

# PhotoKleen™ EZD Filter Assembly



Data Sheet MEEZDENg

## Description

The PhotoKleen™ EZD filter is designed for clean, simple, safe and fast filter change outs in point-of-use photochemical dispense applications. The PhotoKleen™ EZD filter assembly consists of a head manifold interface and an HDPE (High Density Polyethylene) capsule filter. It is ideal for improving the performance of existing installations and can be specified on new, state-of-the-art dispense pumps. The XP option is available for advanced lithography processes.

## Features & Benefits

- Low hold-up volume
- Manufactured in a cleanroom environment
- Capsule-style filter assembly
- Top in / top out flow direction
- Quick filter disconnect (one step)
- Minimized dead space
- Reduces chemical waste during filter start up and change out
- Minimized organic extractables by XP option for rapid start-up and reducing chemical waste
- XP option quarantees low organic, metal and particle cleanliness for the most advanced processes



Filter Capsules

## Specifications (Filter Capsules)

### Materials of Construction

Components	Materials
Filter Medium	P-Nylon : Hydrophilic Nylon 6,6 PE-Kleen : High Density Polyethylene (HDPE) P Emflon : PTFE
Support and Drainage	High Density Polyethylene (HDPE)
Core, Cage and End Caps	High Density Polyethylene (HDPE)
Housing	High Density Polyethylene (HDPE)
O-ring	Perfluoroelastomer

Removal Ratings (nm)	P-Nylon	PE-Kleen	P Emflon	
	2, 5, 10, 20, 40, 0.1 µm, 0.2 µm	2, 5, 10, 30, 50	50, 0.1 µm, 0.2 µm	
Nominal Filter Areas	PHD22	XN2L : 2900 cm <sup>2</sup>	2800 cm <sup>2</sup>	
		HXN5 : 1900 cm <sup>2</sup>		
		AN01, ANM : 2500 cm <sup>2</sup>		
	AND : 2500 cm <sup>2</sup>	UG003 : 2200 cm <sup>2</sup>		
	PHD44	UNI, UNA : 1960 cm <sup>2</sup>	UG005 : 3200 cm <sup>2</sup>	4400 cm <sup>2</sup>
		XN2L : 5900 cm <sup>2</sup>	UG2, UG5 : 5200 cm <sup>2</sup>	
HXN5 : 4100 cm <sup>2</sup>		UG001 : 5100 cm <sup>2</sup>		
	AN01, ANM, AND : 5300 cm <sup>2</sup>	UG003 : 4400 cm <sup>2</sup>		
	UNI, UNA : 3340 cm <sup>2</sup>	UG005 : 5400 cm <sup>2</sup>		
Maximum Forward Differential Pressure	0.27 MPa @ 20 °C / 39 psid @ 60 °F		0.34 MPa @ 23 °C / 49 psid @ 73 °F	
Maximum Operating Temperature*	23 °C / 73 °F			
Maximum Operating Pressure	0.39 MPaG @ 23 °C / 57 psig @ 73 °F			

\*If you plan to operate at parameters that are outside of the stated parameters in the data sheet, please consult Pall.

## Part Numbers / Ordering Information (Filter Capsules)

PHD 1 2 E 3 4 5

**Table 1**

Code	Length (Nominal)	
	mm	inch
22	99	3.9
44	159	6.3

**Table 2**

Code	Filter Media	Removal Ratings
XN2L		2 nm
HXN5		5 nm
AN01	P-Nylon (Asymmetric Nylon 6,6)	10 nm
ANM		20 nm
AND		40 nm
UNI	P-Nylon (Nylon 6,6)	0.1 µm
UNA		0.2 µm
UG2		2 nm
UG5		5 nm
UG001	PE-Kleen (HDPE)	10 nm
UG003		30 nm
UG005		50 nm
UFD		50 nm
UFT	P-Emflon (PTFE)	0.1 µm
UFR		0.2 µm

**Table 3**

Code	O-ring materials <sup>1</sup>
H11	Perfluoroelastomer

<sup>1</sup> Additional O-ring options are available on request. Please contact your Pall Sales and Services representative.

**Table 4**

Code	Head Manifold Connections
absent	1/4", 3/8", 6 mm, 8 mm
-2	1/2", 10 mm

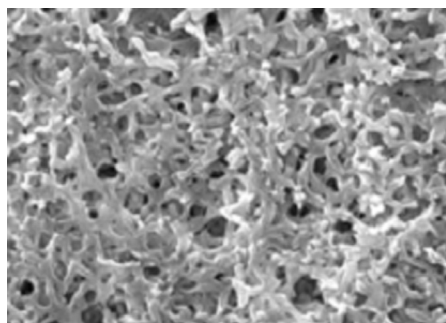
**Table 5**

Code	Cleanliness Options
absent	standard products
-XP	low organic, metal and particle cleanliness

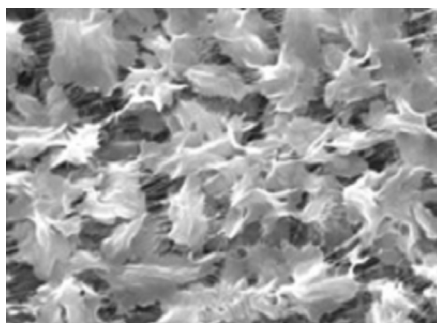
**Caution:** For optimal filtration performance, it is recommended to replace your filters at-least once a year. Annual replacements will reduce the potential of any leakages that may result due to prolonged chemical exposure. Pall warrants its filters for a period of 1 year from the date of shipment.

## Filter Media Electron Micrograph

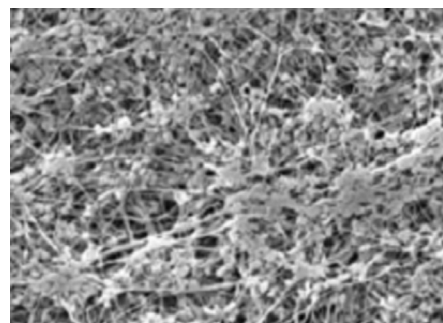
P-Nylon (Nylon 6,6)



PE-Kleen (HDPE)

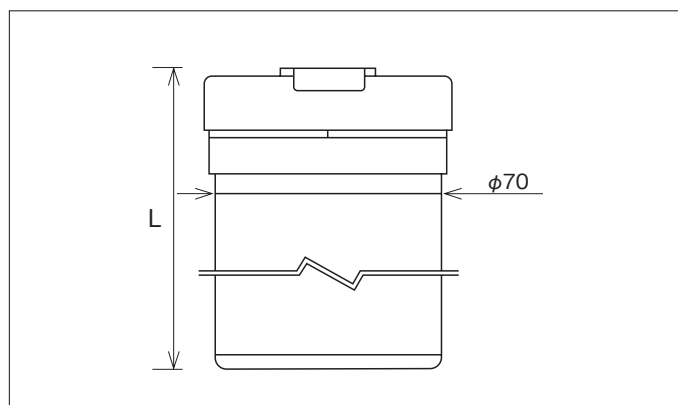


P Emflon (PTFE)

