

CR SERIES

FILTER / EXTRACTION / ENVIRONMENTAL // TECHNOLOGY



CR Series



Ideal for clean rooms

The CR series is suitable for contamination-free use in highly sensitive manufacturing processes. The systems are compact and can be easily integrated into your processes anywhere. They ensure functionality and safety, both in clean-room booths

(ISO 14644) and in clean rooms (VDA 19 and ISO 16232). Due to contamination-free filter change up to ISO Class 5 (DIN EN ISO 14646-1), they fully meet increasing product and quality requirements.

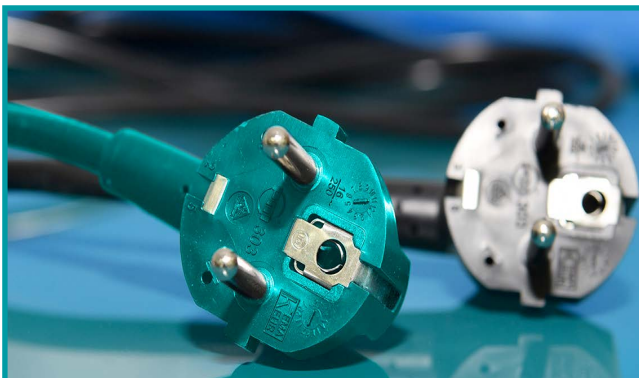


CCI – von Kahlden GmbH

- Tested according to DIN EN ISO 14644-1 / EG-GMP guidelines and confirmed by the CCI for use up to ISO class 5
- Possibility of process qualification of the entire system after filter changing
- Filter changing in clean room possible



Energy-saving and quiet



- Low energy costs, environmentally friendly
- Noise-reducing blower
- Suitable for operation in noise-sensitive environments

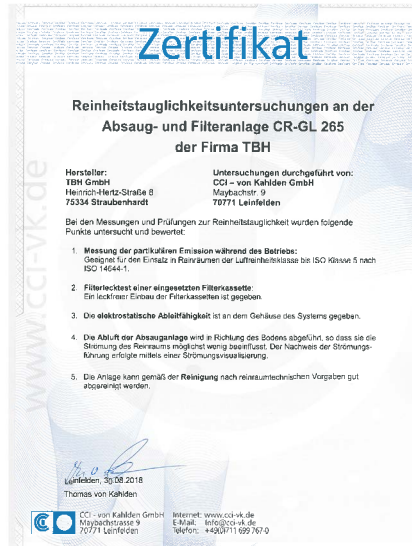
HUMANS / ENVIRONMENT / MACHINERY



CCI certification



Illustration similar



The clean-room suitability of the CR series has been tested and confirmed by CCI - van Kahlden GmbH.



Powerful motor

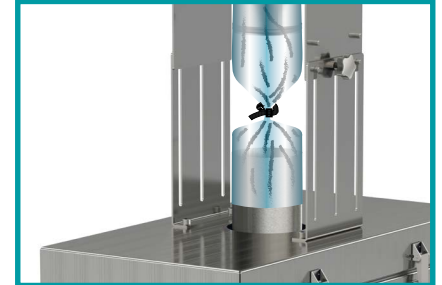


Electronically-commutated motors for full power and less energy consumption

- Wide-range input 100 – 240 V
- Brushless motor; suitable for continuous operation
- Electronic control for optimum motor characteristic curve and operating point



Patented filter changing with the CR series



With the CR series, the filter and extraction system can be adapted with different filter cassettes/ filter equipment depending on application. Additionally, based on customer requirements, this series also offers the option of "contamination-free"

or "low-contamination" filter changing. Thus, individual decisions can be made depending on the hazard potential of the extracted substances or the ISO class of the clean room.

