



CHILLER

vith inverter compressor

FGAC 1015 – 2050 AD 1 / 2

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Fig. 1: Unit view (example version)

Type code

215										
		FG	Α	С	1 ssors	015	Α	D	1	.SL
		FläktGroup	Condensing	Operating mode	Number of Compre-	Capacity stage	Series	Refrigerant	Supply voltage	Unit version
FG	FläktGroup Series									
Α	Air cooled (outdoor installation)									
С	Chiller									
1 2	1 inverter compressor 1 inverter compressor	+ 1 com	npresso	r on/off	f					
015- 050	Unit size 015, 018, 02 030, 035, 040, 050	0, 026,								
Α	Unit series A									
D	Refrigerant R410A									
1 2	400 V / 3~ / 50Hz / N / 400 V / 3~ / 50Hz / PI	′ PE Ξ								
.D .SL	Standard with desuperheater for SL unit - especially qu	partial iet mode	heat red	covery	_					

.SD SL unit - especially quiet model with desuperheater for partial heat recovery

Fig. 2: Explanation of unit type code



Unit description

FläktGroup chiller with inverter compressor

- Air cooled for outdoor installation
- Refrigerant R-410A
- 8 unit sizes available
- 4 unit models
 - Standard configuration
 - SL model: noise-optimized with sound reduction by approx. 7 dB(A)
 - D model with desuperheater for partial heat recovery
 - SD model noise-optimized with noise reduction by approx. 7dB(A) and desuperheater for partial heat recovery
- Built-in pump or double pump (redundancy) optionally available, models with standard delivery head or increased delivery head, as well as on/off pump or speed-controlled pump with increased energy efficiency. Speed-controlled pumps are constantly adjusted to the required speed via the controller.
- Units with built-in pump or pumps are optionally available with built-in buffer tank
- 1 refrigerant circuit
- 1 inverter compressor with continuously variable capacity control; from unit size 018 an additional on/off compressor
- 8 unit sizes with cooling capacities from 43 to 129 (124*) kW (*SL/SD model)
- Electronic expansion valve
- Al/Al micro-channel heat exchanger as condenser (optionally with coating)
- Plate heat exchanger as evaporator, including frost-protection heating suitable for unit stand-by without glycol at ambient temperatures above -10 °C
- Built-in safety valve 6 bar for units with built-in pump(s)
- Directly driven axial fans, 4- or 6-pole with protection against interference (protection class IP54)
- Fan speed control via phase angle control guided by high-pressure (units FGAC 1015 2030 AD1(.D) and FGAC 1015-2026 AD1.(SL/SD))
- Fan speed control via transformer, which supplies the fans with different voltages depending on the high-pressure (units FGAC 2035-2050 AD2(.D) and FGAC 2030-2050 AD2(SL/SD)).
- EC fans are available as option upon request
- ErP 2021 compliant, high energy efficiency at full and part-load mode
- Water outlet temperature -10 to 0 °C or 0 to +10 °C or +10 to +18 °C is determined by option number when sizing (see Figure 2-5, page 7)
- Operating range from +2 °C to + 47 °C air-inlet temperature at 7°C water outlet temperature
- Extended operating range from -10 °C to + 47 °C related to air-intake temperature at 7°C water outlet temperature optionally possible (accessory .E42-.E45)
- Extended operating range from -20 °C to + 47 °C air-intake temperature at 7°C water outlet temperature optionally possible (accessory .E46; or .E47)
- Supply voltage (see table 6, page 11)
- Numbered connecting terminals
- Built-in phase sequence protection relay
- Automatic circuit breaker for load and control current circuit
- Pump relay for controlling an on-site chilled water pump (units without built-in pumps)
- Demand limit contact to reduce electrical power consumption by deactivating compressors or their capacity steps (except FGAC 1015 AD1)
- FläktGroup controller, Compact Display, display protection as an option
- Control of the water outlet temperature; for group control with a sequencer the water inlet temperature is controlled
- All units of FGAC 1015-2050 AD 1/2 (.SL) series are certified by Eurovent

Inverter Chiller FGAC 1015 – 2050 AD 1 / 2



Options and accessories

Accessories for controls

Option .E03	-	Operation message of compressor Floating contacts for status indication of each respective compressor.
Option .E06	-	Soft starter for on/off compressor (not for FGAC 1015 AD1)
Option .E21	-	Sliding setpoint via a 4-20 mA signal provided on-site Shifting the cold and hot water setpoint value in a fixed range via a 4-20 mA signal provided on-site. Changing the setpoint, e.g. during night mode operation, can realize significant savings potential.
Option .E19/E20	-	Second control connection for remote monitoring and regulation. Up to 10 units in the same controller family can be connected to an additional remote control. <i>Option .E19</i> for remote controls up to 200 meters away Option .E20 for remote controls up to 500 meters away
Option .E22	-	2nd setpoint via on-site normally open contact. External changeover between two setpoint values set for unit by closing a field-provided dry contact. Raising the setpoint, e.g. during night mode operation, can realize significant savings potential.
Serial card for connection to a building management system or for master/slave control	-	Unit connection to the building management system (BMS) using a serial card.
		 The following protocols are used to transmit digital and analog values: Readout of error messages Retrieval of temperature and pressure values provided by the controller Operating status of individual compressors Enabling the unit Setpoint shift Changing operating mode between heating and cooling for heat pumps
Option .E14	-	Modbus (RS485), Built-in Modbus interface for connection to the building management system or for the internal group communication with a sequencer
Option .E15	-	LonWorks® , Built-in LonWorks interface for connection to the building management system
Option .E16	-	BACnet via IP, Built-in BACnet via IP interface for connection to the building management system
Option .E17	-	BACnet via MS/TP RS485, Built-in BACnet via MS/TP RS485 interface for connection to the building management system



Option .E18	-	Sequencer without connection to a BMS: Upstream master/slave control. Up to a maximum 5 units of the FläktGroup controller family can be used in a hydraulic circuit and connected to a sequencer. The sequencer is supplied in a separate switch cabinet with two temperature sensors that must be installed in a common water inlet and outlet. Depending on the water inlet temperature, individual capacity stages or units are switched on or off. Every unit needs a serial card of Modbus type (option .E14) in order to communicate with the sequencer and its own chilled water pump that also must be controlled by the chiller/heat pump.
Option .E24	-	Sequencer with connection to a BMS via Modbus protocol
Option .E25	-	Sequencer with integration to a BMS via LONWORKS® protocol.
Option .E26	-	Sequencer with integration to a BMS via BACnet over IP.
Option .E27	-	Sequencer with integration to a BMS via BACnet protocol MS/TP RS485.
Electrical accessories		
Option .E51 or .E52 for SL/SD units	-	EC-Fans Use of EC fans provides the following benefits:
(on request)		 Reduced power consumption in part-load mode Continuous speed regulation of fans Reduced sound level in part-load mode More precise control of condensing pressure Operating range down to -10°C air-inlet temperature based on a water outlet temperature of +7°C. A wind protected installation (with wind speed < 0,5 m/s) is required for operation below -5 °C ambient temperature!
Option FGZ-1/-10.E10	-	Water outlet temperature in the range of -10°C to 0 °C
Option FGZ0/+10.E10	-	Water outlet temperature in the range of 0°C to +10 °C
Option FGZ11/+18.E10	-	Water outlet temperature in the range of +10°C to +18 °C
<i>Option .E40 or .E41 for SL/SD units</i>	-	Operating range down to +2°C air-inlet temperature based on a water outlet temperature of +7°C. A different operating limit applies for deviating water outlet temperatures. These are shown in the "Operating limits" diagram.
Option .E42/E44 or .E43/E45 for SL/SD units	-	Extended operating range down to -10°C air inlet temperature based on a water outlet temperature of +7°C. A different operating limit applies for deviating water outlet temperatures. These are shown in the "Operating limits" diagram. A wind protected installation (with wind speed < 0,5 m/s) is required for operation below -5 °C ambient temperature!
Option .E46 or .E47 for SL/SD units	-	Extended operating range down to -20°C air inlet temperature based on a water outlet temperature of +7°C. A wind protected installation (with wind speed < 0,5 m/s) is required! A different operating limit applies for deviating water outlet temperatures. These are shown in the "Operating limits" diagram. The use of glycol is mandatory.
Option .E13 /.E11	-	Frost protection heating for operation without glycol suitable for unit stand-by without glycol at ambient temperatures above -10 °C. Standard for units without pumps and without buffer tank .E13 Units with built-in pump(s), but without buffer tank .E11 Units with built-in pump(s) and buffer tank



