

# PROTECHNIKA

COM

Waste Management & Recycling Equipment Manufacturing



## PASSIONDRIVEN TECHNOLOGY



## PRODUCT CATALOG 2019



WASTE  
MANAGEMENT



TECHNOLOGY



MANUFACTURING



INNOVATION



ENERGY  
FROM WASTE



RECYCLING

# WHO WE ARE

## WASTE MANAGEMENT & RECYCLING EQUIPMENT MANUFACTURING

Protechnika is an industry leader in the design and manufacture of waste management, recycling, biomass processing, agricultural and forestry equipment. All our products are robust yet user friendly with a focus on throughput, efficiency and serviceability. Passion driven and with nearly 20 years of experience in the industry, we are able to meet daring challenges and develop machines and solutions tailored to the needs and processes of our clients.

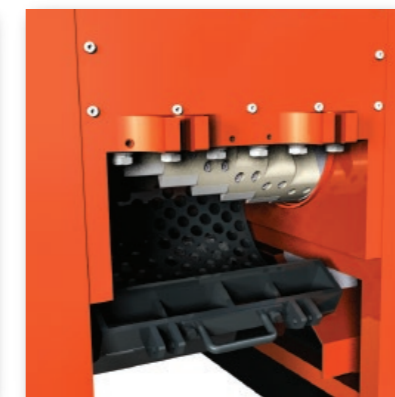
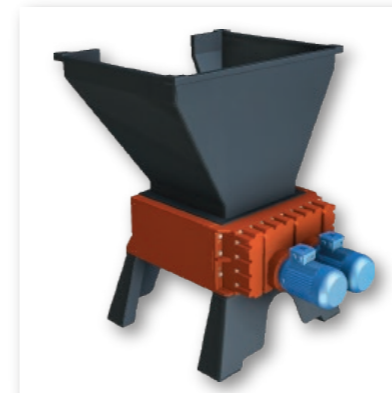
## PASSION DRIVEN TECHNOLOGY

Our range of machines and solutions provide efficient production, low operational costs and ease of maintenance, so end users are sure to find the correct machine for their application.

Our extensive range of machines and solutions handles all types of waste from plastic, wood, metal, rubber, biomass, RDF, SRF to dry sewage sludge and include the following: briquetting machines; disc screen; perforators; air and magnetic separators; mills; two and four shaft shredders; screw and belt conveyors; bio-fuels production equipment; granulators; choppers; pellet coolers; cyclones and more.

## LEADING MANUFACTURER OF INDUSTRIAL KNIVES AND WEAR PARTS

We are a leading manufacturer and supplier of equipment, accessories, spare and other wearparts used in many industries such as recycling, alternative fuel production, wood, plastic processing and the metal industry. We specialize in the manufacturing of industrial knives used in the process of waste shredding, production of alternative fuels and recycling. We manufacture crown knives, fixed and movable counter-blades, knives for multi-shaft grinders, sieves, machine accessories (screws, knife clamps, knife holders, knife carriers) and much more.



### Seamless Integration

Seamless integration with your operation, taking into consideration your current production needs and ensuring your success.



### Easy Start up and Operation

Full service project management of the installation of your equipment, system start-up and training by factory trained technicians.



### Service and Parts

Fully stocked inventory gets service or replacement parts to you quickly. Parts can be ordered via phone or email.



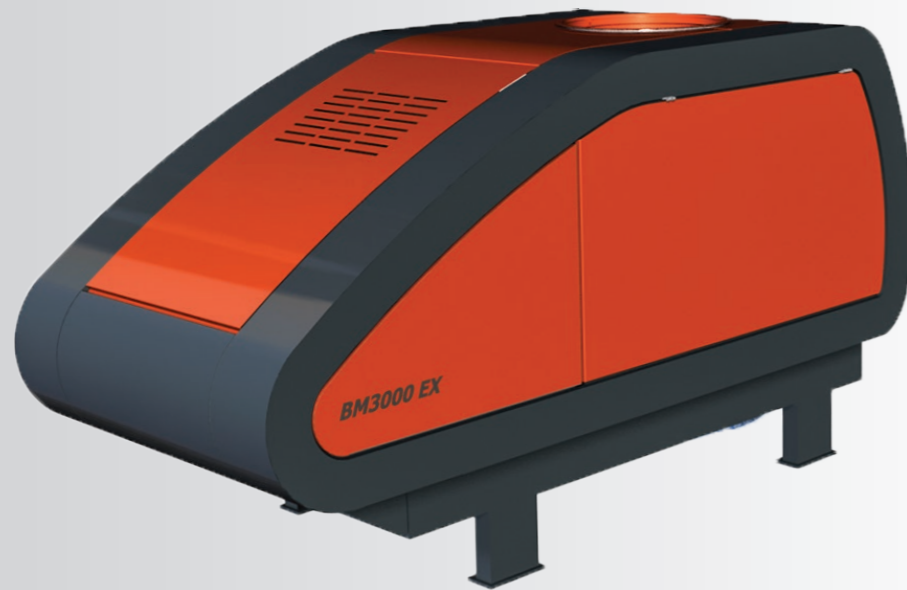
**PASSIONDRIVEN**  
TECHNOLOGY

PROVIDING RECYCLING SOLUTIONS THAT  
PRESERVE OUR NATURAL RESOURCES

SQR Pelletizer	5
Belt Dryer	7
Two Shaft Shredders SW	9
Four Shaft Shredder	11
Grinding Mills MF	13
Knife Mills MV	15
Granulators PR	17
Horizontal Baler with Perforator	19
Waste Bag Opener	21
Disc Screen	23
Magnetic Separator	25
Air Separator	27
Conveying Systems	29
Wear Parts	31
Realisations	33



# SQR PELLETIZER



- Compact Dimensions
- High Capacity
- No Odour Emissions
- No Pre-treatment Required
- Low Energy Consumption
- Low Noise
- RDF Fraction up to 50mm
- High Quality Output

Reduction in the volume and mass of solid waste is a crucial issue in regards to waste management. Waste densification has been explored in multiple ways, including compacting, pelletizing and briquetting. However, traditional methods of compacting which are efficient for biomass, often encounter many exploitation difficulties when applied to waste-derived material. Experiencing the high operating costs of classic densification processes has driven us to an entirely new approach in regards to volume reduction.

Our patented solution can process a wide variety of waste fractions, from RDF, SRF, waste plastics, through dry sewage sludge up to biomass. By minimizing the operating costs, we can process low-density materials (100 – 150 kg/m<sup>3</sup>) into briquettes with a density of 650 kg/m<sup>3</sup> and an energy value of 19-23 KJ. The product is then easy to transport, store and manage further.

## APPLICATIONS



Before Processing

RDF Recommended Parameters

- Fraction 0-50[mm]
- Humidity up to 25%
- Temperature min. 20°C



After Processing

- Output Product Parameters
- Bulk Density 650kg/m<sup>3</sup>
- Humidity do 20%
- Energy Value 19-23GJ/t

## FEATURES



**INTERNAL HEATING SYSTEM**

Ensure operation stability and flexibility of input material parameters

**DRIVE SYSTEM**

The eccentric design allows for output product adjustments

**INNOVATIVE BRIQUETTING SYSTEM**

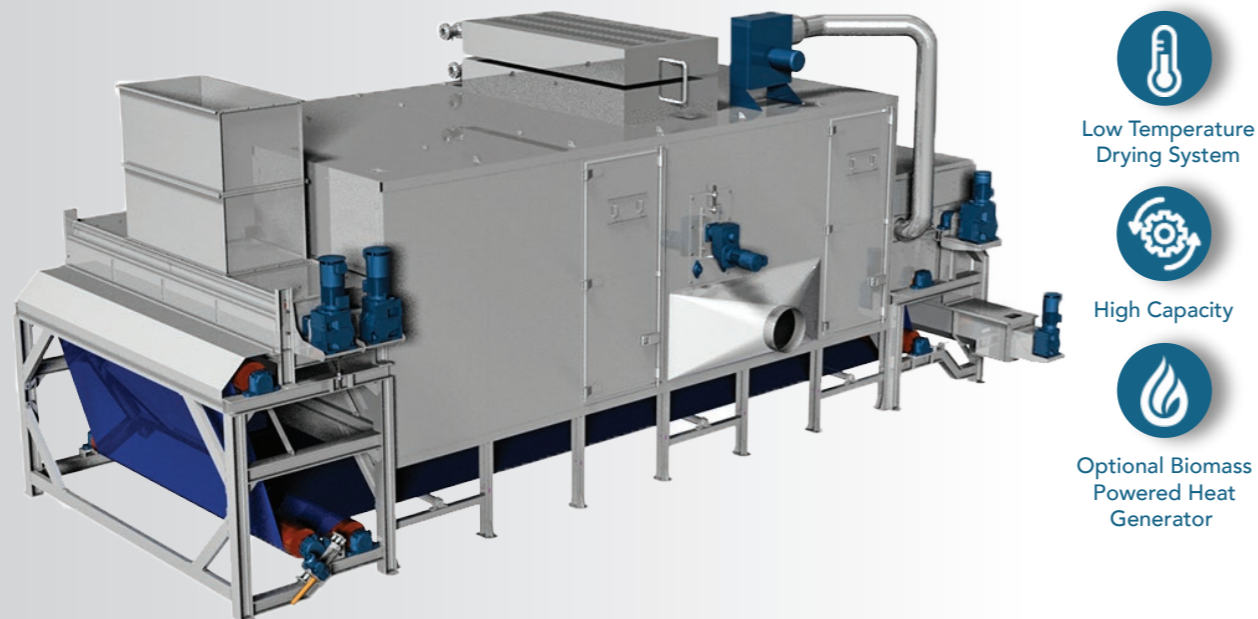
Exchangeable, variable cross section geometry briquetting die

