# CANISTER
## *Safe change filter housing*

| | |
|---|---|
| Product | CANISTER |
| *Mechanical resistance* | +/-5 kPa according to ANSI-ASME 510-1980 |
| *Operating temp.* | according to technical features of filter (except for TB –TC filters) |

Canister safe change filter housings are used for the tight housing of filters used to filter air containing noxious, toxic, radioactive substances, etc. They are especially used in industrial plants, laboratories, and process applications. Their main feature is to allow the maintenance personnel to safely replace the exhausted filters, both absolute and activated carbon.
In fact the operator never touches the filters because they are insulated inside a protection bag where they are sealed and then disposed of. This operation is also very safe for the surrounding environment.
The new filters are then handled without any direct contact. They are pulled out of their protection bags (bag-in, bag-out procedure). Canister containers are constructed of strong galvanized sheet steel, welded, externally and internally varnished with decontamination paint (V1.Z); on request we can also supply the product with an AISI 304 (SS) stainless steel structure. They are fitted with a side inspection door with sealing handles, there are also pressure ports, centering devices and filtration element locking and other features to guarantee extremely safe use and operation.
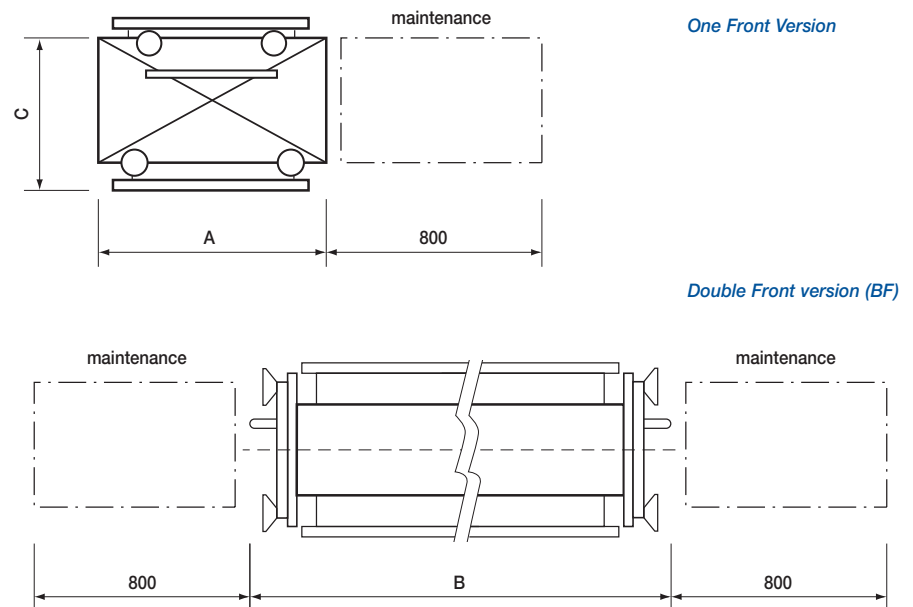
**Applications**     Canister containers are used in industrial plants, processing plants and laboratories where the air to be filtered is filled with gas or noxious or toxic substances, or it is polluted by radioactive particles (radioisotope). Their use is also foreseen in strategic applications and civil structures whose particular importance make them a potential target for chemical/biological threats (embassies, government offices, etc.).

**Installation**     Canister containers are suitable for direct duct installation using the flanges they are fitted with. In this case the container is connected upstream of the polluted air exhaust duct and downstream of the filtered air outlet duct.
Alternatively,  Canister containers can be installed on proper collectors, according to the air volumes to treat, and then connected to polluted air exhaust ducts and clean air supply ducts.

| Type | | Sizes (mm) | | | | Filter sizes (mm) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| CAN | | A | B | C | | A | B | C | | |
| 42 | | 449 | x  810 | x  431 | | 305 | x  610 | x  150 | | |
| 4 | | 754 | x  810 | x  431 | | 610 | x  610 | x  150 | | |
| 52 | | 449 | x  810 | x  573 | | 305 | x  610 | x  292 | | |
| 5 | | 754 | x  810 | x  573 | | 610 | x  610 | x  292 | | |
| 4 | BF | 754 | x  1620 | x  431 | | 610 | x  610 | x  150 | | |
| 5 | BF | 754 | x  1620 | x  573 | | 610 | x  610 | x  292 | | |
| CAN BAG | 42 - 4 - 52 - 5 | | | | | | | | | |
| CAN RING | 42 - 4 - 52 - 5 | | | | | | | | | |

