# PRESSURE RELIEF/ SUSTAINING VALVE

## Model 1030

Pressure relief/sustaining hydraulically operated control valve that can fulfill either of two separate functions: When installed in-line, it sustains minimum pre-set, upstream (back) pressure regardless of fluctuating flow or varying downstream pressure. When installed as a "branched from the line" circulation valve it relieves excessive line pressure when above maximum pre-set.

The BERMAD 1000 is at the leading edge of control valve design, providing a valve that is free of the typical limitations associated with standard control valves. A unitized flexible diaphragm & guided plug provide a significantly 'look through' passage resulting in accurate & stable regulation and high flow capacity.

The 1000 unique composite structure allows fast & simple maintenance by easy replacing of lightweight diaphragm assembly. It has a wide range of end connection types and sizes, including articulated flange connections isolating the valve from pipeline bending & pressure stresses.

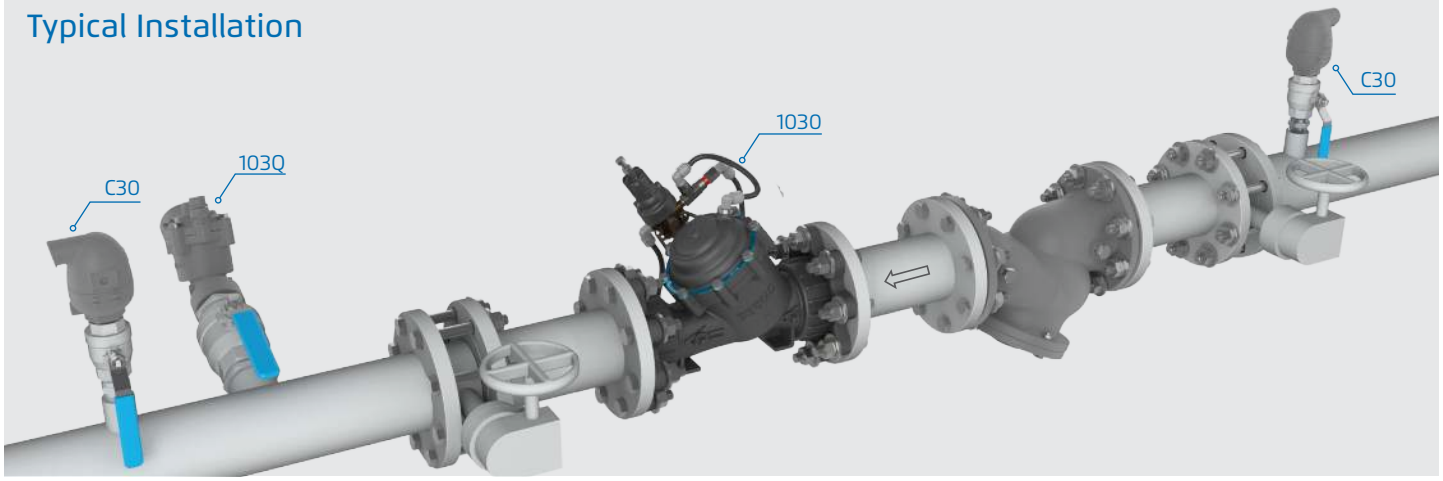
## Features and Benefits

- Easy set-up
  - Super light weight
  - Line pressure driven - no external power needed
  - Easy pressure setting - in site or pre-ordered
  - Adaptable on-site to a wide range of end connection
- Simple and durable design
  - Excellent cavitation resistance
  - Highly durable construction & material - No rust
  - Unitized actuator unit - open, replace, close
  - In-line serviceable - no need to remove from line
- All the benefits of a diaphragm actuated control valve
  - Wide flow range
  - Low flow stability
  - Drip tight sealing
  - Obstacle free flow pass
  - Easy addition of hydraulic features

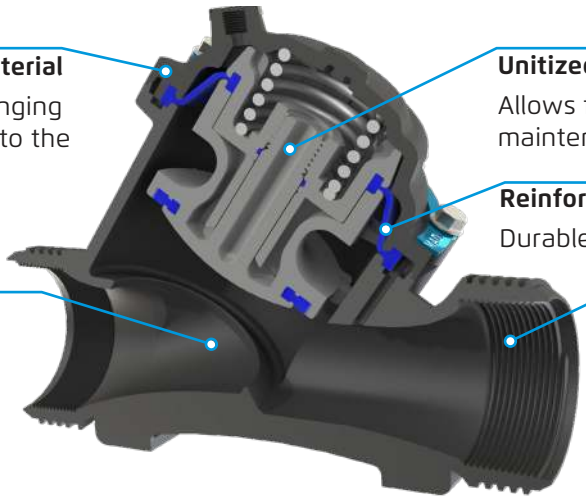
## Typical Applications

- Prioritizing upstream consumes over downstream high demand
- Sustaining sufficient pressure at upstream in case of pressure drop
- High pressure safety relief valve in potable water pressure reduction systems
- As a safety device for pumping stations temporarily operated out of their regular regime, where stable and constant pressure relief is required
- Sustains pump discharge pressure, preventing pump overload and cavitation damage caused by excessive demand
- Preventing line emptying in gravity lines

