

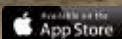


KOMPTECH
TECHNOLOGY FOR A BETTER ENVIRONMENT

UNIVERSAL SHREDDER FOR
GREEN WASTE AND WOOD



CRAMBO



EDITION WITH AUGMENTED REALITY CONTENT



Download the „KompTech LookBeyond!“ app. Scan marked and numbered projects with the „LookBeyond! eye“ to see additional information.



APPLICATION



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CRAMBO VERSATILE



green
efficiency

HIGHLIGHTS

- » High throughput with general-purpose use
- » Aggressive feed with long, counter-rotating shredding drums
- » Variable particle sizes through simple screen basket change
- » Insensitive to contraries
- » New exterior design for perfect access to all maintenance points
- » Crambo direct: Efficient mechanical drum drive for top economy

The Crambo is one of the best machines for shredding all types of wood and green waste. Two slow-running drums with shredding tools minimize fine particle and noise/dust emissions, and resist contraries. The Crambo enables easy adjustment of the output particle size, by simply exchanging the screen basket to instantly change your required particle size. In addition to the existing hydraulicdrive model there is now a mechanicaldrive version, the new Crambo direct. The drive train of the Crambo direct combines the functionality of hydraulic drive with the efficiency of mechanical drive. That means top economy, while retaining all product benefits like overloading protection, reversibility, adaptation to the material etc. A modern operating console and convenient access to all maintenance points makes everyday work very easy.



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Treated/untreated waste wood

When shredding waste wood, the wear-resistant surfacehardened teeth provide a high level of resistance to contraries. Counter-rotating shafts, together with the special shape of the teeth, produce a perfect feed, even for fractions with high board content.



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Green waste – woody biomass

A high throughput of bulky vegetation is made possible with a generously dimensioned feed area, a folding hopper and counterrotating teeth. Blockages from wet material and high grass content are practically impossible. The teeth clear the screen baskets on every revolution.



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Root stocks/ forest wood residue

If a root stock fits into the shredding area, it will also go through. The highly effective tooth power offered by the efficient drive, the intense motion of the material and the insensitivity to embedded stones all make the Crambo ideal for this application.



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Specialist applications

The innovative shredding concept provides a wide range of application possibilities. Established applications are shredding bio-waste for composting, shredding market waste and food / kitchen waste for fermentation, and preshredding roofing fabrics for further treatment.

INSIDE THE MACHINE

The Crambo is powered by a modern Caterpillar® diesel engine, equipped with the latest emission control. The complete muffling of the engine compartment reduces noise emissions to a minimum.

Purchasers can choose between highly efficient mechanical drum drive with automatic transmission - the Crambo direct - or the familiar hydraulic drive with load-dependent speed regulation. Control electronics continually monitor the operational status of the machine, and intervene to protect the machine should a breakdown occur. Reversing programs precisely adapt the shredding process to the material. The menu guidance follows a logic any user can understand, and the screen shows all machine functions graphically.

01 Large feeding area with flap and fold system for filling hopper

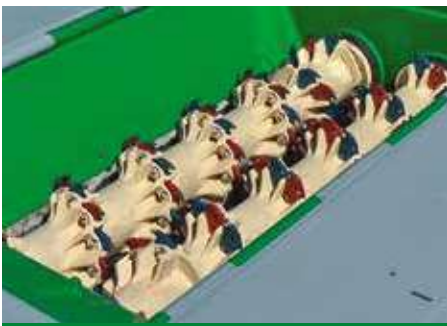
02 Shredding drums with aggressive cutting tools

03 Crambo direct: CAT® diesel engine and automatic transmission

04 Swivellable screen basket cartridge

05 User-friendly operator panel with on-board computer

TECHNOLOGY AND FUNCTION



MATERIAL FEED

- » Extremely large shredding compartment with two 2.8 metres long shredding drums
- » Counter-rotating drums with tools in a spiral arrangement for active material movement
- » Hydraulic folding hopper for more hopper volume



DRIVE SYSTEM CRAMBO DIRECT

- » High-performance automatic transmission
- » Adaption to the material with 2 speeds and intelligent control
- » No engine stalling in the event of blockages due to overload clutch
- » Programmable reversing function for self-cleaning



OPERATION

- » Large colour display with logical menu guidance for easiest operation
- » Optimum adaptation of machine function to the material
- » Ideal placement of controls for folding out the hopper and conveyor



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Komtech LookBeyond!

