

Close Control Units



Providing indoor climate comfort



Telecom Units · **@dnova**

 4 - 17 kW	146
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Close Control Units · **innov@**

 6 - 120 kW	96
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Introduction to the range

The @DNOVA units are designed for inside or outside installation of Telecom shelters. They are used for efficient and reliable management of temperature of technological environments with thermal loads.

- THX : Wall mounted monobloc outdoor unit
- THN : Wall mounted monobloc indoor unit
- THS : Ceiling mounted split unit

The installation is simple and fast: plug and play system which requires just screw fitting and electrical cable connections.

For maintenance and service activities, all components are fully accessible from the front of the units. No further access of service staff to the sensitive internal is needed.

Components

- The unit supporting is made of thick galvanised sheet, while the outer part is in aluminium alloy 5005 (THX) or in painted galvanized sheet metal RAL 9002 (THN, THS)
- The refrigerant circuit is entirely in house manufactured, using welders certified according to the PED 97/23, and relevant components are certified according to the same directive. The exclusive rotary or scroll type used compressors are available in the version for fluid type HFC (R407C, R134a)
- The @DNOVA (THX, THN) units are fitted with centrifugal fans, with backward curved blades and single intake
- The evaporator are made with copper tubes and aluminium fins, the drip tray is in galvanized still in standard (stainless steel as an option)
- Condensing axial fan (THX, THS) with wing-shaped blades are featured by a high covering degree. All used 6 poles motor limit the sound emissions.
- The @DNOVA are fitted in standard with Basic Microprocessor with user interface 4x20 LCD

Options

- Advanced Microprocessor
- Double supply (AC main for the compressors, condensing fan, heating - Auxiliary supply 48V dc for microprocessor, evaporating fan, damper motor)
- Air differential pressure switch
- Double supply
- R134a
- Free-cooling (ON/OFF, modulating)
- Electronic expansion valve
- Clogged filter sensor
- Electrical heater
- Humidity sensor
- Condensation control
- Interconnectivity (RS232, RS485 ...)

General Data

@DNOVA AIRCOOLED (PACKAGED INDOOR UNIT) UPFLOW/DOWNFLOW/DISPLACEMENT	THN	0045	0056	0073	0090	0105	0120	0150	0170
Total cooling capacity ⁽¹⁾	kW	4,5	5,6	7,1	9,0	10,9	11,9	15,0	17,2
Sensible Cooling capacity	kW	4,5	5,5	7,1	9,0	10,9	11,9	15,0	16,9
SHR		1	0,99	1	1	1	1	1	0,98
Number of compressors ⁽²⁾	scroll	1	1	1	1	1	1	1	1
Air Flow	m ³ /h	1450	2100	2100	3020	3020	3020	3800	3800
Sound Power Level	dB(A)	69	69	69	72	72	72	72	72
Sound Pressure (10m free field)	dB(A)	58	58	58	61	61	61	61	61
Height	mm	1850	1850	1850	1850	1850	1850	1850	1850
Width	mm	800	800	800	1000	1000	1000	1160	1160
Depth	mm	550	550	550	550	550	550	550	550

(1) Indoor conditions 27°C/ 40% relative humidity Outdoor condition: 35 °C

(2) Rotary compressor on model THN0045

@DNOVA AIRCOOLED (PACKAGED OUTDOOR UNIT) UPFLOW ⁽¹⁾	THX	0045	0056	0073	0090	0105	0120	0145	0902	1102	1302
Total cooling capacity (2)	kW	4,5	5,6	7,3	8,9	10,2	12,0	14,1	9,1	10,8	13,2
Sensible Cooling capacity	kW	4,5	5,5	7,0	8,9	10,2	12,0	14,1	8,7	9,7	11,7
SHR		1	0,99	0,96	1	1	1	1	0,96	0,9	0,89
Number of compressors (3)	scroll	1	1	1	1	1	1	1	2	2	2
Air Flow	m ³ /h	1450	1450	2150	3020	3020	3020	3020	2800	2800	2800
Sound Power Level	dB(A)	69	70	70	71	71	71	74	72	72	72
Sound Pressure (10m free field)	dB(A)	42	43	43	44	44	44	46	45	45	45
Height	mm	1580	1580	1580	1630	1630	1790	1790	1790	1790	1790
Width	mm	804	804	804	1000	1000	1000	1000	1000	1000	1000
Depth	mm	498	498	498	596	596	596	596	596	596	596

