



NOWATA FILTRATION  
HIGH PRESSURE MODEL  
A8DC144N2BN

# "A" SERIES

## Cartridge Housing

The "A" Series cartridge filters are designed for efficient liquid filtration in a wide range of applications, pressures and flow rates. Flexibility in the exact design of your filter is an important advantage of a Nowata filter housing. We will help you create a filter to fit the exact configuration and needs of your operating environment.

### A Series Features

#### Filter Housing Material Choices:

- Standard Carbon Steel Construction
- Carbon Steel with Stainless Steel Trim & Epoxy Lining
- Stainless Steel Wetted Construction

#### Primary Features:

- Sizes from 4 to 81 Cartridges
- 200 to 1440 PSI Working Pressure
- Aqueous Flow Rates to 648 GPM
- Bolted Closure for Safe, Fast Cartridge Replacement
- O-Ring Closure Seal
- ASME Code Construction Available

## General Information

The time-tested Nowata Filtration "A" Series filters provide operators with highly efficient filtration, matched to their specific operating requirements. Flow rates, operating pressures and temperatures, plus the fluid being filtered are all taken into consideration when selecting the right "A" Series filter for the job.

Our bolted closure system assures a positive seal during operation. The closure system utilizes a minimum number of bolts, which swing down out of the way, and do not get misplaced during cartridge replacement. As a result, cartridge replacement is faster, safer, and more efficient than filters with flanged closures and a large number of removable bolts.

"A" Series filter housings offer a wide range of options for various working pressures, flow rates, number of cartridges, mounting hardware, connection location, ASME Code construction and more. These choices allow you to create a Nowata Filtration system that is matched to your exact operating conditions.

As an additional option, when corrosive fluids are present, these filter housings can be made with Stainless Steel on all wetted surfaces. In this configuration, the unit designation becomes the "U" Series. The "U" Series is dimensionally identical to the "A" Series.

The following information will help you begin to determine which filter configuration is right for your job. We invite you to contact our technical staff for assistance in cartridge selection, housing sizing and information on all other special features available to you.



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# "A" Series Dimensional Information (Dimensions Shown in Inches)

(1) Model Numbers	Max. (2) Pressure PSI	(3) No. of Cartridges	No. of Cart. Posts	Shipping Weight (Lbs.)	A	B	C	D	E	F	G	(4) H	J	K
A4 AS4 U4	200 300 740 1440	4	2	160 164 172 216	34 34 39 39	6-5/8	12	4-1/4 4-1/4 4-1/2 4-3/4	8 8 8-1/4 8-1/2	3-1/4 3-1/4 3-1/4 3-3/4	2	11-3/8	14-5/8 16-5/8 16-5/8 16-5/8	6-1/2
A6 AS6 U6	200 300 740 1440	6	2	190 194 202 248	45 45 49 49	6-5/8	12	4-1/4 4-1/4 4-1/2 4-3/4	8 8 8-1/4 8-1/2	3-1/4 3-1/4 3-1/4 3-3/4	2	11-3/8	14-5/8 16-5/8 16-5/8 16-5/8	6-1/2
A8 AS8 U8	200 300 740 1440	8	4	190 212 266 344	35 36 41 41	8-5/8	16	4-1/4 5 5-1/2 5-1/2	8 9-1/2 10 10	3-1/4 3-1/4 3-1/2 4	2	13-5/8	16-5/8 18-5/8 18-5/8 18-5/8	7-7/8
A12 AS12 U12	200 300 740 1440	12	4	220 242 290 390	46 46 51 51	8-5/8	16	5 5 5-1/2 5-3/4	9-1/2 9-1/2 10 10-1/4	3-1/4 3-1/4 3-1/2 4	3	14-7/8	16-5/8 18-5/8 18-5/8 18-5/8	7-7/8
A21 AS21 U21	200 300 740 1440	21	7	280 340 422 650	51 51 52 53	10-3/4	16	5 5 5-1/2 6-1/4	10 10 10-1/2 11-1/4	3-1/4 3-1/4 3-3/4 4-1/4	3	17	18-3/4 20-3/4 20-3/4 20-3/4	9-3/8
A30 AS30 U30	200 300 740 1440	30	10	380 430 645 890	51 52 53 57	12-3/4	18	6 6 6 7	11-1/2 11-1/2 11-1/2 12-1/2	3-1/2 3-3/4 4 4-1/2	4	N/A	24-3/4 24-3/4 24-3/4 24-3/4	11-1/2
A48 AS48 U48	200 300 740 1440	48	16	510 570 959 1300	64 66 70 70	16	27-1/2 27-1/2 27-1/2 28-1/2	17-1/4 17-1/4 17-1/4 18-1/2	22-3/4 22-3/4 23 23-1/2	N/A	4	N/A	28 28 28 28	14-7/8
A60 AS60 U60	200 300 740 1440	60	20	700 810 1338 1480	68 70 70 71	18	29-1/2 29-1/2 29-1/2 29-1/2	18-1/2 19 19 19	25-1/2 25-1/2 25-1/2 25-1/2	N/A	6	N/A	30 30 30 30	16-1/4
A81 AS81 U81	200 300 740 1440	81	27	850 1006 1620 2000	68 70 70 74	20	29-1/2 29-1/2 30-1/2 32-1/2	18-1/2 19 19 20	25-1/2 25-1/2 25-1/2 27-1/2	N/A	6	N/A	32 32 32 32	17-5/8

