BERMAD HYDRAULIC CONTROL SOLUTIONS

FOR INDUSTRY

Water Control Solutions

CONTROL VALVES

INNOVATION AT A GLANCE

BERMAD 1000 SERIES

SEA WATER & AGGRESSIVE ENVIRONMENTS

Applications

Fish farming or solutions in agressive environments which require advanced composite materials. Lightweight and exceptional resitance to erosion.

Main solutions

- On-off Remotely Controlled Valve
- Water level control valve
- Pressure Reducing Valve

BERMAD 700 SIGMA SERIES

WATER WORKS & CLEAN WATER APPLICATIONS

Applications

High cavitation resistance and excellent regulating capabilities in low, medium & high differential pressure applications.

Main solutions

- Pressure Reducing
- Pump & Flow Control Valve
- Level Control Valve
- Satefy quick relief valve

BERMAD 800 SERIES

VERY HIGH PRESSURE OR HOT WATER APPLICATIONS

Applications

Extremely high pressure (up to PN64) systems or of hot water which require robust equipment.

Main solutions

- Pressure Relief Valve
- Surge Anticipating Valve
- Pressure Reducing Valve

BERMAD 400Y SERIES

WATER WORKS & CLEAN WATER APPLICATIONS

Applications

BALAST & marine sea water for super high flow rates.

Main solutions

- Electronic Flow Control Valve
- Pressure Reducing Valve
- Deluge Valve

BERMAD INDUSTRY Hydraulic Control Solutions

ELECTROMAGNETIC METERS

BERMAD MUT2200 SERIES

CLEAN & NON-CLEAN WATER APPLICATIONS

Full Bore Mag Meter

Applications

- Measure of potable or reflow water
- ndustrial waste water
- Industrial process liquids, muds and concretes
- Distribution Networks

BERMAD MUT2300 SERIES

CLEAN & NON-CLEAN WATER APPLICATIONS

Mag Meter for Low Flow

Applications

- Measure of potable or reflow water
- Industrial waste water
- Industrial process liquids, muds and concretes
- Installation in small places without straight distances
- Distribution Networks
- Over night applications with very low flow rate

AIR VALVES

BERMAD C70 SERIES

WATER WORKS & CLEAN WATER APPLICATIONS

Applications

- Pumping stations and deep well pumps: Air relief, surge protection and vacuum prevention.
- Pipeline: Protection against air accumulation and vacuum formation at elevations, slope change points and at road / river crossings.
- Water networks: protection against vacuum formation and pressure surges at points likely to experience water column separation.

BERMAD C50 SERIES

NON-CLEAN WATER APPLICATIONS

Applications

- Pumping stations: Air relief and vacuum prevention.
- Non Clean Water pipelines: Protection against air and gas accumulation and vacuum formation at elevations, slope change points and at road / river crossings.
- Wastewater Treatment plants: Air relief, protection against air and gas accumulation and vacuum formation.

BERMAD INDUSTRY Hydraulic Control Solutions

700 SIGMA SERIES

INNOVATION AT A GLANCE

HIGH PERFORMANCE DOUBLE CHAMBERED BERMAD CONTROL VALVE FOR CLEAN WATER APPLICATIONS

BERMAD 700 SIGMA series are hydraulically operated, oblique pattern control valves with **high cavitation resistance and excellent flow capacity.** The valves hydrodynamic body is designed for unobstructed flow path and provides excellent and **superior regulation performance** with minimal noise and vibrations.

BERMAD valves **can be configured to provide multiple solutions** (on/off service, pressure reduction, pressure sustaining/ relief, surge anticipating, reservoir level control and pump control) **in standard or high pressure applications** and can be **customized according to the needs of the system** being installed.