(1) Downflow on request for several models

(2) Indoor conditions 27°C/ 40% relative humidity Outdoor condition: 35 °C

(3) Rotary compressor on model THX0045

@DNOVA AIRCOOLED (SPLIT SYSTEM) WALL / CEILING MOUNTED	THS	0025	0035	0045	0056	0073	0090	0105	0120	0145
Total cooling capacity ⁽¹⁾	kW	2,6	3,6	4,5	5,6	7,3	9,0	10,4	12,0	14,5
Sensible Cooling capacity	kW	2,6	3,6	4,5	5,5	7,3	8,9	10,1	12,0	13,5
SHR		1	1	1	0,99	1	0,99	0,97	1	0,93
Number of compressors ⁽²⁾	scroll	1	1	1	1	1	1	1	1	1
Evaporator airflow	m ³ /h	950	930	1400	1400	2200	2200	2200	3200	3200
Condensator airflow	m ³ /h	2250	2050	3450	3350	3350	5100	5100	5580	5450
Sound Power Level	dB(A)	68	68	69	69	70	70	73	71	71
Sound Pressure (10m free field)	dB(A)	41	41	42	42	43	43	46	44	44
Indoor unit										
Height	mm	350	350	350	350	350	350	350	400	400
Width	mm	590	590	990	990	990	990	990	1090	1090
Depth	mm	1040	1040	1040	1040	1040	1040	1040	1040	1040
Outdoor unit										
Height	mm	580	580	630	630	630	630	630	1268	1268
Width	mm	600	600	990	990	990	990	990	1120	1120
Depth	mm	350	350	360	360	360	360	360	578	578

(1) Indoor conditions 27°C/ 40% relative humidity Outdoor condition: 35 °C

(2) rotary compressor on model THS0025, 0035, 0045

Standard options:

Freecooling (direct)
48 Volt emergency Freecooling
Electrical heater

X-tra potential free contacts for alarm
GSM kit

Innov@ . 6 → 120 kW

Close Control Units

INNOV@™



Introduction to the range

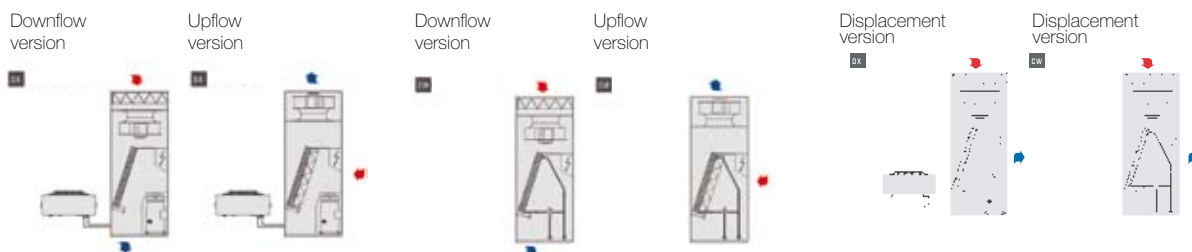
The new series of INNOV@ H Close Control Air Conditioning units are designed to guarantee and respect all environment protection parameters; they represent the perfect answer to all technical requirements of different technological plant concepts (control rooms, EDP rooms, textile industry, metrological rooms, etc ...).

The exclusive design with rounded edges, the innovative colour and the excellent performances of the INNOV@ series have become the new high quality standard in the control air conditioning sector.

Highest energy efficiency, smallest dimensions and lowest noise levels: this were LENNOX's targets when developing it's new INNOV@ series, units designed in order to operate 24 hours a day, 365 days a year.

All main components are reachable from the front part of the unit in order to reduce technical spares necessary for installation and maintenance: e-panel, compressor, fans, humidifier, electrical heaters, expansion valve and liquid flow filter can be reached by just opening the front panel. This guarantees fast and safe intervention.

Distribution configurations



Components

Only internationally well known quality components and newest technology devices are used in the INNOV@ series in order to guarantee top efficiency and reliability. Technical features such as electronic expansion valves, radial fans with reverse blades and electronically commutated DC motors offers various opportunities in energy saving. The reduction of energy consumption in comparison with traditional technologies reaches values up to 45%.

