Technical Data sheet

OVERVIEW RECYCLING

FROM IN-A-BOX SOLUTIONS TO IN-LINE SYSTEMS

The specifications for all recycling systems are based on recycling of EPS	MICRO IN-A-BOX	MINI IN-A-BOX	MINI INLINE SYSTEM	MAXI INLINE SYSTEM	JUMBO INLINE SYSTEM
			Capacity		
SHAPE MOULDING					
Granulated and dedusted EPS material on 6mm screen	2-3 m^3/h 70-105 ft^3 /h	6-8 m^3/h 210-280 ft^3 /h	6-8 m^3/h 210-280 ft^3 /h	10-12 m^3/h 350-420 ft^3 /h	15-20 m^3/h 630-700 ft^3 /h
BLOCK MOULDING					
Granulated and dedusted EPS material on 10mm screen	4-6 m^3/h 140-210 ft^3 /h	9-10 m^3/h 315-350 ft^3 /h	9-10 m^3/h 315-350 ft^3 /h	18-20 m^3/h 630-700 ft^3 /h	35-40 m^3/h 1225-1400 ft^3 /h
HIGH DENSITY MOULDING					
Granulated and dedusted EPP material or high density EPS	20-50 kg/h 44-110 Lbs/h	50-100 kg/h 110-220 Lbs/h	50-100 kg/h 110-220 Lbs/h	100-160 kg/h 220-350 Lbs/h	N/A
			Measurements		
Hopper opening	780x400mm	900x600mm	900x600mm	1400x600mm	1800x800mm
Pre-crusher/granulator	30x15"	36x24"	36x24"	56x24"	72x31"
Granulator screen surface	0,2 m^2 2 ft^2	0,9 m^2 9,7 ft^2	0,9 m^2 9,7 ft^2	1,4 m^2 15 ft^2	2,4 m^2 26 ft^2
Floor space required	5 m^2 52 ft^2	6 m^2 65 ft^2	12 m^2 120 ft^2	16 m^2 160 ft^2	40 m^2 400 ft^2
			Electrical load		
Standard EPS	11,5 kW	19 kW	19 kW	36 kW	50 kW
EPP or high density EPS	14,5 kW	32 kW	32 kW	53 kW	57kW

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SYSTEM CONFIGURATION

A version: Direct vertical material feeding
B version: Direct horizontal material feeding
C version: Direct vertical + feeding of precrushed material from silo
D version: Feeding of pre-crushed material from silo placed above granulator
E version: Feeding of pre-crushed material from silo placed next to granulator

	Micro-in-a-box - Version A	Micro-in-a-box - Version D	Mini-in-a-box - Version B	Mini-in-a-box - Version C	Mini-inline - Version A	Mini-inline - Version B	Mini-inline - Version C	Mini-inline - Version D	Mini-inline - Version E	Maxi-inline - Version A	Maxi-inline - Version B	Maxi-inline - Version C	Maxi-inline - Version D	Maxi-inline - Version E	Jumbo-inline - Version D
Capacity (Granulated material output):															
0 - 5 m3/hour	●	●													
0 - 10 m3/hour			●	●	●	●	●	●	●						
0 - 20 m3/hour										●	●	●	●	●	
0 - 40 m3/hour															●
Capacity by weight (EPP + HD versions only!)															
0 - 50 kg/hour	●	●													
0 - 100 kg/hour			●	●	●	●	●	●	●						
0 - 160 kg/hour										●	●	●	●	●	
Regular EPS/Graphite EPS	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
High density EPS/HD Graphite EPS/Regular EPP	●○	●○	●○	●○	●○	●○	●○	●○	●○	●○	●○	●○	●○	●○	●○
Arcel/Bio/Piocelan	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
High density EPP			●○	●○	●○	●○	●○	●○	●○	●○	●○	●○	●○	●○	
Built-in pre-crusher	●	●	●	●	●	●	●			●	●	●			
Separate pre-crusher required/optional		●		●■			●■	●	●			●■	●	●	●
Feeding pre-crushed material from cutting line		●		●			●	●	●			●	●	●	●
Heavy-parts filter for pre-crushed material		●		●			●	●	●			●	●	●	●
Separate transport blower for pre-crusher required/optional		●		●			●	●	●			●	●	●	●
Silo for pre-crushed material required/optional		●		●■			●■	●	●			●■	●	●	●
Built-in granulator	●	●	●	●	●	●	●			●	●	●			
Separate granulator								●	●				●	●	●
Screen sizes available:															
4 mm	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
4,5 mm	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
5 mm	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
6 mm	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
8 mm	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
10 mm	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
12 mm	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Built-in de-dusting unit	●	●	●	●											
Separate de-dusting unit					●	●	●	●	●	●	●	●	●	●	●
Built-in dust compactor with cyclone	●	●	●	●											
Separate dust compactor - with air venting bags (optional)					●	●	●	●	●	●	●	●	●	●	●
- with air cyclone (optional)					●	●	●	●	●	●	●	●	●	●	●
Recommended mixing system:															
Styromix 3 (shape moulding)	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	
Styrometer Mini (shape & block moulding)			▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	
Styrometer Maxi (block moulding)										▲	▲	▲	▲	▲	▲
Styrometer Jumbo (block moulding)										▲	▲	▲	▲	▲	▲
Styrometer Gigant (block moulding)										▲	▲	▲	▲	▲	▲

