



numatics

FRL Products and Accessories

Delta Series™ Filters

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FRLs AND ACCESSORIES

Numatics Delta Series™ Filters

WATER SEPARATOR

F900X Series



F900X-12 pictured

Application

The water separator is an ideal solution where water contamination is present. Water can damage pneumatic components, degrade your final product, and cause valves and cylinders to stick.

The F900X series utilizes an internal spinner to remove large quantities of contamination by centrifugal action. Water, debris, and rust are spun outward to the inside diameter of the bowl. Gravity then sends the contaminant to the bottom of the bowl for discharge.

Recommended Uses

- Bulk liquid and solid contamination removal
- Downstream from compressor/aftercoolers
- Protection for coalescing elements from large liquid loading
- Refrigerated compressed air dryers

Specifications

Maximum temperature: 175°F (80°C)
Maximum pressure: 250 PSIG (17 bar)

Materials of Construction

Body: aluminum **Drain:** brass **Baffle:** polyamide
Seals: Viton®

Flow Rates

	SCFM based on 60 PSI inlet with .75 PSID		SCFM based on 100 PSI inlet with .75 PSID		
	SCFM	dm³/s	SCFM	dm³/s	
F900X-02	14	6.6	F900X-02	18	8.5
F900X-04	38	18	F900X-04	58	27
F900X-06	76	36	F900X-06	117	55
F900X-08	114	54	F900X-08	176	83
F900X-12	230	109	F900X-12	353	167
F900X-16	460	217	F900X-16	706	333
F900X-24	843	398	F900X-24	1294	611

NOTE: Maximum water removal efficiency occurs at stated flows

How to Order

F 900 X - 16 BN

Model:
F = Filter

Series:
900 = Delta Series™

Type:
X = water separator

Threads:
- = NPTF
G = G tap (BSPP)

Port Size:
02 = 1/4
04 = 1/2
06 = 3/4
08 = 1
12 = 1 1/2
16 = 2
24 = 3

Options (see pg 67):
A = auto drain
B = mounting brackets
N = electronic drain valve

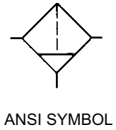
NEED MORE PARTS AND INFORMATION?

- See page **119** for information on ordering replacement filters, bowls, etc.
- See page **101** for more information on available options.

Numatics Delta Series™ Filters

3.0 MICRON PARTICULATE FILTER

F900G Series



F900G-08G pictured

Application

The particulate filter is designed for heavy dirt loading. Large particles such as rust, desiccant dust, and debris will rob the life of your pneumatic components. Contaminant is generated from desiccant type air dryers, older carbon steel pipes, and from the intake of a compressor.

The F900G series features a pleated design - folds of cellulose composite media which provide a large amount of surface area and extend the life of the element. When air flows - from the outside of the element to the inside - the particles are trapped in the space between the filter bowl and the element.

Recommended Uses

- Solid bulk contamination removal
- Afterfilter to a desiccant dryer
- Protection for coalescers in heavy aerosol applications
- 3 micron particle removal in 'dry' systems

Specifications

	Options	none	A	A	G	N	AG	AG	GN
	Port	all	1/4-1	1 1/4-3	all	all	1/4-1	1 1/4-3	all
Max. press.	PSIG (bar)	250 (17)	250 (17)	250 (17)	250 (17)	250 (17)	250 (17)	250 (17)	250 (17)
Max. temp.	°F (°C)	275 (135)	150 (66)	250 (121)	175 (80)	130 (55)	150 (66)	175 (80)	130 (55)

Materials of Construction

Body: aluminum
Seals: Viton®

Drain: brass
Tie rod: brass

End caps: anodized aluminum

Flow Rates

SCFM based on 60 PSI inlet with 1.5 PSID

	SCFM	dm³/s
F900G-02	70	33
F900G-03	70	33
F900G-04	70	33
F900G-06	107	51
F900G-08	129	61
F900G-08X	172	81
F900G-10	322	152
F900G-12	387	183
F900G-16	752	355
F900G-20	967	456
F900G-24	1209	571

SCFM based on 100 PSI inlet with 1.5 PSID

	SCFM	dm³/s
F900G-02	107	51
F900G-03	107	51
F900G-04	107	51
F900G-06	165	78
F900G-08	198	93
F900G-08X	264	125
F900G-10	495	234
F900G-12	594	280
F900G-16	1155	545
F900G-20	1485	701
F900G-24	1856	876

How to Order

F 900 G - 04 AG

Model:
F = Filter

Series:
900 = Delta Series™

Element:
G = 3.0 micron

Port Size:
02 = 1/4
03 = 3/8
04 = 1/2
06 = 3/4
08 = 1
08X = 1 high flow
10 = 1 1/4
12 = 1 1/2
16 = 2
20 = 2 1/2
24 = 3

Threads:
- = NPTF
G = BSPP

Options (see pg 67):
A = auto drain
B = mounting brackets
G = differential pressure gauge
N = electronic drain valve

NEED MORE PARTS AND INFORMATION?

