

# Dry-Pool

## DAESY-DRESY-DTESY-DEESY 108-2140

Dehumidification capacity 8-140 l/h



### Features

#### R410A

#### Integrated adjustment

#### Double panels

#### Thermal cut profiles

#### Version with brushless EC fans

#### Tax incentives\*



### Air and/or water cooled centrifugal fan POOL DEHUMIDIFIERS. Range with scroll hermetic compressors and R410A refrigerant gas.

#### Construction features

- Frame and load-bearing structure: extruded profiles aluminium alloy with a cross section of 40 x 40 mm, thermal cut-type with concealed screws. Balloon sealing gaskets fitted onto the profile. • Aluminium base.
- Panelling: 25 mm double sheet steel (galvanised steel plate on the inside and pre-painted with RAL 9002 on the outside). Hot-injected polyurethane insulation (average density 40 kg/m<sup>3</sup>).
- Compressor: scroll type, rotary, hermetic complete with thermal protection and casing heater.
- Evaporating coil: made with copper pipes and fins with a condensate drain pan.
- Condensing coil: made with copper pipes and aluminium fins.
- Water side heat exchanger (DRESY-DTESY-DEESY): braze-welded plates in special stainless steel for chlorinated water or tube and shell in Cu/Ni for water treated with saline chlorination. The heat exchanger in the DEESY models features stainless steel braze-welded plates that are not suitable for chlorinated water. Water flow differential pressure switch.
- VM EC - Brushless EC type of delivery fan with impeller made of corrosion resistant composite plastic with tipped curved aerofoil blades. Static and dynamic balancing of the entire assembly (motor/impeller), built in accordance with DIN ISO standard 1940. G6.3 balancing grade.

- External electronic commutation rotor motor (EC) with integrated electronics and protection against overloads due to active temperature management. Programmable relay to signal faults. Integrated motor protection and motor heating operation. IP54 motor protection rating, thermal class 155. Greater energy efficiencies than the target values of the second tier (2015) of EU Regulation 327/2011, regarding the application methods of European Directive 2009/125/EC.
- In compliance with product EMC and EC regulations. Motor and fan are fixed to a sturdy and compact structure in galvanised sheet steel including galvanised steel intake bell mouth and integrated pressure probe to measure the air flow rate. The fan is fitted with constant flow rate control and a display of the working point. Maximum available static pressure (referred to D~ESY + BA+ DAHR configuration)=500Pa.
- Filters: class G3 fitted inside the intake.
  - Cooling circuit: separate from the aeraulic circuit and complete with a dryer filter, humidity indicator, high and low gas pressure gauges, load connections, high and low pressure side safety pressure switch, thermostatic expansion valve, liquid receiver (DRESY-DTESY-DEESY version), high pressure safety valve and R410A refrigerant load.
  - Electrical panel: preset for 230V-1ph+N-50Hz power supply (mod. 108 single-phase) and 400V-3ph+N-50Hz (mod. 108-2140 three-phase). It is complete with master

switch with door-lock device, circuit breaker switches, power contactors, auxiliary circuit protection fuses, microprocessor electronic control sheet.

## Versions

- DAESY: dehumidifier with 100% pool air side heat exchange.
- DRESY: dehumidifier with 45% pool water side recovery unit.
- DTESY: dehumidifier with 100% pool water side recovery unit.
- DEESY: dehumidifier with 100% pool water side recovery unit and possibility of 100% heat exchange on an external dry-cooler.

## Options

- Pre-painted steel roof for outdoor installation.
- Intake opposite side horizontal air delivery.
- Intake side horizontal air delivery.

## Factory fitted accessories

- FM M6 - High efficiency compact delivery air pre-filters, Class(EN 779:2012) M6/ ePM10 75%( iso 16890), glass fibre filtration medium, to replace standard G3 / ISO Coarse 50%.
- BRA (\*) - Integral hot water coil complete with 3-way valve fully managed by micro-processor and 2-way balancing valve on the bypass.
- BA EXT - Technical compartment to house the BA accessory in machines installed outdoors.
- BA RAP (\*\*\*) - Additional hot water coil in copper/pre-painted aluminium version.
- BA BRR (\*\*\*) - Additional copper/copper hot water coil.
- RAP (\*\*\*) - Copper/pre-painted aluminium condensing coil.
- BRR (\*\*\*) - Copper/copper condensing coil.
- BE (\*\*) - Supplementary electrical coil managed by micro-processor with step input logic.
- DSP Base - Double humidity setpoint through digital input.
- DSP Ev - Double humidity setpoint through digital input.

