

## TECHNICAL CHARACTERISTICS

HF 710 filter series are connected to the pressure line of the circuit and protect the system's components against contaminant particles.

The standard filters are supplied with by-pass valve set at 87 psi (6 bar).

For applications which need maximum system's protection, such as servo drives or proportional controls, the filters are equipped with highly resistant filtering elements ("HC" versions) without by-pass valve, but they need the use of a clogging indicator.

- Maximum total weight 2.65 lbs (1,2 Kg)
- Aluminum head and bowl
- Maximum working pressure 3626 psi (250 bar)

| MATERIALS    |                             |
|--------------|-----------------------------|
| Head         | Anodized aluminum           |
| Bowl         | Anodized aluminum           |
| Seals        | Buna - Viton                |
| End cap      | Zinc plated steel           |
| Inner tube   | Zinc plated steel           |
| Filter media | Inorganic micro-fibre glass |

| FLUID COMPATIBILITY                      |                             |
|--|-----------------------------|
| Conforming to ISO 2943 (Norm ISO 6743/4) |                             |
| Oil mineral (1)                          | HH - HL - HM - HR - HV - HG |
| Water emulsion (1)                       | HFAE - HFAS                 |
| Water glycol (1)                         | HFC                         |
| Synthetic fluid (2)                      | HS - HFDR - HFDU - HFDS     |
| (1) With Buna seals                      |                             |
| (2) With Viton seals                     |                             |

| FLOW      |                        |
|-----------|------------------------|
| Flow max. | 12.4 US gpm (47 l/min) |

| PRESSURE                        |                                 |
|---------------------------------|---------------------------------|
| Working pressure                | 3626 psi (250 bar)              |
| Testing pressure                | 5439 psi (375 bar)              |
| Burst pressure                  | 7252 psi (500 bar)              |
| Element collapse pressure       | 290 psi (20 bar) (version LC)   |
| rating (conforming to ISO 2941) | 3045 psi (210 bar) (version HC) |

| BY-PASS VALVE   |                |
|-----------------|----------------|
| By-pass setting | 87 psi (6 bar) |

| OPERATING TEMPERATURE |              |
|-----------------------|--------------|
| With Buna seals       | -30 ÷ 90 °C  |
| With Viton seals      | -20 ÷ 110 °C |

| ENDURANCE STRENGTH         |  |
|----------------------------|--|
| 1.000.000 cycle            |  |
| 0 ÷ 3626 psi (0 ÷ 250 bar) |  |

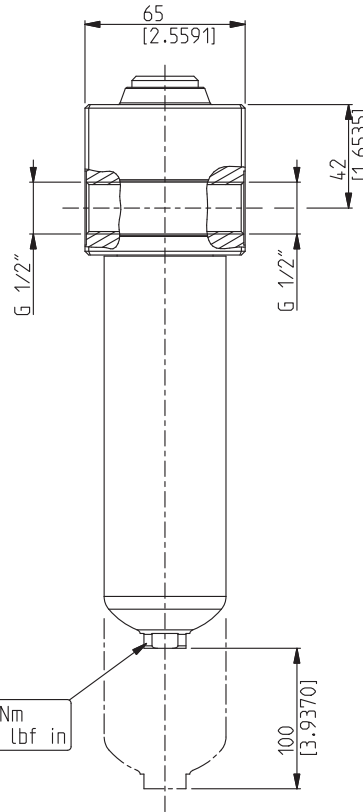
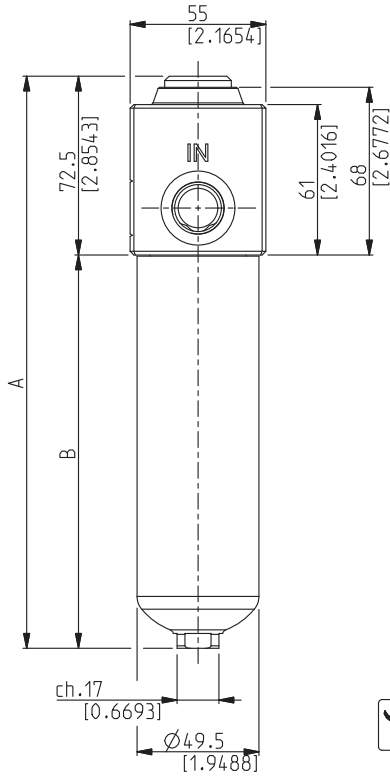
| DEGREE OF FILTRATION   |                      |                          |                          |
|--|----------------------|--------------------------|--------------------------|
| Multi-pass test conforming to ISO 16889 (regulation in force)<br>Contaminant ISO MTD - final $\Delta p$ 87 psi (6 bar) |                      |                          |                          |
| Code   | Degree of filtration | Ratio $\beta_{x(c)}$     | Percentage of efficiency |
| FG003  | 5 $\mu m$            | $\beta_{5(c)} \geq 200$  | 99,5 %                   |
| FG006  | 7 $\mu m$            | $\beta_{7(c)} \geq 200$  | 99,5 %                   |
| FG010  | 10 $\mu m$           | $\beta_{10(c)} \geq 200$ | 99,5 %                   |
| FG025  | 21 $\mu m$           | $\beta_{21(c)} \geq 200$ | 99,5 %                   |

