

Dual duct mixing unit

Type NZ..... Table of contents

NA	Type designation	NA-0/2
NA.B	Circular single wall VAV and CAV air volume control units	NA-1/1-4
NA.C	Circular single wall VAV and CAV units with multiple outlets	NA-2/1-4
NA.G/H/J	Circular single wall VAV and CAV units with distribution plenum and built-in reheat coil	NA-3/1-4
NA.N/P/Q	Circular single wall VAV and CAV units with distribution plenum and built-in reheat coil	NA-4/1-4
NB	Type designation	NB-0/2
NB.B	Circular double wall VAV and CAV air volume control units	NB-1/1-4
NB.C	Circular double wall VAV and CAV units with distribution plenum and multiple outlets	NB-2/1-4
NB.E	Circular double wall VAV and CAV units with integral sound attenuator	NB-3/1-4
NB.G/H/J	Circular double wall VAV and CAV units with distribution plenum and built-in hot water reheat coil	NB-4/1-4
NB.N/P/Q	Circular double wall VAV and CAV units with distribution plenum and built-in electric reheat coil	NB-5/1-4
NK	Type designation	NK-0/2
NK.A	Rectangular single wall VAV and CAV air volume control units, flanged type	NK-1/1-4
NK.D	Rectangular single wall VAV and CAV units with sound attenuator	NK-2/1-4
NL	Type designation	NL-0/2
NL.A	Rectangular double wall VAV air volume control units and CAV units, flanged type	NL-1/1-4
NL.D	Rectangular double wall VAV and CAV units with sound attenuator	NL-2/1-4
NR	Type designation	NR-0/2
NROB	Circular CAV units with system powered mechanical regulator	NR-1/1-4
NS	Type designation	NS-0/2
NS.D	Rectangular VAV and CAV units with integral sound attenuator	NS-1/1-4
NS.F	Rectangular VAV and CAV units with integral sound attenuator and multiple outlets	NS-2/1-4
NS.K/R	Rectangular VAV and CAV units with integral sound attenuator and built-in reheat coil	NS-3/1-4
NS.M/T	Rectangular VAV and CAV units with integral sound attenuator, built-in reheat coil and multiple outlets	NS-4/1-4
NV	Type designation	NV-0/2
	The induction VAV system	NV-0/3-4
	Selection example induction VAV	NV-0/5-6
NV.A	Induction VAV units with rectangular outlet	NV-1/1-4
NV.C	Induction VAV units with multiple outlets	NV-2/1-4
NV.G/N	Induction VAV units with rectangular outlet and built-in reheat coil	NV-3/1-4
NV. J/Q	Induction VAV units with multiple outlets and built-in reheat coil	NV-4/1-4
NZ	Type designation	NZ-0/2
NZ.A..O/B	Dual duct VAV and CAV mixing unit	NZ-1/1-4
NZ.A..G	Dual duct VAV and CAV mixing unit with inlet and outlet air flow sensor	NZ-2/1-4
NZ.D	Dual duct VAV and CAV mixing unit with sound attenuator	NZ-3/1-4
NO	Type designation	NO-0/2
NOOOA..	Integral hot water reheat coil	NO-1/1-2
NOOOE..	Integral electric reheat coil	NO-2/1-2
NHOG/H/N/P	Reheat coil section for duct mounting	NO-3/1-2

Dual duct mixing unit

Type NZ..... Designation

1 Product group

N = air volume control units

2 Function

O = not applicable
Z = Dual duct mixing unit
1 = non standard, specify separately

3 Controls (manufacturer)

O = without controls
C = I/A Series MicroFlo II® Series DDC controls
L = I/A Series DDC controls, LON® compatible
N = I/A Series MicroNet-2000® Series DDC controls
P = Barcol-Air, pneumatic controls
X = Free issued controls, fitted and wired by Barcol-Air to clients specification
Z = Belimo controls, specify separately
1 = non standard, specify separately

4 Outlet

O = not applicable
A = rectangular outlets
D = rectangular outlet and sound attenuator (supplied separately)
1 = non standard, specify separately

5 Reheater

O = not applicable
1 = non standard, specify separately

6 Controls (type and function)

For detailed control information please contact our sales staff

7 Sensor

O = without sensor(s)
B = Flo-Cross® air flow sensor, in cold and warm inlet spigot
F = Flo-Cross® air flow sensor, in outlet spigot
G = Flo-Cross® air flow sensor, in cold or warm inlet spigot and Flo-Cross® air flow sensor in outlet spigot.
1 = non standard, specify separately

Ordering information:

Standard units

- quantity of units
- complete 7 digit code
- unit size or model
- control setting (V_{max} , V_{min} , V_{total} , etc.)
- controls handing (standard on both sides of the unit, cold duct is standard located on the left side of the unit).

