

BECODISC stacked disc cartridges



Powering Business Worldwide

Robust and compact stacked disc cartridges for a wide variety of filtration applications

Eaton is a leading supplier of complete depth filtration solutions and develops, manufactures and provides high-quality depth filtration media for food, beverage, fine chemical and pharmaceutical applications.

The individual cells of the BECODISC® stacked disc cartridges are constructed using either BECO® or BECOPAD® depth filter sheets. In addition to handling simplicity, reduced setup times, increased personnel and product protection, the enclosed BECODISC system offers protection against bypass effects. Additional benefits include:

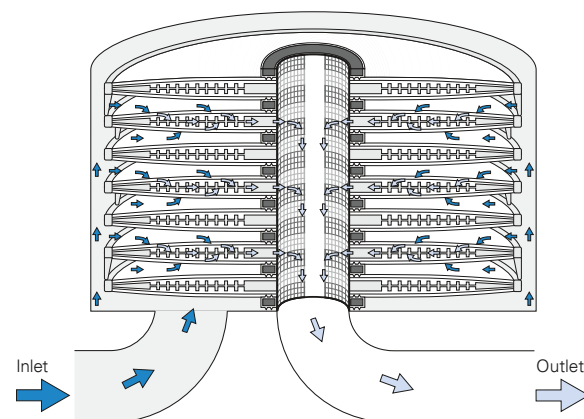
- Precise sealing of the filter cells through polypropylene or polyamide edge molding
- Excellent stability, even during sterilization, through high assembly pressure compressing the filter cells and bound tightly with a three-segment stainless steel sleeve
- Efficient flow path within the filter cell through an internal drainage plate
- Full filter surface area utilization through defined, consistent cell distance

The product range also contains enclosed BECO INTEGRA® DISC housings in a range of designs and sizes. They meet many demanding filtration tasks and process safety requirements.

Eaton stacked disc cartridges meet national and international quality standards, such as:

- LFGB standard (German Food, Commodity and Feed Act) in Germany
- FDA guidelines (Food and Drug Administration) from the USA
- Polypropylene components meet European Directive 10/2011

For further information, please refer to the Declaration of Conformity documents, technical data sheets and Validation Guides, especially for the pharmaceutical industry.



BECODISC flow diagram in enclosed filter housing



BECODISC Stacked Disc Cartridge Ranges

Selection guide

For a wide range of applications



BECODISC

Premium stacked disc cartridges with BECOPAD depth filter sheets made of cellulose, characterized by high-purity, strength and performance for excellent color and flavor fidelity.

Main applications:

Wine, beer, fruit juices, spirits, food, fine/specialty chemistry, biotechnology, pharmaceutical, cosmetics



BECODISC BS

Stacked disc cartridges with excellent clarification performance for reliable removal from particles to microorganisms due to optimal pore structure and adsorption.

Main applications:

Wine, beer, fruit juices, spirits, food, fine/specialty chemistry, biotechnology, pharmaceutical, cosmetics



BECODISC BT

Stacked disc cartridges with high dirt-holding capacity and burst strength for filtration of liquids with high viscosity or particle load.

Main applications:

Fine/specialty chemistry, biotechnology, pharmaceutical, cosmetics, food, fruit juices



BECODISC BA

Stacked disc cartridges specifically manufactured with reduced calcium and magnesium for prevention and removal of haze while preserving color and flavor.

Main applications:

Spirits, flavors and fragrances

Activated carbon for correction of color and odor



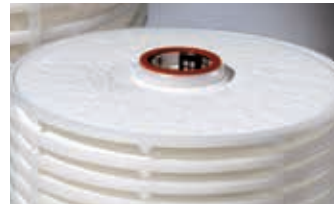
BECODISC BC/BW

Immobilized activated carbon imparts high adsorption capacity to carbon stacked disc cartridges for removal of colors, odors and undesirable byproducts from liquids.

Main applications:

Fine/specialty chemistry, biotechnology, pharmaceutical, cosmetics fruit juices, spirits, food

Low endotoxin content suitable for pharmaceutical applications



BECODISC P

Stacked disc cartridges with BECOPAD P depth filter sheets composed of high-purity cellulose with low extractables, extremely low endotoxin content (<0.025 EU/ml) after rinsing with 0.61 gal/ft² (25 l/m²) WFI (Water for Injection) and up to 50 % reduction of rinse volume.

Main applications:

Pharmaceutical, fine/specialty chemistry, biotechnology

[A Validation Guide is available upon request.](#)



BECODISC BP

Stacked disc cartridges with excellent clarification performance for reliable removal of particulate, microorganisms and retention of endotoxins due to optimal combination of depth filtration and adsorption. An endotoxin content of <0.125 EU/ml after rinsing with 1.23 gal/ft² (50 l/m²) WFI is achieved.