Features & benefits

Self operated valves that work without an external source of power
Suitable to work with all types of commands: Hydraulic, Electric and Pneumatic (or a combination)

Simplified maintenance - On-site service is up to 8 times faster to perform
In-line serviceable due to the single unit actuator that can be disassembled from the body as a separate integral

Hydro-dinamically & obstruction-free design increases flow capacity by 25%
Unique & advanced semi-straight valve body for minimal head loss applications

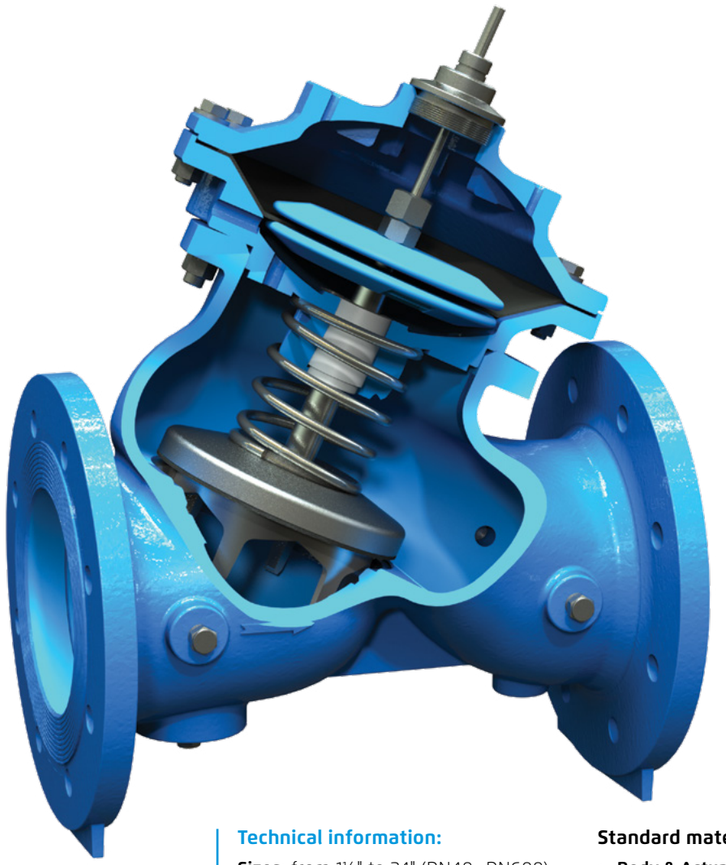
Designed to stand up the toughest working conditions
Excellent anti-cavitation properties, wide pressure & flow ranges, high stability & accuacy and drip tigh sealing.

Low pressure operation at all flow rates
Double-Chambered configuration for immediate valve response and complete & smooth speed control.

Compact & modular installation in the system
Vales can be installed horizontally, vertically & sideways specially for retrofit installations.

Additional control options & add-ons
One-way or two-way flow direction valves, built-in check feature & very high differential or very low pressure conditions configurations. Visual position indicator, 4-20mA position transmiter & safety limit switch alarms.

Over 50 years of field experience
WORLDWIDE TECNICAL SUPPORT



Technical information:

Sizes: from 1½" to 24" (DN40 -DN600)
***Large size (model M5/M5L):**
24"-42" (DN600-DN1000)
Pressure rating: 10, 16 & 25bar
End connections: Flanged (all standards)
Temperature rating: 60ºC

* in special configuration up to 100ºC

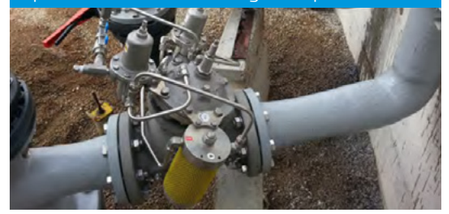
Standard materials:

- **Body & Actuator:** Ductile iron
- **Internals:** Stainless steel
- **Seals:** Synthetic rubber
- **Coating:** Fusion bonded epoxy

Other materials & coatings on request.

Back-up solutions for high risk sistems

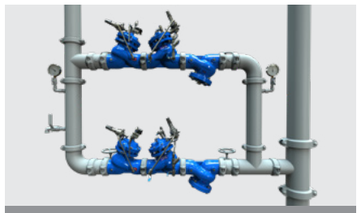
Special materials & coatings for special media



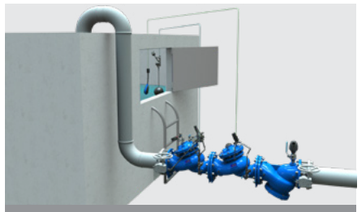
Big sizes for continuous very high flow needs

