

Dust cartridge filters of type DCF

The cartridge filters with the pulsed jet of type DCF are used for the high efficient cleaning of air (gases) from all types of dusts (including finely dispersed solid aerosols).

Filters of type DCF are more efficient as compared to the baghouse filters and are able to catch finely dispersed aerosols, which are formed, for instance, in the process of plasma or laser sharpening, welding or other technological processes, connected with the formation of condensed aerosol.

In some cases the cleared air can be used for recirculation for the reason of heat saving during the heating season.



CHARACTERISTICS

Characteristics	Index										
	DCF - 2	DCF- 2A	DCF-4	DCF- 6	DCF- 8	DCF- 10	DCF- 12	DCF- 16	DCF- 20	DCF- 24	DCF- 32
Nominal air flow, m ³ /h	2000	2000	4000	6000	8000	10000	12000	16000	20000	24000	32000
Quantity (Number) of sections, pcs..	1	1	1	2	2	3	3	4	6	6	8
Pressure drop κPa (κgs/m ²)	1,2-2,0 (120-200)										
Pressure of blowing air, MPa (kg/cm ²)	0,5-0,6 (5-6)										
The greatest charge of blowing air	7	7	15	30	45	53	58	60	75	90	120
Allowable pressure (underpressure) inside the unit, kPa (kg/cm ²)	5,0 (500)										
Dimensions, mm:											
Length A	1285	1285	1100	1600	2050	2550	3000	3950	2550	3000	3950
Width B	872	872	1320	1320	1320	1450	1450	1450	2916	2916	2916
Height H	2420	2840	2420	2420	2420	2420	2420	2420	2420	2420	2420
Filter weight, kg (not more)	257	307	340	540	651	845	940	1243	1720	1985	2500

The efficiency of filters DCF with standard cartridges for most types of dusts is not less than 99.9% normally. For capturing of finely dispersed aerosols (plasma, laser sharpening of metals, etc) the high efficient synthetic medium with the efficiency not less than 99.9% according to particles having size of 0,5 – 1 mkm can be used.

DIMENSIONAL AND CONNECTING SIZES

Filter type	Dimensions, mm																	
	A	A ₁	B	B ₁	B ₂	H	H ₁	H ₂	H ₃	H ₄	b	h	b ₂	ℓ	t	n ₁	b ₃	n
DCF-4	1100	954	1320	950	612	2420	1650	708	1126	1278	270	700	338	14	155	2	310	14
DCF-6	1600	1454	1320	950	612	2420	1650	708	1126	1278	270	700	338	14	155	2	310	14
DCF-8	2050	1904	1320	950	612	2420	1650	708	1126	1278	270	700	338	14	155	2	31	14
DCF-10	2550	2404	1450	950	677	2420	1650	708	1126	1278	270	700	468	15	146	3	438	16
DCF-12	3000	2854	1450	950	677	2420	1650	708	1126	1278	270	700	468	15	146	3	438	16
DCF-16	3950	3804	1450	950	677	2420	1650	708	1126	1278	270	700	468	15	146	3	438	16
DCF-20	2550	2404	2916	950	-	2420	1650	708	1126	1278	884	700	952	15	146	6	438	24
DCF-24	3000	2854	2916	950	-	2420	1650	708	1126	1278	884	700	952	15	146	6	438	24
DCF-32	3950	3804	2916	950	-	2420	1650	708	1126	1278	884	700	952	15	146	6	438	24

GENERAL DEVICE

The filter consists of a body, divided into cameras of unrefined and clear air, cartridge filtering elements of type CFE (hereinafter in text referred to as “a cartridge”), valve section with control electromagnets and the device of cartridge regeneration control. The change of the cartridges is carried out through the lateral removing panel, situated on the side, opposite to the filter inlet to air coming. The installation of sockets (inlet and outlet) on both parts of the filter is possible. The dusty air comes through the inlet socket into the camera, where filtering cartridges are situated. While coming through the filtering cartridge material, the dust stays on the surface of material, but the refined air is deleted through upper open parts of cartridges in the camera of clear air.

The regeneration of filtering cartridges is realized periodically, by the set cycle, without stopping off the filter. Cartridge regeneration is carried out by gauge of pressure resistance automatically. The pulse duration of and cycle frequency to regenerations are set up by device for regeneration control, included in the filter supply set.

To provide filters normal operation, the unloading of dust caught from bunkers should be carried out periodically or constantly (depending on initial dust concentration). When dust unloading is done while the filter is in operation, the hermetic sealing of the discharge aperture should be provided by penstock. The installation of other sealing devices is possible. While the filters are in operation with two and more bunkers, conveyer screws are (by special request) to be used to provide both the discharge of the bunkers and the unloading of dust at the same place. To seal the conveyer screw hermitically, it is necessary to install penstock or other sealing device at the unloading aperture.

By request filters can be equipped with the automatic system which includes:

- signaling system and protection against high temperature of cleared gases;
- control over dust unloading of one or several filters.

The automatic equipment system is able to transform the whole information to the upper level for carrying out the control over the system of air cleaning jointly with the served procedure.

By request filters can be made with a stock.

The distance from flanges of unloading outcome to the basis of the stock should be specified in the order.

