# Available options.

All Bollegraaf balers are bespoke to your company requirements. Many options are available, please contact our sales staff for more information.

A


## Adaptive proportional channel pressure system

Automatic optimization of channel pressure through the entire baling process, per material type. Also cuts down hydraulic system heat and energy loss caused by needless peaks in pressure.
Advantages are: up to 20% more compact and heavier bales and significant energy savings.

B


## Variable frequency drive

Automatic adjustment to the most efficient engine frequency. Energy saving idle mode when waiting. Reduces current peaks during engine startup.
Advantages: significant energy savings and less noise.

C

## BIOS - office

Software for exporting all BIOS data to Microsoft Office.

D

## BIOS - remote access

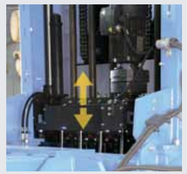
Remote access and control via smartphone or tablet (Android & IOS).

E

## Horizontal (cross) tying system

Additional horizontal tying system for compacting difficult materials, ensuring a minimal loss during handling.

F



## Tying system lift

Our new tying system can be fitted with a hydraulic lift, providing optimum accessibility to needles and twist fingers and reducing service time.

G

## Tying system upgrades for plastic twine

Separate vertical tying system available for plastic twine, ideal for baling RDF.
(Not for all types)

H

## Tying system upgrades for PET wire

Only slight adjustments are necessary to convert existing tying system(s) for PET wire, ideal for baling RDF.

I

## Plastics valve

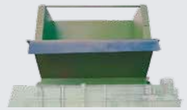
Offers the possibility to slightly reduce bale-pressure before tying for expanding materials such as plastic. Avoids wire breakage.

J

## Bottle Perforator

Perforates closed bottles (PET and HDPE) to release air, for heavier and more compact bales.

K



## Extra Wide Feed Hopper

Wider feeder opening for processing larger waste items without pre-processing in a shredder.

L

## Ruffler

Rotating impeller to uniformly distribute bulk density material into the feed hopper, ensuring homogenous bales.

M

## TurboPress

Compacts low bulk materials in the feed hopper, increasing capacity up to 300%.

## Other available options include:

- Dual wire binding system
- Tie wire supply stations
- Certified access platforms
- Needle cellar or raised base structures
- Anti vermin cable protection
- Client specific color finish

# HBC series. Main specifications per type.


| Type | Bale width (A) | Bale height (B) | Motor capacity | Filling width | Baling force | Capacity 30kg/m³ | Capacity 50kg/m³ | Capacity 100kg/m³ | Weight press | Length (C) | Width (D) | Height (E*) | Height (F) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | mm | mm | kW | mm | Tonnes | Tonnes/hr | Tonnes/hr | Tonnes/hr | kg | mm | mm | mm | mm |
| HBC 35 | 1,100 | 720 | 18.5 | 1,250 | 30.7 | 3.2 | 5.5 | 8.4 | 14,900 | 7,750 | 2,450 | 2,813 | 4,976 |
| HBC 40 | 1,000 | 720 | 18.5 | 1,250 | 38.5 | 5.0 | 8.5 | 13.0 | 17,600 | 8,300 | 2,000 | 3,755 | 6,053 |
| HBC 60 | 1,100 | 720 | 30 | 1,315 | 63.6 | 7.7 | 12.5 | 23.6 | 24,200 | 9,500 | 2,150 | 3,995 | 6,293 |
| HBC 60 | 1,100 | 720 | 45 | 1,315 | 63.6 | 10.0 | 16.0 | 30.0 | 24,200 | 9,500 | 2,150 | 3,995 | 6,293 |
| HBC 80 | 1,100 | 720 | 30 | 1,485 | 78.5 | 9.0 | 14.0 | 26.0 | 26,600 | 10,700 | 2,150 | 4,485 | 6,783 |
| HBC 80 | 1,100 | 720 | 45 | 1,485 | 78.5 | 13.5 | 21.5 | 40.0 | 26,600 | 10,700 | 2,150 | 4,485 | 6,783 |
| HBC 100M | 1,100 | 1,000 | 75 | 1,600 | 95.0 | 22.2 | 30.0 | 45.5 | 36,800 | 11,750 | 2,500 | 4,835 | 6,887 |
| HBC 100 | 1,100 | 720 | 45 | 1,600 | 95.0 | 9.8 | 15.0 | 28.0 | 33,700 | 11,750 | 2,250 | 4,590 | 6,887 |
| HBC 100 | 1,100 | 720 | 75 | 1,600 | 119.7 | 16.2 | 25.0 | 47.0 | 33,700 | 11,750 | 2,250 | 4,590 | 7,132 |
| HBC 100S | 1,100 | 1,100 | 45 | 1,600 | 95.0 | 14.6 | 19.8 | 30.0 | 37,700 | 11,750 | 2,500 | 4,970 | 7,267 |
| HBC 100S | 1,100 | 1,100 | 75 | 1,600 | 95.0 | 24.4 | 33.0 | 50.0 | 37,700 | 11,750 | 2,500 | 4,970 | 7,267 |
| HBC 120 | 1,100 | 720 | 90 | 1,600 | 119.7 | 16.2 | 25.0 | 47.0 | 34,800 | 11,750 | 2,250 | 4,590 | 6,887 |
| HBC 120M | 1,100 | 1,000 | 90 | 1,600 | 119.7 | 22.2 | 30.0 | 45.5 | 37,900 | 11,750 | 2,500 | 4,835 | 7,132 |
| HBC 120S | 1,100 | 1,100 | 90 | 1,600 | 119.7 | 24.4 | 33.0 | 50.0 | 38,800 | 11,750 | 2,500 | 4,970 | 7,317 |
| HBC 140 | 1,100 | 1,100 | 75 | 1,600 | 153.9 | 12.0 | 18.3 | 34.0 | 51,900 | 13,200 | 2,750 | 5,020 | 7,317 |
| HBC 140 | 1,100 | 1,100 | 2 x 75 | 1,600 | 153.9 | 30.6 | 46.9 | 82.3 | 51,900 | 13,200 | 2,750 | 5,020 | 7,317 |
| HBC 140M | 1,100 | 1,000 | 2 x 75 | 1,600 | 153.9 | 27.8 | 42.6 | 74.8 | 51,300 | 13,200 | 2,750 | 4,925 | 7,222 |
| HBC 180M | 1,100 | 1,000 | 2 x 90 | 1,600 | 184.7 | 27.8 | 42.6 | 74.8 | 51,900 | 13,200 | 2,750 | 4,925 | 7,222 |
| HBC 180 | 1,100 | 1,100 | 2 x 90 | 1,600 | 184.7 | 30.6 | 46.9 | 82.3 | 52,400 | 13,200 | 2,750 | 5,020 | 7,317 |