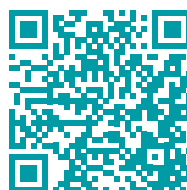
Low-contamination filter changing

The filter cassette already contains both the intake tube and an extendable protective hose (Fig. 1 + 2). After disengaging the intake tube, the protective hose can pull itself apart a little and overstretch the separation point (Fig. 3). Using the provided cable tie, the protective hose can be tied off above the open air inlet of the filter cassette so that it remains dustproof from the environment (Fig. 4). Afterwards, the filter can then be removed and properly disposed of.

The remainder of the protective hose can simply be removed from the tube and also disposed of. During this process, the extraction area is not completely sealed off all the time. For particularly critical or dangerous processes, it is therefore recommended to use the contamination-free "SafeChange" system.



Product video, filter changing, CR series





Low-contamination filter changing

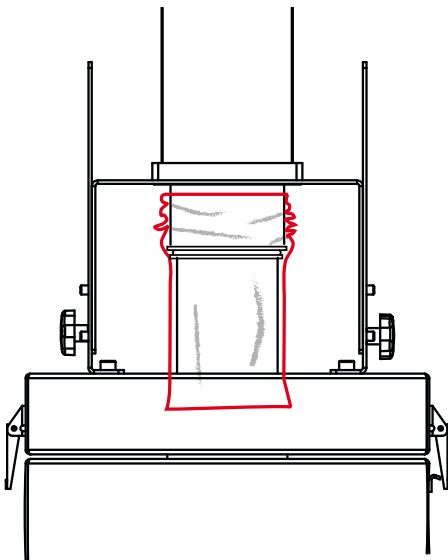


Fig. 1
Immersed tube, system in operation

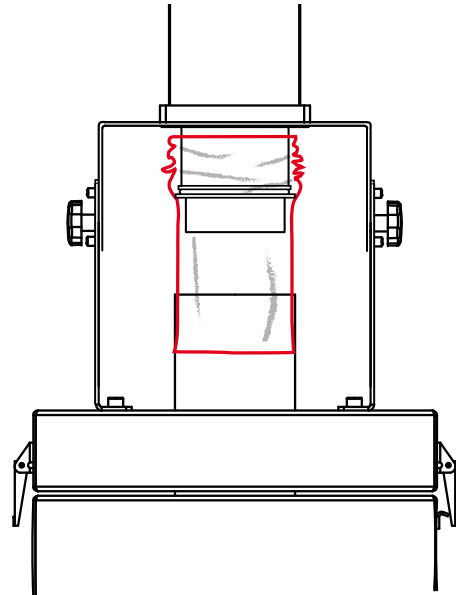


Fig. 2
Disengaged extraction tube

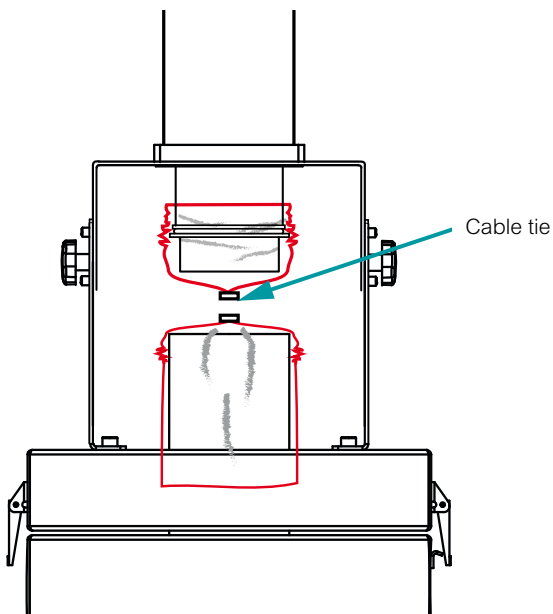


Fig. 3
Separating the protection hose

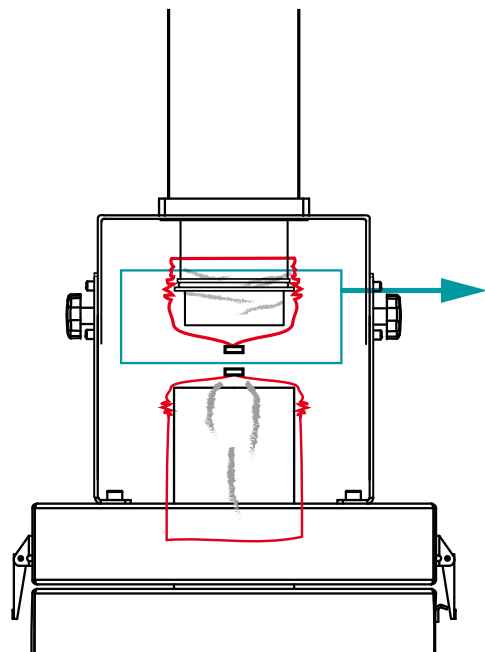
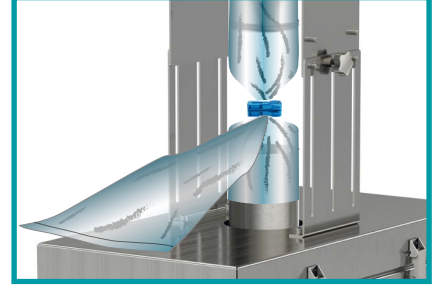
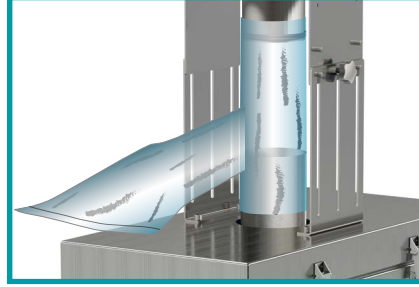
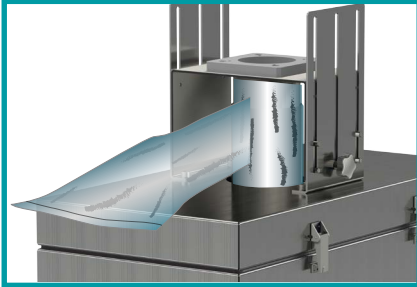


Fig. 4
