D-R 800
Scattered light dust monitor

Certified scattered light dust monitor to detect low to medium concentrations of dust in dry flue gas and process gas.

OVERVIEW

- In situ measurement, continuous measurement
- Suitable for systems with variable gas speed
- Allows calibration to measure the dust concentration
- Qualitative dust measurement for monitoring the functions of filters
- Single sided mounting on the chimney
- Automatic zero and reference point check
- Automatic measurement and correction of contamination of optical surfaces
- Laser light source with long lifetime
- No moving parts inside of the chimney
- Nanotech surface protection against early corrosion
- Easy installation, adjustment and maintenance without a PC
- Local control panel with LCD display
- Automatic range switching

APPLICATIONS

Suitable for dust concentration measurement in mg/m³
- at incineration in general,
- at installations according 2000/76/EC WID / 17 BImSchV
- at garbage, hazardous waste incinerators,
- at facilities for cement production
- at installations according 2001/80/EC LCPD / 13 BImSchV / Clean Air Act
- at power stations with gas, oil, coal or co-firing
- at installations for the incineration of biomass
- at facilities pursuant to 27th BImSchV

**Suitable for monitoring of filter systems**

**CERTIFICATIONS**

**TECHNICAL DATA**

**D-R 800 Application Data**

<table>
<thead>
<tr>
<th>measurements</th>
<th>stray light value, calibrated as dust concentration [mg/m³]</th>
</tr>
</thead>
<tbody>
<tr>
<td>sample gas</td>
<td>air, flue gas, non-flammable process gas, dust concentration typically** 0,5 - 10 / 2 - 50 / 5 - 100 / 10 - 200 mg/m³</td>
</tr>
<tr>
<td>duct diameter</td>
<td>&gt; 0,3 m</td>
</tr>
<tr>
<td>sample gas temperature</td>
<td>-25 … 350°C, optional up to 500 °C</td>
</tr>
<tr>
<td>sample gas pressure</td>
<td>-50 to +10 hPa, others on request</td>
</tr>
<tr>
<td>sample gas moisture</td>
<td>&lt; 95 % relative humidity (non-condensing)</td>
</tr>
<tr>
<td>ambient temperature</td>
<td>-20 to +50°C, others on request</td>
</tr>
<tr>
<td>compliances</td>
<td>2000/76/EG WID / 17. BImSchV 2001/80/EG LCPD / 13. BImSchV 27. BImSchV EN 13284/1 EN 14181 prEN 15267-3</td>
</tr>
</tbody>
</table>

**D-R 800 Specifications**

| measuring principle | measurement of light intensity of laser light scattered by dust particles in forward direction |
light source | laser diode, red 650nm
---|---
type | in situ, installation at stack, probe in contact with sample gas
system components | D-R 800 P probe with measuring head
 | D-R 800 SU purge air unit
accessories |  
measuring range | 0 - 2,500 SLU-x scattered light units in 4 selectable ranges
expanded uncertainty | EN 13284-2, EN 14181, EN 15267-3
 | better than 0,7 mg/m³ at particle size 1-2µm
output ranges | free assignment of SLU values, scaled to mg/m³ concentration to 2 analog outputs.
process connection | flange, 100mm pitch circle, similar to DN 40 PN 6 pipe ID = 70mm
D-R 800 P probe with measuring head
measurement outputs | 2 x 4-20 mA / 500 Ohm, isolated
 | 1 x RS 485, Modbus RTU
status outputs | 4 x transistor output, function programmable
status inputs | 2 inputs, function programmable
analog signal input | 1 input, function programmable
power supply | 24 VDC +/- 10%
protection | IP65
dimensions (h x w x d) | 60 x 160 x 600 or 1000 mm
 | immersion depth: 400 or 800 mm
weight | 7 kg
material | probe, in contact with sample gas: 1.4404, optionally Hastelloy
 | measuring head: Al cast alloy, painted RAL 5017
D-R 800 SU purge air unit
purge air flow rate | 5 - 10 m³/h
power supply | 90-264 VAC, 47-63 Hz, 50 VA
| status output | 4 x relay, controlled by D-R 800 P transistor outputs  
1 x relay for purge air monitoring*  
max. load 48V, 0.5A |
| dimensions (h x w x d) | 380 x 300 x 210 mm |
| weight | 13 kg |
| material | 1.4301 |
| remarks | * variants  
** the suitability of the D-R 800 for the listed ranges  
depends on the kind of dust and the size distribution  
Subject to technical modifications! |

**DOWNLOADS**

Downloads

- Product Brochure D-R 800 / DE (133 KB)
- Product Brochure D-R 800 / EN (132 KB)