



**Donaldson**  
FILTRATION SOLUTIONS

## Technical Data Sheet: BURAN

### Refrigeration Compressed Air Dryers for volume flows from 20 to 850 m<sup>3</sup>/h

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 functionality for partial loads, too.



type	volume flow*	volume flow*	pressure drop	power supply	power consumption	cooling air requirement	air connection	weight
	m <sup>3</sup> /h	m <sup>3</sup> /min						
DC 0020 AB	20	0.33	0.03	230/1/50-60	0.16	200	1/2"	26
DC 0035 AB	35	0.58	0.06	230/1/50-60	0.18	200	1/2"	27
DC 0050 AB	50	0.83	0.09	230/1/50-60	0.22	300	1/2"	29
DC 0065 AB	65	1.08	0.11	230/1/50-60	0.22	300	1/2"	31
DC 0085 AB	85	1.42	0.15	230/1/50-60	0.30	300	1/2"	32
DC 0105 AB	105	1.75	0.17	230/1/50-60	0.30	300	1"	33
DC 0125 AB	125	2.08	0.22	230/1/50 or 60	0.46	300	1"	34
DC 0150 AB	150	2.50	0.19	230/1/50 or 60	0.47	300	1 1/4"	55
DC 0180 AB	180	3.00	0.22	230/1/50 or 60	0.72	380	1 1/4"	56
DC 0225 AB	225	3.75	0.23	230/1/50 or 60	0.80	380	1 1/4"	57
DC 0300 AB	300	5.00	0.19	230/1/50 or 60	0.70	450	1 1/2"	68
DC 0360 AB	360	6.00	0.26	230/1/50 or 60	0.76	450	1 1/2"	74
DC 0450 AB	450	7.50	0.04	230/1/50 or 60	0.80	450	2"	116
DC 0550 AB	550	9.17	0.16	230/1/50 or 60	1.10	1900	2"	120
DC 0650 AB	650	10.83	0.23	230/1/50 or 60	1.52	1900	2"	121
DC 0750 AB	750	12.50	0.10	230/1/50 or 60	1.55	2500	2"	155
DC 0850 AB	850	14.17	0.14	230/1/50 or 60	1.60	3300	2"	165

\* according to ISO 7183

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**Subject to change 10/2010**

**Donaldson**  
**Ultrafilter**

**DC 0020 AB - DC 0850 AB**

Features of Buran dryer DC 0020 AB - DC 0850 AB	Benefits
Aluminum heat exchanger	No corrosion inside the heat exchanger due to contact with wet compressed air
High overload capacity to a pressure dew point of approx. +20 °C	In case of overload, the dryer will only switch off at a dew point above than appr. +20 °C
Electronic level controlled condensate drain	No compressed air losses due to condensate removal, therefore reduction of operating costs
All dryer in metal cabinet construction	Optimum protection against mechanical damage and against dirt
Lightweight & compact design	Minimum space requirement (on stock, for transport and for the installation in the compressed air network)
Potential free alarm signal	Economical operation and safe system installation in the compressed air network

Product description
Complete compressed air drying system with electronic level controlled condensate drain, dew point indicator, metal housing, power plug. The aluminum heat exchanger includes three functions in one: air-to-air heat exchanger, air-to-refrigerant heat exchanger and water separator.

Refrigerant:
DC 0020 AB - DC 0150 AB : R134a
DC 0180 AB - DC 0850 AB : R407C

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)

Noise pressure level:
< 70 dB (A)

Protection class:
IP 22

Medium temperature:
max. +70 °C

Declaration of conformity:
acc. to 2006/42/EC Annex II A

Medium:
compressed air

Ambient temperature:
min. +2 °C / max. +50 °C

**Sizing**

Comp. air inlet temp.	°C	30	35	40	45	50	55	60	65	70
Factor	$f_{ti}$	1.28	1.00	0.88	0.75	0.58	0.48	0.44	0.42	0.40

