

Bora

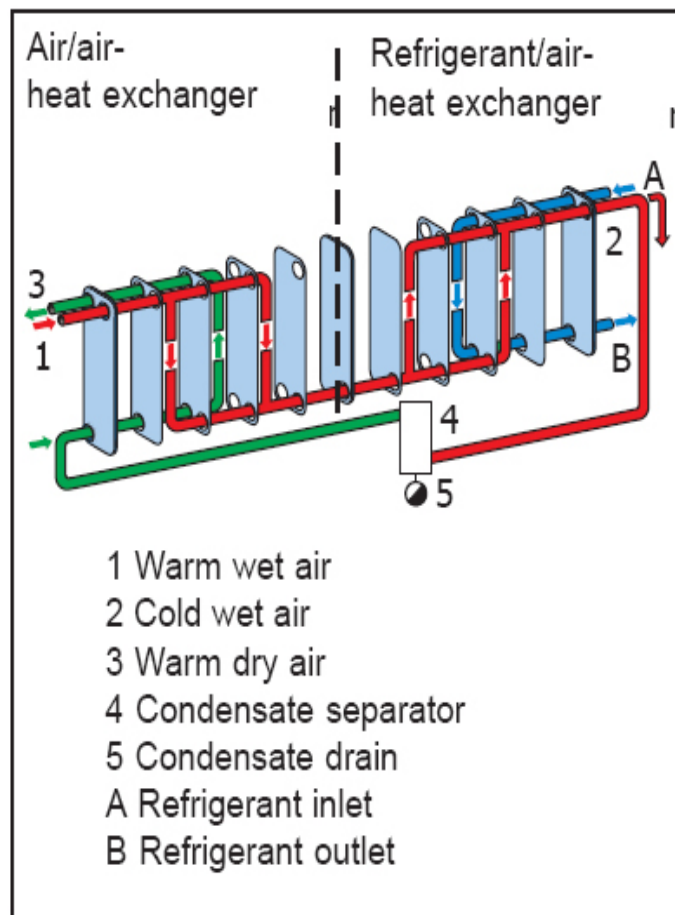
HPD 0040 A - 5000 W

DHP 2700 W - 4200 W

Refrigeration Compressed Air Dryers for High Pressure Applications

High-pressure dryers with numerous ranges of application:

High pressure dryers are used when standard versions no longer satisfy technical production requirements. An important area of application is the plastics processing industry, e.g. the production of environmentally friendly recycling bottles made of PET (polyethyleneterephthalate). These PET bottles are extruded from relatively small, preheated plastic blanks through compressed air of approximately 40 bar. The compressed air is supplied by oil lubricated or oil free compressors. Installed downstream the air compressors, the Donaldson high pressure fridge dryers guarantee that the compressed air is dry and clean when it enters the production plant.



How the Bora HPD/DHP works:

Compressed air is fed into the dryer and pre-cooled in the air-to-air heat exchanger by the outgoing cold compressed air. The precooled air then passes through the refrigerant-to-air heat exchanger where it is further cooled to the required pressure dew point of 3°C. The moisture in the compressed air precipitates and is collected and discharged automatically.

Finally, the cold demisted air is rewarmed by the incoming compressed air. This saves energy and prevents any moisture forming beyond the dryer in the compressed air system.

Advantages of the Bora HPD/DHP series:

- Dryers are designed to match exactly the products of leading world-wide PET compressor manufacturers in respect of flow rate and connection size. This means cost efficient installation and low differential pressure in the „compressor package“.
- Compact design. Cost saving installation, easy access for maintenance
- High performance two-stage plate type heat exchanger system made of stainless steel with optimally sized economizer. This means extremely low power consumption.
- Time level controlled condensate drain system (optional UFM-T20 HP from HPD 0800 A)
- Maintenance free self cleaning condensate separation system.
- Indicated pressure dew point complies with residual moisture at dryer outlet.
- Use of environmentally safe refrigerant R 134 a and CFC-free insulation as standard.
- Use of well proven hermetic refrigerant compressors.
- Safe operation up to + 50 °C ambient temperature and inlet temperature up to + 60 °C.

Technical Data

Bora HPD/DHP 0040 A - 5000 W

Technical Data								
Model		Volume Flow	Volume Flow	Pressure Drop	Power Supply	Power Consumption	Cooling Air Requirement	Cooling Air Requirement
		m³/h	m³/min	bar	V/50Hz	kW	m³/h	m³/h
1	HPD 0040 A	40	0.67	0.11	230	0.15	770	-
	HPD 0060 A	60	1.00	0.17	230	0.17	770	-
	HPD 0090 A	90	1.50	0.20	230	0.23	770	-
	HPD 0120 A	120	2.00	0.20	230	0.25	770	-
	HPD 0180 A	180	3.00	0.30	230	0.35	770	-
2	HPD 0260 A	260	4.33	0.35	230	0.70	1300	-
	HPD 0370 A	370	6.17	0.40	230	0.75	1300	-
	HPD 0480 A	480	8.00	0.28	230	0.88	1300	-
	HPD 0600 A	600	10.00	0.29	230	0.92	1300	-
3	HPD 0800 A	800	13.33	0.23	230	1.40	2100	-
	HPD 1100 A	1100	18.33	0.39	230	1.45	2100	-
	HPD 1350 A	1350	22.50	0.21	400	2.00	2000	-
	HPD 1750 A	1750	29.17	0.31	400	2.25	2000	-
	HPD 2250 A	2250	37.50	0.38	400	2.50	2000	-
4	DHP 2700 W	2700	45.00	0.36	400	2.40	-	0.7
	DHP 3500 W	3500	58.33	0.30	400	4.70	-	1.31
	DHP 4200 W	4200	70.00	0.38	400	4.90	-	1.37
	HPD 5000 W	5000	83.33	0.35	400	5.10	-	1.42

Explanations:

Volume flow (m³/h) in relation to intake state of air compressor +20°C, 1 bar, at compressed-air entry temperature of +35°C, ambient temperature of +25°C and an operating pressure of 40 bar, +3°C pressure dew point in accordance with DIN ISO 7183.