Non standard units

- for non standard units, detailed descriptions and/or drawings are requested.

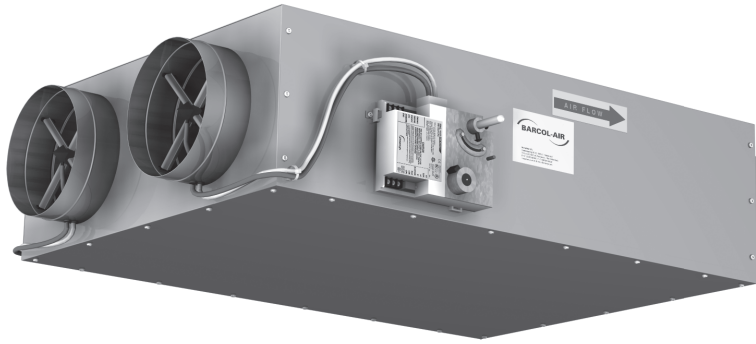


P.O. Box 283, 1440 AG Purmerend, The Netherlands
Phone +31 (0)299 689300 Fax +31 (0)299 436932
www.barcol-air.nl info@barcol-air.nl

NZ-0/2

Barcol-Air B.V. © 2005.
Changes w/o notice or obligation.

Dual duct VAV and CAV mixing unit



Application

The pressure independent dual duct units with integral mixing section type NZ.A..B provide a constant or variable air volume in dual duct systems. The engineered, reliable long life design offers proportional mixing without the risk of "short-cut" of hot and cold air at the inlet. The airflow sensor type Flo-Cross® in one inlet is standard and provides an accurate measurement and control of the cold or warm air volume. Normally the cold air volume is controlled by a thermostat to match the room load while the hot air volume is controlled to maintain a constant mixed supply volume to the room.

Technical information

Features:

- Pressure independent control functions.
- Mixing rate better than 96%, this means that with a primary temperature difference of 20°C, the total air temperature varies a maximum of 0,8°C over the entire outlet spigot.
- Low leakage dampers, less than 2% of Vnom at 750 Pa. Oval shaped damper blades for linear control characteristics.
- Low pressure loss over unit.
- Compact, one-piece construction.
- Suitable for all control functions.
- Accurate control of cold air volume courtesy of the Flo-Cross® 2x12 points averaging and signal amplifying air flow sensor with high accuracy, even with irregular duct approach.
- For the control of cold, warm and total air volume, several standard control solutions are available; for more details, please contact our technical staff.

Construction:

- Casing: rectangular, galvanized sheet steel, casing leakage rate to class II, VDI 3803 / DIN 24 194.
- Mixing section; galvanised perforated sheet steel.
- Dampers: steel, sandwich construction of twin blade and neoprene gasket (low leakage).
- Damper shafts; aluminium ø12mm, rotating in self lubricating Nylon bearings.
- Circular inlet spigots: duct-sleeve connections suitable for DIN 24 145 or DIN 24 146 respectively
- Rectangular outlet spigot; sleeve fittings standard, flanges optional.
- Flo-Cross® sensor: high precision extruded aluminium profiles.
- Internal acoustic insulation: tested to Class 'O' fire regulation, erosion proof up to 30 m/s covered with perforated sheet steel. Special version insulation for hospital application on request.
- Suitable for use with pneumatic, analogue electronic or DDC controllers.
- Other versions are available upon request.

Delivery format:

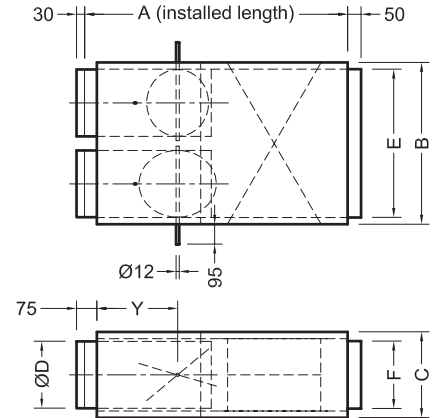
- When units are ordered with controls, these will be factory fitted on both sides of the unit and wired and pre-set upon request.
- When units are ordered with 'free-issue' controls by others, wiring diagrams and mounting instructions must be provided.

