

INTRODUCTION

DCV-SPb is part of Lindinvent's series of smart and installation-efficient dampers and measuring devices for protective ventilation and climate control at workplaces.

FUNCTIONS

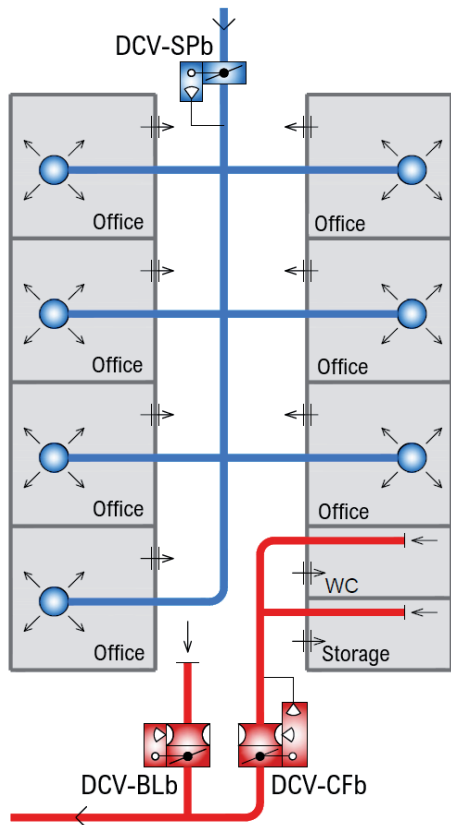
DCV-SPb consists of a damper, a damper motor and a pressure controller. The unit cooperates with other control equipment via a local network (CAN loop) to maintain pressure in a channel section.

CIRCULAR OR RECTANGULAR

The circular version (Ø100-500 mm) is supplied as a complete module with constituent parts connected and ready for assembly as a unit. DCV-SPb Rectangular is supplied in parts to be assembled on site. DCV-SPb Circular is available in database for MagiCad. DCV-SPb Rectangular is drawn as damper JSPM.

PRESSURE MEASUREMENT AND CONTROL
 Pressure sensor in SPLb: Digital, integrerad
 Range: 5 to 500 Pa
 Tolerance: ± 5 % or at least ± 3 Pa
 Performance: Change within 4s (95% within 3s)

See page 2 for a presentation of constituent parts.

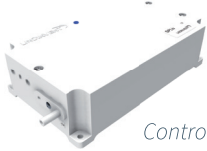


Functional diagram: DCV-SPb maintains duct pressure. Supply air via active diffusers and extract air via corridor. Two fixed extract airflows.

PARTS WITH SPECIFICATIONS

The products below are included as parts of DCV-SPb. The damper is either circular or rectangular. See the product description for more complete technical specifications.

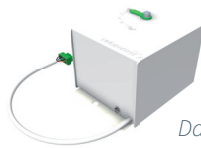
DCV-SPb and its constituent parts



Controller SPLb.

Pressure controller - SPLb

- Included, mounted, in DCV-SPb Circular
- Supplied as part of DCV-SPb Rectangular
- Integrated digital pressure sensor
- CAN connection
- IP-class: IP53
- Operating temperature limits: 0°C to 40°C; <85% RH
- Temperature limit storage: -20°C to 50°C; <90% RH
- Weight: 0.3 kg
- One of the following main features is to be selected at commissioning: Pressure control, Pressure control external measurement, Pressure measurement, or Slave control.



Damper actuator DBA.

Damper actuator - DBA

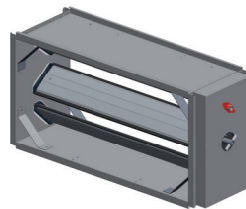
- Included, mounted, in DCV-SPb Circular
- Supplied as part of DCV-SPb Rectangular
- Microprocessor controlled BLDC motor
- Indicator pin to show the damper opening angle
- IP-class: IP42 (mounted on the actuator holder)
- Operating temperature limits: 0°C to 40°C; <85% RH
- Temperature limit storage: -20°C to 50°C; <90% RH
- Weight: 0.9 kg



Damper SPM.

