



Refra[®]

GALAXY CHILLERS

Technical Parameters
Additional Options

V.2

ESTABLISHED IN 1994
27 M TURNOVER
30 YEARS OF EXPERIENCE
PARTNERS IN
28+ COUNTRIES

2 FACTORIES
200+ EMPLOYEES
22 000 SQUARE METERS
OF PRODUCTION AREA

UNIQUE PRODUCTS

Refra is recognized as one of the most flexible manufacturers in the market. The non-standard, fully adaptive manufacturing sector is able to produce exceptional products that are fully tailored to the customer's needs.

About us

Founded in 1994, Refra is a well-known manufacturer of refrigeration and air conditioning equipment in Europe today. Distinguished by a highly complex and unique offer of refrigeration products, the company can design and manufacture non-standard products, fully customized and completed according to customer requirements.

Over the course of 30 years in operation, Refra has firmly established itself as a prominent leader in the European refrigeration market, overseeing the successful execution of numerous intricate projects.

Unique Cooling Solutions

At Refra, we go beyond the ordinary. Our highly skilled team of refrigeration engineers, sales managers and manufacturing craftsmen specialize in designing and manufacturing non-standard air conditioning and refrigeration equipment, fully customized to meet the unique needs and challenges of each client. Whether you require a customized cooling system or innovative environmentally friendly refrigeration equipment, we're dedicated to delivering solutions that stand out from the rest.

We Can Make It Simple

It is our promise to simplify the complex industry of refrigeration for our clients. We understand that navigating the nuances of cooling technology can be overwhelming. That's why we're here to simplify the process. Our expertise and dedication mean that you can rely on us to provide straightforward, efficient, and user-friendly cooling solutions. We are your partners in making the complex simple.



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Galaxy Chillers

GALAXY MINI



Natural refrigerants available! #R290

Choose propane or propylene and contribute to the environment!

DESCRIPTION

Galaxy Mini air-cooled chiller has the cooling capacity of 25 kW to 45 kW and is designed for commercial refrigeration and air conditioning applications with small power demand. Such systems are widely used in various factory cooling processes, supermarkets, gas stations and many other applications. **Galaxy Mini chiller is made with one circuit to service the end user.**

Galaxy Mini can be integrated with a built-in hydraulic module or a heat recovery system and other useful additional options. Refra manufactures modern devices using plug-and-play ideology, making the installation and use of the devices as easy as possible. In this case, the customer can start using the device quickly and easily after installment.

Comprehensive modular frame construction is assembled with high-quality EC fan motor technology, microchannel heat exchangers, reciprocating compressors. The galvanized steel and powder coated frame with a reliable insulation material ensures proper unit protection as well as noise reduction. An additional 50 mm rock wool material can be supplemented for a super silent unit operation with double insulation.

PARTS INCLUDED:

- Bitzer Reciprocating compressors with oil charge and oil level monitoring/differential pressure switch;
- Polymer powder painted RAL7035 frame;
- HP/LP pressure switch per circuit;
- HP/LP pressure gauges per circuit;
- Necessary pressure and temperature probes;
- Air cooled microchannel condenser;
- Single safety valve per circuit;
- Filter drier on liquid line per circuit;
- Sight glass on liquid line per circuit;
- Electronic expansion valve per circuit;
- Control board with Siemens Climatix controller;
- Vibration absorbers;
- BPHE evaporator;
- R290 leak detector;
- Emergency EX fan;
- EC Fans.

Technical Parameters | Galaxy Mini

CALCULATIONS ARE MADE FOR BASIC UNITS WITHOUT ADDITIONAL OPTIONS

Model		GAL101	GAL102	GAL103
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Standard version

Refrigeration capacity ¹	kW	26,40	32,30	36,40
Power consumption	kW	7,80	9,40	10,70
EER		3,4	3,4	3,4
SEPR		6,31	6,28	6,25
SEER		4,60	4,88	5,01

System data

Refrigerant	Type	R290		
Number of compressors	n	1	1	1
Refrigerant quantity ²	kg	2,8	2,8	2,8
Inlet/Outlet connections	DN	40	40	40
Sound pressure level in 10m ³	dB	46	46	47

Fan

Type		EC		
Number of fans	n	3	3	3
Air flow	m³/h	17949	17949	17949

Plate heat exchanger

Number of plate heat exchangers	n	1	1	1
Flow rate cooling ¹	m³/h	5,0	6,2	7,0
Pressure drop cooling	kPa	16,3	21,4	25,4

Power supply

Voltage		400V 3Ph/N/PE		
Max. power consumption	A	26,8	31,7	34,8

Dimensions and weight

Length	mm	2620	2620	2620
Width	mm	946	946	946
Height	mm	1551	1551	1551
Operating weight	kg	690	720	730

¹ Outside air temperature 35°C, medium temperature 12/7°C, medium EG 35%.