Dimensions

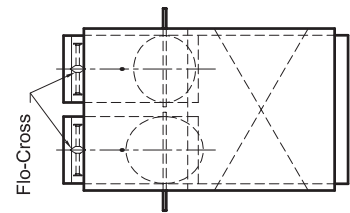
Model	100	125	160	200	250	315	400
A	830	830	880	920	975	1060	1155
B	330	350	420	500	600	740	910
C	228	228	248	268	318	408	458
ø D	98	123	158	198	248	313	398
E	275	275	350	450	550	690	850
F	170	170	175	200	250	330	380
Y	310	310	310	300	285	260	235

Other dimensions are available upon request.

Type NZ.A..O NZ.A..B



Type NZ.A..O



Type NZ.A..B

Specify as:

Example:

Supply and install, dual duct units constructed from galvanised sheet steel with integral mixing section. Internal insulation, tested to Class 'O' fire regulations, covered with perforated sheet steel; mixing rate better than 96%; oval shaped, sandwich construction, damper blades. Unit leakage rate to Class II VDI 3803/ DIN 24 194 for:

Total air volume	... m ³ /h
Unit size	... mm
Max. unit resistance	... Pa
Max. discharge sound index	... NC
Max. radiated sound index	... NC

complete with:

a precision, averaging airflow sensor type Flo-Cross® in the cold duct inlet spigot and I/A Series LON® compatible, DDC controller type MNL-V1RVx, which corresponds to standard Barcol-Air control reference type "...L..M.". Controls are factory fitted, wired and set according to client requirements.

Manufacturer : Barcol-Air

Type : NZLAOMB

Notes:

1. All dimensions are in millimetres.



P.O. Box 283, 1440 AG Purmerend, The Netherlands
Phone +31 (0)299 689300 Fax +31 (0)299 436932
www.barcol-air.nl info@barcol-air.nl

NZ-1/1

Barcol-Air B.V. © 2005.
Changes w/o notice or obligation.

Dual duct VAV and CAV mixing unit with inlet air flow sensor

Type NZ.A...

Sound pressure levels and pressure drop

53 - 5350 m³/h

Model	inlet velocity		air volume		min. Δp_s Pa	discharge sound (L _{pA})				radiated sound (L _{pA})			
	m/s	m ³ /s	m ³ /h	125 Pa		250 Pa	500 Pa	750 Pa	125 Pa	250 Pa	500 Pa	750 Pa	
100	2	0.015	53	2	--	--	--	--	--	--	--	--	
	4	0.030	108	7	--	--	20	21	--	--	--	--	
	6	0.044	160	16	20	23	26	28	--	--	--	--	
	8	0.059	213	28	25	28	31	33	--	--	20	22	
	10	0.074	266	44	29	32	35	36	22	23	23	24	
	12	0.089	319	63	32	35	38	39	25	26	26	26	
125	2	0.023	84	2	--	--	--	--	--	--	--	--	
	4	0.047	168	8	--	--	20	21	--	--	--	--	
	6	0.070	253	17	20	23	26	28	--	--	--	20	
	8	0.094	337	30	25	28	31	32	--	--	22	24	
	10	0.117	421	47	29	31	34	36	--	20	24	27	
	12	0.140	505	68	31	34	37	39	--	23	27	29	
160	2	0.039	139	2	--	--	--	--	--	--	--	--	
	4	0.077	279	8	--	--	20	21	--	--	--	21	
	6	0.116	418	18	20	23	26	28	--	--	21	25	
	8	0.155	558	33	25	28	30	32	--	--	23	28	
	10	0.194	697	51	28	31	34	35	--	--	26	30	
	12	0.232	836	74	31	34	37	38	--	--	27	32	
200	2	0.061	219	2	--	--	--	--	--	--	--	22	
	4	0.122	439	8	--	--	20	22	--	--	20	27	
	6	0.183	658	18	20	23	26	27	--	--	23	30	
	8	0.244	878	32	25	27	30	32	--	--	25	32	
	10	0.305	1097	50	28	31	33	35	--	--	27	33	
	12	0.366	1317	71	30	33	36	38	--	--	28	35	
250	2	0.096	345	2	--	--	--	20	--	--	--	21	
	4	0.192	690	8	--	23	27	29	--	--	21	26	
	6	0.287	1035	19	24	28	32	35	--	--	24	29	
	8	0.383	1380	33	28	32	36	39	--	--	26	31	
	10	0.479	1725	52	31	35	39	42	--	21	28	33	
	12	0.575	2070	74	33	38	42	44	--	23	30	34	
315	2	0.153	550	2	--	--	23	26	--	--	--	20	
	4	0.306	1101	9	21	25	30	33	--	--	21	25	
	6	0.459	1651	19	25	30	34	37	--	20	25	28	
	8	0.612	2202	34	28	33	37	40	--	23	28	31	
	10	0.765	2752	54	30	35	40	43	20	25	31	34	
	12	0.917	3303	78	32	37	42	44	22	27	33	36	
400	2	0.248	891	2	--	23	28	31	--	--	--	--	
	4	0.495	1783	9	23	28	34	37	--	20	23	25	
	6	0.743	2674	20	26	31	37	39	21	24	28	29	
	8	0.990	3565	36	29	34	39	42	24	28	31	33	
	10	1.238	4456	56	33	37	42	45	27	30	33	35	
	12	1.486	5350	81	35	40	44	47	29	32	35	37	

