

## Anti-Cavitation Diffuser Device (ACD) For Severe Service Pressure Control Valves

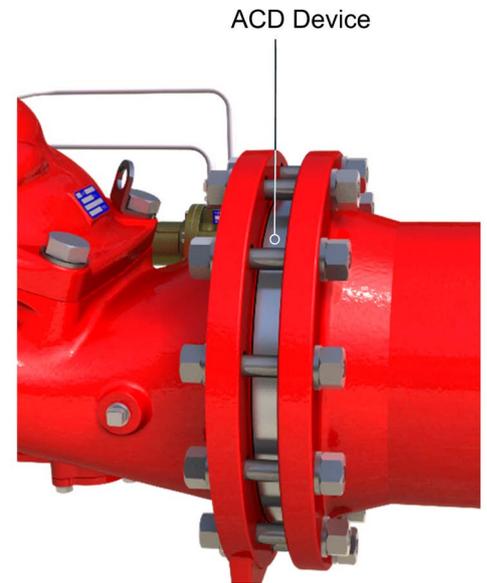
### Model ACD

The Anti Cavitation Diffuser (ACD) is a device designed to prevent cavitation damage at source, also reducing noise levels and vibration.

This device replaces traditional anti-cavitation trims, and will prevent flashing and cavitation pitting of valves and piping operating at high pressure differentials.

The ACD should be installed at the outlet, downstream of Pressure control or Pressure Relief valves thereby controlling the pipe velocity profile and the pressure characteristic across the control valve seat.

The ACD will eliminate and silence cavitation, minimizing erosion damage and will significantly extend operating life and minimize downtime in applications working in severe service conditions.



### Features and Benefits

- Prevents cavitation / erosion damage of valves - extending operating life in severe conditions.
- Replaces traditional anti-cavitation trims - At lower cost.
- Corrosion Resistant Material - Suitable for Seawater / Corrosive fluids.
- Straight through free flow - Reducing vibration and noise level.
- No moving parts - Ultimate reliability, no danger of clogging or wear.
- Installation at the same valve connection size - meets the NFPA 20 fire pump data.
- Wafer flange connection - Easy field installation.

### Technical Data

- Pressure Rating: 25 bar / 360 psi
- Backpressure Design: 8 bar; 116 psi @ the flow rate table below
- Temperature Range: -60°C / -76°F to 80°C / 180°F
- Material - Standard Construction: POM-C (Copolymer) Optional: Stainless steel 316
- Available Sizes: 3"-16"

### Typical Applications

- High differential pressure relief valves
- Severe service pressure control valves
- Noise and vibration reduction
- Pressure Control Valves (PCV)
- Pump recirculation

### Recommended Valve Size/Flows - NFPA-20

| Relief Valve Size | Q (l/min)     | Q (GPM)       |
|-------------------|---------------|---------------|
| 2" - DN50         | 568 - 1136    | 150 - 250     |
| 3" - DN80         | 1136 - 2839   | 250 - 500     |
| 4" - DN100        | 2839 - 4731   | 500 - 1000    |
| 6" - DN150        | 4731 - 11355  | 1000 - 2500   |
| 8" - DN200        | 11355 - 18925 | 2500 - 5000   |
| 10" - DN250       | 18925 - 29450 | 5000 - 7750   |
| 12" - DN300       | 29450 - 42417 | 7750 - 11200  |
| 14" - DN350       | 42417 - 57733 | 11200 - 15250 |
| 16" - DN400       | 57733 - 75400 | 15250 - 19920 |

