

# Pressure Boosting Sets

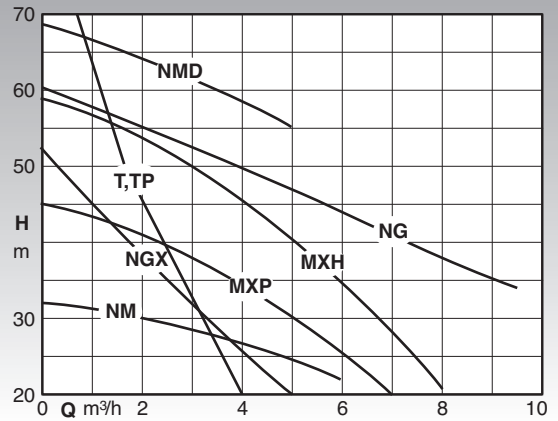
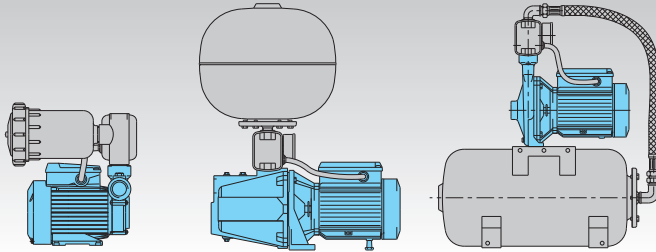
Fixed speed pump units

Variable speed pump units with frequency converter



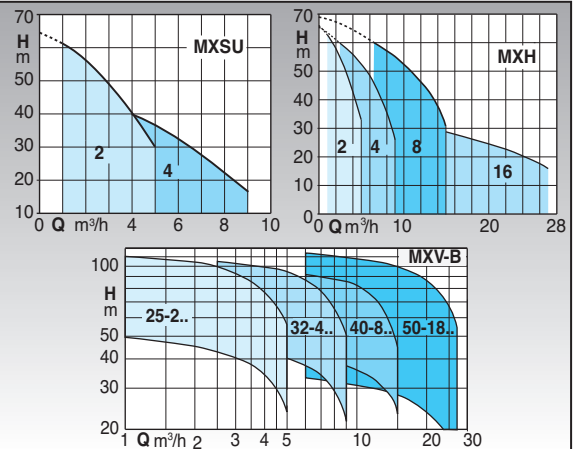
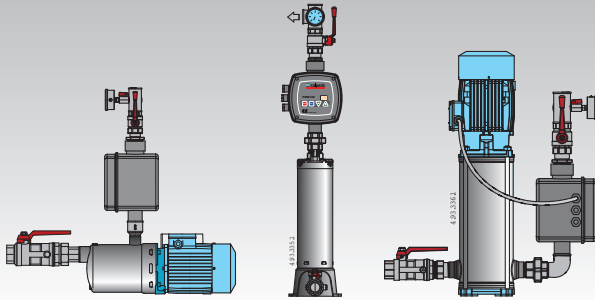
## MINIMAT, TURBOMAT CENTRIMAT, GETTOMAT

Small automatic water systems with 1 pump series **MXH, MXP, NM, NG, NGX**



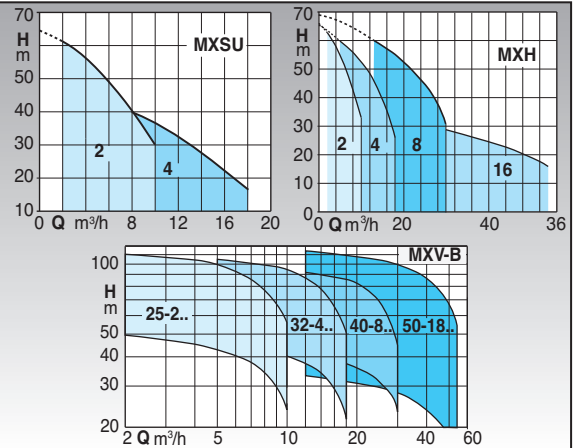
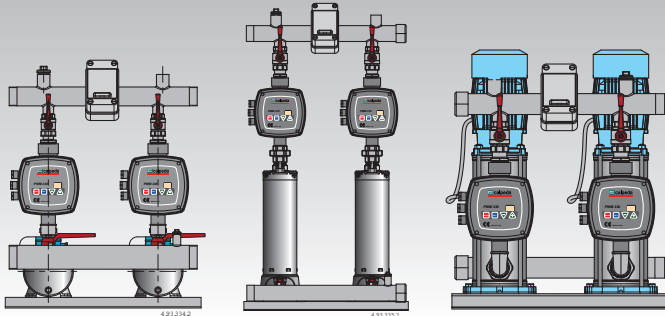
## VARIOMAT

Constant pressure boosting sets with Variomat frequency converter with 1 **MXH, MXSU, MXVB**



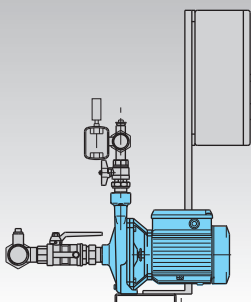
## VARIOMAT

Constant pressure boosting sets with Variomat frequency converter with 2 **MXH, MXSU, MXVB**