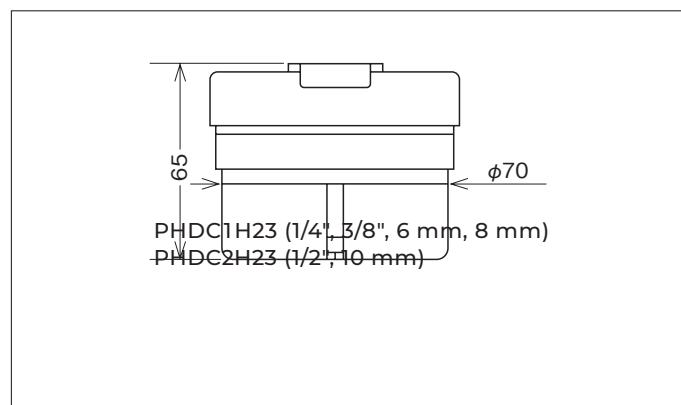


## Dimensions

Filter Capsule



Dummy Capsule



## Specifications (Head Manifold)

### Materials of Construction

Components	Materials
Head	Polypropylene (Non Wetted)
Fitting	PTFE / PFA
Ring-nut	SCS13 equivalent (with knob for handling aids)



Head Manifold, Filter Capsule, Dummy Capsule

### Connections

Type	Inlet / Outlet	Vent
Super Pillar <sup>2</sup> type	1/4" (6.35 x 3.9 mm) Elbow union	1/4" (6.35 x 3.9 mm) Elbow union
	3/8" (9.53 x 6.3 mm) Elbow union	
	1/2" (12.7 x 9.5 mm) Elbow union	
	1/4" (6.35 x 3.9 mm) Straight union	
	3/8" (9.53 x 6.3 mm) Straight union	
Flowell <sup>3</sup> 60 series	1/4" (6.35 x 3.9 mm) Fitting	1/4" (6.35 x 3.9 mm) Fitting
	6 x 4 mm Fitting	4 x 3 mm Fitting
	8 x 6 mm Fitting	
	10 x 8 mm Fitting	
	6 x 4 mm Fitting	
10 x 8 mm Fitting	6 x 4 mm Fitting	

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

<sup>3</sup> Flowell is a trademark of Flowell Co.,Ltd.

## Part Numbers / Ordering Information (Head Manifold)

PHYG 1

**Table 1**

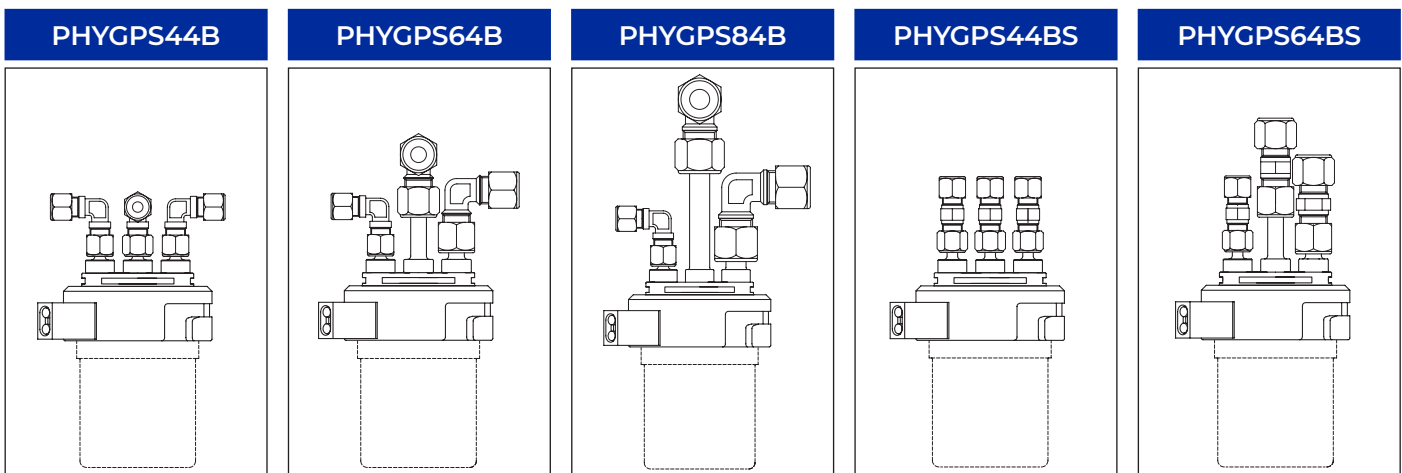
Code	Inlet / Outlet	Vent
PS44B	1/4" (6.35 x 3.9 mm) Super Pillar Elbow union	
PS64B	3/8" (9.53 x 6.3 mm) Super Pillar Elbow union	1/4" (6.35 x 3.9 mm) Super Pillar Elbow union
PS84B	1/2" (12.7 x 9.5 mm) Super Pillar Elbow union	
PS44BS	1/4" (6.35 x 3.9 mm) Super Pillar Straight union	1/4" (6.35 x 3.9 mm) Super Pillar Straight union
PS64BS	3/8" (9.53 x 6.3 mm) Super Pillar Straight union	
FS44B	1/4" (6.35 x 3.9 mm) Flowell 60 Fitting	1/4" (6.35 x 3.9 mm) Flowell 60 Fitting
FS64MB	6 x 4 mm Flowell 60 Fitting	
FS84MB	8 x 6 mm Flowell 60 Fitting	4 x 3 mm Flowell 60 Fitting
FS104MB	10 x 8 mm Flowell 60 Fitting	
FS66MB	6 x 4 mm Flowell 60 Fitting	6 x 4 mm Flowell 60 Fitting
FS106MB	10 x 8 mm Flowell 60 Fitting	

### Spare Parts

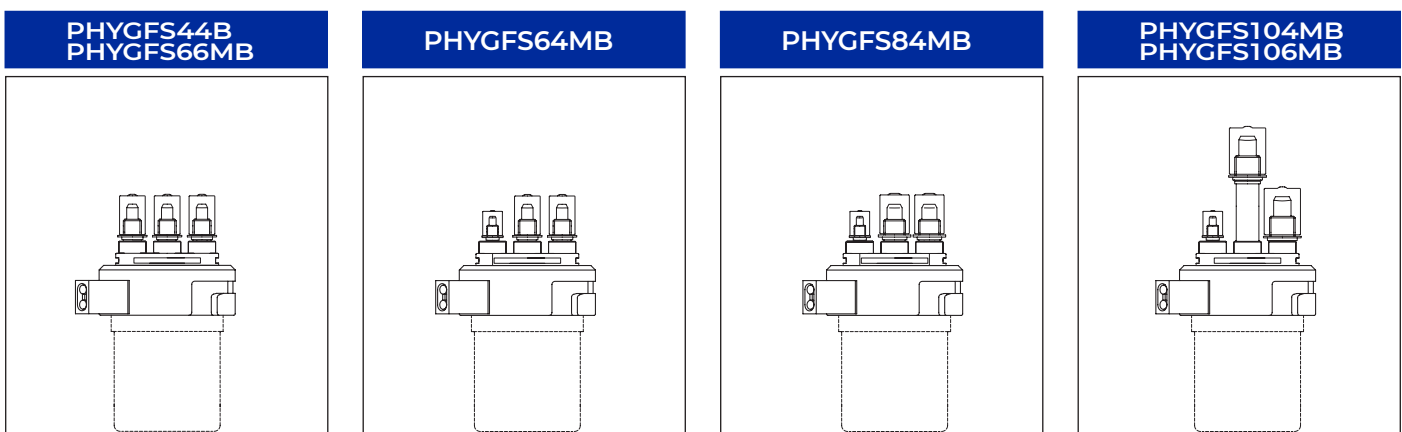
Product Name	Part Number	Applicable Head Manifold
Dummy Capsule	PHDC1H23	PHYGPS44B(S), PHYGPS64B(S), PHYGFS64MB, PHYGFS64MB
	PHDC2H23	PHYGFS66MB, PHYGFS84MB
Mounting Bracket	PHFGBRACKET14	All

