



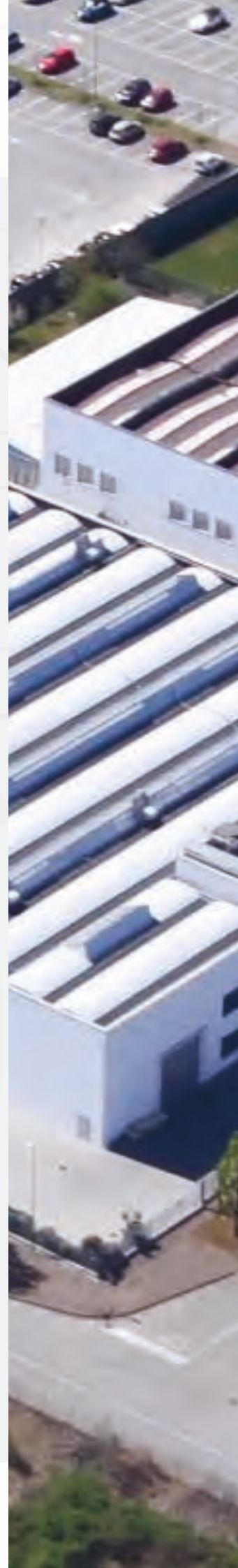
BRIQUETTING MACHINES

PASSION FOR THE ENVIRONMENT



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OMCR has been the leader in precision mechanical processing for more than 40 years

All OMCR's experience has been channelled into its new "Industrial Solutions" division, which has been set up to offer smart-green solutions to optimize production.

These solutions include the briquetting machine, which is a reliable and versatile solution to the problem of collecting and processing metal swarf, to reduce the economic impact and transform the waste into a resource.



Domenico Zentilin
Founder of OMCR

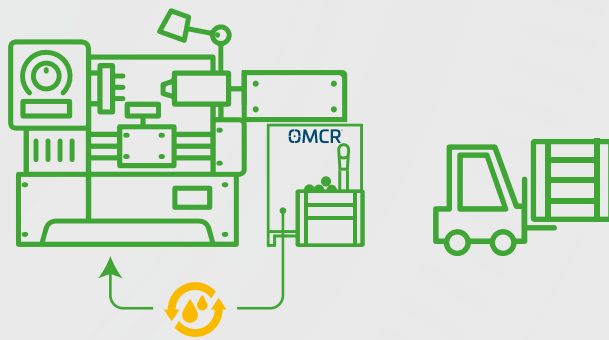
THE BRIQUETTING MACHINE

The management of industrial waste represents an ever-increasing burden for companies. The use of briquetting machines in the management of waste from mechanical processes is a **smart-green** solution to reduce the economic impact and transform the waste into a resource.

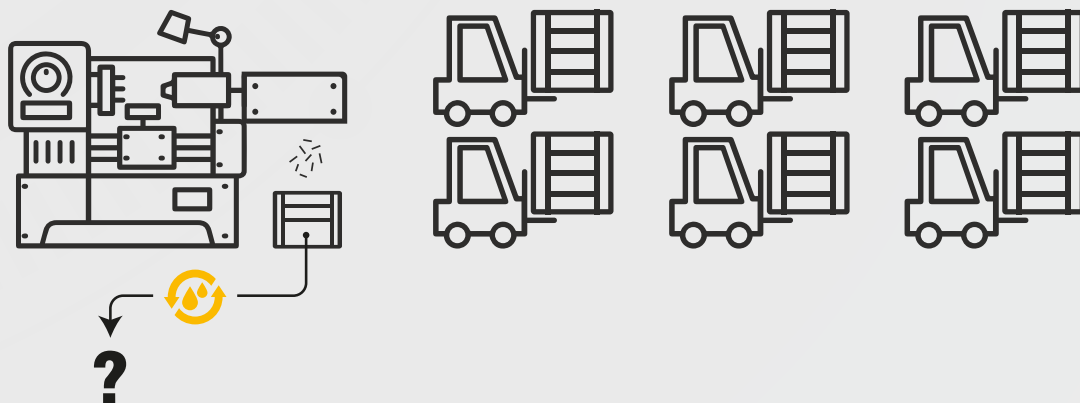
By compacting the swarf into briquettes, the **briquetting machine reduces the volume of the waste up to 8 times**, thus ensuring a considerable saving of space and optimization of swarf bin handling. Due to its compact size and versatility of installation, the briquetting machine can be easily integrated into production lines of those companies that need to make their production process more efficient, with an investment that pays for itself in little more than **24 months**.

