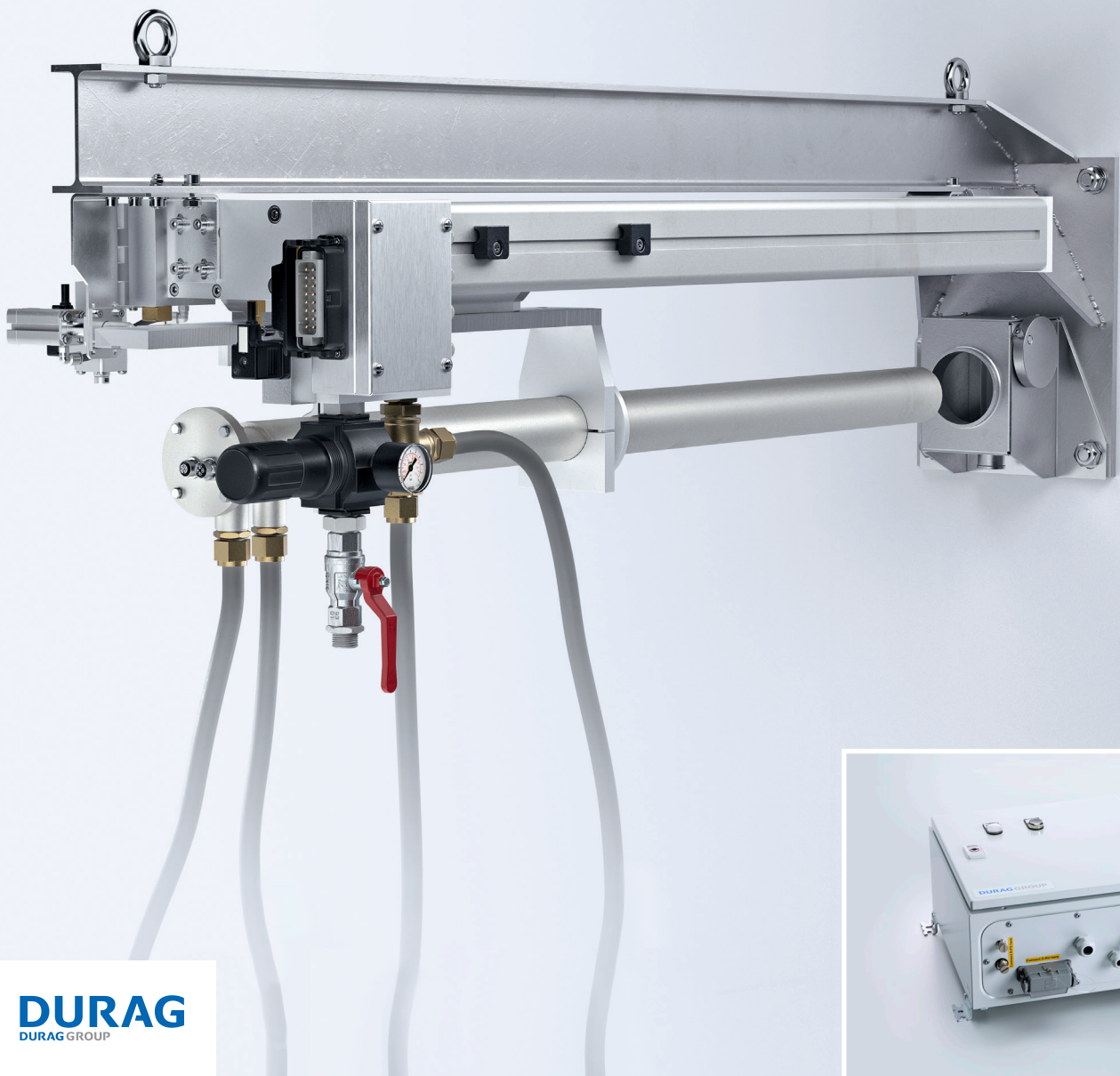


## D-RU 50/200 + D-SCU 50

### Retraction unit + sensor control unit

Pneumatic insertion and retraction of furnace cameras

- Suitable for all DURAG furnace cameras
- Automatic retraction in the event of cooling failure
- PLC controller and FOC Ethernet connection



