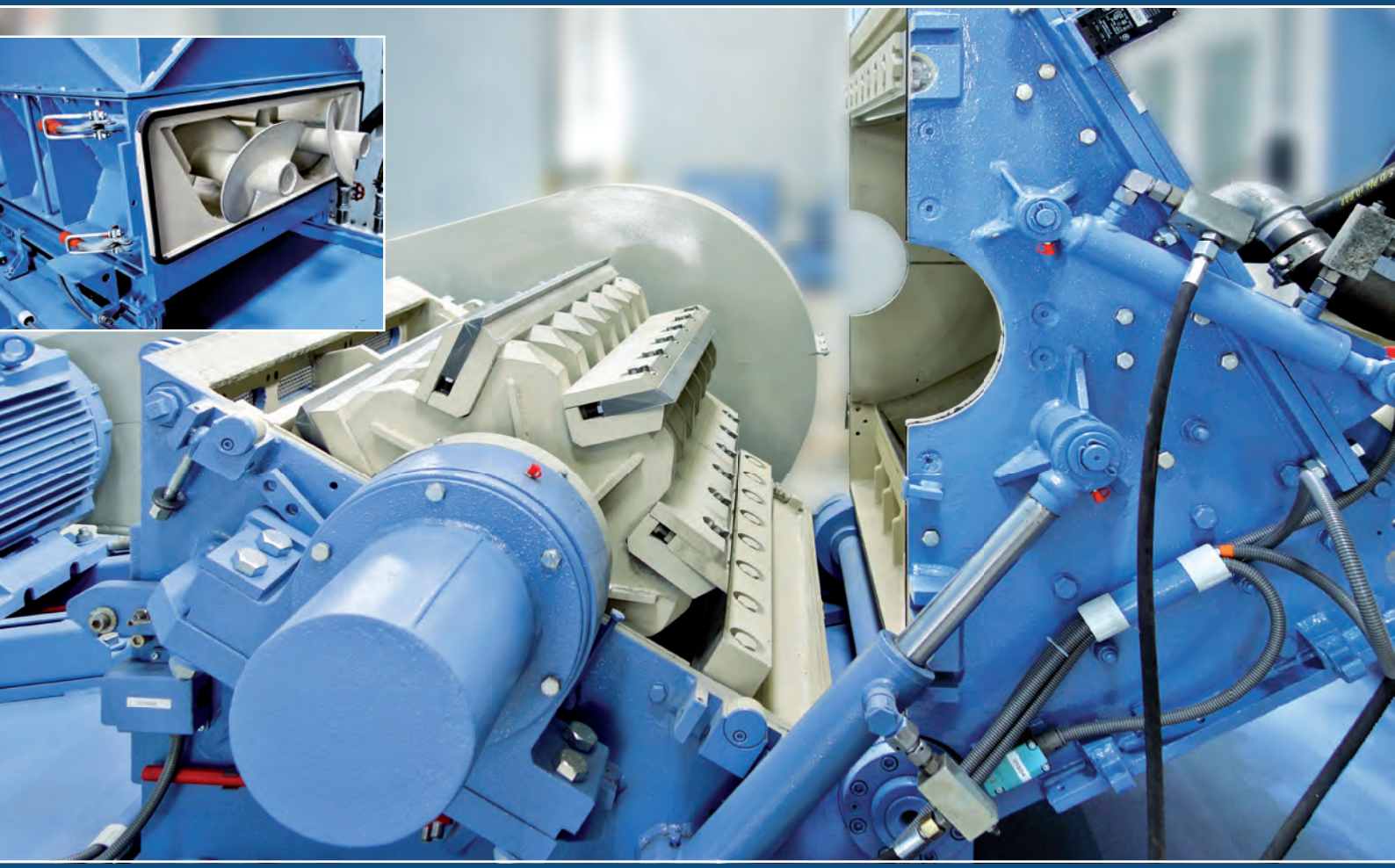
GRANULATORS



SB Series (patented)

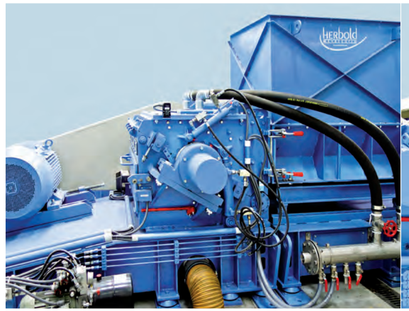
GRANULATOR WITH EVEN FORCED FEEDING

- High throughputs
- Low energy consumption
- Low noise emission
- Dry and wet grinding

