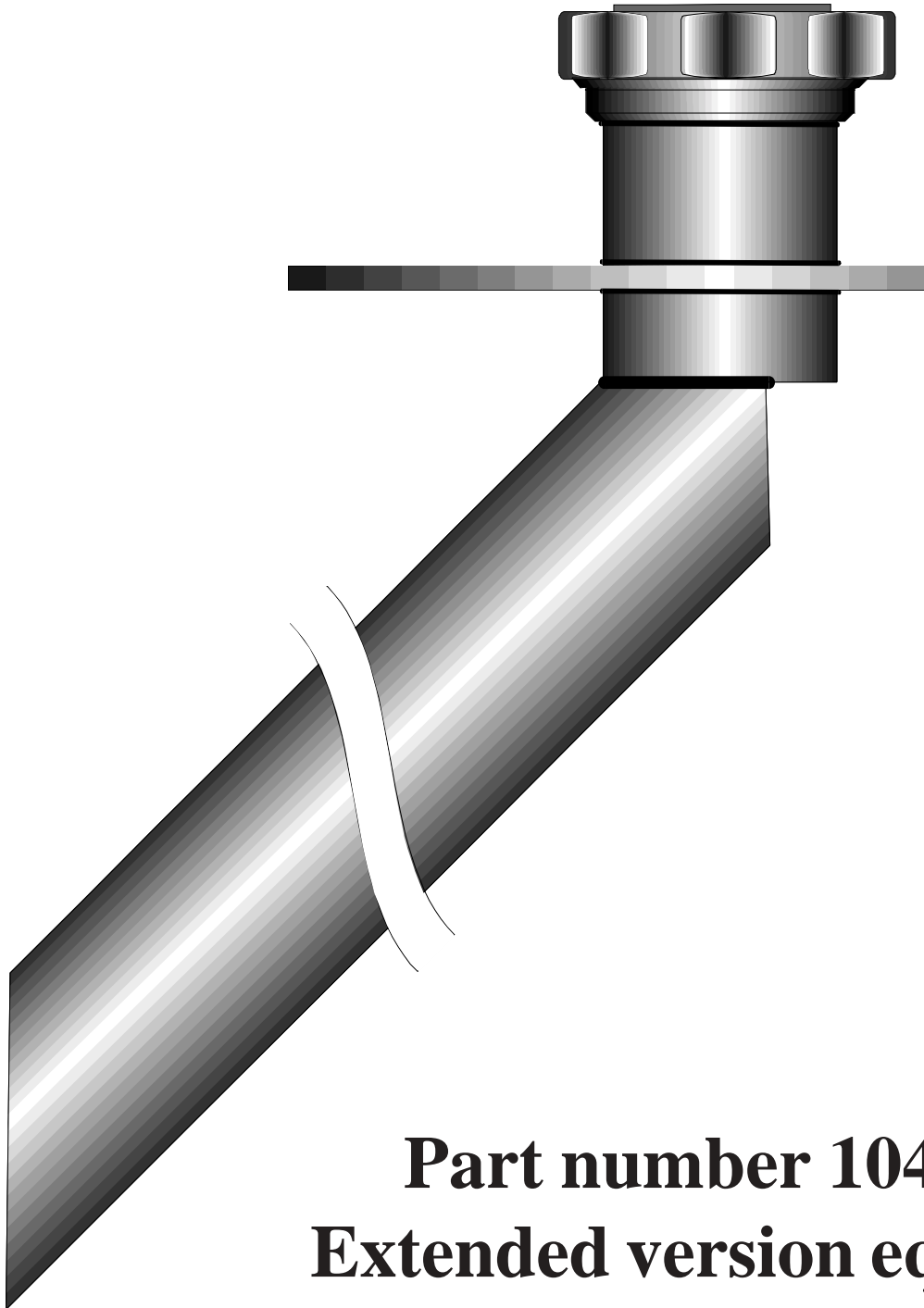


Fluegas-guidetube



Part number 104.160
Extended version equipped
with filter cartridges

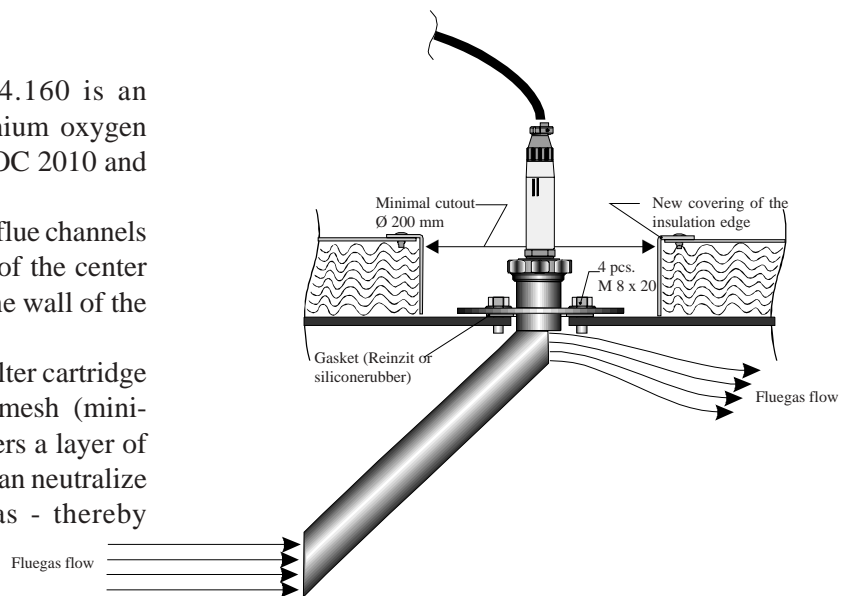
Manual

Description:

Fluegas-guidetube part number 104.160 is an accessory to the type OS 2000 zirconium oxygen sensor, which is part of the OC 2000, OC 2010 and OC 3000 oxygen meters.

The fluegas-guidetube is used on larger flue channels to assure that a representative sample of the center flow is guided to the sensor placed at the wall of the flue.

The fluegas-guidetube incorporates a filter cartridge fitted with a number of layers of filter mesh (minimum 2 layers). Between two filter layers a layer of granulate can be fitted. This granulate can neutralize poisonous substances in the flue gas - thereby extending the life of the sensor.



Specifications:

Installation site:	Top side of a rectangular flue channel
Installation method:	Flange mounted directly on the surface of the flue-channel wall on a counter-flange welded into the plate and the flue-channel wall.
Flange dimensions:	Outer diameter: $\text{Ø } 140 \text{ mm}$
	Fitting: 4 pcs M8 free holes in a 67,2 mm square
Cutout:	Insulation: A free hole minimum $\text{Ø } 200 \text{ mm}$ is cut in the insulation layer. The edge is covered with a suitable material.
	Holes: One $\text{Ø } 50 \text{ mm}$ centerhole and 4 pcs 6,8 mm holes in a 67,2 mm square
Gasket:	$d = 47 \text{ mm}$, $D = 88 \text{ mm}$ and $h = 3 \text{ mm}$ Reinzit 34 or silicone-rubber
Guide tube:	$\text{Ø } 38 \text{ mm}$ tube 450 mm long (tube up to 2000 mm long supplied on order).
Dive length:	335 mm (1400 mm with a tube 2000 mm long)
Connections:	M 18 x 1,5 hole for the OS 2000 sensor.
Materials:	Stainless acid proof steel AISI 316
Temperatures:	Flue-gas temperature: max. 400 °C
	Ambient temperature: max. 100 °C
Standard accessories:	Supplied with 1 pc. Reinzit 34 gasket, 4 pcs. M 8 x 20 self-tapping bolts, 1 pc. ring P/N 104.166 and 1 pc. filter cartridge P/N 104.155.2C filled with filtergrain suitable for sulphurous fuels.

Special supplied versions:	1. On request the guide tube can be supplied with a length of up to 2000 mm.												
	2. On request the guide tube can be supplied with a pre-bent flange. This way the guide tube can be fitted on the surface of a round flue gas channel (minimum diameter 400 mm).												
Accessories:	<table border="0"> <tr> <td style="vertical-align: top;">P/N 104.163</td> <td>Adapter with tube feedthrough for blow down filter cleaning and in situ calibration without removal of the sensor. Connections: one 6 mm and one 4 mm tube using cutting rings.</td> </tr> <tr> <td style="vertical-align: top;">P/N 104.167</td> <td>Adapter with tube feedthrough for blow down filter cleaning. Connections: one 6 mm tube using cutting rings.</td> </tr> <tr> <td style="vertical-align: top;">P/N 104.155.3</td> <td>Filter cartridges including 3 layers of filtermesh for use when heavy dust is present in the flue.</td> </tr> <tr> <td style="vertical-align: top;">P/N 104.155.2C</td> <td>Filter cartridges filled with filter granulate suitable for use with sulphurous fuels.</td> </tr> </table>	P/N 104.163	Adapter with tube feedthrough for blow down filter cleaning and in situ calibration without removal of the sensor. Connections: one 6 mm and one 4 mm tube using cutting rings.	P/N 104.167	Adapter with tube feedthrough for blow down filter cleaning. Connections: one 6 mm tube using cutting rings.	P/N 104.155.3	Filter cartridges including 3 layers of filtermesh for use when heavy dust is present in the flue.	P/N 104.155.2C	Filter cartridges filled with filter granulate suitable for use with sulphurous fuels.				
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Maintenance:

During the first year of use (using filter granulate), the granulate must be exchanged every 3 months - either by exchanging the complete cartridge or the granulate. Subsequently, the granulate is exchanged every 6 months, until the life of the sensor is known. This way the sensor life will exceed 12 months when using fuels containing 0,8 - 0,9 % of sulphur.

