



## DFA™ Filter Assembly



### Description

The DFA filter assembly is a compact capsule assembly. It is ideally suited for the filtration of developer, EBR, and DI water, as well as for small volume batch processing.

- Low hold-up volume
- Vent at highest location
- Drain at lowest location
- High flow rates
- Manufactured in a cleanroom environment
- O-ringless design
- Minimized dead space for complete and easy venting

### Specifications

#### Materials

##### P-Nylon Filter

- Medium: Hydrophilic nylon 6,6
- Shell, core, cage, and end caps: Polypropylene
- Support and drainage: High Density Polyethylene (HDPE)

##### Emflon® Filter

- Medium: Hydrophobic PTFE
- Shell, core, cage, and end caps: Polypropylene
- Support and drainage: Polypropylene

##### Ultipor® Filter

- Medium: Hydrophilic nylon 6,6
- Shell, core, cage, and end caps: Polypropylene
- Support and drainage: Polypropylene

##### Fluorodyne® Filter

- Medium: Hydrophilic PVDF
- Shell, core, cage, and end caps: Polypropylene
- Support and drainage: Polypropylene

##### Asymmetric P-Nylon Filter

- Medium: Hydrophilic nylon 6,6
- Shell, core, cage, and end caps: Polypropylene
- Support and drainage: High Density Polyethylene (HDPE)

#### PE Kleen Filter

- Medium: Hydrophobic High Density Polyethylene (HDPE)
- Shell, core, cage, and end caps: Polypropylene
- Support and drainage: High Density Polyethylene (HDPE)

#### Removal Ratings

- P-Nylon filter: 0.1 µm, 40 nm
- Emflon filter: 0.2 µm, 0.1 µm, 0.05 µm
- Ultipor filter: 0.2 µm, 0.1 µm
- Fluorodyne filter: 0.2 µm, 0.1 µm
- PE-Kleen filter: 1.0 µm, 0.15 µm, 0.07 µm, 0.05 µm, 30 nm, 10 nm
- Asymmetric P-Nylon filter: 40 nm, 20 nm

#### Connections

Inlet, outlet / vent, drain

- ¼ in NPT / ⅜ in NPT
- ⅜ in Swagelok<sup>1</sup> / ¼ in Swagelok
- 6 mm Pillarfitting<sup>2</sup> / 4 mm Pillarfitting
- 8 mm Pillarfitting / 4 mm Pillarfitting
- ¼ in Pillarfitting / ¼ in Pillarfitting
- ⅜ in flare style / ¼ in flare style
- ⅜ in Pillarfitting / ¼ in Pillarfitting

#### Operating Conditions

Maximum operating pressure:

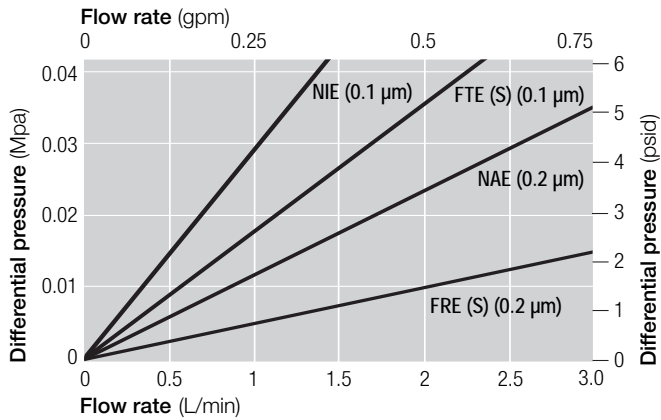
- 0.5 MPa (75 psid) @ 38°C (100°F)

<sup>1</sup> Swagelok is a trademark of Swagelok Co.

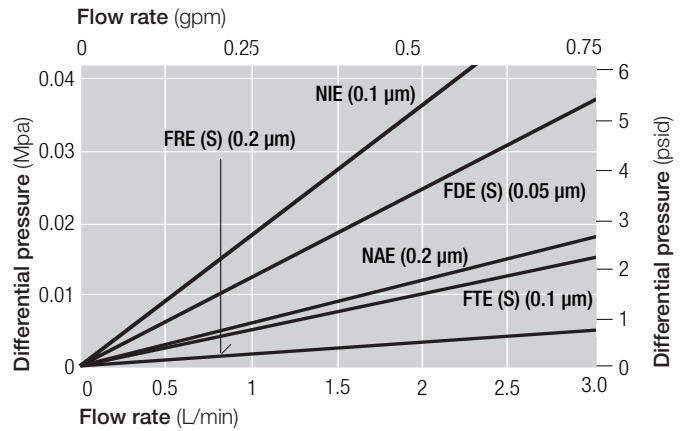
<sup>2</sup> Pillarfitting is a trademark of Nippon Pillar Packing Co., Ltd.