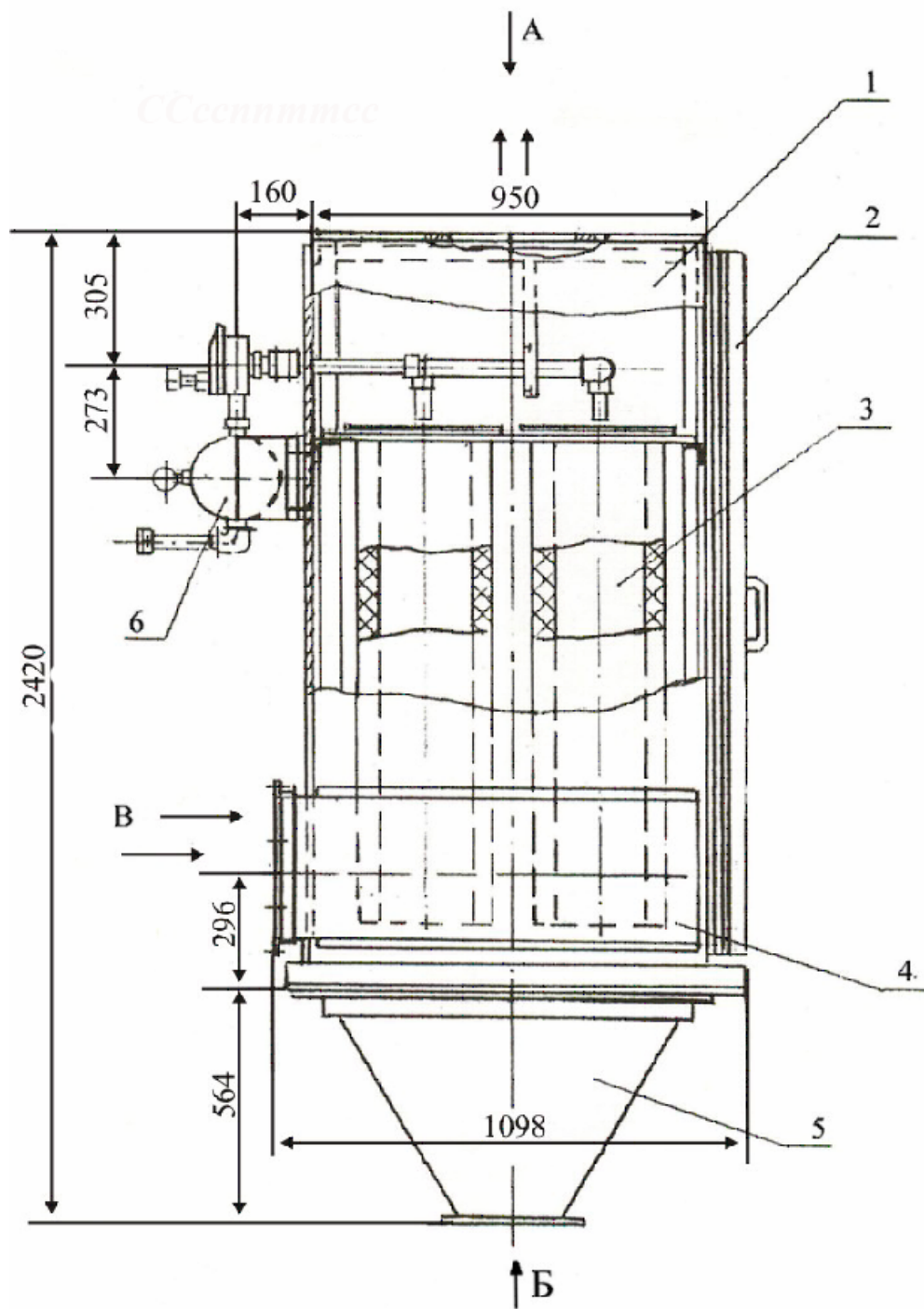


Fig.1 Scheme of filter DCF-2

1 – chamber of clean air; 2 – door; 3 –cartridge filtering element; 4 – entrance duct;
5 - bunker; 6 - receiver