Tailor-made valves for any requirements

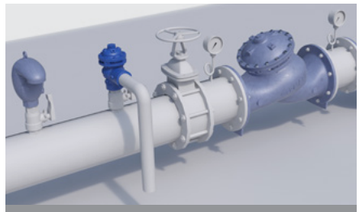
Main applications and solutions



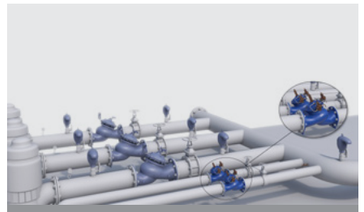
Pressure reducing valve



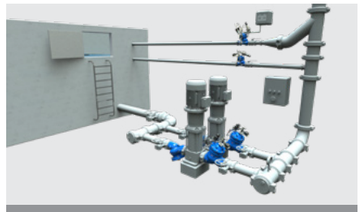
Level control valve



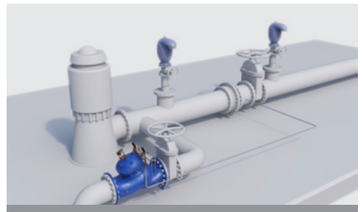
Safety - Quick relief valve



Surge anticipating valve



Pump control valve



Electronic control

800 SERIES
HIGH PRESSURE SERVICE
ROBUST PISTON ACTUATED DOUBLE CHAMBERED CONTROL VALVE FOR VERY TOUGH WORKING CONDITIONS

BERMAD 800 series are **hydraulically piston operated**, oblique pattern control valves with robust structure specifically designed to handle **high pressure requirements**. The 800 series has **durable body** which provides high cavitation resistance and reliable functioning in harsh conditions.

BERMAD valves **can be configured to provide multiple solutions** (on/off service, pressure reduction, pressure sustaining/relief, surge anticipating, reservoir level control and pump control) in high pressure applications and can be customized according to the needs of the system being installed. be **customized according to the needs of the system** being installed.

Features & benefits

Durable for high pressure & intense conditions
Piston operated with strong structure allows to handle toughest conditions

Rapid response to sudden changes in system conditions
Double-Chambered configuration for immediate valve response and complete & smooth speed control

Compact & modular installation in the system
Vales can be installed horizontally, vertically & sideways specially for retrofit installations

Technical Information:

Sizes: From 1½" to 20" (DN40-DN500)
Pressure rating: 25bar & 40bar
*Special request up to PN64
End Connections: Grooved, Thread&Flanged
Temperature rating: 130°C

Standard materials:

- **Body & Actuator:** Ductile iron
- **Internals:** Stainless steel
- **Seals:** synthetic rubber
- **Coating:** Fusion bonded epoxy

Main applications and solutions


Surge Anticipating Valves


Pressure Relief - Hot Water


Pressure Reducing Valves

BERMAD INDUSTRY Hydraulic Control Solutions

1000 SERIES
CUTTING-EDGE COMPOSITE VALVE
INDUSTRIAL GRADE DESIGN BERMAD CONTROL VALVE FOR SEA WATER APPLICATIONS, AGGRESSIVE ENVIRONMENT

BERMAD 1000 series are **hydraulically diaphragm operated**, oblique pattern control valves. Made of **hi-tech composite materials** to cope aggressive environment and provide reliable long lasting economic solution. The 1000 series is super **light weight** valve with very easy & fast to maintain and service. The 1000 series provides super attractive **cost-effective** control valve solution.

BERMAD valves **can be configured to provide multiple solutions** (on/off service, pressure reduction, pressure sustaining/relief, surge anticipating, reservoir level control and pump control) in high pressure applications and can be customized according to the needs of the system being installed. be **customized according to the needs of the system** being installed.

Features & benefits

Self operated valves that work without an external source of power
Suitable to work with all types of commands: Hydraulic, Electric and Pneumatic (or a combination)

Hydro-dinamically & obstruction-free design increases flow capacity by 25%
Unique & advanced semi-straight valve body for minimal head loss applications

Super light weight & easy to install
Its composite light but durable body allow maintenance to be very easy, even for a single operator.

Extraordinary easy to maintain without necessity of advanced valves' know how
Very simple actuator made of 3 parts only, no issues to maintain even by inexpert technicians.