## SPECIFICATIONS

	BM75EX	BM110EX
Capacity	1.5t/h up to 3t/h*	2.5t/h up to 5t/h*
Maxtrix Drive	75 kW	110 kW
Installed Power	95 kW	170 kW
Heating System	Yes	Yes
Number of Matrix Segments	60 units	88 units
Number of Rolls	2	2
Roll Diameter	400mm	400mm
Weight	6500kg	10000kg
Dimensions	3380/1750/2030 [mm]	3630/2000/2270 [mm]
Briquettes Dimensions	32 x 32 x chosen lenght[mm]	32 x 32 x chosen lenght[mm]

\* Differs depending on the composition of RDF and the addition of biological fraction

## BELT DRYER



Recycling and energy recovery from waste and biomass are increasingly important in waste management as well as in global energy supply. Our low-temperature belt waste dryer is ideal for the pre-treatment of RDF, SRF, municipal solid waste, biomass and sewage sludge. The air recirculation system, as well as the possibility of generating the heat required from biomass, significantly reduce operating costs and carbon footprint.

### CHARACTERISTICS

- Low temperature dryer (60° C);
- Low energy consumption;
- High safety standards
- Modular construction;
- Low emissions (dust, VOCs, exhaust gases);
- Very high capacity

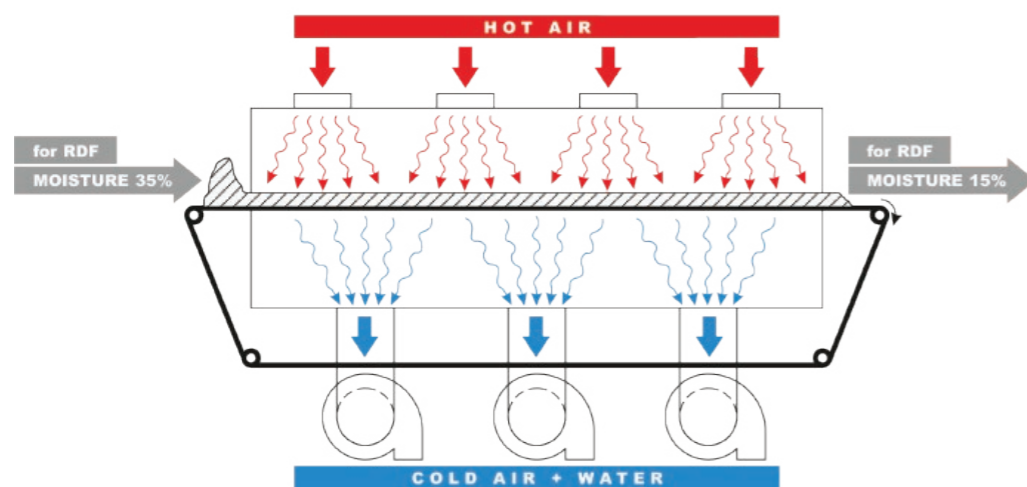
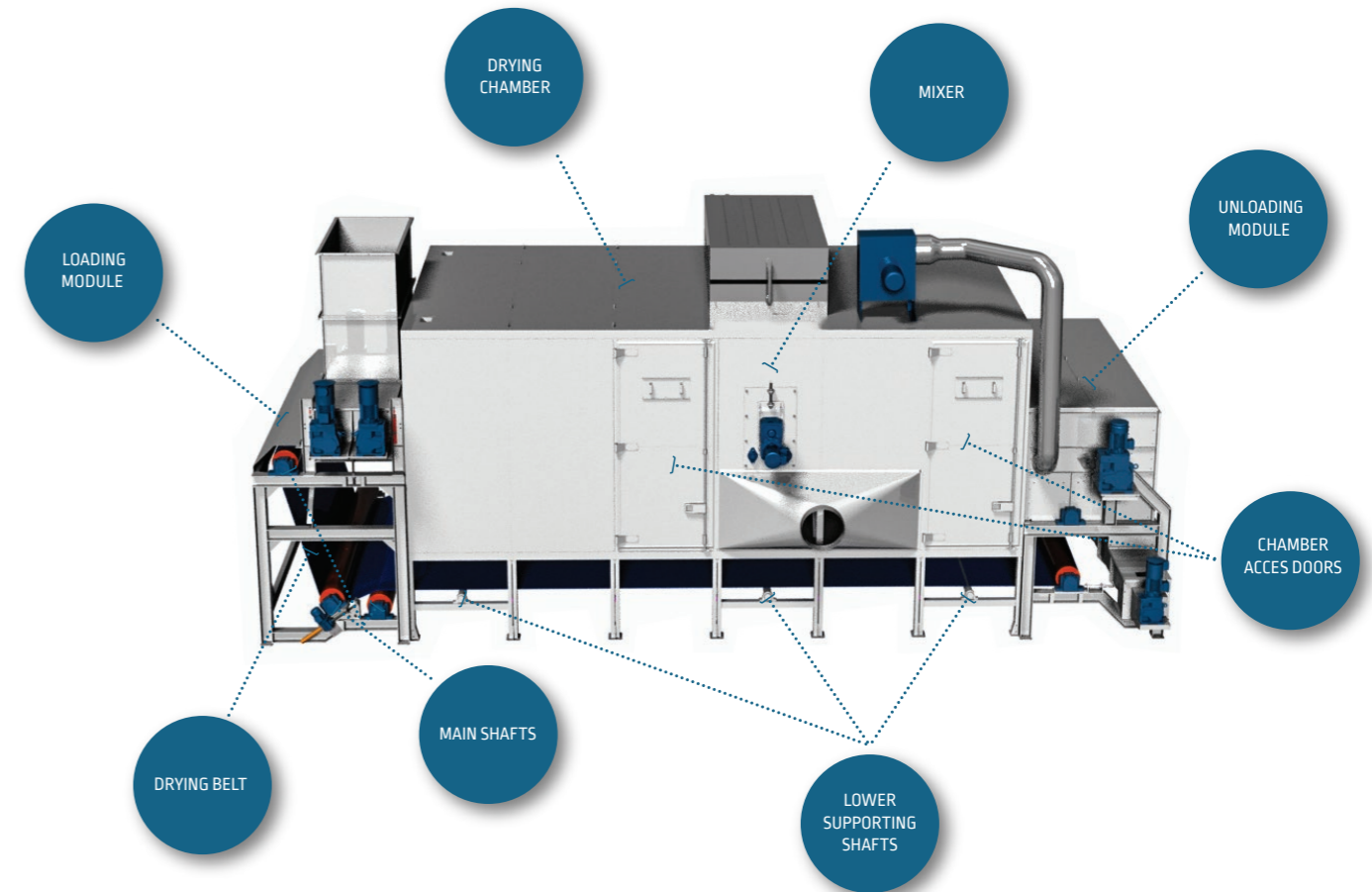


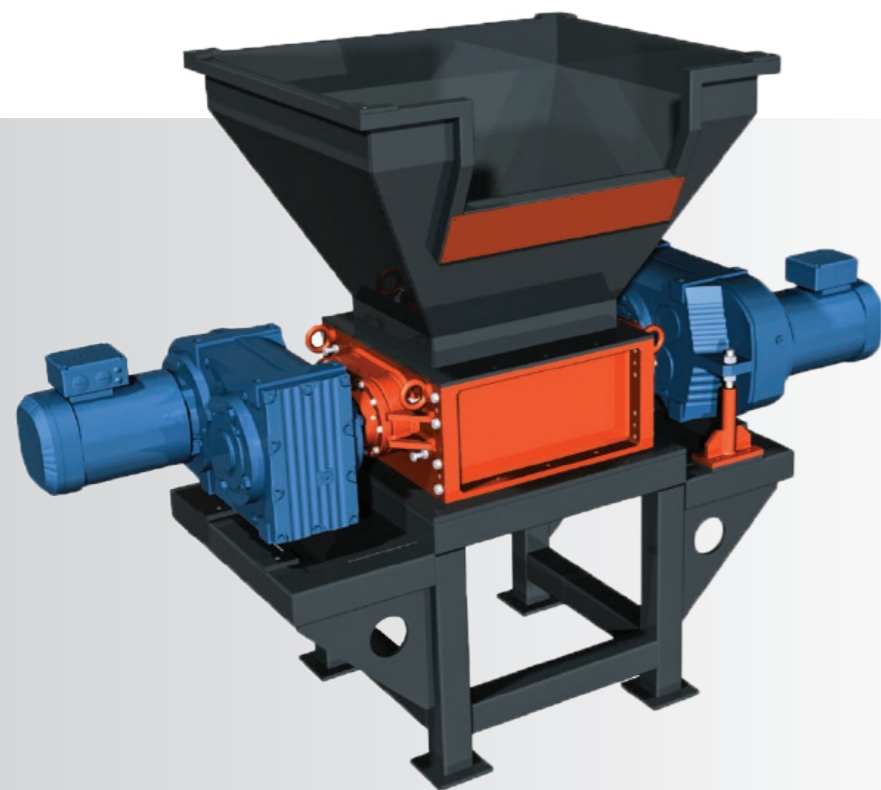
Fig. Principle of Operation



### SPECIFICATIONS

Material	Biomass, RDF / SRF, Sewage sludge
Wydajność	1,0 - 40,0 t/h
Input Humidity Level	35% for RDF (max do 85%)
Output Humidity Level	15% for RDF (max do 3%)
Water Evaporation	0,3 - 18,0 t/h
Drying Area	up to 306 m <sup>2</sup>
Module Dimensions	L 20,5 x W 9,0 x H 4,5 m
Electrical Power	from 125,0 to 640 kW
Heating Power	from 2,2 to 16,8 MWc
Exhaust fans	up to 8 units.