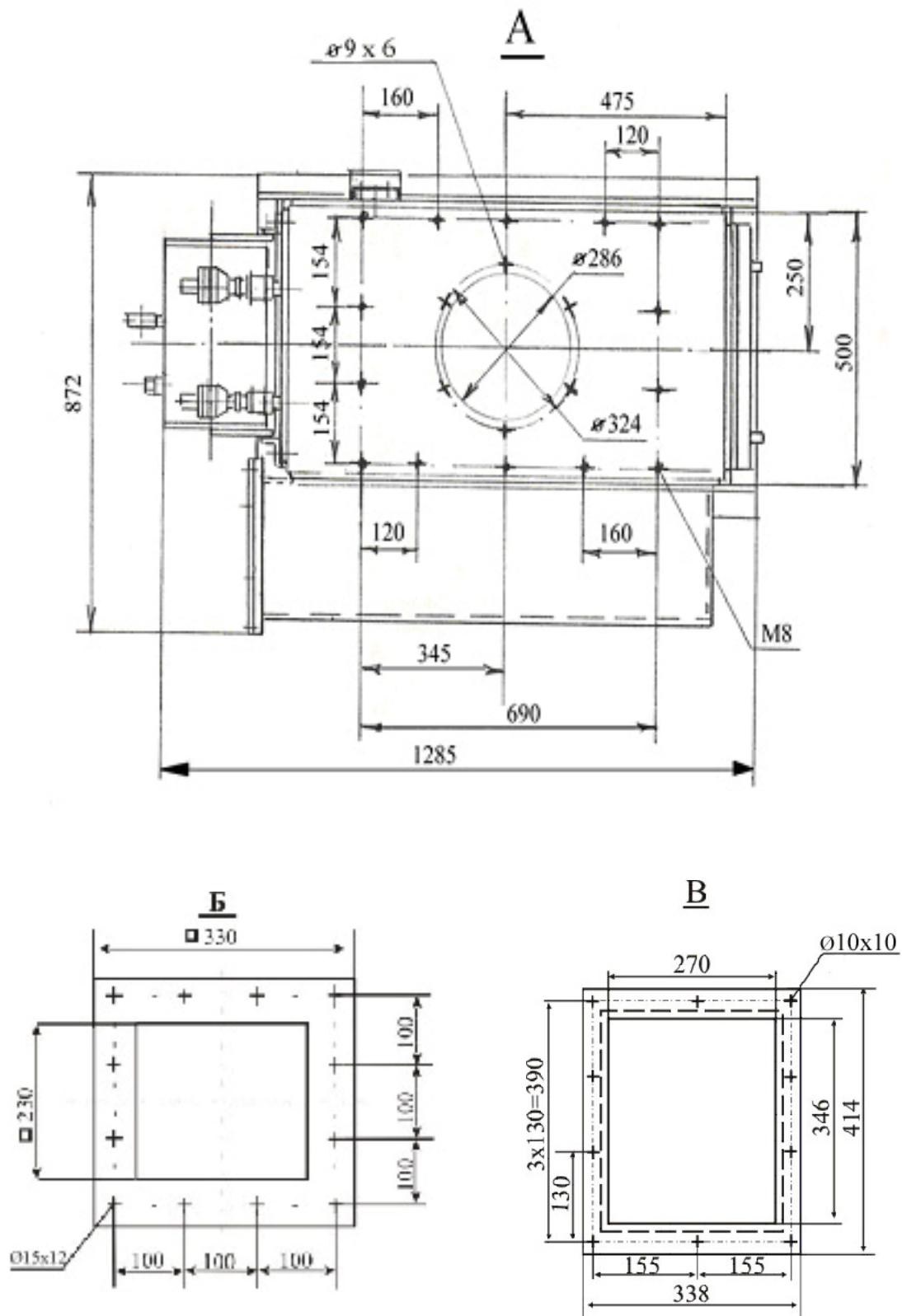


Fig. 1 Scheme of filter DCF-2

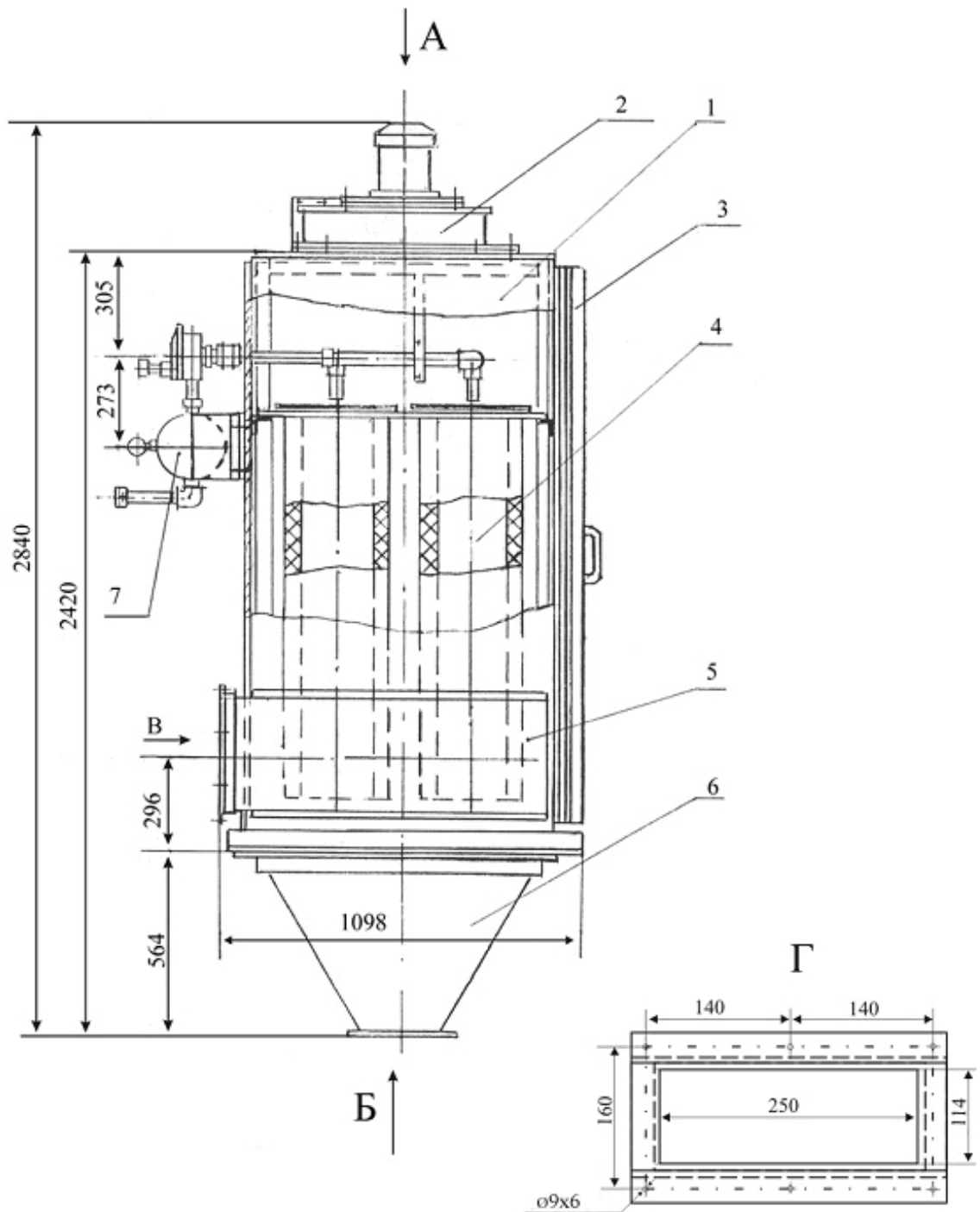


Fig. 2 Scheme of filter DCF-2A
 1 – body; 2 – ventilator; 3 – door; 4 – cartridge filtering element – 2 pc.;
 5 – entrance duct; 6 – bunker; 7 - receiver

