

ASAHI HD SERIES
COMPRESSED AIR DRYER

アサヒ
ASAHI
REFRIGERATED AIR DRYER

COMPRESSED AIR PURIFICATION SYSTEM

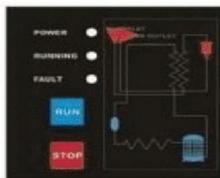
ADVANCE IN COMPRESSED AIR TECHNOLOGY



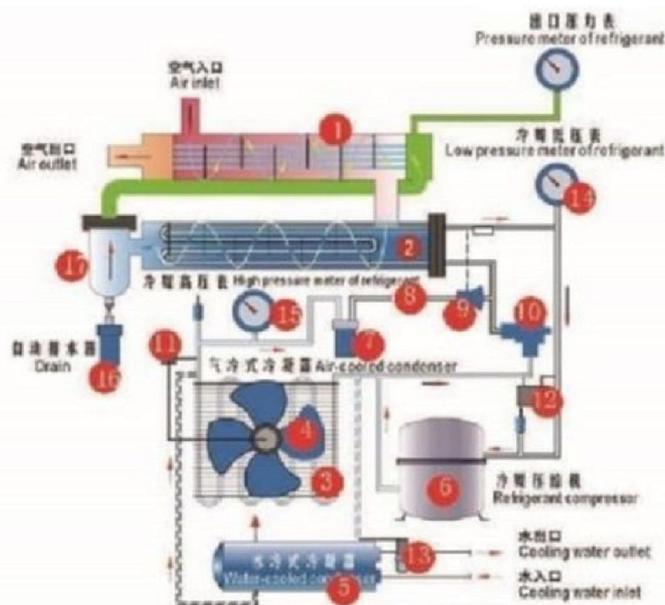
JAPAN TECHNOLOGY LEADING OF QUALITY

ASAHI HD SERIES COMPRESSED AIR DRYER

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REFRIGERATED AIR DRYER



OPERATION SPECIFICATIONS



- 1 Heat Exchanger
- 2 Evaporator
- 3 Cooling System
- 4 Fan Set
- 5 Water Cooled Condenser
- 6 Freon Compressor
- 7 Liquid Tank
- 8 Gas Filter
- 9 Hot Gas Bypass Valve
- 10 Hot Gas Expansion Valve
- 11 High Pressure Switch
- 12 High/Low Pressure Switch
- 13 Water Expansion Valve
- 14 Freon Low Pressure Gauge
- 15 Freon High Pressure Gauge
- 16 Mechanical Auto Drain
- 17 Water Separator

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WHY DO WE NEED COMPRESSED AIR DRYER ?

All compressed air always includes water vapour and impurities. For end user, it is extremely important that the air is free from moisture, particulate contaminants, oil and dust. If these contaminants come into direct contact with the final equipment, the cost for maintenance would be very high. And the advice for air treatment, that originally would be practical and economical, then could be very costly.

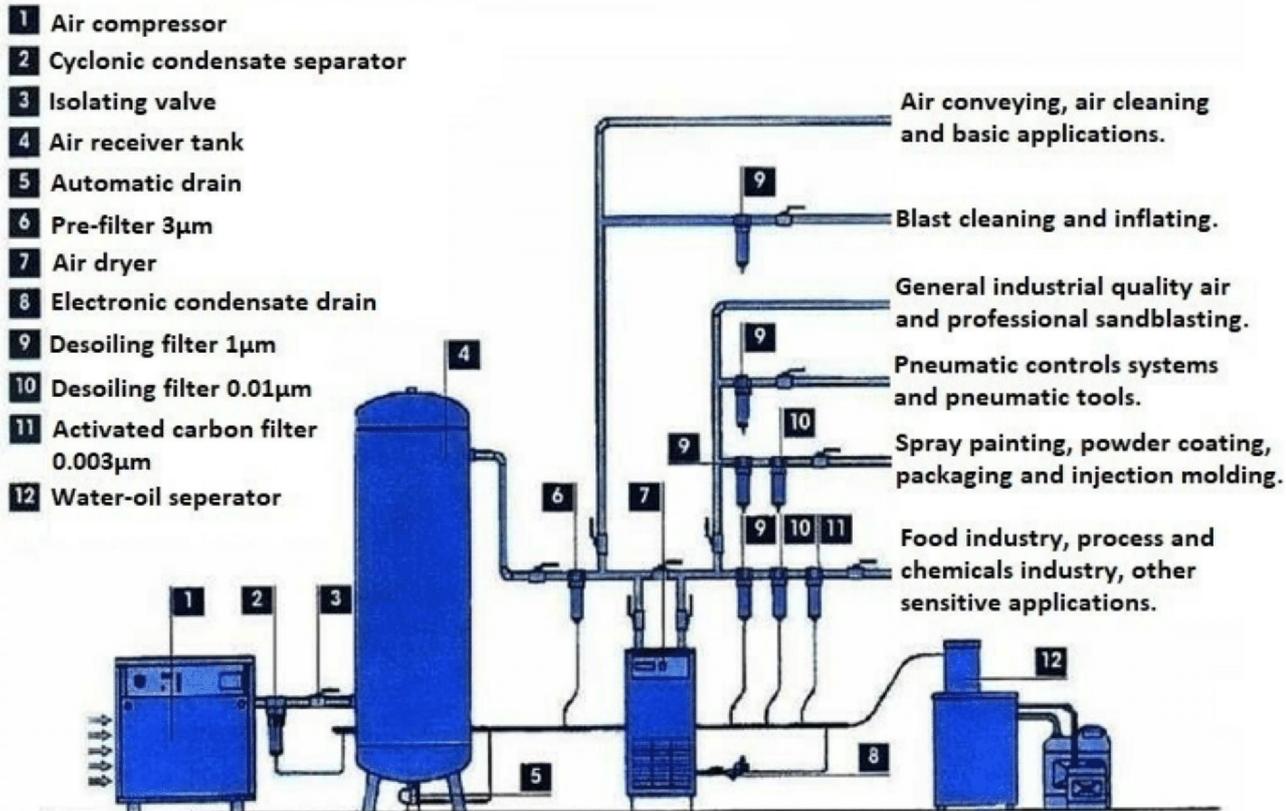
To ensure that all ASAHl Air Dryers are running perfectly, various safety protection features has been installed, such as the Refrigerant High pressure protection, Refrigerant Low pressure protection and Compressor Overheating protection.

