

# EFDB Series



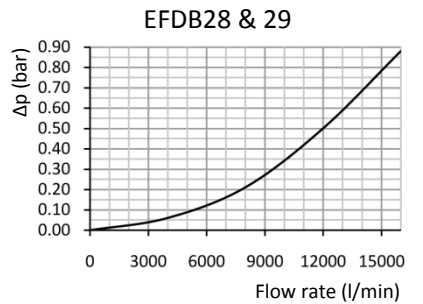
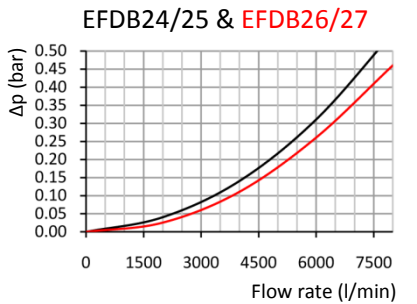
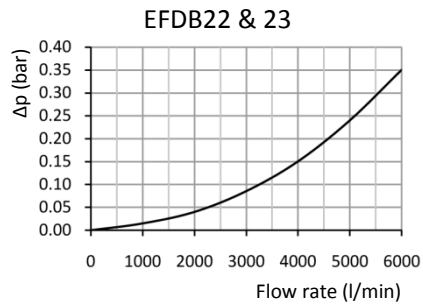
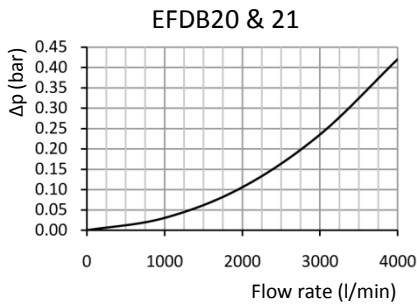
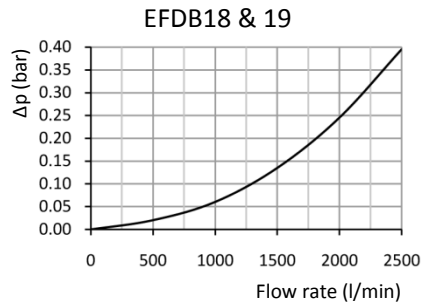
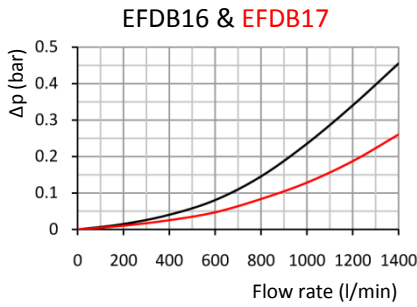
## Technical specification

|                                    |  |
|------------------------------------|--|
| Application:                       | In-line duplex filter  |
| Ports:                             | SAE DN 40, SAE DN 50, SAE DN 65,<br>SAE/DIN DN 80, SAE/DIN DN 100,<br>DIN DN 125, DIN DN 150, DIN DN 200,<br>DIN DN 250, DIN DN 300  |
| Flow rate:                         | max. 15000 l/min   |
| Working pressure:                  | max. 16 bar  |
| Element collapse pressure:         | 10 bar   |
| By-pass opening pressure:          | $\Delta p$ 3 bar $\pm$ 10%   |
| Clogging indicator setting:        | $\Delta p$ 2 bar $\pm$ 10%   |
| Seals:                             | Perbunan (NBR, -10°C to 100°C)   |
| Material:                          | Welded steel   |
| Compatibility:                     | Suitable for mineral oils, lubrication oils,<br>non-flam fluids, synthetic and rapidly<br>biodegradable oils (for use with water, please<br>contact our technical dept.)   |
| Tested according to ISO standards: | ISO2941 Collapse/burst resistance<br>ISO2942 Fabrication integrity<br>ISO2943 Material compatibility integrity<br>ISO3723 Method for end load test<br>ISO3724 Flow fatigue characteristics<br>ISO3968 Pressure drop vs. Flow<br>ISO16889 Multi-pass (filtration performance) |