Installation of accessories

<i>Option .102 (for units without pump)</i>	-	Rubber isolator Anti-vibration isolators with rubber elements to minimize vibration transmission (supplied separately).
Option .103 (for units with pump(s))	-	Rubber isolator Anti-vibration isolators with rubber elements to minimize vibration transmission (supplied separately).
Option .105 (for units with pump(s) and storage tank)	-	Rubber isolator Anti-vibration isolators with rubber elements to minimize vibration transmission (supplied separately).
Option .104	-	Protection grille for air-cooled heat exchanger Protection grille on external sides of the air-cooled heat exchanger for protecting fins against damage due to shipping and weather
Option .155 or .156 for SL/SD units	-	Anti-corrosion coating for microchannel heat exchangers (MCHX) 100% epoxy polymer e-coating process for the entire air-cooled microchannel heat exchanger as protection against corrosion, UV radiation and for increased weather resistance to medium aggressive air pollution and use with medium salty air near the coast.
Option .158	-	Display protection
Option .167	-	Flow switch (supplied extra) with paddle for installation in hydraulic circuit at chilled-water outlet. The on-site installation and wiring of the flow switch is a prerequisite for warranty claims!
Options .168/ .169 /.170	-	Water filter for installation in the hydraulic circuit at the unit inlet (supplied extra) Before the direct inlet into the heat exchanger a water filter must be installed that protects the heat exchanger from dirt and deposits. The water filter of "Y-type" has a mesh width of 0.9 mm, the filter insert can be trouble-free removed and cleaned for maintenance purposes without dismantling the valve body. ./68 Filter 1 ½" (unit size 1015-2020) 1.69 Filter 2" (unit size 2026-2035) 1.70 Filter 2 ½" (unit size 2040-2050)



Mechanics accessories

Options .M01/ .M02/ .M03	Built-in buffer tank to increase the water volume of the system Only for units with built-in pumps . <i>M01</i> 90 L tank for unit sizes 1015-2018 (.D)
	<i>.M0</i> 2 140 L tank for unit sizes 2020-2050 (.D) and 1015-2035 .SD/.SL <i>.M0</i> 3 200 L tank for unit sizes 2040-2050 .SD/.SL
Option .M21	Setting constant pump speed on the unit controller for built-in pumps with variable speed. The speed is fixed once during commissioning so that the required water flow rate flows through the evaporator.
Refrigeration circuit ac	cessories
Option .R13	LP and HP Pressure Gauges Refrigerant gauge for high and low pressure side for reading off current operating

	pressures.
Option .R19	Safety valve in double configuration for high and low-pressure side Two safety valves are connected via a changeover valve on the high and low- pressure side each. By using a changeover valve a trouble-free and fast replacement of safety valves without refrigerant loss is possible for maintenance and service jobs.
Option .R26	Shut-off valves for compressor suction and pressure side Service shut-off valve assembled for fast and easy maintenance.
ther accessories	

Option .001	Packaging with wooden crate and nylon foil The unit is supplied for transport in a wooden crate and is additionally shrink- wrapped in nylon foil to protect it from the weather and dirt.
Option .011	Packing of the unit with nylon cover The unit is shrink-wrapped in nylon foil for transport and storage to protect it from weather and dirt.

Operating limits

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On the water side, the operating limits according to Table 1 and on the air and water side, the limits of the selected options according to the diagram

Tabe1: Operating limits of water (glycol) circuit

		Min	Мах
Water inlet	[°C]	-7 or -5 (for .D/.SD units)	26
Water outlet	[°C]	-10 or -8 (for .D/.SD units)	18
D T at water outlet temp. > 5 °C	[K]	4	8
D T at water outlet temp. ≤ 5 °C	[K]	3	5
Water inlet Desuperheater (.D/.SD-units)	[°C]	30	55
Water outlet Desuperheater (.D/.SD-unit)	[°C]	35	60
dT Desuperheater (.D/.SD-units)	[K]	5	10

50 40 30 (5 20 10 (3 0 t_{Air,intake} [°C] -10 -20 -30 -15 -10 -5 0 5 10 15 20 t_{Water,outlet} [°C] Fig. 2: Standard operating range

Option .E40 or.E41 for .SL/.SD units (AC fans)

Operating range up to +2 °C air intake temperature based on a water outlet temperature of +7 °C.

One of the three temperature ranges for the cold-water temperature must also be selected (see box at the end of this page).



Fig. 4: Extended operating range for cooling operation in extreme winter conditions

Option .E46 or.E47 for .SL/.SD units (AC fans)

Operating range up to -20 °C air intak te temperature based on a water outlet temperature of +7 °C. A wind protected installation (with wind speed < 0.5 m/s) is required! The use of glycol is mandatory!



One be s	e of the three temperature raselected (see box).	anges for the cold-water temperature must also	selected (see box).
Notic	es for all diagrams		
Opera	ting ranges for cold water c	outlet temperature (automatically selected in AID@de	epending on the media temperature)
1	Option FGZ-1/-10.E10	Water outlet temperature from -10°C to 0 °C	
2	Option FGZ0/+10.E10	Water outlet temperature from 0°C to +10 °C	
3	Option FGZ11/+18.E10	Water outlet temperature from 10°C to +18 °C	
Speci	al Features		
4	Units as particularly quiet r	model (.SL/.SD) workin this range with increased nois	se
5	Range excluded for units v	vith desuperheater (.D/.SD)	
For op	perational reasons water at	evaporator outlet temperatures below 5°C must be p	rotected from freezing by adding glycol.

FläktGroup recommends to use at least 30% ethylene glycol. For sites with possible ambient temperatures below +5 ° C the unit must be protected from freezing by unit frost protection heater plus on-site pipe heating or by using

water-glycol mixture with adapted concentration.

For reasons of frost protection, water glycol mixture with adapted concentrations is mandatory for sites with possible ambient temperatures below -10 ° C, independent from the water temperatures!





Option .E42/.E44 or .E43/.E45 for.SL/.SD units (AC fans),

or option .E51/.E52 (EC fans) Operating range up to -10 °C air intake temperature based on a water outlet temperature of +7 °C. A wind protected installation (with wind speed < 0,5 m/s) is required for operation below -5 °C ambient temperature! One of the three temperature ranges for the cold-water temperature must also be selected (see box at the end of this page).



Fig. 5: Extended operating range for low water temperature in winter

On request

Operating range to -20 °C air-intake temperature based on a water outlet temperature of down to -8 or -10 °C. A wind protected installation (with wind speed < 0,5 m/s) is required! The use of glycol is mandatory! Option FGZ-1/-10.E10 for the cold water temperature range must also be



General Specifications

Table 2: General data for standard units (optionally with desuperheater)