Due to our continuing program of product improvement, specifications are for reference only and subject to change without notice.

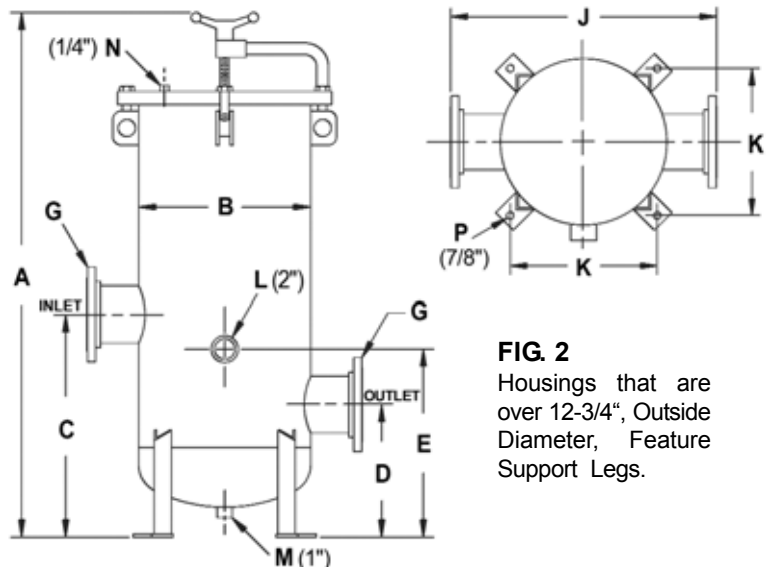
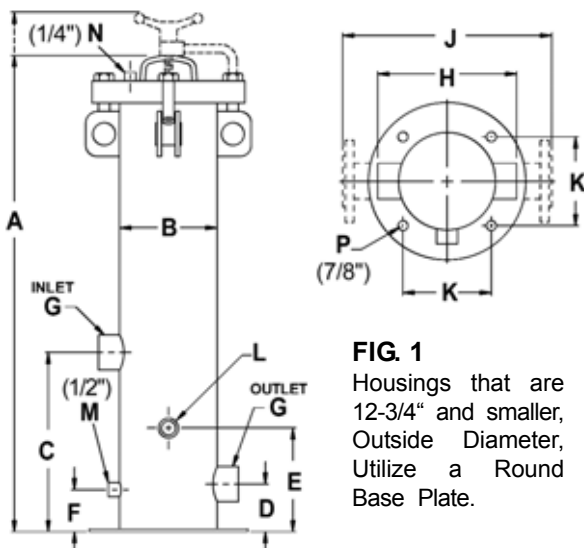
## Dimensional Notes

### Dimensions Shown in Inches.

- (A) Overall Height, also see (5)
- (B) Vessel Outside Diameter
- (C) Height to Inlet centerline
- (D) Height to Outlet centerline
- (E) Height to Upper Chamber Drain centerline
- (F) Height to Vessel Drain centerline (FIG. 1 only)
- (G) Inlet and Outlet connection size,  
2" and 3" Internal Pipe Thread standard;  
4" and 6" RF ANSI Flanges standard.

