

# GAARDEXE™ SPM ANTI-SURGE MODULE



- **Protects Systems from Water Shock Damage**
- **System Specific Programming**
- **Suitable for use with Single Phase or Three Phase Booster Sets**
- **Suitable for use with up to 6 Pumps**
- **Anti-Surge Pump Soft Start**
- **Adjustable Break Tank Re-Filling Times**
- **Visible and Audible Service Reminder**

## GaardExe™ Surge Protection Module

Water surge may be experienced on the initial start up of a booster set or, as the booster sets re-starts after a power failure. The surge may be caused by the over rapid filling of the system or, if the system is already full and free of air, then the sudden re-start of a pump may cause a shock wave. The effect of this on the system can be severe and could cause parting of pipe joints and subsequent water damage to the building.

A method of air venting is necessary to allow the filling of a system and an anti vacuum valve may also be considered to aid drainage for maintenance and to prevent a vacuum in the event of water loss. However, these measures alone will not prevent water surge shock damage.

Smedegaard's answer to resolve the problems associated with this phenomenon of water surge is the GaardExe SPM module. This module is suitable for use with booster sets with up to 6 pumps and either single or three phase (a neutral is required for three phase sets).

On start-up or, when the power is re-instated after a power failure the GaardExe SPM module takes over the control of the booster set. One pump is enabled, whilst any other duty/standby pumps are disabled. The enabled pump is, initially, only allowed to run at its minimum speed, the GaardExe SPM module accelerates the speed to increase the pump simulated pressure. The rate of acceleration can be adjusted to suit the system. As the pump speed (apparent pressure) is slowly increased the system pressure is monitored until such a time that the system and apparent pressures are equalised. At this point the booster set operates as normal. If, after a re-start, the system pressure is near to maximum then the GaardExe SPM module will still take control of the booster set. However, the 'cross-over' pressure will be achieved in less time than the set time thus allowing the booster set to operate fully without an excessive time delay.

The minimum set pressure is adjustable as is the pump acceleration time.

At any time the GaardExe SPM module can be disabled to allow the booster set parameters to be altered in the normal way.

The GaardExe SPM module can be operated in two modes:

### TRANSFER MODE

As the booster set returns to normal operation the GaardExe SPM module is disabled until it is next required.

### SIMULATOR MODE

The GaardExe SPM module maintains control of the booster set and provides extra features such as:

High/low pressure alarm.

If the 'Cross-over' pressure is not reached in a set time then an alarm is signalled and, if required, the booster set can be disabled. This, as well as the Excessive Run Time Protection may be used for leak detection. Both features can be disabled.

Fill timer, can be set to disable the booster set to enable the break tank to fill for a time before allowing the set to re-start.

This function can be used to prevent rapid pump cycling.

### RUN/FAILSAFE

The GaardExe SPM module can be set/wired in FAILSAFE mode in which case, if the power to the GaardExe SPM module fails or, the GaardExe SPM module develops a fault then the booster set is disabled.

In RUN mode the booster set will operate if the GaardExe SPM module is disabled.

### ADDITIONAL FEATURES

- Audible alarm
- Optional plug in 7 relay BMS telemetry board
- Optional relay board (3 switching relays)
- Error display
- Service due reminder with contact phone number

### OTHER ITEMS AVAILABLE

- Air Eliminators
- Anti Vacuum Valves

## GaardExe™ SPM Module for use with:



FlowFlex™ Range



FalFlex™ Range



ExeFlex™ Range

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