Air Dryers FD Atlas Copco

INECO

www.in-eco.sk

Air and Vacuum Components

Atlas Copco

Autorizovaný distribútor

Why dry your compressed air?

Compressed air is used in a wide variety of industrial applications. Wherever it is used, compressed air must be clean and dry. Containing solid, liquid and gaseous contaminants, untreated compressed air poses a substantial risk as it can damage your air system and end product. Moisture, one of the main components of untreated air can cause corrosion in pipe work, premature failure of pneumatic equipment, product spoilage and more. An air dryer is therefore essential to protect your systems and processes.

Limit the risks of moisture

When the air that surrounds us is compressed, its water vapor and particle concentration increases dramatically. For example, compressing ambient room air to 7 bar(e)/ 100 psig increases the vapor content or humidity by a factor of around 8, and subsequent cooling forms liquid water. The amount of water depends on the specific application. Compressed air can actually contain three forms of water: liquid water, aerosol (mist) and vapor (gas). An efficient means of removing water from compressed air is therefore vital.

Moisture in the air can be particularly problematic, causing:

- Corrosion of compressed air piping.
- Damages & malfunction of air powered equipment.
- Compressed air leakages due to corroded pipes.
- Poor paint quality, deterioration of electrostatic painting processes.
- Deteriorated end product quality.

Protecting your reputation and production

Removing moisture from compressed air with a dewpoint as low as +3°C/+37.4°F, FD refrigerant dryers provide the clean, dry air you need to expand the life of your equipment and ensure the quality of your end product.

Keeping your production up and running

FD dryers are designed in-house, tested using the most stringent methods (at ambient temperatures up to 50°C/122°F) and manufactured on a very advanced production line. FD dryers meet or exceed the international standards for compressed air purity and are tested according to ISO 7183:2007.

Driving down energy costs

Our FD dryers incorporate a range of energy-saving features that will cut your carbon footprint and reduce costs. Incorporating unique heat exchanger technology and Saver Cycle Control, the FD ensures a low pressure drop of typically below 0.2 bar/2.9 psi and minimal energy consumption.
The integrated Variable Speed Drive (VSD) technology offers extra energy savings by automatically tuning the energy input to the precise demand.

Easy installation and long maintenance intervals

FD dryers have a small footprint thanks to an innovative all-in-one design. Delivered ready for use, installation is straightforward, minimizing costly production downtime.
FD dryers come as all-in-one packages including an electronic no-loss drain and spin-on DD/PD filters (optional).

