

IT COOLING

CHILLERS

NR-G06-Z

**AIR COOLED CHILLERS FOR OUTDOOR
INSTALLATION, FROM 49,6 TO 338 kW**

^r R454B



NR-G06-Z

THE ECO-FRIENDLY SOLUTION FOR MODERN DATA CENTERS



Air cooled chillers with scroll compressors and low GWP refrigerant. From 49,6 to 338 kW



NR-G06-Z is the air cooled chiller range with scroll compressors designed for delivering the best efficiencies in comfort applications.

Reduced refrigerant charge and low GWP refrigerant ensure the lowest CO₂eq tons, for an environmental-friendly approach.

Available in three different acoustical versions, NR-G06-Z features extremely low sound emissions, with zero compromises in efficiency.

The new range is brilliantly engineered to integrate all the main hydraulic and mechanic components inside the unit, providing installers the ideal plug & play solution for the HVAC plant.

PREMIUM EFFICIENCIES

COOLING		NX-G06 Air cooled chillers		UP TO	
	EER	SEPR HT		EER	SEPR HT
CA	3,26	5,90	K	2,89	5,46
CA ▶ Very high efficiency			K ▶ Key efficiency		

IT COOLING APPLICATIONS

- ✓ Data centers and server rooms
- ✓ Technological hubs
- ✓ Telecommunication installations
- ✓ Laboratories and technical rooms

OPERATING RANGE

COOLING		AIR	from -20°C up to 46°C
		WATER	from -10°C up to 20°C

Average values (EN14511) / SEPR HT: Regulation (EU) N. 2016/2281

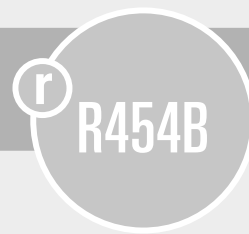
3 ACOUSTIC VERSIONS

-	Standard	Standard soundproofing equipment.	Baseline
LN	Low noise	Increased acoustic insulation, slower fan speed, larger heat exchange surface.	up to -6 dB(A)
SL	Super low noise	The highest level of noise reduction. NO COMPROMISES IN EFFICIENCY!	up to -9 dB(A)

HEAT RECOVERY CONFIGURATIONS

-	Standard unit	Unit without heat recovery.	-
D	Partial heat recovery	A desuperheater on the compressor discharge line recovers approximately 20% of the unit's capacity.	60°C
Suitable for DHW production or other secondary uses, such as the integration of an existing boiler.			

NEW GENERATION GREEN REFRIGERANT



Fully committed to support the creation of a greener tomorrow, Mitsubishi Electric Hydronics & IT Cooling Systems presents the G06 series, the forward-looking chiller with reduced environmental impact.

Thanks to the new generation refrigerant R454B, the environmental impact of NR-G06-Z is greatly reduced. Combining reduced refrigerant charge with a low GWP refrigerant, this unit boasts the lowest amount of CO₂eq in the scroll unit market, thus resulting as the perfect choice for any new forward looking installation.

R454B REFRIGERANT

High density, low **GWP refrigerant**. Its physical properties are **similar to R410A**, so the same type of equipment / components can be used.



REDUCED ENVIRONMENTAL IMPACT

- ▶ Low GWP, only 466
- ▶ Reduced refrigerant charge (-10% vs R410A)



RELIABILITY

- ▶ Use of **well-known components**
- ▶ Refrigerant circuit **reliability** is maintained

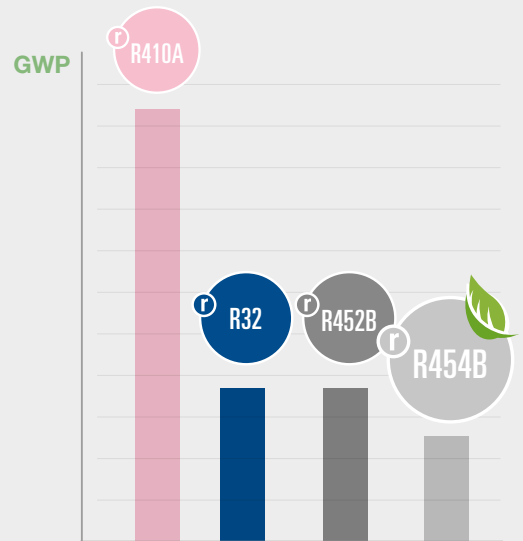


PERFORMANCE & ENVELOPE

- ▶ **Same operating limits** of R410A
- ▶ Higher efficiency (full load +3,5%, seasonal +2% vs R410A)

GWP: 466

-76% vs R410A
-31% vs R32



The highest standards of reliability and reduced running costs, without any compromise.

