

HOSOKAWA/MIKRO PULSJET COLLECTOR

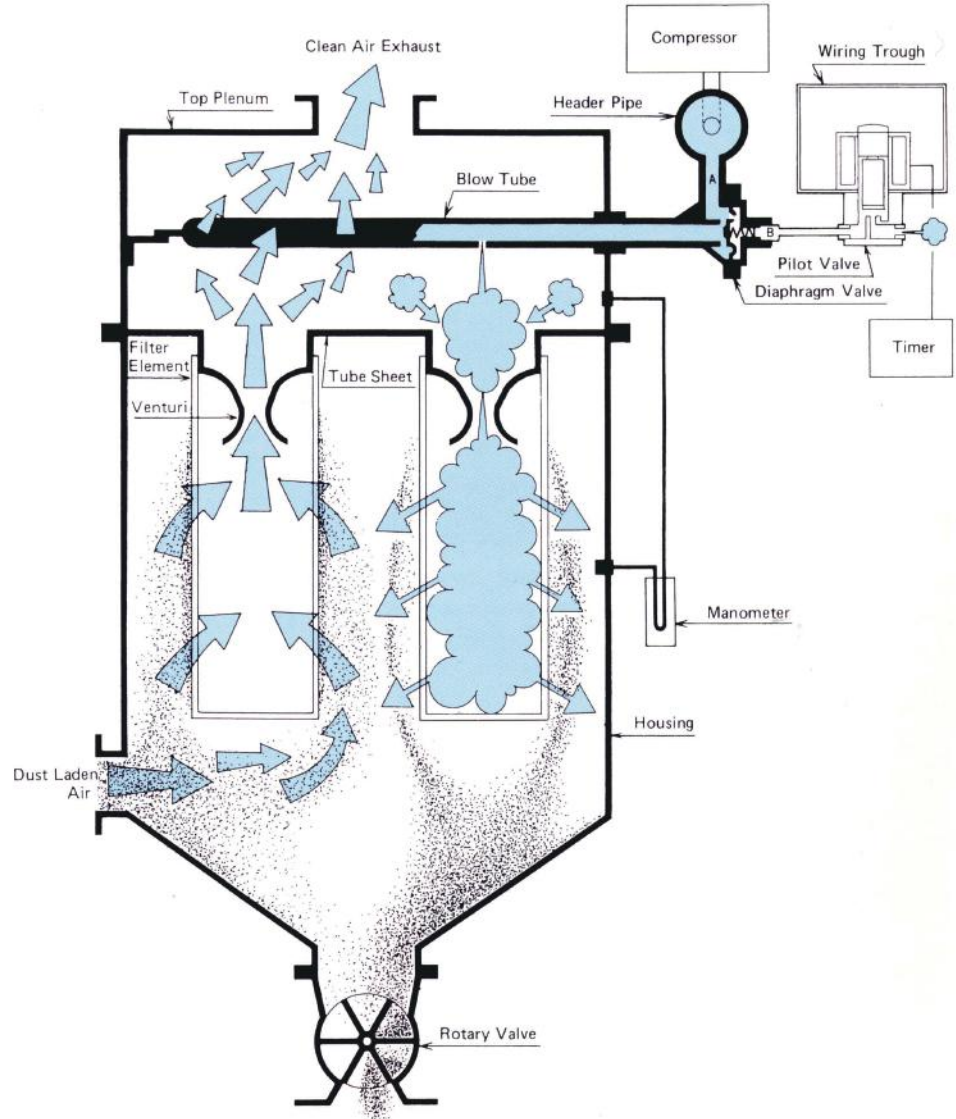


Process Technologies for Tomorrow

HOSOKAWA MICRON CORPORATION

FOR ECONOMICAL COLLECTION AT HIGH FILTER RATES.....
HOSOKAWA/MIKRO PULSJET COLLECTORS.

The Hosokawa/Mikro Pulsjet Collector is fully automatic and self-cleaning, with no internal moving parts. Each unit consists primarily of a series of cylindrical fabric filter elements (available in 1,830, 2,440 or 3,050 mm lengths) enclosed in a dusttight housing. Dust laden air is admitted to the housing and clean air withdrawn from inside the filter cylinders. As dust accumulates on the filter elements periodic cleaning is accomplished by introduction of timed, momentary jets of high-pressure air through a specially designed venturi mounted above each filter cylinder. Only a fraction of the total filter area is cleaned at one time, resulting in a continuous flow through the collector.



OPERATION PRINCIPLES OF THE PULSE-JET. (See sketch at left.)

The compressed air (7 kg/cm^2) from the air compressor will be delivered, via Header Pipe, to the Diaphragm Valve 'A' section and the compressed air will, in turn, get to the 'B' section through the small aperture provided on the valve to make the both sections equal in pressure.

But with the normally closed Pilot Valve opens by the actuation of the remote cyclic Timer, the Diaphragm Valve opens as a result of the decrease in pressure in section 'B' of the Diaphragm Valve. A momentary inrush of compressed air flows from the Header Pipe to the Blow Tube, down through each Venturi and into each Filter Elements. Thus all the Filter Elements in a single row are cleaned simultaneously.