## FEATURES

- **Developed for all furnace cameras of type D-FS 50 and D-FS2**
  - Water or air-cooled versions
  - Linear cylinder for long traverse distances
- **Reliable protection of the furnace camera**
  - Monitoring of compressed air and air or water cooling
  - Integrated compressed air tank for safe retraction even in the event of air supply failure
  - Automatic lock in case of pressure loss
- **Robust for use in extreme ambient conditions**
  - Stable carrier with suspended linear cylinder to prevent dirt on the running surface
  - Stainless steel protection flap with counterweight for secure closure to the combustion chamber
- **FOC transmission up to 10 km**
  - Video footage and PLC signals are combined in an Ethernet switch and transmitted via fiber optic cable

## BENEFITS

- **Clear images**
  - Retraction and insertion as required makes cleaning the furnace opening and furnace camera easier
- **Easy installation**
  - Welding plates with and without standard DIN flange connections enable easy installation of the D-RU
  - Only one FOC connection required between the D-SCU and control room; existing connections can be used
- **Convenient operation**
  - Either on site or remote using DURAG's VTA software
  - PLC with plain text display in the control unit
- **Long service life**
  - Automatic retraction of the furnace camera in the event of a cooling failure protects against major damage to the furnace camera
  - Automatic lock prevents the furnace camera from sliding into the combustion chamber even in the event of a prolonged air failure

## TECHNICAL DATA

Retraction unit D-RU 50/200	
<b>Type distinction</b>	D-RU 50 ...: Suitable for D-FS 50 D-RU 200 ...: Suitable for D-FS2
<b>Traverse distance</b>	D-RU ... 700: 700 mm D-RU ... 1100: 1,100 mm
<b>Media connections</b>	D-RU... A60 (air-cooled): 1x 1/2" external thread D-RU ... W70 (water-cooled): 3x 1/2" external thread
<b>Air supply</b>	Operating pressure: 5 ... 10 bar
<b>Water supply (only D-RU ... W70)</b>	Flow rate: > 500 l/h, p > 2.5 bar
<b>Electrical data</b>	24 V <sub>DC</sub> , supply from D-SCU 50 Connection: 16-pin connector
<b>Ambient conditions</b>	Temperature: -30 ... +60 °C, up to +80 °C to the combustion chamber
<b>Length</b>	D-RU ... 700: 1,487 mm D-RU ... 1100: 1,909 mm
<b>Degree of protection</b>	IP65
<b>Weight</b>	D-RU ... 700: 80.0 kg D-RU ... 1100: 95.0 kg

