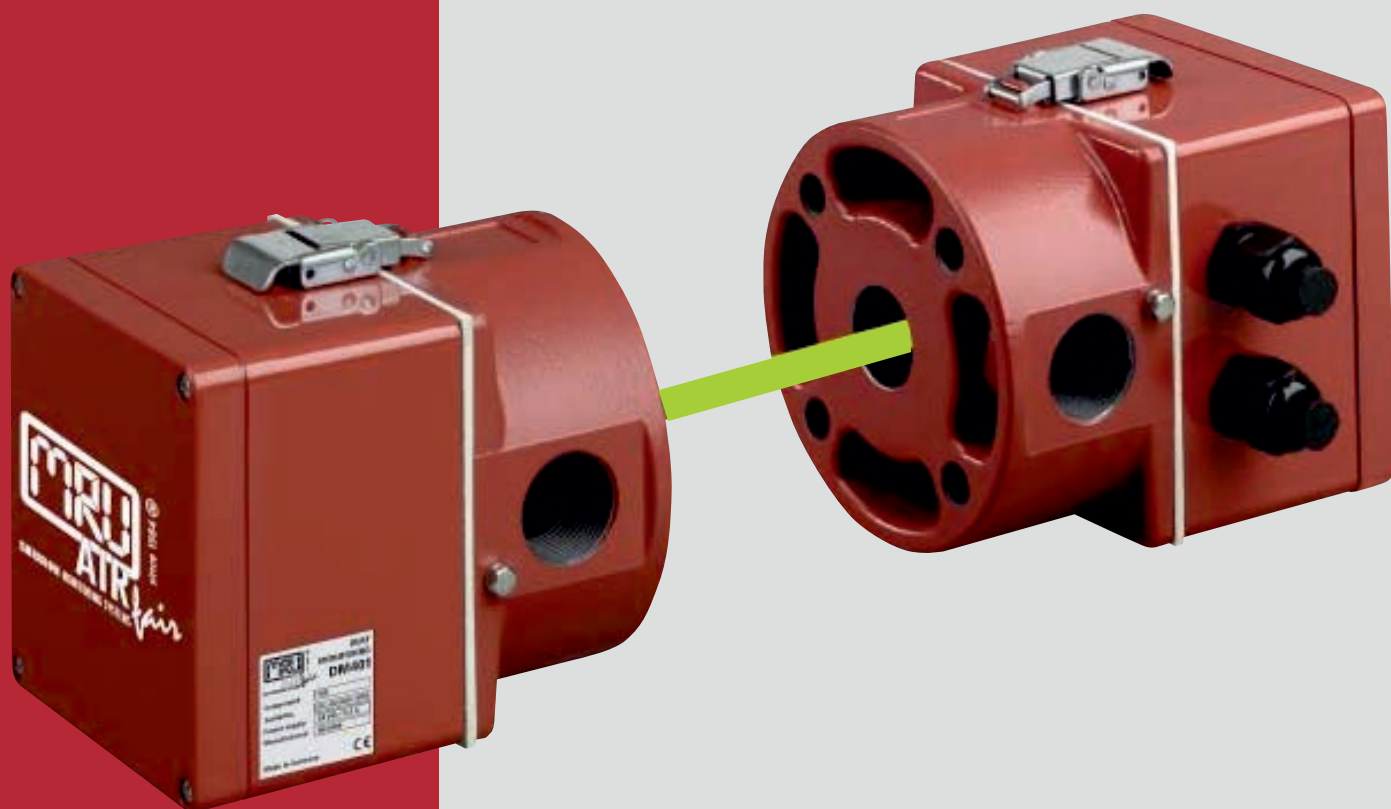


# DM 401

## DUST OPACITY MONITORING SYSTEM

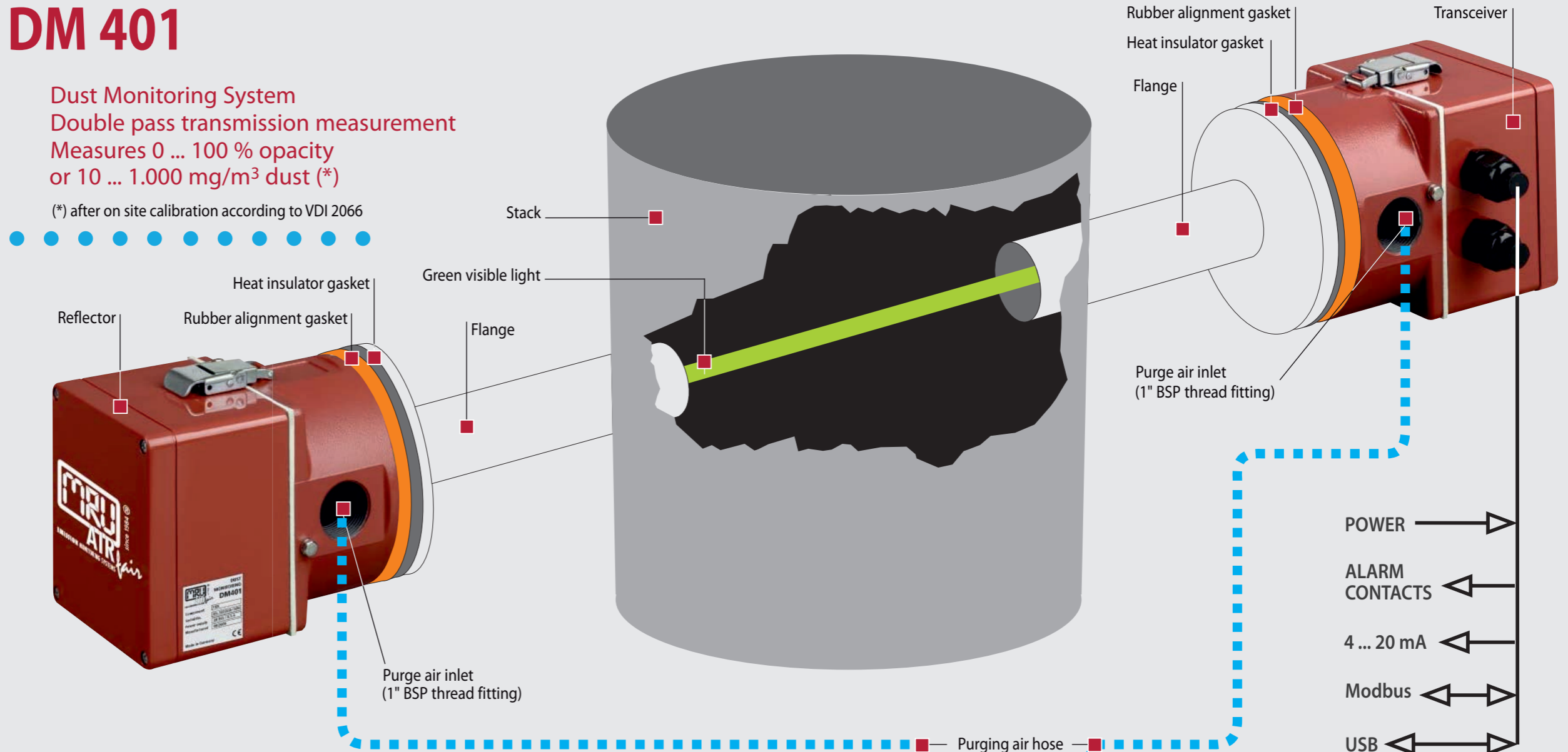


**DOUBLE PASS OPACITY MONITOR  
CONTINUOUS IN-SITU MEASUREMENT**

# DM 401

Dust Monitoring System  
 Double pass transmission measurement  
 Measures 0 ... 100 % opacity  
 or 10 ... 1.000 mg/m<sup>3</sup> dust (\*)

