

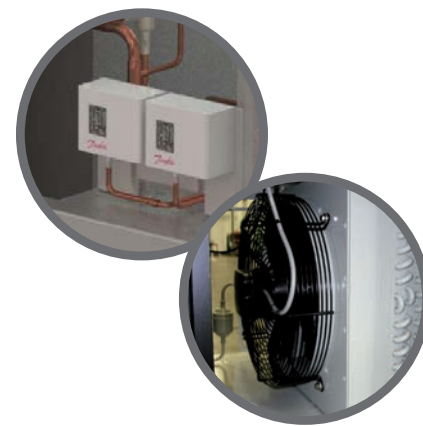
MAIN STANDARD EQUIPMENTS AND ACCESSORIES

E - DESCRIPTION	ACT MODELS				
	3...23	30...40	55...60	80...160	180...3000
ALU-DRY aluminium heat exchanger	●	●	●	●	●
High efficiency compressor	●	●	●	●	●
Tropicalised air condenser	●	●	●	●	●
Condenser protection filter	●	●	●	●	●
High efficiency fan(s)	●	●	●	●	●
Water condenser			●	●	●
Environmental refrigerant	●	●	●	●	●
Automatic hot gas by-pass control device	●	●	●	●	●
Automatic condensing pressure control	●	●	●	●	●
High and low refrigerant safety pressure switch	●	●	●	●	●
High discharge temperature switch protection - Zero loss drain	●	●	●	●	●
MC 34 controller	●	●	●	●	●
DMC 24 controller	●	●	●	●	●

● Standard ● Optional

TAC-ANTI CORROSION TREATMENT

On request and as option the ACT series can be supplied with a special painting anti corrosion treatment. The TAC consists in covering the refrigerant circuit components surfaces exposed to ambient air. The treatment, combined with the characteristics of the ALU-DRY heat exchanger, enables the ACT dryer to operate in adverse installation conditions.



FT



LF



FW



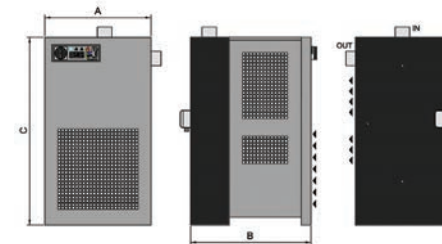
It is mandatory to install a filter of LF or FT or FW series (with filtration grade at least 5 micron) on the dryer inlet side to prevent that rust, scale or other pollutants could clog the ALU-DRY module and the condensate drain.

CONDENSER

Generous sizing of the condenser ensures maximum performance of the refrigerant circuit and the ability to operate with changes in ambient conditions. Access to the condenser for cleaning and maintenance is straightforward. ACT 180...3000 condensers are equipped with a stainless steel protective filter. It can be removed and cleaned. Water cooling option available from ACT 55 model at no charge. Water regulating valve included.

TECHNICAL FEATURES

Data refer to the following nominal conditions: ambient temperature of 25°C, with inlet air at 7 barg and 35°C and 3°C pressure Dew Point (-22°C atmospheric pressure Dew Point). Max. working conditions: ambient temperature 50°C, inlet air temperature 70°C and inlet air pressure 14 barg (16 barg ACT 3...12).