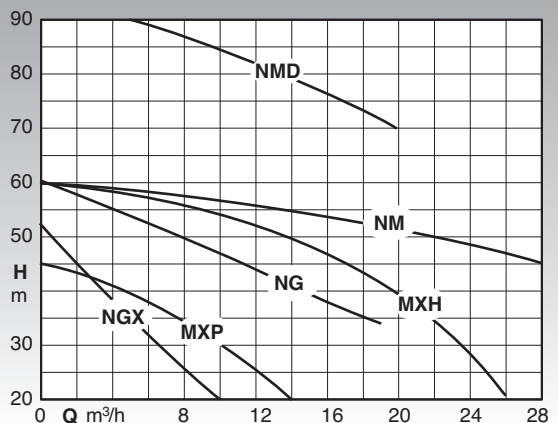
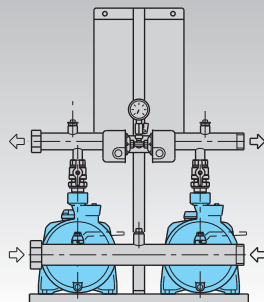
## BS2F

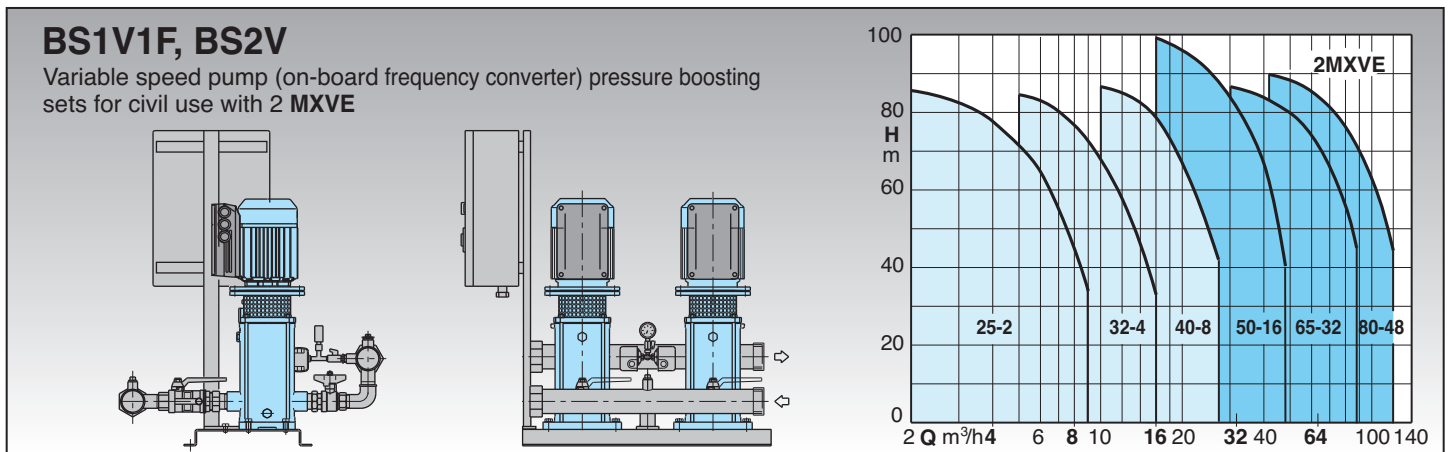
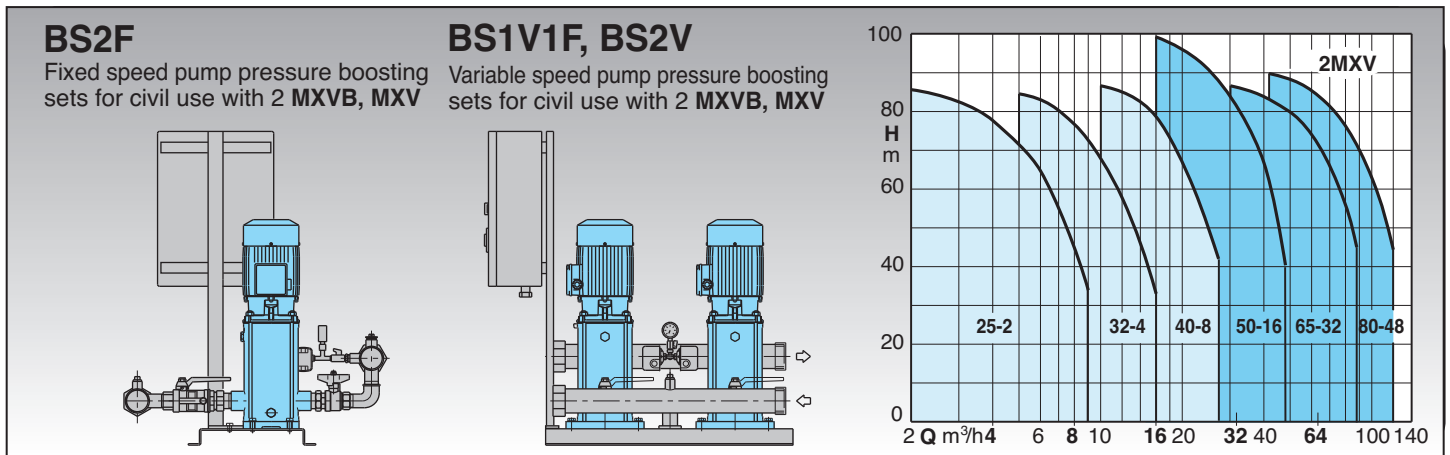
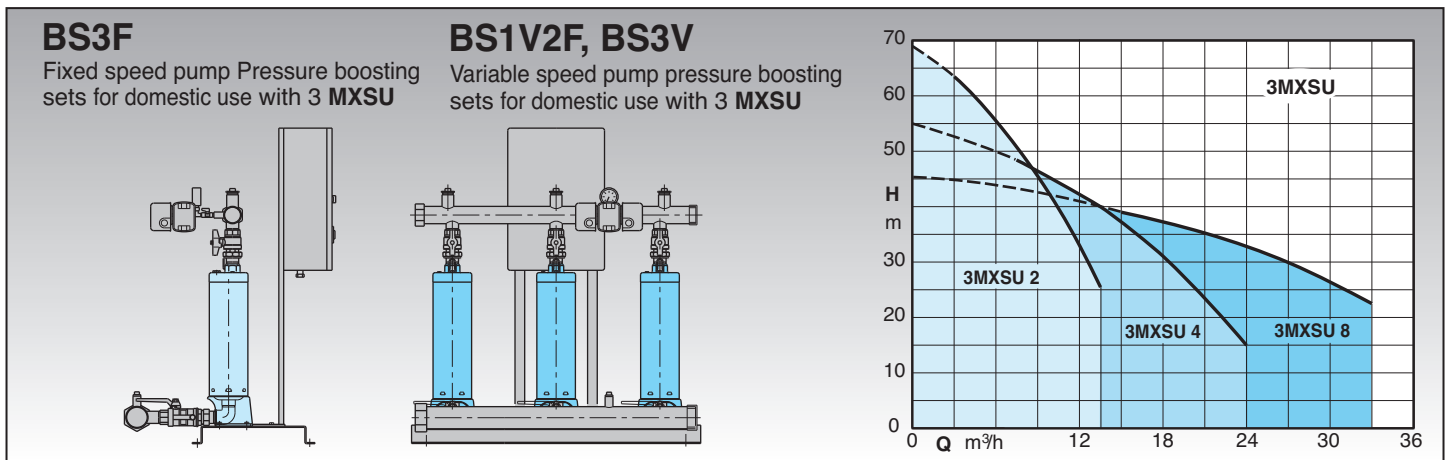
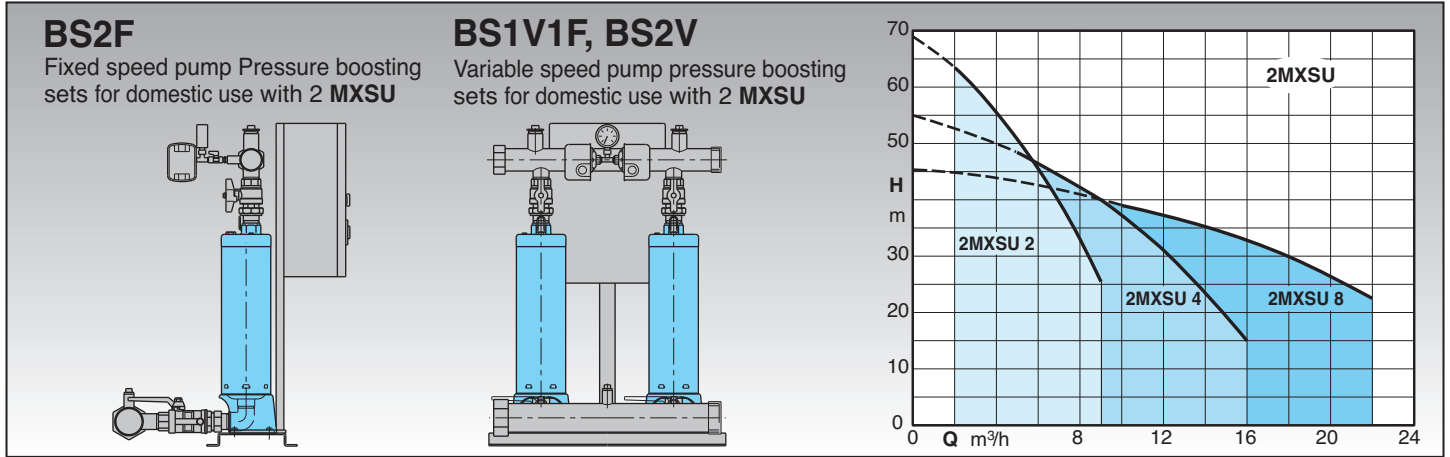
Fixed speed pump pressure boosting sets for domestic use with 2 **MXH, MXP, NM, NG, NGX**



## BS1V1F, BS2V

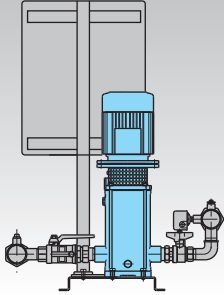
Variable speed pump pressure boosting sets for domestic use with 2 **MXH, MXP, NM, NG, NGX**





