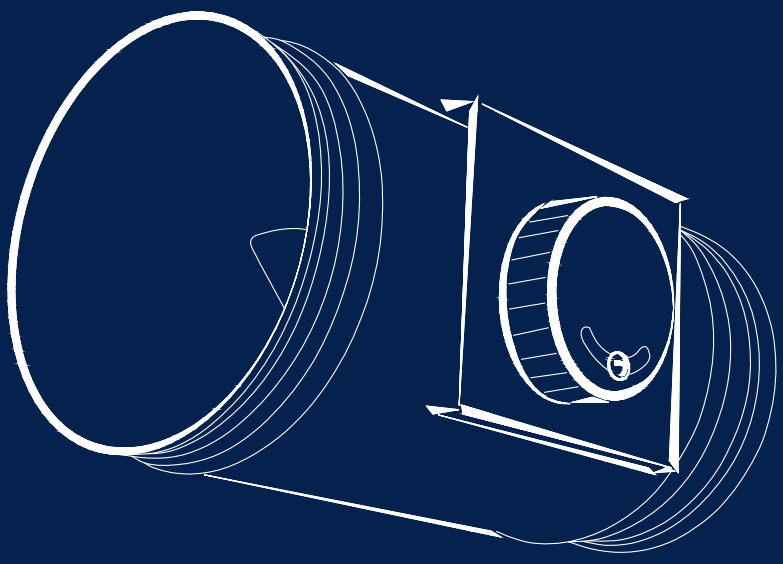


NQ series

Adjustable circular mechanical CAV air volume control terminals

BARCOL-AIR

Description page

Composition type designation :

N – Q – O

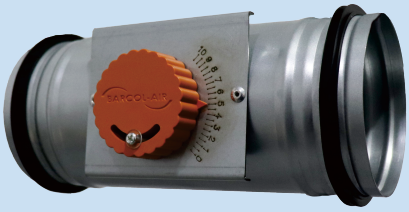
N Position 1 : **Product group**

Q Position 2 : **Function**
A = adjustable circular mechanical CAV air volume control terminals

O Position 3 : **Controls**
O - system powered, manual adjustable
S - system powered, with electric on/off actuator
V - system powered, with electric modulating actuator
1 - nonstandard, specify separately

Ordering example

NQO	125	Q226
see above	Model	Air volume(m^3/h)



Manual adjustable

With electric actuator

Application

Barcol-Air NQ series adjustable round mechanical CAV terminals are used to maintain constant supply or exhaust airflow. The airflow can be set manually or by electric actuator. The units are self-powered and without external power supply. When the airflow passes through the damper blade, the bellows, leaf spring and damper blade are automatically balanced to achieve the required constant airflow. The NQ series is particularly suitable for supply and exhaust airflow control with low air velocity, and has the benefits of high control accuracy, simple structure, good reliability and easy installation and commissioning.

Product characteristics

-Suitable for airflow velocities as low as 0.8m/s.

-Pressure independent with inlet pressure between 50-500Pa.

-Temperature insensitive (10 - 50℃).

-Control accuracy ±10% within the recommended airflow range.

-Simple commissioning. airflow can be set using a rotary knob and the scale on the outside of the casing.

-Mechanical self-powered airflow control without external power supply.

-Simple retrofit of an actuator for external airflow setting adjustment.

-Can be mounted at any orientation.

-Maintenance free.

-Factory setting of airflow rate.

Construction features

-Metal casing made of galvanized sheet steel (non spiral) with sleeve connection using rubber seal.

-Option for stainless steel body or power paint finish.

-Damper blade is made of flame-retardant high-quality plastic.

-The adjustable dial is made of flame-retardant nylon and is equipped with a graduated to show the airflow setting.

Air volume range

Model Ø	Minimum airflow		Maximum airflow	
	m^3/h	l/s	m^3/h	l/s
100	30	8	200	56
125	35	10	350	97

Application

The Barcol-Air CAV terminals shall be installed in, and supported by the round connecting ducts. The round ducts should be supported either side of the CAV by circular suspension brackets with anti-vibration rubber between the support brackets and the ducts to prevent vibration and to avoid a thermal bridge. (See picture below).

The installation method：

1.Shall prevent the body of CAV terminal from high mechanical tension, which could damage the construction and performance of the terminal.