## Pressure Drop vs. Liquid Flow Rate<sup>3</sup>

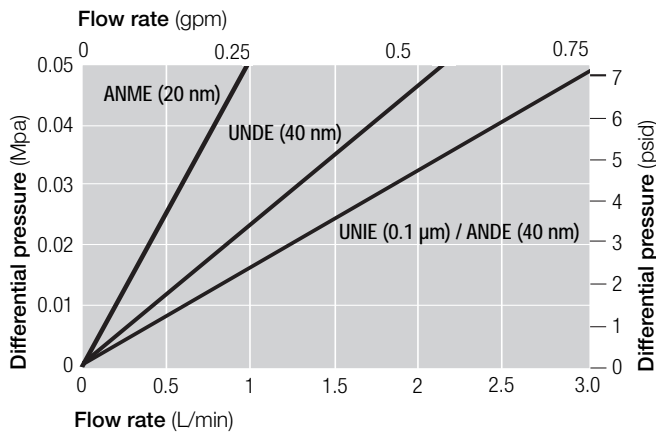
Emflon Filters / Ultipor Filters DFA4201/DFA1 Series



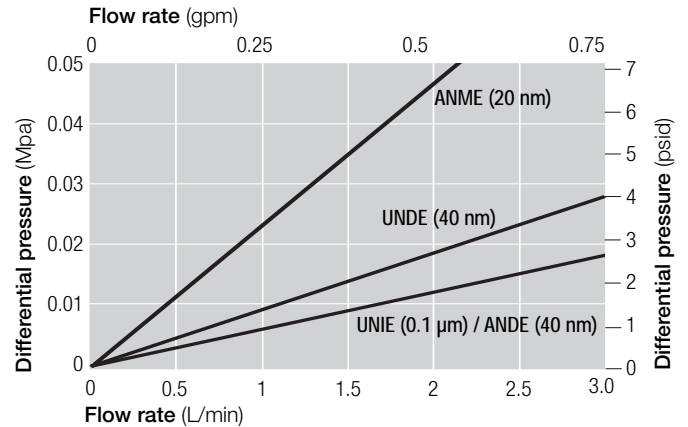
Emflon Filters / Ultipor Filters DFA2/DFA6402 Series



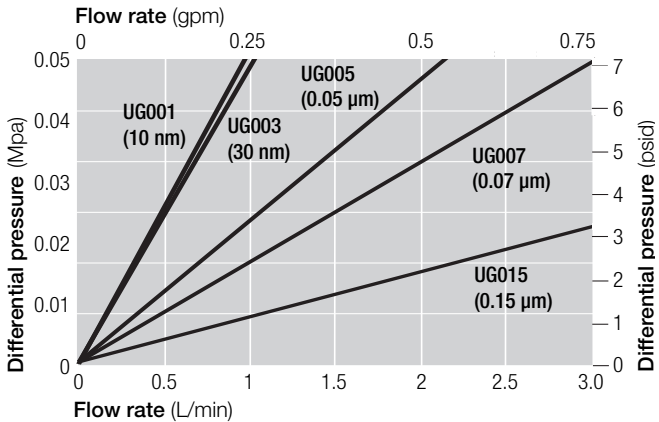
P-Nylon Filters / Asymmetric P-Nylon Filters DFA4201/DFA1 Series



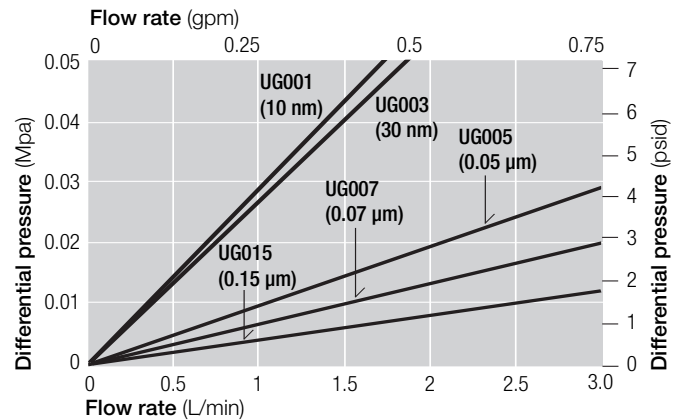
P-Nylon Filters / Asymmetric P-Nylon Filters DFA2/DFA6402 series



