

# Commercial and industrial chillers

## NECS-ME 0152 - 1604



### Version

B Basic

### Features

#### REFRIGERANT GAS R410A

The use of R410A allowed to achieve better energy efficiencies with environment full respect (ODP = 0)

#### UNIT DESIGNED FOR COMBINATION WITH REMOTE CONDENSER

Compact units, designed for residential- and commercial air-conditioning systems

#### INTEGRAL CONTROL AND ADJUSTMENT

The condenserless unit comes complete with built-in microprocessor control with possible connection to the condenser.

#### INTEGRATED HYDRONIC MODULE

The built-in hydronic module already contains the main water circuit components; it is available with single or double pump configuration, with low or high head.

### Accessory

- Remote control keyboard (distance to 200m and to 500m)
- Set-up for remote connectivity with ModBus, Echelon LonTalk, Bacnet protocol board
- Acoustical enclosure to reduce the noise emissions.
- Rubber anti-vibration mounting kit

## Condenserless unit

### 39,5-432 kW

Indoor unit for the production of chilled water that may be connected to a remote condenser with hermetic rotary scroll compressors working with R410A, braze-welded plate-type exchanger and thermal expansion valve. Panels and base in hot-dip galvanised sheet steel with paint finish.

### Controls

W3000 Base – W3000SE Compact

The controller in two different versions according to the unit's type:

W3000 Base: electronic controller complete with keypad features an easy-to-use interface and a complete LCD display, allowing to consult and intervene on the unit by means of a menu up to three languages (Italian and English come standard, a further language can be chosen within French, Spanish, German, Russian and Swedish)

W3000SE Compact: electronic controller complete with keypad features an easy-to-use interface and a complete LCD display, allowing to consult and intervene on the unit by means of a multi-language menu, with selectable language setting on site. This controller also includes an internal clock.

All the W3000 electronic controllers offer advanced functions and algorithms.

The keypad features an easy-to-use interface and a complete LCD display, allowing to consult and intervene on the unit by means of a multi-level menu, with selectable language setting.

The regulation is based on the exclusive QuickMind algorithm, including self-adaptive control logics, beneficial in low water content systems. As alternatives the proportional- or proportional- integral regulations are also available.

The diagnostics includes a complete alarm management, with the "black-box" and alarm logging functions for enhanced analysis of the unit operation (available on W3000SE Compact only).

For multiple units' systems, the regulation of the resources, via optional proprietary devices, can be implemented. Energy metering, for both consumption and capacity, can also be developed.

Supervision can be easily developed via proprietary devices or the integration in third party systems by means of the most common protocols as ModBus, Bacnet, Bacnet-over-IP, Echelon LonWorks.

Compatibility with the remote keyboard managing up to 10 units.

The internal real time clock allows to manage a weekly schedule operating on 4-day profiles with 10 hour belts (available on W3000SE Compact only, optional on W3000 Base controller).

The defrost adopts a proprietary self-adaptive logic, which features the monitoring of numerous operational parameters.

This allows to reduce the number and duration of the defrost cycles, with a benefit for the overall energy efficiency.





NECS-ME / B			0152	0182	0202	0252	0262	0302	0352	0412	0452	0512	0552
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	400/3/50	400/3/50	400/3/50	400/3/50
<b>PERFORMANCE</b>													
<b>COOLING</b>													
Cooling capacity	(1)	kW	39,5	45,8	53,6	60,5	67,4	80,2	92,8	105	117	131	151
Total power input	(1)	kW	12,0	13,5	15,7	18,1	20,0	23,4	26,9	30,3	33,9	37,6	43,3
EER	(1)		3,29	3,39	3,41	3,34	3,37	3,43	3,45	3,45	3,46	3,49	3,48
<b>EXCHANGERS</b>													
<b>HEAT EXCHANGER USER SIDE IN REFRIGERATION</b>													
Water flow	(1)	m <sup>3</sup> /h	6,80	7,89	9,23	10,4	11,6	13,8	16,0	18,0	20,2	22,6	25,9
Pressure drop	(1)	kPa	48,0	41,3	41,0	39,1	48,4	29,4	27,6	35,0	33,1	32,2	28,9
<b>COMPRESSORS</b>													
Compressors nr.		N°	2	2	2	2	2	2	2	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1	1	1	1	1	1
<b>NOISE LEVEL</b>													
Noise Pressure	(2)	dB(A)	42	43	43	43	44	44	45	45	46	46	47
Noise Power	(3)	dB(A)	73	74	74	74	75	76	77	77	78	78	79
<b>SIZE AND WEIGHT</b>													
A	(4)	mm	1130	1130	1130	1130	1130	1310	1310	1310	1310	1310	1310
B	(4)	mm	669	669	669	669	669	893	893	893	893	893	893
H	(4)	mm	1255	1255	1255	1255	1255	1496	1496	1496	1496	1496	1496
Operating weight	(4)	kg	270	280	290	295	300	410	500	585	615	645	680

NECS-ME / B			0612	0604	0704	0804	0904	1004	1104	1204	1404	1604
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	400/3/50	400/3/50	400/3/50
<b>PERFORMANCE</b>												
<b>COOLING</b>												
Cooling capacity	(1)	kW	170	161	186	207	235	263	301	339	387	432
Total power input	(1)	kW	48,9	46,9	53,7	60,6	67,9	75,2	86,5	97,8	111	124
EER	(1)		3,47	3,43	3,46	3,42	3,47	3,50	3,47	3,47	3,49	3,48
<b>EXCHANGERS</b>												
<b>HEAT EXCHANGER USER SIDE IN REFRIGERATION</b>												
Water flow	(1)	m <sup>3</sup> /h	29,3	27,7	31,9	35,7	40,5	45,3	51,7	58,4	66,5	74,3
Pressure drop	(1)	kPa	36,8	32,5	31,0	38,8	38,9	39,4	36,7	46,7	49,6	54,7
<b>COMPRESSORS</b>												
Compressors nr.		N°	2	4	4	4	4	4	4	4	4	4
No. Circuits		N°	1	2	2	2	2	2	2	2	2	2
<b>NOISE LEVEL</b>												
Noise Pressure	(2)	dB(A)	47	54	55	56	57	58	59	59	59	59
Noise Power	(3)	dB(A)	79	86	87	88	89	90	91	91	91	91
<b>SIZE AND WEIGHT</b>												
A	(4)	mm	1310	2227	2227	2227	2227	2227	2227	2227	2227	2227
B	(4)	mm	893	1020	1020	1020	1020	1020	1020	1020	1020	1020
H	(4)	mm	1496	1780	1780	1780	1780	1780	1780	1780	1780	1780
Operating weight	(4)	kg	700	755	950	1125	1185	1250	1330	1370	1430	1480

Notes:

1 Plant (side) cooling exchanger water (in/out) = 12°C/7°C; Condensation temperature = 47°C.

2 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.

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

4 Unit in standard configuration/execution, without optional accessories