## DUAL SHAFT SHREDDERS



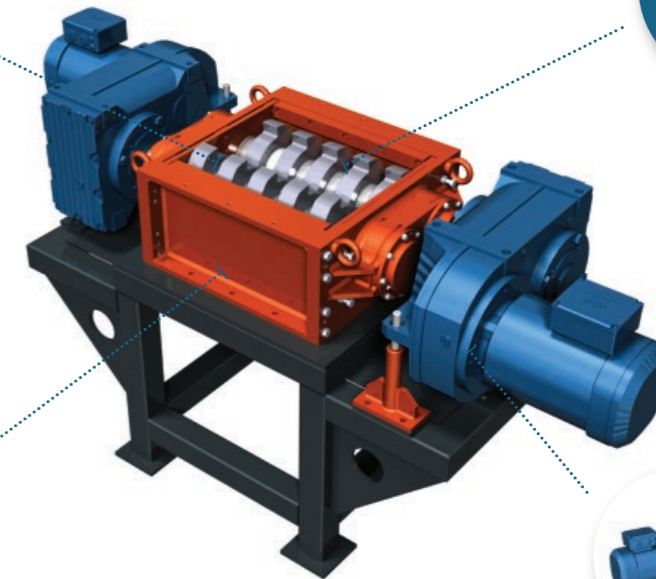
-  High Power
-  High Efficiency
-  Overload Protection
-  Low Noise

## FEATURES



**CUTTING UNIT**  
Consist of 2 cutting shafts made of high quality steel

**EASY KNIVES REPLACEMENT**  
Indirect connection between rotor and gearbox allows for quick replacement



**AUTOMATIC REVERSE SYSTEM**  
Protects the knives from damage



**TWIN DRIVE**  
Powered by two electric motors with up to 11kW drive performance each

Our dual shaft shredders are dedicated for grinding large, hard and hard-to-destroy items, including car tires. The indirect connection of the rotor with the gearbox allows you to change the knives without dismantling the box, which significantly shortens the replacement time. They are characterized by their low speed, low noise and high shear. They are fitted with both mechanical and electrical overload protection systems and the automatic reverse rotation system further protects the blades from potential damage during operation.

## APPLICATIONS

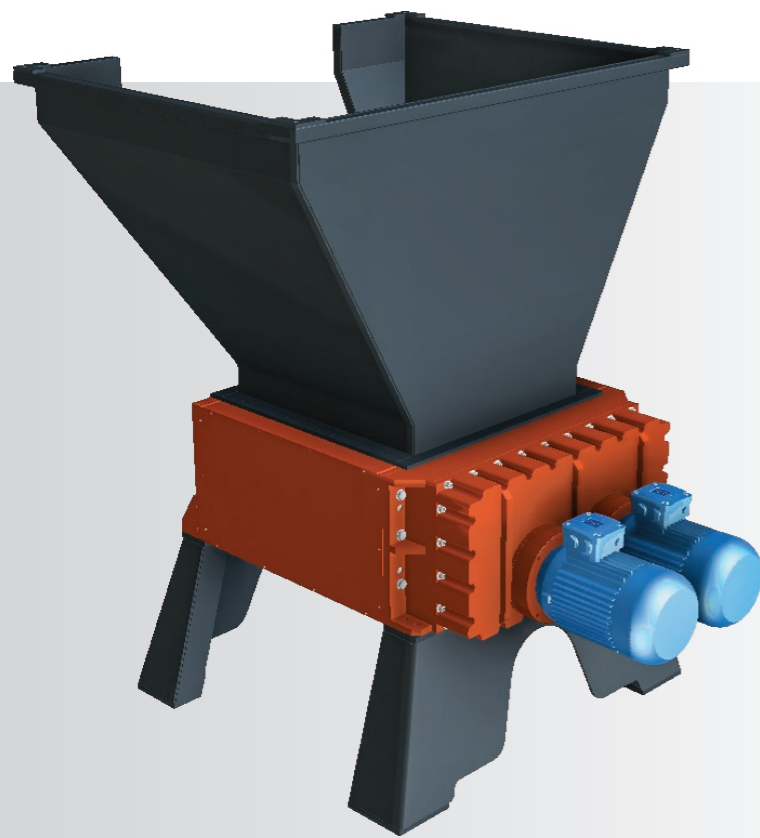


## SPECIFICATIONS

Material	Large hard objects, car tires, plastic, metal, foil.		
Model	SW-400	SW-600	SW-1000
Crushing space	404x510mm	604x510mm	1050x470mm
Rotor Diameter	ø284mm	ø284mm	ø290mm
Rotation Speed	15 rpm	15 rpm	13 rpm
Rotary Knives*	20	30	51
Knives Thickness**	20mm	20mm	20mm
Power	7,5kW	2 x 5,5kW 2 x 7,5kW 2 x 11kW	2 x 11kW
Weight	1400kg	2200kg	3000kg

\*The number of knives depend on the knives thickness  
\*\* The knives thickness depend on the type of application

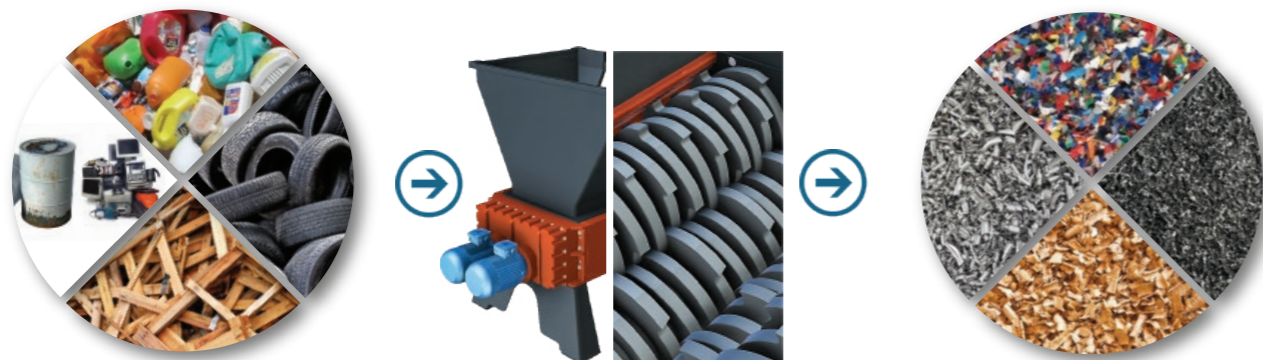
# FOUR SHAFT SHREDDER



-  High Torque
-  High Efficiency
-  Low Noise

Our four shaft shredder is designed for crushing thick-walled, hard materials such as clusters, thick-walled plastic pipes and more. It is the machine of choice when crushing large-sized containers, baskets and household appliances. It is ideally suited for shredding all plastic waste as well as rubber and wood. It is characterized by its high efficiency, low noise and high torque.

## APPLICATIONS



## FEATURES

**CUTTING UNIT**  
Consist of 2 cutting shafts and 2 clearing shafts

**CUTTING SHAFTS**  
Cutting shafts can be adapted to application's requirements

**SIEVE**  
The sieve' size can be manufactured according to the customer's needs

**TWIN DRIVE**  
Two electric of motors with up to 11kW drive performance each

## SPECIFICATIONS

Material	Clusters, thick plastic pipes, containers, baskets, rubber and wood.
Crushing space	750x700m
Rotor Diameter	ø245mm
Auxiliary Rotor Diameter	ø270mm
Shaft Rotation	25rpm
Knives*	30 Three-hook
Auxiliary Knives*	30 Double-hook
Sieve Diameter***	ø20mm
Main Engine	2 x 11kW
Knives thickness**	26mm

\*The number of knives depend on the knives thickness  
 \*\*The knives thickness depend on the type of application  
 \*\*\*The sieve diameter can be adapted to client specifications

# GRINDING MILL



-  Bearings Lubrication System
-  Adjustable Reusable knives
-  Overload Protection
-  Optional Cooling System

Designed for grinding plastics, our grinding mills perfectly shred PP, PVC, rubber, PA, PET, wood and foil. The robust and reliable housing, and bearing lubrication system ensure quiet and stable operation. They are fitted with an emergency shutdown and overload protection system allowing for safe operation especially when cleaning blades. Its unique high-quality steel knife system allows to easily crush any plastic materials.