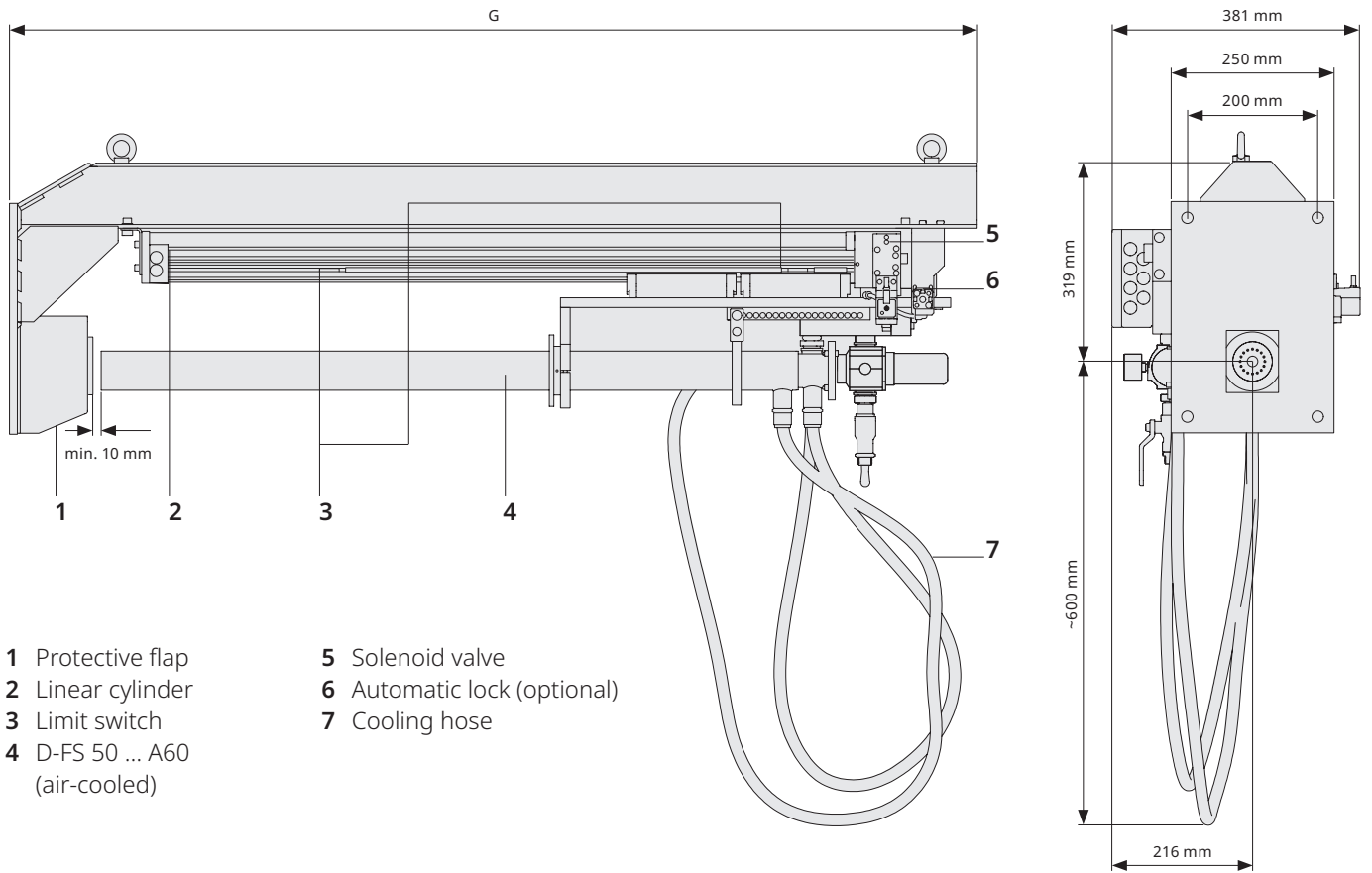
Sensor control unit D-SCU 50	
<b>Network interface</b>	Gbit Ethernet (FOC), 2x LC connectors • D-SCU ... MM: Multimode, 50/125 µm, maximum 500 m • D-SCU ... SM: Single mode, 6/125 µm, maximum 10 km
<b>Electrical data</b>	100 ... 240 V <sub>AC</sub> , 50 ... 60 Hz, 100 VA System-side fuse: B 6 A (recommended), max. 16 A Output voltages: • To D-FS: 12 V <sub>DC</sub> • To D-RU: 24 V <sub>DC</sub>
<b>Ambient conditions</b>	Temperature: -20 ... + 55 °C
<b>Degree of protection</b>	IP65
<b>Connections</b>	• 2x M12 to D-FS • 1x 16-pin to D-RU • Cable glands 2x M25, 2x M20
<b>Dimensions</b>	380 x 380 x 210 mm (H x W x D)
<b>Weight</b>	15 kg
<b>Material</b>	D-SCU ... R35: Steel, painted RAL 7035 D-SCU ... A4: Stainless steel 1.4404

Monitoring: D-RU + D-SCU	
<b>Automatic retraction when**</b>	<ul style="list-style-type: none"> <li>• Air pressure &lt; 4.5 bar</li> <li>• Water flow rate &lt; 500 l/h</li> <li>• Water temperature &gt; 45 °C</li> <li>• D-FS lens temperature &gt; 80 °C</li> </ul>

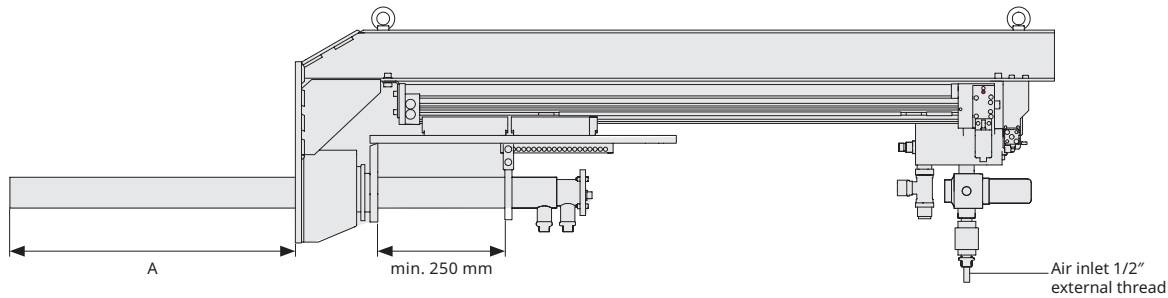
\* D-FS 50 and D-FS2 are the latest DURAG GROUP furnace cameras, see also separate data sheets in each case.

