



For clear environment

Air - cleaning

„Klimatech“ AD works for the protection of the working medium and environment.

The company manufactures air - cleaning equipment, designed for cleaning the outgoing air in pneumatic transport plants from coarse and fine-disperse dust.

We offer dry and wet dust traps depending on the nature and the features the trapped dust.

Dry dust traps

Pocket filters ФДИ type

Purpose:

For suction, pressurizing and mixed pneumatic installations. For integration in hoppers, silos, mills, fillers and packing machines, fraction devices etc.

The dust mix must be chemically non-aggressive and non-explosive.

The regeneration of the filter pockets is done by impulse purging with compressed air at pressure 0,6 MPa.

The filters work at ambient temperatures from -5°C to $+40^{\circ}\text{C}$, temperature of purified air up to 60°C and relative humidity up to 80%.

The filters are delivered in a set with an automatic control block.



ФДИ 10 - integrated pocket filter



№	Parameters	Unit	Value
1	Filter area	m^2	10
2	Fan flow rate	m^3/h	1200
3	Work pressure range, not more than	Pa	± 4000
4	Aerodynamical resistance of pure filter matter	Pa	140
5	Pressure of purged air	MPa	$0,6 \div 0,8$
6	Dust concentration after filtration	mg/m^3	150
7	Dust concentration at filter inlet, not more than	g/m^3	50
8	Power supply voltage	V	220
9	Relative loading of the filter area	$\text{m}^3/\text{m}^2\text{min}$	$0,8 \div 2,0$
10	Sound pressure level with noise muffler	dB (A)	95
11	Free head of the filter input with pure filter matter	Pa	1600
12	Compressed air consumption, not more than	m^3/h	12

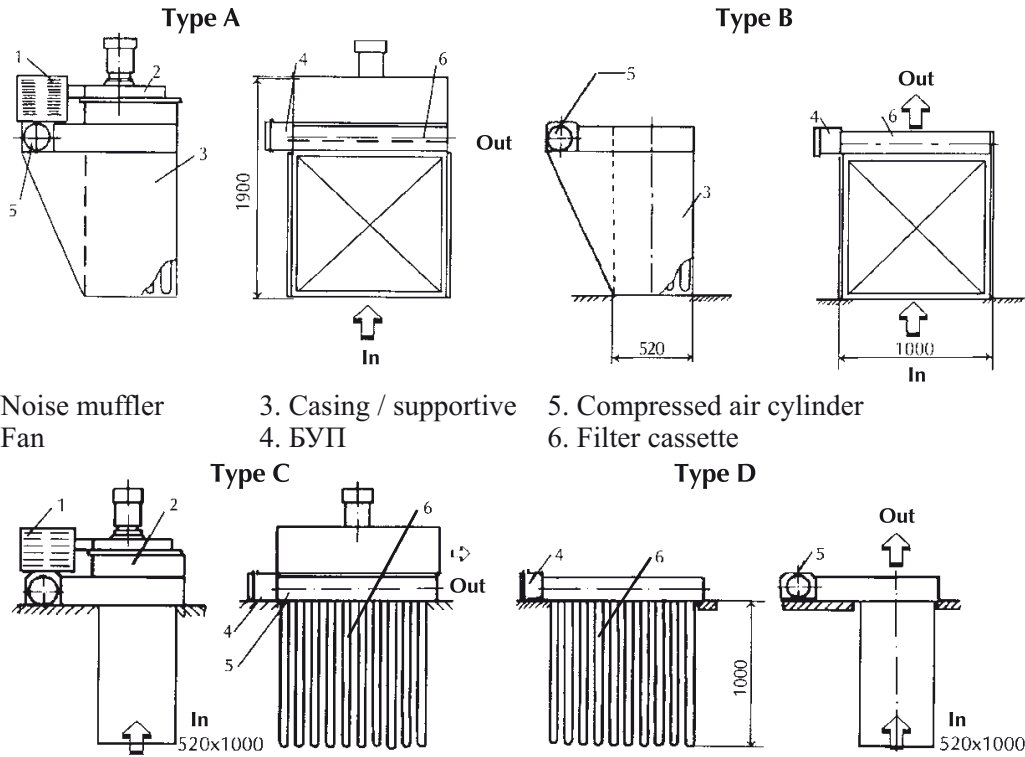
Types:

ФДИ 10 А - complete with filter cassette, fan, noise muffler and casing

ФДИ 10 В - complete with filter cassette and support casing

ФДИ 10 А - complete with filter cassette, fan and noise muffler

ФДИ 10 А - complete with filter cassette



Completing fan type ВЦ 3,9.

