

# HOT WATER REHEAT SECTION

FOR DUCT MOUNTING

NJOG | NJOH TYPE





## Composition type designation

**N - J - O - G - B - O - O****N** Position 1: **Productgroep**

N = air volume control units

**J** Position 2: **Function**O = not applicable  
J = duct section for hot water reheat section  
1 = non standard, specify separately**O** Position 3: **Controls (manufacturer)**

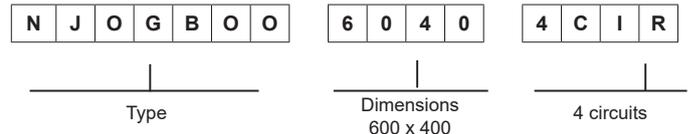
O = without controls

**G** Position 4: **Outlet**O = not applicable  
G = hot water reheat coil with rectangular in- and outlet and duct flanges  
H = hot water reheat coil with circular in- and outlet  
1 = non standard, specify separately**B** Position 5: **Reheat coil**O = not applicable  
A = 1-row hot water reheat coil  
B = 2-row hot water reheat coil  
C = 3-row hot water reheat coil  
D = 4-row hot water reheat coil  
1 = non standard, specify separately**O** Position 6: **Controls (type and function)**

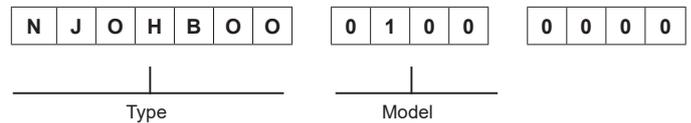
O = not applicable

**O** Position 7: **Sensor**O = not applicable  
1 = non standard, specify separately

## Ordering example 1:



## Ordering example 2:

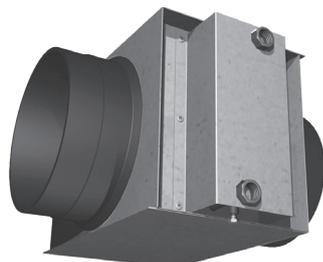
**Ordering information:***Standard terminals:*

- quantity of terminals
- complete 7 digit code
- terminal size or model

*Non standard terminals:*

- for non standard terminals a full description and/or drawing are requested.

Type NJOG...  
NJOH...



## Application

- These hot water reheat sections are suited for mounting in between ducts. They units are specially developed for the connection between ducts in compliance with DIN24 145 or DIN 24 146.

## Technical data

### Features:

- High heat exchange efficiency
- Low airside pressure drop
- Max. operating pressure (PN): 12.5 Bar.
- Test pressure: 30 Bar.
- Equipped with:
  - Air vent
  - Drain plug

### Construction:

- Copper tubes with aluminium fins
- **Anti-rotating plate (thread connection protection, circular duct heaters only)**

### Delivery format:

- Factory fitted inside protective shroud.
- Coil connections protected with plastic dust caps. Remove before installation.

### Casing:

- Single wall airtight construction, made of galvanized sheet steel. The circular outlet spigots are made of flame retardant polymer (model 100-250) or of steel (model 315-400).

## Common types

- NJOHBOO:  
2-row hot water reheat coil circular in/out.
- NJOHDOO:  
4-row hot water reheat coil circular in/out.
- NJOGA00:  
1-row hot water reheat coil rectangular flanges.
- NJOGBOO:  
2-row hot water reheat coil rectangular flanges.
- NJOGCOO:  
3-row hot water reheat coil rectangular flanges.
- NJOGDOO:  
4-row hot water reheat coil rectangular flanges.

### Additional note:

- Information on duct coolers is available on request.

## Specify as:

### Example for circular version:

Hot water reheat sections for duct mounting with circular outlet spigots for mounting in a circular duct.

Reheat section made out of aluminium fins and copper tubs, suited for thread connections. The connections will be equipped with an anti-rotating plate to protect the thread connections.

The single wall airtight construction will be made of galvanized sheet steel. The in/outlet spigots will be made of flame retardant polymer.

Manufacturer: Barcol-Air, the Netherlands

Ordering example: type - model - connection = NJOHBOO - 0160 - 0000.

### Example for rectangular version:

Hot water reheat sections for duct mounting with rectangular flanges for mounting in a rectangular duct.

Reheat section made out of aluminium fins and copper tubs, suited for thread connections. The coil connections will be closed and protected with plastic dust caps. The size of the water-side connection depends on the dimensions of the coil.

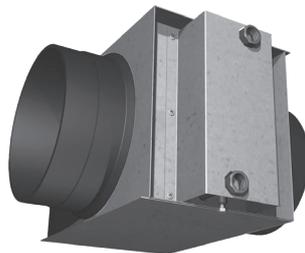
The single wall airtight construction will be made of galvanized sheet steel outfitted with flanges.