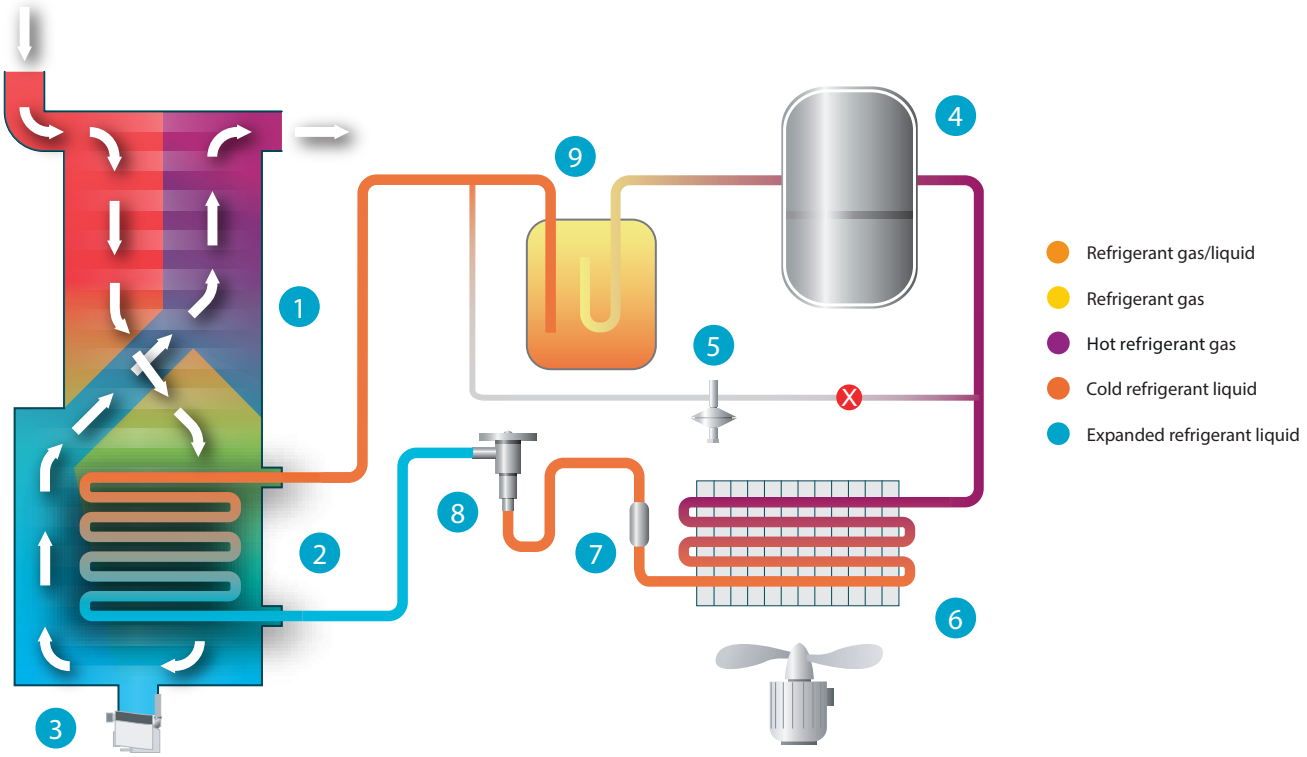
Low environmental impact

Fully compliant with ISO 14001 standards and Montreal Protocol regulations, FD dryers use CFC-free refrigerants (R134A, R410A, R404A) to prevent any damage to the earth's ozone layer.
FD dryers have an ozone depletion potential (ODP) of zero and are enclosed in a sound suppression canopy to reduce the noise levels, making FD dryers among the most environmentally friendly and quietest in their class.

How does the FD dryer work?

A refrigerant dryer uses a refrigerant circuit and heat exchanger(s) to pre-cool air, refrigerate it to condense out moisture vapor, and then re-heat the air to prevent pipe sweating downstream. Refrigerant dryers can lead to a pressure dewpoint (PDP) as low as $^{+}3°C/^{+}37.4°F$ for many applications where there is a need for dry air. They can be used at different pressures and consume no processed compressed air.

Typical working principle of direct expansion dryers



Air circuit

1. Air-to-air heat exchanger: Incoming air is cooled down by the outgoing dry cold air
2. Air-to-refrigerant heat exchanger: The air is cooled to the required dewpoint by the refrigerant circuit. The water vapor condenses into water droplets
3. Integrated water separator: The moisture is collected and evacuated

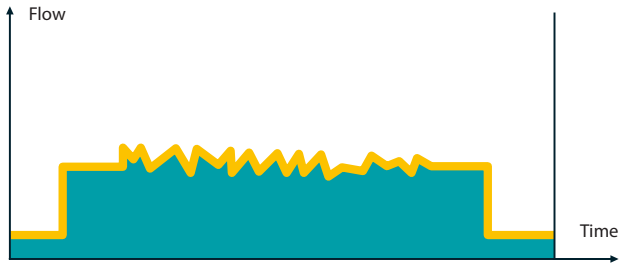
Refrigerant circuit

The refrigerant removes the heat from the compressed air and cools down to the desired dewpoint.

4. Refrigerant compressor: Compresses the gaseous refrigerant to a higher pressure
5. Regulation device: The hot gas bypass valve regulates the dryer to prevent freezing at lower load conditions
6. Refrigerant condenser: Cools the refrigerant so that it changes from a gas to a liquid
7. Refrigerant filter: Protects the expansion device from harmful particles
8. Thermostatic expansion valve: The expansion process reduces the pressure and cools the refrigerant further
9. Liquid separator: Ensures that only refrigerant gas enters the

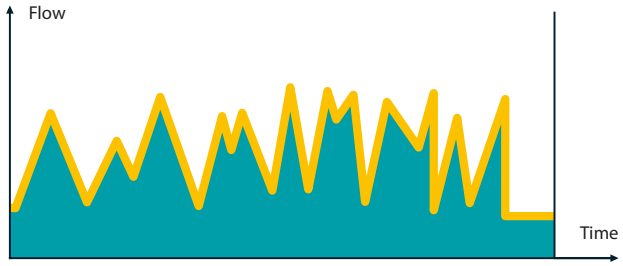
Atlas Copco's FD refrigerant dryers

Based on years of experience in the industry, we have chosen to incorporate direct expansion technology with cycling,



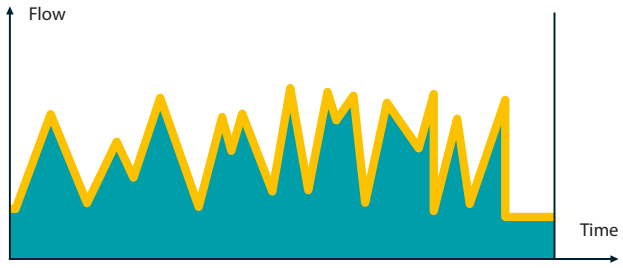
Direct expansion dryers without Saver Cycle Control (non-cycling)

- Applications: stable dewpoint, full load applications.
- Key advantage: fixed speed dryers run continuously to ensure a stable dewpoint by design (irrespective of varying load conditions).



Direct expansion dryers with Saver Cycle Control (cycling)

- Applications: varying temperatures, varying flows.
- Key advantage: cycling dryers shut down the refrigerant compressor at lower load conditions which leads to significant energy savings.
- Range: FD 5-1010.



Variable speed dryers (VSD = Variable Speed Drive)

- Applications: varying temperatures, varying flows.
- Key advantage: VSD dryers match the energy consumed to the actual compressed air used. This ensures supreme energy savings as well as a stable dewpoint across the whole spectrum of temperature and flow.
- FD 760-4000 VSD.