PE-Kleen Filters DFA4201/DFA1 Series

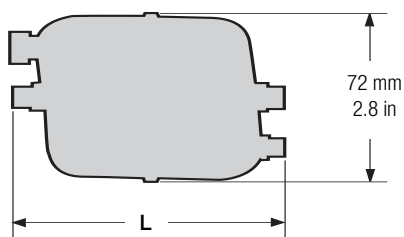


PE-Kleen Filters DFA2/DFA6402 Series

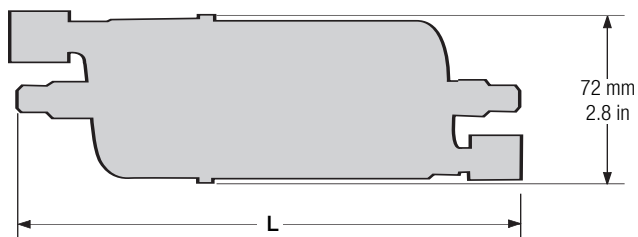


<sup>3</sup> For liquids with a different viscosity from water, multiply the pressure drop by the viscosity in centipoise.

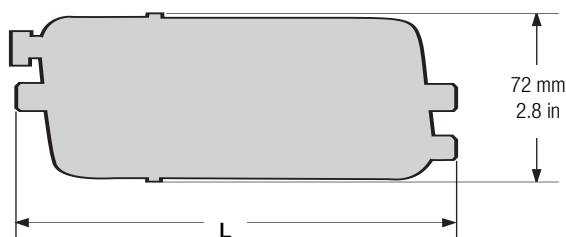
## Dimensions



DFA1/DFA4201



DFA2 with EFL64<sup>4</sup>



DFA6402/DFA2

<sup>4</sup> Other membrane filter materials are available.

## Part Numbers / Ordering Information

Part Number	Removal Rating	Filter Area (cm <sup>2</sup> / in <sup>2</sup> )	Connections Inlet, Outlet / Vent, Drain	Nominal Length (L) (mm / in)
<b>Emflon Filter (PTFE Media / Polypropylene Support and Drainage Layer)</b>				
DFA1FRESSW44	0.2 µm	1300 / 200	¼ in Swagelok / ¼ in Swagelok	114.5 / 4.51
DFA4201FRES	0.2 µm	1300 / 200	¼ in NPT / ⅝ in NPT	114.5 / 4.51
DFA1FTESNP64M	0.1 µm	1300 / 200	6 mm Pillarfitting / 4 mm Pillarfitting	116.8 / 4.60
DFA1FTESNP84M	0.1 µm	1300 / 200	8 mm Pillarfitting / 4 mm Pillarfitting	121 / 4.76
DFA4201FTES	0.1 µm	1300 / 200	¼ in NPT / ⅝ in NPT	114.5 / 4.51
DFA6402FTES	0.1 µm	2600 / 400	⅜ in Swagelok / ¼ in Swagelok	173 / 6.80
DFA1FDESNP64M	0.05 µm	1300 / 200	6 mm Pillarfitting / 4 mm Pillarfitting	116.8 / 4.60
DFA1FDESNP84M	0.05 µm	1300 / 200	8 mm Pillarfitting / 4 mm Pillarfitting	121 / 4.76
DFA4201FDES	0.05 µm	1300 / 200	¼ in NPT / ⅝ in NPT	114.5 / 4.51
DFA6402FDE	0.05 µm	2600 / 400	⅜ in Swagelok / ¼ in Swagelok	173 / 6.80
DFA6402FDES	0.05 µm	2600 / 400	⅜ in Swagelok / ¼ in Swagelok	173 / 6.80
<b>Asymmetric P-Nylon Filter (Asymmetric Nylon 6,6 Media / HDPE Support and Drainage)</b>				
DFA1ANDENP64M	40 nm	2500 / 388	6 mm Pillarfitting / 4 mm Pillarfitting	116.8 / 4.60
DFA6420ANDE	40 nm	5300 / 822	⅜ in Swagelok / ¼ in Swagelok	173 / 6.80
DFA2ANDEFL64	40 nm	5300 / 822	⅜ in flare style / ¼ in flare style	214.5 / 8.40
DFA2ANDENP64R	40 nm	5300 / 822	⅜ in Pillarfitting / ¼ in Pillarfitting	194 / 7.62
DFA1ANMENP64M	20 nm	2500 / 388	6 mm Pillarfitting / 4 mm Pillarfitting	116.8 / 4.60
DFA2ANMENP64R	20 nm	5300 / 822	⅜ in Pillarfitting / ¼ in Pillarfitting	194 / 7.62
DFA6402ANME	20 nm	5300 / 822	⅜ in Swagelok / ¼ in Swagelok	173 / 6.80