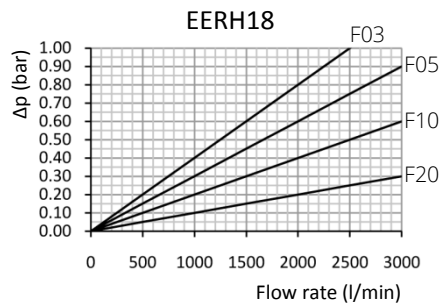
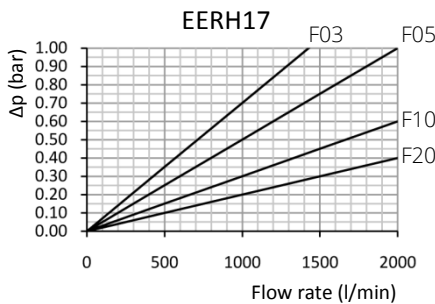
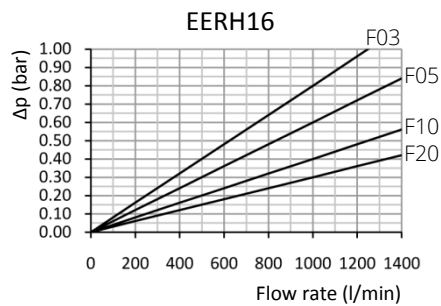
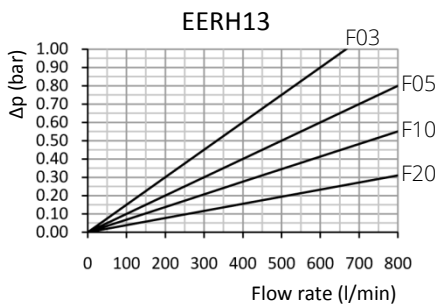
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# Pressure drop graphs ( $\Delta p$ )

## Pressure drop of filter housing



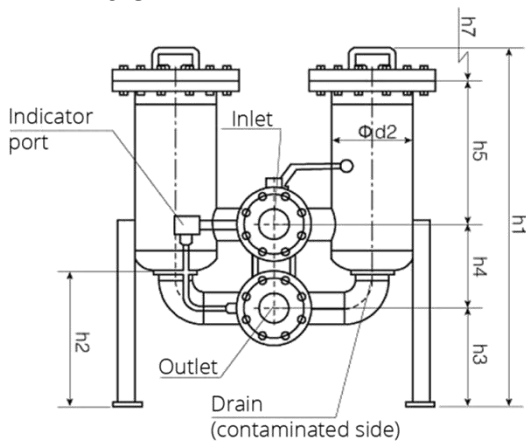
## Pressure drop of clean filter elements (fibreglass media)



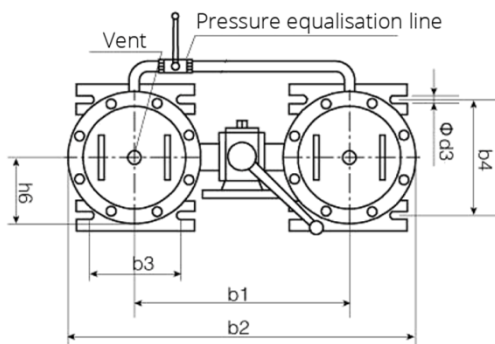
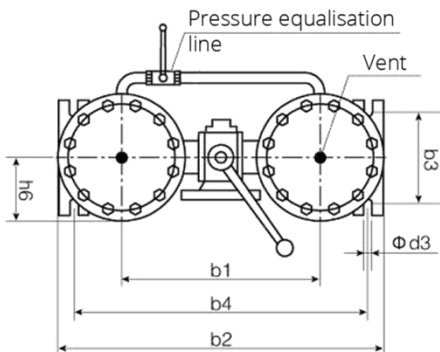
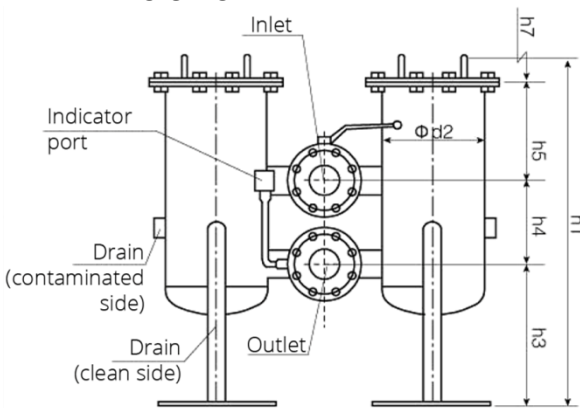
The test fluid has a density of 0.86 kg/dm<sup>3</sup> and a kinematic viscosity of 30 mm<sup>2</sup>/s.

