eco°

eco°gbl industries

COOLING & HEATING EQUIPMENT

GHP

gas-absorption CHILLER & HEAT PUMP

FOR PROFESSIONAL

2022 CATALOGUE

TOWARDS A GREENER WORLD

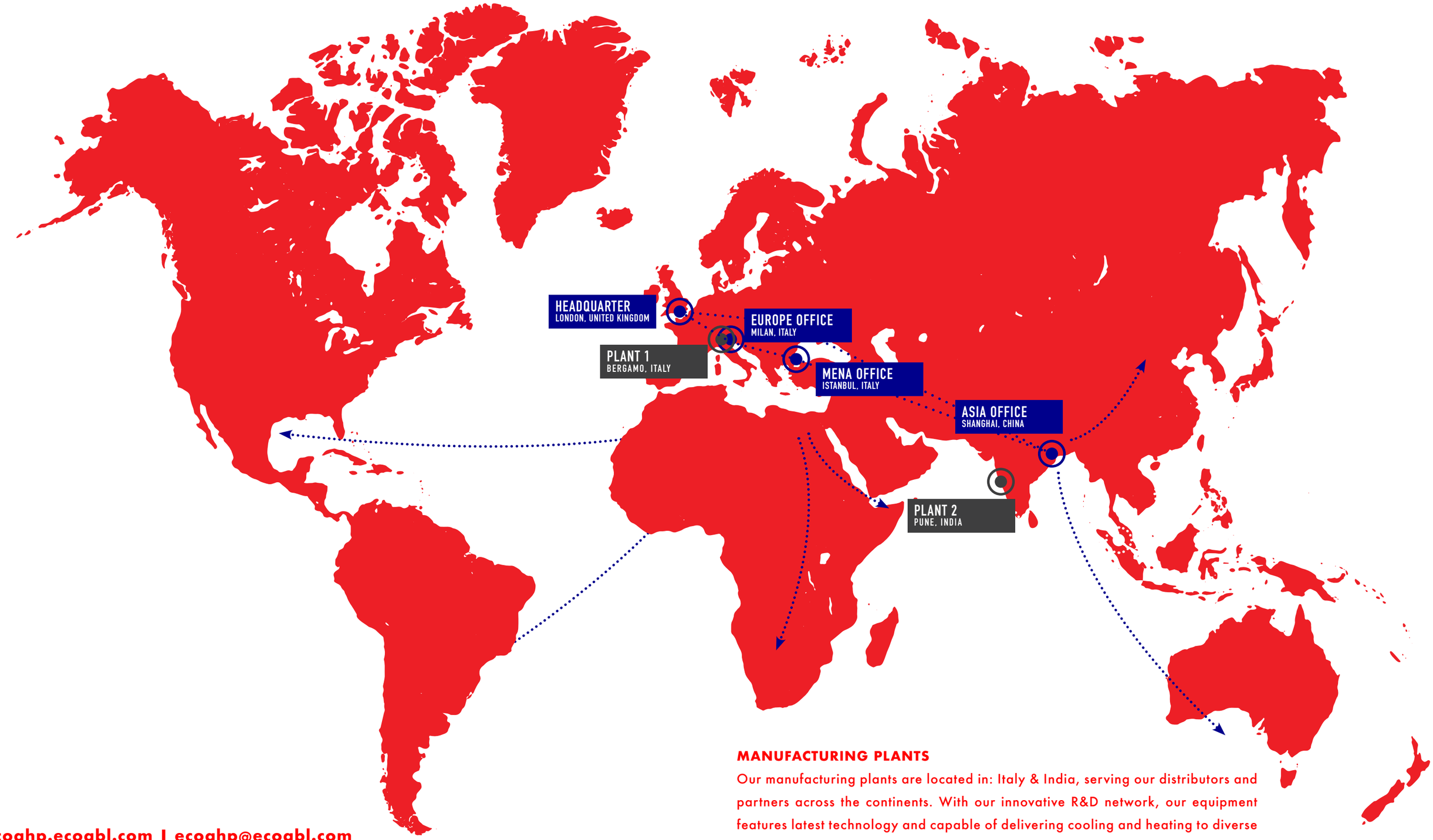
gas-powered absorption chiller and heat pump solutions

eco°

a brand of eco° global industries
www.ecogbl.com

CORPORATE PROFILE

With the global rising pollution and energy-wastage, eco°gbl industries focus heavily into alternative fuel sources for central HVAC equipment. Introducing ground-breaking Gas Cooling Technology (Gas Engine and Gas Absorption), our equipment is suitable for a wide range of residential, commercial and industrial applications