² Theoretical values refer to the basic unit. The actual amount of gas charge in the unit may differ.

³ Sound pressure level at a distance of 10m in the free field and at the extended point, tolerance +/-2dB(A).

Galaxy Chillers

GALAXY SOLO



* The photos in this brochure are for illustrative purposes only. The appearance of the final product may vary depending on your selections, additional options and other order details.

R290 Chillers

Natural refrigerants available!
#R290

Choose propane or propylene and
contribute to the environment!

GALAXY SOLO

DESCRIPTION

Galaxy Solo air-cooled chiller has the cooling capacity of 45 kW to 120 kW and is designed for industrial or commercial buildings with smaller power demand. Such systems are widely used in various factories, supermarkets and office buildings. **Galaxy Solo chiller is made with one circuit to service the end user.**

Special modular assembly system provides the ability to integrate Galaxy Solo with useful additional options, such as a built-in hydraulic module or heat recovery system. With extensive power selection options and many possible extra features, Galaxy chillers stand out as one of the most versatile products that Refra can offer.

Refra manufactures modern devices using plug-and-play ideology, making the installation and use of the devices as easy as possible. In this case, the customer can start using the device quickly and easily after installment.

Comprehensive modular frame construction is assembled with high-quality EC fan motor technology, microchannel heat exchangers, reciprocating compressors. The galvanized steel and powder coated frame with a reliable insulation material ensures proper unit protection as well as noise reduction. An additional 50 mm rock wool material can be supplemented for a super silent unit operation with double insulation.

PARTS INCLUDED:

- Bitzer Reciprocating compressors with oil charge and oil level monitoring/differential pressure switch;
- Polymer powder painted RAL7035 frame;
- HP/LP pressure switch per circuit;
- HP/LP pressure gauges per circuit;
- Necessary pressure and temperature probes;
- Air cooled microchannel condenser;
- Single safety valve per circuit;
- Filter drier on liquid line per circuit;
- Sight glass on liquid line per circuit;
- Electronic expansion valve per circuit;
- Control board with Siemens Climatix controller;
- Vibration absorbers;
- BPHE evaporator;
- R290 leak detector;
- Emergency EX fan;
- EC Fans.



Technical Parameters | Galaxy Solo

CALCULATIONS ARE MADE FOR BASIC UNITS WITHOUT ADDITIONAL OPTIONS

Model		GAL106	GAL108	GAL109
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Standard version

Refrigeration capacity ¹	kW	45,70	59,00	66,70
Power consumption	kW	13,54	17,44	19,74
EER		3,4	3,4	3,4
SEPR		6,54	6,32	6,22
SEER		5,27	5,24	5,25

System data

Refrigerant	Type	R290		
Number of compressors	n	1	1	1
Refrigerant quantity ²	kg	4,4	4,4	4,4
Inlet/Outlet connections	DN	50	50	65
Sound pressure level in 10m ³	dB	51	51	53

Fan

Type		EC		
Number of fans	n	2	2	2
Air flow	m ³ /h	41598	41598	41598

Plate heat exchanger

Number of plate heat exchangers	n	1	1	1
Flow rate cooling ¹	m ³ /h	8,8	11,3	12,8
Pressure drop cooling	kPa	8,7	13,3	16,4

Power supply

Voltage		400V 3Ph/N/PE		
Max. power consumption	A	19,4	26,5	31,5

Dimensions and weight

Length	mm	2607	2607	2607
Width	mm	1275	1275	1275
Height	mm	2355	2355	2355
Operating weight	kg	980	1030	1030

Dimensions and weight with additional buffer tank

Length	mm	2877	2877	2877
Width	mm	2325	2325	2325
Height	mm	2355	2355	2355
Operating weight	kg	+420 kg (500 L) or +460 kg (800 L)		

¹ Outside air temperature 35°C, medium temperature 12/7°C, medium EG 35%.

² Theoretical values refer to the basic unit. The actual amount of gas charge in the unit may differ.

³ Sound pressure level at a distance of 10m in the free field and at the extended point, tolerance +/-2dB(A).