## Separately supplied accessories

- KFM F8 - Additional unit with high efficiency compact delivery air pre-filters, Class (EN 779:2012) F8 / ePM1 65% (iso 16890), glass fibre filtration medium.
- KUSB Ev - RS485/USB serial converter for Advanced control.
- KRS485 Ev - RTU Modbus protocol RS485 serial interface for Advanced control.
- FTT10 Ev - Lon serial interface (standard electric FTT10) for Advanced control.
- KBE - Serial interface for Bacnet ip protocol.
- KBM - RS485 interface for Bacnet ms/tp protocol.
- KTR Ev - Remote keypad for Advanced control. The remote keypad is not available for machines fitted with

basic control.

- KRJ1220 - 20 m-long connection cable for KTR.
- KRJ1230 - 30 m-long connection cable for KTR.
- KRJ200 - KTR remote control kit for distances between 50 and 200 m.

(\*) Not available together with the BE accessory.

(\*\*) Not available together with the BA accessory.

(\*\*\*) Accessory that requires longer delivery time, please check when ordering.

(~) Extended to all A, R, T, E versions.

## FRESH AIR HANDLING ADDITIONAL MODULES.

DAFC: FREE-COOLING MODULE.

Construction features

- Structure and frame: extruded aluminium alloy profiles with 40x40 mm thermal cut section and 25 mm thick panelling in double sheet steel (galvanised on the inside and pre-painted on the outside) with interposed injected polyurethane insulation with high soundproofing and insulating performance. Fit-on sealing gaskets in balloon type profile.
- Motorised dampers: with aerofoil aluminium. The 3 dampers (exhaust, recirculation, outdoor air intake) are sized for 100% of the flow rate and supplied with factory fitted modulating actuators.
- VR EC: Brushless EC type RETURN fan with impeller made of corrosion resistant composite plastic with tipped curved aerofoil blades.
- Static and dynamic balancing of the entire assembly (motor/impeller), built in accordance with DIN ISO standard 1940. G6.3 balancing grade.
- External rotor motor with electronic commutation (EC), with integrated electronics and protected against overload through active temperature management.
- Programmable relay for reporting faults. Integrated motor protection and motor heating operation.
- Motor with IP54 protection rating, thermal class 155.
- Energy efficiencies higher than the second phase objectives (year 2015) of EU Regulation 327/2011, on the methods of application of European Directive 2009/125/EC.
- Complies with product EMC and EC Standards.
- Motor and fan are fixed to a sturdy and compact structure in galvanised sheet steel including galvanised steel intake bell mouth and integrated pressure probe to measure the air flow rate
- The fan is equipped with constant flow rate control and work point display.
- Maximum available static pressure (referred to DAHR configuration)=500Pa

DAFC - Factory fitted accessories

- EXT: pre-painted steel roof for outdoor installation.

DAHR: HEAT RECOVERY MODULE.

Construction features

- Structure and frame: extruded aluminium alloy profiles with 40x40 mm thermal cut section and 25 mm thick panelling in double sheet steel (galvanised on the inside and pre-painted on the outside) with interposed injected

polyurethane insulation with high soundproofing and insulating performance. Fit-on sealing gaskets in balloon type profile.

- Heat recovery: static with crossed flow in horizontal versions, with pre-painted aluminium heat exchanger pack, complete with condensate drain pan and support frame. Nominal yield no less than 55%. 48 thick filter (mounted on outdoor air intake) with G3/ISO class Coarse 50% corrugated synthetic cells
- Motorised dampers: with aerofoil aluminium. The 4 dampers (bypass, exhaust, recirculation, outdoor air intake) are sized for 100% of the flow rate and supplied with factory fitted modulating actuators.
- VR EC: Brushless EC type RETURN fan with impeller made of corrosion resistant composite plastic with tipped curved aerofoil blades.
- Static and dynamic balancing of the entire assembly (motor/impeller), built in accordance with DIN ISO standard 1940. G6.3 balancing grade.
- External rotor motor with electronic commutation (EC), with integrated electronics and protected against overload through active temperature management.
- Programmable relay for reporting faults. Integrated motor protection and motor heating operation.
- Motor with IP54 protection rating, thermal class 155.
- Energy efficiencies higher than the second phase objectives (year 2015) of EU Regulation 327/2011, on the methods of application of European Directive 2009/125/EC.
- Complies with product EMC and EC Standards.
- Motor and fan are fixed to a sturdy and compact structure in galvanised sheet steel including galvanised steel intake bell mouth and integrated pressure probe to measure the air flow rate.
- The fan is equipped with constant flow rate control and work point display.
- Maximum available static pressure (referred to DAHR configuration)=500Pa.
- EXT: pre-painted steel roof for outdoor installation.