IDEAL FOR HIGH TEMPERATURE IT ENVIRONMENTS



Modern IT infrastructures are designed to work with higher indoor temperatures than traditional levels (ASHRAE Thermal Guidelines for Data Processing Environments) to enhance the cooling equipment's efficiency and lower the data center's PUE (Power Usage Effectiveness).

With a leaving water temperature limit of 20°C, NR-G06-Z brilliantly fulfills this requirement.

SILENT OPERATION AND NO COMPROMISES IN EFFICIENCY



NR-G06-Z range has been designed for the perfect environmental well-being. Thanks to a specific design, the SL versions (super low noise) achieve the minimum sound level while maintaining the same performance as the standard acoustical version.

PACKAGED SOLUTION



NR-G06-Z is an all-on-one solution, ready to be installed. The integrated hydronic modules includes the pumps, the buffer tanks and the main hydraulic components, allowing simplified installation and time-saving commissioning.

NIGHT MODE



NR-G06-Z range has been designed for the perfect environmental well-being. Thanks to a specific design, the SL versions (super low noise) achieve the minimum sound level while maintaining the same performance as the standard acoustical version.

TECHNOLOGICAL CHOICES

W3000+ CONTROL

Management software developed fully in-house

- ▶ Proprietary settings for faster adaptive responses to different dynamics
- ▶ Enhanced diagnostics thanks to the black box function
- ▶ Connectivity with the most commonly used BMS protocols and M-Net Mitsubishi Electric proprietary protocol (Opt.)

Compact keyboard



- ▶ Large LCD display and functional keys
- ▶ Quick and easy parameter consultation and adjustment by means of a multi-level menu
- ▶ KIPLink, the innovative Wi-Fi interface, is available as an option.

Highly resistant finned coils

New generation full aluminum micro-channel coils for cooling only chillers

- ▶ Long Life Alloy (LLA) for higher corrosion resistance and longer life cycle
- ▶ Up to 30% of refrigerant charge reduction vs. traditional solutions

Scroll compressors

New generation scroll compressors, developed for the use of high density A2L refrigerants (Fluid Group 1 of PED Directive).

- ▶ Tandem or trio configuration to benefit from higher seasonal efficiency
- ▶ Specific oil management solution for enhanced reliability



R454B Refrigerant

High density, low GWP refrigerant

GWP: 466

-76% vs R410A
-31% vs R32

▶ **Composition:**
69% R32 + 31% R1234yf

▶ **Global Warming Potential:**
467 (IPCC AR5)

▶ **Safety classification:**
- A2L mildly flammable (ISO 817)
- Fluid Group 1 (PED)

NR-G06 range: the ideal solutions for forward-looking cooling systems.

FANS

High performing, axial fans:

- ▶ Different sizes and speeds to perfectly fit the requirements of each unit model
- ▶ Speed control (DVV) based on refrigerant pressure.

UP TO + 8% MORE SEASONAL EFFICIENCY



(opt. For 2 cmpr units, available for CA versions)

- ▶ Continuous regulation of the air flow
- ▶ Reduced power consumption and increased efficiencies at partial loads



Shell&Tube heat exchanger

Dry expansion, single pass S&T evaporator, fully in-house developed. (4 compressors units)

- ▶ Internally grooved copper tubes
- ▶ Possibility of inspection and tubes cleaning
- ▶ Low pressure drops



Plate heat exchanger

Compact and robust, made of AISI 316 steel plates, copper-brazed.

- ▶ Low pressure drops
- ▶ Fully protected against ice formation
- ▶ Closed-cell neoprene external lining



HYDRONIC MODULES

The **fully integrated hydronic module** (opt.) includes the pumps, the buffer tank, and all the main hydraulic components, for the best **optimization of the installation space, time and costs.**

Pumps

- ▶ End-suction configuration
- ▶ 2-pole motor
- ▶ Single or twin pumps
- ▶ Low or high head (approx. 100 or 200 kPa).

Pumps+Inverter

- (Available for 4 cmpr. units)
- ▶ External inverter to adjust the waterflow
 - ▶ Reduced energy consumption through speed regulation

Pumps + Buffer tank

- ▶ Up to 500 liter l buffer tank
- ▶ 20mm insulation lining
- ▶ Including: expansion vessel, safety valve, manometer.