- (H) Internal Pipe Thread Connection- face to face-  
Inlet and Outlet (FIG. 1 only)
- (J) Flanged Connection- face to face- Inlet and Outlet
- (K) Mounting Hole spacing
- (L) Internal Pipe Thread Upper Chamber Drain size  
(FIG. 1 only - Under 9" O.D. = 1", Over = 2")
- (M) Internal Pipe Thread Vessel Drain size
- (N) Internal Pipe Thread Vent size (1/4")
- (P) Mounting Hole quantity (4 each) and Mounting  
Hole diameter (7/8")

- (1) Shown are the first few characters of the part  
number. See the back page for full part number  
nomenclature.
- (2) Maximum allowable non-shock pressure.
- (3) Number of 9-3/4" or 10" length cartridges,  
single length equivalents.
- (4) Maximum Value - some models may be less.
- (5) Davit provided as standard on all models  
except the 200 and 300 psi models in the 4, 6,  
8 and 12 cartridge sizes.



# Standard Construction Notes

## Standard "A" Series

Standard "A" Series units are designed for applications involving fresh water and non-corrosive fluids. They are constructed of all welded carbon steel with internal cartridge supports and retainers of brass. The larger models come standard with closure lifting davits for easy cartridge removal. The closure seal uses a commercially available O-Ring. 3" or smaller standard inlet and outlet connections are internal pipe thread (FNPT) type. The 4" and larger sizes are provided with ANSI flanges. Internal pipe threaded vessel drain, and backwash drain and vent are standard, with the size depending on vessel diameter.

## "S" Feature

The "S" feature option provides epoxy lined carbon steel construction, with 316 Stainless Steel in the uncoated closure O-Ring seal area. Internal pipe thread, vent and drain connections are also made of 316 Stainless Steel. Brass internal cartridge fittings are furnished as standard, with other materials available on special order. Although exposed areas are made of 316 Stainless Steel, and all wetted carbon steel surfaces are coated with epoxy, care should be taken to use "S" feature housings only with fluids that do not vigorously attack plain steel. The "S" feature is not meant to be used in applications where the all Stainless Steel "U" feature is required.

## "U" Series

The "U" Series feature is designed for applications requiring the corrosion resistance and fluid compatibility of Stainless Steel. The "U" feature provides 316 grade Stainless Steel for all wetted surfaces, including the cartridge supports and retainers. The top closure is constructed of high-strength carbon steel, with a Stainless Steel liner plate.

## Standard Construction for Glycol Filtration

"A" Series units are especially suited for removing solids from triethylene glycol in natural gas dehydrators. Since brass cannot be used with glycol, plated carbon steel internals are required. Solids in the glycol stream can damage pumps and plug spray nozzles. Most applications require filtration in the 25 to 50 micron range, to provide the protection needed.

## Working Pressure Ranges

The standard working pressures for the "A" Series vessels are 200 PSI, 300 PSI, 740 PSI, and 1440 PSI. See the Dimensional Information Chart for more pressure information.

# ASME Code Construction

Nowata "A" Series filters are designed in accordance with the Pressure Vessel Code of the American Society of Mechanical Engineers. When required,

each unit can be stamped with the appropriate symbol denoting fabrication and testing performed by specific procedures.

# Optional Construction

## Seal Material

The standard Buna O-Ring operates at up to 250°F. Viton seals are available for up to 450°F service. Other O-Ring materials, such as Teflon encapsulated silicone, and ethylene propylene are also available.

## Internal Materials

Standard brass and optional plated carbon steel internals are stocked at the factory. 316 Stainless Steel is standard for the "U" Series and optional on the "A" Series.

## Connections

Inlet and outlet connections in sizes and locations other than standard are available on all Nowata filter housing. All units are available with optional external pipe thread connections or ANSI flanges. Internal pipe threaded drains and vent are provided as standard. The accessory connections are also available in flanged or external pipe thread type, or in non-standard sizes. Special purpose connections, such as relief valve fittings and pressure taps, are available to meet a customer's specific

requirements. Nonstandard connection location or unusual mounting heights or dimensions are also available.

## Horizontal Housings

Our rigid cartridge support and seal system is ideally suited for the horizontal configuration of Nowata housings. This is especially important when overhead clearance, or other unique operating considerations preclude the usual vertical installation of the housings.