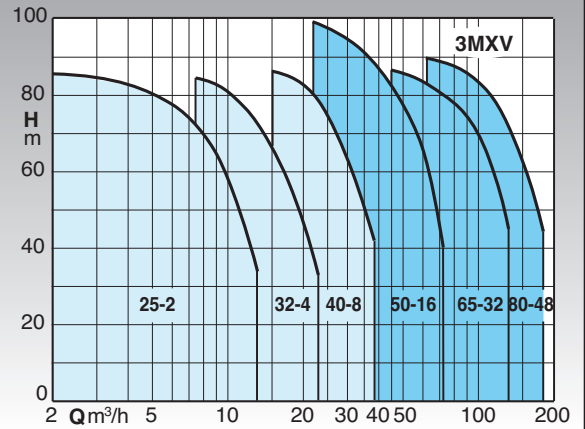
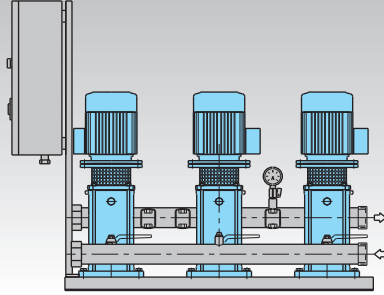
## BS3F

Fixed speed pump pressure boosting sets for civil use with 3 MXVB, MXV



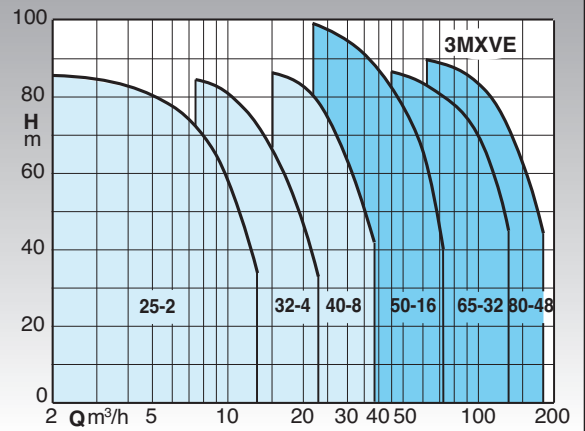
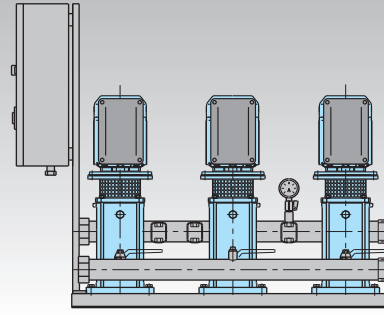
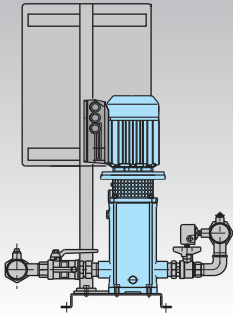
## BS1V2F, BS3V

Variable speed pump pressure boosting sets for civil use with 3 MXVB, MXV



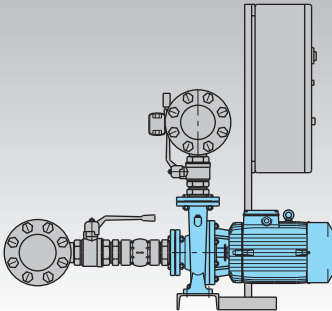
## BS1V2F, BS3V

Variable speed pump (on-board frequency converter) pressure boosting sets for civil use with 3 MXVE



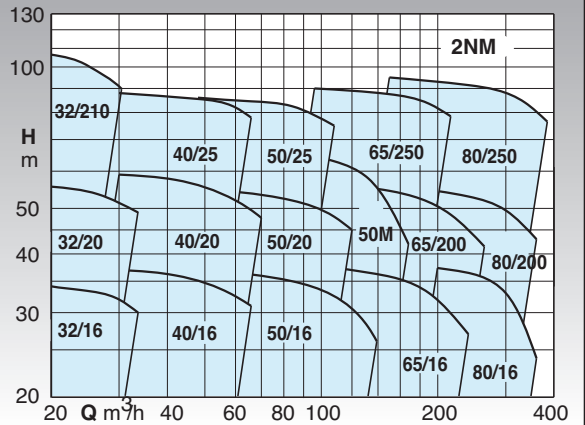
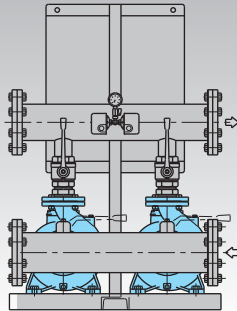
## BS2F

Fixed speed pump pressure boosting sets for civil use with 2 NM, NMD



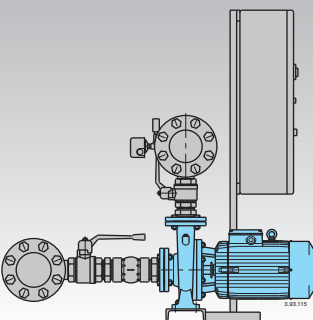
## BS1V1F, BS2V

Variable speed pump pressure boosting sets for civil use with 2 NM, NMD



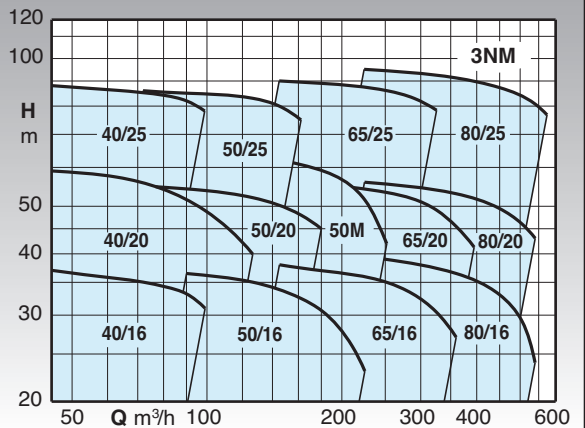
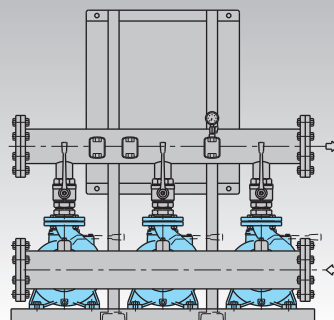
## BS3F