1. Sound pressure levels below NC 20 are indicated by "--".
2. Sound data is determined in a reverberation room at an independent sound laboratory, according to ISO 3741 and 5135 standards.
3. L_p values are including a room absorption of 10 dB/Oct.
4. Sound data and pressure drop are determined with cold duct open and warm duct fully closed.
5. The discharge sound pressure levels are determined with the following assumptions for downstream ductwork including a diffuser

with insulated plenum box:

Hz	125	250	500	1000	2000	4000
dB	5	10	20	30	30	25

6. The radiated sound pressure levels are determined with the following assumptions for ceiling plenum and suspended ceiling absorption:

Hz	125	250	500	1000	2000	4000
dB	2	5	10	15	15	20

7. The values for insertion loss do not include end reflection.

Insertion loss

Model	125	250	500	1K	2K	4K	Hz
100	5	9	13	22	12	17	dB
125	5	9	13	22	12	17	dB
160	5	9	13	22	12	17	dB
200	8	7	12	15	13	12	dB
250	11	7	8	9	14	10	dB
315	5	5	7	10	14	10	dB
400	4	4	5	11	7	6	dB



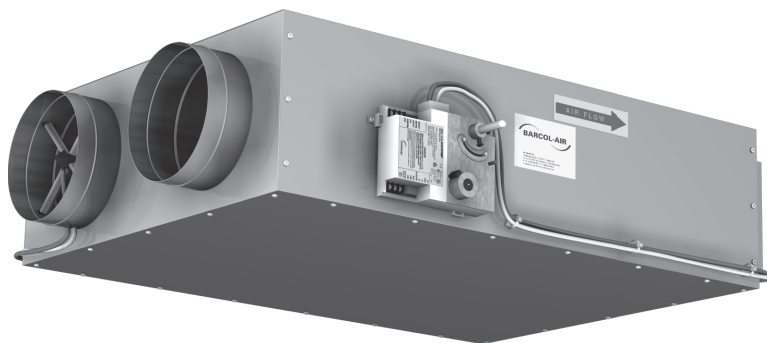
P.O. Box 283, 1440 AG Purmerend, The Netherlands
 Phone +31 (0)299 689300 Fax +31 (0)299 436932
 www.barcol-air.nl info@barcol-air.nl

NZ-1/2

Barcol-Air B.V. © 2005.
 Changes w/o notice or obligation.

Dual duct VAV and CAV mixing unit with inlet and outlet air flow sensor

Type NZ.A..G



Application

The pressure independent dual duct units with integral mixing section type NZ.A..G provide a constant or variable air volume in dual duct systems. The engineered, reliable long life design offers proportional mixing without the risk of "short-cut" of hot and cold air at the inlet. The airflow sensors type Flo-Cross® in one inlet and the outlet spigot are standard and provide an accurate measurement and control of the cold or warm air volume and the total air volume. Normally the cold air volume is controlled by a thermostat to match the room load while the hot air volume is controlled to maintain a constant mixed supply volume to the room.

Technical information

Features:

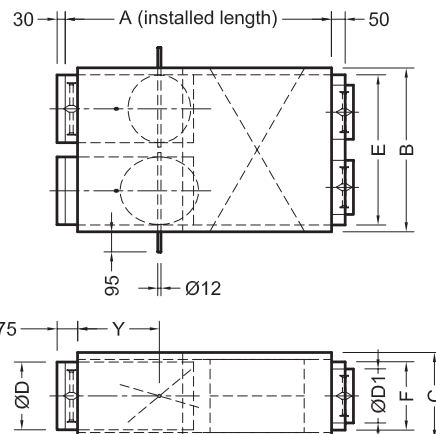
- Pressure independent control functions.
- Mixing rate better than 96%, this means that with a temperature difference warm and cold air of 20°C, the total air temperature varies a maximum of 0,8°C over the entire outlet spigot.
- Low leakage dampers, less than 2% of Vnom at 750 Pa. Oval shaped damper blades for linear control characteristics.
- Low pressure loss over unit.
- Compact, one-piece construction.
- Suitable for all control functions.
- Accurate control of cold or warm air volume and total air volume courtesy of the Flo-Cross® 2x12 points averaging and signal amplifying air flow sensor with high accuracy, even with irregular duct approach.