*E = Top of feeder opening



# About Bollegraaf.

Bollegraaf Recycling Solutions is a leading global engineer and manufacturer of turnkey recycling solutions and recycling equipment, based in the Netherlands. Bollegraaf Recycling Machinery b.v. and Lubo Systems b.v. are production companies of the Bollegraaf Group.

We focus on the innovative character and reliability of our solutions and the high quality of our products and services. With a track record of 50+ years in the industry, we have the experience to achieve this. Bollegraaf invests heavily in research and development, as well as in the latest manufacturing equipment and facilities. All this is to ensure a profitable and sustainable business for our clients.

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Bollegraaf RECYCLING MACHINERY





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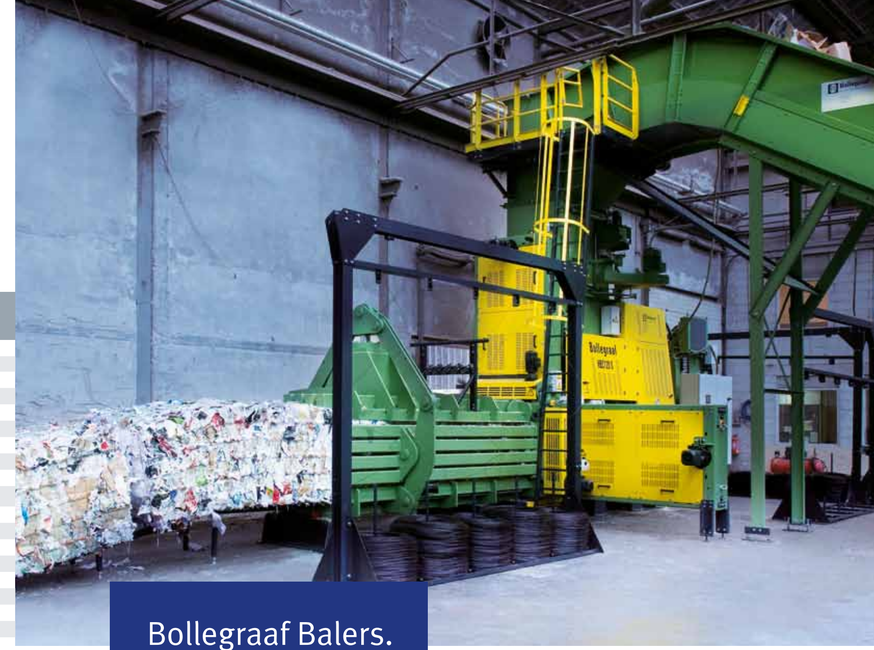
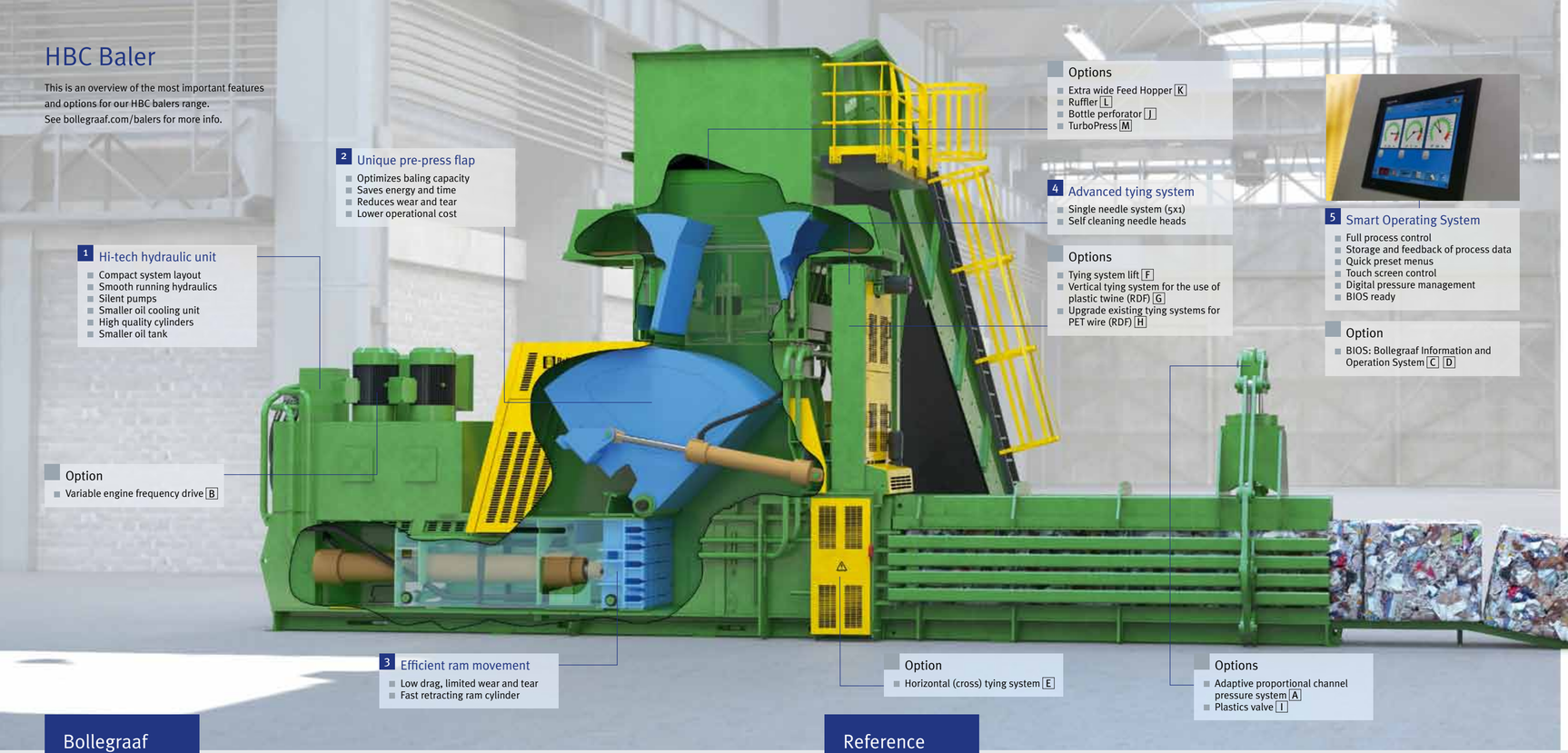


# Bollegraaf Balers. Big in making recyclables small.

Bollegraaf RECYCLING MACHINERY

# HBC Baler

This is an overview of the most important features and options for our HBC balers range.
See bollegraaf.com/balers for more info.



### 1 Hi-tech hydraulic unit
- Compact system layout
- Smooth running hydraulics
- Silent pumps
- Smaller oil cooling unit
- High quality cylinders
- Smaller oil tank

### Option
- Variable engine frequency drive B

