

Ultratorp AKC Types 0005 to 8750

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Activated carbon adsorber with residual oil indicator

Prefiltered, clean air and dried compressed air (required inlet conditions) is led via the inlet (1) into the vessel and is led through the gas diffuser to the adsorption vessel inlet (2) and through the activated carbon bed (3) from top to bottom. In the activated carbon bed, the compressed air is cleaned from oil vapours and hydrocarbons.

The cleaned air is led via the lower gas diffuser (4) and the outlet of the adsorption vessel (5) to the compressed air network and to the point of use.

By means of an oil indicator (6) at the outlet of the adsorber, the saturation of the carbon can be measured online, at any time.



Activated carbon adsorber – AKC

AKC	Volume flow inlet m ³ /h (1 bar, 20°C)*	Pressure loss initial mbar
0005	5	10
0010	10	10
0015	15	15
0025	25	15
0035	35	25
0050	50	15
0080	80	50
0100	100	50
0150	150	50
0175	175	40
0225	225	40
0300	300	40
0375	375	60
0550	550	60
0650	650	70
0850	850	90
1000	1000	60
1350	1350	60
1650	1650	55
1950	1950	40
2250	2250	50
2750	2750	60
3500	3500	70
4000	4000	45
5000	5000	50
6000	6000	60
7000	7000	65
8750	8750	45

* related to 1 bar (abs) and 20 °C at intake of compressor and 7 bar system pressure and 35°C inlet temperature into adsorber

Ultratorp AKC, types 0005 to 8750

Features Ultratorp AKC:	Benefits:
Largely dimensioned amount of activated carbon:	High retention rates and long lifetime of activated carbon (residual oil content of < 0,003 mg/m ³ and a lifetime of >10000 operating hours
Largely sized vessel diameters	Low flow speed, therefore no risk of abrasion of activated carbon and low differential pressure
Activated carbon adsorber with residual oil indicator standard	High operating safety, since residual oil content can be measured on-line at any time without having to de-install the adsorption vessel

Lifetime of activated carbon:
>10000 operating hours

Medium temperature:
min. 5 °C, max. 50 °C

Ambient temperature:
min. 4°C, max. 50°C.

Product description:
Activated carbon adsorber Ultratorp AKC: Activated carbon adsorber for the removal of oil vapours and hydrocarbons, incl. built-in oil indicator

Operating pressure:
AKC 0005 to 1000 min. 4 bar (g), max. 16 bar (g)
AKC 1350 to 8750 min. 4 bar (g), max. 10 bar (g)

Residual oil indicator:
Accuracy: < ± 0.01 ppm

Medium:
Compressed air/nitrogen

Residual oil content:
>0.003 mg/m ³ Residual oil content at adsorber outlet and lifetime of activated carbon at operating pressure of 7 bar (g), 35 °C inlet temperature, air dryness of -40 °C pressure dewpoint and max. residual particle and condensate content of < 0.03 mg/m ³ at adsorber inlet

Pressure vessel – design, manufacture, testing
Type 0005 – 2750 Absorber/ Filter: acc. to 87/404/EEC Pipeline: acc. to 97/23/EC
Type 3500 – 8750 Filter: acc. to 87/404/EEC Absorber and pipeline acc.to. 97/23/EC