Fixed speed pump pressure boosting sets for civil use with 3 NM



## BS1V2F, BS3V

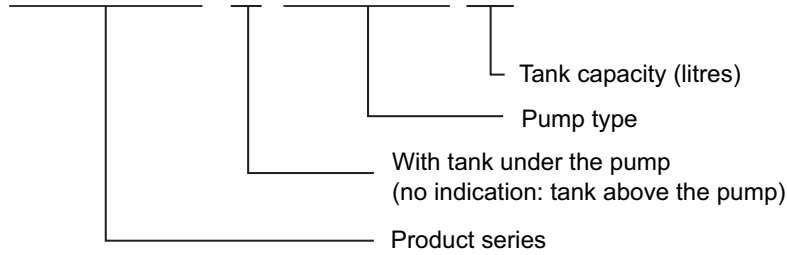
Variable speed pump pressure boosting sets for civil use with 3 NM



## Designation

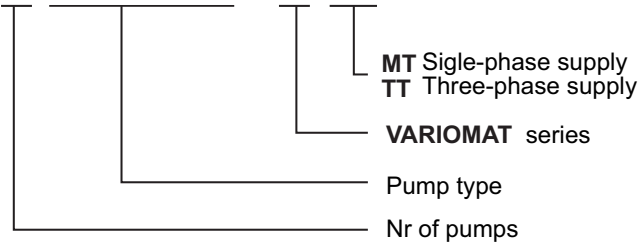
**CENTRIMAT 1/1 MXH 205E /20**

**CENTRIMAT MXH 205E /24**



**2 MXH 204 - V MT**

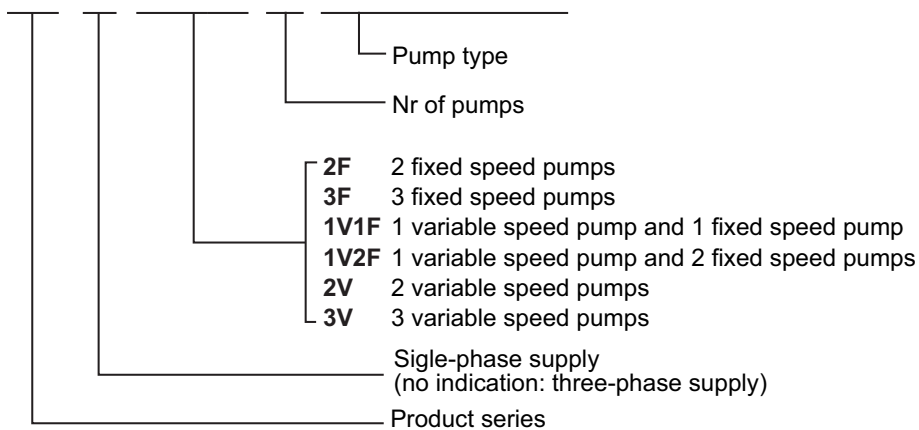
**2 MXH 204 - V TT**



**BS M 2V 2 MXV 25/204**

**BS M 1V 1F 2 MXV 25/204**

**BS M 2F 2 MXV 25/204**



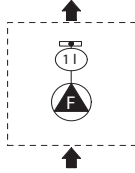
# Operation

## MINIMAT

with 1 fixed speed pump

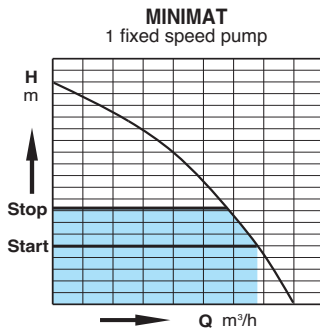
### Construction

Small pressure boosting sets with automatic operation, consisting of pump, pressure switch and 1 litre diaphragm tank.



### Operation

Pump is directly driven by the pressure switch.

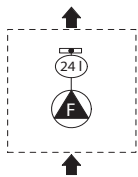


## TURBOMAT, CENTRIMAT, GETTOMAT

with 1 fixed speed pump

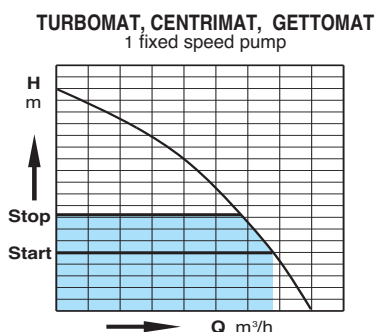
### Construction

Small pressure boosting sets with automatic operation, consisting of with pump, pressure switch, pressure gauge and diaphragm tank (24litres if above the pump, 20litres if under the pump).