Only terminals

- ▶ On/off control
- ▶ 1 or 2 external pumps

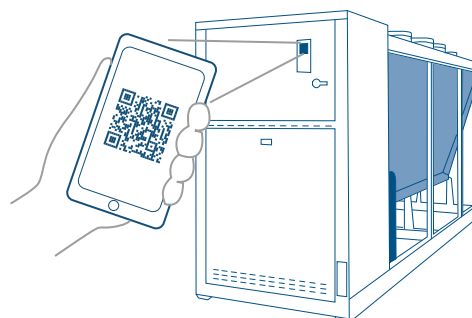
ACCESSORIES AND FURTHER OPTIONS

KIPlink user interface



An exclusive product of Mitsubishi Electric Hydronics & IT Cooling Systems.

Based on Wi-Fi technology, KIPlink is an option that allows one to operate on the unit directly from a mobile device (smartphone, tablet, or notebook) by simply scanning the QR code positioned on the unit.



MAIN FEATURES



Easier on-site operation

Monitor each component while moving around the unit for maintenance operations. View and change all parameters with easy-to-understand screenshots and dedicated tooltips. Get devoted "help" messages / for alarm reset and trouble shooting.



Real-time graphs and trends

Monitor the immediate labor status of the compressors, heat exchangers, cooling circuits, and pumps. View the real-time graphs of the key operating variable trends.



Data logger function

View history of events and use the filter for a simple search. Enhance diagnostics with data and graphs of 10 minutes before and after each alarm. Download all the data for detailed analysis.

FURTHER OPTIONS

Set-point adjustment

4-20 mA: Enables remote set-point adjustments (analog input).

Double set-point: Enables the remote switch between 2 set-points (digital input).

Set-point compensation: Automatic adjustment of the set-point on the basis of the outdoor temperature.

Control functions

Night mode: Limits the unit sound level reducing the usage of the resources. Sound power reduction (with factory settings): -3 dB(A).

U.L.C. User Limit Control: Controls a mixing valve (not included) to ensure a safe start-up and operation of the unit even in critical conditions.

Remote probe: Controls the unit's and pump's activation on the base of the water temperature of the buffer tank or hydraulic decoupler.

Demand limit: Limits the unit's power absorption for safety reasons or in temporary situations (digital input).

Electrical

Compressor rephasing: The capacitors on the compressors' line increase the unit's power factor.

Soft-starter: Manages the inrush current enabling lower motor windings' mechanical wear, avoidance of mains voltage fluctuations during starting and favorable sizing for the electrical system.

Connectivity

Serial card interface module to allow integration with BMS protocols:

Modbus / LonWorks / BACnet MS/TP / BACnet over IP / Konnex / Modbus TCP/IP/ SNMP

M-Net interface kit: Interface module to allow the integration of the unit with Mitsubishi Electric proprietary communication protocol M-Net.

Energy Meter

Energy meter for BMS: Acquires electrical data and the power absorbed by the unit and sends them the BMS for energy metering (Modbus RS485).

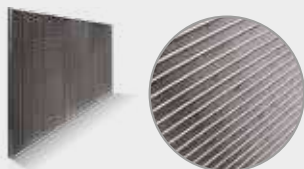
Energy meter for W3000: The electrical data acquired is available directly on the unit's control.

All the flexibility you need for the most diverse application requirements

COILS AND COATINGS

MICROCHANNEL COILS

Al - Regular



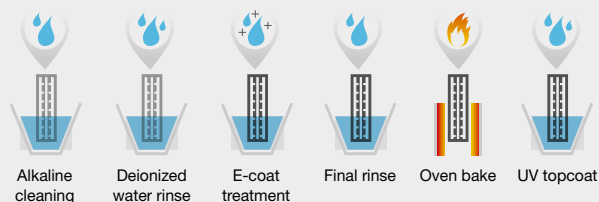
Al - E-coating



3120 h
SWAAT test
(ASTM G85-02 A3)

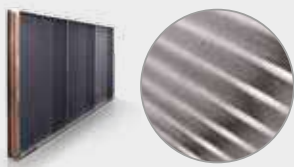
- ✓ Excellent resistance to UV rays.

E-coating process



TUBE & FINS COILS

Cu/Al - Regular



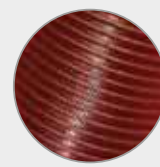
- ▶ Fins treated with protective polyester resin paint.
- ▶ 1000 h of salt spray protection as per ASTM B117.
- ▶ Excellent resistance to UV rays.

Cu/Al - Pre-painted fins

Cu/Al - Fin Guard Silver SB

- ▶ Polyurethane paint with metallic emulsion.
- ▶ 3000 h of salt spray protection as per ASTM B117.
- ▶ Excellent resistance to UV rays.