- See page **119** for information on ordering replacement filters, bowls, etc.
- See page **101** for more information on available options.



FRLs AND ACCESSORIES

Numatics Delta Series™ Filters

1.0 MICRON COARSE COALESCER

F900H Series



F900H-08G pictured

Application

The coarse coalescing filter is utilized when low pressure drop or crude separation is required. The coarse filter element is preferred in low pressure and vacuum application so that the efficiency of the compressor or pump is not sacrificed. Also, the coalescing element will take out crude amounts of large liquid oil and water particles, specifically downstream of a compressor to protect a dryer. The F900H features a unique vacuum-formed process. It utilizes micro-glass fibers in raw form to create a seamless, depth-loading media. Combined with a rigid fiber-coating epoxy, the filter element has great strength, high efficiency, and superior life.

Recommended Uses

- Mainline plant filtration
- Prefilter to refrigerated air dryer
- 1 micron particle removal in 'dry' systems
- Heavy oil concentration removal

Specifications

	Options	none	A	A	G	N	AG	AG	GN
	Port	all	1/4-1	1 1/4-3	all	all	1/4-1	1 1/4-3	all
Max. press.	PSIG (bar)	250 (17)	250 (17)	250 (17)	250 (17)	250 (17)	250 (17)	250 (17)	250 (17)
Max. temp.	°F (°C)	275 (135)	150 (66)	250 (121)	175 (80)	130 (55)	150 (66)	175 (80)	130 (55)

Materials of Construction

Body: aluminum **Drain:** brass **End caps:** anodized aluminum
Seals: Viton® **Tie rod:** brass

Optional Internal Pleated Prefilter

Numatics Delta Series™ filters are premium quality filters which include an optional 3.0 micron, internal pleated prefilter. This prefilter provides protection for the fine borosilicate fibers by removing over 99% of 3.0 micron and larger particles, extending the life of the filter element.

Flow Rates

	SCFM based on 60 PSI inlet with 1.5 PSID		SCFM based on 100 PSI inlet with 1.5 PSID		
	SCFM	dm³/s	SCFM	dm³/s	
F900H-02	68	32	F900H-02	104	49
F900H-03	68	32	F900H-03	104	49
F900H-04	68	32	F900H-04	104	49
F900H-06	104	49	F900H-06	160	76
F900H-08	125	59	F900H-08	192	91
F900H-08X	167	79	F900H-08X	256	121
F900H-10	313	148	F900H-10	480	227
F900H-12	375	177	F900H-12	576	272
F900H-16	729	344	F900H-16	1120	529
F900H-20	938	443	F900H-20	1440	680
F900H-24	1172	553	F900H-24	1800	850

How to Order

F 900 H - 04 AG

Model: F = Filter

Element: H = 1.0 micron

Series: 900 = Delta Series™

Threads: - = NPTF
G = BSPP

Port Size:
02 = 1/4
03 = 3/8
04 = 1/2
06 = 3/4
08 = 1
08X = 1 high flow
10 = 1 1/4
12 = 1 1/2
16 = 2
20 = 2 1/2
24 = 3

Options (see pg 67):
A = auto drain
B = mounting brackets
D = internal pleated prefilter
G = differential pressure gauge
N = electronic drain valve

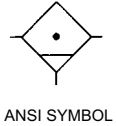
NEED MORE PARTS AND INFORMATION?

- See page **119** for information on ordering replacement filters, bowls, etc.
- See page **101** for more information on available options.

Numatics Delta Series™ Filters

0.3 MICRON FINE COALESCER

F900D Series



F900D-08G pictured

Application

The fine coalescing filter is utilized when clean air is required and longer component life is desired. It is recommend in most point-of-use applications for industrial use. Also, the fine coalescer removes small particles of oil, water, and rust that can create problems in painting and coating processes. The F900D features a unique vacuum-formed process. It utilizes micro-glass fibers in raw form to create a seamless, depth-loading media. Combined with a rigid fiber-coating epoxy, the filter element has great strength, high efficiency, and superior life.