Circular damper - SPM

- Included, mounted, in DCV-SPb Circular
- Throttle damper with a full damper blade
- Actuator shelf adapted for Lindinvent's damper actuator
- Tightness class 3 according to VVS AMA
- Pressure class A according to VVS AMA
- Weight: After damper size (0.5 to 4.5 kg)

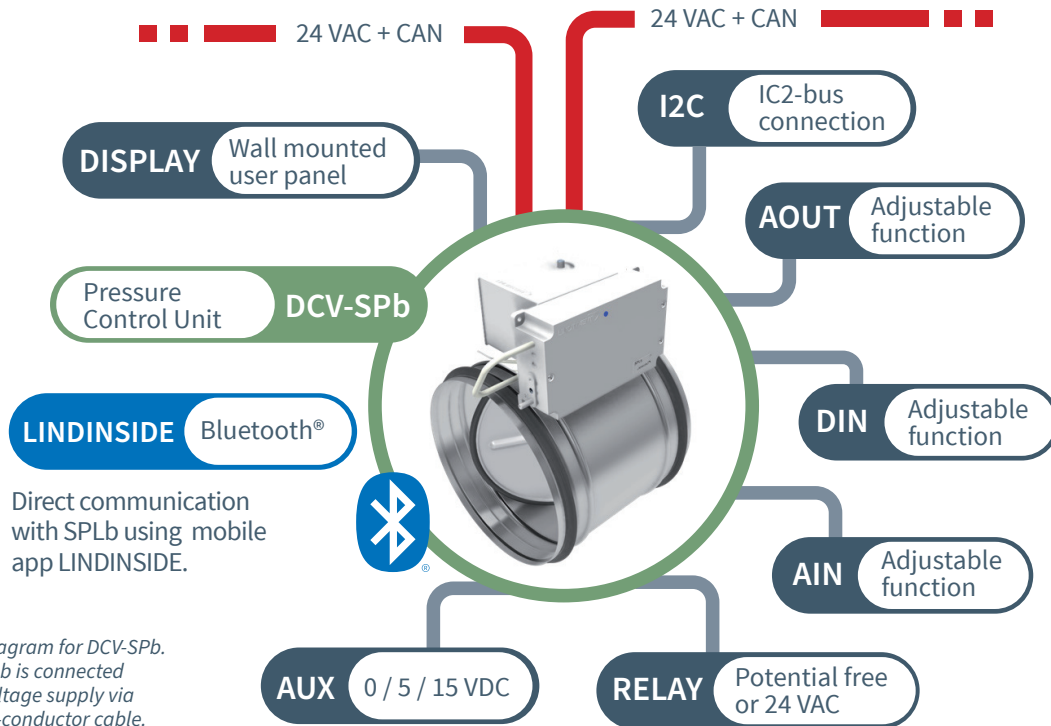


Damper JSPM.

Rectangular damper - JSPM

- Supplied as part of DCV-SPb Rectangular
- Case of galvanized sheet steel (C3)
- Actuator shelf adapted for Lindinvent's damper actuator
- Damper blades of aluminium (C4)
- Tightness class 2 according to VVS AMA
- Pressure class A according to VVS AMA
- Available with circular connection with size 700x700 or 800x800
- Weight: After damper size (3 to 40 kg)

CONNECTION DIAGRAM



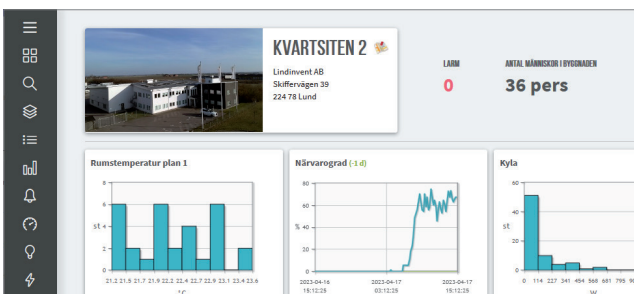
Connection diagram for DCV-SPb. Controller SPLb is connected to CAN and voltage supply via Lindinvent's 4-conductor cable.

