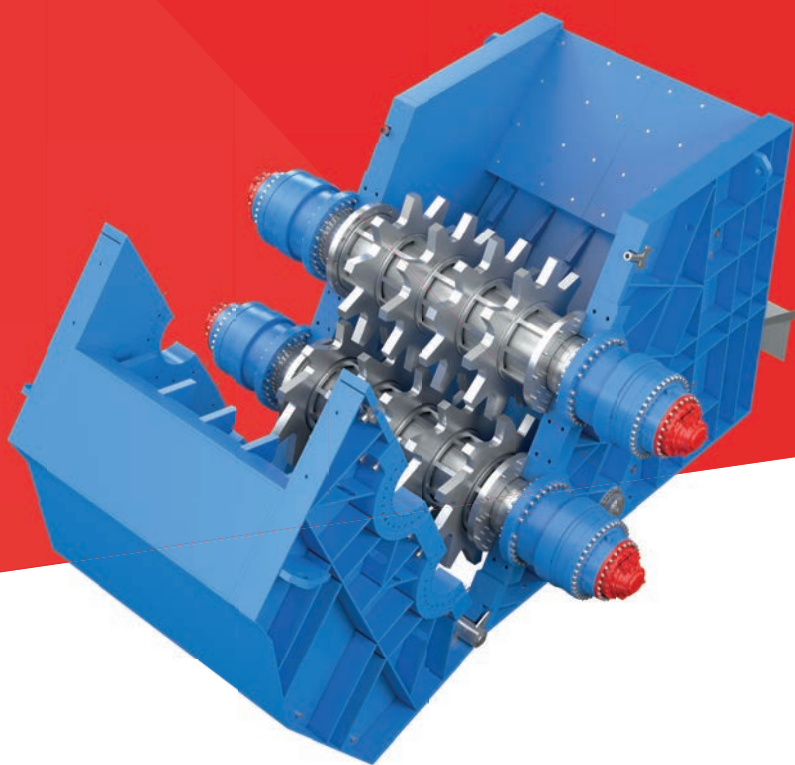




TAURUS

RED **LINE**

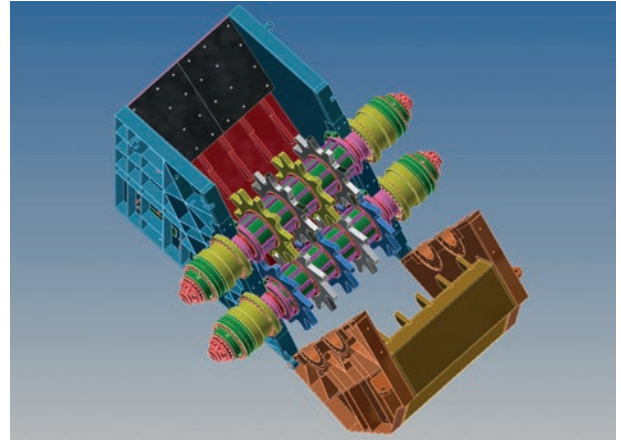


CHALLENGE **ACCEPTED**

NEXT LEVEL PRODUCTIVITY
WITH HIGHLY EFFICIENT PRE-SHREDDERS

The **BRAVO** "mill feeder" is high torque ripping machine, equipped with dual counter-rotating horizontal shafts, designed to be used upstream of a full-sized hammer mill in order to produce a homogeneous size feed.

It is particularly useful in preprocessing heavy or high density scrap, ELV cars or bales up to 1,4 density in order to streamline the actual shredding process while eliminating the risk of explosions and reducing wear and tear on the hammer mill while greatly improving production rates.



BRAVO ADVANTAGES

- 1** Operate at very low maintenance cost.
- 2** Reduce power costs.
- 3** Lower the total cost of processing a variety of material.
- 4** Reduce the risk of explosions.
- 5** Allow smaller shredder plants to operate at higher production levels: lower-power and lower cost hammer mills can be installed to do the same job as larger mills which do not use a pre-shredder.
- 6** Existing large shredders can benefit of smoother, better operation reducing costs per ton and enhancing production.

For over 30 years, **TAURUS** worked extensively to design and improve **BRAVO** pre-shredders, popular in the scrap market for their high reliability and robustness. The production of the first **BRAVO** pre-shredder, hydraulic twin shaft "mill-feeder", dates back to the 1990s. Since then, more than 36 pre-shredders have been distributed throughout Europe, North America, Australia and Asia.



BRAVO PRE-SHREDDER

A NEW GENERATION OF PRE-SHREDDERS

In the last years, **BRAVO** pre-shredders have gone through an extensive redesign, aimed to further grant solid performances while further reducing operational costs and enhancing maintenance operations. Material is fed from the top feeding chute (2500 x 3250 in the B16 model) and is grabbed by the slow speed upper rotor.