Recommended Uses

- Paint spraying
- Pneumatic tools and instrumentation
- Robotics
- 0.3 micron particle removal in 'dry' systems
- Moderate oil concentration removal

Specifications

	Options	none	A	A	G	N	AG	AG	GN
	Port	all	1/4-1	1 1/4-3	all	all	1/4-1	1 1/4-3	all
Max. press.	PSIG (bar)	250 (17)	250 (17)	250 (17)	250 (17)	250 (17)	250 (17)	250 (17)	250 (17)
Max. temp.	°F (°C)	275 (135)	150 (66)	250 (121)	175 (80)	130 (55)	150 (66)	175 (80)	130 (55)

Materials of Construction

Body: aluminum **Drain:** brass **End caps:** anodized aluminum
Seals: Viton® **Tie rod:** brass

Optional Internal Pleated Prefilter

Numatics Delta Series™ filters are premium quality filters which include an optional 3.0 micron, internal pleated prefilter. This prefilter provides protection for the fine borosilicate fibers by removing over 99% of 3.0 micron and larger particles, extending the life of the filter element.

Flow Rates

SCFM based on 60 PSI inlet with 1.5 PSID			SCFM based on 100 PSI inlet with 1.5 PSID		
	SCFM	dm³/s		SCFM	dm³/s
F900D-02	42	20	F900D-02	65	31
F900D-03	42	20	F900D-03	65	31
F900D-04	42	20	F900D-04	65	31
F900D-06	65	31	F900D-06	100	47
F900D-08	78	37	F900D-08	120	57
F900D-08X	104	49	F900D-08X	160	76
F900D-10	195	92	F900D-10	300	142
F900D-12	234	110	F900D-12	360	170
F900D-16	456	215	F900D-16	700	330
F900D-20	586	277	F900D-20	900	425
F900D-24	733	346	F900D-24	1125	531

How to Order

F 900 D - 16 BN

Model:
F = Filter

Series:
900 = Delta Series™

Element:
D = 0.3 micron element

Threads:
- = NPTF
G = G tap (BSPP)

Port Size:
02 = 1/4
03 = 3/8
04 = 1/2
06 = 3/4
08 = 1
08X = 1 high flow
10 = 1 1/4
12 = 1 1/2
16 = 2
20 = 2 1/2
24 = 3

Options (see pg 67):
A = auto drain
B = mounting brackets
D = internal pleated prefilter
G = differential pressure gauge
N = electronic drain valve

NEED MORE PARTS AND INFORMATION?

- See page **119** for information on ordering replacement filters, bowls, etc.
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FRLs AND ACCESSORIES

Numatics Delta Series™ Filters

0.01 MICRON ULTRA FINE COALESCER



F900E Series



F900E-08G pictured

Application

The ultra fine coalescing filter is ideal where critically clean air is needed and pressure drop is not a concern. It is a polishing filter to clean up any remains of particles or oil that are left over from the compressor room filtration. It is mainly a point-of-use filter that is targeted specifically for critical processes. It is also used to protect and extend the life of membrane filters.

The F900E features a unique vacuum-formed process. It utilizes micro-glass fibers in raw form to create a seamless, depth-loading media. Combined with a rigid fiber-coating epoxy, the filter element has great strength, high efficiency, and superior life.

Recommended Uses

- Blow molding plastics
- Semiconductor packaging
- Critical instrumentation
- 0.01 micron particle removal in 'dry' systems
- Low oil concentration removal

Specifications

	Options	none	A	A	G	N	AG	AG	GN
	Port	all	1/4-1	1 1/4-3	all	all	1/4-1	1 1/4-3	all
Max. press.	PSIG (bar)	250 (17)	250 (17)	250 (17)	250 (17)	250 (17)	250 (17)	250 (17)	250 (17)
Max. temp.	°F (°C)	275 (135)	150 (66)	250 (121)	175 (80)	130 (55)	150 (66)	175 (80)	130 (55)

Materials of Construction

Body: aluminum **Drain:** brass **End caps:** anodized aluminum
Seals: Viton® **Tie rod:** brass

Optional Internal Pleated Prefilter

Numatics Delta Series™ filters are premium quality filters which include an optional 3.0 micron, internal pleated prefilter. This prefilter provides protection for the fine borosilicate fibers by removing over 99% of 3.0 micron and larger particles, extending the life of the filter element.