CONNECTIONS

- 2 x terminals for 24 VAC + CAN
- Terminal AIN1 and AOUT1 (0-10 VDC) used by the damper actuator
- Terminal AIN2 and AOUT2 (general 0-10 VDC)
- Relay (24 VAC or potential-free)
- Terminal AUX for Generic power supply (0, 5, 15 VDC)
- Terminal for I2C-bus
- Module for Bluetooth®
- Terminal for user panel (FLOCHECK P version B02)

VISUALIZATION TOOL LINDINSPECT®

LINDINSPECT® is a powerful web-based tool which is part of the central unit system software. Everything from control units to supplementary systems for comfort and sustainable energy use is made accessible for central optimization, administration and visualization.



Detail from the start page in LINDINSPECT® from which the climate control can be visualized and administered.

USER INTERFACES

Look for details about a specific interface via its product name and product description.

- Login locally directly to the controller via mobile phone with the LINDINSIDE app
- Via Gate way NCE and Lindinvent's central unit running LINDINSPECT®
- Other parent system via Gateway NCE and Modbus-RTU or ModbusTCP
- Fixed panel FLOCHECK P, wired directly to SPLb

TROUBLESHOOTING AND ALARM NOTIFICATION

Systems with LINDINSPECT® log and set alarm flags in case of deviations. Alarms can also be indicated both acoustically and optically by connecting user panel FLOCHECK P to the controller.

EASY COMMISSIONING

All of Lindinvent's controllers are delivered factory-calibrated. Only a few settings are required in connection with commissioning.

FUNCTIONAL CHART

DCV-SPb on main duct for supply air:

Cell offices with supply air via active diffusers and extract air to a common corridor. Two fixed extract airflows with supply air from the corridor.

Active diffusers:

- Controls the climate in each office according to setpoints
- Notifies collaborating nodes of their current airflow

DCV-SPb:

- Continuously measures the pressure in the duct section
- Maintains the duct pressure according to setpoints via damper control
- DCV-SPb is commissioned for pressure control

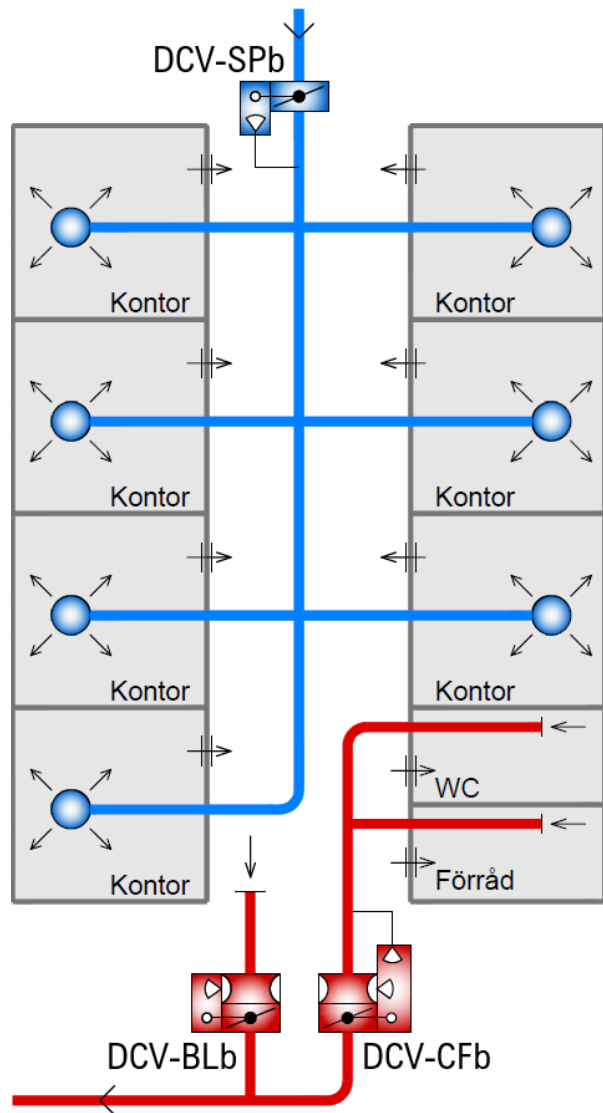
DCV-CFb:

- Maintains a constant duct pressure to maintain the fixed set extract airflow
- Measures and reports via CAN the fixed airflow
- Note: DCV-CFb is always commissioned for pressure control and flow measurement

DCV-BLb:

- Measures the extract airflow from the corridor
- Reads the reported DCV-CFb airflow
- Sums its own measured airflow with the measured flow from DCV-CFb
- Maintains the desired balancing of the supply airflow through damper control

DCV-BLb is commissioned for flow balancing.