Pulling off the protection hose from the tube
Replacement of filter



Patented technology Contamination-free filter change



Contamination-free filter changing is suitable for increased safety requirements. This option must be ordered additionally with the desired filter.

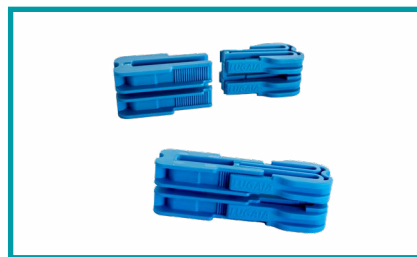
The filter cassette already contains both the intake tube as well as an extendable transfer liner with side access (Fig. 1). After disengaging the intake tube, the protective hose can pull itself apart a little and overstretch the separation point (Fig. 2). Using the provided SafeSeal-clip, the transfer-liner can be tied off above the open air inlet of the filter cassette so that it remains shielded off dust-proof from the environment (Fig. 3). The rest of the transfer-liner initially remains on the tube for the time being.

When inserting the new filter, pull the new transfer-liner over the rest of the old transfer-liner using its sealing ring and fix it in the upper groove of the silicone canister. Afterwards, simply pull the rest of the transfer-liner from the tube into the side opening and stow it there (Figs. 5 + 6). Then, retract/lower the tube again. The system is ready for operation again.

During this process, the extraction area is completely sealed off all the time. This is particularly recommended for high clean-room classes or hazardous work processes.