Flow Rates

SCFM based on 60 PSI inlet with 1.5 PSID			SCFM based on 100 PSI inlet with 1.5 PSID		
	SCFM	dm³/s		SCFM	dm³/s
F900E-02	25	12	F900E-02	39	18
F900E-03	25	12	F900E-03	39	18
F900E-04	25	12	F900E-04	39	18
F900E-06	39	18	F900E-06	60	28
F900E-08	47	22	F900E-08	72	34
F900E-08X	63	30	F900E-08X	96	45
F900E-10	117	55	F900E-10	180	85
F900E-12	141	67	F900E-12	216	102
F900E-16	274	129	F900E-16	420	198
F900E-20	352	166	F900E-20	540	255
F900E-24	440	208	F900E-24	675	319

How to Order

F 900 E - 24 AB

Model: F = Filter

Series: 900 = Delta Series™

Element: E = 0.01 micron element

Threads: - = NPTF
G = G tap (BSPP)

Port Size:
02 = 1/4
03 = 3/8
04 = 1/2
06 = 3/4
08 = 1
08X = 1 high flow
10 = 1 1/4
12 = 1 1/2
16 = 2
20 = 2 1/2
24 = 3

Options (see pg 67):
A = auto drain
B = mounting brackets
D = internal pleated prefilter
G = differential pressure gauge
N = electronic drain valve

NEED MORE PARTS AND INFORMATION?

- See page 119 for information on ordering replacement filters, bowls, etc.
- See page 101 for more information on available options.

Numatics Delta Series™ Filters

ADSORBING GRADE FILTER

F900F Series



F900F-04 pictured

Application

The adsorbing filter removes oil and larger hydrocarbon vapor from the compressed air stream. Since it only removes vapor, a coalescing element - specifically the F900D - should be used immediately upstream of the adsorbing filter. Since optimum adsorption occurs at lower temperatures, it is recommended to apply the filter as close to the point-of-use as possible. The F900F features fine activated charcoal impregnated on polyester. The activated carbon particles have a high affinity to vapor and are extremely efficient due to the tremendous amount of surface area present. The adsorbing element and the coalescing element should be changed every 3 to 6 months depending on the application.

Recommended Uses

- Breathing air applications
- Food and drug industries having direct product contact with exhaust air
- Odor-free air applications
- Heavier hydrocarbon vapor removal

Specifications

Maximum temperature: 150°F (66°C)
Maximum pressure: 250 PSIG (17 bar)

Materials of Construction

Body: aluminum **Drain:** brass **End caps:** anodized aluminum
Seals: Viton® **Tie rod:** brass

Flow Rates

	SCFM based on 60 PSI inlet with 1.5 PSID		SCFM based on 100 PSI inlet with 1.5 PSID		
	SCFM	dm³/s	SCFM	dm³/s	
F900F-02	42	20	F900F-02	65	31
F900F-03	42	20	F900F-03	65	31
F900F-04	42	20	F900F-04	65	31
F900F-06	65	31	F900F-06	100	47
F900F-08	78	37	F900F-08	120	57
F900F-08X	104	49	F900F-08X	160	76
F900F-10	195	92	F900F-10	300	142
F900F-12	234	110	F900F-12	360	170
F900F-16	456	215	F900F-16	700	330
F900F-20	586	276	F900F-20	900	425
F900F-24	733	346	F900F-24	1125	531

How to Order

F 900 F - 06 B

Model:
F = Filter

Series:
900 = Delta Series™

Element:
F = adsorbing grade element

Threads:
- = NPTF
G = G tap (BSPP)

Port Size:
02 = 1/4
03 = 3/8
04 = 1/2
06 = 3/4
08 = 1
08X = 1 high flow
10 = 1 1/4
12 = 1 1/2
16 = 2
20 = 2 1/2
24 = 3