Main applications:

Pharmaceutical, fine/specialty chemistry, biotechnology

[A Validation Guide is available upon request.](#)

Technical data and configurations

| Range | Type (PP version) | Depth filter sheet | Nominal retention rate µm | Thickness | | Ash content % | Bursting strength wet | | Water throughput | | Endotoxin content EU/ml |
|-------------------|--------------------------|---------------------------------------|------------------------------|-----------|-------|------------------|-----------------------|---------------------|--------------------------------------|---|----------------------------|
| | | | | in | (mm) | | psi | (kPa ¹) | Δp = 14.5 psi gpm/ft ² | (Δp = 100 kPa ¹) l/m ² /min | |
| BECODISC | B1C3 ² | BECOPAD 115 C ² | 0.1 – 0.2 | 0.16 | (4.1) | <1 | >21.8 | (150) | 0.6 | (26) | - |
| | B123 ² | BECOPAD 120 ² | 0.1 – 0.3 | 0.15 | (3.9) | <1 | >21.8 | (150) | 1.3 | (54) | - |
| | B173 ² | BECOPAD 170 ² | 0.2 – 0.4 | 0.15 | (3.9) | <1 | >21.8 | (150) | 1.9 | (77) | - |
| | B223 ² | BECOPAD 220 ² | 0.3 – 0.5 | 0.15 | (3.9) | <1 | >21.8 | (150) | 2.5 | (100) | - |
| | B273 ² | BECOPAD 270 ² | 0.5 – 0.7 | 0.15 | (3.9) | <1 | >21.8 | (150) | 3.3 | (135) | - |
| | B353 ² | BECOPAD 350 ² | 0.7 – 1.0 | 0.15 | (3.9) | <1 | >21.8 | (150) | 3.9 | (160) | - |
| | B453 ² | BECOPAD 450 ² | 1.0 – 2.0 | 0.15 | (3.9) | <1 | >21.8 | (150) | 7.4 | (300) | - |
| | B553 ² | BECOPAD 550 ² | 2.0 – 3.0 | 0.15 | (3.9) | <1 | >21.8 | (150) | 14.0 | (570) | - |
| B583 ² | BECOPAD 580 ² | 8.0 – 10.0 | 0.15 | (3.9) | <1 | >21.8 | (150) | 87.6 | (3571) | - | |
| BECODISC BS | B01S | BECO Steril S 100 | 0.1 | 0.15 | (3.9) | 58 | >7.3 | (50) | 0.7 | (30) | - |
| | B02S | BECO Steril S 80 | 0.2 | 0.15 | (3.9) | 50 | >11.6 | (80) | 1.1 | (46) | - |
| | B03S | BECO Steril 60 | 0.3 | 0.15 | (3.8) | 50 | >7.3 | (50) | 1.5 | (60) | - |
| | B04S | BECO Steril 40 | 0.4 | 0.15 | (3.8) | 49 | >7.3 | (50) | 1.7 | (69) | - |
| | B05S | BECO SD 30 | 0.5 | 0.15 | (3.8) | 50 | >7.3 | (50) | 2.1 | (84) | - |
| | B06S | BECO KDS 15 | 0.6 | 0.15 | (3.8) | 50 | >7.3 | (50) | 2.8 | (115) | - |
| | B08S | BECO KDS 12 | 0.8 | 0.15 | (3.8) | 50 | >7.3 | (50) | 3.8 | (155) | - |
| | B10S | BECO KD 10 | 1.0 | 0.15 | (3.8) | 50 | >7.3 | (50) | 4.5 | (185) | - |
| | B15S | BECO KD 7 | 1.5 | 0.15 | (3.8) | 50 | >7.3 | (50) | 5.5 | (225) | - |
| | B20S | BECO KD 5 | 2.0 | 0.15 | (3.8) | 50 | >7.3 | (50) | 6.6 | (270) | - |
| | B25S | BECO KD 3 | 2.5 | 0.15 | (3.8) | 50 | >5.8 | (40) | 10.4 | (425) | - |
| | B30S | BECO K2 | 3.0 | 0.15 | (3.8) | 46 | >7.3 | (50) | 38.0 | (1550) | - |
| | B40S | BECO K1 | 4.0 | 0.15 | (3.8) | 42 | >8.7 | (60) | 46.6 | (1900) | - |
| | BECODISC BT | B15T | BECO CP07S | 15.0 | 0.14 | (3.6) | 35 | >16.0 | (110) | 105.3 | (4290) |
| B20T | | BECO CP03S | 20.0 | 0.15 | (3.7) | 35 | >13.1 | (90) | 175.2 | (7140) | - |
| B25T | | BECO CP02S | 25.0 | 0.13 | (3.3) | 17 | >13.1 | (90) | 233.6 | (9520) | - |
| B30T | | BECO CP01S | 30.0 | 0.18 | (4.6) | 16 | >14.5 | (100) | 306.8 | (12500) | - |
| B27T ² | | BECO CP2KS ² | 27.0 | 0.11 | (2.9) | <1 | >11.6 | (80) | 239.5 | (9760) | - |
| B40T ² | | BECO CP1KS ² | 40.0 | 0.17 | (4.3) | <1 | >21.8 | (150) | 555.1 | (22620) | - |
| BECODISC BA | BA20 | BECO SELECT™ A 20 | 0.8 | 0.17 | (4.4) | 43 | >5.8 | (40) | 3.9 | (160) | - |
| | BA40 | BECO SELECT A 40 | 2.5 | 0.17 | (4.4) | 43 | >5.8 | (40) | 7.4 | (300) | - |
| BECODISC BC/BW | B30C | BECO ACF 07 with protective fleece | - | 0.15 | (3.8) | 15 | >5.8 | (40) | 34.7 | (1415) | - |
| | B30W | BECO ACF 07 | - | 0.15 | (3.8) | 15 | >5.8 | (40) | 34.7 | (1415) | - |
| BECODISC P | B171 ² | BECOPAD P 170 ² | 0.2 – 0.4 | 0.15 | (3.9) | <1 | >21.8 | (150) | 1.9 | (77) | <0.025 ³ |
| | B271 ² | BECOPAD P 270 ² | 0.5 – 0.7 | 0.15 | (3.9) | <1 | >21.8 | (150) | 3.3 | (135) | <0.025 ³ |
| | B351 ² | BECOPAD P 350 ² | 0.7 – 1.0 | 0.15 | (3.9) | <1 | >21.8 | (150) | 3.9 | (160) | <0.025 ³ |
| | B551 ² | BECOPAD P 550 ² | 2.0 – 3.0 | 0.15 | (3.9) | <1 | >21.8 | (150) | 14.0 | (570) | <0.025 ³ |
| | B581 ² | BECOPAD P 580 ² | 8.0 – 10.0 | 0.15 | (3.9) | <1 | >21.8 | (150) | 87.6 | (3571) | <0.025 ³ |
| BECODISC BP | B01P | BECO PR Steril S100 | 0.1 | 0.15 | (3.9) | 58 | >7.3 | (50) | 0.7 | (30) | <0.125 ⁴ |
| | B02P | BECO PR Steril S 80 | 0.2 | 0.15 | (3.9) | 50 | >11.6 | (80) | 1.1 | (46) | <0.125 ⁴ |
| | B04P | BECO PR Steril 40 | 0.4 | 0.15 | (3.9) | 49 | >7.3 | (50) | 1.5 | (61) | <0.125 ⁴ |
| | B08P | BECO PR 12 | 0.8 | 0.15 | (3.9) | 50 | >18.9 | (130) | 4.3 | (175) | <0.125 ⁴ |
| | B20P | BECO PR 5 | 2.0 | 0.15 | (3.9) | 50 | >8.7 | (60) | 8.1 | (330) | <0.125 ⁴ |
| B40P | BECO PR 1 | 4.0 | 0.17 | (4.3) | 48 | >6.5 | (45) | 58.4 | (2381) | <0.125 ⁴ | |