MANUFACTURING PLANTS

Our manufacturing plants are located in: Italy & India, serving our distributors and partners across the continents. With our innovative R&D network, our equipment features latest technology and capable of delivering cooling and heating to diverse climate conditions around the world

air cooloed gas-absorption CHILLER & HEAT PUMP

With the global rising pollution and energy-wastage, eco°gbl industries focus heavily into alternative fuel sources for central HVAC equipment. Introducing ground-breaking Gas Cooling Technology (Gas Engine and Gas Absorption), our equipment is suitable for a wide range of residential, commercial and industrial applications. Explore to learn more

NO REFRIGERANT

Gas Absorption Chiller & Heatpump equipment ultilises the usage of armonia (NH3) (for air-cooled equipment) and lithium bromine (LiBr) (for water-cooled equipment) to providing central cooling solutions. Significantly reducing the operational cost, gas absorption cooling solutions are adapted worldwide in many applications

DIRECT USE OF PRIMARY ENERGY

Our eco° absorption ammonia chillers & heat pumps are powered directly by LPG or Natural Gas to provide the required cooling and heating. Requirement for power generation and distribution is not needed

LITTLE ELECTRICAL CONSUMPTION

Our eco° ammonia gas chillers and heat pumps provide up to 86% of electrical consumption reduction in comparison to traditional air cooled chillers system. Our equipment offers reliability and stability in air conditioning performance

COST EFFECTIVE SOLUTION

For every 1kWh (3.4kBTU) of cooling capacity delivers to the end user, our eco° ammonia gas absorption equipment requires only 0.15m³ of natural gas or 0.11kg of LPG with a negligible electrical consumption of only 0.046kWh

gas-absorption AMMONIA TECHNOLOGY

Air-Cooled Gas Absorption Chiller & Heatpump equipment ultilises the usage of armonia (NH_3) to providing central cooling solutions. Capable of delivering solutions for standard cooling and refrigeration cooling applications, air-cooled gas absorption system does not require cooling tower to operate, making it ideal for a wide range of buildings usage

HIGH RELIABILITY & HIGH PERFORMANCE

Over 400,000 water-ammonia absorption chillers have been installed worlwide, providing absolute reliability. With no moving parts inside the equipment, our absorption cycle is substantially static, offering stable performance at all times

MODULAR APPROACH

Our eco° chillers and heat pumps are engineered for modular configuration with capability to reach from 17kW to 1000kW. Controllers are provided to manage multiple units and deliver maximum operational efficiency

PROVEN TECHNOLOGY

Our eco° absorption technology has been improved and perfected over the course of 50 years of development. Starting from original patents (including from Albert Einstein), we continuously improve our technology

NO WATER CONSUMPTION

By utilising water-ammonia absorption technology, our eco° chillers allow for direct exchange with outdoor air, no need for cooling towers and extra water consumption, making it ideal for a wide range of conditions around the world

gas-absorption chiller

EGA ACF

Ideal for Low Electrical Cooling Buildings

Saving up to 86% of electrical consumption in comparison to traditional electrical cooling system, thanks to the gas absorption technology