● Available system/function/unit
○ Require high density version
■ May be required or optional depending on customer requirement
▲ Recommendation but other combinations can be applied

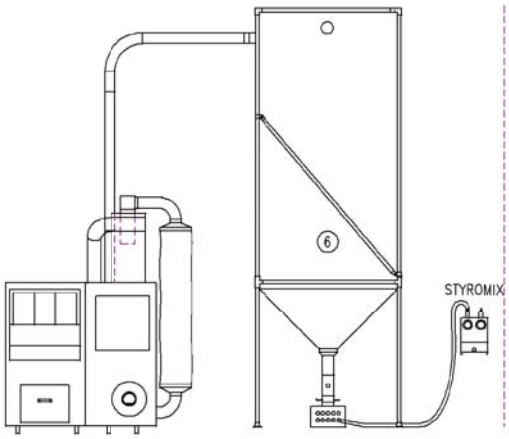
Technical Data sheet
SYSTEM CONFIGURATION

In-a-box systems
Micro-in-a-box & Mini-in-a-box

Complete integrated systems with optional separate pre-crusher, heavy-parts filter and feeding silo. Can be equipped with any mixing system

Illustration 1 features a Mini-in-a-box transferring recycled material to a silo with a ditribution box connected with Styromix 3 system.
Illustration 2 features Styrometer mixing system.

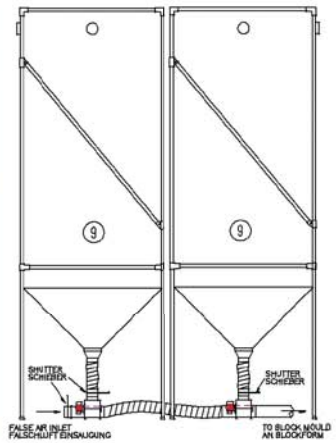
Illustration 1



Mini in-a-box

Styromix mixing system with distribution box

Illustration 2



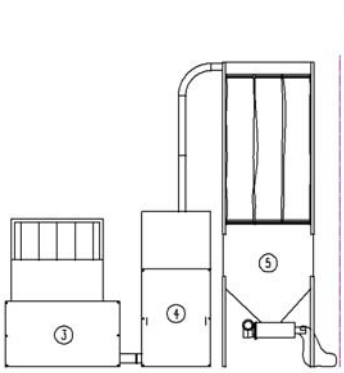
Styrometer mixing system

In-line systems with combined pre-crusher/granulator
MINI + MAXI systems

In-line systems with combined pre-crusher/granulator, de-dusting unit, dust compacting and mixing system.

Illustration 3 features a combined pre-crusher/granulator A version, with de-dusting unit and dust compactor with venting bags. Illustration 4 features Styromix with distribution box and Styrometer mixing systems.