ORDER INFORMATION

DCV-SPb Circular (Ø100-500 mm)

Pressure control unit, Lindinvent AB,
DCV-SPb-[Damper size][Material]-[Colour]

Damper size SPM: 100, 125, 160, 200, 250, 315, 400, 500

Material:

- Galvanized sheet steel (C3)
- Stainless acid-resistant sheet steel (C5)
- Epoxy-coated sheet steel (E)
- Powder-coated sheet steel (P)

Omitted material specification: Galvanized (C3)

Colour: RAL9003 (standard). To be stated for E and P. Other colours and gloss levels can be ordered.

Example:

- DCV-SPb-250C3 (DCV-SPb Circular galvanized)
- DCV-SPb-250P-RAL9003 (Powder-coated RAL9003)

DCV-SPb Circular (duct connection Ø630 mm)

Pressure control unit, Lindinvent AB,
DCV-SPb-630(700x700)[Material] or
DCV-SPb-630(800x800)[Material]

Size available: 700x700 or 800x800 mm

Material: Galvanized (C3)

Example: DCV-SPb-630(700x700)C3

DCV-SPb-630 is delivered as a construction kit. The rectangular damper JSPM 700x700 mm with circular connection 630, controller SPLb, and damper actuator DBA are delivered separately to be installed on site.

DCV-SPb Rectangular

Pressure control unit, Lindinvent AB,
DCV-SPb-[WxH][Material]

Standard sizes WxH: from 200x200 mm to 1600x1000 mm

Width(W): from 200 to 1000 mm in intervals of 100 mm, then in intervals of 200 mm

Height(H): from 200 to 800 mm in intervals of 100 mm, then in intervals of 200 mm

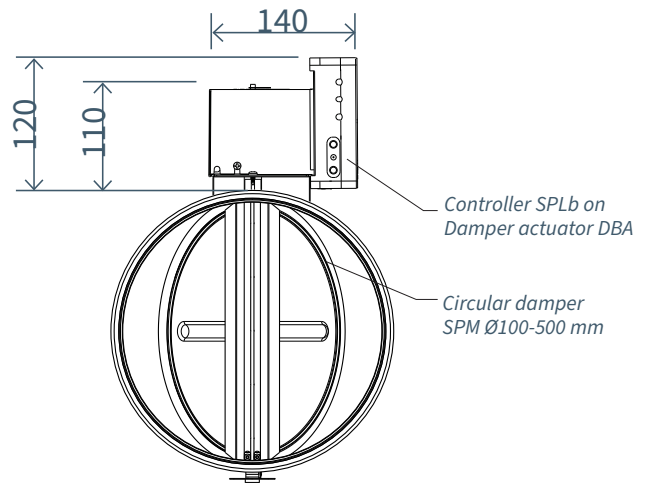
Contact Lindinvent if you need non-standard dimensions.

Material: Galvanized (C3)

Example: DCV-SPb-600x300C3

DCV-SPb Rectangular is delivered as a construction kit where damper JSPM, controller SPLb and damper actuator DBA are delivered separately to be installed on site.

DIMENSIONS in mm



Dimensions of DCV-SPb Circular.

COMPLEMENTARY DOCUMENTATION

Document can be viewed on the product page at www.lindinvent.com

Document	Comments
Installation instructions	Combined installation instructions for DCV-SPb and pressure controller SPLb (mounting + connection).
Operation instructions	Short presentation of LINDINSIDE and control variables.
Maintenance instructions	Considered maintenance free.
External connection diagram	Shows how conductors from equipment are connected to SPLb.
Environmental product declaration	For assessment at Byggarubedömningen.
Modbus list	Last entry in the modbus list for SPLb.
AMA-text	Available.