COOLING OPERATION MODE (1)			
Working Point A35/W7	G.U.E (Gas Utilisation Effiency)	%	71
	Cooling Capacity	kW - kBTU/h	17.7 / 60.5
Nominal Water Flow Rate (ΔT = 5.5°C)		m^3/h	2.77
Nominal Water Pressure Loss		kPa	29
Mininum Outlet Water Temperature		°C	3
Inlet Water Temperature	Max	°C	45
	Min	°C	7.5
Ambient Operating Temperature	Max	°C	45
	Min	°C	0
BURNER CHARACTERISTICS			
Thermal Input (Actual)		kW	25.0
Gas Consumption	Natural Gas G20 (2)	m^3/h	2.65
	LPG G30/G31 (3)	kg/h	1.94
ELECTRICAL CHRACTERISTICS			
Voltage		230 V - 50 Hz	
Nominal Electrical Power (4) (5) Standard Version / Low Noise Version		kW	0.82 / 0.87
INSTALLATION DETAILS			
Operating Weight		kg	360
Sound Pressure Lp at 5 Metres (6) Free field, at the front, direction factor 2	Standard Version	dB(A)	60.1
	Low Noise Version	dB(A)	54.1
Connections	Water	-	$1^{3/4}$F
	Gas	-	$^{3/4}$F
Electrical Degree of Protection		IP	X5D
Standard Version Size	Width	mm	850
	Depth	mm	1230
	Height	mm	1445
	Low Noise Version Height	mm	1545

(1) as per calculation methods of EN12309-2
(2) NCV34.02 MJ/m^3 (9.45 kWh/m^3) at 15°C - 1013mbar
(3) NCV46.34 MJ/m^3 (12.87 kWh/m^3) at 15°C - 1013mbar
(4) data measured at +30°C outdoor temperature
(5) ±10% depending on the power supply voltage and on the tolerance of the electrical motors power consumption
(6) low sound power standard version dB(A) 82.1 and low noise version dB(A) 76.1 - sound power values measured according to EN ISO 9614

heat recovery gas-absorption heat pump

EGA ACF - HR

Cooling & Instant Hot Water Production

Hot water production on recovery mode until 75°C - ideal for hotels, sports centres, gyms and wellness centress

COOLING OPERATION MODE (1)			
Working Point A35/W7	G.U.E (Gas Utilisation Effiency)	%	72
	Cooling Capacity	kW - kBTU/h	17.9 / 61/2
Nominal Water Flow Rate (ΔT = 5.5°C)		m^3/h	2.77
Nominal Water Pressure Loss		kPa	29
Mininum Outlet Water Temperature		°C	3
Inlet Water Temperature	Max	°C	45
	Min	°C	7.5
Ambient Operating Temperature	Max	°C	45
	Min	°C	0
HEAT RECOVERY SYSTEM CHRACTERISTICS			
Heating Capacity with Heat Recovery for Free In Cooling Operation		kW	Up to 32
		kBTU/h	Up to 109.2
Nominal Water Flow Rate		l/h	1000
Hot Water Inlet Temperature	Max	°C	75
	Min	°C	10
BURNER CHARACTERISTICS			
Thermal Input (Actual)		kW	25.0
Gas Consumption	Natural Gas G20 (2)	m^3/h	2.65
	LPG G30/G31 (3)	kg/h	1.94
ELECTRICAL CHRACTERISTICS			
Voltage		230 V - 50 Hz	
Nominal Electrical Power (4) (5) Standard Version / Low Noise Version		kW	0.84 / 0.87
INSTALLATION DETAILS			
Operating Weight		kg	390
Sound Pressure Lp at 5 Metres (6) Free field, at the front, direction factor 2	Standard Version	dB(A)	57.6
	Low Noise Version	dB(A)	53.0
Connections	Water	-	$1^{3/4}$F
	Gas	-	$^{3/4}$F
Electrical Degree of Protection		IP	X5D
Standard Version Size	Width	mm	850
	Depth	mm	1230
	Height	mm	1445
	Low Noise Version Height	mm	1545

(1) as per calculation methods of EN12309
(2) NCV34.02 MJ/m^3 (9.45 kWh/m^3) at 15°C - 1013mbar
(3) NCV46.34 MJ/m^3 (12.87 kWh/m^3) at 15°C - 1013mbar
(4) data measured at +30°C outdoor temperature
(5) ±10% depending on the power supply voltage and on the tolerance of the electrical motors power consumption
(6) low sound power standard version dB(A) 79.6 and low noise version dB(A) 75.0 - sound power values measured according to EN ISO 9614

tropical gas-absorption chiller

EGA ACF - HT

Cooling in Hot Climates

Ideal for cooling of residential, commercial and industrial applications with external air temperature more than 50°C

