

## D-R 320

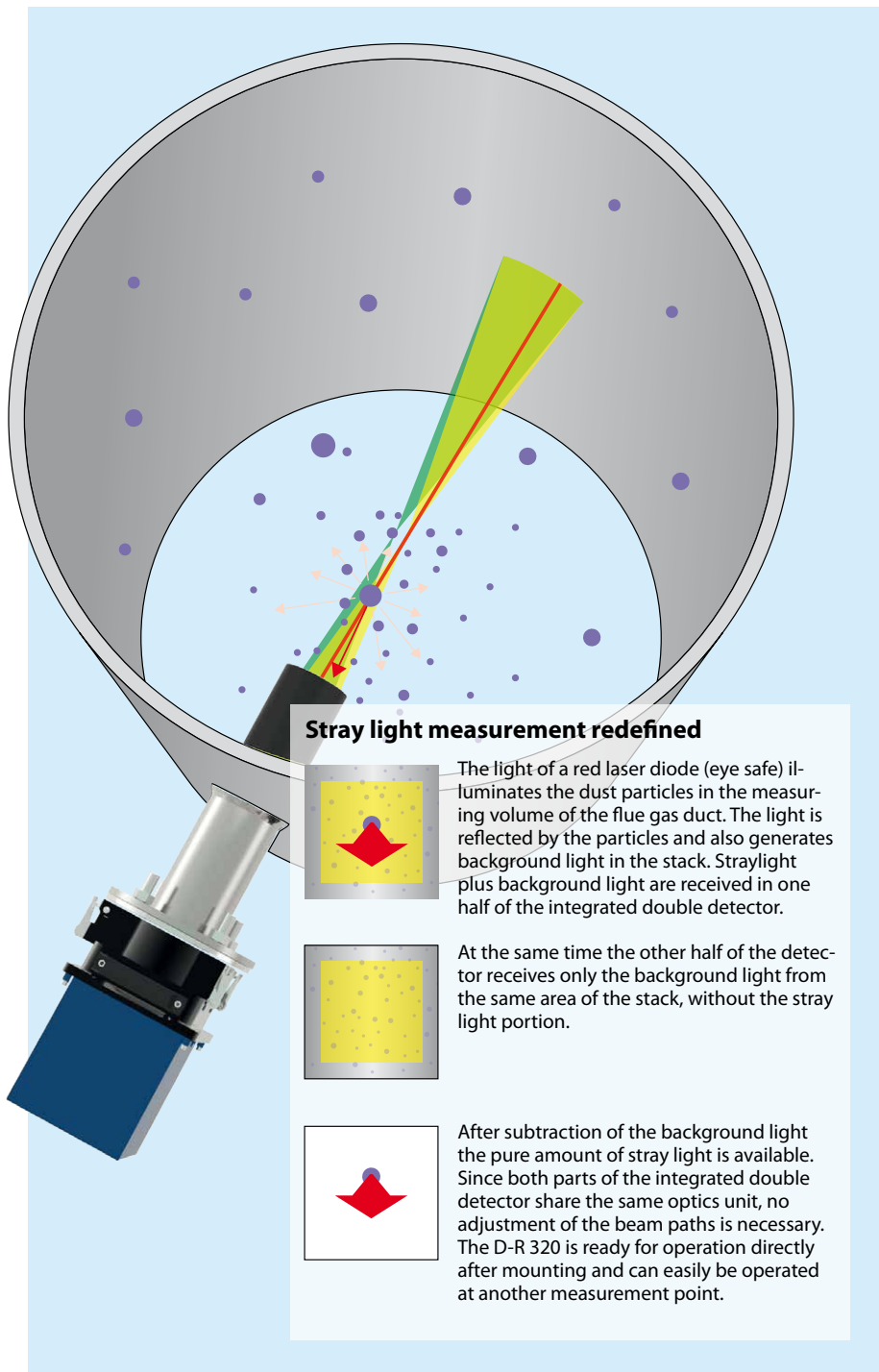
# Dust Monitor for smallest to medium concentrations



- Continuous measurement
- Easy installation on standard flanges
- Easy setup without adjustment
- Automatic background light compensation without light trap
- Integrated purge air regulation and purge air control
- Automatic control functions
- Minimal maintenance
- Remote access possible

## The new scattered light dust monitor D-R 320

### High-sensitivity measurement even at the lowest concentrations of dust



The new DURAG dust monitor D-R 320 is based on the backscattering principle and is ideally suited for monitoring smallest to medium dust concentrations. The measurement takes place continuously in the flue gas stream. Naturally the D-R 320 is compliant with the high requirements of the new European standards and therefore suitable for measurements according to official regulations.