## Extra Length Housing and Cartridges

When extra dirt holding capacity is needed, an extra length housing can be built to hold our 40" length cartridge. This offers the advantage of a 33% increase in cartridge life, for little extra cost.

## Accessories

Several items are available to monitor or control filter operation. Ask the Nowata filtration specialist for the Accessories literature sheet for complete details.

# Selecting The Right Nowata Filter Housing

Each Nowata filter housing is designated by a set of numbers and letters, giving definition to the specific parameters of the filter. The following diagram breaks down a typical Nowata filter part number into each component designation:

## PART NUMBER EXAMPLE:

**AS21TC20F4BN**

## PART NUMBER BREAKDOWN

<b>A</b>	<b>S</b>	<b>21</b>	<b>T</b>	<b>C</b>	<b>20</b>	<b>F</b>	<b>4</b>	<b>B</b>	<b>N</b>	(Options)
<b>MATERIAL AND CLOSURE STYLE</b>	<b>TRIM OPTIONS</b>	<b>NUMBER OF ELEMENTS</b>	<b>CARTRIDGE LENGTH (INCHES)</b>	<b>CODE CONSTRUCTION</b>	<b>PRESSURE RATING</b>	<b>INLET-OUTLET STYLE</b>	<b>INLET-OUTLET SIZE</b>	<b>INTERNAL MATERIAL</b>	<b>CLOSURE SEAL MATERIAL</b>	<b>SPECIAL OPTIONS</b>
A = Flat Top CS	Blank = All Carbon Steel	Number of 9-3/4" or 10" length Cartridges, Single Length Equivalents.	S = 9-3/4" or 10"	C = ASME "U" Stamp	20 = 200 PSI	F = RFSO	G = 1/2"	B = Brass Rigid	N = Buna	Letters Assigned by Nowata to Indicate Specials
B = Domed Bar Flange Top	A = All 304SS		D = 19-1/2" or 20"	U = ASME "UM" Stamp	30 = 300 PSI	G = Grooved	H = 3/4"	C = Carbon Steel Rigid	V = Viton	
D = RFWN Flange Top	B = 304SS Wetted		T = 29-1/4" or 30"	N = Non-Code	74 = 740 PSI	K = Sanitary	I = 1"	D = Hastelloy Rigid	E = EPDM	D = (2) 1/4" DP Taps
F = RFSO Flange Top	C = Hastelloy C276 Wetted		Q = 40"		144 = 1440 PSI	L = RFLWN	J = 1-1/4"	J = 222 316SS Threaded	F = Spiral Wound Flat	G = Gauge & Taps
S = Screw Top	D = Hastelloy C276 Complete					M = MNPT	K = 1-1/2"	H = Cup & Spring with Guide Rod Press In/30"-40" Cartridge Length	S = Teflon Encapsulated Silicon	H = Horizontal Orientation
U = Flat Top Not CS	S = CS/SS Trim/Internally Epoxy Lined					N = FNPT	L = 2-1/2"	K = Cup & Spring with Guide Rod Press In/29-1/4" Cartridge Length	T = Teflon Encapsulated Viton	
	T = 316SS Wetted					P = Socket Weld RF	M = 3-1/2"	W = 10" 316SS Rigid		
	U = All 316SS					R = RTJSO	4 = 4"			
						S = Socket Weld Cplg	6 = 6"			
						W = RFWN	8 = 8"			
						X = Victaulic	10 = 10"			

## Typical Applications

### Waterflood Filtration

Nowata filters are used to clean the water being injected into wells surrounding a producing oil well. This water must be filtered in order to prevent plugging of the injection formation, which also keeps the fluid environmentally friendly.



### Filters For Disposal

Produced water from an oil field, to be re-injected into the ground or reintroduced into the ecosystem, must first be filtered to remove contaminants, and thereby not damaging the environment. Nowata cartridge filters are especially suited for the job, providing excellent, cost effective filtration.

### Glycol & Amine Filtration

The removal of solid particles from glycol or amine in a gas treatment system is very important for the performance of this equipment. Nowata filters, with Trapper cartridges, are an excellent choice for this type of filtration.



### General Industrial Filtration

Nowata filters, with their wide range of capability in terms of micron ratings, flow rates and working pressures, are excellent for use in many types of industrial filtration. Call a Nowata Filtration specialist to discuss your specific application.

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