

UltraLink® Controller

FTCU



Description

Application

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

FTCU 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.

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

Design

The Controller 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.

FTCU 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 FTCU.

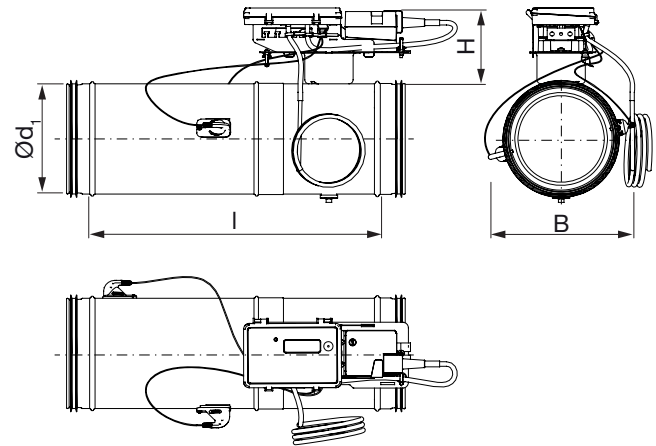
Maintenance

Normally does not require any maintenance.

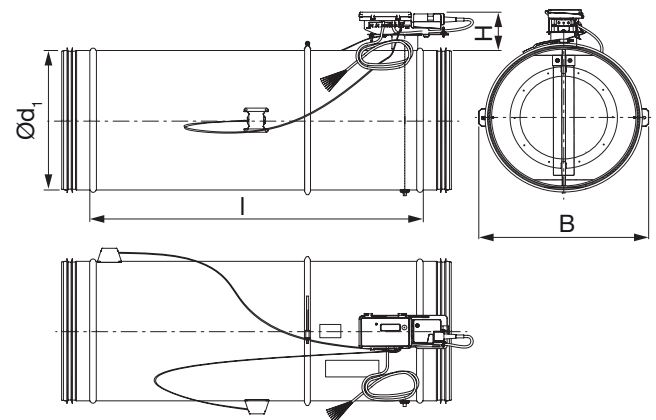
The visible parts of the device can be wiped with a damp cloth.

Dimensions

FTCU 100-315



FTCU 400-630



Ød ₁ nom	l mm	H mm	B mm	m kg
100	321	108	160	1,67
125	345	108	185	1,94
160	423	108	220	2,46
200	493	108	260	3,33
250	590	108	310	4,65
315	720	108	375	6,36
400	901	108	470	10,6
500	1120	108	570	20,8
630	1372	108	700	30,4

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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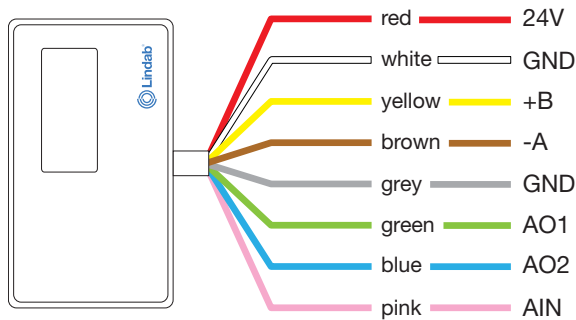
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Factory settings

	Default		On request	
	Value	Parameter	Value	Parameter
Min. flow velocity [m/s]	0		0,7	
Max. flow velocity v(nom) [m/s]	7		10 or 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	Damper pos.	0-10	Damper pos.
			2-10	Temp.
			0-10	Temp.

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

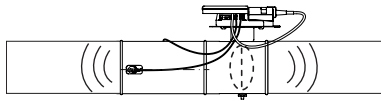
Power supply	AC/DC	24 (19-28)	V
Cable grommet	Max outer diameter	7	mm
Cable (Bus recommended)	RS485 standard cable, 2-wire shielded twisted pair, recommended 0,25 mm ² (LIYCY cable)		
Power consumption	Dim. 100–315	Motor type Belimo LM24-AF-LIN	2 W
	Dim. 400–500	Motor type Belimo SM24-AF-LIN	3 W
	Dim. 630	Motor type Belimo NM24-AF-LIN	3 W
Power consumption	For wiring dim. 100–315		
	For wiring dim. 400–630		5 VA
Premounted cable	Length	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)	
	Dim. 400–630	B (max. 2500 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
	Dim. 400	= ±4,00	l/s
	Dim. 500	= ±5,00	l/s
	Dim. 630	= ±6,30	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		

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To calculate pressure loss and achieve the best performance, please use our online tool LindQST.



