

AZUD HELIX AUTOMATIC FT200 AA DLP Filtration Equipment

The filtration equipment is included in **AZUD HELIX AUTOMATIC SERIE FT200 AA DLP (AIR ASSISTED)**. It is integrated by 2" SUPER self-cleaning disc filters with the HELIX system. The filtering elements are easily removable without tools. The housing is made of reinforced technical plastic; it has grooved connections and two three-ways hydraulic valves per filter, especially designed and configured to self-clean mixing air and water. The equipment is supplied completely assembled through the necessary grooved couplings to the corresponding inlet, outlet, drainage and pressure manifolds; all of them manufactured of high density polyethylene (HDPE).

AZUD HELIX AUTOMATIC DLP allows the reduction of the energetic use of the filtration installations, increasing their performance and requiring a minimum consumption of pressure and flow rate on each backflushing in order to keep a maximum efficiency in a wide range of filtration grades.

Furthermore, with the HELIX system patented by AZUD, the frequency and intensity of the maintenance labours of the system are minimized. The energetic cost is dramatically reduced per filtered cubic meter within the installation, thus minimizing the environmental impact.

AZUD HELIX AUTOMATIC FT200 AA DLP equipment are designed to the installations where minimizing the volume of water used in the self-cleaning is a priority.

They permit to make a whole backflushing cycle making independent the backflushing system from the filtration circuit, and minimizing the volume of water used to the backflushing of each filter.

- Autonomous as much in the filtration process as in the self-cleaning process. Independent from pressure-flow rate conditions of the installation.
- They optimize the system hydraulically and energetically, reducing the implantation and operation costs within the installation.
 - High energetic efficiency. Especially designed to installations with reduced working values.
 - Minimal volume of water used by backflush cycle.
 - Maximum backflushing efficiency of the equipment in the shortest time.



Represented model: **AZUD HELIX AUTOMATIC FT203/4FX AA DLP**

Detailed description of the Filtration Equipment

The Filtration equipment is made up by:

- AZUD HELIX AUTOMATIC FT 2SV DLP Filter characterized by:

- Housing with 2" grooved connection, manufactured of reinforced technical plastic (polyamide 6 fibreglass reinforced).
- Lock system, with a clamp made of stainless steel and NBR sealing gasket, placed in the housing of the filter.
- DLP Filtering element, completely independent, easily removable, without tools, for eventual maintenance labours.
- Each filtering element is made by a stack of discs made of technical plastic, with a wide filtration surface, guaranteeing the in-depth filtration. The filtering surface is of 1620 cm²/251 in².
- AZUD HELIX. In the base of each stack of discs there is a device which generates a centrifugal helical movement that moves away the particles from the discs, which delays the filters clogging. The HELIX system patented by AZUD, optimises the performance and minimizes the frequency and intensity of the maintenance labour of the system.

- Manifolds of the FT200 AA DLP filtration equipment.

- Feed water manifold (inlet manifold), of diameter according to drawing. Manufactured of High Density Polyethylene (HDPE) PE-100 UNE 53966. Flange connection elements according to DIN 2576 / ANSI B16.5 CLASS 150 or grooved depending on the model. It incorporates grooved derivations, required to the connection of the inlet to the three-ways valves.
- Outlet manifold of diameter according to annex drawing made of High Density Polyethylene (HDPE) PE-100 UNE 53966. Flange connection elements according to DIN 2576 or grooved depending on the model. It incorporates grooved derivations, required to the connection of the outlet to the 3-ways valves.
- Drainage manifold of 3" diameter according to annex drawing, produced of high density polyethylene (HDPE) PE-100 UNE 53966. Grooved connection elements and / or to glue. It incorporates grooved derivations, required to the connection of the drain to the three-ways valves.
- Pressure manifold of 3" diameter according to annex drawing, manufactured of high density polyethylene (HDPE) PE-100 UNE 53966. It incorporates grooved derivations, required to the connection of the three-ways valves to the pressure manifold.