Technical Parameters | Galaxy Solo

CALCULATIONS ARE MADE FOR BASIC UNITS WITHOUT ADDITIONAL OPTIONS

Model		GAL110	GAL112	GAL113	GAL114
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Standard version

Refrigeration capacity ¹	kW	79,10	89,50	103,10	120,30
Power consumption	kW	23,74	26,98	30,58	36,18
EER		3,3	3,3	3,4	3,3
SEPR		6,21	6,47	6,51	6,48
SEER		5,25	5,46	5,50	5,51

System data

Refrigerant	Type	R290			
Number of compressors	n	1	1	1	1
Refrigerant quantity ²	kg	5,9	6,5	7,7	7,7
Inlet/Outlet connections	DN	65	65	65	80
Sound pressure level in 10m ³	dB	53	54	56	56

Fan

Type		EC			
Number of fans	n	2	4	4	4
Air flow	m ³ /h	41598	83196	83196	83196

Plate heat exchanger

Number of plate heat exchangers	n	1	1	1	1
Flow rate cooling ¹	m ³ /h	15,1	17,2	19,8	23,0
Pressure drop cooling	kPa	12,3	15,3	13,7	17,9

Power supply

Voltage		400V 3Ph/N/PE			
Max. power consumption	A	37,2	39,4	48,4	67,2

Dimensions and weight

Length	mm	2607	2877	2877	2877
Width	mm	1275	2321	2321	2321
Height	mm	2355	2355	2355	2355
Operating weight	kg	1050	1260	1260	1290

Dimensions and weight with additional buffer tank

Length	mm	2877	4082	4082	4082
Width	mm	2325	2325	2325	2325
Height	mm	2355	2355	2355	2355
Operating weight	kg	+420 kg (500 L) or +460 kg (800 L)			

¹ Outside air temperature 35°C, medium temperature 12/7°C, medium EG 35%.

² Theoretical values refer to the basic unit. The actual amount of gas charge in the unit may differ.

³ Sound pressure level at a distance of 10m in the free field and at the extended point, tolerance +/-2dB(A).

Galaxy Chillers

GALAXY TWIN



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R290 Chillers

Natural refrigerants available!
#R290

Choose propane or propylene and
contribute to the environment!

GALAXY TWIN

DESCRIPTION

Galaxy Twin air-cooled chiller has the cooling capacity of 77 kW to 232 kW and is designed for industrial or commercial buildings with small to medium power demand. Such systems are widely used in various factories, supermarkets and warehouses. **Galaxy Twin chiller is made with two circuits to ensure continuous system operation in case of emergency – if one circuit is damaged, the other can still use the remaining unit capacity to service the end user.**

Special modular assembly system provides the ability to integrate Galaxy Twin with useful additional options, such as a built-in hydraulic module and heat recovery system. With extensive power selection options and many possible extra features, Galaxy chillers stand out as one of the most versatile products that Refra can offer.

Refra manufactures modern devices using plug-and-play ideology, making the installation and use of the devices as easy as possible. In this case, the customer can start using the device quickly and easily after installment.

Comprehensive modular frame construction is assembled with high-quality EC fan motor technology, microchannel heat exchangers, reciprocating compressors. The galvanized steel and powder coated frame with a reliable insulation material ensures proper unit protection as well as noise reduction. An additional 50 mm rock wool material can be supplemented for a super silent unit operation with double insulation.

PARTS INCLUDED:

- Bitzer Reciprocating compressors with oil charge and oil level monitoring/differential pressure switch;
- Polymer powder painted RAL7035 frame;
- HP/LP pressure switch per circuit;
- HP/LP pressure gauges per circuit;
- Necessary pressure and temperature probes;
- Air cooled microchannel condenser;
- Single safety valve per circuit;
- Filter drier on liquid line per circuit;
- Sight glass on liquid line per circuit;
- Electronic expansion valve per circuit;
- Control board with Siemens Climatix controller;
- Vibration absorbers;
- BPHE evaporator;
- R290 leak detector;
- Emergency EX fan;
- EC Fans.



