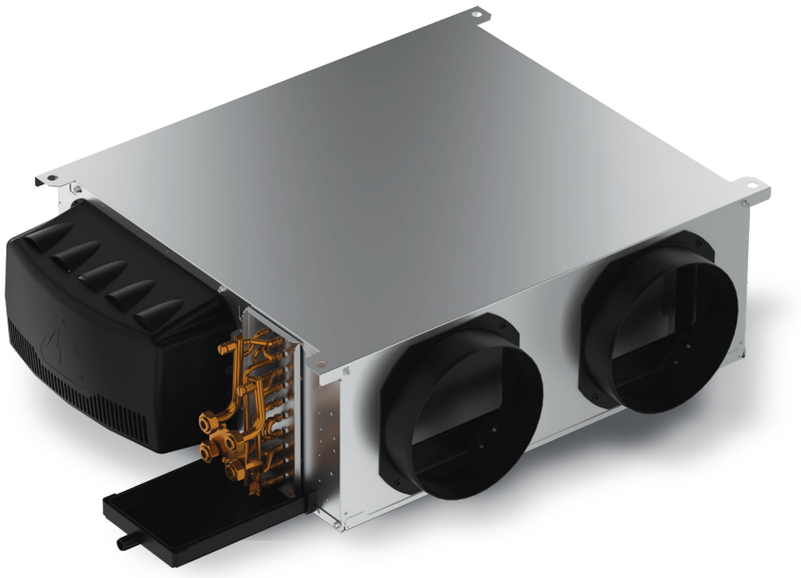


IdroFan® 42NX

Hydraulic ducted fan coils

Cooling capacity: 0.9 kW - 11 kW
Heating capacity: 1 kW - 14 kW

One product for many applications

Office

Load variation adaptability

Conditions inside buildings change as a result of many factors including the time of the day and occupancy. Carrier solutions, equipped with precise electronic capacity controls and variable speed motors, adapt to meet load variations in just a few seconds, assuring exceptional comfort and in turn ensuring optimised energy consumption.

Hospital

Air quality

The IdroFan 42NX range can help to ensure and maintain a highly controlled microclimate, regulating temperature and humidity levels, as well as ensuring optimal indoor air quality (filtration efficiency levels, management of CO_2 levels).

Hotel

Low noise features (night mode)

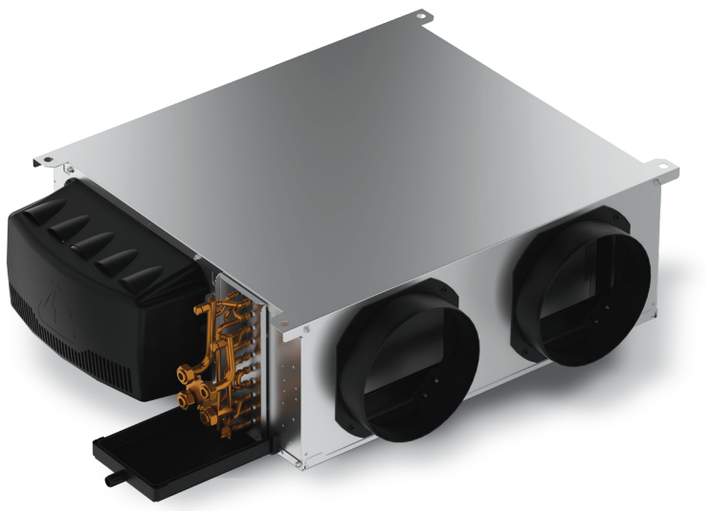
Air conditioning, ventilation and heating (depending on the region and season) are among the first things guests experience. The IdroFan 42NX range offers low noise performance to ensure a quiet and comfortable environment for hotel guests and visitors.

Shops and restaurants

Space volume flexibility

Available in large sizes and high power configurations, the IdroFan 42NX range offers flexible solutions for managing a large space with a limited number of units.

IdroFan® 42NX
Hydraulic ducted fan coils



Industry standard

The robustness and high quality design of the IdroFan 42NX range has been developed and engineered in France thanks to the company's experience in the field and its performance is validated by Eurovent certification.
With an installed base of more than a million units, the IdroFan range has become the standard in the fan coil cooling market.

