Advantages of Herbold plastcompactors

- Continuous operating process, not a batch feed design or labor intensive
- Accurate system controls which maintain the parameters for proper feeding speeds and disc gap to meet recipe requirements as well as the option to adjust parameters during machine operation to maximize performance
- Low wear costs, even with processing highly abrasive materials as main wear components are bolted in place allowing for easy and quick replacement
- Durable and virtually insensitive to foreign bodies
- High throughputs in fully automatic continuous operation, few operators needed
- Plastcompacting is a sintering process, no melting, gentle processing
- No large quantities of energy required
- Continuous operating process, not a batch feed design or labor intensive
- Accurate system controls which maintain the parameters for proper feeding speeds and disc gap to meet recipe requirements as well as the option to adjust parameters during machine operation to maximize performance
- Low wear costs, even with processing highly abrasive materials as main wear components are bolted in place allowing for easy and quick replacement
- Durable and virtually insensitive to foreign bodies
- High throughputs in fully automatic continuous operation, few operators needed
- Plastcompacting is a sintering process, no melting, gentle processing
- No large quantities of energy required

Depending on the scope of supply, systems can be furnished with the following components:

- Primary granulation in the form of a cutter, single-shaft shredder or a combination of the two
- Pneumatic or mechanical transport of the pre-granulated material
- Dosing of additives
- Secondary granulator
- Compactor with motorized disc adjustment
- Electrical control units and automatic process controls

For abrasive materials such as post-consumer waste or plastics with a high proportion of glass fibers or calcium, Herbold plastcompactors and granulators are available with wear protection packages.

Our product range

- Dosing of additives
- Secondary granulator
- Compactor with motorized disc adjustment
- Electrical control units and automatic process controls

For abrasive materials such as post-consumer waste or plastics with a high proportion of glass fibers or calcium, Herbold plastcompactors and granulators are available with wear protection packages.

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

CONTINUOUS AND FULLY AUTOMATIC OPERATION

- Agglomeration of powders, fibers, films and foams
- Drying of powders, fibers, films and foams
- Recrystallization of PET flakes
- Compounding of thermoplastics with fillers

The end product is free-flowing agglomerate easy to dose and to mix with other high bulk density material.

For more information, please visit our website www.herbold.com

All indications are not binding and subject to change. 01/2017

E-Mail: info@herboldusa.com | Internet: www.herboldusa.com
Tel.: +1 401 597/5500 | Toll-free (US/CDN): +1 888/612 RRSI (7774) | Fax: +1 401 597/5535
130 Industrial Drive | North Smithfield, RI 02896, USA | P.O. Box 239 | Slatersville, RI 02876, USA
Herbold Meckesheim USA | Resource Recycling Systems Inc.
Subsidiary in the US:
Tel.: +49 (0) 6226/932-0 | Fax: +49 (0) 6226/932-495
Industriestr. 33 | 74909 Meckesheim | Postfach 1218 | 74908 Meckesheim | Deutschland
Herbold Meckesheim GmbH

Plastcompactors/agglomerators
- Glass fibers or calcium, Herbold plastcompactors and granulators are available with wear protection packages.

Compacting of thermoplastics with fillers
- The end product is free-flowing agglomerate easy to dose and to mix with other high bulk density material.
Herbold HV series plastcompactors transform low bulk density plastics into agglomerate with high bulk density while limiting additional heat history.

**The process**

**Material feeding**
- The feed material is pre-sized (granulated/shredded) and collected in a buffer silo above the compactor. The operation is continuous as the granulated material is fed to the compacting discs via a variable speed auger which directs the material into the center of the stationary and rotating discs.

**Fiction**
- Friction is created on and between the compacting discs, the amount of friction is determined by the distance between discs which is adjustable. The material is heated quickly, spun off, and conveyed via a central downstream blower to the secondary granulator. Since the dwell time of the material in the compacting zone is only a matter of seconds, the thermal impact on the material is minimal contrary to extruders.

**Agglomeration**
- The exit of the agglomerate is determined by the screen insert in the granulator. Before conveying the agglomerate into big bags or a silo, the agglomerate passes a sifting station where the material is simultaneously cooled and separated from fines. The fines are pneumatically returned to the buffer silo. The end product is air-cooled agglomerate with good flow characteristics and a high bulk density. Some materials require further cooling down to a temperature suitable for trouble-free storage or filling into big bags. These additional steps can be incorporated into the plastcompactor system.