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 °

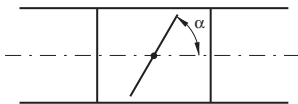
$\alpha = 0^\circ$ = open blade

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

Setting angel %

$\alpha = 100\%$ = open blade

$\alpha = 0\%$ = closed blade



Example

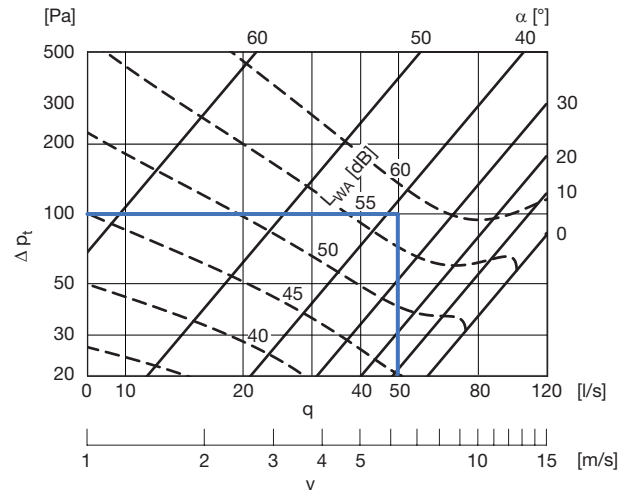
Given Dimension Ø100
 Flow 50 l/s
 Pressure drop 100 Pa

Obtained from graph

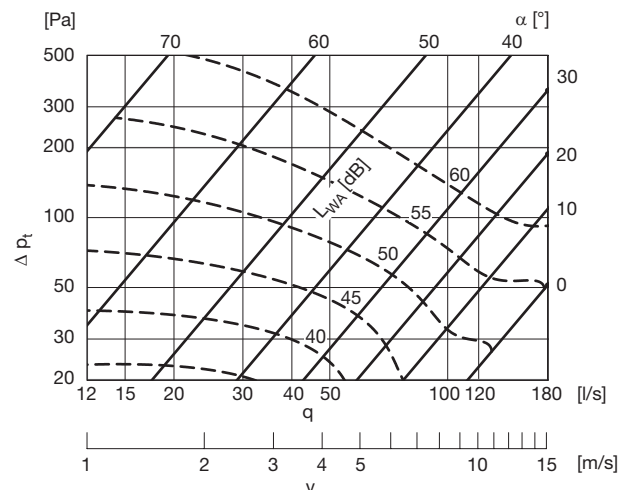
Setting angle 39°

Sound power level 57,7 dB (A)

