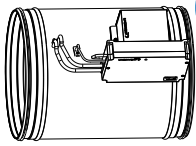


DELIVERY UNIT



DCV-LCb cirkulärt

DCV-LCb – Circular

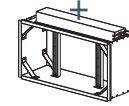
Delivered pre-assembled with Lab Climate Controller LCXb and damper actuator on circular damper SPMF (Ø100 to Ø500).

- Damper actuator connected
- Flow measurement hoses connected
- K-factor and flow direction are indicated on the label on the damper.

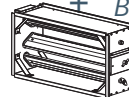
The circular Ø630 can only be delivered as a kit with a rectangular damper 700x700, a circular Ø630 connection, and a circular measurement flange.



Damper actuator with Lab Climate Controller LCXb



Measurement Flange SMRD



Damper JSPM

DCV-LCb – Rectangular

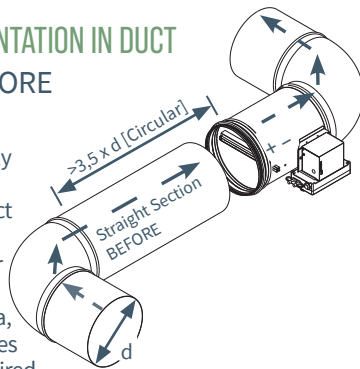
Delivered as a kit: Damper actuator, controller, measurement flange, and damper are assembled and connected on-site. For guidance on assembly, refer to the illustrations and instructions for LCXb under sections 2-5 on the next page.

- LCXb mounted on DBA, depending on the damper size.
- SMRD and JSPM are custom-sized.
- Hoses for connecting the measuring flange to the controller.
- JSPM with a motor shelf adapted for the DBA damper actuator.

1. PLACEMENT AND ORIENTATION IN DUCT

Straight Section BEFORE Measuring Flange

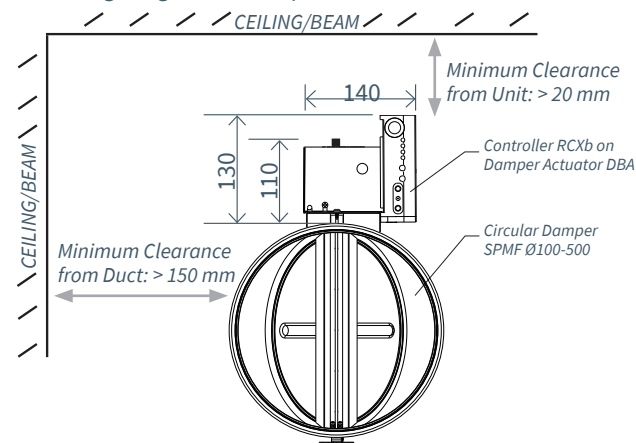
DCV-LCb should be correctly oriented and preceded by a disturbance-free straight duct section that corresponds to >3.5 times the duct diameter (d). After a silencer, with a different cross-sectional area, a straight section of >2.0 times the duct diameter (d) is required.



For rectangular ducts:

Straight sections as above are calculated based on the equivalent diameter (de); $de \approx 1.15 \times \sqrt{A}$ (where $A = B \times H$).

NOTE: No minimum distance is required directly after the measuring flange to a subsequent bend or other disturbance.



- DCV-LCb is oriented in the duct with the flow arrow on the measurement flange pointing in the direction of airflow
- The controller is positioned as shown in the illustration above for easiest access.
- Distance to wall/ceiling/equipment from the highest point of the damper actuator cover with controller: >20 mm. The total assembly height for the motor bracket plus the damper actuator cover with mounted controller is 145 mm.

2. CONNECT 24 VAC, NETWORK, AND OTHER DEVICES

See installation step 5, Connection, on the next page.

LINDINSIDE

Procedure for Connecting to LCXb for Node ID Assignment

1. Download the App:

- Download LINDINSIDE to your smartphone from Google Play/App Store.
- Create a user account and log in to the LINDINSIDE app.
- Pull down to scan for available devices. LINDINSIDE will then list all Lindinvent devices equipped with Bluetooth® within signal range.

2. Select Device from List

By selecting the desired device via the bell icon, a beep sound and blue blinking light from the controller will confirm the connection to your smartphone.

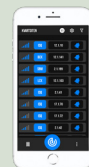
3. Set Assigned Node ID*

Enter a unique Node ID between 1–239 according to Lindinvent's recommended Node ID assignment. Note that the Node ID must not be 0.

4. Perform a New Scan/Refresh for Verification

Perform a new scan to verify the updated Node ID.

*For assigning Node IDs to a large number of devices, the "Set nodeIDs" function can be used.



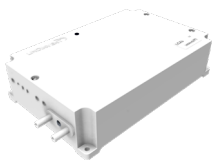
Smartphone med appen LINDINSIDE.



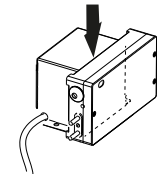
Scan the QR code for more information about LINDINSIDE.

DCV-LCb is pre-calibrated: No on-site flow calibration is required, but verification measurement is recommended. For accurate airflow representation, the current duct size (circular DCV) or k-factor (rectangular DCV) should be specified during commissioning.

