

# Ultracac ALD/MSD Type 0003-60 to 0600-60

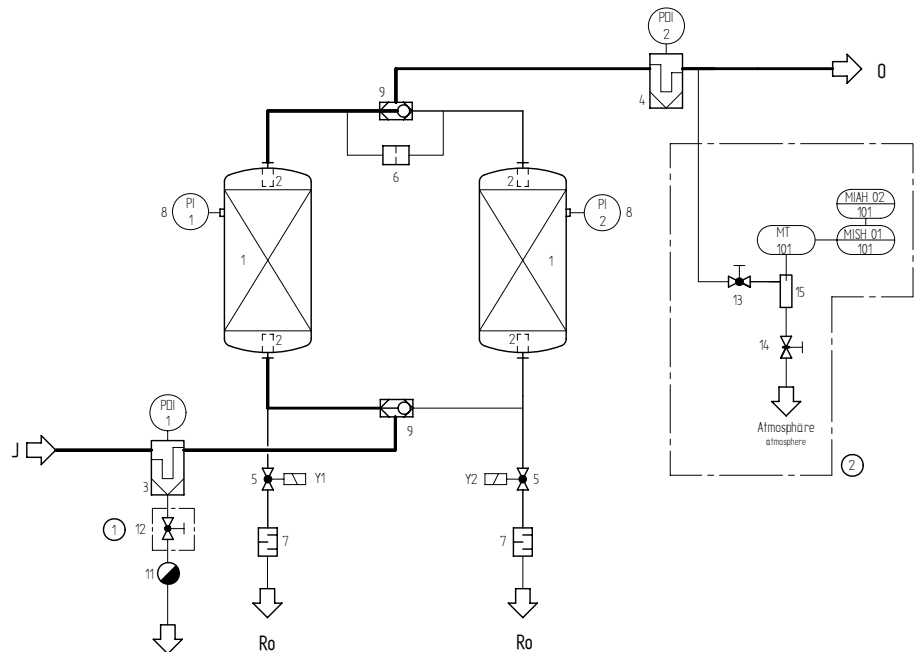
Complete purification package with heatless adsorption dryer, pre-, afterfilter and level-controlled electronic condensate drain.

Compressed air is lead through the inlet of the dryer (J) and across the prefilter (3). At this stage, the air is cleaned from particles and condensate. The condensate are removed via the condensate drain (11).

Via the lower shuttle valve (9), the air is lead into the adsorption vessel (1), in which the air is dried down to the required dewpoint. Via the upper shuttle valve (9), the air is let into an after. filter (4), in which possibly released particles from the desiccant bed are retained. Via the outlet (O), the clean and dry air is lead into the compressed air network and to the point of use. While one vessel is in the drying phase (adsorption), the other vessel is being dried again (regeneration). A partial stream of dried air is expanded to atmospheric pressure via a nozzle (6) and lead across the desiccant bed for regeneration and via a solenoid valve (5) and a silencer (7) to the atmosphere.



Ultracac ALD/ MSD



Ultracac ALD/MSD	Volume flow in cfm *	Regeneration air losses (average) cfm		Volume flow out (min.) cfm		Pressure loss initial psi	Prefilter (Afterfilter) MF (PE)
		ALD	MSD	ALD	MSD		
0003-60	3	0.47	0.59	2.37	2.25	0.34	03/05
0005-60	5	0.89	1.18	4.85	4.44	0.41	03/05
0010-60	10	1.36	1.78	7.22	6.69	0.61	03/05
0015-60	15	2.25	2.96	12.01	11.18	0.61	04/10
0020-60	20	3.14	4.14	16.86	15.62	0.68	04/10
0030-60	30	4.44	5.92	24.14	22.31	0.61	05/20
0050-60	50	7.10	9.47	38.58	35.68	0.75	05/20
0060-60	60	8.88	11.83	48.28	44.62	0.82	05/25
0085-60	85	13.61	17.75	72.01	66.92	1.16	05/25
0100-60	100	15.53	20.71	84.44	78.11	0.68	05/25
0125-60	125	20.12	26.63	108.40	100.59	0.85	07/30
0175-60	175	26.63	35.50	144.79	133.85	1.09	07/30
0200-60	200	33.14	44.38	181.12	167.34	1.29	07/30
0300-60	300	49.11	65.09	265.03	245.38	1.22	10/30
0400-60	400	57.99	76.92	313.31	290.00	1.50	10/30
0500-60	500	75.74	100.59	409.82	379.23	1.77	15/30
0600-60	600	88.76	118.34	482.54	446.15	1.22	20/30

