

UltraLink Controller

FTCUJB



Description

Application

FTCUJB is suitable for measuring and controlling air flow and measuring temperature. Communication is established via analog signals and/or digital signal using Modbus.

FTCUJB can also be commissioned via Bluetooth.

The OneLink app is the perfect tool to monitor and adjust the airflow directly via a mobile device, which speeds up installation and commissioning.

FTCUJB are provided with remote support via cloud solution for trouble shooting.

Design

FTCUJB consists of a sensor body attached to a damper body with Lindab Safe gaskets.

Two transducers are mounted on the sensor body and connected to a display unit. The display unit is mounted on top of a shelf on the damper body.

The product has a pre-mounted cable which makes it easy to connect.

The shelf, FTES, can be used for mounting equipment such as an electrical junction box or a Regula Combi.

Firmware

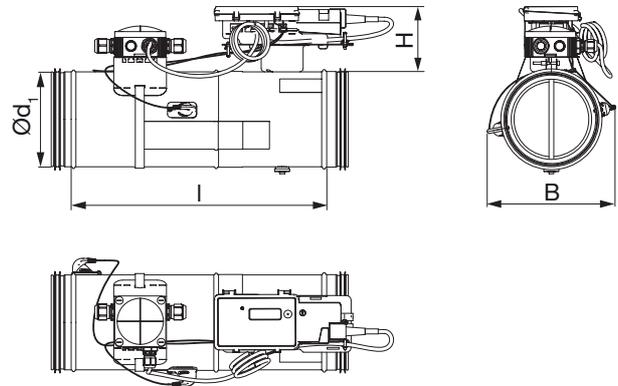
Upgrading the firmware allows you to always have access to the latest functionalities in UltraLink.

Maintenance

Normally does not require any maintenance.

The visible parts of the device can be wiped with a damp cloth.

Dimensions



Ød ₁ nom	l mm	H mm	B mm	m kg
100	321	108	160	1,87
125	345	108	185	2,14
160	423	108	220	2,94
200	493	108	260	3,55
250	590	108	310	4,88
315	720	108	375	6,61

Special versions

We can supply UltraLink with the following special designs (Ø 100 – 315):

- White (RAL 9003)
- Black (RAL 9005)
- Stainless steel 4404 (acid-proof)



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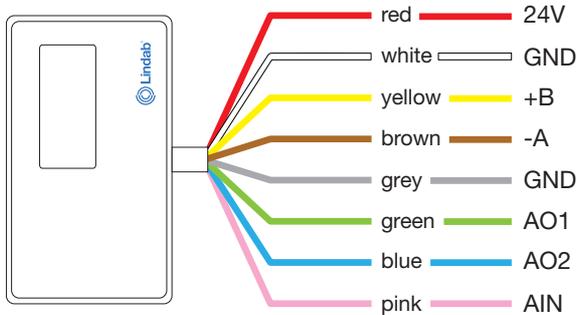
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Factory settings

	Default		On request	
	Value	Parameter	Value	Parameter
Min. flow velocity [m/s]	0		0,7	
Max. flow velocity v(nom) [m/s]	7		10	15
Analog in range [V]	2-10	Flow	0-10	Flow
Analog out 1 range [V]	2-10	Flow	0-10	Flow
Analog out 2 range [V]	2-10		0-10	
			2-10	
			0-10	

Wiring

For wiring with premounted cable:



- Red** **24V**, power supply (AC G, DC +) *
- White** **GND**, power supply (AC G0, DC -) *
- Yellow** **+B**, connection for Modbus via RS485
- Brown** **-A**, connection for Modbus via RS485
- Grey** **GND**, ground (system neutral)
- Green** **AO1**, analog output
- Blue** **AO2**, analog output
- Pink** **AIN**, analog input

*) When using AC terminal 1 (G) should have system potential and terminal 2 (G0) should be system neutral.



