

# AZUD HELIX AUTOMATIC FT4DCL DLP

## SELF-CLEANING DISC FILTRATION EQUIPMENT

### Working conditions

<b>Salinity</b>	< 6000 mg/l
<b>Max. working pressure</b>	10 bar (145 psi)
<b>Min. working pressure</b>	0.8 bar (11.6 psi)
<b>Min. backwash pressure</b>	1.5 bar (22 psi)
<b>Min. backwash flow</b>	5 l/s (79 gpm) per filter 4"
<b>Backwash duration</b>	20 – 30 s per filter 4"
<b>pH</b>	4 - 11
<b>Water temperature</b>	≤ 60 °C (140 °F)

### Filtration degrees (micron)

400	200	130	100	50	20	10	5
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**DLP** Technology  
Low Pressure Backflush

## DESCRIPTION

Self-cleaning disc filtration equipment composed by 3 to 12 filters AZUD HELIX AUTOMATIC Ø4" with discs AZUD MG/WS, which perform an in-depth 3D filtration, installed in-line on Ø6"-12" inlet/outlet manifolds. Includes Ø3" backwash valves 3-way membrane type and the innovative DLP TECHNOLOGY, that enable the sequential low-pressure backwashing of each filter using filtered water from the rest of filters of the equipment, while continues the filtered water supply downstream. The patented AZUD HELIX anti-clogging deflector provides a reliable filtration thanks to an effect of centrifugal separation, with less backwash frequency and less water and energy consumption.

Smart, compact and modular plug&play solution, made of technical thermoplastics, increases the shelf life of the installation providing a long-term operation with minimum operational costs and less maintenance downtime.



## APPLICATIONS



> Filtration in cooling towers



> Filtration in heat exchange systems



> Ultrafiltration membrane protection



> Make-up water filtration



> Media filters prefiltration

### HOW DO THEY WORK

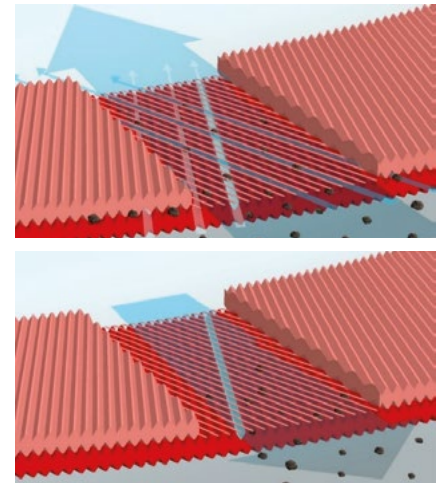
#### FILTRATION PHASE:

- Water flows from the inlet manifold to the inside of the filter, passing through the anti-clogging deflector AZUD HELIX, which throws the heavy particles away from the disc stack, avoiding the quick clogging of the filter and minimizing the backwash frequency.
- Water flows OUT-IN through the disc stack to the outlet manifold while particles bigger than the filtration degree are trapped in the discs.

#### SELF-CLEANING PHASE:

- When automatic backwash is activated, the pressurized water flows IN-OUT, decompressing the disc stack.
- High-speed flushing water flowing through the spray nozzles, creates a tangential cleaning effect that flush out the trapped particles.

