



Quality
Management
Systems

IDROFAN.

42N

Total cooling capacity 0.75-6.35 kW
Total heating capacity 0.60-9.50 kW

The new generation 42N_S and 42N_E product ranges combine aesthetic and attractive design with versatility to satisfy any application need, from large office buildings or hotels to shops and residential applications.

This new product series is characterised by concentrated, innovative technology, unusual for a fan coil. The result is a product that is easy to select and install.

The 42N_S is available with a new-generation three- or five-speed AC motor. The 42N_E is available with a variable-speed low energy consumption EC motor.

The range now includes eleven sizes, with air flows from 35 to 422 l/s (126 to 1520 m³/h). The Idrofan offers an ultra-low-noise option for applications where a low noise level is the most important selection parameter.

The new Idrofan is available with two types of fans, a tangential fan for the smallest sizes and a centrifugal fan for all other sizes.

These versions are available in any combination, from cabinet models for floor, wall or under-ceiling installation to models without cabinet for horizontal or vertical furred-in installation.

Features

- With its sleek styling the 42N encased units blend in perfectly with any room décor. The pre-painted steel panels are protected by a high-quality paint finish.
- The flexibility of the plastic-moulded unit drain pan allows the same unit to be installed in a vertical or horizontal position without the need for a dedicated accessory.
- Integrated, factory-mounted cooling and heating coil for four-pipe applications.
- The 42N units were designed for extremely quiet operation with sound levels that set new comfort standards for buildings. The new fan/motor assembly design ensures whisper-quiet operation (10 dB(A) less compared to the previous version). Particular attention has been given to the low fan speed, typically used at night.
- Motors
The Idrofan is available with a multi-speed motor, extended to five fixed speeds to improve its flexibility and cover all customer applications. The Idrofan is now available with ultra-low noise levels to make it one of the quietest fan coils on the market.

The Idrofan is also available with variable-speed LEC (= low energy consumption) motors, that meet the new building energy performance objectives.

The LEC solution enhances unit performances offering:

- Reduced energy costs - the LEC motor reduces fan coil consumption by 50 to 75%. The LEC option meets the new building energy management regulations.
- Improved comfort - the LEC motor with variable fan speed reduces noise levels compared to multi-speed fans, offering ultra-quiet air flow down to very low operating levels. With the NTC controller, a maximum fan speed can be set to allow better sound level management.
- Maximum flexibility - auto-adaptive air flow rate adjustment from 0 to 100% ensures perfect cooling and heating conditions in the room.
- Extended life time - LEC motors with brushless technology use a lower fan motor temperature for extended operating life.

■ Filters

The standard filter for the Idrofan series has a pleated filtration surface, resulting in a 87% larger surface than a conventional filter, with the following additional advantages:

- Lower air flow per unit area, resulting in lower pressure drop and reduced noise level.
- The average interval between filter cleaning is three times longer, compared to standard filters.
- The filter material is polypropylene and the grade is EU1.

As an option the Idrofan is also available with 85% gravimetric (EU3 or G3) filters with fire class M1.

In the Idrofan series the filter is located at the bottom of the unit. Cleaning is easy: after removing a safety screw, the filter sides can be manually unclipped. The filter frame can be pulled down and the filter can then be removed easily. Re-assembly is just as easy, reversing the sequence. The filter and filter position within the unit are designed to prevent air bypass around the filter, to ensure that the air is always filtered and clean.

■ Ease of installation

The Idrofan series fan coils are extremely easy to install. For horizontal under-ceiling installations with cabinet or ducted ceiling-void applications the installer's task is significantly simplified.

Robust hooks allow easy and fast attachment of the unit. No calculations are needed to determine the correct slope for proper condensate water drainage.

For concealed ducted applications, the outlet flange can be mounted on the unit before installing them together as a single piece in the false ceiling.

Even the installation of floor-mounted units is simple, the new hook dimensions and positions help fixing the units firmly against the wall.

All these design aspects minimise installation time and improve the long-term reliability, avoiding small mistakes that could impair the reliability of installed units over time.

Carrier controller range

The Idrofan fan coil is available with the complete range of Carrier controllers. Several tests ensure easy installation. The number of available controllers offers more and improved features, and easy selection according to application needs.

■ Electronic thermostat

This is available for two-pipe (type A), four-pipe or two-pipe applications with electric heaters (type B). The thermostats have an elegant square shape with two coaxial knobs to set room temperature and fan speed, as desired by the customer.

Wall-mounted controls are easily and discreetly integrated in any room environment.

Features of the electronic thermostats A and B

- Set range: From 10°C to 30°C with the possibility to limit the temperature in public buildings where low energy consumption is a key requirement via a dip-switch inside the control.
- The following limitations can be set:
 - Cooling mode: minimum set point allowed - 23°C
 - Heating mode: maximum set point allowed - 20°C
- Auto fan: The fan speed is automatically set by the control; when the room temperature is far from the set point, high fan speed is selected. As the room temperature approaches the desired value, the fan speed decreases until the minimum speed is reached.
- Automatic changeover: Automatic changeover from the cooling to heating mode, based on the water temperature, ensures that the ideal room temperature is maintained.
- Remote changeover: Automatic changeover from cooling to heating mode, based on the remote signal from the monitoring system.
- Warm and cold draught protection: This feature stops the fan when the set point condition is satisfied and the water temperature is too low or too high, ensuring that air that is too cold or too warm does not cause discomfort to the room occupants.
- Air sensor: This is unit-mounted – if the control is wall-mounted, a second air sensor located in the control can be used for fine tuning of the desired room temperature.
- Frost protection: This function ensures that the room temperature is kept above a minimum level. If the unit is in off mode, and the room temperature drops below 7°C, frost protection is enabled and the unit operates in heating mode until the temperature rises above 9°C. At this point the unit is switched off again.
- Booster heating management optimisation (available with electric heater option): if the water temperature is below 30°C the system will work in the heat demand mode and the electric heater will be the only available heating source. If the water temperature is above 35°C the system will work in the booster heating mode, energising the water valve and electric heater together. The booster heating function will be deactivated if the water temperature is above 45°C (the electric heater will be deenergised).
- Energy saving: This feature allows saving energy when the room is unoccupied, without the need to switch off the unit. When the energy-saving button is pressed, the actual set point will be modified as follows, without changing the position of the set point selection knob:
 - Cooling mode: Set point raised by 4°C
 - Heating mode: Set point lowered by 4°CThe unit will resume normal operation, once the energy-saving button is pressed again.

■ HDB (Hydronic Dual Board)

This electronic thermostat allows master/slave operation. The master unit can manage up to 15 slave units. This controller can be used with a wall-mounted user interface or a remote end user control.

■ NTC controller

This is a communicating PID controller, combining energy-saving algorithms and full control function solutions, compatible with the Aquasmart Evolution system package. The NTC controller can manage the EC motor option, and combines energy savings with optimised comfort.

- Valve options
 - Valve body: both the two-way or four-way (three-way with integrated bypass) valve options are factory-fitted and tested. The chilled-water valves are fully insulated within a moulded insulating shell, preventing condensation on the valve body, for both vertical and horizontal applications. This new shell reduces the complexity of the offer and prevents water leakage risk. Valves can be factory-fitted on the left or right-hand side.
 - Valve actuators: a wide choice of actuators is available with two or four-way valve bodies to offer the right solution for any controller type and customer requirement, from on/off to proportional types, with either 230 V or 24 V power supply:
 - On/off 230 V actuator
 - On/off 24 V actuator
 - Floating 3-point 230 V actuator
 - Floating 3-point 24 V actuator
 - Modulating 0-10 V/24 V actuator
- When combined with LEC motors and the NTC controller, floating three-point 230-V actuators are recommended to increase energy savings and enhance comfort.
- Main drain pan and insulation

The main drain pan incorporates innovative technological solutions:

 - Horizontal installation: the units can be installed perfectly horizontal - the drain pan structure takes care of the slope, so that the installer avoids complex and time-consuming computations to correctly install the units.
 - Left or right-hand condensate connection is standard
 - the installer can easily choose unit connection on one side or the other, just by fixing the plastic cap on the opposite side.
 - Insulation: the drain pan design allows much tighter contact between drain pan and insulation, reinforced by metal clips to keep the insulation in place. This improves reliability and prevents water dripping from the unit.
 - The drain pan for the whole range is made of moulded plastic, i.e. more robust, easier and safer to service.
- PTC electric heater

Electric heater options have been enhanced with the latest PTC (positive temperature coefficient) technology. Their resistance increases as their temperature increases, so the capacity goes down accordingly. This electric heater feature allows fast heating at start-up, the heating capacity is adjusted automatically, whilst ensuring safe and reliable operation. This option is available in low and high capacity for each Idrofan size.
- Feet mounting

The installation of feet has been greatly simplified and both sides are painted. Just one clip is needed to fix the feet to the units. For this reason and for better reliability during transport, the feet are sold as options - supplied with the unit from the factory (ordering codes Z or P in the 4th digit). They are included with the unit, but not factory-mounted.
- Reversibility

If the unit received is not as required, the coil and the control box can be switched on site from left to right or vice versa (except units equipped with valves - since their installation is optimised for each side, the valve package must be replaced by a new valve kit).
- Simplified accessories

The number of accessories has been reduced to simplify selection and reduce the inventory level. The accessories offered remain unchanged to satisfy any application needs, but the number of codes has been greatly reduced.
- Aesthetics
 - Supporting feet
 - Supporting feet and cover panel
 - Return air grille for cabinet unit
 - Rear closing panel
 - Cabinet on concealed units,
 - Discharge air sleeve (concealed units only)
 - Supporting brackets (20 + 20 pieces left and right)
- Controllers and user interfaces
 - A-type thermostat
 - B-type thermostat
 - Kit for 33TA0001/33TB0001 installation on 42NM/Z
 - Cold draught prevention kit - all two-pipe sizes
 - Automatic changeover switch - all units
 - Air sensor with 15 m cable
 - Water sensor kit with 15 m cable
 - Infrared remote controller (IR2)
 - Infrared remote receiver kit (IRR)
 - ZUI1 interface 1 - Wago
 - ZUI2 interface 2 - RJ11
 - SUI1 (with fan speed selection)
 - SUI2 (without fan speed selection)
- The units comply with international standards EN60335-1 and EN60335-2-40 and are certified according to the applicable Eurovent standards for the non-ducted fan coil programme.

Physical and electrical data, two-pipe coil

42N_S, 2-pipe coil		15					20					26		
Fan speed		5	4	3	2	1	5	4	3	2	1	3	2	1
Fan type		One, tangential					One, centrifugal					One, centrifugal		
Air flow	l/s m³/h	35 125	56 200	69 250	84 300	97 350	59 215	80 285	92 330	107 385	128 460	93 335	149 536	196 706
Cooling mode*														
Total cooling capacity	kW	0.83	1.07	1.19	1.34	1.49	1.39	1.81	2.08	2.34	2.54	2.10	3.00	3.60
Sensible cooling capacity	kW	0.70	0.93	1.03	1.19	1.31	1.03	1.42	1.60	1.85	2.03	1.65	2.35	2.90
Water flow rate	l/s l/h	0.04 143	0.05 184	0.06 205	0.06 230	0.07 256	0.07 239	0.09 311	0.10 358	0.11 402	0.12 437	0.10 361	0.14 516	0.17 619
Water pressure drop	kPa	6.2	9.6	11.5	14.1	16.9	2.8	4.2	5.3	6.4	7.3	5.4	9.5	12.7
Heating mode**														
Heating capacity	kW	1.14	1.42	1.66	1.89	2.09	1.70	2.10	2.54	2.87	3.18	2.56	3.68	4.38
Water pressure drop	kPa	4.9	7.8	9.4	11.6	14.0	2.2	3.4	4.3	5.2	6.0	4.4	7.8	10.6
Water content	l	0.6	0.6	0.6	0.6	0.6	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
Sound levels														
Sound power level	dB(A)	28	37	42	47	51	29	38	42	46	50	44	54	61
Sound pressure level***	dB(A)	19	28	33	38	42	20	29	33	37	41	35	45	52
NR value		15	24	28	34	39	14	24	29	33	36	31	40	48
Electrical data														
Power input	W	16	17	19	23	30	29	30	31	34	36	45	55	65
Current drawn	A	0.08	0.08	0.09	0.11	0.13	0.13	0.13	0.14	0.15	0.16	0.21	0.25	0.30
Electric heater														
High capacity	W	800					1000					1000		
Current drawn	A	3.48					4.35					4.35		
Low capacity	W	500					500					500		
Current drawn	A	2.18					2.18					2.18		
Eurovent data														
FCEER	kW/kW	55					55					50		
FCEER energy class		D					D					E		
FCCOP	kW/kW	76					68					61		
FCCOP energy class		D					E					E		
Connection diameter	in	3/4 gas					3/4 gas					3/4 gas		

42N_S, 2-pipe coil		30					42			45			65				
Fan speed		5	4	3	2	1	3	2	1	5	4	3	2	1			
Fan type		Two, centrifugal					Two, centrifugal					Two, centrifugal					
Air flow	l/s m³/h	97 350	126 455	153 550	182 655	207 745	147 531	222 798	268 965	146 525	185 665	224 805	277 995	333 1195	237 853	331 1191	422 1519
Cooling mode*																	
Total cooling capacity	kW	2.07	2.54	3.01	3.46	3.70	3.00	4.00	4.50	2.60	3.37	3.98	4.74	5.45	3.90	5.45	6.35
Sensible cooling capacity	kW	1.40	1.96	2.35	2.84	3.10	2.35	3.30	3.85	2.12	2.78	3.30	3.98	4.55	3.20	4.6	5.10
Water flow rate	l/s l/h	0.10 356	0.12 437	0.14 518	0.17 595	0.18 636	0.14 516	0.19 688	0.22 774	0.12 447	0.16 580	0.19 685	0.23 815	0.26 937	0.19 671	0.26 937	0.30 1092
Water pressure drop	kPa	6.0	8.6	11.5	14.6	16.4	11.4	18.8	23.0	3.2	5.0	6.7	9.0	11.5	6.4	11.5	15.0
Heating mode**																	
Heating capacity	kW	2.86	3.54	4.18	4.80	5.29	4.05	5.55	6.40	4.00	5.05	5.90	6.90	8.08	6.10	8.00	9.50
Water pressure drop	kPa	4.8	6.9	9.2	11.7	13.1	9.2	15.0	18.4	2.7	4.2	5.5	7.5	9.5	5.4	9.5	12.3
Water content	l	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Sound levels																	
Sound power level	dB(A)	36	42	47	51	54	47	57	62	41	47	53	57	62	54	62	68
Sound pressure level***	dB(A)	27	33	38	42	45	38	48	53	32	38	44	48	53	45	53	59
NR value		22	29	33	37	40	31	44	49	28	34	40	43	48	40	49	54
Electrical data																	
Power input	W	42	44	46	50	57	45	75	100	69	77	83	92	128	90	125	165
Current drawn	A	0.19	0.20	0.21	0.23	0.25	0.21	0.35	0.45	0.31	0.34	0.37	0.41	0.55	0.41	0.55	0.72
Electric heater																	
High capacity	W	2000					2000					2000					
Current drawn	A	8.70					8.70					8.70					
Low capacity	W	1000					1000					1000					
Current drawn	A	4.35					4.35					4.35					
Eurovent data																	
FCEER	kW/kW	55					59			41				43			
FCEER energy class		D					D			E				E			
FCCOP	kW/kW	77					81			63				66			
FCCOP energy class		D					D			E				E			
Connection diameter	in	3/4 gas					3/4 gas					3/4 gas					

* Eurovent conditions: Entering air temperature = 27°C db/19°C wb – entering/leaving water temperature = 7°C/12°C, high fan speed.