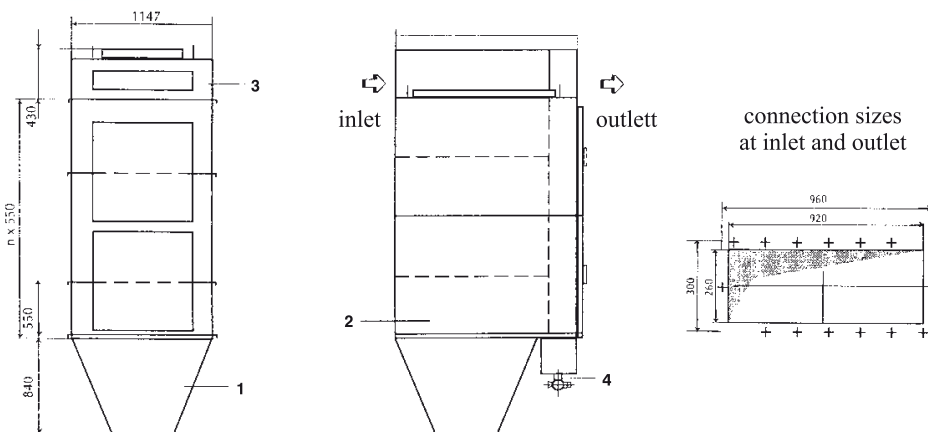
ФДИ 10 x 1 x (2÷4) - section pocket filter

ФДИ 10 x 1 x (2÷4) is built on the base of a module cassette with filter area of 10 m². The cassettes are mounted in lines one above the other.

The regeneration of the pockets is made by impulse purging by compressed air at pressure 0,6 MPa.



№	Parameters	Unit	Value
1	Filter area of one cassette	m ²	10
2	Number of cassettes in a line	n	2,0 ÷ 4,0
3	Maximum dust concentration at inlet	g/m ³	20
4	Dust concentration after the filter	mg/m ³	150
5	Range of operation pressure	Pa	± 4000
6	Recommended resistance rate	Pa	1100 ÷ 1300
7	Power supply voltage	V	220
8	Filtration rate at standard filter matter	m ³ /m ² min	0,8 ÷ 2,0
9	At special filter matter	m ³ /m ² min	2,0 ÷ 8,0
10	Air pressure for impulse purging	M Pa	0,6 ÷ 0,8
11	Compressed air consumption, not more than	m ³ /h	15



- 1. Hopper
- 2. Module cassette „n“ pc. n = 2÷4
- 3. Top cassette
- 4. Compressed air cylinder