Construction:

- Casing: rectangular, galvanized sheet steel, casing leakage rate to class II, VDI 3803 / DIN 24 194.
- Mixing section; galvanised perforated sheet steel.
- Dampers: steel, sandwich construction of twin blade and neoprene gasket (low leakage).
- Damper shafts; aluminium ø12mm, rotating in self lubricating Nylon bearings.
- Circular inlet spigots: duct-sleeve connections suitable for DIN 24 145 or DIN 24 146 respectively.
- Rectangular outlet spigot; sleeve fittings standard, flanges optional.
- Flo-Cross® sensors: high precision extruded aluminium profiles.
- Internal acoustic insulation: tested to Class 'O' fire regulation, erosion proof up to 30 m/s covered with perforated sheet steel. Special version insulation for hospital application on request.
- Suitable for use with pneumatic, analogue electronic or DDC controllers.
- Other versions are available upon request.

Delivery format:

- When units are ordered with controls, these will be factory fitted on both sides of the unit and wired and pre-set upon request.
- When units are ordered with 'free-issue' controls by others, wiring diagrams and mounting instructions must be provided.



Type NZ.A..G

Specify as:

Example:

Supply and install, dual duct units constructed from galvanised sheet steel with integral mixing section. Internal insulation, tested to Class 'O' fire regulations, covered with perforated sheet steel; mixing rate better than 96%. Oval shaped, sandwich construction, damper blades. Unit leakage rate to Class II VDI 3803/ DIN 24 194 for:

Total air volume	... m ³ /h
Unit size	... mm
Max. unit resistance	... Pa
Max. discharge sound index	... NC
Max. radiated sound index	... NC

complete with:

precision, averaging airflow sensors type Flo-Cross® in the cold duct inlet spigot and rectangular outlet spigot and I/A Series, LON® compatible, DDC control package type MNL-V1RVx, which corresponds to standard Barcol-Air control reference type "...L..M.". Controls must be factory fitted, wired and set according to client requirements.

Manufacturer : Barcol-Air
Type : NZLAOMG

Dimensions

Model	100	125	160	200	250	315	400
A	830	830	880	920	975	1060	1155
B	330	350	420	500	600	740	910
C	228	228	248	268	318	408	458
ø D	98	123	158	198	248	313	398
ø D1	1x123	2x98	2x123	2x158	2x198	2x248	2x315
E	275	275	350	450	550	690	850
F	170	170	175	200	250	330	380
Y	310	310	310	300	285	260	235

Other dimensions are available upon request.

Notes:

1. All dimensions are in millimetres.



P.O. Box 283, 1440 AG Purmerend, The Netherlands
Phone +31 (0)299 689300 Fax +31 (0)299 436932
www.barcol-air.nl info@barcol-air.nl

NZ-2/1

Barcol-Air B.V. © 2005.
Changes w/o notice or obligation.