Unit type GAC #### AD(1/2) (.D)			1015	2018	2020	2026	2030	2035	2040	2050
Performance data (catalog	g) - ⁶⁾									
Refrigeration capacity 1)	Qe	[kW]	43.9	52.9	63.1	72.1	83.8	101	120	129
Power consumption 5)	Р	[kW]	15.7	18.8	21.4	25.0	29.2	35.2	41.9	46.8
EER			2.80	2.81	2.95	2.88	2.87	2.87	2.86	2.76
ESEER			4.56	4.55	4.51	4.54	4.51	4.66	4.58	4.53
Chilled water flow rate	Ve	[l/s]	2.10	2.53	3.02	3.45	4.01	4.82	5.73	6.18
Chilled water pressure	ΔDe	[kPa]	37.2	41.2	42.3	39.4	35.0	36.2	42.9	38.9
drop	дро	[0]	0112	2	1210		0010	00.2		0010
ERP conformity							1.00	1.0.0		1.00
SEER (ERP 2016/2281) ''		F0/1	4.15	4.11	4.13	4.18	4.23	4.36	4.32	4.30
η _s (ERP 2016/2281) ''		[%]	163	161	162	164	166	1/1	170	169
ERP-compliant 2021										
Application			Comfort	Comfort	Comfort	Comfort	Comfort	Comfort	Comfort	Comfort
Performance values acco	raing to I	EN14511-3:	2011							
Refrigeration capacity ¹⁾	Qe	[kW]	43.6	52.6	62.7	71.7	83.4	100	119	129
EER			2.73	2.75	2.88	2.82	2.82	2.82	2.80	2.72
ESEER			4.27	4.19	4.17	4.23	4.24	4.36	4.27	4.25
Eurovent Class			С	C	С	С	С	С	С	C
Performance data for unit	s with de	superheat	er (.D/.SD uni	ts) ⁶⁾						
Cooling capacity	Qe	[kW]	45.5	54.8	65.5	74.8	87.0	105	124	134
Power consumption 5)	Р	[kW]	15.2	18.2	20.7	24.1	28.2	34.0	40.6	45.3
Heating capacity desuperheater	Qd	[kW]	13.3	15.7	17.7	20.9	24.4	29.3	33.8	38.2
Volume flow desuperheater	Vd	[l/s]	0.64	0.76	0.86	1.01	1.18	1.41	1.63	1.85
Pressure drop desuperheater	Δpd	[kPa]	9.46	13.1	16.8	11.5	15.7	22.5	21.2	27.1
Controls										
Controls					compa	ct display / con	trols with TA s	oftware		
Controls Fans					compa	ct display / con Axial	trols with TA s Fans	oftware		
Controls Fans Fan Quantity		n	4	4	compac 5	ct display / con Axial 5	trols with TA s Fans 6	oftware 2	2	2
Controls Fans Fan Quantity Total air volume flow		n [m³/h]	4 13570	4 18250	compac 5 23650	ct display / con Axial 5 23650	trols with TA s Fans 6 27580	oftware 2 32690	2 41510	2 41510
Controls Fans Fan Quantity Total air volume flow Compressor		n [m³/h]	4 13570	4 18250 Fully	compace 5 23650 / hermetic scr	ct display / con Axial 5 23650 roll compress	trols with TA s Fans 6 27580 or (with 1 invo	oftware 2 32690 erter compres	2 41510 sor)	2 41510
Controls Fans Fan Quantity Total air volume flow Compressor Number of compressors		n [m³/h]	4 13570 1	4 18250 Full y 2	compar 5 23650 / hermetic scr 2	t display / con Axial 5 23650 roll compress 2	trols with TA s Fans 6 27580 or (with 1 invo 2	oftware 2 32690 erter compres 2	2 41510 sor) 2	2 41510 2
Controls Fans Fan Quantity Total air volume flow Compressor Number of compressors Number of refrigeration circ	uits	n [m³/h]	4 13570 1 1	4 18250 Fully 2 1	compar 5 23650 / hermetic scr 2 1	ct display / con Axial 5 23650 roll compress 2 1	trols with TA s Fans 6 27580 or (with 1 invo 2 1	oftware 2 32690 erter compres 2 1	2 41510 sor) 2 1	2 41510 2 1
Controls Fans Fan Quantity Total air volume flow Compressor Number of compressors Number of refrigeration circ Minimum part-load mode sp	uits	n [m³/h]	4 13570 1 1 30	4 18250 Fully 2 1 22	compar 5 23650 / hermetic scr 2 1 1 9	ct display / con Axial 5 23650 roll compress 2 1 2 2	trols with TA s Fans 6 27580 or (with 1 invo 2 1 1	2 32690 erter compres 2 1 23	2 41510 sor) 2 1 20	2 41510 2 1 18
Controls Fans Fan Quantity Total air volume flow Compressor Number of compressors Number of refrigeration circ Minimum part-load mode sp Evaporator (cold-water side	uits beed de)	n [m³/h]	4 13570 1 1 30	4 18250 Fully 2 1 22	compar 5 23650 / hermetic scr 2 1 19	et display / con Axial 5 23650 roll compress 2 1 22	trols with TA s Fans 6 27580 or (with 1 invo 2 1 19	0ftware 2 32690 erter compres 2 1 23	2 41510 sor) 2 1 20	2 41510 2 1 18
Controls Fans Fan Quantity Total air volume flow Compressor Number of compressors Number of refrigeration circ Minimum part-load mode sp Evaporator (cold-water sid Min. water mass flow	uits beed de) Ve,min	n [m³/h] [%]	4 13570 1 1 30 1.03	4 18250 Fully 2 1 22 1.22	compar 5 23650 / hermetic scr 2 1 19 1.47	et display / con Axial 5 23650 roll compress 2 1 22 1.69	trols with TA s Fans 6 27580 or (with 1 invo 2 1 19 1.97	oftware 2 32690 erter compres 2 1 23 2.39	2 41510 sor) 2 1 20 2.83	2 41510 2 1 18 3.06
Controls Fans Fan Quantity Total air volume flow Compressor Number of compressors Number of refrigeration circ Minimum part-load mode sp Evaporator (cold-water sid Min. water mass flow Max. water mass flow	uits beed de) V _{e,min} V _{e,max}	n [m³/h] [%] [//s]	4 13570 1 1 30 1.03 3.53	4 18250 Fully 2 1 22 1.22 4.25	compare 5 23650 / hermetic scr 2 1 19 1.47 4.72	et display / con Axial 5 23650 roll compress 2 1 22 1.69 4.72	trols with TA s Fans 6 27580 or (with 1 invo 2 1 19 1.97 6.69	oftware 2 32690 erter compres 2 1 23 2.39 8.08	2 41510 sor) 2 1 20 2.83 9.58	2 41510 2 1 18 3.06 10.31
Controls Fans Fan Quantity Total air volume flow Compressor Number of compressors Number of refrigeration circ Minimum part-load mode sp Evaporator (cold-water sid Min. water mass flow Max. water mass flow MAX WORKING PRESSURES	uits beed de) V _{e,min} V _{e,max}	n [m³/h] [%] [/s] [/s] [bar]	4 13570 1 1 30 1.03 3.53 5 / 10 ⁷⁾	4 18250 Fully 2 1 22 1.22 4.25 5 / 10 ⁷⁾	compare 5 23650 / hermetic scr 2 1 19 1.47 4.72 5 / 10 ⁷⁾	et display / con Axial 5 23650 roll compress 2 1 22 1.69 4.72 5 / 10 ⁷⁾	trols with TA s Fans 6 27580 or (with 1 invo 2 1 19 1.97 6.69 5 / 10 ⁷⁾	oftware 2 32690 erter compres 2 1 23 2.39 8.08 5 / 10 ⁷⁾	2 41510 sor) 2 1 20 2.83 9.58 5 / 10 ⁷⁾	2 41510 2 1 18 3.06 10.31 5 / 10 ⁷⁾
Controls Fans Fan Quantity Total air volume flow Compressor Number of compressors Number of refrigeration circ Minimum part-load mode sp Evaporator (cold-water si Min. water mass flow Max. water mass flow MAX WORKING PRESSURES Minimum chilled water syste content	uits beed de) V _{e,min} V _{e,max} Pmax em	n [m³/h] [%] [l/s] [l/s] [bar] [i]	4 13570 1 1 30 1.03 3.53 5 / 10 ⁷⁾ 154	4 18250 Fully 2 1 22 1.22 4.25 5 / 10 ⁷⁾ 185	compare 5 23650 / hermetic scr 2 1 19 1.47 4.72 5 / 10 ⁷⁾ 221	et display / con Axial 5 23650 roll compress 2 1 2 2 1.69 4.72 5 / 10 ⁷⁾ 252	trols with TA s Fans 6 27580 or (with 1 invo 2 1 19 1.97 6.69 5 / 10 ⁷⁾ 293	2 32690 erter compress 2 1 23 2.39 8.08 5 / 10 ⁷⁾ 354	2 41510 sor) 2 1 20 2.83 9.58 5 / 10 ⁷⁾ 420	2 41510 2 1 18 3.06 10.31 5 / 10 ⁷⁾ 452
Controls Fans Fan Quantity Total air volume flow Compressor Number of compressors Number of refrigeration circ Minimum part-load mode sp Evaporator (cold-water si Min. water mass flow Max. water mass flow MAX WORKING PRESSURES Minimum chilled water syste content Water charge of heat excha	uits beed de) V _{e,min} V _{e,max} Pmax em	n [m³/h] [%] [l/s] [l/s] [bar] [l]	$ \begin{array}{c} 4 \\ 13570 \\ 1 \\ 1 \\ 30 \\ 1.03 \\ 3.53 \\ 5 / 10^{7)} \\ 154 \\ 3.1 \\ \end{array} $	4 18250 Fully 2 1 22 1.22 4.25 5 / 10 ⁷⁾ 185 3.5	compare 5 23650 / hermetic scr 2 1 19 1.47 4.72 5 / 10 ⁷⁾ 221 4.3	et display / con Axial 5 23650 roll compress 2 1 22 1.69 4.72 5 / 10 ⁷⁾ 252 5.2	trols with TA s Fans 6 27580 or (with 1 invo 2 1 19 1.97 6.69 5 / 10 ⁷⁾ 293 5.5	oftware 2 32690 erter compres 2 1 23 2.39 8.08 5 / 10 ⁷⁾ 354 6.3	2 41510 sor) 2 1 20 2.83 9.58 5 / 10 ⁷⁾ 420 7.1	2 41510 2 1 18 3.06 10.31 5 / 10 ⁷⁾ 452 8.1