Model	Refrig. [Type]	Flow-Rate			Pressure Drop [bar]	Connections [Ø]	Power Supply [Ph/V/Fr]	Dimensions [mm]			Weight [kg]
		[l/min]	[m³/h]	[scfm]				A	B	C	
ACT 3	R134.a	350	21	12	0,02	G 1/2" BSP-F	1/230/50-60	345	420	740	28
ACT 5	R134.a	550	33	19	0,03	G 1/2" BSP-F	1/230/50-60	345	420	740	29
ACT 8	R134.a	850	51	30	0,08	G 1/2" BSP-F	1/230/50-60	345	420	740	31
ACT 12	R134.a	1.200	72	42	0,11	G 1/2" BSP-F	1/230/50-60	345	420	740	34
ACT 18	R134.a	1.800	108	64	0,13	G 1" BSP-F	1/230/50-60	345	420	740	36
ACT 23	R134.a	2.300	138	81	0,17	G 1" BSP-F	1/230/50	345	420	740	37
ACT 30	R407C	3.100	186	109	0,15	G 1.1/4" BSP-F	1/230/50	485	455	825	46
ACT 40	R407C	4.000	240	141	0,20	G 1.1/4" BSP-F	1/230/50	485	455	825	50
ACT 55	R407C	5.500	330	194	0,15	G 1.1/2" BSP-F	1/230/50	555	580	885	55
ACT 60	R407C	6.200	372	219	0,18	G 1.1/2" BSP-F	1/230/50	555	580	885	63
ACT 80	R407C	8.100	486	286	0,09	G 2" BSP-F	1/230/50	555	625	975	92
ACT 100	R407C	10.500	630	371	0,13	G 2" BSP-F	1/230/50	555	625	975	94
ACT 120	R407C	12.500	750	441	0,07	G 2.1/2" BSP-F	1/230/50	665	725	1.105	141
ACT 140	R407C	14.500	870	512	0,13	G 2.1/2" BSP-F	1/230/50	665	725	1.105	150
ACT 160	R407C	16.000	960	565	0,15	G 2.1/2" BSP-F	1/230/50	665	725	1.105	161
ACT 55 3~	R134.a	5.500	330	194	0,15	G 1.1/2" BSP-F	3/400/50	555	580	885	72
ACT 60 3~	R134.a	6.200	372	219	0,18	G 1.1/2" BSP-F	3/400/50	555	580	885	80
ACT 80 3~	R134.a	8.100	486	286	0,09	G 2" BSP-F	3/400/50	555	625	975	108
ACT 100 3~	R134.a	10.500	630	371	0,13	G 2" BSP-F	3/400/50	555	625	975	110
ACT 120 3~	R407C	12.500	750	441	0,07	G 2.1/2" BSP-F	3/400/50	665	725	1.105	158
ACT 140 3~	R407C	14.500	870	512	0,13	G 2.1/2" BSP-F	3/400/50	665	725	1.105	160
ACT 160 3~	R407C	16.000	960	565	0,15	G 2.1/2" BSP-F	3/400/50	665	725	1.105	170
ACT 180	R407C	18.000	1.080	636	0,17	DN 80-PN 16	3/400/50	790	1.000	1.465	240
ACT 210	R407C	21.000	1.260	742	0,21	DN 80-PN 16	3/400/50	790	1.000	1.465	242
ACT 250	R407C	25.000	1.500	883	0,13	DN 80-PN 16	3/400/50	790	1.000	1.465	275
ACT 300	R407C	30.000	1.800	1.060	0,19	DN 80-PN 16	3/400/50	790	1.000	1.465	276
ACT 360	R407C	36.800	2.208	1.300	0,26	DN 80-PN 16	3/400/50	790	1.000	1.465	311
ACT 400	R407C	40.000	2.400	1.413	0,21	DN 100-PN 16	3/400/50	1.135	1.205	1.750	463
ACT 500	R407C	50.000	3.000	1.766	0,14	DN 100-PN 16	3/400/50	1.135	1.205	1.750	538
ACT 600	R407C	60.000	3.600	2.119	0,20	DN 100-PN 16	3/400/50	1.135	1.205	1.750	540
ACT 720	R407C	73.600	4.416	2.600	0,26	DN 100-PN 16	3/400/50	1.135	1.205	1.750	612
ACT 900	R407C	90.000	5.400	3.178	0,20	DN 150-PN 16	3/400/50	1.300	1.750	1.810	830
ACT 1100	R407C	110.400	6.624	3.900	0,26	DN 150-PN 16	3/400/50	1.300	1.750	1.810	940
ACT 1200	R407C	120.000	7.200	4.238	0,20	DN 200-PN 16	3/400/50	1.400	2.200	1.870	1.055
ACT 1500	R407C	147.200	8.832	5.200	0,26	DN 200-PN 16	3/400/50	1.400	2.200	1.870	1.200
ACT 1800	R407C	180.000	10.800	6.537	0,20	DN 200-PN 16	3/400/50	1.450	2.165	2.430	1.650
ACT 2200	R407C	220.000	13.200	7.769	0,26	DN 200-PN 16	3/400/50	1.450	2.165	2.430	1.750
ACT 2400	R407C	240.000	14.400	8.476	0,20	DN 250-PN 16	3/400/50	1.450	2.455	2.455	1.950
ACT 3000	R407C	300.000	18.000	10.594	0,26	DN 250-PN 16	3/400/50	1.450	2.455	2.455	2.100

On request models ACT23...3000 with 60Hz power supply.