Manufacturer: Barcol-Air, the Netherlands

Ordering example: type – dimensions – circuits = NJOGDOO - 10040 - 5CIR

- D: 4-row
- 1000 mm width
- 400 mm height
- 5 circuits.

Type NJOH...



## Installation instructions

The reheat sections are outfitted with  $\varnothing 10\text{mm}$  suspension holes. Installation should be done by mounting the threaded rods M8 into the ceiling and attaching the unit with M8 nuts on the other end of the threaded rods.

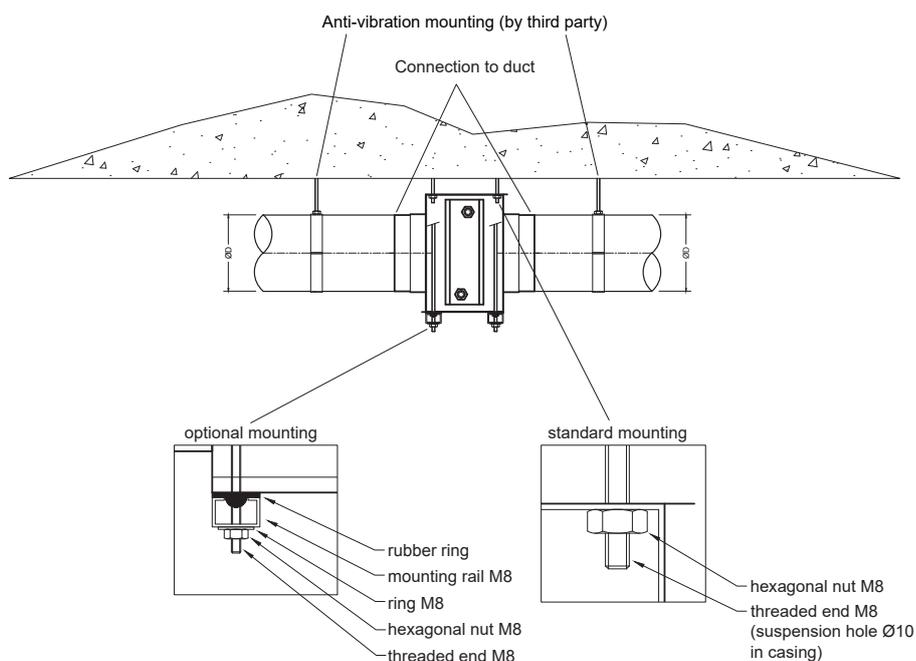
Optional, two support brackets (DIN-rail or L-profile), with anti-vibration rubber can be placed under the terminal. Each of these brackets shall be fixed with two threaded rods to the ceiling slab above.

This installation method:

- Shall prevent high mechanical tension, which could damage the construction and performance of the terminal.
- Provides some flexibility to the final location of the reheat section.

### Attention:

Installed control sets should always be accessible, which means that all control sets should be mounted under or on the side of the unit. During mounting this should be taken into account. Mounting should be done in a dust free, dry and clean environment.



Mounting drawing type NJOH.OO

Type NJOG...



## Installation instructions

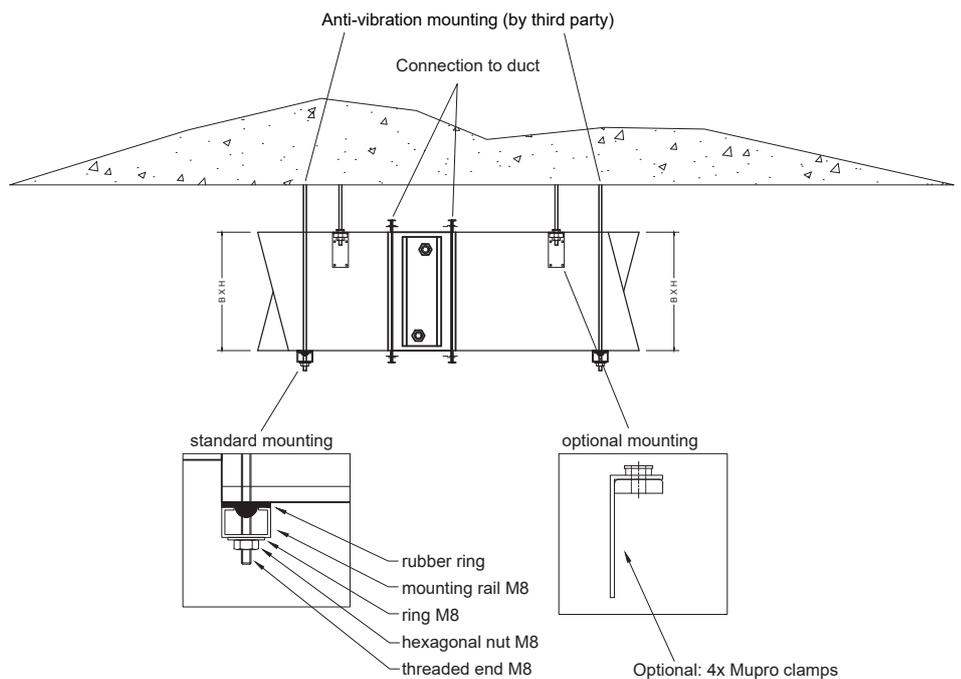
The rectangular Barcol-Air hot water reheat section should be mounted in between the two ducts by flanges. The units can be hanged separately or attached to the hanged ducts. (See below mounting drawing).