Controls Fans Fan Quantity Total air volume flow Compressor Number of compressors Number of refrigeration circ Minimum part-load mode sp Evaporator (cold-water si Min. water mass flow Max. water mass flow Max. WORKING PRESSURES Minimum chilled water syste content Water charge of heat excha Evaporator connection	uits peed de) V _{e,min} V _{e,max} p _{max} em inger VICT/	n [m³/h] [%] [l/s] [l/s] [bar] [l] [l] AULIC ²⁾	4 13570 1 1 30 1.03 3.53 5 / 10 ⁷⁾ 154 3.1 1" 1/2	4 18250 Fully 2 1 22 1.22 4.25 5 / 10 ⁷⁾ 185 3.5 1" 1/2	compare 5 23650 / hermetic scr 2 1 19 1.47 4.72 5 / 10 ⁷⁾ 2221 4.3 1" 1/2	t display / con Axial 5 23650 roll compress 2 1 22 1.69 4.72 5 / 10 ⁷⁾ 252 5.2 2"	trols with TA s Fans 6 27580 or (with 1 invo 2 1 19 1.97 6.69 5 / 10 ⁷⁾ 293 5.5 2"	oftware 2 32690 erter compres 2 1 23 2.39 8.08 5 / 10 ⁷⁾ 354 6.3 2"	2 41510 sor) 2 1 20 2.83 9.58 5 / 10 ⁷⁾ 420 7.1 2" 1/2	2 41510 2 1 18 3.06 10.31 5 / 10 ⁷⁾ 452 8.1 2" 1/2
Controls Fans Fan Quantity Total air volume flow Compressor Number of compressors Number of refrigeration circ Minimum part-load mode sp Evaporator (cold-water si Min. water mass flow Max. water mass flow Max. WORKING PRESSURES Minimum chilled water syste content Water charge of heat excha Evaporator connection Desuperheater (hot-water	uits peed de) V _{e,min} V _{e,max} p _{max} pmax em unger VICT/ side) (.D	n [m³/h] [%] [l/s] [l/s] [bar] [l] [l] AULIC ²⁾ /.SD units)	4 13570 1 1 30 1.03 3.53 5 / 10 ⁷⁾ 154 3.1 1" 1/2	4 18250 Fully 2 1 22 1.22 4.25 5 / 10 ⁷⁾ 185 3.5 1" 1/2	compare 5 23650 / hermetic scr 2 1 19 1.47 4.72 5 / 10 ⁷⁾ 2221 4.3 1" 1/2	t display / con Axial 5 23650 roll compress 2 1 22 1.69 4.72 5 / 10 ⁷⁾ 252 5.2 2"	trols with TA s Fans 6 27580 or (with 1 invo 2 1 19 1.97 6.69 5 / 10 ⁷⁾ 293 5.5 2"	oftware 2 32690 erter compres 2 1 23 2.39 8.08 5 / 10 ⁷⁾ 354 6.3 2"	2 41510 sor) 2 1 20 2.83 9.58 5 / 10 ⁷⁾ 420 7.1 2" 1/2	2 41510 2 1 18 3.06 10.31 5 / 10 ⁷⁾ 452 8.1 2" 1/2
Controls Fans Fan Quantity Total air volume flow Compressor Number of compressors Number of refrigeration circ Minimum part-load mode sp Evaporator (cold-water sid Min. water mass flow Max. water mass flow MAX WORKING PRESSURES Minimum chilled water syste content Water charge of heat excha Evaporator connection Desuperheater (hot-water Max. water mass flow	uits peed de) V _{e,min} V _{e,max} p _{max} em unger VICT/ side) (.D V _{e,max}	n [m³/h] [//s] [//s] [/s] [bar] [l] AULIC ²⁾ //SD units) [l/s]	4 13570 1 1 30 1.03 3.53 5 / 10 ⁷⁾ 154 3.1 1" 1/2 0.86	4 18250 Fully 2 1 22 1.22 4.25 5 / 10 ⁷⁾ 185 3.5 1" 1/2 1.00	compact 5 23650 / hermetic scr 2 1 19 1.47 4.72 5 / 10 ⁷⁾ 221 4.3 1" 1/2 1.14	t display / con Axial 5 23650 roll compress 2 1 22 1.69 4.72 5 / 10 ⁷⁾ 252 5.2 2" 1.33	trols with TA s Fans 6 27580 or (with 1 invo 2 1 19 1.97 6.69 5 / 10 ⁷⁾ 293 5.5 2" 1.53	oftware 2 32690 erter compres 2 1 23 2.39 8.08 5 / 10 ⁷⁾ 354 6.3 2" 1.83	2 41510 sor) 2 1 20 2.83 9.58 5 / 10 ⁷⁾ 420 7.1 2" 1/2 2.11	2 41510 2 1 18 3.06 10.31 5 / 10 ⁷⁾ 452 8.1 2" 1/2 2.36
Controls Fans Fan Quantity Total air volume flow Compressor Number of compressors Number of refrigeration circ Minimum part-load mode sp Evaporator (cold-water sid Min. water mass flow Max. water mass flow MAX WORKING PRESSURES Minimum chilled water syste content Water charge of heat excha Evaporator connection Desuperheater (hot-water Max. water mass flow Water charge of heat excha	uits beed de) V _{e,max} pmax em unger VICT, side) (.D V _{e,max} unger	n [m³/h] [//s] [//s] [/s] [bar] [l] AULIC ²⁾ //SD units) [l/s] [l]	4 13570 1 1 30 1.03 3.53 5 / 10 ⁷⁾ 154 3.1 1" 1/2 0.86 0.43	4 18250 Fully 2 1.22 4.25 5 / 10 ⁷⁾ 185 3.5 1" 1/2 1.00 0.43	compare 5 23650 / hermetic scr 2 1 19 1.47 4.72 5 / 10 ⁷⁾ 221 4.3 1" 1/2 1.14 0.43	et display / con Axial 5 23650 oll compress 2 1.69 4.72 5 / 10 ⁷⁾ 252 5.2 2" 1.33 0.61	trols with TA s Fans 6 27580 or (with 1 invo 2 1 19 1.97 6.69 5 / 10 ⁷⁾ 293 5.5 2" 1.53 0.61	oftware 2 32690 erter compres 2 1 23 2.39 8.08 5 / 10 ⁷⁾ 354 6.3 2" 1.83 0.61	2 41510 sor) 2 1 20 2.83 9.58 5 / 10 ⁷⁾ 420 7.1 2" 1/2 2.11 0.73	2 41510 2 1 18 3.06 10.31 5 / 10 ⁷⁾ 452 8.1 2" 1/2 2.36 0.73
Controls Fans Fan Quantity Total air volume flow Compressor Number of compressors Number of refrigeration circ Minimum part-load mode sp Evaporator (cold-water sie Min. water mass flow Max. water mass flow Max. WORKING PRESSURES Minimum chilled water syste content Water charge of heat excha Evaporator connection Desuperheater (hot-water Max. water mass flow Water charge of heat excha Desuperheater connection(s)	uits beed de) V _{e,max} pmax em unger VICT/ side) (.D V _{e,max} unger Outer	n [m³/h] [%] [//s] [//s] [bar] [bar] [l] AULIC ²⁾ //SD units) [l/s] [l] Thread	4 13570 1 1 30 1.03 3.53 5 / 10 ⁷⁾ 154 3.1 1 ^{°°} 1/2 0.86 0.43 R 1 ¼"	4 18250 Fully 2 1 22 1.22 4.25 5 / 10 ⁷⁾ 185 3.5 1" 1/2 1.00 0.43 R 1 1/4"	compact 5 23650 / hermetic scr 2 1 19 1.47 4.72 5 / 10 ⁷⁾ 221 4.3 1" 1/2 4.3 1" 1/2 1.14 0.43 R 1 1/4"	et display / con Axial 5 23650 oll compress 2 1 22 1.69 4.72 5 / 10 ⁷⁾ 252 5.2 2" 1.33 0.61 R 1 ¼"	trols with TA s Fans 6 27580 or (with 1 invo 2 1 19 1.97 6.69 5 / 10 ⁷⁾ 293 5.5 2" 1.53 0.61 R 1 ¼"	oftware 2 32690 erter compres 2 1 23 2.39 8.08 5 / 10 ⁷⁾ 354 6.3 2" 1.83 0.61 R 1 ¼"	2 41510 sor) 2 1 20 2.83 9.58 5 / 10 ⁷⁾ 420 7.1 2" 1/2 2.11 0.73 R 1 1/4"	2 41510 2 1 18 3.06 10.31 5 / 10 ⁷⁾ 452 8.1 2" 1/2 2.36 0.73 R 1 1/4"
Controls Fans Fan Quantity Total air volume flow Compressor Number of compressors Number of refrigeration circ Minimum part-load mode sp Evaporator (cold-water sie Min. water mass flow Max. water mass flow Max WORKING PRESSURES Minimum chilled water syste content Water charge of heat excha Evaporator connection Desuperheater (hot-water Max. water mass flow Water charge of heat excha Evaporator connection Desuperheater (connection(s) Refrigeration circuit charge	uits beed de) V _{e,min} V _{e,max} pmax pmax em unger VICT, side) (.D V _{e,max} unger Outer ge	n [m³/h] [%] [%] [//s] [/s] [bar] [bar] [l] AULIC ²⁾ //SD units) [l/s] [l] Thread	4 13570 1 1 30 1.03 3.53 5 / 10 ⁷⁾ 154 3.1 1" 1/2 0.86 0.43 R 1 ½"	4 18250 Fully 2 1 22 1.22 4.25 5 / 10 ⁷⁾ 185 3.5 1" 1/2 1.00 0.43 R 1 ½"	compare 5 23650 / hermetic scr 2 1 19 1.47 4.72 5 / 10 ⁷⁾ 221 4.3 1" 1/2 1.14 0.43 R 1 ½"	et display / con Axial 5 23650 oll compress 2 1 22 1.69 4.72 5 / 10 ⁷⁾ 252 5.2 2" 1.33 0.61 R 1 ¼"	trols with TA s Fans 6 27580 or (with 1 invo 2 1 19 1.97 6.69 5 / 10 ⁷⁾ 293 5.5 2" 1.53 0.61 R 1 ¹ / ₄ "	oftware 2 32690 erter compres 2 1 23 2.39 8.08 5 / 10 ⁷⁾ 354 6.3 2" 1.83 0.61 R 1 ¼"	2 41510 sor) 2 1 20 2.83 9.58 5 / 10 ⁷⁾ 420 7.1 2" 1/2 2.11 0.73 R 1 ½"	2 41510 2 1 18 3.06 10.31 5 / 10 ⁷⁾ 452 8.1 2" 1/2 2.36 0.73 R 1 ¹ /4"
Controls Fans Fan Quantity Total air volume flow Compressor Number of compressors Number of refrigeration circ Minimum part-load mode sp Evaporator (cold-water sie Min. water mass flow Max. water mass flow Max. water mass flow MAX WORKING PRESSURES Minimum chilled water syste content Water charge of heat excha Evaporator connection Desuperheater (hot-water Max. water mass flow Water charge of heat excha Desuperheater connection(s) Refrigeration circuit charg Refrigerant R410A ³)	uits beed de) V _{e,min} V _{e,max} pmax em unger VICT, side) (.D V _{e,max} unger Outer ge	n [m³/h] [%] [//s] [//s] [bar] [l] AULIC ²⁾ //SD units) [l/s] [l] Thread	4 13570 1 1 30 1.03 3.53 5 / 10 ⁷⁾ 154 3.1 1" 1/2 0.86 0.43 R 1 ¼" 7.00	4 18250 Fully 2 1 22 1.22 4.25 5 / 10 ⁷⁾ 185 3.5 1" 1/2 1.00 0.43 R 1 ¼"	compact 5 23650 / hermetic scr 2 1 19 1.47 4.72 5 / 10 ⁷⁾ 221 4.3 1" 1/2 1.14 0.43 R 1 ¼" 8.90	et display / con Axial 5 23650 oll compress 2 1 22 1.69 4.72 5 / 10 ⁷⁾ 252 5.2 2" 1.33 0.61 R 1 ¼" 9.40	trols with TA s Fans 6 27580 or (with 1 invert 2 1 19 1.97 6.69 5 / 10 ⁷⁾ 293 5.5 2" 1.53 0.61 R 1 ¼" 9.50	oftware 2 32690 erter compres 2 1 2.39 8.08 5 / 10 ⁷⁾ 354 6.3 2" 1.83 0.61 R 1 ¼" 12.5	2 41510 sor) 2 1 20 2.83 9.58 5 / 10 ⁷⁾ 420 7.1 2" 1/2 2.11 0.73 R 1 ¼"	2 41510 2 1 18 3.06 10.31 5 / 10 ⁷⁾ 452 8.1 2" 1/2 2.36 0.73 R 1 ¼"