Scan and see additional information about the Crambo.



MAINTENANCE ACCESS

- » New designed engine compartment with large doors and foldable platforms
- » All maintenance points are externally accessible (fuel, oil, filters etc.)
- » Excellent access to the discharge channel through side service doors



ADAPTIONS

- » Particle size adjustment: Change of screen baskets or change of the entire basket cartridge
- » Adjustable overbelt-magnet or magnetic drum at discharge conveyor
- » Active feed device for moving on site by remote control (Track, Trailer)
- » Remote control, central lubrication and more



STATIONARY UNIT

- » Use as standalone machine or part of a process chain
- » Electro-hydraulic or electro-mechanical drum drive
- » Numerous options in terms of frame and periphery



SHREDDING UNIT

SHREDS ANYTHING

HIGHLIGHTS

- » Extremely large feed area measuring 2000 mm in width and 2820 mm in length
- » Slow-running tool elements produce no fine fractions
- » Variable particle size spectrum by selecting the right screen basket
- » Quick-change system for screen basket and teeth
- » Low wear and maintenance costs

In the generously dimensioned shredding area, two 2820 mm long counter-rotating shafts provide active feed. The teeth seize the material and press it in a cutting/splitting action against the cutting edge and screen baskets located underneath. Slow turning (rotation speeds up to 44 rpm) results in a lumpy shred initially.

The material does not exit the shredding area until the particle size matches the hole size of the screen basket, enabling the quantity of shredded material in the desired particle size to be maximised. There is no additional generation of fine fractions, and overlengths are reduced to a minimum.



SHREDDING DRUM

Specially developed bearings keep the massive shredding drums securely in place, even under extreme loads. Strong planetary gears boost drive train life, for dependable service through thousands of operating hours. The shredding drums can also be armored at areas susceptible to wear, for additional protection.



TOOLS

With their optimal profile the dropforged wear teeth guarantee prolonged service life whilst retaining consistent functionality. The sickle teeth are all-purpose usable, give aggressive feed and good cutting. The planing teeth give good results on waste wood when used with smaller screen baskets. Their shape makes them very long-lived.



SCREEN BASKETS

Screen baskets are tailored to the cutter and are available in sizes most commonly used in practical applications. To replace, activate the button to swivel the screen basket cartridge out hydraulically. Remove the screen basket halves from the cartridge and replace with another screen basket or even more conveniently exchange the entire screen basket cartridge. Swivel in again to continue working.

OPTIONS FOR BIOMASS PROCESSING

These features make the Crambo the ideal biomass machine, especially where coarser particle sizes are the order of the day, and where metal, stones, and soil make life difficult for fast-running shredders.



BIO CUTTING UNIT

This cutting unit is ideal for preparing woody biomass for use as fuel. Countercut teeth inserted near the central cutting edge give an efficient cut, for finer shredding and the right output particle consistency.



BIO-BASKET XL

This combination of a special screen basket, holder and bio-blades gives more fuel and less fines. Its shredding efficiency boosts throughput while reducing fuel consumption.



FEATURES & OPTIONS

CRAMBO MOBILE

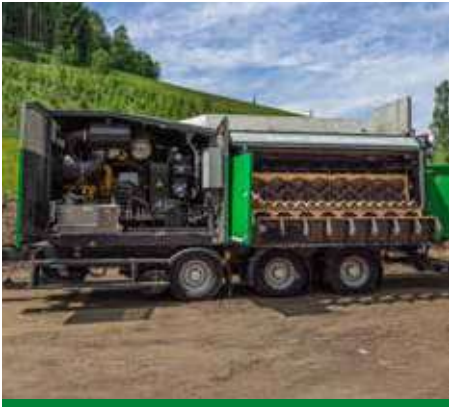
HIGHLIGHTS

- » All mobile versions can be transported without special authorisation
- » Switch from the transport position into the working position immediately
- » On-site mobility possible with towing or automatic feed device (option)
- » The right chassis for every surface and application