▶ Check our YouTube channel for more details



### MODELS

Filtration area	Model	Q max. 50 µm* m³/h (gpm)	Q max. 130 µm* m³/h (gpm)	Connection	INLET AND OUTLET MANIFOLD		AZUD FBC control unit**
					DIN 2576	ANSI B16.5 CLASS 150	
9720 cm²	<b>FT4DCL3</b> 3 filters Ø4"	84 (370)	156 (687)	Ø6"	•	•	103/3
12960 cm²	<b>FT4DCL4</b> 4 filters Ø4"	112 (493)	160 (705) 208 (916)	Ø6" Ø8"	•	•	112/4
16200 cm²	<b>FT4DCL5</b> 5 filters Ø4"	140 (616)	160 (705) 240 (1057)	Ø6" Ø8"	•	•	112/5
19440 cm²	<b>FT4DCL6</b> 6 filters Ø4"	168 (740)	240 (1057) 312 (1374)	Ø8" Ø10"	•	•	112/6
22680 cm²	<b>FT4DCL7</b> 7 filters Ø4"	196 (863)	240 (1057) 364 (1603)	Ø8" Ø10"	•	•	112/7
25920 cm²	<b>FT4DCL8</b> 8 filters Ø4"	224 (986)	240 (1057) 380 (1673)	Ø8" Ø10"	•	•	112/8
29160 cm²	<b>FT4DCL9</b> 9 filters Ø4"	252 (1110)	380 (1673) 468 (2061)	Ø10" Ø12"	•	•	112/9
32400 cm²	<b>FT4DCL10</b> 10 filters Ø4"	280 (1233)	380 (1673) 520 (2290)	Ø10" Ø12"	•	•	112/10
35640 cm²	<b>FT4DCL11</b> 11 filters Ø4"	308 (1356)	380 (1673) 572 (2519)	Ø10" Ø12"	•	•	112/11
38880 cm²	<b>FT4DCL12</b> 12 filters Ø4"	336 (1480)	380 (1673) 624 (2748)	Ø10" Ø12"	•	•	112/12

#### DRAINAGE MANIFOLD: Ø4" Grooved/PVC

\*Maximum flowrate is limited by the size and type of the auxiliary elements (manifold, flanges and valves).

\*\*AZUD FBC control unit not included with the equipment.

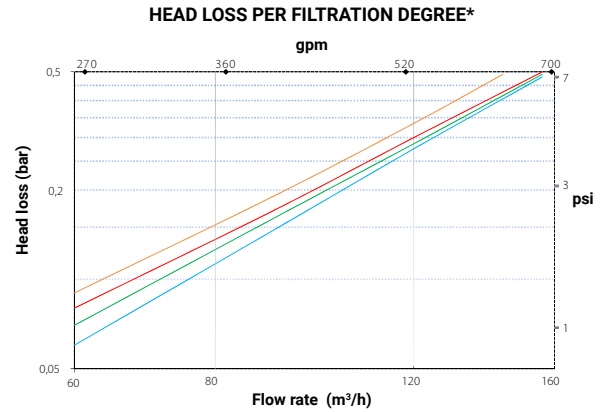
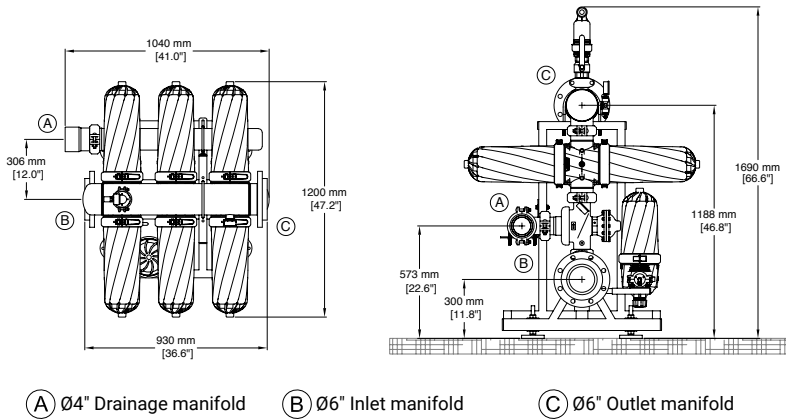
### MATERIALS OF CONSTRUCTION

Filters	Backwash valves Inlet/outlet/drainage manifolds	Scheme
<p><b>Ø4" Filters</b> (3-12 units)</p> <ul style="list-style-type: none"> <li>• MG/WS discs: PP/HDPE</li> <li>• Support structure: rPP</li> <li>• Base-lid: rPA</li> <li>• Spring: SS 302</li> <li>• Clamp: SS 304</li> <li>• Sealing o-rings: NBR/HDPE</li> </ul>	<p><b>Ø3" Valves</b> 3 way-membrane (1 unit / filter)</p> <ul style="list-style-type: none"> <li>• Body: rPA</li> <li>• Axis, seat and spring: SS</li> <li>• Sealing o-rings: NBR</li> <li>• Command: Hydraulic (H)</li> </ul> <p><b>Manifolds:</b> HDPE PE-100 <b>Flanges:</b> Aluminum</p>	