Controls Fans Fan Quantity Total air volume flow Compressor Number of compressors Number of refrigeration circ Minimum part-load mode sp Evaporator (cold-water sid Min. water mass flow Max. water mass flow Max. water mass flow MAX WORKING PRESSURES Minimum chilled water syste content Water charge of heat excha Evaporator connection Desuperheater (hot-water Max. water mass flow Water charge of heat excha Desuperheater connection(s) Refrigeration circuit charg Refrigerant R410A ³⁾ Oil charge	uits beed de) V _{e,min} V _{e,max} pmax em nger VICT, side, (.D V _{e,max} inger Outer ge	n [m³/h] [%] [//s] [//s] [bar] [l] AULIC ²⁾ //SD units) [l/s] [l] Thread	4 13570 1 1 30 1.03 3.53 5 / 10 ⁷⁾ 154 3.1 1" 1/2 0.86 0.43 R 1 ¼" 7.00 3.50	4 18250 Fully 2 1 22 1.22 4.25 5 / 10 ⁷⁾ 185 3.5 1" 1/2 1.00 0.43 R 1 ¼" 7.20 6.10	compact 5 23650 / hermetic scr 2 1 19 1.47 4.72 5 / 10 ⁷⁾ 221 4.3 1" 1/2 1.14 0.43 R 1 ¼" 8.90 6.40	et display / con Axial 5 23650 oll compress 2 1 22 1.69 4.72 5 / 10 ⁷⁾ 252 5.2 2" 1.33 0.61 R 1 ¼" 9.40 6.70	trols with TA s Fans 6 27580 or (with 1 invert 2 1 19 1.97 6.69 5 / 10 ⁷⁾ 293 5.5 2" 1.53 0.61 R 1 ¼" 9.50 7.00	oftware 2 32690 erter compres 2 1 23 2.39 8.08 5 / 10 ⁷⁾ 354 6.3 2" 1.83 0.61 R 1 ¼" 12.5 13.4	2 41510 sor) 2 1 20 2.83 9.58 5 / 10 ⁷⁾ 420 7.1 2" 1/2 2.11 0.73 R 1 ¼" 12.9 13.4	2 41510 2 1 18 3.06 10.31 5 / 10 ⁷⁾ 452 8.1 2" 1/2 2.36 0.73 R 1 ¼" 13.5 13.4
Controls Fans Fan Quantity Total air volume flow Compressor Number of compressors Number of refrigeration circ Minimum part-load mode sp Evaporator (cold-water sid Min. water mass flow Max. water mass flow Max. WORKING PRESSURES Minimum chilled water syste content Water charge of heat excha Evaporator connection Desuperheater (hot-water Max. water mass flow Water charge of heat excha Desuperheater connections) Refrigeration circuit charg Refrigerant R410A ³⁾ Oil charge	uits beed Ve,min Ve,max Pmax em unger VICT, side, (.D Ve,max unger Outer ge	n [m³/h] [%] [\/s] [\/s] [bar] [bar] [bar] [l] AULIC ²⁾ /SD units) [l/s] [l] Thread	4 13570 1 1 30 1.03 3.53 5 / 10 ⁷⁾ 154 3.1 1" 1/2 0.86 0.43 R 1 ¼" 7.00 3.50	4 18250 Fully 2 1 22 1.22 4.25 5 / 10 ⁷⁾ 185 3.5 1" 1/2 1.00 0.43 R 1 ¼" 7.20 6.10	compact 5 23650 7 hermetic scr 2 1 19 1.47 4.72 5 / 10 ⁷⁾ 221 4.3 1" 1/2 1.14 0.43 R 1 ¼" 8.90 6.40	et display / con Axial 5 23650 oll compress 2 1 22 1.69 4.72 5 / 10 ⁷⁾ 252 5.2 2" 1.33 0.61 R 1 ¼" 9.40 6.70	trols with TA s Fans 6 27580 or (with 1 invertion 2 1 19 1.97 6.69 5 / 10 ⁷⁾ 293 5.5 2" 1.53 0.61 R 1 ¼" 9.50 7.00	oftware 2 32690 erter compres 2 1 23 2.39 8.08 5 / 10 ⁷⁾ 354 6.3 2" 1.83 0.61 R 1 ¼" 12.5 13.4	2 41510 sor) 2 1 20 2.83 9.58 5 / 10 ⁷⁾ 420 7.1 2" 1/2 2.11 0.73 R 1 ¼" 12.9 13.4	2 41510 2 1 18 3.06 10.31 5 / 10 ⁷⁾ 452 8.1 2" 1/2 2.36 0.73 R 1 ¼" 13.5 13.4
Controls Fans Fan Quantity Total air volume flow Compressor Number of compressors Number of refrigeration circ Minimum part-load mode sp Evaporator (cold-water si Min. water mass flow Max. water mass flow MaX. WORKING PRESURES Minimum chilled water syste content Water charge of heat excha Evaporator connection Desuperheater (hot-water Max. water mass flow Water charge of heat excha Desuperheater (con-water Max. water mass flow Water charge of heat excha Desuperheater connection(s) Refrigeration circuit charg Refrigerant R410A ³⁾ Oil charge Dimensions and weight A (length)	uits beed Ve,min Ve,max Pmax em unger VICT, side) (.D Ve,max unger Outer ge	n [m³/h] [%] [l/s] [l/s] [bar] [l] AULIC ²⁾ //SD units) [l/s] [l] Thread [kg] [kg] [mm]	4 13570 1 1 30 1.03 3.53 5 / 10 ⁷⁾ 154 3.1 1" 1/2 0.86 0.43 R 1 ¼" 7.00 3.50 2000	4 18250 Fully 2 1 22 1.22 4.25 5 / 10 ⁷⁾ 185 3.5 1" 1/2 1.00 0.43 R 1 ¼" 7.20 6.10 2000	compact 5 23650 / hermetic scr 2 1 19 1.47 4.72 5 / 10 ⁷⁾ 221 4.3 1" 1/2 1.14 0.43 R 1 ¼" 8.90 6.40 2625	et display / con Axial 5 23650 oll compress 2 1 22 1.69 4.72 5 / 10 ⁷⁾ 252 5.2 2" 1.33 0.61 R 1 ¼" 9.40 6.70 2625	trols with TA s Fans 6 27580 or (with 1 invertion 2 1 19 1.97 6.69 5 / 10 ⁷⁾ 293 5.5 2" 1.53 0.61 R 1 ¼" 9.50 7.00 2625	oftware 2 32690 erter compres 2 1 23 2.39 8.08 5 / 10 ⁷⁾ 354 6.3 2" 1.83 0.61 R 1 ¼" 12.5 13.4 3250	2 41510 sor) 2 1 20 2.83 9.58 5 / 10 ⁷⁾ 420 7.1 2" 1/2 2.11 0.73 R 1 ¼" 12.9 13.4 3250	2 41510 2 1 18 3.06 10.31 5 / 10 ⁷⁾ 452 8.1 2" 1/2 2.36 0.73 R 1 ¼" 13.5 13.4 3250
Controls Fans Fan Quantity Total air volume flow Compressor Number of compressors Number of refrigeration circo Minimum part-load mode sp Evaporator (cold-water si Min. water mass flow Max. water mass flow MAX WORKING PRESSURES Minimum chilled water syste content Water charge of heat excha Evaporator connection Desuperheater (hot-water Max. water mass flow Water charge of heat excha Desuperheater (hot-water Max. water mass flow Water charge of heat excha Desuperheater connection(s) Refrigerant R410A ³⁾ Oil charge Dimensions and weight A (length) B (width)	uits beed Ve,min Ve,max Pmax em unger VICT, side) (.D Ve,max inger Outer ge	n [m³/h] [//s] [//s] [//s] [/s] [/] AULIC ²⁾ //SD units) [//s] [/] Thread [kg] [kg] [kg] [mm] [mm]	4 13570 1 1 30 1.03 3.53 5 / 10 ⁷⁾ 154 3.1 1" 1/2 0.86 0.43 R 1 ¼" 7.00 3.50 2000 1350	4 18250 Fully 2 1.22 4.25 5 / 10 ⁷⁾ 185 3.5 1" 1/2 1.00 0.43 R 1 ¼" 7.20 6.10 2000 1350	compact 5 23650 / hermetic scr 2 1 19 1.47 4.72 5 / 10 ⁷⁾ 221 4.3 1" 1/2 1.14 0.43 R 1 ¼" 8.90 6.40 2625 1350	et display / con Axial 5 23650 oll compress 2 1 22 1.69 4.72 5 / 10 ⁷⁾ 252 5.2 2" 1.33 0.61 R 1 ¼" 9.40 6.70 2625 1350	trols with TA s Fans 6 27580 or (with 1 invert 2 1 19 1.97 6.69 5 / 10 ⁷⁾ 293 5.5 2" 1.53 0.61 R 1 ¼" 9.50 7.00 2625 1350	oftware 2 32690 erter compres 2 1 23 2.39 8.08 5 / 10 ⁷⁾ 354 6.3 2" 1.83 0.61 R 1 ¹ ⁄ ₄ " 12.5 13.4 3250 1350	2 41510 sor) 2 1 20 2.83 9.58 5 / 10 ⁷⁾ 420 7.1 2" 1/2 2.11 0.73 R 1 ¹ /4" 12.9 13.4 3250 1350	2 41510 2 1 18 3.06 10.31 5 / 10 ⁷⁾ 452 8.1 2" 1/2 2.36 0.73 R 1 ¹ /4" 13.5 13.4 3250 1350
Controls Fans Fan Quantity Total air volume flow Compressor Number of compressors Number of refrigeration circ Minimum part-load mode sp Evaporator (cold-water si Min. water mass flow Max. water mass flow MAX WORKING PRESSURES Minimum chilled water syste content Water charge of heat excha Evaporator connection Desuperheater (hot-water Max. water mass flow Water charge of heat excha Desuperheater connection(s) Refrigeration circuit charge Refrigerant R410A ³⁾ Oil charge Dimensions and weight A (length) B (width) H (height)	uits beed de) V _{e,max} pmax em unger VICT, side) (.D V _{e,max} unger Outer ge	n [m³/h] [//s] [//s] [//s] [/s] [/j] AULIC ²⁾ //SD units) [//s] [/] Thread [kg] [kg] [kg] [mm] [mm]	4 13570 1 1 30 1.03 3.53 5 / 10 ⁷⁾ 154 3.1 1" 1/2 0.86 0.43 R 1 ¼" 7.00 3.50 2000 1350 2070	4 18250 Fully 2 1.22 4.25 5 / 10 ⁷⁾ 185 3.5 1" 1/2 1.00 0.43 R 1 ¼" 7.20 6.10 2000 1350 2070	Compare 5 23650 / hermetic scr 2 1 19 1.47 4.72 5 / 10 ⁷⁾ 221 4.3 1" 1/2 1.14 0.43 R 1 ¼" 8.90 6.40 2625 1350 2070	et display / con Axial 5 23650 oil compress 2 1 22 1.69 4.72 5 / 10 ⁷⁾ 252 5.2 2" 1.33 0.61 R 1 ¼" 9.40 6.70 2625 1350 2070	trols with TA s Fans 6 27580 or (with 1 invo 2 1 19 1.97 6.69 5 / 10 ⁷⁾ 293 5.5 2" 1.53 0.61 R 1 ¼" 9.50 7.00 2625 1350 2070	oftware 2 32690 erter compres 2 1 23 2.39 8.08 5 / 10 ⁷⁾ 354 6.3 2" 1.83 0.61 R 1 ¼" 12.5 13.4 3250 1350 2170	2 41510 sor) 2 1 20 2.83 9.58 5 / 10 ⁷⁾ 420 7.1 2" 1/2 2.11 0.73 R 1 ¼" 12.9 13.4 3250 1350 2170	2 41510 2 1 18 3.06 10.31 5 / 10 ⁷⁾ 452 8.1 2" 1/2 2.36 0.73 R 1 ¼" 13.5 13.4 3250 1350 2170

