Donaldson
FILTRATION SOLUTIONS

Industrial Gases

BURAN DC 0020 - 1000 AB
Refrigerated Air Dryer



PRODUCT DESCRIPTION

Designed for customers seeking a premium and efficient solution, this refrigerated air dryer helps to ensure a nominal dew point of 3°C, providing reliable moisture control across various industrial applications. Its performance helps prevent corrosion, enhance equipment longevity, and maintain air quality, making it an ideal choice for versatile, high-performance compressed air systems.

All DONALDSON BURAN compressed air refrigerated dryers enable optimum counter-flow heat exchange over the entire section. The compressed air flows over the entire section inside the heat exchanger in a top-down direction. This circulation takes place without any unfavorable deviations.

MAIN FEATURES & BENEFITS

- **The efficient drying solution**

Our BURAN refrigerated compressed air dryers are an efficient method for drying compressed air. Their basic principle is based on condensation caused by cooling; by lowering the temperature of the compressed air, the water vapor contained in it is transformed into water and is then evacuated.

- **An efficient nominal dew point at 3°C compatible with many industries**

Our BURAN dryer maintains a nominal dew point of 3°C with a range availability from 20 to 1000 m^3/h, supporting efficient moisture removal suitable for a wide range of industrial applications, including pneumatics, automation, and general manufacturing. This level of dryness helps prevent corrosion, contamination, and equipment damage, making it a reliable solution for compressed air systems.

- **Easy to handle and maintain**

With a simple plug-and-play design, these dryers are easy to install and require minimal maintenance, maximizing uptime and reducing production costs. Available with timed or electronic level-controlled condensate drain including function monitoring and alarm messages for discharging of the compressed air condensate at the heat exchanger.

INDUSTRIES






- Industrial Machinery
- Food & Beverage
- Automation
- General Manufacturing

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F119325_2025_04_EN_REV00
Technical alterations reserved (04/2025)

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, gathers and discharges automatically. Finally, the cold discharged air is being reheated by the incoming compressed air, which helps save 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 supports the dryer functionality for partial loads.

18 sizes for nominal flow rates up to 1,000 m³/h enable accurate selection of the suitable refrigerated compressed air dryer on the respective actual flow rate.

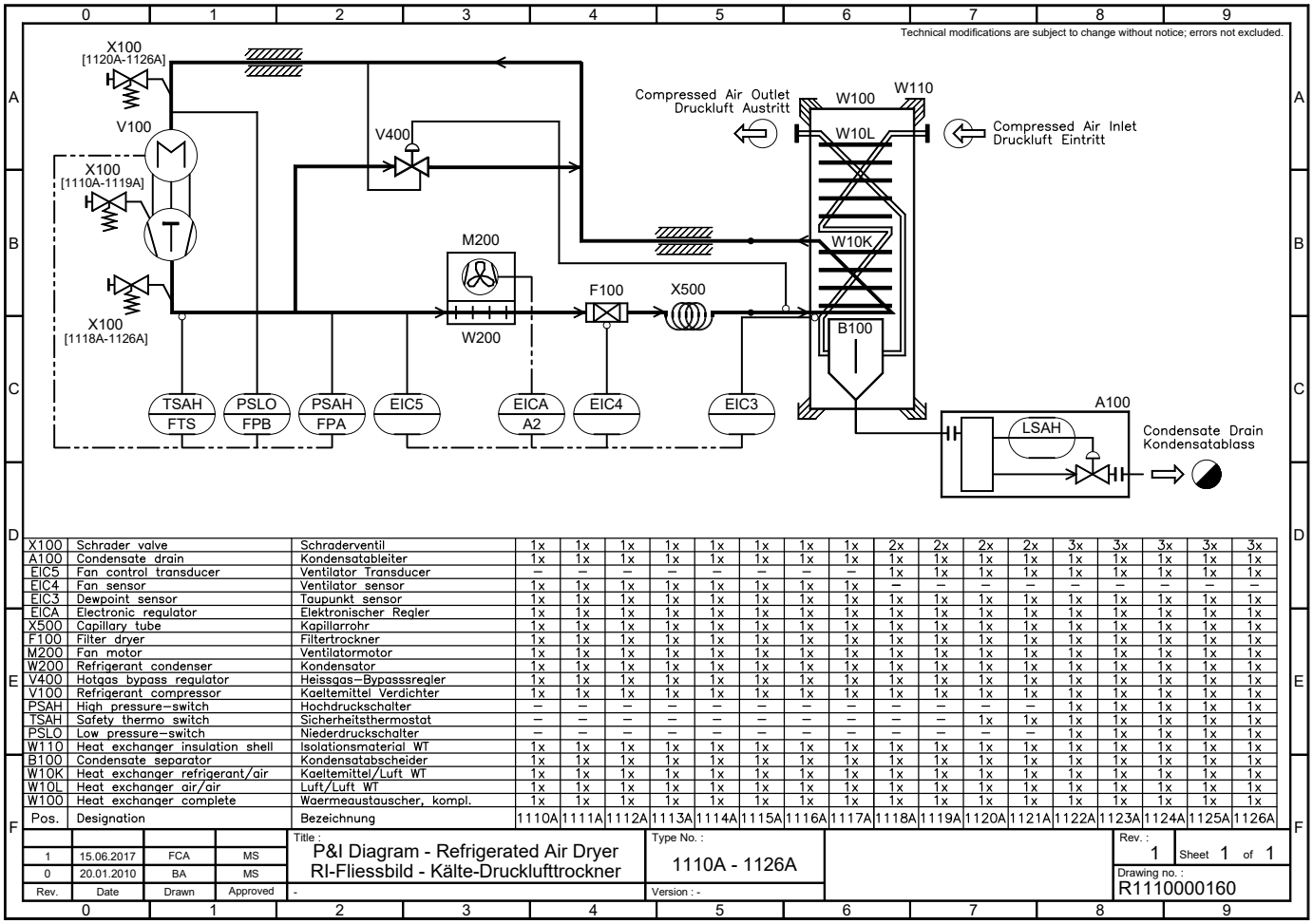
Typical applications for the BURAN refrigerated compressed air dryers are:

- Central compressed air purification

Supports the generation of dry, oil-free and particulate-free compressed air

- Automotive industry

Supports the purification of compressed air for painting applications



Pos.	Designation	Bezeichnung	1110A	1111A	1112A	1113A	1114A	1115A	1116A	1117A	1118A	1119A	1120A	1121A	1122A	1123A	1124A	1125A	1126A
X100	Schrader valve	Schraderventil	1x	1x	1x	1x	1x	1x	1x	1x	2x	2x	2x	2x	3x	3x	3x	3x	3x
A100	Condensate drain	Kondensatableiter	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x
EIC5	Fan control transducer	Ventilator Transducer	–	–	–	–	–	–	–	–	1x	1x	1x	1x	1x	1x	1x	1x	1x
EIC4	Fan sensor	Ventilator sensor	1x	1x	1x	1x	1x	1x	1x	1x	–	–	–	–	–	–	–	–	–
EIC3	Dewpoint sensor	Taupunkt sensor	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x
EICA	Electronic regulator	Elektronischer Regler	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x
X500	Capillary tube	Kapillarrohr	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x
F100	Filter dryer	Filtertrockner	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x
M200	Fan motor	Ventilatormotor	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x
W200	Refrigerant condenser	Kondensator	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x
V400	Hotgas bypass regulator	Heissgas–Bypasssregler	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x
V100	Refrigerant compressor	Kaeltemittel Verdichter	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x
PSAH	High pressure–switch	Hochdruckschalter	–	–	–	–	–	–	–	–	–	–	–	–	1x	1x	1x	1x	1x
TSAH	Safety thermo switch	Sicherheitsthermostat	–	–	–	–	–	–	–	–	–	–	1x	1x	1x	1x	1x	1x	1x
PSLO	Low pressure–switch	Niederdruckschalter	–	–	–	–	–	–	–	–	–	–	–	–	1x	1x	1x	1x	1x
W110	Heat exchanger insulation shell	Isolationsmaterial WT	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x
B100	Condensate separator	Kondensatabscheider	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x
W10K	Heat exchanger refrigerant/air	Kaeltemittel/Luft WT	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x
W10L	Heat exchanger air/air	Luft/Luft WT	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x
W100	Heat exchanger complete	Waermeaustauscher, kompl.	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x

Rev.	Date	Drawn	Approved
1	15.06.2017	FCA	MS
0	20.01.2010	BA	MS

Title : P&I Diagram - Refrigerated Air Dryer
RI-Fliessbild - Kälte-Drucklufttrockner

Type No. : 1110A - 1126A

Version : -

Rev. : 1 Sheet 1 of 1

Drawing no. : R1110000160

PRODUCT DESCRIPTION

TECHNICAL DATA	
Operating pressure	Min. 2 bar (g) Max. 16 bar (g)
Ambient temperature	Min. +2°C Max. +50°C
Medium temperature	Min. +2°C Max. +70°C
Medium	Compressed Air
Refrigerant	R513A
Sound pressure level (at distance of 1cm)	<70 dB (A)
Power supply	BURAN 0020 – BURAN 0105 : 220-230V / 1N / 50-60Hz BURAN 0125 – BURAN 1000 : 220-230V / 1N / 50Hz or 60Hz
Protection class	IP 23
Design, Manufacturing and Testing	Acc. to PED 2014/68/EU- Module A (Cat. I) & Module A2 (Cat. II)