Flexible canister



Safe-seal-clips



SafeSeal-clip over
SafeChange-foil



Pressed together with locking pliers



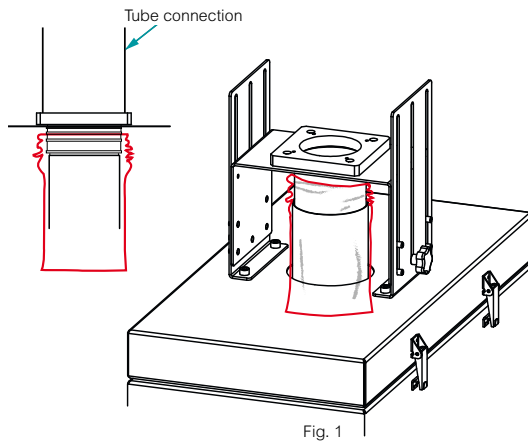
Separate using cutting tool



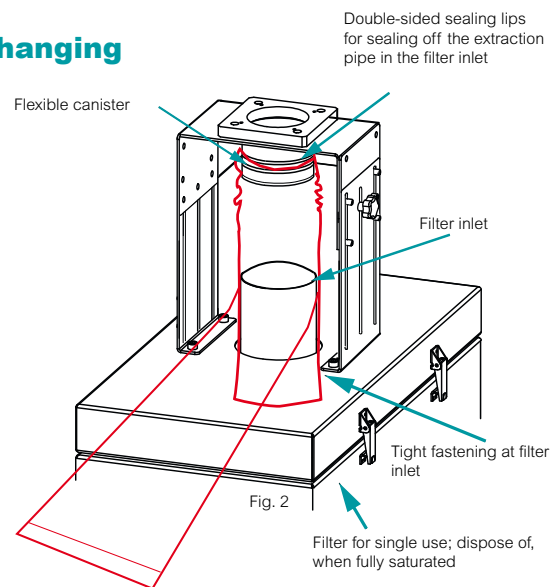
Separated with use of cutting tool



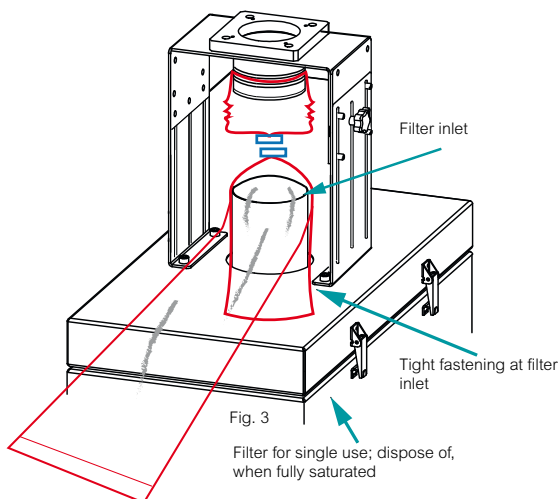
SafeChange filter changing



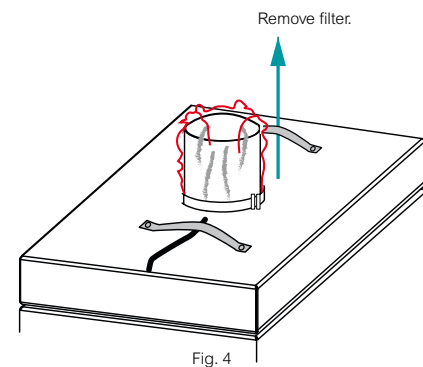
Retracted tube, system in operation



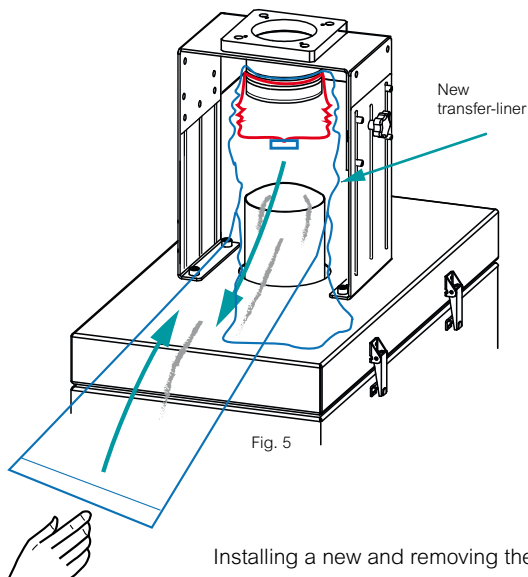
Disengaged extraction tube



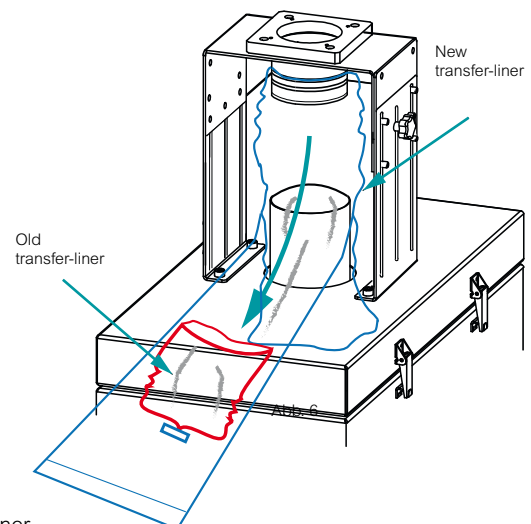
Separation of the transfer-liner after use and disposal of the filter with the "liner remainder"



Removing and disposing of the used filter



Installing a new and removing the old transfer-liner



Applications

Use of clean-room compatible, low-contamination materials

Nowadays, clean rooms are defined by the so-called clean-room classes. The individual classes describe the maximum permissible concentration of airborne particles or germs and CFUs (colony-forming units), which must not be exceeded in a clean room. Today it is possible to control these classes with the help of standardized measurement methods. Air quality is thus a fixed parameter that documents the effect of measures to maintain air quality in production facilities.

| CLEAN-ROOM CLASS | DIN EN ISO 14644-1 | | | | | | EG-GMP | | REVISED STANDARD | |