# Dimensional drawings

## EFDB16 & 17



## EFDB18 & 19



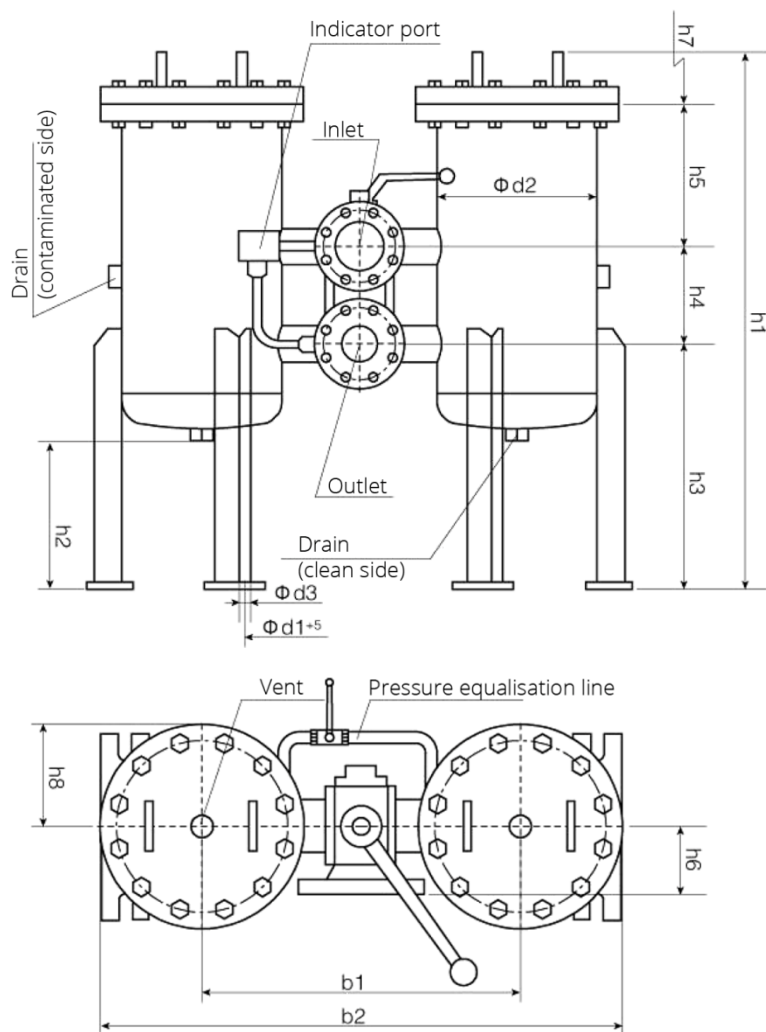
| Type            | Flange <sup>1</sup> | b1  | b2   | b3  | b4  | d2  | d3 | h1        | h2  | h3  | h4  | h5      | h6  | h7      |
|-----------------|---------------------|-----|------|-----|-----|-----|----|-----------|-----|-----|-----|---------|-----|---------|
| EFDB16 & EFDB17 | SAE DN 40           | 495 | 835  | 250 | 755 | 220 | 22 | 970/1410  | 205 | 335 | 95  | 460/900 | 92  | 500/940 |
|                 | SAE DN 50           | 506 | 846  | 250 | 766 | 220 | 22 | 970/1410  | 210 | 328 | 110 | 452/892 | 102 | 500/940 |
|                 | SAE DN 65           | 506 | 846  | 250 | 766 | 220 | 22 | 970/1410  | 210 | 328 | 110 | 452/892 | 167 | 500/940 |
|                 | SAE/DIN DN 80       | 530 | 870  | 250 | 790 | 220 | 22 | 970/1410  | 370 | 260 | 230 | 400/840 | 120 | 500/940 |
|                 | SAE/DIN DN 100      | 588 | 926  | 250 | 846 | 220 | 22 | 970/1410  | 375 | 266 | 250 | 374/814 | 130 | 500/940 |
| EFDB17          | DIN DN 125          | 603 | 943  | 250 | 863 | 220 | 22 | 1536      | 190 | 385 | 300 | 765     | 188 | 940     |
| EFDB18 & EFDB19 | SAE DN 50           | 548 | 908  | 250 | 312 | 273 | 22 | 940/1330  | 220 | 383 | 110 | 378/768 | 102 | 420/810 |
|                 | SAE DN 65           | 548 | 908  | 250 | 312 | 273 | 22 | 990/1380  | 220 | 383 | 230 | 280/670 | 167 | 420/810 |
|                 | SAE/DIN DN 80       | 572 | 932  | 250 | 312 | 273 | 22 | 990/1380  | 220 | 408 | 230 | 280/670 | 120 | 420/810 |
|                 | SAE/DIN DN 100      | 588 | 948  | 250 | 312 | 273 | 22 | 990/1380  | 220 | 408 | 250 | 260/650 | 130 | 420/810 |
|                 | DIN DN 125          | 589 | 949  | 250 | 312 | 273 | 22 | 1050/1440 | 220 | 438 | 300 | 240/630 | 188 | 420/810 |
|                 | DIN DN 150          | 641 | 1001 | 250 | 312 | 273 | 22 | 1050/1440 | 220 | 438 | 300 | 240/630 | 187 | 420/810 |