Dry dust traps

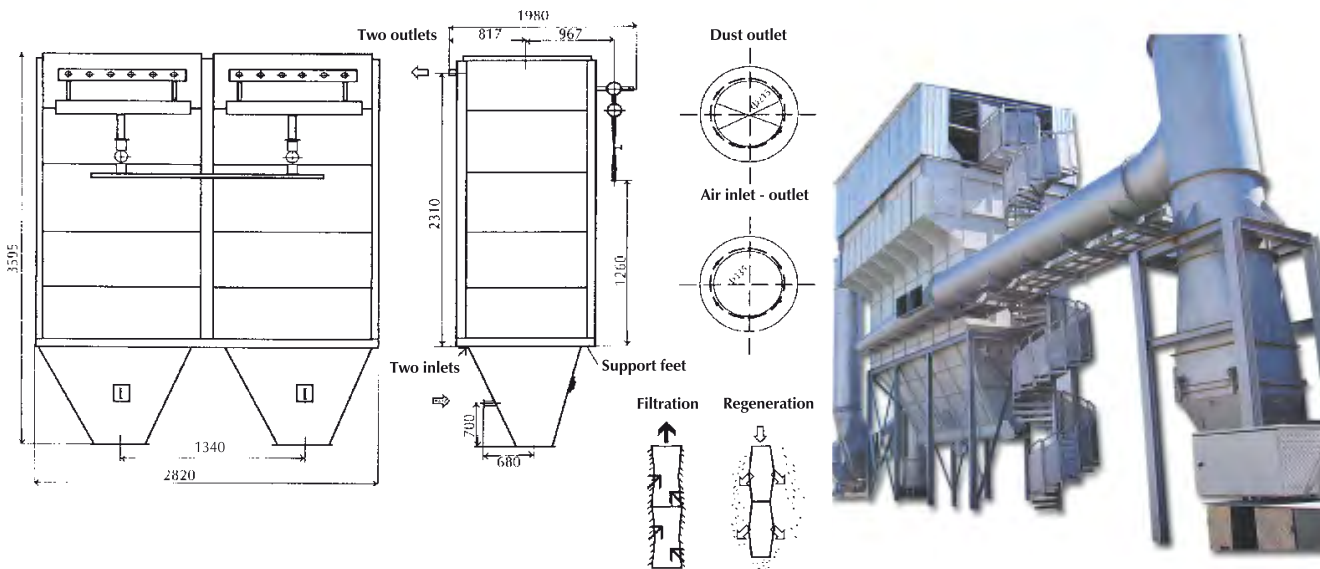
Sleeve filter type ФРКИ - 60

Purpose:

Used for dust removal of technological gases and air mixtures.

The dust mixture must be chemically not aggressive, non-explosive and non-combustible, with temperature -5°C to $+140^{\circ}\text{C}$ and with relative humidity less than 80%.

The regeneration of the filter sleeves is made by impulse purging with compressed air at pressure of 0,6 MPa.



№	Parameters	Unit	Value
1	Filter area	m^2	60
2	Filtration rate, at standard filter matter not more than: • at special filter matter up to:	$\text{m}^3/\text{m}^2 \cdot \text{min}$ $\text{m}^3/\text{m}^2 \cdot \text{min}$	1.8 8
3	Hydraulic resistance at dusted filter matter up to:	Pa	1800
4	Vacuum or pressure at filter inlet, not more than	Pa	5000
5	Bulk mass of trapped dust	T/m^3	$0,9 \div 2,65$
6	Temperature of purified gasses • not less than /over irrigation point/ • not more than:	$^{\circ}\text{C}$ $^{\circ}\text{C}$	10° 140°
7	Dust concentration at filter inlet, not more than	g/m^3	50
8	Volume flow rate at specific gas load 1.8 m/min and normal conditions	m^3/h	6480
9	Dust removing capacity, over	%	99.9
10	Dimensions • length • width • height	mm mm mm	2820 1980 3595
11	Mass of the filter without sleeves	kg	2000
12	Mass of the sleeves	kg	40
13	Compressed air consumption, not more than	m^3/h	60

The company offers complete sets with fans, support stands, staircases and service platforms, screw conveyors or flashes for dust removal, automatic devices and electrical panels for automatic control and filter operation.

Dry dust traps

Stationary dust trap type ПДЦ 1,8

Purpose:

Complete for grinders and sharpen machines for dry abrasive treatment, dry glass and plastic polishing machines, etc.

The cleaned air is released in room without energy consumption.

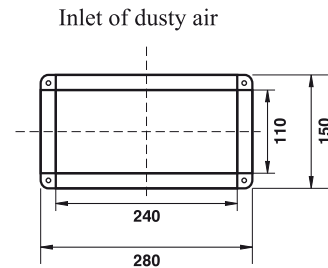
Used for dust, which is not aggressive, not oily and not sticky.

The regeneration of the filter cassette is done by mechanical manual shaking. The trapped dust is collected in a drawer, at the bottom of the dust trap, which must be cleaned periodically.

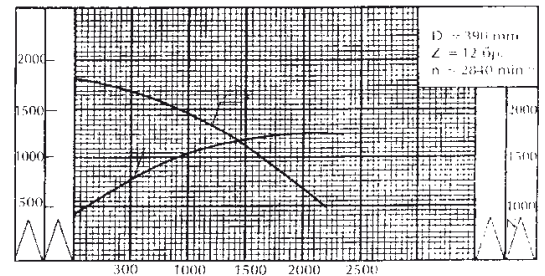


Fan for ПДЦ 1,8

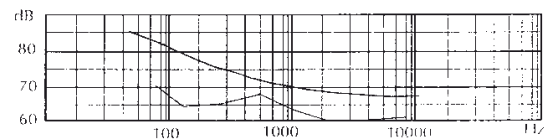
- 1800 m³/h
- 1570 Pa
- 3000 min⁻¹
- 1.5 kW



