



## FOUR FUNCTIONS IN ONE VALVE

### pressure loading, pressure relief, deaeration and drain

#### General

The new Grundfos Alldos multi-function valve with two diaphragms for dosing pumps up to 60 l/h combines four functions – pressure loading, pressure relief, deaeration and drain. Directly mounted on the dosing valve, the multi-function valve simplifies the handling of the pump and ensures process reliability.

If the system has not enough backpressure, the new multi-function valve maintains the backpressure at the level which is necessary for the pump. Moreover it protects the pressure-side dosing line system from too high pressure build-up. The pump can be deaerated and the pressure-side piping system can be drained via the multi-function valve.

#### Functionality

The multi-function valve has two diaphragms. Thus it can be used as a pressure loading valve for pressure build-up and as a pressure relief valve for pressure relief. It is directly mounted on the discharge side of the pump.

Before starting the dosing operation, the dosing head is deaerated by opening the pressure relief valve. If the backpressure which is necessary for an optimal functionality of the suction and discharge valves has been built up, the multi-function valve maintains the pressure constantly on the adjusted level. Optimal dosing is thus assured even in systems with pressure fluctuations or in depressurized systems.

In case the pressure rises above the adjusted opening pressure, the multi-function valve opens and the dosing liquid can flow back into the dosing tank. The complete pressure-side dosing line system is so protected from too high pressure build-up.

The entire pressure line can be drained by simply turning both handles of the multi-function valve.

The multi-function valve prevents unregulated flowing of the dosing liquid through the dosing lines (siphon effect), if the suction-side pressure is higher than or the same as the system pressure, but below the opening pressure of the multi-function valve.

Pressure loading is freely adjustable between 1 and 4 bar, pressure relief between 7 and 18 bar.

The multi-function valve can be used with all Grundfos Alldos dosing pumps (with plastic dosing heads) up to 50 l/h and 60 l/h resp. and up to 16 bar backpressure.

#### Customer's benefit

- **Easy commissioning:** One turn of the hand deaerates the dosing head easily and without any tools.
- **High process quality:** Optimal dosing even in systems without backpressure or with fluctuating backpressure.
- **High process reliability:** The pressure-side line system is protected against too high pressures.
- **Easy maintenance:** The entire pressure line can be drained via the overflow line.
- **Anti-siphon effect:** No unintentional emptying of the pressure line.
- **Free adjustment of pressure ranges:**
  - pressure loading approx. 1 - 4 bar
  - pressure relief approx. 7 - 18 bar

**motralec**

4 rue Lavoisier . ZA Lavoisier . 95223 HERBLAY CEDEX

Tel. : 01.39.97.65.10 / Fax. : 01.39.97.68.48

Demande de prix / e-mail : [service-commercial@motralec.com](mailto:service-commercial@motralec.com)

[www.motralec.com](http://www.motralec.com)

## Technical data

| Connections                                 | Connection   | DMS             | DMI      | DMI P3  | DME                    | DDI       | DDI P3    | DMX 221  | DMH 25x                |
|---|--|-----------------|----------|---|------------------------|-----------|-----------|----------|------------------------|
|   | DN4 (3/8")   | –               | ≤ 6 l/h  | –   | –                      | ≤ 5.5 l/h | –         | –        | –                      |
|   | DN8 (5/8")   | –               | ≤ 18 l/h | ≤ 5.2 l/h                                     | –                      | ≤ 60 l/h  | ≤ 4.9 l/h | ≤ 50 l/h | ≤ 50 l/h<br>(≤ 16 bar) |
|   | M30  | ≤ 12 l/h        | –        | –   | ≤ 48 l/h<br>(≤ 16 bar) | –         | –         | –        | –                      |
| Pressure relief                             | Preset pressure: 10 + 2 or 16 + 2 bar (free adjustment approx. 7 - 18 bar) |                 |          |   |                        |           |           |          |                        |
| Pressure loading                            | Preset pressure: 3 + 1 bar (free adjustment approx. 1 - 4 bar)             |                 |          |   |                        |           |           |          |                        |
| Admissible temperature                      | Storage temperature:   |                 |          | -20 to 50 °C                                  |                        |           |           |          |                        |
|   | Ambient temperature:   |                 |          | 0 to 40 °C at 12 bar;<br>0 to 20 °C at 18 bar |                        |           |           |          |                        |
| Admissible temperature of the dosing liquid | Material   | up to 12 bar    |          |   | up to 18 bar           |           |           |          |                        |
|   | PVC  | 0°C to 40°C     |          |   | 0°C to 20°C            |           |           |          |                        |
|   | PP   | 0°C to 40°C     |          |   | 0°C to 20°C            |           |           |          |                        |
|   | PVDF   | 0°C to 60°C     |          |   | 0°C to 20°C            |           |           |          |                        |
| Material                                    | Body   | Connections     |          |   | Gasket                 |           |           |          |                        |
|   | PVDF   | PVC, PP or PVDF |          |   | FKM, EPDM or PTFE      |           |           |          |                        |

## Selected installation examples



DDI 222



DMI P3 with lengthening adapter



DMI 208 AR



DME



DMX 221

Subject to change.

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