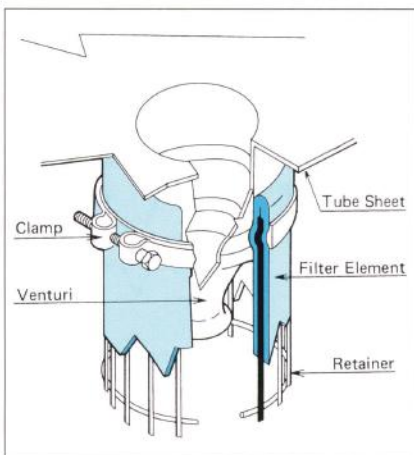
SP series



P-D.G series



FILTER CONNECTING SECTION



CP series



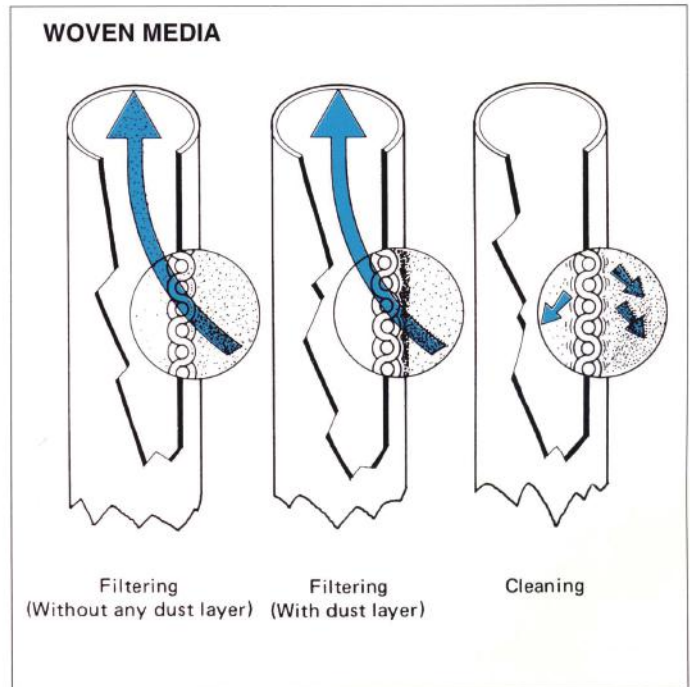
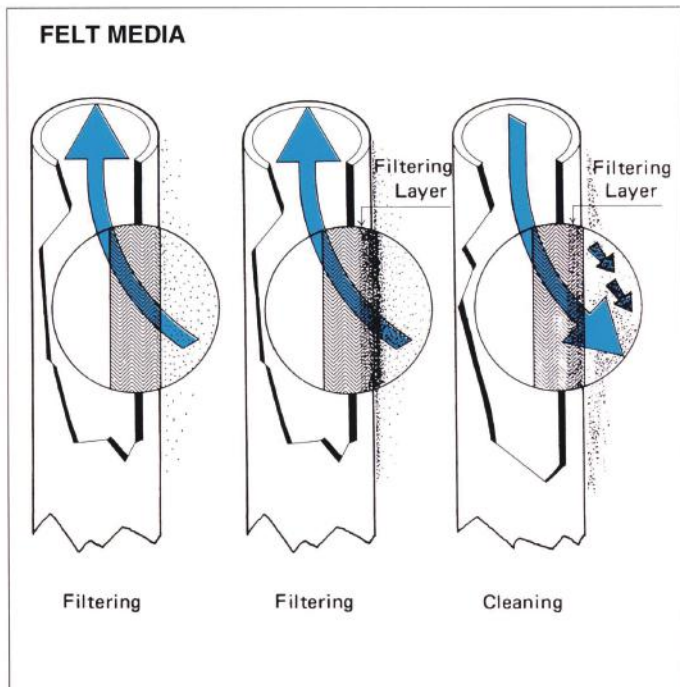
MikroPul's engineers pioneered the use of polyester felt as a more efficient filter material, and have applied the same principle to synthetics. In order to meet increasingly higher temperature requirements, a patented HCE treatment further enhances the collection efficiency of all filters used in the Hosokawa/Mikro Pulsjet collector.

Among the factors to be considered in selecting a suitable filter media are cost, efficiency, physical conditions such as temperature and humidity, and chemical considerations to assure compatibility with hot solid and gas streams.

FELT MEDIA. Drawing illustrates heavily matted texture of felt through which even submicron sized particles cannot penetrate. Yet when high pressure cleaning jets are introduced, air filters through at a far higher rate than through woven cloth. The filtering layer created by the dust in the felt body minimizes the pressure fluctuations,

which in turn, give uniform and high collecting efficiency.

WOVEN MEDIA. While dust retention is improved by accumulated dust forming the filtering layer, there is a resultant increased pressure loss. Cleaning action removes this filtering layer causing the large fluctuation of pressure loss and air volume through the collector.