Dual duct VAV and CAV mixing unit with inlet and outlet air flow sensor

Type NZ.A..G

Sound pressure levels and pressure drop

53 - 5350 m³/h

Model	inlet velocity m/s	air volume		min. Δp_s Pa	discharge sound (L _{pA})				radiated sound (L _{pA})			
		m ³ /s	m ³ /h		125 Pa	250 Pa	500 Pa	750 Pa	125 Pa	250 Pa	500 Pa	750 Pa
100	2	0.015	53	2	--	--	--	--	--	--	--	--
	4	0.030	108	7	--	--	20	21	--	--	--	--
	6	0.044	160	16	20	23	26	28	--	--	--	--
	8	0.059	213	28	25	28	31	33	--	--	20	22
	10	0.074	266	44	29	32	35	36	22	23	23	24
	12	0.089	319	63	32	35	38	39	25	26	26	26
125	2	0.023	84	2	--	--	--	--	--	--	--	--
	4	0.047	168	8	--	--	20	21	--	--	--	--
	6	0.070	253	17	20	23	26	28	--	--	--	20
	8	0.094	337	30	25	28	31	32	--	--	22	24
	10	0.117	421	47	29	31	34	36	--	20	24	27
	12	0.140	505	68	31	34	37	39	--	23	27	29
160	2	0.039	139	2	--	--	--	--	--	--	--	--
	4	0.077	279	8	--	--	20	21	--	--	--	21
	6	0.116	418	18	20	23	26	28	--	--	21	25
	8	0.155	558	33	25	28	30	32	--	--	23	28
	10	0.194	697	51	28	31	34	35	--	--	26	30
	12	0.232	836	74	31	34	37	38	--	--	27	32
200	2	0.061	219	2	--	--	--	--	--	--	--	22
	4	0.122	439	8	--	--	20	22	--	--	20	27
	6	0.183	658	18	20	23	26	27	--	--	23	30
	8	0.244	878	32	25	27	30	32	--	--	25	32
	10	0.305	1097	50	28	31	33	35	--	--	27	33
	12	0.366	1317	71	30	33	36	38	--	--	28	35
250	2	0.096	345	2	--	--	--	20	--	--	--	21
	4	0.192	690	8	--	23	27	29	--	--	21	26
	6	0.287	1035	19	24	28	32	35	--	--	24	29
	8	0.383	1380	33	28	32	36	39	--	--	26	31
	10	0.479	1725	52	31	35	39	42	--	21	28	33
	12	0.575	2070	74	33	38	42	44	--	23	30	34
315	2	0.153	550	2	--	--	23	26	--	--	--	20
	4	0.306	1101	9	21	25	30	33	--	--	21	25
	6	0.459	1651	19	25	30	34	37	--	20	25	28
	8	0.612	2202	34	28	33	37	40	--	23	28	31
	10	0.765	2752	54	30	35	40	43	20	25	31	34
	12	0.917	3303	78	32	37	42	44	22	27	33	36
400	2	0.248	891	2	--	23	28	31	--	--	--	--
	4	0.495	1783	9	23	28	34	37	--	20	23	25
	6	0.743	2674	20	26	31	37	39	21	24	28	29
	8	0.990	3565	36	29	34	39	42	24	28	31	33
	10	1.238	4456	56	33	37	42	45	27	30	33	35
	12	1.486	5350	81	35	40	44	47	29	32	35	37

1. Sound pressure levels below NC 20 are indicated by "--".
2. Sound data is determined in a reverberation room at an independent sound laboratory, according to ISO 3741 and 5135 standards.
3. L_p values are including a room absorption of 10 dB/Oct.
4. Sound data and pressure drop are determined with cold duct open and warm duct fully closed.
5. The discharge sound pressure levels are determined with the following assumptions for downstream ductwork including a diffuser

with insulated plenum box:

Hz	125	250	500	1000	2000	4000
dB	5	10	20	30	30	25

6. The radiated sound pressure levels are determined with the following assumptions for ceiling plenum and suspended ceiling absorption:

Hz	125	250	500	1000	2000	4000
dB	2	5	10	15	15	20

7. The values for insertion loss do not include end reflection.

Insertion loss

Model	125	250	500	1K	2K	4K	Hz
100	5	9	13	22	12	17	dB
125	5	9	13	22	12	17	dB
160	5	9	13	22	12	17	dB
200	8	7	12	15	13	12	dB
250	11	7	8	9	14	10	dB
315	5	5	7	10	14	10	dB
400	4	4	5	11	7	6	dB



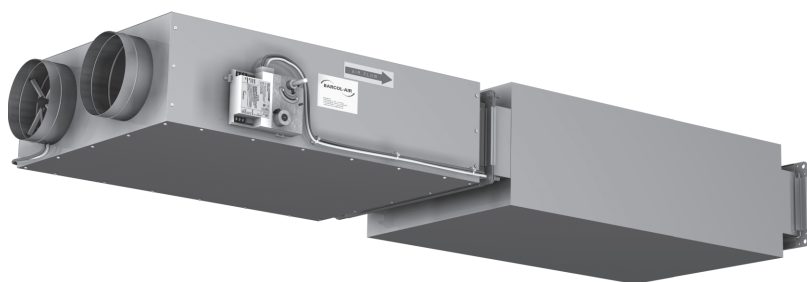
P.O. Box 283, 1440 AG Purmerend, The Netherlands
 Phone +31 (0)299 689300 Fax +31 (0)299 436932
 www.barcol-air.nl info@barcol-air.nl

NZ-2/2

Barcol-Air B.V. © 2005.
 Changes w/o notice or obligation.

Dual duct VAV and CAV mixing unit with sound attenuator

Type NZ.D...