1,000,000
Units installed

Versatility

The IdroFan 42NX range offers high external static pressure capability and is available in a wide choice of plenums and spigot diameters. It has been designed to adapt to all room sizes and configurations, hotel, office, shop, or restaurant applications. It meets customer demands in terms of both heating and cooling capacity (from 0.9 to 11 kW). With an ISO coarse filter 50% installed as standard 50% and an ePM10 filter available for improved quality filtration, the IdroFan 42NX range is the right solution where high indoor air quality is required.

Versatility

Energy reduction

The IdroFan 42NX high static pressure complies with Eurovent FCP certification specific to ducted fancoils and, in particular, to limit pressure loss. Low energy consumption (LEC) brushless EC motor reduces fan coil energy consumption by up to 50% compared to an AC motor, making it easier to meet the new building energy management regulations.

Energy reduction

Easy maintenance

The IdroFan 42NX units are designed for easy installation, in any type of false ceiling or false floor in hotel, office, shop or restaurant applications.
The units offer direct access to air filter, water coil, drain pan and fan motor assembly, for easy maintenance and compliance with local hygiene regulations.

Easy maintenance

Near-silent solution

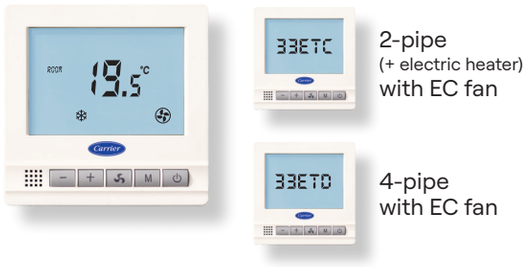
With its acoustic insulation and very low noise fan motor, the IdroFan 42NX range makes silent operation a reality. Its Low Energy Consumption (LEC) motor with variable fan speed control ensures improved noise comfort levels compared to a multi-speed motor - the airflow is automatically adjusted, from 0 to 100%, in order to perfectly meet the occupants' needs.
With a Carrier Water Terminal Controller (WTC), maximum fan speed can also be limited to enhance sound level management even further.

Near-silent solution

IdroFan® 42NX control solutions

Electronic thermostat 33ET

- Adjustable heating/cooling/auto mode control
- Hour programmation
- Change over by sonde or dry contact
- ECO / COMFORT / FROST PROTECTION modes
- On/off valve
- 3 fan speeds control
- 86*86mm standard junction box mounting
- Window card contact
- Child lock
- Electrical heater



2-pipe
(+ electric heater)
with EC fan

4-pipe
with EC fan

Electronic thermostat 33TT

- Weekly Schedule
- Lead/Lag function to synchronize equipment in open spaces
- Room temperature control (built-in or external sensor)
- Room relative humidity (built-in or external sensor)
- Min. and max. supply air temperature limitation
- Selection of operating modes
- Button lock for all buttons independently (automatically or manually)
- Changeover (automatic via local sensor or bus, or manually)
- Parameters protected by password
- KNX bus for communication
- Commissioning device via mobile application

