



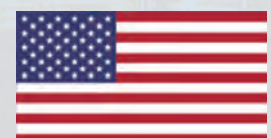
HiPerFlon® LINED COLUMNS

For more than 30 years we have been a “world leader” in the manufacture of paste extruded PTFE and PFA lined equipment including piping, fittings, columns, bellows, valves, sight glasses, sampling systems and associated equipment.

Our core customer base consists of chemical, chlor-alkali, bromine, fluorine, agricultural-chemical, petrochemical, pharmaceutical, biotechnology, pulp and paper, and metals refining industries.

CRP products are often installed in conjunction with our lined columns as modern chemical processes require multi-purpose function and performance which typically is not available from traditional companies.

The introduction of our HiPerflon® paste extruded (molecular and mechanically enhanced) PTFE and PFA lined, large diameter columns for critical processes such as strong acids, caustic, bromine, and fluorine at 200° C is a testimonial to our customer focused commitment. Our seamless, 10 mm thick, HiPerflon® linings offer unparalleled, internal corrosion resistance and the absolute lowest rate of permeation, thus significantly enhancing the safety, reliability, and integrity of our customer’s processes and facilities. Our proprietary and unique PFA molded nozzle sections are manufactured in one piece and eliminate the need for PTFE welding and the additional leak paths associated with a multi-piece lined nozzle design.



HiPerFlon® Lined Column Design



Design Standards

PD 5500

ASME VIII Division 1 (including ASME U designator)

EN 13445

Where appropriate all columns will be CE marked under the PED. When none of the above applies columns will be manufactured to sound engineering practice.

Welding Standards

ASME IX

EN 15614-1

Construction Elements

Flat PFA lined cover with one or more PFA lined nozzles

PFA lined column sections with PFA lined nozzles

PTFE lined straight column sections without nozzles

Flat PFA lined bottom with one or more PFA lined nozzles

Materials of construction

Body	EN 10216/7-2 P235 GH TC1/2 EN 10216/7-2 P265 GH TC1/2 API 5L Grade B
Flanges	EN 10222-2 P245GH EN 10028-2 P235GH/P265GH EN 10273 P250GH ASTM A105
Lining	Virgin HiPerFlon® (Paste extruded PTFE and PFA)
PTFE	ASTM D4895 Minimum Tensile Requirements UTS 20,7MPa Elongation at Break 250 % in both directions. Specific Gravity in the range 2,14 - 2,17 Porosity Size average dia. 500 ± 200 µm
PFA	ASTM D3307 type II Minimum Tensile Requirements UTS 26 MPa and 300% Elongation at Break Specific Gravity in the range 2,12 - 2,17 Melt Flow Rate 1 - 3 g/10 mins
Options	Stainless Steel, Low Temperature Carbon Steel Anti-static Lining

Painting

The standard paint finish is a two component low VOC, high solids fast curing epoxy primer/finish containing zinc phosphate anti-corrosive pigment. Colour RAL 5015 Blue Semi-Gloss. Typical thickness 60 microns.

CRP can also apply multi-coat wet paint systems in ISO 12944 compliant paint systems based on selecting the corrosive environment and durability requirement.

