REFRIGERANT AIR DRYERS

F series (330-6600 l/s, 700-14000 cfm)

Atlas Copco

AIR TREATMENT
A SMART INVESTMENT

Why invest in dry air?

Day after day, year in year out, expectations to deliver fast and with high quality are present. Industry leading companies invest in dry quality air because they know it is the best solution for a long term, trouble free operation.

Atlas Copco continuously invests in reliable and energy efficient technologies. From the most populated to the furthest and most remote places on earth, you will find Atlas Copco dryers operating around the clock. They bring peace of mind.

Designed to perform in heavy and even subtropical conditions, the F dryer delivers you simple and reliable operation, excellent protection of your products and systems against damage or corrosion.

Protecting Your Reputation and Production

Compressed air entering the air net is always 100% saturated. When it cools, the moisture will condense, causing damage to your air system and finished products. Removing moisture from compressed air Atlas Copco refrigerant dryers eliminate system failures, production downtime and costly repairs.

Keeping Your Production Running Even in the Harshest Conditions

The temperature in many compressor rooms often rises above 40°C. The F dryer is specially designed to run optimal in these heavy conditions and can easily cope with higher peaks. This together with simple and easy controls guarantee the dryer operates in the best way possible.

Easy Installation and Long Maintenance Intervals

Atlas Copco dryers have a small footprint thanks to the all-in-one design. Delivered ready for use, installation is straightforward, minimizing costly production downtime. All internal components are easily accessible to facilitate ergonomic maintenance. All components are defined to the highest standard of quality to ensure a long lifetime.

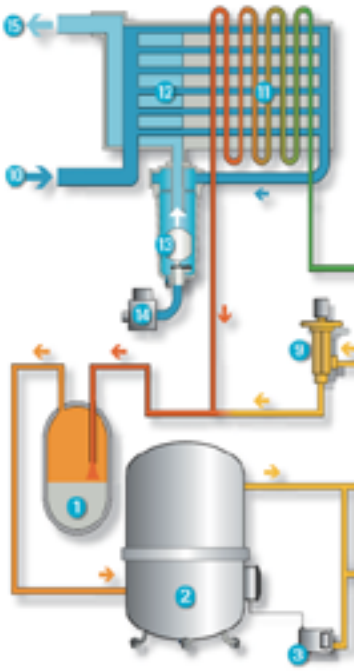
Assuring Your Peach of Mind

Through continuous investment in our competent, committed and efficient service organization, Atlas Copco ensures superior customer value by maximizing productivity. With a presence in over 170 countries, we offer professional and timely service through interaction and involvement. Uptime is guaranteed by dedicated technicians and 24/7 availability.

HOW DOES THE F DRYER WORK?

Refrigerant circuit

The refrigerant circuit compresses and expands the refrigerant medium in a circular system in order to efficiently transfer heat from the wet compressed air to the atmosphere. The F dryer's refrigerant circuit is designed as a whole and only uses components of high and reliable quality, supplied by globally recognized manufacturers.



1

Refrigerant separator

- Ensures that only refrigerant gas can enter the compressor, as liquid would cause damage.

2

Refrigerant compressor

- Brings the gaseous refrigerant to a high pressure and a high temperature.

3

Max. pressure switch

- Protects by ensuring that the refrigerant gas never exceeds the maximal pressure.

4

Fan control pressure switch

- Saves energy by temporarily turning of the condenser fan when the load on the dryer is low..

5

Condenser fan

- Efficiently provides constant flow of ambient air to the air condenser. (only for air cooled)d.

6

Condenser

- Cools the refrigerant slightly so that it can change from gas to liquid; refrigerant is more effective in the liquid state.

7

Filter

- Protects the expansion device from harmful particles.

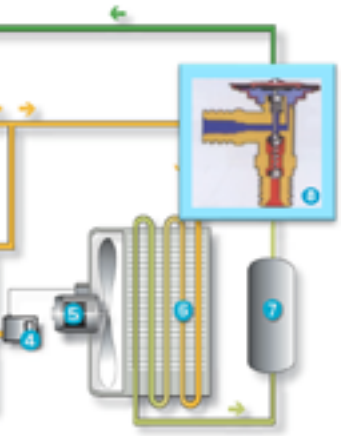
8

Expansion valve

- Reduces the refrigerant's pressure, thereby lowering its temperature and increasing its cooling capacity; the refrigerant is now almost all liquid, with some residual gas. Capillary tubes are expansion devices that are extremely reliable, and stabilize the dewpoint of the dryer.