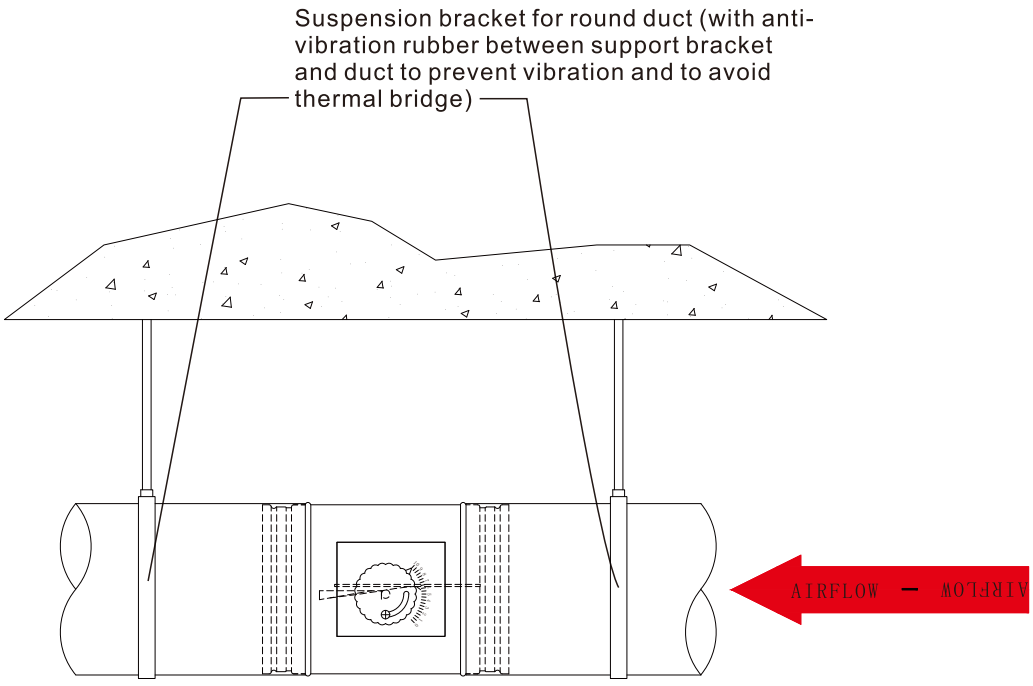
2.Shall prevent torsion on the CAV terminals, which could cause malfunction of the damper blades.

3.Shall provide some flexibility to the final location of the CAV terminals.

4.Shall have at least 1.5×diameter straight duct length before the CAV inlet.

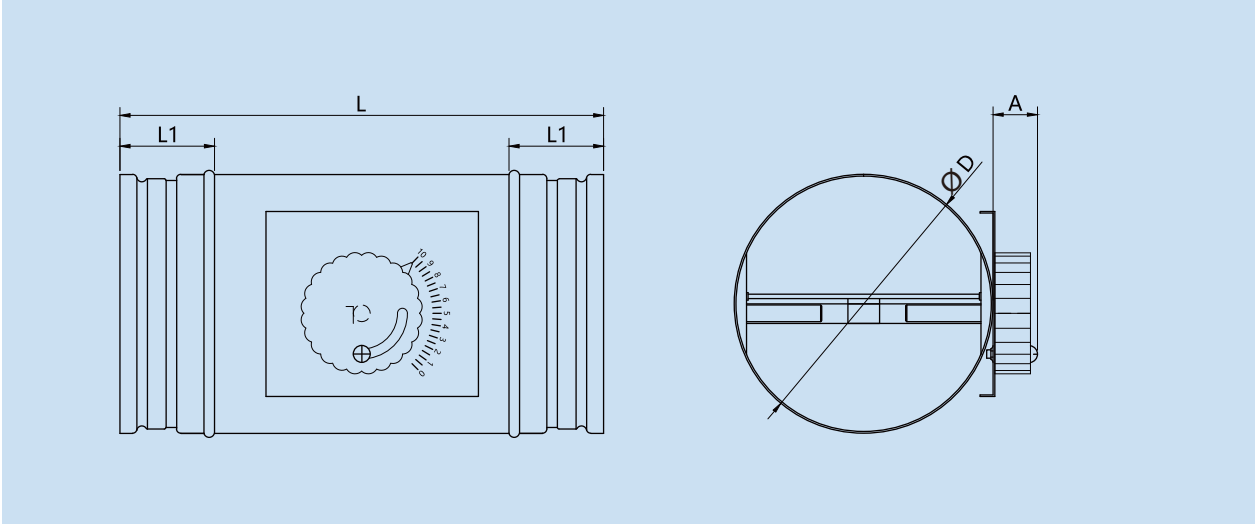
5.Shall not have manual volume control damper (VCD)'s before the unit inlet.

6.All connections shall be thermally isolated.