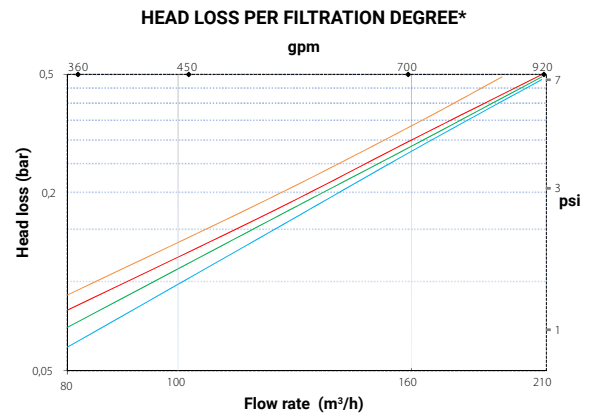
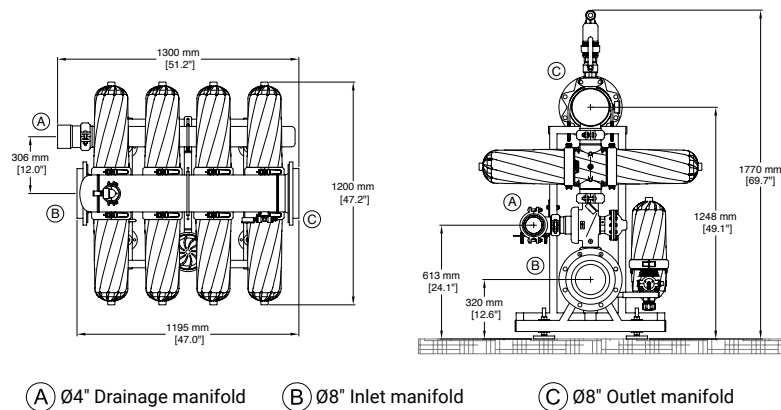
PP: Polypropylene rPP: Reinforced polypropylene SS: Stainless steel rPA: Reinforced polyamide HDPE: High density polyethylene NBR: Nitrile rubber

MICRON 100 130 200 400

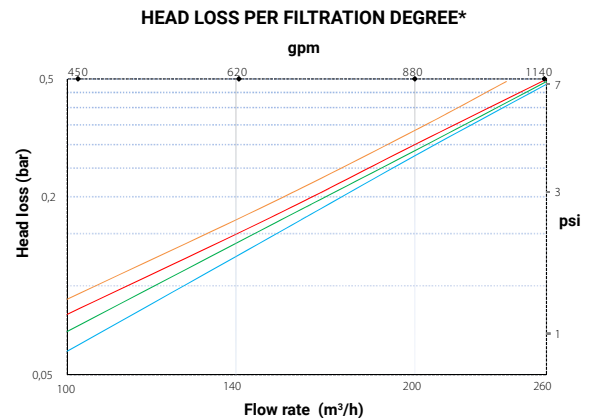
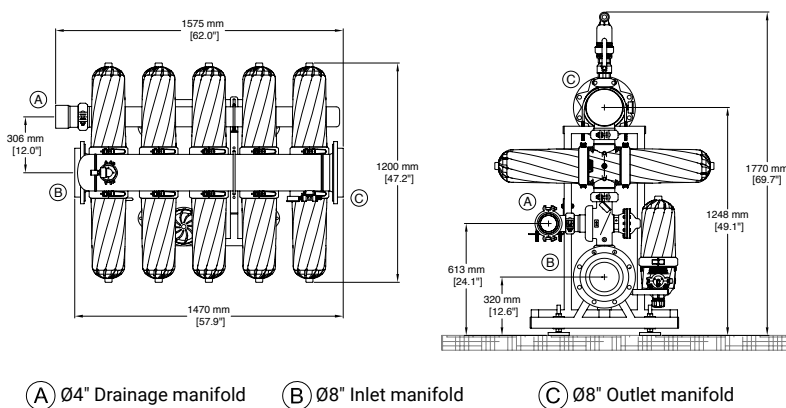
### FT4DCL3 DLP



