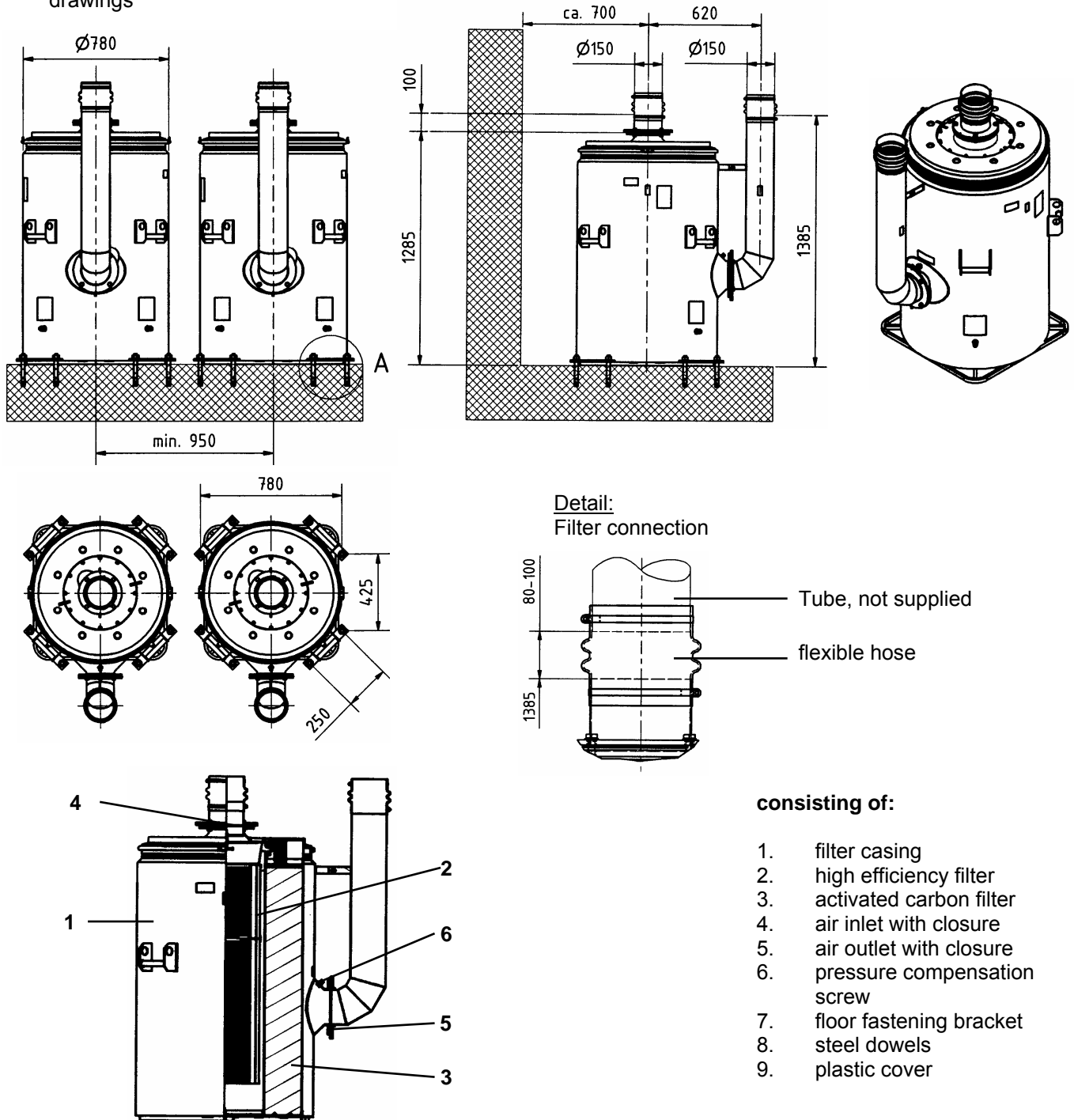


### Function of gasfilter

The polluted air first passes through the absolute filter which retains the finest impurities, solid and liquid as well as radioactive particles. Then the air flows through the activated carbon filter which can adsorb gases by physical and chemical action.