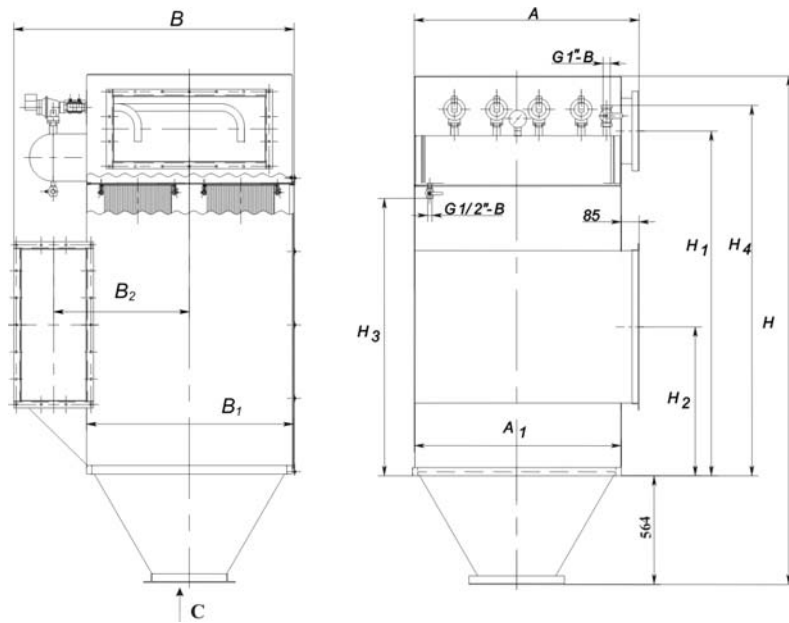


Fig. 3 Scheme of filter DCF-4

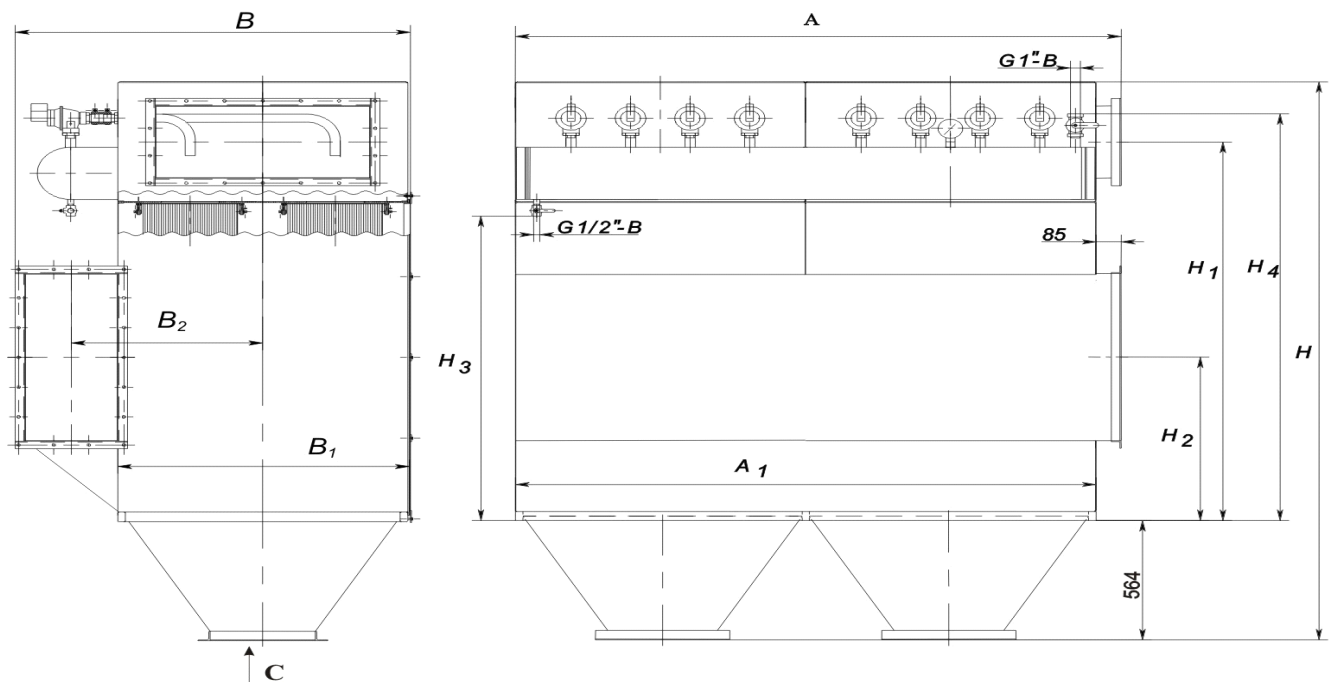