### FT4DCL4 DLP



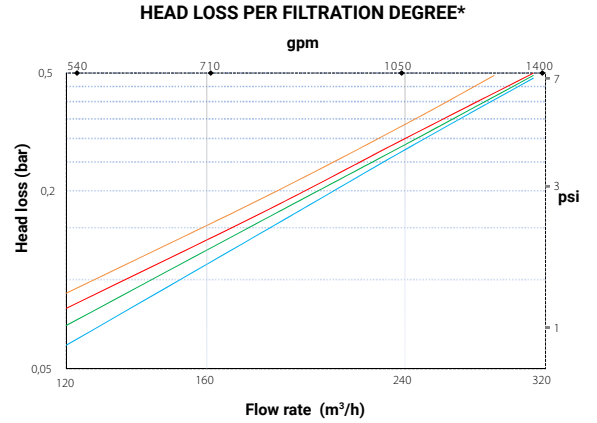
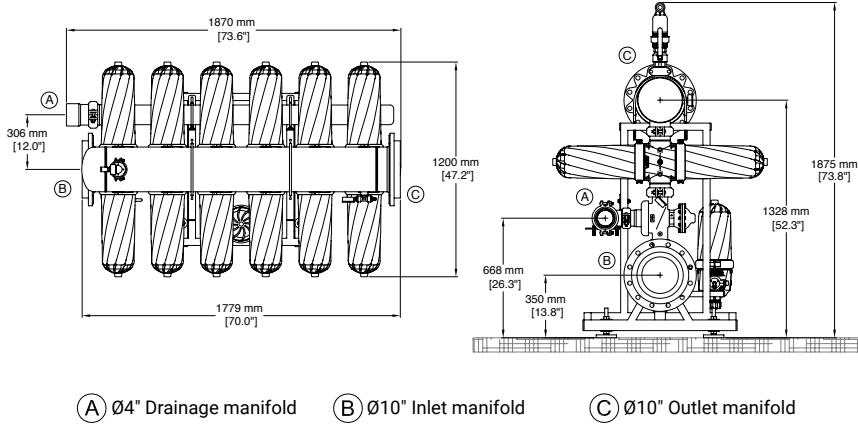
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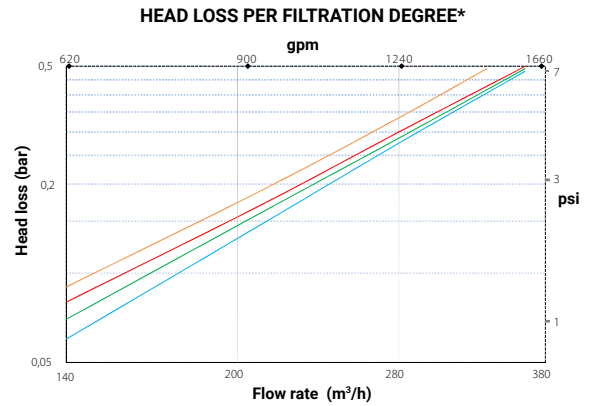
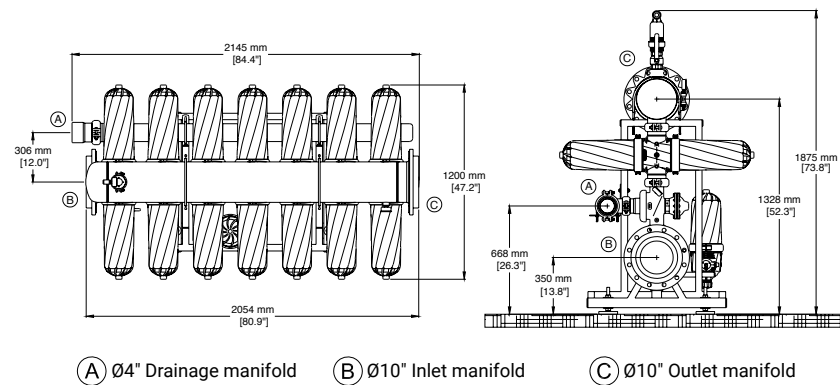
\*The backwash frequency depends on the design flowrate. For hydraulic calculation, consider the set-point value for the self-cleaning cycle (usually 0.5 bar/7.25 psi).