Model overview/dimensions

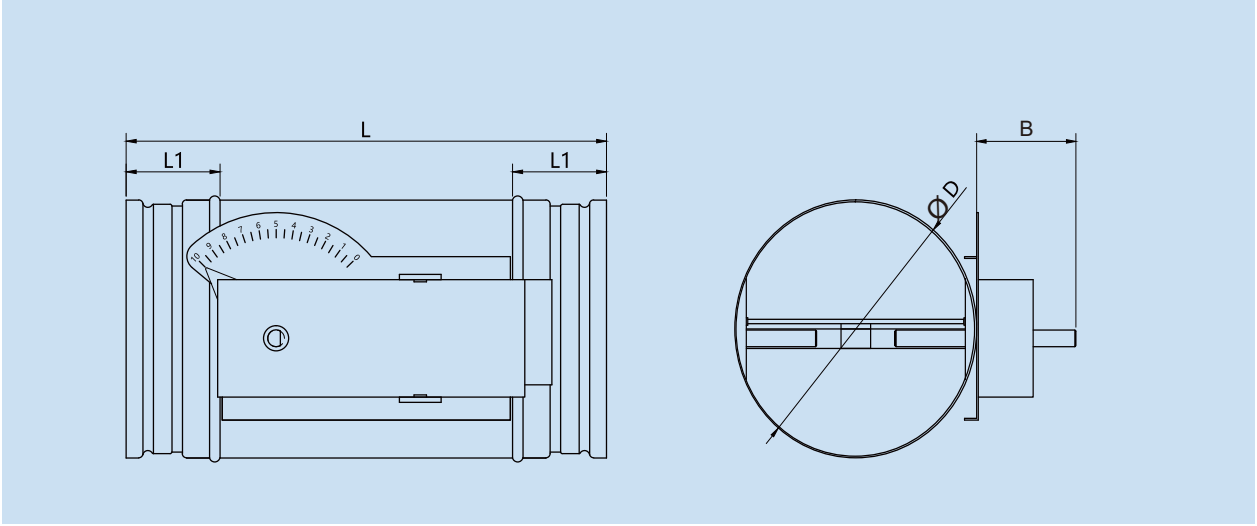
•CAV with airflow set manually



•CAV with airflow setting using electric actuator

Can select on/off type actuator for two position using mechanical stops (max airflow/min airflow).

Can select modulating type actuator for setting airflow at any position with 0~10VDC input signal.



Model Ø	D	L	L1	A	B
100	98	230	40	21	51
125	123	230	40	21	51

Remark：

1.All dimensions based on mm.

2.Non standard model please contact our sales.