It can also be used in automatic mode 24 hours a day with low energy consumption and recovers **up to 90% of the expensive cutting fluids**, thus constituting a truly green choice for companies committed to sustainable innovation.

WITH THE BRIQUETTING MACHINE



WITHOUT THE BRIQUETTING MACHINE





IMPROVE YOUR PRODUCTION PROCESSES

increasing safety in the workplace

REACH YOUR SUSTAINABILITY GOALS



respecting the environment



MAKE CASH SAVINGS

by recovering cutting oils and cooling lubricants



ADVANTAGES OF THE BRIQUETTING MACHINE

Swarf volume reduction up to 80%

The swarf is collected in the briquetting machine and fed into a compression chamber where the volume is reduced by up to 8 times.



Cooling lubricant recovery up to 90%

All the expensive liquids used during machining, which would normally be lost, are collected in a tank and fed back into the machining center, thus eliminating waste.

Best solution for unmanned production

Installing OMCR briquetting machine prevents jamming of conveyors caused by the swarf bins.



Reduction of handling and transport costs

The briquetting machine reduces the swarf bin emptying operations up to 8 times with a consequent increase in safety and resource optimization.

Industry 4.0 certification

OMCR BSH briquetting machines are equipped with "BSH Remote Control" management software, with which they are networked and integrated into the company production process. They meet the requirements to access the tax breaks in the countries where it is provided.



Energy saving

To obtain maximum energy saving, the briquetting machine is designed to enter standby mode automatically when it detects no material to be compacted.

Sustainability and respect for the environment

The transport of compacted swarf eliminates the risk of spillage of liquids harmful for the environment and optimizes transport efficiency, reducing CO2 emissions.



REDUCTION OF THE VOLUME OF SWARF AND RECOVERY OF THE RESIDUAL LIQUID

DUCTILE SWARF



Volume reduction **80%**
Liquid recovery **90%**

TOUGH SWARF



Volume reduction **50%**
Liquid recovery **90%**

BSH briquetting machines can compact a wide range of **metals**. Customized tests can be performed to evaluate compaction results.