**Fully automatic control**
- A fully automatic control system which includes performance and temperature monitoring of the compacting process keeps the number of operators to a minimum. Different types of feed stock and properties will require different settings (recipes). The control system can store these recipes enabling an automatic set-up and processing.

**Applications**

**Drying**
- Herbold plastcompactors are a perfect addition within the downstream of a washing line for increased drying capacity. As material passes through the compaction zone moist material is warmed and moisture is removed. If compacting is desired at the same time it is possible to achieve a residual humidity of well below 1 percent. With this low residual moisture and high bulk density the material can then be further processed either in an injection molding machine or a standard extruder.

**Compounding**
- Fillers can be absorbed during the heating process in the compacting zone by using granulated materials that have been prepared through processes such as agitation. Special dosing units mounted above the feeding screw of the compactor allow for feeding the additives such as lubricants, plasticizers, color pigments prior to the compacting zone.

**Addition of additives**
- The size of the agglomerate is determined by the screen insert in the granulator. Before conveying the agglomerate into big bags or a silo, the agglomerate passes a sifting station where the material is simultaneously cooled and separated from fines. The fines are pneumatically returned to the buffer silo. The end product is air-cooled agglomerate with good flow characteristics and a high bulk density. Some materials require further cooling down to a temperature suitable for trouble-free storage or filling into big bags. These additional steps can be incorporated into the plastcompactor system.

**Compacting and crystallization**
- Compounding of plastics and fibers
- The pregranulated material is first prepared, if necessary, in an agitator and then warmed until all the fillers have been absorbed. Crystalization of PET flakes.
- The crystallization of PET flakes after hot washing is possible by the softening of the pregranulated material between the compacting discs which aligns the molecules and brings about the crystallization of polymer. The melting point is not reached. The PET value remains almost unchanged.
Performance data (examples)