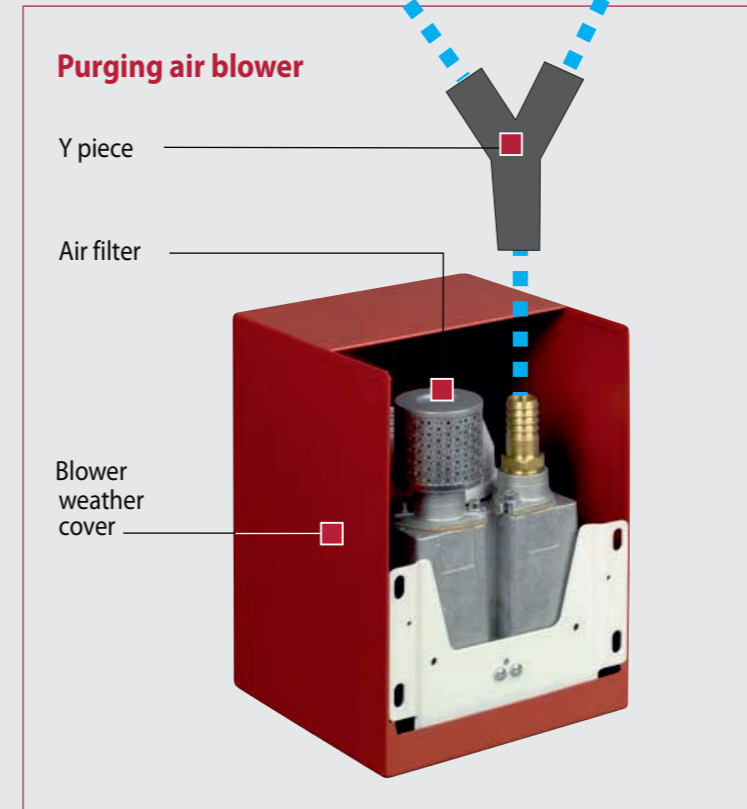
(\*) after on site calibration according to VDI 2066



**DM 401 is the ideal dust monitoring instrument for continuous monitoring of flue gas particulates in the ducts / stacks / chimneys of industrial combustion.**

## Features:

- Direct continuous measurement across stack
- Small, lightweight low operating costs
- Simple installation, commissioning and operation
- No moving parts – minimal maintenance
- PC based setup, control and data logging
- Long-life green LED source
- High measuring accuracy
- Opacity or mg/m<sup>3</sup>



**DM 401 is designed for the use in almost every industry sector like:**

- Power utilities
- Refineries
- Chemical / Petrochemical
- Incinerators
- Cement plants
- Iron and steel plants
- Crematoria
- Electrostatic precipitators
- Filter bag houses

Both the transceiver and reflector are supplied with an air purging (blower unit). This will prevent dust particle deposition on the optical lenses by continuous purge with clean ambient air and extend substantially the maintenance free operation.

# DM 401

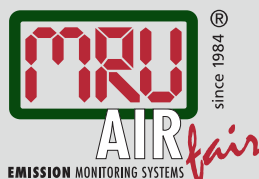
## TECHNICAL SPECIFICATIONS

Parameter	Units	Min	Max	Comment
<b>Measurement performance</b>				
Path. length (flange to flange)	m	0,5	12	flange-to-flange distance
Measuring range	%	0 ... 10,0	0 ... 100	user selectable
	mg/m <sup>3</sup>	0 ... 10,0	0 ... 1000	after on site calibration
Accuracy	%	-2	+2	
Resolution	%		0,1	display resolution
Damping	s	1	60	selectable
Drift with temperature	%	-2	+2	for any 20 °C change
Operating wave length	nm	510	540	green LED
<b>Power and air requirements</b>				
Voltage	V ac	+24	+24	optional 90 ... 240 Vac PSU available
Air supply volume	m <sup>3</sup> /h	5	60	optimum: 40 m <sup>3</sup> /H
Air supply pressure	mbar		500	must exceed max. stack pressure
Air supply fitting				1" BSP threaded aperature
Purging air blower unit	V ac	230	230	200 W
<b>Interface options</b>				
RS 485				ModBus RTU
Analog outputs	mA	4,0	20,0	isolated and scalable
Relay contact	A	0	3	level alarm and service alarm
<b>Physical</b>				
Protection class		IP 65		for outdoor use
Operating temperature	°C	-20	+50	air temperature around the equipment
Gas temperature	°C	+100	+600	insulators required above 300 °C
<b>Dimensions</b>				
Transceiver				153 x 122 x 120 mm
Reflector				153 x 122 x 120 mm
Purging air blower unit				310 x 220 x 230 mm
Enclosure				die cast aluminium
Weight				transceiver: 2 kg, reflector: 2 kg purging air blower unit: 11 kg

Data subject to change without notice.

**MRU – sustainable analysing technology for more than 35 years!**

MRU-representative:



**MRU · Messgeräte für Rauchgase  
und Umweltschutz GmbH**  
Fuchshalde 8 + 12 · 74172 Neckarsulm · Germany  
Fon 07132 99620 · Fax 07132 996220  
info@mru.de · www.mru.de