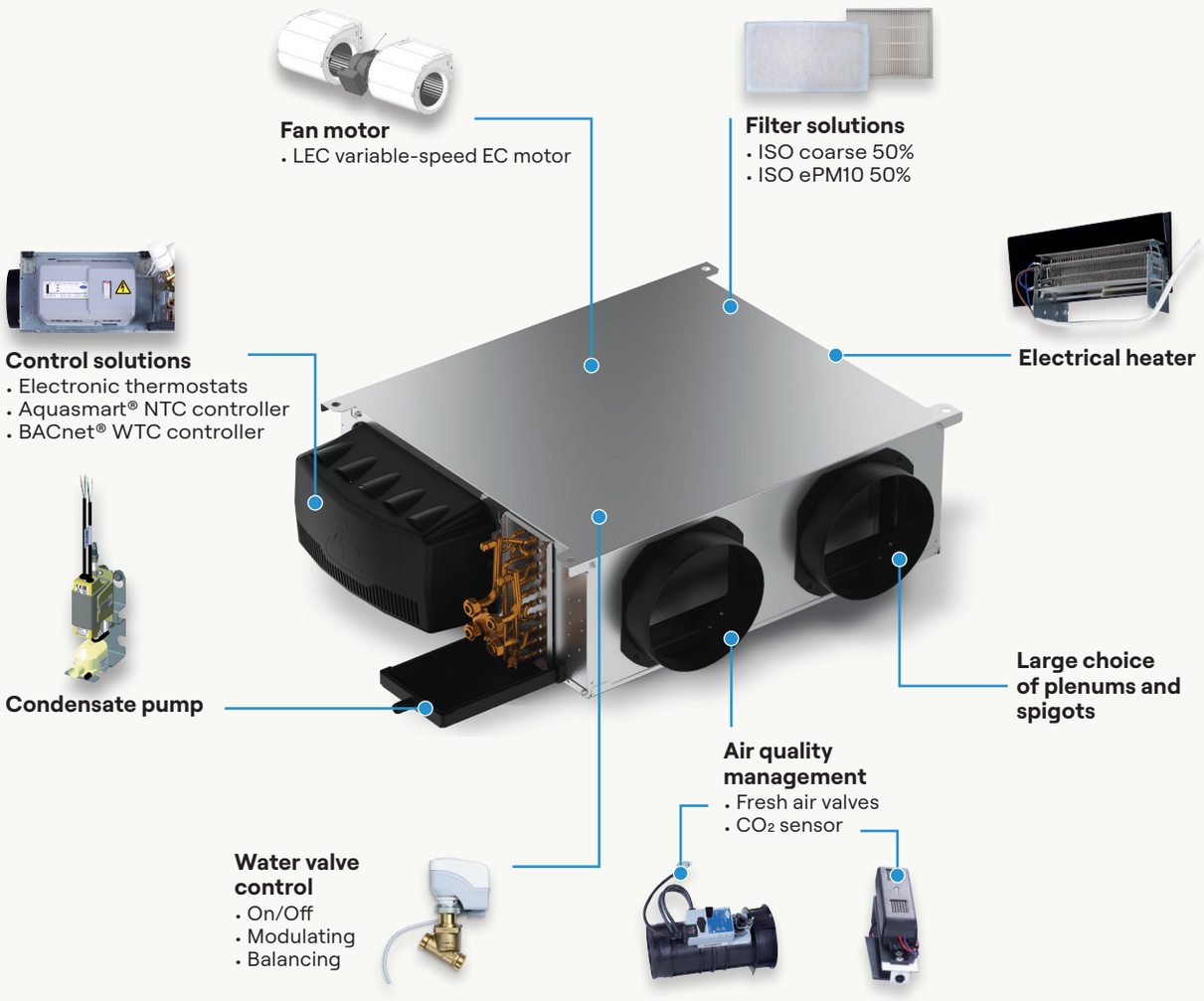
NTC

Stand-alone PID controller
Part of the CCN system application
At the heart of an Aquasmart system
IAQ management with CO_2 sensors (optional)

WTC

Open communication protocol BACnet MSTP
Communication PID controller
Large range of user interfaces
IAQ management with CO_2 sensor (optional)

Industry-leading Carrier technologies



Standard features

- **Large choice of air distribution configuration:** free return/supply, rectangular flanges, compact or large return/supply plenums, "U" configuration together with multiple spigot sizes.
- **Improved acoustic comfort:** automatic air flow adjustment from 0 to 100% allows better sound level management.
- **Easy maintenance:** direct access to air filter, water coil, drain pan and fan motor assembly.
- **Large controller range:** electronic thermostats, NTC AquaSmart and WTC controller.
- **Energy savings:** the optional low energy consumption (LEC) brushless EC motor reduces fan coil energy consumption by up to 50%, compared to an AC motor, making it easier to meet the new building energy management regulations.
- **Modularity:** with two available versions, the fan coil is able to address all applications.

Technical characteristics
IdroFan® 42NX standard efficiency units

42NX		222M			223H			243M		
(Speed Eurovent certification)		(L)	(M)	(H)	(L)	(M)	(H)	(L)	(M)	(H)
Air flow	m3/h	162	329	451	141	332	442	162	329	451
Available static pressure	Pa	12	50	94	9	50	89	12	50	94
Cooling mode 2 pipes①										
Total cooling capacity	kW	1,03	1,71	2,06	1,11	2,27	2,79			
Sensible cooling capacity	kW	0,78	1,35	1,67	0,79	1,68	2,11			
Heating mode 2 pipes②										
Heating capacity	kW	1,07	1,86	2,35	1,07	2,2	2,77			
Cooling mode 4 pipes①										
Total cooling capacity	kW							0,96	1,67	2,07
Sensible cooling capacity	kW							0,76	1,38	1,75
Heating mode 4 pipes③										
Heating capacity	kW							1,22	2	2,45
Electric heater										
Maximum capacity	W	500 / 1000			500 / 1000					
Sound levels										
Sound power level INLET+RADIATED	dB(A)	38	52	59	36	53	59	38	52	59
Sound power level GLOBAL	dB(A)	40	54	62	38	55	62	40	54	62
Dimensions										
HxLxW	mm	229×455×526								
Motor electrical data										
Motor consumption	W	7	26	54	6	28	59	7	26	54
FCEER [classe énergétique] - Score		85			101			82		
FCEER [classe énergétique] - Classe		A			A			B		
FCCOP [classe énergétique] - Score		94			102			105		
FCCOP [classe énergétique] - Classe		A			A			A		