Sound data

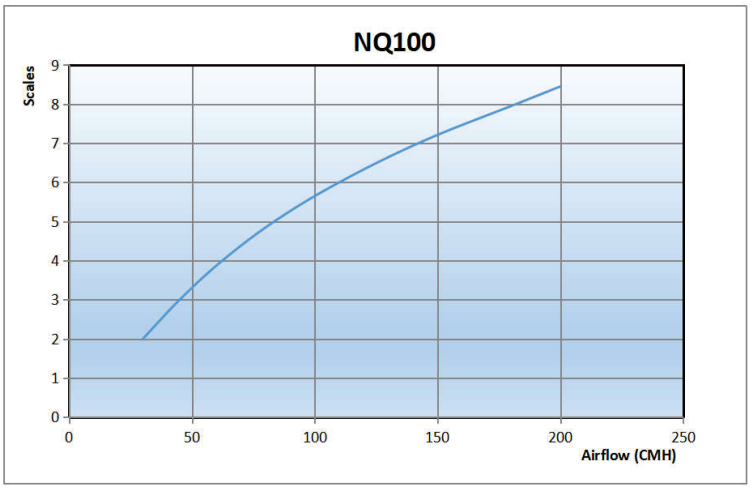
△p=125Pa

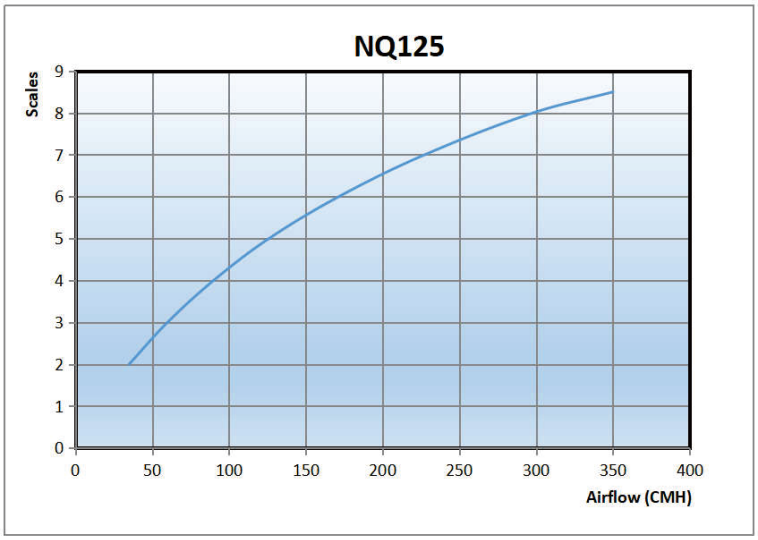
Model	Data refering to inlet spigot			Discharge sound							Radiated sound						
	Velocity	Air volume		125Hz	250Hz	500Hz	1000Hz	2000Hz	4000Hz	NC	125Hz	250Hz	500Hz	1000Hz	2000Hz	4000Hz	NC
	m/s	l/s	cmh	Lw in dB/Oct. (dB)							Lw in dB/Oct. (dB)						
100	1.1	8	30	43	42	42	39	33	30	38	31	30	30	27	21	20	26
	2.5	19	70	52	48	45	42	36	31	41	40	36	33	30	24	21	29
	3.9	31	110	56	51	47	44	38	31	43	44	39	35	32	26	22	30
	5.3	42	150	59	53	48	45	39	31	44	47	41	36	33	27	24	32
	7.1	56	200	62	54	49	45	40	31	47	50	42	37	33	28	24	32
125	0.8	10	35	34	33	33	30	25	24	30	22	21	21	18	17	15	22
	2.6	32	115	49	44	42	38	33	28	38	37	32	30	26	20	21	25
	4.4	54	195	56	49	46	42	36	30	42	44	37	34	30	24	24	29
	6.2	76	275	60	53	48	44	39	32	45	48	41	36	32	27	28	31
	7.9	97	350	62	55	50	45	41	33	49	50	43	38	33	29	29	33
160	1.6	32	115	49	45	44	41	37	34	40	39	35	34	31	27	24	30
	3.2	64	230	56	51	48	45	40	37	44	46	41	38	35	30	27	34
	4.8	96	345	59	54	50	47	42	38	46	49	44	40	37	32	28	36
	6.4	128	460	62	56	51	49	43	39	48	52	46	41	39	33	29	37
	8.0	161	580	64	58	52	50	44	39	50	54	48	42	40	34	29	38