*1 m³/s x 10⁻³ = 1 l/s*

*$1\ m^3/s \times 10^{-3} = 1\ l/s$*

## *Size*



maintenance

*One Front Version*



maintenance     maintenance

*Double Front version (BF)*

### Sizes (mm) Weight (Kg) Canister

| CAN | H | Weight |
|---|---|---|
| 42 | 431 | 32 |
| 4 | 431 | 68 |
| 52 | 573 | 36 |
| 5 | 573 | 45 |
| 4 BF | 431 | 68 |
| 5 BF | 573 | 85 |

*filtration*

# CANISTER system

## Standard formats of the low pressure system

The overall dimensions of the Canister System can easily be calculated as follows:

A) define the number and type of filtering stages that form each housing

B) divide the total air flow rate by the unit one of the housing (which is the unit rate of the filter) to obtain the number of housing. This is how you can determine the size of the collectors (number of outlets).

C) By using the chart of the "Standard Collectors" you can find the missing measurements to define the total height (height of housing + lower collector height + upper collector height).

D) by using the chart you can find the height of the Housing, the width of the System and the free space required for maintenance operations.

Lower heights or special types must be directly evaluated by out technical Office.
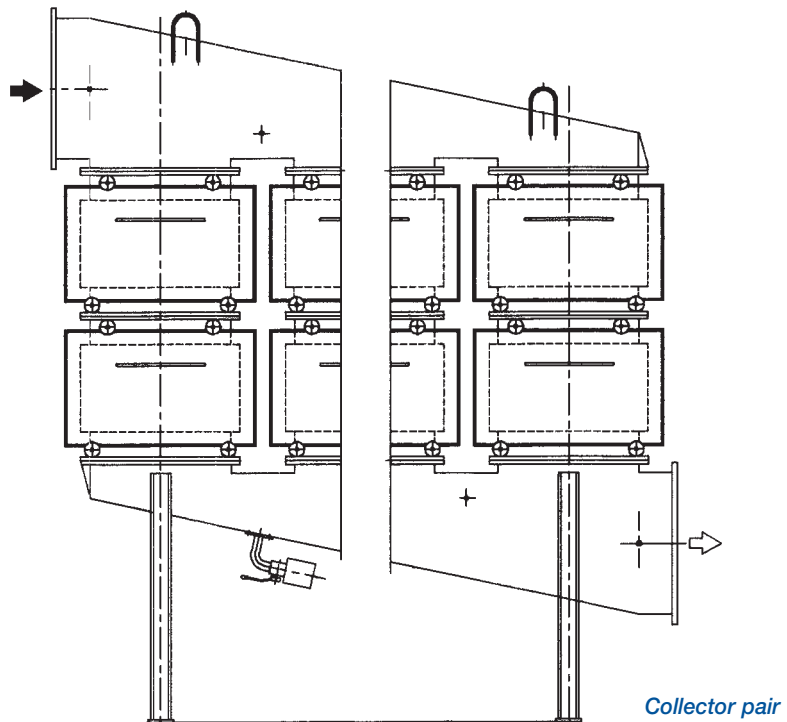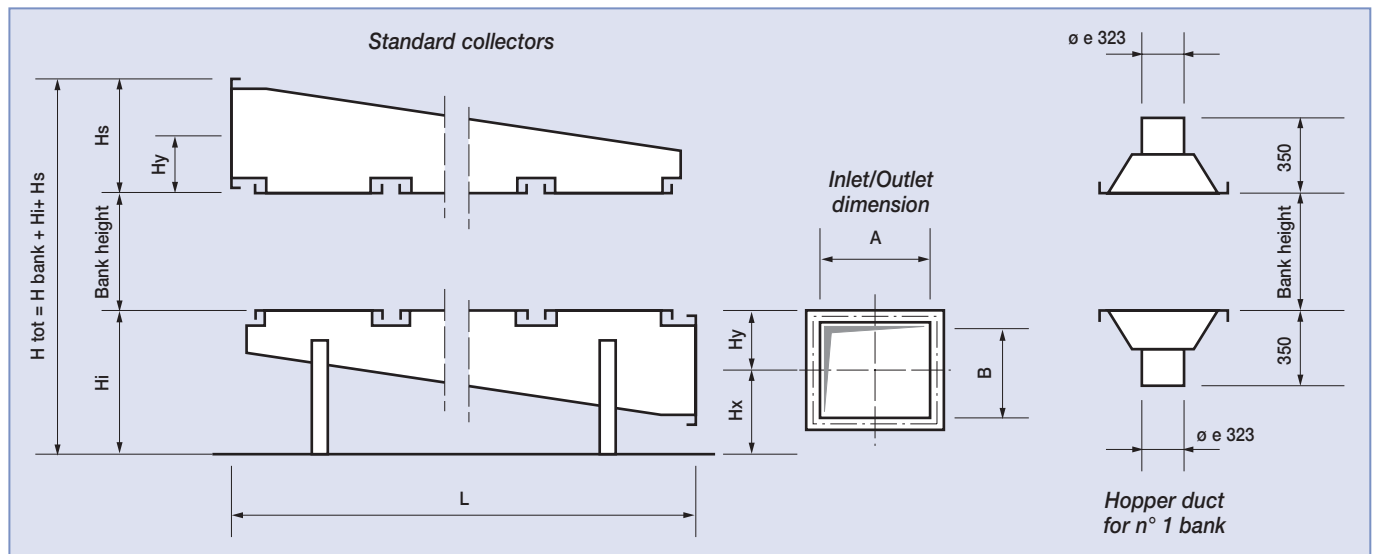
*Collector pair*