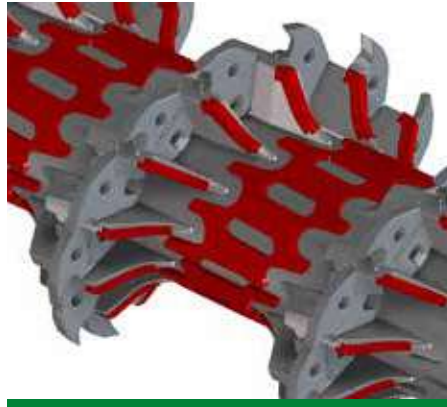
Mobile technology – getting from A to B quickly and easily. But also getting ready for operation on site quickly: Unload, open up, power on – and start working. The Crambo offers a selection of hook lift, three-axle chassis or steel tracked versions. On the hook lift version, towing or automatic feed device options provide manoeuvrability on site.

With its airsprung axles and automatic feed device (option), the Crambo trailer version offers the utmost in mobility. The self-propelled steel track version, with extra wide three-bar track baseplates, is ideal for soft ground or unstable terrain. Two speeds are available and steering is done by remote control.



WITHIN EASY REACH

With the new exterior design, all maintenance can now be performed from outside the machine. Easily opened doors give access and fold-out platforms provide safe footing. The discharge channel is easily accessible through a service door on the side.



READY FOR THE ROUGH STUFF: HEAVY DUTY

The Crambo Heavy Duty's extremely tough and wear-resistant features make it the way to go for contrary-heavy or abrasive material streams. A special screen basket cartridge, screen baskets with double wall thickness, and armour plating on the drums boost service life by up to three times.



GET THE IRON OUT!

The overbelt magnet is now mounted in a specially designed, steplessly adjustable holder that gives parallel positioning of the magnet over the discharge conveyor regardless of the conveyor slope. This gives the best possible separation performance in all working positions.



MAN AND MACHINE

The new operating console with its big colour display makes it easy for new users to work with the machine, and gives pros many ways to optimize operation. The operating panel on the machine has a colour display that clearly shows all functions and operating status with symbols and colour coding.



LOADING MADE EASY

Load material into the big hopper - the machine does the rest. Hydraulic folding hopper sidewalls make the already generous shredding chamber even bigger, for a loading volume of up to seven cubic metres. That means less strain in loading and less outfall around the machine from overloading.



EASIER WORKING

Optional accessories let users configure the Crambo for the exact task. Central lubrication simplifies maintenance. Wireless remote control gives pushbutton control. A moistening system helps keep down dust, while an extended discharge conveyor permits higher material cones.



STATIONARY

CRAMBO DIRECT



HIGHLIGHTS

- » Innovative mechanical drum drive with load-dependent automatic transmission
- » Up to 35 percent lower specific consumption than comparable hydraulic systems
- » The same functionality and contrary resistance as on hydraulic systems
- » Exact material fit through intelligent control with two drum speeds

Electrically driven stationary machines, with their energy efficiency, low maintenance burden and technical control advantages, are perfect for large plants with long machine running times. Stationary Crambo customers can choose between hydraulic and mechanical drum drive. Just like the mobile versions, the stationary Crambo direct has a mechanical drive with load-dependent automatic transmission.

That means lower energy consumption through higher efficiency, while retaining full functionality like overload protection, reversing and two shredding speeds. Integration in a processing line is straightforward, as a modular system of setup, material feed and discharge, and control options enables configuration for almost any requirement.



STATIONARY

CRAMBO HYDRAULIC

Its electro-hydraulic drive system combines high reliability and low investment costs. Hydraulic drive is also an advantage where frequent throughput rate adjustments are needed, for example to accommodate downstream screeners and separators, due to the integrated throughput regulation by the drum speed.