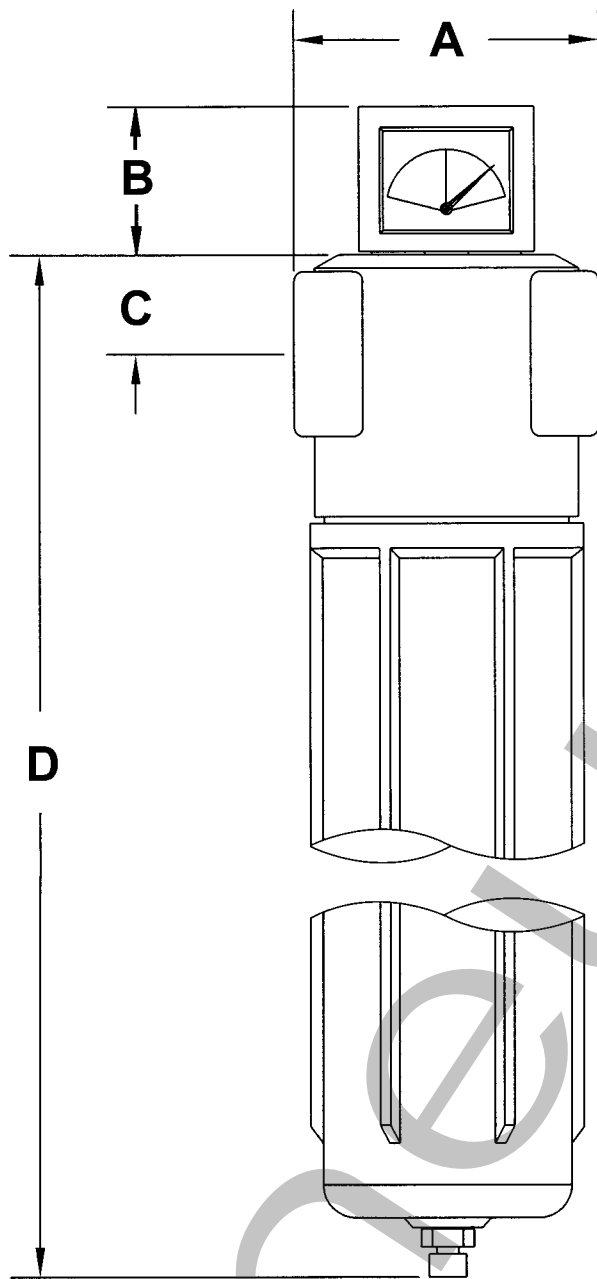
Options (see pg 67):
B = mounting brackets

NEED MORE PARTS AND INFORMATION?

- See page **119** for information on ordering replacement filters, bowls, etc.
- See page **101** for more information on available options.

Dimensions (in inches; millimeters in parenthesis)

Delta Series™ Filters

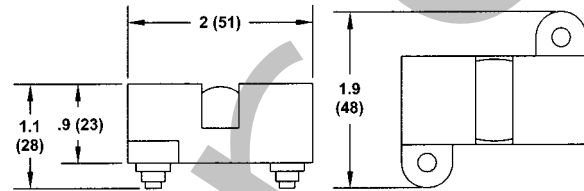


Model	A	B	C	D	E*
F900*-02	3.8 (97)	0.9 (23)	0.7 (18)	9.3 (236)	5.9 (150)
F900*-03	3.8 (97)	0.9 (23)	0.7 (18)	9.3 (236)	5.9 (150)
F900*-04	3.8 (97)	0.9 (23)	0.7 (18)	9.3 (236)	5.9 (150)
F900*-06	4.6 (117)	2.3 (58)	1.3 (33)	14.8 (376)	9.8 (250)
F900*-08	4.6 (117)	2.3 (58)	1.3 (33)	14.8 (376)	9.8 (250)
F900*-08X	4.6 (117)	2.3 (58)	1.3 (33)	18.3 (465)	11.8 (300)
F900*-10	4.6 (117)	2.3 (58)	1.3 (33)	21 (533)	16.7 (425)
F900*-12	4.6 (117)	2.3 (58)	1.3 (33)	21 (533)	16.7 (425)
F900*-16	6.1 (155)	2.3 (58)	1.7 (43)	26.8 (681)	21.7 (550)
F900*-20	9.3 (236)	2.3 (58)	2.9 (74)	31.3 (795)	21.7 (550)
F900*-24	9.3 (236)	2.3 (58)	2.9 (74)	31.3 (795)	21.7 (550)

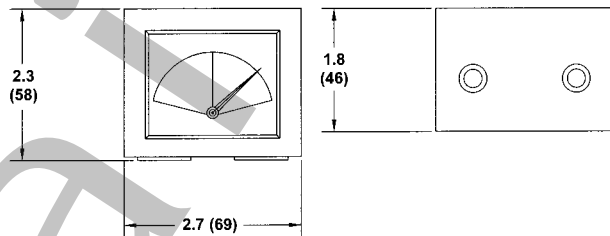
* The "E" dimension refers to the amount of space needed below the bottom of the bowl in order to remove the bowl.