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Inverter Chiller FGAC 1015 - 2050 AD 1 / 2



Table 3: General data for super quiet units (optional with desuperheater)

Unit type FGAC #### AD(1/2).(SL/SI		SD)	1015	2018	2020	2026	2030	2035	2040	2050
Performance data (catalo	g) - ⁶⁾									
Refrigeration capacity 1)	Qe	[kW]	42.6	51.2	60.1	68.1	81.2	96.7	115.0	124.0
Power consumption 5)	Р	[kW]	14.4	17.8	20.9	24.5	28.3	33.9	39.3	44.3
FER		[]	2.96	2.88	2.88	2 78	2.87	2 85	2.93	2 81
ESEER			4.48	4.58	4.49	4.55	4.54	4.75	4.78	4.70
Chilled water flow rate	Ve	[l/s]	2 04	2 45	2 87	3 26	3.88	4 62	5 50	5.95
Chilled water pressure		[, -]		21.10	2.01	0.20	0.00			0.00
drop	Δpe	[kPa]	35.1	38.7	38.3	35.2	32.9	33.2	39.6	36.0
ERP conformity										
SEER (ERP 2016/2281) 7)			4.18	4.10	4.11	4.17	4.22	4.46	4.50	4.48
η _s (ERP 2016/2281) ⁷⁾		[%]	164	161	162	164	166	176	177	176
ERP-compliant 2021			V	M	Ø	M	Ø	M	M	Ø
Application			Comfort	Comfort	Comfort	Comfort	Comfort	Comfort	Comfort	Comfort
Performance values acco	rding to	EN14511-3:	2011							
Refrigeration capacity 1)	Qe	[kW]	42.3	50.9	59.8	67.7	80.8	96.3	115.0	124.0
EER			2.89	2.81	2.81	2.73	2.82	2.80	2.88	2.76
ESEER			4.21	4.26	4.20	4.25	4.26	4.48	4.50	4.43
Eurovent Class			С	С	С	С	С	С	С	С
Performance data for unit	ts with de	esuperheat	er (.D/.SD uni	ts) ⁶⁾						
Cooling capacity	Qe	[kW]	44.2	53.1	62.3	70.6	84.3	100.0	119.0	129.0
Power consumption 5)	P	[kW]	13.9	17.2	20.2	23.6	27.3	32.8	38.0	42.8
Heating capacity desuperheater	Qd	[kW]	12.0	15.0	17.6	20.0	23.6	28.3	33.0	37.5
Volume flow desuperheater	Vd	[l/s]	0.58	0.72	0.85	1.00	1.14	1.37	1.59	1.81
Pressure drop desuperheater	Δpd	[kPa]	7.6	12.0	16.5	11.3	14.7	21.1	20.2	26.0
Controls					compa	ct display / con	trols with TA s	oftware		
Fans						Axial	Fans			
Fan Quantity		n	5	5	6	6	2	2	2	2
Total air volume flow		[m³/h]	15410	18110	20630	20630	26532	30280	37690	37690
Compressor				Fully	y hermetic sc	roll compress	or (with 1 invo	erter compres	sor)	
Number of compressors			1	2	2	2	2	2	2	2
Number of refrigeration circ	uits		1	1	1	1	1	1	1	1
Minimum part-load mode sp	peed	[%]	30	23	20	23	20	24	21	19
Evaporator (cold-water si	de)	F ()	4.00						0.70	
Min. water mass flow	V _{e,min}	[l/s]	1.00	1.19	1.42	1.61	1.92	2.28	2.72	2.94
Max. water mass flow	V _{e,max}	[l/s]	3.42	4.11	4.72	4.72	6.50	7.72	9.19	9.89
PRESSURES	p _{max}	[bar]	5 / 10 ⁷⁾	5 / 10 ⁷⁾	5 / 10 ⁷⁾					
Minimum chilled water syster	em	[1]	149	179	210	238	284	338	403	434
Water charge of heat excha	anger	[1]	3.1	3.5	4.3	5.2	5.5	6.3	7.1	8.1
Evaporator connection	VICT	AULIC ²⁾	1 1⁄2"	1 1⁄2"	1 1⁄2"	2"	2"	2"	2 1⁄2"	2 1⁄2"
Desuperheater (hot-water	side) (.D)/.SD units)								
Max. water mass flow	V _{e,max}	[l/s]								
Water charge of heat excha	anger	[1]	0.43	0.43	0.43	0.61	0.61	0.61	0.73	0.73
Desuperheater connection(s)	Outer	Thread	R 1 ¼"	R 1 ¼"	R 1 ¼"					
Refrigeration circuit char	ae									
Refrigerant R410A 3)		[ka]	8.1	8.3	8.7	9.2	11.8	12.3	14.7	15.2
Oil charge		[ka]	3.5	6.1	6.4	6.7	7.0	13.4	13.4	13.4
Dimensions and weight		,		-						
Dimonorational monghit										
A (length)		[mm]	2625	2625	2625	2625	3250	3250	3875	3875
A (length) B (width)		[mm] [mm]	2625 1350	2625 1350	2625 1350	2625 1350	3250 1350	3250 1350	3875 1350	3875 1350
A (length) B (width) H (height)		[mm] [mm] [mm]	2625 1350 2070	2625 1350 2070	2625 1350 2070	2625 1350 2070	3250 1350 2170	3250 1350 2170	3875 1350 2170	3875 1350 2170
A (length) B (width) H (height) Weight ⁴)		[mm] [mm] [mm] [kg]	2625 1350 2070 700	2625 1350 2070 760	2625 1350 2070 790	2625 1350 2070 820	3250 1350 2170 980	3250 1350 2170 1090	3875 1350 2170 1180	3875 1350 2170 1200