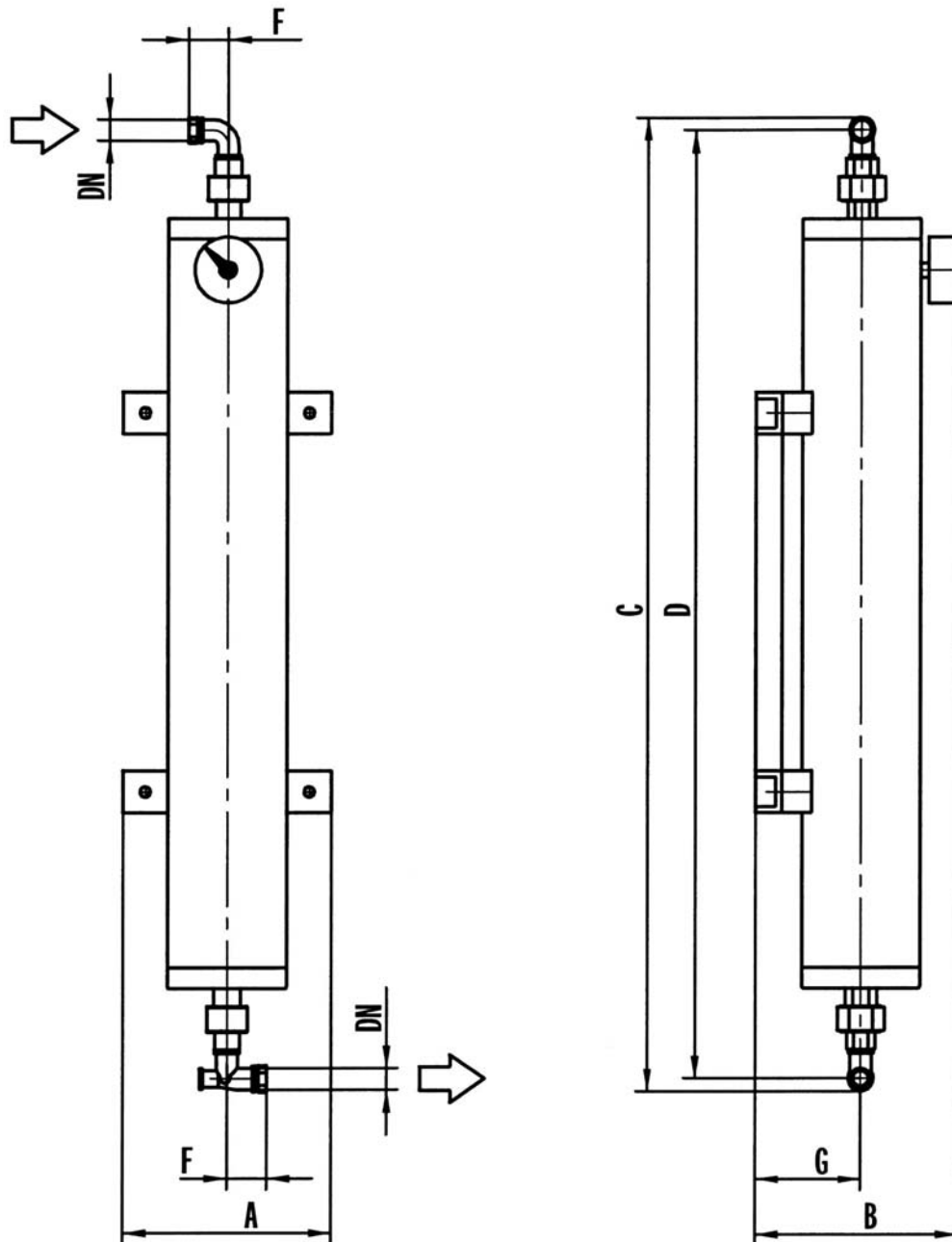
Required inlet conditions:
Compressed air pre-dried to -40 °C at 0.03 mg/m ³ residual particle and condensate-content at inlet of adsorber

Declaration of conformity:
Type 0005 – 2750 acc. to 97/23/EC
Type 3500 – 8750 acc. to 97/23/EC

Recommendation:
Upstream installation of microfilter, type MF and an adsorption dryer