<sup>1</sup> Flanges according to SAE J518C (pressure range 3000 psi) & DIN2501/1 (PN25 for 40 ≤ DN < 125; PN 14 for DN ≥ 125), sealing D or E

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# Dimensional drawings

## EFDB20 to EFDB27



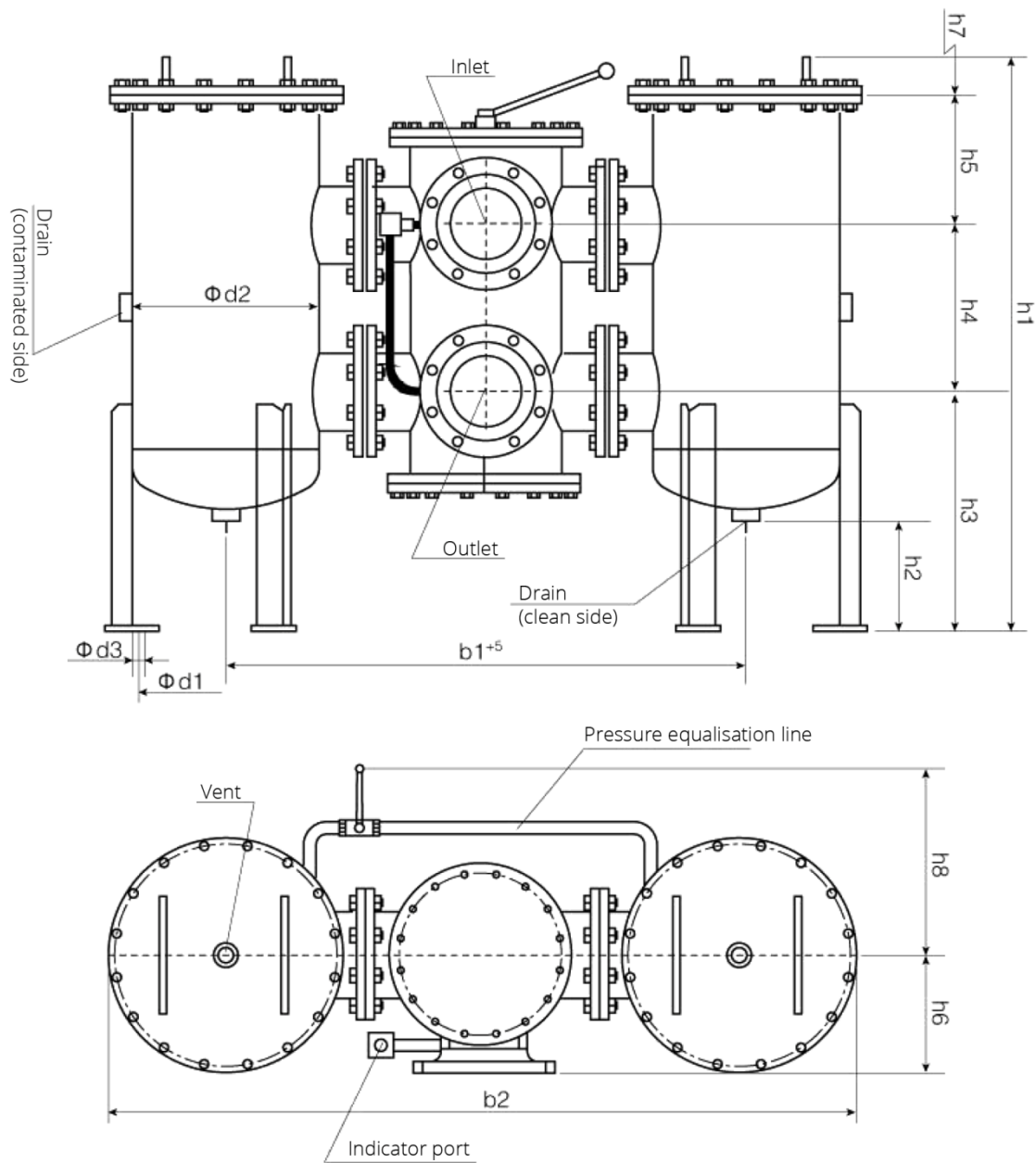
| Type            | Flange <sup>1</sup> | b1   | b2   | d1  | d2  | d3 | h1        | h2  | h3  | h4  | h5      | h6  | h7      | h8  |
|-----------------|---------------------|------|------|-----|-----|----|-----------|-----|-----|-----|---------|-----|---------|-----|
| EFDB20 & EFDB21 | SAE/DIN DN 80       | 688  | 1152 | 330 | 356 | 22 | 1080/1470 | 260 | 475 | 230 | 295/685 | 120 | 420/810 | 230 |
|                 | SAE/DIN DN 100      | 704  | 1164 | 330 | 356 | 22 | 1080/1470 | 260 | 475 | 250 | 275/665 | 130 | 420/810 | 230 |
|                 | DIN DN 125          | 723  | 1183 | 330 | 356 | 22 | 1170/1560 | 260 | 525 | 300 | 265/655 | 188 | 420/810 | 230 |
|                 | DIN DN 150          | 775  | 1240 | 330 | 356 | 22 | 1170/1560 | 260 | 525 | 300 | 265/655 | 187 | 420/810 | 230 |
| EFDB22 & EFDB23 | SAE/DIN DN 80       | 728  | 1244 | 380 | 406 | 22 | 1144/1584 | 250 | 465 | 230 | 371/811 | 120 | 500/940 | 255 |
