

DFN Series Low Pressure Duplex Filter



25 bar / 63 bar, 350 psi / 888 psi Max
 3M media - 30 GPM / 115 LPM Max
 25M media - 58 GPM / 184 LPM Max
 *W media - 102 GPM / 384 LPM Max

TYPICAL DUPLEX APPLICATIONS

Ideal for systems where filters must be serviced while continuous operation is not interrupted.

- Hydrogen Seal Oil
- Wind Turbine
- Hydraulic Systems
- Gearbox Systems
- Servo Systems
- Boiler Feed Pump
- Mechanical/Electro Hydraulic Controls
- Turbine Lube Oil
- Bearing Lube Oil
- Fuel Handling
- FD-ID-PA Fan Lube Oil
- Upgrade Cuno Auto-Kleen filters to a continuous use duplex filter assembly per Westinghouse Operation & Maintenance Memo 109.

PRODUCT SPECIFICATIONS

Materials	
Head	Aluminum
Bowl	Aluminum
Seals	Nitrile (buna) or Fluoro (viton)
Media options	G7 Dualglass, Stainless mesh
Interior coating	Anodized
Exterior coating	Powder coated or Anodized
Operating Pressure	
DFN19N Series	Maximum 63 Bar, 888 PSI (tested to 82 Bar, 1156 PSI)
DFN39N Series	Maximum 25 Bar, 352 PSI (tested to 32 Bar, 458 PSI)
Temperature rating	Buna -40°F(-40°C) to 225°F(120°C) Viton -15°F(-26°C) to 275°F(135°C)
Fluid compatibility	Biodegradable and mineral based fluids. For HWBF or specified synthetics consult factory

PRODUCT FEATURES

Duplex Assembly	Maintain continuous filtration while servicing the filter element
User Friendly Handle	Pistol grip handle with pressure equalization release allows for easy switching with one hand
Compact Assembly	All valve components are integrated into the filter assembly head which keeps the overall assembly size very compact
DFE Rated Filter Elements	DFE Rated filter elements ensure fluid cleanliness even under severe dynamic conditions of hydraulic systems

DFN FILTER ASSEMBLY SIZING & OPERATING PRESSURE GUIDELINES

DFN19N Series - Flow Rate vs. Differential Pressure (Assembly with Element)

Media code	Element Length	Max flow rate* gpm (lpm)	Port size	Assembly Δp factor* Δ BAR / lpm	Assembly Δp factor* Δ PSI / gpm
3M	4 (single)	4.0 (15)	1" SAE Code 61 Flange	0.055	2.871
6M		6.0 (22,5)		0.037	1.927
10M		9.2 (34,5)		0.026	1.303
25M		13.5 (50,6)		0.017	0.886
** W		21.5 (80,6)		0.009	0.47
3M	6 (double)	6.7 (25,4)	1" SAE Code 61 Flange	0.034	1.771
6M		9.5 (35,6)		0.023	1.198
10M		11.5 (43,2)		0.02	1.042
25M		14.3 (53,6)		0.016	0.834
** W		23 (86,2)		0.008	0.417
3M	10 (triple)	9.5 (35,7)	1" SAE Code 61 Flange	0.024	1.261
6M		11.5 (43,2)		0.02	1.042
10M		15.3 (57,5)		0.015	0.782
25M		19.2 (72)		0.012	0.625
** W		24.8 (93)		0.006	0.313

*Max flow rate and Δp factor assumes $\nu = 150$ sus, 32 Centistokes (mm^2/s). See Δp viscosity conversion formula for viscosity change.

