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SERIES OH-610-C

SEVEN-STAGES CASCAD IMPACTOR WITH BACKUP FILTER FOR THE FRACTIONATED SAMPLING OF SOLID PARTICLES AND AEROSOLES

IN-STACK VERSION

SPECIAL FEATURES

- Seven impactor stages.
- Rapidly changeable impactor stages suitable for performing sequential, continuously periodical measurements.
- 30% smaller external dimensions, 40% less mass performing the same flow rate.
- The chambers of the impactor stages can be well separated for scaling.
- Cleaning and the periodic size-control of the annular vent nozzles are extremely simple.
- Dust storage capacity is variable by the changing of the collector plates.
- The static and dynamic pressure exhaust probes and the temperature sensor are assembled together in the probe shank.
- Automatic, isokinetic sampling, measurement control and evaluation by the KS-400-S type device along with a Windows based software.

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1. Purpose

The **KS-404** type portable, partial gas flow emission type sampling circuit implemented with the **OH-610-C** type 7 staged cascaded impactor – in automatic operation - is capable of the isokinetic, continuously periodical, total or fractionated sampling of solid particles in flowing air or gas.

The **KS-404** type measuring circiut implemented with the **OH-610-C** type cascaded impactor simultaneously with the gravimetric determination of concentration of solid particles and the fractional composition of the flowing air or gas the device is capable of measuring and monitoring the temporal changes of the the velocity of the main gas flow or the sampled medium.

2. Comprehensive technical description

The seven stages cascade impactor **OH-610-C** type device offers completely new solutions. Even its evaluation system follows the latest fluid mechanical configurations. For the sake of increasing the impact effect and decreasing dimensions particles are accelerated in an annular nozzle to the proper impact velocity. The **OH-610-C** type cascaded impactor consists of a lead-in diffuser, seven impactor stages and an backup filter. To avoid reproduction errors occurring owing to the different adhesive capacity of particles, stages have a chamber configuration and are properly separated for scaling.

The cascaded impactor confirming with the latest environmental standards – ISO-EN 9096 – has been primarily developed to complete the **KS-404** type automatic, isokinetic sampling circuit, although it is compatible with any of the **KS-104** or **KS-404** type probe shanks. External dimensions and connecting thread sizes are completely compatible with the inlet pipes and probe shanks.

The layout of the **KS-404** type measurement circuit completed with the **OH-610-C** type impactor is shown in **Figure 1.**

The **Figure 2.** shows the cross-section of the **OH-610-C** type impactor assembled.

The **OH-610-C** type impactor can be used independently of the probe shank. The impactor in a disassembled state is shown in **Figure 3.**

The separation characteristics of the **OH-610-C** impactor, so called are represented in **Figure 4.**