In addition, the drive can be physically separate from the shredding unit if desired. This saves space in the processing line since only the compact shredding unit needs to go there, while the drive unit can be set up in a container or utility room where it is protected from dust and is easy to get to. Like for the mechanical versions, many preconfigured adaptation options are provided.

HIGHLIGHTS

- » Hydraulic drive for high shredding power and stepless throughput control
- » Separate installation with hydraulic drive:
 - Protects the drive unit
 - Saves in-line installation space
- » Numerous options are available for setup, material intake/output, drive and controls



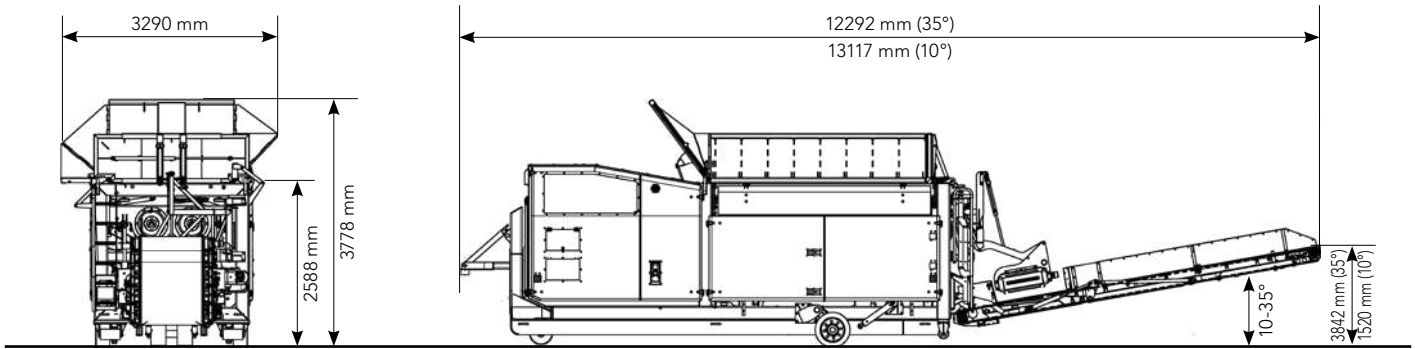
TECHNICAL SPECIFICATIONS

MOBILE

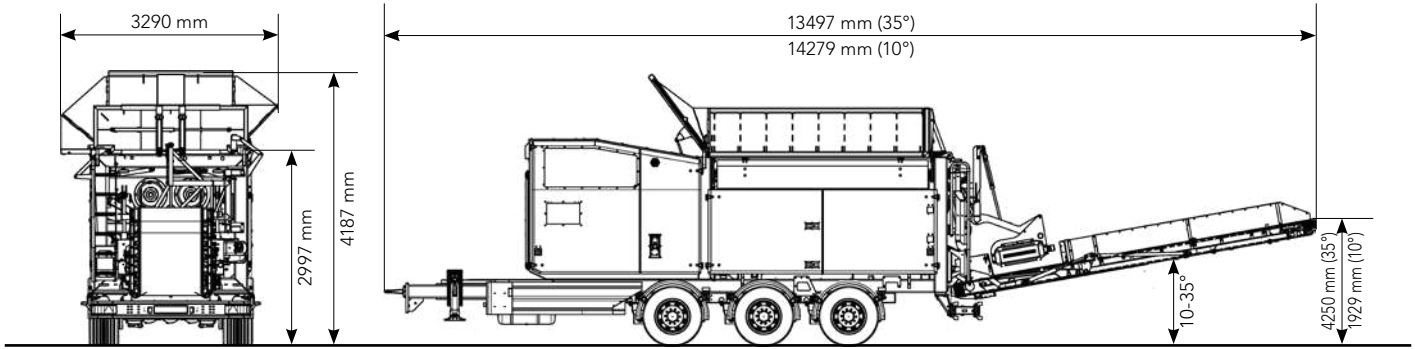
| | 4200 direct | 5200 direct | 6200 direct | 3400 | 5000 | 6000 |
|---|---|--|--|---|--|--|
| Engine | | | | | | |
| Diesel engine: | CAT @ C9.3 Tier 4 Final/Stufe IV or Tier 3/Stufe IIIA | CAT @ C13 Tier 4 Final/Stufe IV or Tier 3/Stufe IIIA | CAT @ C18 Tier 4 Final/Stufe IV or Tier 3/Stufe IIIA | CAT @ C9.3 Tier 4 Final/Stufe IV or Tier 3/Stufe IIIA | CAT @ C13 Tier 4 Final/Stufe IV or Tier 3/Stufe IIIA | CAT @ C18 Tier 4 Final/Stufe IV or Tier 3/Stufe IIIA |
| Power (kW / HP): | 242 / 330 | 328 / 446 (3b, T4f) 354 / 480 (T3) | 429 / 583 | 242 / 330 | 328 / 446 (3b, T4f) 354 / 480 (T3) | 429 / 583 |
| Shredding unit | | | | | | |
| Drum drive: | mechanical | | | hydraulic | | |
