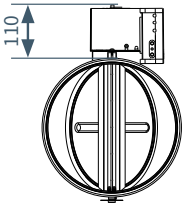


DELIVERY UNIT



DCV-FLb

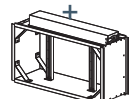
DCV-FLb – Circular

- Delivered factory-assembled with the FLLb regulator and actuator on a circular damper SPMF (Ø100 to Ø500).
- Actuator connected.
- Tubes for flow measurement connected.
- K-factor and flow direction are indicated on the damper label.

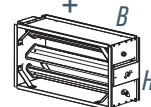
Circular Ø630 can only be delivered as a kit with a rectangular damper 700x700 with a circular Ø630 connection and a circular measuring flange.



Actuator and 2-position Flow Regulator FLLb



Measuring Flange SMRD



JSPM Damper with Actuator Installed

DCV-FLb – Rectangular

Delivered as a kit:

Actuator, regulator, measuring flange, and damper are assembled and connected on site. For guidance, see illustrations and instructions for FLLb in installation steps 2 to 4.

- K-factor and flow direction are indicated on the measuring flange label.
- SMRD and JSPM are custom ordered.
- Flange connections should always have sealing strips.
- JSPM is installed with horizontal damper blades.
- The actuator shelf on JSPM is adapted for the DBA actuator.

1. PLACEMENT AND ORIENTATION IN DUCT

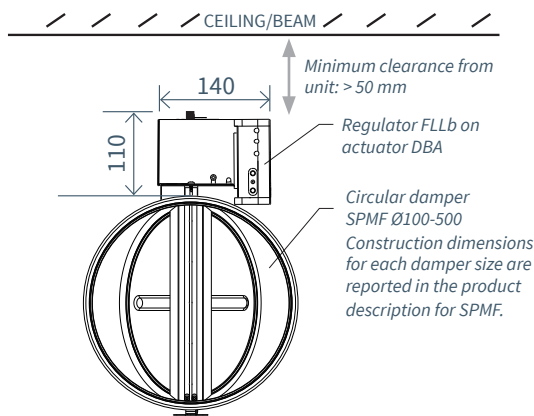
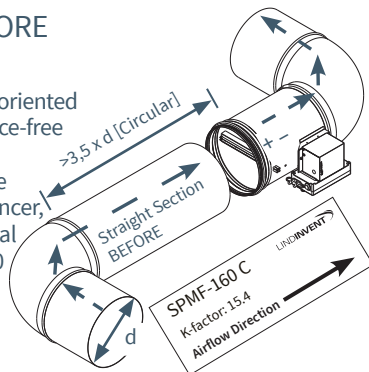
Straight Section BEFORE Measuring Flange

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

For Rectangular Duct:

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-FLb is oriented with the flow arrow in the airflow direction.
- The regulator is positioned for easy access.
- DCV-FLb is oriented with the flow arrow in the airflow direction. The regulator is positioned for easy access. Ensure a minimum clearance of 50 mm to the wall/ceiling/equipment from the actuator/regulator cover. Provide a minimum clearance of 160 mm from the duct wall to the CEILING/BREAM.

2. CONNECT 24 VAC, NETWORK, AND OTHER DEVICES

Refer to installation step 4 for connections on the opposite page.

LINDINSIDE

Procedure for Assigning Node-ID & Settings during Quick Setup

1. Pull down to scan nearby devices:

Select the intended controller (FLLb) from the list of devices. By calling a device via the clock symbol, a beep sound with a blinking blue light is obtained to guide the identification of the device.

2. Set (change) Node-ID:

Select the Node-ID field for the intended device in the list of devices. Enter the unique Node-ID between 1–239 assigned to the regulator as per Lindinvent's recommended assignment. After assignment, perform a new scan to verify that the device's Node-ID has been updated correctly. For assigning Node-ID to a larger number of devices, the "Set node-IDs" function can be used.

3. Connect to the device:

Connect by pressing the field for the device's product name in the list of scanned devices.

4. Commissioning can now be completed via the Quick Setup screen:

- **Perform a test of the actuator (Manual motor control)**
 - Verify that the damper opens fully. Confirm the position.
 - Verify that the damper closes fully. Confirm the position.
- **If applicable: Assign flow zone (Flow zone)**
- **Enter duct size or K-factor (G1 Duct size or G1 K-factor)**
 - For circular duct, select the duct size from a list.
 - For rectangular duct, enter the current K-factor.
- **Specify placement on supply or exhaust air (G1 placement)**
 - Select the sensor placement depending on whether the sensor is connected to measure exhaust air or supply air.

Enter setpoint for minimum flow [30 l/s] and setpoint for normal flow [112 l/s]



Smartphone with the LINDINSIDE app.