|------------------|---|-----------|-----------|-----------|-----------|-----------|---------------------|-----------------------------|--------------------------|-------------------|
| | Cn = maximum number of particles per m³ and particle diameter | | | | | | Room classification | Colony forming units KBE/m² | US FEDERAL STANDARD 209E | |
| | 0.1 µm/m³ | 0.2 µm/m³ | 0.3 µm/m³ | 0.5 µm/m³ | 1.0 µm/m³ | 5.0 µm/m³ | | | English unit ft³ | Metric SI unit m³ |
| ISO 1 | 10 | 2 | | | | | | | | |
| ISO 2 | 100 | 24 | 10 | 4 | | | | | | |
| ISO 3 | 1000 | 237 | 102 | 35 | 8 | | | | 1 | M 1.5 |
| ISO 4 | 10000 | 2370 | 1020 | 352 | 83 | | | | 10 | M 2.5 |
| ISO 5 | 100000 | 23700 | 10200 | 3520 | 832 | 29 | A / B | < 1 | 100 | M 3.5 |
| ISO 6 | 1000000 | 237000 | 102000 | 35200 | 8320 | 293 | (B) | 10 | 1000 | M 4.5 |
| ISO 7 | | | | 352000 | 83200 | 2930 | C | 100 | 10000 | M 5.5 |
| ISO 8 | | | | 3520000 | 832000 | 29300 | (C) / D / E / F | 200 | 100000 | M 6.5 |
| ISO 9 | | | | 35200000 | 8320000 | 293000 | With employees | | | |

Adsorption of gaseous substances

Two complementary filter materials are used for the adsorption of gaseous substances. The activated carbon supports the process of physical adsorption while the BAC granulate supports chemical adsorption. The neutralization of certain gaseous substances is achieved by chemical bonding with the reaction substance applied to a carrier material. Since physical and chemical adsorption complement each other, a very broad spectrum of gases and odours can be taken up.