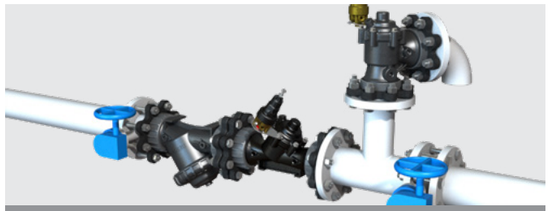
Technical Information:

Sizes: 2"- 6" (DN50-DN150)
Pressure rating: PN16
End Connections: Grooved, Flanged, Threaded
Valve Pattern: Y (Oblique)
Temperature: For Cold Water Applications
Consult Bermad For hot water applications

Standard Materials:

Body, Cover and Actuator assembly:

- Reinforced Polyamide
- **Bolts:** Stainless Steel
- **Spring:** Stainless Steel
- **Diaphragm:** EPDM


Pressure Relief


Level Control Valve

400Y SERIES

EMPHASIS ON RUGGED RELIABILITY

HIGH PERFORMANCE TO COMPLY WITH THE MOST DEMANDING STANDARDS IN INDUSTRIAL APPLICATIONS AND BWT SYSTEMS

BERMAD 400Y series are **hydraulically diaphragm operated**, oblique pattern control valves with superb flow capacity. The valves has very simple and **easy to service** structure made of 3 parts only. It's cutting edge diaphragm allows controlling the valve without any metal internals, which may be attacked in **corrosive environment.**

BERMAD valves **can be configured to provide multiple solutions** (on/off service, pressure reduction, pressure sustaining/ relief, surge anticipating, reservoir level control and pump control) **in standard or high pressure applications** and can be **customized according to the needs of the system** being installed.

Features & benefits

Excellent flow capacity than standard globe valves due to y-pattern design and streamlined internal semi-straight mechanism
Superior regulation performance, stability & accuracy at wide flow range
An **exceptional opening curve** which allow high flow at minimum response time (deluge effect).
Super **Simple internal mechanism** which allows easy & fast maintenance.
Robust design include **high corrosion & chemical resistance** in tough environment (no metal internal parts)
Providing resilient, **drip-tight sealing**. Achieved by flexible, fiber-reinforced diaphragm guarantee radial seal disk.

Technical Information:

Sizes: 1½ - 16" (DN40-DN400)
Pressure rating: PN16 & PN25
End Connections: Grooved, Flanged, Threaded
Valve Pattern: Y (Oblique)
Temperature rating: 60ºC

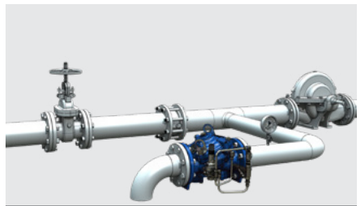
Standard materials:

- **Body & Actuator:** ductile iron
- **Bolts & Nuts:** Stainless steel
- **Diaphragm:** NBR
- **Coating:** Fusion bonded epoxy

Other materials & coatings on request.

Main applications and solutions


Pressure reducing valve


Pump Control Valve


Flow control + Relief valve

BERMAD INDUSTRY Hydraulic Control Solutions

ELECTROMAGNETIC METERS

MUT2200 + MC608

MUT 2200 EL is a FULL bore Magmeter.
Excellent performance & low flow reading: Q1/Q3 = 200.
MC608A main powered high voltage convertor. Signals I/O: Analogue output 4-20 mA ; Pulse output ; HART protocol (optional) ; Programmable output ; Active frequency digital output 0-10 kHz
GSM/GRPS
Display: Graphic LCD

MUT2300 + MC406

MUT 2300 EL is a reduced bore Magmeter
NO NEED straight sections of 10D before & 5D after the meter.
Along with converter MC406 it has MID certificate.
While this package achieve excellent Q1/Q3 = 200 and enable to read very low velocities (0.015 m/s).
MC406 is high capacity Lithium battery powered convector (10 years).

MAIN STRENGTHS

Performance

- High flow accuracy (in low flow)
- Long term measurement stability & reliability
- MID approved U0-D0 condition
- High-efficiency battery powered converter
- Advanced communication capabilities

Manufacturing

- Suitable for nearly all applications due to its high end wetted parts & its IP68 robust design.
- 4 Hastelloy electrodes as standard (empty pipe alarm)
- Bi-component resin protection

AIR VALVES

C70

BERMAD C70 is a PN40 high quality combination air valve for a variety of water networks and operating conditions. Sizes up to DN250.