### Attention:

Installed control sets should always be accessible, which means that all control sets should be mounted under or on the side of the unit. During mounting this should be taken into account. Mounting should be done in a dust free, dry and clean environment.

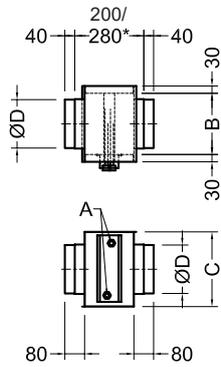
### Note:

Be cautious with tightening the water-sided connections.

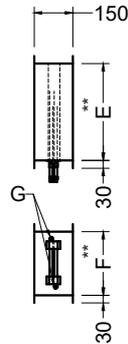


Mounting drawing type NJOG.OO

Type NJOG...  
NJOH...

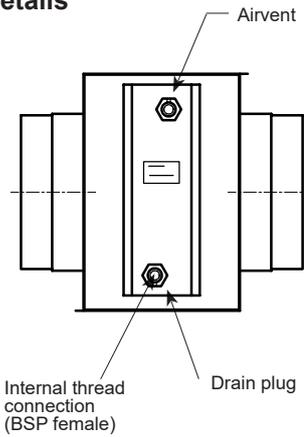


Type NJOH . OO

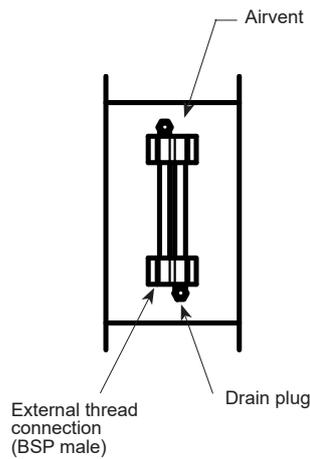


Type NJOG . OO

Details



Type NJOH . OO



Type NJOG . OO

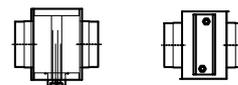
Dimensions NJOH.OO

Model	100	125	160	200	250	315	355	400
A	1/2"	1/2"	1/2"	1/2"	3/4"	3/4"	3/4"	3/4"
B	185	185	210	235	285	360	385	435
C	182	182	232	232	282	357	407	450
ØD	98	123	158	198	248	313	353	398
Nr. of circuits 2-row	2	2	2	2	2	4	4	4
Nr. of circuits 4-row	2	2	2	2	4	4	4	4
Fin spacing	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5

- Notes:
- All dimensions are in mm.
  - Other dimensions available upon request.
  - \* = Installation length: model 100 up until 250 has a length of 280 mm, model 315 up until 400 has a length of 200 mm.
  - \*\* = E: width / F: height. Dimensions E x F is the selected size, for example (E) 600 x (F) 400.
  - The water-sided connection is external thread. Size depends on the dimensions of the duct heater.

## Selection table

Type NJOHBOO

Selection table NJOHBOO 2-row; Water-sided temp.  $T_{\text{water IN}}$  80 °C; Air-sided temp.  $T_{\text{air IN}}$  16 °C

Model	At inlet		$\Delta p_s$ air [Pa]	Q water [l/h]	$\Delta p_s$ water [kPa]	power [W]	Tair out [°C]	$T_{\text{water out}}$
	Velocity	Air volume						
	[m/s]	[m³/h]						
100	2	54	4	50	0,1	710	54	68
	4	109	7	50	0,1	990	43	63
	6	163	11	50	0,1	1160	37	60
125	2	86	5	50	0,1	910	47	65
	4	171	11	50	0,1	1210	37	60
	6	257	22	72	0,2	1640	35	60
160	2	141	6	62	0,2	1400	45	60
	4	282	14	102	0,4	2320	39	60
	6	424	27	132	0,7	3000	36	60
200	2	222	8	92	0,4	2090	44	60
	4	443	24	145	0,9	3300	37	60
	6	665	50	185	1,3	4210	34	60
250	2	348	9	152	1,2	3460	45	60
	4	696	27	238	2,6	5420	38	60
	6	1043	56	303	4,1	6890	35	60
315	2	554	9	236	0,7	5380	44	60
	4	1108	27	371	1,7	8440	38	60
	6	1662	56	472	2,6	10750	35	60
355	2	705	10	306	1,3	6960	45	60
	4	1409	29	478	3,0	10890	38	60
	6	2114	60	609	4,6	13860	35	60
400	2	896	10	400	2,5	9090	45	60
	4	1792	30	625	5,5	14230	39	60
	6	2687	62	796	8,5	18130	36	60