** Eurovent conditions: Entering air temperature = 20°C, entering water temperature = 50°C, same water flow rate as in cooling mode.

*** Based on a hypothetical acoustic attenuation for the room and the air distribution system of -9 dB(A).

Physical and electrical data, four-pipe coil

42N_S, 4-pipe coil		15					20					26		
Fan speed		5	4	3	2	1	5	4	3	2	1	3	2	1
Fan type		One, tangential					One, centrifugal					One, centrifugal		
Air flow	l/s	35	56	69	84	97	59	80	92	107	128	93	149	196
	m³/h	125	200	250	300	350	215	285	330	385	460	335	536	706
Cooling mode*														
Total cooling capacity	kW	0.75	1.05	1.16	1.36	1.47	1.19	1.45	1.66	1.91	2.06	1.70	2.32	2.74
Sensible cooling capacity	kW	0.66	0.89	1.01	1.19	1.25	1.00	1.23	1.41	1.60	1.72	1.40	1.94	2.38
Water flow rate	l/s	0.04	0.05	0.06	0.06	0.07	0.06	0.07	0.08	0.09	0.10	0.08	0.11	0.13
	l/h	129	181	200	234	253	205	249	286	329	354	292	399	471
Water pressure drop	kPa	5.1	9.1	10.8	14.2	16.3	1.8	2.5	3.1	4.0	4.5	3.2	5.5	7.3
Water content	l	0.6	0.6	0.6	0.6	0.6	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Heating mode**														
Heating capacity	kW	0.60	0.99	1.14	1.35	1.51	1.83	2.21	2.46	2.68	2.87	2.50	3.16	3.85
Water flow rate	l/s	0.01	0.02	0.03	0.03	0.04	0.04	0.05	0.06	0.06	0.07	0.06	0.08	0.09
	l/h	52	85	98	116	130	157	190	212	230	247	215	272	331
Water pressure drop	kPa	0.6	1.4	1.8	2.3	2.8	4.0	5.5	6.6	7.7	8.7	6.8	10.3	14.5
Water content	l	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Sound levels														
Sound power level	dB(A)	27	39	43	48	51	29	38	42	46	50	44	54	61
Sound pressure level***	dB(A)	18	30	34	39	42	20	29	33	37	41	35	45	52
NR value		15	24	28	34	39	14	24	29	33	36	31	40	48
Electrical data														
Power input	W	16	17	19	23	30	29	30	31	34	36	45	55	65
Current input	A	0.08	0.08	0.09	0.11	0.13	0.13	0.13	0.14	0.15	0.16	0.21	0.25	0.30
Eurovent data														
FCEER	kW/kW	52					46					40		
FCEER energy class		E					E					E		
FCCOP	kW/kW	46					69					56		
FCCOP energy class		F					E					E		
Connection diameter														
Cooling	in	3/4 gas					3/4 gas					3/4 gas		
Heating	in	1/2 gas					1/2 gas					1/2 gas		

42N_S, 4-pipe coil		30					42					45			65				
Fan speed		5	4	3	2	1	3	2	1	5	4	3	2	1	3	2	1		
Fan type		Two, centrifugal					Two, centrifugal					Two, centrifugal					Two, centrifugal		
Air flow	l/s	97	126	153	182	207	147	222	268	146	185	224	277	333	237	331	422		
	m³/h	350	455	550	655	745	531	798	965	525	665	805	995	1195	853	1191	1519		
Cooling mode*																			
Total cooling capacity	kW	2.02	2.45	2.75	3.02	3.33	2.65	3.36	3.78	2.75	3.30	3.90	4.36	5.00	4.04	4.94	5.73		
Sensible cooling capacity	kW	1.57	1.95	2.22	2.47	2.73	2.13	2.83	3.22	2.15	2.60	3.15	3.55	4.12	3.25	4.08	4.85		
Water flow rate	l/s	0.10	0.12	0.13	0.14	0.16	0.13	0.16	0.18	0.13	0.16	0.19	0.21	0.24	0.19	0.24	0.27		
	l/h	347	421	473	519	573	456	578	650	473	568	671	750	860	695	850	986		
Water pressure drop	kPa	5.1	7.2	8.8	10.3	12.2	8.2	12.4	15.2	9.9	13.6	18.2	22.1	28.1	19.4	27.5	35.6		
Water content	l	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8		
Heating mode**																			
Heating capacity	kW	2.73	3.14	3.51	3.82	4.27	3.36	4.39	5.00	3.90	4.50	5.00	5.60	6.10	5.12	6.05	7.1		
Water flow rate	l/s	0.07	0.08	0.08	0.09	0.10	0.08	0.10	0.12	0.09	0.11	0.12	0.13	0.15	0.12	0.14	0.17		
	l/h	235	270	302	329	367	289	378	430	335	387	430	482	525	440	520	611		
Water pressure drop	kPa	10.0	12.7	15.4	17.9	21.7	14.3	22.7	28.5	20.5	26.4	31.8	38.9	45.2	33.2	44.6	59.2		
Water content	l	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5		
Sound levels																			
Sound power level	dB(A)	36	42	47	51	54	47	57	62	41	47	53	57	62	54	62	68		
Sound pressure level***	dB(A)	27	33	38	42	45	38	48	53	32	38	44	48	53	45	53	59		
NR value		22	29	33	37	40	31	44	49	28	34	40	43	48	40	49	54		
Electrical data																			
Power input	W	42	44	46	50	57	45	75	100	69	77	83	92	128	90	125	165		
Current input	A	0.19	0.20	0.21	0.23	0.25	0.21	0.35	0.45	0.31	0.34	0.37	0.41	0.55	0.41	0.55	0.72		
Eurovent data																			
FCEER	kW/kW	52					51								42				
FCEER energy class		E					E								E				
FCCOP	kW/kW	69					66								57				
FCCOP energy class		E					E								E				
Connection diameter																			
Cooling	in	3/4 gas					3/4 gas					3/4 gas					3/4 gas		
Heating	in	1/2 gas					1/2 gas					1/2 gas					1/2 gas		

* Eurovent conditions: Entering air temperature = 27°C db/19°C wb – entering/leaving water temperature = 7°C/12°C, high fan speed.

** Eurovent conditions: Entering air temperature = 20°C, entering water temperature = 70°C, high fan speed, water temperature difference = 10 K.

*** Based on a hypothetical acoustic attenuation for the room and the air distribution system of -9 dB(A).

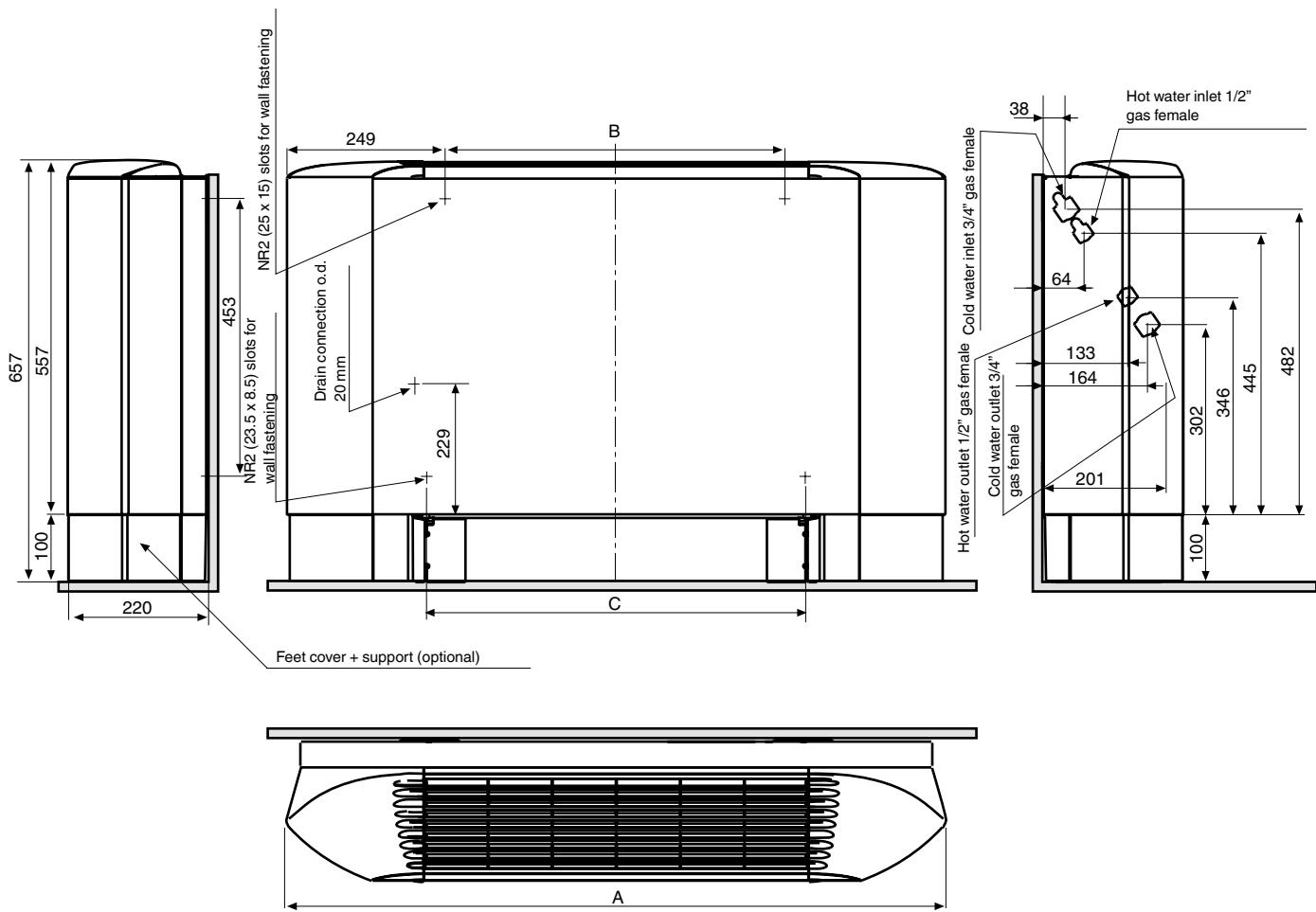
Sound data

Global sound power levels by frequency band for 42N_S units (dB)							
Multi-speed model	Motor voltage	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	dB(A)
42N_S 15	5	35.7	35.1	23.4	14.2	10.7	28.4
	4	35.8	42.7	34.8	29.6	17.6	37.1
	3	40.0	46.2	39.8	36.8	25.2	42.0
	2	44.5	49.2	45.7	42.7	33.3	47.1
	1	48.8	51.9	49.3	47.0	39.1	51.0
42N_S 20	5	42.6	33.4	26.9	14.6	8.4	30.1
	4	45.5	40.1	35.5	27.0	17.3	36.6
	3	49.3	45.0	41.6	35.7	27.3	42.5
	2	50.7	48.3	45.3	40.4	34.3	46.3
	1	51.2	52.0	48.8	44.3	40.7	50.2
42N_S 26	3	41.0	45.0	44.0	38.0	28.0	44.0
	2	52.0	54.0	53.0	48.0	45.0	54.0
	1	58.0	61.0	60.0	56.0	52.0	61.0
42N_S 30	5	42.1	40.8	35.3	26.4	18.3	36.2
	4	45.3	45.7	41.5	34.9	26.4	42.1
	3	50.1	50.0	46.1	41.0	33.8	47.1
	2	52.9	54.1	49.8	45.1	39.6	51.2
	1	55.6	56.4	52.8	47.9	43.6	54.0
42N_S 42	3	46.0	49.0	47.0	41.0	34.0	47.0
	2	56.0	58.0	56.0	52.0	47.0	57.0
	1	61.0	63.0	61.0	57.0	52.0	62.0
42N_S 45	5	40.6	44.3	40.8	34.5	27.0	41.2
	4	46.6	49.6	46.6	41.3	34.9	47.3
	3	53.4	55.3	52.1	47.5	42.8	53.2
	2	56.5	59.6	55.5	51.3	47.4	57.1
	1	62.3	64.4	60.4	56.3	52.7	62.1
42N_S 65	3	53.0	55.0	53.0	48.0	43.0	54.0
	2	62.0	63.0	61.0	56.0	52.0	62.0
	1	69.0	70.0	66.0	62.0	58.0	68.0

Global sound power levels by frequency band for 42N_E units (dB)							
LEC model	Motor voltage	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	dB(A)
42N_E 19	2	35.7	35.1	23.4	14.2	10.7	28.4
	4	35.8	42.7	34.8	29.6	17.6	37.1
	6	40.0	46.2	39.8	36.8	25.2	42.0
	8	44.5	49.2	45.7	42.7	33.3	47.1
	10	48.8	51.9	49.3	47.0	39.1	51.0
42N_E 29	2	42.6	33.4	26.9	14.6	8.4	30.1
	4	45.5	40.1	35.5	27.0	17.3	36.6
	6	49.3	45.0	41.6	35.7	27.3	42.5
	8	50.7	48.3	45.3	40.4	34.3	46.3
	10	51.2	52.0	48.8	44.3	40.7	50.2
42N_E 39	2	42.1	40.8	35.3	26.4	18.3	36.2
	4	45.3	45.7	41.5	34.9	26.4	42.1
	6	50.1	50.0	46.1	41.0	33.8	47.1
	8	52.9	54.1	49.8	45.1	39.6	51.2
	10	55.6	56.4	52.8	47.9	43.6	54.0
42N_E 49	2	40.6	44.3	40.8	34.5	27.0	41.2
	4	46.6	49.6	46.6	41.3	34.9	47.3
	6	53.4	55.3	52.1	47.5	42.8	53.2
	8	56.5	59.6	55.5	51.3	47.4	57.1
	10	62.3	64.4	60.4	56.3	52.7	62.1