|                 | SAE/DIN DN 100      | 744  | 1260 | 380 | 406 | 22 | 1144/1584 | 250 | 465 | 250 | 351/791 | 130 | 500/940 | 255 |
|                 | DIN DN 125          | 763  | 1275 | 380 | 406 | 22 | 1256/1696 | 250 | 525 | 300 | 351/791 | 188 | 500/940 | 255 |
|                 | DIN DN 150          | 815  | 1330 | 380 | 406 | 22 | 1256/1696 | 250 | 525 | 300 | 351/791 | 187 | 500/940 | 255 |
| EFDB24 & EFDB25 | SAE/DIN DN 100      | 1024 | 1644 | 480 | 508 | 22 | 1260/1700 | 260 | 540 | 250 | 390/830 | 130 | 500/940 | 310 |
|                 | DIN DN 125          | 863  | 1483 | 480 | 508 | 22 | 1260/1700 | 260 | 540 | 300 | 340/780 | 188 | 500/940 | 310 |
|                 | DIN DN 150          | 915  | 1535 | 480 | 508 | 22 | 1260/1700 | 260 | 540 | 300 | 340/780 | 187 | 500/940 | 310 |
| EFDB26 & EFDB27 | SAE/DIN DN 100      | 1024 | 1644 | 480 | 508 | 22 | 1260/1700 | 260 | 540 | 250 | 390/830 | 130 | 500/940 | 310 |
|                 | DIN DN 125          | 863  | 1483 | 480 | 508 | 22 | 1260/1700 | 260 | 540 | 300 | 340/780 | 188 | 500/940 | 310 |
|                 | DIN DN 150          | 915  | 1535 | 480 | 508 | 22 | 1260/1700 | 260 | 540 | 300 | 340/780 | 187 | 500/940 | 310 |