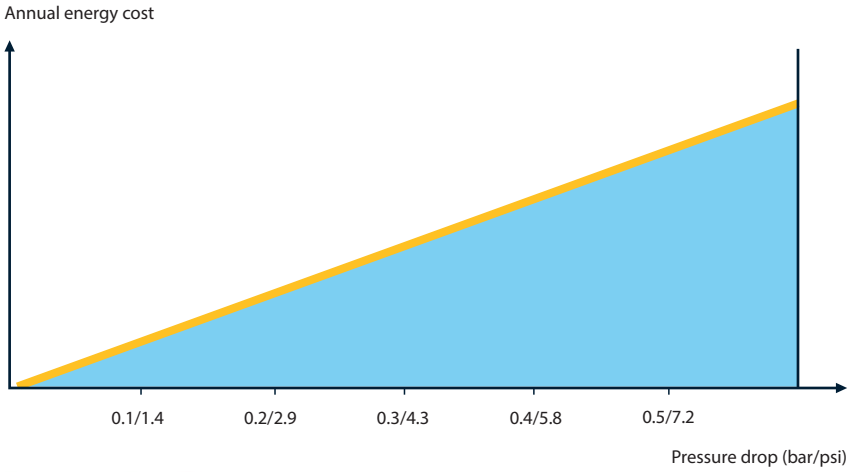
Supreme energy efficiency

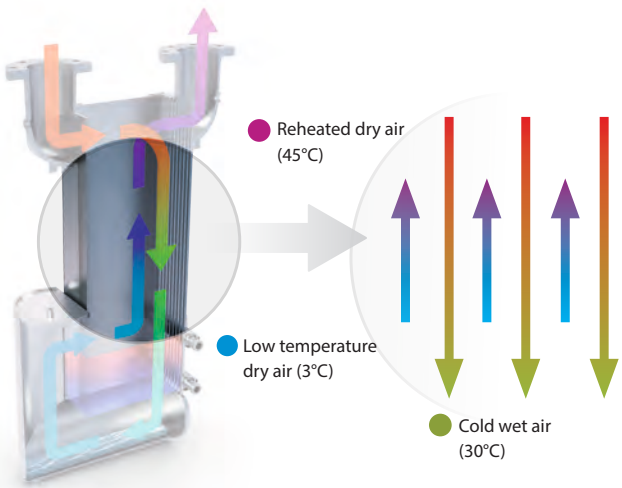
When purchasing a refrigerant dryer, the main focus is usually on the initial cost. What is mostly overseen is that this only represents approximately 10% of the lifecycle cost, the rest being taken up by energy, maintenance and installations costs. Of these, direct and indirect energy costs (pressure drop) are the

Indirect energy costs

Indirect energy costs are related to the extra energy your air compressor will consume to overcome the pressure drop of the air dryer. By design, Atlas Copco FD refrigerant dryers offer a low pressure drop and efficient heat transfer – both of which contribute to a reduction of the indirect energy costs.

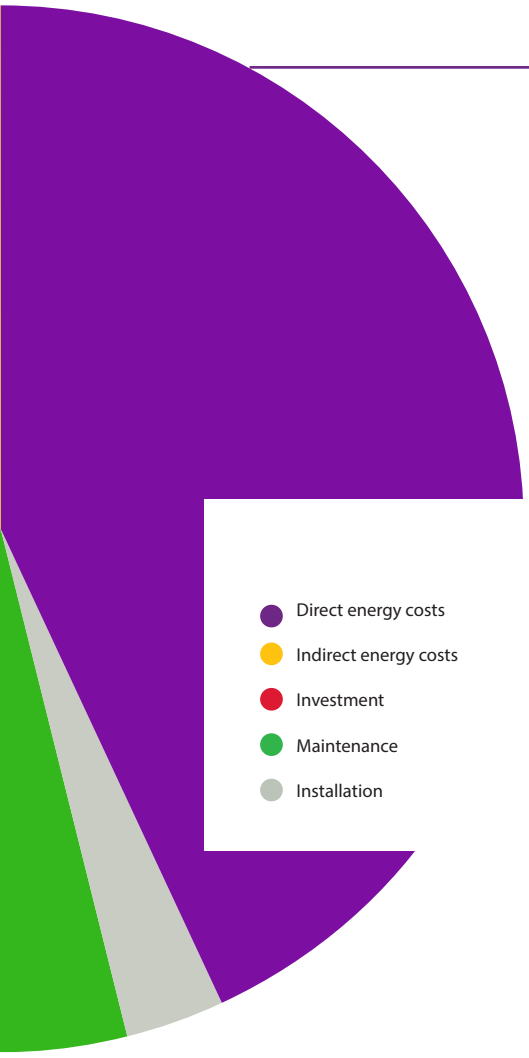
Example of the costs related to high pressure drop





Efficient heat transfer through unique heat exchanger technology

The FD dryer uses a counter flow heat exchanger on both the air-to-air and air-to-refrigerant side. Compared to a cross flow heat exchanger, the counter flow design results in a more efficient heat transfer and stable temperatures. This significantly lowers energy consumption.



Direct energy costs

Direct energy costs are related to the power that the dryer consumes. Atlas Copco's FD dryers incorporate a variety of state-of-the-art technologies such as Saver Cycle Control and Variable Speed Drive. These features result in further savings on energy costs, depending on your air consumption profile.

Saver Cycle Control

To help you save energy, Atlas Copco FD dryers are able to adapt their working cycle to the real load by continuously monitoring and comparing the ambient temperature and the pressure dewpoint. When there is less heat load, the refrigerant compressor stops and power consumption is significantly reduced.