\*\* The switching thresholds can be adapted to the application conditions on site if required.

D-RU 50 WITH D-FS 50 ... A60 | EXAMPLE OF FURNACE CAMERA, AIR-COOLED



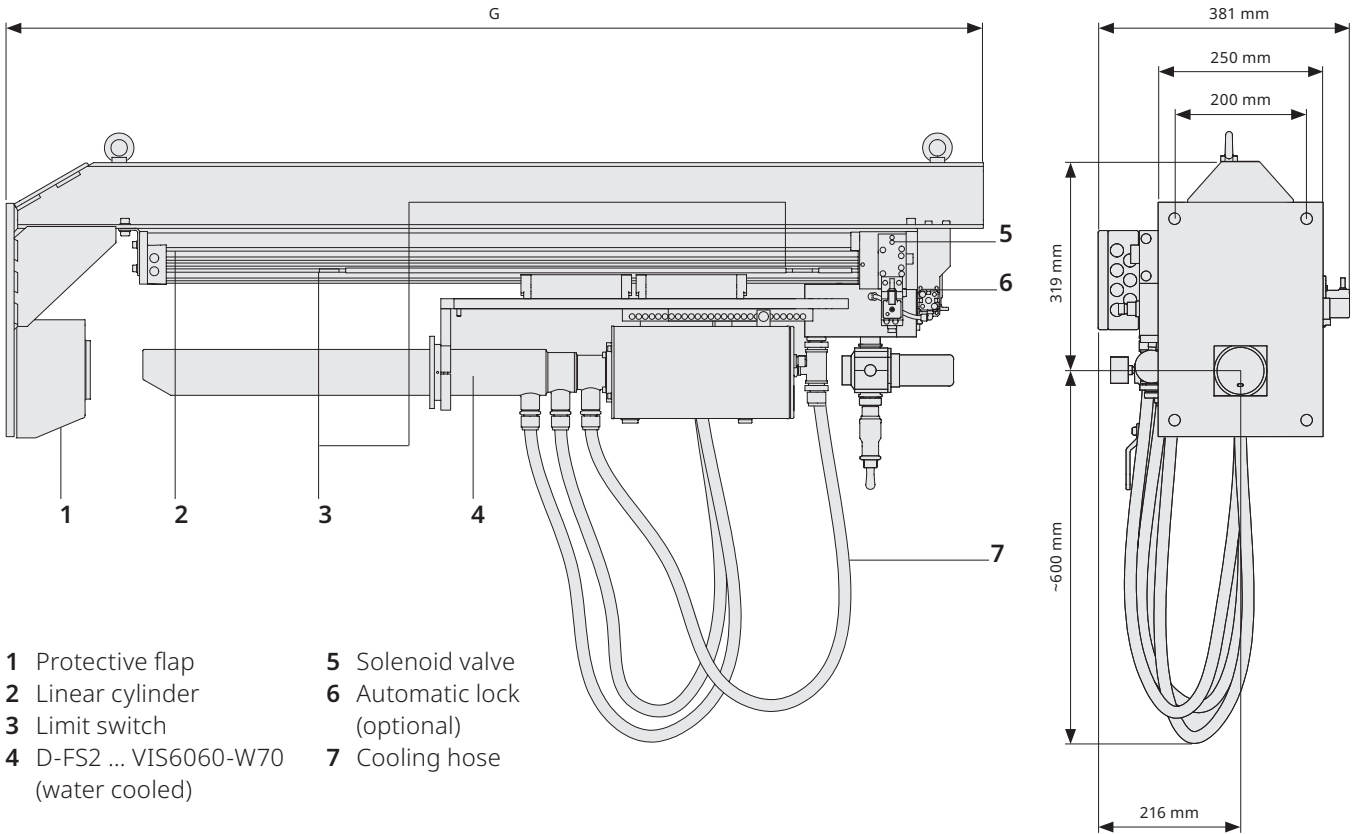
D-RU 50 WITH D-FS 50 ... A60 | FURNACE CAMERA INSERTED