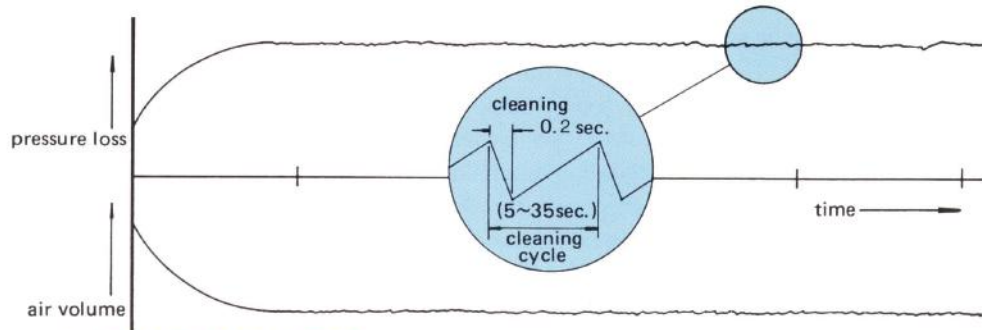
HIGHEST FILTER RATES-FELTED MEDIA!

ECONOMY PERFORMANCE-99.99% PLUS RECOVERY!

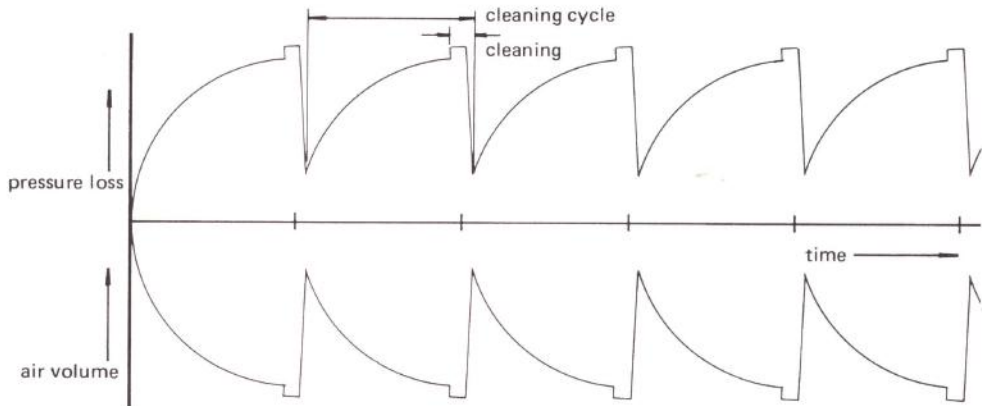
ECONOMY OPERATION - NO INTERNAL MOVING PARTS! Elimination of chains, blow rings, mechanical shakers and compartmenting valves means drastically reduced maintenance, longer bag life, uninterrupted processing.

HANDLES GAS STREAMS TO 280°C High temperature filter elements of Glass Felt permit operation above most acid dew points, also available when extra resistance to chemicals is required.

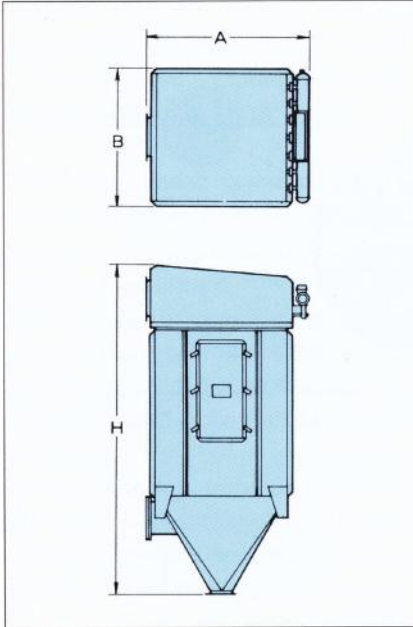
FLUCTUATION IN PRESSURE LOSS AND AIR VOLUME PULSJET COLLECTOR



SHAKER TYPE COLLECTOR



SP series



This factory assembled unit is available in a size range from 12 to 120 filter bags, and in bag lengths of 1,830, 2,440 and 3,050mm. Offering maximum space-saving efficiency, it can pack up to 86 sq.m. of filter cloth within a 2.1m x 2.1m housing. Today, this modern, high-performance collector is venting particle reduction machinery of every type, spray dryers, separators, calciners, mixers, packaging machinery, mechanical conveyors, carloading operations and many other dust generating sources in the broad field of industrial processing.

Like all Hosokawa/Mikro Pulsjet collectors, this welded unit will handle high dust loadings of more than 2,000 gms/m³ air, and usually eliminates the need for primary filtration equipment.

