

FULL MODULATION SOLUTION

Model 720-DC1-EN/ES

Hydraulically operated, full modulation pressure reducing solution that reduces higher upstream pressure to lower downstream pressure, based on flow or time windows, regardless of fluctuating demand or varying upstream pressure.

BERMAD 700 SIGMA EN/ES series valves are hydraulic, oblique pattern, globe valves with a raised seat assembly and double chamber unitized actuator, that can be disassembled from the body as a separate integral unit. The valves hydrodynamic body is designed for unobstructed flow path and provides excellent and highly effective modulation capacity for high differential pressure applications.

The valve is equipped with the DELTA pressure management controller, which optimizes network performance by stabilizing pressure, improving efficiency, and reducing leakage and bursts, resulting in a more reliable water supply and improved customer service.

DELTA is a fail-safe, battery-operated controller with full remote operation. It logs data and securely transmits it via cyber-secured communications to a user-friendly cloud platform.

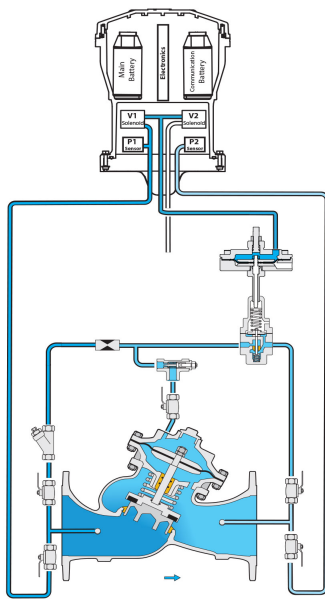


Features

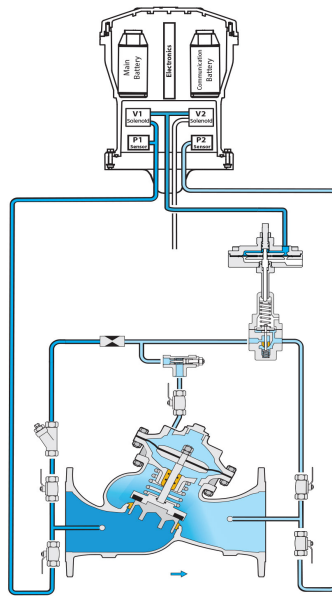
- Designed to - Stand up to the toughest conditions
 - Excellent anti-cavitation properties
 - Wide flow range
 - High stability and accuracy
 - Drip tight sealing
- Double chamber design
 - Moderated valve reaction
 - Protected diaphragm
 - Optional operation in very low pressure
 - Moderated closing curve
- Flexible design - Easy addition of features
- Obstacle free flow pass
- V-Port throttling plug (optional) - Very stable at low flow
- Compatible with various standards
- High quality materials
- In-line serviceable - Easy maintenance

Features & Benefits - DELTA Controller

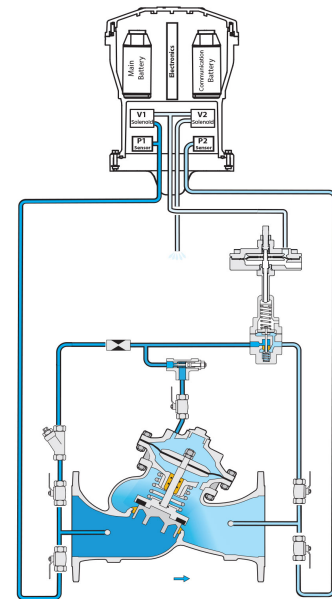
- Full-modulating pressure reduction using DELTA internal solenoids and a BIAS chamber
- 2 pressure regimes with automatic switching between "High" and "Low" setpoints based on flow or time schedules (up to 16 windows)
- Highly accurate and stable pressure control
- Latch override enables full valve opening during low supply pressure or full closure during pipe bursts
- Remote monitoring and configuration via Bermad Cloud or third-party platforms through API or FTP
- 5 year internal battery operated or external power
- High-capacity data logging
- Intuitive, user-friendly platform
- Advanced graphs and reporting tools
- Email or app alerts and notifications



High Pressure



Medium Pressure



Low Pressure

This drawing refers to ½ - 8"; 40-200 mm sized valves only. For other sizes please refer to the Model's IOM.

Technical Specifications

Main features:

- Valve is "Normally Low" in event of mechanical failure
- Manual override to open and close the valve
- Internals
 - 2 high speed internal solenoids for BIAS chamber operation
 - 2 0-20 bar internal pressure sensors +/- 1%
- Local Inputs & Outputs
 - 1 Latch outputs (16V DC, 100 ms pulse) for Day/ Night control or venting the valve chamber
 - 3 digital inputs for metering and discrete sensors
 - 2 analogue inputs for 4-20mA or 0-10VDC sensors for pressure and metering

Connectivity:

- Built in 4G Modem with 2G fallback
 - Global data sim card for worldwide plug-and-play internet connectivity
 - GPRS Communication
- Local operation of technician software using USB cable

Operation modes:

- Online mode: 24/7 connection between controller and cloud (require external power source)
- Offline mode:
 - Autonomous control operation, predefined cloud communication and real time alerts
 - Designed for power saving when using internal batteries

Power source:

- 2 Lithium batteries for operation in offline mode
- 9-16VDC external power input for online mode operation (solar panel, grid power, etc.)