### Dimensions

#### Super Pillar fitting

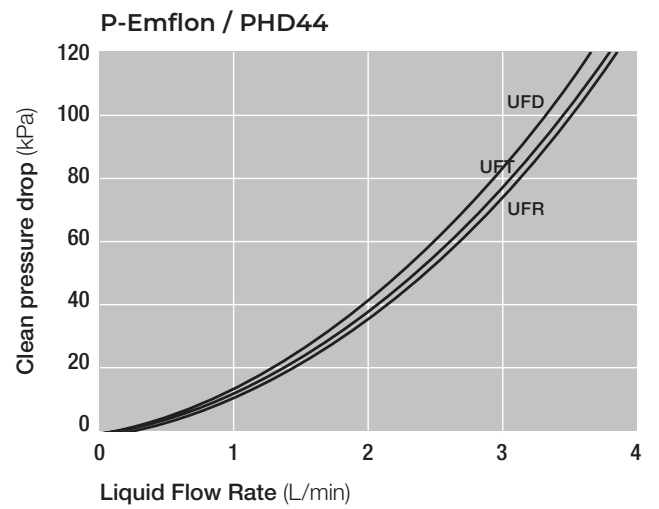
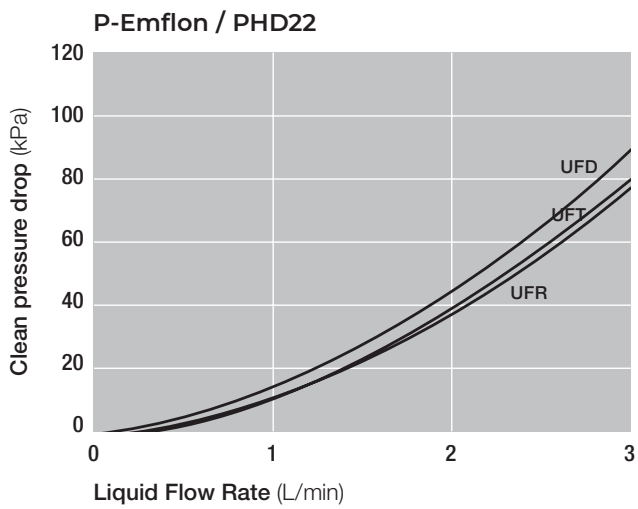
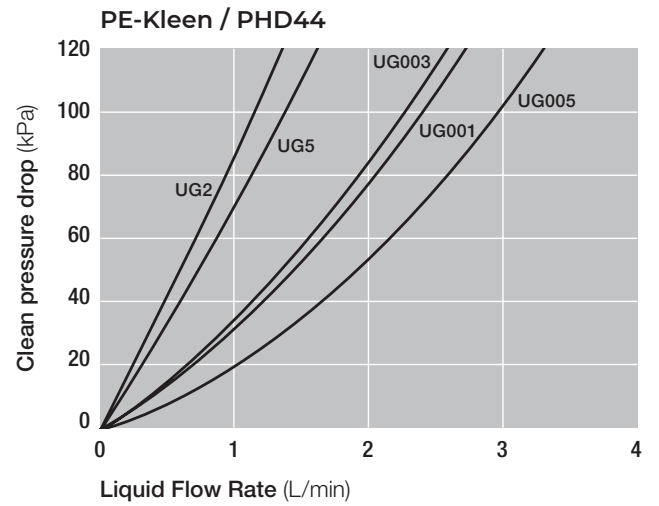
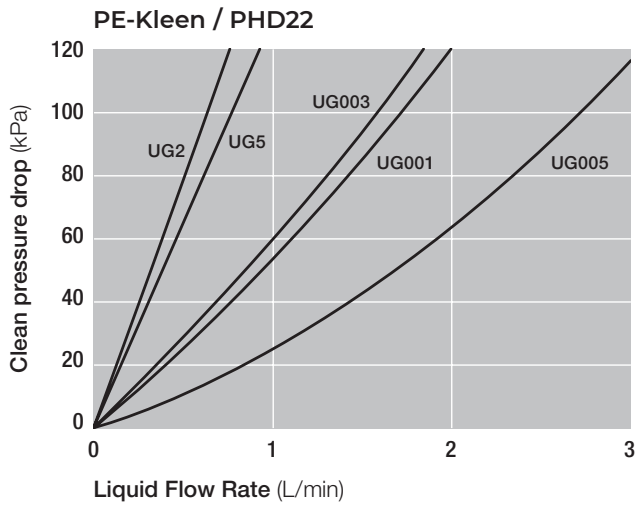
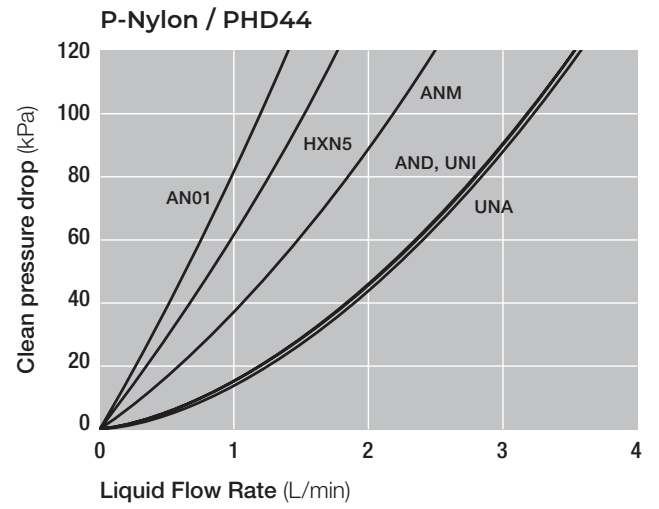
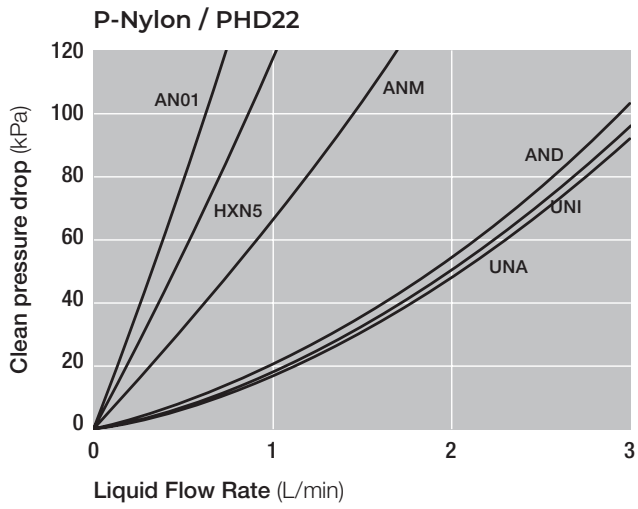