### Operation

Pump is directly driven by the pressure switch..

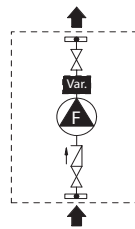


## VARIOMAT

with 1 variable speed pump

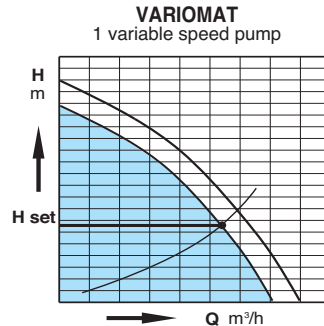
### Construction

Pressure boosting sets with automatic operation and constant pressure, consisting of a variable speed pump driven by Variomat frequency converter, with gate and non-return valves, pressure gauge, 8 litres diaphragm tank.



### Operation

Variable speed pump is directly driven by Var

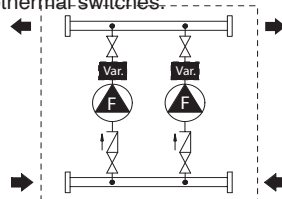


## VARIOMAT

with 2 variable speed pumps

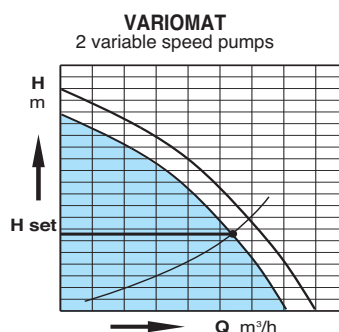
### Construction

Pressure boosting sets with automatic operation and constant pressure, made up with 2 variable speed pumps on a common baseplate driven by Variomat frequency converter, with suction and delivery manifolds, gate and non-return valves, pressure gauge, 8 litres diaphragm tank and control panel with two magnetothermal switches.



### Operation

Pumps starting in a cascade sequence, with changeover of pump starting sequence.

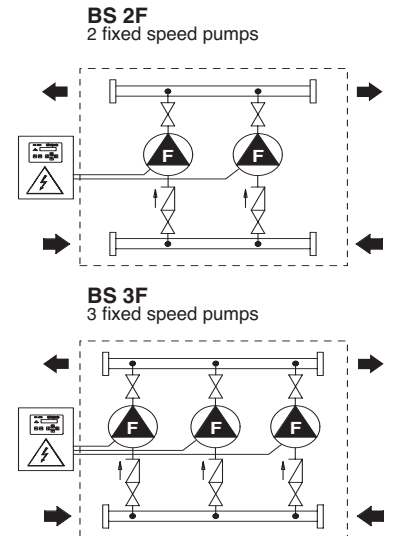


## BSF

with fixed speed pumps

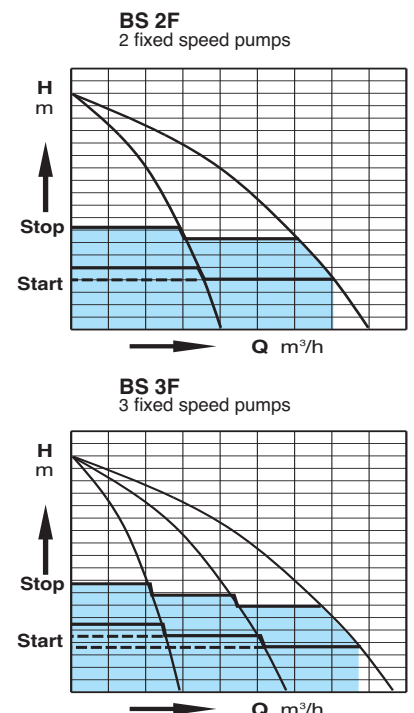
### Construction

Pressure boosting sets with automatic operation, consisting in 2 and 3 pumps on a common baseplate, with suction and delivery manifolds, gate and non-return valves, pressure switches, pressure gauge, control panel and from 100 to 1000 litres diaphragm tank.



### Operation

The control panel, with electronic card, manages the pump operation, the changeover of pump starting sequence and it stops the system when there is no air in the tank (patented system). Pumps starting in a cascade sequence, with a signal from the pressure switches.

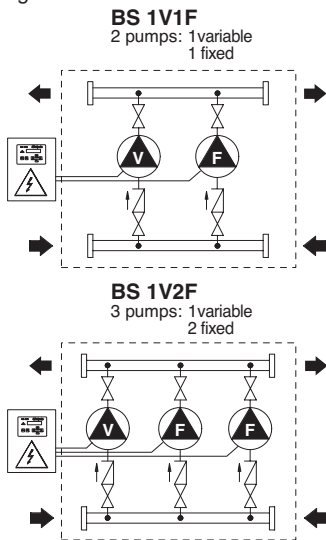


## BSV.F.

with variable and fixed speed pumps (frequency converter into the control panel)

### Construction

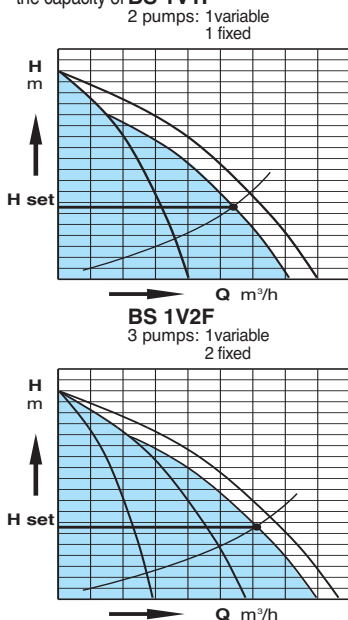
Pressure boosting sets with automatic operation, consisting of 1 variable speed pump with frequency converter into the control panel and from 1 to 5 fixed speed pumps, assembled on a common baseplate, with suction and delivery manifolds, gate and non-return valves, pressure gauge, control panel and 20 litres diaphragm tank.