DFN39N Series - Flow Rate vs. Differential Pressure (Assembly with Element)

Media code	Element Length	Max flow rate* gpm (lpm)	Port size	Assembly Δp factor* Δ BAR / lpm	Assembly Δp factor* Δ PSI / gpm
3M	6 (single)	21.7 (81,5)	1 1/2" SAE Code 61 Flange	0.0106	0.552
6M		28.7 (107,9)		0.0080	0.417
10M		35.3 (132,4)		0.0066	0.344
25M		45.9 (172,4)		0.0050	0.261
** W		77.4 (290,3)		0.0024	0.155
3M	10 (double)	27.4 (102,7)	1 1/2" SAE Code 61 Flange	0.0084	0.438
6M		37.2 (139,3)		0.0062	0.323
10M		41.8 (156,8)		0.0059	0.287
25M		49.2 (184,5)		0.0041	0.234
** W		88.9 (333,3)		0.0019	0.135
3M	15 (triple)	30.7 (115,1)	1 1/2" SAE Code 61 Flange	0.0075	0.391
6M		39.9 (149,6)		0.0060	0.301
10M		49.2 (184,5)		0.0051	0.266
25M		58.4 (219)		0.0040	0.210
** W		102.5 (384,6)		0.0018	0.117

*Max flow rate and Δp factor assumes $\nu = 150$ sus, 32 Centistokes (mm^2/s). See Δp viscosity conversion formula for viscosity change.

HIGH PERFORMANCE FILTER ELEMENTS - THE HEART OF A FILTER

Dynamic Filter Efficiency (DFE) Testing

Revolutionary test methods assure that DFE rated elements perform true to rating even under demanding variable flow and vibration conditions. Today's industrial and mobile hydraulic circuits require elements that deliver specified cleanliness under ALL circumstances. Wire mesh supports the media to ensure against cyclical flow fatigue, temperature, and chemical resistance failures possible in filter elements with synthetic support mesh. Contact your distributor or Hy-Pro for more information and published articles on DFE testing.

Media Options

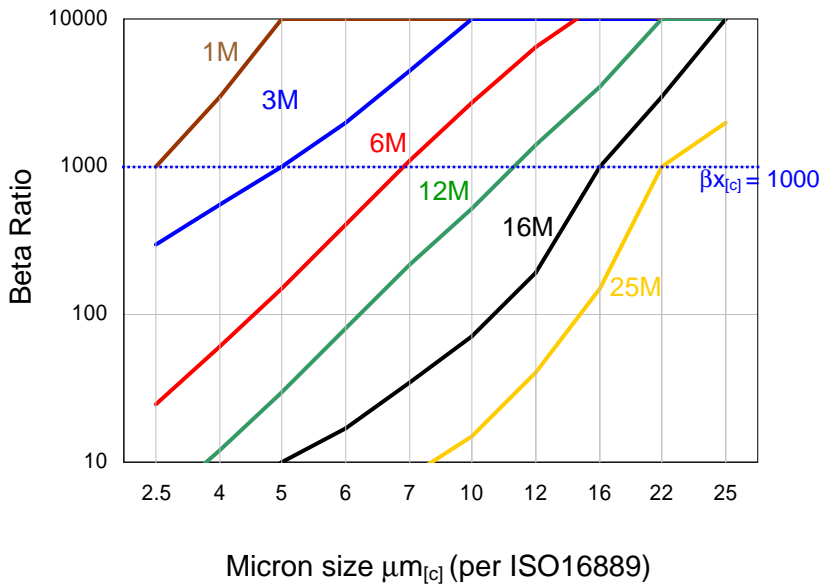
Through extensive testing we have developed media choices to handle any application. Options include G7 Dualglass, Dynafuzz (stainless fiber), and Wire mesh (stainless).

Fluid Compatibility

Petroleum based fluids, water glycol, polyol ester, phosphate ester, high water based fluids and many other synthetics. Contact us for seal material selection assistance.