<sup>1</sup> Flanges according to SAE J518C (pressure range 3000 psi) & DIN2501/1 (PN25 for  $40 \leq DN < 125$ ; PN 14 for  $DN \geq 125$ ), sealing D or E

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# Dimensional drawings

## EFDB20 to EFDB29



| Type            | Flange <sup>1</sup> | b1   | b2   | d1  | d2  | d3 | h1        | h2  | h3  | h4  | h5      | h6  | h7      | h8  |
|-----------------|---------------------|------|------|-----|-----|----|-----------|-----|-----|-----|---------|-----|---------|-----|
| EFDB20 & EFDB21 | DIN DN 200          | 1124 | 1590 | 330 | 356 | 22 | 1250/1595 | 260 | 525 | 365 | 235/625 | 261 | 420/810 | 370 |
| EFDB22 & EFDB23 | DIN DN 200          | 1166 | 1680 | 380 | 406 | 22 | 1265/1705 | 250 | 525 | 365 | 286/726 | 261 | 500/940 | 370 |
| EFDB24 & EFDB25 | DIN DN 250          | 1312 | 1825 | 380 | 406 | 22 | 1324/1764 | 250 | 560 | 450 | 236/676 | 322 | 500/940 | 400 |
| EFDB26 & EFDB27 | DIN DN 200          | 1266 | 1886 | 480 | 508 | 22 | 1380/1820 | 260 | 600 | 365 | 335/775 | 261 | 500/940 | 370 |
| EFDB28 & EFDB29 | DIN DN 250          | 1402 | 2022 | 480 | 508 | 22 | 1380/1820 | 260 | 600 | 450 | 250/690 | 322 | 500/940 | 400 |
| EFDB20 & EFDB21 | DIN DN 200          | 1266 | 1886 | 480 | 508 | 22 | 1380/1820 | 260 | 600 | 365 | 335/775 | 261 | 500/940 | 370 |
| EFDB22 & EFDB23 | DIN DN 250          | 1402 | 2022 | 480 | 508 | 22 | 1380/1820 | 260 | 600 | 450 | 250/690 | 322 | 500/940 | 400 |
| EFDB24 & EFDB25 | DIN DN 200          | 1506 | 2016 | 680 | 711 | 22 | 1425/1865 | 263 | 655 | 365 | 330/770 | 261 | 500/940 | 415 |
| EFDB26 & EFDB27 | DIN DN 250          | 1628 | 2458 | 680 | 711 | 22 | 1425/1865 | 263 | 640 | 450 | 260/700 | 322 | 500/940 | 415 |

<sup>1</sup> Flanges according to DIN2501/1 (PN16), sealing C

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## Order information

Filter assembly part number

|         | Housing |         |            |         | Element |         | Accessories |         |
|---------|---------|---------|------------|---------|---------|---------|-------------|---------|
|         | Type    | Size    | Connection | Seal    | By-pass | Media   | Gauge       | Special |
|         | EFDB    | Table 1 | Table 2    | Table 3 | Table 4 | Table 5 | Table 6     | X       |
| Example | EFDB    | 16      | FE         | B       | 08      | F10     | 2PB         | X       |