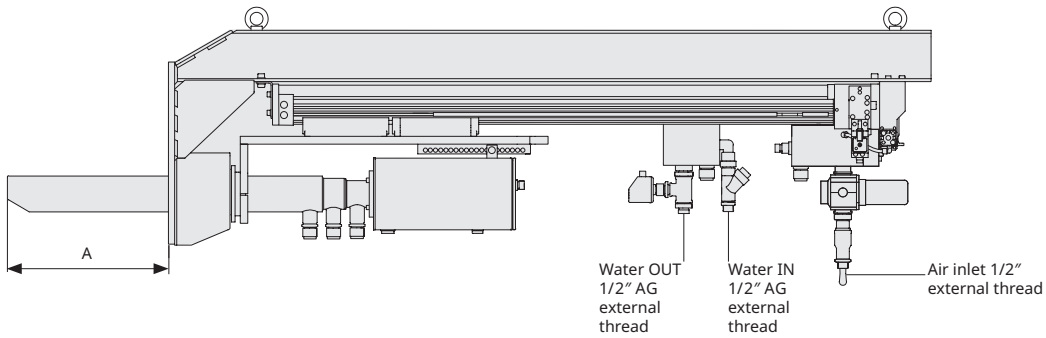
D-RU	D-FS	G	Penetration depths	
			A minimum	A maximum
D-RU 50 A60-700	D-FS 50 A60-700	1,487 mm	0	185 mm
D-RU 50 A60-700	D-FS 50 A60-1100	1,487 mm	360 (185) mm***	562 mm
D-RU 50 A60-1100	D-FS 50 A60-1500	1,909 mm	780 (562) mm***	962 mm
D-RU 50 W70-700	D-FS 50 W70-700	1,487 mm	0	140 mm
D-RU 50 W70-700	D-FS 50 W70-1100	1,487 mm	362 (140) mm***	562 mm
D-RU 50 W70-1100	D-FS 50 W70-1500	1,909 mm	785 (562) mm***	964 mm

\*\*\* At the minimum penetration depth, the furnace camera protrudes up to 220 mm to the rear. Accordingly, more installation space is required.