Application

The pressure independent dual duct units with integral mixing section and sound attenuator type NZ.D... are designed particularly for systems with low noise criteria and provide a constant or variable air volume in dual duct systems. The engineered, reliable long life design offers proportional mixing without the risk of "short-cut" of hot and cold air at the inlet. The airflow sensor type Flo-Cross® is standard and provides an accurate measurement and control of the air volume(s).

Technical information

Features:

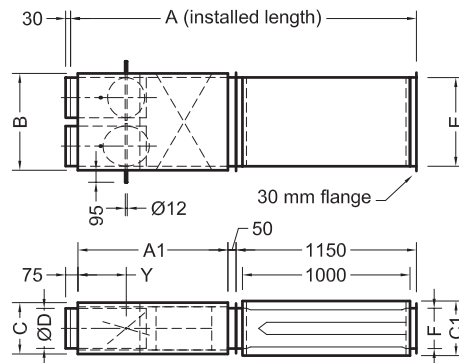
- Pressure independent control functions.
- Very low noise levels courtesy of the sound attenuator section.
- Mixing rate better than 96%, this means that with a primary temperature difference of 20°C, the total air temperature varies a maximum of 0,8°C over the entire outlet spigot.
- Low leakage dampers, less than 2% of Vnom at 750 Pa. Oval shaped damper blades for linear control characteristics.
- Low pressure loss over unit.
- Accurate control of air volume courtesy of the Flo-Cross® 2x12 points averaging and signal amplifying air flow sensor with high accuracy, even with irregular duct approach.
- Suitable for all control functions, for more details, please contact our technical staff.

Construction:

- Casing and sound attenuator: galvanized sheet steel, casing leakage rate to class II, VDI 3803/DIN 24 194.
- Mixing section; galvanised perforated sheet steel.
- Dampers: steel, sandwich construction of twin blade and neoprene gasket (low leakage).
- Damper shafts; aluminium ø12mm, rotating in self lubricating Nylon bearings.
- Circular inlet spigots: duct-sleeve connections suitable for DIN 24 145 or DIN 24 146 respectively.
- Rectangular outlet spigot; sleeve fittings standard, flanges optional.
- Flo-Cross® sensor: high precision extruded aluminium profiles.
- Internal acoustic insulation: tested to Class 'O' fire regulation, erosion proof up to 30 m/s covered with perforated sheet steel. Special version insulation for hospital application on request.
- Suitable for use with pneumatic, analogue electronic or DDC controllers.
- Other versions are available upon request.

Delivery format:

- When units are ordered with controls, these will be factory fitted on both sides of the unit and wired and pre-set upon request.
- When units are ordered with 'free-issue' controls by others, wiring diagrams and mounting instructions must be provided.



Type NZ.D...

Specify as:

Example:

Supply and install, dual duct units from galvanised sheet steel with integral mixing section and sound attenuator. Internal insulation, tested to Class 'O' fire regulations, covered with perforated sheet steel; mixing rate better than 96%. Oval shaped, sandwich construction, damper blades. Unit leakage rate to Class II VDI 3803/DIN 24 194 for:

Total air volume	... m ³ /h
Unit size	... mm
Max. unit resistance	... Pa
Max. discharge sound index	... NC
Max. radiated sound index	... NC

complete with:

a precision, averaging airflow sensor type Flo-Cross® in the cold duct inlet spigot and I/A Series LON® compatible, DDC controller type MNL-V1RVx, which corresponds to standard Barcol-Air control reference type "...L..M.". Controls are factory fitted, wired and set according to client requirements.

Manufacturer : Barcol-Air
Type : NZLDOB

Dimensions

Model	100	125	160	200	250	315	400
A	1980	1980	2030	2070	2125	2210	2305
B	330	350	420	500	600	740	910
C	228	228	248	268	318	408	458
C1	230	230	250	250	320	390	450
ø D	98	123	158	198	248	313	398
E	275	275	350	450	550	690	850
F	170	170	175	200	250	330	380
Y	310	310	310	300	285	260	235

Other dimensions are available upon request.

Notes:

1. All dimensions are in millimetres.



P.O. Box 283, 1440 AG Purmerend, The Netherlands
Phone +31 (0)299 689300 Fax +31 (0)299 436932
www.barcol-air.nl info@barcol-air.nl

NZ-3/1

Barcol-Air B.V. © 2005.
Changes w/o notice or obligation.

Dual duct VAV and CAV mixing unit with sound attenuator

Typ NZ.D...