Element part number

|         | Element |         |         |         |         |
|---------|---------|---------|---------|---------|---------|
|         | Type    | Size    | Seal    | By-pass | Media   |
|         | EERH    | Table 1 | Table 3 | Table 4 | Table 5 |
| Example | EERH    | 13      | B       | 08      | F10     |

Tables

| Table 1  |           |                   |
|----------|-----------|-------------------|
| EVO size | Q (l/min) | Elements per side |
| EFDB16   | 1300      | 1 x EERH16        |
| EFDB17   | 1320      | 1 x EERH18        |
| EFDB18   | 2500      | 3 x EERH13        |
| EFDB19   | 2520      | 3 x EERH17        |
| EFDB20   | 4000      | 5 x EERH13        |
| EFDB21   | 4020      | 5 x EERH17        |
| EFDB22   | 5200      | 4 x EERH16        |
| EFDB23   | 5220      | 4 x EERH18        |
| EFDB24   | 6500      | 5 x EERH16        |
| EFDB25   | 6520      | 5 x EERH18        |
| EFDB26   | 7800      | 6 x EERH16        |
| EFDB27   | 7820      | 6 x EERH18        |
| EFDB28   | 15000     | 10 x EERH16       |
| EFDB29   | 15020     | 10 x EERH18       |

| Table 3 |          |
|---------|----------|
| Seal    | Material |
| B       | Buna     |
| V       | Viton    |

| Table 4 |               |
|---------|---------------|
| By-pass | Open pressure |
| 00      | None          |
| 08      | 3 bar         |
| X       | Special       |

| Table 6   |          |                 |
|-----------|----------|-----------------|
| Indicator | Pressure | Type            |
| 00        | -        | None            |
| 2PE       | 2 bar    | Electric        |
| 2PB       | 2 bar    | Visual/electric |

| Table 2    |    |    |    |    |    |    |    |    |        |
|------------|----|----|----|----|----|----|----|----|--------|
| Connection |    |    |    |    |    |    |    |    | Size   |
| FE         | FF | FG | DH | DI | CJ | CK | CL | CM |        |
| •          | •  | •  | •  | •  | •  |    |    |    | EFDB16 |
| •          | •  | •  | •  | •  | •  |    |    |    | EFDB17 |
|            | •  | •  | •  | •  | •  |    |    |    | EFDB18 |
|            | •  | •  | •  | •  | •  |    |    |    | EFDB19 |
|            |    |    | •  | •  | •  | •  |    |    | EFDB20 |
|            |    |    | •  | •  | •  | •  | •  |    | EFDB21 |
|            |    |    | •  | •  | •  | •  | •  | •  | EFDB22 |
|            |    |    | •  | •  | •  | •  | •  | •  | EFDB23 |
|            |    |    | •  | •  | •  | •  | •  | •  | EFDB24 |
|            |    |    | •  | •  | •  | •  | •  | •  | EFDB25 |
|            |    |    | •  | •  | •  | •  | •  | •  | EFDB26 |
|            |    |    | •  | •  | •  | •  | •  | •  | EFDB27 |
|            |    |    |    |    |    |    | •  | •  | EFDB28 |
|            |    |    |    |    |    |    | •  | •  | EFDB29 |

| Table 5 |            |            |          |
|---------|------------|------------|----------|
| Media   | Material   | Filtration | Collapse |
| P10     | Cellulose  | 10 µm      | 10 bar   |
| P20     | Cellulose  | 20 µm      | 10 bar   |
| F03     | Fibreglass | 3 µm       | 10 bar   |
| F05     | Fibreglass | 5 µm       | 10 bar   |
| F10     | Fibreglass | 10 µm      | 10 bar   |
| F20     | Fibreglass | 20 µm      | 10 bar   |
| W25     | Wire mesh  | 25 µm      | 10 bar   |
| W60     | Wire mesh  | 60 µm      | 10 bar   |
| W90     | Wire mesh  | 90 µm      | 10 bar   |
| W125    | Wire mesh  | 125 µm     | 10 bar   |

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