1. When using ceiling diffusers or elevated wall grills, we recommend to not use a supply air temp. warmer than 35-36 °C.

2. In a number of cases the supply air temperature in the table is higher. Other parameters might have to be adjusted for an exact selection. We are able to advise you.

3. For non-standard applications and/or selection, contact our technicians.

## Correction table capacity other hot water trajectories

hot water-trajectory	correction factor capacity
90-70 °C	1,25
80-60 °C	see table
70-50 °C	0,76

Note:  
The capacities shown in the table are no room capacities but coil capacities.  
The room capacity can be calculated by using the following formula:

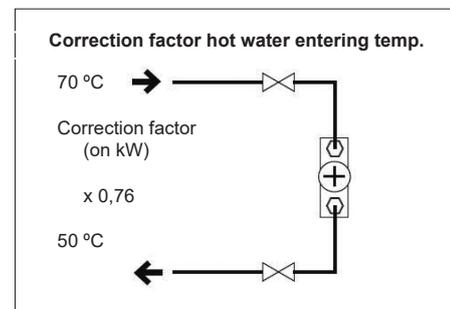
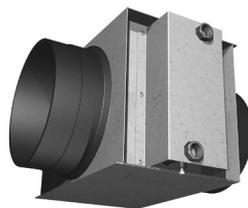
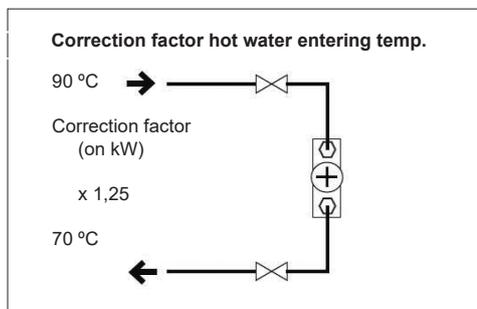
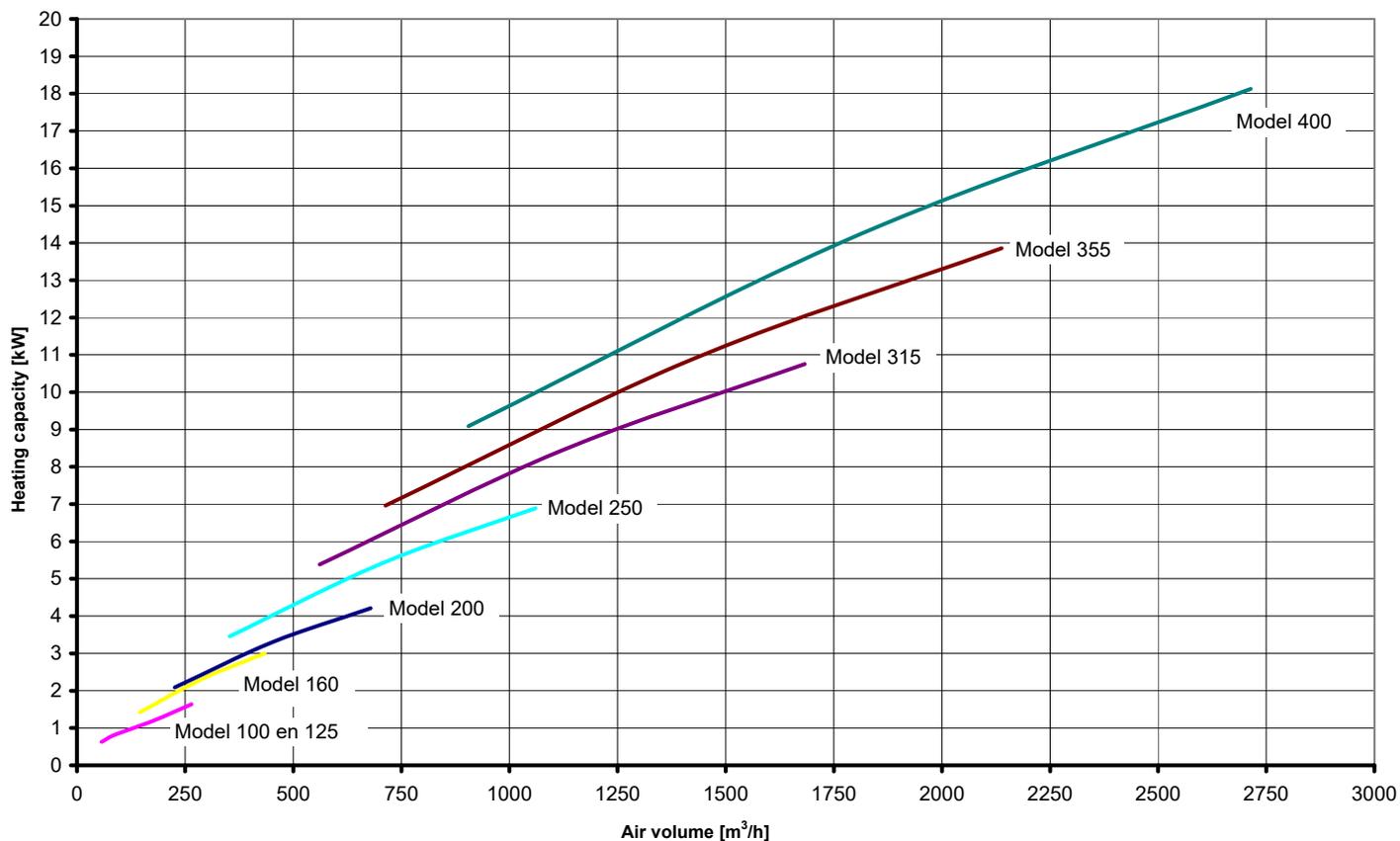
$$P_{\text{space}} = 0.335 \times Q_v \text{ (m}^3\text{/h)} \times (T_{\text{air out (table)}} - T_{\text{space}})$$