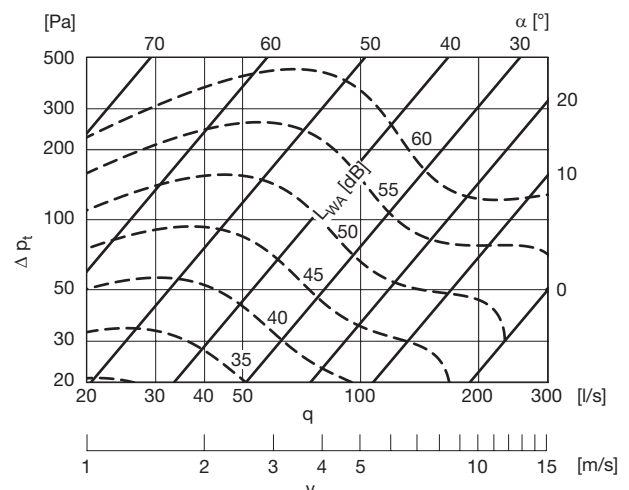
Ø100



Ø125



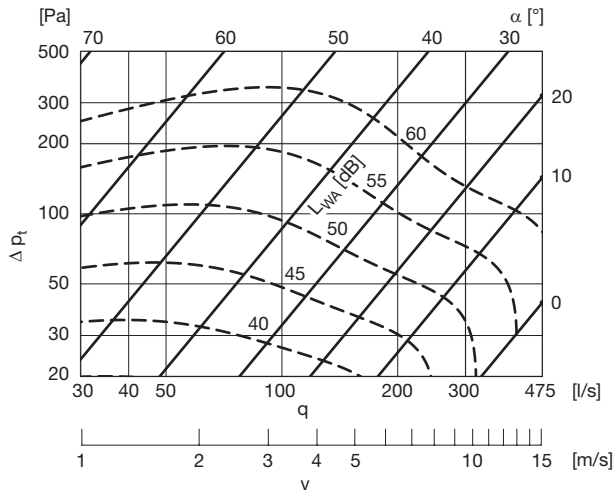
Ø160



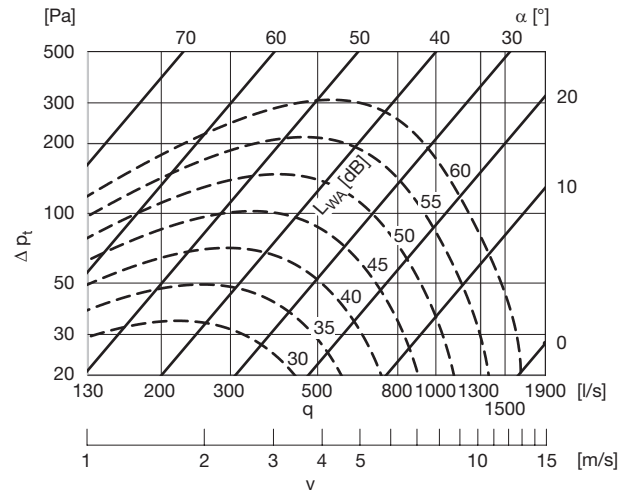
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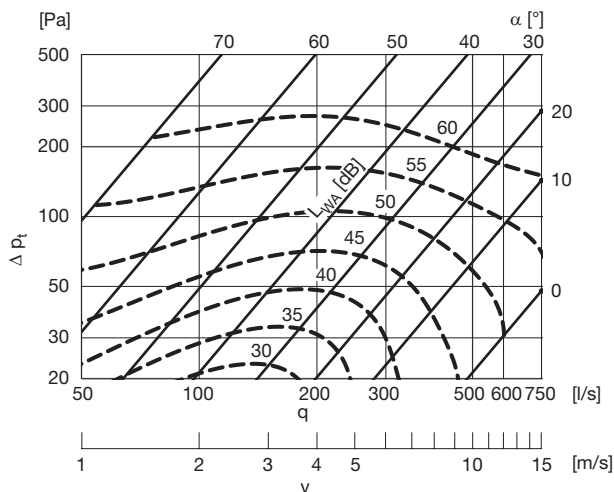
Ø200