Dimensions, vertical units with cabinet

42N_S 15-20-26-30-42-45-65 and 42N_E 19-29-39-49

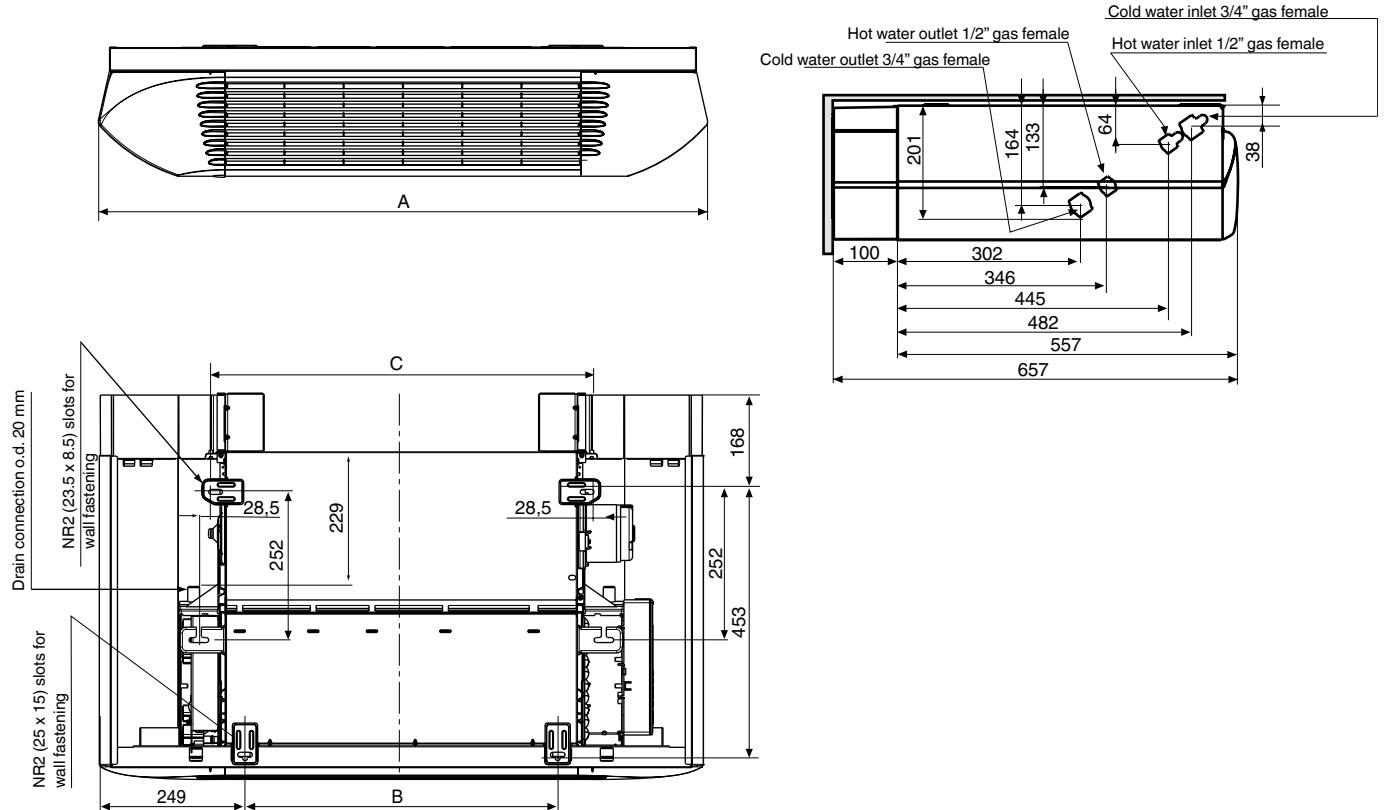


All dimensions are in mm.

42N	S 15-E 19	S 20-S 26-E 29	S 30-E 39-S 42	S 45-E 49-S 65
A	830	1030	1230	1430
B	332	532	732	932
C	432	632	832	1032
Filter dimensions	189 x 391	189 x 591	189 x 790	189 x 990
Weight kg	17	19	22	35

Dimensions, horizontal units with cabinet

42N_S 15-20-26-30-42-45-65 and 42N_E 19-29-39-49

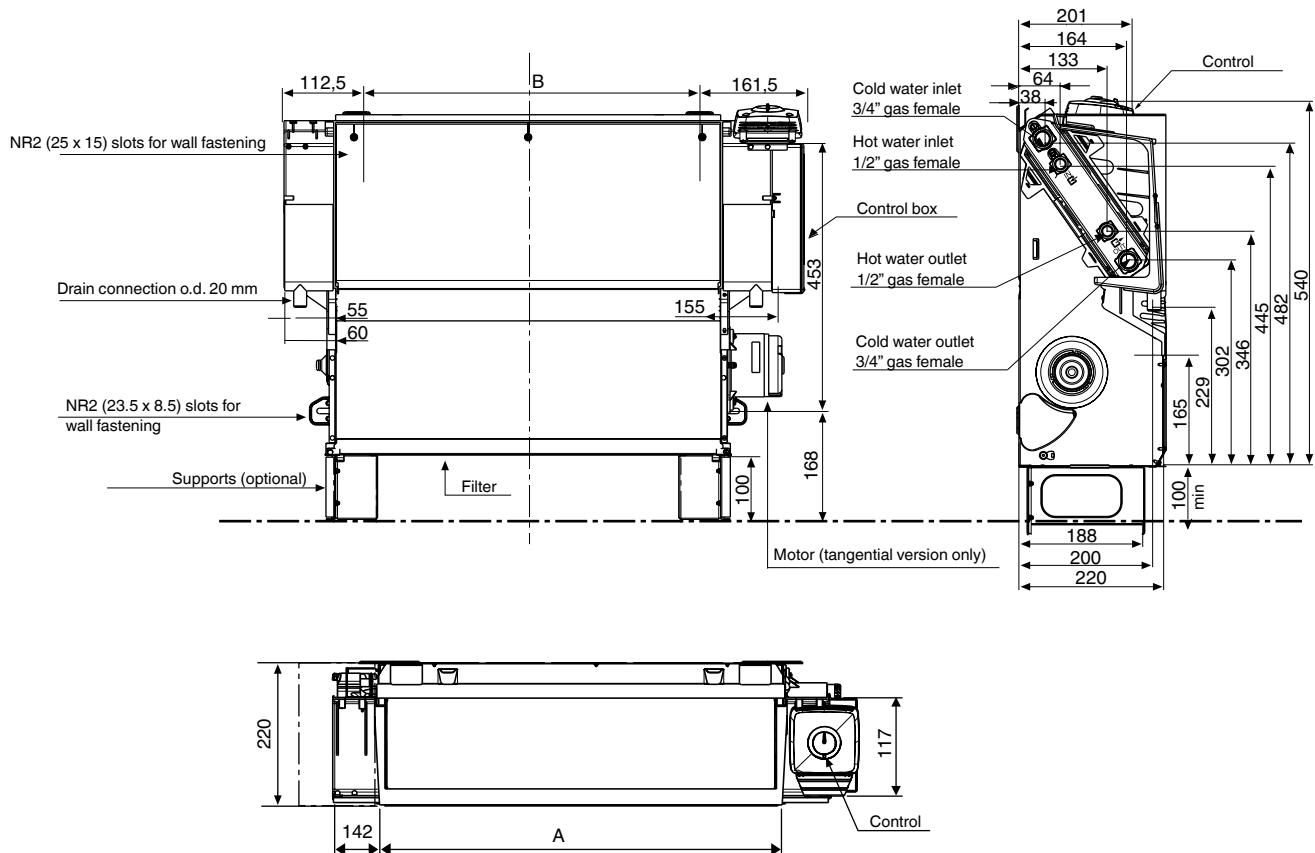


All dimensions are in mm.

42N	S 15-E 19	S 20-S 26-E 29	S 30-E 39-S 42	S 45-E 49-S 65
A	830	1030	1230	1430
B	332	532	732	932
C	432	632	832	1032
Filter dimensions	189 x 391	189 x 591	189 x 790	189 x 990
Weight kg	17	19	22	35

Dimensions, vertical concealed units

42N_S 15-20-26-30-42-45-65 and 42N_E 19-29-39-49

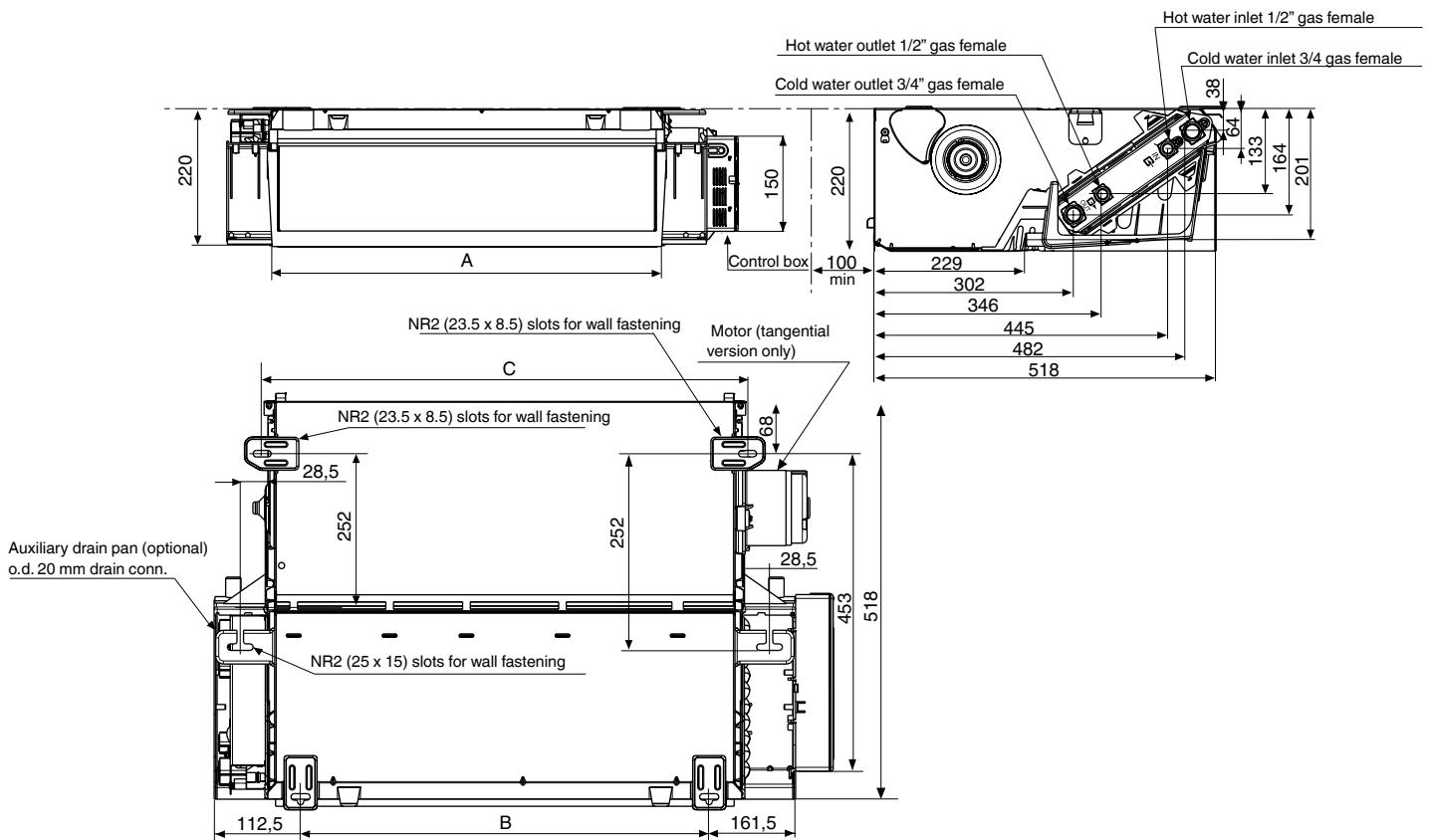


All dimensions are in mm.

42N	S 15-E 19	S 20-S 26-E 29	S 30-E 39-S 42	S 45-E 49-S 65
A	397	597	797	997
B	332	532	732	932
Filter dimensions	189 x 391	189 x 591	189 x 790	189 x 990
Weight kg	13	15	16	28

Dimensions, horizontal concealed units

42N_S 15-20-26-30-42-45-65 and 42N_E 19-29-39-49

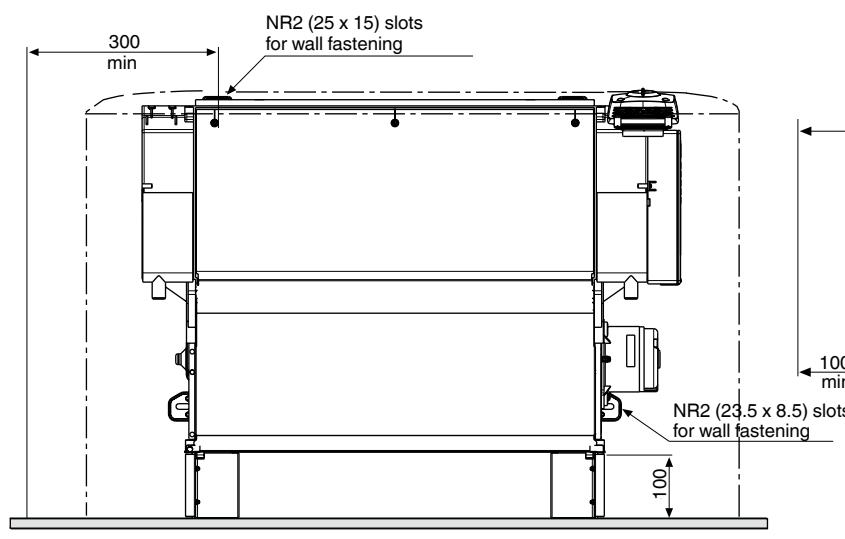


All dimensions are in mm.

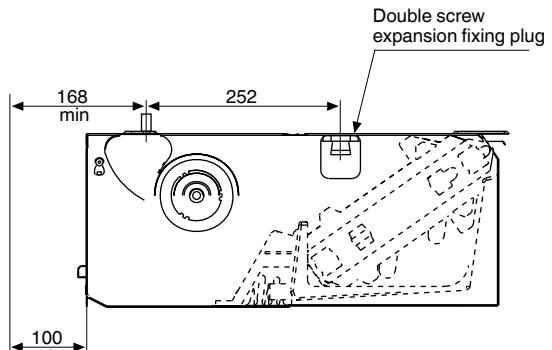
42N	S 15-E 19	S 20-S 26-E 29	S 30-E 39-S 42	S 45-E 49-S 65
A	397	597	797	997
B	332	532	732	932
C	432	632	832	1032
Filter dimensions	189 x 391	189 x 591	189 x 790	189 x 990
Weight kg	13	15	16	28

Typical mounting arrangements

Vertical wall-mounted units

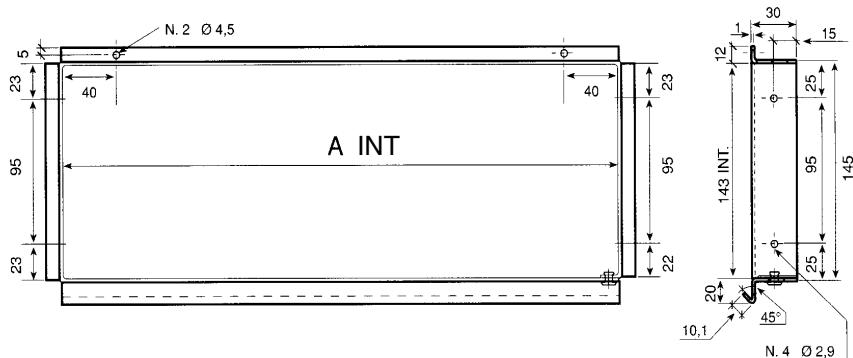


Horizontal ceiling-mounted units



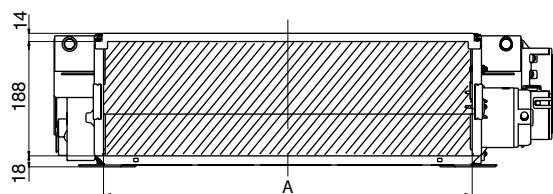
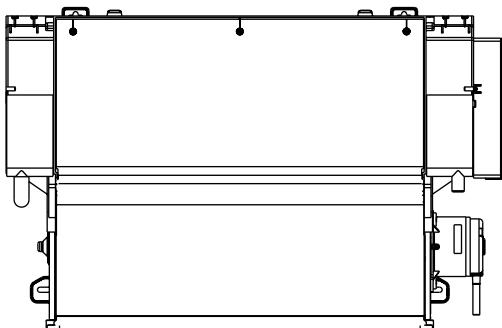
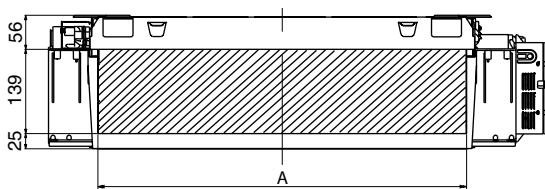
All dimensions are in mm.