Integral data logger with more than 150K records, enables comprehensive log registry that can cover long periods of offline operation

Periodic over the air firmware upgrades (FOTA)

Outdoor installation: IP68 certified with UV protection

Standard compliance: CE & FCC

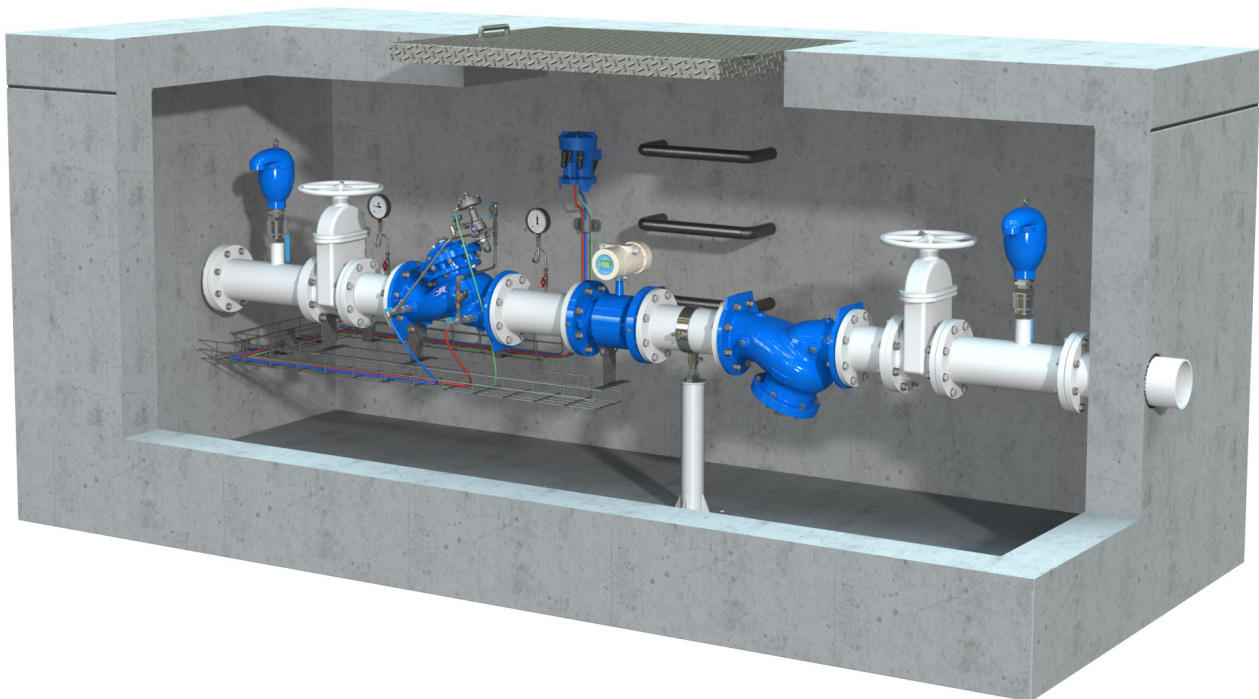
Industrial grade electronic components: -35°C to 75°C

Push type connectors for quick and easy wiring without need for special tools

BERMAD Cloud Features:

- Cyber protected login:
 - Multi-user connectivity for enhanced management and technical support
 - Individual access level authorization
 - Edit settings, Read only
- Global Account management:
 - Language and time zone selection
 - User permissions
 - Unit selection (Metric, Imperial)
- Dynamic dashboard:
 - Geo-referenced map with global view of your pressure management project
 - Current status of DELTA controllers
 - Up-to-date pressure & flow settings
 - Quick access to the DELTA management tools
 - Setup and programming
 - Wizard for guided unit config
- Alert control:
 - Alert status log and Mail notification
 - Alert management tools
- Log information:
 - System state, operation events & alerts
 - Periodic sensor data acquisition
 - Watermeter flow & accumulations
 - Pressure
 - Analogue sensor data
 - Battery voltage level
- Report generator:
 - Personalized reports for operation and traceability
 - Export to Excel and PDF file

Typical Installation





720-DC1-EN/ES

Main Valve

Valve Patterns: "Y" (Globe)

Size Range:

EN Series: 1½-16"; 40-400 mm

ES Series: 2½-24"; 65-600 mm

Pressure Rating: 25 bar, 400 psi

End Connections: Flanged (all standard)

Plug Types: Flat disc, V-port, Cavitation cage

Temperature Rating: 60°C [140°F] for Cold water applications

Optional higher temperature: Available on request

Standard Materials:

Body & actuator: Ductile Iron

Bolts, nuts & studs: Stainless Steel

Internals: Stainless Steel, Tin Bronze & Coated Steel

Diaphragm: Fabric-reinforced synthetic rubber

Seals: Synthetic rubber

Coating: Dark blue Fusion bonded epoxy

Control System

Standard Materials:

Accessories: Stainless Steel, Bronze & Brass

Tubing: Stainless Steel or Copper

Fittings: Stainless Steel or Brass

Pilot Standard Materials:

Body: Stainless Steel, Bronze or Brass

Elastomers: Synthetic Rubber

Spring: Stainless Steel

Internals: Stainless Steel

Pilot Options:

Various pilots and calibration springs are available.

Select according to valve size and operating conditions.

For more details check pressure reducing pilots product pages.