



# Lindab DCV ONE

DCV unit



# DCV unit

# DCV ONE



## Description

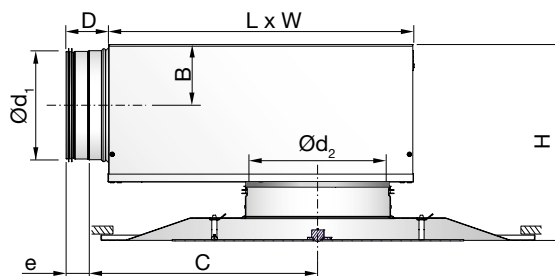
DCV ONE is a complete all-in-one DCV unit, containing a room controller, plenum box and diffuser with integrated sensor. The room controller, Regula Combi, is mounted and pre-wired on the side of the MBV plenum box with Regula Control Pascal card (CT). The plenum box is with integrated volume flow regulator used for VAV regulation of supply air. It is equipped with a unique linear cone damper technology which makes it possible to regulate up to 200 pa with low sound level. DCV ONE comes with a diffuser LCP as standard, as optional with LCC or LKP. The diffuser comes with integrated sensor for temperature and/or presence. Using DCV ONE in Pascal System Management, then the Regula Combi room controller is easily connected to the EXOline bus via the CT-card.

- All-in-one DCV unit
  - Room controller
  - VAV plenum box
  - Diffuser
  - Integrated sensors
- Prewired from factory
- Accurate and reliable volume flow regulation
- Up to 200 Pa with low sound level
- Directly used in Pascal System Management and other BMS.

## Full documentation

- [Regula Combi](#)
- [MBV](#)
- [LCP](#)
- [LCC](#)
- [LKP](#)

## Dimensions



### DCV ONE

Ød <sub>1</sub> mm	Ød <sub>2</sub> mm	B	C	D	e	H	L	W
125	200	75	291	78	40	238	376	310
160	250	92	352	78	40	273	459	380
200	315	112	425	78	40	314	565	460
250	315	137	514	118	60	364	698	540

H is the the height for MBV+LCP/LCC\*

\*= if combined with LKP, H is 8 mm lower.

## Quickselection incl. diffuser LCP

DCV ONE		Δp <sub>t</sub> = 50 Pa 35 dB(A)		Δp <sub>t</sub> = 150 Pa 35 dB(A)	
Inlet Ød <sub>1</sub>	Outlet Ød <sub>2</sub>	l/s	m <sup>3</sup> /h	l/s	m <sup>3</sup> /h
125	200	73	263	62	223
160	250	113	408	95	340
200	315	145	521	123	444
250	315	168	605	129	464

## Airflow limits

DCV ONE		Lower regulation limit (0.56 m/s)*		Airflow Nominal (7.0 m/s)	
Inlet Ød <sub>1</sub>	Outlet Ød <sub>2</sub>	l/s	m <sup>3</sup> /h	l/s	m <sup>3</sup> /h
125	200	7	25	86	309
160	250	11	41	141	507
200	315	18	63	220	792
250	315	27	99	344	1237

\*) Lower airflow is still measured, but regulation switches between closed and 8% of V<sub>nom</sub>, which is a fixed Belimo setting.

## Maintenance

The motorized damper-unit can be removed to enable cleaning of internal parts of the plenum box and gives access to the duct as well. The visible parts of the diffuser can be wiped with a damp cloth.

## Materials and finish

Material box:	Galvanized steel
Standard colour box:	Unpainted
Diffuser face plate:	Galvanized steel
Face plate finish:	Powder-coated
Face plate colour:	RAL 9003 or RAL 9010 gloss 30

Please contact Lindab's sales department for further information.

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DCV ONE configuration examples.

## Standard DCV ONE

Solution with Regula Combi and diffuser with integrated temperature and presence sensor.



	DCV ONE Standard	OPTION
Size (Ød1)	125,160,200,250	-
Control	Regula Combi integrated on Control card	-
Diffuser	LCP	LKP* / LCC
Sensor	Presence and Temperature (P-T)	Temperature (T)
Accessories	-	Regula Lux Trafo 20VA Plast cover box IP54

\*= LKP only comes with Presence option.