Optional air discharge duct



All dimensions are in mm.	
42N	A
S 15-E 19	267
S 20-S 26-E 29	467
S 30-E 39-S 42	667
S 45-E 49-S 65	867

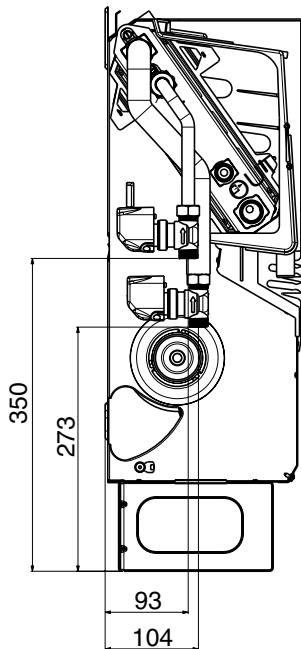
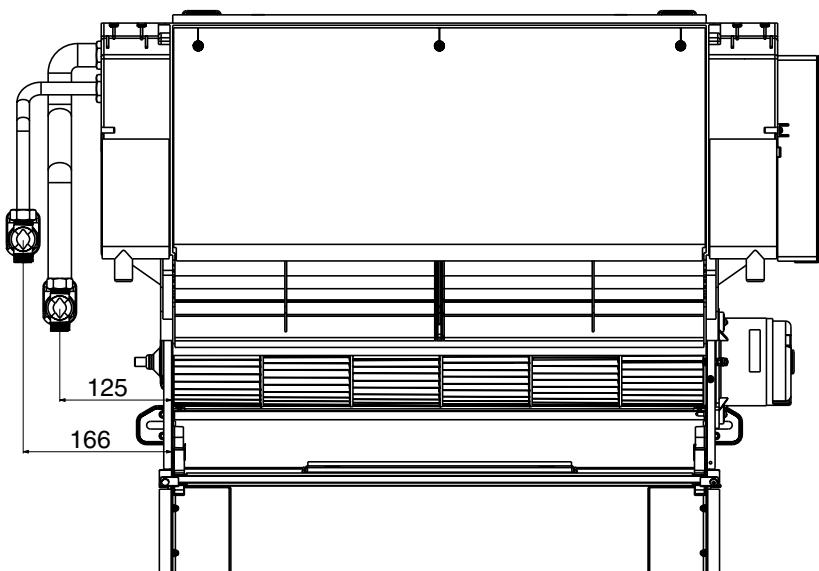
Air inlet and outlet opening dimensions



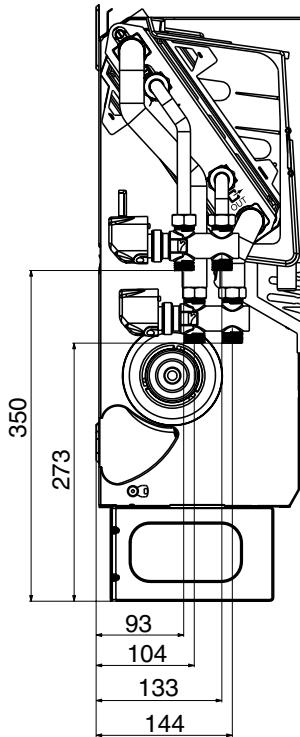
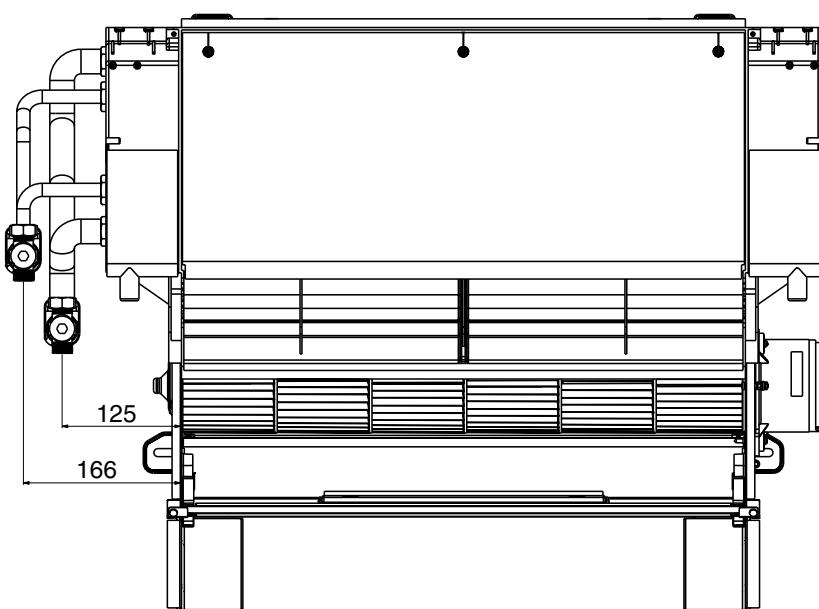
All dimensions are in mm.	
42N	A
S 15-E 19	397
S 20-S 26-E 29	597
S 30-E 39-S 42	797
S 45-E 49-S 65	997

Valves

Two-way valves



Four-way valves



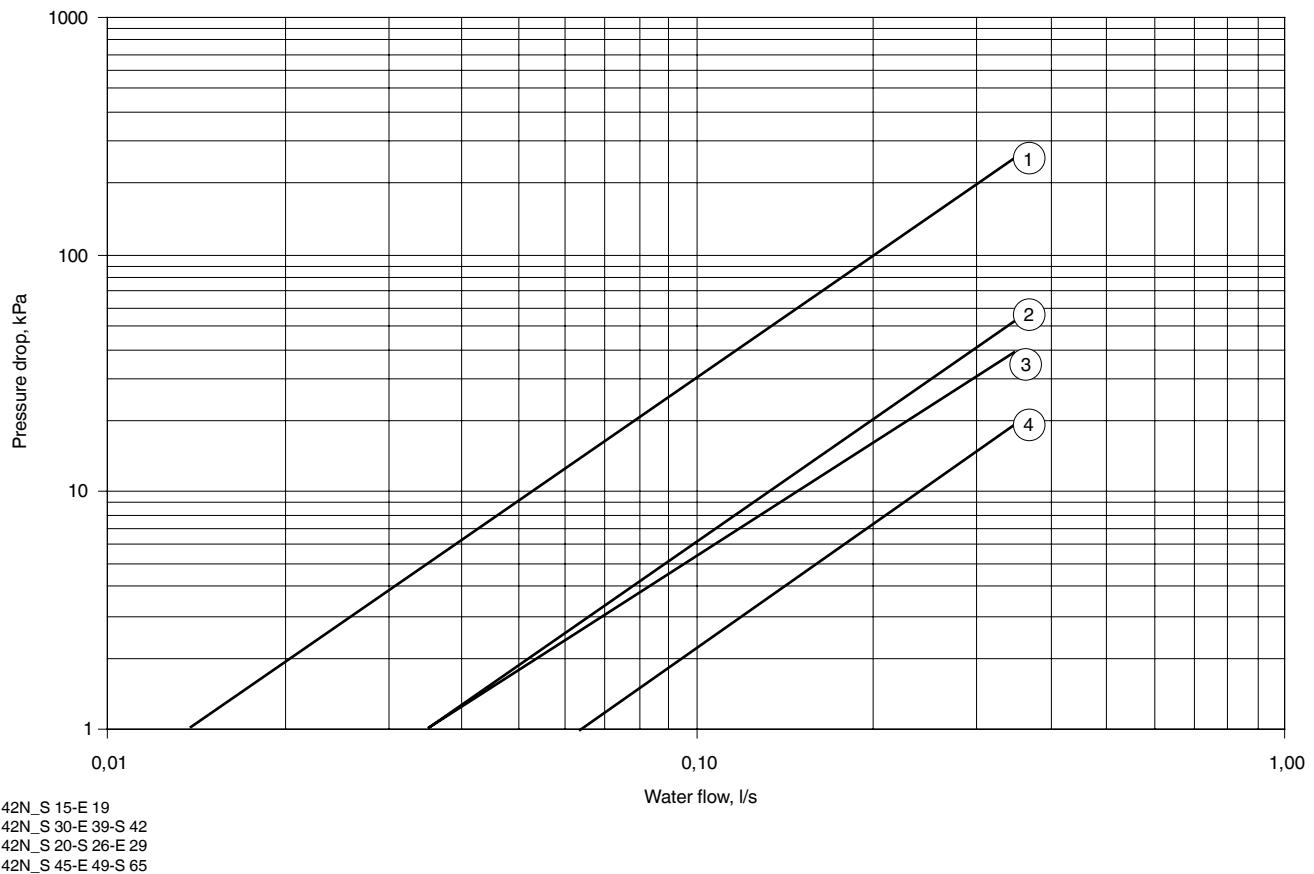
All dimensions are in mm.

Unit option (10th digit)	H 4-way valve	H 4-way valve	H 4-way valve	H 4-way valve	G 2-way valve	G 2-way valve	G 2-way valve	G 2-way valve
Valve kit Description	42N9185 1/2" cold	42N9186 3/4" cold	42N9187 1/2" cold + 1/2" hot	42N9188 3/4" cold + 1/2" hot	42N9194 1/2" cold	42N9195 3/4" cold	42N9196 1/2" cold + 1/2" hot	42N9197 3/4" cold + 1/2" hot
2-pipe	X	-	-	-	X	-	-	-
S 15-E 19	X	-	-	-	X	-	-	-
S 20-S 26-E 29	X	-	-	-	X	-	-	-
S 30-E 39-S 42	-	X	-	-	-	X	-	-
S 45-E 49-S 65	-	X	-	-	-	X	-	-
4-pipe	-	-	X	-	-	-	X	-
S 15-E 19	-	-	X	-	-	-	X	-
S 20-S 26-E 29	-	-	X	-	-	-	X	-
S 30-E 39-S 42	-	-	-	X	-	-	-	X
S 45-E 49-S 65	-	-	-	X	-	-	-	X

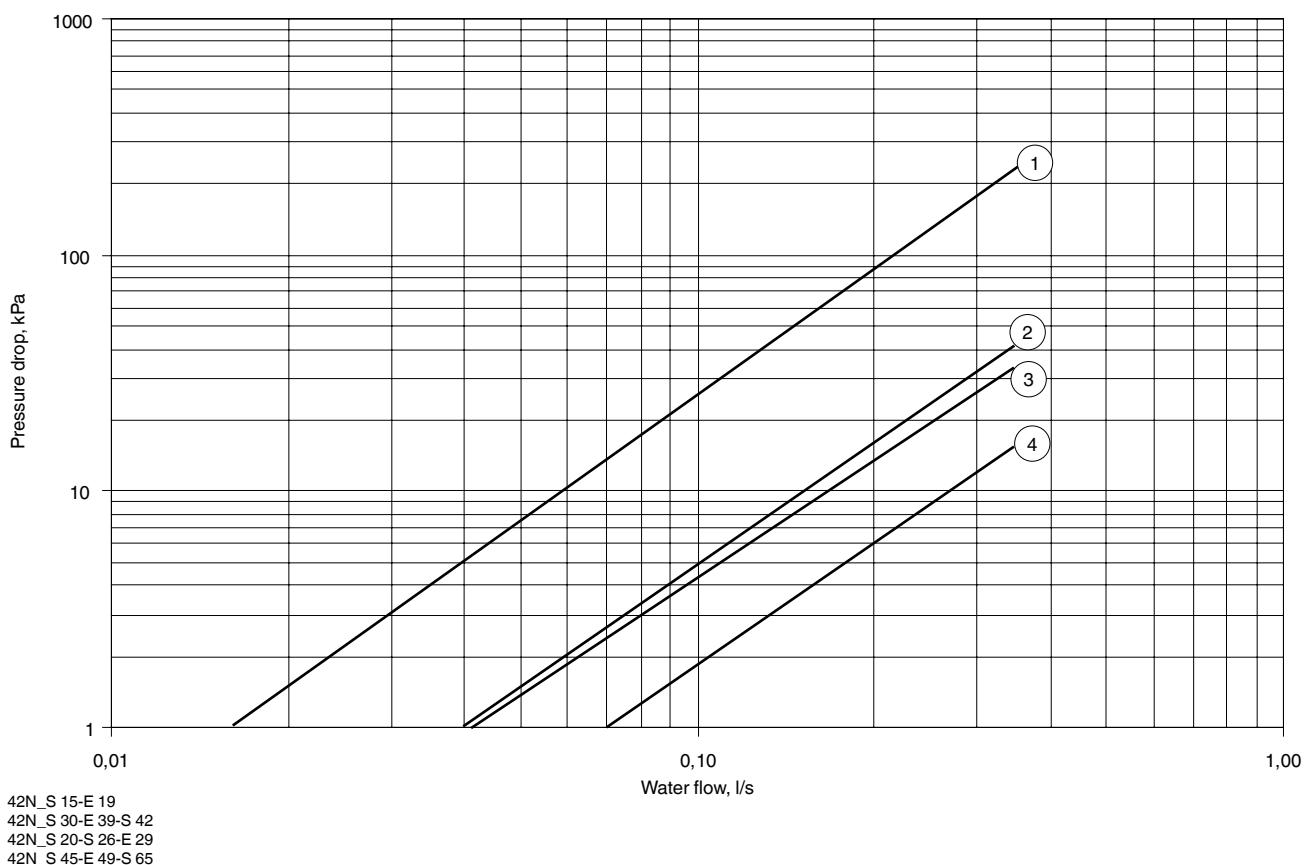
Note: The coil can be switched from left to right on site. The unit is factory-fitted with a water valve, if required a new kit can be ordered.