Air circuit

Wet compressed air flows directly through the F dryer's internal 3-in-1 heat exchanger, wherein the 3 key dryer functions are combined. Firstly the wet compressed air is cooled down to condensate the moisture, secondly this condensed moisture will be collected and drained out. Finally the dried compressed air is re-heated before it enters the factory's pipework.



9

Hot gas bypass

- regulates the amount of refrigerant passing through the air-to-refrigerant heat exchanger, ensuring a stable pressure dewpoint, and eliminating the chance of the condensate freezing..

10

Air inlet

- Hot saturated air enters the dryer.

11

Air-to-refrigerant heat exchanger

- Transfers heat from the compressed air to the cold refrigerant, forcing water vapor in the compressed air to condense.

12

Air-to-air heat exchanger

- Cools down the air inlet whilst re-heating the outlet air.

13

Water separator

- Collects and drains out condensate from the cooled air flow 3-in-1 aluminum heat exchangers combine above points 11, 12 and 13 making them highly efficient and reliable.

14

Automatic drain

- Removes the free water collected in the water separator.

15

Air outlet

- Re-heats the outgoing air to prevent condensation on the factory's pipework

F
SIMPLE RELIABILIY WITH A SUBTOPICAL DNA

1

Robust and compact design

- Solid base frame with very small footprint
- Standard canopy, from smallest to largest size, ensures quiet, clean and safe operation

2

High-quality components

- Globally recognized manufacturers with highest level of expertise and reliability
- Sequence of components designed to operate as one system to optimize performance

3

Top of the range heat exchanger

- 3-in-1 technology designed dedicated for each size
- Low pressure drop by the integration of “air-to-air”, “air-to-refrigerant” and “water separation” compartments

4

Suitable for heavy and even subtropical conditions

- Delivering quality compressed air in heavy ambient conditions is common practice for the F dryer due to its design with high reference conditions & high limit conditions (see technical data
- Even during temporary overload continuous operation is guaranteed

5

Electronic water drain

- Automatically removes free water collected in the water separator

6

Easy installation and maintenance

- The plug and play principle ensures direct air quality
- F dryers save space while making it more simple to reach for easy maintenance

TECHNICAL SPECIFICATIONS

F330-6600

Model	Outlet pressure dewpoint +3-10 °C					Max working pressure		Electrical supply	Dimensions						Weight		Compr. air con-nec-tions
	Cooling	Inlet capacity		Pressure rop					Length		Width		Height				
	A/W	l/s	cfm	bar	psi	bar	psi		mm	inch	mm	inch	mm	inch	kg	lb	
F330	A	330	700	0.15	2.18	10	145	230V/1/50Hz	1025	40.3	660	25.9	1119	44.1	200	441	G2.5
F330	W	330	700	0.15	2.18	10	145	230V/1/50Hz	1025	40.3	660	25.9	1119	44.1	200	441	G2.5
F410	A	410	890	0.15	2.18	10	145	230V/1/50Hz	1025	40.3	660	25.9	1119	44.1	230	507	G2.5
F410	W	410	890	0.15	2.18	10	145	230V/1/50Hz	1025	40.3	660	25.9	1119	44.1	230	507	G2.5
F600	A	600	1236	0.15	2.18	10	145	380V/3/50Hz	1133	44.2	1000	39	1550	60.5	325	715	DN100
F600	W	600	1236	0.15	2.18	10	145	380V/3/50Hz	1133	44.2	1000	39	1550	60.5	325	715	DN100
F750	A	750	1590	0.15	2.18	10	145	380V/3/50Hz	1133	44.2	1000	39	1550	60.5	325	715	DN100
F750	W	750	1590	0.15	2.18	10	145	380V/3/50Hz	1133	44.2	1000	39	1550	60.5	325	715	DN100
F850	A	850	1749	0.15	2.18	10	145	380V/3/50Hz	1133	44.2	1000	39	1550	60.5	325	715	DN100
F850	W	850	1749	0.15	2.18	10	145	380V/3/50Hz	1133	44.2	1000	39	1550	60.5	325	715	DN100
F1000	A	1000	2120	0.16	2.32	10	145	380V/3/50Hz	1644	64.1	1000	39	1550	60.5	350	770	DN150
F1000	W	1000	2120	0.16	2.32	10	145	380V/3/50Hz	1644	64.1	1000	39	1550	60.5	350	770	DN150
F1250	A	1250	2650	0.16	2.32	10	145	380V/3/50Hz	1644	64.1	1000	39	1550	60.5	350	770	DN150
F1250	W	1250	2650	0.16	2.32	10	145	380V/3/50Hz	1644	64.1	1000	39	1550	60.5	350	770	DN150
F1670	A	1670	3530	0.16	2.32	10	145	380V/3/50Hz	2100	81.9	1150	44.9	1750	68.3	700	1540	DN150
F1670	W	1670	3530	0.16	2.32	10	145	380V/3/50Hz	2100	81.9	1150	44.9	1750	68.3	700	1540	DN150
F2100	W	2100	4420	0.16	2.32	10	145	380V/3/50Hz	2100	81.9	1150	44.9	1750	68.3	700	1540	DN150
F2500	W	2500	5300	0.16	2.32	10	145	380V/3/50Hz	2300	90.5	1150	42.3	1750	68.9	850	1874	DN200
F3300	W	3300	7070	0.16	2.32	10	145	380V/3/50Hz	2300	90.5	1150	42.3	1750	68.9	950	2094	DN200
F4170	W	4170	8840	0.16	2.32	10	145	380V/3/50Hz	2300	90.5	1650	64.9	1900	74.8	1700	3748	DN250
F5000	W	5000	10600	0.16	2.32	10	145	380V/3/50Hz	2300	90.5	1650	64.9	1900	74.8	1900	4189	DN250
F5800	W	5800	12381	0.16	2.32	10	145	380V/3/50Hz	3000	118.1	1650	64.9	1900	74.8	2100	4630	DN300
F6600	W	6600	14130	0.16	2.32	10	145	380V/3/50Hz	3000	118.1	1650	64.9	1900	74.8	2300	5071	DN300