| Drum rpm: | 1. gear: 18 (max) 2. gear: 28 (max) | 1. gear: 23 (max) 2. gear: 34 (max) | 1. gear: 29 (max) 2. gear: 44 (max) | max 32 | max 32 | max 41 |
| Drum length (mm): | 2820 | | | | | |
| Drum diameter (mm): | 610 | | | | | |
| Loading heights | | | | | | |
| Loading heights (mm): | Hook: 2588 | | Trailer: 2997 | Track: 2898 | | |
| Discharge heights (mm, 10°-35°): | Hook: 1520 - 3842 | | Trailer: 1929 - 4250 | Track: 1830 - 4151 | | |
| Dimensions transport position/working position (Conveyor belt 35°) | | | | | | |
| L x W x H Hook (mm): | 7290 x 2450 x 2766 / 12292 x 3290 x 3778 | | | | | |
| L x W x H Trailer (mm): | 9065 x 2450 x 3367 / 13497 x 3290 x 4187 | | | | | |
| L x W x H Track (mm): | 6940 x 2854 x 3268 / 11372 x 3290 x 4088 | | | | | |
| Weight (dependent on equipment) | | | | | | |
| Hook (t): | ~ 21.7 | ~ 22.0 | ~ 22.4 | ~ 21.0 | ~ 21.3 | ~ 21.7 |
| Trailer (t): | ~ 24.0 | ~ 24.3 | ~ 24.7 | ~ 23.3 | ~ 23.5 | ~ 23.9 |
| Track (t): | ~ 25.1 | ~ 25.4 | ~ 25.8 | ~ 24.4 | ~ 24.6 | ~ 25.0 |
| Throughput (dependent on material) | | | | | | |
| Throughput performance (t/h): | up to 55 | up to 80 | up to 120 | up to 45 | up to 60 | up to 100 |
| Options | | | | | | |

Engines emission level Tier 3a and 4f/EU stage III and IV, drum armored, hook-shaped teeth, planing teeth, bio cutting unit, screen baskets 80/100/125/150/180/250/300, radio remote control, central lubrication, transferring magnet with swinging arm, magnetic pulley etc.

