

# COMPRESSED AIR TREATMENT



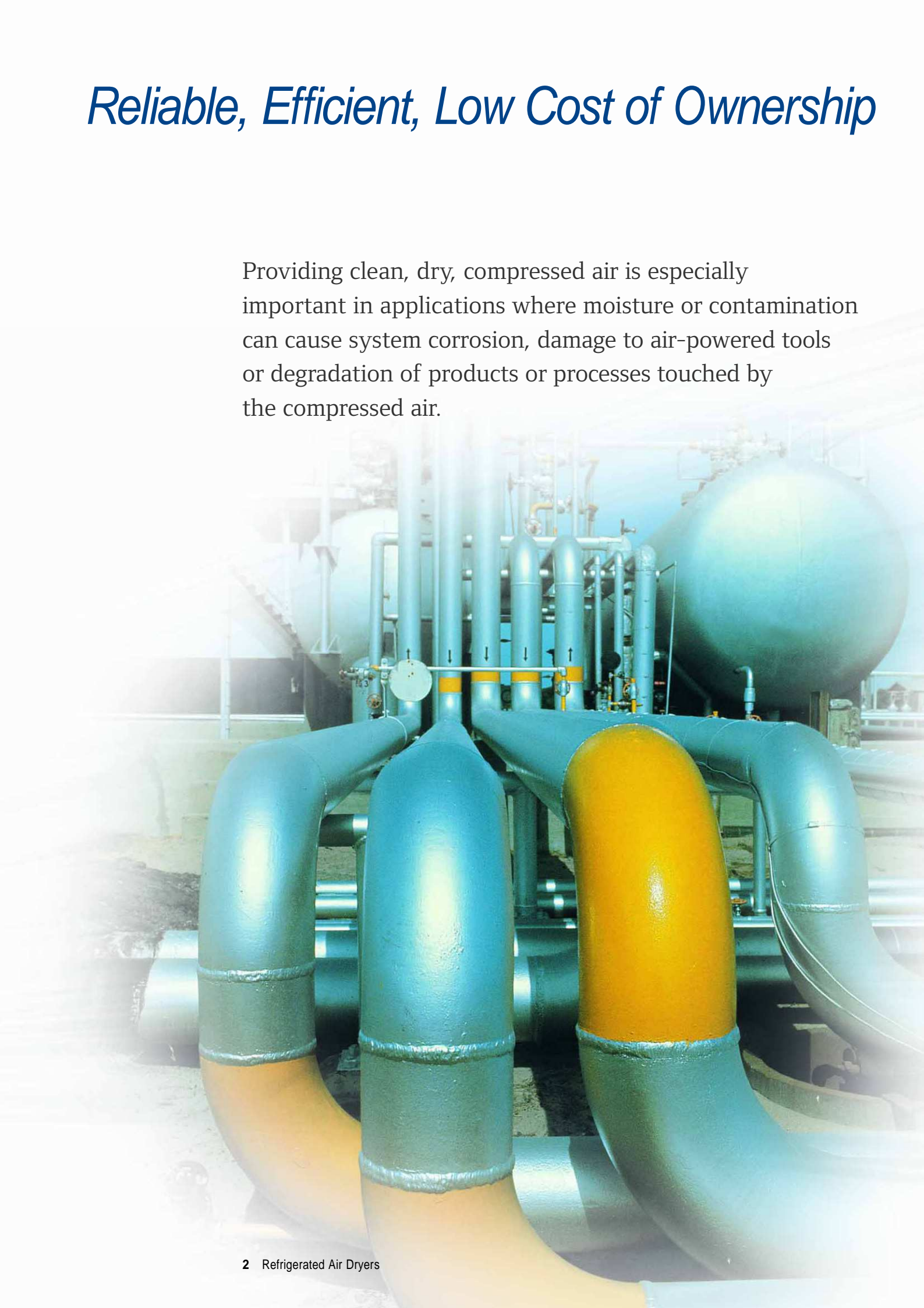
Quality by choice



ED SERIES  
REFRIGERATION AIR DRYERS

# *Reliable, Efficient, Low Cost of Ownership*

Providing clean, dry, compressed air is especially important in applications where moisture or contamination can cause system corrosion, damage to air-powered tools or degradation of products or processes touched by the compressed air.