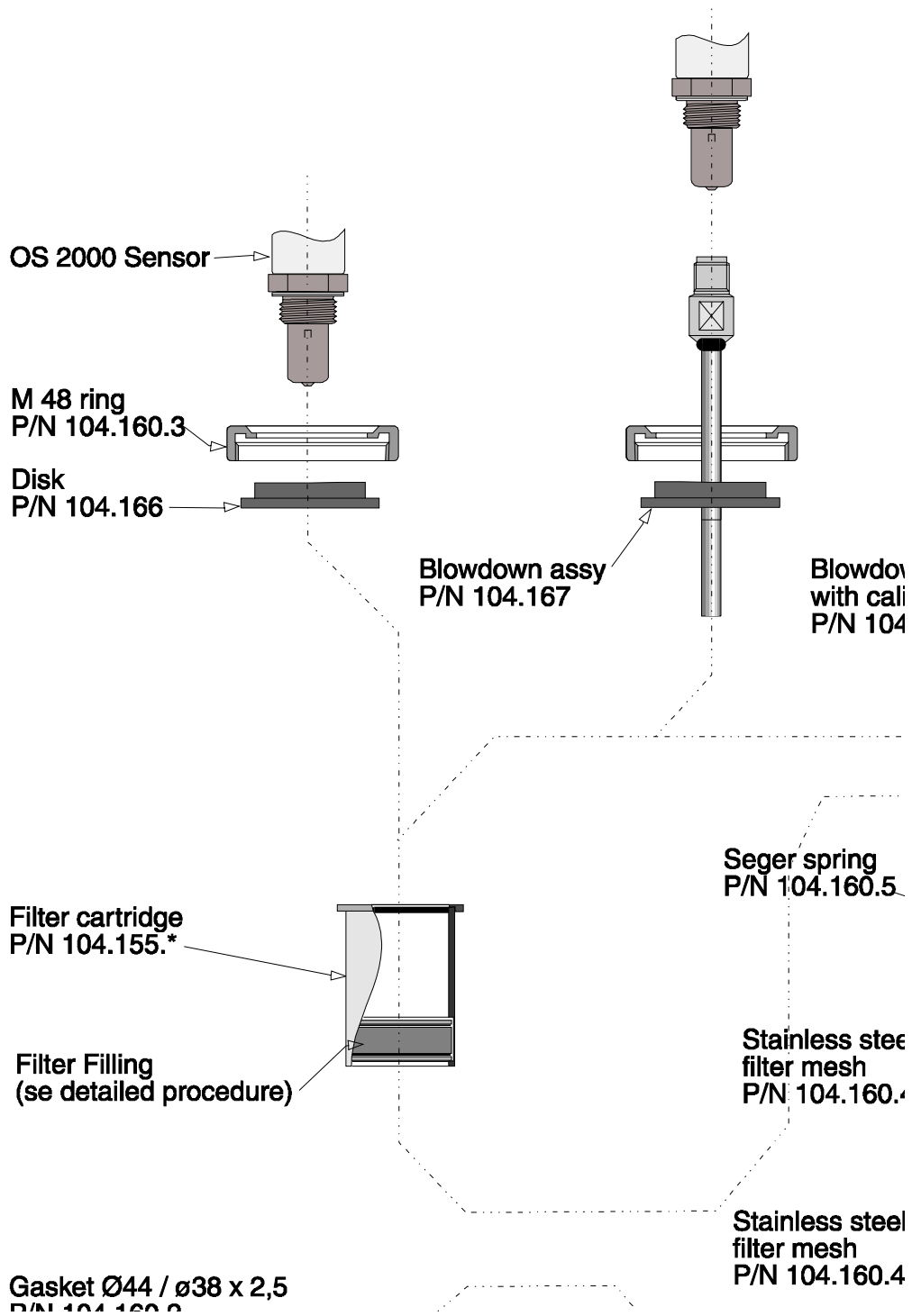
Filter cartridge exchange:

- 1) Unscrew the outer M 48 Ring of the fluegas-guidetube. Lift the ring and disk/adaptor and sensor and secure in a safe way. **Warning - the sensor is hot! (Use of gloves is advisable).**
- 2) Lift up the cartridge.
- 3) Fit a new or a retrofitted cartridge in the hole. Remember to exchange both gaskets.
- 4) Refit ring and disk/adaptor and sensor. Tighten the M 48 ring firmly.

Exchange of the filter filling:

- 1) When the filter cartridge has cooled down, the front segerspring and the first layer of mesh are removed.
- 2) The filter granulate is discarded (as plain domestic waste).
- 3) A small teaspoon of granulate is filled in. The amount can be reduced if a more rapid response from the sensor is required.
- 4) Filtermesh and segerspring are refitted.

Assembly and fitting of the filter cartridge and other accessories



Installation:

The installation is best performed on the top side of the flue-channel. This way any dust deposits around the sensor are avoided.

Procedure:

1. Cut a minimum 200 mm diameter in the insulation of the flue channel.
2. Clean the metal surface carefully.
3. Cut and drill 5 holes as illustrated (the drawing is 1 : 1 and can be used as a stencil)
4. Fit the gasket. With care a small amount of silicone rubber can be used - but the rubber must be completely hardened before the sensor is fitted (silicone is poison for the sensor).
5. Place the fluegas-guide tube in the hole with the „nose“ upstream in the gas flow.
6. Fit the four selftapping screws and tighten them carefully.
7. Fit the OS 2000 sensor in the hole of the disk or adapter.