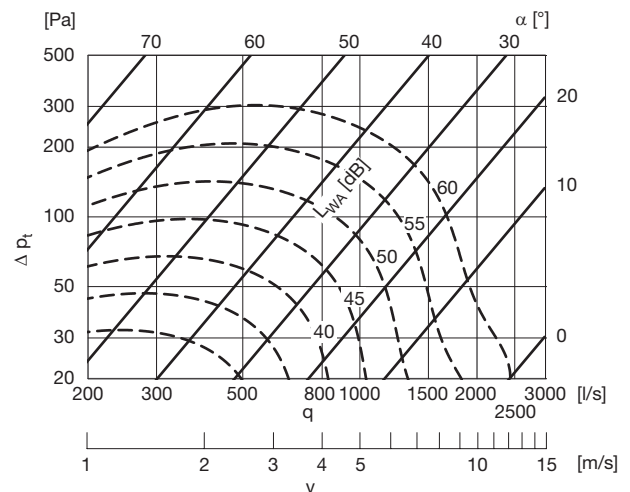
Ø400



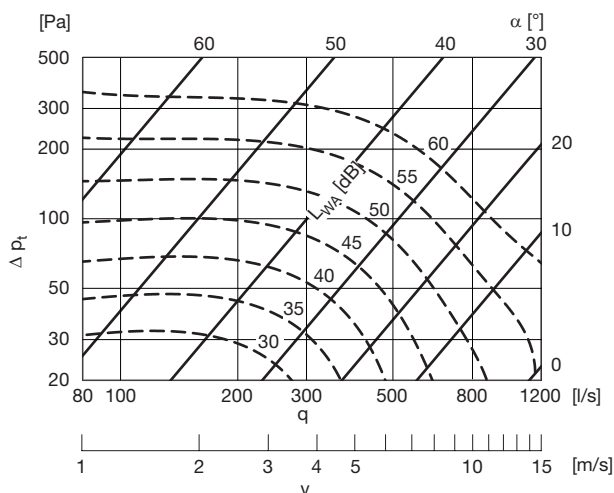
Ø250



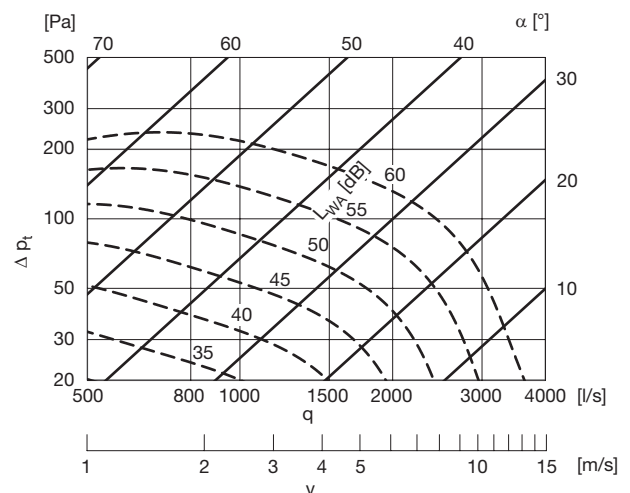
Ø500



Ø315



Ø630

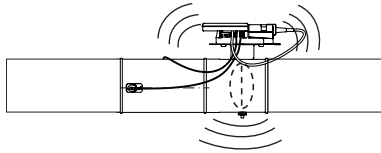


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Technical data

Pressure drop graphs with noise data to the surroundings



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

Example:

Given:

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

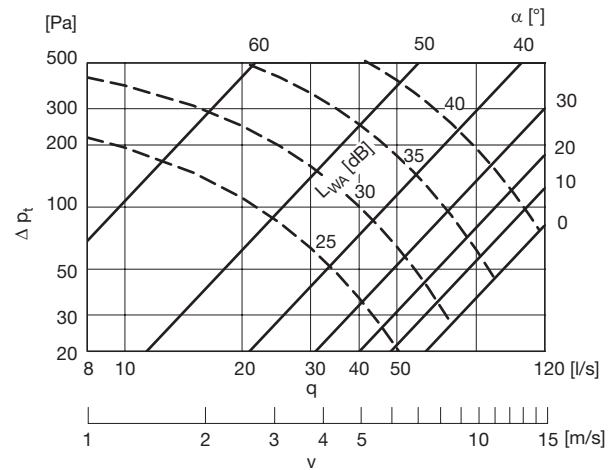
The graph gives:

A-weighted sound
Power level approx. 28 dB

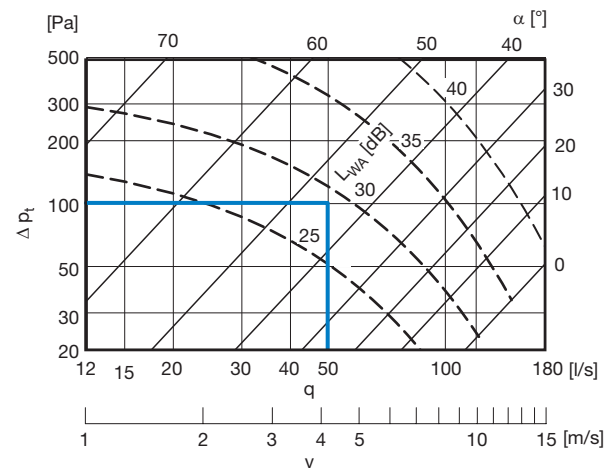
The FTCU unit can easily be insulated and then the sound **pressure** level in the room will be much lower depending on the insulation sound performance on condition that also the connected ducts are attenuated (insulated) to the same extent.

