Clean, Dry Compressed Air
Vacuum Regeneration
ATVT Generation 5

A75TVT – A1219TVT

Adsorption Dryers
Whether a compressed air user wants to control the growth of micro-organisms (essential for direct and in-direct contact applications in the food, beverage & pharmaceutical industries), ensure air used for critical applications / instrumentation is free from water contamination or has external piping where low ambient temperature can cause condensation, adsorption dryers are the go to dryer technology.

There are many different adsorption dryer technologies available and whilst they all reduce water from the compressed air in the same way, they differ in the way they regenerate the desiccant material.

Vacuum Regeneration Adsorption Dryers
Vacuum regeneration dryers do not use process air to regenerate the adsorbent desiccant material, instead they use ambient air for both regeneration and cooling (reducing energy consumption and process air loss).
For regeneration, the ambient air is heated and pulled across the desiccant bed using a vacuum pump. To cool the desiccant and ensure it is at the optimum temperature for adsorption, the heat source is simply removed, and the desiccant cooled to ambient temperature. Vacuum regeneration dryers can be supplied with electric heaters or heat exchangers that utilise existing heat sources on site (steam, hot oil, etc.)

Advantages

- CompAir ATVT dryers provide a constant outlet dewpoint in accordance with ISO8573-1
- Air quality is enhanced when installed with CompAir High Efficiency Coalescing pre-filtration and General Purpose Dry Particulate post filtration
- No process air is used during regeneration & cooling of the desiccant material, reducing energy consumption
- Regeneration under vacuum further improves energy efficiency
- Can utilise existing heat sources (eliminating need for electrical heater) to further reduce energy consumption by using the following options: steam regeneration, steam / electric regeneration or hot water / electric regeneration
- Thermal insulation for reduction of heat loss and touch protection fitted as standard
- Full feature electronic control with dewpoint display and Energy Saving Technology fitted as standard
- Large flow capacities

Dryer Performance

Dryer Models	Dewpoint (Standard)		ISO8573-1:2010 Classification (Standard)	Dewpoint (Option 1)		ISO8573-1:2010 Classification (Option 1)	Dewpoint (Option 2)		ISO8573-1:2010 Classification (Option 2)
	°C	°F		°C	°F		°C	°F	
ATVT	-40	-40	Class 2.2.2	-70	-100	Class 2.1.2	-20	-4	Class 2.3.2

ISO8573-1 Classifications when used with CompAir pre / post filtration

Technical Data

Dryer Models	Minimum Operating Pressure		Maximum Operating Pressure*		Minimum Operating Temperature		Maximum Operating Temperature		Maximum Ambient Temperature		Electrical Supply (Standard)	Electrical Supply (Optional)	Connection	Noise Level
	bar g	psi g	bar g	psi g	°C	°F	°C	°F	°C	°F				dB(A)
ATVT	4	58	11	145	5	41	40	104	40	104	400V 3ph 50Hz	On request	Flanged	80-85

*For higher operating pressure please contact CompAir

Flow Rates

Model	Pipe Size	Inlet Flow Rate				Average Power kW
		L/s	m³/min	m³/hr	cfm	
A75TVT	DN 50	125	7.5	450	265	3.6
A102TVT	DN 50	169	10.2	610	359	5.3
A134TVT	DN 50	222	13.4	800	471	6.8
A195TVT	DN 80	325	19.5	1170	689	9.5
A245TVT	DN 80	408	24.5	1470	865	12.8
A342TVT	DN 80	569	34.2	2050	1207	16.8
A509TVT	DN 100	847	50.9	3050	1795	25.4
A618TVT	DN 100	1028	61.8	3700	2178	30.8
A843TVT	DN 150	1403	84.3	5050	2972	41.8
A1010TVT	DN 150	1681	101.0	6050	3561	52.6
A1219TVT	DN 150	2028	121.9	7300	4297	59.5

Inlet flow rate relating to 1 bar(a) and 20 °C; relating to the suction performance of the compressor, compression at 7 bar(g) and 35 °C dryer inlet temperature, at 25 °C ambient temperature, 60 % relative humidity.

Product Selection & Correction Factors

For correct operation, compressed air dryers must be sized using for the maximum inlet temperature, maximum ambient temperature, minimum inlet pressure, required outlet dewpoint and maximum flow rate of the installation.

To select a dryer, first calculate the MDC (Minimum Drying Capacity) using the formula below then select a dryer from the flow rate table above with a flow rate equal to or above the MDC.

Minimum Drying Capacity = System Flow x CFMIT x CFMAT x CFMIP x CFOD

CFMIT - Correction Factor Maximum Inlet Temperature

Maximum Inlet Temperature	°C	25	30	35	40
	°F	77	86	95	104
Correction Factor		0.80	0.91	1.00	1.80

CFAT - Correction Factor Maximum Ambient Temperature

Maximum Ambient Temperature	°C	20	25	30	35	40
	°F	68	77	86	95	104
Correction Factor		1.00	1.00	1.00	1.00	1.00

25% rel. hum. at 40°C; 37% rel. hum. at 35°C; 50% rel. hum. at 30°C; 70% rel. hum. at 25°C; 90% rel. hum. at 20°C For higher ambient temperature and/or higher relative humidity please contact CompAir.