Cu/Cu - Tube & fin coil



Refrigerant circuit

Compressor suction and discharge valves: Installed for each compressor tandem or trio, the valves simplify maintenance activities. The user can work on the isolated valve for periodic maintenance or replacement, without removing the refrigerant from the circuit.

Dual pressure relief valves with switch: One valve is isolated from the refrigerant circuit while the other is in service. The user can work on the isolated valve for periodic maintenance or replacement, without removing the refrigerant from the circuit.

Refrigerant leak detector

Leak detector: Factory installed device. In case of a gas leak detection it raises an alarm.

Leak detector + compressor off: Factory installed device. In case of a gas leak detection it raises an alarm and stops the units.

Hydraulic

Water flow switch: Designed to protect the unit when the water flow across the evaporator is not sufficient and falls outside of the operating parameters.

Water filter: Filters the water before the unit's inlet.

Structure

Anti-intrusion grilles: Perimeter metal grilles to protect against the intrusion of solid bodies into the unit structure.

Spring or rubber type anti-vibration mountings: Reduce vibrations, keeping noise transmission to a minimum.

Packing

Standard or nylon packing: The unit is provided with plastic supports, with or without a protective nylon layer.

Container slides or packing: The unit is provided with metal slides to load it in a container, with or without a protective nylon layer.

Wooden cage packing: The unit is provided with a robust wooden cage, with or without a protective nylon layer.

**NR-G06-Z**

Chiller with 2 compressors, air cooled for outdoor installation, from 49,6 to 218 kW.

NR-G06-Z/CA			0202P	0252P	0262P	0302P	0352P	0402P
Power supply		V/ph/Hz	400/3+N/50	400/3+N/50	400/3+N/50	400/3/50	400/3/50	400/3/50
PERFORMANCE								
COOLING ONLY (GROSS VALUE)								
Cooling capacity	(1)	kW	52,80	59,95	66,81	81,64	92,73	103,6
Total power input	(1)	kW	15,59	17,95	20,27	24,80	28,22	31,39
EER	(1)	kW/kW	3,385	3,352	3,291	3,290	3,287	3,299
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2)	kW	52,70	59,80	66,70	81,40	92,40	103,3
EER	(1)(2)	kW/kW	3,330	3,290	3,240	3,240	3,200	3,230
SEPR	(3)(4)		5,66	5,58	5,62	5,36	5,30	5,42
COOLING ONLY (GROSS VALUE)								
16°C/10°C								
Cooling capacity	(5)	kW	57,61	65,35	72,54	88,86	101,1	113,1
Total power input	(5)	kW	15,87	18,25	20,78	25,30	28,87	32,20
EER	(5)	kW/kW	3,623	3,568	3,486	3,514	3,498	3,512
23°C/15°C								
Cooling capacity	(6)	kW	65,60	74,28	81,98	100,8	115,0	129,0
Total power input	(6)	kW	16,27	18,64	21,49	25,99	29,81	33,42
EER	(6)	kW/kW	4,025	3,995	3,814	3,877	3,859	3,862
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	l/s	2,525	2,867	3,195	3,904	4,435	4,956
Pressure drop	(1)(2)	kPa	37,5	34,6	35,1	37,5	59,4	51,6
REFRIGERANT CIRCUIT								
Compressors nr.		N°	2	2	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1
Refrigerant charge		kg	7,30	7,90	8,00	9,30	12,4	12,5
NOISE LEVEL								
Sound Pressure	(7)	dB(A)	53	53	54	56	56	58
Sound power level in cooling	(8)(9)	dB(A)	85	85	86	88	88	90
SIZE AND WEIGHT								
A	(10)	mm	2395	2395	2395	2825	3360	3360
B	(10)	mm	1195	1195	1195	1195	1195	1195
H	(10)	mm	1865	1865	1865	1980	1980	1980
Operating weight	(10)	kg	580	590	600	710	780	830

Notes:

- 1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
 2 Values in compliance with EN14511
 3 Seasonal energy efficiency ratio
 4 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
 5 Plant (side) cooling exchanger water (in/out) 16°C/ 10°C; Source (side) heat exchanger air (in) 35°C.
 6 Plant (side) cooling exchanger water (in/out) 23°C/ 15°C; Source (side) heat exchanger air (in) 35°C.

7 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.

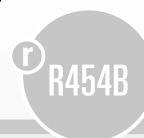
8 Sound power on the basis of measurements made in compliance with ISO 9614.