### Type NJOHBOO

### Quick selection graph

**Assumptions:**

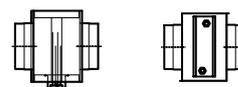
- Heating capacity (kW) per diameter of 2-row duct heater type NJOHBOO
- Hot water entering/leaving temp. 80 - 60°C
- Air inlet temp. 16 °C
- Air pressure drop between 5 - 50 Pa
- Water-sided differential pressure 0,1 – 10 kPa



For non-standard applications or detailed selections, please contact our technicians.

## Selection table

Type NJOHDOO

Selection table NJOHDOO 4-row; Water-sided temp.  $T_{\text{water IN}}$  40 °C; Air-sided temp.  $T_{\text{air IN}}$  16 °C

Model	At inlet		$\Delta p_s$ air [Pa]	Q water [l/h]	$\Delta p_s$ water [kPa]	power [W]	Tair out [°C]	$T_{\text{water out}}$
	Velocity	Air volume						
	[m/s]	[m³/h]						
100	2	54	4	50	0,2	360	36	34
	3	81	8	50	0,2	470	33	32
	4	109	12	50	0,2	560	31	31
125	2	86	8	50	0,2	490	33	32
	3	128	14	52	0,2	610	30	30
	4	171	22	63	0,3	720	28	30
160	2	141	10	65	0,4	750	32	30
	3	212	18	85	0,7	980	30	30
	4	282	27	112	1,1	1290	29	30
200	2	222	16	95	0,9	1100	30	30
	3	333	29	135	1,6	1560	29	30
	4	443	45	168	2,4	1940	29	30
250	2	348	17	134	0,4	1550	29	30
	3	522	32	181	0,7	2090	28	30
	4	696	50	231	1,0	2670	27	30
315	2	554	17	253	1,6	2920	31	30
	3	831	32	348	2,8	4010	30	30
	4	1108	50	430	4,0	4960	29	30
355	2	705	18	332	3,0	3830	32	30
	3	1057	34	453	5,1	5230	30	30
	4	1409	53	558	7,4	6440	29	30
400	2	896	19	435	5,6	5020	32	30
	3	1344	35	593	9,6	6840	31	30
	4	1792	55	731	13,9	8430	30	30

1. 4-row, model 250 up to 400 at 6m/s the air-sided pressure is too high.  
 2. When using ceiling diffusers or elevated wall grills, we recommend to not use a supply air temp. warmer than 35-36 °C.

3. In a number of cases the supply air temperature in the table is higher. Other parameters might have to be adjusted for an exact selection. We are able to advice you.

