Refrigerant Dryers

Refrigerant Compressed Air Dryer with integrated DF Filters

BURAN DC 0020 AB - DC 0850 AB

MAIN FEATURES & BENEFITS

- Purification package incl. refrigerant dryer with integrated pre- and afterfilters and condensate drains.
- Integrated pre filter, type V, for protection of the compressed air dryer against contaminations; Integrated afterfilter UltraPleat® M for the removal of oil aerosols and particles with high retention effiency and very low differential pressure; Safe compliance with the compressed air quality at low energy costs.
- Extremely compact design with robust steel housing. No additional pipings for installation of pre-and afterfilter required.
- Electronic level-controlled condensate drain incl. function monitoring and alarm messages for discharging of the compressed air condensate at the heat exchanger. Optional with pre-and afterfilter upgradeable.
- Electronic controller with dewpoint indicator, operating time counter, alarm display, service display and operating display for compressed air dryer and fan.
- 17 sizes for nominal flow rates up to 850 m³/h enable accurate selection of the suitable refrigerated compressed air dryer on the respective actual flow rate.

BURAN
DC 0020 AB - DC 0850 AB

INDUSTRIES

- Chemical and electrical industry

- Machine building industry and plant engineering / construction

- Automotive industry

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Donaldson®
Ultrafilter

BURAN DC 0020 AB - DC 0850 AB

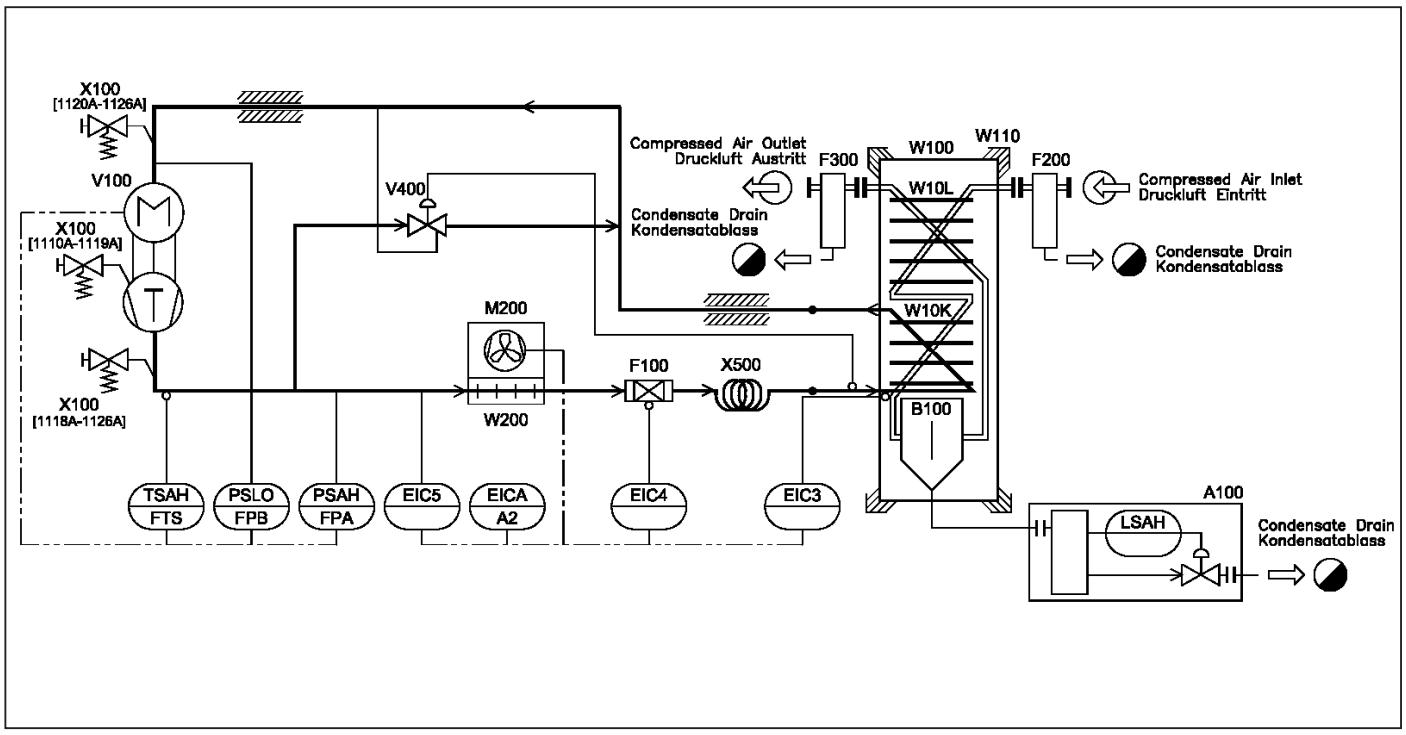
PRODUCT DESCRIPTION

The compressed air is being fed into the dryer and being pre-cooled in the air-to-air heat exchanger by the outgoing cold compressed air.The pre-cooled air then passes through the refrigerant-to-air heat exchanger where it is being further cooled down to the required pressure dew point. The moisture in the compressed air condenses out and gathers and discharges automatically. Finally, the cold discharged air is being reheated by the incoming compressed air. This saves energy and prevents any moisture forming beyond the dryer in the compressed air system.