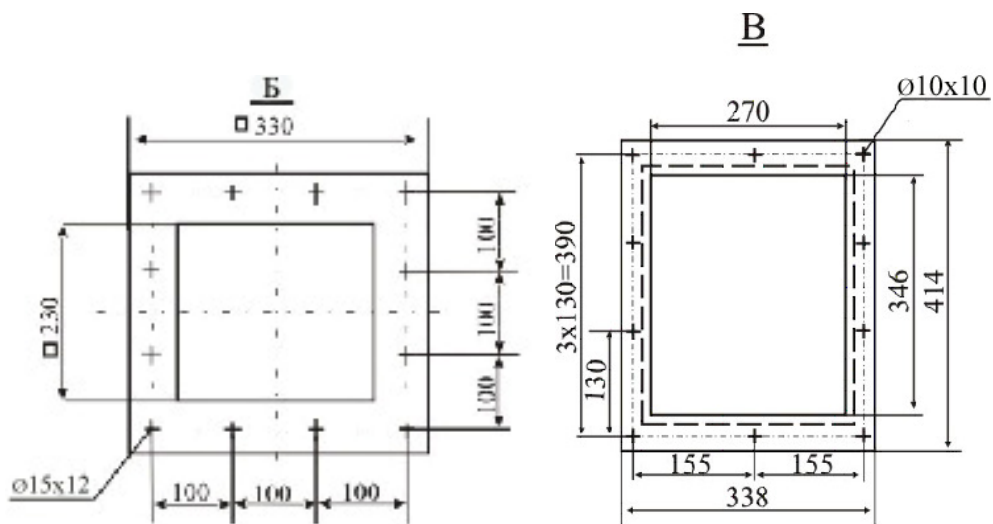
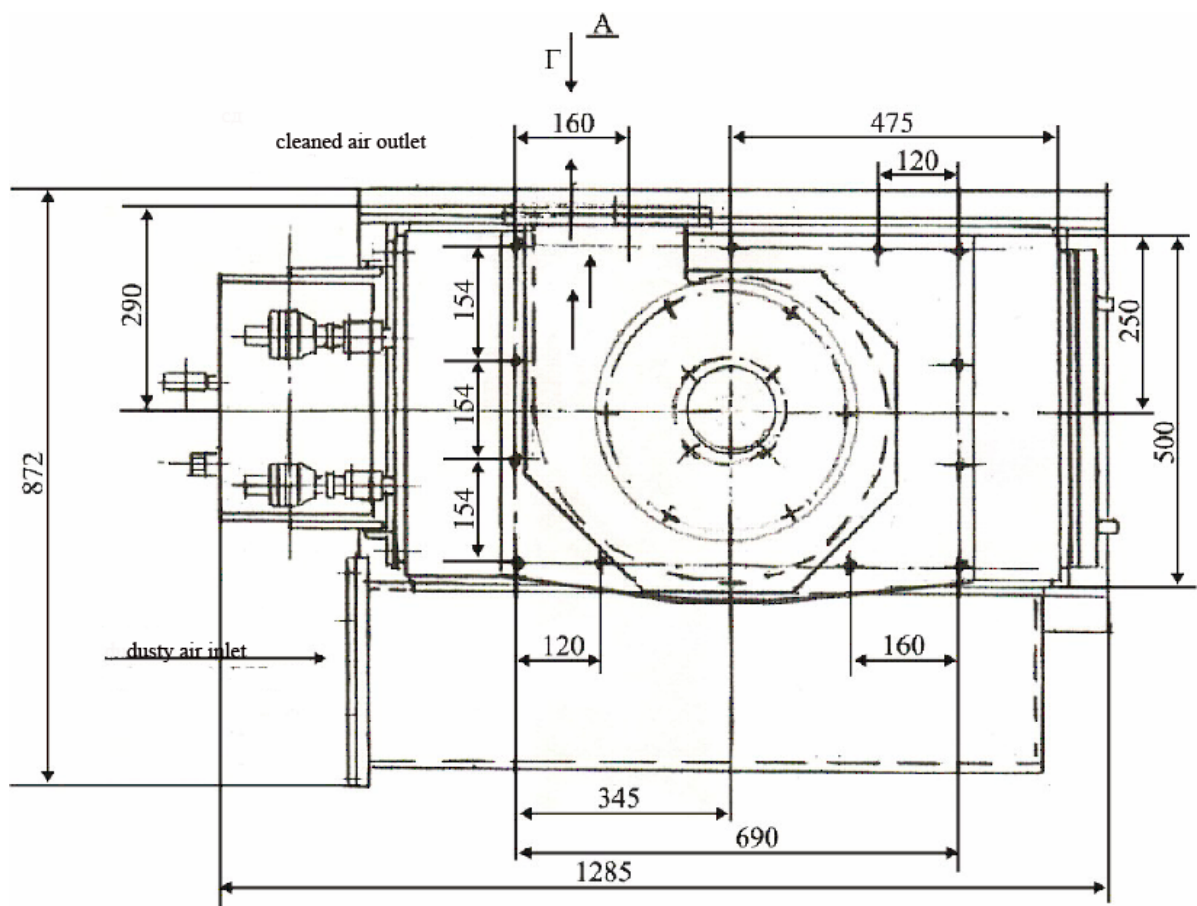