Technical Parameters | Galaxy Twin

CALCULATIONS ARE MADE FOR BASIC UNITS WITHOUT ADDITIONAL OPTIONS

Model		GAL210	GAL212	GAL215	GAL217
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Standard version

	kW				
Refrigeration capacity ¹		77,00	89,90	114,80	133,20
Power consumption		23,68	26,88	34,68	39,48
EER		3,3	3,3	3,3	3,4
SEPR		6,46	6,44	6,14	6,24
SEER		4,89	4,92	4,88	4,95

System data

Refrigerant	Type	R290			
Number of compressors	n	2	2	2	2
Refrigerant quantity ²	kg	6,9	7,4	7,4	9,2
Inlet/Outlet connections	DN	65	65	80	80
Sound pressure level in 10m ³	dB	53	54	54	56

Fan

Type	EC				
Number of fans	n	4	4	4	4
Air flow	m ³ /h	83196	83196	83196	83196

Plate heat exchanger

	n				
Number of plate heat exchangers		1	1	1	1
Flow rate cooling ¹	m ³ /h	14,8	17,3	22,0	25,5
Pressure drop cooling	kPa	16,9	15,4	23,4	19,4

Power supply

Voltage	400V 3Ph/N/PE				
Max. power consumption	A	84,6	66,4	52,6	63,0

Dimensions and weight

	mm				
Length		2877	2877	2877	2877
Width		2321	2321	2321	2321
Height		2355	2355	2355	2355
Operating weight	kg	1860	1860	1860	1930

Dimensions and weight with additional buffer tank

	mm				
Length		4082	4082	4082	4082
Width		2325	2325	2325	2325
Height		2355	2355	2355	2355
Operating weight	kg	+420 kg (500 L) or +460 kg (800 L)			

¹ Outside air temperature 35°C, medium temperature 12/7°C, medium EG 35%.

² Theoretical values refer to the basic unit. The actual amount of gas charge in the unit may differ.

³ Sound pressure level at a distance of 10m in the free field and at the extended point, tolerance +/-2dB(A).

Technical Parameters | Galaxy Twin

CALCULATIONS ARE MADE FOR BASIC UNITS WITHOUT ADDITIONAL OPTIONS

Model		GAL219	GAL222	GAL224	GAL227
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Standard version

	kW				
Refrigeration capacity ¹		154,10	173,50	196,00	232,80
Power consumption		47,28	52,11	59,51	71,51
EER		3,3	3,3	3,3	3,3
SEPR		6,03	6,26	6,20	6,18
SEER		4,84	5,04	5,03	5,03

System data

Refrigerant	Type	R290			
Number of compressors	n	2	2	2	2
Refrigerant quantity ²	kg	10,7	16,2	16,2	18,3
Inlet/Outlet connections	DN	80	80	100	100
Sound pressure level in 10m ³	dB	56	57	58	58

Fan

Type	EC				
Number of fans	n	4	6	6	6
Air flow	m ³ /h	83196	124794	124794	124794

Plate heat exchanger

	n				
Number of plate heat exchangers		1	1	1	1
Flow rate cooling ¹	m ³ /h	29,4	33,2	37,5	44,5
Pressure drop cooling	kPa	25,0	19,6	24,4	21,5

Power supply

Voltage	400V 3Ph/N/PE				
Max. power consumption	A	74,0	80,4	98,2	137,0

Dimensions and weight

	mm				
Length		2877	4082	4082	4082
Width		2321	2321	2321	2321
Height		2355	2355	2355	2355
Operating weight	kg	1930	2420	2420	2490

Dimensions and weight with additional buffer tank

	mm				
Length		4082	5286	5286	5286
Width		2325	2325	2325	2325
Height		2355	2355	2355	2355
Operating weight	kg	+420 kg (500 L) or +460 kg (800 L)			

¹ Outside air temperature 35°C, medium temperature 12/7°C, medium EG 35%.

² Theoretical values refer to the basic unit. The actual amount of gas charge in the unit may differ.

³ Sound pressure level at a distance of 10m in the free field and at the extended point, tolerance +/-2dB(A).

Galaxy Chillers

GALAXY TRIBUS



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R290 Chillers

Natural refrigerants available!
#R290

Choose propane or propylene and
contribute to the environment!

GALAXY TRIBUS

DESCRIPTION

Galaxy Tribus air-cooled chiller has the cooling capacity of 176 kW to 360 kW and is designed for industrial or commercial buildings with medium to large power demand. Such systems are widely used in various factories, supermarkets, warehouses and office buildings. **Galaxy Tribus chiller is made with three circuits to ensure continuous system operation in case of emergency - if one circuit is damaged, the others can still use the remaining unit capacity to service the end user.**

Special modular assembly system provides the ability to integrate Galaxy Tribus with useful additional options, such as a built-in hydraulic module and heat recovery system. With extensive power selection options and many possible extra features, Galaxy chillers stand out as one of the most versatile products that Refra can offer.

Refra manufactures modern devices using plug-and-play ideology, making the installation and use of the devices as easy as possible. In this case, the customer can start using the device quickly and easily after installment.

