

Refrigeration Dryers

HFQ SERIES - ENERGY-SAVING DRYER

BENEFITS AND FEATURES

- Frequency controlled: Low energy consumption
- Well-proven branded components
- Long service life
- Short payback time



Technical Data	1200 & 1400	1700 & 1900	2200 - 5000
Inlet / Outlet		Left	Rear
Bypass		○	○
Refrigerant	R 134a	R 404A	R 404A
Air cooling		●	●
Water cooling		–	○
Heat Exchanger		Stainless steel plates (copper welded)	
IP rating		IP23	IP44
Dew point indication		Digital LED, with alarm lamp	Digital
Potential free alarm contact		○	●
Electronic level controlled drain			●

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

Design Data*	Min.	Nom.	Max.
Operating pressure	3 bar (g)	7 bar (g)	16 bar (g)
Inlet temperature	+4 °C	+35 °C	+50 °C
Ambient temperature	+3 °C	+25 °C	+45 °C

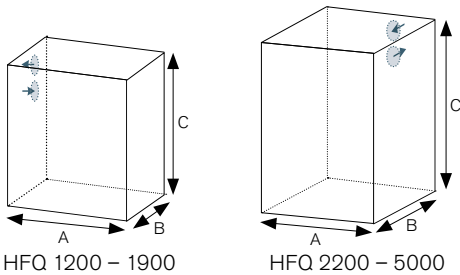
* The correction factors on the back need to be used to select the correct unit for other operating conditions.
Hankison® refrigerant compressed air dryers are best used with a Hankison® SF pre-filter and a HF after-filter.

Model	Flow Rate*	Connection	Dimensions			Weight	el. Connection	Power Consumption at 100%
			A	B	C			
	m³/h			mm		kg	V/Ph/Hz	kW
HFQ 1200	1,200	R 2 1/2"	1,129	857	1,510	330	400/3/50	2.1
HFQ 1400	1,400					345		2.7
HFQ 1700	1,700					370		4.3
HFQ 1900	1,900	R 3"	1,131			400	460/3/60	5.2
HFQ 2200	2,200	DN 100	1,243	1,386	2,116	690	400/3/50	5.3
HFQ 2400	2,400					690		6.7
HFQ 3200	3,200					880		8.6
HFQ 3650	3,650	DN 150	1,400	1,584	2,112	880	460/3/60	9.3
HFQ 4600	4,600					1,050		10.5
HFQ 5000	5,000					1,200		13.5

* ISO 7183, based on the intake volume of the compressor at +20°C and 1 bar (a), operating pressure 7 bar (g), inlet temperature +35°C, ambient or cooling water temperature +25°C, pressure dew point +3°C | Technical data and specification are subject to change without prior notice

Comparison Frequency-controlled / Standard dryer						
Power Consumption						
Model	FQ controlled (range)	up to 30 % load	at 40 % load	at 60 % load	at 80 % load	at 100 % load
	kW	kW	kW	kW	kW	kW
HFQ 1200	0.8 – 2.1	0.8	1.1	1.4	1.8	2.1
HFQ 1400	0.8 – 2.7	0.8	1.2	1.7	2.3	2.7
HFQ 1700	1.5 – 4.3	1.5	1.7	2.4	3.6	4.3
HFQ 1900	1.5 – 5.2	1.5	1.9	2.8	4.2	5.2
HFQ 2200	2.0 – 5.3	2.0	2.3	3.3	4.5	5.3
HFQ 2400	2.0 – 6.7	2.0	2.7	3.9	5.6	6.7
HFQ 3200	3.1 – 8.6	3.1	3.9	5.0	7.2	8.6
HFQ 3650	3.1 – 9.3	3.1	4.2	5.3	7.8	9.3
HFQ 4600	3.9 – 10.5	3.9	4.5	6.1	9.5	10.5
HFQ 5000	3.9 – 13.5	3.9	5.2	7.5	11.2	13.5

Note: The wording „load“ (%) is not just related to the air flow, it also takes the compressed air inlet heat into account.



Calculation example:		HFQ 3650	
Working hours/year:	8,700	Power Consumption at 100 % load	Power Consumption at 40 % load
Costs kWh in €:	0.12	9.3 kW	4.2 kW
Calculation:		9.3 · 8,700 · 0.12	4.2 · 8,700 · 0.12
Working hours in € per year:		9,709	4,385

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

Correction factors for different operating pressures in bar (g) (F ₁)														
bar (g)	3	4	5	6	7	8	9	10	11	12	13	14	15	16
HFQ 1200 – 5000	0.79	0.87	0.92	0.96	1.00	1.03	1.07	1.10	1.13	1.16	1.18	1.21	1.24	1.27

Correction factors for different inlet temperatures in °C (F ₂)				
°C	+35	+40	+45	+50
HFQ 1200 – 5000	1.00	0.85	0.71	0.63

Correction factors for different ambient temperatures in °C (F ₃)					
°C	+25	+30	+35	+40	+45
HFQ 1200 – 5000	1	0.94	0.89	0.83	0.78

Selection example		Calculation	
Compressor capacity (V ₁)	1,100 m³/h	$V_2 = \frac{V_1}{F_1 \cdot F_2 \cdot F_3} = \frac{1,100}{1.10 \cdot 0.71 \cdot 0.89} = 1,582 \text{ m}^3/\text{h}$	Selection: HFQ 1700
Operating pressure (F ₁)	10 bar (g)		
Inlet temperature (F ₂)	+45 °C		
Ambient temperature (F ₃)	+35 °C		
V ₂	Required dryer capacity		



SPX Flow Technology Moers GmbH | Konrad-Zuse-Straße 25 | D-47445 Moers

Tel.: +49 (0) 28 41 / 8 19-0 | Fax: +49 (0) 28 41 / 8 19 83 | E-Mail: csc@dehydration.spx.com

www.hankison-europe.com | www.spx.com

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