#### Flowell 60 fitting



# Typical Flow Characteristics - 1cP fluid, 20 °C

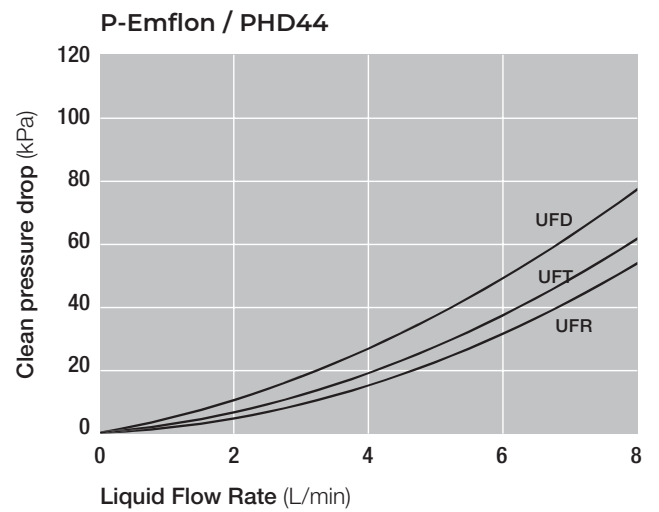
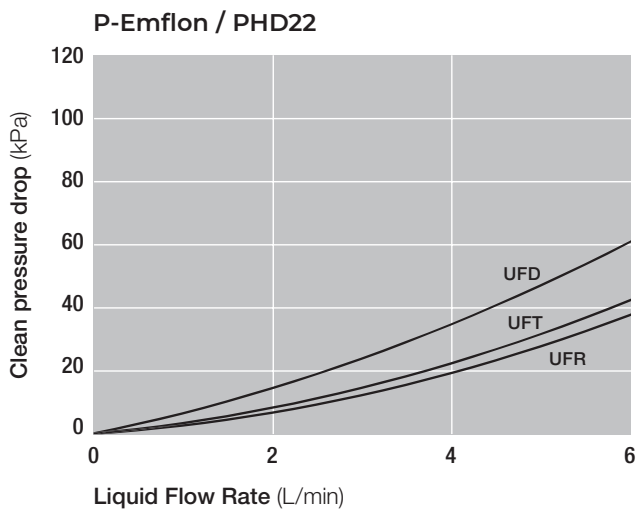
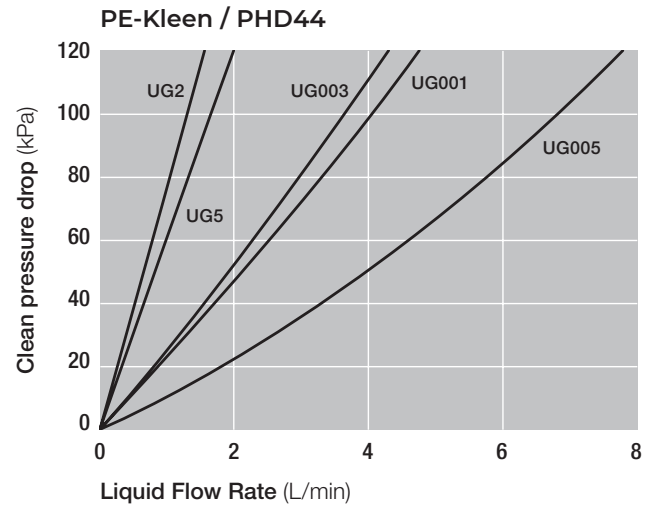
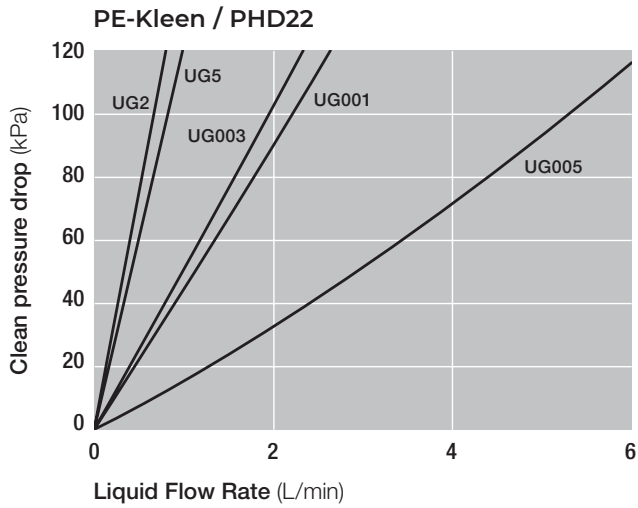
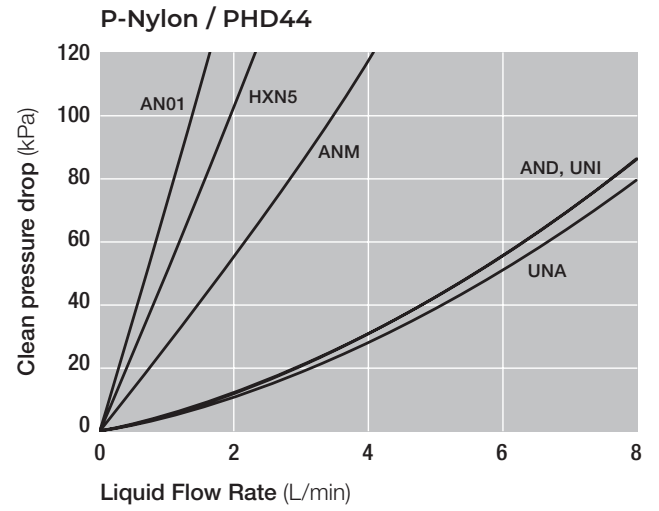
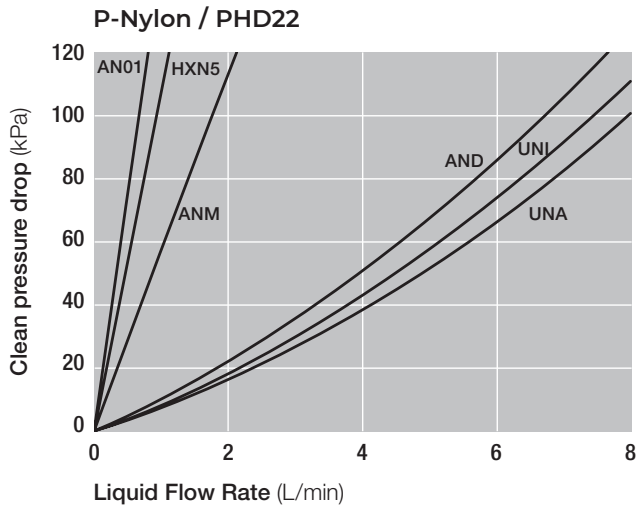
## 1/4" Super Pillar fitting : PHYGPS44B PHYGPS44BS



