

# Refrigeration Dryers

HDS - H SERIES

## BENEFITS AND FEATURES

- Compact design, small footprint
- Stainless steel heat-exchanger technology
- Revolutionary digital scroll energy management (only HDS)
- Constant dew point
- Highly efficient demister technology
- Made in Germany



Technical Data	HDS 1800 - 5400	HDS 6300 - 10800	H-7200 - 12000
Inlet / Outlet	Top	Top right - left	Rear right
Bypass		○	
Air cooling		●	
Water cooling		○	
Heat Exchanger	Stainless steel plates (copper welded)		
IP rating	IP 44		
Dew point indication	Digital		
Potential free alarm contact		●	
Electronic level-controlled drain		●	●
Digital Scroll Varying load controls		●	-

Model	HDS 1800 - 5400	HDS 6300 - 10800	H-7200 - 12000
Refrigerant	R 407A		R 134 a

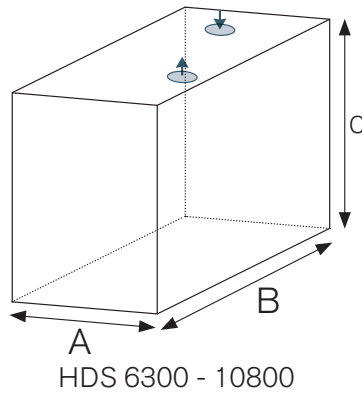
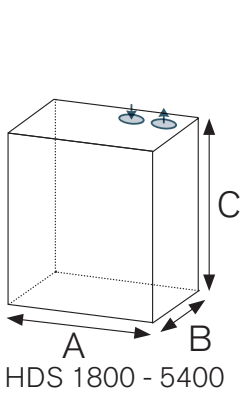
General Data	
Medium	Compressed Air
Housing	Steel
Colour - Top Panel	RAL 5015 (blue), powder-coated
Colour - Housing	Grey, powder-coated
Location	Indoors

Design Data	HDS			H		
	Min.	Nom.	Max.	Min.	Nom.	Max.
Operating pressure	3 bar (g)	7 bar (g)	16 bar (g)	3 bar (g)	7 bar (g)	16 bar (g)
Inlet temperature	+4° C	+35° C	+55° C	+4° C	+35° C	+55° C
Ambient temperature	+3° C	+25° C	+45° C	+4° C	+25° C	+45° C

● standard ○ On request – not applicable

Model	Flow Rate	Connection	Dimensions			Weight	El. connection	Power Consumption
			A	B	C			
	m <sup>3</sup> /h			mm		kg	V/Ph/Hz	kW
<b>HDS 1800</b>	1,800	DN 80	1,232	1,033	2,162	520	400/3/50 460/3/60	2.9
<b>HDS 2250</b>	2,250	DN 100	1,243	1,301	2,162	600		3.9
<b>HDS 2700</b>	2,700	DN 100	1,243	1,301	2,162	665		5.6
<b>HDS 3150</b>	3,150	DN 150	1,400	1,509	2,162	840		6.2
<b>HDS 3600</b>	3,600	DN 150	1,400	1,509	2,162	850		6.9
<b>HDS 4500</b>	4,500	DN 150	1,400	1,509	2,162	950		8.9
<b>HDS 5400</b>	5,400	DN 150	1,400	1,509	2,162	950		10.3
<b>HDS 6300</b>	6,300	DN 200	1,438	2,965	2,800	1,850	400/3/50 460/3/60	12.4
<b>HDS 7200</b>	7,200	DN 200	1,438	2,965	2,800	1,950		13.8
<b>HDS 9000</b>	9,000	DN 200	1,438	2,965	2,800	2,080		17.8
<b>HDS 10800</b>	10,800	DN 200	1,438	2,965	2,800	2,080		20.6

ISO 7183: Based on the intake volume of the compressor at +20°C and 1 bar (g), operating pressure 7 bar (g), inlet temperature +35°C, ambient or cooling water temperature at +25°C, pressure dew point -40°C / 100% RH. Technical data and specifications are subject change without prior notice.



Model	Nominal Power (kW)											Idle run
	@ load	100%	90%	80%	70%	60%	50%	40%	30%	20%	10%	
HDS 1800	2.90	2.82	2.54	2.26	1.98	1.71	1.43	1.15	0.87	0.59	0.38	
HDS 2250	3.90	3.91	3.53	3.14	2.75	2.37	1.98	1.59	1.20	0.82	0.51	
HDS 2700	5.60	5.37	4.84	4.31	3.78	3.25	2.71	2.18	1.65	1.12	0.73	
HDS 3150	6.20	6.10	5.49	4.89	4.29	3.69	3.08	2.48	1.88	1.27	0.81	
HDS 3600	6.90	6.83	6.15	5.48	4.80	4.13	3.45	2.78	2.10	1.43	0.90	
HDS 4500	8.90	8.55	7.71	6.86	6.02	5.17	4.32	3.48	2.63	1.79	1.16	
HDS 5400	10.30	10.47	9.43	8.40	7.36	6.33	5.29	4.26	3.22	2.19	1.34	
HDS 6300	12.40	11.32	10.24	9.16	8.08	7.01	5.93	4.85	3.77	2.69	1.61	
HDS 7200	13.80	12.63	11.45	10.28	9.11	7.94	6.76	5.59	4.42	3.24	2.07	
HDS 9000	17.80	16.29	14.77	13.26	11.75	10.24	8.72	7.21	5.70	4.18	2.67	
HDS 10800	20.60	18.85	17.10	15.35	13.60	11.85	10.09	8.34	6.59	4.84	3.09	