42NX		322M			323H			343M		
(Speed Eurovent certification)		(L)	(M)	(H)	(L)	(M)	(H)	(L)	(M)	(H)
Air flow	m3/h	145	479	607	154	480	607	145	479	607
Available static pressure	Pa	5	50	80	5	50	79	5	50	80
Cooling mode 2 pipes①										
Total cooling capacity	kW	0,97	2,37	2,71	1,27	3,29	3,88			
Sensible cooling capacity	kW	0,73	1,9	2,21	0,88	2,42	2,9			
Heating mode 2 pipes②										
Heating capacity	kW	1,04	2,74	3,28	1,25	3,45	4,21			
Cooling mode 4 pipes①										
Total cooling capacity	kW							1	2,62	3,05
Sensible cooling capacity	kW							0,75	2,08	2,45
Heating mode 4 pipes③										
Heating capacity	kW							1,25	2,97	3,51
Electric heater										
Maximum capacity	W	500 / 1000			500 / 1000					
Sound levels										
Sound power level INLET+RADIATED	dB(A)	30	56	62	29	55	60	30	56	62
Sound power level GLOBAL	dB(A)	32	59	64	32	58	63	32	59	64
Dimensions										
HxLxW	mm	229×622×526								
Motor electrical data										
Motor consumption	W	5	39	72	5	44	83	5	39	72
FCEER [classe énergétique] - Score		80			97			86		
FCEER [classe énergétique] - Classe		B			A			A		
FCCOP [classe énergétique] - Score		94			104			182		
FCCOP [classe énergétique] - Classe		A			A			A		

① Eurovent conditions: Entering air temperature = 27°C db/47% rh – entering water temperature = 7°C, water temperature difference = 5 K.
② Eurovent conditions: Entering air temperature = 20°C, entering water temperature = 50°C, water temperature difference = 5K
③ Eurovent conditions: Entering air temperature = 20°C, entering water temperature = 70°C, water temperature difference = 10 K.

Technical characteristics
IdroFan® 42NX standard efficiency units

42NX		422M			423H			443M			444H		
(Speed Eurovent certification)		(L)	(M)	(H)	(L)	(M)	(H)	(L)	(M)	(H)	(L)	(M)	(H)
Air flow	m3/h	204	801	1038	181	802	999	198	800	1013	181	802	999
Available static pressure	Pa	3	50	84	3	50	78	3	50	80	3	50	78
Cooling mode 2 pipes①													
Total cooling capacity	kW	1,35	4,11	4,85	1,31	5,07	6,25						
Sensible cooling capacity	kW	1,03	3,36	4,06	0,95	3,8	4,68						
Heating mode 2 pipes②													
Heating capacity	kW	1,5	5,06	6,25	1,34	5,56	7,07						
Cooling mode 4 pipes①													
Total cooling capacity	kW							1,49	4,63	5,4	1,6	5,98	7,07
Sensible cooling capacity	kW							1,07	3,59	4,27	1,09	4,28	5,1
Heating mode 4 pipes③													
Heating capacity	kW							1,82	5,16	6,04	2,03	6,11	7,07
Electric heater													
Maximum capacity	W	1000			1000								
Sound levels													
Sound power level INLET+RADIATED	dB(A)	26	56	62	26	57	63	26	56	62	26	57	63
Sound power level GLOBAL	dB(A)	28	59	65	28	60	66	28	59	65	28	60	66
Dimensions													
HxLxW	mm	229×1022×526											
Motor electrical data													
Motor consumption	W	5	57	114	4	68	141	5	60	116	4	68	141
FCEER [classe énergétique] - Score		90			89			97			106		
FCEER [classe énergétique] - Classe		A			A			A			A		
FCCOP [classe énergétique] - Score		112			100			118			123		
FCCOP [classe énergétique] - Classe		A			A			A			A		