# Typical Flow Characteristics - 1cP fluid, 20 °C

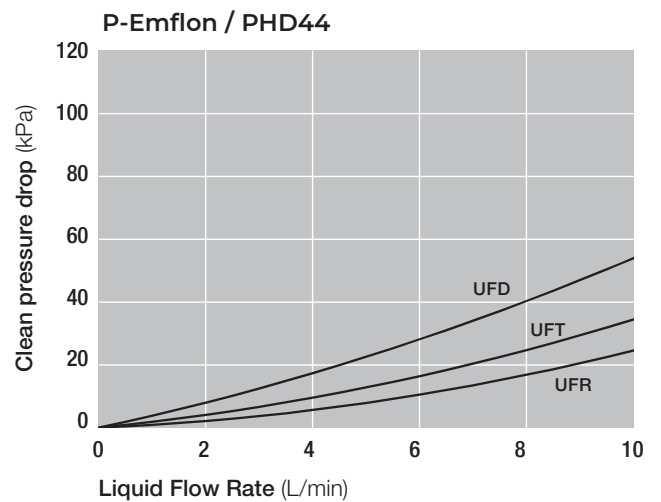
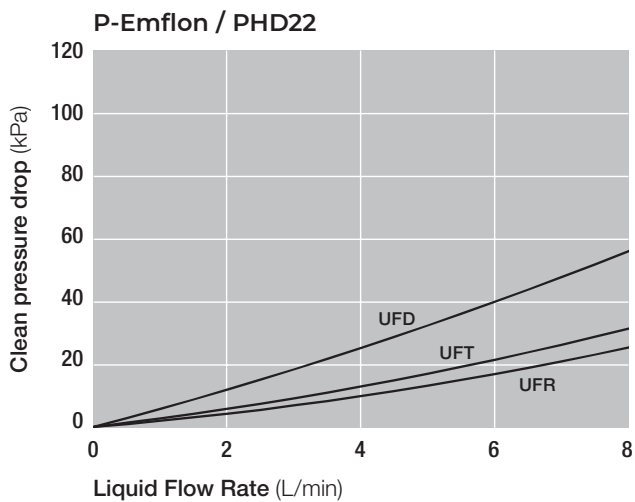
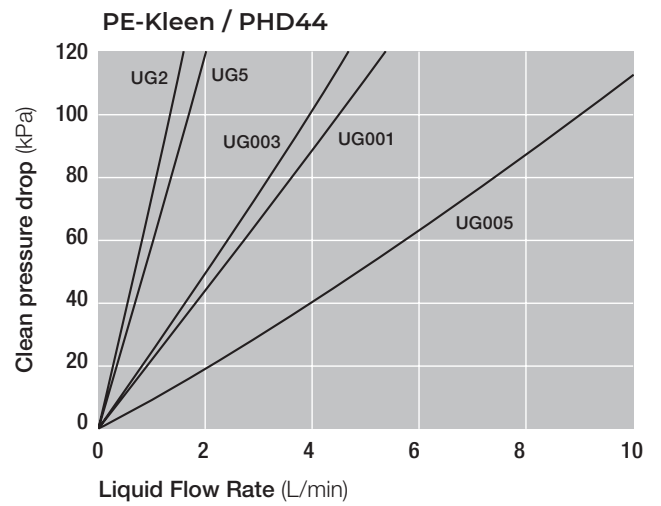
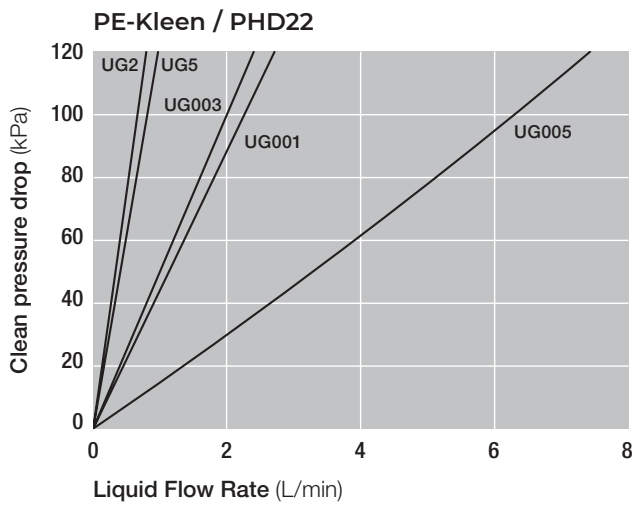
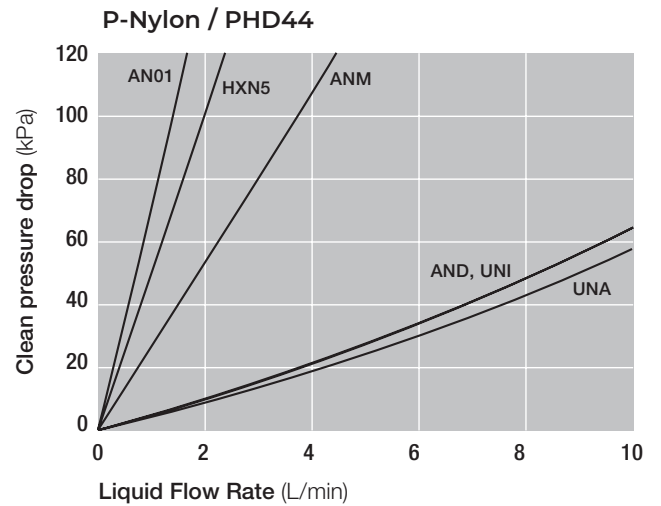
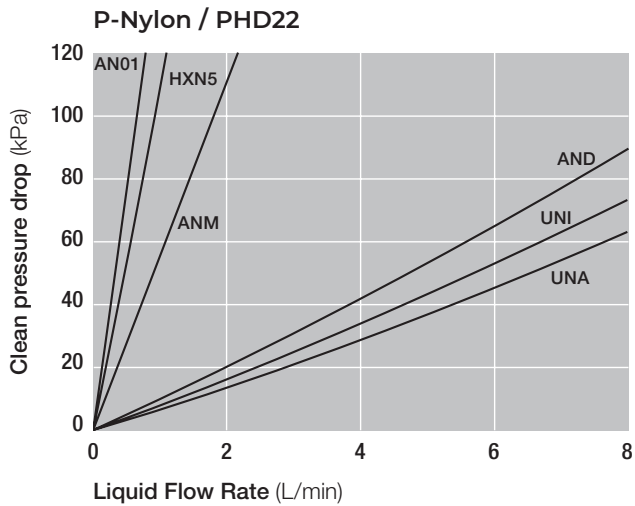
3/8" Super Pillar fitting : PHYGPS64B