#### Startup without adjustment due to unique optical design

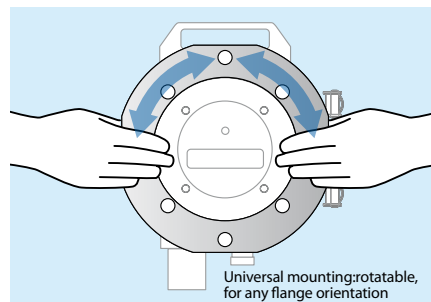
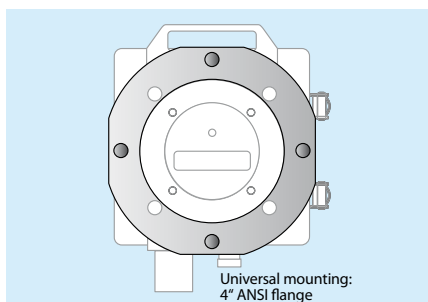
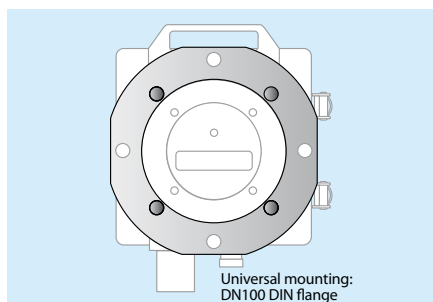
The D-R 320 does not require a light trap. The background light in the stack is detected by means of a special optical system with dual detector and automatically compensated without the need of any manual adjustment.

Advantage of this new design is the quick and uncomplicated installation, completely without adjustment at site. So the D-R 320 is ready for operation directly after installation and flexible for different applications. Even after a conversion to a different measurement point the device is operational immediately again.



#### Single-sided installation on standard flanges without light trap

The D-R 320 allows single sided installation at the stack and requires just a small wall opening. It can be mounted in any orientation via a rotatable connection on existing DN 100 or 4" standard flanges. This reduces time and costs for installation.



## Long life due to integrated purge air regulation and purge air control

The D-R 320 is continuously purged and therefore the optical system is not in contact with the exhaust gas. The integrated purge air control ensures the optimum amount of purge air. This ensures a long life and long maintenance intervals. A purge air failure is immediately indicated by the device. The maintenance of the device is minimal.

## Convenient operation, readings anywhere accessible

The operation of the D-R 320 is comfortable and extremely flexible. Different operating options are available to the user of the D-R 320:

- local via USB interface
- by means of the external operation unit D-ISC 100
- remote access with RS-485 interface via MODBUS RTU / MODBUS TCP protocol (acc. to VDI 4201-3).

## Automatic control functions ensure reliable measuring values

Reliability has the highest priority when measuring emissions. For that reason the D-R 320 automatically performs zero and span check as well as contamination check in regular intervals and on demand. The device features an automatic contamination correction. Need for maintenance is immediately indicated by the electronics.

## Options

- Weather protection covers
- Fully integrated failsafe shutter as protection for the measuring device in case of a purge air failure.



With the fully integrated fail safe shutter the D-R 320 is optimally protected for reliable use even under overpressure conditions.

## Universal Operation Unit D-ISC 100

The universal operation unit D-ISC 100 allows for the connection of up to 8 DURAG measuring heads and enables the combination of dust and flow measurements. The D-ISC 100 offers convenient operation and parameterization of the connected devices. The display provides an immediate overview of the current measurements and the status of the devices.