Variable Speed Drive (VSD)

The VSD controller incorporated in certain FD refrigerant dryers matches the energy consumed to the actual compressed air used. This significantly reduces energy consumption – by as much as 70% compared to conventional dryers.
It works by varying the speed of the compressor and ensuring a stable dewpoint. In this way the speed of the refrigeration compressor can be matched to inlet conditions, resulting in lower energy consumption at reduced loads.

Flow switch

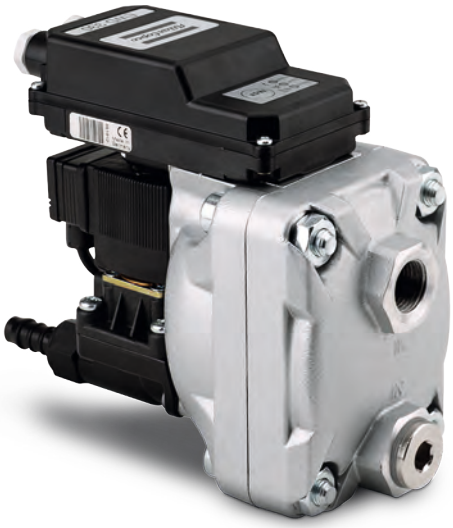
If the compressor is unloaded for some time, the flow switch shuts down the refrigerant

with Atlas Copco's

Up to 50% savings on indirect energy costs

Up to 70% savings on direct energy costs

FD 5-95 & FD 120-285: Superior productivity



Electronic no-loss condensate drain

- Level sensor senses the level of the condensate and opens the drain, preventing any loss of compressed air when condensate is drained.
- Equipped with backup manual drain as standard and drain alarm (FD 120-285).

High-efficiency heat exchanger

Counter-flow compact brazed plate (FD 5-50) or aluminum (FD 60-285) heat exchanger, with air-to-air side for optimum

Optimum performance and safety in all conditions

- Hot gas bypass valve prevents freezing at lower loads.
- R134A piston compressor with high coefficient of performance (FD 5-50) or extremely reliable R410A rotary compressor (FD 60-285) provide the best performance for each size while having minimum environmental impact. Capillary tubes cope with all conditions – no moving parts for extra reliability.

Robust and compact design

- Forklift opening for easy transport.
- Easily removed front and side panels for full access.
- Optional: IP54, oil-coalescing filters (with pressure drop monitoring for FD 120-285)

* The type of controller may vary depending on the model.

Advanced control and monitoring system

- The controller displays the pressure dewpoint (PDP) and relative humidity.
- Setting allows dryer to cycle or not (Saver Cycle Control algorithm) and restart or not after power failure.
- Remote alarm and start/stop control through voltage-free contact.
- The controller offers additional features such as energy-saving flow switch algorithm, alarm history, standard remote visualization (Ethernet plug) and communication extension possibility (FD 120-4000).

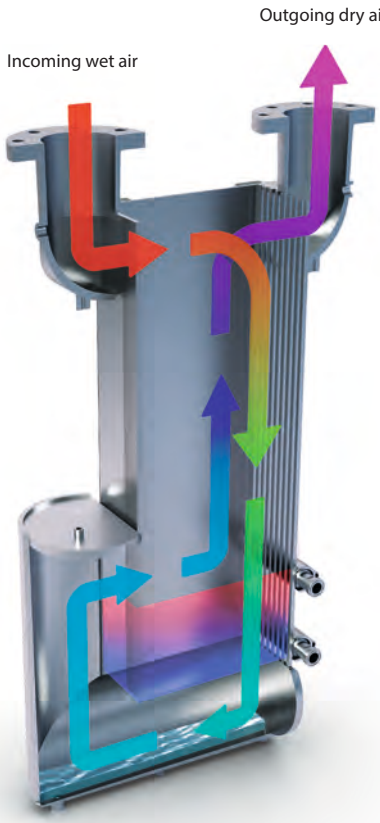
Fan switch

Reduces energy consumption and optimizes the

FD 310-4000:
Superior productivity

High-efficiency heat exchanger

- Counter-flow on both air-to-air and air-to-refrigerant sides for efficient heat transfer. As the outgoing air is reheated, it protects the outlet piping against pipe sweating.
- Unlike some other dryer designs, a separate pre-filter is not required. This results in a low pressure drop. The design ensures a smooth air flow which makes the



Integrated water separator

- Low velocity condensate separator with high separation efficiency even in low flow conditions.
- Reliable and effective condensate evacuation from the separation chamber via the no-loss condensate drain.

Electronic no-loss condensate drain

Level sensor senses the level of the condensate and opens the drain, preventing any loss of compressed air when condensate is drained,

Hot gas bypass valve

Prevents freezing at lower loads.

Filters

For processes requiring higher levels of filtration, Atlas Copco offers integrated DD and PD filters (optional on FD 310-510).

User-friendly state-of-the-art Elektronikon® controller

- Monitoring of all parameters to ensure maximum reliability for your installation.
- Fitted inside a real IP54 cubicle for easy cabling and safety.

* The type of controller may vary depending on the model.

A step ahead in monitoring and controls

Atlas Copco's Elektronikon® controls and monitors your FD refrigerant dryers to ensure optimal productivity and efficiency at your site.

User-friendly interface

Available in 32 languages, this graphical 3.5-inch high-definition color display with pictograms and LED indicators for key events is easy to use.
The keyboard is durable to resist tough treatment in demanding environments.

