

P o l e S t a r HP

50bar refrigeration dryers



domnick hunter hiross SpA

HIROSS

Compressed Air Treatment

POLESTAR HP: THE MEDIUM PRESSURE SPECIALIST

Recent technological advances and market trends have led to a significant increase in the need for compressed air at pressures of up to 50 bar. Foremost amongst these applications is the manufacture of environmentally friendly plastic bottles (PET). PET production requires a significant investment in capital equipment and demands a very high manufacturing rate together with extreme quality and precision.

There are many other medium pressure applications, but they all share the same request for ever higher quality air and failsafe reliability.

PoleStar HP perfectly caters for these needs.

The excellent dew point performance, a compressed air side which is entirely in stainless steel and sophisticated individual dryer testing all ensure that PoleStar HP guarantees the very highest quality finished product together with a continuous, hassle-free production process.

In other words, maximum performance at minimum cost.

Hiross also offers a complete range of 50 bar filters, separators, aftercoolers and condensate drains, in order to complete the medium pressure treatment package. Modern industry

is ever more demanding and PoleStar HP

is the perfect answer to

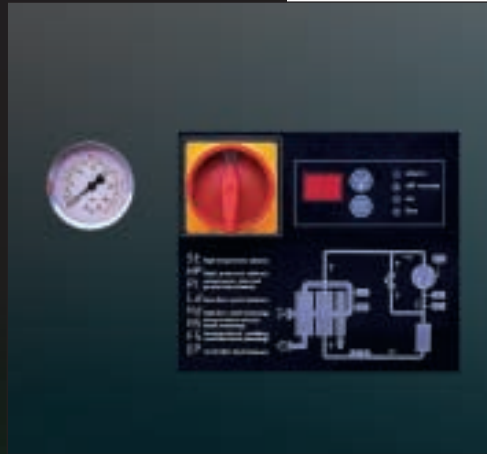
these elevated needs.



BENEFITS

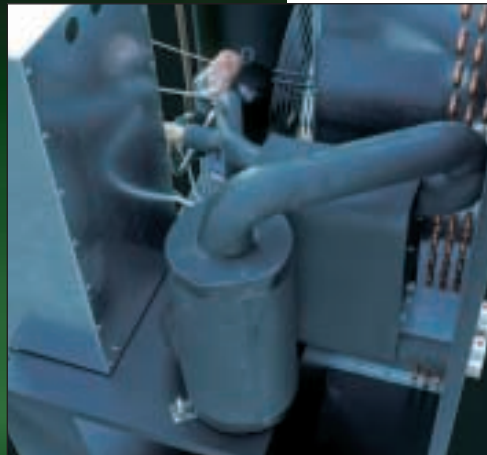
- guaranteed dry air
- corrosion resistant stainless steel air side
- advanced scroll compressors
- high operating limits

USE IT
ANYWHERE



microprocessor control

WORKS ALL
THE TIME



stainless steel air side

ECONOMICAL &
ENVIRONMENTAL
OPERATION



advanced scroll compressor

EASY TO USE



drain niche

The 50 bar pressure limit, together with the 65°C maximum inlet temperature and 50°C maximum ambient temperature, ensure PoleStar HP is perfectly suited to all modern medium pressure needs worldwide.

50 Hz and 60 Hz versions are offered.

PoleStar HP furthermore conforms to all major international norms and regulations, including the European PED and North American ASME directives.

PoleStar HP features a compressed air circuit which is entirely in stainless steel, with a stainless steel heat exchanger and an oversized “upflow” demister separator for perfect dew point performance. PoleStar HP benefits from high tech manufacturing and stringent individual product testing.

Innovative components are used throughout, including scroll compressors, offering very high operational reliability.

PoleStar HP combines high performance with economical operation.

The scroll compressors, standardly fitted from 12 m³/min, offer substantial energy savings compared with traditional solutions.

Environmentally friendly refrigerant R407C saves around 10% in energy compared with typical refrigerants.

The Cold Mass function allows significant energy savings during stand-by periods.

A user friendly microprocessor, fitted from 12 m³/min, combines ease of use with maximum control. Maintenance work is simplified thanks to full frontal access to all components and a drain niche.