Aerodynamical characteristics



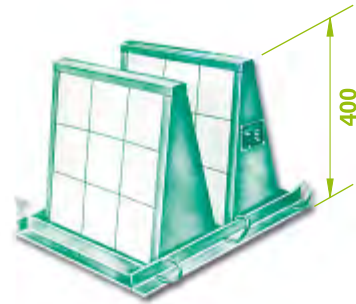
Spectrogram for measuring the sound pressure level



№	Parameters	Unit	Value
1	Nominal flow rate of filtered air	m ³ /h	1800
2	Free static pressure at normal flow rate	Pa	800
3	Degree of purification at quartz dust with median size 15µm and average quadratic deviation 2,6	%	99
4	Installed power at power voltage 380V	kW	1,5
5	Effective filter area	m ²	8
6	Mass	kg	132
7	Dimensions:		
	Height	mm	1430
	Width	mm	720
	Length	mm	720
8	Sound pressure level	dB /A/	69

Dry dust traps

Cassette filters type KM 1÷40



Cassette filter

Purpose:

Used for integration in ventilation canals and systems.

Dry dust traps for fine purification of the air, working up to 60°C.

The dust mixture must be chemically non-aggressive and non-explosive.

The filter mater is not recovered, it must be replaced.

Technical data of the filter cassette „Universal“:

N ^o	Parameters	Unit	Value
1	Air load	m ³ /m ² h	2500
2	Maximum dust concentration of dusted air	g/m ³	0,2
3	Aerodynamic resistance: - of clean filter matter - of dusted filter matter	Pa	85
		Pa	160
4	Dust accumulation	g/m ²	200
5	Filtration rate	m/s	1,0 ÷ 2,5
6	Dusting degree	%	88
7	Dimensions	mm	20x490x490



Filter cassette

Technical specifications for Cassette filters type KM 1 ÷ 40:

N ^o	Filter type	Number of cassettes	Filter area m ²	Dimensions - mm		Construction opening - mm		Mass - kg
				Length	Height	Length	Height	
1.	∅ 1.1	2	0.39	456	626	360	530	21.5
2.	∅ 1.2	4	0.78	756	626	660	530	37
3.	∅ 1.3	6	1.17	1056	626	960	530	52
4.	∅ 1.4	8	1.56	1356	626	1260	530	67
5.	∅ 1.5	10	1.95	1656	626	1560	530	83
6.	∅ 2.2	8	1.56	756	1126	660	1030	66
7.	∅ 2.3	12	2.34	1056	1126	960	1030	92
8.	∅ 2.4	16	3.12	1356	1126	1260	1030	120
9.	∅ 2.5	20	3.90	1656	1126	1560	1030	145
10.	∅ 2.6	24	4.68	1956	1126	1860	1030	170
11.	∅ 2.7	28	5.46	2256	1126	2160	1030	200
12.	∅ 2.8	32	6.24	2556	1126	2460	1030	225
13.	∅ 2.9	36	7.02	2856	1126	2760	1030	250
14.	∅ 2.10	40	7.80	3156	1126	3060	1030	275
15.	∅ 3.3	18	3.51	1056	1626	960	1530	135
16.	∅ 3.4	24	4.68	1356	1626	1260	1530	170
17.	∅ 3.5	30	5.85	1656	1626	1560	1530	210
18.	∅ 3.6	36	7.02	1956	1626	1860	1530	245
19.	∅ 3.7	42	8.19	2256	1626	2160	1530	285
20.	∅ 3.8	48	9.36	2556	1626	2460	1530	320
21.	∅ 3.9	54	10.53	2856	1626	2760	1530	355
22.	∅ 3.10	60	11.70	3156	1626	3060	1530	395
23.	∅ 4.4	32	5.24	1356	2126	1260	2030	220
24.	∅ 4.5	40	7.80	1656	2126	1560	2030	270
25.	∅ 4.6	48	9.36	1956	2126	1860	2030	320
26.	∅ 4.7	56	10.92	2156	2126	2160	2030	370
27.	∅ 4.8	64	12.48	2556	2126	2460	2030	420
28.	∅ 4.9	72	14.04	2856	2126	2760	2030	470
29.	∅ 4.10	80	15.60	3156	2126	3060	2030	540
30.	∅ 5.5	50	9.75	1656	2626	1560	2530	335
31.	∅ 5.6	60	11.70	1956	2626	1860	2530	395
32.	∅ 5.7	70	13.65	2256	2626	2160	2530	455
33.	∅ 5.8	80	15.60	2556	2626	2460	2530	510
34.	∅ 5.9	90	17.55	2856	2626	2760	2530	580
35.	∅ 5.10	100	19.55	3156	2626	3060	2530	630
36.	∅ 6.6	72	10.04	1956	3126	1860	3030	470
37.	∅ 6.7	84	16.38	2256	3126	2160	3030	540
38.	∅ 6.8	96	18.71	2556	3126	2460	3030	610
39.	∅ 6.9	108	21.06	2856	3126	2760	3030	680
40.	∅ 6.10	120	23.40	3156	3126	3060	3030	760