REGULATOR LCXB OCH SPJÄLLMOTOR DBA



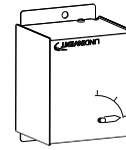
Controller LCXb



Controller on DBA

Controllers with damper control functionality are normally mounted directly on the cover of the damper actuator.

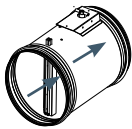
NOTERA: Note: For separate mounting, the LCXb is installed at a location other than on the damper actuator. The enclosure is equipped with 4 external lugs with screw holes for fastening.



Damper DBA

Damper Actuator DBA:
Used for both Lindinvent's circular and rectangular dampers.

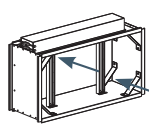
INSTALLATION: CIRCULAR DUCT



Circular Damper with Measuring Flange SPMF

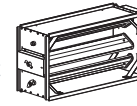
LCXb with damper actuator is mounted on the circular damper with measurement flange SPMF (Ø125-500). The installation corresponds to DCV-LCb Circular.

INSTALLATION: RECTANGULAR DUCT



Measuring Flange SMRD

LCXb with damper actuator is mounted on the rectangular damper JSPM. The measurement flange SMRD is used in combination with the JSPM damper. JSPM and SMRD must be customized.



Damper JSPM

JSPM should be installed with horizontal damper blades. Guide connections should be equipped with sealing strips. The installation corresponds to DCV-LCb Rectangular.

1. PLACEMENT AND ORIENTATION OF MEASUREMENT FLANGE AND DAMPER

- Ensure a sufficient straight section before the measuring flange.
- Install correctly according to the marking with the arrow for airflow direction.
- Circular damper: Position the motor shelf for easy access to the regulator and if possible clear view of the RGB LED.
- Ensure that there is a total construction height of at least 165 mm available from the duct surface where the motor mount is placed on the damper. This space is necessary to allow for the removal of the damper motor with the regulator. Refer to the illustrations with instructions for DCV-LCb under assembly step 1 on the previous page.

2. INSTALLATION OF CONTROLLER LCXB ON MEASURING FLANGES

- The damper actuator (A) is mounted on the damper's motor shelf so that the damper pin fits into the damper actuator. Before installation: Ensure that the damper pin on the damper can rotate freely.
- For Circular and Rectangular: The controller (B) is mounted on the damper actuator by sliding the mounting grooves on the back of the controller over the protruding ends on both sides of the actuator cover. Choose the appropriate side of the actuator cover.
- For Rectangular: The controller can be mounted directly on the end of the adjacent, upstream measurement flange SMRD.

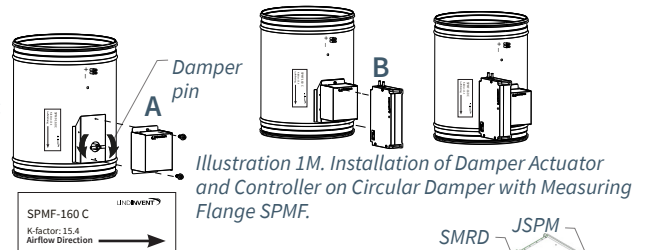
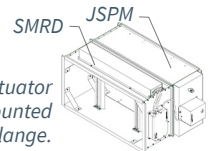


Illustration 1M. Installation of Damper Actuator and Controller on Circular Damper with Measuring Flange SPMF.

Rectangular DCV with damper actuator mounted on JSPM damper and controller mounted directly on SMRD measurement flange.



3. CONNECT HOSES TO THE MEASURING FLANGE.

Cut the hose (5x8) to the required lengths. Connect the measurement flange to the sensor; (+)to(+)and(-)to (-).

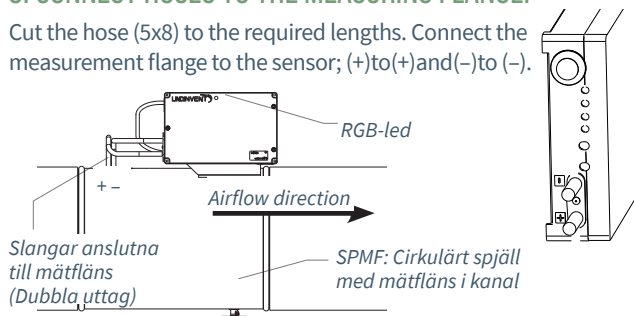


Illustration 2M. Connections for hose to flow sensor in LCXb

4. INSTALLATION OF DUCT TEMPERATURE SENSOR

The LCXb is normally delivered WITHOUT a duct temperature sensor. The sensor is otherwise mounted via fasteners in the duct. The installation requires a 6 mm hole, which is pre-drilled with a sealing plug in the SPMF damper.

5. CONNECTION

Lindinvent's standard cable is also used for connecting presence detectors and most other equipment.

- The regulator is connected to 24 VAC and the network (CAN) via Lindinvent's standard cable with 2 conductors for power supply and 2 conductors for communication. Lindinvent's standard cable is also used for connecting presence detectors and most other equipment.
- Create openings/outlets for each cable: Use wire cutters to create appropriate openings for the cables according to the illustration below.
- When connecting: Use a double-conductor sleeve for shielding.
- After making connections: Reattach the cover, ensuring it securely clamps the cables for a safe attachment.

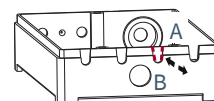


Illustration 1I: Outlets are made according to A and B for cabling.