42NX		522M			523M			524M			543M			544M		
(Speed Eurovent certification)		(L)	(M)	(H)	(L)	(M)	(H)	(L)	(M)	(H)	(L)	(M)	(H)	(L)	(M)	(H)
Air flow	m3/h	444	1583	1904	444	1583	1904	444	1583	1904	444	1583	1904	444	1583	1904
Available static pressure	Pa	4	50	72	4	50	72	4	50	72	4	50	72	4	50	72
Cooling mode 2 pipes①																
Total cooling capacity	kW	3,14	7,92	8,8	2,83	8,95	10,12	3,01	10,07	11,47						
Sensible cooling capacity	kW	2,31	6,38	7,2	2,17	7,02	8,05	1,26	7,64	8,82						
Heating mode 2 pipes②																
Heating capacity	kW	3,34	9,68	11,17	3,24	10,68	12,7	3,23	11,35	13,58						
Cooling mode 4 pipes①																
Total cooling capacity	kW										2,55	7,41	8,41	2,93	9,48	10,63
Sensible cooling capacity	kW										2,03	6,13	7,02	2,22	7,3	8,33
Heating mode 4 pipes③																
Heating capacity	kW										3,09	9,81	11,38	3,37	12,18	13,96
Electric heater																
Maximum capacity	W															
Sound levels																
Sound power level INLET+RADIATED	dB(A)	45	60	63	45	60	63	45	60	63	45	60	63	45	60	63
Sound power level GLOBAL	dB(A)	48	64	67	48	64	67	48	64	67	48	64	67	48	64	67
Dimensions																
HxLxW	mm	285×1321×575														
Motor electrical data																
Motor consumption	W	10	137	240	10	137	240	10	137	240	10	137	240	10	137	240
FCEER [classe énergétique] - Score		111			85			93			72			89		
FCEER [classe énergétique] - Classe		A			A			A			B			A		
FCCOP [classe énergétique] - Score		138			105			108			97			115		
FCCOP [classe énergétique] - Classe		A			A			A			A			A		

① Eurovent conditions: Entering air temperature = 27°C db/47% rh – entering water temperature = 7°C, water temperature difference = 5 K.
② Eurovent conditions: Entering air temperature = 20°C, entering water temperature = 50°C, water temperature difference = 5K
③ Eurovent conditions: Entering air temperature = 20°C, entering water temperature = 70°C, water temperature difference = 10 K.

HEALTHY**BUILDINGS**

Healthy buildings in action

Healthy buildings focus on addressing foundational aspects of the indoor environment to positively impact the people inside.

Dr. Joseph Allen and a multidisciplinary team of experts from the Healthy Buildings Program at the Harvard T.H. Chan School of Public Health have identified these key areas as “The 9 Foundations of a Healthy Building.” Based on the 9 Foundations, we’ve outlined specific strategies hotel owners and operators can take to make their building a healthy building.

VENTILATION
Maximize outdoor air ventilation.
Monitor and control target ventilation.

AIR QUALITY
Implement multipoint IAQ monitoring.
Incorporate advanced IAQ controls.

THERMAL HEALTH
Design to appropriate comfort standard.
Advanced localized controls.

FILTRATION
Filter air at MERV 13 or higher.
Implement advanced purification solutions.

MOISTURE
Control to 40%-60% relative humidity.

SAFETY AND SECURITY
Implement touchless access.
Execute advanced access solutions.

NOISE
Design for minimum equipment background noise.

Your complete lifecycle solutions service provider

Your daily challenge is a complex balance between maintaining optimal comfort levels, maximising system uptimes and minimising cost of ownership. Carrier service teams are committed to ensuring your peace of mind and supporting your business objectives throughout the lifecycle of your equipment. We can help you create a customised program that is suited to your specific goals and needs.

With our BluEdge service agreements, you can receive digital connectivity and continuous monitoring via Abound HVAC performance, part of Carrier’s cloud-based IoT Abound platform. Through it you’ll receive the benefit of real-time data and insights to drive predictive insights helping to optimise your asset performance and longevity.

Present in more than **60** countries

24/7 on-site availability

More than **120** years of experience

carrier.com