- Supports of the equipment characterized by:

- Structure manufactured of carbon steel with epoxy-polyester cover.

- Three-ways hydraulic valve per filter characterized by:

- Two three-ways hydraulic valve per filter in 2" grooved connection, manufactured of reinforced technical plastic, with internal components of stainless steel. Diaphragm made of reinforced nylon (NR-AL52) and NBR gaskets.

- Manometers characterized by:

- ¼" BSP glycerine manometer male thread. Bar/psi double scale (0 – 10 bar / 0 – 145 psi). The equipment includes two manometers per filtering elements (Inlet/Outlet), one on the pressure manifold and one on the auxiliary tank.



▪ Grooved couplings characterized by:

- Grooved couplings which allow the connection of all the components of the filter. Made of steel with epoxy-polyester cover.

▪ Auxiliary Tank

- Tank manufactured of AISI 304 stainless steel.

Likewise, in the installation it is necessary to have compressed air intakes at a recommended pressure of 6 bar/87 psi for the pneumatic command.

The equipment is supplied completely ready to its later automation.

AZUD equipment are manufactured fulfilling the requirements of our Quality and Environmental System (**SICMA**), focused to keep the highest quality level according to **ISO 9001** Standard specifications and keeping its Environmental compromise according to **ISO 14001** standard.

SICMA (Quality & Environmental System is audited and certified by the Spanish Association for Standardization & Certification (**AENOR**).

General Technical Data

WORKING CONDITIONS	
Max. Working pressure	10 bar / 145 psi
Min. Working pressure	0.8 bar / 11.6 psi
Air injection system Max. Pressure	6 bar/ 87 psi
Max. Temperature	60 °C / 140 °F
pH range	4 – 11

BACKFLUSHING PROCESS ⁽¹⁾	
Compressed air minimum requirements	4.5 bar / 65 psi
	18 l/s / 285 gpm
	5 – 8 s
Backflushing water volume per filter	10 l
	2.64 gallons

AZUD HELIX AUTOMATIC SERIE FT200 AA DLP equipment do not include compressed air system.

⁽¹⁾AZUD HELIX AUTOMATIC AA makes a whole backflushing cycle making the air assisted flushing system independent from the rest of the filtration circuit; minimizing the volume of water used for the self-cleaning process.



AZUD HELIX AUTOMATIC SERIE FT200 AA DLP					
Filtration degree 5– 10– 20– 50– 100 – 130 – 200 – 400 micron					
Model	Type of connection	N. of filters	Manifold Ø inlet/outlet	Filtering surface	Control Unit AZUD FBC*
FT202/3FX AA DLP	DIN Flange	2	3" – 90 mm	3240 cm ² 502 in ²	110/2 AA
FT202/3FA AA DLP	ANSI Flange				
FT202/3VX AA DLP	Grooved				
FT203/3FX AA DLP	DIN Flange	3	3" – 90 mm	4860 cm ² 753 in ²	110/3 AA
FT203/3FA AA DLP	ANSI Flange				
FT203/3VX AA DLP	Grooved				
FT203/4FX AA DLP	DIN Flange	3	4" – 110 mm	4860 cm ² 753 in ²	110/3 AA
FT203/4FA AA DLP	ANSI Flange				
FT203/4VX AA DLP	Grooved				
FT204/4FX AA DLP	DIN Flange	4	4" – 110 mm	6480 cm ² 1004 in ²	110/4 AA
FT204/4FA AA DLP	ANSI Flange				
FT204/4VX AA DLP	Grooved				
FT204/6FX AA DLP	DIN/ANSI Flange	4	6" – 160 mm	6480 cm ² 1004 in ²	110/4 AA
FT204/6VX AA DLP	Grooved				
FT205/4FX AA DLP	DIN Flange	5	4" – 110 mm	8100 cm ² 1255 in ²	110/5 AA
FT205/4FA AA DLP	ANSI Flange				
FT205/4VX AA DLP	Grooved				
FT205/6FX AA DLP	DIN/ANSI Flange	5	6" – 160 mm	8100 cm ² 1255 in ²	110/5 AA
FT205/6VX AA DLP	Grooved				
FT206/6FX AA DLP	DIN/ANSI Flange	6	6" – 160 mm	9720 cm ² 1506 in ²	110/6 AA
FT206/6VX AA DLP	Grooved				
FT207/6FX AA DLP	DIN/ANSI Flange	7	6" – 160 mm	11340 cm ² 1757 in ²	110/7 AA
FT207/6VX AA DLP	Grooved				
FT208/6FX AA DLP	DIN/ANSI Flange	8	6" – 160 mm	12960 cm ² 2008 in ²	110/8 AA
FT208/6VX AA DLP	Grooved				
FT208/8FX AA DLP	DIN/ANSI Flange	8	8" – 200 mm	12960 cm ² 2008 in ²	110/8 AA
FT208/8VX AA DLP	Grooved				
FT209/6FX AA DLP	DIN/ANSI Flange	9	6" – 160 mm	14580 cm ² 2259 in ²	110/9 AA
FT209/6VX AA DLP	Grooved				
FT209/8FX AA DLP	DIN/ANSI Flange	9	8" – 200 mm	14580 cm ² 2259 in ²	110/9 AA
FT209/8VX AA DLP	Grooved				