The microprocessor control, available in Basic or Advanced Graphic version, manages all functions of the INNOV@ series. This control offers the opportunity to connect up to 8 units together creating a local network (LAN) and allowing, among different options, to balance operation times in an automatic stand by and rotation function. The microprocessor controls are available with a LCD display (Basic version) or with a graphic display (Advanced version) and are compatible with the most wide spread communication protocols. LENNOX Software Development Team (LSDT) moreover, is able to develop control strategies according to customers special requirements.

General Data

INNOV® DX AIRCOOLED UPFLOW/DOWNFLOW/DISPLACEMENT		0060	0080	0100	0110	0130	0160	0190	0205	0201	0251	0261	0271
Total cooling capacity ⁽¹⁾	kW	5,9	7,7	9,3	10,6	12,7	15,8	18,4	20,5	21,2	23,2	26,8	27,3
Sensible Cooling capacity	kW	5,9	7,4	9,3	10,6	12,4	15,6	17,3	18,9	21,2	23,2	24,7	27,3
SHR		1,00	0,96	1,00	1,00	0,98	0,99	0,94	0,92	1	1	0,92	1
Number of compressors	scroll	1	1	1	1	1	1	1	1	1	1	1	1
Air Flow	m ³ /h	1785	2150	3530	3530	3700	5100	5100	5100	7280	7280	7280	12950
Fan Type ⁽²⁾		EC	EC	EC	EC	EC	EC	EC	EC	EC	EC	EC	EC
Number of fan		1	1	1	1	1	1	1	1	1	1	1	2
Height	mm	1875	1875	1875	1875	1875	1875	1875	1875	1998	1998	1998	1998
Length	mm	600	600	900	900	900	900	900	900	1000	1000	1000	1750
Depth	mm	600	600	600	600	600	600	600	600	795	795	795	795

INNOV® DX AIRCOOLED UPFLOW/DOWNFLOW/DISPLACEMENT		0301	0401	0272	0302	0362	0422	0452	0552	0602	0692	0762
Total cooling capacity ⁽¹⁾	kW	31,5	41,2	26,9	31,9	35,9	41,9	44,3	54,4	61,4	68,7	76,2
Sensible Cooling capacity	kW	31,2	40,0	26,9	31,6	35,2	40,6	43,4	54,4	58,9	65,3	70,9
SHR		0,99	0,97	1	0,99	0,98	0,97	0,98	1	0,96	0,95	0,93
Number of compressors	scroll	1	1	2	2	2	2	2	2	2	2	2
Air Flow	m ³ /h	12950	12950	12950	12950	12950	12950	12950	19415	19415	19415	19415
Fan Type ⁽²⁾		EC	EC	EC	EC	EC	EC	EC	EC	EC	EC	EC
Number of fan		2	2	2	2	2	2	2	3	3	3	3
Height	mm	1998	1998	1998	1998	1998	1998	1998	1998	1998	1998	1998
Length	mm	1750	1750	1750	1750	1750	1750	1750	2500	2500	2500	2500
Depth	mm	795	795	795	795	795	795	795	795	795	795	795

INNOV® DX WATERCOOLED UPFLOW/DOWNFLOW/DISPLACEMENT		0060	0080	0100	0110	0130	00160	0190	0205	0201	0251	0261	0271
Total cooling capacity ⁽¹⁾	kW	5,3	7,0	8,9	10,0	11,7	15,5	17,8	19,7	20,0	21,1	25,4	25,4
Sensible Cooling capacity	kW	5,2	6,7	8,9	10,0	10,8	15,5	16,6	17,5	20,0	21,1	23,3	25,4
SHR		0,98	0,95	1	1	0,92	1	0,93	0,89	1	1	0,92	1
Number of compressors	scroll	1	1	1	1	1	1	1	1	1	1	1	1
Air Flow	m ³ /h	1785	2150	3530	3530	3700	5100	5100	5100	7280	7280	7280	12950
Fan Type ⁽²⁾		EC	EC	EC	EC	EC	EC	EC	EC	EC	EC	EC	EC
Number of fan		1	1	1	1	1	1	1	1	1	1	1	2
Height	mm	1875	1875	1875	1875	1875	1875	1875	1875	1998	1998	1998	1998
Length	mm	600	600	900	900	900	900	900	900	1000	1000	1000	1750
Depth	mm	600	600	600	600	600	600	600	600	795	795	795	795