Refrigerated dryers from OMI offer multiple design features to ensure a constant dew point at all load levels and will deliver a continuous dry air performance that satisfies ISO 7183 industry standards.

### Clean, Reliable, Refrigerated Air

These units provide complete, affordable solutions for a wide selection of applications, including:

- Dry Cleaning.
- Light Processing.
- Petrochemical.
- Automotive.
- Manufacturing.
- Oil and Gas.

### Designed for Optimum Efficiency

Multi-stage filtering helps remove residual contaminants. Using refrigerated dryers from OMI will provide clean, dry air which means less corrosion in the air distribution system, less damage to air-powered tools and reduced potential for contamination in production process.

OMI offer multiple design features to ensure constant dew point at all load levels and will deliver continuous dry air performance that satisfies ISO 7183 industry standards.

### Low Cost of Ownership

OMI's refrigerated dryers provide the very best combination of high efficiency, low pressure drop and small footprint which reduces power consumption, reduces installation time and facilitates maintenance.



Corrosion



Spoiled Paint Finish

# Optimise your Choice

*The 'ED' Refrigerated Dryer Range - one range for all applications. These units provide a small footprint with complete, affordable solutions for applications ranging from dry cleaning to automotive body shops, to light processing and manufacturing applications. The high capacity units are designed for large-scale industrial, automotive and petrochemical applications.*

## Control Panel : ED 18 to ED 480

- Energy Saving mode ESA – shuts dryer off during low loads.
- Full feature, multi-function control panel.
- Anti freeze mode – shuts dryer off to avoid icing.
- Alarm display:
  - High and very high dew point.
  - Low dew point.
  - Probe failure.
- Fan speed indication.
- Remote alarm contact.
- History of last 10 alarms.



## Electronic Drain Valve : ED 18 to ED 480

The programmable electronic drain valve is fully adjustable to help minimise air loss.

- Easily adjusted from the dryer control panel to match all possible working conditions.
- Proven reliability – thousands in service.
- Includes a strainer for quick maintenance.

### Control Panel : ED 660 to ED 1000

Includes all the main functions to control and monitor the unit:

- Anti freeze mode – shuts dryer off to avoid icing.
- Alarm display:
  - Dew Point – high/low temperature.
  - High ambient temperature.
- Terminal for remote alarm signal.
- Terminal for remote alarm for no-loss drain (optional).
- History of last 10 alarms.



### Control Panel : ED 1300 to ED 6800

This range has all the main functions you would expect to control and monitor the unit:

- Anti freeze mode – shuts dryer off to avoid icing.
- Alarm display:
  - Dew Point – high/low temperature.
  - High ambient temperature.
- Terminal for remote alarm signal.
- Terminal for remote alarm for no-loss drain (optional).
- Remote ON/OFF.
- History of the last 50 alarms.



### Reliable Design

Scroll compressors with corrosion resistant materials deliver cost efficient, long-life performance. They feature fewer moving parts, are fully-instrumented and monitored for reliability and are protected by IP42-rated electrical enclosures.

This makes them the optimum investment for high-volume needs with a lot at stake – and the bigger, the better!

Every unit delivers advanced microprocessor control with multi-level menus, password protection and alarms.

## Control Panel : ED 8800 to ED 24000

This range has all the main functions you would expect to control and monitor the unit:

- Anti freeze mode – shuts dryer off to avoid icing.
- Alarm display:
  - Dew Point – high/low temperature.
  - High ambient temperature.
- Terminal for remote alarm signal.
- Terminal for remote alarm for no-loss drain.
- Remote ON/OFF.

History of the last 50 alarms.

## Electronic No-loss Drain : ED 8800 to ED 24000

The powerful no loss electronic drain eliminates the need for pre-setting the unit.

- Using state-of-the-art software and combined with a special transducer interface to measure the presence of condensate, it is released only when needed.
- Continuous monitoring ensures fast, effective discharge

of the condensate with no deficit of compressed air.

## Reliable Design

Scroll compressors with corrosion resistant materials deliver cost efficient, long-life performance. They feature fewer moving parts, are fully-instrumented and monitored for reliability and are protected by IP42-rated electrical enclosures.

This makes them the optimum investment for high-volume needs with a lot at stake – and the bigger, the better!

Every unit delivers advanced microprocessor control with multi-level menus, password protection and alarms.



