

# ultra.pure MS2

**Adsorption filter cartouche for removal of water vapour from compressed air.**

**(Adsorption - Molecular sieve + Particulate)**

## Description

MS2 two stage filter elements are designed for separating water vapour from small flows of compressed air<sup>(1)</sup>. Molecular sieve desiccant adsorbs water vapour from the air. Pleated Microfilter depth fiber filter media intercepts all dust particles. Filtration grade MS2 is suitable for point of use applications. It is important that inlet air is free of liquid water and oil aerosols.

## Applications<sup>(2)</sup>

- General industrial application
- Automotive
- Electronics
- Food & Beverage
- Chemical
- Petrochemical
- Plastics
- Paint
- Medical, Dental
- Breathing air



<sup>(1)</sup> For any other technical gas please contact us.

<sup>(2)</sup> MS2 grade filter element can be used in variety of applications. For applications not listed please contact us.

## Filter Element Rating According ISO 8573-1 (2010)

| Solid particles | Water    | Oil |
|-----------------|----------|-----|
| (Class 2*)      | Class 2* | -   |

\*Typical result on assumption that inlet and operating conditions are within nominal conditions

## Technical Specification

|                                            |                      |             |
|--------------------------------------------|----------------------|-------------|
| Operating temperature                      | 1,5 – 45 °C          | 35 – 113 °F |
| Max. allowed differential pressure**       | 1 bar - 1'000 mbar   | 14.5 psi    |
| Particle retention (nominal)               | 99,9999% (0,1 µm)    |             |
| Particle retention rate ISO <sup>(3)</sup> | 99,98 %              |             |
| Pressure dew point (nominal)*              | -40                  |             |
| Differential pressure*                     | < 50 mbar            |             |
| Max. allowed inlet oil content             | Class 1 (ISO 8573-1) |             |
| Flow direction                             | INSIDE to OUT        |             |

<sup>(3)</sup> Tested according to ISO12500-3, 1bar(a), nominal flow, most penetrating particle size MPPS 0,3µm

\*\* Differential pressure should never exceed 1250 mbar, otherwise filter element can be damaged.

## Materials

|                     |                           |
|---------------------|---------------------------|
| Adsorption material | Molecular sieve           |
| Filter media        | Borosilicate micro fibers |
| Chamber             | Acryl                     |
| Support             | Stainless Steel 1.4301    |
| Bonding             | Polyurethane              |
| Endcaps             | Aluminum                  |
| Sealing             | NBR                       |

## Dimensions

| Filter Element Size | Dimensions<br>[mm] | Nominal Flow <sup>(4)</sup><br>[Nm <sup>3</sup> /h] | Total Capacity <sup>(5)</sup><br>[Nm <sup>3</sup> ] | Fits into Filter<br>Housing | MS Content [g] |
|---------------------|--------------------|-----------------------------------------------------|-----------------------------------------------------|-----------------------------|----------------|
| MS2 04/20           | Ø=52;h=104         | 0,259                                               | 5,89                                                | AG 0012                     | 63             |
| MS2 05/20           | Ø=52;h=128         | 0,374                                               | 8,51                                                | AG 0018                     | 91             |
| MS2 05/25           | Ø=62;h=128         | 0,460                                               | 10,48                                               | AG 0027                     | 112            |
| MS2 07/25           | Ø=62;h=180         | 0,835                                               | 19,00                                               | AG 0036                     | 203            |
| MS2 07/30           | Ø=86;h=180         | 1,353                                               | 30,78                                               | AG 0048                     | 329            |
| MS2 10/30           | Ø=86;h=254         | 2,304                                               | 52,40                                               | AG 0072                     | 560            |

Ø=Diameter;h=Height

<sup>(4)</sup>Refers to 10s contact time at 7 barg operating pressure and 20°C.

<sup>(5)</sup>Refers to 20°C inlet temperature, 100% relative humidity and 20% wt desiccant load capacity.

## Correction Factors

To calculate the correct capacity of a given filter based on actual operating conditions, multiply the nominal flow capacity by the appropriate correction factor(s).

CORRECTED CAPACITY = NOMINAL FLOW CAPACITY x C<sub>OP</sub>

## Operating Pressure

| [bar]           | 2    | 3   | 4    | 5    | 6    | 7   | 8    | 9    | 10   | 11   | 12   | 13   | 14   | 15   | 16   |
|-----------------|------|-----|------|------|------|-----|------|------|------|------|------|------|------|------|------|
| [psi]           | 29   | 44  | 58   | 72   | 87   | 100 | 115  | 130  | 145  | 160  | 174  | 189  | 203  | 218  | 232  |
| C <sub>OP</sub> | 0,38 | 0,5 | 0,63 | 0,75 | 0,88 | 1   | 1,13 | 1,25 | 1,38 | 1,50 | 1,63 | 1,75 | 1,88 | 2,00 | 2,13 |

## Operating Temperature

| [°C]            | 20 | 25   | 30   | 35   | 40   | 45   |
|-----------------|----|------|------|------|------|------|
| C <sub>OT</sub> | 1  | 0,98 | 0,97 | 0,95 | 0,94 | 0,92 |

## Maintenance

Replace recommendation calculated for your application. Actual lifetime of filter cartridge depend on operating temperature (water vapour content).