

# nano

PURIFICATION SOLUTIONS



**F-Series<sup>1</sup>**  
**performance validated**  
**compressed air & gas filtration**  
flow capacity: 8 - 1500 scfm (13 - 2550 Nm<sup>3</sup>/hr)

**F<sup>1</sup>**

# F-Series<sup>1</sup>

## performance validated compressed air & gas filter elements

flow capacity: 8 - 1500 scfm (13 - 2550 Nm<sup>3</sup>/hr)

# F<sup>1</sup>

Leading edge technology and more than 100 years of **experience**...nano-purification solutions, your world-class provider of state-of-the-art compressed air and gas solutions to industry.

Our commitment at n-psi is to work alongside our **customers** and provide unique solutions with the highest quality products to solve your specific challenges.

A wealth of experience and leading edge products are only part of the equation. n-psi realize that world-class customer **service** is the most important component to any successful business.

Experience. Customer. Service... **n-psi**



### Clean and Dry

Clean and dry compressed air is essential in every efficient and profitable manufacturing and process operation worldwide. nano-purification solutions' vast experience includes food, beverage, chemical, laboratory, medical and natural gas applications.

n-psi understands your needs and has created the nano range of high-performance, energy-saving compressed air and gas purification products to provide clean and dry compressed air and gases at an affordable price with unrivaled reliability.



Tested to ISO 12500 standards, the nano filter range has been independently validated to guarantee the highest levels of air quality making the F-Series<sup>1</sup> your premier filtration solution.

Advances in filter media provide enhanced filtration performance. These improvements mean reduced pressure loss, increased efficiency levels and lower energy costs.

# nano F-Series<sup>1</sup> compressed air & gas filtration

Clean and oil-free compressed air is easily achieved with the new range of F-Series<sup>1</sup> performance validated compressed air and gas filters. nano F-Series<sup>1</sup> filters provide:

- Improved filtration for your compressor room or point of use application
- Reliable & efficient liquid & particulate removal with low pressure drop
- Space saving design - no tie rod allows easy bowl removal
- Five element grades from 25 to 0.01 micron
- Nineteen models from 8 to 1500 scfm at 100 psig
- A comprehensive range of accessories for every application



**Reliability is built in...** backed by a 1 year element warranty and a 10 year housing warranty!

## Design. Performance. Validation.

### Optimized Design

Optimized performance is assured through extensive Computer Aided Design technology, finite element analysis & computational fluid dynamics.

—  
1000 hour neutral salt spray test for corrosion resistance to ISO 9227:2006.

—  
Burst pressure tested to a 5:1 safety factor.

—  
100% tested for pressure leaks.

—  
Fine coalescing filters are 100% tested for aerosol integrity.

### Performance Standards

The nano F-Series<sup>1</sup> filters are available in a complete range of contaminant removal grades designed to meet or exceed compressed air purity requirements throughout the industry.

—  
Designed to exceed the ISO 8573-1 standards for compressed air purity & the ISO 12500 Series International standard for compressed air filter testing.

—  
The nano F-Series<sup>1</sup> filters carry CRN (Canadian Registration Numbers) for approved use in every province of Canada.

### Independent Validation

Filtration performance is validated & tested by independent laboratories in accordance with international filtration & safety standards.

—  
Manufactured in ISO 9001 approved facilities.

—  
Independently validated to ISO 12500.

See our validation brochure for full details and a copy of the test report, or simply scan the mobile tag below.



# F-Series<sup>1</sup> compressed air & gas filters – in detail

## filter element features

### Double element o-ring

Prevents contaminant by-pass.

### Stainless steel cylinders

Provide strength, rigidity & corrosion resistance.

### Spiral wound inner coil

Provides extra strength on larger elements.

### Deep bed filter media

Provides low differential pressure resulting in improved energy efficiency & long element life.

### Hydrophobic & oleophobic

Borosilicate glass microfiber media repels oil & water for improved coalescing performance.

### Anti re-entrainment layer

Optimizes liquid drainage & minimizes differential pressure.

### Outer drainage layer

Compatible with synthetic lubricants & prevents oil carry over.

### Ultrasonic seam welded elements

Ensures element strength & integrity.

### Air distribution duct

Provides uniform air flow, resulting in lower differential pressure & improved filtration & flow dynamics.

### Drop-fit, self locating elements

No tie rod simplifies element change out & reduces access requirements for bowl removal.

### Corrosion resistant endcaps

Color coded to provide easy & accurate filtration grade identification.

