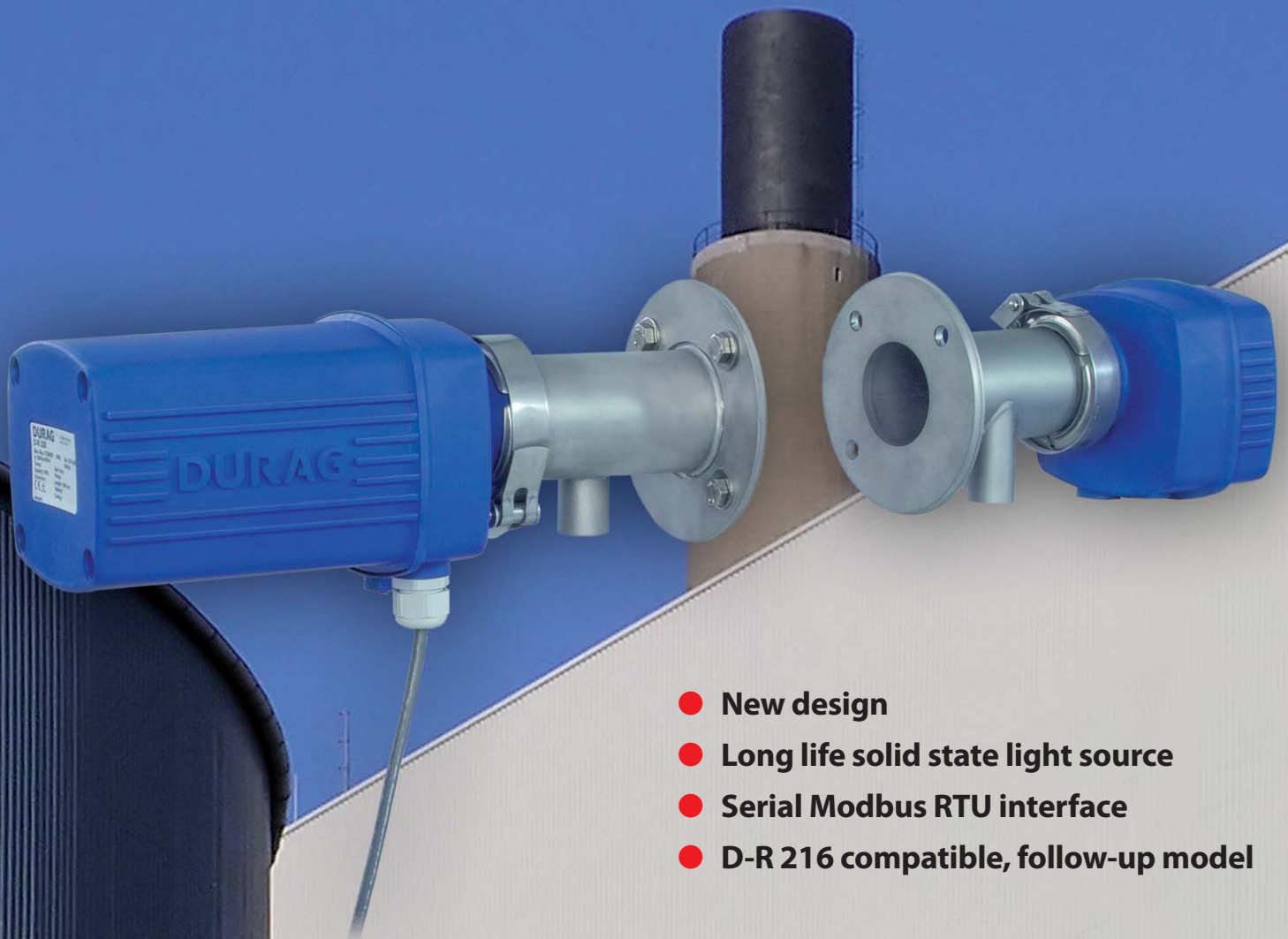


# **D-R 220**

## **Optical dust and opacity meter**



- **New design**
- **Long life solid state light source**
- **Serial Modbus RTU interface**
- **D-R 216 compatible, follow-up model**