The twin rotors of the mill feeder are hydraulically driven and function independently but in synchronization with one another. The two counterrotating shafts transmit between 550 to 850 hp and rotate at different speeds but with a constant ratio. Both rotors use highly wear resistant teeth, not blades to feed and tear the scrap. The slower moving main rotor compresses and feeds the scrap towards the counter rotating second rotor. The second rotor spins at a faster rate than the first in order to tear the scrap in to uniformly sized pieces. The hydraulics operated in a closed loop system incorporating an axial piston pump with built in power limiter.

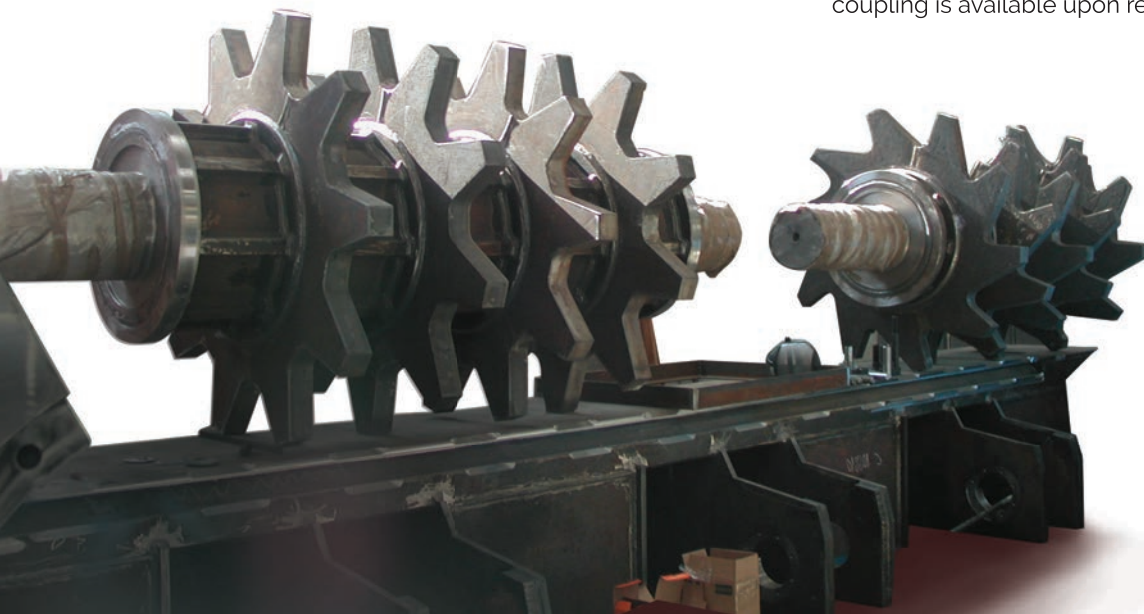
The floor in the feeding chamber is movable ("swinging-floor or press flap"). The press flap has 2 main functions. One, to allow large bulky scrap items or bales to enter the feeding chamber better because it can go below "0" level. Two, to compress scrap towards the upper rotor, also during inverse motion, to fasten the ripping process.

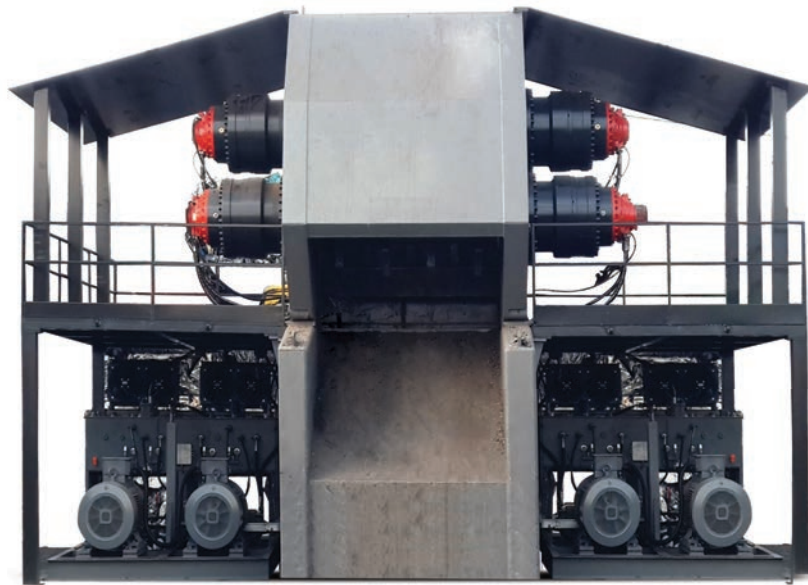
The press flap movement is automatic, driven by sensors that determine loading situation from power absorption. Operator can also determine floor position manually.

TAURUS has worked extensively on the software, and put in the new generation of rotary encoders while further modifying the overall machine geometry and updating mechanical structure.

TAURUS pre-shredders have a modified rotor motorization, flap positioning during the shredding process as its overall width and direction of oscillation. Further modifications were made to the positioning of the mashing teeth and on the automatic cycle functions.