<table>
<thead>
<tr>
<th>Feeding material</th>
<th>Granulate density (lbs/ft³)</th>
<th>Throughput kg/h</th>
<th>HV 30</th>
<th>HV 50</th>
<th>HV 70</th>
</tr>
</thead>
<tbody>
<tr>
<td>Granulate</td>
<td>160 – 315 (120 – 215 HP)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PP film 20 µm</td>
<td>355 (23)</td>
<td>100 – 250 (220 – 550)</td>
<td>350 – 700 (800 – 1.500)</td>
<td>600 – 1.200 (1.300 – 2.600)</td>
<td></td>
</tr>
<tr>
<td>PE film 20 µm</td>
<td>345 (22)</td>
<td>100 – 250 (220 – 550)</td>
<td>350 – 700 (800 – 1.500)</td>
<td>600 – 1.200 (1.300 – 2.600)</td>
<td></td>
</tr>
<tr>
<td>PP fiber</td>
<td>345 (22)</td>
<td>100 – 250 (220 – 550)</td>
<td>350 – 700 (800 – 1.500)</td>
<td>600 – 1.200 (1.300 – 2.600)</td>
<td></td>
</tr>
<tr>
<td>PS film 10 – 20 µm</td>
<td>450 (24)</td>
<td>100 – 250 (220 – 550)</td>
<td>350 – 700 (800 – 1.500)</td>
<td>600 – 1.200 (1.300 – 2.600)</td>
<td></td>
</tr>
<tr>
<td>PS hard foam (broken blocks or plates)</td>
<td>485 (25)</td>
<td>100 – 250 (220 – 550)</td>
<td>350 – 700 (800 – 1.500)</td>
<td>600 – 1.000 (1.300 – 2.600)</td>
<td></td>
</tr>
<tr>
<td>PVC hard film 10 – 10 µm</td>
<td>580 (35)</td>
<td>100 – 250 (220 – 550)</td>
<td>350 – 700 (800 – 1.500)</td>
<td>600 – 1.000 (1.300 – 2.600)</td>
<td></td>
</tr>
<tr>
<td>PVC soft foam</td>
<td>500 (31)</td>
<td>100 – 250 (220 – 550)</td>
<td>350 – 700 (800 – 1.500)</td>
<td>600 – 1.000 (1.300 – 2.600)</td>
<td></td>
</tr>
<tr>
<td>PA 6 fibers</td>
<td>470 (29)</td>
<td>100 – 250 (220 – 550)</td>
<td>350 – 700 (800 – 1.500)</td>
<td>600 – 1.000 (1.300 – 2.600)</td>
<td></td>
</tr>
<tr>
<td>PA 6 fibers</td>
<td>450 (29)</td>
<td>100 – 250 (220 – 550)</td>
<td>350 – 700 (800 – 1.500)</td>
<td>600 – 1.000 (1.300 – 2.600)</td>
<td></td>
</tr>
<tr>
<td>PA 6.6 fibers</td>
<td>560 (37)</td>
<td>100 – 250 (220 – 550)</td>
<td>350 – 700 (800 – 1.500)</td>
<td>600 – 1.000 (1.300 – 2.600)</td>
<td></td>
</tr>
<tr>
<td>Polyester film 20 – 40 µm</td>
<td>540 (35)</td>
<td>100 – 250 (220 – 550)</td>
<td>350 – 700 (800 – 1.500)</td>
<td>600 – 1.000 (1.300 – 2.600)</td>
<td></td>
</tr>
<tr>
<td>Polyester film 10 – 30 µm</td>
<td>520 (34)</td>
<td>100 – 250 (220 – 550)</td>
<td>350 – 700 (800 – 1.500)</td>
<td>600 – 1.000 (1.300 – 2.600)</td>
<td></td>
</tr>
<tr>
<td>Polyamide</td>
<td>470 (29)</td>
<td>100 – 250 (220 – 550)</td>
<td>350 – 700 (800 – 1.500)</td>
<td>600 – 1.000 (1.300 – 2.600)</td>
<td></td>
</tr>
<tr>
<td>PET deep draw film</td>
<td>540 (35)</td>
<td>100 – 250 (220 – 550)</td>
<td>350 – 700 (800 – 1.500)</td>
<td>600 – 1.000 (1.300 – 2.600)</td>
<td></td>
</tr>
<tr>
<td>PET cuttings (bottles)</td>
<td>510 (31)</td>
<td>100 – 250 (220 – 550)</td>
<td>350 – 700 (800 – 1.500)</td>
<td>600 – 1.000 (1.300 – 2.600)</td>
<td></td>
</tr>
<tr>
<td>PP non-woven</td>
<td>345 (22)</td>
<td>100 – 250 (220 – 550)</td>
<td>350 – 700 (800 – 1.500)</td>
<td>600 – 1.000 (1.300 – 2.600)</td>
<td></td>
</tr>
<tr>
<td>PP fiber</td>
<td>345 (22)</td>
<td>100 – 250 (220 – 550)</td>
<td>350 – 700 (800 – 1.500)</td>
<td>600 – 1.000 (1.300 – 2.600)</td>
<td></td>
</tr>
<tr>
<td>PE foam</td>
<td>345 (22)</td>
<td>100 – 250 (220 – 550)</td>
<td>350 – 700 (800 – 1.500)</td>
<td>600 – 1.000 (1.300 – 2.600)</td>
<td></td>
</tr>
<tr>
<td>PE non-woven</td>
<td>345 (22)</td>
<td>100 – 250 (220 – 550)</td>
<td>350 – 700 (800 – 1.500)</td>
<td>600 – 1.000 (1.300 – 2.600)</td>
<td></td>
</tr>
<tr>
<td>PE film 20 µm</td>
<td>345 (22)</td>
<td>100 – 250 (220 – 550)</td>
<td>350 – 700 (800 – 1.500)</td>
<td>600 – 1.000 (1.300 – 2.600)</td>
<td></td>
</tr>
<tr>
<td>PE film 40 µm</td>
<td>345 (22)</td>
<td>100 – 250 (220 – 550)</td>
<td>350 – 700 (800 – 1.500)</td>
<td>600 – 1.000 (1.300 – 2.600)</td>
<td></td>
</tr>
</tbody>
</table>

Advantages of Herbold plastcompactors

- Continuous operating process, not a batch feed design or labor intensive
- Accurate system controls which maintain the parameters for proper feeding speeds and disc gap to meet recipe requirements as well as the option to adjust parameter settings during machine operation to maximise performance
- Low wear costs, even with processing highly abrasive materials as main wear components are bolted in place allowing for easy and quick replacement
- Durable and virtually insensitive to foreign bodies
- High throughputs in fully automatic continuous operation, few operators needed
- Plastcompacting is a sintering process, no melting, gentle processing with a very short dwell time and low process temperatures
- All indications are not binding and subject to change. 01/2017

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

Advantages of Herbold plastcompactors

- Agglomeration of powders, fibers, films and foams
- Drying of powders, fibers, films and foams
- Recrystallization of PET flakes
- Compounding of thermoplastics with fillers
- The end product is free-flowing agglomerate easy to dose and to mix with other high bulk density material.