Active carbon



BAC granulate



Active carbon/BAC

Double safety through police filters

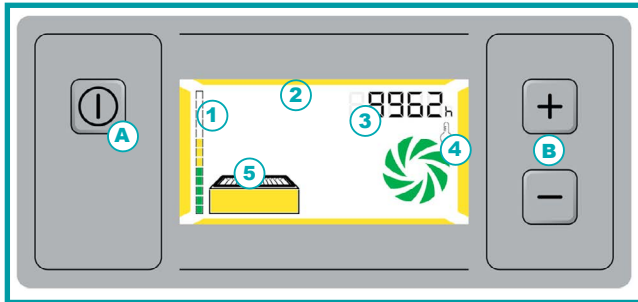
The CR-GL265 is equipped as standard with a police filter in the blow-out area of the system. This additional filter, downstream of the normal filter package, guarantees double safety and protection against dangerous particles or contamination of the clean room in the event of leakage of the main filters.

HUMANS / ENVIRONMENT / MACHINERY

Inspiring checking



Always full control over the system



- A - Start / Stop button
- B - Manual power control
- 1 - Saturated filter notification
- 2 - System status indication
- 3 - Power-setting indication/
Hour meter
- 4 - Temperature and turbine-status indication
- 5 - Filter-status indication

Sub-D 25 interface



External control of the system



Illustration similar

Powerful control unit

- Start / Stop button
- "Filter full" pre-warning stage (75 %)
- Group-error output
(speed, temperature, filter full 100 %)
- External power control
- Parameterization access for activating special functions
- Message cache
- Digital interface (RS232)

Technical data CR Series



Illustration similar



Delivery scope:

- Completely assembled (incl. tube and police filter)
- With tight-seating frame for testing the tight seating of the filter
- 4 castors for mobile use
- Power cord

Optional expansion components:

- Adapter for extraction arm or hose connection

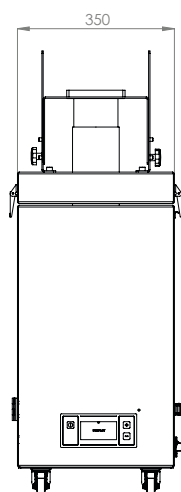
| TECHNICAL DATA | UNIT | CR-GL 265 |
|--------------------------------------|-------|---------------------------------------|
| Air flow rate with free air delivery | m³/h | max. 350 |
| Effective air flow rate | m³/h | 100-300 |
| Max. static pressure | Pa | 6000 |
| Voltage | V | 100-240 |
| Frequency | Hz | 50/60 |
| Motor output | kW | 0.6 |
| Class of protection | - | 1 |
| Drive type | | Continuous running |
| Sound level | db(A) | approx. 55 |
| Serial interface | Sub-D | 25-pin |
| Weight | kg | approx. 70 |
| Dimensions (height) | mm | 725 (without tube) / 1100 (with tube) |
| Dimensions (width x depth) | mm | 350x710 |
| Intake socket | - | Configurable (see options) |
| Housing | - | Stainless steel |
| Degree of protection | IP | 65 |

| FILTER CONFIGURATION | | |
|----------------------|-----------------------------|----------------------|
| Z | Z-line panel filtererF7) | ✓ |
| | Particle filter (H14) | ✓ |
| A | Activated carbon BAC filter | optional (10 liters) |
| | Police filter | ✓ |

Ordering data CR series

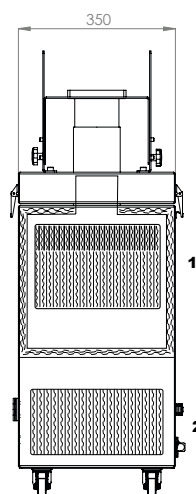


| System / ISO class DIN EN ISO 14646-1 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---------------------------------------|---|---|---|---|---|---|---|---|---|
| CR-GL 265 with police filter | - | - | - | - | ✓ | ✓ | ✓ | ✓ | ✓ |