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Technical data

Damper		
Power supply	AC/DC	24 (19-28) V
Cable grommet	Max outer diameter	7 mm
Cable (Bus recommended)	RS485 standard cable, 2-wire shielded twisted pair, recommended 0,25 mm ² (LIYCY cable)	
Power consumption	Dim. 100–315 Motor type Belimo LM24-AF-LIN	2 W
Power consumption	For wiring dim. 100–315	3 VA
Premounted cable	Lenght	0,7 m
Degree of protection	EN 60529	IP44
Tightness class to the environment	EN 12237	D
Tightness class to the environment	EN 1751	ATC 2
Tightness class, past a closed damper	EN 1751	4
Pressure class, Δp closed damper	Dim. 100–315	C (max. 5000 Pa)
Storage temperature range		-30 to +50 °C
Maximum ambient moisture		95 % RH
Connection	RS485 standard or analog	
Protocol	Modbus	
Output	Flow	m ³ /h
	Flow	l/s
	Velocity	m/s
	Temperature	°C
	Damper position (0% fully closed, 100% fully open)	%
Velocity range	For guaranteed measurement uncertainty	0,2 - 15 m/s
Measurement uncertainty flow (assuming correct installation.)	Depending on which is the greatest of the percentage or the absolute number for the specific products size.	±5 % or Dim. 100 = ±1,00 l/s Dim. 125 = ±1,25 l/s Dim. 160 = ±1,60 l/s Dim. 200 = ±2,00 l/s Dim. 250 = ±2,50 l/s Dim. 315 = ±3,15 l/s
Operating temperature range		-10 to +50 °C
Measurement uncertainty temperature		±1 °C
Bluetooth signal	Frequency	2402 - 2480 MHz
	Output power	-40 to +9 dB
Bluetooth range (free line of sight)	UltraLink	100 m
Firmware	Upgradable for optimal performance and new features	
Junction box		
Cable grommet	Max outer diameter	12 mm
Cable grommet	Min outer diameter	3 mm

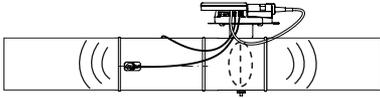


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Technical data

Pressure drop graphs with noise data to ducts for dimensioning



The solid curves show the pressure drop, Δp_t , over the damper as a function of flow q , and setting angle α .

The dashed curves give the A-weighted sound power data, L_{WA} , in dB to the duct. These curves are intended for brief comparison.

Setting angle °

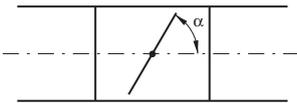
$\alpha = 0^\circ =$ open blade

$\alpha = 90^\circ =$ closed blade

Setting angel %

$\alpha = 100\% =$ open blade

$\alpha = 0\% =$ closed blade



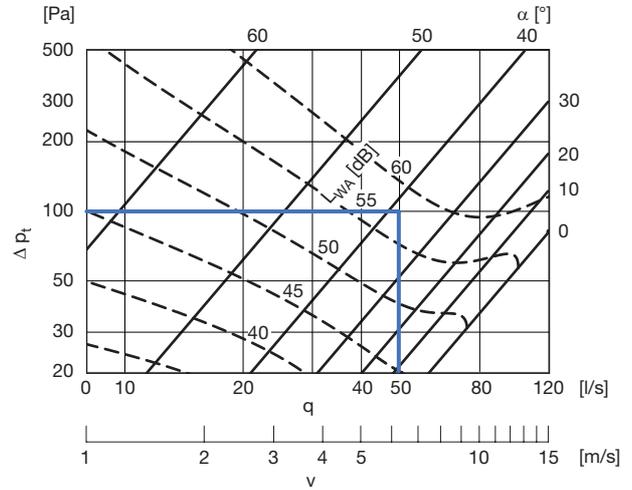
Example

Given	Dimension	Ø100
	Flow	50 l/s
	Pressure drop	100 Pa

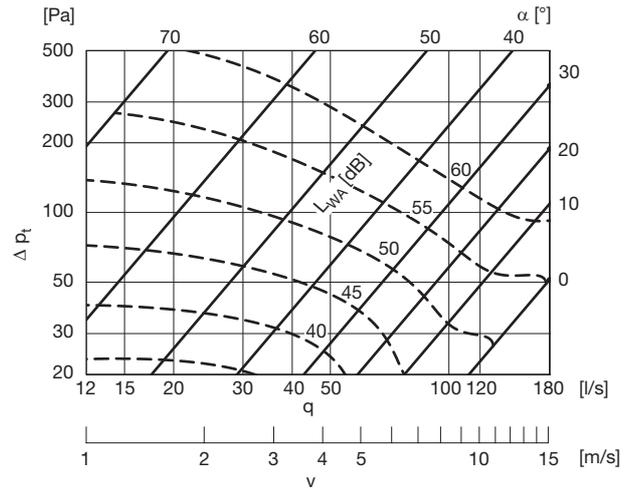
Obtained from graph

Setting angle	39°
Sound power level	57,7 dB (A)