- Connection of up to 8 measuring heads
- Local operation with keypad, through USB port or remotely through RS-485 interface.
- Modular design, many extension modules available.

## Features

- Continuous measurement of dust concentration
- Easy installation on a standard flange
- Easy startup without adjustment
- Automatic background light compensation without light trap
- Convenient operation, remote access possible
- Automatic control functions
- Integrated purge air regulation and purge air control
- Long service intervals
- Compliant with EN 15267
- Data transfer via Modbus compliant with VDI 4201-3.

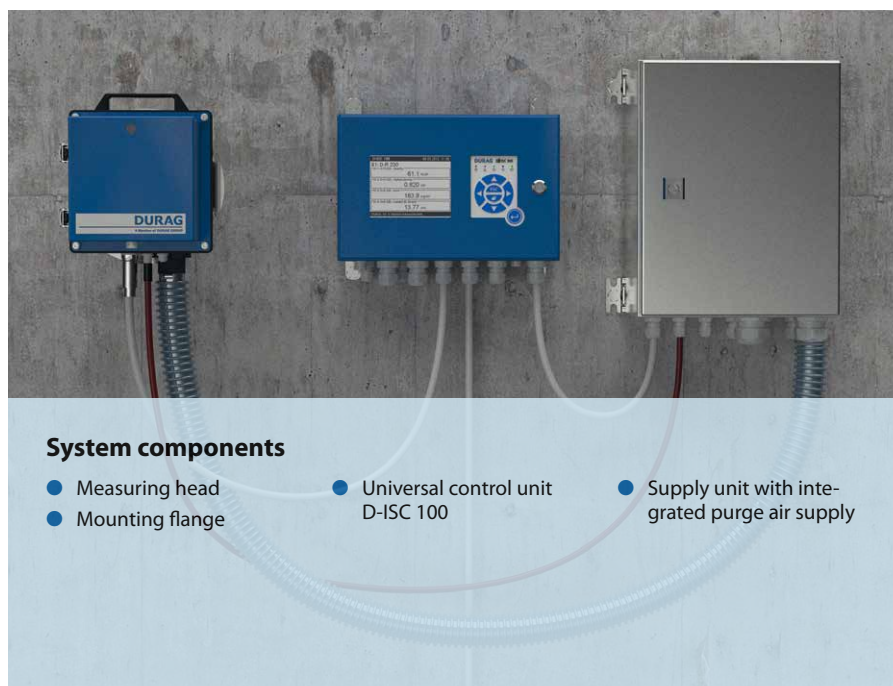
## Applications

### Continuous emission monitoring, e.g.:

- on incineration plants generally
- on plants according to IED 2010/75/EU (2000/76/EC WID) / 17. BlmschV
- on plants according to 2001/80/EC LCPD
- on waste, hazardous waste and sewage sludge incineration plants
- on cement manufacturing plants
- on power plants with gas, oil, coal or co-firing
- on plants for the incineration of biomass

### Monitoring of:

- ventilation units
- filter units.



## System components

- Measuring head
- Mounting flange
- Universal control unit D-ISC 100
- Supply unit with integrated purge air supply

## Technical Data

measuring head	
measurements	dust concentration
measuring range	min: 0–5 mg/m <sup>3</sup> , max: 0–200 mg/m <sup>3</sup>
measuring principle	back scattering
flue gas temperature	0...600°C
flue gas pressure	-50 ... +50 hPa, optional higher
duct diameter	0.7 up to 20 m
ambient temperature	-40 up to +60°C
protection	IP 65
measuring outputs	0 / 4–20 mA / 400 Ohm, Modbus RTU bi-directional
digital outputs	2 relay outputs, permissible load 60 VDC / 30 VAC / 0.5 A
supply voltage	24 VDC, 0.5 A
dimensions (h x w x d)	200 x 190 x 260/410 mm
weight	10 kg
supply unit	
purge air supply	integrated blower
supply unit	115/230 VAC, 50/60 Hz, 0.37/0.43 kW
dimensions	480 x 450 x 320 mm
weight	12 kg
protection	IP 65