

D-R 220

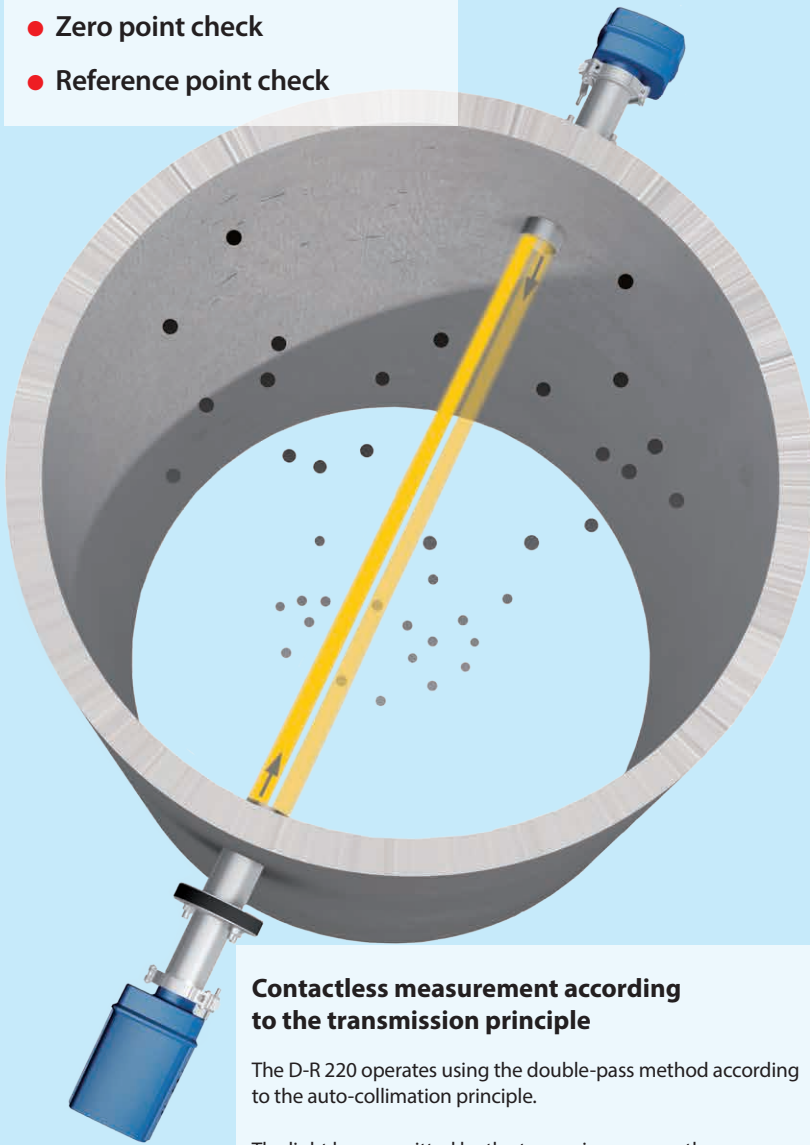
Optical dust and opacity monitor



Optical dust and opacity monitor

Cost effective and small device

- Automatic internal self-test
- Zero point check
- Reference point check



Contactless measurement according to the transmission principle

The D-R 220 operates using the double-pass method according to the auto-collimation principle.

The light beam emitted by the transceiver crosses the measuring path twice. The attenuation of the light beam by the dust in the measuring section is detected and evaluated. A long-life LED is used as a light source.

Features

- Suitable for medium and high dust concentrations on short to medium measuring lengths
- Automatic internal self-test
- Automatic zero and reference point check
- Manual contamination check
- Manual linearity test with reference filters

Your benefits

- Extremely low maintenance due to durable LED and contactless measurement
- Easy installation and commissioning with universal operating unit and adjustment tool
- Convenient operation including remote access capability
- Cost-effective, small measuring system in well-known DURAG quality

Certificates, approvals



Cement plant



Process monitoring



Power plant

Convenient operation, readings anywhere accessible

The D-R 220 is the smallest available and the most cost effective DURAG dust monitor. Operating the D-R 220 is very convenient and flexible. It is operated optionally via

- USB interface
- RS-485 interface
- Universal operating unit D-ISC 100

The software D-ESI 100 allows remote access via web interface. The sensor itself can be operated either directly as an independent device or via operating unit.

