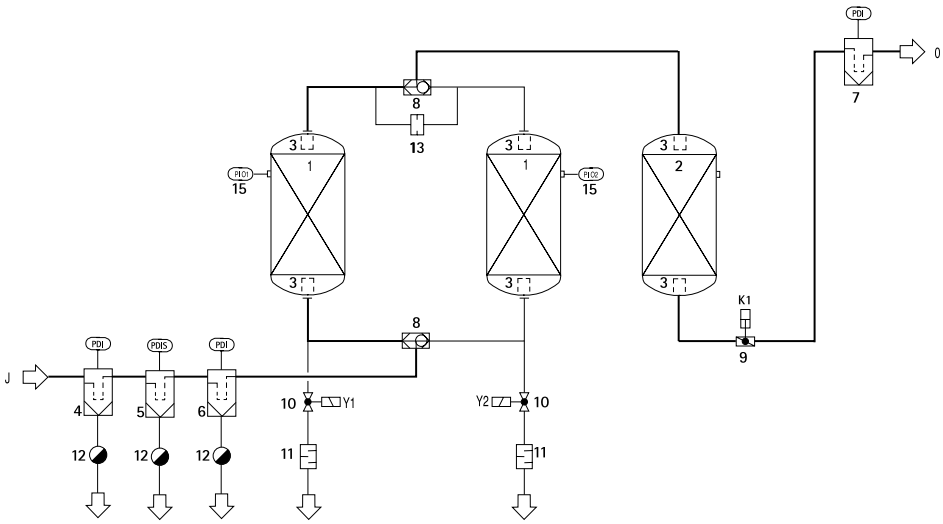
Oilfreepac OFP
Type 1350 to 8750

Complete purification package with triple prefiltration with level controlled electronic condensate drains each, heatless adsorption dryer, activated carbon adsorber and afterfilter.

Purification package OFP

Compressed air is flowing through the inlet of the system (J) into a three stage prefiltration PE, MF, SMF (4, 5, and 6).
In these stages, the air is cleaned from particles and condensate down to a residual content of 0.01 mg/m³.
The condensate is removed by condensate drains (14). Via a butterfly valve (8), for drying the air is lead into the adsorption vessel (1), in which the air is dried down to the required pressure dewpoint.
After that, the air is lead through a non-return valve (12) and into an activated carbon tower (2), in which oil vapor and hydrocarbons are retained.
Via an afterfilter (7), in which possible abrasion from activated carbon is retained, the clean and oilfree air is lead into the compressed air network 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 (15), lead accross the desiccant bed for regeneration and discharged to atmosphere via a butterfly valve (11) and a silencer (15).
As a safety feature against contamination (e.g. oil breakthrough of the compressor), the differential pressure across the MF element is constantly monitored.
In case of an immediate increase in differential pressure, the differential pressure gauge triggers the control and a butterfly valve (K5) is closed.



OFP	Volume flow in m³/h (1 bar, 20°C)*	Regeneration air losses (average) m³/h (1 bar, 20°C)	Volume flow out (min.) m³/h (1 bar, 20°C)	Pressure loss initial mbar	Prefilter (Afterfilter) PE, MF, SMF (PE)
1350	1350	202,5	1097	340	30/30
1650	1650	247,5	1341	390	30/30
1950	1950	293	1584	290	30/50
2250	2250	337,5	1828	330	30/50
2750	2750	412,5	2234	420	30/50
3500	3500	525	2844	450	3-20/30
4000	4000	600	3250	250	4-30/30
5000	5000	750	4063	310	4-30/30
6000	6000	900	4875	370	4-30/30
7000	7000	1050	5688	440	4-30/30
8750	8750	1312,5	7109	280	8-30/30

* related to 1 bar (abs) and 20 °C at air intake of compressor and 7 bar (g) and 35 °C inlet temperature

Technical alterations reserved (Date 03/03)

ultrafilter international AG Büssingstraße 1 · D-42781 Haan · Telefon ++49/2129/569-0 · Telefax ++49/2129/569-100