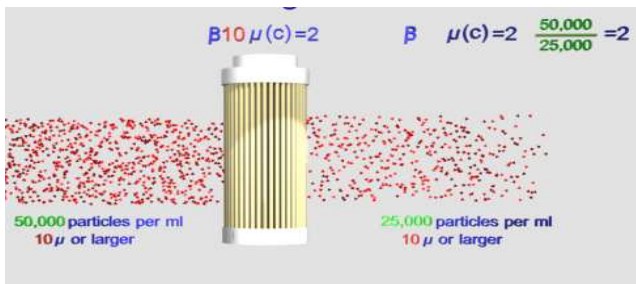
FILTER MEDIA SPECIFICATIONS

Glass Media Code Filtration Efficiency (Beta Ratio) vs Micron Size

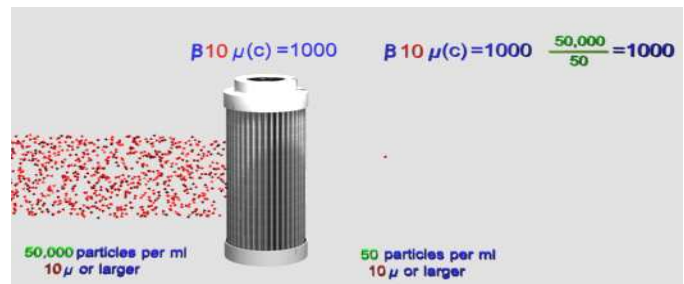


media code	media description
A	G7 Dualglass high performance media combined with water removal scrim. $\beta_{x[c]} = 1000$ ($\beta_x = 200$)
M	G7 Dualglass our latest generation of DFE rated, high performance glass media for all hydraulic & lubrication fluids. $\beta_{x[c]} = 1000$ ($\beta_x = 200$)
W	Stainless steel wire mesh media $\beta_{x[c]} = 2$ ($\beta_x = 2$) nominally rated