### Operation

The control panel, with electronic card, manages the pump operation, the changeover of fixed speed pumps starting sequence. Pumps starting is in a cascade sequence, with a signal from the pressure transducer.

Constant pressure is guaranteed by the variable speed pumps, while fixed speed pumps start when the request is higher than the capacity of **BS 1V1F**

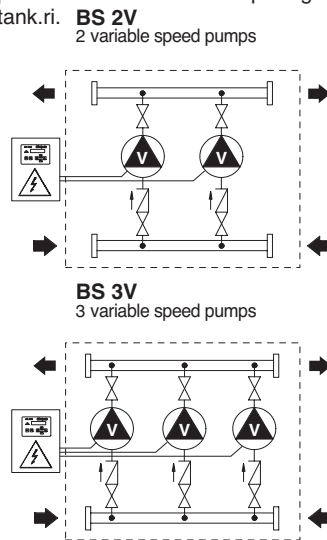


## BSV

with variable speed pumps (frequency converter into the control panel)

### Construction

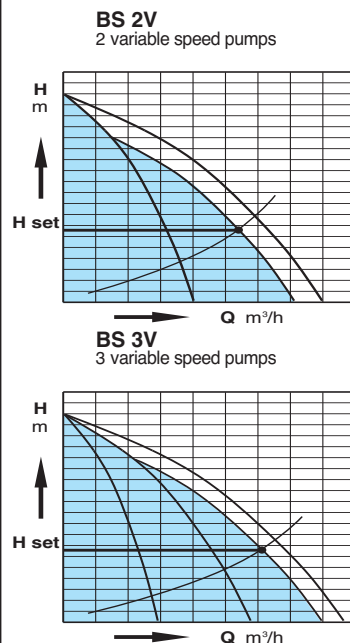
Pressure boosting sets with automatic operation, consisting of variable speed pumps (from 1 to 6) with frequency converter on the control panel, assembled on a common baseplate, with suction and delivery manifolds, gate and non-return valves, pressure transducer, pressure gauge, control panel and 20 litres diaphragm tank.



### Operation

The control panel, with electronic card, manages the pump operation, the changeover of pumps starting sequence.

Pumps starting in a cascade sequence, with a signal from the pressure transducer.

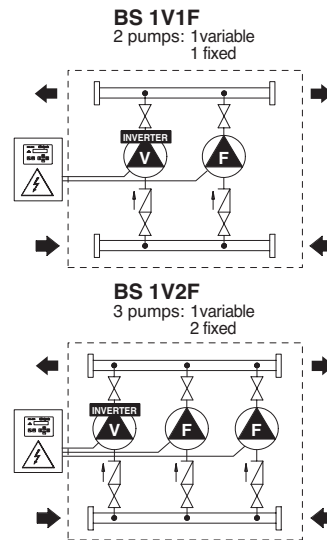


## BSV.F.

with variable speed pumps (on board frequency converter)

### Construction

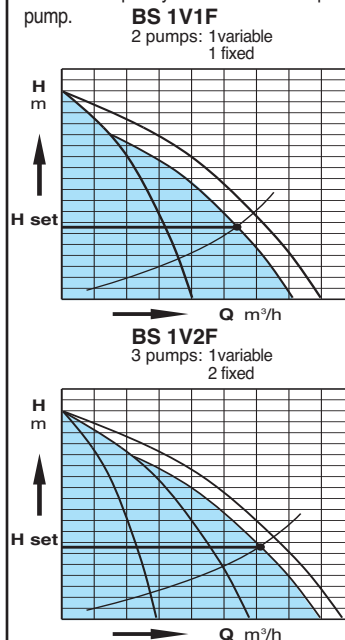
Pressure boosting sets with automatic operation, consisting of 1 variable speed pump with frequency converter into the control panel and from 1 to 5 fixed speed pumps, assembled on a common baseplate, with suction and delivery manifolds, gate and non-return valves, pressure gauge, control panel and 20 litres diaphragm tank.



### Operation

The control panel, with electronic card, manages the pump operation, the changeover of fixed speed pumps starting sequence. Pumps starting is in a cascade sequence, with a signal from the pressure transducer.

Constant pressure is guaranteed by the variable speed pumps, while fixed speed pumps start when the request is higher than the capacity of the variable speed pump.