Fig.4 Scheme of filter DCF-6; DCF-8



Scheme of filter of type DCF-2A

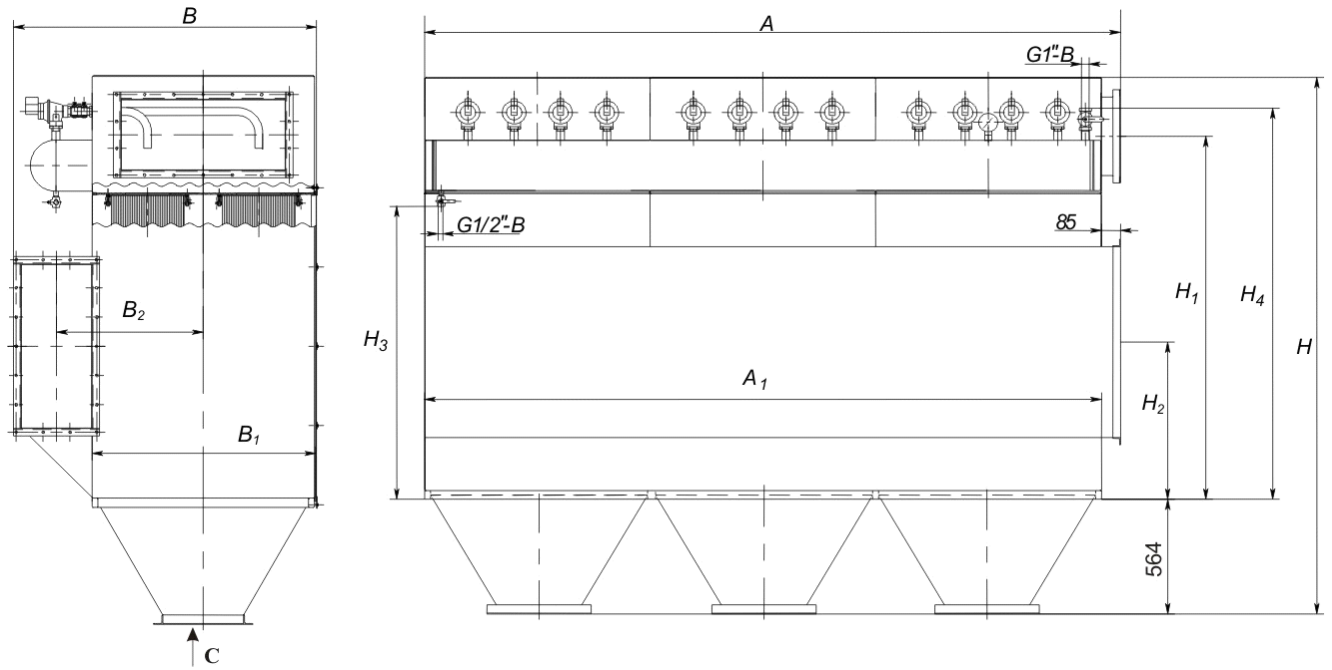


Fig. 5 Scheme of filter DCF-10; DCF-12

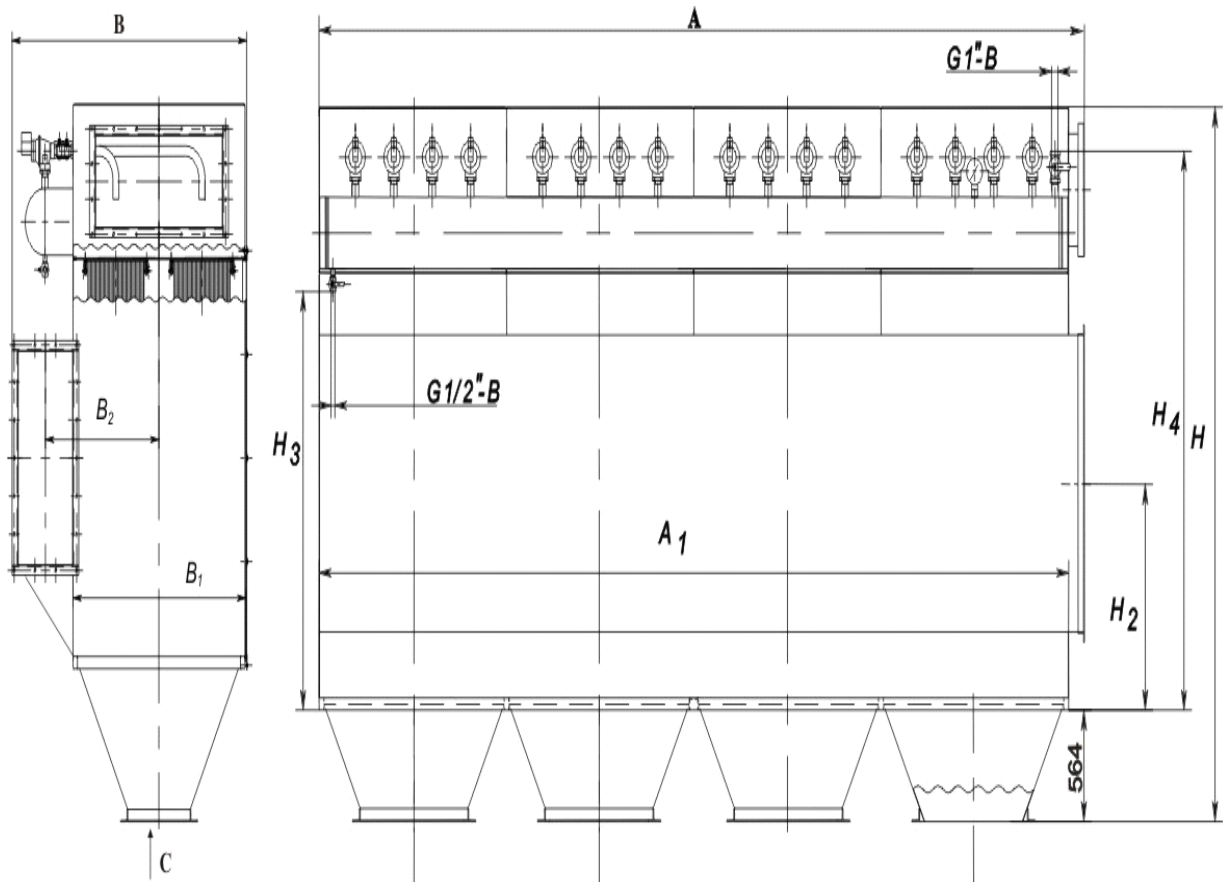