COOLING OPERATION MODE [1]			
Working Point A35/W7	G.U.E (Gas Utilisation Effiency)	%	68
	Cooling Capacity	kW - kBTU/h	17.1 / 60.5
Nominal Water Flow Rate (ΔT = 5.5°C)		m^3/h	2.67
Nominal Water Pressure Loss		kPa	27
Mininum Outlet Water Temperature		°C	5
Inlet Water Temperature	Max	°C	45
	Min	°C	7.5
Ambient Operating Temperature	Max	°C	50
	Min	°C	0
BURNER CHARACTERISTICS			
Thermal Input (Actual)		kW	25.0
Gas Consumption	Natural Gas G20 [2]	m^3/h	2.65
	LPG G30/G31 [3]	kg/h	1.94
ELECTRICAL CHRACTERISTICS			
Voltage		230 V - 50 Hz	
Nominal Electrical Power [4] [5] Standard Version / Low Noise Version		kW	0.84 / 0.87
INSTALLATION DETAILS			
Operating Weight		kg	380
Sound Pressure Lp at 5 Metres [6] Free field, at the front, direction factor 2	Standard Version	dB(A)	60.1
	Low Noise Version	dB(A)	/
Connections	Water	-	$1^{3/4}$F
	Gas	-	$^{3/4}$F
Electrical Degree of Protection		IP	X5D
Standard Version Size	Width	mm	850
	Depth	mm	1230
	Height	mm	1445
	Low Noise Version Height	mm	1545

(1) as per calculation methods of EN12309-2
(2) NCV34.02 MJ/m^3 (9.45 kWh/m^3) at 15°C - 1013mbar
(3) NCV46.34 MJ/m^3 (12.87 kWh/m^3) at 15°C - 1013mbar
(4) a reduction in the fan revolutions (air flow) is envisaged for ambient operating temperatures of less than 33°C, This leads to a further reduction in electricity consumption levels
(5) ±10% depending on the power supply voltage and on the tolerance of the electrical motors power consumption
(6) low sound power standard version dB(A) 82.1 - sound power values measured according to EN ISO 9614

Model	Units	Cooling Capacity (kW)	Size WxDxH (mm)	Weight (kg)
EACF-HT	2 EACF-HT	34.24	2314 x 1245 x 1400	856
	3 EACF-HT	51.36	3610 x 1245 x 1400	1283
	4 EACF-HT	68.48	4936 x 1245 x 1400	1710
	5 EACF-HT	85.60	6490 x 1245 x 1400	2147

refrigeration gas-absorption chiller

EGA ACF - LB

Refrigeration at Negative Temperatures

Ideal for refrigeration of cold rooms, food preservation, hygienic storages of pharmaceutical products

COOLING OPERATION MODE [1]			
Working Point A35/W7	G.U.E (Gas Utilisation Effiency)	%	53
	Cooling Capacity	kW - kBTU/h	13.3 / 45.4
Nominal Water Flow Rate (ΔT = 5.5°C)		m^3/h	2.60
Nominal Water Pressure Loss		kPa	42
Mininum Outlet Water Temperature		°C	-10
Inlet Water Temperature	Max	°C	45
	Min	°C	-7
Ambient Operating Temperature	Max	°C	45
	Min	°C	0
BURNER CHARACTERISTICS			
Thermal Input (Actual)		kW	25.0
Gas Consumption	Natural Gas G20 [2]	m^3/h	2.65
	LPG G30/G31 [3]	kg/h	1.94
ELECTRICAL CHRACTERISTICS			
Voltage		230 V - 50 Hz	
Nominal Electrical Power [4] [5] Standard Version / Low Noise Version		kW	0.84 / 0.87
INSTALLATION DETAILS			
Operating Weight		kg	380
Sound Pressure Lp at 5 Metres [6] Free field, at the front, direction factor 2	Standard Version	dB(A)	60.1
	Low Noise Version	dB(A)	/
Connections	Water	-	$1^{3/4}$F
	Gas	-	$^{3/4}$F
Electrical Degree of Protection		IP	X5D
Standard Version Size	Width	mm	850
	Depth	mm	1230
	Height	mm	1445
	Low Noise Version Height	mm	1545