## APPLICATIONS



# FEATURES

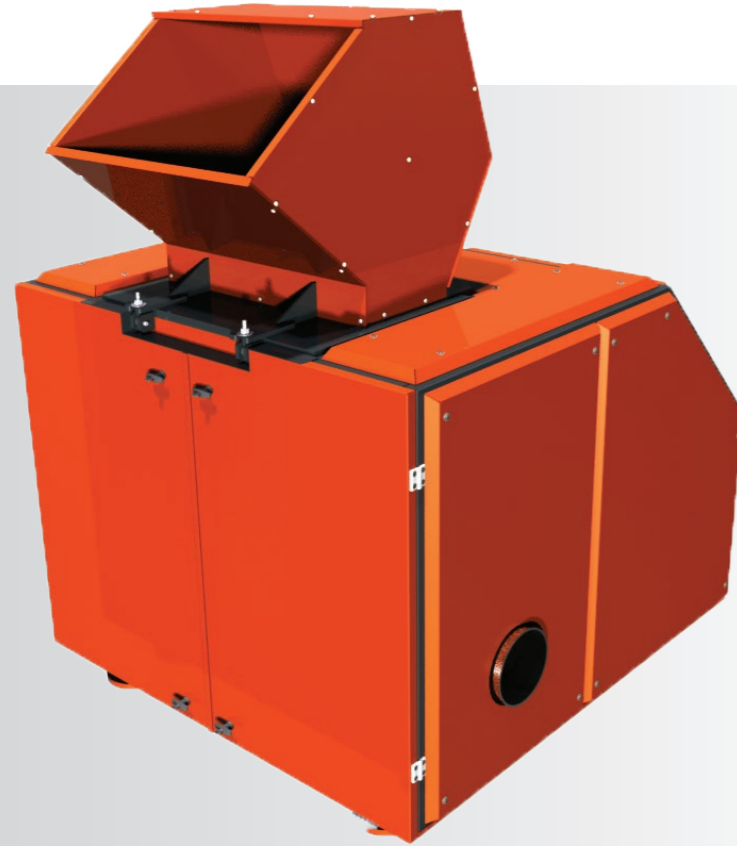
- UNIQUE KNIFE SYSTEM**  
Made of high quality steel with advanced hardening process that easily shreds all types of plastics
- HIGH CAPACITY BEARINGS**  
Ensure stable and quiet operation
- INTEGRATED COOLING SYSTEM**  
Reduces the impact of friction generated heat
- DRIVE PROTECTION**  
Emergency shutdown and overload prevention system

## SPECIFICATIONS

Material	PP, PVC, Rubber, PA, PET, Wood and Foil.			
Model	Knives			Power
	Fixed	Rotary	Crushing space	
MF-4	2 x 1	3 x 4	240x180xø180	4kW
MF-7.5	2 x 1	3 x 6	360x250xø250	7.5kW
MF-11	2 x 1	3 x 7	420x270xø300	11kW
MF-15	2 x 1	3 x 8	480x340xø350	15kW
MF-22	2 x 2	3 x 11	660x400xø380	22kW
MF-37	2 x 2	3 x 12	720x510xø500	37kW



# KNIFE MILLS



-  Bearings Lubrication System
-  Adjustable Reusable knives
-  Overload Protection
-  Optional Cooling System
-  Low Noise

# FEATURES



Designed for milling soft and hard plastics, copper cables, rubber and wood, our knife mills are characterized by their high efficiency, stability at work and the ability to crush even the most difficult waste thanks to their unique knife system. They are fitted with emergency shutdown and overload protection system to avoid any potential damage during operation. Knives can easily be adjusted, sharpened and re-used. The sieve and container for the ground mass are designed for easy cleaning operation. Optional mechanical or pneumatic pick-up.

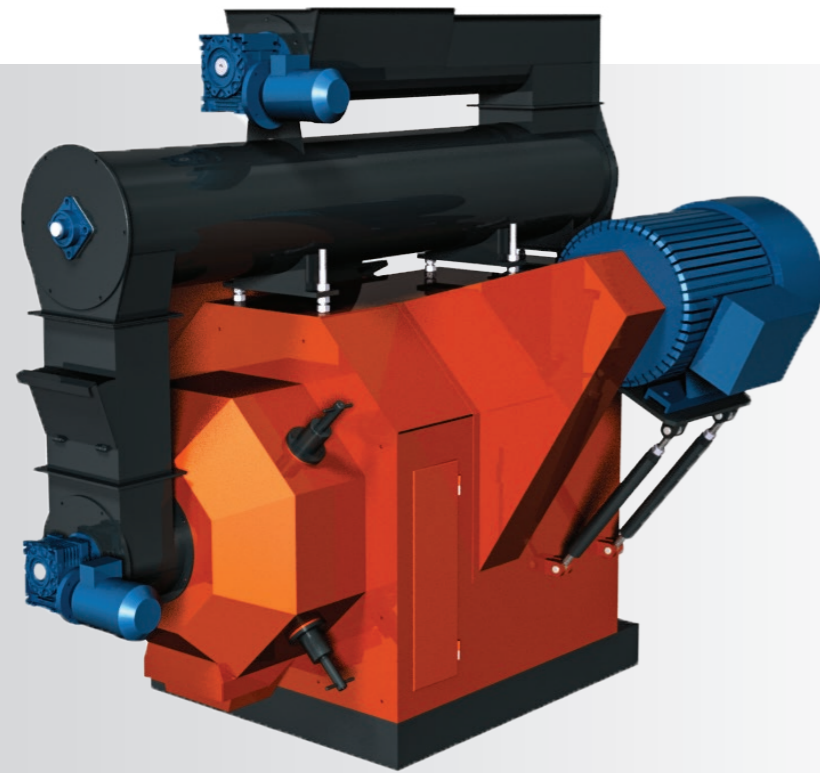
# SPECIFICATIONS

Model	MV 300x500	MV 450x900
Fixed Knives	2	2 x 2
Rotary Knives	4	3 x 2
Crushing Space	500x300xø300	900x450xø450
Power	30 kW	45 - 75 kW
Capacity	Up to 800Kg/h	Up to 1500Kg/h
Rotation	≈510 rpm	≈510 rpm
Weight	1200 kg	4000 kg

# APPLICATIONS



# GRANULATORS PR SERIES



-  High Power
-  High Capacity
-  Overload Protection
-  Low Noise

Our PR granulators are equipped with two electric motors, which drives a large cast iron wheel using a V-belts. A ring-shaped matrix with conical/cylindrical holes is bolted to the wheel. Two rollers squeeze the material through the holes. Screw feeders allow for accurate and optimal dosing of the raw material. The device is equipped with a steam conditioner which allow users to proces almost every raw material. Basic requirements for the raw material: moisture 16-18%, fraction size 2-3 mm.

## APPLICATION



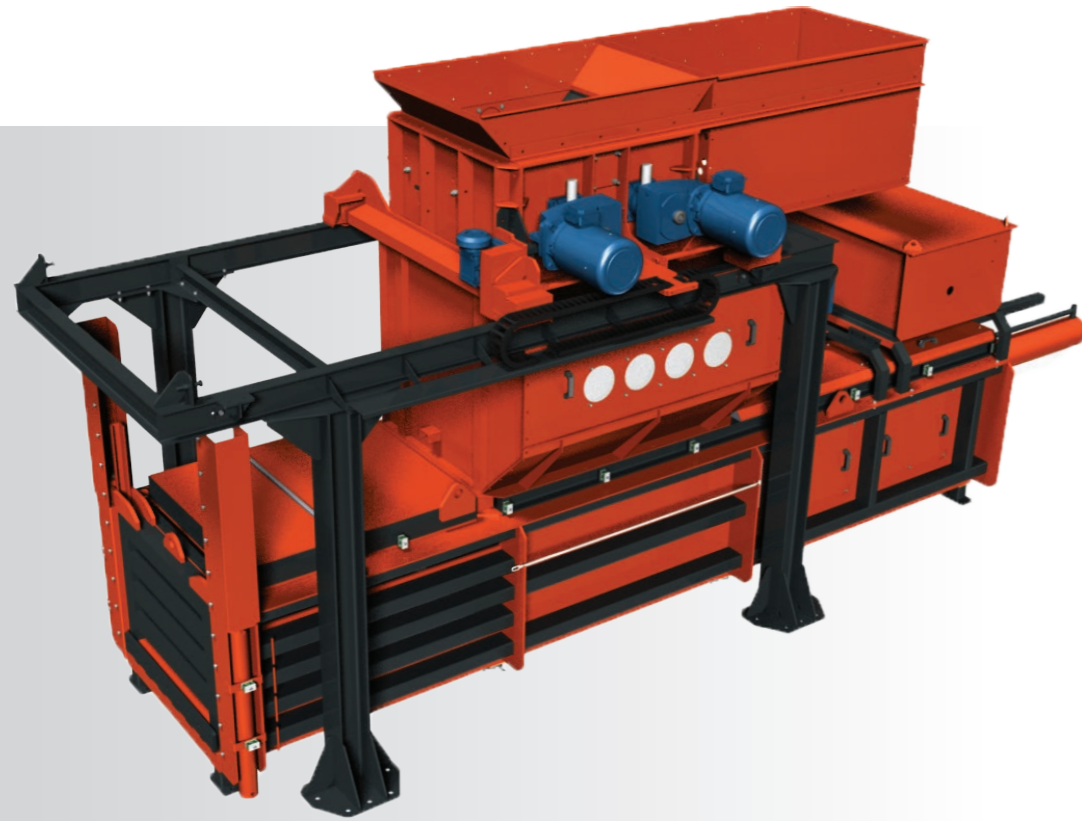
## FEATURES

- GRANULATOR BODY**  
box-like construction with motors mounted on adjustable height plates for correct belt tensioning
- DIRECT DRIVE**  
direct connection allows the granulation of very difficult raw materials
- MATRIX AND ROLLS ADJUSTEMENTS**  
integrated with the body of the granulator for easy, fast and safe replacement of the die and rolls
- OVERLOAD CLUTCH**  
protects the matrix from internal surface damage or tearing