\* related to 14.7 psi (abs) and 68°F at intake of compressor and 100 psig and 95 °F inlet temperature



## ALD/MSD 0003-60 - 0600-60

Features ALD/ MSD:	Benefits
Purification package complete with pre-,afterfilter and condensate drain	Turnkey system, no additional installation required, all components from one hand, technically perfectly matched to each other
Prefilter with electronic, level-controlled drain UFM-T	No compressor air losses due to condensate removal, therefore reduction of operating costs
All dryers in cabinet construction	Optimum protection against mechanical damage and against dirt
Filters oversized	Large filtration surface, therefore low pressure drop and low operating costs
Display of operating status by LED	High operating safety, since all operating status can be detected easily at any time
Intermittent operation standard	Link between dryer and compressor possible on central applications, therefore saving of compressed air
17 sizes available, matched to the compressor flows, with 3 pressure dewpoints each, for choice	Custom made solutions possible, matching exactly customer's requirements; no oversizing of compressors necessary, since lowest possible regeneration air requirements
Comprehensive option package: Dewpoint depending control, start-up device, bypass, pneumatics control, change-over control etc.	Flexibility in application, well thought-o package for economical operation and safe system installation in the compressed air network

Product description:
<b>Ultrapac ALD/MSD:</b> Complete purification package with heatless adsorption dryer, which works on the basis of pressure swing adsorption, with integrated pre- and afterfilter and electronic, level controlled condensate drain

Medium:
Compressed air/ nitrogen

Pressure dewpoint:
ALD: -40 °F, MSD: -100°F at 100% load

Operating pressure:
min. 60 psig, max. 225 psig

Medium temperature:
max. 122°F

Ambient temperature:
min. 39°F, max. 122°F

Power supply:
230 V/115 V AC/ 50 – 60 Hz, 24 V DC

Power consumption:
approx. 40 W

Vessel approval:
Types 0060-60 to 0600-60: ASME

### Sizing:

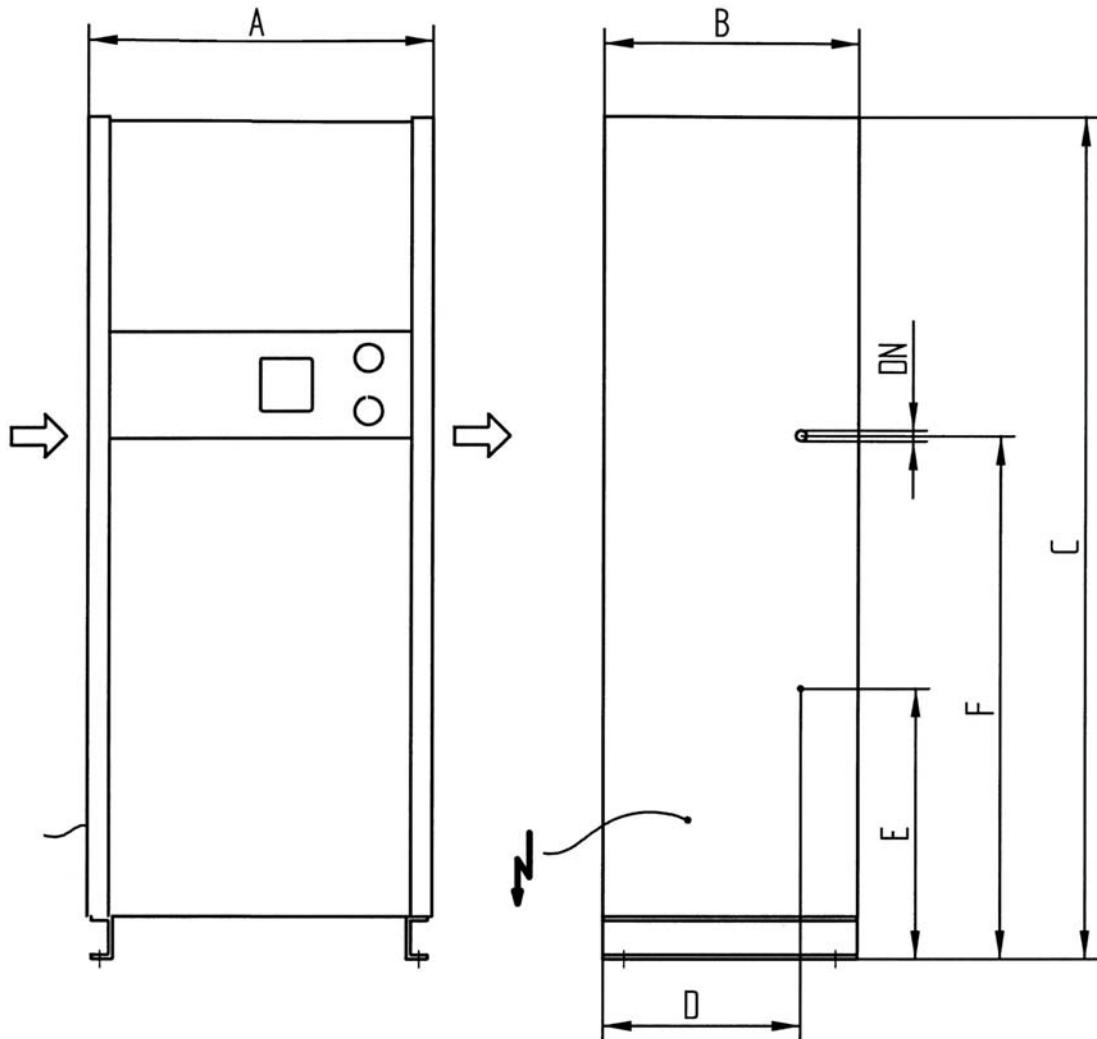
Operating pressure psig	60	75	90	100	115	130	150	160	175	190	200	225
Correction factor overpressure (f <sub>p</sub> )	0.63	0.75	0.88	1.0	1.12	1.25	1.38	1.50	1.63	1.75	1.88	2.0

