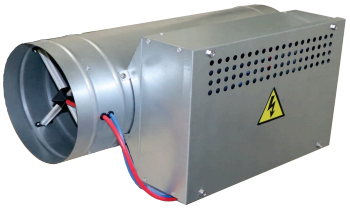
BARCOL-AIR

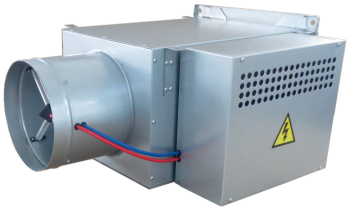
Technical data sheet

Demand Ventilation Control VAV Series with integral Actuator/Controller and Remote Wall or Duct mounted CO_2 Sensor (CO2-ZE)

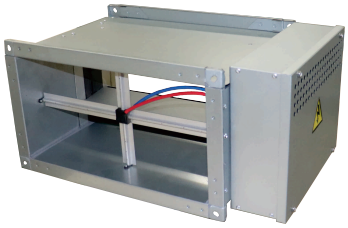
NA-NB Round VAV Gontrol Dampers with integralActuator/Controller and Remote Room or Duct mounted CO2 Sensor.



NC Compact Control Dampers with integral Actuator/Controller and Remote Room or Duct mounted CO2 Sensor.



NK-NLRectangular VAV Control Dampers with integral Actuator/Controller and Remote Room or Duct mounted CO2 Sensor.



Remote Wall Mounted CO_2 Transmitter(SRC-C1)

Remote Duct Mounted CO_2 Transmitter with internal display(SDC-C1)

Description

Barcol-Air Demand Ventilation Control VAV terminals are supplied complete with Barcol-Air factory assembled and calibrated Control package ready for operation. The NA and NB series terminals have round bodies, and the NK and NL series are rectangular, the NC series are compact. All units are compete with build in Damper Actuator/Controller and remote CO_2 sensor. The NA and NK series have single skin bodies, and the NB and NL series have double skin with enclosed insulation for improved acoustic and thermal performance, and the NC series plenum have single skin with internal fiberglass insulation with black glass tissue covering.

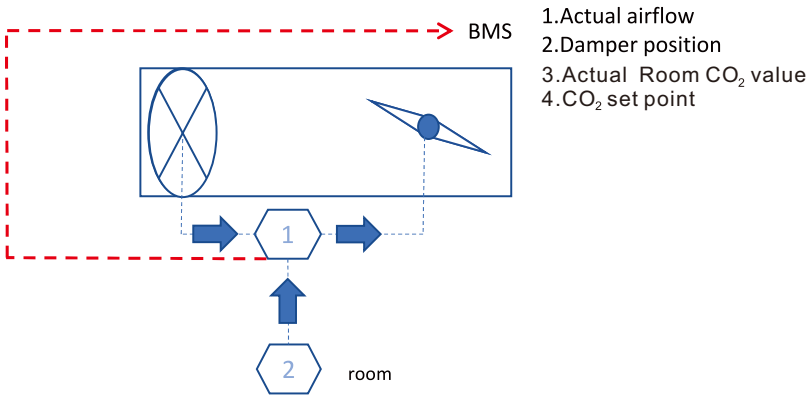
Control Functions

Include:

- Barcol-Air high accuracy Flo-Cross sensor for airflow measurement with 2x12 sensing points, signal amplification and signal averaging providing sensing accuracy of better than ± 2.5% in its operating range. Insuring accurate flow measurement and pressure independent operation.
- The VAV room temperature control series are supplied complete with a Barcol-Air Actuator/Controller with PI control for pressure independent operation and a dynamic response pressure transducer for airflow sensor pressure measurement.
- BACnet communication with the Building Management System using BACnet MS/TP protocol.
- BACnet function – addressable from 1 to 127 in a singular BACnet MS/TP network. Recommended to have repeater every 32 BACnet devices.
- Test function/test display – two LED's which show power status, bus communication and adaptation.
- Nominal power requirements: 24VAC, 50/60Hz, 7VA. Optional transformer available for 230VAC to 24VAC power supply.
- Actuator torque 5NM.
- Remote room mounted or duct mounted CO_2 concentration transmitter using nondispersive infrared(NDIR) wave guide technology with ABC automatic background calibration algorithm. The microprocessor samples the CO_2 once per second and calculates an averaging signal over a preset number of samples to generate the output signal.The room mounted transmitter includes LEDs to provide visual indication of CO_2,concentration and has option for external display(OPA-S).The duct mounted transmitter has options for built in display(OPC-S) and alternatively remote operation and display(OPA-S).
- CO_2 set point and Air Flow set point adjustments via:
  - BACnet MS/TPcommunication with Actuator/Controller.
  - NFC interface with Actuator/Controller.

Control Schematic

Pressure Independent CO_2
Control Series with Remote Wall
or Duct mounted CO_2 sensor. CO2-ZE



1 VAV controller/actuator/airflow pressure sensor CO_2 -ZE

2 CO_2 Sensor

VAV Terminal Features

- Galvanised steel bodies with optional polyester powder paint finish or stainless steel body for enhanced corrosion resistance.
- NA and NB round series with sandwich construction galvanized steel oval damper blade for linearized performance with neoprene blade seal for low leakage.
- NK and NL rectangular series with aluminum extruded parallel damper blades with edge seals and blade synchronising gear wheels. NKS low leakage series with ultra low leakage damper blade end seals .
- NC compact series with round inlet and rectangular outlet plenum with sandwich construction oval damper blade for linearized peformance.
- Low casing air leakage:
  - NA & NB series - Class C according to Standard EN1751.
  - NK & NL series - Class A and NKS series class C according to Standard EN1751.
  - NC series - Class C accroding to standard En1751.
- Low closed blade air damper leakage:
  - NA & NB series - Class 4 according to Standard EN1751 except diameters 100 and 125 which are Class 3.
  - NK & NL standard version - Class 1 and NKS series low leakage version - Class 4 according to Standard EN1751, except model sizes with 100mm and 200mm heights which are Class 3.
  - NC series - Class 3 accroding to standard EN1751.

Options & Accessories

- Power transformer 230VAC to 24VAC.
- Control box.
- CO_2 Transmitter Accessories

Remote display and input transmitter (OPA-S) for wall mounted CO2 sensor (SRC-C1) and duct mounted CO_2 transmitter (SDC-C1).

Built in operation and display panel (OPC-S) for duct mounted CO_2 transmitter (SDC-C1).