CORRECTION FACTOR FOR OPERATING PRESSURE CHANGES:

Inlet air pressure	barg	4	5	6	7	8	10	12	14
Factor		0,77	0,86	0,93	1,00	1,05	1,14	1,21	1,27

CORRECTION FACTOR FOR AMBIENT TEMPERATURE CHANGES:

Ambient temperature	°C	≤25	30	35	40	45	50
Factor		1,00	0,96	0,90	0,82	0,72	0,60

CORRECTION FACTOR FOR INLET AIR TEMPERATURE CHANGES:

Air temperature	°C	≤25	30	35	40	45	50	55	60	65	70
Factor		1,20	1,12	1,00	0,83	0,69	0,59	0,50	0,44	0,39	0,37

CORRECTION FACTOR FOR DEW POINT CHANGES:

Dew Point	°C	3	5	7	10
Factor		1,00	1,09	1,19	1,37

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MADE IN ITALY



ACT Dryer Series



FRIULAIR
Dryers

ALUMINIUM TECHNOLOGIES DIRECT TO ENERGY SAVING

Friulair improves its range of compressed air dryers with the development of the ACT series (Aluminium Cooling Technology), focused to reduce energy consumption. Main features are:

- low pressure drop even with load variances;
- low power consumption thanks to the ALU-DRY heat exchanger, high efficiency compressors, innovative hot gas by-pass valve and zero loss drain condensate system (from ACT 180 included);
- constant pressure Dew Point with differing load conditions;
- functionally even at maximum working conditions (air inlet 70°C and ambient 50°C).

The components of ACT range, from refrigerant to materials of construction, have been selected with maximum respect for the environment and their ability to be recycled.

TECHNICAL DETAILS

CONTROL PANEL

DMC34 CONTROLLER

Operation of all models ACT3...160 is controlled and monitored by DMC34 digital controller. Featuring a 3-digit display for the visualization of the DewPoint temperature (in °C or °F) and the dryer total operating hours. DMC34 includes as well the condenser fan control, scheduled maintenance reminder, timer for the condensate drain valve and detection of any dryer malfunction (also reported on the potential free alarm contact)



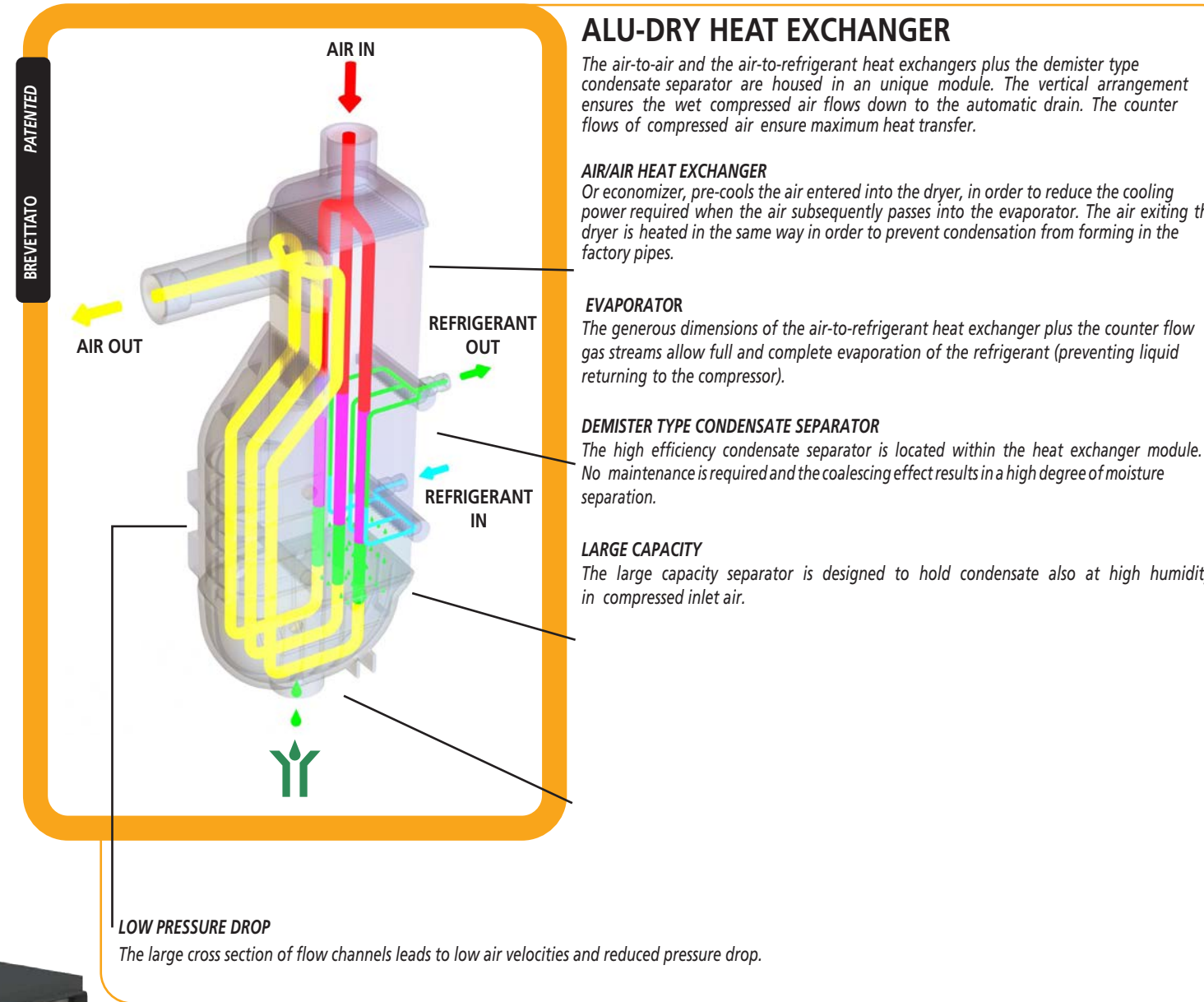
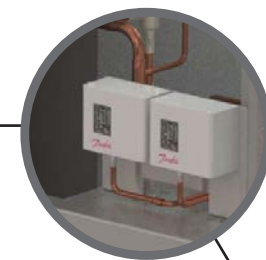
CONTROL AND PROTECTION DEVICES

