AIRFILTER® ENGINEERING

COMPRESSED AIR REFRIGERATION DRYERS

CARD-Series

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STANDARD FEATURES

- Large condenser for high ambient temperatures (Tamb max. +50°C).
- Eco-friendly refrigerants: R134a mod. 0036-0720; R404A mod. 0840-2340 (ODP=0).
- New advanced heat exchanger: 3-in-1 compact aluminium heat exchanger (counter flow design) including an Air-Air heat exchanger, the evaporator and a demister separator combined in a single module.
- Moisture separator: an high efficiency stainless steel maintenance free demister separator offers perfect condensate separation even at partial air flows.
- Compressors: piston compressors (mod. 0036-1440); scroll compressors (mod. 1680-2340)
- Electrical panel protection degree IP54 (mod. 1680-2340).
- Potential-free general alarm contact.
- Remote ON/OFF function.
- Phase monitor standard (mod. 1680-2340).
- Microprocessor controlled timed drain including an anti-blockage ball valve and a strainer (with manual drain test button).

HOW IT WORKS

- Hot moist compressed air enters the Air-to-Air heat exchanger where it is precooled by the dry air leaving the dryer.
- The refrigerant compressor compresses the refrigerant gas and push it through the condenser where it is condensed in high pressure liquid.
- The refrigerant liquid then passes through a capillary/calibrated orifice that meters it into the evaporator as a low pressure liquid.
- The microprocessor adapts the working cycle to the real working conditions by controlling through “impulses) the opening and closing of solenoid valve. In partial load conditions only a small portion of the refrigerant flows through a calibrated orifice of the solenoid valve, to the compressor that therefore consumes less energy.
- The precooled air enters the evaporator where it is cooled to the required dew point by the incoming refrigerant liquid that changes phase and becomes a low pressure gas suitable to continue the process as it returns to the suction side of the refrigerant compressor.
- Thanks to this cooling effect, water vapor condenses out of the air and is efficiently separated by the demister, then removed by the condensate drain.
- The exiting cold dry compressed air then returns to the Air-to-Air heat exchanger where it is reheated by the incoming air above the dew point, to prevent sweating in your plant.

Model	Air flow rate (1)	Nominal absorbed power	Power supply	Air connections	Overall dimensions (mm)			Weight
	m^3/h FAD 20°C	kW	V/PH/HZ	Rp	Width	Depth	Height	Kg
CARD0036	36	0,13	230/1/50	3/8”	319	298	390	18
CARD0072	72	0,22	230/1/50	3/8”	319	298	390	19
CARD0096	96	0,22	230/1/50	1/2”	359	298	415	22
CARD0126	126	0,35	230/1/50	1/2”	359	298	415	22
CARD0168	168	0,42	230/1/50	1”	380	514	625	35
CARD0264	264	0,60	230/1/50	1”	380	514	625	39
CARD0360	360	0,91	230/1/50	1”	680	511	860	68
CARD0420	420	0,93	230/1/50	1 1/2”	680	511	860	75
CARD0540	540	0,99	230/1/50	1 1/2”	680	511	860	76
CARD0720	720	1,34	230/1/50	1 1/2”	755	555	995	94
CARD0840	840	1,44	230/1/50	2”	883	721	1107	138
CARD0990	990	1,80	230/1/50	2”	883	721	1107	140
CARD1440	1.440	2,55	230/1/50	2 1/2”	1170	939	1180	247
CARD1680	1.680	2,88	230/1/50	2 1/2”	1170	939	1180	255
CARD2040	2.040	3,37	230/1/50	2 1/2”	1170	939	1180	274
CARD2340	2.340	3,80	230/1/50	2 1/2”	1170	939	1180	276

(1) Air flow rate: data refers to the following conditions: air FAD 20°C/1bar(a), pressure 7 bar(g), ambient temperature 30°C, air inlet temperature 35°C, according to ISO 8573.1 standards. Pressure Dew Point from 3°C to 10°C.
Weights are net (without packing and for timed drain configuration). Refrigerant fluids: R134a (CARD0036-0720), R404A (CARD0840-2340). Protection class IP22.
Maximum working pressure 16bar(g); maximum ambient temperature 50°C; maximum inlet temperature +70°C (CARD0036-0720), +60°C (CARD0840-2340).
For dirffering working conditions please refer to correction factors available on the technical documentation or contact AFE Airfilter Europe GmbH.

Capacity correction factors (indicative values): CAPACITY = RATED VALUE 7 bar(g) x K1 x K2 x K3

Working Pressure	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Factor f (K1)	0.25	0.38	0.50	0.65	0.75	0.88	1.00	1.13	1.25	1.38	1.50	1.63	1.75	1.88	2.00	2.13

Air Inlet Temp. (°C)	30	35	40	45	50	55	60	65	70
Correction Factor (K2)	1,1	1,00	0,79	0,61	0,46	0,38	0,38	0,38	0,38

Ambient Temp. (°C)	20	25	30	35	40	45	50
Correction Factor (K3)	1,08	1,04	1	0,95	0,91	0,87	0,83

ISO 9001