## SPECIFICATIONS

Model	PR-60	PR-110
Capacity	Up to 1,5t/h	Up to 3t/h
Drive	2 x 30 kW	2 x 55 kW
Feeding Screw Drive	1,1 kW	1.5 kW
Conditionner Drive	2,2 kW	3 kW
Pellets Diameter	6, 8,10,12 mm	6, 8,10,12 mm
Die Internal Diameter	360 mm	450 mm
Number of Rolls	2	2
Dimensions	2330/2100/1980 mm	2540/2300/2250mm
Weight	2500 Kg	3500 Kg

# HORIZONTAL BALER WITH PERFORATOR



-  High Power
-  High Efficiency
-  Easy Integration
-  Customizable

Our automatic and semi-automatic balers are designed for baling secondary raw materials after initial segregation such as PET, cardboard and foil. They are dedicated to municipal waste management and the recycling industry. Highly customizable and with a wide range of applications and accessories, the balers are easily integrated with your existing processes. The balers are equipped with a mobile version of the perforator type P2-900. Designed to crush PET bottles and other plastic packaging, the perforator has a two-shaft perforating mechanism with quick-change perforating tool sets. It is fitted with highly durable perforating teeth, driven electrically and equipped with an overload and reverse operation system (manually controlled).

## APPLICATION



## FEATURES

**HYDRAULIC PRESSURE**  
3 sided hydraulic setting channel with material selection presets

**HIGH DENSITY BALES**  
From 450 - 500kg/m<sup>3</sup> and with a total weight range between 450 up to 750kg depending on input material

**PERFORATING SYSTEM**  
2 Shafts equipped with highly durable teeth, driven electrically by two 5.5kW engines

## SPECIFICATIONS

### BALERS

Crushing Force	Power	Performance*	Inlet Opening	Bale Dimensions	Bale Density
800kN/80T	15+60kW	1,5+12,0 t/h <small>(depending on material baled)</small>	1665 x 986mm Automatic 1500 x 1050mm Semi-Automatic	760 x 1050 x 800 / 1200 (adjustable)	450 - 500kg/m <sup>3</sup>
Bale Weight	Binding System	Baler Channel selection setting adjustments	Hydraulic System	Controller	Weight
From 450kg - 550kg <small>(depending on material)</small>	Horizontal, 4 times Automatic Manual Semi-Automatic	3-sided, hydraulic Automatic Closed channel Semi-Automatic	Oil cooler, Oil heating	SPS SIEMENS - S7 with touch screen	15000kg Automatic 8000kg Semi-Automatic

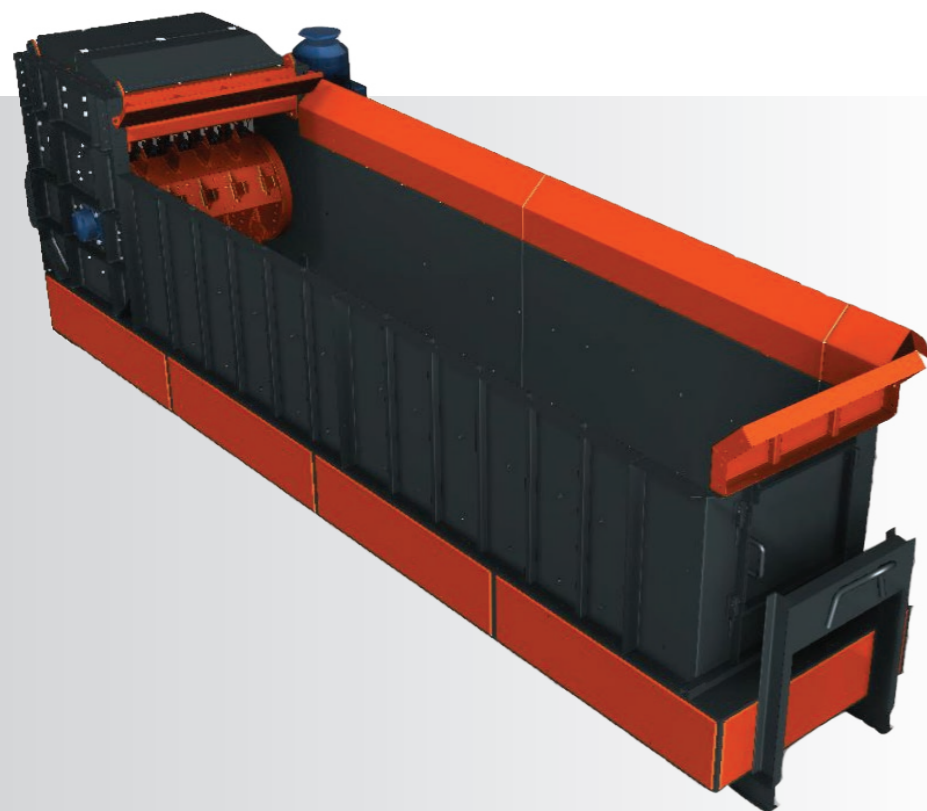
### PERFORATOR

Material	Performance	Working Dimensions	Overall Dimensions	Power	Weight
PET bottles, PP, PE,PVC, cardboard packaging	2,5 t/h	900 x 750mm	1050 x 1500 x 950mm	2 x 5,5 kW	900kg

# WASTE BAG OPENER



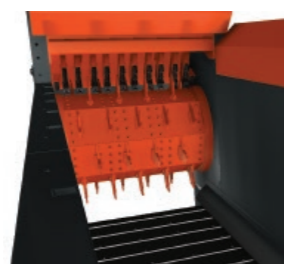
Targi Kielce



-  Easy Integration to existing application
-  High Capacity
-  Pre-shredding of brittle waste
-  External Cooling System

Our waste bag opener is an innovative machine that allows the splitting and emptying of waste bags and pre-shredding of brittle waste. It allows the tearing of 98% of bags processed without disturbing their content and provides extra cushioning to ensure that glass objects remain unbroken and are fed to the selection belt, where they can be easily separated. The bag opener ensures optimum opening of bags of different sizes and a constant supply to further treatments. It is designed as a modular unit and is easily adaptable to individual needs.

## APPLICATIONS



# FEATURES

**TEARING UNIT**  
Rotating shaft equipped with teeth / knives which lift the bags upwards and 5 independently operating knife assemblies (Counterweights/scrappers) free to deflect under the material pressure splitting the bags open

**EMERGENCY ACCESS**  
In the event of an excessive load on the main shaft - the scrapers lift. Physical access to the feeder is provided through an electrically operated hatch

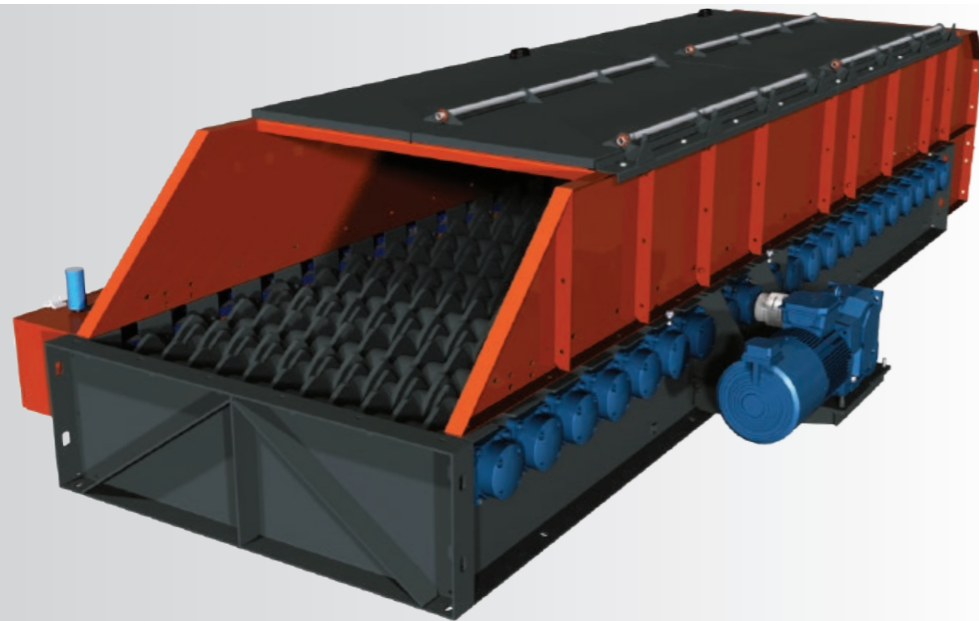
**MAIN DRIVE**  
The Bag Opener is fitted with two electrical engines (15-30kW for the working head and 0.75kW for the feeding belt) and an external cooling system which considerably extends the durability of the drive