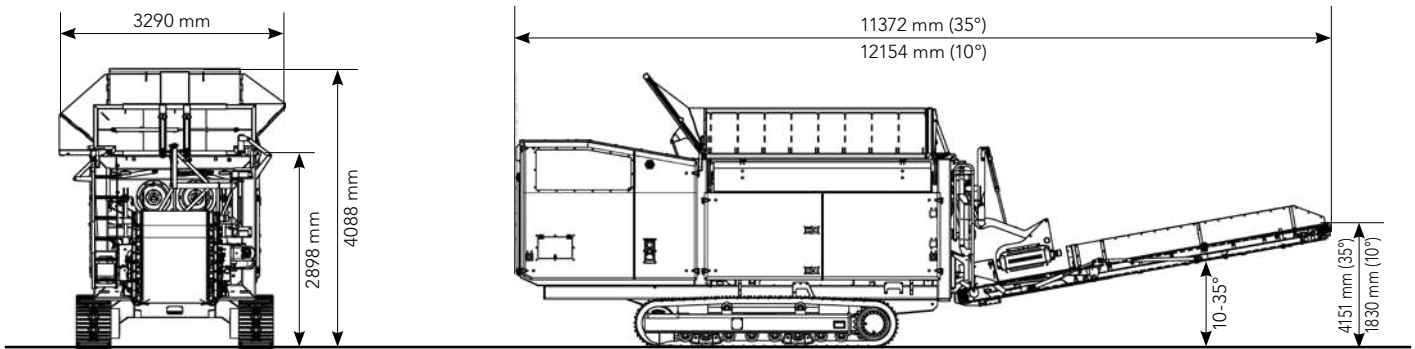
HOOK



TRAILER



TRACK



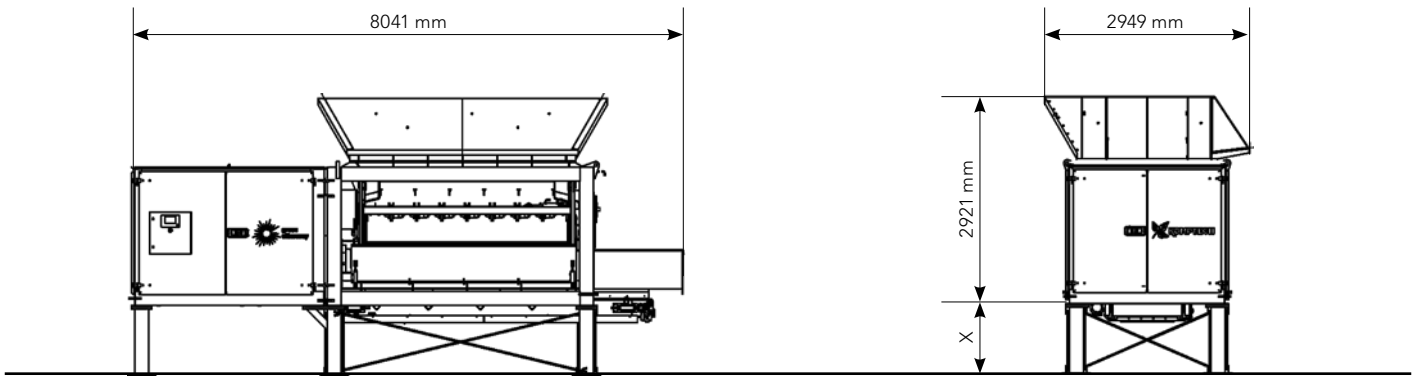


TECHNICAL SPECIFICATIONS

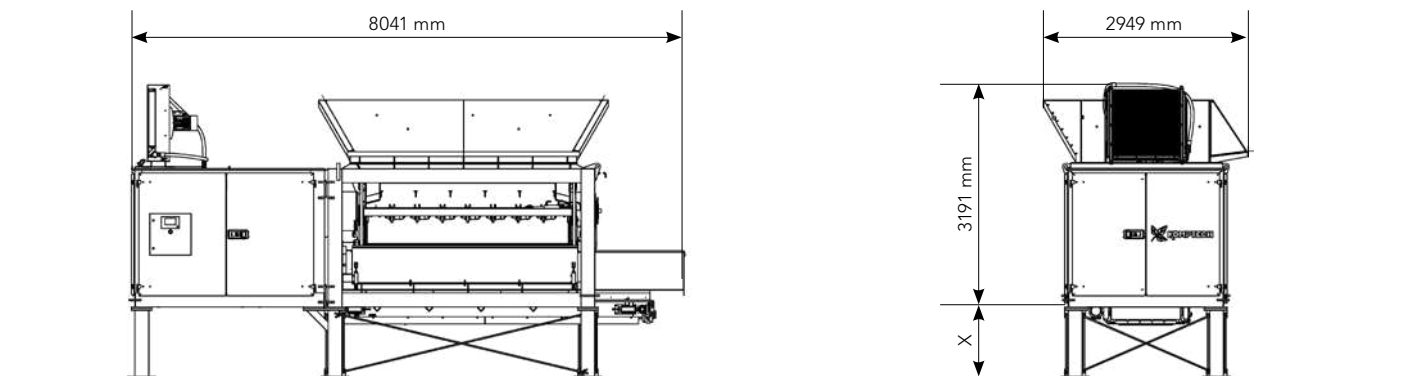
STATIONARY

| | 4200 direct | 5200 direct | 6200 direct | 3400 | 5000 | 6000 |
|--|--|--|--|-----------|----------|-----------|
| Engine | | | | | | |
| Power mechanical (kW): | 1 x 160 | 1 x 200 | 1 x 280 | - | - | - |
| Power hydraulic (kW): | - | - | - | 1 x 160 | 1 x 200 | 1 x 280 |
| Shredding unit | | | | | | |
| Drum drive: | mechanical | | | hydraulic | | |
| Drum rpm: | 1. gear: 18 (max) 2. gear: 28 (max) | 1. gear: 23 (max) 2. gear: 34 (max) | 1. gear: 29 (max) 2. gear: 44 (max) | max 32 | max 32 | max 40 |
| Drum length (mm): | 2820 | | | | | |
| Drum diameter (mm): | 610 | | | | | |
| Dimensions L x W x H (mm) (shredding unit incl. hopper) | | | | | | |
| Crambo direct | 8041 x 2949 x 2921 | | | | | |
| Combined unit: | 8041 x 2949 x 3191 | | | | | |