PHYGPS64BS



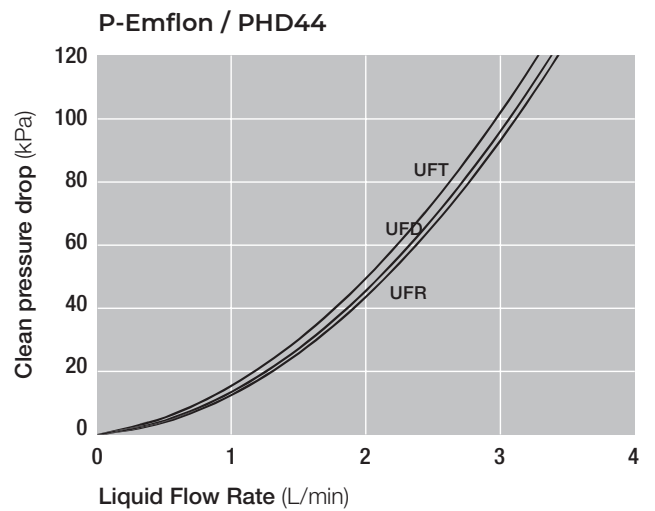
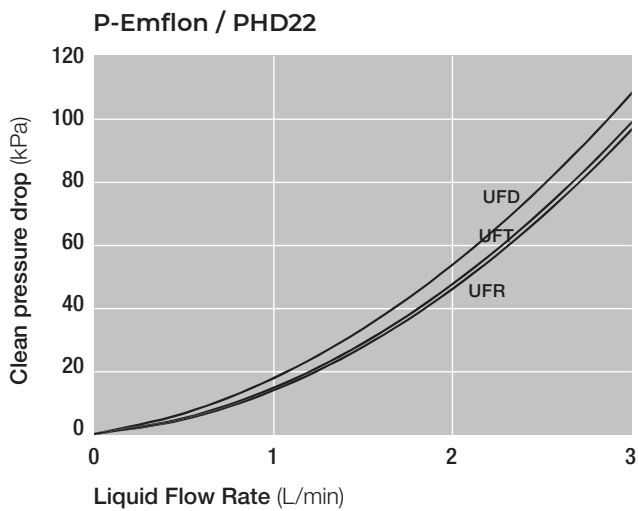
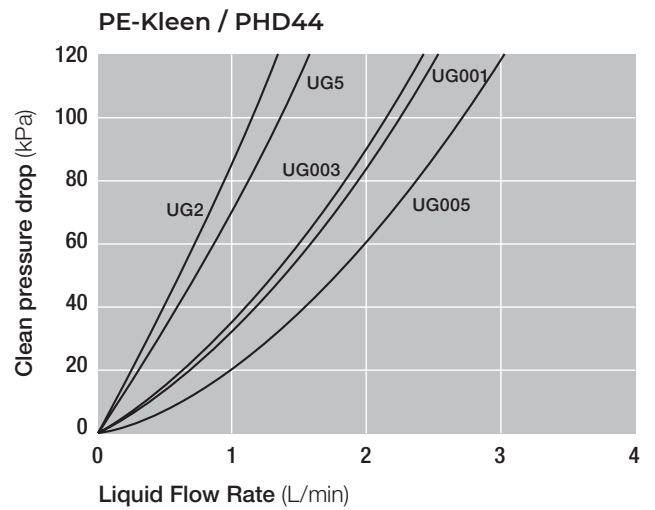
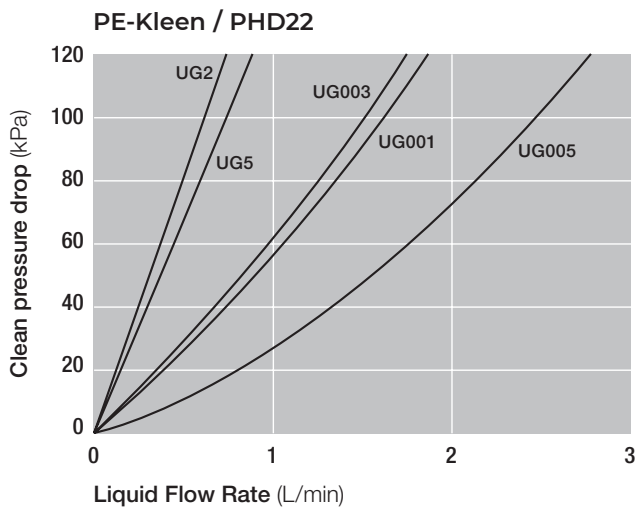
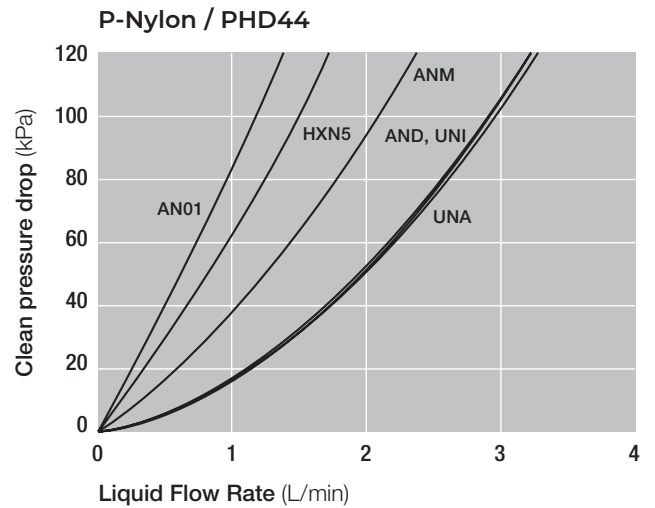
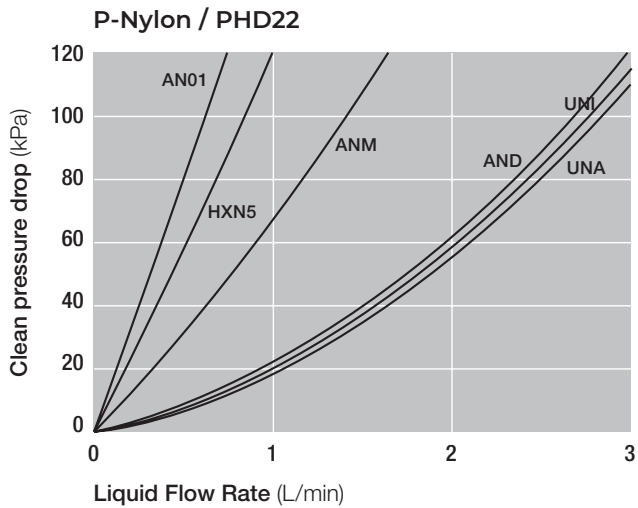
# Typical Flow Characteristics - 1cP fluid, 20 °C