Optional column internals

PTFE/PFA lined column ring for support grid mounting

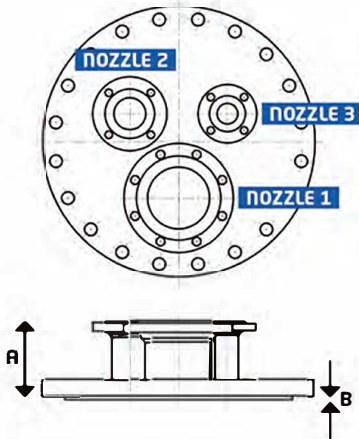
PTFE/PFA lined support grid or plate

Liquid distributors

Liquid re-distributors

Column packing

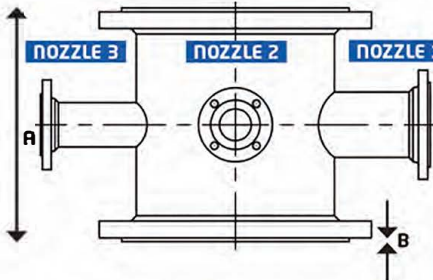
Column Cover and Bottom



Column Diameter		Nozzle 1 Diameter		Nozzle 2 & 3 Diameter		Length Dim. A [mm]	PFA Thickness (Column Flare) Dim. B [mm]
ASME 150	EN (DIN) PN10	Minimum	Maximum	Minimum	Maximum		
8" NB	DN200	1" NB/DN25	6" NB/DN150	1" NB/DN25	2" NB/DN50	150	7
10" NB	DN250		8" NB/DN200		2" NB/DN50		8
12" NB	DN300		10" NB/DN250		3" NB/DN80		10
14" NB	DN350		12" NB/DN300		3" NB/DN80		
16" NB	DN400		14" NB/DN350		4" NB/DN100		
18" NB	DN450		16" NB/DN400		4" NB/DN100		
20" NB	DN500		18" NB/DN450				

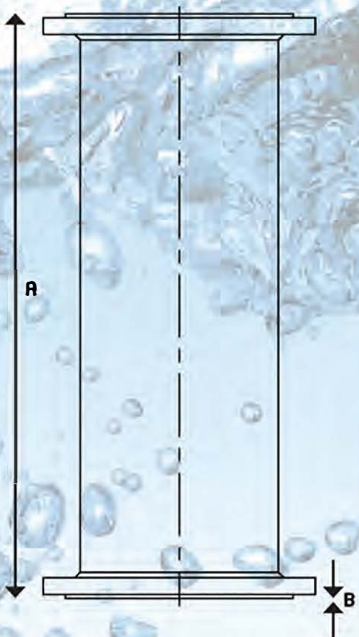
NB: Not all length, nozzle diameter combinations are possible

Column Inlet and Sump Section



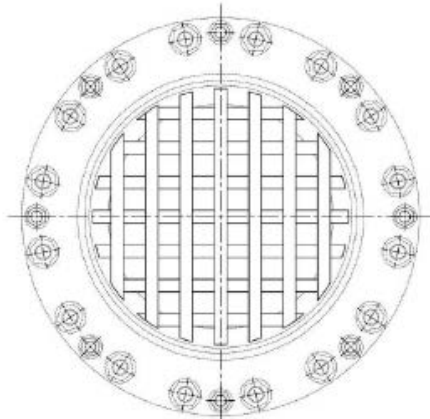
Column Diameter		Nozzle 1 Diameter		Nozzle 2 & 3 Diameter		Length Dim. A [mm] Max.	PFA Thickness (body) Dim. B [mm]
ASME 150	EN (DIN) PN10	Minimum	Maximum	Minimum	Maximum		
8" NB	DN200	1" NB/DN25	6" NB/DN150	1" NB/DN25	4" NB/DN100	460	9.5
10" NB	DN250		8" NB/DN200		6" NB/DN150	560	10
12" NB	DN300		10" NB/DN250		8" NB/DN200	610	
14" NB	DN350		12" NB/DN300		6" NB/DN150	710	
16" NB	DN400		14" NB/DN350		8" NB/DN200	700	
18" NB	DN450		14" NB/DN350		10" NB/DN250	700	
20" NB	DN500		12" NB/DN300			600	

NB: Not all length, nozzle diameter combinations are possible

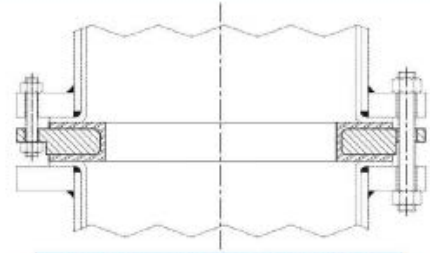
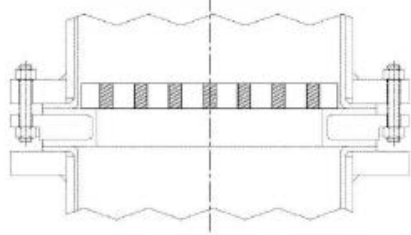


Column Packing Sections

Column Diameter		Length Dim. A [mm]		PTFE Thickness Dim. B [mm]	
ASME 150	EN (DIN) PN10	Minimum	Maximum	Heavy Duty	Standard Duty
8" NB	DN200	200	3000	8	4.6
10" NB	DN250			9.1	5.2
12" NB	DN300			10.4	5.3
14" NB	DN350		2500	8	5.5
16" NB	DN400				
18" NB	DN450				
20" NB	DN500	2000			



SUPPORT TRAY



LINED SUPPORT RING

Distributed By:



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