F330-1250

CORRECTION FACTOR LIST

AMBIENT TEMPERATURE °C (°F)	25 (77)	30 (86)	35 (95)	40 (104)	45 (113)
MULTIPLICATION FACTOR	1	0.91	0.81	0.72	0.62

CORRECTION FACTOR FOR DIFFERENT INLET TEMPERATURE

INLET TEMPERATURE °C (°F)	25 (77)	30 (86)	35 (95)	40 (104)	45 (113)	50 (122)	55 (131)
MULTIPLICATION FACTOR	1	1	1	0.82	0.69	0.58	0.45

CORRECTION FACTOR FOR DIFFERENT INLET PRESSURE

PRESSURE BAR (PSI)	5(72)	6 (87)	7 (100)	8 (116)	9 (130.5)	10 (145)
MULTIPLICATION FACTOR	0.9	0.97	1	1.03	1.06	1.08

F330-410 230V/1PH/50Hz
F600-1250 380V/3PH/50Hz
Refrigerant: R410a
Reference conditions:
Ambient temperature:25 °C
Inlet temperature:35 °C
Working pressure:7 bar(g)
Dew-point:7 °C
Limitations:
Maximun ambient temperature: 45 °C
Minimun ambient temperature: 5 °C
Maximun inlet temperature: 55 °C
Maximun working pressure: 13 bar

F1670-6600

CORRECTION FACTOR LIST

AMBIENT TEMPERATURE °C (°F)	25 (77)	30 (86)	35 (95)	40 (104)	45 (113)
MULTIPLICATION FACTOR	1.16	1.11	1.05	1.0	0.9

CORRECTION FACTOR FOR DIFFERENT INLET TEMPERATURE

INLET TEMPERATURE °C (°F)	25 (77)	30 (86)	35 (95)	40 (104)	45 (113)	50 (122)	55 (131)
MULTIPLICATION FACTOR	1.55	1.46	1.22	1.0	0.82	0.67	0.55

CORRECTION FACTOR FOR DIFFERENT INLET PRESSURE

PRESSURE BAR (PSI)	2(27)	3(43)	4(58)	5(72)	6 (87)	7 (100)	8 (116)	9 (130.5)	10 (145)
MULTIPLICATION FACTOR	0.53	0.64	0.75	0.85	0.91	1.0	1.02	1.04	1,07

F1670-6600 380V/3PH/50Hz
Refrigerant: R407c
Reference conditions:
Ambient temperature:40 °C
Inlet temperature:40 °C
Working pressure:7 bar(g)
Dew-point:7-10 °C
Limitations:
Maximun ambient temperature: 45 °C
Minimun ambient temperature: 5 °C
Maximun inlet temperature: 55 °C
Maximun working pressure: 10 bar

COMMITTED TO SUSTAINABLE PRODUCTIVITY

We stand by our responsibilities towards our customers,
towards the environment and the people around us.
We make performance stand the test of time.
This is what we call — Sustainable Productivity.

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