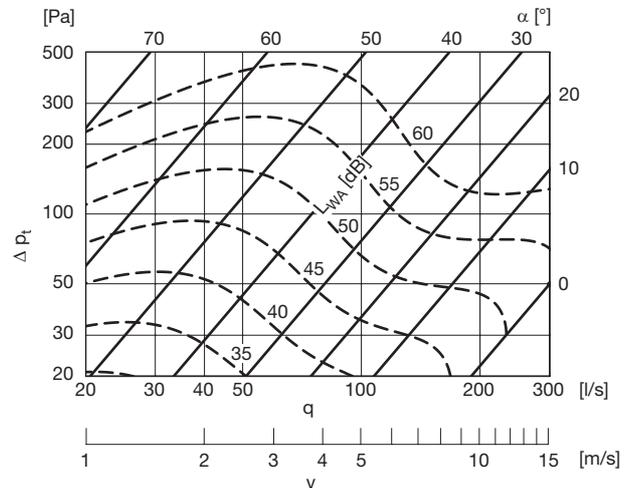
Ø100



Ø125



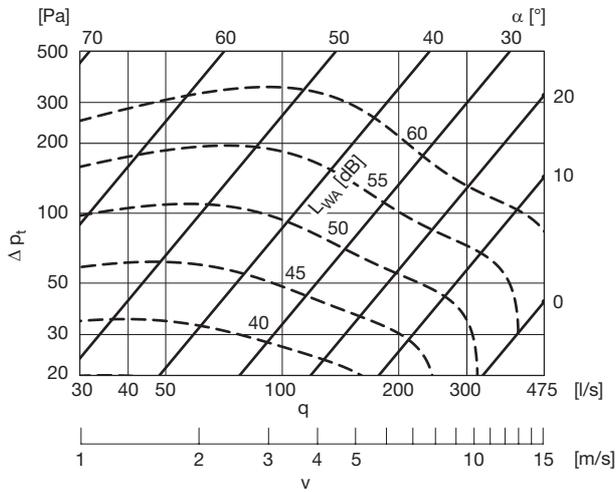
Ø160



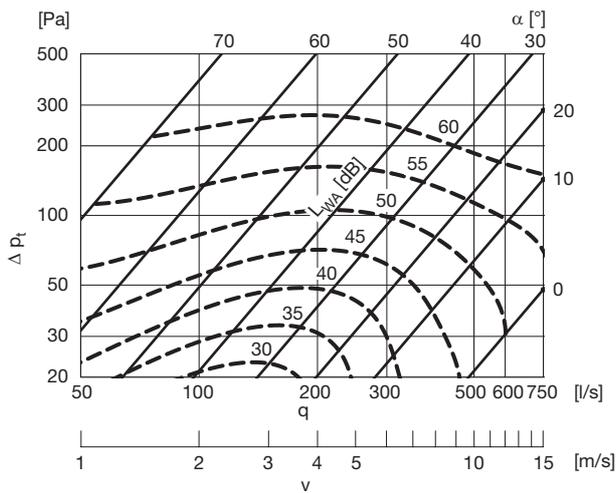
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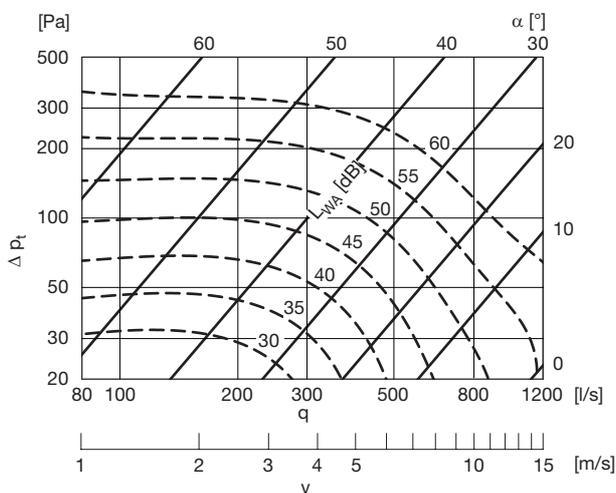
Ø200



Ø250



Ø315

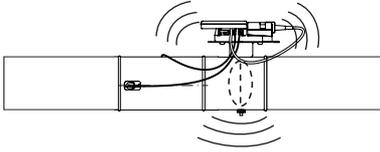


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Pressure drop graphs with noise data to the surroundings



The graphs show A-weighted sound **power** level, L_{WA} [dB], to the surroundings.

