

D-FL 220

Volume Flow Measuring System

Continuous, contactless volume flow measurement
in dry and humid gases

- QAL1 certified in accordance with EN 15267, compliant with US EPA 40 CFR 60 PS6
- Automatic control functions
- Reliable, even under demanding operating conditions



FEATURES

- Continuous measurement of velocity and volume flow
- Contactless measurement
- Corrosion resistant ultrasonic transducers
- Measurement over the entire duct diameter
- Automatic control functions

TECHNICAL DATA

Measuring principle	Ultrasonic transit time difference method, in-situ, continuous measurement, double-sided installation, contactless measurement
Measuring variable	<ul style="list-style-type: none"> • Volume flow (operation) • Volume flow (standardized) • Velocity • Temperature
Measuring range	Velocity: 0 ... 40 m/s Volume flow: 0 ... 5,000,000 m ³ /h
Certified measuring range	0 ... 30 m/s
Certificates	QAL1, MCERTS
Conformities	IED 2010/75/EU, EN 15267-1, EN 15267-2, EN 15267-3, EN 14181, EN 16911-2, US EPA 40 CFR 60 PS6, 13., 17., 27., 30. BImSchV, TA Luft
Interfaces*	<ul style="list-style-type: none"> • Analog output: 1x 4 ... 20 mA, maximum 400 Ω, potential-free • Digital output: 2x NC/NO, maximum 60 VDC, 30 VAC, 0.5 A • Modbus RS 485 RTU • USB
Nominal voltage	24 V _{DC}
Ambient conditions	<ul style="list-style-type: none"> • Installation location: Indoor or outdoor installation** • Temperature: -40 ... +70 °C (measuring device) -40 ... +60 °C (certified)
Operating conditions	In duct: <ul style="list-style-type: none"> • Temperature: Maximum 300 °C • Relative humidity: 0 ... 100 %, condensation permissible • Relative pressure: -50 ... +20 hPa

BENEFITS

- Certified for official emission monitoring
- Precise measurement of gas velocity and volume flow
- Suitable for measurement in humid and aggressive gases
- Long life time and high availability even under extreme plant conditions
- Low maintenance

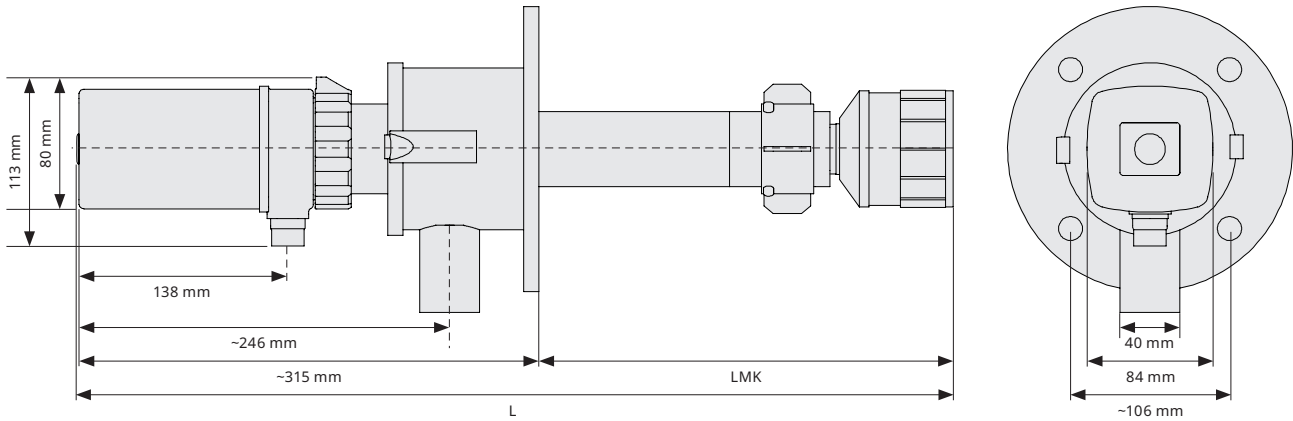
Dimensions	<ul style="list-style-type: none"> • Inner duct diameter: 0.5 ... 14 m, depending on the operating conditions in the duct • Wall thickness: Maximum 0.8 m
Control functions	Automatic zero point and reference point measurement
Degree of protection	IP65 in accordance with DIN EN 60 529
Connections	<ul style="list-style-type: none"> • Process: Flange, DN80 PN6 • Device: M23 DURAG Standard • Purge air connection: Ø 40mm
Explosion protection	N/A
Operation and display	<ul style="list-style-type: none"> • Status LED • D-ESI 100 software *** • or D-ISC 100 operating unit
Material	<ul style="list-style-type: none"> • Housing: Polyamide / B1 (UL 94 V0) • Transducer: PA, PBT, FRP • Process parts: Stainless steel V4A
System components	<ul style="list-style-type: none"> • 2 D-FL 220 measuring devices configured as A (master) and B (slave) • D-BL purge air unit • D-TB 100 Terminal Box • D-ESI 100 software *** • or D-ISC 100 operating unit