| Separated unit: | 5772 x 2949 x 3191 | | | | | |
| Weight (dependent on equipment) | | | | | | |
| Weight (t): | ~ 18.2 | ~ 18.2 | ~ 18.2 | ~ 16.0 | ~ 16.8 | ~ 17.1 |
| Throughput (dependent on material) | | | | | | |
| Throughput performance (t/h): | up to 55 | up to 80 | up to 120 | up to 45 | up to 60 | up to 100 |
| Options | | | | | | |
| Drum armored, hook-shaped teeth, planing teeth, bio cutting unit, screen baskets 80/100/125/150/180/250/300, soft-start, electrical control system internal/external, control panel internal/external, variants for hopper, outfeed conveyor, discharge conveyor, radio remote control, central lubrication etc. | | | | | | |

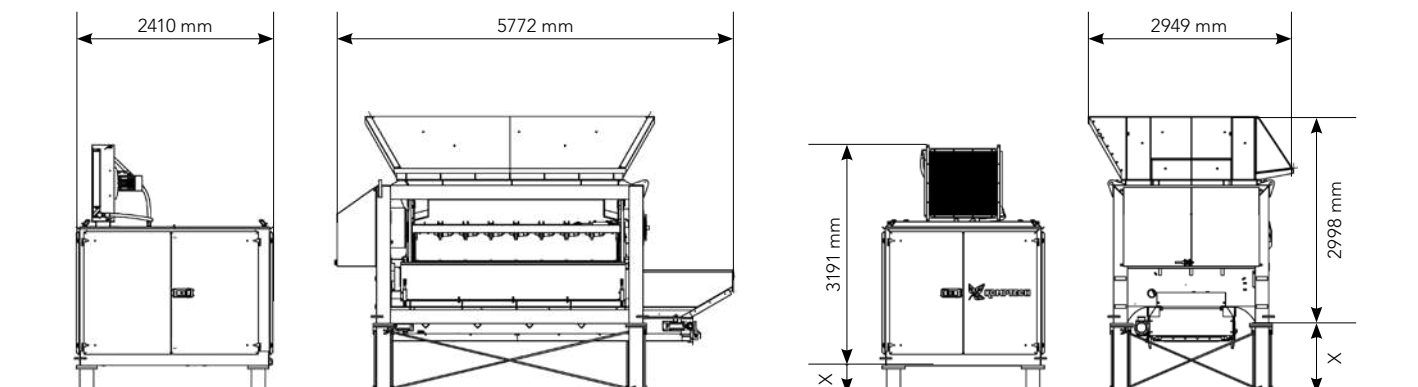
DIRECT (COMBINED UNIT)



HYDRAULIC (COMBINED UNIT)



HYDRAULIC (SEPARATED UNIT)



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We reserve the right to make technical changes in the course of ongoing development. E2018