### options request

- Vacuum breaker
- Thightness damper DIN 1946-69 part 4
- Reading systems (outlet ΔP)
- DOP probe
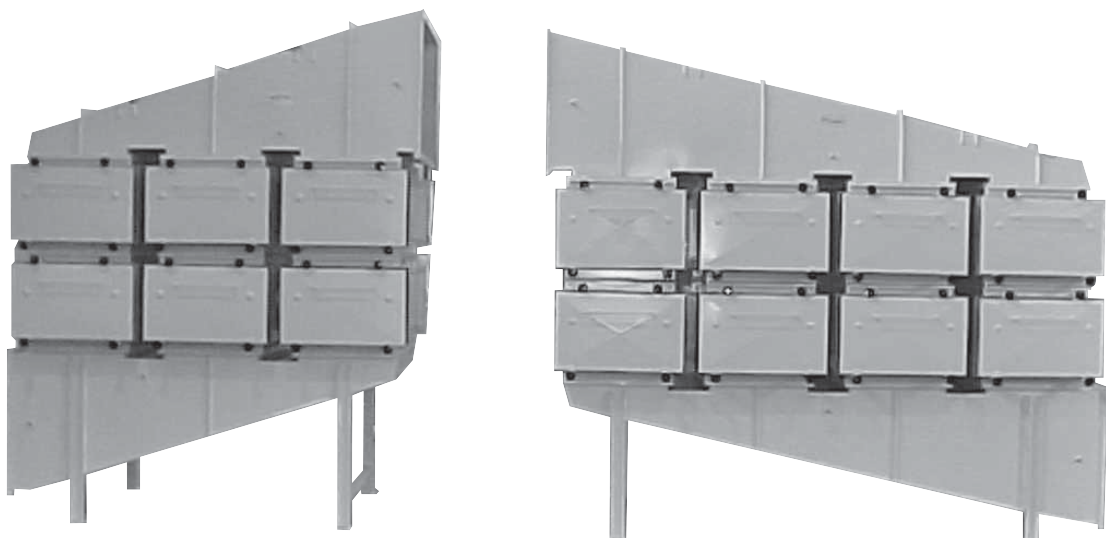
# CANISTER system

*Collectors sizes and weights*

*System plan*



Standard collectors

Inlet/Outlet dimension

ø e 323

Hopper duct
for n° 1 bank

## Standard air flow rates

| | ONE-FRONT | | | | | DOUBLE-FRONT | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Banks number | | | | | | | | |
| | 1 | 2 | 3 | 4 | 5 | 2 | 3 | 4 | 5 |
| A | ø e 323 | 558 | 558 | 558 | 558 | 1186 | 1186 | 1186 | 1186 |
| B | ø e 323 | 254 | 406 | 558 | 558 | 254 | 406 | 558 | 558 |
| Hx | --- | 280 | 350 | 430 | 430 | 280 | 350 | 430 | 430 |
| Hy | --- | 180 | 255 | 335 | 335 | 180 | 255 | 335 | 335 |
| H i | --- | 460 | 605 | 765 | 765 | 460 | 605 | 765 | 765 |
| Hs | --- | 350 | 500 | 655 | 655 | 350 | 500 | 655 | 655 |
| L | --- | 1670 | 2475 | 3280 | 4085 | 1670 | 2475 | 3280 | 4085 |
| Weight | 20 | 120 | 180 | 270 | 320 | 250 | 370 | 530 | 630 |

