

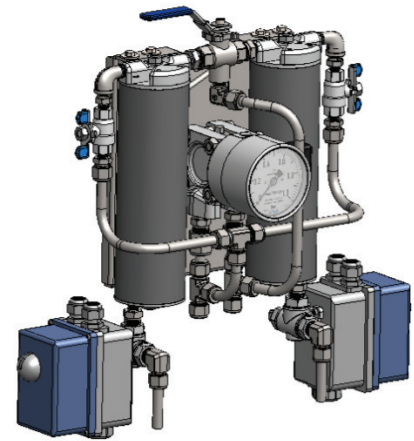
# Automatic Filtration KIT

## For ON/OFF Applications in BERMAD control valves

### Model AFK

The automatically operated Control Loop Filtration Kit is used for the filtration of dirty control fluid that could quickly block the standard, or even large control filters used mainly in recovery water and dirty fluid applications with relevant suspended solids.

The Automatic Control Loop Filtration Kit functions under difficult operation conditions, reducing significantly the maintenance frequency, and increasing the reliability of the control valve system, while minimizing faulty operation.



### Features and Benefits

- Designed to stand up to the toughest conditions
  - With two extra large control filters for higher reliability and longer time between maintenance.
  - Motorized ball valves - full ports with no obstructions - are used for filters cleaning.
  - Leak free.
- Clogging indicator (Pressure Differential Gauge) which senses the differential of pressure across the extra large control filters and advises when maintenance is required
  - Visual indicator.
  - Dry contacts (relay) connected to controller.
- BIC-F controller with multiple cleaning triggers
  - By Time. Defined locally.
  - By Pressure Differential. Across the filters.
  - Sequential cleaning process. One filter at a time.
- Assembled on any control valve when ordered
- Easy installation when used in any previously installed valve
  - Just connect valve's upstream pressure to the kit inlet connection, and the outlet kit connection to the valve's control loop.

### Operation

- A three way valve, installed at the top of the kit, defines the operation mode
  - NORMAL OPERATION MODE: Three way ball valve pointing to the front. Both filters operate, and BIC-F Controller automatically clean the filters based on its configuration: time or pressure, whatever is first.
    - Filters are automatically cleaned sequentially: only after the cleaning cycle of the first filter has been finished, the second one is started.
    - If BIC-F Controller is disabled, filters can be cleaned manually through the manual activation of the motorized ball valves.
  - MAINTENANCE MODE: Three way valve ball pointing to one of the filters. Only that filter is in operation, and the other is disabled for maintenance.
- The visual indicator senses the pressure differential across the extra large control filters advising when maintenance must be performed.



## Technical Data

### KIT

**Total Weight:** 30 kg (66 lbs.)

### Extra Large Control Filters

**Filter Elements:** Screen Type, 300 um (50 Mesh)

**Pressure Rating:** 350 PSI (Standard)  
600 PSI (High Pressure model)

### Motorized Ball Valves

**Power Source:** 24V AC

**Power Consumption:** 45W

**Electrical Rating:** 10A, type gL or gG

**Enclosure Rating:** IP66

### Differential Pressure Gauge

**Accuracy:** +/- 1.6% Full Scale

**Dial Size:** 4" (100 mm.)

**Range:** 0 - 1 bar (0 - 15 PSI)

**Static Pressure:** 1450 PSI

**Output:** 2 dry contacts for DP information

### BIC-F Controller

**Power Source:** 220V or 110V AC

**Output:** 24V AC

**Differential of Pressure:** External dry contact DP sensor

**Operating Temperature:** 0 - 60°C

**Alarm:** Endless Looping Type

## Materials

| Components                  |                | Water / Base Solutions Applications | Corrosive / Acid Solutions Applications (*) |
|-----------------------------|----------------|-------------------------------------|---|
| Extra Large Control Filter  | Body           | Carbon Steel                        | Stainless Steel 316                         |
|                             | Cover          | Brass                               | Stainless Steel 316                         |
|                             | Stem/Nut       | Stainless Steel                     | Stainless Steel 316                         |
|                             | Filter Element | Polypropylene                       | Polypropylene                               |
|                             | Seals          | NBR                                 | Viton                                       |
| Differential Pressure Gauge | Body           | Stainless Steel 316                 | Stainless Steel 316                         |
|                             | Seals          | NBR                                 | Viton                                       |

(\*) Special materials for highly aggressive acid solutions are available. Consult factory for more details.

## Typical Installation

Pump Control Valve with Large Control Filter  
(standard solution for non-clean water applications)



Pump Control Valve updated with Automatic Filtration Kit  
for dirty fluids with suspended solids applications

