

ARMSTRONG



Multipump Variable Speed Booster Sets

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Variable speed multipump booster sets

Trend towards taller buildings and condensed living are resulting in water flows varying significantly through out the day in buildings, placing extraordinary demands on pumping equipments.



The Armstrong variable speed pressure boosting system is designed to handle these challenges and provide adequate and constant water pressure.

Traditionally, building designers have been using fixed-speed booster sets for these applications. However, installations of variable-speed booster sets continue to rise. This is mainly due to the many advantages variable-speed systems offer, including:

- Reduced requirement for expensive valves to maintain a fixed pressure
- Superior pressure control compared with fixed-speed pump staging
- Reduced wear of system components due to soft starting of pumps through variable speed drives
- Improved reliability and maintainability
- Noise reduction
- Increased occupancy comfort
- Improved energy efficiency

The 6800 vs Series range of packaged water booster sets incorporates variable frequency drives for variable speed pumping and provides outstanding energy efficiency and pressure control, all with reduced system complexity and lower capital cost. Applications for the 6800 vs Series include:

- Residential and commercial buildings
- Schools
- Hotels
- Hospitals
- Shopping centers
- Industrial buildings
- IT parks
- Other large facilities



Minimise Hydraulic Shock

Accurate pressure control means improved occupant comfort

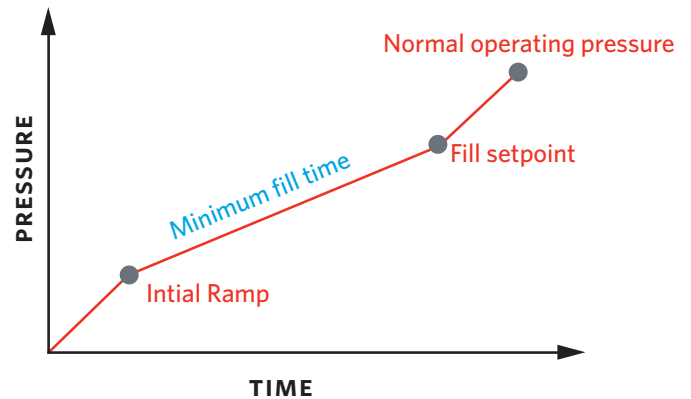
Traditionally, the job of a booster set is to increase system pressure to the target level. This is achieved through a combination of parallel operation and staging of pumps to maintain a constant system pressure with varying flow.

The operating philosophy for 6800 vs Booster Series:

- Lead pump starts on vfd and if the demand continues to increase. The second pump is started and the lead pump speed is adjusted as per embedded logic to maintain constant pressure
- When demand decreases pumps are staged out until only the duty pump is running on vfd
- As demand continues to decrease, the single pump will continue to regulate the pressure until there is no demand.
- When this occurs the set will enter 'sleep mode', in which no pumps operate
- On resumption of demand the designated duty pump will start and the staging sequence resumes

Soft Fill makes the 6800 VS Series a leader in the market

- Soft fill is a fully automatic process, which controls the pump and increases operating speed gradually as the system reaches a fill setpoint
- Soft fill reduces the occurrence of water hammer associated with the rapid exhaustion of air from piping systems. An example of when this might occur is following a mains power failure and resumption where attempted water draw off has led to air entering the system
- A minimum fill time can be adjusted to suit site conditions. This setting determines the minimum amount of time the unit will take to reach the fill setpoint
- Pressure is increased at a controlled rate, so that air trapped in the system is released gradually
- Water is introduced into the pipework under controlled conditions, which prevents damage to fittings
- After initial start-up, when the system is in normal use, the booster set reverts back to its usual working conditions, reaching target pressures as quickly as possible



Reduced capital cost

6800 vs series incorporates a single vfd & a control logic which ensures lower first installed cost and enhanced energy savings.

Additional 6800 VS Series benefits include

- Installation savings - units are pre-assembled and factory tested to ensure quick, trouble-free installation
- Compact and space - saving design
- Accurate control of system pressure leads to greater occupant comfort
- Lower maintenance costs - varying pump speed reduces wear on pump and system components
- Best efficiency operation - efficient staging and variable-speed operation leads to substantial energy savings

6800 VS Series Range

6800 vs series booster sets incorporate 2, 3, 4 or 5 pumps mounted on a galvanized iron / ss304 base-frame complete with galvanized iron / ss304 / ss316 headers. Flow rates up to 130 l/s and pressures up to 25 bar are standard. The unit features enhanced BMS connectivity.



Typical Specifications

The 6800 vs Series Booster sets are packaged, programmed and tested prior to dispatch. All units are tested for pressure and full functionality in all programme sequences. All configurations include the following components and features:

- Ball-type isolating valves
- Poppet-type non-return valves
- Galvanized iron / ss304 base frame
- Galvanized iron / ss304 / ss316 manifold
- 0-25 bar pressure transducer
- 2½" dial pressure gauge
- Stainless steel impellers, shaft, stage pieces
- Cast Iron - top and bottom covers
- Automatic system Soft fill mode, with the option of manual fill
- Automatic rotation of duty pumps
 - Following any fault
 - On a time adjusted basis
 - At the start of a new sequence / power resuming
- Automatic omission of failed pump from sequence
- Automatic omission of pumps in the off position
- Automatic reset of pump from a 'minor' alarm situation
- Pump fault output
- IP54 Control Panel Enclosure
- Door interlocked isolator
- LCD display with 4 x 20 text display of:
 - Setup menus
 - System pressure
 - Pump operating status
 - System mode (i.e. fill mode, sleep mode, run mode)
 - Duty pump speed, current, power and alarm description
 - Hours run
 - System alarms
- Low water level cut-out
- Remote inhibit function
- Password protected menu screens
- Standby pump selection
- Common alarm volt-free contact
- Booster running volt-free contact
- No flow shutdown
- Transducer failure protection
- Alarm Management Displays:
 - Low level shutdown alarm
 - Discharge pressure sensor failure alarm
 - Suction pressure sensor failure alarm
 - Low suction pressure shutdown alarm
 - High suction pressure shutdown alarm
 - Low discharge pressure shutdown alarm
 - High discharge pressure shutdown alarm

Other product specifications available on request or from www.armstrongintegrated.com

Our policy is one of continuous improvement. We reserve the right to alter our dimensions and specifications without notice.

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