| DEGREE OF FILTRATION  |                      |                       |                          |
|---|----------------------|-----------------------|--------------------------|
| Multi-pass test conforming to ISO 4572 (previous regulation)<br>Contaminant ACFTD - final $\Delta p$ 87 psi (6 bar) |                      |                       |                          |
| Code  | Degree of filtration | Ratio $\beta_x$       | Percentage of efficiency |
| FG003   | 3 $\mu m$            | $\beta_3 \geq 200$    | 99,5 %                   |
| FG006   | 6 $\mu m$            | $\beta_6 \geq 200$    | 99,5 %                   |
| FG010   | 10 $\mu m$           | $\beta_{10} \geq 200$ | 99,5 %                   |
| FG025   | 25 $\mu m$           | $\beta_{25} \geq 200$ | 99,5 %                   |

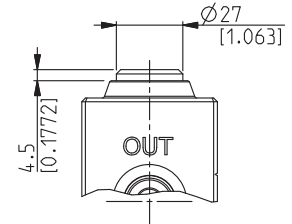
| INDICATORS   |  |
|--|--|
| Visual differential indicator                            |  |
| Visual electrical differential indicator                 |  |
| Visual electrical differential indicator with thermostat |  |

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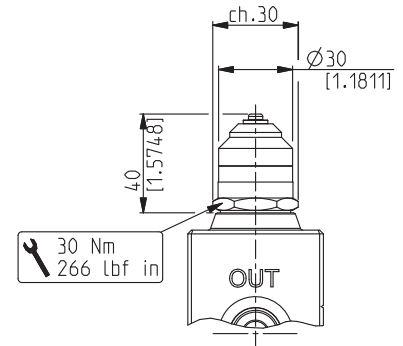
**HF710-10 DIMENSIONS**



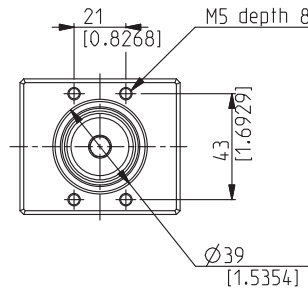
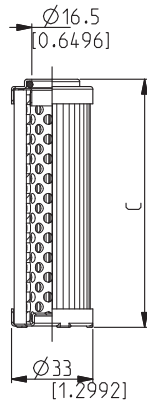
**With plug "G"**