STANDARD SPECIFICATIONS

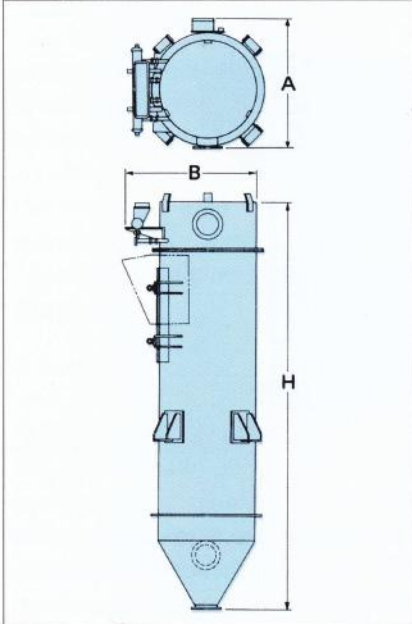
specifications		SP-12-6	SP-16-6	SP-25-6	SP-36-6	SP49-6	SP-64-6	SP-81-6	SP-100-6	SP-120-6	
area of filter	m ²	7.7	10.3	16.1	23.2	31.6	41.2	52.2	64.4	77.3	
number of filter tubes		12	16	25	36	49	64	81	100	120	
number of pilot valves		3	4	5	6	7	8	9	10	12	
compressed air required	ℓ /min	45	60	70	85	100	115	225	250	300	
compressor	KW	0.4	0.75	0.75	0.75	1.5	1.5	2.2	2.2	3.7	
unit ratings	mmAq	600	600	600	600	400	400	400	400	400	
dimensions (approx.)	A	mm	1240	1150	1450	1600	1760	1920	2070	2380	2350
	B	mm	810	900	1200	1350	1500	1680	1830	2140	2470
	H	mm	2950	2860	3100	3300	3500	3660	3730	4100	4150
weight(approx.)	kg	450	500	630	760	1000	1100	1500	1750	1950	

NOTE: Compressed air required given above is calculated under the condition of header pipe pressure 7kg/cm²G and one pulsation per minute for each pilot valve.

specifications		SP-12-8	SP-16-8	SP-25-8	SP-36-8	SP-49-8	SP-64-8	SP-81-8	SP-100-8	SP-120-8	
area of filter	m ²	10.4	13.8	21.6	31.1	42.4	55.3	70.0	86.4	103.7	
number of filter tubes		12	16	25	36	49	64	81	100	120	
number of pilot valves		3	4	5	6	7	8	9	10	12	
compressed air required	ℓ /min	45	60	70	85	100	115	225	250	300	
compressor	KW	0.4	0.75	0.75	0.75	1.5	1.5	2.2	2.2	3.7	
unit ratings	mmAq	600	600	600	600	400	400	400	400	400	
dimensions (approx.)	A	mm	1240	1150	1450	1600	1760	1920	2070	2380	2350
	B	mm	810	900	1200	1350	1500	1880	1830	2140	2470
	H	mm	3560	3490	3710	3910	4110	4270	4340	4710	4760
weights(approx.)		500	550	700	850	1100	1200	1600	1900	2100	

NOTE: Compressed air required given above is calculated under the condition of header pipe pressure 7kg/cm²G and one pulsation per minute for each pilot valve.

CP series



An economical, highly-versatile dust collection unit in a rugged, round housing that requires less space for corresponding cloth area, and eliminates material-trapping corners. The Cylindrical Hosokawa/Mikro Pulsjet Collector can be designed to withstand the pressure of over 1kg/cm². It is designed for efficient venting of a wide range of dust generating sources, from all types of particle reduction equipment, to spray dryers, to car loading operations. Application possibilities are virtually endless throughout the chemical, food, pharmaceutical, feedstuffs, metal-working and processing fields, and other industries which recover materials or have a dust problem.

STANDARD SPECIFICATIONS

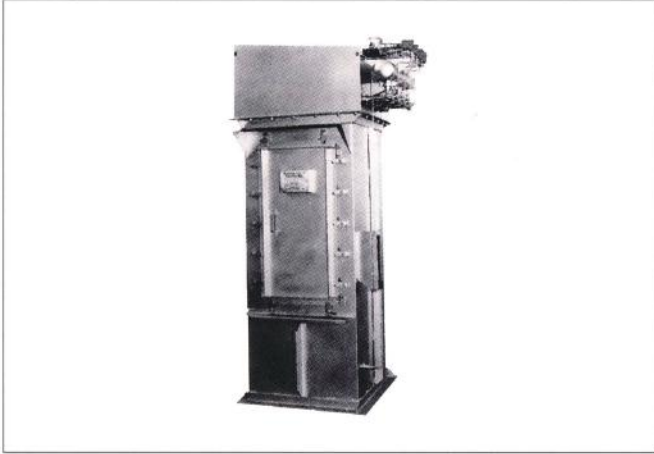
specifications		CP-9-6	CP-16-6	CP-21-6	CP-25-6	CP-37-6	CP-45-6	CP-57-6	CP-69-6	CP-78-6	CP-97-6	
area of filter	m ²	5.8	10.3	13.5	16.1	23.8	29.0	36.7	44.4	50.2	62.5	
number of filter tubes		9	16	21	25	37	45	57	69	78	97	
number of pilot valves		3	4	5	5	7	7	9	9	9	16	
compressed air required	ℓ /min	45	60	70	70	100	100	130	130	130	225	
compressor	KW	0.4	0.75	0.75	0.75	1.5	1.5	1.5	1.5	1.5	2.2	
unit ratings (mmAq)	SS	2540	2540	2540	2540	2540	2400	1900	1700	1600	1400	
	SUS	2540	2540	2540	2200	1800	1400	1200	1000	900	800	
dimensions (approx.)	A	mm	1200	1200	1300	1500	1600	1800	2100	2300	2500	2600
	B	mm	1100	1300	1400	1600	1600	1800	2000	2200	2400	2700
	H	mm	3100	3200	3400	3500	3600	3800	3900	4000	4200	4300
weights(approx.)	kg	350	400	500	550	700	800	950	1100	1200	1400	