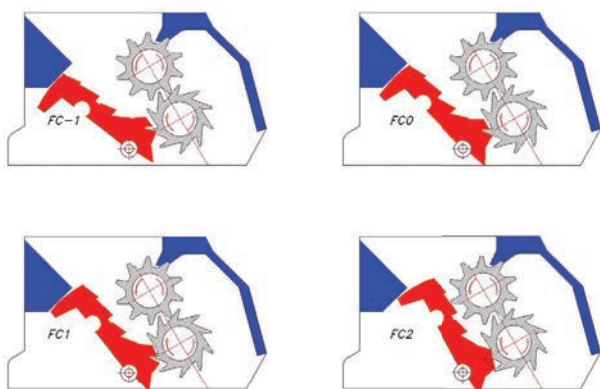
All Models are equipped with Hagglunds hydraulic motors (2 per shaft) coupled with strong and reliable reduction gears. Direct shaft- hydraulic motors coupling is available upon request.





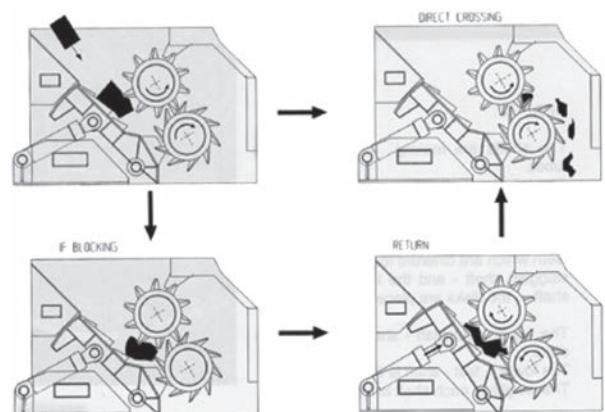
PRESS FLAP

The floor underneath the slow speed rotor is movable ("swinging-floor or press flap"). The press flap has two main functions. One, to allow large bulky scrap items or bales to enter the feeding chamber and two, to compress scrap towards the upper rotor. The press flap can function autonomously or under the operator's command.



OVERLOAD

If the scrap is too dense or too large to pass through the rollers, then an overload situation will occur. During an overload situation the pre-shredder reaches its peak torque level and the hydraulic motors effectively "stall". If set to "automatic" mode, the press flap will return to a neutral position while the rotors turn in the opposite direction freeing the blockage. Once the blockage has been cleared, the rotors revert to their natural state of rotation to continue processing the remaining material.



PRODUCT LINE

		B12R	B14R	B16R	B16H	B16T
Feeding chamber dimensions (W x L)	mm	2000x2500	2000x2500	2500x3250	2500x3250	2500x3250
Counter-rotating shafts	n	2	2	2	2	2

LOW SPEED ROTOR

Rotor speed	rpm	3	3	4	5	6
Teethed disks	n	3	3	4	4	4
Teethed disks diameter	mm	1200	1400	1600	1600	1600
Teeth on each disk	n	8	9	10	10	10
Hydraulic motor	Brand	Hagglunds	Hagglunds	Hagglunds	Hagglunds	Hagglunds

HIGH SPEED ROTOR

Rotor speed	rpm	12	12	16	20	24
Teethed disks	n	4	4	5	5	5
Teethed disks diameter	mm	1200	1400	1600	1600	1600
Teeth on each disk	n	8	9	10	10	10
Hydraulic motor	Brand	Hagglunds	Hagglunds	Hagglunds	Hagglunds	Hagglunds

FLAP

Maximum compression force	t	100	100	100	160	160
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ELECTRIC POWER SYSTEM

Low speed rotor electric motor power	Kw	55	90	90	110	160
High speed rotor electric motor power	Kw	110 (x2 motors)	160 (x2 motors)	200 (x2 motors)	250 (x2 motors)	250 (x2 motors)
Extra unit high speed rotor	Kw					132
Flap electric motor	Kw	55	55	90	90	90
Electric motor for cooling and filtering circuit	Kw	7,5 (x2 motors)	7,5 (x2 motors)	7,5 (x2 motors)	7,5 (x2 motors)	7,5 (x2 motors)
Cooling fan motors	Kw	0,5 (x4 motors)	0,5 (x4 motors)	0,5 (x4 motors)	0,5 (x4 motors)	0,5 (x5 motors)
Total electric power	Kw	347	482	597	717	899,5

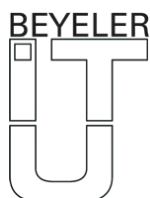
Output using mixed grade scrap (50% bales)	t/h	< = 40	< = 60	< = 80	< = 100	< = 130
Maximum bale density	t/m3	1,2	1,2	1,4	1,4	1,4
Weight of the machine (approx.)	t	60	90	120	125	135

TAURUS

SINCE 1964 ALWAYS ONE STEP AHEAD

TAURUS is one of the oldest and most widely recognized brands in the metals recycling industry. With over 50 years of experience, **TAURUS** knows how to design and build machineries which deliver maximum performance without compromising on safety and environment-friendliness.

In addition, **TAURUS** machines are tested to work efficiently and effectively in any condition, climate or application, as proven by more than 700 machineries deployed and operative all over the world.



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