Comprehensive modular frame construction is assembled with high-quality EC fan motor technology, microchannel heat exchangers, reciprocating compressors. The galvanized steel and powder coated frame with a reliable insulation material ensures proper unit protection as well as noise reduction. An additional 50 mm rock wool material can be supplemented for a super silent unit operation with double insulation.

PARTS INCLUDED:

- Bitzer Reciprocating compressors with oil charge and oil level monitoring/differential pressure switch;
- Polymer powder painted RAL7035 frame;
- HP/LP pressure switch per circuit;
- HP/LP pressure gauges per circuit;
- Necessary pressure and temperature probes;
- Air cooled microchannel condenser;
- Single safety valve per circuit;
- Filter drier on liquid line per circuit;
- Sight glass on liquid line per circuit;
- Electronic expansion valve per circuit;
- Control board with Siemens Climatix controller;
- Vibration absorbers;
- BPHE evaporator;
- R290 leak detector;
- Emergency EX fan;
- EC Fans.



Technical Parameters | Galaxy Tribus

CALCULATIONS ARE MADE FOR BASIC UNITS WITHOUT ADDITIONAL OPTIONS

Model		GAL323	GAL326	GAL331
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Standard version

Refrigeration capacity ¹	kW	176,80	200,20	237,40
Power consumption	kW	52,31	59,21	71,21
EER		3,4	3,4	3,3
SEPR		6,36	6,27	6,18
SEER		4,84	4,86	4,76

System data

Refrigerant	Type	R290		
Number of compressors	n	3	3	3
Refrigerant quantity ²	kg	13,3	13,3	17,6
Inlet/Outlet connections	DN	100	100	100
Sound pressure level in 10m ³	dB	56	58	58

Fan

Type		EC		
Number of fans	n	6	6	6
Air flow	m ³ /h	124794	124794	124794

Plate heat exchanger

Number of plate heat exchangers	n	3	3	3
Flow rate cooling ¹	m ³ /h	33,9	38,3	45,3
Pressure drop cooling	kPa	13,3	16,4	12,3

Power supply

Voltage		400V 3Ph/N/PE		
Max. power consumption	A	79,5	94,5	111,6

Dimensions and weight

Length	mm	4082	4082	4082
Width	mm	2321	2321	2321
Height	mm	2355	2355	2355
Operating weight	kg	2890	2890	2890

Dimensions and weight with additional buffer tank

Length	mm	5286	5286	5286
Width	mm	2325	2325	2325
Height	mm	2355	2355	2355
Operating weight	kg	+420 kg (500 L) or +460 kg (800 L)		

¹ Outside air temperature 35°C, medium temperature 12/7°C, medium EG 35%.

² Theoretical values refer to the basic unit. The actual amount of gas charge in the unit may differ.

³ Sound pressure level at a distance of 10m in the free field and at the extended point, tolerance +/-2dB(A).

Technical Parameters | Galaxy Tribus

CALCULATIONS ARE MADE FOR BASIC UNITS WITHOUT ADDITIONAL OPTIONS

Model		GAL335	GAL339	GAL343
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Standard version

Refrigeration capacity ¹	kW	268,60	309,30	360,90
Power consumption	kW	80,93	91,73	108,53
EER		3,3	3,4	3,3
SEPR		6,47	6,53	6,31
SEER		4,96	5,02	4,97

System data

Refrigerant	Type	R290		
Number of compressors	n	3	3	3
Refrigerant quantity ²	kg	19,6	23,0	23,0
Inlet/Outlet connections	DN	125	125	125
Sound pressure level in 10m ³	dB	59	60	60

Fan

Type		EC		
Number of fans	n	12	12	12
Air flow	m ³ /h	249588	249588	249588

Plate heat exchanger

Number of plate heat exchangers	n	3	3	3
Flow rate cooling ¹	m ³ /h	51,6	59,3	69,1
Pressure drop cooling	kPa	15,3	13,7	17,9

Power supply

Voltage		400V 3Ph/N/PE		
Max. power consumption	A	118,5	145,2	201,6

Dimensions and weight

Length	mm	7695	7695	7695
Width	mm	2321	2321	2321
Height	mm	2355	2355	2355
Operating weight	kg	4900	4900	4900

Dimensions and weight with additional buffer tank

Length	mm	8900	8900	8900
Width	mm	2325	2325	2325
Height	mm	2355	2355	2355
Operating weight	kg	+420 kg (500 L) or +460 kg (800 L)		

¹ Outside air temperature 35°C, medium temperature 12/7°C, medium EG 35%.

² Theoretical values refer to the basic unit. The actual amount of gas charge in the unit may differ.