Illustration 3

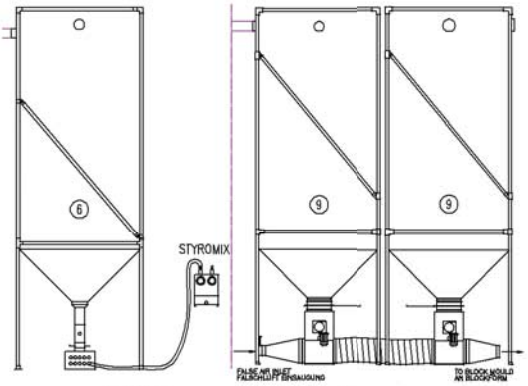


Combined pre-crusher/ granulator version A

Separate de-dusting unit

Dust compactor with venting bags

Illustration 4



Styromix mixing system with distribution box

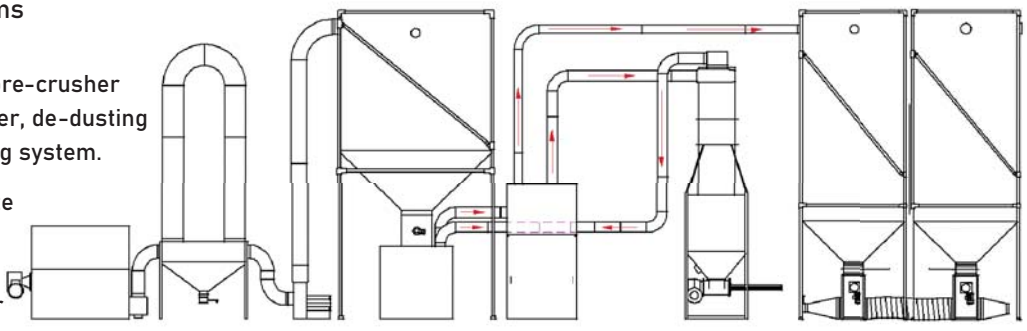
Styrometer mixing system

In-line systems with separate pre-crusher and granulator
MINI + MAXI + JUMBO systems

In-line systems with separate pre-crusher and granulator, heavy-parts filter, de-dusting unit, dust compacting and mixing system.

Illustration 5 features a separate pre-crusher, heavy-parts filter granulator D version, de-dusting unit, dust compactor with cyclone and Styrometer mixing systems.