CR-GL 265
(WITHOUT FILTER INSERT)

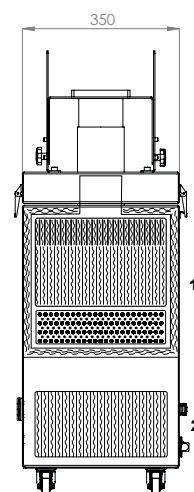
| DESIGNATION | ART. NO. |
|--|----------|
| CR-GL 265 100 - 240V 50/60Hz | 90433 |



Z

| FILTER EQUIPMENT | ART. NO. | |
|--|----------|----------|
| Combination filter (Z-Line panel filter, particle filter) | 16713 | 1 |
| "Option" hose foil with SafeChange and access | 15662 | |
| Police filter | Standard | 2 |

| SPARE FILTER | | |
|--|-------|----------|
| Combination filter (Z-Line panel filter, particle filter) | 16713 | 1 |
| "Option" hose foil with SafeChange and access | 15662 | |
| Police filter | 14179 | 2 |



ZA

| FILTER EQUIPMENT | ART. NO. | |
|---|----------|--|
| Combination filter (Z-Line panel filter, particle filter) Activated carbon BAC filter | 16714 | |
| "Option" hose foil with SafeChange and access | 15662 | |
| Police filter | Standard | |

| SPARE FILTER | | |
|---|-------|----------|
| Combination filter (Z-Line panel filter, particle filter) Activated carbon BAC filter | 16714 | 1 |
| "Option" hose foil with SafeChange and access | 15662 | |
| Police filter | 14179 | 2 |

Filter inserts / Replacement filters

**POLICE FILTER**

For reduction of particulate emissions

As a safety level for particularly hazardous substances

| USE | FILTER CLASS | ART. NO. |
|-----------|---------------------|----------|
| CR-GL 265 | Particle filter H14 | Standard |

**EXHAUST DUCT**

| USE | DESIGNATION | ART. NO. |
|-----------|------------------------------------|----------|
| CR-GL 265 | Exhaust air duct - Circulating air | Standard |

**EXHAUST DUCT**

| USE | DESIGNATION | ART. NO. |
|-----------|---------------------------------|----------|
| CR-GL 265 | Exhaust air duct - exhaust air* | 16921 |

* Connection socket NW 125, System Safe

**BASE TUBE**

| USE | DESIGNATION | ART. NO. |
|-----------|---|----------|
| CR-GL 265 | Prepared for adapters that can be ordered separately - see right. | Standard |

Options CR Series



ADAPTER FOR HOSE CONNECTION*

| USE | Ø in mm | ART. NO. |
|-----------|-------------|----------|
| CR-GL 265 | Socket - 80 | 15347* |

* For mounting on a basic tube; suitable hoses can be found in our accessories catalog (connection of hose with wire-hose clamp - no nipple necessary).



ADAPTER TRI-CLAMP

| USE | Ø in mm | ART. NO. |
|-----------|----------------|----------|
| CR-GL 265 | Tri-Clamp - 50 | 16609* |

* for mounting on a base tube; please consult us for matching accessories.



ADAPTER FOR ALSIDENT EXTRACTION ARM*

| USE | Ø in mm | ART. NO. |
|-----------|---------|----------|
| CR-GL 265 | AL 75 | 16602* |

* For mounting on a base tube; suitable extraction arms with accessories can be found in our accessories catalog.

