

# Product Data Sheet

## Filter Cartridges ERDH - CA, CHL

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### Field of application

Type ERDH filter cartridges of filtration grades CA and CHL provide the opportunity to use our high performance, energy efficient and safe to operate filtration technology also in domnick-hunter series Oil-X Plus filter housings. We recommend the following filtration grade assignment:

|                  |  | domnick-hunter |
|------------------|---|----------------|
| Activated carbon | CA  | AC             |
| Catalyst         | CHL   | HC             |

### Features

ERDH..CA filter cartridges consist of a loose activated carbon granulate filling, ERDH..CHL filter cartridges of a catalyst granulate filling, both embedded between two coarse filter cloths and fine mesh screens. Furthermore a pleated general purpose filter element (Z) is fully integrated into the cartridge downstream in order to reliably prevent even the finest dust, caused by abrasion, from leaving the filter cartridge. A transparent perspex cylinder as a main body makes the granulate filling visible. The pleated general purpose filter media is located between two stainless steel cylinders. Both granulate and filter stage are completed / separated by plastic end caps. As a result, the adsorptive/catalytic filter stage as well as general purpose filter stage is fully incorporated in a single, compact cartridge unit. A further downstream dust filtration is no longer required.

Cartridges in general offer much higher amounts of granulate fillings compared to same size filter elements. The longish shaped filling bed ensures a long contact time of the compressed air with the granulate and thus low amounts of residuals downstream as well as a long lifetime.

All the features mentioned above contribute to a filter cartridge which has a long service life (high granulate amounts), combined with a high efficiency (low amounts of residuals) and maximum operating safety (integrated design).



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### Basic data

| Model      | Nominal volume flow (VN) <sup>*1</sup> | Max. operating pressure | Min./Max. operating temperature |
|------------|--|-------------------------|---------------------------------|
| ERDH006CA  | 22 m <sup>3</sup> /h                   | ---                     | +2°C - +45°C                    |
| ERDH013CA  | 47 m <sup>3</sup> /h                   |                         |                                 |
| ERDH025CA  | 90 m <sup>3</sup> /h                   |                         |                                 |
| ERDH040CA  | 144 m <sup>3</sup> /h                  |                         |                                 |
| ERDH065CA  | 234 m <sup>3</sup> /h                  |                         |                                 |
| ERDH085CA  | 306 m <sup>3</sup> /h                  |                         |                                 |
| ERDH013CHL | 47 m <sup>3</sup> /h                   |                         |                                 |
| ERDH040CHL | 144 m <sup>3</sup> /h                  |                         |                                 |

\*1 - refers to 1 bar(a) and 20°C at 7 bar operating pressure  
Reducing the volume flow improves all specifications

### Purity classes according to ISO 8573-1

| Contamination                      | CA        | CHL       |
|------------------------------------|-----------|-----------|
| Solid particles <sup>*2</sup>      | (Class 2) | (Class 2) |
| Water content                      | ---       | ---       |
| Total oil content <sup>*2 *3</sup> | Class 0-1 | ---       |

\*2 - typical result, on the assumption of suitable inlet concentrations as well as operating and marginal conditions.

\*3 - the liquid residual oil content is not taken into account and may reduce the purity class (should be separated in advance by means of fine filtration)

### Volume flow conversion factors

#### «F1» - Pressure (in bar)

| 0     | 1    | 2    | 3    | 4    | 5    | 6    | 7    | 8    | 9    | 10   | 11   | 12   | 13   | 14   | 15   | 16   |
|-------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 0.125 | 0.25 | 0.38 | 0.50 | 0.63 | 0.75 | 0.88 | 1.00 | 1.13 | 1.25 | 1.38 | 1.50 | 1.63 | 1.75 | 1.88 | 2.00 | 2.13 |

#### «F2» - Temperature (in °C)

| 2    | 5    | 10   | 15   | 20   | 25   | 30   | 35   | 40   | 45   |
|------|------|------|------|------|------|------|------|------|------|
| 1.07 | 1.05 | 1.04 | 1.02 | 1.00 | 0.98 | 0.97 | 0.95 | 0.94 | 0.92 |