## Support unit DCV ONE

Solution with Regula Control card and diffuser with integrated presence sensor.



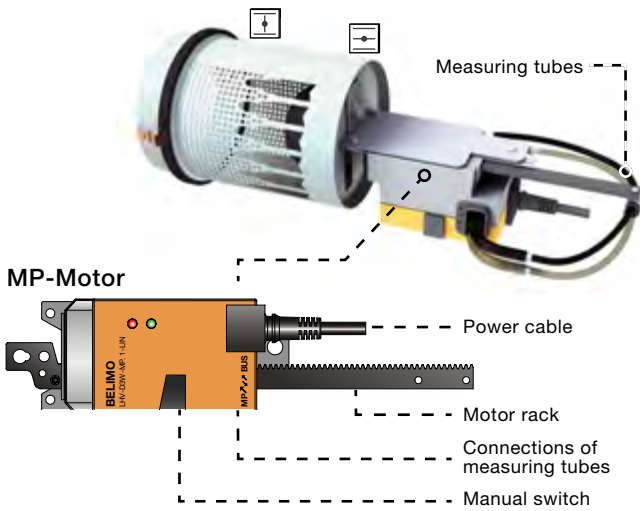
	DCV ONE Support unit	OPTION
Size (Ød1)	125,160,200,250	-
Control	Regula Control card only	-
Diffuser	LCP	LKP / LCC
Sensor	Presence (P)	No sensor (-)
Accessories	-	Regula Lux Trafo 20VA Plast cover box IP54

# DCV unit

## DCV ONE motor type (MP)

### DCV ONE Air volume controller

The Belimo motor LHV-D3W-MP-LIN is the air volume controller of the motorized detachable damper unit of the DCV ONE. Measuring tubes installed from factory should not be disconnected. Cables are connected on the CT-from factory.



### Type overview, MP versions

Type	Force	Power consumption	Rating	Weight
LHV-D3-MP-LIN	150 N	2.5 W	4.5 VA	Approx 550 g

No.	Designation	Wire colour	Function
1	⊥ -	black	AC/DC 24 V supply
2	- +	red	
3	◀ Y	white	Reference signal / override / sensor
5	▶ U	orange	- Actual value signal - MP bus connection

### Note !

- Supply via safety isolating transformer !
- In conventionally controlled systems it is recommended that the connections 1 to 5 (PP) are led to accessible terminals (e.g. floor distributor) in order to allow remote access for diagnostics and service work.

### Lindab factory settings:

Damper is programmed with size dependent calibration settings.

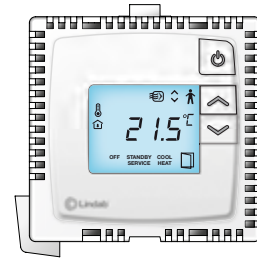
Analogue feedback signal is damper position as default.

When used for Pascal System Management:  
Settings for  $V_{max} = 100\%$  and  $V_{min} = 0\%$  should not be changed. Airflow limits are set in Regula Combi.

# DCV ONE

## Regula Combi (RC)

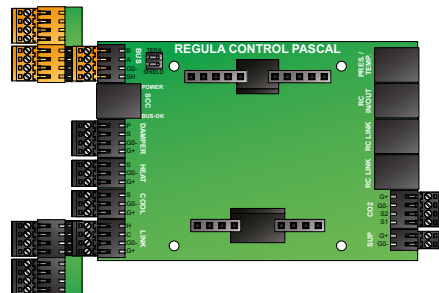
Regula Combi is a room controller which is integrated on the CT-card (adding another separate room temperature sensor).



RC order with DCV ONE for installation on CT card.

## Regula Control Pascal (CT)

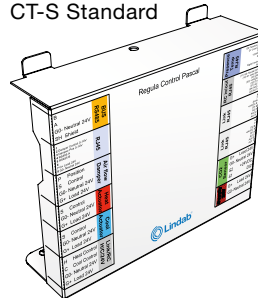
The Regula Control Pascal is a connection hub with even more versatile possibilities for input/output of regulation, sensors and power supply connections. The CT card will come preinstalled on the DCV ONE with standard protection cover. The CT card offers the possibility to have the Regula Combi (RC) integrated directly on the CT card.