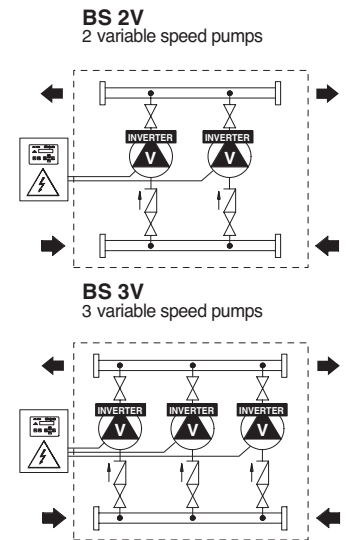


## BSV

with variable speed pumps (on board frequency converter)

### Construction

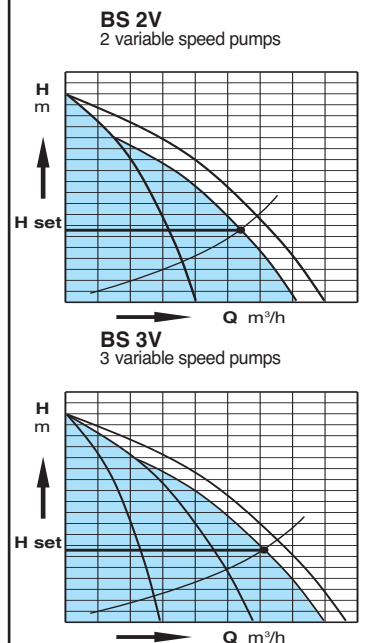
Pressure boosting sets with automatic operation, consisting of variable speed pumps (from 1 to 6) with frequency converter on the control panel, assembled on a common baseplate, with suction and delivery manifolds, gate and non-return valves, pressure gauge, control panel and 20 litres diaphragm tank.



### Operation

The control panel, with electronic card, manages the pump operation, the changeover of pumps starting sequence.

Pumps starting in a cascade sequence, with a signal from the pressure transducer.



## Fixed speed pump units

### New electrical control panels for fixed speed pump units.

New electrical control panels for pressurisation units, all with electronic card with microprocessors, for managing pump operation.

The microprocessor carries out continuous secure checks during all the various work phases of the pumps and incorporates all necessary functions, thus reducing electrical and electronic components inside the panel.

#### In particular:

- pumps starting in a cascade sequence according to water demand.
- changeover of pump starting sequence.
- pumps stop when there is no water in the suction.
- delay start-up of the 2nd/3rd pump in case of breakdown of pressure switch 1 or after a power cut.
- avoid pump starting in case of water hammering.
- activate the alarm when pressure 1 fails.
- activate the alarm when air cushion in the vessel drops.
- stop the pump when air cushion is over\*.

\* Patent pending

### Maximum clarity for all signals

The status of the unit can easily be identified on the front of the electronic card with the following signals:

- Power on led.
- No water led.
- Failure led.
- Pump running led (1 for each pump).
- Thermal block led (1 for each pump).
- Pump automatic operation led (1 for each pump).
- Pump stop led (1 for each pump).

### Maximum simplicity of control

The front of electronic card features the following signals and controls:

- AUT-STOP push-button (1 for each pump)
- MAN push-button (1 for each pump)
- RESET push-button.

### Optional remote control

The new panels have been designed to remotely reproduce all the electronic card signals (excluding the buttons), using RC 100 - RC 200 - RC 300 panels, connected with a simple two-pole cable.

The RA 100 panel enables a remote warning light and acoustic signal.

### Control panel for units up to 6 pumps

Using the MPS 6000 (Multi Pumps System) electronic card it is possible to control pressure units up to a maximum of 6 fixed speed pumps with a single pressure calibration.

### Automatic air supply systems

The pump control panels are completed by microprocessor controlled systems for automatic air supply in the pressure vessels by means of a compressor or solenoid valve.

### Operation

For booster sets made up to three pumps:

- according to the pressure decrease in the system, the pressure switches make the pumps to start in cascade mode and the starting changeover is made by the microprocessor.

For sets made of 4, 5, 6 pumps:

- Operation controlled by a microprocessor with signal from a pressure transducer. The pumps operate with only one pressure setting.



## Variable speed pump units with frequency converter

### New electrical control panels for variable speed pump units.

New electrical control panels for pressurisation units with variable speed pumps.

These are indispensable in all those cases where constant pressure is required and when high pressure pumps are being controlled.

All the various working phases are managed and controlled by the MPS 6000 (Multi Pumps System) electronic card with microprocessor, which can operate up to 6 pumps working simultaneously.



### Maximum clarity of signals

All the various calibration parameters appear as messages on the display of the MPS 6000 electronic card.

If there are any faults or defects a message appears on the display giving details of the problem.

### Possibility of remote control

The pump status can be displayed and the unit can be controlled by means of a special computer program.

It is possible to obtain a remote warning light and acoustic signal on the RA 100 panel.

### Constant or increased pressure

All the pumps can work with the same pressure value (set point), or, for systems with high head losses, the pressure can be increased depending on the number of pumps operating.

### Silent operation

Motors working at reduced speed and check valves that close gradually mean that operation is particularly quiet.

### Long life for pumps

All the mechanical components of the pumps and motors are stressed to a minimum, due to the variable speed operation.

### Energy savings

The motors consume only the precise level of power necessary moment to moment, in order to supply the quantity of water required by the system.

### No more high capacity vessels

The use of inverters means that high capacity pressure vessels and membrane vessels are no longer necessary. Even units with high flowrate pumps only require a small number of 20 litre membrane vessels.

### Great versatility

The great versatility of the MPS 6000 electronic card enables the construction of special units with operational logics different from those of normal pressurisation units, depending on the requirements and characteristics of the systems.

### Operation

Depending on water consumption, one or more pumps are activated, all at variable speed, in order to guarantee the quantity of water required at the set pressure.