Example:

- Diameter 125 mm
- Flow 50 l/s
- Pressure drop 100 Pa

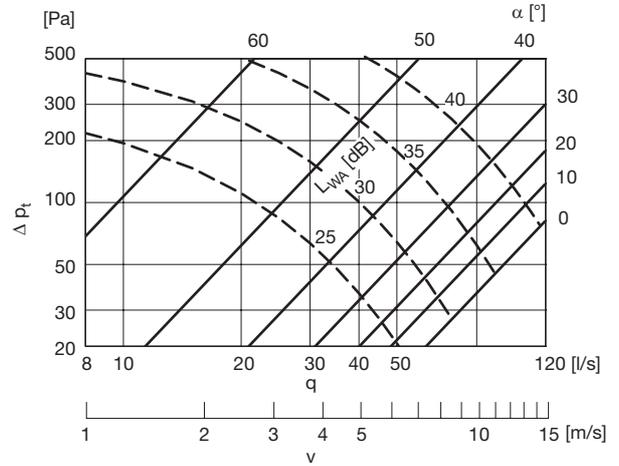
The graph gives:

- A-weighted sound
- Power level approx. 28 dB

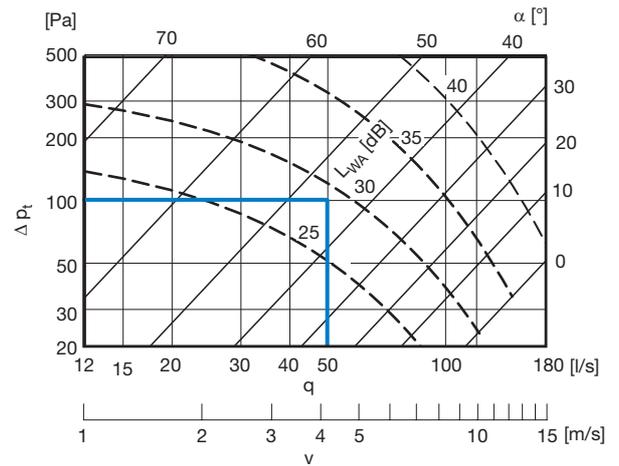
The FTCU unit can easily be insulated and then the sound **pressure** level in the room will be much lower depending on the insulation sound performance on condition that also the connected ducts are attenuated (insulated) to the same extent.

Still lower sound **pressure** level can be achieved with additional constructional sound attenuation measures (false ceiling, high room attenuation).

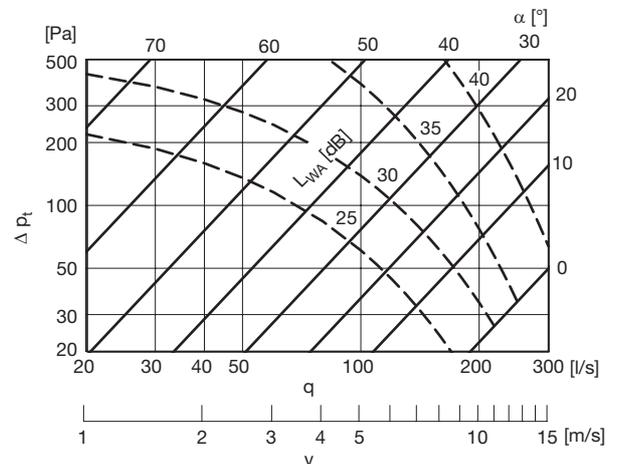
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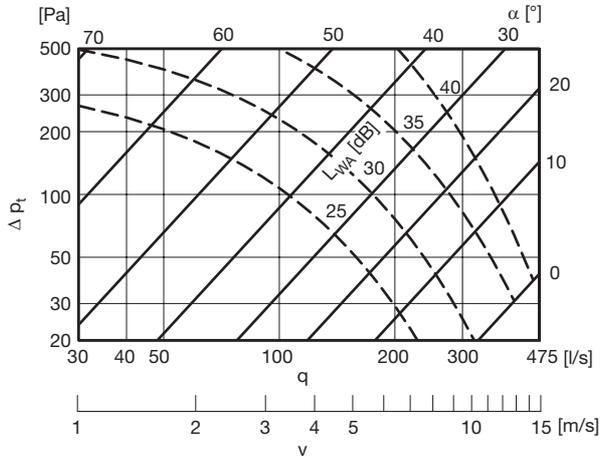
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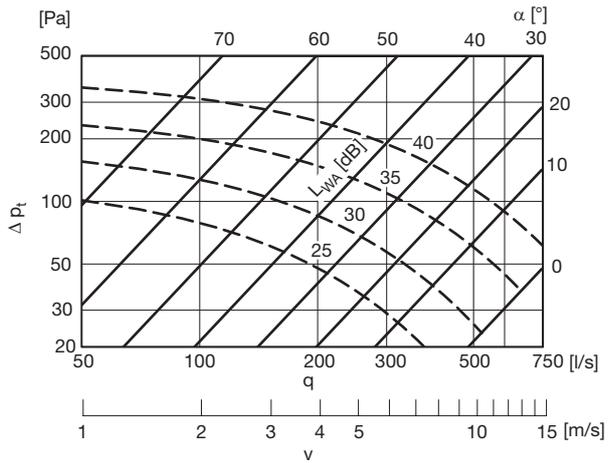
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Ø200



Ø250



Ø315