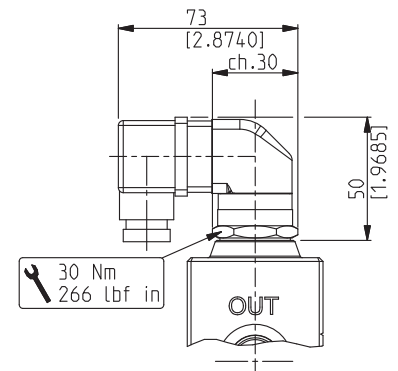
**With indicator "H"**



**Elements HE K85-10**



**With indicators "U" o "W"**

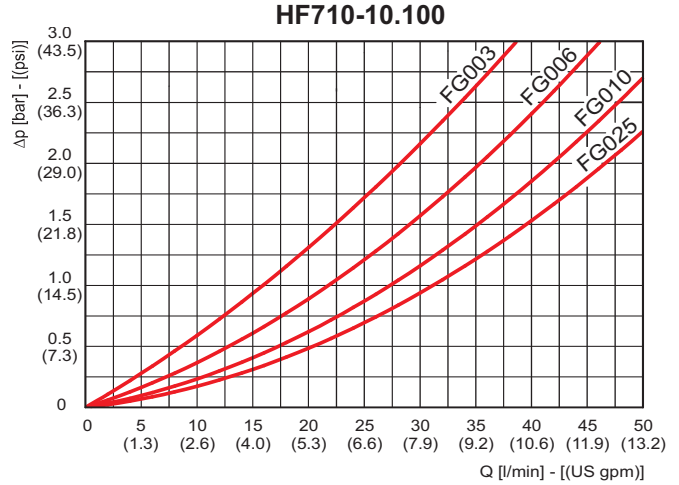
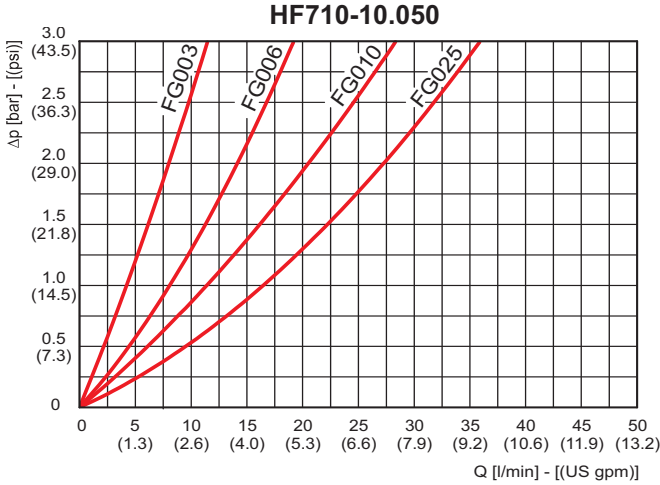


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| Filter type          | Weight |        | A   |          | B     |          |
|----------------------|--------|--------|-----|----------|-------|----------|
|                      | kg     | (lbs)  | mm  | (in)     | mm    | (in)     |
| <b>HF 710-10.050</b> | 1,0    | (2.20) | 182 | (7.1653) | 109.5 | (4.3110) |
| <b>HF 710-10.100</b> | 1,2    | (2.65) | 232 | (9.1338) | 159.5 | (6.2795) |

| Element type         | C            | Filtering surface                  | Dirt holding capacity (ISO MTD) Δp = 72.5 psi (5 bar) |              |              |              |
|----------------------|--------------|------------------------------------|---|--------------|--------------|--------------|
|                      |              |                                    | FG003   | FG006        | FG010        | FG025        |
|                      | mm (in)      | cm <sup>2</sup> (in <sup>2</sup> ) | gr (lbs)  | gr (lbs)     | gr (lbs)     | gr (lbs)     |
| <b>HE K85-10.050</b> | 50 (1.9685)  | 162 (25.1100)                      | 0,9 (0.0020)  | 1,2 (0.0026) | 1,3 (0.0029) | 1,9 (0.0042) |
| <b>HE K85-10.100</b> | 100 (3.9370) | 342 (53.0101)                      | 1,9 (0.0042)  | 2,5 (0.0055) | 2,7 (0.0060) | 4,0 (0.0088) |

## COMPLETE FILTER'S PRESSURE DROP



The curves are obtained in the following conditions: mineral oil type SAE 10, kinematic viscosity 120 SSU (30 cSt), density 7.29 lb/gal (0,856 kg/dm<sup>3</sup>).