(1) Indoor conditions 24°C/ 50% relative humidity / Outdoor condition: 35 °C
 Matching drycoolers available
 FREECOOLING optional (direct / indirect)

(2) Electronically Commutated fan
 Centrifugal fans are an option for the models 0060 - 0205
 Dualfluid optional

General data

INNOV@ DX WATERCOOLED UPFLOW/DOWNFLOW/DISPLACEMENT		0301	0401	0272	0302	0362	0422	0452	0552	0602	0692	0762
Total cooling capacity ⁽¹⁾	kW	29,5	39,2	27,9	34,6	40,6	48,0	50,6	60,9	70,7	81,9	93,1
Sensible Cooling capacity	kW	29,2	38,0	27,9	34,3	39,8	46,6	49,6	60,9	67,9	77,8	86,5
SHR		0,99	0,97	1	0,99	0,98	0,97	0,98	1	0,96	0,95	0,93
Number of compressors	scroll	1	1	2	2	2	2	2	2	2	2	2
Air Flow	m ³ /h	12950	12950	12950	12950	12950	12950	12950	19415	19415	19415	19415
Fan Type ⁽²⁾		EC	EC	EC	EC	EC	EC	EC	EC	EC	EC	EC
Number of fan		2	2	2	2	2	2	2	3	3	3	3
Height	mm	1998	1998	1998	1998	1998	1998	1998	1998	1998	1998	1998
Length	mm	1750	1750	1750	1750	1750	1750	1750	2500	2500	2500	2500
Depth	mm	795	795	795	795	795	795	795	795	795	795	795

(1) Indoor conditions 24°C/ 50% relative humidity / Outdoor condition: 35 °C
 Matching drycoolers available
 FREECOOLING optional (direct / indirect)

(2) Electronically Commutated fan
 Centrifugal fans are an option for the models 0060 - 0205
 Dualfluid optional

INNOV@ CHILLED WATER UPFLOW/DOWNFLOW/DISPLACEMENT		0080	0110	0140	0160	0200	0230	0300
Total cooling capacity ⁽¹⁾	kW	7,7	10,6	14,2	15,8	21,2	23,4	32,4
Sensible Cooling capacity	kW	6,8	8,9	11,9	13,1	17,8	19,4	26,9
SHR		0,88	0,84	0,84	0,83	0,84	0,83	0,83
Air Flow	m ³ /h	2300	2400	3800	3800	5100	5100	8120
Fan Type ⁽²⁾		EC	EC	EC	EC	EC	EC	EC
Number of fan		1	1	1	1	1	1	1
Height	mm	1875	1875	1875	1875	1875	1875	1998
Length	mm	600	600	900	900	900	900	1000
Depth	mm	600	600	600	600	600	600	795

INNOV@ CHILLED WATER UPFLOW/DOWNFLOW/DISPLACEMENT		0400	0500	650	0900	1000	1200
Total cooling capacity ⁽¹⁾	kW	37,5	51,8	63,8	87,4	101,4	137,9
Sensible Cooling capacity	kW	31,5	43,0	52,3	73,4	83,1	107,6
SHR		0,84	0,83	0,82	0,84	0,82	0,78
Air Flow	m ³ /h	14500	14500	14500	22450	22450	22450
Fan Type ⁽²⁾		EC	EC	EC	EC	EC	EC
Number of fan		1	2	2	3	3	3
Height	mm	1998	1998	1998	1998	1998	1998
Length	mm	1750	1750	1750	2500	2500	2500
Depth	mm	795	795	795	795	795	795

(1) Indoor conditions 24°C/ 50% relative humidity
 Water in - out: 7 - 12 °C
 FREECOOLING optional (direct / indirect)

(2) Electronically Commutated fan
 Centrifugal fans are an option for the models 0080 - 0230

Accessories

- Remote user display for advanced control
- Model GSM + interface card 485 + Antenna
- External temperature and humidity sensor
- On board condenser remote switch (only DX version)
- Water leakage detector
- Smoke detector
- Fire detector
- Fresh air kit
- Floorstand
- Turning valve
- Base module
- Base module, rear air intake
- Plenum with high end filter
- Hood with duct silencer cartridges
- Plenum for vertical airflow
- Plenum for horizontal discharge with grill
- Motorized louver valves