Universal operating unit D-ISC 100

The universal operating unit D-ISC 100 allows connecting several DURAG measuring systems at once. Dust and volume flow measurements can be combined in this way.

- Operation either via built-in panel or via remote access
- Modular design, many expansion options available

Options

- Universal operating unit D-ISC 100 offers additional inputs and outputs
- Calibrated filters for linearity check
- Adjustment tool

Applications

Continuous dust concentration measurement in

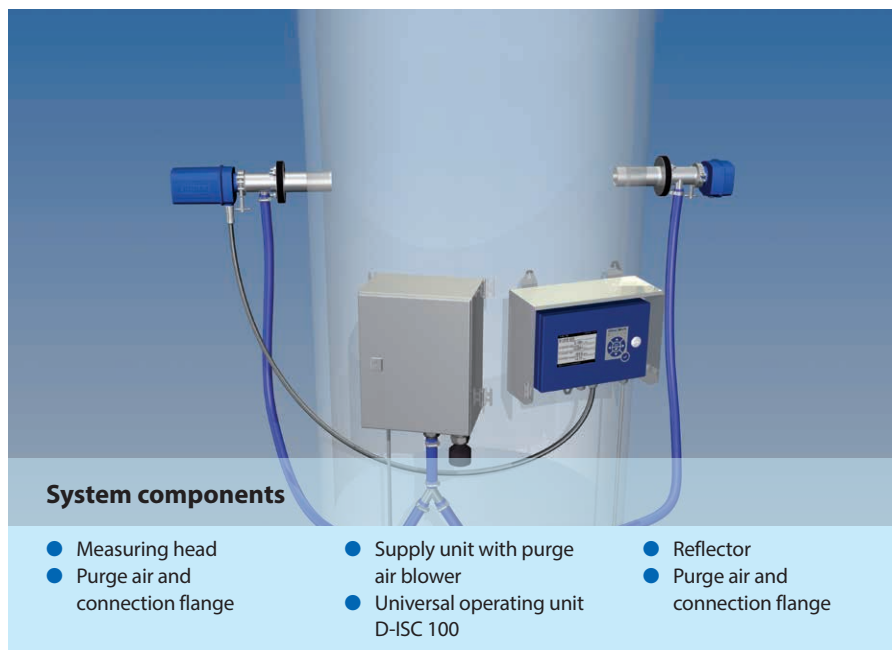
- Incineration plants
- Power plants, thermal power stations
- Cement plants
- Converters or asphalt mixing plants
- Biomass incineration plants

Opacity measurements on ships operating in non-US-EPA areas

- Ro-Ro ships
- Cruise ships
- Container ships

Also suitable for

- Cost effective process monitoring
- Filter monitoring
- Measurement of ambient air dust-load in halls or warehouses



System components

- Measuring head
- Purge air and connection flange
- Supply unit with purge air blower
- Universal operating unit D-ISC 100
- Reflector
- Purge air and connection flange

Technical data

Flue gas temperature	Above dew point, ≤ 200 °C (≤ 392 °F) standard ≤ 600 °C (≤ 1112 °F) option
Inner duct pressure	-50 ... +50 hPa
Flue gas relative humidity	0 ... 95 % RH, non-condensing
Stack/duct inner diameter	0.4 ... 10 m (1.3 ... 32.8 ft)
Measuring values	Opacity, extinction, transmission, dust concentration
Measuring ranges (depending on measuring path and calibration)	Opacity: 0 ... 100 % Extinction: 0 ... 1.6 Transmission: 100 ... 0 % Dust concentration: 0 ... 5000 mg/m ³
Ambient temperature	-20 ... +50 °C (-4 ... +122 °F)



Petrochemistry



Steel industry



Marine

DURAG

DURAG GmbH
Kollaustraße 105
22453 Hamburg, Germany
Tel. +49 40 55 42 18-0
Fax +49 40 58 41 54
E-Mail: info@durag.de



**A Brand of
DURAG GmbH**



**A Brand of
DURAG GmbH**



DURAG data systems GmbH
Kollaustraße 105
22453 Hamburg, Germany
Tel. +49 40 55 42 18-3000
Fax +49 40 55 42 18-3099
E-Mail: info@durag-data.de