### FLOW

| Filter type          | Degree of filtration                               |          |           |           |
|----------------------|--|----------|-----------|-----------|
|                      | FG003  | FG006    | FG010     | FG025     |
|                      | Flow $\Delta p = 29$ psi (2 bar)<br>US gpm (l/min) |          |           |           |
| <b>HF 710-10.050</b> | 2.1 (8)  | 3.7 (14) | 5.5 (21)  | 7.1 (27)  |
| <b>HF 710-10.100</b> | 7.4 (28)   | 9.5 (36) | 11.1 (42) | 12.4 (47) |

### HOW TO ORDER A COMPLETE FILTER

1
2
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**HF710 - 10.100 - AS - FG010 - LC - B60 - GD - B - XD - G**

|  |                       |                                       |                   |  |                   |
|--|-----------------------|---------------------------------------|-------------------|--|-------------------|
| <b>1</b> Filter type<br>See table pag. 2 | <b>CODE</b><br>HF710- | <b>4</b> $\Delta p$ collapse pressure | <b>CODE</b><br>LC | <b>8</b> Indicator arrangement                           | <b>CODE</b><br>XD |
| <b>2</b> Filtering surface<br>Standard   | <b>CODE</b><br>AS     | 290 [psi] (20 [bar])                  | <b>HC</b>         | <b>9</b> Indicators                                      | <b>CODE</b>       |
| <b>3</b> Degree of filtration            | <b>CODE</b>           | 3046 [psi] (210 [bar])                | <b>B60</b>        | Without indicator, with plug                             | <b>G</b>          |
| 3 [μm] Micro-fibre glass                 | <b>FG003</b>          | Without                               | <b>B00</b>        | Visual differential indicator                            | <b>H</b>          |
| 6 [μm] Micro-fibre glass                 | <b>FG006</b>          | <b>6</b> Ports IN/OUT                 | <b>CODE</b>       | Visual electrical differential indicator                 | <b>U</b>          |
| 10 [μm] Micro-fibre glass                | <b>FG010</b>          | Threads GAS (BSPP)                    |                   | Visual electrical differential indicator with thermostat | <b>W</b>          |
| 25 [μm] Micro-fibre glass                | <b>FG025</b>          | G 1/2                                 | <b>GD</b>         |  |                   |
|  |                       | <b>7</b> Seals                        | <b>CODE</b>       |  |                   |
|  |                       | Buna                                  | <b>B</b>          |  |                   |
|  |                       | Viton                                 | <b>V</b>          |  |                   |

Standard     On request

### HOW TO ORDER A REPLACEMENT ELEMENT

1
2
3
4
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**HE K85 10.100 - AS - FG010 - LC - B**

|  |                        |                               |              |                                       |             |
|--|------------------------|-------------------------------|--------------|---------------------------------------|-------------|
| <b>1</b> Filter type<br>See table pag. 2 | <b>CODE</b><br>HE K85- | <b>3</b> Degree of filtration | <b>CODE</b>  | <b>4</b> $\Delta p$ collapse pressure | <b>CODE</b> |
| <b>2</b> Filtering surface<br>Standard   | <b>CODE</b><br>AS      | 3 [μm] Micro-fibre glass      | <b>FG003</b> | 290 [psi] (20 [bar])                  | <b>LC</b>   |
|  |                        | 6 [μm] Micro-fibre glass      | <b>FG006</b> | 3046 [psi] (210 [bar])                | <b>HC</b>   |
|  |                        | 10 [μm] Micro-fibre glass     | <b>FG010</b> |                                       |             |
|  |                        | 25 [μm] Micro-fibre glass     | <b>FG025</b> | <b>5</b> Seals                        | <b>CODE</b> |
|  |                        |                               |              | Buna                                  | <b>B</b>    |
|  |                        |                               |              | Viton                                 | <b>V</b>    |

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