Sound pressure levels and pressure drop

54 - 5350 m³/h

Model	air velocity at inlet	air volume		min. Δp_s Pa	discharge sound level (L _p)				radiated sound level (L _p)			
	m/s	m ³ /s	m ³ /h		125 Pa	250 Pa	500 Pa	750 Pa	125 Pa	250 Pa	500 Pa	750 Pa
100	2	0.015	54	2	--	--	--	--	--	--	--	--
	4	0.030	108	8	--	--	--	--	--	--	--	--
	6	0.044	160	19	--	--	--	--	--	--	--	--
	8	0.059	213	34	--	--	--	--	--	--	20	22
	10	0.074	266	53	--	--	--	--	22	23	23	24
	12	0.089	319	76	--	--	--	--	25	26	26	26
125	2	0.023	84	2	--	--	--	--	--	--	--	--
	4	0.047	168	9	--	--	--	--	--	--	--	--
	6	0.070	253	20	--	--	--	--	--	--	--	20
	8	0.094	337	36	--	--	--	--	--	--	22	24
	10	0.117	421	56	--	--	--	--	--	20	24	27
	12	0.140	505	81	--	--	--	--	--	23	27	29
160	2	0.039	139	2	--	--	--	--	--	--	--	--
	4	0.077	279	10	--	--	--	--	--	--	--	21
	6	0.116	418	22	--	--	--	--	--	--	21	25
	8	0.155	558	39	--	--	--	--	--	--	23	28
	10	0.194	697	60	--	--	--	--	--	--	26	30
	12	0.232	836	87	--	--	20	21	--	--	27	32
200	2	0.061	219	2	--	--	--	--	--	--	--	22
	4	0.122	439	9	--	--	--	--	--	--	20	27
	6	0.183	658	21	--	--	--	--	--	--	23	30
	8	0.244	878	37	--	--	--	--	--	--	25	32
	10	0.305	1097	59	--	--	--	--	--	--	27	33
	12	0.366	1317	84	--	20	22	23	--	--	28	35
250	2	0.096	345	2	--	--	--	--	--	--	--	21
	4	0.192	690	10	--	--	--	--	--	--	21	26
	6	0.287	1035	22	--	--	--	22	--	--	24	29
	8	0.383	1380	39	--	--	24	27	--	--	26	31
	10	0.479	1725	61	--	22	27	30	--	21	28	33
	12	0.575	2070	87	20	25	30	33	--	23	30	34
315	2	0.153	550	3	--	--	--	--	--	--	--	20
	4	0.306	1101	10	--	--	--	--	--	--	21	25
	6	0.459	1651	23	--	--	22	25	--	20	25	28
	8	0.612	2202	40	--	21	26	29	--	23	28	31
	10	0.765	2752	63	20	25	30	33	20	25	31	34
	12	0.917	3303	91	23	28	33	35	22	27	33	36
400	2	0.248	891	3	--	--	--	--	--	--	--	--
	4	0.495	1783	10	--	--	23	26	--	20	23	25
	6	0.743	2674	24	20	24	29	32	21	24	28	29
	8	0.990	3565	42	23	28	33	36	24	28	31	33
	10	1.238	4456	65	26	31	36	39	27	30	33	35
	12	1.486	5350	94	29	34	38	41	29	32	35	37

1. Sound pressure levels below NC 20 are indicated by "--".
2. Sound data is determined in a reverberation room at an independent sound laboratory, according to ISO 3741 and 5135 standards.
3. L_p values are including a room absorption of 10 dB/Oct.
4. Sound data and pressure drop are determined with cold duct open and warm duct fully closed.
5. The discharge sound pressure levels are determined with the following assumptions for downstream ductwork including a diffuser

with insulated plenum box:

Hz	125	250	500	1000	2000	4000
dB	5	10	20	30	30	25

6. The radiated sound pressure levels are determined with the following assumptions for ceiling plenum and suspended ceiling absorption:

Hz	125	250	500	1000	2000	4000
dB	2	5	10	15	15	20

7. The values for insertion loss do not include end reflection.

Insertion loss

Model	125	250	500	1K	2K	4K	Hz
100	13	28	38	38	38	38	dB
125	13	28	38	38	38	38	dB
160	13	28	38	38	38	38	dB
200	15	26	38	38	38	38	dB
250	17	22	33	35	38	35	dB
315	11	26	32	35	38	33	dB
400	9	17	20	27	23	20	dB



P.O. Box 283, 1440 AG Purmerend, The Netherlands
Phone +31 (0)299 689300 Fax +31 (0)299 436932
www.barcol-air.nl info@barcol-air.nl

NZ-3/2

Barcol-Air B.V. © 2005.
Changes w/o notice or obligation.