Illustration 5



Separate Pre-crusher

Heavy-parts filter

Material transport blower

Granulator version D

Separate de-dusting unit

Dust compactor with cyclone

Styrometer mixing system

Technical Data sheet

DUST SEPARATION UNITS

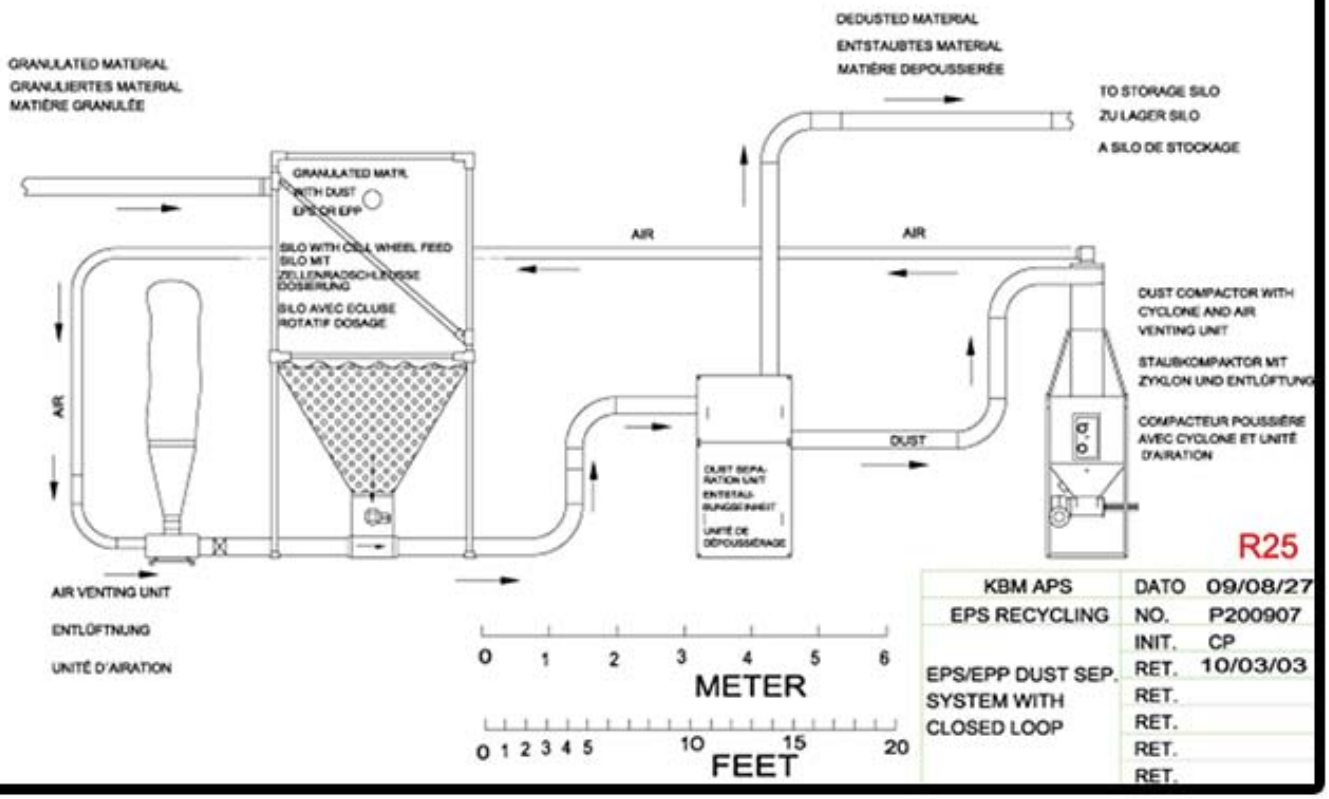
KBM DE-DUSTERS INCREASE QUALITY AND PRODUCTIVITY

Traditionally, de-dusting has been used to prepare foam materials from granulation/grinding - to ensure that it was possible to mix with new beads before the moulding process.

KBM has supplied these solutions since 1978 and has developed different equipment to refine this process in order to obtain the optimal de-dusting quality.

Today, it is often necessary to de-dust in other steps of the moulding process. The raw material (virgin beads) is often full of small particles and fine dust, and it is very important that these particles are removed before the moulding process.

PRINCIPLE FOR MINI/MAXI/JUMBO SYSTEM



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DUST SEPARATION UNITS

KBM DE-DUSTERS INCREASE QUALITY AND PRODUCTIVITY

De-dusting is essential to:

1) Increase the quality of the moulded pieces (shape moulding or block moulding).

2) Avoid production stops caused by dust sticking to the moulds and resulting in heavy maintenance.

3) Increase the rate of recycled material that can be added and re-used.

For many years KBM has been manufacturing the MINI, MAXI and JUMBO recycling systems with vacuum de-dusters. These products have capacities of 10 m^3/h, 18-20m^3/h and 35-40 m^3/h. Lately, a larger version, JUMBO+, was developed to give 50-60 m^3/h. This unit has now been developed further into the GIGANT 120 and GIGANT 240 with capacities of 100-120 m^3/h and 200-240 m^3/h for the large block moulds.

As the capacity can variate from 10m^3/h up to 240m^3/h, KBM is able to supply de-dusting for all purposes. Recycled or virgin - or after the mixing process.

To keep the quality and efficiency high and maintenance of the de-dusting systems at a minimum, KBM has developed a cyclone venting system for the extracted dust. The cyclone removes the dust from the de-dusting air.

The collected dust is compacted to avoid large volumes of waste. The air is returned in a “closed loop” and re-used in the system instead of being vented through filter bags which requires a lot of maintenance.

Brand name	M^3/Hour	cf^3/Hour
MINI	8-10	280-350
MAXI	18-20	630-700
MAXI+	25-30	875-1050
JUMBO	35-40	1225-1400
JUMBO+	50-60	1750-2100
GIGANT 120	100-120	3500-4200
GIGANT 240	200-240	7000-8400

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