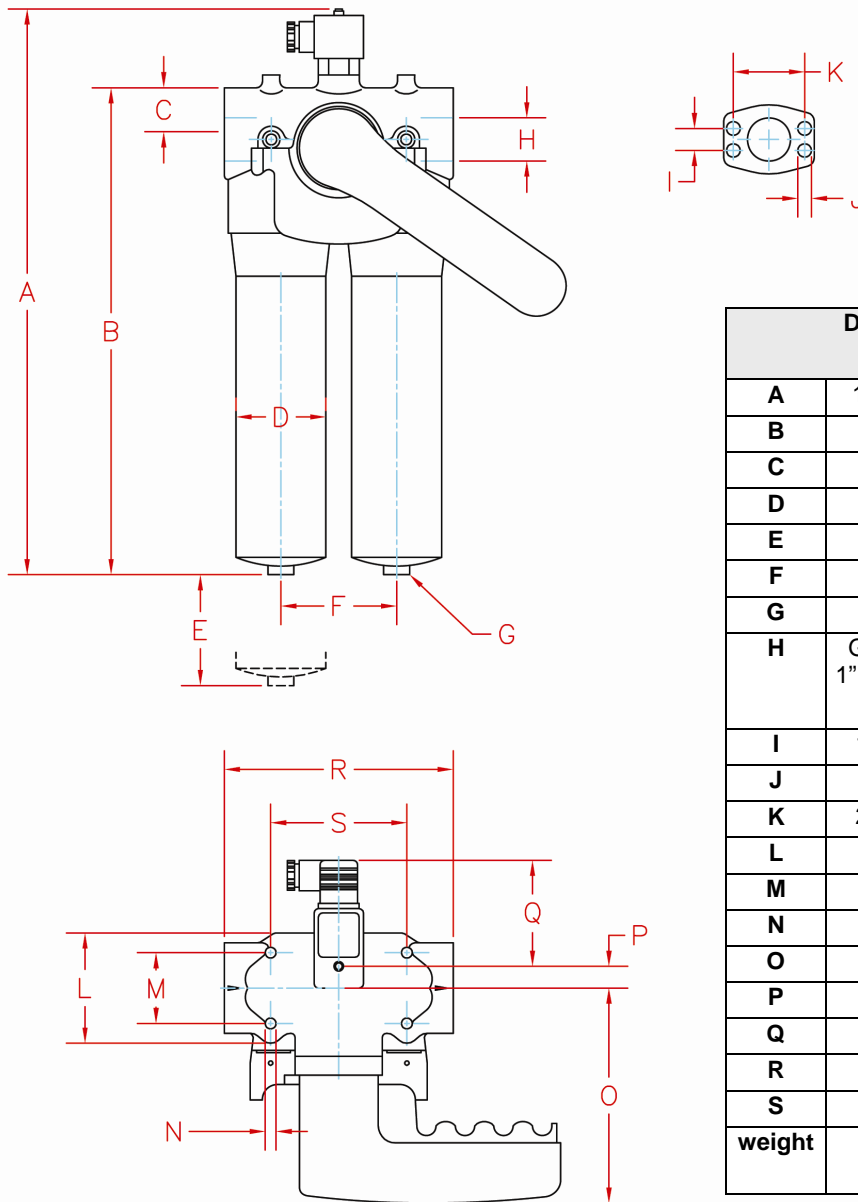
Typical cellulose media performance



Hy-Pro G7 Dualglass media performance



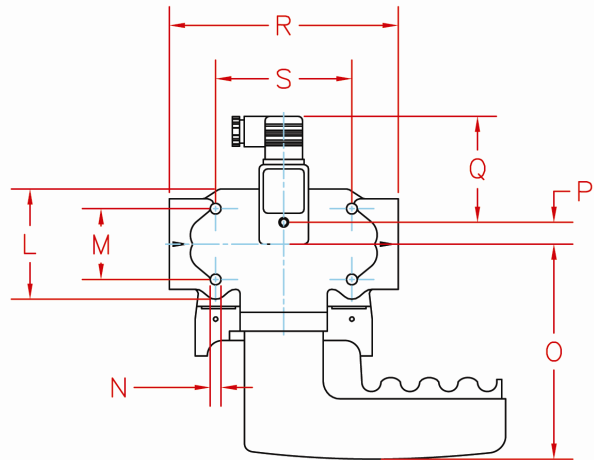
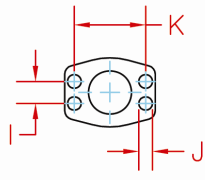
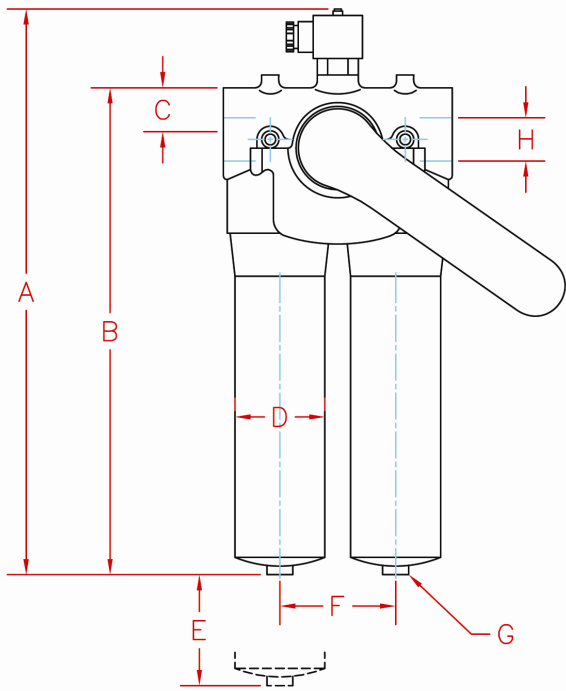
DFN19N INSTALLATION DRAWING AND SPARE PARTS LIST