All models are fitted with a fan pressure switch to control the refrigerant condensing. ACT 55 and largers, come equipped with some specific devices to protect the components of the unit:

- re-set high refrigerant pressure cut-out (for ACT 80...160);
- low refrigerant pressure cut-out (for ACT 80...160);
- re-set high temperature cut-out (for ACT 55...160), which stops the refrigerating compressor when discharge temperature is too high (e.g. clogged or blocked condenser). As option the temperature cut-out can be mounted on ACT 3...40 models.

CONDENSATE DRAIN

ACT 3...160 models are fitted with an electronic system to drain the condensate interfaced to the DMC34 controller. Discharge and pause times are adjustable. Drainage group includes also a ball isolation valve and a strainer. A zero loss drain is available as an option.



From model ACT 180 on, the type of compressor used is the scroll. Widely used in the air conditioning and refrigeration sectors, the scroll compressor performs well and has low energy consumption. Compression of the refrigerant is achieved by way of two concentric coils: one fixed and the other mobile. The scrolls are wear-resistant, highly reliable and guarantee a high level of noise reduction.

COMPRESSOR

RECIPROCATING TYPE

Models ACT 3...40 are fitted with high efficiency piston compressors sourced from major producers.

ROTARY

For models ACT 55...160 (with single-phase power supply). This is a new technology applied to refrigerants as an alternative to the traditional piston compressor. Compression of the refrigerant is achieved by way of interaction between a cylindrical stator and a rotating eccentric nucleus. In this method, the parts which come into contact with one another are wear-resistant and therefore more reliable.



SCROLL



"HOT GAS" BY-PASS VALVE

The precise and accurate hot gas by-pass valve, which prevents the formation of ice inside the evaporator at any load condition, is a recent development unavailable in the past. The valve is set during final test and no further adjustments are necessary.

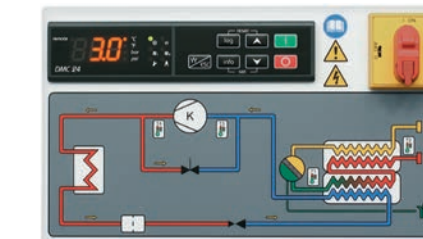


EASY MAINTENANCE

The ACT series has been designed and built to facilitate any inspection and maintenance operations that may prove necessary. The hoods are easily removed and offer immediate access to all parts of the system. The clear layout of the components, the simple composition of the refrigerant circuit and the numbering of the wires in the electrical system, facilitate the operator when carrying out standard controls.

TECHNICAL DETAILS [ACT 180...3000]

CONTROL PANEL



DMC 24 CONTROLLER

In addition to the characteristics already present in the DMC34 model, this new controller features a new client-protection function, which allows the user to plan maintenance operations, a working meter and a RS485 interface for connection to a PC. The four temperature probes and pressure transducer record and display the parameters of the dryer when in use and enable the functions AFC (Advanced Fan(s) Control) for the control of refrigerant condensing, and the ASW (Advanced Service Warning) to receive advance warning of defects. Control and protective devices are now included in the DMC24 controller and interfaced to the operator through the functions ADS (Advanced Draining System) for the control of the zero loss drain and AAL (Advanced Alarm Log). The DMC24 includes the protection for monitoring the sequence of the supply phases and the stopping of the compressor in conditions of high or low refrigerant pressure and/or high discharge temperature.



CONDENSATE DRAIN

ACT 180 dryer and largers are equipped with a zero loss drain system, interfaced to the DMC24, to assure the drainage of the condensed water only with no air loss.





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