Fig. 6 Scheme of filter DCF-16

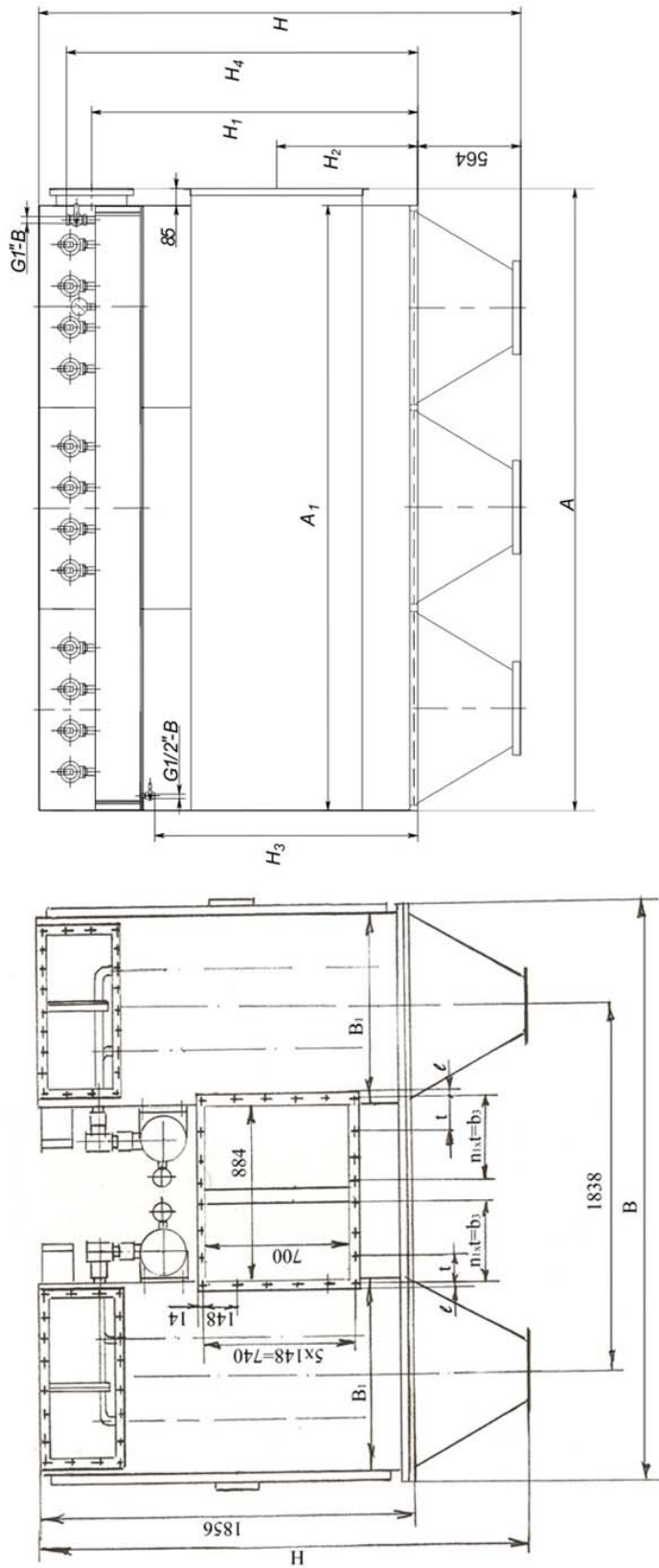


Fig. 7 Scheme of filter DCF-20; DCF-24

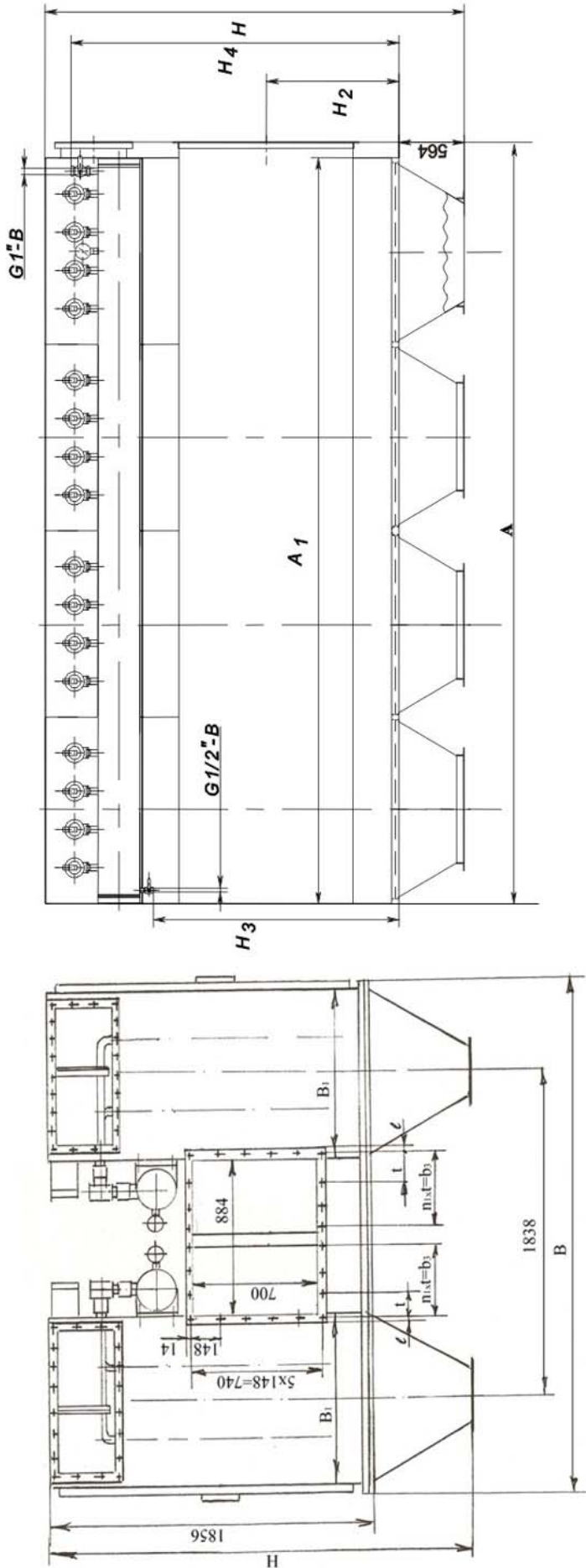


Fig. 8 Scheme of filter of type DCF-32

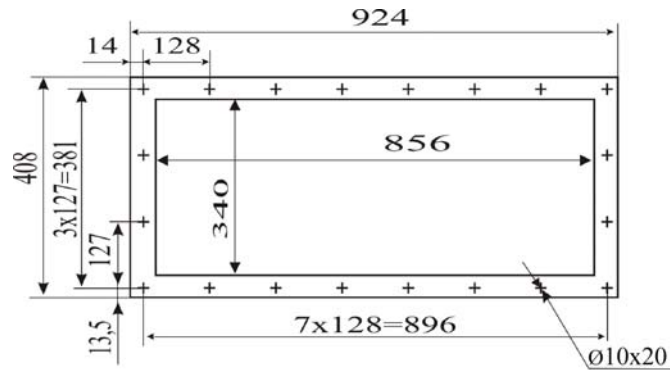


Fig. 9 Flange of clean air outlet of filters DCF-4; DCF-8; DCF-12 and DCF-16

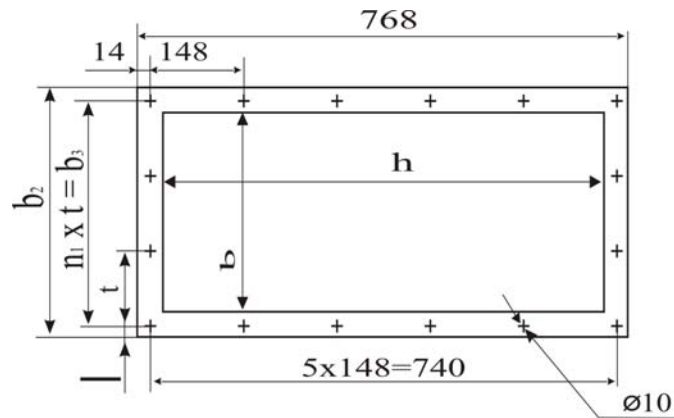


Fig.10 Flange of dusty air outlet of filters DCF-4; DCF-8; DCF-12 and DCF -16