### 2 Unique pre-press flap
- Optimizes baling capacity
- Saves energy and time
- Reduces wear and tear
- Lower operational cost

### 3 Efficient ram movement
- Low drag, limited wear and tear
- Fast retracting ram cylinder

### Options
- Extra wide Feed Hopper K
- Ruffler L
- Bottle perforator J
- TurboPress M

### 4 Advanced tying system
- Single needle system (5x1)
- Self cleaning needle heads

### Options
- Tying system lift F
- Vertical tying system for the use of plastic twine (RDF) G
- Upgrade existing tying systems for PET wire (RDF) H

### Option
- Horizontal (cross) tying system E



### 5 Smart Operating System
- Full process control
- Storage and feedback of process data
- Quick preset menus
- Touch screen control
- Digital pressure management
- BIOS ready

### Option
- BIOS: Bollegraaf Information and Operation System C D

### Options
- Adaptive proportional channel pressure system A
- Plastics valve I

## Bollegraaf Balers.

On the basis of 50+ years experience and proven practice, Bollegraaf balers are known to set world-wide market standards in baling technology. Numerous unique design features and quality manufacturing from A-class materials ensure that our balers are capable of processing higher quantities of materials over time, and produce more and heavier bales while using less energy* to offer you the lowest possible operational cost.