### GF-600 drawings



#### consisting of:

1. filter casing
2. high efficiency filter
3. activated carbon filter
4. air inlet with closure
5. air outlet with closure
6. pressure compensation screw
7. floor fastening bracket
8. steel dowels
9. plastic cover

Mounting instructions see page 05.mont.127.1  
Maintenance/ check 05.maint.137

Proviso for technical change

**Gasfilter GF 600**

made by : LUNOR G.Kull AG, CH-8041 Zürich

Design according to the directives of the Swiss Federal Office of Civil Defence. Type tested and approved by the Armament Technology and Procurement Group.

**Consisting of:**

Filter casing, high efficiency filter, activated carbon filter, air inlet with closure, air outlet with closure, pressure compensation screw, floor fastening bracket, steel dowels, plastic cover

Type of gasfilter	GF-600	..... pcs
Attest Nr.	T 06-010	
Air rate	600 m <sup>3</sup> / h	
Pressure drop approx.	800 Pa	
Approx. weight	331 kg	

**Optional:**

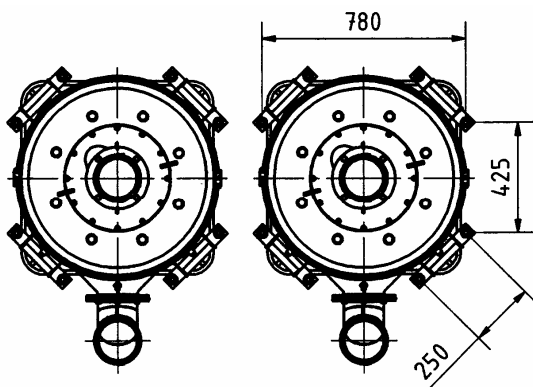
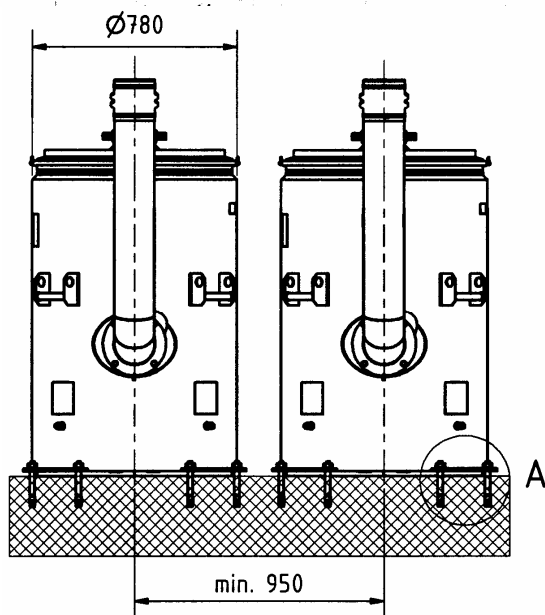
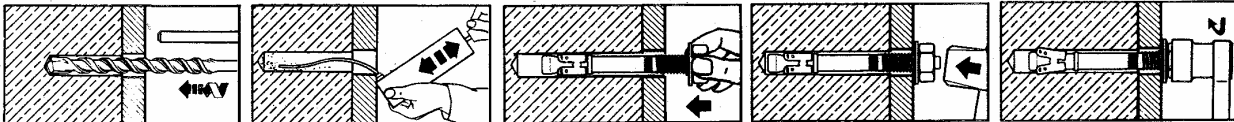
Frame to cast	.... pcs
Distance profile	.... pcs