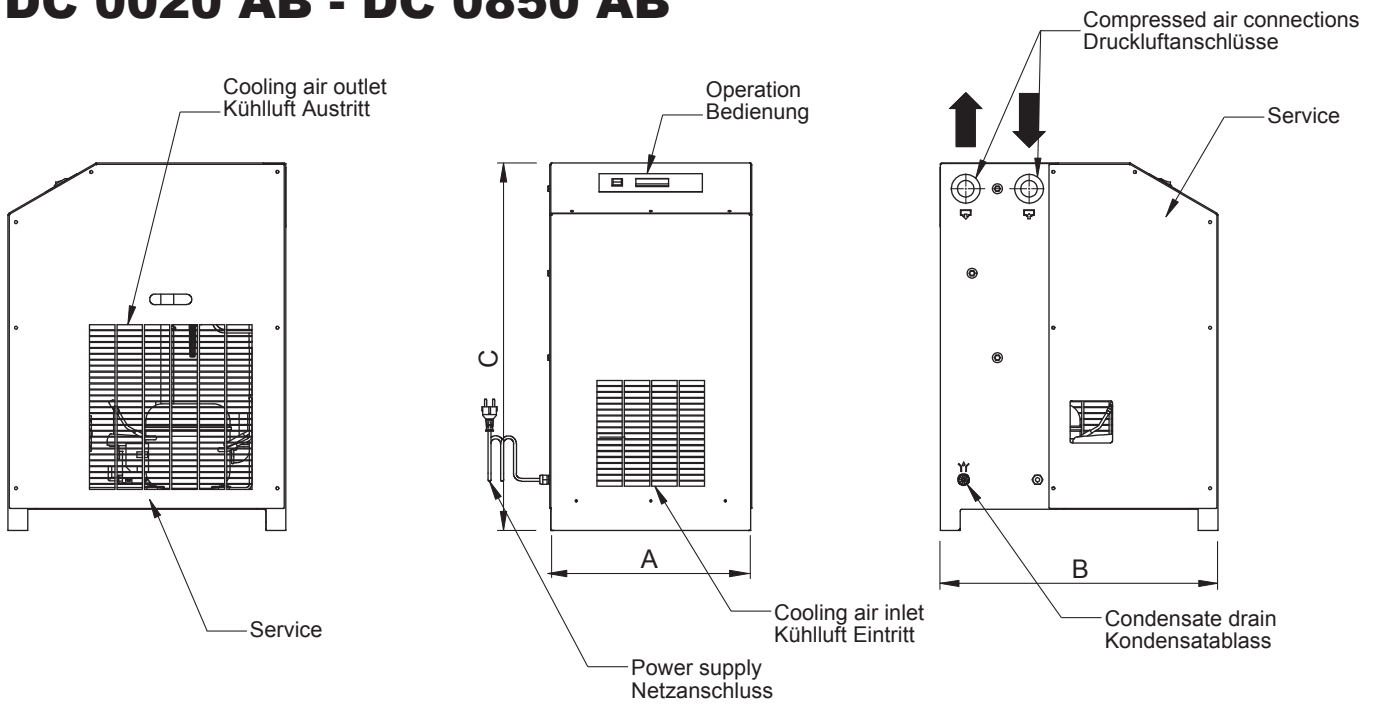
Pressure dew point	°C	3	5	7	10
Factor	$f_{tpd}$	1	1.12	1.24	1.36

Working overpressure	b a r (g)	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Factor	$f_p$	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

Temperature of cooling air or cooling water	°C	25	30	35	40	45	50
Factor	$f_{te}$	1.00	0.97	0.94	0.87	0.75	0.62

Corrected dryer capacity =  
 Standard dryer capacity x  $f_{te}$  x  $f_{tpd}$  x  $f_{pg}$  x  $f_{ti}$

**DC 0020 AB - DC 0850 AB**



Size	A	B	C
	mm	mm	mm
1	360	410	645
2	480	660	870
3	645	920	1055

**Function diagram (exemplary)**