GRINDING SLUDGE

CAST IRON

STEEL

ALUMINIUM

COPPER

BRASS



TYPES OF INSTALLATION

STAND - ALONE

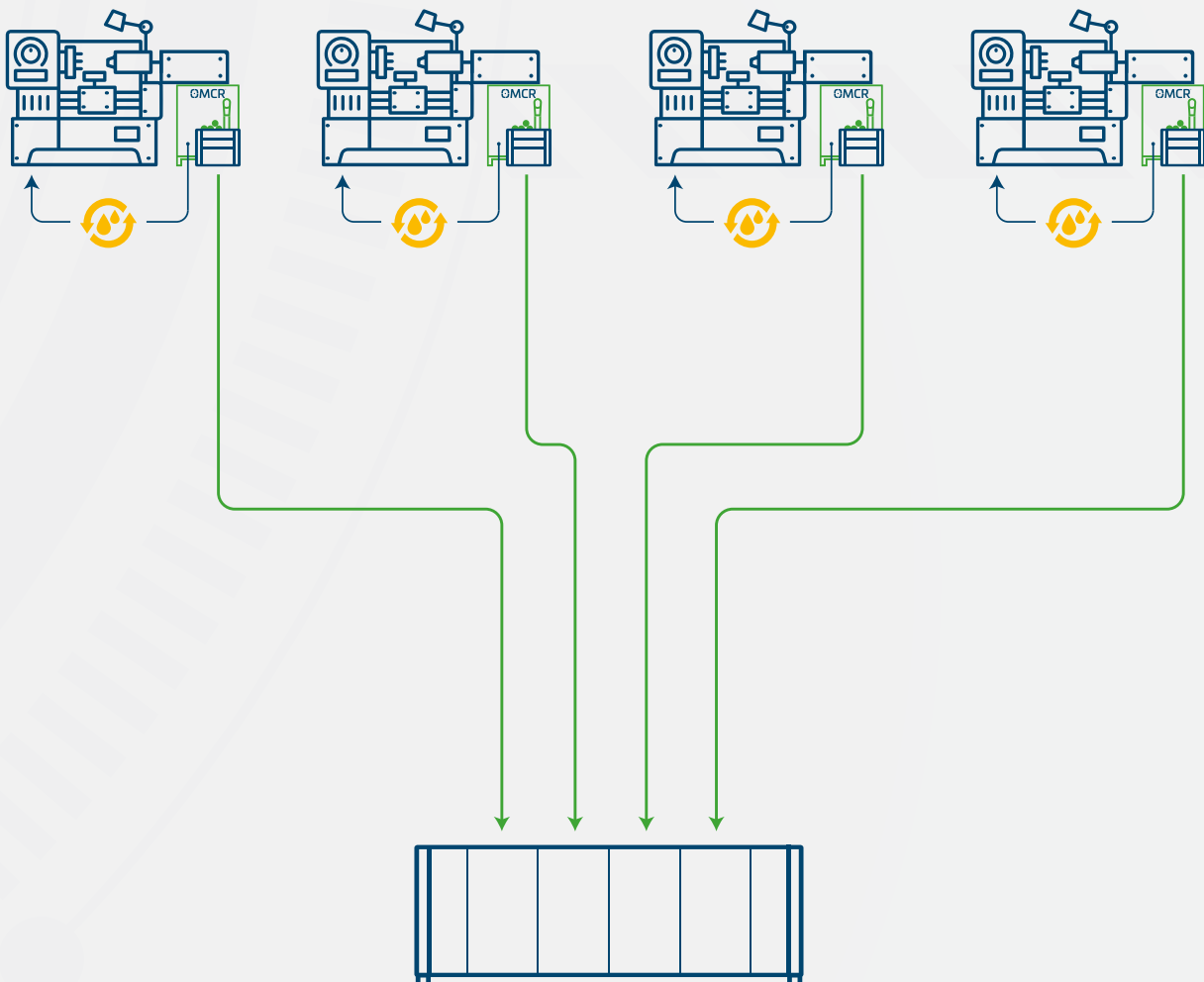
Best solution for machining center with a large daily output of swarf, with economic benefits in the medium term and a radical reduction of swarf bin handling in the factory. It completely eliminates the problem of managing residual cooling lubricant.

Advantages

- Reduction of handling up to 8 times
- Ideal for unmanned automated production
- Elimination of the problem of managing residual cooling lubricant
- Independent solution for greater reliability

