

# Ingersoll Rand

## NL Module

### Less Energy Use, Longer Life

Ingersoll Rand's NL Module coalescing filters provide true oil-free compressed air with minimal pressure drop of 0.5 psid for long-term cost savings. Superior air quality is achieved by effectively removing damaging oil and water aerosols before they flow through air system piping, process equipment and pneumatic valves and tools.

Conventional filters used to achieve similar air quality typically operate at a pressure drop 6 psid higher than the NL Module, and have a far shorter service life.

These maintenance-free filters feature a high-quality design that extends element life to 10 to 15 years and helps eliminate system downtime by reducing the effects of a catastrophic failure of the compressor's air/oil separator.

Once the pressure differential reaches 3 psid or greater, it is time to change the element. This requires depressurization of the vessel as well as lid and element removal.



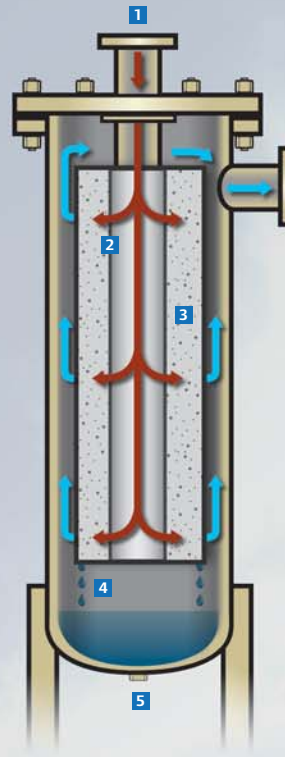
### Benefits

- High-efficiency particulate filtration to 0.5 ppm
  - > 3 microns at 100%
  - 0.1 to 3 microns at 99.98%
- Effective oil removal
  - 2 ppm in = 0.01 ppm out
  - 10 ppm in = 0.05 ppm out
- Low pressure drop resulting in low energy costs
- Extended element life — 10 -15 years
- Effective on all common mineral and synthetic lubricants
- Standard differential pressure gauge indicates element condition
- Virtually maintenance-free

# NL Modules

## How Coalescing Filters Work

Air contaminated with mineral or synthetic oil and water aerosols enters the NL Module housing (1) and flows horizontally through a deep filter bed (2). Sub-micron particles collect on individual bed fibers and coalesce to form droplets (3). As the droplets move through the filter bed, they become larger and their resulting weight forces them to drop to the bottom of the housing (4). Low internal velocity prevents oil re-entrainment, while the large surface area keeps the pressure drop very low over the life of the element. The long residence time through the deep filter bed ensures the highest coalescing efficiency. Automatic or manual drains can be used to discharge lubricant and water that accumulate in the bottom of the housing (5). Compressed air and drain hookups are all that's required to integrate an NL Module into your compressed air system — no electricity is used.



**Depth of Bed Filtration** Deep-bed filtration provides more surface area for the highest coalescing efficiency



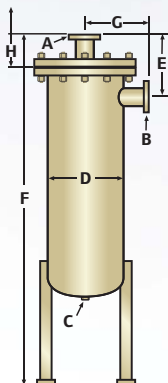
Typical cross-section of an NL Module



Typical cross-section of a standard filter

### Technical Performance

Name	Model Number	scfm Flow@100 psig	Connection Size (A) (B)	Drain Port (C)	Shipping Weight lb		Dimensions in				
					Housing & Element (D)	Replacement Element (E)	(F)	(G)	(H)		
NLM125	F210NG	125	2" MPT	1" FPT	455	20	14	14.5	42.3	13	21
NLM250	F430NG	250	2" MPT	1" FPT	455	25	14	14.4	42.3	13	25
NLM500	F850NG	500	3" MPT	1" FPT	520	35	14	14.4	68.3	13	37
NLM800	F1360NG	800	3" MPT	1" FPT	530	60	14	14.5	68.3	13	51
NLM1100	F1870NG	1,100	3" MPT	1" FPT	660	70	16	15.5	72.3	14	57
NLM1500	F2550NG	1,500	4" FLG	1" FPT	775	100	18	15.6	72.4	15	57
NLM1900	F3220NG	1,900	4" FLG	1" FPT	1,225	120	24	16.9	75.8	18	59
NLM2400	F4070NG	2,400	4" FLG	1" FPT	1,245	140	24	16.9	75.8	18	59
NLM3000	F5100NG	3,000	4" FLG	1" FPT	1,385	160	24	16.9	88.8	18	69
NLM4500	F7600NG	4,500	6" FLG	1.5" FLG	1,770	250	24	18	153	18	118
NLM6000	F10200NG	6,000	8" FLG	2" FLG	2,460	350	30	18	155	21	118
NLM8000	F13600NG	8,000	8" FLG	2" FLG	2,850	375	30	19	181	21	142
NLM10000	F17000NG	10,000	10" FLG	2" FLG	4,500	475	30	21	211	25.75	173



**NL Module Dimensions**  
Please refer to the table above to find dimensions for each NL model.

### Annual Savings From 6 psig Reduction

kW Cost	Air Compressor Horse Power		
	50	100	200
\$0.06	\$274	\$548	\$1,096
0.08	365	730	1,460
0.10	457	913	1,826

Savings calculations based on (2) 8-hour shifts/day, 5 days/week, 51 weeks/year = 4,080 hours

Progress is greener with Ingersoll Rand



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