SIZING

Operating pressure (bar)	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Correction factor (fp)	0.49	0.66	0.77	0.86	0.93	1.00	1.05	1.10	1.14	1.18	1.21	1.24	1.27	1.30	1.33

Compressed air inlet temperature (°C)	25	30	35	40	45	50	55	60	65	70
Correction factor (fte)	1.20	1.12	1.00	0.83	0.69	0.59	0.50	0.44	0.39	0.37

Temperature of cooling media (°C)	25	30	35	40	45	50
Correction factor (ftu)	1.00	0.96	0.90	0.82	0.72	0.60

Pressure dewpoint (°C)	3	5	7	10
Correction factor (ftpd)	1.00	1.09	1.19	1.37

Example:

V_{nom}= 100 m³/h, inlet temperature = 40°C, ambient temperature = 35°C, operating pressure = 9 bar (g), PDP = +3°C

$$Vcorr = \frac{Vnom}{f} = \frac{200\ m^3/n}{0.8217} = 121.7 m^3/h$$

Calculated dryer size:
BURAN 0125

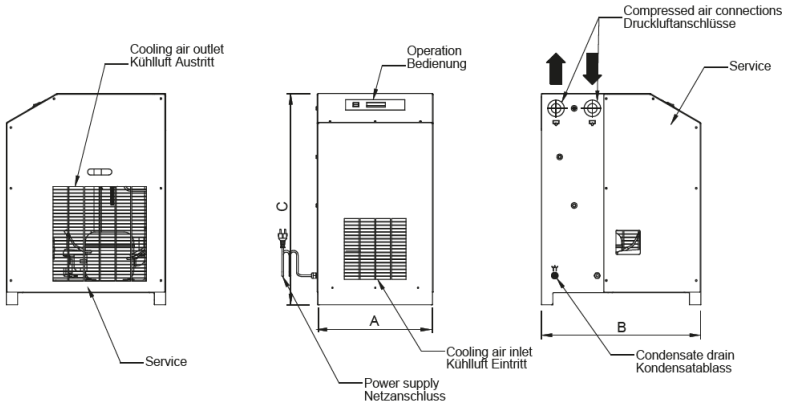
PRODUCT SPECIFICATIONS

Type	Volume Flow (m^3/h)	Volume Flow (m^3/min)	Refrigerant R513A quantity (kg)	Cooling air requirement	Power consumption (total 50 / 60 Hz - kW)
DC 0020 AB	20	0.33	0.10	200	0.11 / 0.12
DC 0035 AB	35	0.58	0.12	200	0.15 / 0.17
DC 0050 AB	50	0.83	0.17	200	0.16 / 0.18
DC 0065 AB	65	1.08	0.18	200	0.17 / 0.19
DC 0085 AB	85	1.42	0.18	300	0.30 / 0.35
DC 0105 AB	105	1.75	0.23	300	0.31 / 0.36
DC 0125 AB	125	2.08	0.23	300	0.32 / 0.37
DC 0150 AB	150	2.50	0.27	300	0.33 / 0.38
DC 0180 AB	180	3.00	0.25	350	0.50
DC 0225 AB	225	3.75	0.38	380	0.56
DC 0300 AB	300	5.00	0.42	380	0.57
DC 0360 AB	360	6.00	0.55	450	0.92
DC 0450 AB	450	7.50	0.75	450	0.93
DC 0550 AB	550	9.17	0.90	450	1.50
DC 0650 AB	650	10.83	0.90	2400	1.40
DC 0750 AB	750	12.50	1.40	2400	1.50
DC 0850 AB	850	14.17	1.54	2200	1.70
DC 1000 AB	1000	16.67	1.80	2600	1.80

*** acc. to ISO 7183**

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DIMENSIONS / WEIGHT



Type	A mm	B mm	C mm	D mm	E mm	F mm	Compressed air connections	Weight kg
0020	360	445	645	47	132	589	½"	27
0035	360	445	645	47	132	589	½"	27
0050	360	445	645	47	132	589	½"	28
0065	360	445	645	47	132	590	½"	33
0085	360	445	645	47	132	590	½"	33
0105	360	445	645	47	132	590	1"	35
0125	360	445	645	44	152	590	1"	36
0150	470	660	870	54	207	815	1 ¼"	50
0180	470	660	870	54	207	815	1 ¼"	52
0225	470	660	870	54	207	815	1 ¼"	54
0300	470	660	870	54	207	815	1 ½"	58
0360	470	660	870	54	207	815	1 ½"	63
0450	645	920	1055	79	283	968	2"	98
0550	645	920	1055	79	283	968	2"	100
0650	645	920	1055	79	283	968	2"	108
0750	645	920	1055	79	283	968	2"	127
0850	645	920	1055	79	283	968	2"	130
1000	645	920	1055	79	283	968	2"	135

For more information please contact your Donaldson Sales Representative and visit our website at **www.donaldson.com**.

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