4. For non-standard applications and/or selection, contact our technicians.

## Correction table capacity other hot water trajectories

hot water-trajectory	correction factor capacity
55-40 °C	1,75
50-35 °C	1,41
40-30 °C	see table

Note:  
 The capacities shown in the table are no room capacities but coil capacities.  
 The room capacity can be calculated by using the following formula:

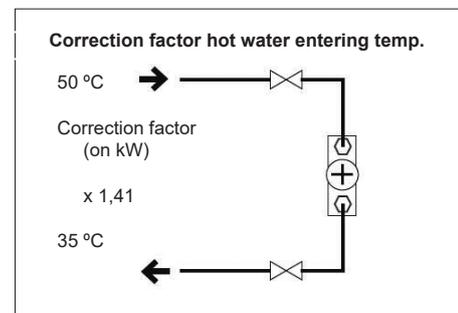
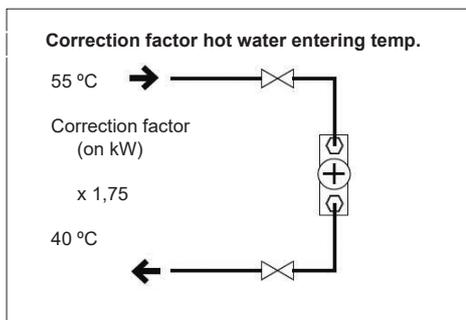
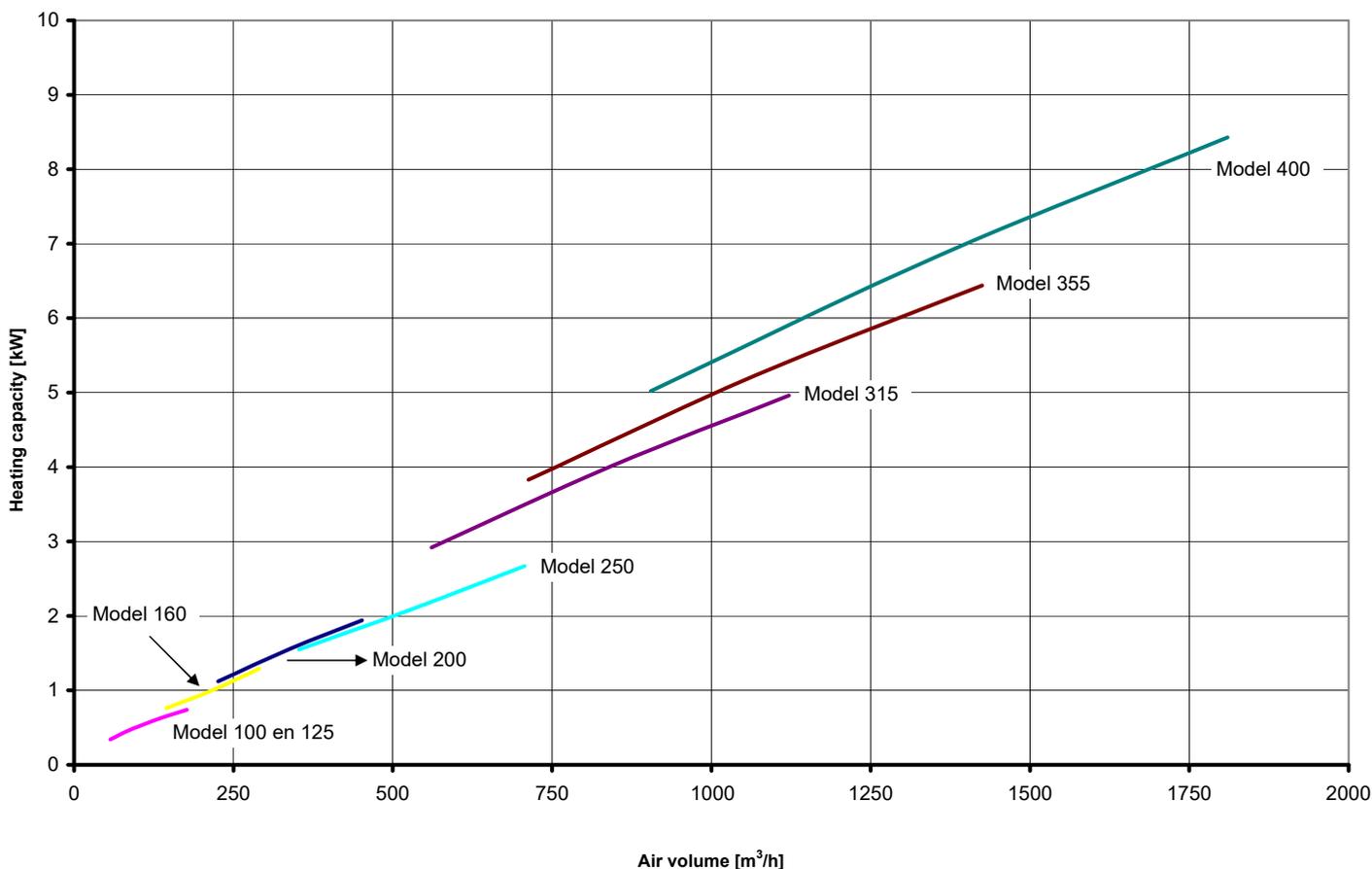
$$P_{\text{space}} = 0.335 \times Qv \text{ (m}^3\text{/h)} \times (T_{\text{air out (table)}} - T_{\text{space}})$$