	DFN19N*-* 4 IN (mm)	DFN419*-* 6 IN (mm)	DFN19N*-* 10 IN (mm)
A	10.35 (263)	12.72 (323)	16.38 (416)
B	8.07 (205)	10.43 (265)	14.1 (358)
C	1.50 (38)	1.50 (38)	1.50 (38)
D	2.60 (66)	2.60 (66)	2.60 (66)
E	3.15 (80)	3.15 (80)	3.15 (80)
F	3.34 (85)	3.34 (85)	3.34 (85)
G	SW27	SW27	SW27
H	G1 BSPP or 1" SAE Flange Code 61	G1 BSPP or 1" SAE Flange Code 61	G1 BSPP or 1" SAE Flange Code 61
I	1.03 (26,2)	1.03 (26,2)	1.03 (26,2)
J	M 10 x 20	M 10 x 20	M 10 x 20
K	2.06 (52,4)	2.06 (52,4)	2.06 (52,4)
L	3.19 (81)	3.19 (81)	3.19 (81)
M	2.05 (52)	2.05 (52)	2.05 (52)
N	M 8 x 16	M 8 x 16	M 8 x 16
O	5.47 (139)	5.47 (139)	5.47 (139)
P	0.63 (16)	0.63 (16)	0.63 (16)
Q	3.07 (78)	3.07 (78)	3.07 (78)
R	6.61 (168)	6.61 (168)	6.61 (168)
S	3.94 (100)	3.94 (100)	3.94 (100)
weight	5.7 Lbs (2,6 kg)	6.4 Lbs (2,9 kg)	7.3 Lbs (3,3 kg)

1	Element (see Element number guide)	p/n
2	Seal Kit	
	Nitrile NBR	DFN19SKB
	Fluorocarbon	DFN19SKV
3	Replacement Bowl Kits	
	Single length code 4	DFN19B4
	Double length code 6	DFN19B6
	Triple length code 10	DFN19B10

DFN39N INSTALLATION DRAWING AND SPARE PARTS LIST



	DFN39N*-* 6 IN (mm)	DFN39N*-* 10 IN (mm)	DFN39N*-* 15 IN (mm)
A	13.74 (349)	17.48 (444)	23.15 (588)
B	11.45 (291)	15.20 (386)	20.87 (530)
C	1.58 (40)	1.58 (40)	1.58 (40)
D	4.29 (109)	4.29 (109)	4.29 (109)
E	4.33 (110)	4.33 (110)	4.33 (110)
F	5.51 (140)	5.51 (140)	5.51 (140)
G	SW32	SW32	SW32
H	G1 1/2" BSPP, 1 1/2" SAE Flange Code 61	G1 1/2" BSPP, 1 1/2" SAE Flange Code 61	G1 1/2" BSPP, 1 1/2" SAE Flange Code 61
I	1.40 (35,7)	1.40 (35,7)	1.40 (35,7)
J	M 12 x 20	M 12 x 20	M 12 x 20
K	2.75 (69,9)	2.75 (69,9)	2.75 (69,9)
L	5.51 (140)	5.51 (140)	5.51 (140)
M	2.44 (62)	2.44 (62)	2.44 (62)
N	M 10 x 20	M 10 x 20	M 10 x 20
O	5.47 (139)	5.47 (139)	5.47 (139)
P	0.75 (19)	0.75 (19)	0.75 (19)
Q	3.07 (78)	3.07 (78)	3.07 (78)
R	11.02 (280)	11.02 (280)	11.02 (280)
S	8.27 (210)	8.27 (210)	8.27 (210)
weight	15.6 Lbs (7,1 kg)	17.6 Lbs (8,0 kg)	35.9 Lbs (16,3 kg)

1	Element (see Element number guide)	p/n
2	Seal Kit	
	Nitrile NBR	DFN39SKB
	Fluorocarbon	DFN39SKV
3	Replacement Bowl Kits	
	Single length code 4	DFN39B6
	Double length code 6	DFN39B10
	Triple length code 10	DFN39B15