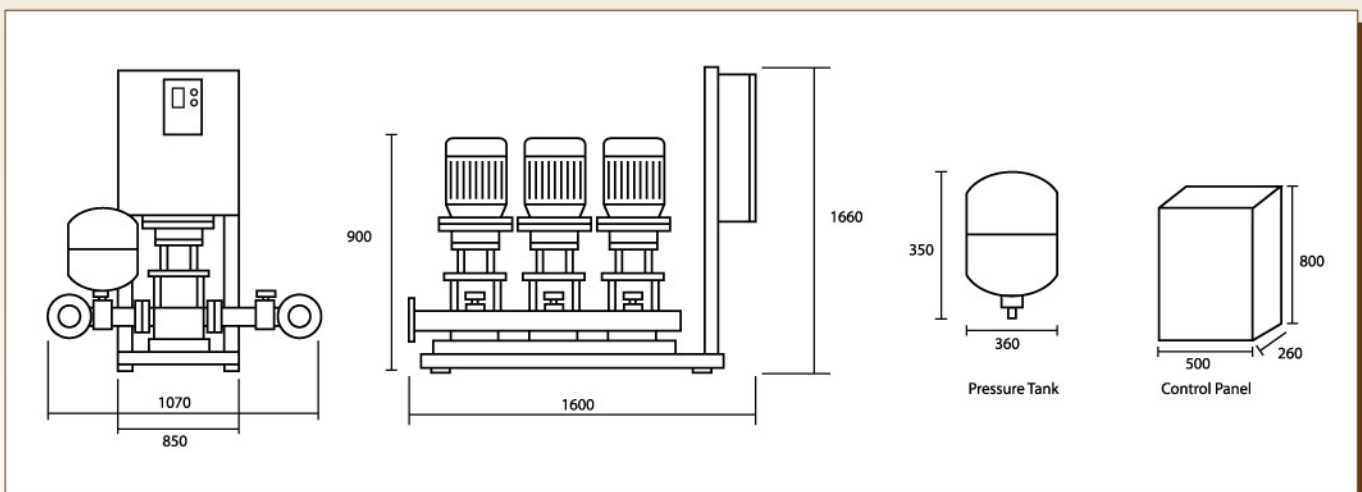
APPLICATIONS

- Water supply in civil, industrial, commercial and domestic sectors
- Water boosting for high rise buildings
- Fire fighting system
- Sprinkler and irrigation system

SCHEMATIC DRAWING



DIMENSION DRAWING (Dimensions in mm)



Sample dimension drawing for three pumps system, dimensions to change for other different models. Dimensions above are approximate and subject to final adjustment.

MONITORING VALUES (Control keypad : menu M1)

The monitoring values are the actual values of parameters and signals as well as statuses and measurements. Monitoring values cannot be edited.

| Code | Parameter | Unit | ID | Description |
|-------|----------------------------------|------|----|--|
| V1.1 | Output frequency | Hz | 1 | Output frequency to motor |
| V1.2 | Frequency reference | Hz | 25 | Frequency reference to motor control |
| V1.3 | Motor speed | rpm | 2 | Motor speed in rpm |
| V1.4 | Motor current | A | 3 | |
| V1.5 | Motor torque | % | 4 | Calculated shaft torque |
| V1.6 | Motor power | % | 5 | Motor shaft power |
| V1.7 | Motor voltage | V | 6 | |
| V1.8 | DC link voltage | V | 7 | |
| V1.9 | Unit temperature | °C | 8 | Heatsink temperature |
| V1.10 | Motor temperature | % | 9 | Calculated motor temperature |
| V1.11 | Analogue input 1 | V/mA | 13 | AI1 input value |
| V1.12 | Analogue input 2 | V/mA | 14 | AI2 input value |
| V1.13 | DIN 1, DIN 2, DIN 3 | | 15 | Digital input statuses |
| V1.14 | DIN 4, DIN 5, DIN 6 | | 16 | Digital input statuses |
| V1.15 | Analogue 1 _{out} | mA | 26 | AO1 |
| V1.16 | Analogue input 3 | V/mA | 27 | AI3 input value |
| V1.17 | Analogue input 4 | V/mA | 28 | AI4 input value |
| V1.18 | PID Reference | % | 20 | In % of the max. frequency |
| V1.19 | PID Actual value | % | 21 | In % of the max actual value |
| V1.20 | PID Error value | % | 22 | In % of the max error value |
| V1.21 | PID Output | % | 23 | In % of the max output value |
| V1.22 | Running auxiliary drives | | 30 | Number of running auxiliary drives |
| V1.23 | Special display for actual value | | 29 | See parameters 2.9.29 to 2.9.31 |
| V1.24 | PT-100 temperature | °C | 42 | Highest temperature of used PT100 inputs |
| G1.25 | Multimonitoring items | | | Displays 3 selectable monitor values |

For enquiries, please contact :