Convenient to Ventilation units VA-1200, VA-1800, VA-2400, VA-4800

<b>1. Homologation</b>	No. BZS	T 06-010
nominal air rate	m <sup>3</sup> /h	600
pressure drop	Pa	≤ 800
<b>2. Activated carbon filter (1-Element)</b>		
activated carbon homologation	No. BZS	T 88-001
specific carbon volume, theoretical	l/(m <sup>3</sup> /h)	0,44
specific carbon volume, effective	l/(m <sup>3</sup> /h)	0,47
carbon volume, theoretical	l	264
carbon volume, effective	l	283,5
bed thickness	mm	163
average flow velocity	cm/s	9,92
contact time	s	1,64
max. carbon humidity	%	3
carbon weight approx.	Kg	148,0
gas separation: all to day known war gases		
spring system of the activated carbon filter bed:		
total force on the carbon bed	N	11'400
<b>3. Aerosol filter (1-Element)</b>		
aerosol filter paper homologation	No. BZS	T 04-011
separation in the particle range 0,1-0,3 µm (also after the pressure an shock tests)	%	≥ 99,995
filter area	m <sup>2</sup>	17,31
flow velocity	cm/s	0,96
<b>4. Dust protection(between activated carbon and perforated steel)</b>		
carbon dust separation with a grain size ≤ 0,3 mm	%	≥ 90
<b>5. Casting tightness</b>		
gastight in the pressure range	Pa	± 3'000
<b>6. Casing pressure resistance</b>		
due to temperature variations in the pressure range	Pa	± 50'000
<b>7. Blast pressure resistance</b>		
of the casing and aerosol filter		
peak over pressure	bar	1,03
impulse	Pa.s	273
<b>8. Shock resistance</b>		
the gasfilter is tested in the 3 main axis in ± directions		
velocity	m/s	1,6
acceleration	m/s <sup>2</sup>	160 (16 g)

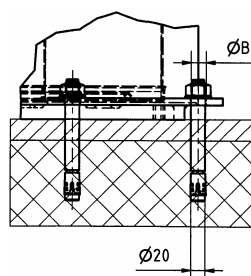
1. Place the gasfilter and the floor fastening bracket exactly. Mark the holes for the dowels. Distance from the wall approx. 310 mm.
2. Drill the holes according to the dowel suppliers instruction. Recommended dowel type: Hilti HST M20 x 170/30
3. Clean and blow out the dowel-holes.
4. Turn the nut of the dowel to upper edge of the thread.
5. Place the gasfilter and the floor fastening brackets definitive.
6. Stick the dowel through the clip and drive in with light hammerblows, until the washer is self supporting against the floor fastening bracket.
8. Tighten dowels with a torque wrench, torque as in table

## enclosures: 4 fastening brackets

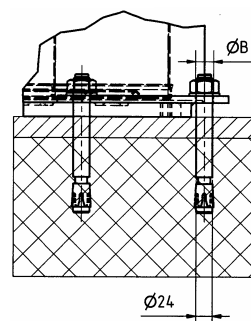


A: basic protection 1 bar		
B: 3 bar		
Gasfilter GF 600	A	B
dowel type	Hilti HST M20x170/30	Hilti HST M24x200/30
quantity	8 pieces	8 pieces
borehole diameter	20 mm	24 mm
borehole depth	140 mm	170 mm
Tightening torque	240 Nm	300 Nm
quantity of floor fastening brackets	4 piece	4 piece
slotted hole diameter	22 mm	26 mm

basic protection 1 bar



3 bar



If you make use of other dowel types, they must have an attest Nr. of the Armament Technology and Procurement Group and possess an approved charge of 16,4 kN for basic protection and 26,8 kN for 3-bar. In this case, you have to pay attention that the corresponding value like the borehole depth, the borehole diameter and the tightening torque get observed appropriately to the specifications of the suppliers.