- Straight flow body with nominal (equal) inlet and outlet size: Higher than usual flow rates.
- Aerodynamic full-body kinetic shield: Prevents premature closing without disturbing air intake or discharge.
- Dynamic sealing: Prevents leakage under low pressure conditions (1.5 psi; 0.1 bar).
- Minimizes water spraying during air release: Innovative 2-step function, automatic orifice (Patent Pending).
- Three optional outlets (sideways, downwards, circular surround mushroom configuration) that can swivel 360°: Easy to install in a variety of site conditions.
- Compact, simple, robust and reliable structure with fully corrosion-resistant parts: Lower maintenance and increased life span.
- Designed in compliance with functional standards and water service standards.
- Factory approval and Quality Control: Performance and specification tested and measured with specialized test bench, including vacuum pressure conditions.

C50

BERMAD C50 is a PN16 high quality combination air valve for variety of tough industrial application & aggressive fluids. Sizes up to DN100.

- Straight flow body with large diameter automatic orifice: Higher than usual air flow.
- Aerodynamic, full-body kinetic shield: Prevents premature closing without disturbing air intake or discharge.
- Dynamic Sealing: Prevents leakage under low pressure conditions (0.8 psi; 0.05 bar).
- Elongated body design: Prevents solids from making contact with valve's operating parts.
- Compact, simple and reliable structure with fully corrosion-resistant internal parts: Lower maintenance and increased life span.
- Two service ports: Enabling back flushing and drainage.
- Threaded Side outlet (2"; DN50) for connection of Surge Protection (SP) or Inflow prevention (IP) devices.
- Factory approval and Quality Control: Performance and specification tested and measured with specialized test bench, including vacuum pressure conditions.

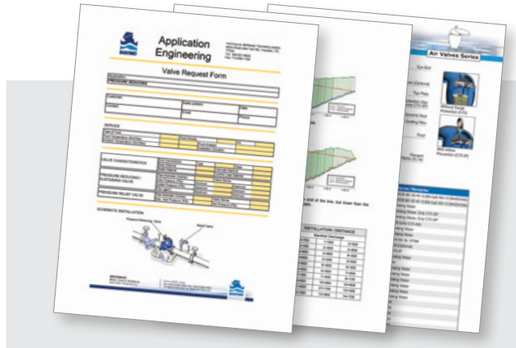
BERMAD INDUSTRY Hydraulic Control Solutions

VALVE SELECTION AND SIZING

Define Your Needs

Developed in-house by BERMAD Engineers, this software optimizes the location and sizing of hydraulic control valves in a specific project.

- Simplified quotation process
- Size and style selection based on application analysis and experience
- Flow charts, graphs and reports based on real life conditions



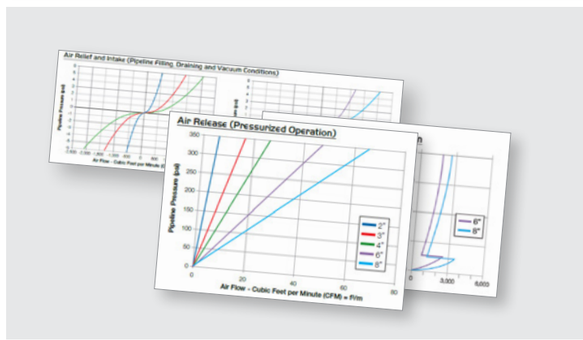
PIPING SYSTEM PROTECTION ANALYSIS

KYPipe — Surge Analysis

BERMAD Engineering also offers surge analysis in order to determine the required optimal protection strategies to ensure effective and safe system operation.

- Modeling and data verification
- Transient analysis without any protection
- Running iterations with various protection measures to achieve optimal solution

A comprehensive report is provided; including recommendations on products and settings.



BERMAD AIR

Air Valve Sizing Program

Developed in-house by BERMAD Engineers, this software optimizes the location and sizing of air valves in a specific project.

This software has been designed as an engineering tool, enabling every system designer to make an informed decision regarding model selection and placement.

About BERMAD

BERMAD is a leading, privately-owned global company that designs, develops and manufactures tailor-made water & flow management solutions that include state-of-the-art hydraulic control valves, air valves and advanced metering solutions.

Founded in 1965, we have spent over 50 years interacting with the world's major end users, and accumulating knowledge and experience in multiple markets and industries. Today, we are recognized as a pioneer and established world-leading provider of water & flow management solutions that give our customers the unprecedented operational efficiency, and superior quality, durability and performance they need to meet the demanding challenges of the 21st century.

www.bermad.com