**A Brand of
DURAG data systems GmbH
Branch Office Austria**
Lastenstraße 36, City Tower 2
4020 Linz, Austria
Tel. +43 732 60 99 60-0
Fax +43 732 60 99 60-4
E-Mail: office@utas.at



DURAG Siena do Brasil Ltda
Rua Vinte e Dois de Agosto, 66
Diadema - SP
09941-530 Brazil
Tel. +55 11 4071-5050 r.28
Fax +55 11 4077-1718
E-Mail: info@duragsiena.com.br



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



SMITSVONK Holland B.V.
P.O. Box 180, 2700 AD Zoetermeer
Goudstraat 6, 2718 RC Zoetermeer
Netherlands
Tel. +31 79 361 35 33
Fax +31 79 361 13 78
E-Mail: sales@smitsvonk.nl



**GRIMM Aerosol Technik
GmbH & Co. KG**
Dorfstraße 9
83404 Ainring, Germany
Tel. +49 8654 578-0
Fax +49 8654 578-35
E-Mail: info@grimm-aerosol.com

Branch offices Sales and Service

DURAG Sales + Service GmbH & Co. KG

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

DURAG Brazil

DURAG Siena do Brasil Ltda
Rua Vinte e Dois de Agosto, 66
Diadema - SP
09941-530 Brazil
Tel. +55 11 4071-5050 r.28
Fax +55 11 4077-1718
E-Mail: info@duragsiena.com.br

DURAG France S.a.r.l.

147 avenue Paul Doumer
92500 Rueil Malmaison
France
Tel. +33 1 412 904 60
Fax +33 1 412 904 68
E-Mail: info@durag-france.fr

DURAG, Inc.

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 Private Limited

#27/30, 2nd Main Road
Industrial Town, Rajajinagar
Bengaluru 560 044, India
Tel. +91 80 2314 5626, 2301 1700
Fax +91 80 2314 5627
E-Mail: info@duragindia.com

DURAG Instrumentation (Shanghai) Co., Ltd.

Room 706, Dibao Plaza, No. 3998
Hongxin Rd., Minhang District
Shanghai, 201103 PR China
Tel. +86 21 60732979-200
Fax +86 21 60732980-205
E-Mail: info@durag-cn.com

DURAG Italia S.r.l.

Via Carlo Panseri, 118
CIM uffici, P. secondo
28100 Novara
Italy
Tel. +39 0321 679569
Fax +39 0321 474165
E-Mail: info@durag.it

DURAG Japan Office

c/o TMS Planning Inc.
291-2 Umena, Mishima-shi
Shizuoka-ken
411-0816 Japan
Tel. +81 55 977 3994
Fax +81 55 977 3994
E-Mail: info@durag.jp

DURAG Korea Office

RM #1131, Manhattan Building
36-2, Yeouido-Dong
Yeongdeungpo-Gu, Seoul
Korea
Tel. +82 2 761 8970
Fax +82 2 761 8971
E-Mail: info@durag-group.co.kr

DURAG Middle East (Branch)

Dubai Airport Free Zone
5 West Wing, Office 124
Dubai, UAE
P.O. Box 371555
Tel. +971 4260251 0
E-Mail: dme@durag.de

DURAG RUSS OOO

Andropova avenue 18/6
Office 5-09
115432 Moscow
Russia
Tel. +7 499 4180090
Fax +7 499 4180091
E-Mail: info@durag-group.ru

DURAG UK GmbH

Bretby Business Park, Ashby Road
Burton-on-Trent, Staffordshire
DE15 0YZ
Great Britain
Tel. +44 1283 553 481
Fax +44 1283 553 482
E-Mail: durag.uk@durag.de

DURAG Branch North

Kollaustraße 105
22453 Hamburg, Germany
Tel. +49 40 55 42 18-0
Fax +49 40 58 41 54
E-Mail: durag-nord@durag.de

DURAG Branch East

Halsbrücker Straße 34
09599 Freiberg, Germany
Tel. +49 3731 30 04-0
Fax +49 3731 30 04-22
E-Mail: durag-ost@durag.de

DURAG Branch South

Weidenweg 16
73087 Bad Boll, Germany
Tel. +49 7164 912 25-0
Fax +49 7164 912 25-50
E-Mail: durag-sued@durag.de

DURAG Branch West

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