(1) as per calculation methods of EN12309-2
(2) NCV34.02 MJ/m^3 (9.45 kWh/m^3) at 15°C - 1013mbar
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(4) a reduction in the fan revolutions (air flow) is envisaged for ambient operating temperatures of less than 33°C, This leads to a further reduction in electricity consumption levels
(5) ±10% depending on the power supply voltage and on the tolerance of the electrical motors power consumption
(6) low sound power standard version dB(A) 82.1 - sound power values measured according to EN ISO 9614

Model	Units	Cooling Capacity (kW)	Size WxDxH (mm)	Weight (kg)
EACF-LB	2 EACF-LB	26.60	2314 x 1245 x 1400	856
	3 EACF-LB	39.90	3610 x 1245 x 1400	1283
	4 EACF-LB	53.20	4936 x 1245 x 1400	1710
	5 EACF-LB	66.50	6490 x 1245 x 1400	2147

process gas-absorption chiller

EGA ACF - TK

Cooling in Process Applications

Ideal for process manufacturing, server rooms and growing facilities such as greenhouses, maturing of cheeses, computer rooms and labs

COOLING OPERATION MODE (1)			
Working Point A35/W7	G.U.E (Gas Utilisation Effiency)	%	71
	Cooling Capacity	kW - kBTU/h	17.7 / 60.5
Nominal Water Flow Rate (ΔT = 5.5°C)		m^3/h	2.77
Nominal Water Pressure Loss		kPa	29
Mininum Outlet Water Temperature		°C	3
Inlet Water Temperature	Max	°C	45
	Min	°C	7.5
Ambient Operating Temperature	Max	°C	45
	Min	°C	-12
BURNER CHARACTERISTICS			
Thermal Input (Actual)		kW	25.0
Gas Consumption	Natural Gas G20 (2)	m^3/h	2.65
	LPG G30/G31 (3)	kg/h	1.94
ELECTRICAL CHRACTERISTICS			
Voltage		230 V - 50 Hz	
Nominal Electrical Power (4) (5) Standard Version / Low Noise Version		kW	0.84 / 0.87
INSTALLATION DETAILS			
Operating Weight		kg	380
Sound Pressure Lp at 5 Metres (6) Free field, at the front, direction factor 2	Standard Version	dB(A)	60.1
	Low Noise Version	dB(A)	/
Connections	Water	-	$1^{3/4}$F
	Gas	-	$^{3/4}$F
Electrical Degree of Protection		IP	X5D
Standard Version Size	Width	mm	850
	Depth	mm	1230
	Height	mm	1445
	Low Noise Version Height	mm	1545

(1) as per calculation methods of EN12309-2

(2) NCV34.02 MJ/m^3 (9.45 kWh/m^3) at 15°C - 1013mbar

(3) NCV46.34 MJ/m^3 (12.87 kWh/m^3) at 15°C - 1013mbar

(4) a reduction in the fan revolutions (air flow) is envisaged for ambient operating temperatures of less than 33°C, This leads to a further reduction in electricity consumption levels

(5) ±10% depending on the power supply voltage and on the tolerance of the electrical motors power consumption

(6) low sound power standard version dB(A) 82.1 - sound power values measured according to EN ISO 9614

Model	Units	Cooling Capacity (kW)	Size WxDxH (mm)	Weight (kg)
EACF-TK	2 EACF-TK	35.44	2314 x 1245 x 1400	856
	3 EACF-TK	53.16	3610 x 1245 x 1400	1283
	4 EACF-TK	70.88	4936 x 1245 x 1400	1710
	5 EACF-TK	88.60	6490 x 1245 x 1400	2147

Smart Controlling Solution

DIGITAL CONTROLLER

Control up to 48 Modules

A single device to adjust, control and manage all gas absorption units.