MICRON **100** **130** **200** **400**

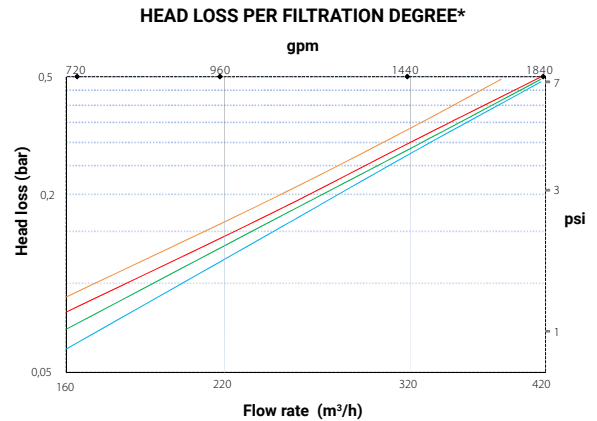
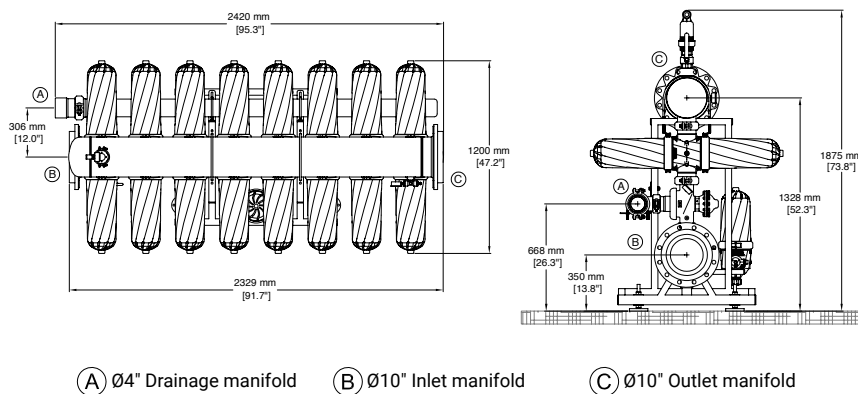
### FT4DCL6 DLP



### FT4DCL7 DLP



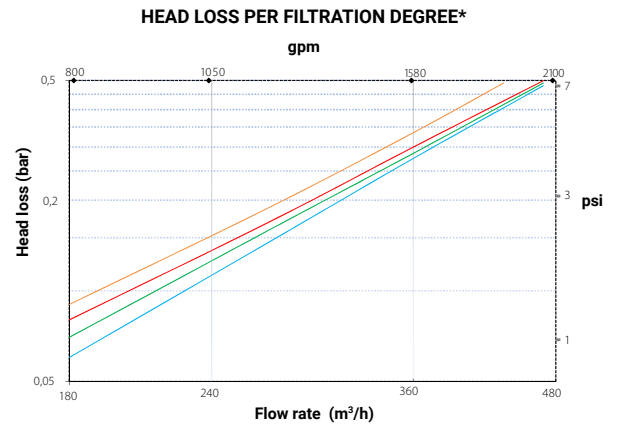
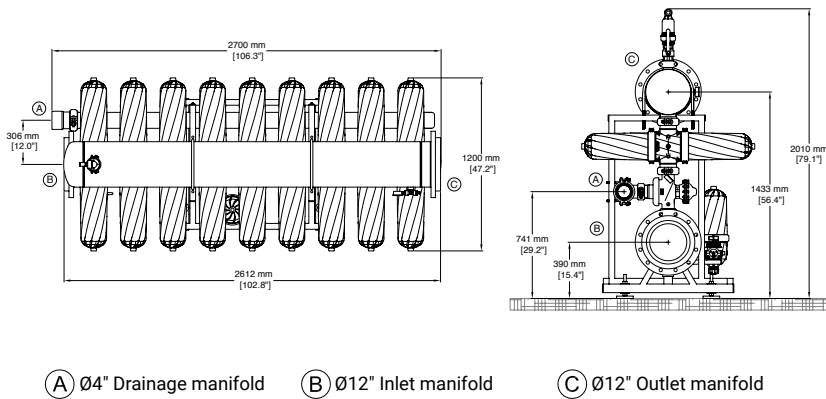
### FT4DCL8 DLP