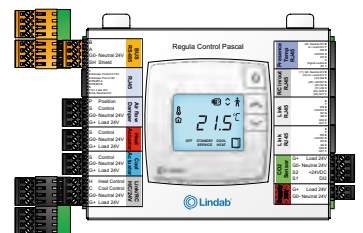
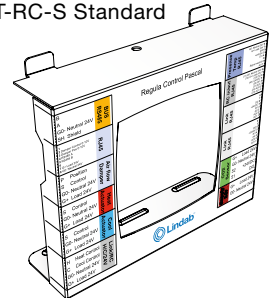
## IP standard steel covers (S)

The CT card comes with standard covers according to the configuration.

CT-S Standard



CT-RC-S Standard

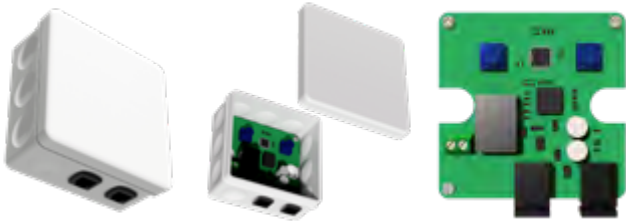


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## DCV ONE Configuration options Regula lux (L)

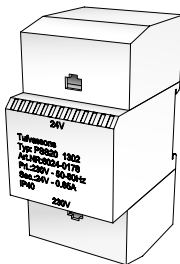
Regula Lux is a lighting relay which receives a signal from a presence sensor.  
When ordered with DCV ONE and CT-card, the Lux will be pre-cabled with 2 cables; a RJ45 cable to the Presence/Temperature port on the CT-card and a patch cable which will leave female end inside DCV ONE box, ready for connection of sensor.



## Power supply 20VA

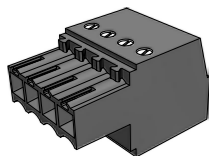
It is possible to add a 20 VA trafo power supply. it comes mounted on DIN but without cables.

### Trafo 20VA



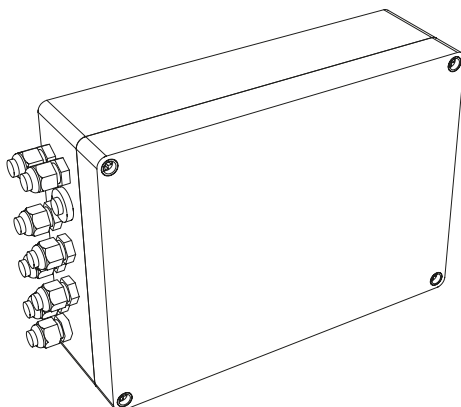
## Weidmüller BL 3.5 plugs

The CT card will be fully pre-plugged from factory, no need for ordering separately. Just connect your other equipment using the plugs.



## IP54 Plast cover box (P)

The IP54 is for the CT card only. Select this instead of standard cover, enclosing and protecting the Regula Control Pascal card (CT).

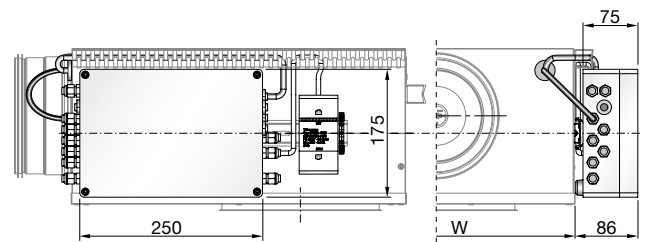


## DCV ONE Accessories and dimensions

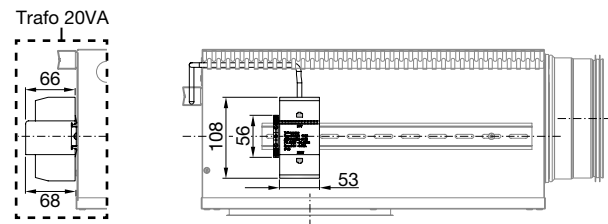
Note that DCV ONE always comes with 3x slotted cable ducts. DIN rails on both sides.  
CT and CT-RC always comes mounted on the box. Including backplate and protection cover.  
Cables from Belimo actuator as well as all other shown cables are connected from factory.  
Power cable needs to be connected by installer and is NOT included.