Disadvantages

- Higher initial investment
- Greater local space occupation



CENTRALIZED

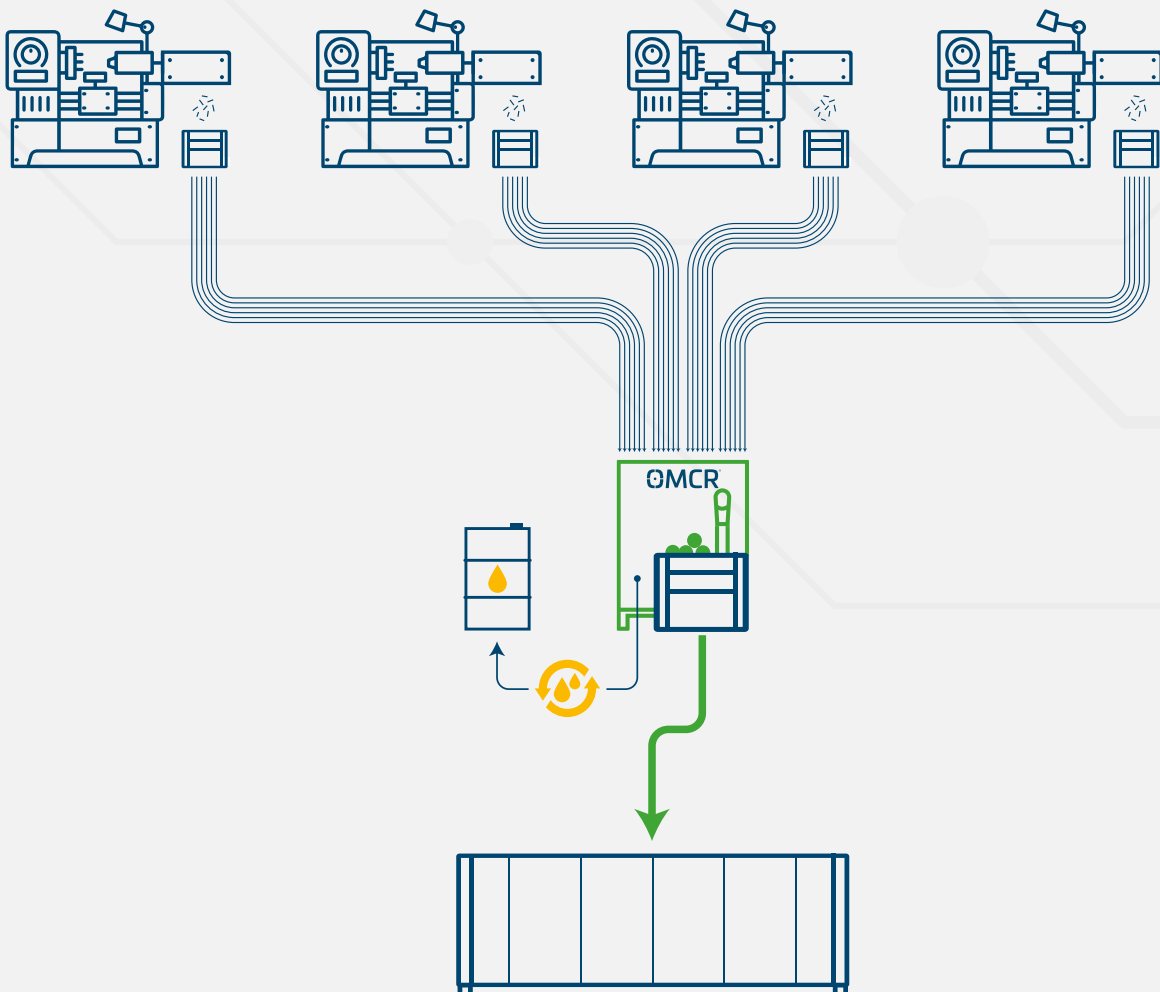
Solution with lower initial investment, ideal for plants with narrow spaces. Efficient handling of residual cooling lubricant.

Advantages

- Lower investment
- Ideal for plants with narrow space
- Efficient management of residual cooling lubricant
- Higher compression force

Disadvantages

- Limited efficiency in the reduction of handling
- Parameters not adaptable to the single type of machining



STAND-ALONE SOLUTIONS

Due to their adaptability, BSH briquetting machines are ideal to serve stand-alone machine tools with chip production up to 110 kg/h.

The optional anti-accumulation mixer, with hardened steel blades, ensures high and constant performance over time.



OPTIONS



MANUAL LOADING



ANTI-ACCUMULATION MIXER



BOOSTER

TECHNICAL CHARACTERISTICS

Model	BSH100				BSH120	
Briquette diameter [mm]	56		70		70	90
Hourly capacity - Steel / Cast iron [kg/h]	40		60		60	110
Hourly capacity - Aluminum [kg/h]	25		40		40	70
Briquette density performance	STANDARD	BOOSTER	STANDARD	BOOSTER	BOOSTER	
Compaction force [t]	25	37	25	37	62	
Compaction pressure [kg/mm ²]	10	16	7	10	16	10
Hydraulic pressure [bar]	200				158	
Hydraulic unit capacity [l]	75				100	
Dimensions - l x p x h [mm]	1090 x 630 x 1440				1180 x 750 x 1660	
Electric power installed [kW]	3				5,5	
Hydraulic unit maximum distance [mm]	3000				3000	
Weight [kg]	500				890	



CENTRALIZED SOLUTIONS

Centralized BSH briquetting machines allow the processing of large volumes of chip, due to the capacity of the hopper up to 1.3 m³.