## Technical Specifications

Model	Flow-rate			Max pressure	Connections	Power supply	Power consumption	Power supply (60 Hz option)	Power consumption (60 Hz option)	Width	Length	Height	Weight
	l/min	m <sup>3</sup> /h	CFM										
ED 18	300	18	11	16	3/8"	230/1/50	0,12	230/1/60	0,13	305	360	408	19
ED 24	400	24	14	16	3/8"	230/1/50	0,12	230/1/60	0,13	305	360	408	19
ED 54	900	54	32	16	1/2"	230/1/50	0,14	230/1/60	0,24	390	432	453	26
ED 72	1.200	72	42	16	1/2"	230/1/50	0,17	230/1/60	0,24	390	432	453	28
ED 108	1.800	108	64	16	3/4"	230/1/50	0,41	230/1/60	0,49	420	516	563	36
ED 144	2.400	144	85	16	3/4"	230/1/50	0,41	230/1/60	0,49	420	516	563	42
ED 180	3.000	180	106	16	3/4"	230/1/50	0,50	230/1/60	0,58	420	516	563	44
ED 225	3.750	225	132	16	1"	230/1/50	0,60	230/1/60	0,71	485	595	614	48
ED 260	4.333	260	153	16	1"	230/1/50	0,60	230/1/60	0,71	485	595	614	49
ED 360	6.000	360	212	16	1 1/2"	230/1/50	0,90	230/1/60	1,00	500	718	980	79
ED 480	8.000	480	282	16	1 1/2"	230/1/50	1,24	230/1/60	1,73	500	718	980	85
ED 660	11.000	660	388	16	2"	230/1/50	1,24	230/1/60	1,73	779	720	1360	134
ED 780	13.000	780	459	16	2"	400/3/50	1,90	460/3/60	2,40	779	720	1360	164
ED 1000	16.667	1.000	588	13*	2"	400/3/50	1,90	460/3/60	2,40	779	720	1360	168
ED 1300	21.667	1.300	765	16	3"	400/3/50	2,78	460/3/60	3,34	785	1365	1555	274
ED 1700	28.333	1.700	1.000	16	3"	400/3/50	2,78	460/3/60	3,34	785	1365	1555	274
ED 2200	36.667	2.200	1.294	16	3"	400/3/50	4,55	460/3/60	5,36	785	1365	1555	304
ED 2700	45.000	2.700	1.588	16	DN 100	400/3/50	4,99	460/3/60	5,93	905	1390	1555	351
ED 3600	60.000	3.600	2.118	16	DN 125	400/3/50	6,29	460/3/60	7,56	1510	1500	1555	560
ED 4200	70.000	4.200	2.471	16	DN 125	400/3/50	7,29	460/3/60	8,73	1510	1500	1555	590
ED 5300	88.333	5.300	3.118	16	DN 150	400/3/50	9,52	460/3/60	11,57	1510	1500	1555	665
ED 6000	100.000	6.000	3.529	16	DN 150	400/3/50	9,52	460/3/60	11,57	1510	1500	1555	700
ED 6800	113.333	6.800	4.002	16	DN 150	400/3/50	10,99	460/3/60	13,26	1510	1500	1555	715
ED 8800	146.667	8.800	5.176	13	DN 150	400/3/50	14,96	460/3/60	18,54	2270	1590	1570	1058
ED 10000	166.667	10.000	5.882	13	DN 200	400/3/50	14,96	460/3/60	18,54	2270	1590	1570	1128
ED 12000	200.000	12.000	7.059	13	DN 200	400/3/50	18,16	460/3/60	22,14	2270	1590	1570	1205
ED 13600	226.667	13.600	8.000	13	DN 200	400/3/50	22,32	460/3/60	27,06	3025	1590	1570	1360
ED 17600	293.334	17.600	10.353	13	2 x DN 150	400/3/50	29,92	460/3/60	37,08	4600	1590	1570	2116
ED 20000	333.334	20.000	11.765	13	2 x DN 200	400/3/50	29,92	460/3/60	37,08	4600	1590	1570	2256
ED 24000	400.000	24.000	14.118	13	2 x DN 200	400/3/50	36,32	460/3/60	44,28	4600	1590	1570	2720
<b>Water cooled models</b>													
ED 660 W	11.000	660	388	16	2"	230/1/50	1,12	230/1/60	1,67	791	720	1273	134
ED 780 W	13.000	780	459	16	2"	400/3/50	1,68	460/3/60	2,11	791	720	1273	170
ED 1000 W	16.667	1.000	588	16	2"	400/3/50	1,68	460/3/60	2,11	791	720	1273	174
ED 1300 W	21.667	1.300	765	16	3"	400/3/50	2,42	460/3/60	3,77	790	1365	1440	265
ED 1700 W	28.333	1.700	1.000	16	3"	400/3/50	2,42	460/3/60	3,77	790	1365	1440	265
ED 2200 W	36.667	2.200	1.294	16	3"	400/3/50	4,18	460/3/60	4,92	790	1365	1440	345
ED 2700 W	45.000	2.700	1.588	16	DN 100	400/3/50	4,48	460/3/60	5,34	905	1390	1440	380
ED 3600 W	60.000	3.600	2.118	16	DN 125	400/3/50	5,62	460/3/60	6,78	1510	1500	1440	540
ED 4200 W	70.000	4.200	2.471	16	DN 125	400/3/50	6,50	460/3/60	7,83	1510	1500	1440	585
ED 5300 W	88.333	5.300	3.118	16	DN 150	400/3/50	8,51	460/3/60	10,39	1510	1500	1440	633
ED 6000 W	100.000	6.000	3.529	16	DN 150	400/3/50	8,51	460/3/60	10,39	1510	1500	1440	668
ED 6800 W	113.333	6.800	4.002	16	DN 150	400/3/50	9,84	460/3/60	11,93	1510	1500	1440	685
ED 8800 W	146.667	8.800	5.176	13	DN 150	400/3/50	13,52	460/3/60	16,79	2270	1590	1440	990
ED 10000 W	166.667	10.000	5.882	13	DN 200	400/3/50	13,52	460/3/60	16,79	2270	1590	1440	1060
ED 12000 W	200.000	12.000	7.059	13	DN 200	400/3/50	16,26	460/3/60	20,02	2270	1590	1440	1117
ED 13600 W	226.667	13.600	8.000	13	DN 200	400/3/50	20,17	460/3/60	24,53	2270	1590	1440	1222
ED 17600 W	293.334	17.600	10.353	13	2 x DN 150	400/3/50	27,04	460/3/60	33,58	4600	1590	1440	1980
ED 20000 W	333.334	20.000	11.765	13	2 x DN 200	400/3/50	27,04	460/3/60	33,58	4600	1590	1440	2234
ED 24000 W	400.000	24.000	14.118	13	2 x DN 200	400/3/50	40,34	460/3/60	40,04	4600	1590	1440	2444