9 Sound power level in cooling, outdoors.

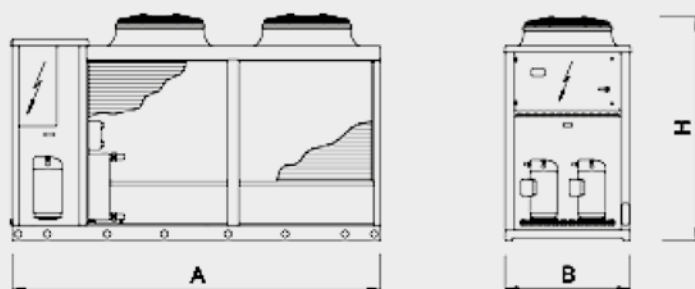
10 Unit in standard configuration/execution, without optional accessories.

The units highlighted in this publication contain R454B [GWP₁₀₀ 466] fluorinated greenhouse gases.

Certified data in EUROVENT



NR-G06-Z/CA			0452P	0502P	0562P	0612P	0712P	0812P
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE								
COOLING ONLY (GROSS VALUE)								
Cooling capacity	(1)	kW	117,0	132,3	153,9	171,3	193,2	218,0
Total power input	(1)	kW	35,66	39,89	45,80	51,88	59,31	65,98
EER	(1)	kW/kW	3,277	3,316	3,360	3,301	3,258	3,303
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2)	kW	116,8	132,0	153,6	171,0	192,8	217,6
EER	(1)(2)	kW/kW	3,210	3,250	3,290	3,240	3,200	3,240
SEPR	(3)(4)	5,45	5,31	5,22	5,31	5,22	4,93	
COOLING ONLY (GROSS VALUE)								
16°C/10°C								
Cooling capacity	(5)	kW	127,5	144,1	168,0	186,8	210,0	236,9
Total power input	(5)	kW	36,56	40,72	46,70	53,00	60,60	67,19
EER	(5)	kW/kW	3,484	3,541	3,597	3,525	3,465	3,525
23°C/15°C								
Cooling capacity	(6)	kW	144,8	163,9	191,5	212,8	238,1	268,3
Total power input	(6)	kW	37,90	41,91	48,00	54,67	62,48	68,86
EER	(6)	kW/kW	3,821	3,912	3,990	3,890	3,810	3,894
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	l/s	5,597	6,326	7,361	8,191	9,237	10,43
Pressure drop	(1)(2)	kPa	53,6	52,9	59,3	52,7	51,8	65,9
REFRIGERANT CIRCUIT								
Compressors nr.		N°	2	2	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1
Refrigerant charge		kg	12,9	17,5	19,8	20,3	20,8	23,0
NOISE LEVEL								
Sound Pressure	(7)	dB(A)	58	58	59	59	60	61
Sound power level in cooling	(8)(9)	dB(A)	90	90	91	91	92	93
SIZE AND WEIGHT								
A	(10)	mm	3360	3980	3160	3160	3160	4335
B	(10)	mm	1195	1195	2250	2250	2250	2250
H	(10)	mm	1980	1980	2170	2170	2170	2170
Operating weight	(10)	kg	920	1060	1460	1480	1490	1750



**NR-G06-Z**

Chiller with 2 compressors, air cooled for outdoor installation, from 49,6 to 218 kW.

NR-G06-Z/SL-CA			0202P	0252P	0262P	0302P	0352P	0402P
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE								
COOLING ONLY (GROSS VALUE)								
Cooling capacity	(1)	kW	53,11	59,72	66,44	78,67	90,71	101,8
Total power input	(1)	kW	15,93	17,65	19,87	23,73	27,54	30,10
EER	(1)	kW/kW	3,340	3,373	3,337	3,321	3,298	3,382
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2)	kW	53,00	59,60	66,30	78,50	90,40	101,5
EER	(1)(2)	kW/kW	3,280	3,330	3,290	3,260	3,220	3,310
SEPR	(3)(4)		5,72	5,56	5,60	5,75	5,50	5,61
COOLING ONLY (GROSS VALUE)								
16°C/10°C								
Cooling capacity	(5)	kW	57,91	65,18	72,23	85,40	98,76	111,1
Total power input	(5)	kW	16,24	17,93	20,33	24,32	28,27	30,94
EER	(5)	kW/kW	3,574	3,642	3,557	3,514	3,491	3,595
23°C/15°C								
Cooling capacity	(6)	kW	65,87	74,29	81,83	96,47	112,1	126,7
Total power input	(6)	kW	16,68	18,28	20,99	25,16	29,37	32,20
EER	(6)	kW/kW	3,946	4,060	3,895	3,829	3,813	3,935
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	l/s	2,540	2,856	3,177	3,762	4,338	4,867
Pressure drop	(1)(2)	kPa	38,0	34,4	34,7	34,9	56,8	49,7
REFRIGERANT CIRCUIT								
Compressors nr.		N°	2	2	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1
Refrigerant charge		kg	7,70	9,00	9,70	9,80	11,7	14,2
NOISE LEVEL								
Sound Pressure	(7)	dB(A)	46	47	47	47	48	49
Sound power level in cooling	(8)(9)	dB(A)	78	79	79	79	80	81
SIZE AND WEIGHT								
A	(10)	mm	2825	3360	3360	3360	3980	3160
B	(10)	mm	1195	1195	1195	1195	1195	2250
H	(10)	mm	1980	1980	1980	1980	1980	2170
Operating weight	(10)	kg	700	790	800	810	890	1280