**EASY ACCESS FOR MAINTENANCE**  
Some elements located inside the device require constant or periodic maintenance. Easy access to the interior of the device is allowed through hinged covers

## SPECIFICATIONS

Material	Capacity	Dimensions	Installed Electrical Power
Municipal mixed and selective waste (waste bags)	5,0 - 30,0 t/h	8 x 2,3 x 8m	15 - 30,0 + 2,3 + 1,0 kW
Performance	Blocking / Wedging	Feeding Options	Options
Electronically Controlled	Automatically detected with 3 self-healing blocks. Automatic signal for manual removal of unacceptable material (type or size)	1. Own feeding system (chain conveyor, steel plate or movable floor) and hopper above the floor 2. Without its own material handling system as an additional sorting system between two conveyors	1. Lifting work head 2. Feed system in the form of a hopper equipped with its bottom in the conveyor belt

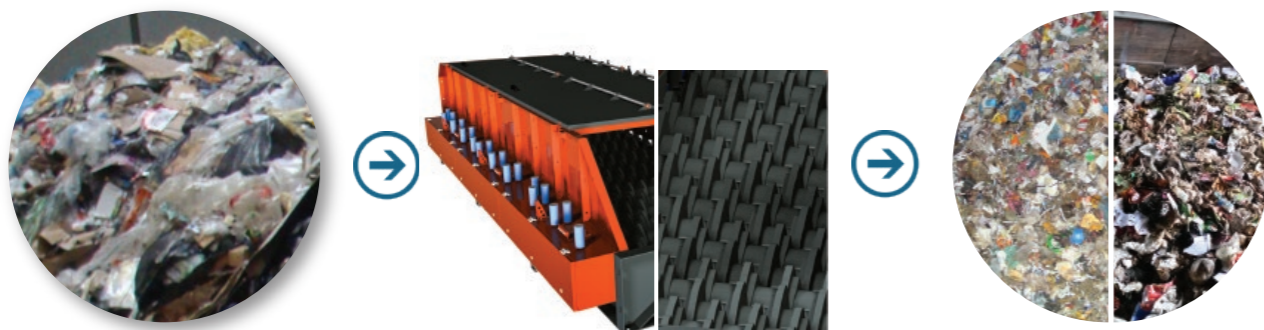
# DISC SCREEN



-  Compact Size
-  High Efficiency
-  High Precision
-  Low Operating Costs

Designed to screen municipal waste in sorting lines, our disc screen is characterized by a high efficiency, precision sizing, compact design and low operational costs. Thanks to its compact size, the disc screen can be transported using conventional land and sea transport systems. It boasts a high sowing accuracy and precise adjustments of the sowing rate. Its adjustable sifting dynamics enable optimal reaction to changing parameters in the density of the material being screened. It is fitted with a removable disc system allowing for quick disc replacement without having to change the shafts.

## APPLICATIONS



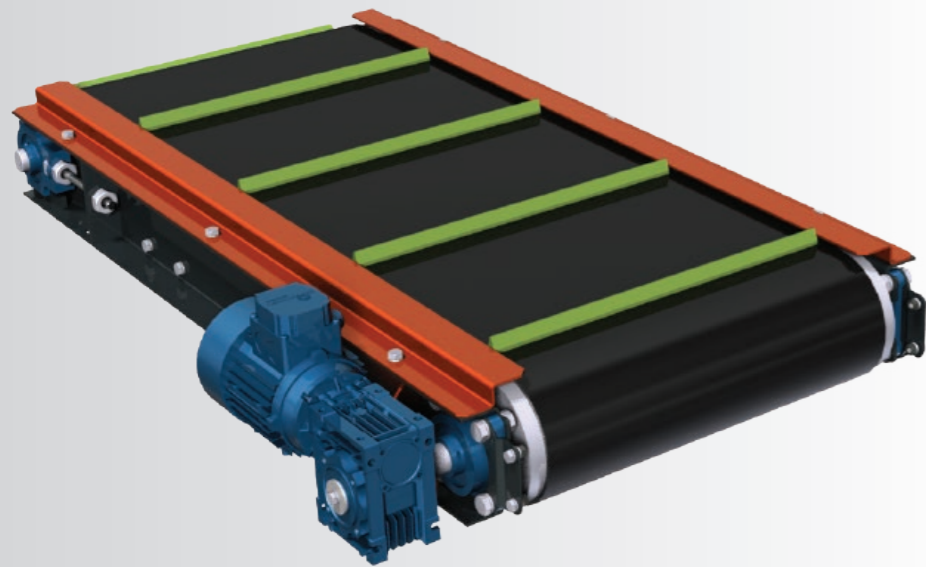
## FEATURES

- STEEL COVERS**  
The steel covers reduce considerably the noise level and the spread of dust particles during operation
- EASY MONITORING**  
Lights inside the screen chamber and openings allow for visual inspection inside the screening chamber without the need to open the covers
- LUBRICATION SYSTEM**  
Chain lubrication is carried out automatically by fitted lubrication cartridges. Cartridges required a periodical change of approximately 6 months. Optional automatic central lubrication system
- WORKING SHAFTS**  
The working shafts consist of multiple hardened steel discs. The design allows for individual disc replacement. The number of shafts depends on the size of the disc screen

## SPECIFICATIONS

<b>Material</b>	Municipal mixed and selective waste, RDF, SRF, Construction waste, Biomass, Industrial waste (rubber, plastic, minerals)
<b>Capacity (approx.)</b>	5,0 - 35,0 t/h
<b>Working Dimensions</b>	3660 - 6700 x 1200 - 1400mm
<b>Working shafts</b>	16 - 30
<b>Standard slot sizes</b>	40/60/80mm
<b>Power</b>	5,5kW - 15kW
<b>Weight</b>	4950kg - 10500kg
<b>Options</b>	1. Replaceable steel and Starry polymers discs 2. Dust extraction system 3. Hopper

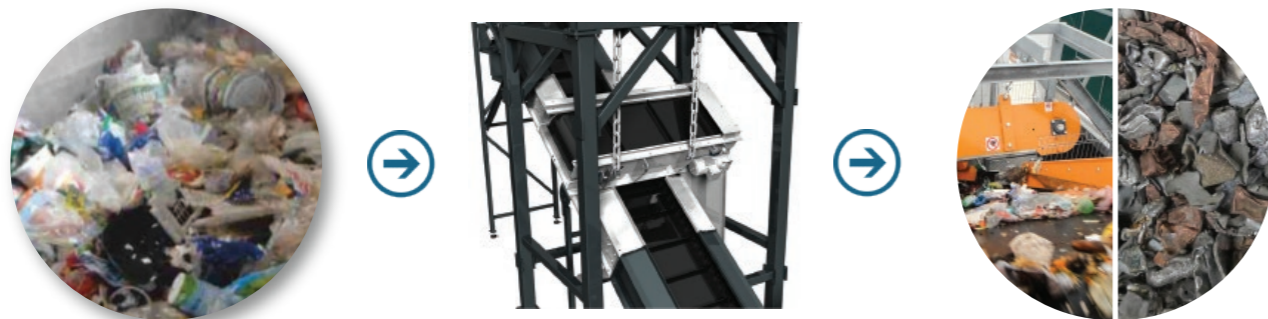
# MAGNETIC SEPARATORS



-  High Efficiency
-  Machine Protection
-  Valuable Material Recovery

Magnetic separators are designed to automatically separate iron from bulk materials transported on belt conveyors or vibrating feeders. They offer an invaluable protection to machines against potential damage caused by undesirable metal objects and allow for the recovery of valuable iron scrap from raw waste materials. They are fitted with a 3-phase asynchronous gearmotor (on request, the device can be equipped with a hydraulic motor instead of a gearmotor).

## APPLICATIONS



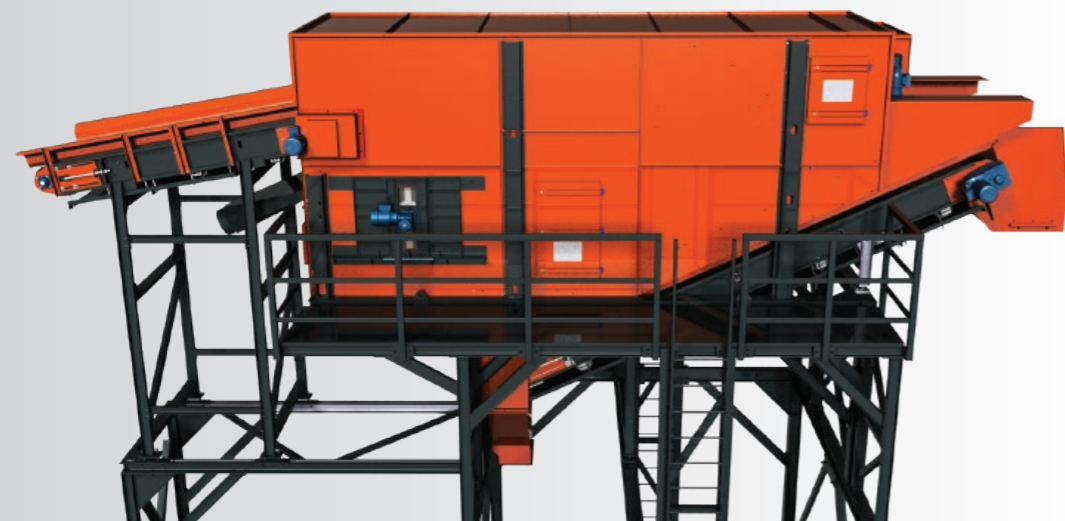
## FEATURES



## SPECIFICATIONS

Power	3LNPE, 400V/50Hz
Magnetic field Source	Neodymium magnet, Ferrite, Electromagnet.
Magnet	The magnet is sealed in steel housing
Drive	Gear Motor
Range of effective Magnetic impact	Depending on needs