### STANDARD REFERENCE CONDITIONS

- Ambient temperature: 25 °C (45° max)
- Working pressure: 7 bar
- Inlet air temperature: 35 °C (55° max)
- Dew point: CLASS 4
- Cooling water temperature: 29,4°C (35° max) - Only for water cooled models

# Features

Features	Air cooled					Water cooled		
	ED 18 to ED 180	ED 225 to ED 480	ED 660 to ED 1000	ED 1300 to ED 6800	ED 8800 to ED 24000	ED 66 W to ED 1000 W	ED 1300 W to ED 6800 W	ED 8800 W to ED 24000 W
Dew Point Indication	✓	✓	✓	✓	✓	✓	✓	✓
On/off Switch		✓	✓	✓	✓	✓	✓	✓
Terminal for Remote Alarm Signal	✓	✓	✓	✓	✓	✓	✓	✓
Remote Control (Option)				✓	✓		✓	✓
Anti Freeze Mode	✓	✓	✓	✓	✓	✓	✓	✓
Remote ON/OFF Switch				✓	✓		✓	✓
High Pressure Switch				✓	✓		✓	✓
Variable Speed Fan	✓	✓						
Fan Pressure Switch			✓	✓	✓	✓	✓	✓
History of Last 10 Alarms	✓	✓	✓			✓		
History of Last 50 Alarms				✓	✓		✓	✓
Hot Gas By-pass Valve		✓	✓	✓	✓	✓	✓	✓
Electronic No-loss Drain					✓			✓
Electronic Drain Valve	✓	✓	✓	✓		✓	✓	

## Main available options

- No loss drain
- Sea water cooled
- Different voltages
- ANSI/NPT air connections
- Remote control
- Different gas

Maintaining air quality is so important that the International Standards Organisation (ISO) developed six compressed air quality classes, as defined by ISO 8573-1:2001.

