

**MITSUBISHI ELECTRIC
HYDRONICS & IT COOLING SYSTEMS S.p.A.**

WATER SOURCE CHILLERS AND HEAT PUMPS

NX²-W G06

**WATER SOURCE CHILLERS AND HEAT PUMPS
WITH SCROLL COMPRESSORS AND LOW-GWP
REFRIGERANT, FROM 45 kW TO 242 kW**

R454B



NX²-W-G06

THE INDOOR WATER COOLED CHILLER PERFECT FOR EVERY APPLICATION WITH GREEN R454B REFRIGERANT



Water source chillers and heat pumps with scroll compressor technology. From 45 kW to 242 kW



NX2-W-G06 is the ultimate chiller and heat pump (reversible on hydraulic side) solution with scroll compressors, capable of meeting the needs of every application. This new water-cooled range perfectly combines the use of the low GWP refrigerant R454B with the hermetic rotary scroll compressors dedicated to indoor spaces.

Designed to meet the latest efficiency targets, also thanks to the innovative IDV technology, NX2-W-G06 shows very high efficiency levels especially at partial loads and always guarantees a reliable operation in any working conditions.

THE GREENER CHILLER WITH SUPERIOR EFFICIENCY FOR EVERY SEASON

EFFICIENCY

UP TO

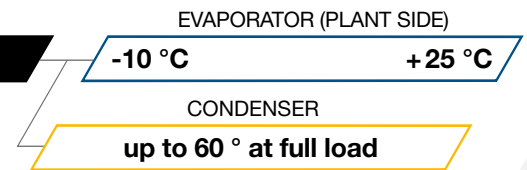


WIDE OPERATING RANGE FOR EVERY APPLICATION: COMFORT, PROCESS, AND IT COOLING

	EER	SEER
NX2-W-G06	5,00	7,37
	COP	SCOP LT
NX2-W-G06-H	4,39	7,13

EER: 12/7 °C, water 30/35°C (EN14511 values)
SEER: Regulation (EU) N. 2016/2281

COP: cond. 40/45°C, water 10/7°C (EN14511 values)
SCOP LT: Regulation (EU) N.813/2013



ACOUSTIC VERSIONS

Standard	Low sound power levels already in the standards version.	Baseline
Acoustical Enclosure «Plus»	Unit with sound insulation on the compressors and on the panels.	-4 dB(A)

POSSIBLE CONFIGURATIONS

NX2-W-G06	Cooling only chiller
NX2-W-G06-H	Heat pump reversible on hydronic side
NX2-W-G06-D	Unit with partial heat recovery system
NX2-W-G06-H-D	Heat pump reversible on water side with partial heat recovery system

NEW GENERATION GREEN REFRIGERANT

R454B

Fully committed to supporting the creation of a greener tomorrow, Mitsubishi Electric Hydronics & IT Cooling Systems presents the G06 series, chillers and heat pumps with reduced environmental impact.

Thanks to the new generation refrigerant R454B, the environmental impact of NX2-W-G06 is greatly reduced. Combining reduced refrigerant charge with a low GWP refrigerant, these units boast 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

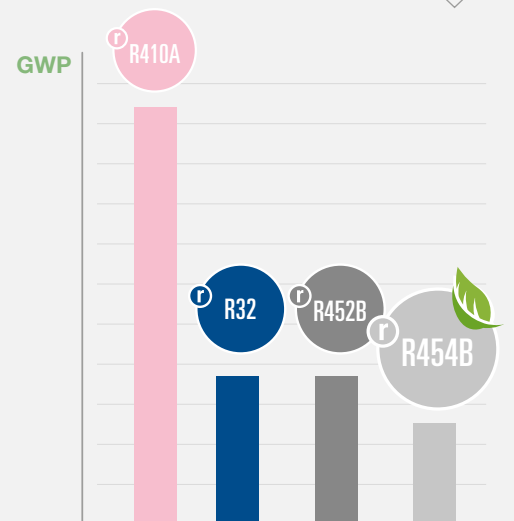


PERFORMANCE & ENVELOPE

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

GWP: 466

-76% vs R410A
-31% vs R32



COMPLETE RISK ASSESSMENT

NX2-W-G06 is designed for indoor installations and R454B is an A2L refrigerant (mildly flammable), but safety is guaranteed thanks to a specific development that includes the following aspects:

- ✓ Complete risk assessment procedure in accordance with the most recent directives
- ✓ Refrigerant leak detector as standard equipment, capable of promptly reacting in case of leakage and cut-off the power supply from the unit
- ✓ New electrical panel, completely separated from the compressors compartment
- ✓ Improved ventilation of the enclosure
- ✓ Presence of Safety valves
- ✓ Compliance to the safety requirements of EN 378 for installation inside a plant room



LEAK DETECTOR

TECHNOLOGICAL CHOICES

Advanced safety design and green refrigerant R454B are an ideal platform for IDV scroll compressors technology: the perfect combination for high seasonal efficiency.

Electrical Control Box

W3000+ control software, available with standard keyboard or touch screen, features proprietary settings, to perfectly manage each single product dynamic.



Compact keyboard (STD)



7 inch touch screen (opt.)



KIPLink (opt.)
Full access by simply scanning the QR code

Structure and layout

NX2-W-G06 puts safety as first priority, and this critical aspect is achieved also by the introduction of the new electrical cabinet, completely isolated from the compressor compartment

This family is composed of 14 sizes, but all of them stay in the same **885 mm width**. The standard equipment already includes the polyester-painted galvanized steel panels for every size.



New scroll compressors

New generation of fixed speed scroll compressors, developed for the use of A2L refrigerant R454B.

- ✓ **Uneven tandem** configuration that boosts the seasonal efficiency
- ✓ Intermediate Discharge Valve (**IDV**) that reduces excessive compression in part load operation



Electronic expansion valve

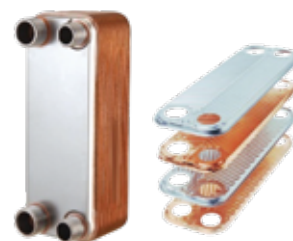
Managed by proprietary dedicated logics, it guarantees an excellent flow control and a highly precise temperature control in every load condition.



Plate heat exchanger

Brazed plate heat exchangers made of AISI 316 stainless steel, externally coated with an anti-condensation material in closed cell neoprene (CFC and HCFC-free) on the user side exchanger.

Compact and efficient with reduced pressure drops.



DATI TECNICI:

NX2-W/H G06



DATI TECNICI:

NX2-W G06



KIPlink: LOCAL AND REMOTE MONITORING FUNCTIONS

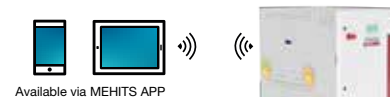
An exclusive product of Mitsubishi Electric Hydraulics & IT Cooling Systems.

Monitor and control the unit from a LAN device (PC, laptop, mobile phone) with a simple web browser.

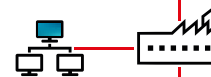
MAIN FEATURES

- ▶ Easier on-site operation
- ▶ Real-time graphs and trends
- ▶ Data logger function

1 Wi-Fi Proximity Smart Keyboard



2 LAN via TCP/IP Local Monitoring



3 REMOTO via VPN Same as local monitoring



CUSTOMER VPN
Secure accessibility to LAN
Customer in charge of cyber security

FOCUS ON: NX2-W-G06 FOR PROCESS APPLICATIONS

- ✓ **Wide operating map**, down to -10 °C ELWT
- ✓ **Double alarm management** as option
- ✓ Versions -H and -D available for **heat recovery**
- ✓ Many options available for **condensation control** (2-way/3-way valves, pressostatic valves, modulating signal 0-10V)

FOCUS ON: NX2-W-G06 FOR IT COOLING APPLICATIONS

- ✓ Increased **evaporation limits**, up to +25 °C ELWT
- ✓ HPC for the centralized control of complex cooling systems through LAN technology
- ✓ **MultiManager** for chiller group management
- ✓ Version -D available for **heat recovery**

SMART LAN FUNCTIONS

NX2-W-G06 features embedded LAN logics for an easy connection between a group of chillers.