Notes:

- 1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
 2 Values in compliance with EN14511
 3 Seasonal energy efficiency ratio
 4 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
 5 Plant (side) cooling exchanger water (in/out) 16°C/ 10°C; Source (side) heat exchanger air (in) 35°C.
 6 Plant (side) cooling exchanger water (in/out) 23°C/ 15°C; Source (side) heat exchanger air (in) 35°C.

7 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.

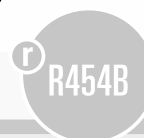
8 Sound power on the basis of measurements made in compliance with ISO 9614.

9 Sound power level in cooling, outdoors.

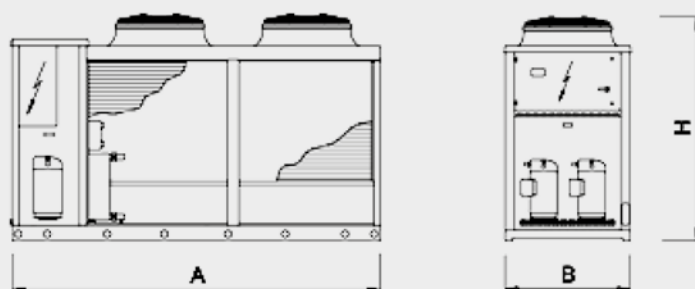
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Certified data in EUROVENT



NR-G06/SL-CA			0452P	0502P	0562P	0612P	0712P	0812P
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE								
COOLING ONLY (GROSS VALUE)								
Cooling capacity	(1)	kW	113,9	127,7	145,6	165,4	187,1	208,9
Total power input	(1)	kW	34,29	38,87	43,94	49,10	57,20	63,36
EER	(1)	kW/kW	3,321	3,283	3,317	3,369	3,271	3,295
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2)	kW	113,5	127,4	145,3	165,1	186,7	208,5
EER	(1)(2)	kW/kW	3,250	3,220	3,250	3,310	3,220	3,230
SEPR	(3)(4)		5,60	5,73	5,63	5,73	5,61	5,30
COOLING ONLY (GROSS VALUE)								
16°C/10°C								
Cooling capacity	(5)	kW	124,0	138,6	158,3	180,1	203,0	226,4
Total power input	(5)	kW	35,22	39,87	45,09	50,39	58,73	64,94
EER	(5)	kW/kW	3,523	3,474	3,510	3,573	3,458	3,488
23°C/15°C								
Cooling capacity	(6)	kW	140,8	156,7	179,4	204,5	229,3	255,4
Total power input	(6)	kW	36,58	41,30	46,80	52,36	61,04	67,23
EER	(6)	kW/kW	3,847	3,794	3,833	3,903	3,759	3,801
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	l/s	5,447	6,106	6,962	7,911	8,945	9,989
Pressure drop	(1)(2)	kPa	50,8	49,3	53,1	49,1	48,5	60,5
REFRIGERANT CIRCUIT								
Compressors nr.		N°	2	2	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1
Refrigerant charge		kg	14,9	17,4	21,6	23,5	23,6	27,0
NOISE LEVEL								
Sound Pressure	(7)	dB(A)	50	50	51	52	53	54
Sound power level in cooling	(8)(9)	dB(A)	82	82	83	84	85	86
SIZE AND WEIGHT								
A	(10)	mm	3160	3160	4335	4335	4335	5510
B	(10)	mm	2250	2250	2250	2250	2250	2250
H	(10)	mm	2170	2170	2170	2170	2170	2170
Operating weight	(10)	kg	1370	1440	1690	1750	1770	2070



**NR-G06-Z**

Chiller with 4 compressors, air cooled for outdoor installation, from 153 to 338 kW.