Proviso for technical change

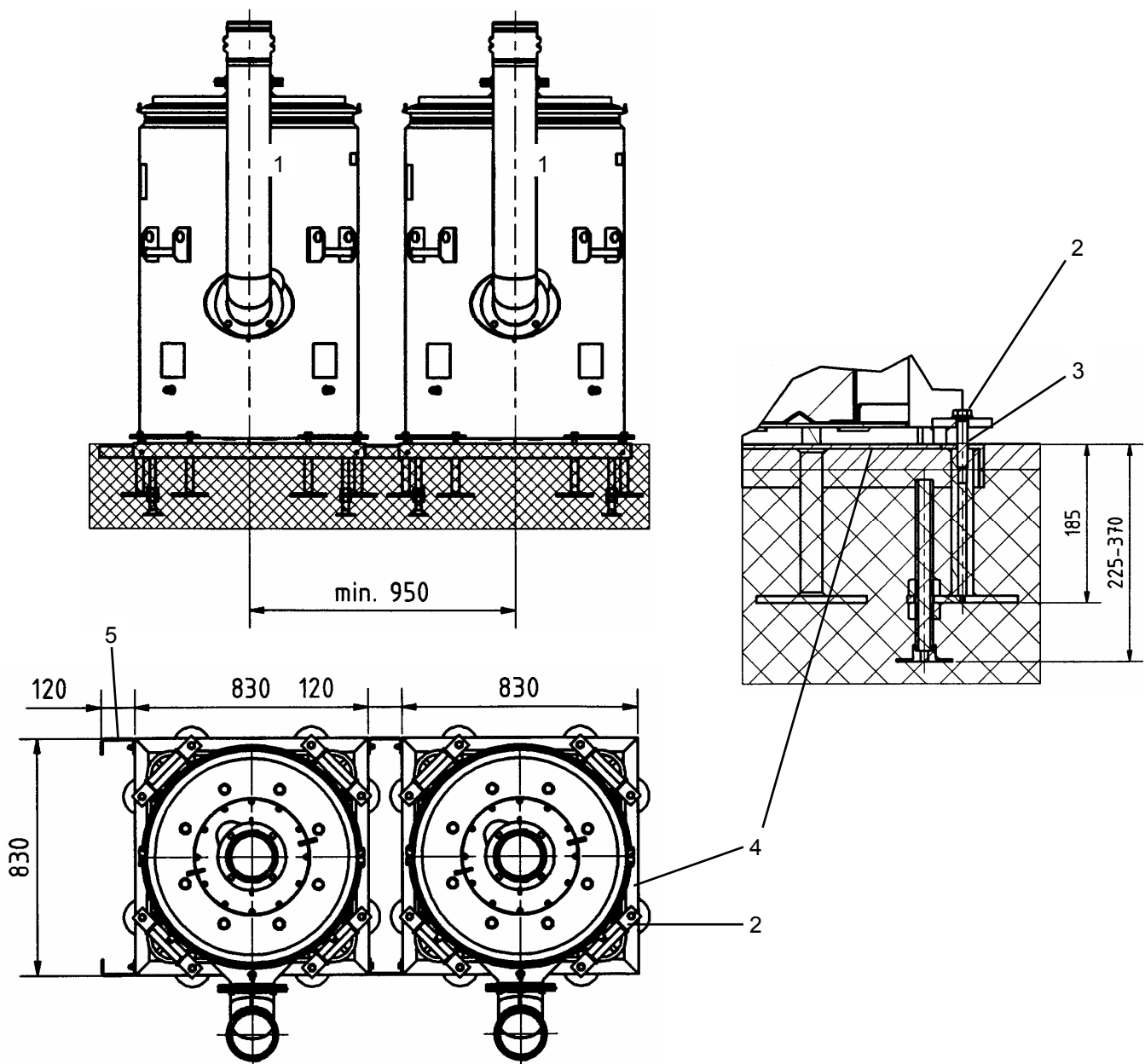
Var.II: frame to cast

Protection degree 1 and 3 bar. Frame to cast for a shock resistant fastening (up to 16 g) of gasfilter Type GF 600.

Construction: Frame to cast (4) made of welded steel profil and hot galvanized. 4 adjustable feet are mounted to the frame to permit an easy positioning. The supplied distance profil (5) allows the mounting of several frames.

1. Remove plastic plugs and clean treaded holes (3)
2. Place gasfilter (1) and fastening brackets (2).
3. Tighten 8 screws M 12x60 (quality 8.8) with a torque wrench, tightening torque 72 Nm

enclosure: 4 fastening brackets



Proviso for technical change

**Function:**

The gasfilter absorbs chemical and bacteriological bodies from the fresh air.

**Generality:**

The air in- and outlets are hermetically closed and sealed. In peace time the filter must **never** be opened. Tests carried out with gasfilters over 20 years old have proven that the filters remain operative over a long period of time, provided they are kept sealed.

**Maintenance interval:**

Annually

**Maintenance / Check:**

- are the air in – and outlets closed and sealed ? Check closing and seal for damages.  
If the filter is open, it has to be re-conditioned by the supplier.
- check casing for corrosion and if necessary touch up.
- check floor fixing bolts for tightness.
- check weight of gasfilter and with weight given on name plate. The **max. permissible weight increase** due to absorption of humidity of carbon is for the **GF-600 = 3'500 g**.  
If the increase is beyond this figure the gasfilter has to be re-conditioned by the supplier.