**Note:** Consult BERMAD for other flow/pressure data

# BERMAD Fire Protection

Model FP 400Y - DP

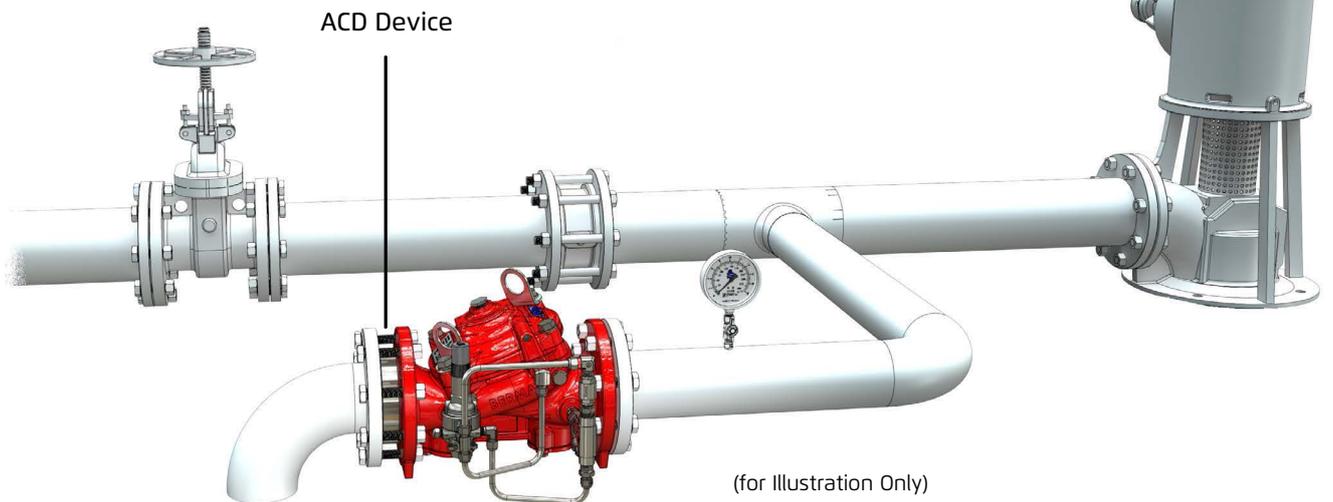
## Anti-Cavitation Device

### Installation

The BERMAD Anti-Cavitation Diffuser (ACD) shall be installed in any orientation, vertical or horizontal or otherwise it shall be mounted between two flanges at the outlet of the BERMAD pressure relief/sustaining valve.

Make sure to install a proper gasket on each side of the ADC facing.

The upstream and the downstream piping shall be well supported to eliminate vibrations



### Engineer Specifications

The anti-cavitation device shall be designed to protect a pressure relief/sustaining valve and downstream piping and components, operating under high differential pressure conditions.

The anti-cavitation device shall include no moving parts.

It shall be wafer mounted between two flanges at the outlet or downstream of a pressure relief/sustaining valve.

The anti-cavitation device shall be sized according to the manufacturer's instructions.

The device shall have a straight through flowpath, void of obstructions susceptible to clogging.

Installation shall not be orientation sensitive.

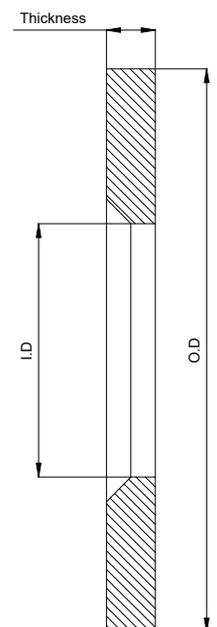
The device shall be designed and constructed by a manufacturer certified to the ISO 9001 Quality Assurance Standard.

### Dimensions

| Relief Valve/PCV Size | O.D POM-C |      | O.D SS316 |      | I.D  | Thickness POM-C |      | Thickness SS316 |      |
|-----------------------|-----------|------|-----------|------|--|-----------------|------|-----------------|------|
|                       | mm        | inch | mm        | inch |  | mm              | inch | mm              | inch |
| 2" – DN50             | 94        | 3.7  | 102       | 4    | Calculated per required flow and DP<br>(Contact BERMAD for assistance) | 20              | 0.8  | 5               | 0.2  |
| 3" – DN80             | 130       | 5.1  | 133       | 5.2  |  | 20              | 0.8  | 5               | 0.2  |
| 4" – DN100            | 155       | 6.1  | 172       | 6.8  |  | 20              | 0.8  | 8               | 0.3  |
| 6" – DN150            | 210       | 8.3  | 219       | 8.6  |  | 20              | 0.8  | 8               | 0.3  |
| 8" – DN200            | 263       | 10.4 | 276       | 10.9 |  | 20              | 0.8  | 10              | 0.4  |
| 10" – DN250           | 318       | 12.6 | 337       | 13.3 |  | 25              | 1    | 10              | 0.4  |
| 12" – DN300           | 370       | 14.6 | 407       | 16   |  | 25              | 1    | 10              | 0.4  |
| 14" – DN350           | 416       | 16.4 | 447       | 17.6 |  | 25              | 1    | 12              | 0.47 |
| 16" – DN400           | 480       | 19   | 511       | 20.1 |  | 30              | 1.2  | 12              | 0.47 |

(1) For installation between ANSI #150/300/PN16/PN300 flanges

(2) Inside dimension calculated according to the Flow Rate Design table shown at the 1st page



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