NOTE: Compressed air required given above is calculated under the condition of header pipe pressure 7kg/cm²G and one pulsation per minute for each pilot valve.

specifications		CP-9-8	CP-16-8	CP-21-8	CP-25-8	CP-37-8	CP-45-8	CP-57-8	CP-69-8	CP-78-8	CP-97-8	
area of filter	m ²	7.8	13.8	18.1	21.6	32.0	38.9	49.2	59.6	67.4	83.8	
number of filter tubes		9	16	21	25	37	45	57	69	78	97	
number of pilot valves		3	4	5	5	7	7	9	9	9	16	
compressed air required	ℓ /min	45	60	70	70	100	100	130	130	130	225	
compressor	KW	0.4	0.75	0.75	0.75	1.5	1.5	1.5	1.5	1.5	2.2	
unit ratings (mmAq)	SS	2540	2540	2540	2400	2000	1700	1500	1300	1200	1000	
	SUS	2540	2540	2100	1700	1300	1100	900	800	700	700	
dimensions (approx.)	A	mm	1200	1200	1300	1500	1600	1800	2100	2300	2500	2600
	B	mm	1100	1300	1400	1600	1600	1800	2000	2200	2400	2700
	H	mm	3700	3800	4000	4100	4200	4400	4500	4600	4800	4900
weights(approx.)		400	450	550	650	800	900	1050	1200	1350	1550	

NOTE: Compressed air required given above is calculated under the condition of header pipe pressure 7kg/cm²G and one pulsation per minute for each pilot valve.

OTHER COFIGURATION OF THE PULSJET COLLECTORS.



"BIN MOUNT" (BM TYPE)

This type of Pulsjet Collector performs identical to the standard design, but without the collecting hopper. This type can be installed on the existing bin or storage tank.



"MINI PULSAIRE" (FTP TYPE)



"BIN VENT" (BV TYPE)

This type consists of top plenum assembly only, less collecting hopper and housing.



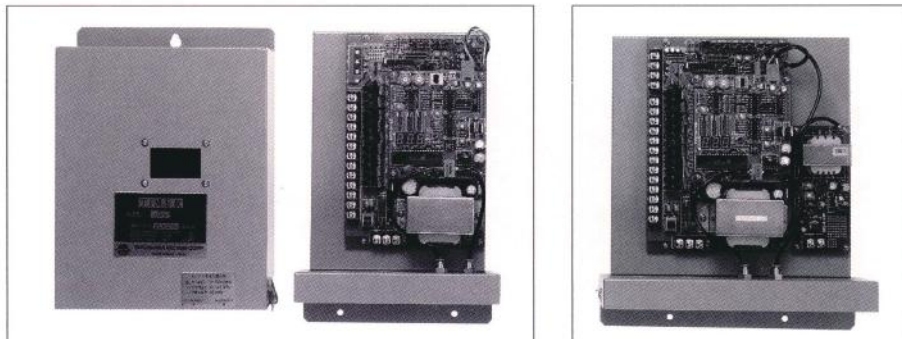
"SIDE REMOVAL" (AK TYPE)

SIDE REMOVAL Pulsjet Collectors have similar configuration and applications to the TOP REMOVAL type but as shown in the picture, the filter elements as a unit can be slid out of the housing.

ACCESSORIES

TIMER

The JC type timer is designed to generate the electric pulse signal which in turn actuate respective pilot valves at the predetermined interval and duration, in order to clean the filter bags detecting the pressure drop of the filter or independently from the pressure drop. The pressure drop indicator is integrated with the unit.



STANDARD SPECIFICATIONS

specifications	JC-1	JCS-1
Power required	AC100/200V ± 10% 50/60Hz	AC100/200V ± 10% 50/60Hz
Power consumption	Approx. 120VA	Approx. 120VA
Duration of pulse	10~990msec. Adjustable(step 10msec)	10~990msec. Adjustable(step 10msec)
Interval of pulse	1~99sec Adjustable(step 1sec)	1~99sec Adjustable(step 1sec)
Number of Output	Max. 12channels	Max. 12channels
Output power	90VA/channel	90VA/channel
Range of pressure measurement	0~500daPa	0~500daPa 4-20mA output
Allowable temperature	-10~55 C	-10~55 C
Weight	Approx. 5kg	Approx. 6kg

ROTARY AIRLOCK VALVES

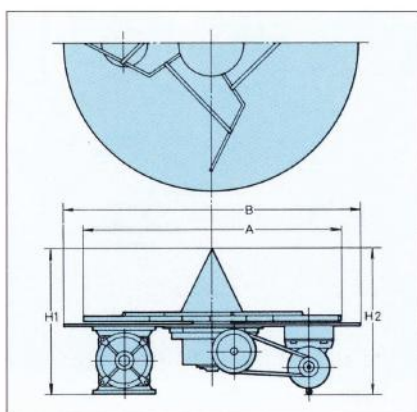
The Hosokawa/Mikro Airlock provides continuous discharge from dust collectors, cyclones, blenders, mixers, and storage bins. Also an ideal feeding mechanism to pulverizers, pneumatic conveying systems, mixers, and blenders.