Comprehensive maintenance display

Valuable items of information displayed include the ServicePlan indicator and preventive maintenance warnings.

Internet-based visualization*

The Elektronikon® system monitors and displays key parameters such as dewpoint and inlet temperature, etc. Internet-based visualization of your dryer is possible by using a simple Ethernet connection.

SMARTLINK*: Data Monitoring Program

- A remote monitoring system that helps you optimize your compressed air system and save you energy and cost.
- It offers you a complete insight in your compressed air network and anticipates on potential problems by warning you up-front.

Optimize your system

With the FD, Atlas Copco provides an all-in-one standard package incorporating the latest technology in a built-to-last design. To further optimize your FD's performance or to simply tailor it to your specific production environment, optional

Scope of supply

Cooling circuit	Integrated electronic no-loss drain
Electrical components	Elektronikon® control
	Voltage-free contacts for remote alarm signal
	Digital pressure dewpoint readout
Mechanical components	Counter-flow air-to-air heat exchanger
	Counter-flow air-to-refrigerant heat exchanger

		FD 5-95	FD 120-285	FD 310-510	FD 610-1010	FD 4000 VSD
General	High efficiency coalescing filters	• (1)	• (2)	• (3)	-	-
	Anchor pads	√	√	•	•	•
Motor	VSD control	-	-	-	•(4)	√
	Saver Cycle Control	√	√	√	√	√
	Control panel protection to IP23	√	√	√	-	-
	Control panel protection to IP54	•	•	•	√	√
Other options	Flow switch	-	√	√	√	√
	Pressure dewpoint alarm	√	√	√	√	√
	Automatic hot gas bypass valve	√	√	√	√	√
	Automatic thermostatic valve	-	-	√	√	√

(1) FD 5-50: spin-on filters - FD 60-95: integrated filters
(2) Integrated filters
(3) Spin-on filters
(4) Except FD 610

√ : Standard • : Optional - : Not available

Dryer type	Dryer version	Refrigerant type	Refrigerant quantity	CO_2 equivalent
Air-cooled: 50Hz				
FD 310	40/50	R410A	2	4.2
	46/56		2	4.2
	50/60		2.2	4.6
FD 410	40/50		2.7	5.6
	46/56		2.8	5.8
	50/60		3.9	8.1
FD 510	40/50		3.05	6.4
	46/56		3.4	7.1
	50/60		3.05	6.4
FD 610	40/50		2.9	6.1
FD 760	40/50		3.9	8.1
FD 760 VSD	40/50		3.6	7.5
FD 870	40/50		4.4	9.2
FD 870 VSD	40/50		4.2	8.8
FD 1010	40/50		5.5	11.5
FD 1010 VSD	40/50		4.9	10.2
Water-cooled: 50Hz				
FD 310	50/60	R410A	1.85	3.9
FD 410	50/60		2	4.2
FD 510	50/60		2.9	6.1
FD 610	40/50		3	6.3
FD 760	40/50		3.25	6.8
FD 760 VSD	40/50		3.6	7.5
FD 870	40/50		4.7	9.8
FD 870 VSD	40/50		5.9	12.3
FD 1010	40/50		4.5	9.4
FD 1010 VSD	40/50		5.9	12.3
FD 4000 VSD	40/50	R404A	18	70.6

Dryer type	Dryer version	Refrigerant type	Refrigerant quantity	CO_2 equivalent
Air-cooled: 60Hz				
FD 310	40/50	R410A	2	4.2
	46/56		2	4.2
	50/60		2.2	4.6
FD 410	40/50		2.7	5.6
	46/56		2.8	5.8
	50/60		3.9	8.1
FD 510	40/50		3.05	6.4
	46/56		3.4	7.1
	50/60		3.05	6.4
FD 610	40/50		2.9	6.1
FD 760	40/50		3.9	8.1
FD 760 VSD	40/50		3.6	7.5
FD 870	40/50		4.4	9.2
FD 870 VSD	40/50		4.2	8.8
FD 1010	40/50		5.5	11.5
FD 1010 VSD	40/50		4.9	10.2
Water-cooled: 60Hz				
FD 310	122/140	R410A	1.6	3.3
FD 410	122/140		1.9	4
FD 510	122/140		2.8	5.8
FD 610	104/122		2.8	5.8
FD 760	104/122		3.1	6.5
FD 760 VSD	104/122		3.6	7.5
FD 870	104/122		4.7	9.8
FD 870 VSD	104/122		5.9	12.3
FD 1010	104/122		4.2	8.8
FD 1010 VSD	104/122		5.9	12.3
FD 4000 VSD	104/122	R404A	18	70.6