The optional anti-accumulation mixer, with hardened steel blades, ensures high and constant performance over time.



OPTIONS



AUTOMATIC LOADING



ANTI-ACCUMULATION
MIXER



BOOSTER

TECHNICAL CHARACTERISTICS

Model	BSH100				BSH120	
Briquette diameter [mm]	56		70		70	90
Hourly capacity - Steel / Cast iron [kg/h]	40		60		60	110
Hourly capacity - Aluminum [kg/h]	25		40		40	70
Briquette density performance	STANDARD	BOOSTER	STANDARD	BOOSTER	BOOSTER	
Compaction force [t]	25	37	25	37	62	
Compaction pressure [kg/mm ²]	10	16	7	10	16	10
Hydraulic pressure [bar]	200				158	
Accumulation volume [m ³]	75				100	
Hydraulic unit capacity [l]	1				1,3	
Dimensions - l x p x h [mm]	1800 x 1350 x 1380				1900 x 1450 x 1590	
Electric power installed [kW]	3				5,5	
Hydraulic unit maximum distance [mm]	3000				3000	
Weight [kg]	500				890	



AUTOMATIC LOADING SOLUTIONS

The combination of the BSH centralized solution and the AOT tipper for automatic loading, allows efficient management of the chip produced by multiple machine tools. Ideal solution for the management of chip produced by a set of headstock lathes. Maximum tipping capacity 200 kg.



OPTIONS



CONTAINER WITH WHEELS



ANTI-ACCUMULATION MIXER



BOOSTER

TECHNICAL CHARACTERISTICS

Model	BSH100				BSH120	
Overturning maximum height [mm]	1700					
Overturning maximum weight [kg]	200					
Briquette diameter [mm]	56		70		70	90
Hourly capacity - Steel / Cast iron [kg/h]	40		60		60	110
Hourly capacity - Aluminum [kg/h]	25		40		40	70
Briquette density performance	STANDARD	BOOSTER	STANDARD	BOOSTER	BOOSTER	
Compaction force [t]	25	37	25	37	62	
Compaction pressure [kg/mm ²]	10	16	7	10	16	10
Hydraulic pressure [bar]	200				158	
Accumulation volume [m ³]	75				100	
Hydraulic unit capacity [l]	1				1,3	
Dimensions - l x p x h [mm]	2900 x 2200 x 3840				3000 x 2200 x 3840	
Electric power installed [kW]	3				5,5	
Hydraulic unit maximum distance [mm]	3000				3000	
Weight [kg]	500				890	



COMPACTION AREAS

The BSH compaction area is an innovative solution which allows waste management in compliance of the environment; ideal solution for machine tools with low chip production. Solution designed for ergonomic manual loading.



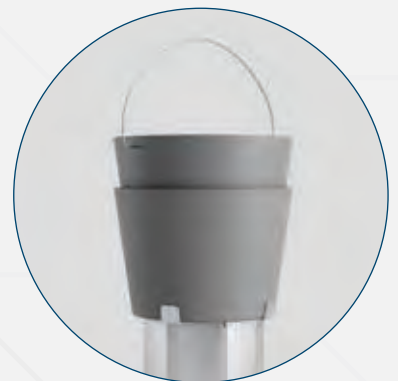
OPTIONS



OPENABLE BOTTOM BOX



TRAY



HIGH/LOW SWARF UNLOADING KIT

TECHNICAL CHARACTERISTICS

Model	BSH100			
Briquette diameter [mm]	56		70	
Hourly capacity - Steel / Cast iron [kg/h]	40		60	
Hourly capacity - Aluminum [kg/h]	25		40	
Briquette density performance	STANDARD	BOOSTER	STANDARD	BOOSTER
Compaction force [t]	25	37	25	37
Compaction pressure [kg/mm ²]	10	16	7	10
Hydraulic pressure [bar]	200			
Hydraulic unit capacity [l]	75			
Dimensions - l x p x h [mm]	1370 x 910 x 960			
Electric power installed [kW]	3			
Hydraulic unit maximum distance [mm]	3000			
Weight [kg]	3000			



