

DISCSTAR® PV

DEPTH FILTER MODULE HOUSING

Special design for pharmaceuticals and other high purity applications



Characteristics

The DISCSTAR® is a high precision stainless steel filter housing for lenticular depth filter modules, designed and manufactured for heavy duty use – 24/7. The enclosed system allows high capacity depth filtration with no drip loss (no edge leaking). The double-o-ring sealing and bayonet interlock ensures highest integrity at easy handling. The pharma version has a slanted internal base plate for maximum draining. A broad variety of options will promote the ideal solution for your depth filtration process.

Applications

DISCSTAR® series filters are made for a broad field of solid liquid separation applications, with a solid content up to approx. 1%. Higher solid contents need precoat filtration or other technology as prefiltration. The technology is designed for high service life of filter media and equipment.

Its high filtration performance, top manufacturing quality and comprehensive set of certificates meet the high standards of sensitive applications such as:

- Biotech
- Pharmaceuticals (intermediates, API, vaccines, injectables...)
- Cosmetics
- Chemicals (hazardous liquids, solvents, glues, paints, inks, surfactants, process water...)

For many processes which need absolute microbiological retention, such as injectable pharmaceuticals, it is recommended to terminate the process with an absolute retention (0.45 or 0.2 µm) membrane cartridge.

Function principle

Depth filter module(s) are placed in a sealed housing. The inside of the module core is connected to the filtrate side and the void volume between module and dome is filled with unfiltrate. A differential pressure between the unfiltrate and filtrate side pushes the liquid in a constant flow through depth filter sheets inside the modules. When the modules are exhausted, the sheets are plugged with solid particles resulting in a differential pressure increases. This is the right time to regenerate or replace the module(s).

Module sizes / filter areas

Both DISCSTAR® 30 and 40 are available in different heights dependent upon the desired number of modules. The size (see below) indicates the maximum module capacity for each housing.

Filter area	Size 1	Size 2	Size 3	Size 4
Discstar® 30	1.8 m ² (16 sq ft)	3.6 m ² (38 sq ft)	5.4 m ² (57 sq ft)	7.2 m ² (76 sq ft)
Discstar® 40	n.a.	7.2 m ² (76 sq ft)	10.8 m ² (114 sq ft)	14.4 m ² (152 sq ft)

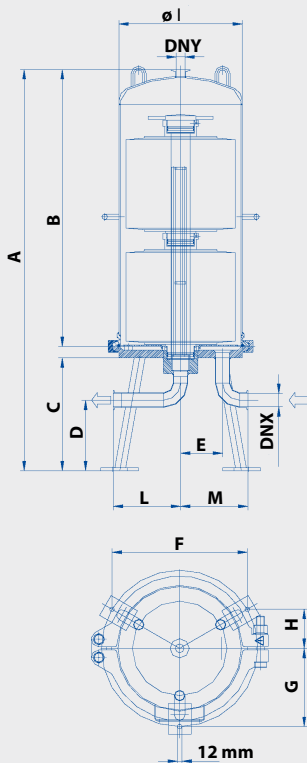
Technical data

DISCSTAR®	30	40
Module diameter	12"	16"
Max. operating pressure	10 bar/145 psi	
Max. operating temp.	140°C (280 °F)	
Inlet / outlet connection Sanitary clamps (triclamps)	1" (size 1) 1.5" (size 2-4)	2"
Module interlock	Double-o-ring (= Bayonet) (flat gasket upon request)	
Closing mechanism	Clamp ring for quick release (swing bolts upon request)	

Limiting factor for the Δp of a module filtration is the sheet grade and the application.

Material

DISCSTAR®	30	40
Stainless steel material (product contact)	AISI 316 L	
Other stainless steel parts	AISI 304	
Surface finish (inside)	Electro-polished, Ra<0.8 µm All welds ground smooth	
Surface finish (outside)	Electro polished Ra<1.2 µm	
Gaskets	EPDM	



[mm]	DISCSTAR® 30				DISCSTAR® 40		
	Size 1	Size 2	Size 3	Size 4	Size 2	Size 3	Size 4
A	691	1052	1327	1602	1362	1657	1953
B	446	726	1001	1276	772	1067	1363
C	215	296			562		
D	150	185			415		
E	110				164		
F	329	355			589		
G	190	205			340		
H	95	103			170		
I	324				450		
L	49	177			256		
M	159	177			256		
DNX	1" clamp	1.5" clamp ISO 2852			2" clamp ISO 2852		
DNY	1" clamp ISO 2852				1.5" clamp ISO 2852		

Vol./weight (approx.)	DISCSTAR® 30				DISCSTAR® 40		
	Size 1	Size 2	Size 3	Size 4	Size 2	Size 3	Size 4
Void Vol. [l]	30	52	76	99	109	154	199
Empty [kg]	59	68	78	88	119	130	141
Full [kg]	89	120	154	187	228	284	340
Dome [kg]	20	28	36	45	41	52	63

FILTROX quality assurance

FILTROX assures the best quality control according to international standards:

- ISO 9001 (Quality management)

Certificates and special documentation

Typically for pharmaceutical or near pharmaceutical applications we provide the following documents on request:

- EU Guideline 89/392/EWG
- Material certificate 2.2 or 3.1 B (only for material in direct contact with the product)
- Surface roughness (< 0.8 µm[Ra])

Optional certificates

Optional we can provide the following certificates:

- ASME (U-Stamp)
- Guideline ATEX 94/9/EG
- Pressure vessel guideline DGR 97/23/EG
- Ferrite measurements
- Welder certificate
- Color penetration test
- Pickle protocol

Options

The typical setup requires gauges and valves, as well as a check valve.

DISCSTAR® is available in many options:

- Closing mechanism can be a single bolt clamp ring with pressure vessel certificate (only 12") or swing bolts (12" and 16" versions).
- Connections can be triclamp (sanitary), or Dairy (DIN).
- Housings with a higher edge at the base plate help avoiding spillage of hazardous liquids.

- For filtrations with controlled temperature (cooling or heating) we recommend a double shell dome for temperature controlled liquid.

- For larger filter area, DISCSTAR® is also available as a multistack housing. (Up to 4 stacks, 4 high, 16" under one dome).

- Gaskets: EPDM (standard), silicone, viton® or teflon® encapsuled silicone

Converter adaptors

Converters from «double-o-ring» to «flat adaptors are available for both directions. They can be quickly and easily applied.



Options of closing mechanisms:

Left: single bolt clamp ring. Right: swing bolts.

Your FILTROX dealer:

The information contained in this pamphlet is up-to-date at the time of release. However, each end user is requested to check the suitability of their product(s) with the types of filtration mentioned in this leaflet. Technical modifications are reserved.