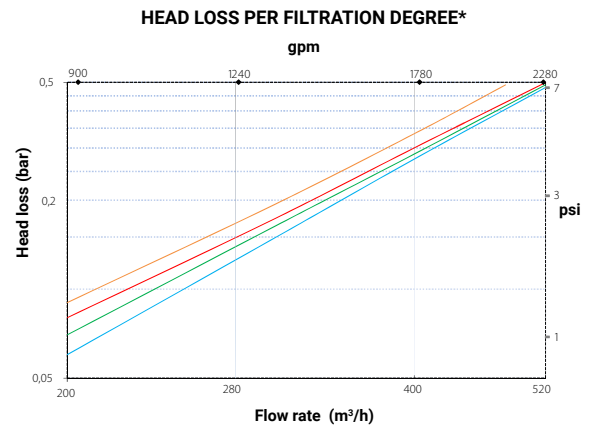
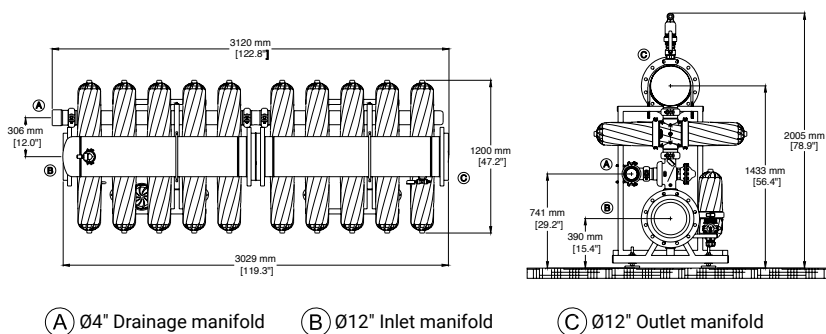
\*The backwash frequency depends on the design flowrate. For hydraulic calculation, consider the set-point value for the self-cleaning cycle (usually 0.5 bar/7.25 psi).

MICRON **100** **130** **200** **400**

### FT4DCL9 DLP



### FT4DCL10 DLP



\*The backwash frequency depends on the design flowrate. For hydraulic calculation, consider the set-point value for the self-cleaning cycle (usually 0.5 bar/7.25 psi).

**! ASK FOR OUR EQUIPMENT UP TO 12 FILTERS**



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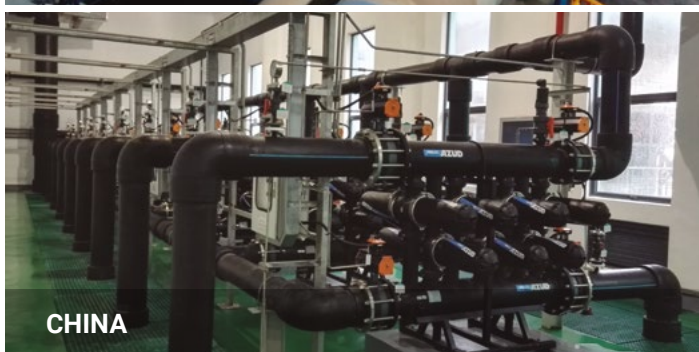
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