## 1/2" Super Pillar fitting : PHYGPS84B



# Typical Flow Characteristics - 1cP fluid, 20 °C

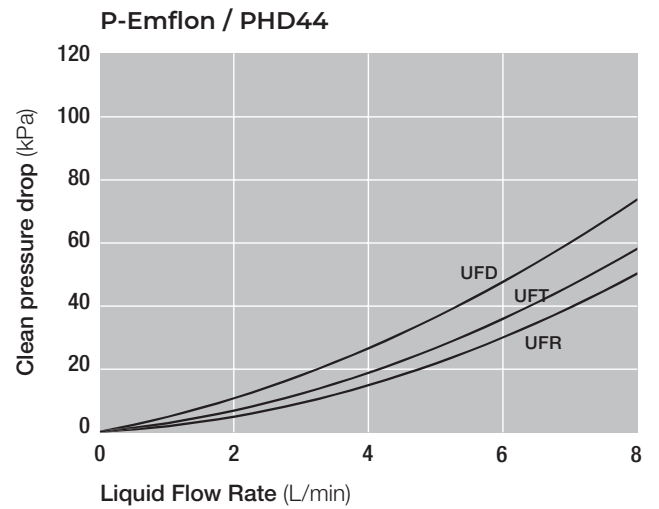
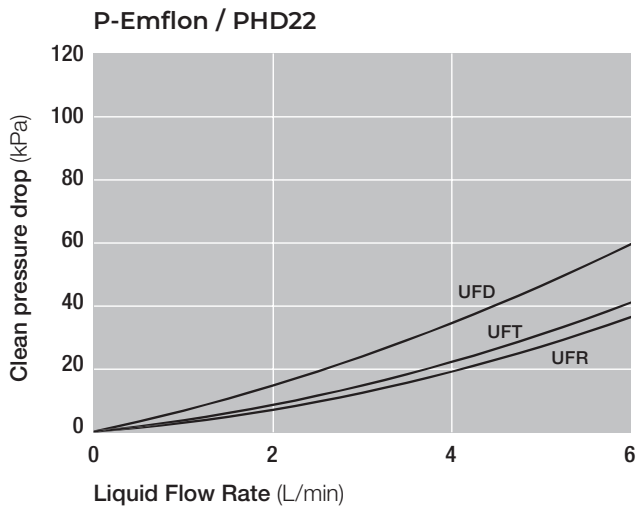
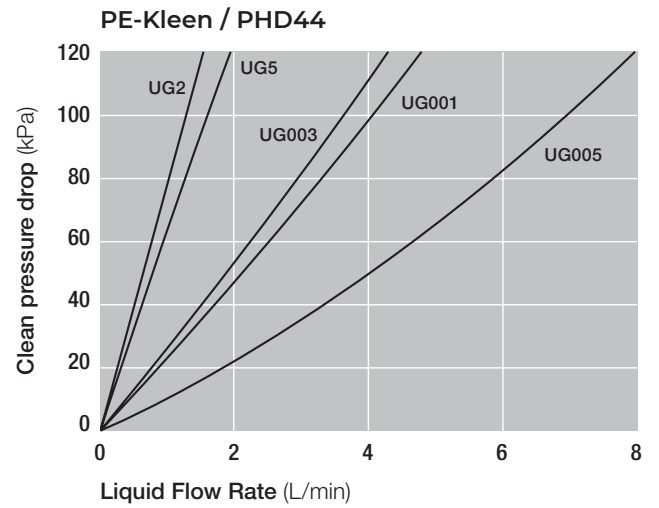
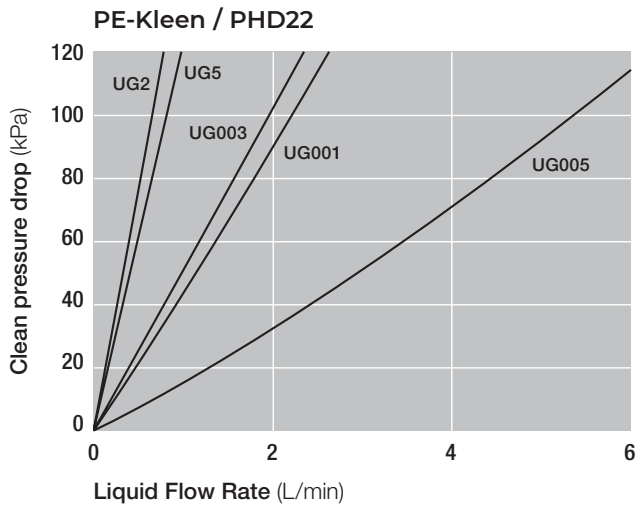
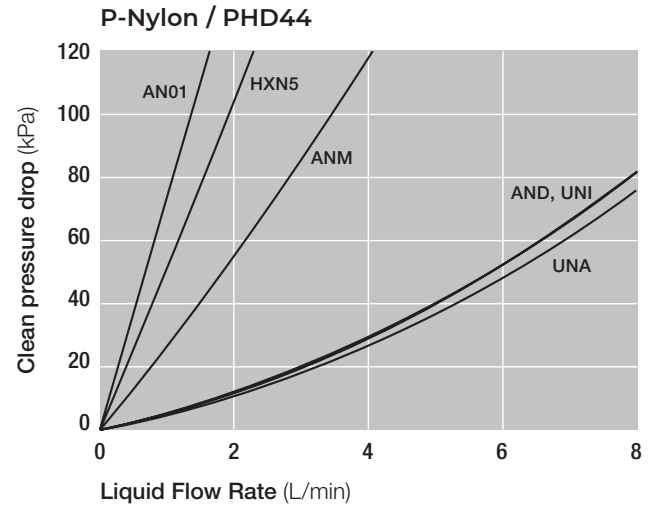
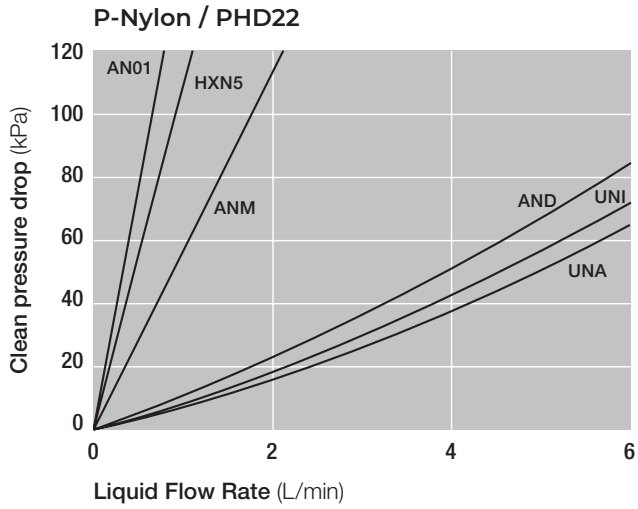
## 6 mm Flowell 60 fitting : PHYGFS66MAB