The condenser pre-filter (standard from 25 m³/min) improves performance and reduces maintenance requirements.

Water-cooled models are available from 25 m³/min.

YOUR MEDIUM PRESSURE SPECIALIST ...

103732 / 06-04 / B / 1.000 / RO

MODEL	Air flow		Nominal absorbed power (kW)	Air connection	Dimensions (mm)			Weight (kg)
	m ³ /min	cfm			width	height	depth	
Polair NGB models								
NGB004	0,4	14	0,14	3/8"	395	415	400	26
NGB006	0,6	21	0,21	3/8"	395	415	400	28
NGB012	1,3	46	0,29	1/2"	400	620	420	36
NGB018	2,2	78	0,47	1/2"	400	620	420	38
PoleStar HP models								
PHP030	3,0	106	0,55	1 1/4"	615	791	552	75
PHP045	4,5	159	0,57	1 1/4"	615	791	552	77
PHP065	6,5	230	0,93	1 1/4"	615	791	552	81
PHP090	9,0	318	0,97	1 1/4"	615	791	552	83
PHP120	12,0	424	1,20	1 1/4"	920	1015	672	165
PHP160	16,0	565	1,41	1 1/4"	920	1015	672	169
PHP200	20,0	706	1,47	1 1/4"	920	1015	672	172
PHP250	25,0	883	1,82	2 1/2" ANSI	1010	1500	1310	473
PHP290	29,0	1024	1,89	2 1/2" ANSI	1010	1500	1310	477
PHP380	38,0	1342	2,84	2 1/2" ANSI	1010	1500	1310	530
PHP460	46,0	1625	3,44	2 1/2" ANSI	1010	1500	1310	553
PHP630	63,0	2225	3,59	2 1/2" ANSI	1010	1500	1310	557

Performances refer to air-cooled model with air suction of FAD 20°C/1 bar A, and the following operating conditions: air suction 25°C/60%RH, 40 bar g working pressure, 3°C pressure dew point, 25°C cooling air temperature, 35°C compressed air inlet temperature. All indicated data refers to DIN ISO 7183. NGB supplied with refrigerant R134a, PHP with R407C. All models designed for operation up to 50 bar g. 50 Hz models 004-090 supplied with 230/1/50 power supply, models 120-630 with 400/3/50; 60 Hz models available with various power supplies. Water-cooled versions available from model 250. Data refers to 50 Hz models. For 60 Hz models all data remains unchanged except for absorbed power. Flanged models supplied with stainless steel ANSI flanges; counterflanges and DIN flanges available on request. Polair NGB differs from PoleStar HP described in brochure (contact Hiross for further details).

Air flow correction factors for differing working conditions

A) working pressure correction factor	bar g	15	20	25	30	35	40	45	50
		0,85	0,91	0,94	0,97	0,99	1	1,01	1,01
B) compress. air inlet temp. correction factor	°C	30	35	40	45	50	55	60	65*
		1,18	1	0,87	0,77	0,69	0,62	0,56	0,50
C) ambient temperature correction factor	°C	20	25	30	35	40	45	50	
		1,02	1	0,98	0,95	0,93	0,90	0,86	
D) pressure dew point correction factor	°C	3	5	7	10				
		1	1,16	1,25	1,40				

To obtain the required air flow multiply the air flow by the above correction factors (ie. Air flow x A x B x C x D). Ambient temperature limit: 50°C for both NGB and PHP. Inlet temperature limit: 60°C for NGB, 65°C for PHP. The above correction factors are approximative: for a precise selection always refer to the software selection program.

*only applicable for PoleStar HP models.



The Quality and Environment Management Systems of domnick hunter hiross S.p.A. have been approved by Lloyd's Register Quality Assurance to the following Quality and Environment Management System standards: ISO9001:2000 (Certificate LRC160001) and ISO14001:1996 (Certificate LRC160001/14).

Data contained in this publication is to be considered as indicative only. The manufacturer reserves the right to modify data without prior notice.

The Hiross product range: Aftercoolers, Separators, Filters, Refrigeration Dryers, Adsorption Dryers, Condensate Drains, Oil/Water Separators, Water Chillers, Dry Coolers.



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