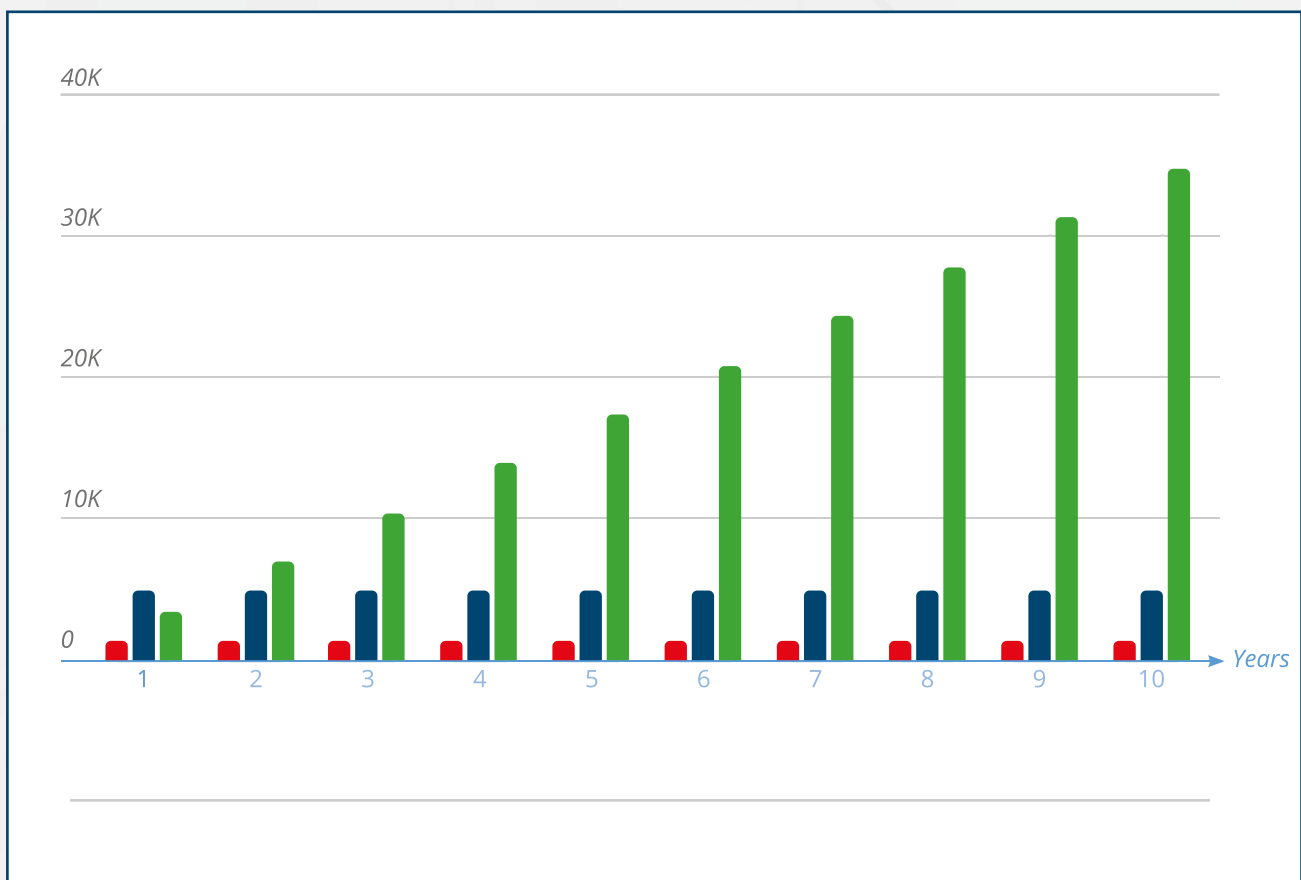
FINANCIAL GRAPHS

Economic benefit

We have calculated the economic benefit of the briquetting machine taking, as an example, a horizontal machining center, considering two work shifts, steel material, mixed drilling and milling processes using cooling lubricant .

In this example, we can see the economic advantage calculated over 10 years, net of costs for less maintenance and the machine cost spread over the years.