Technical data

Oilfreepac OFP (Type 1350 to 8750)

Features purification package OFP:	Benefits:
Purification package designed for use with oil lubricated compressors	No need to buy expensive and less energy efficient "oilfree" compressors.
Compressed air quality better than on any "oilfree" installation	Use is highly sensitive production possible (food-, beverage-, electronic industry, etc.
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 condensate drain UFM-T	No compressed air losses due to condensate removal, therefore reduction of operating cost
Easy serviceable butterfly valves	Short service downtime
Filters oversized	Large filtration surface, therefore low pressure drop and low operating cost
Safety feature against oil breakthrough, consising of differential pressure measurement and shut-off valve	High operating safety in combination with use of oil lubricated compressors
Intermittent operation standard	Link between dryer and compressor possible on central applications, therefore saving of compressed air
11 sizes available, matched to the compressor flows	Custom made solutions possible, matching exactly customers' requirements; no oversizing of compressors neccessary, since lowest possible regeneration air requirements
Comprehensive option package: Dewpoint depending control, start-up device, bypass, pneumatics control, changeover-control, etc.	Flexibility in application, well thought-o package for economical operation and safe system installation in the compressed air network

Sizing:

Operating pressure bar (g)	4	5	6	7	8	9	10
Correction factor overpressure (f_p)	0,63	0,75	0,88	1,0	1,12	1,25	1,38

Inlet temperature °C	20	25	30	35	40	45	50
Correction factor temperature (f_T)	1,0	1,0	1,0	1,0	0,8	0,7	0,5

$$V_{corr} = \frac{V_{nom}}{f_p \cdot f_T}$$

Example:
V_{nom} = 2000 m³/h,
inlet temperature = 30 °C
operating pressure = 10 bar (g)
PDP: –40 °C

$$V_{corr} = \frac{2000\ m^3/h}{1.38 \cdot 1.0} = 1449\ m^3/h.$$ Calculated size: Oilfreepac OFP, Type 1650

Product description:

Purification package oilfreepac OFP:
Complete purification package with triple prefiltration with electronic, level controlled condensate drains, each, adsorption dryer which works on the basis of pressure swing, activated carbon adsorption from removal of oil vapors and hydrocarbons afterfilter and shut down device against oil breakthrough.

Medium:

Compressed air/nitrogen

Pressure dewpoint:

–40 °C to –50 °C at 100% load

Operating pressure:

min. 4 bar (g), max. 10 bar (g)

Medium temperature:

min. 5 °C, max. 50 °C

Ambient temperature:

min. 4 °C, max. 50 °C

Residual oil content:

< 0.003 mg/m³

Power supply:

230 V/50 Hz, other voltages upon request

Power consumption:

approx. 40 W

Pressure vessel – design, manufacture, testing

Type 1350 – 2750
Absorber/ Filter: acc. to RL 87/404/EWG
Pipeline: acc. to RL 97/23/EG

Type 3500 – 8750
Filter: acc. to RL 87/404/EWG
Absorber and pipeline acc.to.
RL 97/23/EG

