QDT SERIES

Activated carbon towers for optimal oil vapor filtration

The high efficiency activated carbon tower is capable of removing hydrocarbons, odors and oil vapor from compressed air.
The activated carbon will, by the use of adsorption, reduce the residual oil content to lower than 0.003 mg/m^3.
The pressure drop is low and stays minimal during the filter's lifetime.

YOUR BENEFITS

Maximum oil vapor removal
Superb activated carbon material.

Low pressure drop
Optimal internal flow path.

High reliability
Robust design and optimal filter material.

Options
- Oil indicator ensures pure air.
- Wall mounting kit for easy installation (20 – 185 l/s).

Certification
ISO 8573-5:2001

Performance

	QDT
Contaminant	Oil vapor
Test method	ISO 8573-5:2001, ISO 12500-2:2007
Maximum oil carry-over (mg/m^3)*	0.003
Dry pressure drop (mbar)	125 (QDT 20-310) 72 (QDT 425-1800)
Element service	After 4,000 operating hours or 1 year
Precede with	Water separation UD+ or DD+/PD+ Dryer

* After UD+ or DD+/PD+ with inlet oil concentration of 10 mg/m^3.

Sizing & dimensions

FILTER SIZE QDT	Nominal capacity		Connections G or NPT threaded	Dimensions						Weight	
				A		B		C			
	l/s	cfm	DIN or ANSI flanged	mm	in	mm	in	mm	in	kg	lbs
20	20	42	1/2"	490	19	223	9	190	7	10	22
45	45	95	1"	715	28	223	9	190	7	15	33
60	60	127	1"	840	33	223	9	190	7	18	40
95	95	210	1"	715	28	387	15	190	7	29	64
125	125	265	1 1/2"	840	33	387	15	190	7	34	75
150	150	318	1 1/2"	715	28	551	22	190	7	42	93
185	185	392	1 1/2"	840	33	551	22	190	7	50	110
245	245	519	1 1/2"	840	33	715	28	190	7	67	148
310	310	657	1 1/2"	840	33	879	35	190	7	84	185
425	425	901	DN80 / 3"	2148	85	710	28	600	24	264	581
550	550	1165	DN80 / 3"	2190	86	710	28	670	26	302	664
850	850	1801	DN100 / 4"	2320	91	724	29	805	32	391	860
1100	1100	2331	DN100 / 4"	2450	97	934	37	820	32	602	1324
1800	1800	3814	DN150 / 6"	2612	103	1046	41	980	39	882	1940

Correction factors

For other compressed air inlet temperatures, please multiply the filter capacity by the following correction factor (Kt):

Inlet temperature °C	20	25	30	35	40	45	50	55	60
Inlet temperature °F	68	77	96	95	104	113	122	131	140
Correction factor	1	1	1	1	0.85	0.67	0.59	0.48	0.42

For other compressed air inlet pressures, please multiply the filter capacity by the following correction factor (Kp):

Inlet pressure bar	3	4	5	6	7	8	9	10	11	12	13
Inlet pressure psi	44	58	73	87	102	116	131	145	160	174	193
Correction factor	0.57	0.77	0.83	1	1	1	1	1.05	1.05	1.11	1.18

Example

- Working temperature 50°C, pressure 12 bar(g), compressed air flow 120 l/s.
- Multiply the nominal capacity of the selected filter with the corresponding correction factors at the required working temperature and pressure to obtain the capacity at operating condition
  - QDT 150: 150l/s * 0.59 * 1.11 = 98l/s => A QDT 150 filter is not large enough
  - QDT 195: 195l/s * 0.59 * 1.11 = 128l/s => A QDT 195 filter is the correct size

QDT 20-310 QDT 425-1800

UD+ & QDT: the winning combination

UD+	QDT
Liquid oil & oil aerosol removal	Oil vapor removal
Guaranteed 0.0009 mg/m³ aerosol and liquid	Guaranteed 0.003 mg/m³ vapor
40% pressure drop reduction compared to DD+/PD+	65% pressure drop reduction compared to previous QDT
50% footprint reduction	Extremely compact compared to vessel designs

CLASS 1: Total oil, according ISO 8573-1:2010

The Atlas Copco UD+ - QDT filter train meets the requirements of air purity class 1 for total oil, according to ISO 8573-1:2010, in a typical compressed air installation.