Technical specifications

Model	Maximum inlet conditions at full flow (ambient/ inlet)	Inlet flow with a pressure dewpoint (PDP) of 3°C/37.4°F		Pressure drop at full flow		Power consumption		Max. working pressure		Compressed air connections	Dimensions						Weight	
	°C	l/s	cfm	bar	psi	kW	hp	bar	psi		mm	in	mm	in	mm	in	kg	lb
Air-cooled 50 Hz																		
FD 5	50/60	6	13	0.07	1.02	0.2	0.27	16 (1)	233 (1)	R 3/4	525.5	20.7	390	15.4	530	20.9	27	60
FD 10	50/60	10	21	0.11	1.6	0.2	0.27	16 (1)	233 (1)	R 3/4	525.5	20.7	390	15.4	530	20.9	27	60
FD 15	50/60	15	32	0.12	1.75	0.33	0.45	16 (1)	233 (1)	R 3/4	525.5	20.7	390	15.4	530	20.9	32	70
FD 20	50/60	20	42	0.12	1.75	0.41	0.56	16 (1)	233 (1)	R 3/4	525.5	20.7	390	15.4	530	20.9	34	75
FD 25	50/60	25	53	0.17	2.47	0.41	0.56	16 (1)	233 (1)	R 3/4	525.5	20.7	390	15.4	530	20.9	34	75
FD 30	50/60	30	64	0.25	3.64	0.41	0.56	16 (1)	233 (1)	R 3/4	525.5	20.7	390	15.4	530	20.9	34	75
FD 40	50/60	40	85	0.2	2.91	0.57	0.76	16 (1)	233 (1)	R 1	716	28.2	389	15.3	679	26.8	57	125
FD 50	50/60	50	106	0.2	2.91	0.54	0.72	16 (1)	233 (1)	R 1	716	28.2	389	15.3	679	26.8	58	128
FD 60	50/60	60	127	0.22	3.2	0.63	0.84	13	189	R 1	795	28.2	482	19.0	804	31.7	80	176
FD 70	50/60	70	148	0.22	3.2	0.87	1.17	13	189	R 1	795	28.2	482	19.0	804	31.7	81	178
FD 95	50/60	95	201	0.22	3.2	1.18	1.58	13	189	R 1	795	28.2	482	19.0	804	31.7	87	192
FD 120	50/60	120	254	0.11	1.6	1	1.3	14	203	1 1/2	1015	40	675	26.6	881	34.7	170	375
FD 150	50/60	150	318	0.15	2.18	1	1.3	14	203	1 1/2	1015	40	675	26.6	881	34.7	170	375
FD 185	50/60	185	392	0.22	3.19	1.4	1.9	14	203	2 1/2	1024	40.3	816	32.1	943	37.1	185	408
FD 220	50/60	220	466	0.12	1.74	1.9	2.5	14	203	2 1/2	1024	40.3	816	32.1	943	37.1	197	434
FD 245	50/60	245	519	0.18	2.61	2.1	2.8	14	203	2 1/2	1024	40.3	816	32.1	943	37.1	197	434
FD 285	50/60	285	604	0.22	3.19	2.2	2.9	14	203	2 1/2	1024	40.3	816	32.1	943	37.1	197	434
FD 310	40/50	310	657	0.23	3.3	2.8	3.75	14	203	G 3	986	38.8	850	33.5	1190	46.9	198	437
FD 310	46/56	310	657	0.23	3.3	2.8	3.75	14	203	G 3	986	38.8	850	33.5	1190	46.9	200	441
FD 310	50/60	310	657	0.23	3.3	2.9	3.89	14	203	G 3	986	38.8	850	33.5	1190	46.9	202	445
FD 410	40/50	410	869	0.21	3	3	4.02	14	203	G 3	986	38.8	850	33.5	1375	54.1	220	485
FD 410	46/56	410	869	0.21	3	4.6	6.17	14	203	G 3	1250	49.2	850	33.5	1375	54.1	240	529
FD 410	50/60	410	869	0.21	3	4.8	6.44	14	203	G 3	1525	60	850	33.5	1375	54.1	290	639
FD 510	40/50	510	1081	0.20	2.9	4.5	6.03	14	203	G 3	1250	49.2	850	33.5	1375	54.1	260	573
FD 510	46/56	510	1081	0.20	2.9	6.4	8.58	14	203	G 3	1525	60	850	33.5	1375	54.1	310	683
FD 510	50/60	510	1081	0.20	2.9	6.9	9.25	14	203	G 3	1525	60	850	33.5	1375	54.1	315	694
FD 610	40/50	610	1293	0.17	2.47	4.8	6.4	14	203	DIN100	1040	40.9	1060	41.7	1580	62.2	320	705
FD 760	40/50	760	1611	0.17	2.47	5.3	7.1	14	203	DIN100	1245	49	1060	41.7	1580	62.2	380	838
FD 760 VSD	40/50	760	1611	0.17	2.47	5.3	7.1	14	203	DIN100	1245	49	1060	41.7	1580	62.2	380	838
FD 870	40/50	870	1844	0.15	2.17	6.6	8.8	14	203	DIN150	1245	49	1060	41.7	1580	62.2	400	882
FD 870 VSD	40/50	870	1844	0.15	2.17	5.8	7.8	14	203	DIN150	1245	49	1060	41.7	1580	62.2	400	882
FD 1010	40/50	1010	2141	0.17	2.47	7.4	9.9	14	203	DIN150	1580	62.2	1060	41.7	1580	62.2	460	1014
FD 1010 VSD	40/50	1010	2141	0.17	2.47	6.6	8.8	14	203	DIN150	1580	62.2	1060	41.7	1580	62.2	460	1014
Water-cooled 50 Hz																		
FD 310	50/60	310	657	0.23	3.3	2	2.68	14	203	G 3	986	38.8	850	33.5	1190	46,9	180	397
FD 410	50/60	410	869	0.21	3	2.4	3.22	14	203	G 3	1250	49.2	850	33.5	1375	54,1	240	529
FD 510	50/60	510	1081	0.2	2.9	4.1	5.5	14	203	G 3	1250	49.2	850	33.5	1375	54,1	260	573
FD 610	40/50	610	1293	0.17	2.47	3.1	4.2	14	203	DIN100	1245	49	1060	41.7	1580	62.2	350	772
FD 760	40/50	760	1611	0.17	2.47	3.6	4.8	14	203	DIN100	1245	49	1060	41.7	1580	62.2	360	794
FD 760 VSD	40/50	760	1611	0.17	2.47	3.3	4.4	14	203	DIN100	1580	62.2	1060	41.7	1580	62.2	410	904
FD 870	40/50	870	1844	0.15	2.17	4.5	6	14	203	DIN150	1245	49	1060	41.7	1580	62.2	370	816
FD 870 VSD	40/50	870	1844	0.15	2.17	4.2	5.6	14	203	DIN150	1580	62.2	1060	41.7	1580	62.2	410	904
FD 1010	40/50	1010	2141	0.17	2.47	5.1	6.8	14	203	DIN150	1245	49	1060	41.7	1580	62.2	380	838
FD 1010 VSD	40/50	1010	2141	0.17	2.47	5.6	7.5	14	203	DIN150	1580	62.2	1060	41.7	1580	62.2	410	904
FD 4000 VSD	40/50	4000	8480	0.22	3.2	27.9	37.41	13	189	DIN250	2200	86,6	2300	90,6	1910	75,2	2010	4431