AZUD HELIX AUTOMATIC SERIE FT200 AA DLP Filtration degree 5 – 10 – 20 – 50 – 100 – 130 – 200 – 400 micron					
Model	Type of connection	Nº. of filters	Manifold Ø inlet/outlet	Filtering surface	Control Unit AZUD FBC*
FT210/6FX AA DLP	DIN/ANSI Flange	10	6" – 160 mm	14920 cm ² 2312 in ²	110/10 AA
FT210/6VX AA DLP	Grooved				
FT210/8FX AA DLP	DIN/ANSI Flange	10	8" – 200 mm	14920 cm ² 2312 in ²	110/10 AA
FT210/8VX AA DLP	Grooved				

Diameter of 3" – 90 mm for both pressure and drainage manifolds with grooved connection and/or solvent socket.

***Control Unit is not included with the filtration plant.**

DIN Flange: DIN 2576

ANSI Flange: B16.5 CLASS 150.

The designed flow rate per filtration element depends on the **filtration degree** and the **quality of the water** to be treated (See following table). In that case, the maximum flow rate for good water quality in each model is indicated depending on the filtration degree.

MAX. FLOW OF THE EQUIPMENT AZUD HELIX AUTOMATIC FT200 AA DLP [m ³ /h]								
MODEL	Filtration degree of the equipment MICRON*							
	5	10	20	50	100	130	200	400
FT201/2 AA DLP	6	7	9	17	24	24	24	24
FT202/3 AA DLP	12	14	18	34	40	40	40	40
FT203/3 AA DLP	18	21	27	40	40	40	40	40
FT203/4 AA DLP	18	21	27	51	72	72	72	72
FT204/4 AA DLP	24	28	36	68	72	72	72	72
FT204/6 AA DLP	24	28	36	68	96	96	96	96
FT205/4 AA DLP	30	35	45	72	72	72	72	72
FT205/6 AA DLP	30	35	45	85	120	120	120	120
FT206/6 AA DLP	36	42	54	102	120	120	120	120
FT207/6 AA DLP	42	49	63	120	120	120	120	120
FT208/6 AA DLP	48	56	72	120	120	120	120	120
FT208/8 AA DLP	48	56	72	136	192	192	192	192
FT209/6 AA DLP	54	63	81	120	120	120	120	120
FT209/8 AA DLP	54	63	81	153	216	216	216	216
FT210/6 AA DLP	60	70	90	120	120	120	120	120
FT210/8 AA DLP	60	70	90	170	220	220	220	220

*Max. Flow rate varies with the filtration degree and water quality. Consult EPAES|AZUD nominal flow rates for each case.