Stable dew point is Guaranteed by the dual automatic balance function building up with the expansion valve and hot gas by-pass valve, and this allows the operation load from zero to full adjustable.

The warm compressed air first enters to air heat exchanger to reduces the air temperature down to 2-10°C (Dew Point Temperature) before entering the evaporator where it is cooled to the required temperature. The condensate, separated by the compressed air in the water separator is discharge automatically by the condensate drain. The dry and low temperature air passes through the air to air heat exchanger back to the outlet.

Only reliable parts are used in all ASAHl Air Dryer to ensure low maintenance and minimization of downtime with the Intelligent Controller that has multifunctional protection to monitor the dryer system. It shows various parameters of operation and is equipped with fully automatic control system for each of user.

IDEAL COMPRESSED AIR INSTALLATION LAYOUT



TECHNICAL SPECIFICATION

MODEL	Flow Rate		Port Size"	Dimension (mm)			Weight (kgs)
	m ³ /min	cfm		Length	Width	Height	
HD 007	1.00	35	0.75	360	590	650	44
HD 0010	1.50	53	0.75	360	590	650	45
HD 0015	2.00	71	1.00	400	660	740	52
HD 0020	2.50	88	1.00	400	660	740	53
HD 0030	3.80	134	1.00	400	730	740	57
HD 0060	7.00	247	1.50	480	890	860	92
HD 0100	11.00	388	2.00	1030	600	1055	150
HD 0120	14.00	494	2.50	1130	600	1055	170
HD 0150	17.00	600	2.50	1230	620	1100	338
HD 0200	23.00	811	3.00	1550	880	1200	385
HD 0250	27.00	953	3.00	1550	950	1200	457
HD 0300	35.00	1236	3.00	1550	950	1400	534
HD 0400	45.00	1589	DN100/4" F	1750	1100	1550	681
HD 0500	55.00	1942	DN100/4" F	2200	1200	1500	748
HD 0600	65.00	2295	DN125/5" F	2200	1250	1700	912
HD 0800	85.00	3000	DN150/6" F	2400	1500	1900	1186

Inlet Temperature	Working Pressure (Bar)						
	0.4	0.5	0.6	0.7	0.8	0.9	1.0
25	2.04	2.33	2.50	2.70	2.86	3.03	3.31
30	1.75	2.00	2.17	2.38	2.50	2.70	2.78
35	1.19	1.30	1.41	1.54	1.61	1.69	1.75
40	1.01	1.10	1.18	1.25	1.30	1.35	1.39
45	0.83	0.90	0.95	1.00	1.03	1.06	1.09
50	0.73	0.77	0.81	0.85	0.88	0.91	0.93
60	0.70	0.725	0.78	0.80	0.83	0.87	0.90

Ambient Temperature °C	Dew Point °C	
	2	10
25	1.34	2.33
30	1.17	1.84
38	1.00	1.31
40	0.83	1.17

The correction factors in the above table should be use as a guide line only :-

CAPACITY correction factor (Indicative Values), Example of calculation:

- Air compressor FAD : 13.0m³/min
- Inlet Pressure : 0.8mpa
- Ambient temperature : 38°C, Inlet temperature : 45°C

Correct Dryer Aif Flow = 13.0m³/min / 1.03 x 1.00 = 12.6m³/min

Model HD 0100 will be the correc dryer

Standard Specifications:-

Inlet Temperature	: 60°C
Freon Type	: R134a / R410
Ambient Temperature	: 35°C
Pressure Dew Point	: 2°C to 10°C
Working Pressure	: 10 bar - 16 bar

Distributor :-

Filter Element Design and Materials

- ✓ Borosilicate Microfibre Glass and Material high quality filter material is used to manufacture the media pack. This material, with a bonded structure, withstands high temperatures, is completely inert and is immune to degradation. With sub micron fibre diameters and an extremely high voids volume (as seen in this micro-scan above) it is available in different grades for varying efficiency.