(1) 20 bar(g)/290 psi(g) variant available

Reference conditions:
Performance data per ISO 7183:2007
- Ambient temperature: 25°C, 77°F
- Inlet compressed air temperature: 35°C, 95°F
- Inlet pressure: 7 bar(e)/102 psig

Refrigerant types:

FD 5-95: R134A
FD 120-1010: R410A
FD 4000 VSD: R404A

Technical specifications

Model	Maximum inlet conditions at full flow (ambient/ inlet)	Inlet flow with a pressure dewpoint (PDP) of 3°C/37.4°F		Pressure drop at full flow		Power consumption		Max. working pressure		Compressed air connections	Dimensions						Weight	
	°C	l/s	cfm	bar	psi	kW	hp	bar	psi		mm	in	mm	in	mm	in	kg	lb
Air-cooled 60 Hz																		
FD 5	122/140	6	13	0.07	1.02	0.23	0.31	16 (1)	233 (1)	NPT 3/4	496	19.5	377	14.8	461	18.1	27	60
FD 10	122/140	10	21	0.11	1.6	0.23	0.31	16 (1)	233 (1)	NPT 3/4	496	19.5	377	14.8	461	18.1	27	60
FD 15	122/140	15	32	0.12	1.75	0.34	0.46	16 (1)	233 (1)	NPT 3/4	496	19.5	377	14.8	461	18.1	32	70
FD 20	122/140	20	42	0.12	1.75	0.53	0.71	16 (1)	233 (1)	NPT 3/4	496	19.5	377	14.8	461	18.1	34	75
FD 25	122/140	25	53	0.17	2.47	0.53	0.71	16 (1)	233 (1)	NPT 3/4	496	19.5	377	14.8	461	18.1	34	75
FD 30	122/140	30	64	0.25	3.64	0.53	0.71	16 (1)	233 (1)	NPT 3/4	496	19.5	377	14.8	461	18.1	34	75
FD 40	122/140	40	85	0.2	2.91	0.73	0.98	16 (1)	233 (1)	NPT 1	688	27.1	389	15.3	604	23.8	57	125
FD 50	122/140	50	106	0.2	2.91	0.79	1.06	16 (1)	233 (1)	NPT 1	689	27.1	389	15.3	604	23.8	58	128
FD 60	122/140	60	127	0.22	3.2	0.63	0.84	13	189	NPT 1	726	28.6	482	19.0	804	31.7	80	176
FD 70	122/140	70	148	0.22	3.2	0.87	1.17	13	189	NPT 1	726	28.6	482	19.0	804	31.7	81	178
FD 95	122/140	95	201	0.22	3.2	1.18	1.58	13	189	NPT 1	726	28.6	482	19.0	804	31.7	87	192
FD 120	122/140	120	254.4	0.11	1.6	1.73	2.3	14	203	NPT 1 1/2	836	32.9	661	26.0	802	31.6	170	375
FD 150	122/140	140	296.8	0.14	2.03	2.35	3.2	14	203	NPT 1 1/2	836	32.9	661	26.0	802	31.6	170	375
FD 185	122/140	170	360.4	0.22	3.19	2.32	3.1	14	203	NPT 2 1/2	1024	40.3	816	32.1	943	37.1	185	408
FD 220	122/140	220	466.4	0.12	1.74	2.58	3.5	14	203	NPT 2 1/2	1024	40.3	816	32.1	943	37.1	197	434
FD 245	122/140	230	487.6	0.18	2.61	2.85	3.8	14	203	NPT 2 1/2	1024	40.3	816	32.1	943	37.1	197	434
FD 285	122/140	285	604.2	0.22	3.19	3.09	4.1	14	203	NPT 2 1/2	1024	40.3	816	32.1	943	37.1	197	434
FD 310	104/122	310	657	0.23	3.3	4.3	5.77	14	203	NPT 3	986	38.8	850	33.5	1190	46,9	198	437
FD 310	115/133	310	657	0.23	3.3	4.6	6.17	14	203	NPT 3	986	38.8	850	33.5	1190	46,9	200	441
FD 310	122/140	310	657	0.23	3.3	4.6	6.17	14	203	NPT 3	986	38.8	850	33.5	1190	46,9	202	445
FD 410	104/122	410	869	0.21	3	4.5	6.03	14	203	NPT 3	986	38.8	850	33.5	1375	54,1	220	485
FD 410	115/133	410	869	0.21	3	6.1	8.18	14	203	NPT 3	1250	49.2	850	33.5	1375	54,1	240	529
FD 410	122/140	410	869	0.21	3	7.3	9.79	14	203	NPT 3	1525	60	850	33.5	1375	54,1	290	639