Two-pipe coil pressure drop

Cooling conditions (entering water temperature = 7°C)

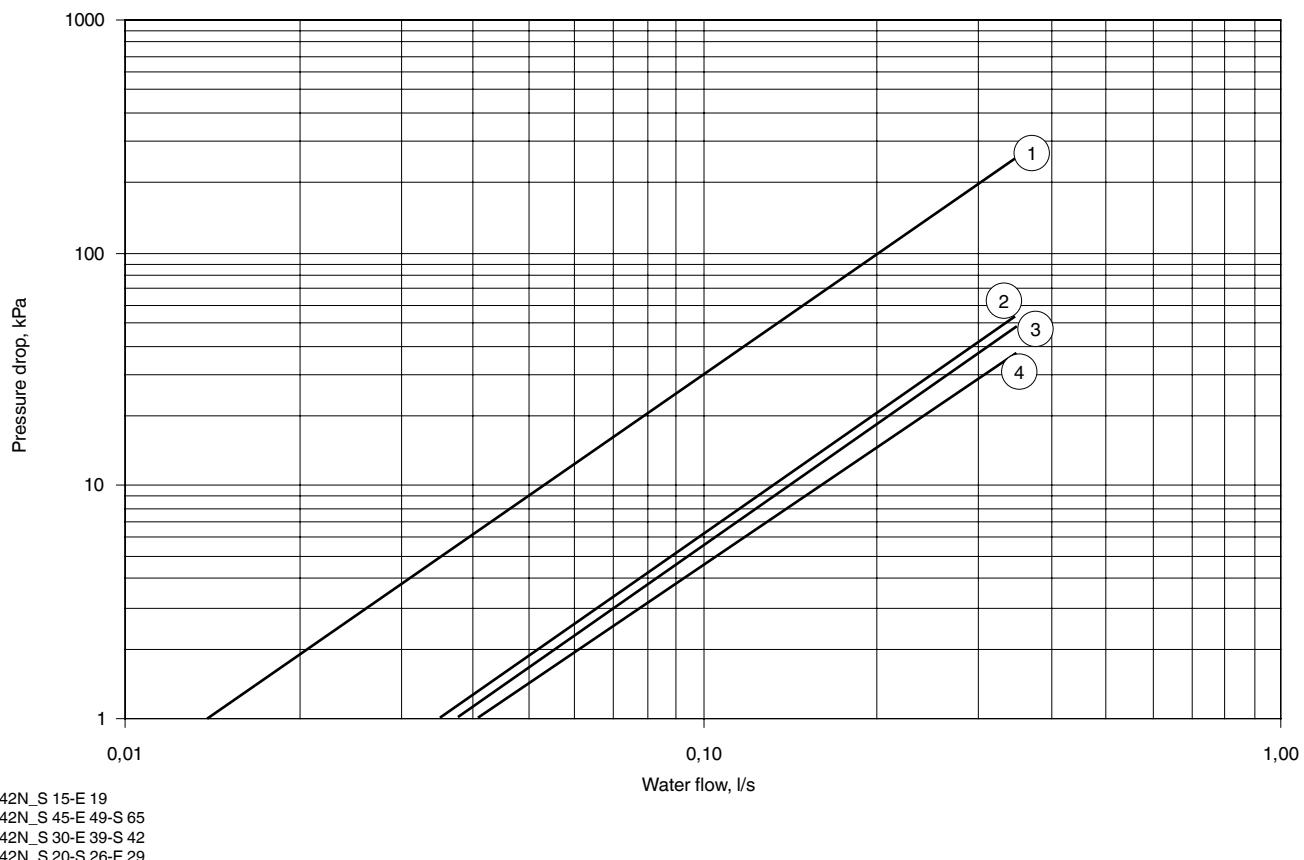


Heating conditions (entering water temperature = 50°C)

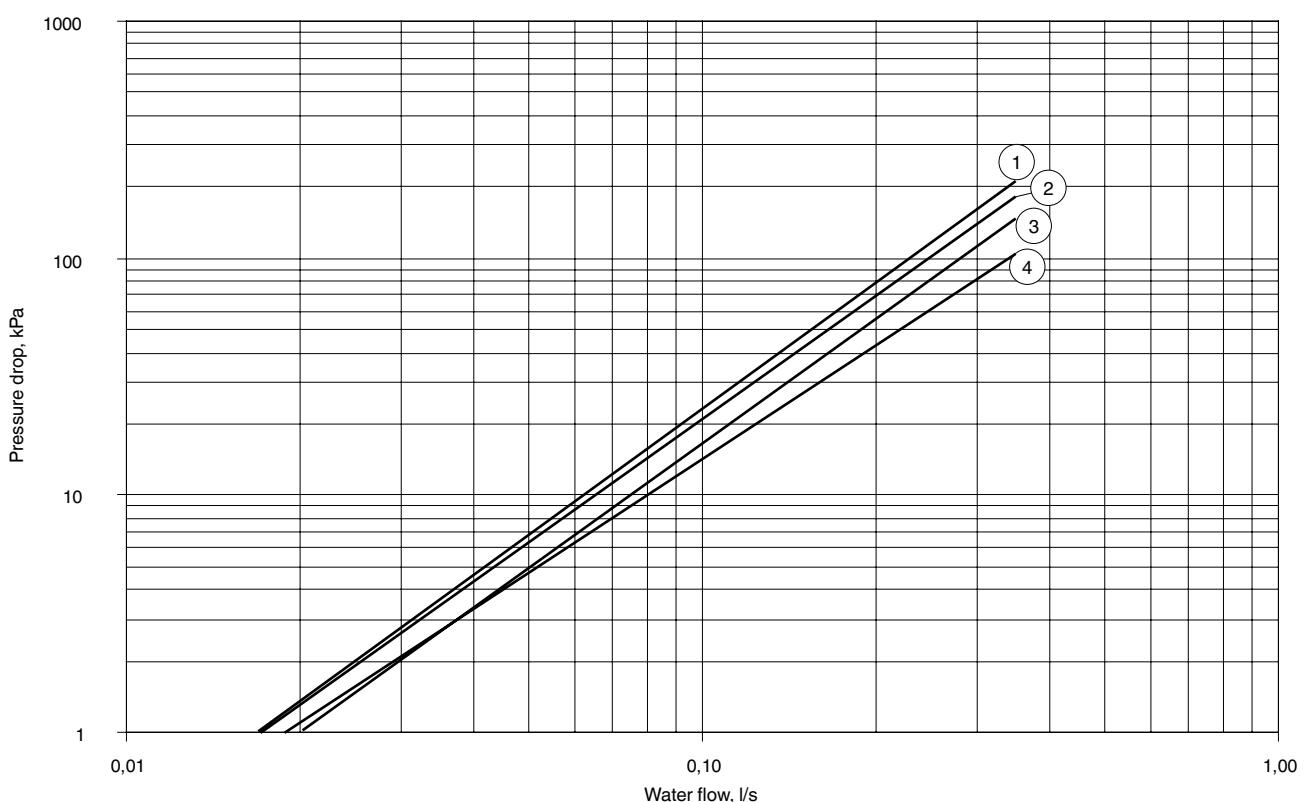


Four-pipe coil pressure drop

Cooling conditions (entering water temperature = 7°C)

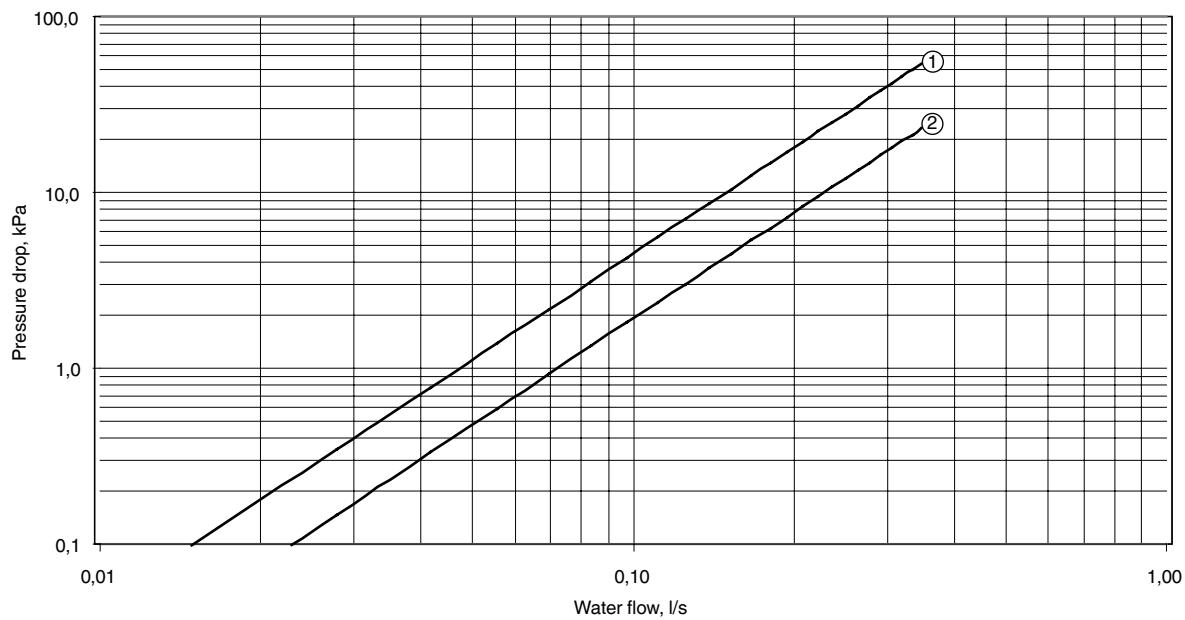


Heating conditions (entering water temperature = 70°C)



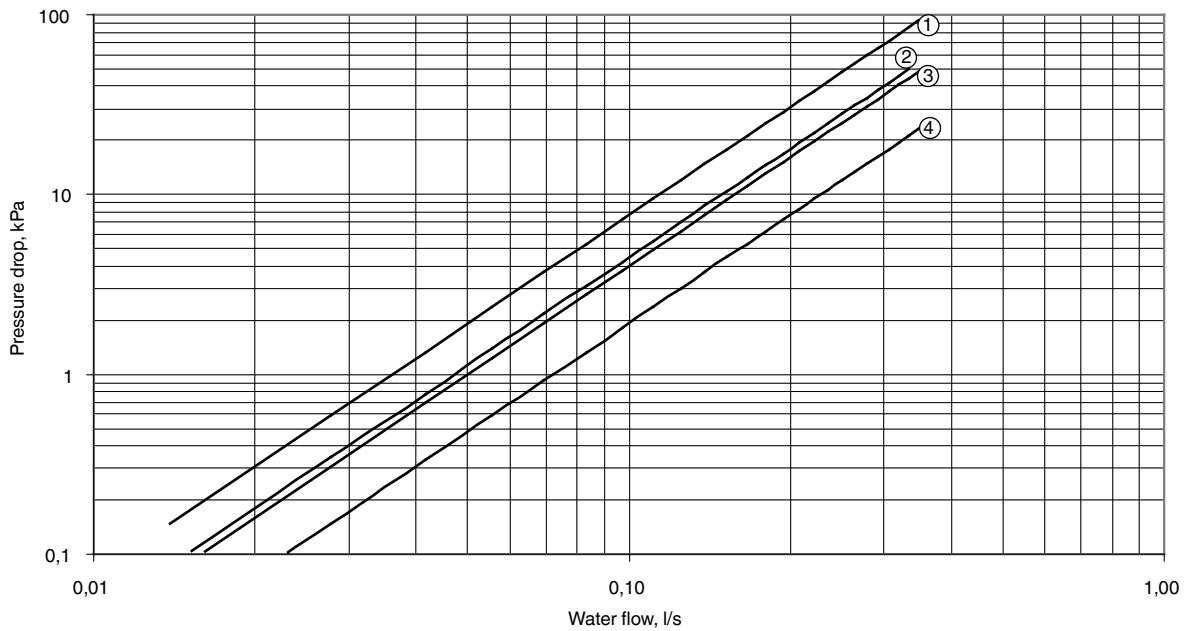
- 1 42N_S 45-E 49-S 65
2 42N_S 30-E 39-S 42
3 42N_S 20-S 26-E 29
4 42N_S 15-E 19

Two-way valve pressure drop



1 1 1/2", cold and hot
2 3/4"

Four-way valve pressure drop



1 1 1/2" bypass, cold and hot
2 1 1/2" open, cold and hot
3 3/4" bypass
4 3/4" open

Notes:

Pressure drop values are based on a water temperature of 20°C.
For other water temperature values, use a correction factor of 0.4% per °C.

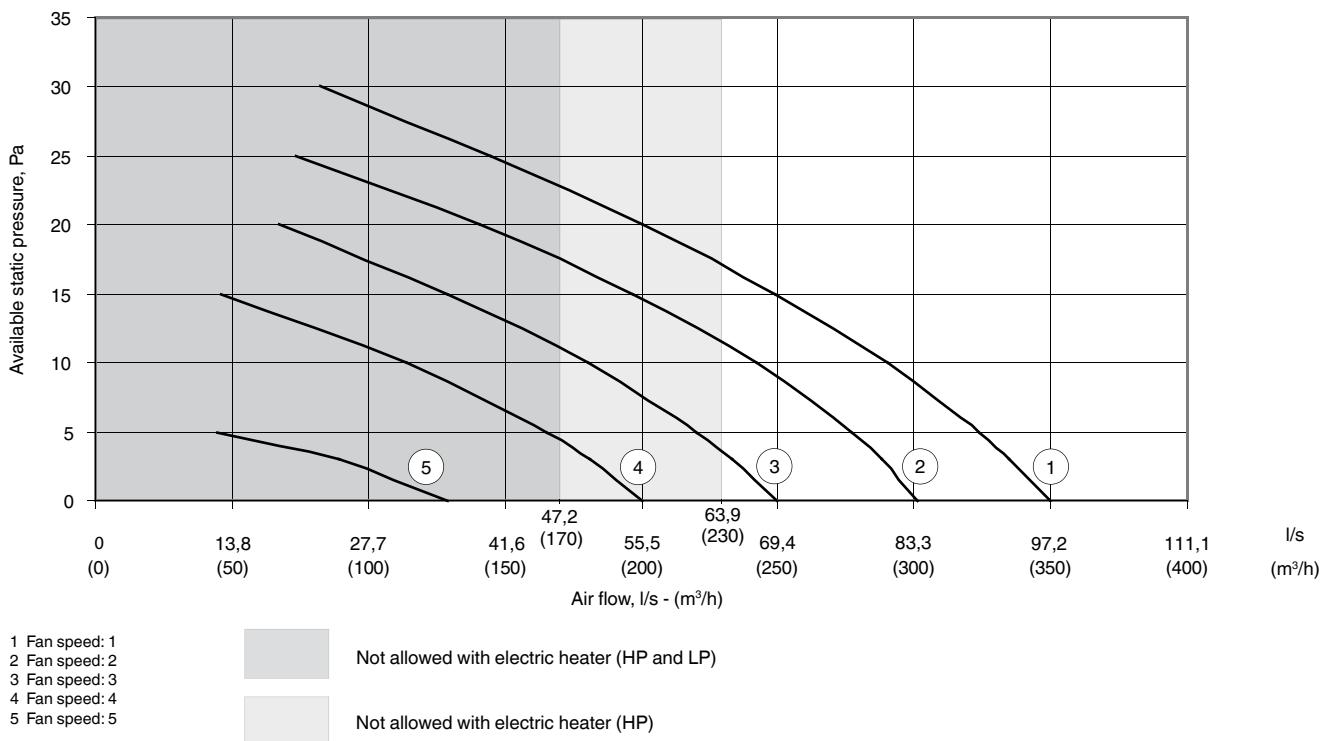
Heating capacities, two-pipe changeover coil