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

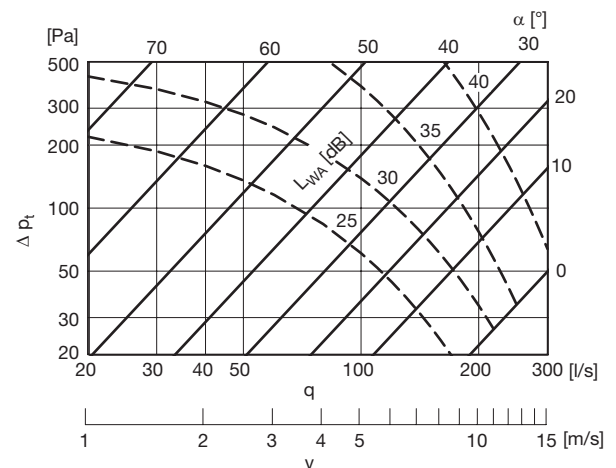
Ø100



Ø125



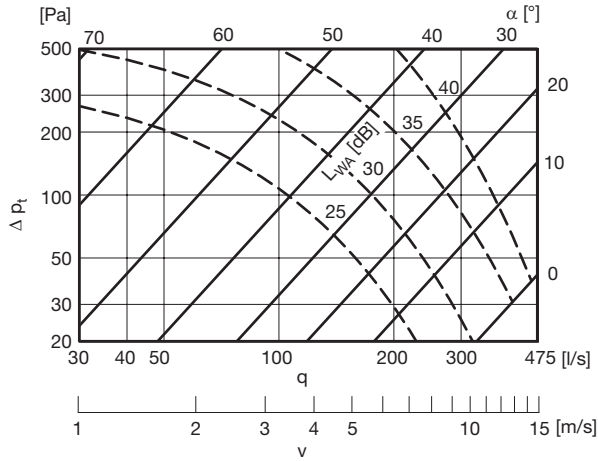
Ø160



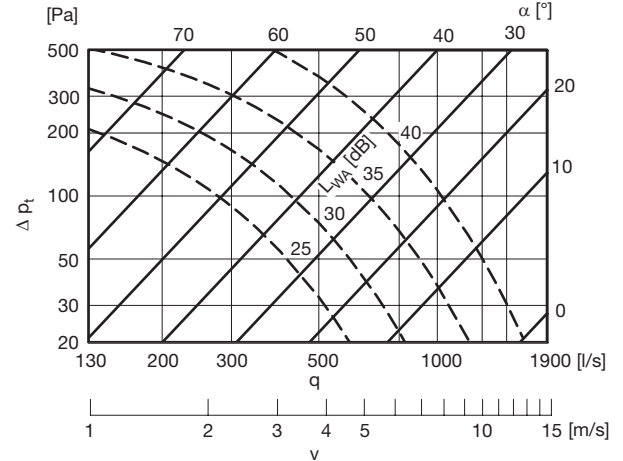
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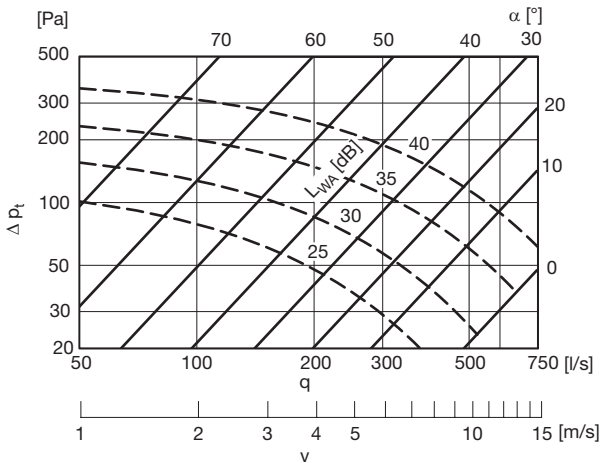
Ø200



Ø400



Ø250



Ø315