Dry dust traps

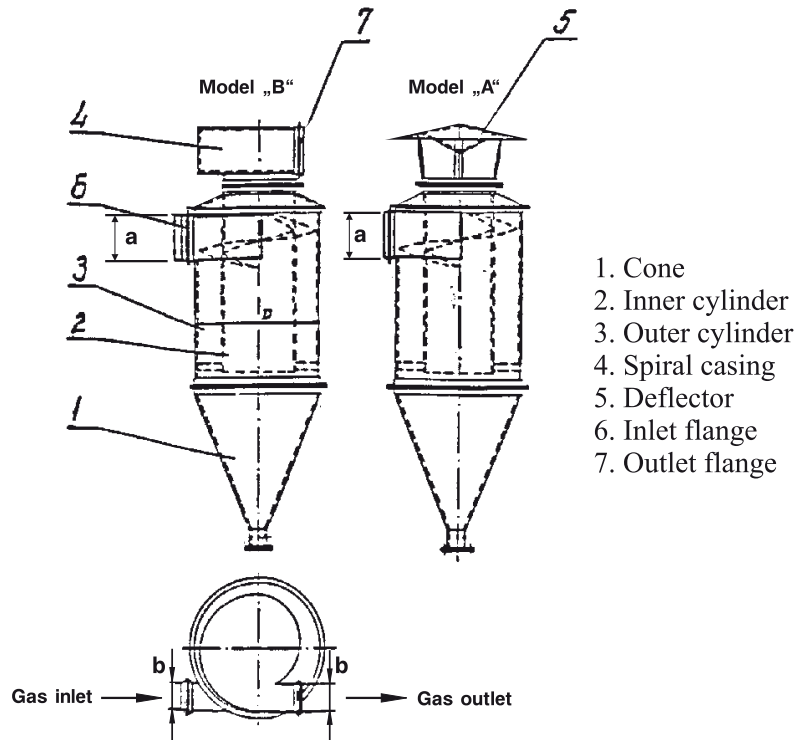
Cyclones centrifugal type ЛИОТ 1 ÷ 10

Purpose:

Used for coarse and medium cleaning of dry air or gas from the dust. They operate at pressure - model A and at suction - model B

Used for preliminary air cleaning - 1st degree of cleaning, before pocket or sleeve filters.

The dust mixture must be chemically non-aggressive and non-explosive.



Input section flow rate m/s	№ of cyclone										Cyclone resistance Pa	
	1	2	3	4	5	6	7	8	9	10	Model A	Model B
	Cyclone production capacity m ³ /h											
12	1000	2000	3000	4000	5000	5700	6700	8800	10000	12000	246	221
15	1200	2500	3700	5000	5800	7100	8300	10400	12500	14000	385	344
18	1500	3000	4500	6000	7500	8500	10000	15000	17500	17000	556	496

Parameters	№ of cyclone									
	1	2	3	4	5	6	7	8	9	10
Diameter - mm	Ø553	Ø762	Ø966	Ø1111	Ø1226	Ø1326	Ø1441	Ø1596	Ø1761	Ø1886
Height mm	1945	2675	3355	3785	4255	4520	4885	5420	5945	6315
Mass - kg	70	120	250	300	370	430	480	630	780	870
Inlet/Outlet a x b - mm	200 x 115	285 x 165	350 x 200	405 x 230	450 x 250	480 x 275	520 x 300	580 x 330	640 x 365	685 x 390

A version of Centrifugal cyclone is made for wet air purification from dust (scrubber) - by integration of water nozzles.