Water flow rate		42N_S 15-E 19		42N_S 20-E 29		42N_S 26		42N_S 30-E 39		42N_S 42		42N_S 45-E 49		42N_S 65				
		Fan speed 1		Fan speed 2		Fan speed 3		Fan speed 4		Fan speed 5		Fan speed 1		Fan speed 2		Fan speed 3		
I/h	ΔT	l/s	K	1	2	3	4	5	1	2	3	4	5	1	2	3	4	
200	0.06	50	3.44	3.16	2.82	2.44	2.00	4.24	4.06	3.77	3.13	2.82	4.84	4.64	3.79	6.15	5.87	5.46
480	0.13	50	3.76	3.43	3.03	2.60	2.09	5.57	5.08	4.58	3.89	3.23	6.90	6.21	4.61	8.47	7.86	7.06
760	0.21	50	3.86	3.50	3.09	2.64	2.12	6.03	5.41	4.82	4.14	3.35	7.74	6.78	4.86	9.31	8.54	7.58
1040	0.29	50	3.90	3.54	3.12	2.66	2.13	6.27	5.58	4.94	4.27	3.40	8.19	7.08	4.98	9.74	8.89	7.83
1320	0.37	50	3.93	3.56	3.13	2.67	2.14	6.42	5.68	5.02	4.34	3.43	8.48	7.26	5.05	10.00	9.10	7.98
1600	0.44	50	3.94	3.58	3.14	2.68	2.14	6.52	5.74	5.06	4.39	3.45	8.68	7.38	5.10	10.18	9.23	8.08
1880	0.52	50	3.96	3.59	3.15	2.69	2.14	6.59	5.79	5.10	4.42	3.47	8.83	7.47	5.14	10.31	9.33	8.16
2160	0.60	50	3.97	3.59	3.16	2.69	2.15	6.65	5.82	5.12	4.45	3.48	8.94	7.54	5.16	10.40	9.41	8.21
2440	0.68	50	3.97	3.60	3.16	2.69	2.15	6.69	5.85	5.14	4.47	3.48	9.03	7.59	5.18	10.48	9.47	8.25
2720	0.76	50	3.98	3.60	3.16	2.70	2.15	6.72	5.87	5.16	4.49	3.49	9.10	7.63	5.20	10.54	9.51	8.29
3000	0.83	50	3.98	3.61	3.17	2.70	2.15	6.75	5.89	5.17	4.50	3.50	9.16	7.67	5.21	10.59	9.55	8.31
200	0.06	60	4.13	3.79	3.39	2.93	2.41	5.18	4.95	4.58	3.83	3.42	5.93	5.67	4.60	7.46	7.13	6.62
480	0.13	60	4.52	4.12	3.64	3.12	2.52	6.75	6.15	5.53	4.72	3.90	8.39	7.53	5.57	10.24	9.50	8.52
760	0.21	60	4.64	4.21	3.71	3.17	2.55	7.30	6.54	5.82	5.01	4.03	9.38	8.20	5.86	11.24	10.31	9.14
1040	0.29	60	4.69	4.26	3.75	3.20	2.56	7.58	6.73	5.96	5.15	4.09	9.92	8.55	6.01	11.75	10.72	9.44
1320	0.37	60	4.72	4.28	3.76	3.21	2.57	7.75	6.84	6.04	5.23	4.13	10.26	8.76	6.09	12.06	10.96	9.62
1600	0.44	60	4.74	4.30	3.78	3.22	2.57	7.87	6.92	6.10	5.29	4.15	10.49	8.90	6.15	12.27	11.13	9.74
1880	0.52	60	4.76	4.31	3.79	3.23	2.58	7.95	6.97	6.14	5.33	4.17	10.67	9.01	6.19	12.42	11.24	9.82
2160	0.60	60	4.77	4.32	3.79	3.23	2.58	8.01	7.01	6.16	5.36	4.18	10.80	9.09	6.22	12.54	11.33	9.89
2440	0.68	60	4.77	4.32	3.80	3.24	2.58	8.06	7.04	6.19	5.38	4.19	10.90	9.15	6.24	12.62	11.40	9.93
2720	0.76	60	4.78	4.33	3.80	3.24	2.58	8.10	7.07	6.21	5.40	4.20	10.99	9.20	6.26	12.70	11.45	9.97
3000	0.83	60	4.79	4.33	3.81	3.24	2.59	8.13	7.09	6.22	5.42	4.20	11.06	9.24	6.27	12.75	11.50	10.01
200	0.06	70	4.82	4.43	3.95	3.43	2.81	6.12	5.83	5.40	4.52	4.03	7.03	6.70	5.42	8.78	8.38	7.79
480	0.13	70	5.28	4.81	4.25	3.65	2.94	7.94	7.22	6.49	5.55	4.57	9.90	8.86	6.53	12.03	11.14	9.99
760	0.21	70	5.42	4.92	4.34	3.71	2.98	8.57	7.67	6.82	5.88	4.72	11.04	9.63	6.87	13.19	12.09	10.71
1040	0.29	70	5.48	4.97	4.38	3.74	2.99	8.89	7.88	6.98	6.04	4.79	11.66	10.03	7.03	13.78	12.56	11.06
1320	0.37	70	5.52	5.00	4.40	3.75	3.00	9.09	8.01	7.07	6.13	4.83	12.05	10.28	7.13	14.14	12.84	11.26
1600	0.44	70	5.54	5.02	4.41	3.77	3.01	9.22	8.10	7.14	6.20	4.86	12.32	10.44	7.19	14.38	13.03	11.40
1880	0.52	70	5.56	5.04	4.43	3.77	3.01	9.32	8.16	7.18	6.24	4.87	12.52	10.56	7.24	14.55	13.16	11.50
2160	0.60	70	5.57	5.05	4.43	3.78	3.02	9.39	8.21	7.21	6.27	4.89	12.67	10.65	7.27	14.68	13.26	11.57
2440	0.68	70	5.58	5.05	4.44	3.78	3.02	9.44	8.25	7.24	6.30	4.90	12.78	10.72	7.30	14.78	13.34	11.62
2720	0.76	70	5.59	5.06	4.44	3.79	3.02	9.49	8.27	7.26	6.32	4.91	12.88	10.77	7.32	14.86	13.41	11.67
3000	0.83	70	5.59	5.07	4.45	3.79	3.02	9.52	8.30	7.28	6.34	4.91	12.96	10.82	7.34	14.93	13.46	11.71

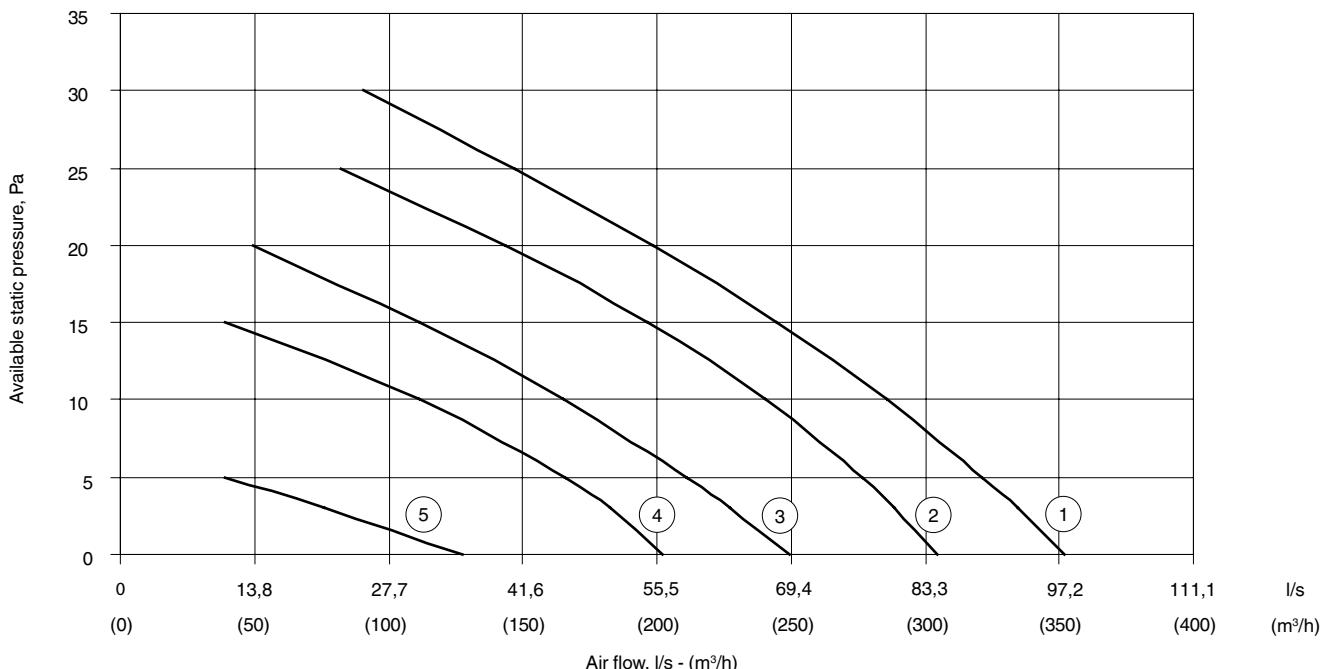
EAT Entering air temperature
 EWT Entering water temperature
 ΔT Available temperature difference - EWT - EAT

Fan performances

42N_S 15, two-pipe coil



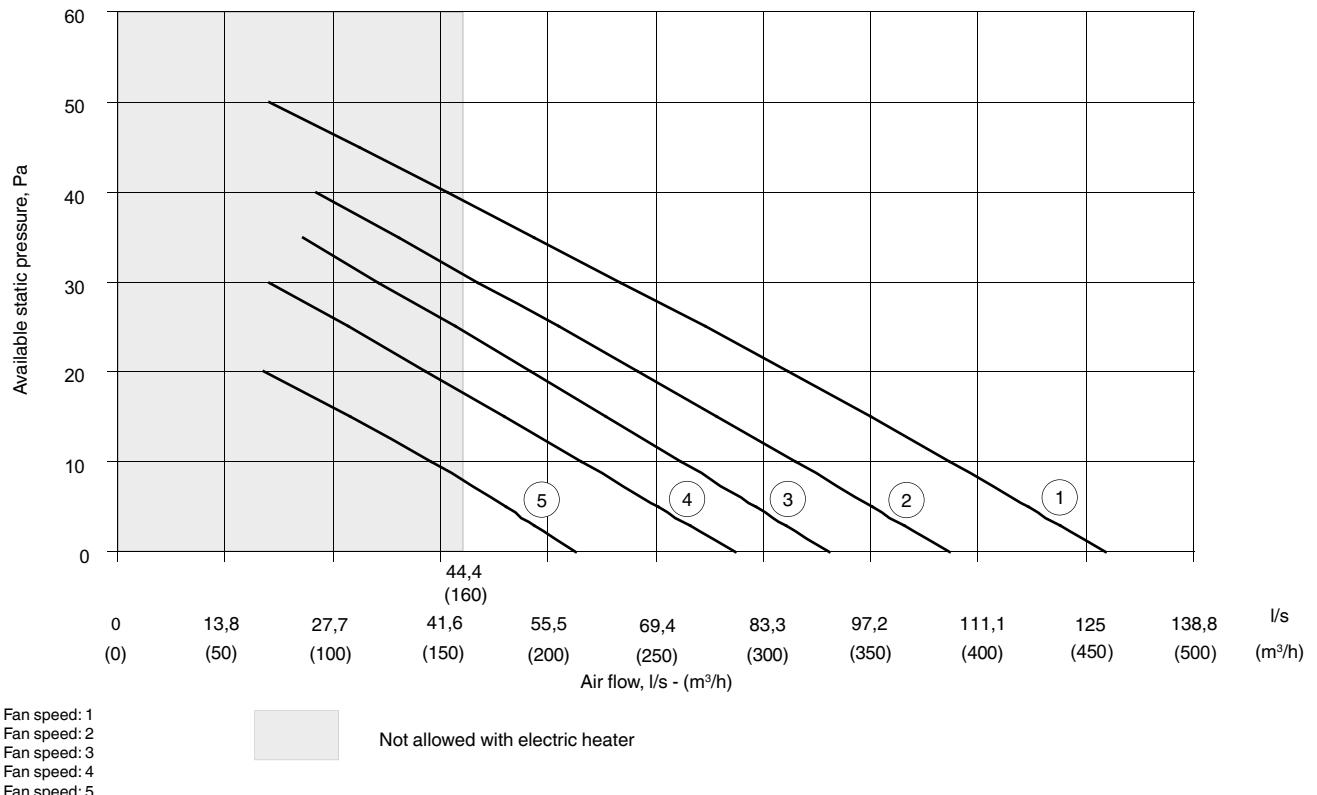
42N_S 15, four-pipe coil



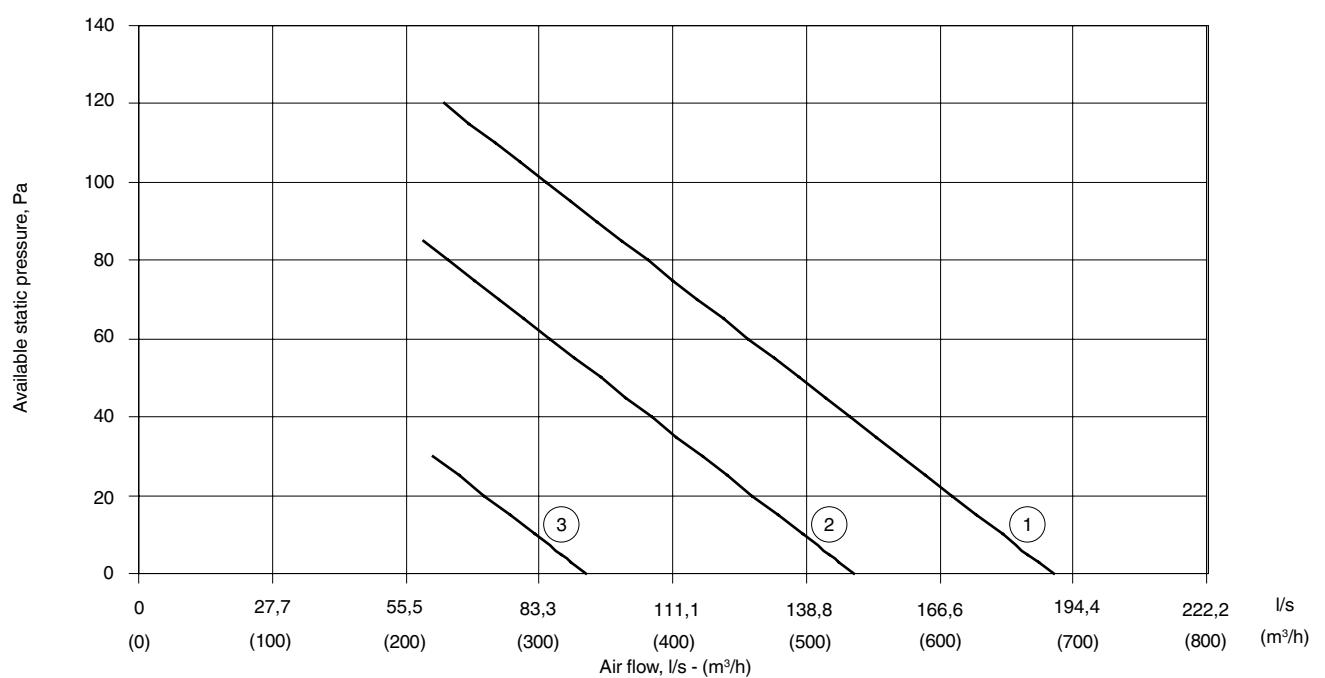
- 1 Fan speed: 1
- 2 Fan speed: 2
- 3 Fan speed: 3
- 4 Fan speed: 4
- 5 Fan speed: 5