Replaceable Blade 6-Vane Rotor is fabricated into six individual pockets for plastic, rubber or other replaceable blades, determined by temperature and corrosive properties of material handled. Designed for low pressure applications. In alloy steel, or other metals on request.



STANDARD SPECIFICATIONS

specifications		RV-20 IND	RV-30 IND	RV-20D
power required	KW	0.4 4P GEARED MOTOR	0.75 4P GEARED MOTOR	0.4 4P GEARED MOTOR
standard rotor speed	50 Hz R.P.M	28	20	33.3
	60 Hz R.P.M	33	24	40
discharge capacity (approx.)	50 Hz m ³ /Hr	12	30	14
	60 Hz m ³ /Hr	14	40	17
dimension(approx.)		580x 450x 310	770 x 700 x 450	640 x 290 x 310
weight(approx.)	kg	70	130	



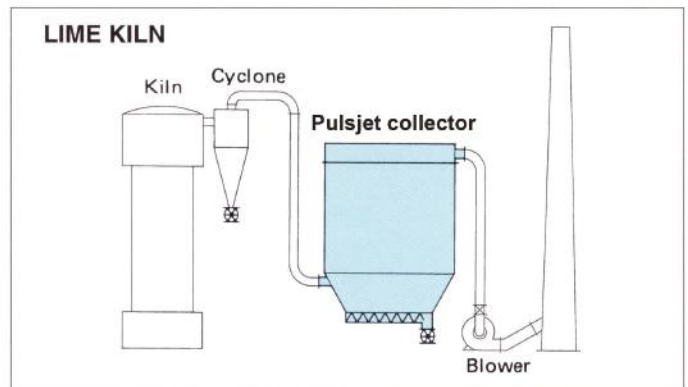
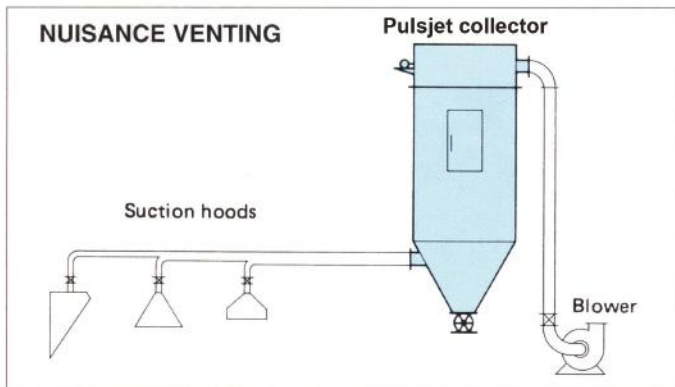
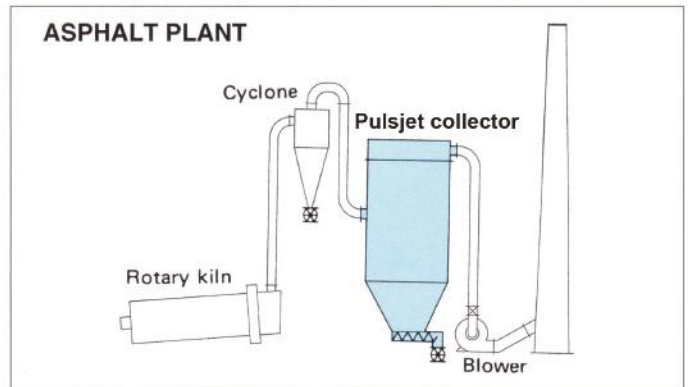
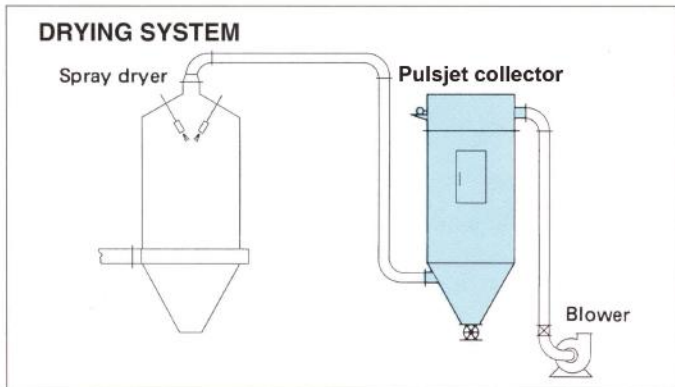
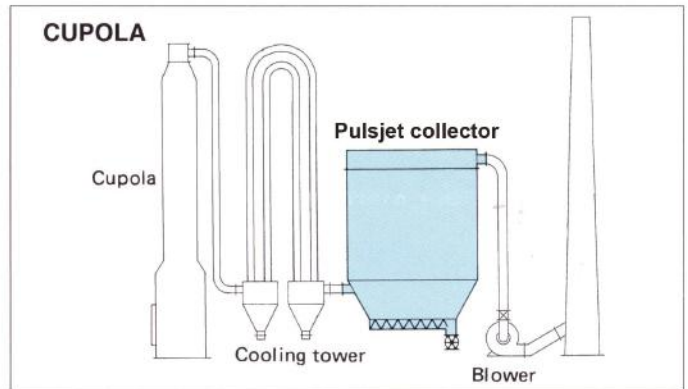
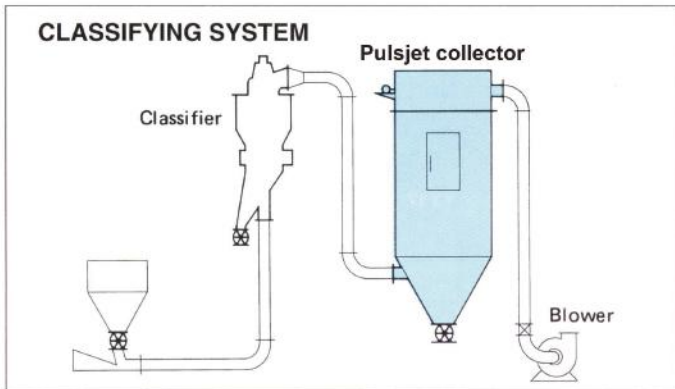
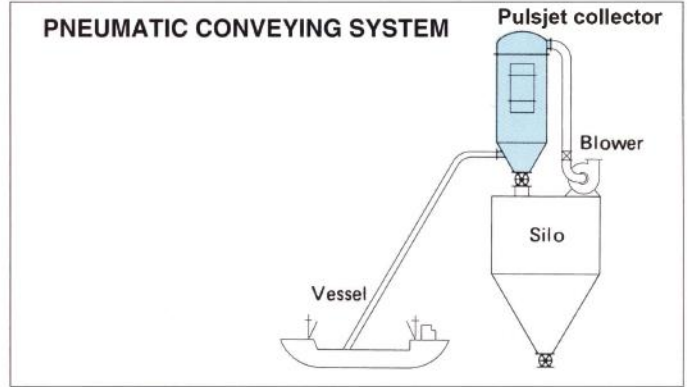
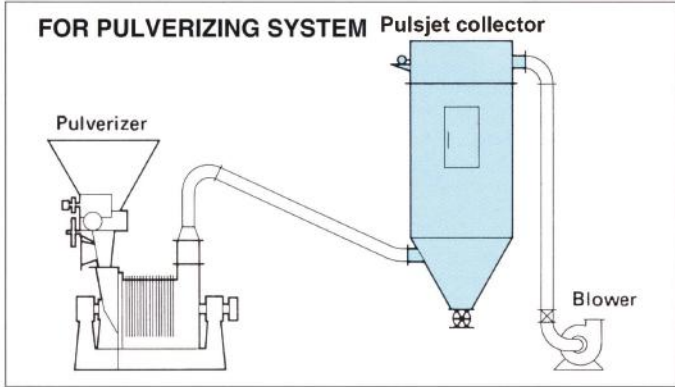
HUV TYPE PRODUCT DISCHARGER