Wet dust traps

Whirl-foam dust trap with continuous operation ПВПН - 5 ÷ 45

Purpose:

Used for trapping dusts, which are moistened and after that they become heavier than water. The dust air passes through a whirling device, sweeps along the water droplets, whirls into a foamy layer, the dust particles get wet and settle down in the water chamber. The water drops swept by the air are trapped in a water trap.

The residue is thrown out by a slime-scrubbing chain.

Degree of cleaning 99,5%

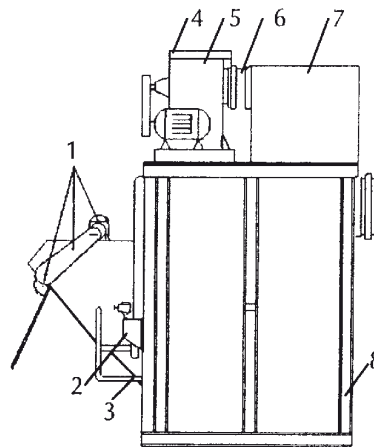
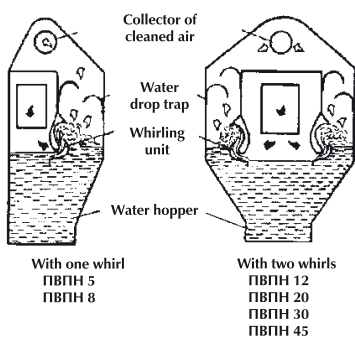
At dust concentration more than 40g/m^3 , a preliminary cleaning unit is needed (for example: cyclone).

At dust concentration under 1g/m^3 , the usage of the ПВПН is purposeless.

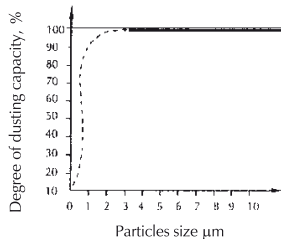
Used in ceramic industry, smelting, machine-construction.

Traps particles with median size larger than $5\ \mu\text{m}$.

Principle construction



Fractional characteristic of degree of dusting capacity



1. Slime scrubbing system
2. Level - measuring box
3. Water supply system
4. Adjusting flap system
5. Fan
6. Soft connection
7. Suction chamber
8. Body

№	Parameters	Unit	ПВПН-5	ПВПН-8	ПВПН-12	ПВПН-20	ПВПН-30	ПВПН-45
1	Nominal air flow rate	$\text{m}^3/\text{h}\cdot 10^3$	$5 \pm 5\%$	$8 \pm 5\%$	$12 \pm 5\%$	$20 \pm 5\%$	$30 \pm 5\%$	$45 \pm 5\%$
2	Adjustment range	$\text{m}^3/\text{h}\cdot 10^3$	$3.5 \div 5.5$	$5.5 \div 9$	$8.5 \div 13$	$14 \div 22$	$21 \div 33$	$32 \div 50$
3	Maximum dust concentration at inlet	g/m^3	40	40	40	40	40	40
4	Dust retaining capacity	%	99.5	99.5	99.5	99.5	99.5	99.5
5	Aerodynamical resistance	Pa	1470	1470	1470	1470	1470	1470
6	Free maximum vacuum at inlet	Pa	1500	1500	1500	1500	1500	1500
7	Water consumption	l/h	75	120	195	300	450	675
8	Installed power less than	kW	7.5	16	19	24	42	57
9	Power supply voltage at 50 Hz	V	380	380	380	380	380	380
10	Speed of slime chain	m/min	$0.8 \div 1.5$	$0.8 \div 1.5$	$0.8 \div 1.5$	$0.8 \div 1.5$	$0.8 \div 1.5$	$0.8 \div 1.5$
11	Dimensions: Length	mm	2195	2925	3168	3975	4775	5670
	Width	mm	1450	1485	2258	2258	2605	2605
	Height	mm	3395	3655	4541	4215	4855	4855
12	Mass, less than	kg	1410	1660	2730	3250	4500	5700
13	Complete fan	type	BHCH 4	BHCH 6,3	BHCH 6,3	BHCH8	BHCH 9,5	BHCH 9,5

A version of periodical removal of the residues is offered - Foam-whirling dust trap with interrupted operation type ПВПН 5 ÷ 45.