### Type NJOHDOO

### Quick selection graph

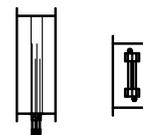
**Assumptions:**

- Heating capacity (kW) per diameter of 4-row duct heater type NJOHDOO
- Hot water entering/leaving temp. 40 - 30°C
- Air inlet temp. 16 °C
- Air pressure drop between 5 - 50 Pa
- Water-sided differential pressure 0,1 – 10 kPa



For non-standard applications or detailed selections, please contact our technicians.

## Type NJOGBOO

Selection table NJOGBOO 2-row; Water-sided temp.: 80 – 60 °C; Air-sided temp.  $T_{air}$  IN 16 °C

Width	Height	At inlet		Rows	Circuits	$\Delta p_s$ air	Q water	$\Delta p_s$ water	Capacity	T air out	Connection
		Velocity	Air volume								
[mm]	[mm]	[m/s]	[m <sup>3</sup> /h]			[Pa]	[l/h]	[kPa]	[W]	[°C]	
400	200	1	288	2	2	7	134	0,9	3.060	47	1/2 "
		2	576	2	2	20	214	2,0	4.860	41	1/2 "
		3	864	2	2	40	274	3,1	6.240	37	1/2 "
600	200	1	432	2	2	7	210	2,4	4.780	48	1/2 "
		2	864	2	2	20	334	5,4	7.600	42	1/2 "
		3	1.296	2	2	40	430	8,4	9.780	38	1/2 "
500	300	1	540	2	4	7	250	0,8	5.680	47	1/2 "
		2	1080	2	4	20	397	1,9	9.030	40	1/2 "
		3	1620	2	4	40	510	3,0	11.600	37	1/2 "
800	300	1	864	2	4	7	420	2,6	9.550	48	1/2 "
		2	1.728	2	4	20	668	6,1	15.210	42	1/2 "
		3	2.592	2	4	40	859	9,6	19.560	38	1/2 "
1000	300	1	1080	2	6	7	516	1,4	11.750	48	3/4 "
		2	2160	2	6	20	821	3,3	18.690	41	3/4 "
		3	3240	2	6	40	1056	5,1	24.020	38	3/4 "
600	400	1	864	2	6	7	403	0,9	9.170	47	3/4 "
		2	1728	2	6	20	641	2,0	14.580	41	3/4 "
		3	2592	2	6	40	823	3,1	18.730	37	3/4 "
800	400	1	1152	2	6	7	554	1,8	12.610	48	3/4 "
		2	2304	2	6	20	882	4,1	20.060	41	3/4 "
		3	3456	2	6	40	1133	6,4	25.790	38	3/4 "
1200	400	1	1728	2	8	7	839	2,5	19.100	48	3/4 "
		2	3456	2	8	20	1336	5,9	30.410	42	3/4 "
		3	5184	2	8	40	1719	9,3	39.110	38	3/4 "
1000	600	1	2160	2	10	7	1049	2,4	23.880	48	1 "
		2	4320	2	10	20	1670	5,5	38.020	42	1 "
		3	6480	2	10	40	2148	8,6	48.890	38	1 "
1200	600	1	2592	2	12	7	1259	2,5	28.650	48	1 "
		2	5184	2	12	20	2005	5,7	45.620	42	1 "
		3	7776	2	12	40	2578	9,1	58.670	38	1 "
1400	600	1	3024	2	12	7	1485	3,6	33.810	49	1 "
		2	6048	2	12	20	2367	8,4	53.860	42	1 "
		3	9072	2	12	40	3045	13,3	69.310	38	1 "
1200	800	1	3456	2	16	7	1679	2,2	38.210	48	1 1/4 "
		2	6912	2	16	20	2673	5,2	60.830	42	1 1/4 "
		3	10368	2	16	40	3437	8,1	78.230	38	1 1/4 "
1400	800	1	4032	2	16	7	1981	3,3	45.080	49	1 1/4 "
		2	8064	2	16	20	3156	7,6	71.820	42	1 1/4 "
		3	12096	2	16	40	4060	12,1	92.410	38	1 1/4 "

1. For non-standard applications and/or selection, contact our technicians.

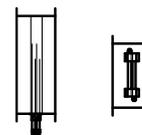
2. Other dimensions available upon request.

3. Ordering example:  
NJOGBOO-8030-4CIR  
Barcol-Air rectangular 2-row  
reheat coil / 4 circuits  
dimensions 800 mm x 300 mm.