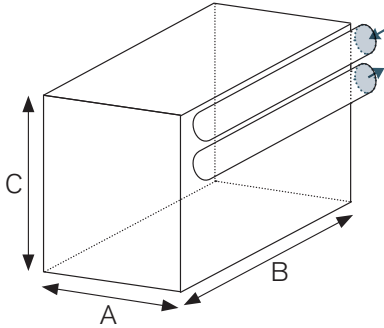
The following correction factors need to be used to select the correct unit for other operating conditions

Correction factors for inlet temperature and operating pressure (F <sub>1</sub> )													
Model: HDS 1800-10800		Inlet pressure bar (g)											
Inlet temperature		3	4	5	6	7	8	9	10	11	12	13	14
°C	+25	1.42	1.50	1.57	1.63	1.67	1.72	1.76	1.81	1.84	1.87	1.90	1.93
	+30	1.00	1.08	1.13	1.18	1.22	1.25	1.29	1.33	1.36	1.38	1.41	1.44
	+35	0.79	0.87	0.92	0.96	1.00	1.03	1.07	1.10	1.13	1.16	1.18	1.21
	+40	0.63	0.72	0.77	0.81	0.84	0.87	0.91	0.93	0.96	0.98	1.00	1.02
	+45	0.51	0.60	0.65	0.68	0.71	0.74	0.78	0.80	0.82	0.84	0.86	0.88
	+50	0.43	0.52	0.56	0.60	0.63	0.65	0.67	0.70	0.73	0.75	0.77	0.80

Correction factors for different ambient temperatures in °C (F <sub>2</sub> )					
°C	+25	+30	+35	+40	+45
HDS 1800-10800	1	0,94	0,89	0,83	0,78

Selection example		Calculation	
Compressor capacity (V <sub>1</sub> )	1,100 m <sup>3</sup> /h	$V_2 = \frac{V_1}{F_1 \cdot F_2} = \frac{1,100}{0.8 \cdot 0.89} = 1,545 \text{ m}^3/\text{h}$	Selection: HDS 1800
Operating pressure (F <sub>1</sub> )	10 bar (g)		
Inlet temperature (F <sub>1</sub> )	+45 °C		
Ambient temperature (F <sub>2</sub> )	+35 °C		
V <sub>2</sub>	Required dryer capacity		

Model	Flow Rate	Connection	Dimensions			Weight	El. connection	Power Consumption
			A	B	C			
	m <sup>3</sup> /h			mm		kg	V/Ph/Hz	kW
H-7200	7,200	DN 150	1,572	3,229	2,402	1,850	400/3/50	11.50
H-8400	8,400	DN 150	1,572	3,229	2,402	2,000		13.80
H-9600	9,600	DN 200	1,590	3,244	2,402	2,200		15.30
H-12000	12,000	DN 200	1,590	3,244	2,402	2,600		17.70



H-7200 - 12000



Correction factors for different operating pressures bar(g) (F <sub>3</sub> )										
bar (g)	3	4	5	6	7	8	10	12	14	16
H-7200 - 12000	0.7	0.81	0.86	0.95	1	1.04	1.12	1.18	1.22	1.26
Correction factors for different inlet temperatures in °C (F <sub>4</sub> )										
°C	+35		+40		+45		+50		+55	
H-7200 - 12000	1		0.83		0.63		0.55		0	
Correction factors for different ambient temperatures in °C (F <sub>5</sub> )										
°C	+25		+30		+35		+40		+45	
H-7200 - 12000	1		0.94		0.89		0.83		0.78	

Factor	Calculation
Compressor capacity (V <sub>1</sub> )	$V_2 = \frac{V_1}{F_1 \cdot F_2 \cdot F_3}$
Operating pressure (F <sub>3</sub> )	
Inlet temperature (F <sub>4</sub> )	
Ambient temperature (F <sub>5</sub> )	
Required dryer capacity V <sub>2</sub>	



Industrial Technologies & Services ATS Moers GmbH  
 Konrad-Zuse-Straße 25  
 47445 Moers, Germany  
 Tel.: +49 (0) 28 41 / 8 19-0 | Fax: +49 (0) 28 41 / 8 19 83  
 E-Mail: insidesales\_moers@spxflow.com