- ▶ Up to 8 chillers connected to the same group.
- ▶ Load sharing and Sequencing.
- ▶ Selectable unit start-up sequence.
- ▶ Stand by unit management with automatic unit rotation.
- ▶ Dynamic master with succession priority.

One master unit is elected to coordinate the group and if it becomes disconnected the candidate unit takes full control.

- ▶ Resource priority management.

MASTER SUCCESSION PRIORITY



M Master Unit **C** Candidate Master Unit

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).

Control functions

External capacity cap: Limits the unit's cooling capacity to a specific % value, by acting on active resources and their operating frequencies. The unit can exceed this limit in specific conditions.

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).

Operating map

Evaporator leaving water temperature < 5°C: Enables evaporator leaving water temperatures at full load operation down to -10°C.

Evaporator leaving water temperature > 18°C: Enables evaporator leaving water temperatures at full load operation up to 25°C.

Connectivity

Serial card interface module to allow integration with BMS protocols: **Modbus / BACnet MS/TP / BACnet over IP / Konnex / Modbus TCP/IP/ SNMP**

Multi Manager: options to allow easy connection between a group of chillers.

Energy Meter

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

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

Acoustical enclosures

Acoustical enclosure "plus": Insulation on both compressors and inside the panelling of the unit for a -4 dB(A) reduction.

Condensing Control with 0-10V signal

0-10V signal for 2-way valve: 0-10V signal on terminal blocks for the control of a 2-way valve

0-10V signal for 3-way valve: 0-10V signal on terminal blocks for the control of a 3-way valve

Structure

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

“ BY FAR THE BEST PROOF IS EXPERIENCE”

Sir Francis Bacon
British Philosopher (1561 - 1626)

Milano – Italy
Horti

Period: 2019 - 2020

Application: Residential buildings

System type: Hydronic System

Cooling capacity: 488 kW

Heating capacity: 1100 kW

Installed machines:

2x NX-WN 0804, 2x EW-HT 0612,
1x KlimaPRO

TO LEARN MORE ABOUT THIS PROJECT

<https://www.melcohit.com/en/projects/6579/horti>



Climaveneta's chillers and heat pump units, with their unbeatable advantages in terms of efficiency, quality, and precision are already the preferred choice of the major brands in the most prestigious projects all over the world.

Dubai - UAE
Royal Atlantis

Period: 2018 - 2020

Application: Hotel and resorts

System type: Hydronic System

Cooling capacity: 835 kW

Heating capacity: 4464 kW

Installed machines: 4x AW-HT/CA-E/S 0262,
9x AW-HT/CA-E/S 0202, 2x AW-HT/CA-E/S
0404, 3x NX-W/H/S 0502, 2x NX-W/H/S 0552,
3x FOCS-W/H/B/S 0951, 3x FOCS-W/H/B/S
0501, 5x FOCS-W/H/B/S 1301



TO LEARN MORE ABOUT THIS PROJECT

<https://www.melcohit.com/en/projects/6498/royal-atlantis>



MORE THAN 1000 PROJECTS ALL OVER THE WORLD

Warsaw - Poland
Polish Army Museum

Period: 2020 - 2021

Application: Museum

System type: Hydronic System

Cooling capacity: 1700 kW

Installed machines:

1x i-FX/SK-A 3152, 2x NX-WN 0452,

1x ERACS2-WQ 0802

TO LEARN MORE ABOUT THIS PROJECT

<https://www.melcohit.com/en/projects/6545/polish-army-museum>



Milano - Italy
Armani Hotel

Period: 2022

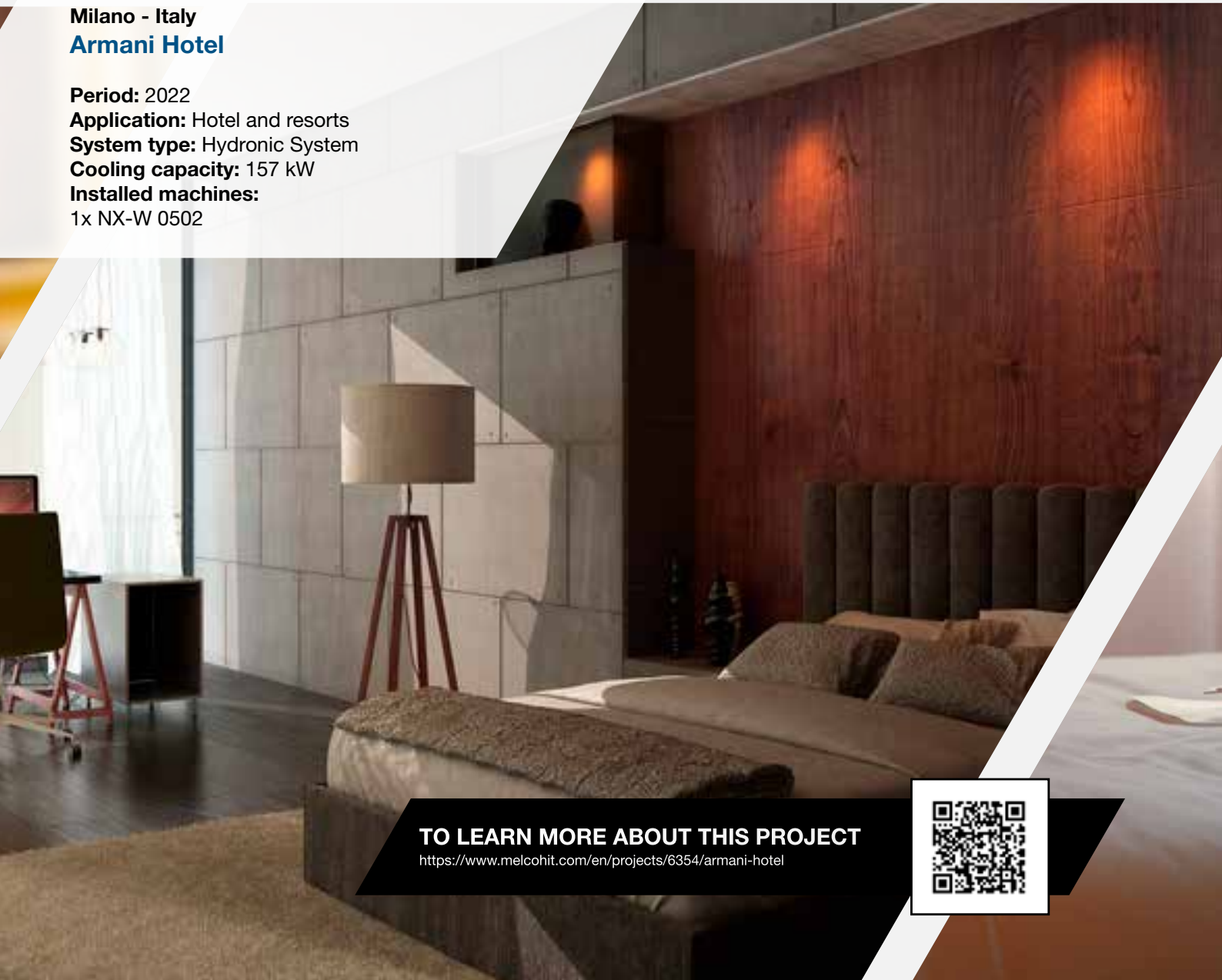
Application: Hotel and resorts

System type: Hydronic System

Cooling capacity: 157 kW

Installed machines:

1x NX-W 0502



TO LEARN MORE ABOUT THIS PROJECT

<https://www.melcohit.com/en/projects/6354/armani-hotel>





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