³ Sound pressure level at a distance of 10m in the free field and at the extended point, tolerance +/-2dB(A).

Galaxy Chillers

GALAXY QUAD



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R290 Chillers

Natural refrigerants available!
#R290

Choose propane or propylene and
contribute to the environment!

GALAXY QUAD

DESCRIPTION

Galaxy Quad air-cooled chiller has the cooling capacity of 229 kW to 465 kW and is designed for industrial or commercial buildings with high power demand. Such systems are widely used in various factories, supermarkets, warehouses and office buildings. **Galaxy Quad chiller is made with four circuits to ensure continuous system operation in case of emergency – if one circuit is damaged, the others can still use the remaining unit capacity to service the end user.**

Special modular assembly system provides the ability to integrate Galaxy Quad with useful additional options, such as a built-in hydraulic module and heat recovery system. With extensive power selection options and many possible extra features, Galaxy chillers stand out as one of the most versatile products that Refra can offer.

Refra manufactures modern devices using plug-and-play ideology, making the installation and use of the devices as easy as possible. In this case, the customer can start using the device quickly and easily after installment.

Comprehensive modular frame construction is assembled with high-quality EC fan motor technology, microchannel heat exchangers, reciprocating compressors. The galvanized steel and powder coated frame with a reliable insulation material ensures proper unit protection as well as noise reduction. An additional 50 mm rock wool material can be supplemented for a super silent unit operation with double insulation.

PARTS INCLUDED:

- Bitzer Reciprocating compressors with oil charge and oil level monitoring/differential pressure switch;
- Polymer powder painted RAL7035 frame;
- HP/LP pressure switch per circuit;
- HP/LP pressure gauges per circuit;
- Necessary pressure and temperature probes;
- Air cooled microchannel condenser;
- Single safety valve per circuit;
- Filter drier on liquid line per circuit;
- Sight glass on liquid line per circuit;
- Electronic expansion valve per circuit;
- Control board with Siemens Climatix controller;
- Vibration absorbers;
- BPHE evaporator;
- R290 leak detector;
- Emergency EX fan;
- EC Fans.



Technical Parameters | Galaxy Quad

CALCULATIONS ARE MADE FOR BASIC UNITS WITHOUT ADDITIONAL OPTIONS

Model		GAL430	GAL434	GAL439
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Standard version

Refrigeration capacity ¹	kW	229,50	266,30	308,20
Power consumption	kW	69,35	78,95	94,55
EER		3,3	3,4	3,3
SEPR		6,16	6,35	6,01
SEER		4,52	4,56	4,64

System data

Refrigerant	Type	R290		
Number of compressors	n	4	4	4
Refrigerant quantity ²	kg	14,9	18,3	21,3
Inlet/Outlet connections	DN	100	125	125
Sound pressure level in 10m ³	dB	57	59	59

Fan

Type		EC		
Number of fans	n	8	8	8
Air flow	m ³ /h	166392	166392	166392

Plate heat exchanger

Number of plate heat exchangers	n	2	2	2
Flow rate cooling ¹	m ³ /h	43,9	50,9	58,9
Pressure drop cooling	kPa	23,4	19,4	25,0

Power supply

Voltage		400V 3Ph/N/PE		
Max. power consumption	A	105,2	126,0	148,0

Dimensions and weight

Length	mm	5286	5286	5286
Width	mm	2321	2321	2321
Height	mm	2355	2355	2355
Operating weight	kg	3920	3920	3920

Dimensions and weight with additional buffer tank

Length	mm	6490	6490	6490
Width	mm	2325	2325	2325
Height	mm	2355	2355	2355
Operating weight	kg	+420 kg (500 L) or +460 kg (800 L)		

¹ Outside air temperature 35°C, medium temperature 12/7°C, medium EG 35%.

² Theoretical values refer to the basic unit. The actual amount of gas charge in the unit may differ.

³ Sound pressure level at a distance of 10m in the free field and at the extended point, tolerance +/-2dB(A).