Performance data for input parameters: chilled water temperatures (inlet/outlet) 12/7°C; ambient temperature 35°C; values partially rounded off Victaulic coupling supplied separately with transition to external thread (units without pumps) or internal thread (units with pump and possibly tank) For exact refrigerant charge volume, refer to the unit identification plate. The weights refer to units without accessories, without pumps and without storage tanks. based on the entire unit (without pumps) Data apply to input parameters as described under 1) and without glycol; required when using glycol conversion Applies for units without pump(s) and without buffer tank

1) 2) 3) 4) 5) 6) 7)



Noise levels

Tab.4: Noise levels for units without pumps

	Total sou	Octave band [Hz]									
			Sound power level [dB]								
Unit type FGAC	Sound power [dB(A)] ¹⁾	Sound pressure level [dB(A)] 10 m ²⁾	63	125	250	500	1000	2000	4000	8000	
1015 AD1 (.D)	83	51	84	84	80	79	79	76	68	56	
2018 AD1 (.D)	84	52	85	85	81	80	80	77	69	57	
2020 AD1 (.D)	85	53	86	86	82	81	81	78	70	58	
2026 AD1 (.D)	85	53	86	86	82	81	81	78	70	58	
2030 AD1 (.D)	86	54	87	87	83	82	82	79	71	59	
2035 AD2 (.D)	87	55	88	88	84	83	83	80	72	60	
2040 AD2 (.D)	89	57	90	90	86	85	85	82	74	62	
2050 AD2 (.D)	89	57	90	90	86	85	85	82	74	62	
1015 AD1.(SL/SD)	77	45	81	80	76	74	74	67	61	57	
2018 AD1.(SL/SD)	77	45	81	80	76	74	74	67	61	57	
2020 AD1.(SL/SD)	78	46	82	81	77	75	75	68	62	58	
2026 AD1.(SL/SD)	78	46	82	81	77	75	75	68	62	58	
2030 AD2.(SL/SD)	79	47	83	82	78	76	76	69	63	59	
2035 AD2.(SL/SD)	80	48	84	83	79	77	77	70	64	60	
2040 AD2.(SL/SD)	82	50	86	85	81	79	79	72	66	62	
2050 AD2.(SL/SD)	82	50	86	85	81	79	79	72	66	62	

Data on operating conditions

Data applies only to water inlet and outlet temperature of 12 °C/7 C° and ambient air temperatures of 35 °C.