## Oversize air flow rates

| | ONE-FRONT | | | | DOUBLE-FRONT | | | |
|---|---|---|---|---|---|---|---|---|
| | Banks number | | | | | | | |
| | 2 | 3 | 4 | 5 | 2 | 3 | 4 | 5 |
| A | 558 | 558 | 580 | 558 | 1186 | 1186 | 1186 | 1186 |
| B | 558 | 800 | 1000 | 1200 | 550 | 800 | 1000 | 1150 |
| Hx | 420 | 540 | 640 | 740 | 420 | 540 | 640 | 750 |
| Hy | 335 | 455 | 555 | 655 | 330 | 455 | 555 | 630 |
| H i | 755 | 955 | 1195 | 1395 | 750 | 995 | 1185 | 1345 |
| Hs | 660 | 900 | 1100 | 1300 | 650 | 900 | 1100 | 1250 |
| L | 1670 | 2475 | 3280 | 4085 | 1670 | 2475 | 3280 | 4085 |
| Weight | 170 | 250 | 300 | 500 | 230 | 360 | 520 | 680 |

*filtrazion*

# CANISTER system

# Filter replacement diagram with Bag-in/Bag-out procedure
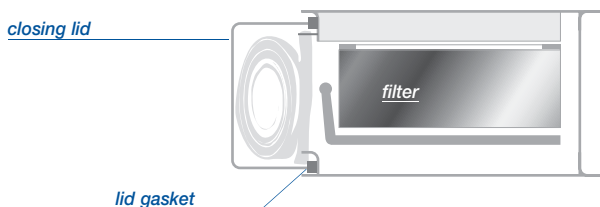
## 1. First filter

- Put filter in container and tighten the levers
- Fix the PVC bag on the collar with fastening ring



container
PVC bag
filter
ring
fastening lever
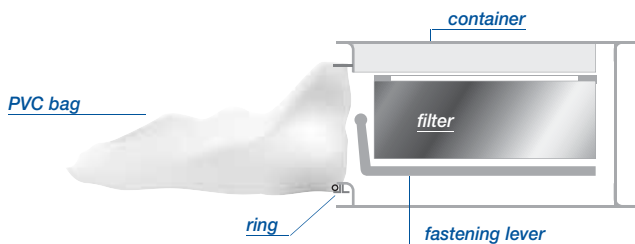
## 2. Operating position

- Fold PVC bag positioning it in front of the filter
- Close the lid and tighten the locking handwheel



closing lid
filter
lid gasket

## 3. Changing filter

- Switch off the fan
- Close the dampers up- and downstream (if installed)
- Bring the system to room pressure using the vacuum breaker (if installed)
- Rremove the handwheels and the lid
- Lower the locking levers
- Roll out the bag and remove the dirty filter, put it on a surface at the same level of the container



PVC bag
filter
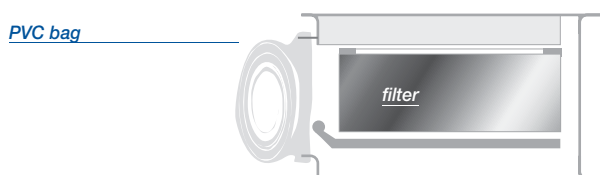
## 4. Bag sealing procedure

- Flatten out the bag, eliminate all folds. Seal bag using a thermal-welding pliers, double seal and cut between seals.



double welding
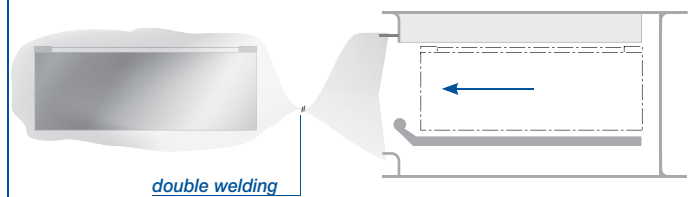
## 5. Removing the residues of the old bag

- Put in new bag, after installing the new filter fixing it with the fastening ring inside the collar.
- Remove the residue of the bag with relating ring from the collar and put it behind the new filter using the new bag as a glove
- Afterwards move the elastic of the new bag from the inner seat of the outer collar.



new bag with filter
bag residue
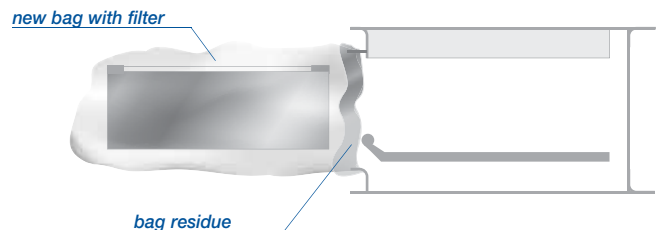
## 6. Inserting the filter

- Push the filter in the container and lock the fastening levers
- Roll up the new bag with the residue of the old bag and put it in front of filter.
- Put on the lid and tighten the locking handwheels
- Close the vacuum breaker (if installed)
- Open the dampers closed previously (if installed)
- The system is operative again



filter
bag residue

*filtration*