Technical Parameters | Galaxy Quad

CALCULATIONS ARE MADE FOR BASIC UNITS WITHOUT ADDITIONAL OPTIONS

Model		GAL444	GAL448	GAL454
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Standard version

Refrigeration capacity ¹	kW	346,90	391,90	465,70
Power consumption	kW	104,23	119,03	143,03
EER		3,3	3,3	3,3
SEPR		6,33	6,20	6,23
SEER		4,68	4,65	4,57

System data

Refrigerant	Type	R290		
Number of compressors	n	4	4	4
Refrigerant quantity ²	kg	32,5	32,5	36,7
Inlet/Outlet connections	DN	125	125	150
Sound pressure level in 10m ³	dB	60	61	61

Fan

Type		EC		
Number of fans	n	12	12	12
Air flow	m ³ /h	249588	249588	249588

Plate heat exchanger

Number of plate heat exchangers	n	2	2	2
Flow rate cooling ¹	m ³ /h	66,4	75,0	88,9
Pressure drop cooling	kPa	19,6	24,4	21,5

Power supply

Voltage		400V 3Ph/N/PE		
Max. power consumption	A	160,8	196,4	274,0

Dimensions and weight

Length	mm	7695	7695	7695
Width	mm	2321	2321	2321
Height	mm	2355	2355	2355
Operating weight	kg	5110	5110	5110

Dimensions and weight with additional buffer tank

Length	mm	8900	8900	8900
Width	mm	2325	2325	2325
Height	mm	2355	2355	2355
Operating weight	kg	+420 kg (500 L) or +460 kg (800 L)		

¹ Outside air temperature 35°C, medium temperature 12/7°C, medium EG 35%.

² Theoretical values refer to the basic unit. The actual amount of gas charge in the unit may differ.

³ Sound pressure level at a distance of 10m in the free field and at the extended point, tolerance +/-2dB(A).

Additional Options

Buffer tank



* The photos in this brochure are for illustrative purposes only. The appearance of the final product may vary depending on your selections, additional options and other order details.

Additional Options

Buffer Tank

DESCRIPTION

Refra Galaxy Chillers can be integrated with an additional glycol buffer tank to enhance system performance. **Additional Refra buffer tank is installed within the same frame as the chiller, creating a single, unified machine for easier installation and operation.**

Refra offers buffer tanks with glycol, which provide enhanced freeze protection and greater temperature stability. Glycol buffer tanks ensure reliable system operation in cold environments by preventing freezing and downtime. With an operating pressure of 6 to 10 bar, these buffer tanks increase the liquid capacity within the system and ensure stable operation.

Designed to optimize refrigeration systems, these additional buffer tanks are available in 500 or 800 liter capacities to help maintain a constant cooling cycle, thus stabilizing chiller performance and preventing fluctuations in water temperature. Made from durable S235JR carbon steel and externally insulated with ArmaFlex insulation, the tank provides superior thermal protection and efficiency, contributing to a consistent and reliable refrigeration cycle.

MAIN CHARACTERISTICS

- Sizes available for 500 liters or 800 liters
- Designed for glycol
- Made from S235JR carbon steel
- 32 mm of ArmaFlex insulation

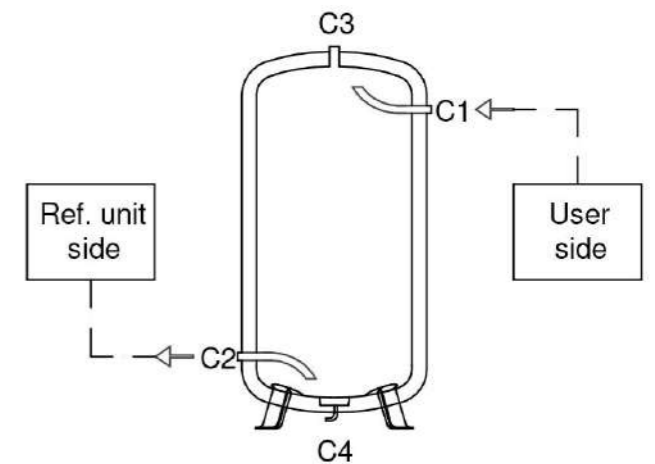
ADDITIONAL FRAME BOX

The buffer tank is housed in a closed-type protective frame, integrated with the chiller, creating a unified system. **When selecting a buffer tank as an additional feature, each chiller is fitted with an extra frame box. Note that this added length extends the overall size of the unit, which should be carefully considered during installation, especially in spaces where length is a key factor. The dimensions of this frame box are 1205mm in width, 2170mm in height, and 2203mm in width. For more specific sizing information, please check Technical Parameters page of a selected Chiller model.**

The frame is constructed from galvanized steel, powder-coated for durability, and features reliable insulation that ensures effective protection and noise reduction. **Note that when selecting an integrated buffer tank, additional rock wool insulation for ultra-quiet operation (30-50mm) cannot be applied.**

Natural refrigerants available!
#R290

Choose propane or propylene and contribute to the environment!