FD 510	104/122	510	1081	0.2	2.9	7.3	9.79	14	203	NPT 3	1250	49.2	850	33.5	1375	54,1	260	573
FD 510	115/133	510	1081	0.2	2.9	9.1	12.2	14	203	NPT 3	1525	60	850	33.5	1375	54,1	310	683
FD 510	122/140	510	1081	0.2	2.9	10.4	13.95	14	203	NPT 3	1525	60	850	33.5	1375	54,1	315	694
FD 610	104/122	610	1293	0.17	2.47	7.6	10.2	14	203	ANSI 4	1040	40.9	1060	41.7	1580	62.2	320	705
FD 760	104/122	760	1611	0.17	2.47	8.1	10.9	14	203	ANSI 4	1245	49	1060	41.7	1580	62.2	380	838
FD 760 VSD	104/122	760	1611	0.17	2.47	9.1	12.2	14	203	ANSI 4	1245	49	1060	41.7	1580	62.2	380	838
FD 870	104/122	870	1844	0.15	2.17	10.2	13.7	14	203	ANSI 6	1245	49	1060	41.7	1580	62.2	400	882
FD 870 VSD	104/122	870	1844	0.15	2.17	11.1	14.9	14	203	ANSI 6	1580	62.2	1060	41.7	1580	62.2	450	992
FD 1010	104/122	1010	2141	0.17	2.47	11.9	16	14	203	ANSI 6	1580	62.2	1060	41.7	1580	62.2	460	1014
FD 1010 VSD	104/122	1010	2141	0.17	2.47	11.4	15.3	14	203	ANSI 6	1580	62.2	1060	41.7	1580	62.2	460	1014
Water-cooled 60 Hz																		
FD 310	122/140	310	657	0.23	3.3	2.5	3.35	14	203	NPT 3	986	38.8	850	33.5	1190	46.9	180	397
FD 410	122/140	410	869	0.21	3.0	3.2	4.29	14	203	NPT 3	1525	60.0	850	33.5	1375	54.1	240	529
FD 510	122/140	510	1081	0.20	2.9	5.0	6.71	14	203	NPT 3	1525	60.0	850	33.5	1375	54.1	260	573
FD 610	104/122	610	1293	0.17	2.47	3.9	5.2	14	203	ANSI 4	1245	49	1060	41.7	1580	62.2	350	772
FD 760	104/122	760	1611	0.17	2.47	4.5	6	14	203	ANSI 4	1245	49	1060	41.7	1580	62.2	360	794
FD 760 VSD	104/122	760	1611	0.17	2.47	4.3	5.8	14	203	ANSI 4	1580	62.2	1060	41.7	1580	62.2	410	904
FD 870	104/122	870	1844	0.15	2.17	5.8	7.8	14	203	ANSI 6	1245	49	1060	41.7	1580	62.2	370	816
FD 870 VSD	104/122	870	1844	0.15	2.17	5.6	7.5	14	203	ANSI 6	1580	62.2	1060	41.7	1580	62.2	410	904
FD 1010	104/122	1010	2141	0.17	2.47	6.2	8.3	14	203	ANSI 6	1245	49	1060	41.7	1580	62.2	380	838
FD 1010 VSD	104/122	1010	2141	0.17	2.47	6.1	8.2	14	203	ANSI 6	1580	62.2	1060	41.7	1580	62.2	410	904
FD 4000 VSD	104/122	4000	8480	0.22	3.2	13.2	17.7	13	189	ANSI 10	2200	86.6	2300	90.6	1910	75.2	2010	4431

(1) 20 bar(g)/290 psi(g) variant available

Reference conditions:
- Ambient temperature: 38°C, 100°F
- Inlet compressed air temperature: 38°C, 100°F
- Inlet pressure: 7 bar(e)/102 psig

Refrigerant types:
FD 5-95: R134A
FD 120-1010: R410A
FD 4000 VSD: R404A

IN-ECO, spol. s r.o.
Radlinského 13
Ružomberok, 034 01
T +421 44 430 46 62
F +421 44 430 46 63
E: info@in-eco.sk
www.in-eco.sk

ZODPOVEDNOSŤ ZA TRVALE UDRŽATEĽNÚ PRODUKTIVITU

Plníme svoje povinnosti voči našim zákazníkom, životnému prostrediu a ľuďom okolo nás. Predstavujeme výkony odolné voči času. Práve to nazývame trvale udržateľnou produktivitou.

Air and Vacuum Components

www.in-eco.sk

LLOYD'S REGISTER · LRQA
ISO 9001 · ISO 14001
OHSAS 18001

www.atlascopco.sk

Autorizovaný distribútor