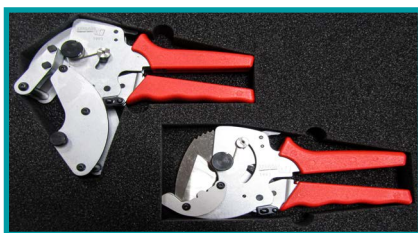
Filter inserts / Replacement filters

**DSP-3 TESTER FOR TESTING FILTER TIGHT-SEATING**

FUNCTIONS: for checking the filter tight-seating after transport / filter changing

The tester is adapted to the filter housing via the laterally positioned hose connection. Pressure is applied to the tight-seating groove via the hand bellow on the tester (page 3, Fig. 1).

| USE | DESIGNATION | ART. NO. |
|-----------|----------------------------------|----------|
| CR-GL 265 | Checking of filter tight-seating | 15661 |

**SAFESEAL TOOL**

FUNCTIONS: for the filter-protection hose with side access. The SafeSeal clip is manually pushed over the bag and pressed together with the crimping pliers. The pressed clip is separated with the cutting tool.

| USE | DESIGNATION | ART. NO. |
|-----------|--------------------------|----------|
| CR-GL 265 | SafeSeal tool set | 15655 |
| CR-GL 265 | Clip opener | 15656 |
| CR-GL 265 | SafeSeal clip (10 pce.) | 16953 |
| CR-GL 265 | SafeSeal clip (100 pce.) | 15657 |



Accessories

**USB CONNECTION CABLE**

| USE | DESIGNATION | CABLE LENGTH | ART. NO. |
|-----------|----------------------|--------------|----------|
| CR-GL 265 | USB connection cable | 1.5 meters | 16455 |

DELIVERY SCOPE: Connection cable (incl. software)

Harting option



HARTING MAINS CONNECTION

| USE | DESIGNATION | ART. NO. |
|-----------|---------------------------------|----------|
| CR-GL 265 | Mains connection Harting option | 17036 |



USB CONNECTION HARTING

| USE | DESIGNATION | CABLE LENGTH | ART. NO. |
|-----------|------------------------------|--------------|----------|
| CR-GL 265 | USB connection cable Harting | 1.5 meters | 16466 |

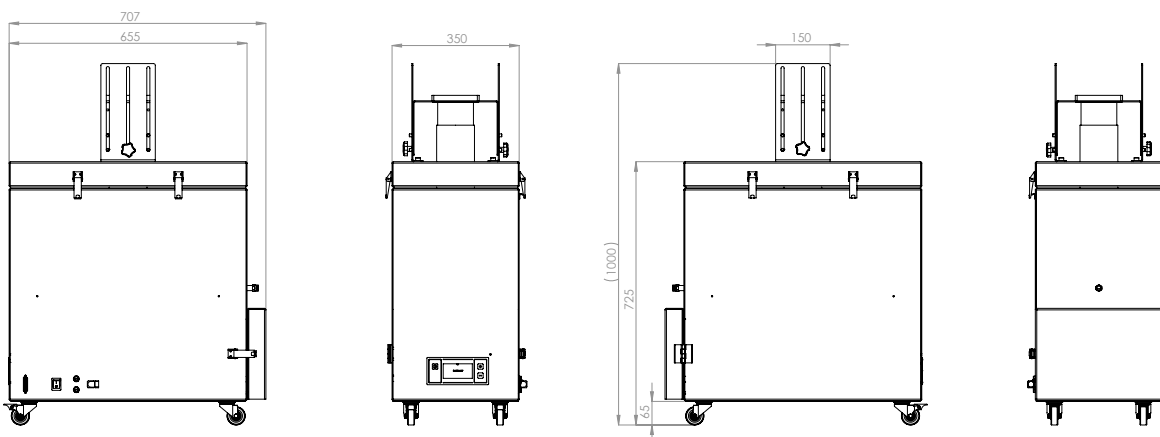
DELIVERY SCOPE: Connection cable (incl. software)



INTERFACE HARTING

| USE | DESIGNATION | ART. NO. |
|-----------|--------------------------|----------|
| CR-GL 265 | Interface Harting option | 15719 |

Technical drawings



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Further information on the series