¹ 100 kPa = 1 bar | ² Without the addition of mineral components | ³ Determination after rinsing with 0.61 gal/ft² (25 l/m²) WFI (Water for Injection) | ⁴ Determination after rinsing with 1.23 gal/ft² (50 l/m²) WFI

| | BECODISC 12", Ø 11.6 in (295 mm) | | | | | BECODISC 16", Ø 15.8 in (402 mm) | | | | |
|---|----------------------------------|-------------|----------------|------------|------------|----------------------------------|------------|----------------|------------|-------------|
| | 16 | 14 | 9 ¹ | 9 | 5 | 16 | 14 | 9 ¹ | 9 | 5 |
| Number of cells | 16 | 14 | 9 ¹ | 9 | 5 | 16 | 14 | 9 ¹ | 9 | 5 |
| Filter surface area [ft ² (m ²)] | 20.5 (1.9) | 17.8 (1.65) | 11.8 (1.1) | 11.8 (1.1) | 6.4 (0.59) | 39.8 (3.7) | 34.4 (3.2) | 22.6 (2.1) | 22.6 (2.1) | 12.4 (1.15) |
| Pre-coat volume [gal (l)] ² | - | 0.9 (3.6) | 2.1 (8.0) | - | - | - | 1.8 (7.0) | 4.1 (15.4) | - | - |
| Overall height flat adapter [in (mm)] | 10.9 (276) | 10.9 (276) | 10.9 (276) | 7.7 (195) | 4.4 (101) | 10.9 (276) | 10.9 (276) | 10.9 (276) | 7.7 (195) | 4.4 (101) |
| Overall height double O-ring adapter [in (mm)] | 13.0 (329) | 13.0 (329) | 13.0 (329) | 10.0 (248) | - | 13.0 (329) | 13.0 (329) | 13.0 (329) | 10.0 (248) | - |
| Protective fleece (polyester) ³ | - | - | ✓/- | - | - | - | - | ✓/- | - | - |
| Cell spacer rail | - | - | ✓ | - | - | - | - | ✓ | - | - |

¹ Special stacked disc cartridge configuration with cell spacer rails providing increased mechanical stability for holding filter cake

² Calculated values (BECO depth filter sheets with 0.16 in/4.0 mm thickness) | ³ BECODISC B30C and C30C stacked disc cartridges: designs with protective fleece



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