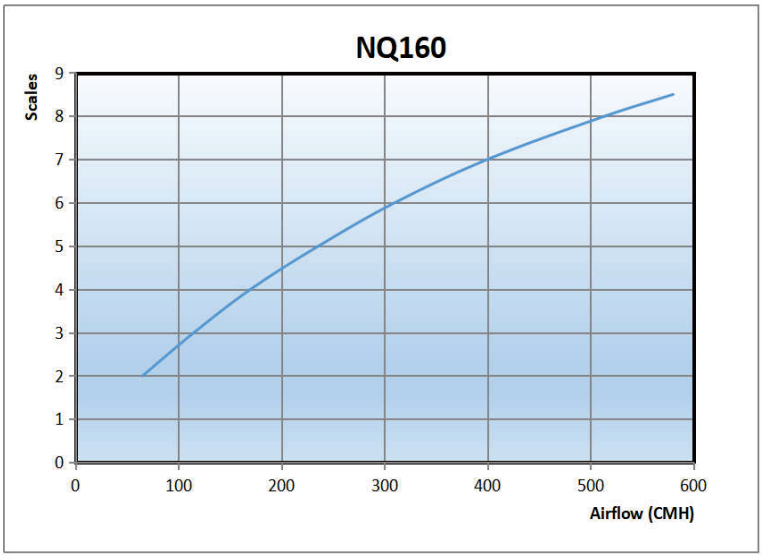
△p=250Pa

Model	Data refering to inlet spigot			Discharge sound							Radiated sound						
	Velocity	Air volume		125Hz	250Hz	500Hz	1000Hz	2000Hz	4000Hz	NC	125Hz	250Hz	500Hz	1000Hz	2000Hz	4000Hz	NC
	m/s	l/s	cmh	Lw in dB/Oct. (dB)							Lw in dB/Oct. (dB)						
100	1.1	8	30	47	47	48	47	43	42	45	35	35	36	35	31	30	33
	2.5	19	70	56	53	52	50	46	43	49	44	41	40	38	34	31	37
	3.9	31	110	61	57	54	52	48	44	51	49	45	42	40	36	32	38
	5.3	42	150	64	59	55	53	49	44	52	52	47	43	41	37	32	40
	7.1	56	200	67	61	56	54	50	44	54	55	49	44	42	38	32	40
125	0.8	10	35	39	38	40	39	36	36	41	27	26	28	27	24	24	30
	2.6	32	115	55	51	50	48	45	43	47	43	39	38	36	33	31	35
	4.4	54	195	62	56	54	52	49	46	51	50	44	42	40	37	34	38
	6.2	76	275	66	60	56	54	52	48	54	54	48	44	42	40	36	41
	7.9	97	350	69	62	58	56	54	49	57	57	50	46	44	42	37	42
160	1.6	32	115	52	49	49	48	45	43	47	42	39	39	38	35	33	37
	3.2	64	230	59	55	53	52	48	46	51	49	45	43	42	38	36	41
	4.8	96	345	63	58	55	54	51	48	53	53	48	45	44	41	38	43
	6.4	128	460	65	61	57	56	52	49	55	55	51	47	46	42	39	45
	8.0	161	580	67	62	58	57	53	49	56	57	52	48	47	43	39	46

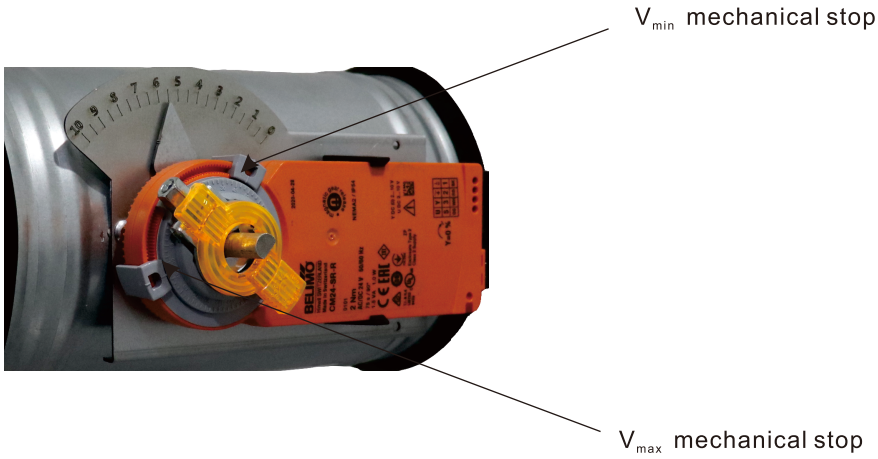
Airflow curve



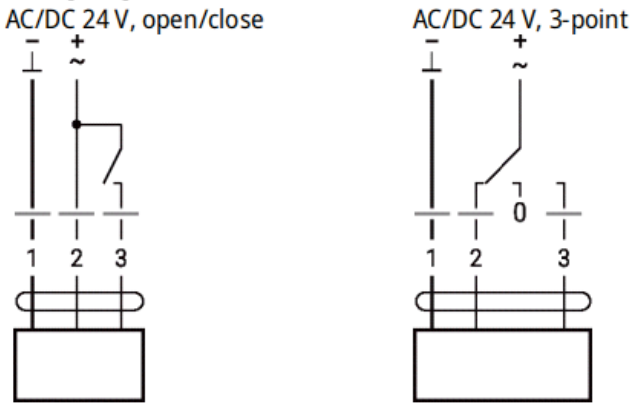




Control wiring for NQ with electric actuator



•Picture 1: System powered, with electric on/off actuator



1	2	3	0 1	0 1
			stop	stop

Electric data:

24VAC/DC 50/60HZ; 1.5VA

1.Can be used to on/off control:

The switch 3 open: Vmax; The switch 3 close: V_{min}

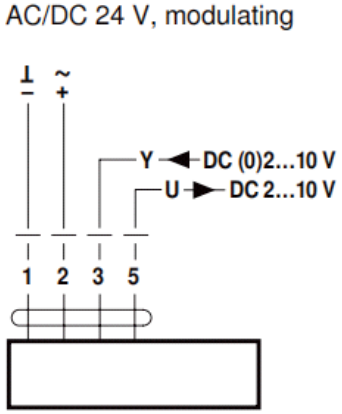
2.Can be used to 3-point control:

The switch to 0: stop active

The switch to 2: V_{max}

The switch to 3: V_{min}

•Picture 2: System powered, with electric modulating actuator



Electric data:

24VAC/DC 50/60HZ; 2VA

Can be used to modulating control:

Input signal:0~10VDC

Output signal:0~10VDC

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