Differential Pressure Indicators

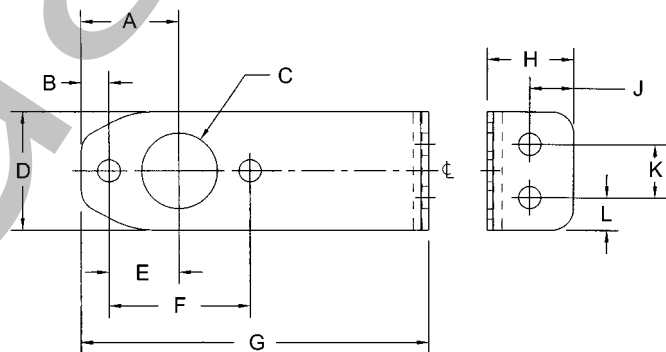
Slide Pressure Indicator
(for port sizes 1/4, 3/8, & 1/2 only)



Square Dial Indicator
(for port sizes 3/4 through 3 only)

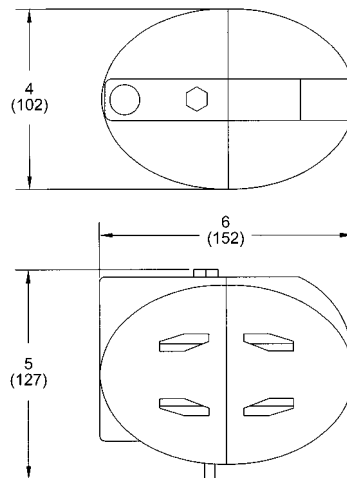


Mounting Bracket



	A	B	C	D	E	F	G	H	J	K	L
BRK9001	1.13	.32	Ø.88	1.38	.82	1.63	4.0	1.0	.5	.62	.38
	(29)	(8)	(Ø22)	(35)	(21)	(41)	(102)	(25)	(13)	(16)	(10)
BRK9002	1.5	.27	Ø1.94	2.5	1.24	2.47	5.0	1.0	.4	1.5	.5
	(38)	(7)	(Ø42)	(64)	(31)	(63)	(127)	(25)	(10)	(38)	(13)

Automatic Drain



Numatics Delta Series™ Filters

Options and accessories

Auto Drains

The Auto Drain ("A" option) is installed into the bottom of the filter bowl. As the liquid level inside the bowl increases, the tire-like float lifts, allowing the liquid to drain.

AKF60 - for port sizes 1/4 through 1 (high flow) **only**

Maximum Temperature: 150° F (65° C)

Maximum Pressure: 250 PSIG (17 bar)

AKF90 - for port sizes 1 1/4 through 3 **only**

Maximum Temperature: 250° F (125° C)

Maximum Pressure: 250 PSIG (17 bar)

**Pressure Indicators**

Allows exact determination of pressure drop across an element. On the dial indicator, pressure drop is easily monitored during the life of the element. On the slide indicator, necessary element change is indicated by the green area turning red. The casing and sight dome are constructed of polyamide.

PDI90 - Slide Indicator ('G' option) for port sizes 1/4, 3/8, & 1/2 **only**

Max. Temp.: 176° F (80° C)

Max. Pres.: 230 PSIG (16 bar)

PDI91 - Square Dial Indicator ('G' option) for port sizes 3/4 through 3 **only**

Max. Temp.: 176° F (80° C)

Max. Pres.: 230 PSIG (16 bar)

AMounting Brackets

Mounting brackets ("B" option) are used to fix Delta Series™ filters to a panel. The brackets, made of sturdy stainless steel, are screwed into the bracket mounting holes located on both the in and out ports.

BRK9001 for port sizes 1/4 through 1/2 **only**

BRK9002 for port sizes 3/4 through 1 1/2 **only**

NOTE: There is no bracket available for port sizes 2, 2 1/2, or 3

**Electronic Drain Valve**

The Electronic Drain Valve ('N' option) offers automatic draining of bowl contents in a timed sequence. Easy-to-use controls on the drain's face allow the user to set the drain open and closed time. Its large orifice allows even the largest rust and pipe scale particles to be easily expelled. Includes a 110 volt AC solenoid, 6 ft (2 m) power cord, grounded plug, and elbow for attaching to bowl.

EDV-04-110AC 110v AC, 1/2 NPTF Electronic Drain Valve with adapter (for other voltages, please contact your local distributor)

Max. Press./Max. Temp.: 300 PSIG (21 bar) / 130°F (54°C)



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