Fan performances (continued)

42N_S 20, two-pipe and four-pipe coil

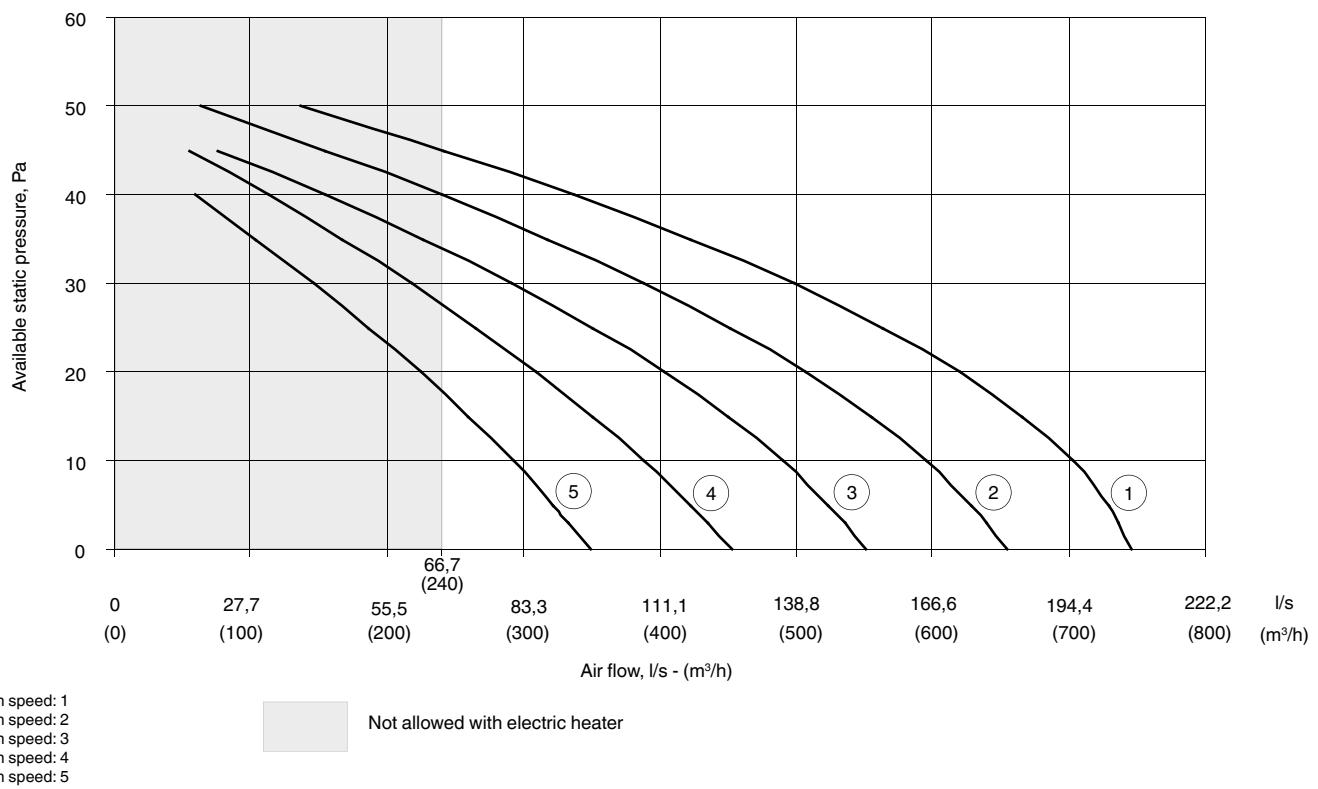


42N_S 26, two-pipe and four-pipe coil

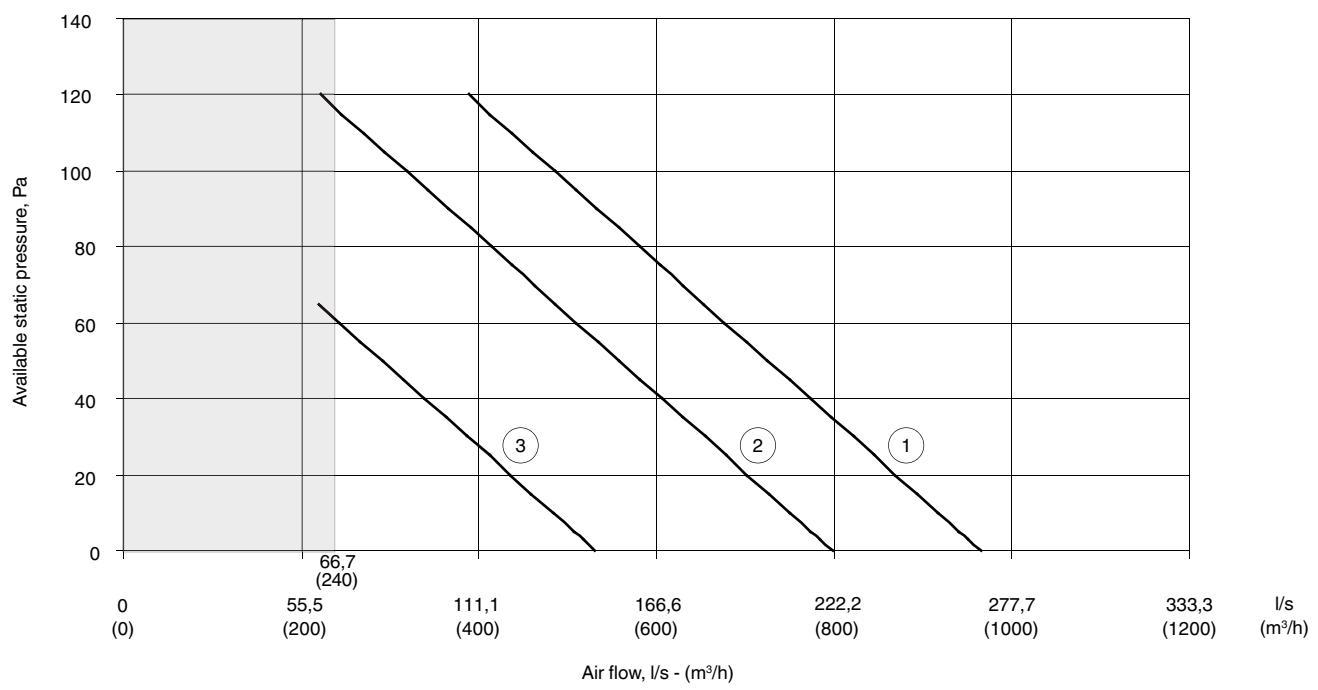


Fan performances (continued)

42N_S 30, two-pipe and four-pipe coil

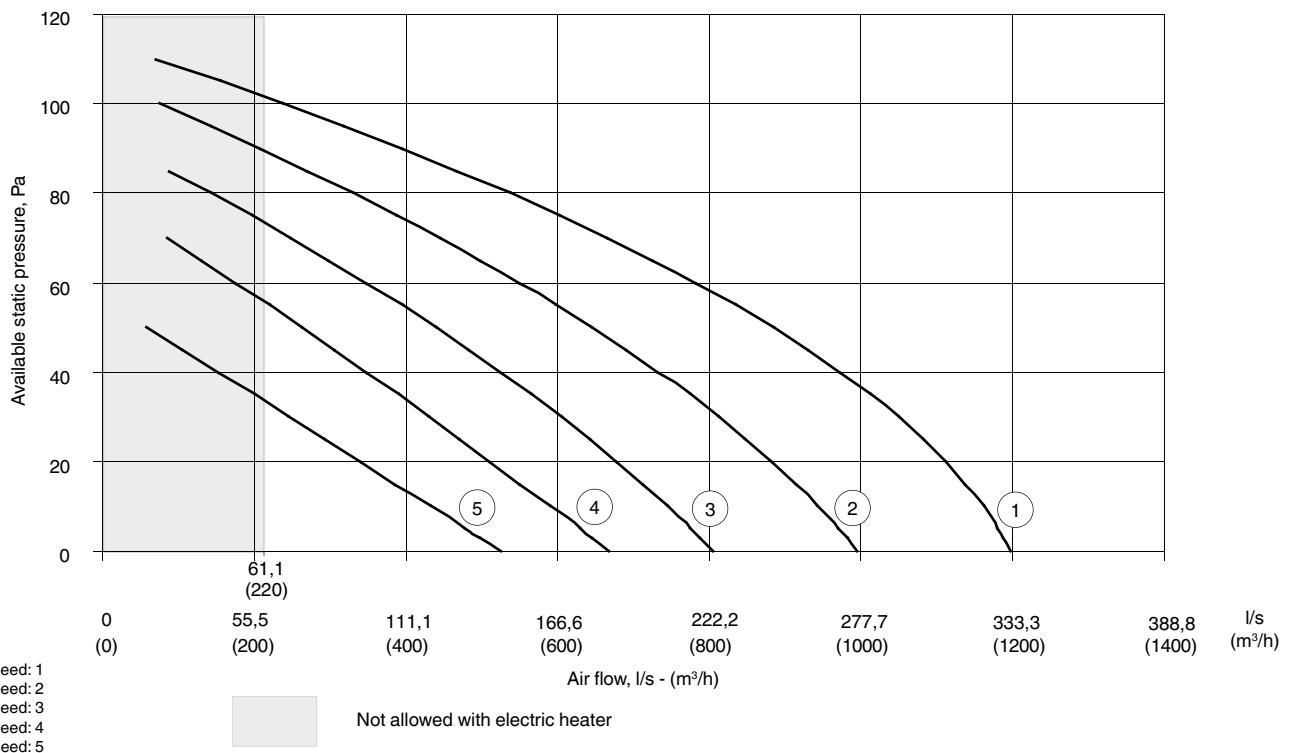


42N_S 42, two-pipe and four-pipe coil

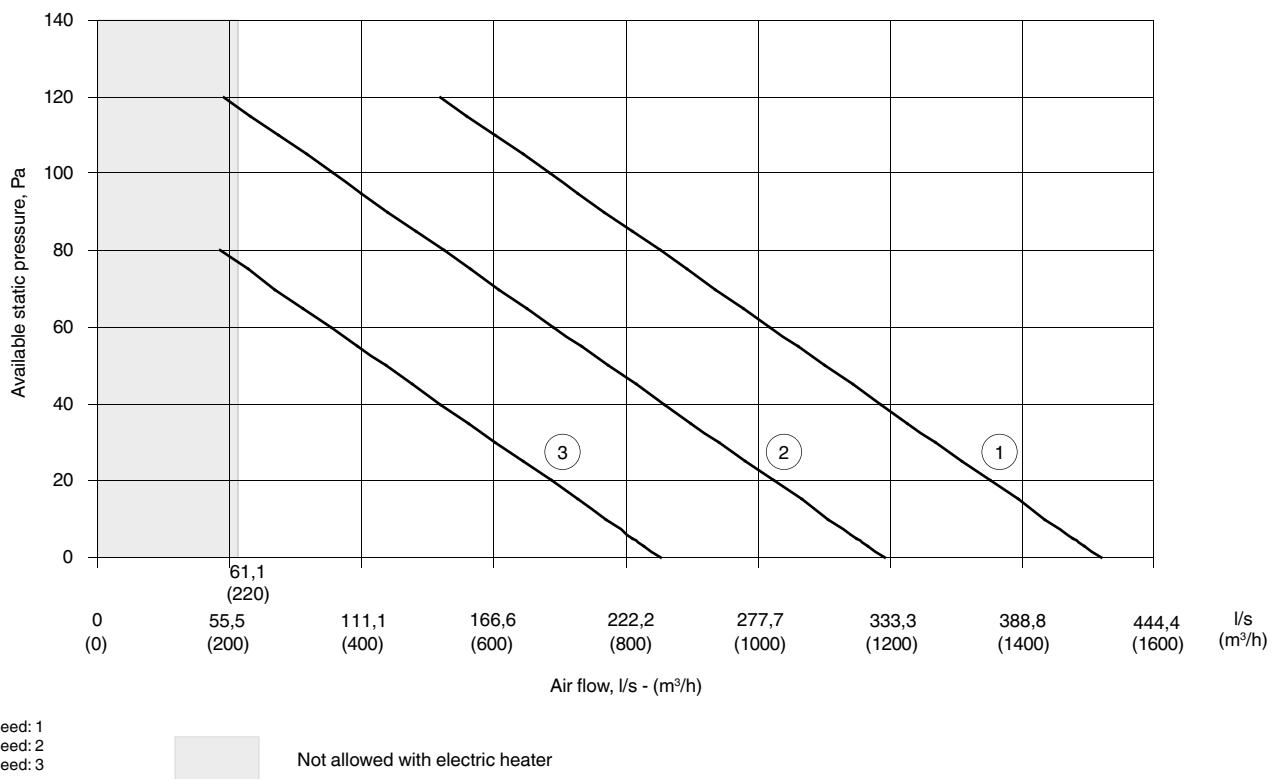


Fan performances (continued)