## Typical Installation




All images in this catalog are for illustration only



**Advanced Composite Polymer Material**

Strong, inert and light weight; bringing the next generation of materials to the water supply industry

**Unitized Actuator Assembly**

Allows fast and simple in-line maintenance

**Reinforced Rolling Diaphragm**

Durable and flexible operation

**Unobstructed Flow**

High capacity semi-straight flow for exceptionally low head loss

**Internal Threads or Adaptors**

Flexible option for Threaded, Groove or Flange connection

## Technical Specifications

**End Connections:**

**Threaded - Female NPT or BSP.T:**

- 1½"EN, 2"ES/EN, 3"ES/EN

**Grooved - According to ANSI C606-81:**

- Adaptors on Threaded Body: 2"ES/EN, 3"ES/EN, 4"ES

**Flanged - ISO-7005-2 (PN10/PN16), ANSI #125/ANSI #150, JIS K-10:**

- Universal Adaptors on Threaded Body: 3"ES/EN, 4"ES

**Pressure Rating:**

- 1½"EN-4"ES: 250 psi; PN16

**Valve Pattern:**

- Y (Oblique)
- Angle - consult factory for available sizes

**Temperature:** For Cold Water Applications

Consult Bermad For hot water applications.

**Main Valve Materials:**

**Body, Cover and Actuator assembly:**
Reinforced Polyamide

**Cover Bolts:** Stainless Steel 304

**Spring:** Stainless Steel 302 (Optional 316)

**Diaphragm:** EPDM

**Seals:** EPDM

**Trim:**

**Accessories:** Stainless Steel / Bronze & Brass / Polyamide

**Tubing:** Polypropylene

**Fittings:** Stainless Steel / Brass / Acetal

**Notes**

- Inlet pressure, outlet pressure and flow rate are required for optimal sizing and cavitation analysis
- Recommended continuous flow velocity: 0.3-20 ft/sec; 0.1-6.0 m/sec
- Minimum operating pressure: 10 psi / 0.7 bar. For lower pressure requirements consult factory

## How To Order

**Please Specify the requested valve in the following sequence:**

**WW - 2" - 1030 - EN - P2 - Y - Q - VN - UC - 460 - PA - HR**

| Segment |
|---|
| **WW** |
| BC |

| Model |
|---|
| **1030** |

| Size | Code | |
|---|---|---|
| Design | EN | ES |
| 1½", DN40 | 1½" | - |
| **2", DN50** | **2"** | 2" |
| 3", DN80 | 3" | 3" |
| 4", DN100 | | 4" |

| Type | Code |
|---|---|
| **High Flow** | **EN** |
| Normal Flow | ES |

| End Connection | Body Threads | Code |
|---|---|---|
| Threaded | BSP.T Female | BP |
| | NPT Female | NP |
| **Grooved** | BSP.T Female | VV |
| | **NPT Female** | **VN** |
| Flanged | BSP.T Female | CC |
| | NPT Female | CN |

| Voltage | Code |
|---|---|
| 24VAC/50Hz | 4A |
| **24VAC/60Hz** | **46** |
| 24VDC | 4D |
| 220VAC/50-60Hz | 2A |
| 220VDC | 2D |
| 110VAC/50-60Hz | 5A |
| 110VDC | 5D |
| 12VDC | 1D |

| Main Valve Position (When Solenoid De-energized) | Code |
|---|---|
| Normally Closed | C |
| **Normally Open** | **O** |
| Last Position | P |
| Latch Solenoid | S |

| Additional Attributes (Multiple Options Permitted) | Code |
|---|---|
| St.St. 316 All Control Accessories | N |
| 3-Way Control | X |
| Trim Isolation Ball Valves | h |
| Pressure Gauge | 6 |
| Horizontal Installation, Left Side Circuit (Standard) | HL |
| **Horizontal Installation, Right Side Circuit** | **HR** |

**Standard Configurations:**

| Main Valve Compliance | Code |
|---|---|
| **Potable Water** | **P2** |

| Orientation | Code |
|---|---|
| **Y Oblique** | **Y** |

| Construction Material | Code |
|---|---|
| **Nylon Glass Reinforced** | **Q** |

| Coating | Code |
|---|---|
| **Uncoated** | **UC** |

| Tubings & Fittings | Code |
|---|---|
| **Polypropylene Tubing and Acetal Fittings** | **PA** |

For detailed Engineering & Specification data, IOM and CAD Drawings, visit the Model Page on the BERMAD website.

**www.bermad.com**