Our wide range of balers includes the perfect match to the volume and kind of recyclables handled by your company. Numerous options are available to further adjust your baler to your requirements. We are happy to provide you with advice or assist you with our transportation, installation, and / or maintenance service. Feel free to contact us. We are here to help you sort your business!

*compared to balers with equal compaction force

OCC | Plastic | PET | Mix | Al | RDF

## Reference projects.

Below are just a few of our reference projects. Please visit one of our reference projects or high-tech production facilities in the Netherlands.

Type of baler: HBC 180
Client: Gilgemyn
Country: Belgium

Type of baler: HBC 100
Client: WM Tampa
Country: USA

Type of baler: HBC 120
Client: Hummel Recycling
Country: Netherlands

## Advantages.

### 1 Hi-tech hydraulic unit

- **Compact system layout**
  Single manifold block with few hydraulic pipes and hoses. Its compactness reduces loss of pressure in the system, resulting in more pressure to produce heavier and square shaped bales. It also reduces oil temperature, chances of oil leakage, and increases oil life. c
- **Smooth running hydraulics**
  Absence of pressure peaks results in smooth running, less wear and tear, and less machine noise.
- **Silent pumps**
  Internal gear pumps inside oil tank cause little noise (74-78 dBA).
- **Smaller oil cooling unit**
  The advanced hydraulic layout and control system reduces oil temperature, which requires a smaller cooling system*.
  (*compared to balers with equal force)
- **High quality cylinders**
  Fitted with spherical cylinder clevises on both ends to extend the lifespan of the cylinder's oil seals.
- **Smaller oil tank**
  The compact hydraulic system requires a smaller oil tank. Absence of pressure peaks reduces oil temperature and wear and tear, which extends the lifespan of the hydraulic oil. This results in lower overall costs for hydraulic oil replacements.

### 2 Unique pre-press flap

- **Optimizes baling capacity**
  30 - 40% more capacity compared to a shear baler like for like force. The pre-press flap processes more material per cycle and produces more compact, heavier and more homogeneous bales, which are easier to stack.
- **Saves energy and time**
  Return oil flow which opens the pre-press flap supports the return cycle of the ram cylinder, saving energy and production time.
- **Reduces wear**
  The pre-press flap divides all baling pressure equally over the material, reducing internal wear and tear. This results in lower operational cost.
- **Lower operational cost**
  Fewer serviceable parts (no sheer knives).
- **More versatile**
  A baler with a pre-press flap is capable of processing far more types of material.

### 3 Efficient ram movement

- **Low drag, limited wear and tear**
  Horizontal and vertical steel wheels made from a special alloy steel with closed bearings keep the ram in the best working position, reducing wear and tear and loss of compaction force over time.
- **Fast retracting ram cylinder**
  Fast return cycle of ram cylinder increases the maximum possible number of cycles per period.

### 4 Advanced tying system

- **Single needle system (5x1)**
  '5x1' single needle system is highly accessible, has less components and is very reliable*. (*compared to double needle systems). Our unique twist finger design requires less wire per bale and makes shorter and stronger twists. d
  Savings on wire cost may reach 30%. b
- **Self cleaning needle heads (Rotoclean)**
  5 Self cleaning patented 'Rotoclean' needle heads require minimal service only. a

### 5 Smart Operating system

- **Full process control**
  Total central control over all stages in the baling process.
- **Storage and feedback of process data**
  Memory function for performance optimization (wireless remote data transfer is available).
- **Quick preset menus**
  Quick and easy switching between 10 pre-installed baling settings. For heavy, homogenous bales without the need for a dedicated installation operator, saving production time.
- **Touch screen control**
  Easy to operate, menu based.
- **Digital pressure measurement**
  Precise registration of system pressures and peaks allows fine-tuning of baler settings.
  For constant feedback on baler performance.
- **B.I.O.S. ready**
  Ready to install BIOS 'Visual Baler' (Bollegraaf's Information and Operating System for balers).

Self cleaning 'Rotoclean' needle heads (pat.) a

Single needle system (5x1) b

Single manifold block - compact system layout c

Stronger knot, shorter twist d