NR-G06-Z/LN-CA			0614T	0714T	0814T	0914T	1014T	1114T	1214T
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	160,8	190,5	218,3	251,6	282,7	305,3	330,6
Total power input	(1)	kW	49,41	57,70	65,95	77,37	87,22	93,13	101,6
EER	(1)	kW/kW	3,255	3,302	3,313	3,251	3,242	3,279	3,254
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	160,6	190,1	217,9	251,2	282,4	305,0	330,2
EER	(1)(2)	kW/kW	3,220	3,260	3,260	3,200	3,210	3,240	3,210
Cooling energy class			-	-	-	-	-	-	-
SEPR	(3)(4)		5,62	5,75	5,85	5,85	5,58	5,66	5,77
COOLING ONLY (GROSS VALUE)									
16°C/10°C									
Cooling capacity	(5)	kW	174,8	207,9	238,0	273,9	307,9	332,4	359,5
Total power input	(5)	kW	50,72	58,80	67,28	79,05	88,98	95,08	103,9
EER	(5)	kW/kW	3,448	3,536	3,536	3,467	3,460	3,495	3,460
23°C/15°C									
Cooling capacity	(6)	kW	197,9	237,1	270,8	310,8	349,8	377,5	407,2
Total power input	(6)	kW	52,66	60,33	69,11	81,35	91,35	97,78	107,3
EER	(6)	kW/kW	3,755	3,932	3,919	3,818	3,831	3,860	3,795
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	7,691	9,109	10,44	12,03	13,52	14,60	15,81
Pressure drop	(1)(2)	kPa	22,2	31,2	51,1	46,7	32,0	37,3	43,7
REFRIGERANT CIRCUIT									
Compressors nr.		N°	4	4	4	4	4	4	4
No. Circuits		N°	2	2	2	2	2	2	2
Refrigerant charge		kg	23,0	29,3	34,8	37,5	38,7	42,1	43,6
NOISE LEVEL									
Sound Pressure	(7)	dB(A)	54	55	56	57	58	59	59
Sound power level in cooling(8)(9)		dB(A)	86	87	88	89	90	91	91
SIZE AND WEIGHT									
A	(10)	mm	3160	4335	4335	4335	5510	5510	5510
B	(10)	mm	2250	2250	2250	2250	2250	2250	2250
H	(10)	mm	2170	2170	2170	2170	2170	2170	2170
Operating weight	(10)	kg	1740	2030	2030	2200	2830	2840	2850

Notes:

- Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
- Values in compliance with EN14511
- Seasonal energy efficiency ratio
- Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
- Plant (side) cooling exchanger water (in/out) 16°C/ 10°C; Source (side) heat exchanger air (in) 35°C.
- Plant (side) cooling exchanger water (in/out) 23°C/ 15°C; Source (side) heat exchanger air (in) 35°C.
- Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.

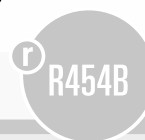
8 Sound power on the basis of measurements made in compliance with ISO 9614.

9 Sound power level in cooling, outdoors.

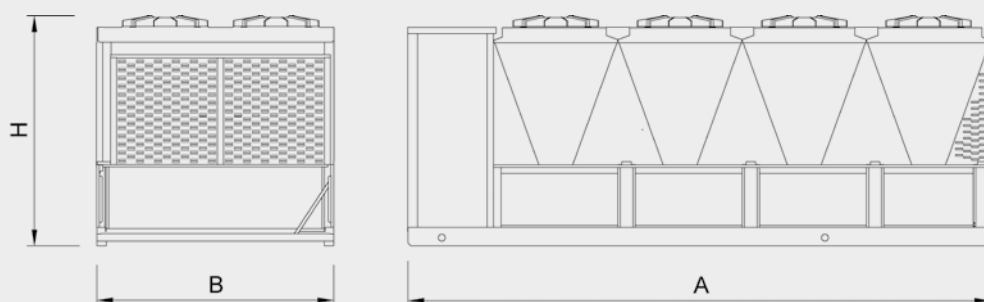
10 Unit in standard configuration/execution, without optional accessories.

The units highlighted in this publication contain R454B [GWP₁₀₀ 466] fluorinated greenhouse gases.