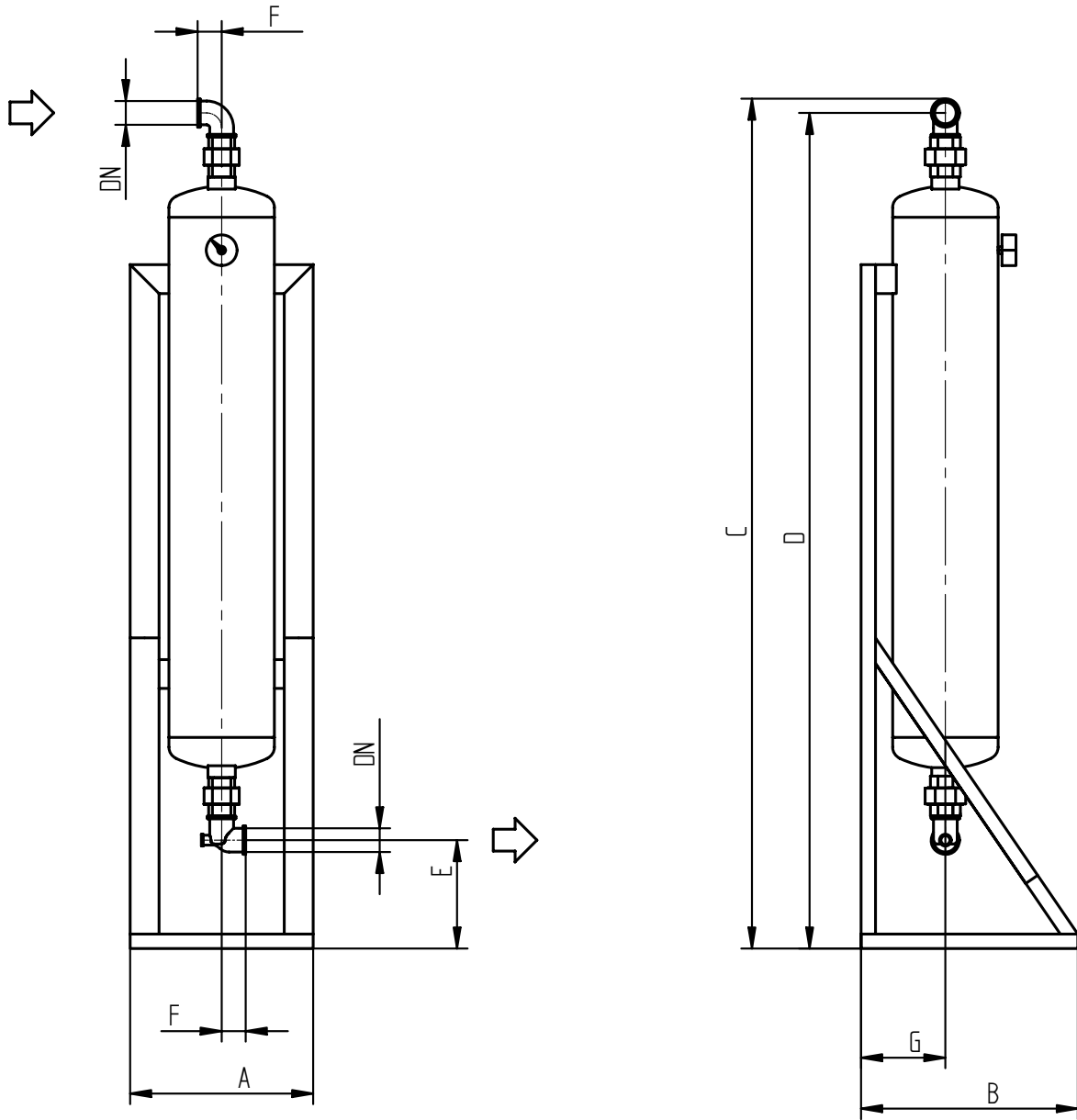
Sizing:													
Operating pressure bar (g)	4	5	6	7	8	9	10	11	12	13	14	15	16
Correction factor overpressure (f _p)	0.62	0.75	0.88	1.0	1.12	1.25	1.38	1.50	1.62	1.75	1.88	2.0	2.13
Inlet temperature °C	20	25	30	35	40	45	50						
Correction factor inlet temperature (f _T)	1.0	1.0	1.0	1.0	0.9	0.8	0.5						
$\dot{V}_{corr} = \frac{200 \text{ m}^3/\text{h}}{1.38 * 1.0} = 144,93 \text{ m}^3/\text{h}. \text{ Calculated dryer size: Ultratorp AKC, type 0150}$													
$\dot{V}_{corr} = \frac{\dot{V}_{nom}}{f_p * f_T}$ <p>Example: $\dot{V}_{nom} = 200 \text{ m}^3/\text{h}$, Inlet temperature = 30°C Operating pressure = 10 bar (g)</p>													