# AIR SEPARATOR WITH SUPPORT STRUCTURE



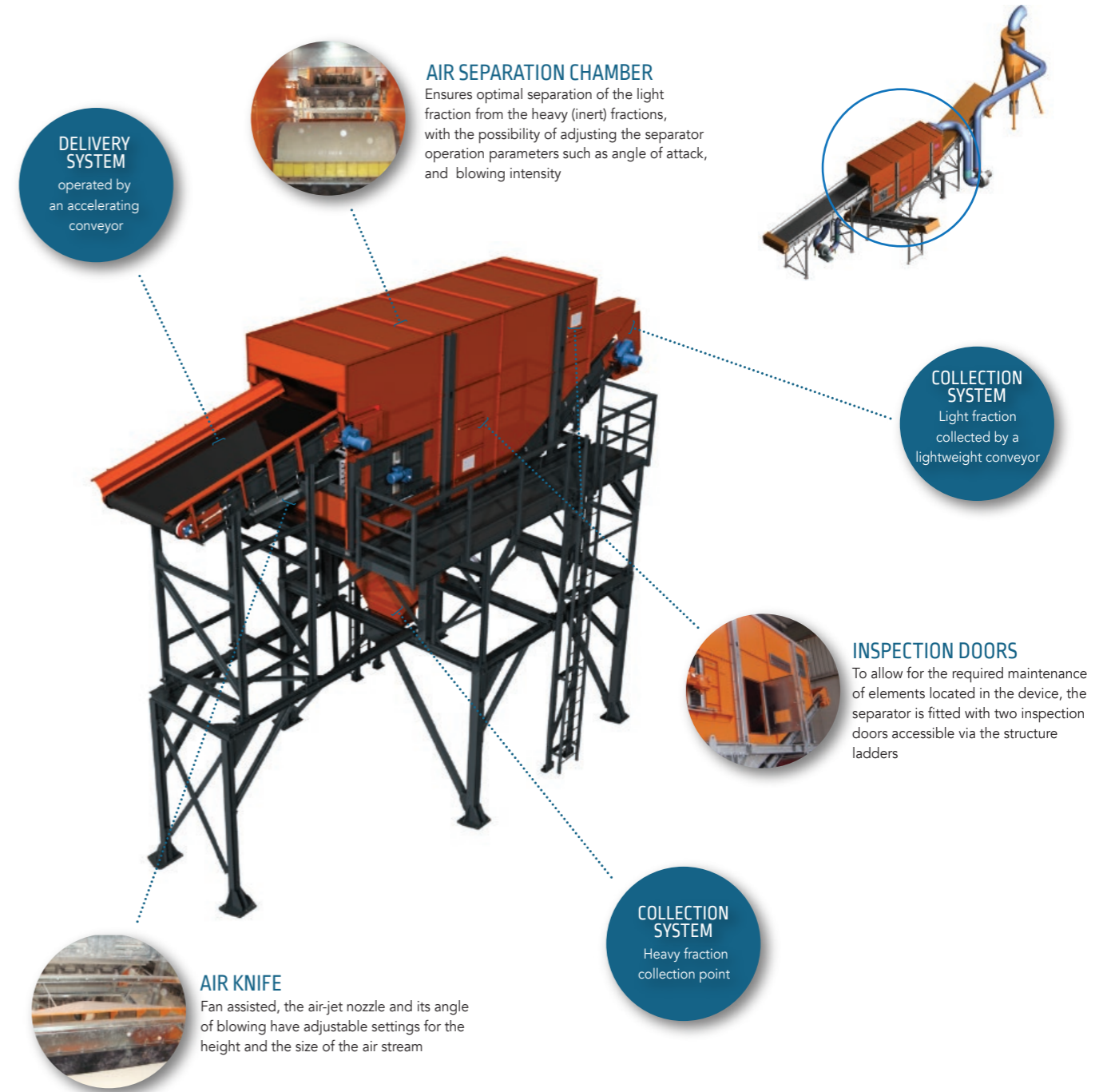
- High Efficiency
- High Capacity
- Highly Integrable
- Customizable

Our air separators are used to separate and isolate the light fraction during the segregation phase of the recycling process. Thanks to its innovative design and high efficiency it often replaces manual sorting and contribute in reducing significantly the segregation costs. Air separators are designed to work with mixed and selective municipal waste, RDF, construction waste, biomass and industrial waste such as rubber, plastics and other. The material to be segregated is delivered to the separator chamber by means of an accelerating conveyor, from which it 'falls' into the zone of reach of the air stream injected through the nozzle. Light elements lifted by a momentum of air are sent directly to the light-weight conveyor, and the heavy elements passing through the air flow fall as a heavy fraction onto the heavy fraction conveyor.

## APPLICATIONS



## FEATURES



## SPECIFICATIONS

Power Supply		Power*	Dimensions*		Working Width	Conveyors Belt Width
3LNPE, 400v/50Hz		30kW	6300 x 4500 x 2065mm		1100 - 1300mm	According to specific needs
Wheelbase*	Tape	Tape Speed	Capacity	Weight	Options	
ca. 4600 - 8600mm	Rubber	Adjustable	5 - 15 t/h	8000 - 10500kg	Bag filter / Dedusting system	

## BELT CONVEYORS



Belt Conveyors are ideal for conveying materials with large and varying particle size and are capable of handling a wide range of bulk materials from very fine to large lump sizes. Belt conveyors can be configured to fit almost any application. A belt conveyor can convey material horizontally, on an incline or a combination of both.

### CHARACTERISTICS

- Abrasion Resistant Belting – To Reduce Wear and Increase Life
- Heavy-Duty Structural Frames and Supports – To Provide System Rigidity
- High Torque Drive Units – To Power Through Upset Conditions
- Dust-Tight Construction – To Eliminate Dust Emissions

## SCREW CONVEYORS

Screw conveyors transport bulk materials while utilizing a screw to transport the material and are control fed in one or numerous inlet areas. Screw Conveyors are ideal for conveying both free-flowing and sticky materials of similar particle size.

### CHARACTERISTICS

- Heavy-Duty Construction – To Increase Life and Reduce Downtime
- Totally Enclosed Design – To Eliminate Dust or Vapour Emissions
- Modular Construction – To Reduce Total Cost of Ownership
- High Torque Drive Units – To Power Through Upset Conditions



## CHAIN CONVEYORS REDLER



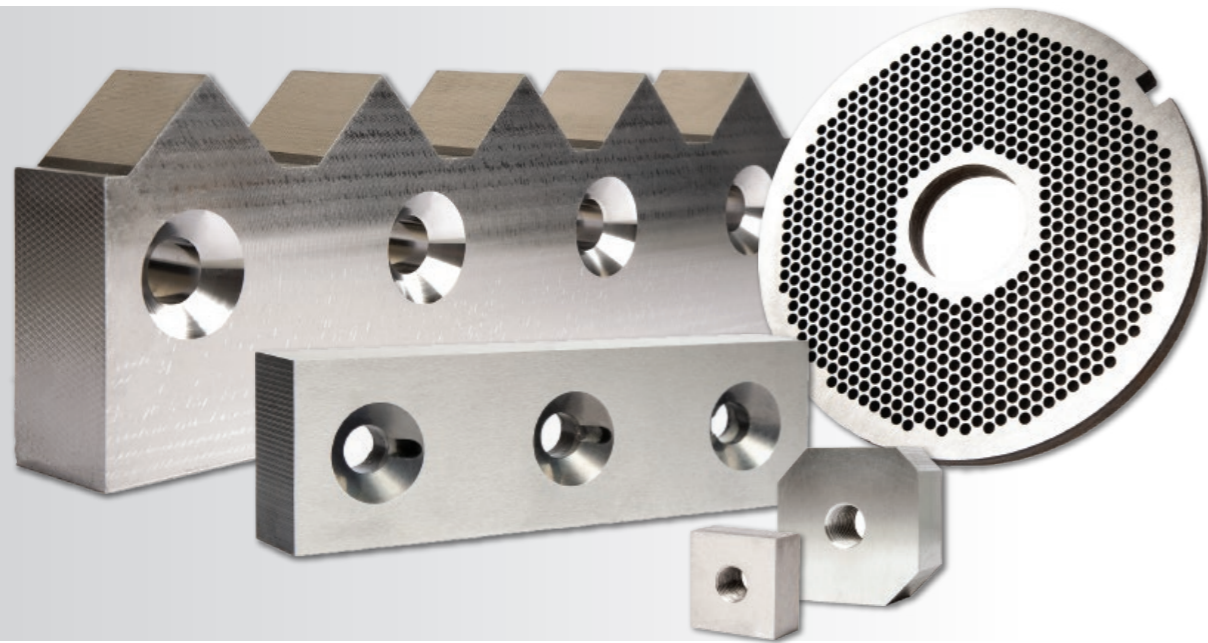
Redler Chain Conveyors are designed for transporting all types of materials: RDF, cereals, seeds, flour, pomace, and all types of powders. They have a very reliable long-lasting system. They also function very silently and with minimum maintenance. They are characterized by their simple construction, ease of use and many possibilities of applications.