The cooling capacity of the refrigeration cycle is being controlled by a hot gas bypass which assures the dryer functionabilty for partial loads, too.

Typical applications for the fridge dryers DC 0020 AB - DC 0850 AB are:

- **Central compressed air purification**
  Generation of dry, oil-free and particulate-free compressed air
- **Automotive industry**
  Purification of compressed air for painting applications



BURAN DC 0020 AB - DC 0850 AB

PRODUCT SPECIFICATIONS

Features:	Benefits:
Intelligent over-all concept	Type range, filter performance data, integrated monitoring functions as well as automatic condensate drain adapted for the use in central compressed air applications
Integrated pre-and afterfilter with condensate drain	Pre filter, type V, for protection of the compressed air dryer against contaminations; Afterfilter UltraPleat® M for the removal of oil aerosols and particles with high retention effiency and very low differential pressure; Safe compliance with the compressed air quality at low energy costs.
Validated performance data acc. to ISO 12500-1 and ISO 12500-3 for the integrated pre-and afterfilter	Reliable achievement of the compressed air quality according to ISO 8573-1
Compact and space-saving design with robust steel housing	Little space required at the installation site, no additional piping for the installation of pre-and afterfilter required, low storage space requirements and low transport costs
Electronic level-controlled condensate drain UFM-D at the heat exchanger	No expensive pressure drops, condensate discharge depending on the amount of condensate
Electronic controller with dewpoint indicator, operating time counter, alarm display, service display and operating display for compressed air dryer and fan; potential-free error message	Reliable monitoring of the operating condition and timely display of necessary maintenance work; Remote monitoring via potential-free error message possible
High load capacity up to pressure dew point of + 20°C	In case of overload the refrigerant compressed air dryer switches off only at a pressure dewpoint upper than +20°C
Aluminium heat exchanger	No corrosion within the heat exchanger by contact with moist compressed air; good heat transfer properties combined with low weight

Technical Data	
Operating pressure:	DC 0020 AB - DC 0125 AB: min. 2 bar (g) / max. 16 bar (g) DC 0150 AB - DC 0850 AB: min. 2 bar (g) / max. 14 bar (g)
Ambient temperature:	min. +2°C / max. +50°C
Medium temperature:	max. +70°C
Medium:	Compressed air
Refrigerant:	DC 0020 AB - DC 0150 AB: R134a DC 0180 AB - DC 0850 AB: R407C
Noise pressure level:	< 70 dB (A)
Power supply:	DC 0020 AB - DC 0105 AB: 230V / 1~ / 50-60 Hz DC 0180 AB - DC 0850 AB: 230V / 1~ / 50 Hz or 60 Hz
Protection class:	IP 22
Declaration of Conformity	
Types DC 0020 AB - DC 0850 AB:	acc. to directive 2006/42/EG appendix IIA

BURAN DC 0020 AB - DC 0850 AB

PRODUCT SPECIFICATIONS

Type	Volume flow*	Volume flow*	Pressure drop**	Cooling air requirement	Power supply
	m³/h	m³/min.	bar	m³/h	kW
DC 0020 AB	20	0,33	0,04	200	0,14
DC 0035 AB	35	0,58	0,04	200	0,17
DC 0050 AB	50	0,83	0,10	300	0,19
DC 0065 AB	65	1,08	0,13	300	0,24
DC 0085 AB	85	1,42	0,14	300	0,28
DC 0105 AB	105	1,75	0,28	300	0,28
DC 0125 AB	125	2,08	0,39	300	0,45
DC 0150 AB	150	2,50	0,15	300	0,47
DC 0180 AB	180	3,00	0,12	380	0,68
DC 0225 AB	225	3,75	0,18	380	0,76
DC 0300 AB	300	5,00	0,36	450	0,71
DC 0360 AB	360	6,00	0,49	450	0,89
DC 0450 AB	450	7,50	0,11	450	0,91
DC 0550 AB	550	9,17	0,15	1900	1,11
DC 0650 AB	650	10,83	0,32	1900	1,40
DC 0750 AB	750	12,50	0,25	2500	1,34
DC 0850 AB	850	14,17	0,33	3300	1,70

* acc. to ISO 7183
** incl. pre-and afterfilter

SIZING

Operating pressure (bar)	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Correction factor fp	0,60	0,70	0,80	0,88	0,94	1,00	1,04	1,06	1,09	1,10	1,12	1,14	1,15	1,16	1,17

Compressed air inlet temperature (°C)	30	35	40	45	50	55	60	65	70
Correction factor fte	1,28	1,00	0,88	0,75	0,58	0,48	0,44	0,42	0,40