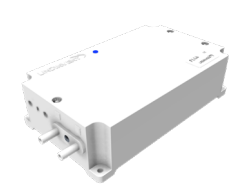


Scan the QR-code for more information about LINDINSIDE.

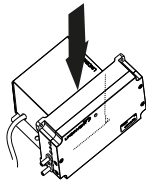


The FLLb regulator is pre-calibrated at delivery: Duct size or K-factor is requested during commissioning. Flow test measurement is recommended.

REGULATOR AND ACTUATOR



Regulator FLLb



Regulator on DBA

Regulators with damper control functionality are typically mounted directly on the actuator cover.

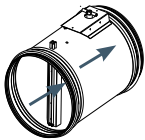
NOTE: For separate installation, mount the FLLb at a different location from the actuator. The enclosure is equipped with 4 external ears with screw holes for fastening.



Actuator DBA

Actuator DBA:
Used for both circular and rectangular dampers by Lindinvent.

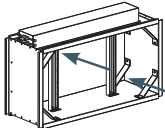
INSTALLATION: CIRCULAR DUCT (SPMF)



Circular Damper with Measuring Flange SPMF

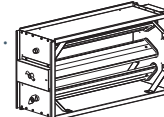
FLLb with actuator is mounted on the circular damper with measuring flange SPMF (Ø100-500).

The installation corresponds to DCV-FLb Circular.



Measuring Flange SMRD

FLLb with actuator is mounted on the rectangular damper JSPM. Measuring flange SMRD is used in combination with damper JSPM. JSPM and SMRD should be custom ordered.



Damper JSPM

JSPM should be installed with horizontal damper blades. Flange connections should be provided with sealing strips. The installation corresponds to DCV-FLb Rectangular.

1. PLACEMENT AND ORIENTATION OF MEASURING FLANGE AND DAMPER

- Ensure sufficient straight section before the measuring flange.
- Mount correctly relative to the marking with an arrow for airflow direction.
- Circular Damper: Orient the actuator shelf for the easiest possible access to the regulator and, if possible, with a clear view of the RGB LED.
- Ensure a total installation height of at least 160 mm from the duct surface where the actuator is placed to facilitate the removal of the actuator with regulator. Refer to illustrations with instructions for DCV-FLb in installation step 1.

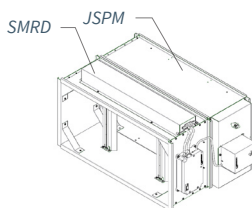
2. INSTALLATION ON DAMPER

- The actuator (A) is mounted on the damper's actuator shelf so that the damper pin fits into the actuator. Check before installation that the damper pin on the damper can rotate freely.
- Circular and Rectangular: The regulator (B) is mounted on the actuator by sliding the mounting slots on the back of the regulator over the protruding ends on both sides of the actuator cover. Select the appropriate side of the actuator cover.
- Rectangular: The regulator can be mounted directly on the end of the adjacent, and in the airflow direction preceding, measuring flange SMRD.



SPMF-160 C
K-factor: 15.4
Airflow Direction

Circular DCV with actuator and regulator mounted on damper with measuring flange SPMF.



Rectangular DCV with actuator mounted on damper JSPM and regulator mounted directly on measuring flange SMRD.

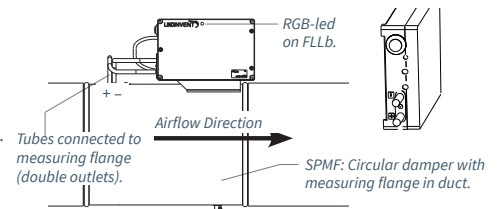
Illustration 1M. Installation of Actuator and Regulator.

3. CONNECT TUBES TO MEASURING FLANGE

Cut the tube (5x8) to the required lengths.

Connect the measuring flange to the sensor; (+) to (+) and (-) to (-).

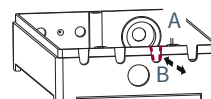
Illustration 2M.
Connections for
Tube to
Flow Sensor in FLLb.



4. CONNECTIONS

Connections are made with guidance from the external wiring diagram for FLLb, found on the inside of the regulator cover.

- The regulator is connected to the CAN bus 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 other equipment.
- Make openings for each cable:
Use pliers to open the appropriate outlet for the cable as per the illustration below.
- During connections: Use bi-lead tubing to the screen.
- After connections: Reinstall the cover, which should then clamp the cables sufficiently for secure attachment.



A: Cut x 2
B: Bend back and forth/break off. Cut/clean the outlet with pliers if necessary.

Illustration 1I: Instructions for Extraction in the Enclosure.