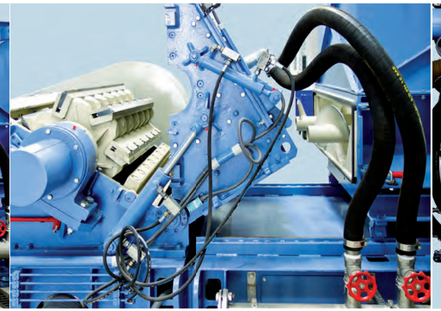
HERBOLD MECKESHEIM

Granulators & shredders | Pulverizers | Plastcompactors/agglomerators | Washing systems/plants | Service

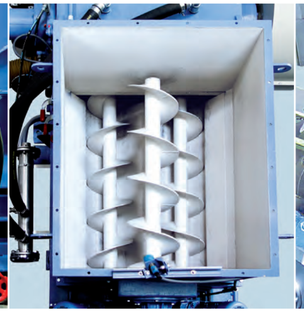
Typical feeding materials are:



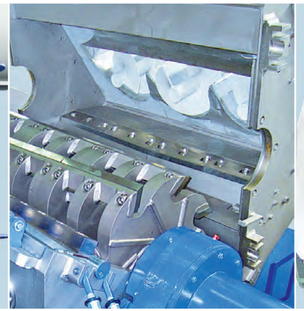
Granulator SML 60/100 SB in wet execution



Optimal access for cleaning and maintenance



Horizontal forced feeding device



Vertical forced feeding device

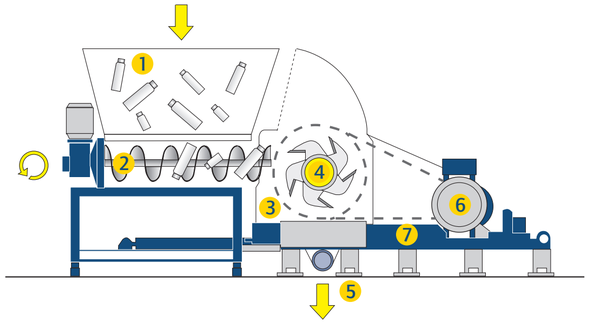
Pre-shredded battery cases

Pre-shredded pipes

Bottles

HDPE-materials

Pre-shredded films < 200 mm



1. Feeding hopper
2. Feeding screws
3. Grinding chamber
4. Rotor
5. Suction trough/ discharge trough
6. Motor
7. Machine ground plate

Horizontal forced feeding with the SML series

Vertical forced feeding with the SMS series

Worldwide patents

For screw feeding of granulators, Herbold Meckesheim has applied for patents worldwide. Herbold has already obtained the following patents:

- **US Patent Number: 7,793,872 B2**
- **EU Patent Number: EP 2 468 410 B1**
- **Chinese Patent Number: CN 101374604 B**

Developments from Herbold Meckesheim are ground-breaking. The wet grinding technique for granulators and many other recycling techniques that are the latest state of the art have been developed by Herbold.

Procedure

Material feeding

- With Herbold's force feed SB series granulators the material is transported by horizontal or vertical screws. The force feed method is unlike a conventional granulator which relies strictly on gravity to get the feed stock to the cutting area. Herbold's design forces the feed stock into the cutting area and controls the amount of material being fed. Therefore we are able to provide a large in feed hopper (bunker) which can be conveyor, dump cart or fork truck fed. An ultrasonic sensor located in the feed hopper is continuously monitoring the filling level and can either stop the feeding device or provide a warning to the operator.

Controls

- The SB series feed screw speed is being controlled via load sensing of the granulators motor. Taking into account material volume and the cutting knives condition to achieve the optimum output. Herbold also provides a no-load detector automatically stopping the unit if the machine sees zero load. Both of these control features are automatic and are standard on all SB machines. As an option, a remote access to the machine controls is available, thus ensuring assistance from Herbold Meckesheim remotely in case of failure, monitoring or adjustments for a quick troubleshooting solution.

Vibration sensor

- The vibration sensor is used for measuring vibration during the machines operation. The sensor indicates when a knife change is imminent and alerts the operator via a light on the control panel to warn of dangerous operating conditions. The vibration sensor reduces wear and tear on the granulator which can provide substantial savings over the course of the life of the machine.

Advantages of an even forced feeding

- higher throughputs (30 to 50% higher capacity with the same granulator size compared to traditional granulators
- lower energy consumption (30 to 50% less power input compared to standard granulators)
- even rotor loads (fewer fines and less dust in the reground)
- automatic treatment of larger product quantities
- lower noise emission
- high safety level, no material ejection and absence of the typically large opening for the conveyor belt and/or manual feeding
- no continuous manual feeding by an operator
- available in either a dry or wet configuration. As a wet unit an ideal addition to any washing line.

Herbold's SB series are ideal for all types of size reduction applications from PET bottles to pre-shredded materials where maximum performance and cost efficiencies are a must.