### Regula Control Pascal, IP54 dimensions.

( Where CT and RC are inside IP54 ).

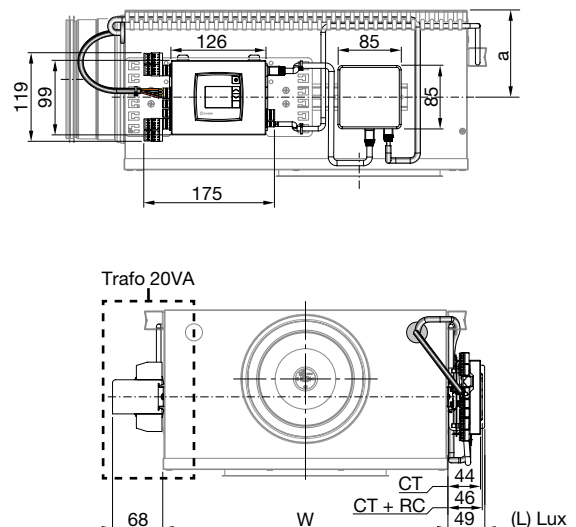


### Trafo 20VA dimensions.



### Regula Control Pascal, Regula Lux dimensions

(Note that trafo is on other side of DCV).

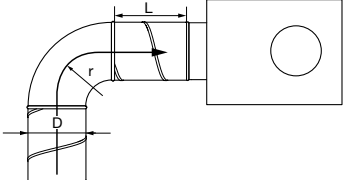
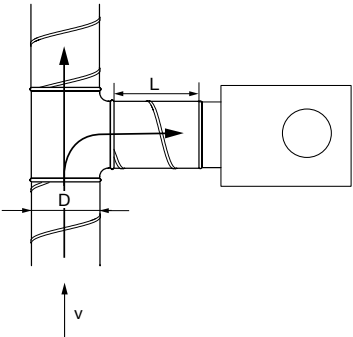


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## Air flow measurement

Recommended lengths L of straight duct between a disturbance and DCV ONE.

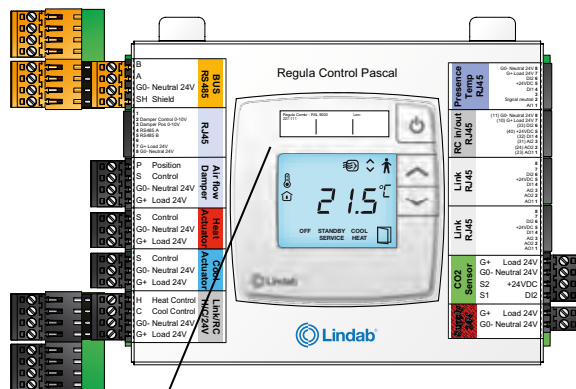
<p>Bend with radius <math>r &gt; D</math></p> 	1D
<p>Box installed at the side branch of the distribution duct; for velocities in the distribution duct <math>v &gt; 4</math> m/s</p> 	3D
<p>A general disturbance (none of the cases above)</p>	1D-4D

## Pascal programs and wiring

To Design a Pascal system using the LindQST Wiring Scheme [configurator](#). Choose Pascal Program 6. or 8. Then choose Connect card Regula Control Pascal – External or Internal RC. And auto generate wiring scheme for your chosen equipment. All program parameters can be set from Pascal Operate via PC.

### Connecting to Pascal System

On the side of DCV One, the Regula Combi is mounted. To connect the Regula to a Pascal System. Then the unique PLA:ELA bus communication address is needed. This address is found on a label above the display on the Regula Combi. On the back of the Regula Combi, two extra labels can be found and used.



Regula Combi - RAL 9003	Loc:
227:111	



Most of us spend the majority of our time indoors. Indoor climate is crucial to how we feel, how productive we are and if we stay healthy.

We at Lindab have therefore made it our most important objective to contribute to an indoor climate that improves people's lives. We do this by developing energy-efficient ventilation solutions and durable building products. We also aim to contribute to a better climate for our planet by working in a way that is sustainable for both people and the environment.

Lindab | For a better climate