42N_S 45, two-pipe and four-pipe coil

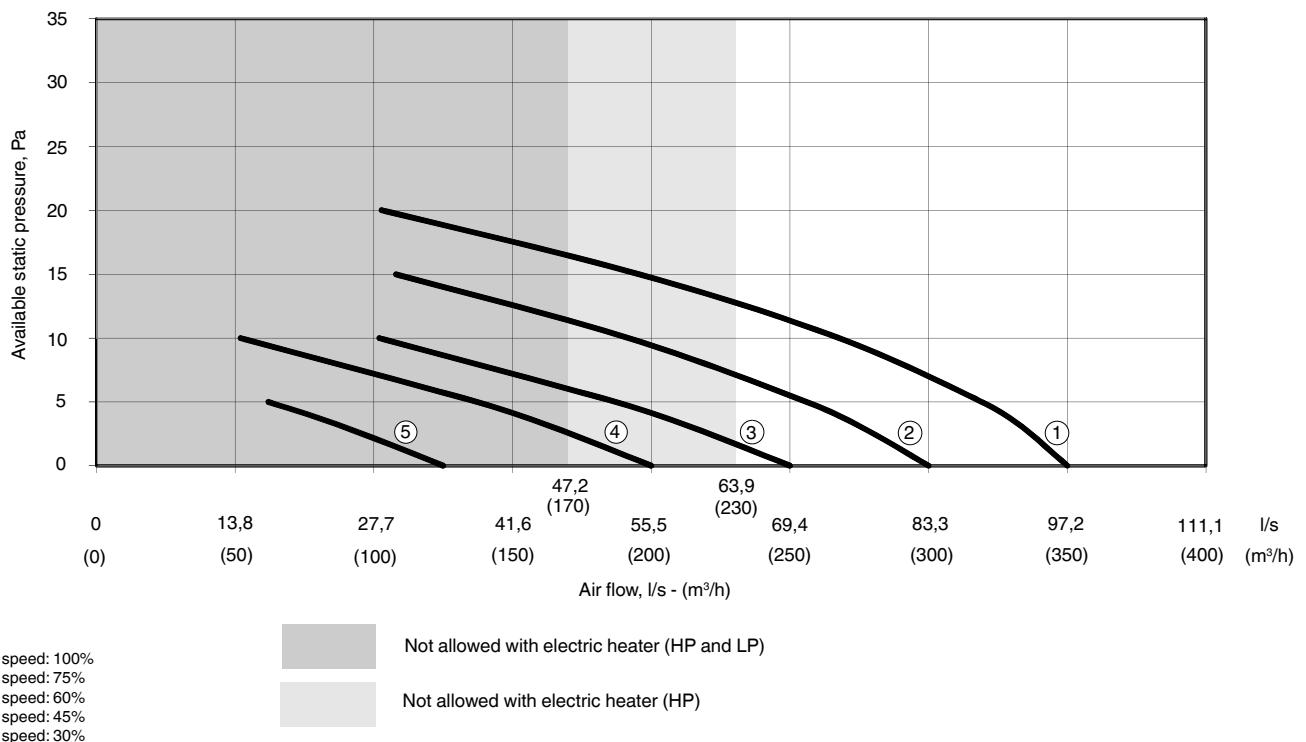


42N_S 65, two-pipe and four-pipe coil

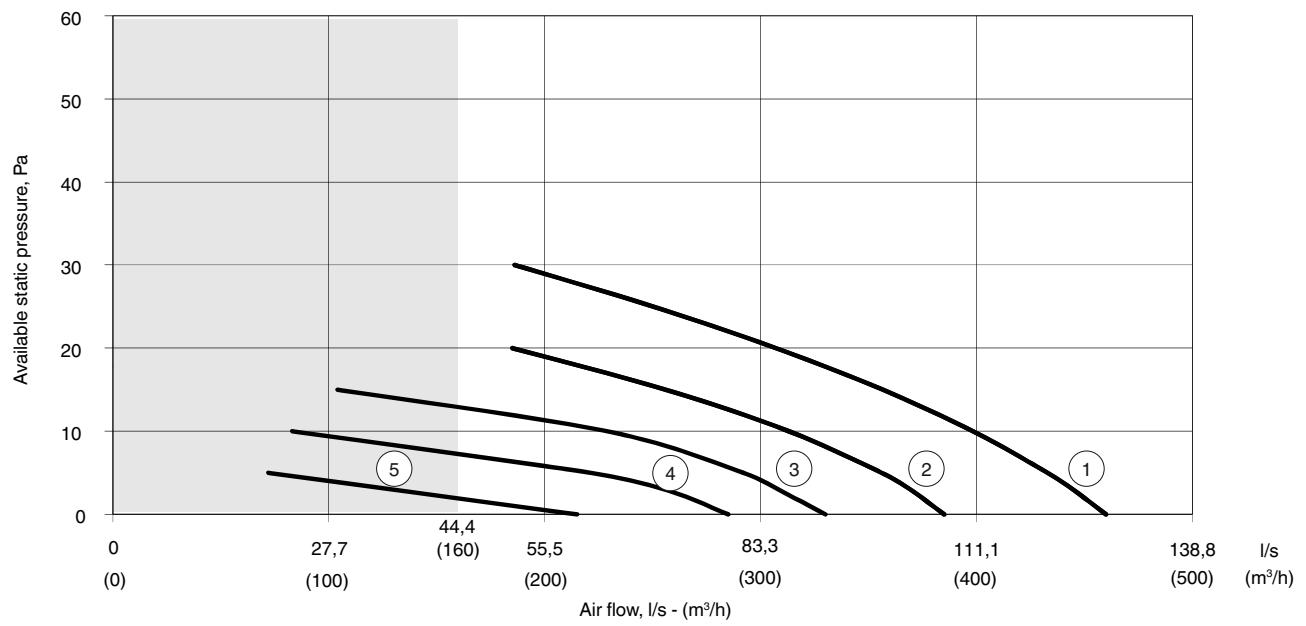


Fan performances, units with LEC motors

42N_E 19, two-pipe and four-pipe coil



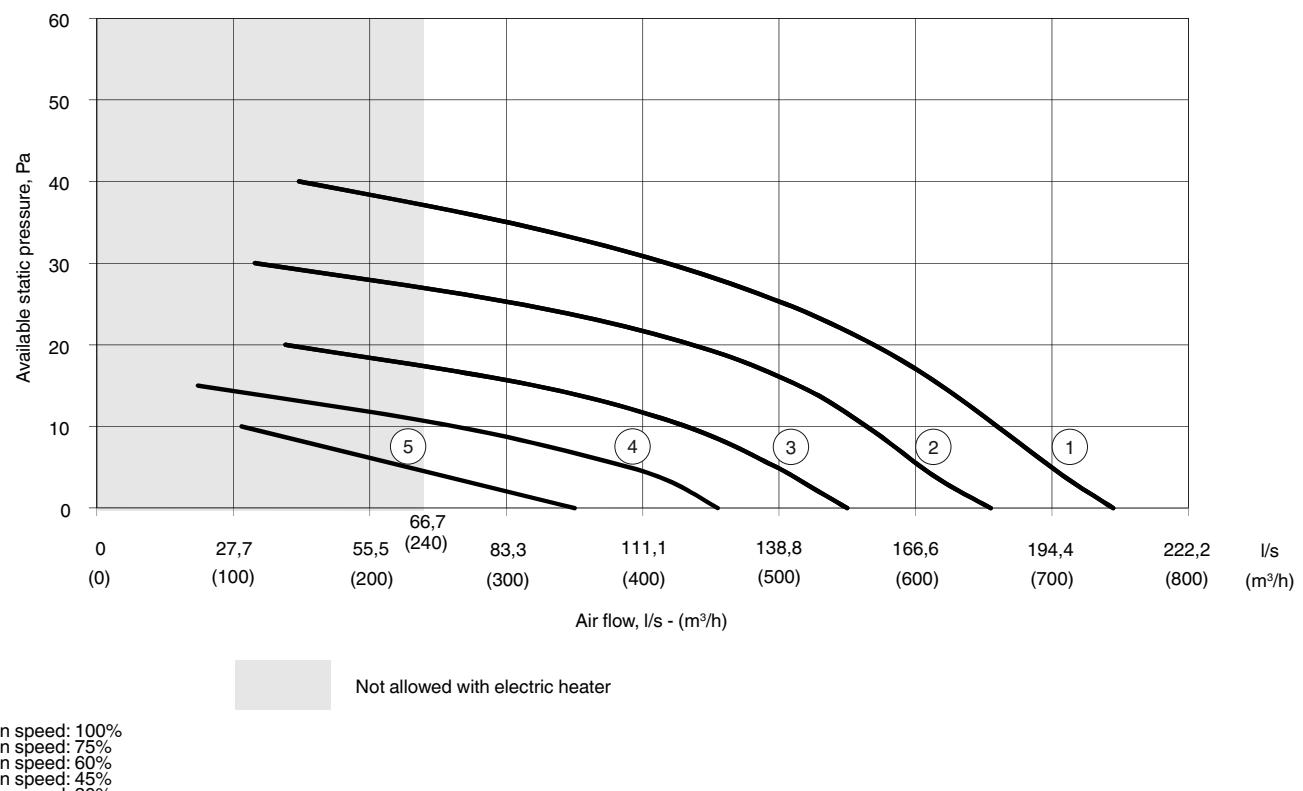
42N_E 29, two-pipe and four-pipe coil



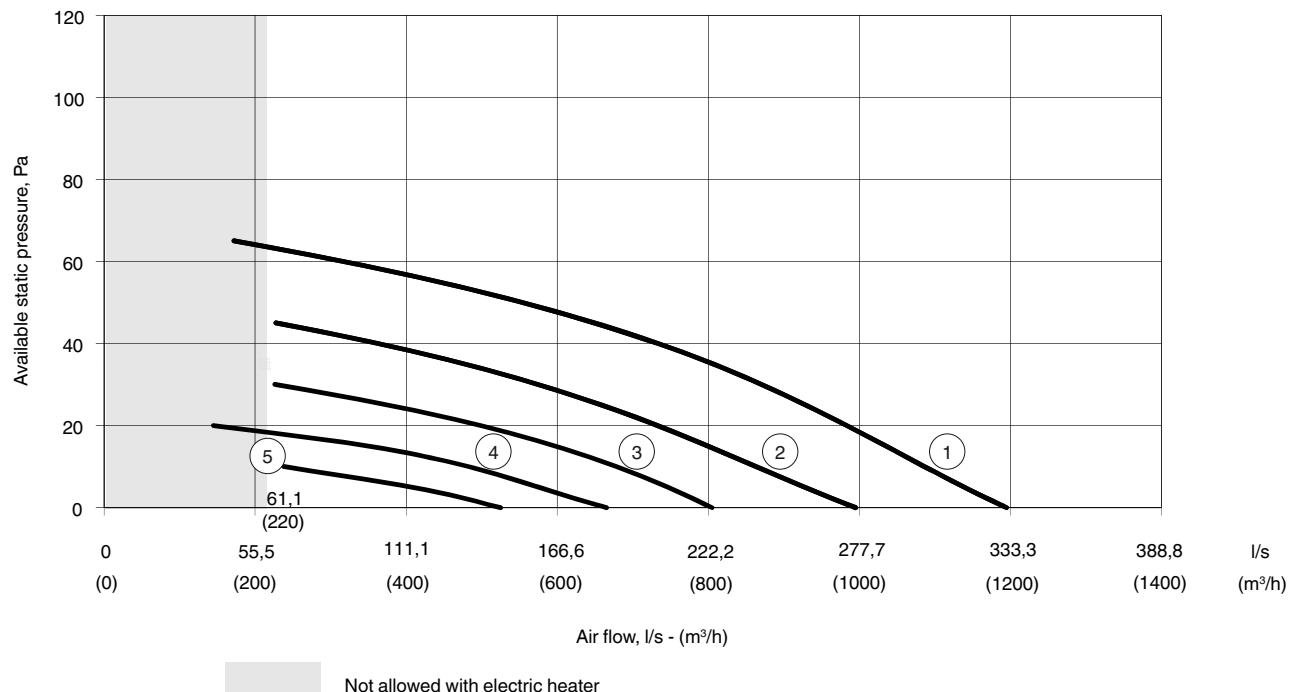
- 1 Fan speed: 100%
- 2 Fan speed: 75%
- 3 Fan speed: 60%
- 4 Fan speed: 45%
- 5 Fan speed: 30%

Fan performances, units with LEC motors (continued)

42N_E 39, two-pipe and four-pipe coil



42N_E 49, two-pipe and four-pipe coil



- 1 Fan speed: 100%
 2 Fan speed: 75%
 3 Fan speed: 60%
 4 Fan speed: 45%
 5 Fan speed: 30%

Air throw

The air throw value gives the position where the air velocity is 0,2 m/s when the air is blown horizontally with the grille pointing upwards. Air throw values are given as a guideline only, and change with room dimensions and furniture used in the room.

42N S 15-S 20-S 30-S 45 E 19-E 29-E 39-E 49		42N_S 15-E 19 two-pipe			42N_S 15-E 19 four-pipe			42N_S 20-E 29			42N_S 26		
		m	l/s	m³/h	m	l/s	m³/h	m	l/s	m³/h	m	l/s	m³/h
Speed 5	-	0.4	35.8	129	0.4	35.4	127	0.9	59.1	213	-	-	-
Speed 4	-	1.7	55.6	200	1.7	56.2	202	1.8	79.8	287	-	-	-
Speed 3	Speed 3	2.3	69.4	250	2.3	69.2	249	2.2	91.9	331	2.2	93.0	335
Speed 2	Speed 2	2.8	83.6	301	2.8	84.6	304	2.7	107.4	387	3.6	148.9	536
Speed 1	Speed 1	3.2	97.2	350	3.2	97.8	352	3.2	127.6	459	4.4	190.3	685

42N S 15-S 20-S 30-S 45 E 19-E 29-E 39-E 49		42N_S 30-E 39			42N_S 42			42N_S 45-E 49			42N_S 65		
		m	l/s	m³/h	m	l/s	m³/h	m	l/s	m³/h	m	l/s	m³/h
Speed 5	-	0.5	97.1	350	-	-	-	0.8	145.6	524	-	-	-
Speed 4	-	2.1	126.0	454	-	-	-	2.9	185.3	667	-	-	-
Speed 3	Speed 3	3.2	153.2	552	3.0	147.5	531	4.6	223.6	805	5.1	236.9	853
Speed 2	Speed 2	4.3	181.8	654	5.4	221.7	798	6.4	276.7	996	8.0	330.8	1191
Speed 1	Speed 1	5.0	207.2	746	6.6	268.0	965	8.1	332.6	1197	10.2	421.9	1519

Operating limits

Water circuit	Maximum water side pressure: 1400 kPa (142 m WG)	Minimum entering water temperature: 2°C Maximum entering water temperature: 80°C
Indoor temperature		Minimum temperature: 5°C Maximum temperature: 32°C*
Power supply	Nominal supply Operating limits	230 V - 1 ph - 50 Hz Min. 207 V - max. 253 V for units without electric heaters Min. 218 V - max. 244 V for units with electric heaters
Maximum available static pressure	R1 super-high speed, dry coil**	Size 15: 30 Pa Size 19: 20 Pa Size 20: 50 Pa Size 29: 30 Pa Size 30: 50 Pa Size 39: 40 Pa Size 45: 110 Pa Size 49: 65 Pa
	R3 medium speed, dry coil**	Size 15: 20 Pa Size 19: 10 Pa Size 20: 35 Pa Size 29: 15 Pa Size 30: 45 Pa Size 39: 25 Pa Size 45: 85 Pa Size 49: 30 Pa
	R5 ultra-low speed, dry coil**	Size 15: 5 Pa Size 19: 5 Pa Size 20: 20 Pa Size 29: 5 Pa Size 30: 40 Pa Size 39: 10 Pa Size 45: 50 Pa Size 49: 10 Pa
	R1 high speed, dry coil**	Size 26: 110 Pa Size 42: 120 Pa Size 30: 110 Pa
	R2 medium speed, dry coil**	Size 26: 80 Pa Size 42: 110 Pa Size 65: 110 Pa
	R3 low speed, dry coil**	Size 26: 25 Pa Size 42: 60 Pa Size 65: 75 Pa

* In heating mode with electric heater.

** When using dehumidification, reduce by 5 Pa. For other selectable speeds, refer to the fan performance curves.



Order No. 14494-20, 06.2011 - Supersedes: 14494-20, 03.2011
Manufacturer reserves the right to change any product specifications without notice.

Manufactured by: Carrier SpA, Villasanta, Italy.
Printed in the European Union.