#### DAHR - Factory fitted accessories

- FAE M6: high efficiency compact outdoor air pre-filters, Class (EN 779:2012) M6 / ePM10 75%( iso 16890), glass fibre filtration medium, to replace the standard G3 / ISO Coarse 50%
- EXT: pre-painted steel roof for outdoor installation.

#### DAHR - Separately supplied accessories

- KFR M6: additional unit with high efficiency compact return air pre-filters, Class (EN 779:2012) M6/ ePM10 75%( iso 16890), glass fibre filtration medium,

ATTENTION: additional outdoor air handling modules must be ordered together with the dehumidifier as they affect the electronics. It is not possible to order the two modules at different times.

## Technical data

<b>DAESY-DRESY-DTESY-DEESY MODEL</b>		<b>108</b>	<b>112</b>	<b>115</b>	<b>118</b>	<b>122</b>	<b>128</b>	<b>131</b>	<b>136</b>
Dehumidification capacity	l/h	7,7	11,3	13,1	16,5	19,5	25,2	28	33
100% heating capacity transferred to air	kW	12,6	18,8	23	30,1	33,9	43,7	49,6	57,6
Total absorbed power	kW	3,2	4,9	5,4	7	7,4	10	11,3	13,1
Scroll compressors/steps	no.	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
Fans/Motors	no.	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
Max available static EC Version	Pa	500	500	500	500	500	500	500	500
Nominal air flow rate	m³/h	2.200	3.000	3.500	4.500	4.700	6.200	7.200	8.200
<b>DIMENSIONS</b>		<b>108</b>	<b>112</b>	<b>115</b>	<b>118</b>	<b>122</b>	<b>128</b>	<b>131</b>	<b>136</b>
L – Width	mm	790	790	850	850	850	850	850	850
H – Height	mm	1.380	1.380	1.580	1.580	1.890	1.890	1.890	1.890
P – Depth	mm	1.300	1.300	1.600	1.600	1.600	1.600	1.600	2.100
<b>DRESY MODEL</b>		<b>108</b>	<b>112</b>	<b>115</b>	<b>118</b>	<b>122</b>	<b>128</b>	<b>131</b>	<b>136</b>
Dehumidification capacity	l/h	7,8	11,3	14,5	18,1	21,6	27,4	30,5	36,2
45% heating capacity transferred to water	kW	6,9	10,1	11,4	13,8	15,9	19,6	23,4	27,3
Total absorbed power	kW	2,6	4,1	4,4	5,6	5,8	8,3	9,4	10,5
<b>DTESY MODEL</b>		<b>108</b>	<b>112</b>	<b>115</b>	<b>118</b>	<b>122</b>	<b>128</b>	<b>131</b>	<b>136</b>
Dehumidification capacity	l/h	8,5	12,3	14,5	18,2	21,3	27,4	30,1	36
100% heating capacity transferred to water	kW	14,7	20,8	24,8	31,9	35,6	45,4	51,5	60
Total absorbed power	kW	2,7	4,3	4,5	5,8	6	8,5	9,6	10,8
<b>DEESY MODEL</b>		<b>108</b>	<b>112</b>	<b>115</b>	<b>118</b>	<b>122</b>	<b>128</b>	<b>131</b>	<b>136</b>
Dehumidification capacity	l/h	8,3	11,9	14,2	18,2	21,3	26,6	30,1	35,9
100% heating capacity transferred to water	kW	14,7	19,7	23,7	30,7	35,6	45,4	50,2	58,6
Total absorbed power	kW	2,8	4,5	4,8	5,9	6,4	8,9	10	11,3

  