Benefits included:

+ control up to 48 units
+ monitoring all units parameters
+ set point control with sliding temperature, thanks to the weather curve function with optional outdoor probe
+ ModBUS communication protocal support for interface with Buidling Management Systems such as BMS, SCADA...etc

gas absorption

KEY BENEFITS

Direct Use of Natural Gas

Ease of Installation and Operation

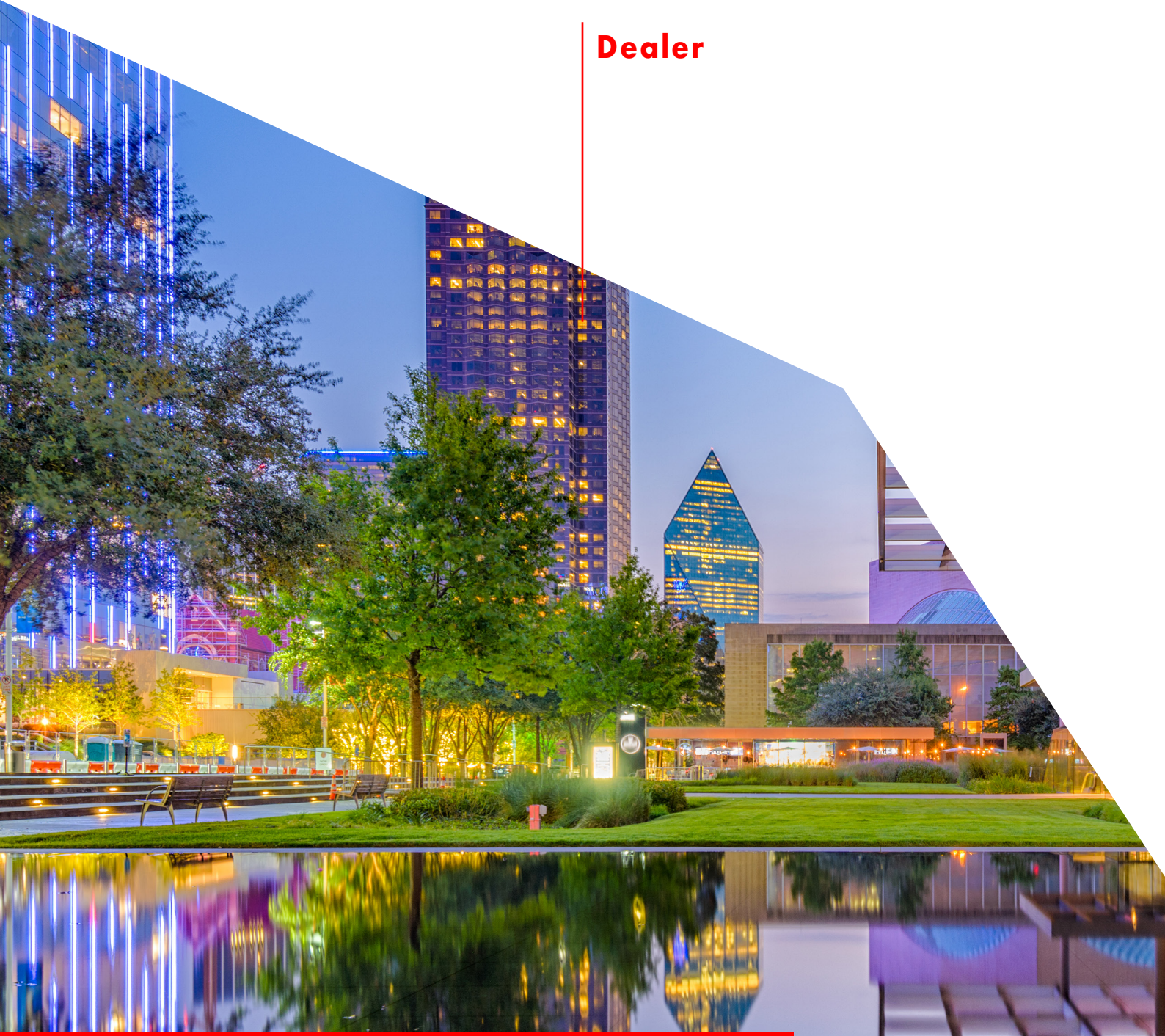
Low Electrical Consumption at only 10% consumption of an equivalent electrical chiller

Sealed circuit, no drain and extremely simply maintenance

Natural Refrigerant: no CFC, HCFC, HFC

Few Moving Parts: very high reliability & long life expectancy

Dealer



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