* Additional interfaces with D-ISC 100 operating unit

** A weather protection cover is required for outdoor installation

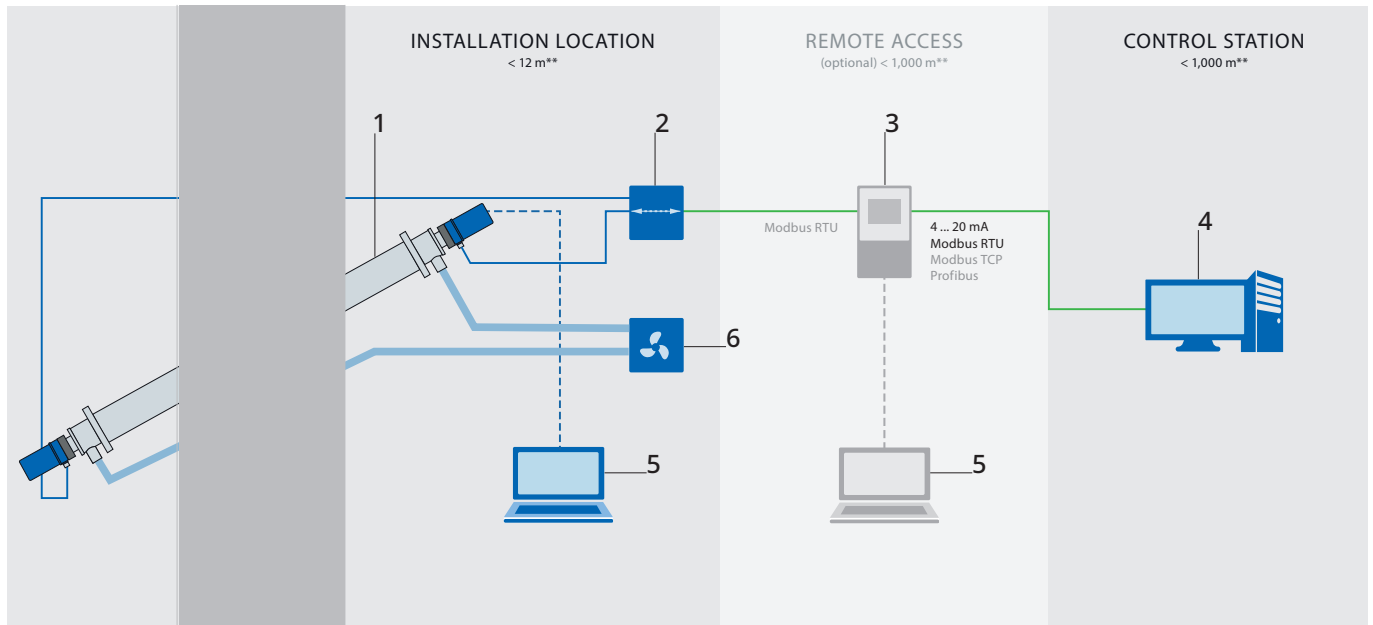
*** Enables remote access via web interface, requires PC with Windows operating system

D-FL 220 | DIMENSIONS AND WEIGHT OF DIFFERENT PRODUCT VARIANTS



Product variants	L=Total length	LMK=Immersion depth	Weight
D-FL 220 MK2-L0410-LMK0100	410 mm	100 mm	2.88 kg
D-FL 220 MK2-L0610-LMK0300	610 mm	300 mm	3.58 kg
D-FL 220 MK2-L0810-LMK0500	810 mm	500 mm	4.28 kg
D-FL 220 MK2-L1010-LMK0700	1,010 mm	700 mm	4.98 kg
D-FL 220 MK2-L1210-LMK0900	1,210 mm	900 mm	5.68 kg
D-FL 220 MK2-L1410-LMK1100	1,410 mm	1,100 mm	6.38 kg

EXAMPLES OF SYSTEM CONFIGURATIONS* | STANDARD + OPTIONAL WITH REMOTE ACCESS



- 1 Volume flow measuring device
- 2 Terminal Box
- 3 Operating unit
- 4 Emission evaluation system
- 5 PC with Windows operating system and software
- 6 Purge air unit

* All system components shown are available on request
 ** Maximum permissible cable and hose length (different for sensor head B: 25 m)

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