Horizontal Unloading Valve is specially designed for smooth discharge of cohesive materials which will often cause bridge formation or rat-hole in the standard conical shaped collecting hopper.

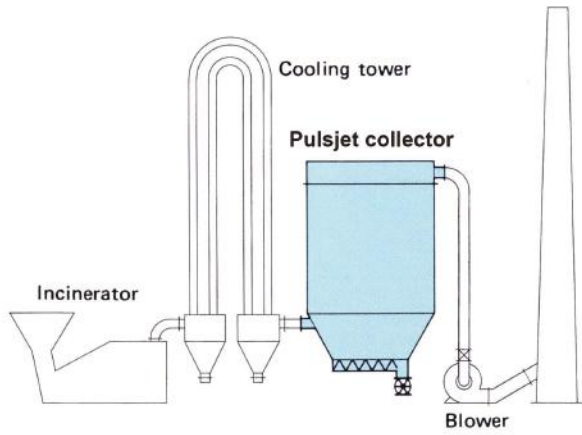
STANDARD SPECIFICATIONS

specifications		HUV-9	HUV-12	HUV-15	HUV-18
power required	KW	0.75-2.2	1.5-3.7	1.5-3.7	1.5-3.7
reduction rate		60 : 1	60 : 1	60 : 1	60 : 1
vaness r.p.m.	r.p.m.	10	10	10	10
	A mm	900	1,200	1,500	1,800
dimensions(approx.)	B mm	1,080	1,380	1,680	1,980
	C mm	300	330	550	600
	H1 mm	610	660	780	860
	H2 mm	570-620	640-720	760-790	840-920