Additional Options



Pump on/off 10m head

Designed for pumping of water or glycol mixtures without abrasive substances. "On/Off" function is used in applications where the pump only needs to operate when there is a demand for fluid flow.



Pump on/off 20m head

Designed for pumping of water or glycol mixtures without abrasive substances. "On/Off" function is used in applications where the pump only needs to operate when there is a demand for fluid flow.



Pump inverter 10m head

Designed for pumping of water or glycol mixtures without abrasive substances. Integrated inverter provides precise control over the flow rate of the fluid and ensures energy-efficient operation.



Pump inverter 20m head

Designed for pumping of water or glycol mixtures without abrasive substances. Integrated inverter provides precise control over the flow rate of the fluid and ensures energy-efficient operation.



Twin Pump on/off 10m head

Double pump setup, designed for pumping of water or glycol mixtures without abrasive substances. One pump serves as the base-load pump, while the second pump can serve as a reserve in the event of a fault.



Twin Pump on/off 20m head

Double pump setup, designed for pumping of water or glycol mixtures without abrasive substances. One pump serves as the base-load pump, while the second pump can serve as a reserve in the event of a fault.



Twin Pump inverter 10m head

Double pump setup, designed for pumping of water or glycol mixtures without abrasive substances, ensures reliable operation in case of an emergency and precise control over the fluid flow rate.



Twin Pump inverter 20m head

Double pump setup, designed for pumping of water or glycol mixtures without abrasive substances, ensures reliable operation in case of an emergency and precise control over the fluid flow rate.



Desuperheater

Utilizes the high-temperature energy of the superheated refrigerant gas to heat water. By using the waste heat generated during the cooling process, desuperheater can improve the overall energy efficiency of the system.



Trace heating

Maintains or raises the temperature of pipes and vessels through specially engineered cables to protect it from freezing at sub-zero temperatures. **Not possible with additional buffer tank.**

Additional Options



Thick insulation frame

Additional 30-50 mm rock wool material for a super silent unit operation with double insulation reduces the sound level and strengthens the frame construction. **Not possible with additional buffer tank.**



Antivibration mounts

Reduces and isolates the transmission of vibrations from the unit by using a rubber element with a metal casing.



Flow switch

Detects the flow of liquid medium in HVAC systems. Used as a safety device to ensure there is an adequate flow of the fluid, and to trigger an alarm or shut down the system in case of low flow.



Flow meter

Utilises ultrasonic transit-time technology to provide accurate and repeatable water-flow measurement and insures the correct measured flow. Monitors the performance and efficiency of the system, ensures the adequate flow of fluid.



Check valve

Allows fluid to flow in one direction only, and prevents backflow in the opposite direction. Recommended for systems with more than one heat pump, to prevent backflow and ensure proper fluid flow.



Double safety valve

Allows the user to work on the isolated valve for periodic inspection or replacement, while the line is completely operative and the system safety is integral.



Aqua Aero

Helps to lower energy consumption by reducing airside fouling in cooling coils, thus improving the overall energy efficiency of the system. The hydrophobic coating acts as a barrier which prevents corrosive agents from infiltrating the underlying metal surface.



Siemens cloud + modem GSM

This kit provides remote access to the unit controller. The cloud provides all relevant equipment data and allows to evaluate and control it efficiently using leading IoT analytics tools. **Customers who purchase Siemens Cloud option receive a full 2-year warranty on Refra unit.**



Vacon inverter

Intelligent frequency inverter that controls AC motors efficiently and intelligently, allowing for precise speed regulation.



Varipack

Intelligent frequency inverter that controls AC motors efficiently and intelligently, allowing for precise speed regulation.

Register the Varipack product code along with the Bitzer compressor code and get a 2-year compressor warranty!
<https://bit.ly/BitzerWarranty>



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| Go Green

With a strong emphasis on environmental responsibility and sustainable practices Refra is leading the way in reducing global warming and embracing natural cooling technology. **We are on a mission to make a positive impact in the refrigeration industry since 2011 – that's when Refra became a pioneering company with an unwavering commitment to environmental sustainability and started producing refrigeration equipment with natural refrigerants.**

Our commitment to a better tomorrow drives us to engineer cutting-edge systems that provide our customers with the tools to make a positive impact on the planet. **At Refra, we envision a future where all of our products are powered by natural refrigerants, contributing to a world that's not just cooler, but also greener.**

🌿 R290

As we witness the growing demand for Hydrocarbon refrigeration systems, we are inspired to push the boundaries of innovation and develop technologically advanced refrigeration solutions.



We can make it simple