Note:  
The capacities shown in the table are no room capacities but coil capacities.  
The room capacity can be calculated by using the following formula:

$$P_{space} = 0.335 \times Qv \text{ (m}^3\text{/h)} \times (T_{air \text{ out (table)}} - T_{space})$$

Type NJOGDOO

Selection table NJOGDOO 4-row; Water-sided temp.: 40 – 30 °C; Air-sided temp.  $T_{air}$  IN 16 °C

Width	Height	At inlet		Rows	Circuits	$\Delta p_s$ air	Q water	$\Delta p_s$ water	Capacity	T air out	Connection
		Velocity	Air volume								
[mm]	[mm]	[m/s]	[m <sup>3</sup> /h]			[Pa]	[l/h]	[kPa]	[W]	[°C]	
400	200	1,0	288	4	2	13	142	2,0	1.630	33	1/2 "
		1,5	432	4	2	24	196	3,6	2.260	31	1/2 "
		2,0	576	4	2	38	243	5,2	2.810	30	1/2 "
600	200	1,0	432	4	4	13	199	0,9	2.290	32	1/2 "
		1,5	648	4	4	24	278	1,5	3.210	30	1/2 "
		2,0	864	4	4	37	347	2,3	4.000	30	1/2 "
500	300	1,0	540	4	4	13	262	1,8	3.030	32	1/2 "
		1,5	810	4	4	24	363	3,1	4.190	31	1/2 "
		2,0	1080	4	4	38	452	4,5	5.210	30	1/2 "
800	300	1,0	864	4	6	13	425	1,8	4.900	33	3/4 "
		1,5	1296	4	6	24	587	3,1	6.770	31	3/4 "
		2,0	1728	4	6	38	730	4,5	8.420	30	3/4 "
1000	300	1,0	1080	4	6	13	547	3,2	6.310	33	3/4 "
		1,5	1620	4	6	24	754	5,5	8.700	32	3/4 "
		2,0	2160	4	6	38	937	8,1	10.810	31	3/4 "
600	400	1,0	864	4	6	13	425	1,9	4.900	33	3/4 "
		1,5	1296	4	6	24	587	3,3	6.770	31	3/4 "
		2,0	1728	4	6	38	730	4,9	8.420	30	3/4 "
800	400	1,0	1152	4	8	13	566	1,9	6.530	33	3/4 "
		1,5	1728	4	8	24	783	3,4	9.030	31	3/4 "
		2,0	2304	4	8	38	973	4,9	11.220	30	3/4 "
1200	400	1,0	1728	4	10	13	871	2,7	10.040	33	1 "
		1,5	2592	4	10	24	1201	4,8	13.860	32	1 "
		2,0	3456	4	10	38	1493	7,1	17.220	31	1 "
1000	600	1,0	2160	4	12	13	1093	3,3	12.610	33	1 "
		1,5	3240	4	12	24	1508	5,9	17.400	32	1 "
		2,0	4320	4	12	38	1874	8,6	21.620	31	1 "
1200	600	1,0	2592	4	14	13	1316	3,7	15.180	33	1 "
		1,5	3888	4	14	24	1815	6,5	20.940	32	1 "
		2,0	5184	4	14	38	2255	9,5	26.010	31	1 "
1400	600	1,0	3024	4	16	13	1538	3,4	17.750	33	1 1/4 "
		1,5	4536	4	16	24	2122	6,0	24.480	32	1 1/4 "
		2,0	6048	4	16	38	2636	8,7	30.410	31	1 1/4 "
1200	800	1,0	3456	4	18	13	1761	3,7	20.310	33	1 1/4 "
		1,5	5184	4	18	24	2429	6,5	28.020	32	1 1/4 "
		2,0	6912	4	18	38	3017	9,6	34.810	31	1 1/4 "
1400	800	1,0	4032	4	20	13	2064	4,3	23.810	33	1 1/4 "
		1,5	6048	4	20	24	2846	7,5	32.830	32	1 1/4 "
		2,0	8064	4	20	38	3536	11,0	40.790	31	1 1/4 "

1. For non-standard applications and/or selection, contact our technicians.

2. Other dimensions available upon request.

3. Ordering example:  
NJOGDOO-8030-6CIR  
Barcol-Air rectangular 4-row  
reheat coil / 6 circuits  
dimensions 800 mm x 300 mm.

Note:  
The capacities shown in the table are no room capacities but coil capacities.  
The room capacity can be calculated by using the following formula:

$$P_{space} = 0.335 \times Qv \text{ (m}^3\text{/h)} \times (T_{air \text{ out (table)}} - T_{space})$$



## OUR TECHNOLOGY | YOUR WELLBEING

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