# meter

## missions on smaller plants and in

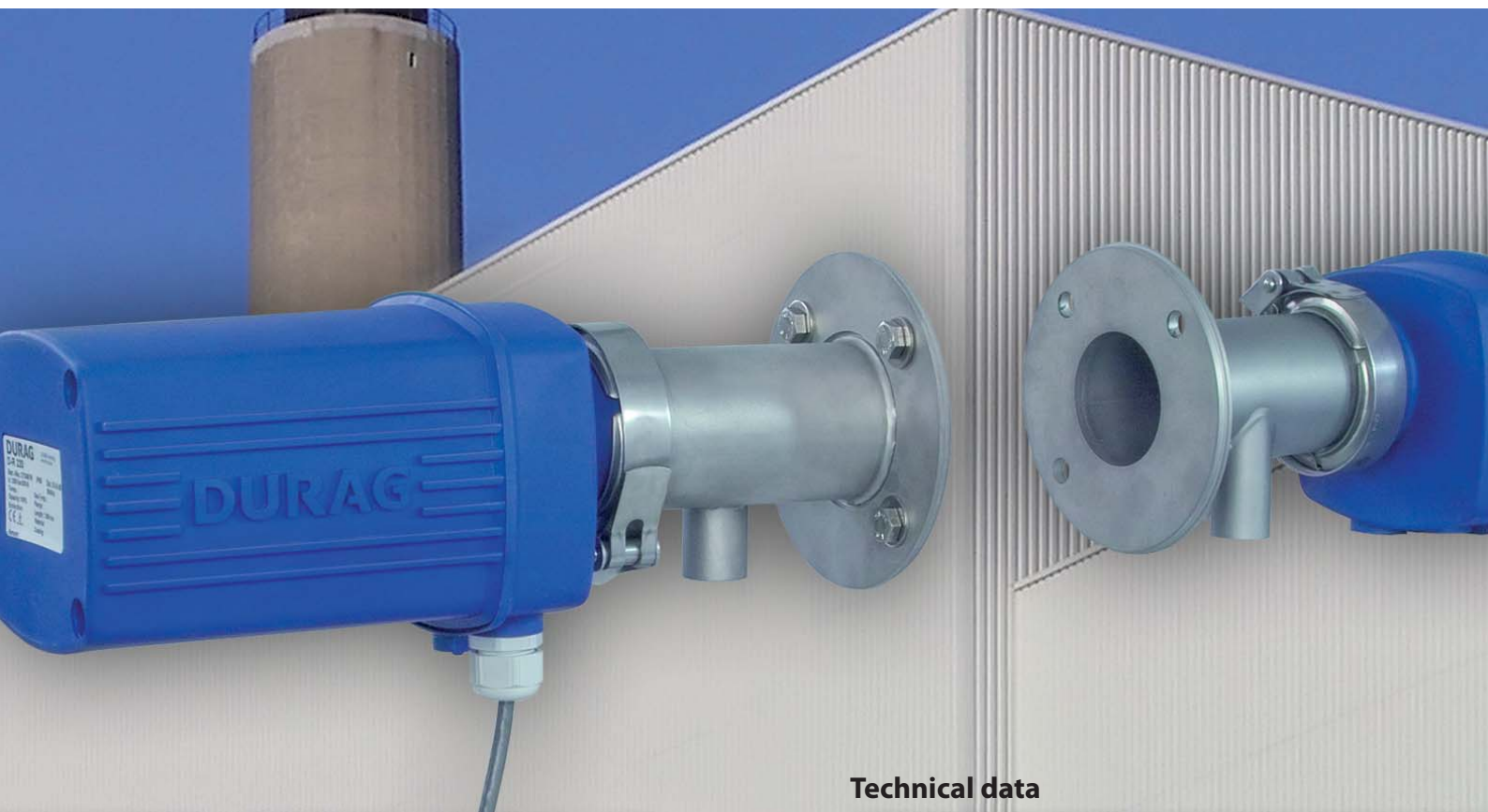
struments, we are introducing a new device generation with  
ds of application by an extended measuring path length of up  
tics and electronic components of measuring head and reflect-  
high quality plastic. Thus they are easy to install and there is no  
ounded off by a PC interface for simple service and a Modbus

## Measuring principle

The device operates using the double-pass method according to the auto-collimation principle. The light beam traverses the measuring distance twice. The attenuation of the light beam by the dust content in the measuring section is measured and evaluated. Measured results are shown in either opacity or in extinction which can be converted into  $\text{mg}/\text{m}^3$  by gravimetric calibration.

## System components

- D-R 220 measuring
- 2 reflectors for m  
0.4 to 3 and 2.5 to
- Mounting flange  
long
- Supply box with  
power supply
- Zero point reflect



limit threshold –  
cal requirements  
eration time –  
al damping  
ial interface –  
n twisted pair of  
results shown in  
ction –  
atable to  $\text{mg}/\text{m}^3$

## Applications

- Non-compliant device for smaller plants or Process Measurements
- Heating stations, power stations
- Boiler plants in industry, barracks, hospitals, schools
- Dust extraction and filter plants
- Process monitoring
- Filter monitoring.