Working pressure	bar g	15	20	25	30	35	40	45
Factor	f_p	0.43	0.55	0.72	0.81	0.90	1.00	1.05

Compressed Air Inlet Temperature	°C	30	35	40	45	50	55	60
Factor	f_{ti}	1.20	1.00	0.83	0.75	0.55	0.45	0.35

Ambient temperature	°C	25	30	35	40	45	50
Factor	f_{ta}	1.00	0.97	0.94	0.87	0.75	0.50

Dew Point	°C	3	5	7	10	15
Factor	f_{pdp}	1.00	1.07	1.14	1.22	1.35

Actual volume flow =
Nominal volume flow / ($f_p \times f_{ti} \times f_{ta} \times f_{pdp}$)

Operating pressure:
max. 45 bar

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

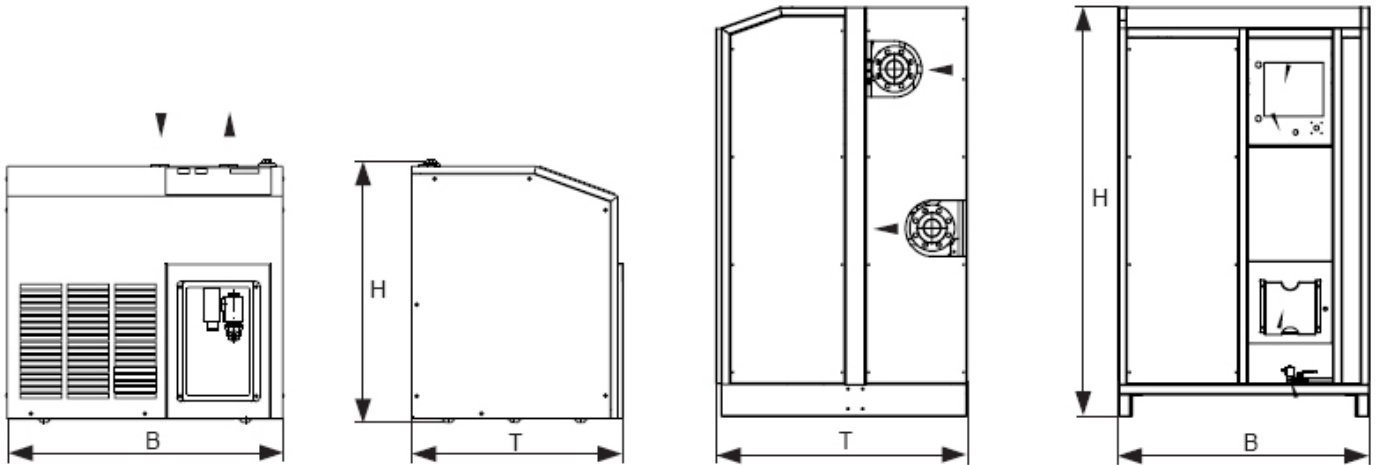
Inlet temperature:
max. +60°C

Protection class:	Noise pressure level:
IP 20 (to HPD 2250 A)	dB (A) < 70
IP 54 (DHP 2700 W & up)	

Technical alterations reserved (AP/2008/0905)

Dimensions

Bora HPD/DHP 0040 A - 5000 W



HPD 0040 A - 2250 A

DHP 2700 W - HPD5000 A

Dimensions							
Model	Air Supply	Condensate Drain	Weight	Dimensions			
	BSP	R	kg	B	H	T	
1	HPD 0040 A	3/8"	1/4"	36	600	550	450
	HPD 0060 A	3/8"	1/4"	38	600	550	450
	HPD 0090 A	1/2"	1/4"	45	600	550	450
	HPD 0120 A	3/4"	1/4"	50	600	550	450
	HPD 0180 A	3/4"	1/4"	52	600	550	450
2	HPD 0260 A	1"	1/4"	70	600	650	600
	HPD 0370 A	1"	1/4"	74	600	650	600
	HPD 0480 A	1 1/4"	1/4"	93	600	650	600
	HPD 0600 A	1 1/4"	1/4"	107	600	650	600
3	HPD 0800 A	1 1/2"	1/4"	175	900	1230	800
	HPD 1100 A	1 1/2"	1/4"	180	900	1230	800
	HPD 1350 A	2"	1/4"	186	900	1230	800
	HPD 1750 A	2"	1/4"	196	900	1230	800
	HPD 2250 A	2"	1/4"	205	900	1230	800
4	DHP 2700 W	DN 80	1/4"	430	1200	1900	1200
	DHP 3500 W	DN 80	1/4"	455	1200	1900	1200
	DHP 4200 W	DN 80	1/4"	615	1200	1900	1200
	HPD 5000 W	DN 80	1/4"	680	1200	1900	1200