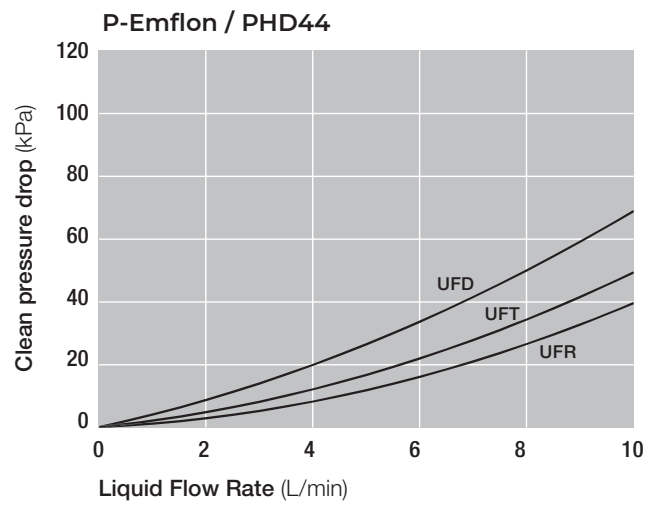
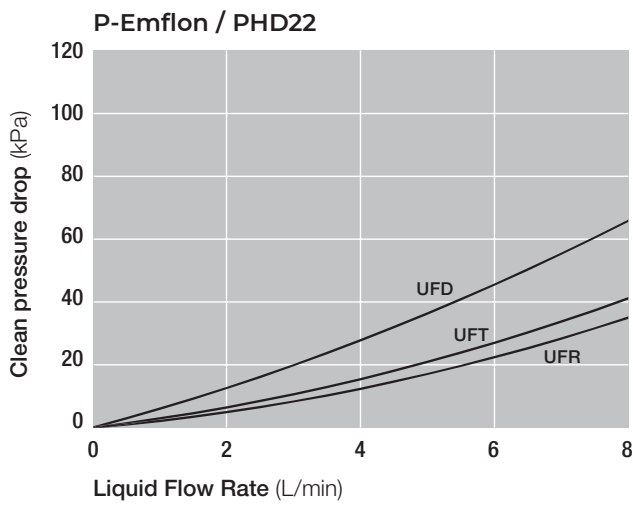
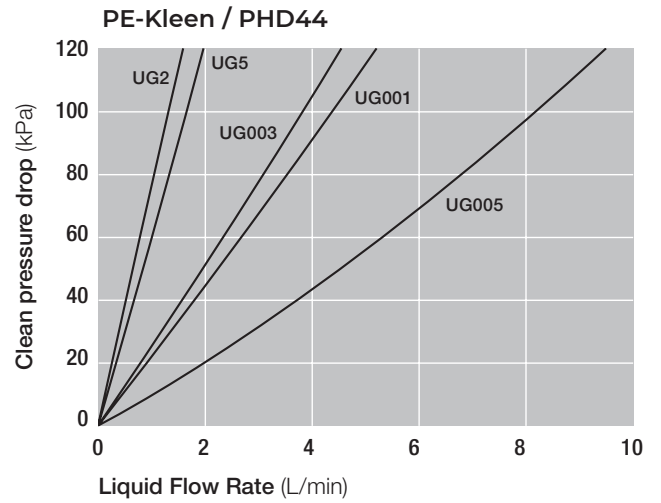
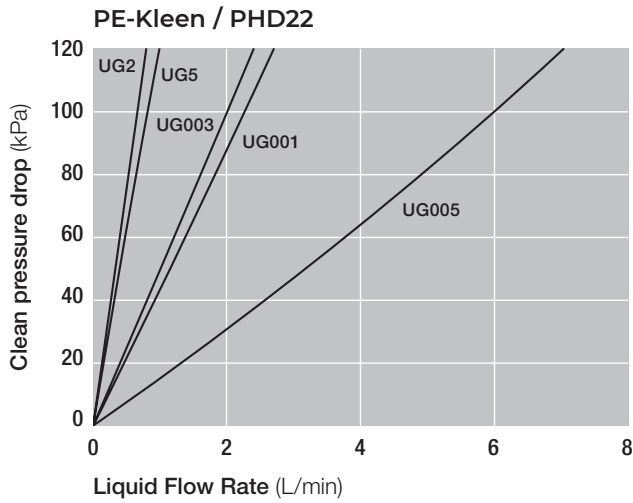
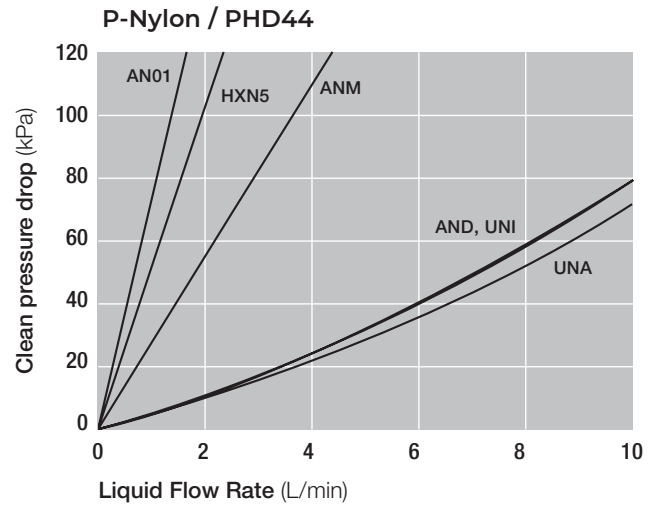
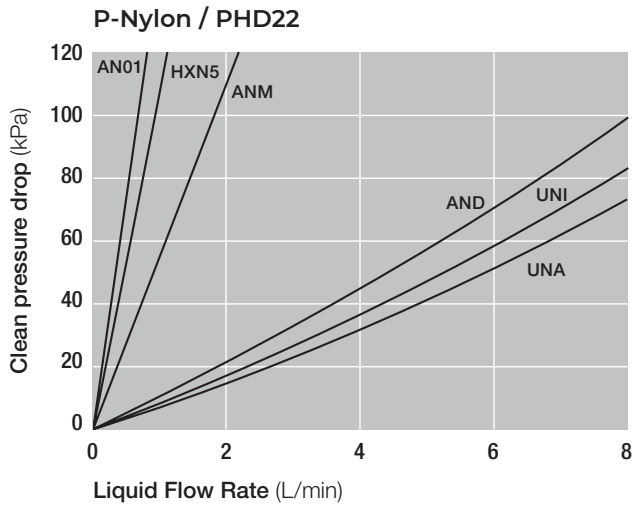
# Typical Flow Characteristics - 1cP fluid, 20 °C

8 mm Flowell 60 fitting : PHYGFS84MB

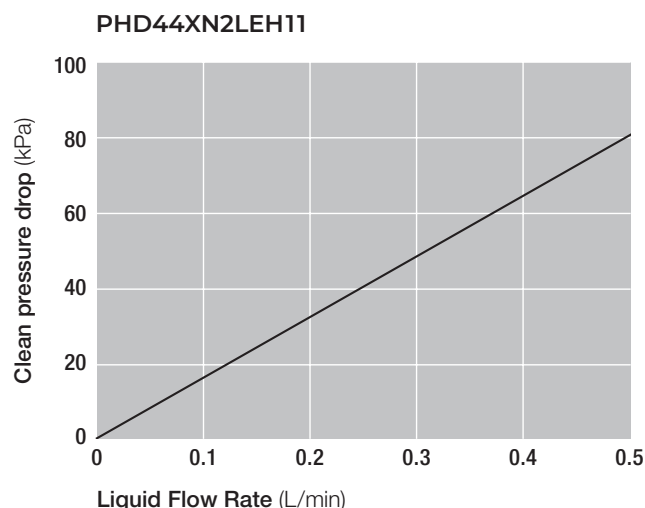
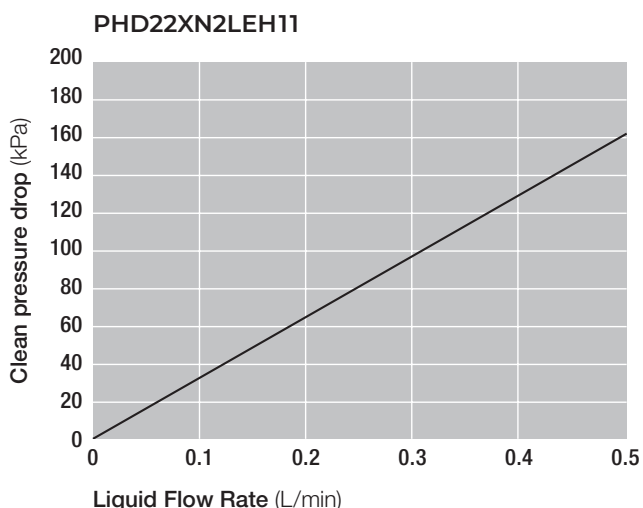


# Typical Flow Characteristics - 1cP fluid, 20 °C

10 mm Flowell 60 fitting : PHYGFS104MB  
PHYGFS106MB



## Typical Flow Characteristics - 1cP fluid, 20 °C



### Representative example part numbers

(Head Manifold)

PHYGPS44B

PHYGPS64B

PHYGPS84B

PHYGFS44B

PHYGFS64MB

PHYGFS84MB

PHYGFS104MB

PHGF-Bracket 05

(Mounting Bracket)

(Capsules)

PHD22UNIEH11

PHD22UNIEJ

PHD22UNDEJ

PHD22UNDEH11

PHD44UNDEH11-2

PHD22ANDEH11

PHD44ANDEH11

PHD22ANMEH11

PHD44ANMEH11

PHD44UFNEH11

PHD22UFREH11

PHD22UFDEH11

PHD22UFTEH11

PHD44FTEH11

PHD44UFTEH11-2

PHD22UFDEH11

PHD44UFDEH11

PHD44UFDEH11-2

PHD22UG005EH11

PHD44UG005EH11

PHD22UG003EH11



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