

# Heavy Duty Filtration

## High Temperature and High Pressure Solutions

*The new line of heavy duty filtration offered by Ingersoll Rand will accommodate specific high temperature or high pressure application needs that standard filters cannot meet.*

Conventional filtration operates in temperatures up to 80°C and pressures nearing 16 bar g, while heavy duty filtration can reach temperatures of 200°C or 40 bar g. Expect the same high quality air from the Ingersoll Rand heavy duty filters - offering high efficiency particulate filtration and a low pressure drop. The reinforced, durable housing of our heavy duty filters provide reliability in even the harshest industrial environments.

### High Temperature Filtration

- Continuous operation at 150°C with intermittent capabilities at 200°C.
- Equipped with a differential pressure gauge to indicate element condition and float drain for proper condensate removal.
- Spiral copper tubing allows hot air to cool as it passes the pressure gauge providing instant and accurate reading.

### High Pressure Filtration

- Fully functional, high efficiency filtration in high pressure applications of up to 40 bar g.
- Robust housing suitable for almost any high pressure environment.





**Filters... Made specifically for your needs.**

All of this great new technology provides value in precisely the type we offer dust filters, general purpose filters, coalescing filters and activated carbon filters\*.

Filter Grade A*, G, H, D	Port Size BSPT in	Flow Rates 40 bar g m <sup>3</sup> /min	Flow Rates		Dimensions					Weight kg
			7 bar g / 100 psig m <sup>3</sup> /min	cfm	A mm	B mm	C mm	D mm	E mm	
<b>High Pressure</b>										
F0150I(grade) HDP	1"	12.50	2.50	88	120	36	435	170	-	2.8
F0300I(grade) HDP	1"	25.00	5.00	177	120	36	435	170	-	2.8
F0500I(grade) HDP	1 1/2"	41.67	8.33	294	120	36	435	170	-	2.8
F0800I(grade) HDP	2"	66.67	13.33	471	170	52	705	170	-	7.5
F1000I(grade) HDP	2"	83.33	16.67	589	170	52	705	170	-	7.7
F1300I(grade) HDP	2 1/2"	108.33	21.67	765	200	68	755	170	-	12.2
F2000I(grade) HDP	3	166.67	33.33	1177	200	68	1035	170	-	15.7
F2700I(grade) HDP	3	225.00	45.00	1589	200	68	1035	170	-	15.8
<b>High Temperature</b>										
F0150I(grade) HDT	1"	-	2.50	88	120	36	700	170	-	4.3
F0300I(grade) HDT	1"	-	5.00	177	120	36	700	170	-	4.3
F0500I(grade) HDT	1 1/2"	-	8.33	294	120	36	700	170	-	4.3
F0800I(grade) HDT	2"	-	13.33	471	170	52	970	170	-	9.0
F1000I(grade) HDT	2"	-	16.67	589	170	52	970	170	-	9.2
F1300I(grade) HDT	2 1/2"	-	21.67	765	200	68	1020	170	-	13.7
F2000I(grade) HDT	3	-	33.33	1177	200	68	1300	170	-	17.2
F2700I(grade) HDT	3	-	45.00	1589	200	68	1300	170	-	17.2
<b>High Temperature Flange Size</b>										
F2800I(grade) HDT	DN 100	-	46.67	1648	485	255	1400	-	780	85
F4200I(grade) HDT	DN 125	-	70.00	2472	630	280	1400	-	670	130
F5700I(grade) HDT	DN 150	-	95.00	3355	630	300	1520	-	780	127
F7500I(grade) HDT	DN 150	-	125.00	4415	676	310	1560	-	780	160
F9300I(grade) HDT	DN 150	-	155.00	5475	724	320	1600	-	780	192
F11000I(grade) HDT	DN 200	-	183.33	6475	724	335	1610	-	780	192
F14200I(grade) HDT	DN 200	-	236.67	8359	885	435	1670	-	780	395
F19900I(grade) HDT	DN 250	-	331.67	11714	1050	435	1670	-	780	460
F31000I(grade) HDT	DN 300	-	516.67	18249	1200	525	1775	-	780	715

\* High Temperature filters are not available in Grade A.

**Grade A - Activated Carbon Filtration (High Pressure Only)**

Oil vapour and hydrocarbon odour removal, providing a maximum remaining oil content of <0.003 mg/m<sup>3</sup> (excluding methane) @ 21°C (Precede with Grade H filter).

**Grade G - General Purpose Protection**

Particle removal down to 1 micron including coalesced liquid, water and oil, providing a maximum remaining oil aerosol content of 0.6 mg/m<sup>3</sup> @ 21°C.

**High Temperature Filtration Operating Limitations**

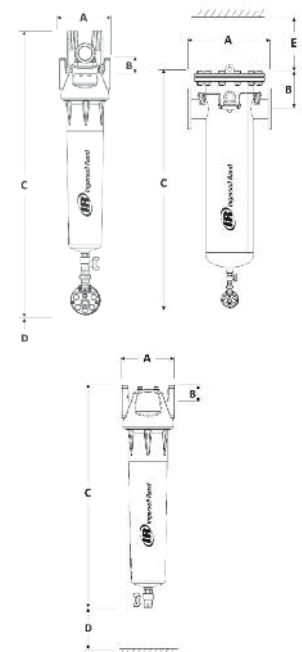
Maximum Operating Pressure (BSPT & Flanged Filters) = 16 bar g (232 psig).  
Maximum Recommended Operating Temperature = 150°C; 200°C intermittent operation.  
Maximum Recommended Operating Temperature = 1°C.

**Grade H - High Efficiency Oil Removal Filtration**

Particle removal down to 0.01 micron including water and oil aerosols, providing a maximum remaining oil aerosol content of 0.01 mg/m<sup>3</sup> @ 21°C (Precede with Grade G filter).

**Grade D - General Purpose Dust Filtration**

Dust particle removal down to 1 micron.



**High Temperature Correction Factors**

Line pressure	bar g	1	2	3	5	7	9	11	13	15	16
	psig	15	29	44	73	100	131	160	189	218	232
<b>Correction Factors</b>		0.38	0.53	0.65	0.85	1.00	1.13	1.25	1.36	1.46	1.51

**High Pressure Filtration Operating Limitations**

Maximum Operating Pressure BSPT Filters = 40 bar g (580 psig)  
Maximum Recommended Operating Temperature (Grade D, G, H) = 80°C

Maximum Recommended Operating Temperature (Grade A) = 30°C  
Minimum Recommended Operating Temperature = 1°C

**High Pressure Correction Factors**

Line pressure	bar g	7	16	20	25	30	35	40
	psig	100	232	290	363	435	508	580
<b>Correction Factors</b>		1	2.1	2.5	3	3.5	4	5

Capacity of F800I HDP at standard 7 bar conditions is 800 m<sup>3</sup>/h  
- at 7 bar: 800 x 1 = 800 m<sup>3</sup>/h  
- at 40 bar: 800 x 5 = 4000 m<sup>3</sup>/h

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