### Lower annular location ring

Prevents element vibration, improves stability in reverse flow (dust removal) applications & improves drainage.



## filter housing features

### Extensive range

Ports from 1/4" to 3" in both NPT & BSP, & flow capacities up to 1500 scfm.

### Compact design

Allows installation in confined spaces.

### Modular design

Enables easy & compact installation of multiple filters.

### Aluminum die cast housing

Pressure die casting provides enhanced strength & long life.

### E-coat™ internal coating

Advanced process provides exceptional corrosion resistance.

### Powder coated exterior

Provides a tough and abrasion resistant surface.

### Secure bowl connection

Three full turns ensure head is safety connected to bowl.

### High nitrile rubber seals

Provide enhanced resistance in challenging environments & applications.

### Large condensate reservoir

Provide quiet zone for bulk oil collection.

### Automatic drain standard

Includes manual override for testing & depressurization.

### Hexagon spanner locator

For simple bowl removal.

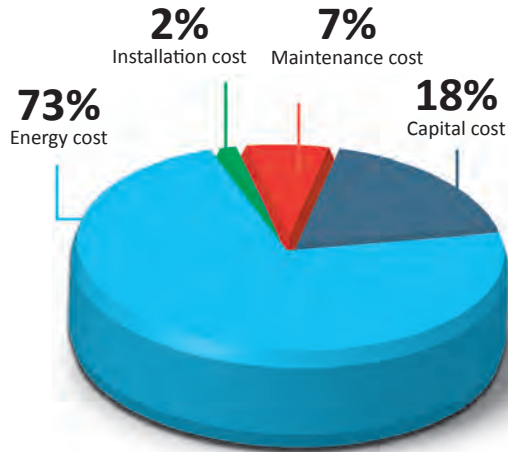
### No tie rod

For minimum maintenance access.

### Chemically compatible design

For use with all oil flooded or oil-free compressors.

## energy efficiency



Once you have a well designed compressed air system with suitable air treatment and filtration, it is vital to maintain & monitor that system. Over the ten-year life of a compressor, the cost of energy to run the system far outweighs the capital investment. Maintenance accounts for only 7% of the total costs, yet this is a crucial activity for maximizing the energy efficiency of any compressor.

Repeated exposure to oil, vapor and particulate matter can, over time, cause the filter elements to become clogged. This creates an increase in pressure drop compromising not only performance but also resulting in an increase in energy cost.



## optimized filtration

Every 10 psig of pressure drop represents a 5% increase in compressor energy costs. It is vital to observe a scheduled maintenance program which includes the replacement of filter elements.

We recommend that filter elements are replaced at least every 12 months (6 months for activated carbon). All filters and elements are supplied with an element change out label which adheres to the filter housing and shows when the next change should take place.