Declaration of conformity

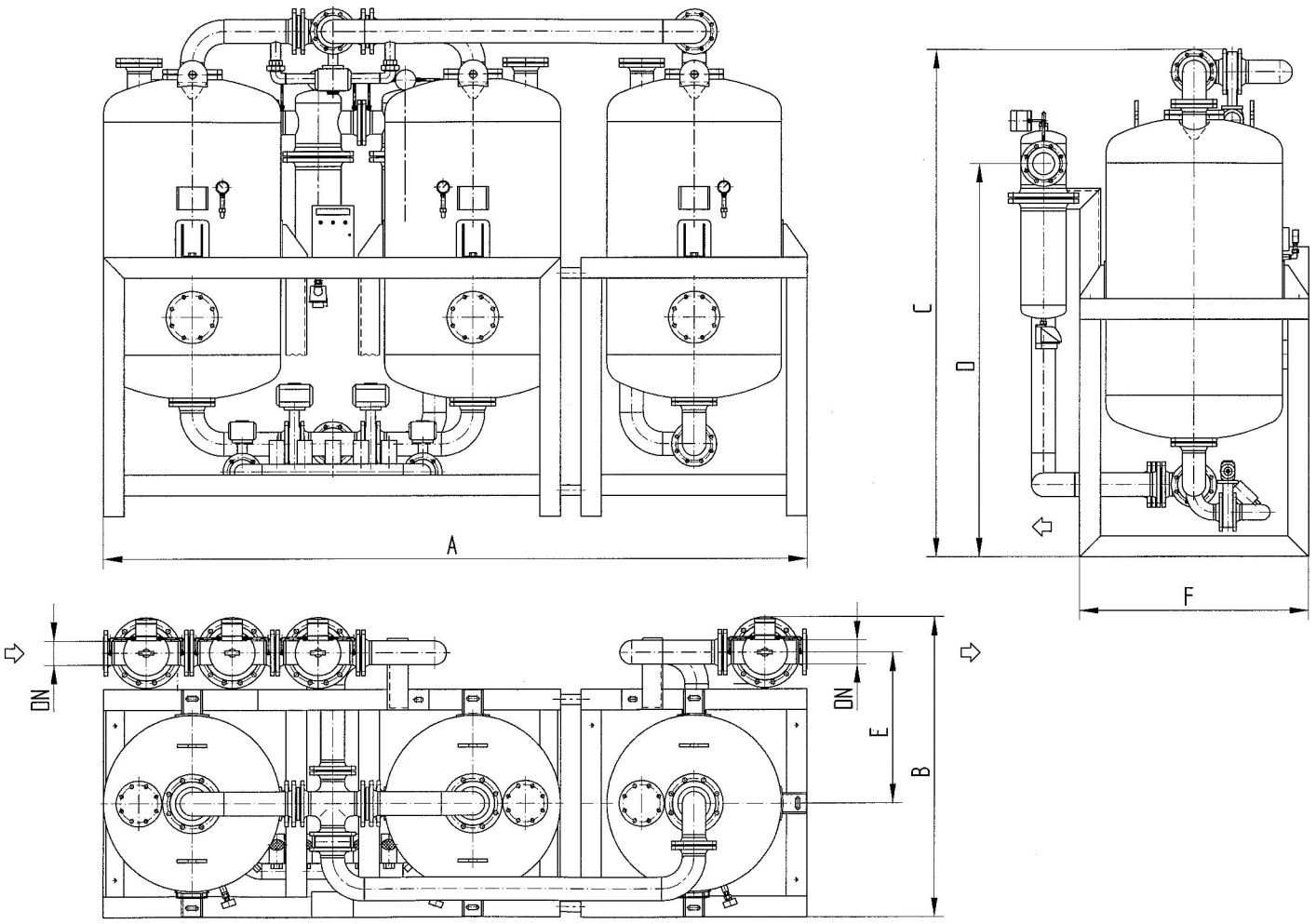
Type 1355 – 2750:
acc. to RL 73/23/EWG

Type 3500 – 8750:
acc. to RL 97/23/EG

Technical alterations reserved (Date 03/03)

Dimension Sheet

Oilfreepac OFP (Type 1350 to 8750)



Type	DN mm	A mm	B mm	C mm	D mm	E mm	F mm
1350	80	2250	950	2555	1800	475	700
1650	80	2550	1050	2365	1800	525	800
1950	100	2700	1135	2585	1900	568	850
2250	100	2900	1290	2605	1900	645	950
2750	100	3050	1340	2695	1900	670	1000
3500	100	3400	1490	2680	1900	745	1150
4000	150	3650	1630	2980	2250	825	1200
5000	150	3950	1715	3030	2250	860	1300
6000	150	4250	1815	3070	2250	910	1400
7000	150	4550	1915	3080	2250	960	1500
8750	200	5150	2290	3280	2300	1150	1700

Technical alterations reserved (Date 03/03)

ultrafilter international AG Büssingstraße 1 · D-42781 Haan · Telefon ++49/2129/569-0 · Telefax ++49/2129/569-100