1) Specification of sound power (EUROVENT certified value)

Manufacturer determines the sound power value for Eurovent-certified units in accordance with ISO 9614 standard.

This certification expressly refers to sound power in dB(A), which thus constitutes obligatory data in this case.

2) Specification of sound pressure level The sound pressure level is determined according to enveloping surface method with a reflecting plane (Q = 2) The distance of 10 m refers to the external dimensions of the unit. For sound pressure level the following corrections can be used:

Sound pressure level at 5 m: +5 dB as compared to sound pressure level at 10 meters distance.

Sound pressure level at 15 m: -3 dB as compared to sound pressure level at 10 meters distance.

Sound pressure level at 20 m: -6 dB as compared to sound pressure level at 10 meters distance.

Only an externally engaged acoustics engineer should carry out specific sound level calculations to be valid for your installation site.

Footprint



CLEARANCE FOR AIR SUPPLY!

Unit must be able to freely discharge air upwards. Air short-circuiting must be impossible! The necessary clearances near and over the unit may exceed the depicted maintenance clearance by many times.

Tab.5: Clearances

AI	l unit sizes	R1		R2	R3	R4	
Re	equired clearances	[mm]	1000	1000	1000	1000	

Fig. 6: Required clearances (example)



Anti-vibration isolators

Table 7: Required anti-vibration mounts depending on unit model

Unit type FGAC	FläktGroup s	ales number (complete	as accessory)	FläktGroup individual part designation				
	Units without pump(s)	Units with pump(s)	Units with pump(s) and storage tank	Units without pump(s)	Units with pump(s)	Units with pump(s) and storage tank		
1015 AD1 (.D)	FGZAC1015AD.I02	FGZAC1015AD.I03	FGZAC1015AD.I05	4x FZ200-51	4x FZ200-51	4x FZ200-51		
2018 AD1 (.D)	FGZAC2018AD.I02	FGZAC2018AD.I03	FGZAC2018AD.I05	4x FZ200-51	4x FZ200-57	4x FZ200-57		
2020 / 2026 / 2030 AD1 (.D)	FGZACAD.102	FGZACAD.I03	FGZACAD.I05	6x FZ200-51	6x FZ200-51	6x FZ200-51		
2035 / 2040 / 2050 AD2 (.D)	FGZACAD.I02	FGZACAD.I03	FGZACAD.I05	6x FZ200-57	6x FZ200-57	6x FZ200-57		
1015 / 2018 / 2020 / 2026 AD1.(SL/SD)	FGZACAD.I26	FGZACAD.I27	FGZACAD.I28	6x FZ200-51	6x FZ200-51	6x FZ200-51		
2030 AD2.(SL/SD)	FGZAC2030AD.I26	FGZAC2030AD.I27	FGZAC2030AD.I28	6x FZ200-51	6x FZ200-57	6x FZ200-57		
2035 / 2040 / 2050 AD2.(SL/SD)	FGZACAD.I26	FGZACAD.I27	FGZACAD.I28	6x FZ200-57	6x FZ200-57	6x FZ200-57		

NOTICE!

If the units are operated without the appropriate anti-vibration mounts, the warranty is void!

Electrical data

Table 6: Electrical data

Air Handling Unit Type			Compressor			Fai	ns ³⁾	Total ^{1) 2) 3)}			
FGAC	Power supply	n	F.L.I. [kw]	F.L.A. [A]	L.R.A. [A]	F.L.I. [kw]	F.L.A [A]	F.L.I. [kw]	F.L.A. [A]	S.A.	S.A. With Soft starter
1015 AD1 (.D)	400/3/50+N	1	1x22.3	1x34.3	0	1.2	4	23.5	39	4	N/A
2018 AD1 (.D)	400/3/50+N	2	1x16.9 + 1x9	1x25.9 + 1x15.3	1x37.5 + 1x98	1.2	4	27.1	46	118	79
2020 AD1 (.D)	400/3/50+N	2	1x16.9 + 1x11.9	1x25.9 + 1x20.1	1x37.5 + 1x142	1.5	5	30.2	52	164	107
2026 AD1 (.D)	400/3/50+N	2	1x22.3 + 1x13.7	1x34.3 + 1x23	1x44 + 1x147	1.5	5	37.5	63	174	115
2030 AD1 (.D)	400/3/50+N	2	1x22.3 + 1x17.3	1x34.3 + 1x29.1	1x44 + 1x197	1.8	6	41.4	70	225	146
2035 AD2 (.D)	400/3/50	2	1x32.4 + 1x17.5	1x49.9 + 1x28.7	1x61 + 1x170	2.4	8	53.9	87	198	130
2040 AD2 (.D)	400/3/50	2	1x32.4 + 1x23.3	1x49.9 + 1x37.1	1x61 + 1x215	4.0	8	59.7	96	243	157
2050 AD2 (.D)	400/3/50	2	1x32.4 + 1x28.22	1x49.9 + 1x46.5	1x61 + 1x260	4.0	8	64.6	104	288	184
1015 AD1.(SL/SD)	400/3/50+N	1	1x22.3	1x34.3	0	1.5	5	23.8	40	5,5	N/A
2018 AD1.(SL/SD)	400/3/50+N	2	1x16.9 + 1x9	1x25.9 + 1x15.3	1x37.5 + 1x98	1.5	5	27.4	47	120	79
2020 AD1.(SL/SD)	400/3/50+N	2	1x16.9 + 1x11.9	1x25.9 + 1x20.1	1x37.5 + 1x142	1.8	6	30.5	53	165	107
2026 AD1.(SL/SD)	400/3/50+N	2	1x22.3 + 1x13.7	1x34.3 + 1x23	1x44 + 1x147	1.8	6	37.8	64	175	115
2030 AD2.(SL/SD)	400/3/50	2	1x22.3 + 1x17.3	1x34.3 + 1x29.1	1x44 + 1x197	4	8	43.6	71	226	146
2035 AD2.(SL/SD)	400/3/50	2	1x32.4 + 1x17.5	1x49.9 + 1x28.7	1x61 + 1x170	4	8	53.9	87	198	130
2040 AD2.(SL/SD)	400/3/50	2	1x32.4 + 1x23.3	1x49.9 + 1x37.1	1x61 + 1x215	3.68	8	59.3	95	242	157
2050 AD2.(SL/SD)	400/3/50	2	1x32.4 + 1x28.22	1x49.9 + 1x46.5	1x61 + 1x260	3.68	8	64.3	104	287	184

All values refer to units without built-in pumps. For units with built-in pumps, the pump data must be added.

n Number of compressors

F.L.I. EI. FULL LOAD INPUT

F.L.A. Operating current

L.R.A. Starting current of each compressor

S.A. Starting current of entire unit

Please observe the regionally applicable safety regulations and constructional conditions relevant to the dimensioning of the supply line.
 Please observe the regionally applicable standards for cable cross-sections and backup fuses. Voltage tolerance: max. 10%, voltage imbalance

between phases: max. 3%

3) Values are based on the total number of fans operating at maximum speed.



Terminal scheme



Fig. 7: Terminal scheme

Order related documentation

NOTICE!

For detailed planning please only use the order-related documentation. Detailed dimensional drawings can be obtained on request from your responsible FläktGroup sales office. Specifications and technical data are subject to regular updates. The manufacturer reserves the right to make necessary changes to information without prior written notice.