CFMIP - Correction Factor Minimum Inlet Pressure

Minimum Inlet Pressure	bar g	4	5	6	7	8	9	10	11
	psi g	58	73	87	100	116	131	145	160
Correction Factor		2.00	1.39	1.18	1.00	0.99	0.87	0.79	0.56

CFOD - Correction Factor Outlet Dewpoint

Outlet Dewpoint	°C	-20	-25	-40	-70
	°F	-4	-13	-40	-100
Correction Factor		0.95	0.95	1.00	*

* Selection for Dewpoint -70°C - Please Contact CompAir

Controller Functions (Basic)

Dryer Models	Controller Function							
	Power On Indication	Visual Fault Indication	Dewpoint Display	EST - Energy Saving Technology	Filter Service Indicator	Dryer Service Indicator	Fault Relay: Power Loss Dewpoint Alarm Sensor Failure	4-20mA Dewpoint Re-transmission
WVM	•	•	•	•		•	•	•

For all functions please contact CompAir

Required Filtration

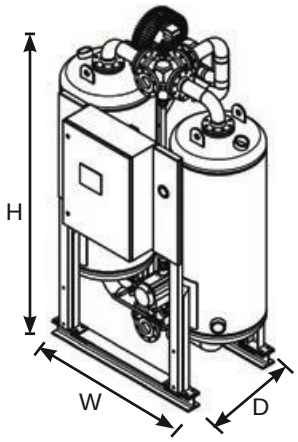
Model	Dryer Connection	Dryer Inlet	Dryer Outlet	
		High Efficiency Filter	Oil Vapour Reduction Filter	General Purpose Dry Particulate Filter
A75TVT	DN 50	CF0128LFC	on request	CF0128LFD
A102TVT	DN 50	CF0128LFC		CF0128LFD
A134TVT	DN 50	CF0220LFC		CF0220LFD
A195TVT	DN 80	CF0220LFC		CF0220LFD
A245TVT	DN 80	CF0350LFC		CF0350LFD
A342TVT	DN 80	CF0350LFC		CF0350LFD
A509TVT	DN 100	CF0700LFC		CF0700LFD
A618TVT	DN 100	CF0700LFC		CF0700LFD
A843TVT	DN 150	CF0950LFC		CF0950LFD
A1010TVT	DN 150	CF1250LFC		CF1250LFD
A1219TVT	DN 150	CF1250LFC		CF1250LFD

Filtration Performance	High Efficiency Filter	Oil Vapour Reduction Filter	General Purpose Dry Particulate Filter
Filtration Grade	Grade C	≤0.003 mg/m³ ≤0.003 ppm (w)	Grade E
Filtration Type	Coalescing		Dry Particulate
Particle Reduction (inc water & oil aerosols)	Down to 0.01 micron		Down to 1 micron
Maximum Remaining Oil Aerosol Content at 21°C	≤0.01 mg/m³ (≤0.01 ppm(w))		N/A
Maximum Remaining Oil Vapour Content at System Temperature	N/A		N/A
Filtration Efficiency	99.9999%		99.925%

Filters are not included and must be ordered separately

Weights & Dimensions

Model	Pipe Size	Dimensions (Dryer Only)						Weight (Dryer Only)	
		Height (H)		Width (W)		Depth (D)			
		mm	ins	mm	ins	mm	ins	kg	lbs
A75TVT	DN 50	2029	80	1222	48	1219	48	730	1609
A102TVT	DN 50	2029	80	1222	48	1219	48	760	1676
A134TVT	DN 50	2379	94	1222	48	1219	48	860	1896
A195TVT	DN 80	2151	85	1692	67	1412	56	1290	2844
A245TVT	DN 80	2301	91	1692	67	1412	56	1400	3086
A342TVT	DN 80	2751	108	1692	67	1462	58	1810	3990
A509TVT	DN 100	2692	106	2115	83	1702	67	2540	5600
A618TVT	DN 100	2992	118	2115	83	1702	67	2830	6239
A843TVT	DN 150	3210	126	2582	102	1910	75	4205	9270
A1010TVT	DN 150	3460	136	2582	102	1910	75	4635	10218
A1219TVT	DN 150	3450	137	2782	110	2010	79	5280	11640



Quality Assurance / IP Rating / Pressure Vessel Approvals

Development / Manufacture	ISO 9001 / ISO 14001 / OSHAS 18001
Ingress Protection Rating	IP54 Indoor Use Only
EU	Pressure vessel approved for fluid group 2 in accordance with the Pressure Equipment Directive 2014/68/EU
USA	Approval to ASME VIII Div. 1on request
AUS	Approval to AS1210 on request
Russia	TR (formerly GOST-R) on request
For use with Compressed Air and Nitrogen Only