Source: Carbon Trust



Pop up differential pressure indicator



Automatic drain with manual override



A variety of filter mounting accessories



Dual sided differential pressure gauge



Element replacement reminder label

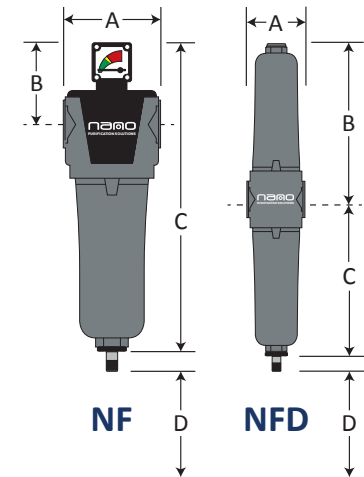
# sizing & specifications

Filter Model	Inlet & Outlet	Rated Flow <sup>(1)</sup>		Dimensions (inches)				Approx. Weight	Replacement Element
	NPT	scfm	Nm³/h	A	B	C	D	lbs	Part No.
<b>NF Series - Coalescing, Particulate or Activated Carbon</b>									
NF 0008 (grade)	¼"	8	13	1.97	0.71	5.98	2.36	0.7	E 0008 (grade)
NF 0015 (grade)	¼"	15	25	1.97	0.71	5.98	2.36	0.7	E 0015 (grade)
NF 0025 (grade)	¼"	25	42	2.75	0.98	7.52	2.76	1.3	E 0025 (grade)
NF 0035 (grade)	⅜"	35	59	2.75	0.98	7.52	2.76	1.3	E 0035 (grade)
NF 0050 (grade)	½"	50	85	2.75	0.98	9.13	2.76	1.5	E 0050 (grade)
NF 0070 (grade)	½"	70	119	3.94	1.38	10.87	3.15	3.5	E 0090 (grade)
NF 0085 (grade)	¾"	85	144	3.94	1.38	10.87	3.15	3.5	E 0090 (grade)
NF 0090 (grade)	1"	90	153	3.94	1.38	10.87	3.15	3.5	E 0090 (grade)
NF 0125 (grade)	¾"	125	212	3.94	1.38	15.59	3.15	4.4	E 0135 (grade)
NF 0135 (grade)	1"	135	229	3.94	1.38	15.59	3.15	4.4	E 0135 (grade)
NF 0175 (grade)	1"	175	297	3.94	1.38	15.59	3.15	4.4	E 0175 (grade)
NF 0280 (grade)	1¼"	280	476	4.80	1.65	18.11	3.15	6.2	E 0325 (grade)
NF 0290 (grade)	1½"	290	493	4.80	1.65	18.11	3.15	6.2	E 0325 (grade)
NF 0325 (grade)	1½"	325	550	4.80	1.65	18.11	3.15	6.2	E 0325 (grade)
NF 0400 (grade)	1½"	400	680	5.75	2.05	18.98	3.94	9.2	E 0450 (grade)
NF 0450 (grade)	2"	450	765	5.75	2.05	18.98	3.94	9.2	E 0450 (grade)
NF 0700 (grade)	2"	700	1190	5.75	2.05	30.91	3.94	13.9	E 0700 (grade)
NF 0850 (grade)	2½"	850	1445	8.27	2.60	23.43	3.94	18.7	E 1000 (grade)
NF 1000 (grade)	3"	1000	1700	8.27	2.60	23.43	3.94	18.7	E 1000 (grade)
NF 1250 (grade)	3"	1250	2125	8.27	2.60	32.09	3.94	23.1	E 1250 (grade)
NF 1500 (grade)	3"	1500	2550	8.27	2.60	38.39	3.94	26.4	E 1500 (grade)

## NFD (Duplex) Series - 0.01 micron Coalescing & Activated Carbon

NFD 25	¼"	25	42	2.75	6.42	6.26	2.76	2.0	E 0025 DAC
NFD 35	⅜"	35	59	2.75	6.42	6.26	2.76	2.0	E 0035 DAC
NFD 50	½"	50	85	2.75	8.03	7.87	2.76	2.2	E 0050 DAC
NFD 70	½"	70	119	3.94	9.45	9.29	3.15	5.1	E 0070 DAC
NFD 85	¾"	85	144	3.94	9.45	9.29	3.15	5.1	E 0085 DAC
NFD 125	¾"	125	212	3.94	14.17	14.02	3.15	6.8	E 0125 DAC
NFD 135	1"	135	229	3.94	14.17	14.02	3.15	6.8	E 0135 DAC
NFD 175	1"	175	297	3.94	14.17	14.02	3.15	7.0	E 0175 DAC

specifications	NF 0008-0015			NF 0025-0050		NF 0070-1500			
design operating pressure range	0 - 232 psig			0 - 232 psig		22 - 232 psig <sup>(2)</sup>			
automatic float drain	NDK 0050			NDK 0050		NDK 1500			
differential pressure indicator / gauge	-			NDP 0050		NDPG 1500			
element performance	M25		M5	M1	M01		AC		
maximum particle size (ISO Class) <sup>(2)</sup>	-		3	2	1		-		
maximum oil content (ISO Class) <sup>(2)</sup>	-		4	2	1		1		
particle removal (microns)	25		5	1	0.01		-		
max oil carry over at 68°F (ppm or mg/m³)	10		5	0.1		0.01		0.003	
recommended operating temp range (°F)	35 - 212		35 - 212	35 - 212		35 - 212		35 - 77	
design operating temperature range (°F)	35 - 248		35 - 248	35 - 248		35 - 248		35 - 122	
pressure correction factors									
operating pressure (psig)	60	70	85	100	115	145	175	205	235
correction factor	0.76	0.84	0.92	1.00	1.07	1.19	1.31	1.41	1.51



(1) At 100 psig. For all other pressures, refer to the pressure correction factor table above. (2) For pressures below 22 psig order with an NDK 0050 condensate drain. (3) Per ISO 8573.1:2001 (E).

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YEAR  
WARRANTY

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Publication ref. n-psi-F1-02-US