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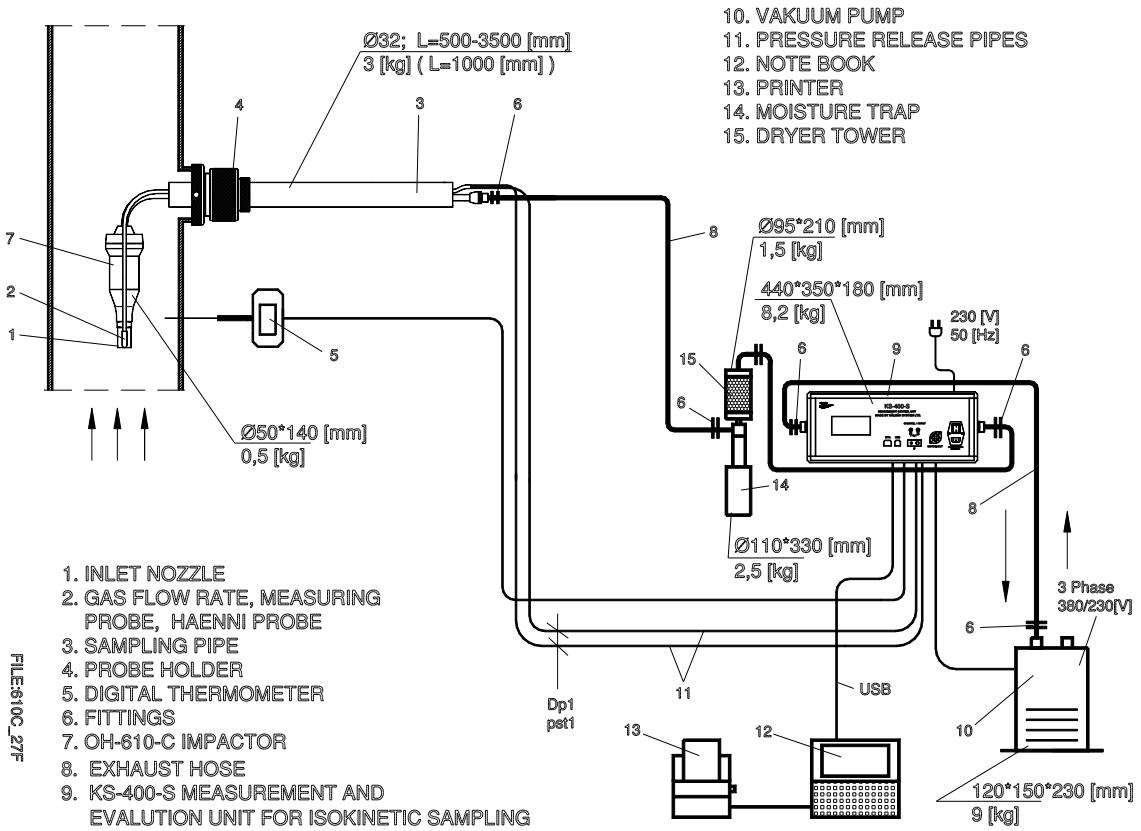

Figure 1.

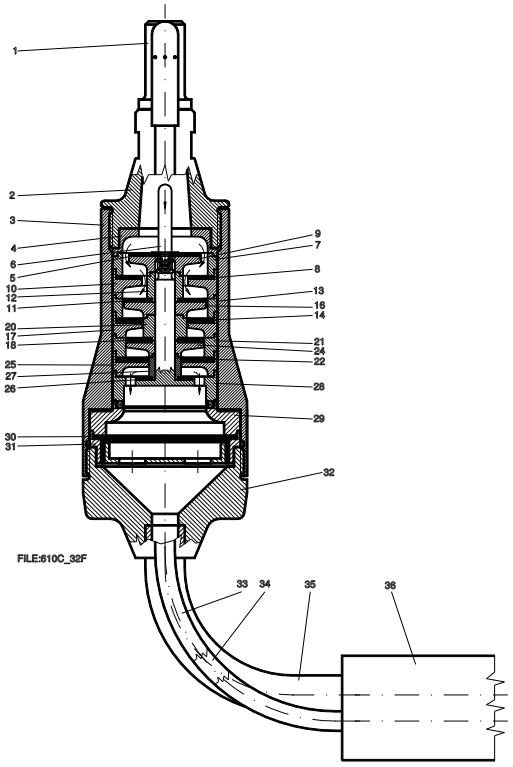

Figure 2.

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Figure 3.

SERIES OH-610-C CASCAD IMPACTOR							
q [m³/h]	Stage 1.	Stage 2.	Stage 3.	Stage 4.	Stage 5.	Stage 6.	Stage 7.
1,6	6,23	3,01	1,58	0,77	0,42	0,23	0,09
1,4	6,66	3,23	1,69	0,83	0,46	0,26	0,11
1,2	7,20	3,49	1,83	0,90	0,50	0,30	0,14

Figure 4.

3. Technical data

- Nominal flow rate depending on t1 — 1,3 [m³/h]
- Measuring range — 1,2 to 1,5 [m³/h]
- Aerodynamic resistance with clean filter — 316 [mbar] q=1,5 [m³/h], Ro=1,2 [kg/m³]
- Number of impactor stages — 7
- Particle separation values – cut points — AR-IZO OH-610-C software
- Max. temp. with PTFE gasket — 220 [°C]
- Nozzles — Ø4,5; 5,6; 7,6; 10,7; 14; 17 [mm]
- Optional nozzles — Ø 5,0; 6, 2; 6,9; 8,5; 9,5 [mm]
- Back-up filter — Ø43 [mm]