D-RU 200 WITH D-FS2 ... VIS6060-W70 | EXAMPLE OF ANGLED FURNACE CAMERA, AIR-COOLED

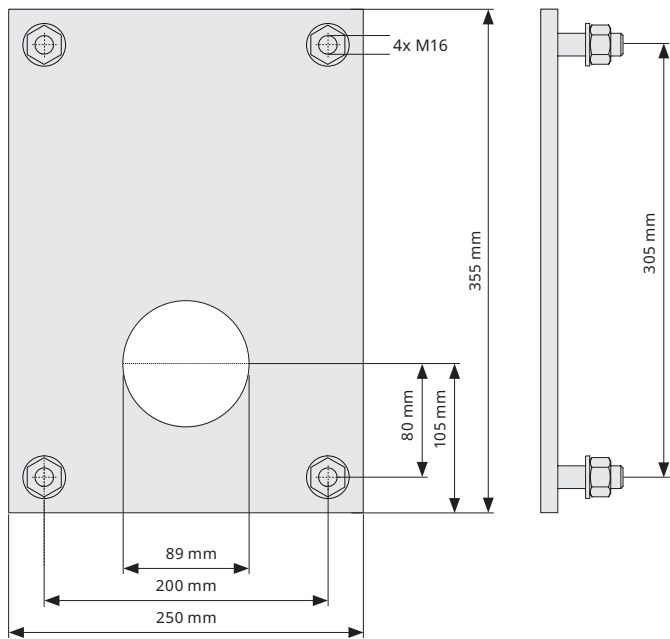


D-RU 200 WITH D-FS 2 | FURNACE CAMERA INSERTED

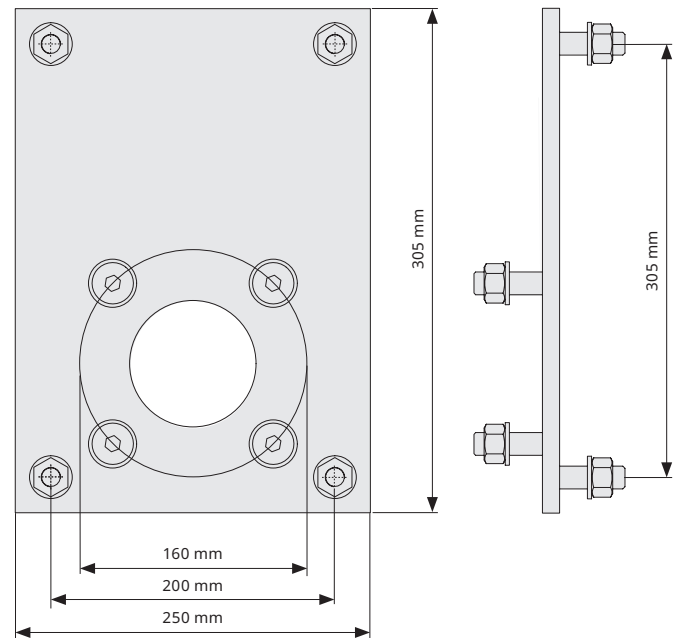


D-RU	D-FS	G	Penetration depths	
			A minimum	A maximum
D-RU 200 A60-700	D-FS2 A60-700	1,487 mm	266 mm	456 mm
D-RU 200 A60-1100	D-FS2 A60-1100	1,909 mm	688 mm	878 mm
D-RU 200 W70-700	D-FS2 W70-700	1,487 mm	254 mm	414 mm
D-RU 200 W70-1100	D-FS2 W70-1100	1,909 mm	676 mm	836 mm

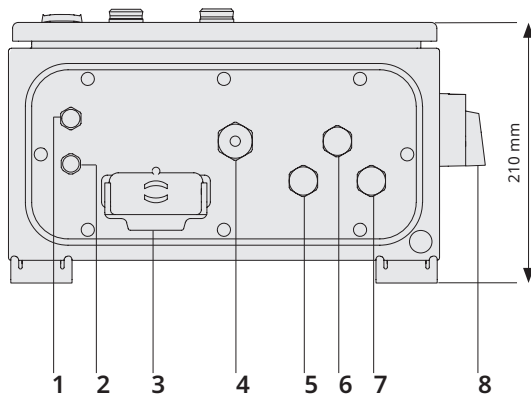
D-RU | WELDING PLATE D89



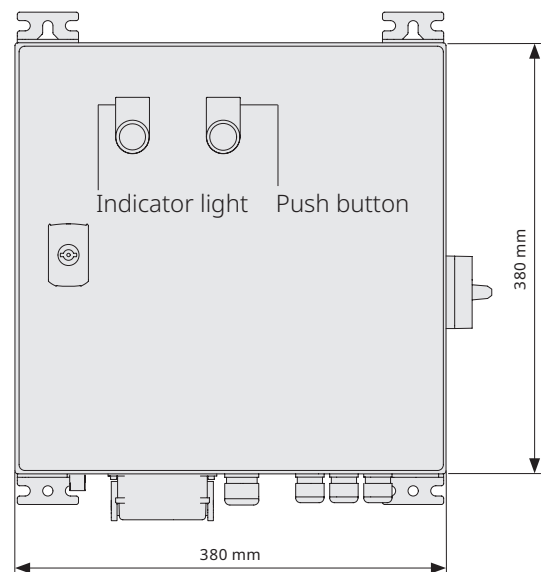
D-RU | FLANGE PLATE D89 DN80



D-SCU 50 | SENSOR CONTROL UNIT



- |  |   |
|--|---|
| <ul style="list-style-type: none"> <li>1 M12 Ethernet connection for the furnace camera</li> <li>2 M12 4-pin connection for the furnace camera</li> <li>3 Connection for the retraction unit</li> <li>4 Cable gland for fiber optic cable</li> </ul> | <ul style="list-style-type: none"> <li>5 Cable gland for connection cable</li> <li>6 Cable gland (reserve)</li> <li>7 Cable gland for optional condensate drain</li> <li>8 Main switch</li> </ul> |
|--|---|



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