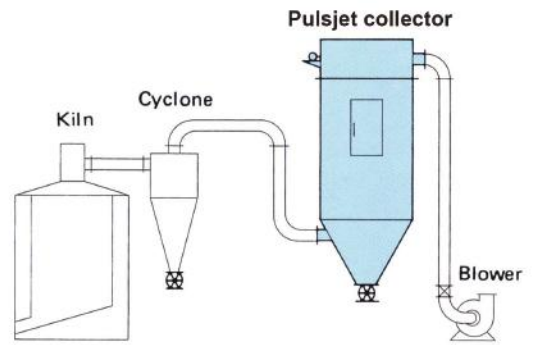
FLOW SHEET



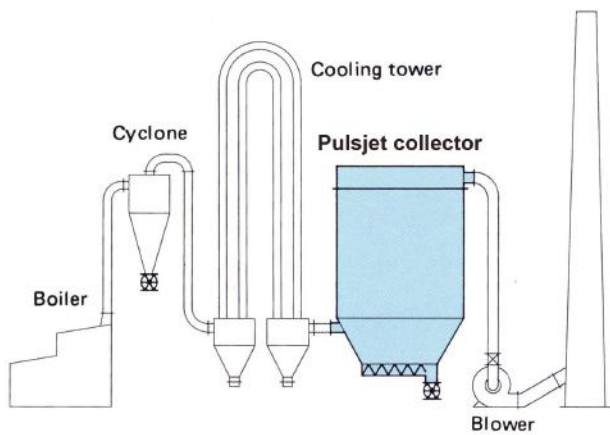
INCINERATORS



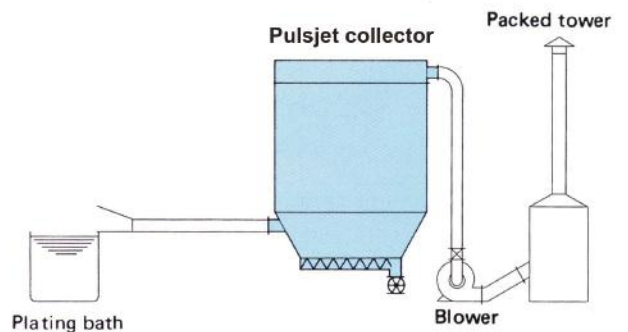
VARIOUS KILNS



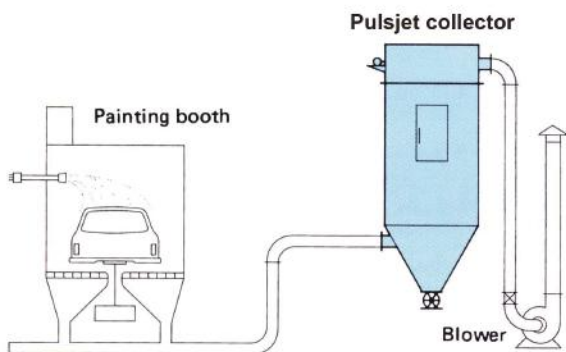
VARIOUS BOILERS



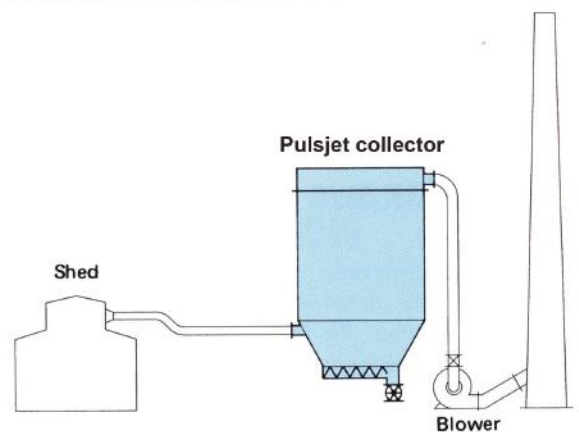
VARIOUS PLATING SYSTEM



POWDER PAINTING



VENTING FROM ENTIRE SHED



Typical Performance

Dust	Application	Collector Model	Air Volume Handled	Filter Rate	Temp.
Aggregate	Asphalt plant	SP-120-12	550 m ³ /min	2.1 m ³ /min/m ²	200°C
Ash	Saw dust boiler	P-1F1	120	1.9	200
Iron oxide	Rotary kiln	SP-120-8			200
Zinc oxide	Rotary kiln	P-1F1	120	1.9	120
Fume	Reverberator	P-1F1-48	140	1.4	120
Effluent gas	Incinerator	P-48-6	70	2.2	200
Effluent gas	Cupola	P-1F3	450	2.0	200
Fire clay	Dryer	SP-120-10	230	1.8	80
Lead ash	Calcination plant	P-1F1-24	100	0.8	120
PVC	Spray dryer	P-2G8	1,300	1.3	55
Kaoline	Unloader	CP-16-6	15	1.4	20
Fertilizer	Air conveying	P-1F3	440	2.4	70
Granulated sugar	Dust extraction	P-1F4	800	3.2	20
Pitch Cokes	Dust extraction	CP-78-8	80	1.2	20
Wheat flour	Dust extraction	P-1F6	1,000	2.7	20
Animal feed	Dust extraction	P-1F1	240	3.8	20
Dye stuff	Spray dryer	CP-97-8	130	1.6	105
Calcium Carbonate		P-1F1	150	2.4	80
Talc	Pulverizer	P-1F2	200	1.6	20
Manganese oxide	Air classifier	P-1F1	100	1.6	40



Process Technologies for Tomorrow

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URL : <http://hosokawa.com.my/>



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