Type	Pressure-Dewpoint	Residual water content	Inlet temperature °F	68	77	86	95	104	115	122
ALD	-40°F	110 ppm	Correction factor ALD Temperature (f <sub>T</sub> )	-1.2	1.2	1.1	1.0	-	-	-
			Pressure dewpoint (°F)	-40	-40	-40	-40	-	-	-
MSD	-100°F	2.7 ppm	Correction factor MSD Temperature (f <sub>T</sub> )	-1.0	-1.0	1.0	1.0	0.8	0.7	0.5
			Pressure dewpoint (°F)	-100	-100	-100	-100	-85	-67	-58

$$\dot{V}_{corr} = \frac{\dot{V}_{nom}}{f_p \cdot f_T}$$
 Example:  
 $\dot{V}_{nom} = 117 \text{ cfm}$ , inlet temperature = 86°F, operating pressure = 150 psig, PDP -40°F

$$\dot{V}_{corr} = \frac{117 \text{ cfm}}{1.38 \cdot 1,1} = 77.1 \text{ cfm. Calculated dryer size: Ultrapac ALD, type 0175-60}$$

## ALD/MSD 0003-60 - 0600-60



ALD/MSD	DN "	A inch	B inch	C inch	D inch	E inch	F inch
0003-60	3/8	18.5	13.4	27.6	10.0	5.7	17.3
0005-60	3/8	18.5	13.4	27.6	10.0	5.7	17.3
0010-60	3/8	18.5	13.4	41.7	10.0	12.2	27.6
0015-60	1/2	18.5	13.4	41.7	10.0	12.2	27.6
0020-60	1/2	18.5	13.4	41.7	10.0	12.2	27.6
0030-60	3/4	26.4	17.7	63.4	12.4	16.3	35.4
0050-60	3/4	26.4	17.7	63.4	12.4	16.3	35.4
0060-60	1	26.4	17.7	63.4	12.4	16.3	35.4
0085-60	1	30.3	23.6	78.0	18.3	21.1	44.3
0100-60	1	30.3	23.6	78.0	18.3	21.1	44.3
0125-60	1 1/2	30.3	23.6	78.0	18.3	21.1	44.3
0175-60	1 1/2	30.3	23.6	78.0	18.3	21.1	44.3
0200-60	1 1/2	37.4	27.6	86.2	20.9	26.0	49.2
0300-60	2	37.4	27.6	86.2	20.9	26.0	49.2
0400-60	2	37.4	27.6	86.2	20.9	26.0	49.2
0500-60	2	43.3	31.5	92.5	25.6	25.6	59.1
0600-60	2 1/2	43.3	31.5	92.5	25.6	25.6	59.1