Ultrasorp AKC, types 0005 to 0035



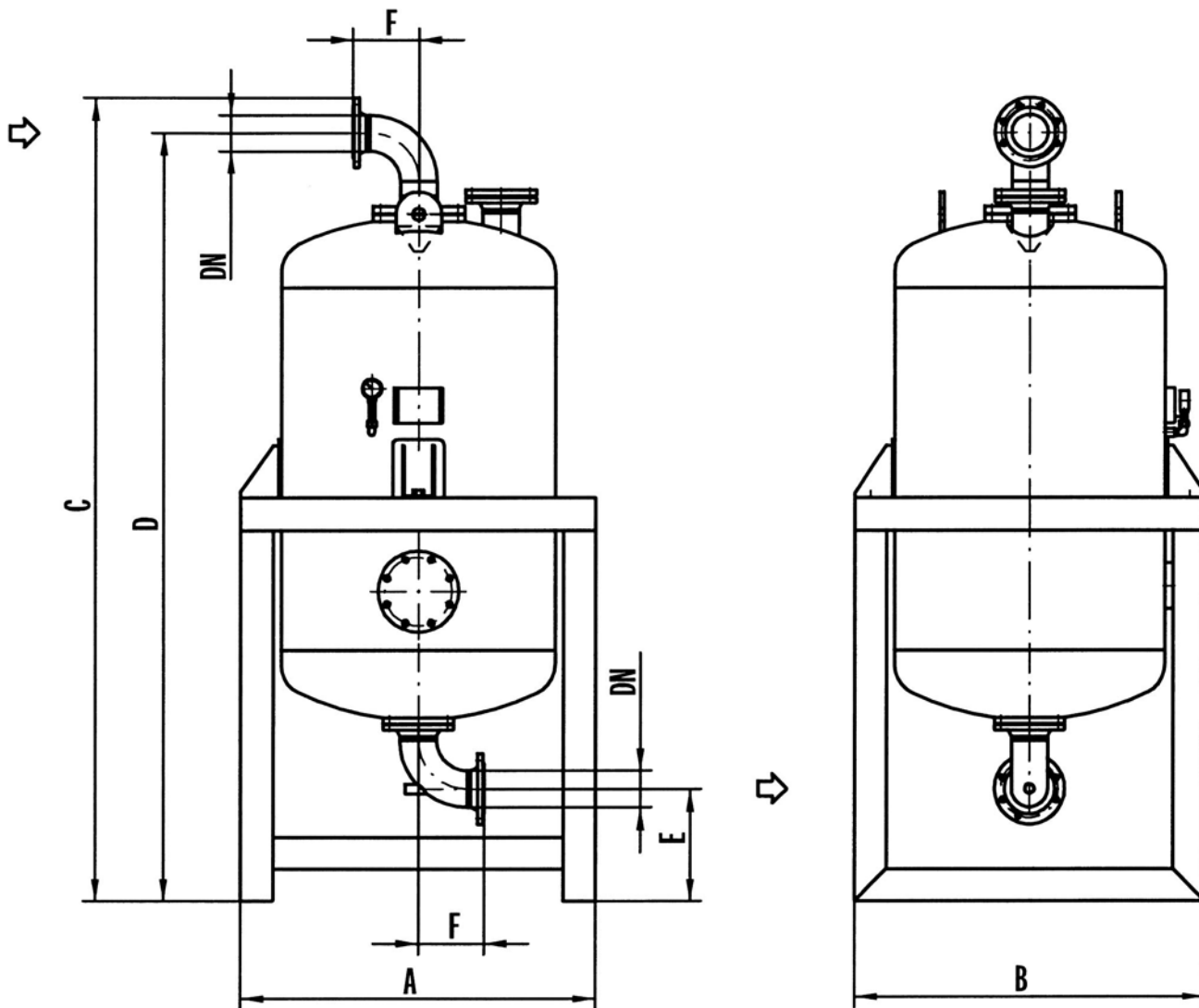
AKC	DN "	A mm	B mm	C mm	D mm	F mm
0005	G 3/8	150	160	485	460	38
0010	G 3/8	150	175	590	565	38
0015	G 3/8	150	175	820	795	38
0025	G 1/2	200	200	780	755	28
0035	G 1/2	200	200	940	915	28

Ultratorp AKC, types 0050 to 1000



AKC	DN "	A mm	B mm	C mm	D mm	E mm	F mm
0050	3/4	290	350	1180	1165	185	53
0080	3/4	320	350	1520	1500	190	38
0100	1	320	350	1455	1435	175	38
0150	1	320	350	1905	1885	175	38
0175	1	380	450	1770	1740	220	62
0225	1 1/2	380	450	1770	1740	220	50
0300	1 1/2	440	450	1750	1720	220	50
0375	1 1/2	440	450	2090	2060	220	50
0550	2	550	600	1990	1955	245	58
0650	2	550	600	2015	1980	220	58
0850	2	600	600	2120	2085	240	58
1000	2 1/2	660	600	2005	1955	265	69

Ultracorp AKC, types 1350 to 8750



AKC	DN mm	A mm	B mm	C mm	D mm	E mm	F mm
1350	80	700	700	2550	2450	373	165
1650	80	800	800	2360	2260	353	165
1950	100	850	850	2580	2370	453	205
2250	100	950	950	2600	2490	453	205
2750	100	1000	1000	2690	2580	453	205
3500	100	1150	1150	2695	2585	435	205
4000	150	1200	1200	2989	2846	485	284
5000	150	1300	1300	3040	2897	475	284
6000	150	1400	1400	3080	2937	485	284
7000	150	1500	1500	3095	2952	485	284
8750	200	1700	1700	3318	3148	530	367