## Technical data

<b>Measuring principle</b>	transmission
<b>Measurements</b>	opacity, extinction
<b>Measuring ranges</b>	0–25/50/100% OP 0–0.2/1.6 Ext
<b>Flue gas temperature</b>	above dew point up to 200°C, optional up to 500°C, depending on application
<b>Flue gas pressure</b>	-50 up to +10 hPa, optional higher
<b>Duct diameter</b>	400–10,000 mm
<b>Ambient temperature</b>	-20 up to +50°C
<b>Protection class</b>	IP65
<b>Measuring output</b>	0 / 4–20 mA / 400 Ohm
<b>Digital outputs</b>	2 relay outputs 30 VA, max. 48 V/1A
<b>Digital inputs</b>	NA



## DURAG

### DURAG GmbH

Kollastraße 105  
22453 Hamburg · Germany  
Tel. +49 (0)40 55 42 18-0  
Fax +49 (0)40 58 41 54  
E-Mail: info@durag.de

### DVN – DURAG Vertrieb/Service Nord

Kollastraße 105  
22453 Hamburg · Germany  
Tel. +49 (0)40 55 42 18-0  
Fax +49 (0)40 58 41 54  
E-Mail: dvn@durag.de

### DVO – DURAG Vertrieb/Service Ost

Meißner Ring 4  
09599 Freiberg · Germany  
Tel. +49 (0)3731 30 04-0  
Fax +49 (0)3731 30 04-22  
E-Mail: durag.freiberg@durag.de

### DVS – DURAG Vertrieb/Service Süd

Weidenweg 16  
73087 Bad Boll · Germany  
Tel. +49 (0)7164 912 25-0  
Fax +49 (0)7164 912 25-50  
E-Mail: info@dvs-badboll.de

### DVW – DURAG Vertrieb/Service West

An der Pönt 53a  
40885 Ratingen · Germany  
Tel. +49 (0)2102 74 00-0  
Fax +49 (0)2102 74 00 28  
E-Mail: dvw@durag.de

### DURAG France S.a.r.l.

Parc GIP Charles de Gaulle  
49, rue Léonard de Vinci · BP 70166  
95691 GOUSSAINVILLE CEDEX · France  
Tel. +33 (0)1 301 811 80  
Fax +33 (0)1 393 383 60  
E-Mail: info@durag-france.fr

### DURAG UK Office

Honeysuckle Cottage · Ridging Bank  
Stoke on Trent  
Staffordshire ST4 8SB · Great Britain  
Tel. +44 (0)1782 657666  
Fax +44 (0)1782 646020  
E-Mail: durag.uk@durag.de

### DURAG, Inc., USA

1355 Mendota Heights Road · Suite 200,  
Mendota Heights ·  
MN 55120 · USA  
Tel. +1 651 451-1710  
Fax +1 651 457-7684  
E-Mail: durag@durag.com

### DURAG India Instrumentation Ltd

#143/16, Ground Floor, 4th Main Road  
Industrial Town, Rajajinagar  
Bengalooru 560 044 · India  
Tel. +91 (0)80 23 14 56 26  
Fax +91 (0)80 23 14 56 26 Ext. 30  
E-Mail: info@duragindia.com

[www.durag.de](http://www.durag.de)

## Hegwein

### Hegwein GmbH

Am Boschwerk 7  
70469 Stuttgart · Germany  
Tel. +49 (0)711 135 788-0  
Fax +49 (0)711 135 788-5  
E-Mail: info@hegwein.de



### SMITSVONK®

#### Smitsvonk Holland B.V.

P.O. Box 180 · 2700 AD Zoetermeer  
Loodstraat 57 · 2718 RV Zoetermeer  
The Netherlands  
Tel. +31 (0)79 361 35 33  
Fax +31 (0)79 361 13 78  
E-mail: sales@smitsvonk.nl



### VEREWA Umwelt- und Prozessmesstechnik GmbH

Kollastraße 105  
22453 Hamburg · Germany  
Tel. +49 (0)40 55 42 18-0  
Fax +49 (0)40 58 41 54  
E-Mail: verewa@durag.de



### DURAG process & systems technology gmbh

Kollastraße 105  
22453 Hamburg · Germany  
Tel. +49 (0)40 55 42 18-0  
Fax +49 (0)40 58 41 54  
E-Mail: info@durag-process.de