## ISO 8573-1:2001 Air Quality Classes

Quality Class	Solid - Maximum Number of Particles per m <sup>3</sup>			Water cooled Dew Point °C	Oil & Oil Vapour mg/m <sup>3</sup>
	0.1-0.5 micron	0.5-1 micron	1-5 micron		
0	As specified by the end-user or manufacturer and more stringent than Class 1				
1	100	1	0	-70°C	0,01
2	100,000	1000	10	-40°C	0,1
3	N/A	10,000	500	-20°C	1
4	N/A	N/A	1,000	3°C	5
5	N/A	N/A	20,000	7°C	N/A
6	N/A	N/A	N/A	-10°C	N/A

To determine which industry classification you require, ask yourself these simple questions:

- Does compressed air quality affect my production process and the quality of my end products?
- Will poor compressed air quality decrease my productivity, cost savings and product quality standards?
- What internal and external ambient conditions affect the quality of my compressed air produced by my system?



# Energy and Environmental

The ED 18 to ED 24000 units are rated for 45°C ambient air conditions – which covers a large range of applications.

## Environmental Friendly Refrigerant

ED 18 to ED 180	R134A
ED 225 to ED 24000	R407C
ED 660 W to ED 24000 W	R407C



## Correction factors

Correction factor for working pressure														
bar	3	4	5	6	7	8	9	10	11	12	13	14	15	16
FC1	0,7	0,78	0,85	0,93	1	1,06	1,11	1,15	1,18	1,2	1,22	1,24	1,25	1,26

Correction factor for inlet air temperature						
°C	30	35	40	45	50	55
FC2	1,2	1	0,85	0,71	0,58	0,49

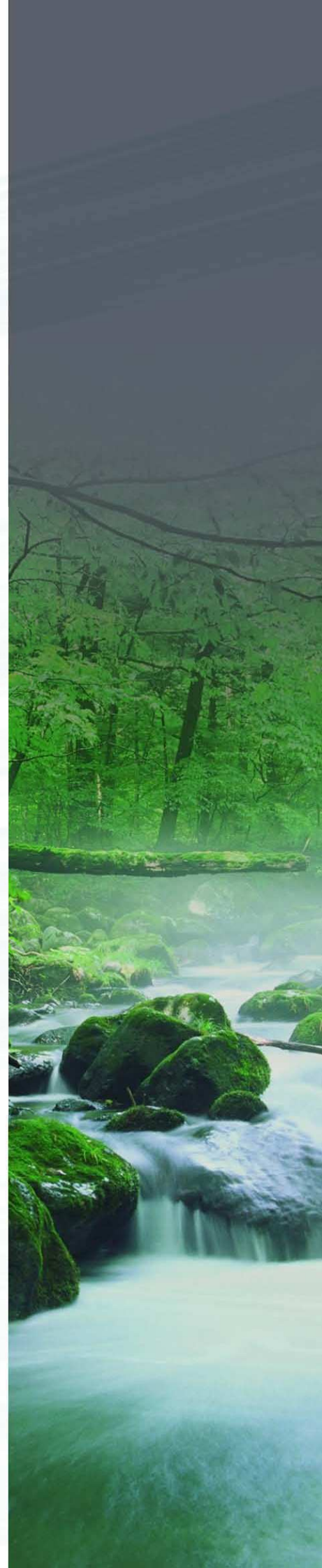
Correction factor for dew point temperature									
°C	3	4	5	6	7	8	9	10	
FC3	1	1,04	1,09	1,14	1,18	1,25	1,3	1,33	

Correction factor for ambient temperature (for air cooled version)						
°C	25	30	35	40	42	45
FC4	1	0,96	0,92	0,88	0,85	0,8

Correction factors for different water inlet temperature (for water cooled version)								
°C	15	20	25	29,4	30	35	38	40
FC4	1,08	1,06	1,03	1	0,99	0,95	0,91	0,88

Calculation of the dryers real flow rate:

$$\text{REAL FLOW RATE} = \text{Nominal dryer flow rate} \times \text{FC1} \times \text{FC2} \times \text{FC3} \times \text{FC4}$$



OMI reserves the right to change the following data without prior notice.



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Cod. 712.0028.00.00-15  
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