Temperature of cooling media (°C)	25	30	35	40	45	50
Correction factor ftu	1,00	0,97	0,97	0,87	0,75	0,62

Pressure dewpoint °C	3	5	7	10
Correction factor ftpd	1,00	1,12	1,24	1,36

Example:

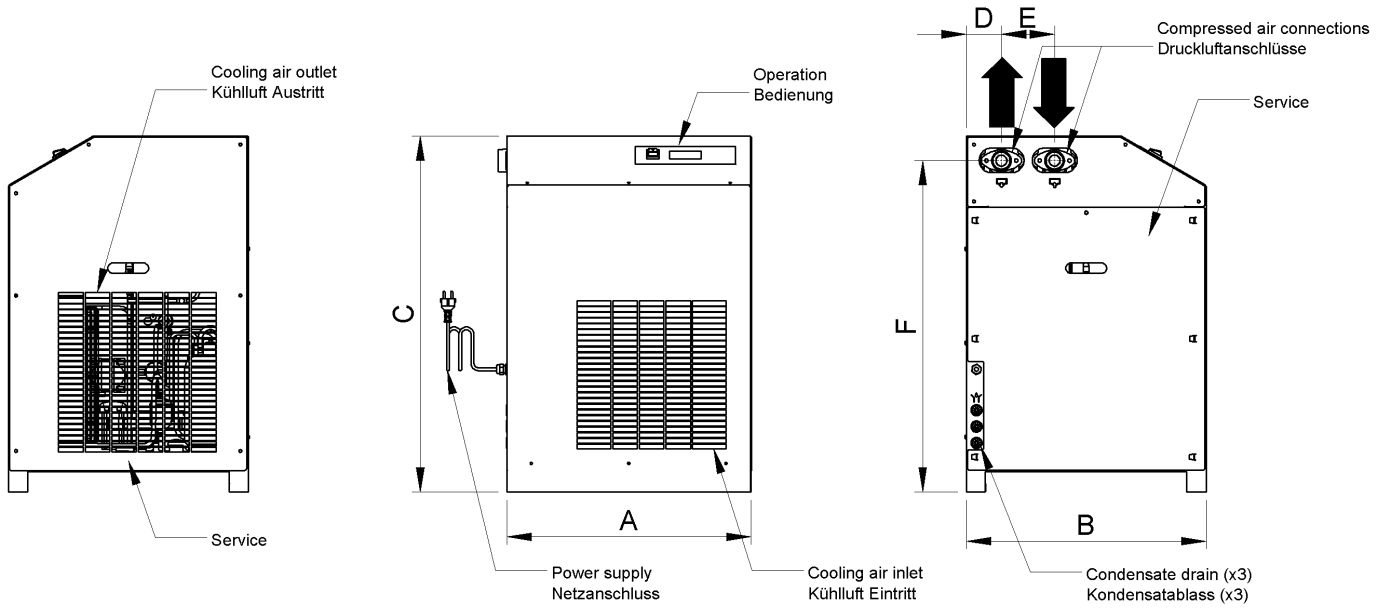
$\dot{V}_{nom}$ = 100 m³/h (intake volume of the compressor), compressed air inlet temperature = 40°C,
cooling air temperature = 35°C, operating pressure = 9 bar, pressure dewpoint = +3°C

$$\dot{V}_{korr} = \frac{\dot{V}_{nom}}{f} = \frac{100\ m^3/h}{0{,}88 \times 1{,}06 \times 0{,}94 \times 1{,}00} = 114\ m^3/h$$

Calculated dryer size:
DC 0125 AB

BURAN DC 0020 AB - DC 0850 AB

DIMENSIONS



Type	A	B	C	D	E	F	Compressed air connections	Weight
	mm	mm	mm	mm	mm	mm	BSP	kg
DC 0020 AB	456	410	645	60	110	595	3/4“	30
DC 0035 AB	456	410	645	60	110	595	3/4“	31
DC 0050 AB	456	410	645	60	110	595	3/4“	33
DC 0065 AB	456	410	645	60	110	595	3/4“	36
DC 0085 AB	456	410	645	60	110	595	3/4“	37
DC 0105 AB	456	410	645	60	110	595	3/4“	37
DC 0125 AB	456	410	645	60	110	595	3/4“	38
DC 0150 AB	600	590	870	85	130	810	1 1/2“	63
DC 0180 AB	600	590	870	85	130	810	1 1/2“	65
DC 0225 AB	600	590	870	85	130	810	1 1/2“	76
DC 0300 AB	600	590	870	85	130	810	1 1/2“	76
DC 0360 AB	600	590	870	85	130	810	1 1/2“	76
DC 0450 AB	805	920	1055	175	220	930	2“	143
DC 0550 AB	805	920	1055	175	220	930	2“	152
DC 0650 AB	805	920	1055	175	220	930	2“	159
DC 0750 AB	805	920	1055	160	345	930	2“	175
DC 0850 AB	805	920	1055	160	345	930	2“	192