### CHARACTERISTICS

- Rectangular section body
- Tensioning mechanism on the foot
- Chain with cleaning scrapers
- Activated by the head
- Less power when functioning
- Made of galvanised, stainless or anti-wear steel



# WEAR & SPARE PARTS

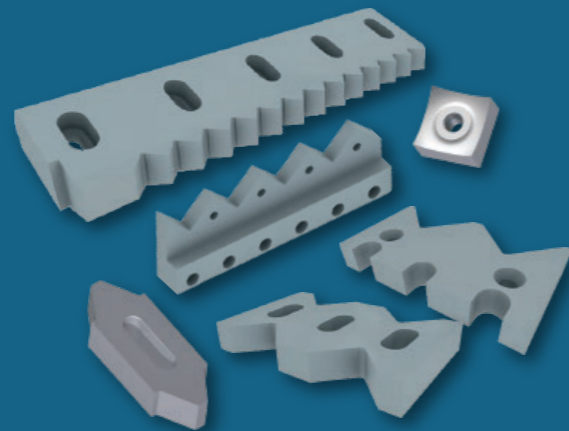


We are a leading manufacturer and supplier of equipment, accessories, spare and other wearparts used in many industries such as recycling, alternative fuel production, wood, plastic processing and the metal industry. All our parts are manufactured using high quality materials and processed on modern CNC machines according to clients specifications and provided documentation (technical drawings, models or others). We also provide services for machine parts such as: knife sharpening; and parts and knives regeneration. Amongst many others, we produce parts for the following machine brands: Weima, Untha, Lindner, Komet, Mewa, Linder Micromat, BMH, Vecoplan, Holzmag, Kleckner, Bandit, Bruks, Teknamotor, Pallmann, Camura and many more.

## INDUSTRIES

### RECYCLING INDUSTRY

- Block knives (Mewa, Untha, Lindner, Komet);
- Knives for tyres recycling (Rasper, Mewa, Eldan, Super Chopper) ;
- Counter knives (Weima, Linder Micromat, BMH & others);
- Rotor knives for single shaft shredders (from 30x30mm to 145x145mm);
- Chopping disks for two and four shafts shredders (Mewa, JBF, Untha...);
- Shredder knives (Vecoplan, Holzmag)



### PLASTIC PROCESSING

- Knives, Shredders, Guillotines;
- Granulator knives;
- Compactor knives;
- Shredder Knives with hardened blade;
- Special knives for foil cutting.

### WOOD INDUSTRY

- Chopper knives ( Klockner, Bandit, Bruks, Teknamotor, Jenz, Rudnick, Vecoplan, Pallmann, Camura, Jankkari, Hombak);
- Counter knives;
- Hammer for Hammer mills;
- Knives for mobile crushers.

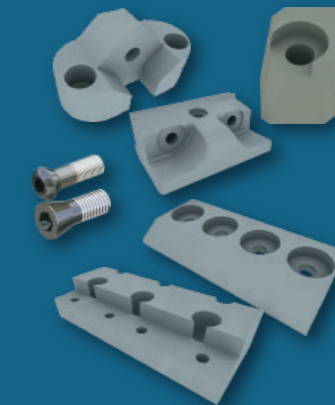
### METAL INDUSTRY

- Baler knives;
- Guillotine blades up to 3000mm;
- Knives shears for scrap;
- Roller cutters used in metal service centres;
- Knives for mobile scissors.

## PARTS & ACCESSORIES

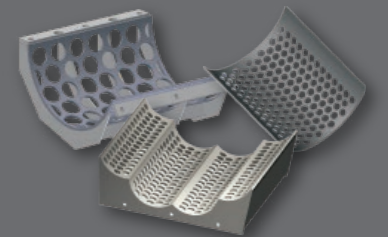
### ELEMENTS & SCREWS

- Special thread screws;
- Hexagonal and socket head screws;
- Blades;
- Knife slides;
- Hard face welded elements;
- Clamps;
- Supports.



### SIEVES

- Shredder sieves;
- Mill sieves;
- Chopper sieves;
- Sorting drum sieves.



MODERN CNC MACHINES



HIGH QUALITY MATERIALS



### KĘDZIERZYN-KOŹLE WASTE DISPOSAL AND SEGREGATION CENTRE

We equipped the installation with:  
horizontal bailing press,  
disc screen,  
air separator,  
feeding table,  
waste bag opener,  
conveying systems.



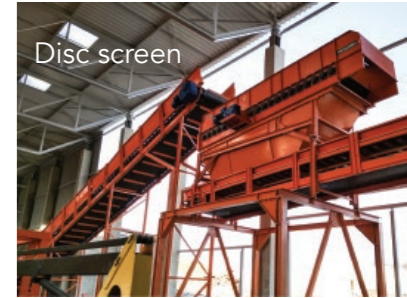
Air separator



Waste bag opener



Horizontal baler



Disc screen



Conveying systems

### SIEDLCE POS-PLASTIC PLASTIC PACKAGING

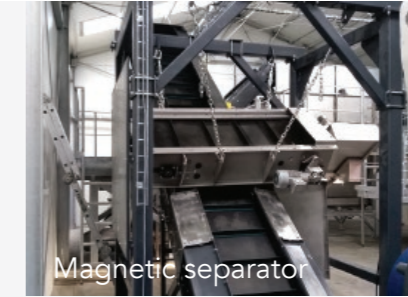
We equipped the installation with:  
conveying systems,  
magnetic separator,  
granulator,  
knife mill,  
cyclone.



Tape conveyor



Knife mill



Magnetic separator



Cyclone



Screw conveyor

### GAĆ WASTE MANAGEMENT CENTRE

We equipped the installation with:  
loading buffer,  
conveying systems,  
low temperature tape dryer,  
heating pipeline,  
chute hatches.



Low temperature tape dryer



Loading buffer



Conveying systems

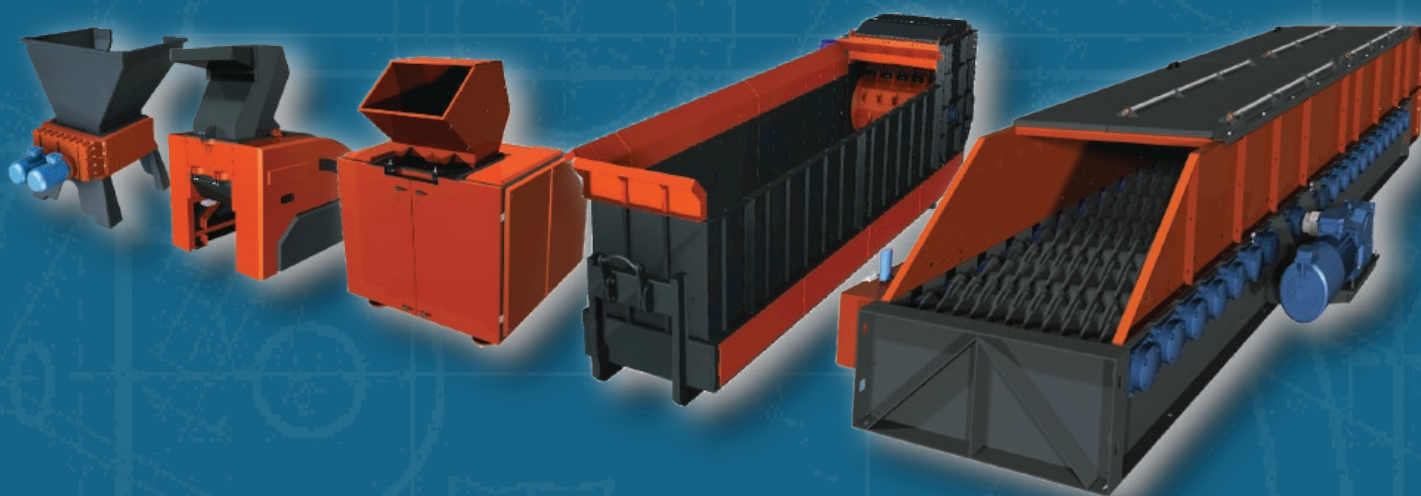


# WELCOME TO PROTECHNIKA

Protechnika is an industry leader in the design and manufacture of waste management, recycling, biomass processing, agricultural and forestry equipment. All our products are robust yet user friendly with a focus on throughput, efficiency and serviceability. Passion driven and with nearly 20 years of experience in the industry, we are able to meet daring challenges and develop machines and solutions tailored to the needs and processes of our clients.

Our range of machines and solutions provide efficient production, low operational costs and ease of maintenance, so end users are sure to find the correct machine for their application.

Our extensive range of machines and solutions handles all types of waste from plastic, wood, metal, rubber, biomass, RDF, SRF to dry sewage sludge and include the following: briquetting machines; disc sieves; perforators; air and magnetic separators; mills; two and four shaft shredders; screw and belt conveyors; bio-fuels production equipment; granulators; choppers; pellet coolers; cyclones and more.



Waste Management & Recycling Equipment Manufacturing



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TECHNOLOGY



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