Certified data in EUROVENT



NR-G06-Z/SL-CA			0614T	0714T	0814T	0914T	1014T	1114T	1214T
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	160,6	187,1	215,3	249,0	280,1	303,9	329,9
Total power input	(1)	kW	48,84	57,05	65,39	76,66	86,53	93,09	101,6
EER	(1)	kW/kW	3,291	3,277	3,292	3,246	3,238	3,264	3,247
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	160,4	186,8	214,9	248,6	279,8	303,6	329,5
EER	(1)(2)	kW/kW	3,260	3,240	3,240	3,200	3,200	3,230	3,200
Cooling energy class			-	-	-	-	-	-	-
SEPR	(3)(4)		5,76	5,91	5,79	5,82	5,75	5,71	5,83
COOLING ONLY (GROSS VALUE)									
16°C/10°C									
Cooling capacity	(5)	kW	174,5	204,2	234,8	271,1	304,9	330,8	358,5
Total power input	(5)	kW	50,16	58,21	66,68	78,28	88,38	95,09	104,0
EER	(5)	kW/kW	3,476	3,509	3,520	3,462	3,449	3,478	3,447
23°C/15°C									
Cooling capacity	(6)	kW	197,6	232,6	267,3	307,9	346,0	375,5	405,9
Total power input	(6)	kW	52,11	59,83	68,45	80,50	90,89	97,86	107,5
EER	(6)	kW/kW	3,793	3,890	3,908	3,825	3,806	3,836	3,776
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	7,680	8,949	10,29	11,91	13,39	14,53	15,78
Pressure drop	(1)(2)	kPa	22,2	30,1	49,7	45,7	31,4	37,0	43,5
REFRIGERANT CIRCUIT									
Compressors nr.		N°	4	4	4	4	4	4	4
No. Circuits		N°	2	2	2	2	2	2	2
Refrigerant charge		kg	25,6	27,9	33,1	35,7	36,9	40,1	41,5
NOISE LEVEL									
Sound Pressure	(7)	dB(A)	51	51	52	53	54	55	55
Sound power level in cooling	(8)(9)	dB(A)	83	83	84	85	86	87	87
SIZE AND WEIGHT									
A	(10)	mm	4335	4335	5510	5510	5510	5510	5510
B	(10)	mm	2250	2250	2250	2250	2250	2250	2250
H	(10)	mm	2170	2170	2170	2170	2170	2170	2170
Operating weight	(10)	kg	2010	2030	2360	2530	2830	2840	2850



"EXPERIENCE IS BY FAR THE BEST PROOF"

Sir Francis Bacon
British philosopher (1561-1626)

ENI CONGO

2015 Pointe Noire - Congo

Application:
Data Center
Office building

Cooling capacity:
672 kW
Installed machines:
2x NR-Z scroll compressor chillers,
13x close control units,
257x fan coil units,
1x Air Handling Unit
Installer: CEU

CHALLENGE

Considering the large Eni investment in Congo, it was easy to understand the company's need to enlarge their headquarters. The Pointe Noire location modernization started in 2012 and ended in 2014. The refurbishment was divided into two phases: the first one was based on the revamping of the existing buildings, while the second one consisted in the construction of a new building.

PROJECT

ENI has been present in Congo since 1968. Eni and the Congo Republic signed some strategic agreements for the cooperation and the care of the hydrocarbon resources of the country.

SOLUTION

In both steps ENI chose RC air conditioning units. Specifically 1 air handling unit combined with 257 fan coils and more than 10 close control units for the renovated data center.

Telecity

2015 Aubervilliers - France

Data Center

Plant type: Hydronic System

Cooling capacity: 208 kW

Installed machines:
2x NR-Z scroll compressor chillers

Vodafone Datacenter Padova

2013 Padova - Italy

Data Center

Plant type: HPAC System

Cooling capacity: 968 kW

Installed machines:
2x NR-Z low noise scroll compressor chillers,
6x close control units

DediPower Reading Data Centre

2010 Reading - Great Britain

Data Center

Plant type: Hydronic System

Cooling capacity: 1015 kW

Installed machines:
2x NRCS-Z low noise chillers with scroll compressors, 1x NRCS-FC-Z free-cooling chillers

ARD Hauptstadtstudio

2010 Berlin - Germany

Telecommunications

Plant type: Hydronic System

Cooling capacity: 400 kW

Installed machines:
1x NRCS-Z / SL super low noise chiller
with scroll compressors



for a greener tomorrow

Eco Changes is the Mitsubishi Electric Group's environmental statement, and expresses the Group's stance on environmental management. Through a wide range of businesses, we are helping contribute to the realization of a sustainable society.



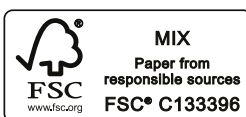
mitsubishi electric hydronics & it cooling systems S.p.A.

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