<b>DAESY-DRESY-DTESY-DEESY MODEL</b>		<b>237</b>	<b>242</b>	<b>250</b>	<b>254</b>	<b>262</b>	<b>271</b>	<b>281</b>	<b>294</b>
Dehumidification capacity	l/h	34	38,3	43,6	49,3	56	64,8	72,4	83,4
100% heating capacity transferred to air	kW	59,8	67,8	78,1	88	100,5	116,4	121,7	143,2
Total absorbed power	kW	13,8	15,1	18,5	20,1	22,1	27	32,1	35,9
Scroll compressors/steps	no.	2/2	2/2	2/2	2/2	2/2	2/2	2/2	2/2
Fans/Motors	no.	1/1	1/1	1/1	1/1	1/1	1/1	1/1	3/3
Max available static EC Version	Pa	500	500	500	500	500	500	500	500
Nominal air flow rate	m³/h	9.000	9.300	11.000	12.400	14.400	16.500	18.000	21.000
<b>DIMENSIONS</b>		<b>237</b>	<b>242</b>	<b>250</b>	<b>254</b>	<b>262</b>	<b>271</b>	<b>281</b>	<b>294</b>
L – Width	mm	850	850	850	1.230	1.230	1.230	1.230	1.230
H – Height	mm	1.890	1.890	1.890	2.000	2.000	2.000	2.000	2.000
P – Depth	mm	2.270	2.270	2.270	2.870	2.870	2.870	2.870	3.370
<b>DRESY MODEL</b>		<b>237</b>	<b>242</b>	<b>250</b>	<b>254</b>	<b>262</b>	<b>271</b>	<b>281</b>	<b>294</b>
Dehumidification capacity	l/h	37,3	42	48,7	53,9	61,2	71	80,7	93,7
45% heating capacity transferred to water	kW	27,4	31,8	39	41,4	46,8	56,1	61	69,7
Total absorbed power	kW	10,8	11,9	14,2	16	18,1	21,8	25,2	28,5
<b>DTESY MODEL</b>		<b>237</b>	<b>242</b>	<b>250</b>	<b>254</b>	<b>262</b>	<b>271</b>	<b>281</b>	<b>294</b>
Dehumidification capacity	l/h	37,3	41,7	48,3	53,5	60,6	70,5	80	92
100% heating capacity transferred to water	kW	61,5	69,5	81	89,6	103	119,3	127,6	149,2
Total absorbed power	kW	11,1	12,2	14,6	16,5	18,6	22,4	25,9	29,4
<b>DEESY MODEL</b>		<b>237</b>	<b>242</b>	<b>250</b>	<b>254</b>	<b>262</b>	<b>271</b>	<b>281</b>	<b>294</b>
Dehumidification capacity	l/h	37,3	41	48,1	52,4	60,2	70,3	78,8	91,6
100% heating capacity transferred to water	kW	60,8	68,2	79,8	89,6	101,5	118	126,3	147,5
Total absorbed power	kW	11,3	12,8	15,3	17,3	19,1	23,1	26,7	30,1

  

<b>DAESY-DRESY-DTESY-DEESY MODEL</b>		<b>2111</b>	<b>2126</b>	<b>2140</b>
Dehumidification capacity	l/h	96,4	110,7	126
100% heating capacity transferred to air	kW	183,3	204,8	231,7
Total absorbed power	kW	44,9	53,7	60
Scroll compressors/steps	no.	2/2	2/2	2/2
Fans/Motors	no.	3/3	3/3	3/3
Max available static EC Version	Pa	500	500	500
Nominal air flow rate	m³/h	22.000	25.000	27.000
<b>DIMENSIONS</b>		<b>2111</b>	<b>2126</b>	<b>2140</b>
L – Width	mm	1.230	1.230	1.230

H – Height	mm	2.000	2.000	2.300
P – Depth	mm	3.870	3.870	3.870
<b>DRESY MODEL</b>		<b>2111</b>	<b>2126</b>	<b>2140</b>
① Dehumidification capacity	l/h	111,1	127,1	144,6
② 45% heating capacity transferred to water	kW	84,2	96,7	109,6
③ Total absorbed power	kW	34,6	40,9	45,4
<b>DTESY MODEL</b>		<b>2111</b>	<b>2126</b>	<b>2140</b>
④ Dehumidification capacity	l/h	110,3	127,1	144,6
⑤ 100% heating capacity transferred to water	kW	185,1	208,6	234
⑥ Total absorbed power	kW	35,5	41,3	46,5
<b>DEESY MODEL</b>		<b>2111</b>	<b>2126</b>	<b>2140</b>
⑦ Dehumidification capacity	l/h	109,8	124,8	142,4
⑧ 100% heating capacity transferred to water	kW	184,7	206,8	232,3
⑨ Total absorbed power	kW	35,8	43,1	48,5

Data at the following conditions:

- ① Transferring heat to the air and the water. Ambient air temperature: 27°C, 65% R.H. In/out pool water temperature: 26/32°C.
- ② Transferring heat only to the air. Ambient temperature: 27°C, 65% R.H.
- ③ Transferring heat only to the water. Ambient air temperature: 27°C, 65% R.H. 26/32°C in/out pool water temperature.
- ④ Transferring heat only to the water of the Dry-Cooler. Ambient air temperature: 27°C, 65%R.H. 31/37°C in/out water temperature.
- ⑤ Without the BA accessory and/or the DAHR additional module.
- ⑥ Models 131+136 and 262+2140 available only with tube and shell water heat exchanger.



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