- ✓ Stainless Steel perforated support cylinders, twice as strong as galvanized steel, can withstand 7 bar (100 psig) in either direction.

- ✓ Deep Bed Multi Wrap technology is used to form the media pack. This offers low differential pressure, extremely high oil removal efficiencies and proven continuous performance with long service life.

- ✓ Extra Stainless Steel Inner support on larger reverse flow elements is provided by the addition of a coil spring spot welded to the inner cylinder. This feature ensures these element meet the demands of "outside to in" flow and do not rupture causing downstream contamination.



- ✓ High Nitrile 'O' Rings ensure perfect sealing within the filter housing whilst withstanding high temperatures of over 120 °C (250 °F).

- ✓ Particulate Pre-filtration on both sides of the media pack offers protection with air flow in either direction. This non-woven fabric also enhances the strength of the filter pack and increase filter life.

- ✓ Polyester Fibre Drainage Sleeve, Has now become industry standard. This polyester material collects coalesced oil from the media pack and allows it to gravitate down to the quiet zone of the filter bowl thus preventing any oil carryover. Unlike reticulated foams which can seriously degrade causing downstream contamination, this material has a high tensile strength and withstands all the demands of compressed air filtration.



Example of a typical reticulated foam sleeve exhibiting considerable degradation, a much less robust solution than the HF Series polyester drainage sleeve.

Filter Grades

AO: 5 micron
For coarse pre-filtration & dust removal down to 5 micron.

AA: 1 micron
General purpose protection.
Particle removal down to 1 micron.
Maximum residual oil content down to 0.1 mg/m³ at 20 °C.

AX: 0.01 micron
High efficiency Particle removal down to 0.01 micron.

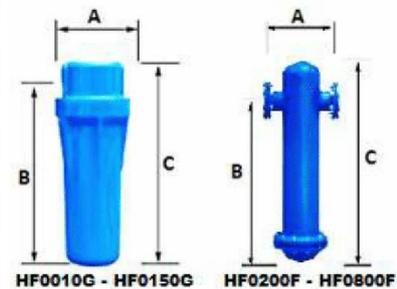
ACS: Activated Carbon
Oil vapour & odour removal.
Applicable in oil lubricated compressors.
Maximum residual oil content down to 0.003 mg/m³ at 20 °C.

FILTER TECHNICAL DATA



FILTER MODEL	MAX PRESSURE		FLOW RATE		WEIGHT (Kgs)
	bar	psi	m ³ /min	cfm	
HF 0010G	16	232	1.50	53	1.10
HF 0020G	16	232	2.50	88	2.60
HF 0030G	16	232	3.80	134	2.60
HF 0060G	16	232	7.00	247	4.40
HF 0100G	16	232	11.00	388	4.80
HF 0120G	16	232	14.00	494	5.10
HF 0150G	16	232	17.00	600	6.80
HF 0200F	16	232	23.00	811	39.00
HF 0250F	16	232	27.00	953	48.00
HF 0300F	16	232	35.00	1236	75.00
HF 0400F	16	232	45.00	1589	83.00
HF 0500F	16	232	55.00	1942	96.00
HF 0600F	16	232	65.00	2295	105.00
HF 0800F	16	232	85.00	3000	115.00

FILTER MODEL	PIPE CONN.	MEASUREMENT (mm)		
	inch	A	B	C
HF 0010G	3/4	89	196	246
HF 0020G	3/4	120	327	377
HF 0030G	1.0	120	327	377
HF 0060 G	1-1/2	120	427	477
HF 0100G	2.0	162	626	676
HF 0120G	2.5	162	626	676
HF 0150G	2-1/2	162	151	776
HF 0200F	DN80/3"F	400	560	700
HF 0250F	DN80/3"F	400	600	780
HF 0300F	DN80/3"F	400	840	1000
HF 0400F	DN100/4"F	565	840	1005
HF 0500F	DN125/5"F	565	720	975
HF 0600F	DN150/6"F	570	950	1205
HF 0800F	DN150/6"F	670	720	1015



*AO = 5 micron *AA = 1 micron *AX = 0.01micron *ACX = Carbon

Correction factors for various working pressure

psi	29	43	57	85	100	114	128	142	156	171	185
bar	1	2	3	5	7	9	11	13	15	17	20
factor	0.38	0.53	0.65	0.85	1.00	1.13	1.25	1.36	1.46	1.56	1.70

Filters come complete with auto drain.

Maximum recommended operating pressure of 16 bar.

The contractor reserve the right to modify specifications without prior notice.

Dealer:

(Note: Due to constant engineering improvements, designs and specifications are subject to change without notice.)