Part Number	Removal Rating	Filter Area (cm <sup>2</sup> / in <sup>2</sup> )	Connections Inlet, Outlet / Vent, Drain	Nominal Length (L) (mm / in)
<b>P-Nylon Filter (Nylon 6,6 Media / HDPE Support and Drainage Layer)</b>				
DFA4201UNAE	0.2 µm	1800 / 279	¼ in NPT / ⅛ in NPT	114.5 / 4.51
DFA4201UNIE	0.1 µm	1800 / 279	¼ in NPT / ⅛ in NPT	114.5 / 4.51
DFA1UNIENP64M	0.1 µm	1800 / 279	6 mm Pillarfitting / 4 mm Pillarfitting	116.8 / 4.60
DFA1UNIENP84M	0.1 µm	1800 / 279	8 mm Pillarfitting / 4 mm Pillarfitting	121 / 4.76
DFA6402UNIE	0.1 µm	3700 / 574	¾ in Swagelok / ¼ in Swagelok	173 / 6.80
DFA4201UNIE	0.1 µm	1800 / 279	¼ in NPT / ⅛ in NPT	114.5 / 4.51
DFA2UNIEFL64	0.1 µm	3700 / 574	¾ in flare style / ¼ in flare style	214.5 / 8.40
DFA1UNDENP64M	40 nm	2200 / 341	6 mm Pillarfitting / 4 mm Pillarfitting	116.8 / 4.60
DFA1UNDNP84M	40 nm	2200 / 341	8 mm Pillarfitting / 4 mm Pillarfitting	121 / 4.76
DFA6402UNDE	40 nm	4600 / 713	¾ in Swagelok / ¼ in Swagelok	173 / 6.80
DFA2UNDEFL64	40 nm	4600 / 713	¾ in flare style / ¼ in flare style	214.5 / 8.40
DFA2UNDENP64R	40 nm	4600 / 713	¾ in Pillar / ¼ in Pillar	194 / 7.62
DFA2UNDENP84M	40 nm	4600 / 713	8 mm Pillar / 4 mm Pillar	199 / 7.83
<b>Ultipor Filter (Nylon 6,6 Media / Polypropylene Support and Drainage Layer)</b>				
DFA1NAEYSW44	0.2 µm	1390 / 215	¼ in Swagelok / ¼ in Swagelok	114.5 / 4.51
DFA6402NAEY	0.2 µm	2600 / 400	¾ in Swagelok / ¼ in Swagelok	173 / 6.80
DFA1NIEYNP64M	0.1 µm	1390 / 215	6 mm Pillarfitting / 4 mm Pillarfitting	116.8 / 4.60
DFA1NIEYNP84M	0.1 µm	1390 / 215	8 mm Pillarfitting / 4 mm Pillarfitting	121 / 4.76
DFA1NIEYSW44	0.1 µm	1390 / 215	¼ in Swagelok / ¼ in Swagelok	114.5 / 4.51
DFA6402NIEY	0.1 µm	2600 / 400	¾ in Swagelok / ¼ in Swagelok	173 / 6.80
<b>Fluorodyne Filter (PVDF Media / Polypropylene Support and Drainage Layer)</b>				
DFA4201V002EY	0.2 µm	1300 / 202	¼ in NPT / ⅛ in NPT	114.5 / 4.51
DFA4201V001EY	0.1 µm	1300 / 202	¼ in NPT / ⅛ in NPT	114.5 / 4.51
DFA1V001EYSW44	0.1 µm	1300 / 202	¼ in Swagelok / ¼ in Swagelok	114.5 / 4.51
<b>PE Kleen Filter (HDPE Media / HDPE Support and Drainage Layer)</b>				
DFA6402UG100E	1.0 µm	4400 / 682	¾ in Swagelok / ¼ in Swagelok	173 / 6.80
DFA4201UG015E	0.15 µm	2200 / 341	¼ in NPT / ⅛ in NPT	114.5 / 4.51
DFA4201UG007E	0.07 µm	2200 / 341	¼ in NPT / ⅛ in NPT	114.5 / 4.51
DFA6402UG007E	0.07 µm	4400 / 682	¾ in Swagelok / ¼ in Swagelok	173 / 6.80
DFA4201UG005E	0.05 µm	2200 / 341	¼ in NPT / ⅛ in NPT	114.5 / 4.51
DFA6402UG005E	0.05 µm	4400 / 682	¾ in Swagelok / ¼ in Swagelok	173 / 6.80
DFA6402UG003E	30 nm	4400 / 682	¾ in Swagelok / ¼ in Swagelok	173 / 6.80
DFA2UG001EFL4	10 nm	5100 / 791	¾ in flare style / ¼ in flare style	214.5 / 8.40

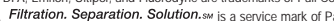


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