#### Calculation of the converted volume flow

| Converted volume flow VK      | Nominal required volume flow VN <sub>min</sub> |
|-------------------------------|--|
| $VK = VN \times F1 \times F2$ | $VN_{min} = VK / F1 / F2$                      |

VK : Converted volume flow calculated for the operating conditions

VN<sub>min</sub>: Nominal required volume flow calculated for the operating conditions, based on the volume flow at operating conditions

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### Maintenance rules

| Pressure range        | CA   | CHL   |
|-----------------------|--|---|
| Entire pressure range | Replacement of filter cartridge every 6 months, depending on the operating temperature and therefore on the specified oil vapour amount earlier, if required | Replacement of filter cartridge every 6 months, depending on the operating temperature and therefore on the specified amount of humidity earlier, if required |

### Product specific data

| Specification                               | CA                        | CHL |
|---|---------------------------|-----|
| Oil vapour content (nominal) * <sup>5</sup> | ≤ 0.003 mg/m <sup>3</sup> | --- |
| Capacity ( ISO 12500-2 ) * <sup>6</sup>     | ---                       | --- |

\*<sup>5</sup> - at an inlet concentration ≤ 0.01 mg/m<sup>3</sup>, the liquid residual oil content is not taken into account (should be separated in advance by means of fine filtration)

\*<sup>6</sup> - measured referring to ISO 12500-2 with n-hexane, model EFST30, test concentration 100 mg/kg, result at 80% saturation

| Model                       | Amount of activated carbon | Amount of catalyst + molecular sieve (MS) |
|-----------------------------|----------------------------|---|
| ERDH006 (granulate filling) | 15 g                       | ---                                       |
| ERDH013 (granulate filling) | 37 g                       | 62 g + 8 g                                |
| ERDH025 (granulate media)   | 15 g                       | ---                                       |
| ERDH040 (granulate filling) | 180 g                      | 300 g + 40 g                              |
| ERDH065 (granulate media)   | 30 g                       | ---                                       |
| ERDH085 (granulate media)   | 50 g                       | ---                                       |

### Materials

| Component                               |  |
|---|--|
| Activated carbon filling                | Activated carbon pellets                     |
| Catalyst filling                        | Carulite <sup>®</sup> + molecular sieve (MS) |
| Filter cloths                           | Polyester-Polyurethane                       |
| Mesh screens                            | Stainless steel 1.4301                       |
| Filter media general purpose filtration | Glass fibre                                  |
| Bonded joint                            | PU (Polyurethane)                            |
| Cylinder filling                        | Acrylic                                      |
| Cylinders filter media                  | Stainless steel 1.4301                       |
| End caps                                | PA6 (Polyamide)                              |
| Sealing materials                       | NBR  |

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### Dimensions

| Model   | Height (total height) | Ø             | Ø Inlet (inside) |
|---------|-----------------------|---------------|------------------|
| ERDH006 | 70 mm (73 mm)         | 42 mm (36 mm) | 27 mm            |
| ERDH013 | 90 mm (93 mm)         | 63 mm (51 mm) | 36 mm            |
| ERDH025 | 101 mm (104 mm)       | 63 mm (49 mm) | 36 mm            |
| ERDH040 | 156 mm (158 mm)       | 93 mm (73 mm) | 46 mm            |
| ERDH065 | 163 mm (165 mm)       | 93 mm (69 mm) | 46 mm            |
| ERDH085 | 263 mm (265 mm)       | 93 mm (69 mm) | 46 mm            |

### Classification according to Pressure Equipment Directive 2014/68/EU for group 2 fluids

| Model      | Volume  | Category |
|------------|---|----------|
| All models | Filter cartridges are not part of the Pressure Equipment Directive 2014/68/EU |          |

### Other directives

| Model      |     |
|------------|-----|
| All models | --- |