

NOVOX® ST

PLATE AND FRAME FILTER



Filter equipment for depth filter sheets and precoat filtration



Applications

There is a broad field of applications for NOVOX® series filters. Its high filtration performance, top manufacturing quality and comprehensive set of certificates meet the high standards of sensitive applications such as beverage, biotech or pharmaceutical industries. The NOVOX® can successfully operate in processes with high filter cakes as well as precoat filtration.

Operating conditions (filter)

NOVOX®	Noryl® elements	Stainless elements
Max operating temperature	95°C	110°C
Max pressure	5 bar	8 bar
Max differential pressure ($\Delta p_{\text{inlet-outlet}}$)	5 bar	6 bar

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

Characteristics

The NOVOX® is a high precision stainless steel plate & frame filter designed and manufactured for heavy duty use – 24/7.

The unique design of the NOVOX® allows for efficient handling. High precision construction of the plate & frame assembly, and the hydraulic closing mechanism, combined with high-performance FILTROX filter sheets, minimize drip-loss.

Function principle (plate and frame filter)

Plate and frame filters provide large filter areas on a relatively small footprint. The filter area is separated in single plates which form stacks. Every other plate and frame has an inlet or an outlet for the filtrate. The filtration is performed parallel over the whole surface.

Sheet sizes

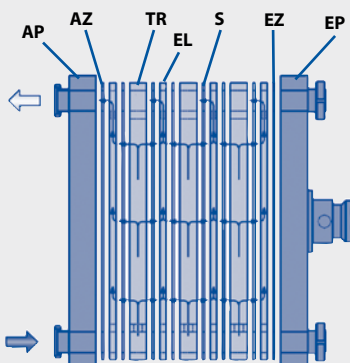
The NOVOX® is available for several different nominal sheet sizes:

NOVOX®	Sheet format (mm)
400 (H)	400 x 400
600	600 x 614

Both NOVOX® 400 H and NOVOX® 600 are available in three different support (chassis) lengths for various sizes of the filter stack and thus for different filter area.

Technical data

NOVOX®	400 (H)	600	
filter area per sheet	0.14	0.33	m ²
width per plate (stainless steel element)	8	8	mm
width per plate (Noryl® element)	12	12	mm
width per draff frame	40	40	mm
void volume per 8 mm plate	1	2.5	liter
void volume per draff frame	5.7	13.5	liter
weight per plate (8 mm element)	2.5	6	kg
weight per draff frame (40 mm)	7.7	13	kg
weight chassis size 1	476	1'477	kg
weight chassis size 2	498	1'532	kg
weight chassis size 3	530	1'574	kg
max. liquid volume size 1	81	374	liter
max. liquid volume size 2	156	581	liter
max. liquid volume size 3	228	740	liter



Schematic view of a precoat- filter-setup:

AP/EP: Supporting outer plates
AZ/EZ: first and last element in stack.

EL: Plates / Elements on wzpermeate side

TR: Draff frames, for precoat filtration or large filter cakes

S: Sheet

Material

Material in contact with product: stainless steel 304
..... or optional 316L/316 Ti

Other parts: stainless steel 304

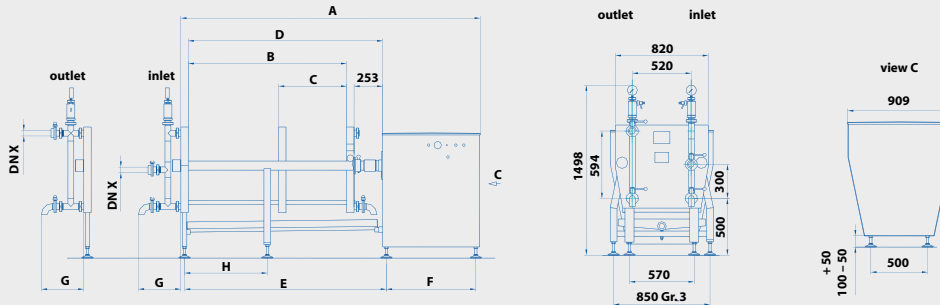
Optional: plastic filter elements: Noryl®

Dimensions

NOVOX® Filter is available in several models; each model is determined by the filter sheet size it accepts; 1) 400 mm filter sheet, and 2) 600 mm filter sheet. Each model of the NOVOX® filter is available in 3 different chassis lengths (size 1 – 3). The technical drawings below describe a NOVOX® 600. The letters are assigned to dimensions of the various models in the corresponding

spreadsheets below. The drawings can also be used for the NOVOX® 400 H, although its shape is slightly different from the 600 model.

The 400 H model is equipped with wheels instead of feet. Value «E» in the technical drawing indicates the lengthwise wheel distance.



All measures according to letters in the drawing in mm:

NOVOX® 400 H	Size 1	Size 2	Size 3
max. filter area (SF)	6.4 m ²	12.6 m ²	18.8 m ²
DN x	40	40	40
A	1569	2100	2753
B	636	1168	1680
C	460	460	600
D	886	1418	1930
E	1184	1715	2228
F	–	–	–
G	194	194	194
I	556	556	556
K	1431	1431	1431

NOVOX® 600	Size 1	Size 2	Size 3
max. filter area (SF)	33.7 m ²	52.8 m ²	67.3 m ²
DN x	50	50	65
A	2640	3530	4060
B	1397	2087	2617
C	600	800	800
D	1715	2405	2935
E	1780	2470	3000
F	789	989	989
G	374	374	414
I	909	909	909
K	1500	1500	1500

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:

- FDA certificate
- 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:

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



NOVOX® 600, plates and draff frames, loading with filter sheets.

Options

Connections	Closing mechanism	Elements / thickness [mm]
Triclamp	Hydraulic (electrical)	Noryl® / 12
Dairy fitting	Hydraulic (pneumatical) 	Stainless Steel / 8
Special	Manual Hydraulic (Only NOVOX® 400) 	Draff frames (stainless st. only)
	Manual (Only NOVOX® 400)	NOVOX® 400: 40, 25 or 15 mm
		NOVOX® 600: 40 or 25 mm