Performance data of the SB series

	Horizontal forced feeding – SML series			Vertical forced feeding – SMS series	
Typ	**45/60**	**60/100**	**60/145**	**80/160**	**80/200**
Rotor ø [mm]	450	600	600	800	800
Rotor width [mm]	600	1.000	1.450	1.600	2.000
Drive motor [kW]	30 – 55	55 – 110	75 – 132	90 – 160	110 – 150
Feeding opening [approx. mm]	600 x 620	980 x 1.300	1.488 x 1.300	1.580 x 1.300	1.900 x 1.300
Throughput*					
PET-bottles, screen 12 mm [t/h]	1 – 1,15	2 – 3	2,5 – 4	4 – 8	7 – 14

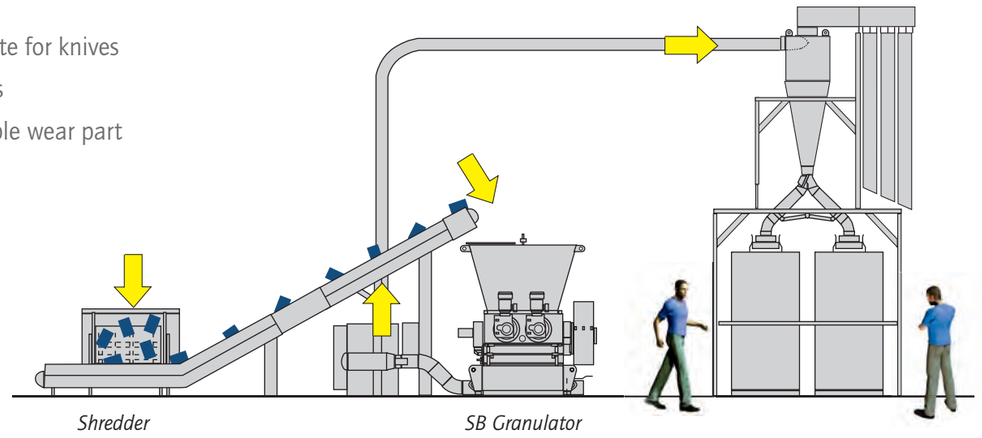
* NOTE: All performance data has been accumulated based on testing using the minimum and maximum horsepower with the granulator's knives in good condition.

Rotor type F with exchangeable wear protection

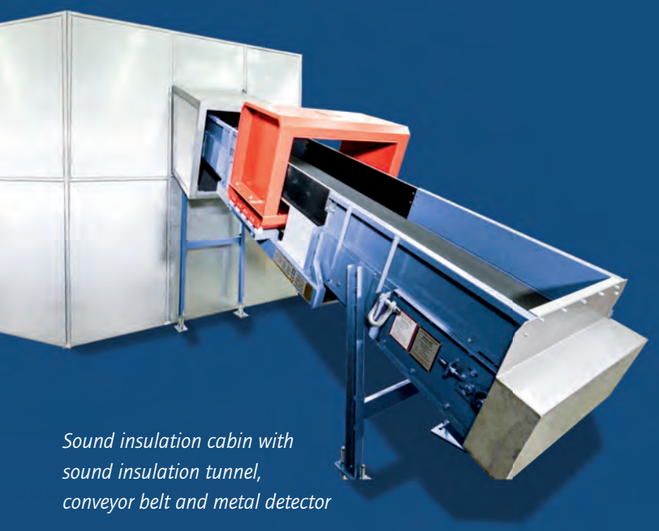
1 Support plate for knives
2 Rotor knives
3 Exchangeable wear part

Housing with exchangeable armour plating

Hinge-mounted screen support of the SMS series



Shredder *SB Granulator*



Sound insulation cabin with sound insulation tunnel, conveyor belt and metal detector

Special features of the granulators of the SB series.

- The entire grinding chamber of all SB granulators is protected by exchangeable anti-wear plates.
- **Combination of a shredder and an SB granulator:** Granulators of the SB series are ideal for a secondary size-reduction of pre-shredded materials. The in feed hopper (bunker), screw feed design and automatic controls ensure even feeding and maximum output to meet the machines capacity. Options include a sound insulation cabin, sound insulation tunnel, conveyor belt and metal detector.

SB Series

Our product range

Guillotines
Shredders
Hammer mills
Granulators
Pulverizing systems
Washing systems & components
Plastcompactors/agglomerators

Advantages of the Herbold granulators:

- Heavy-duty welded steel construction
- Inclined split housing design
- Outboard mounted pillow block bearings (bearing separated from the grinding chamber)
- Rotor and bed knives adjusted from the outside of the granulator
- Double cross cutting action
- Constant cutting circle due to adjustable rotor and bed knives
- Compact and space-saving design
- Knife adjustment from the outside of the granulator

You can find further information on our granulators SMS and SML in our brochures "Granulators SMS Series" and "Granulators SML Series".

For more information, please see our videos on our website www.herbold.com

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