The graph shows how the economic advantages due to the saving of cooling lubricant recovered and the reduced swarf bin handling result in **cumulative savings of more than €30,000 in 10 years.**



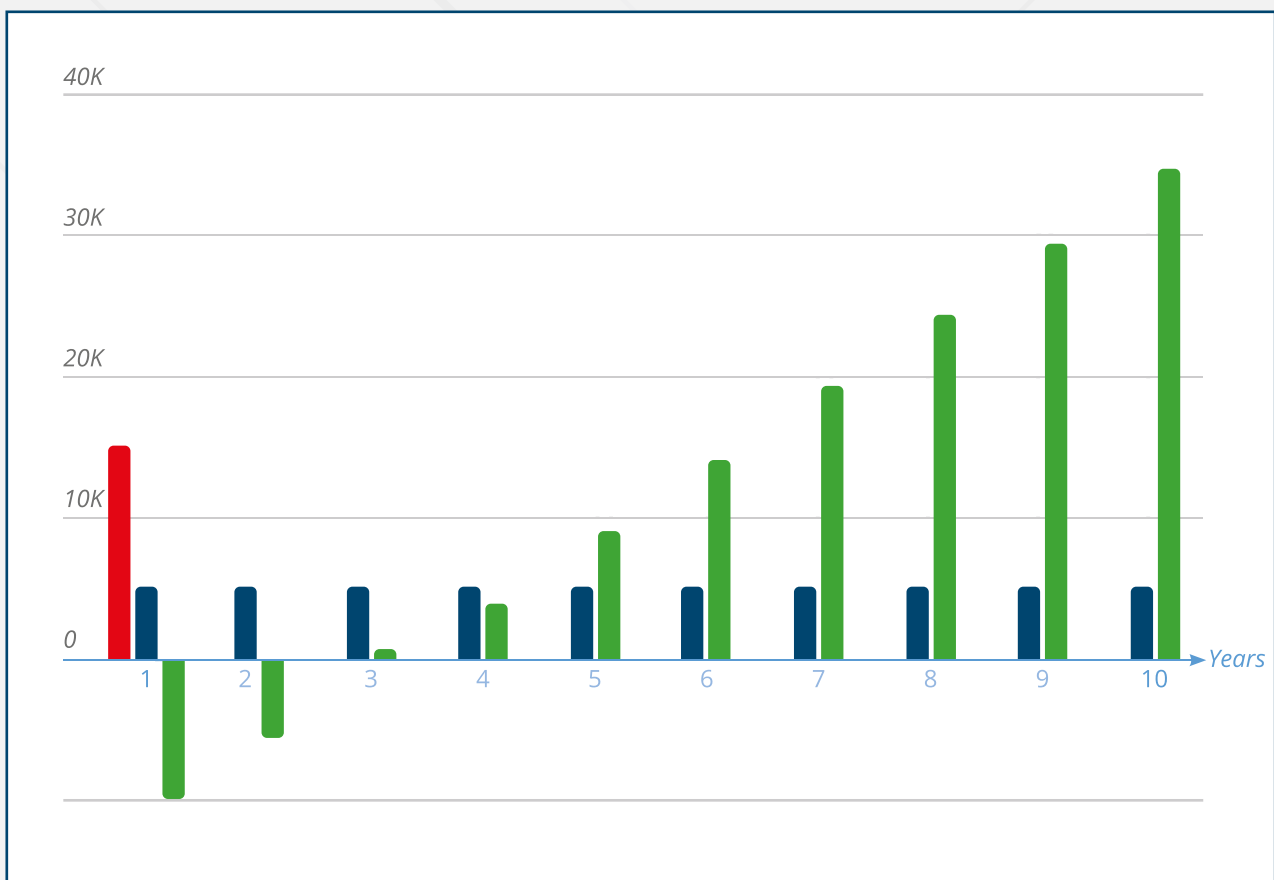
■ Cost ■ Annual benefit ■ Economic advantage

Payback period

This second graph shows the payback period and subsequent savings on the same machining center over a period of 10 years.

The graph shows how the machine pays for itself **within a period of little more than 24 months**.

N.B. in many cases the calculations can be more favourable, depending on the type of material machined, the cost of the cooling lubricant used and the number of hours worked.



■ Cost ■ Annual benefit ■ Economic advantage

INDUSTRY 4.0

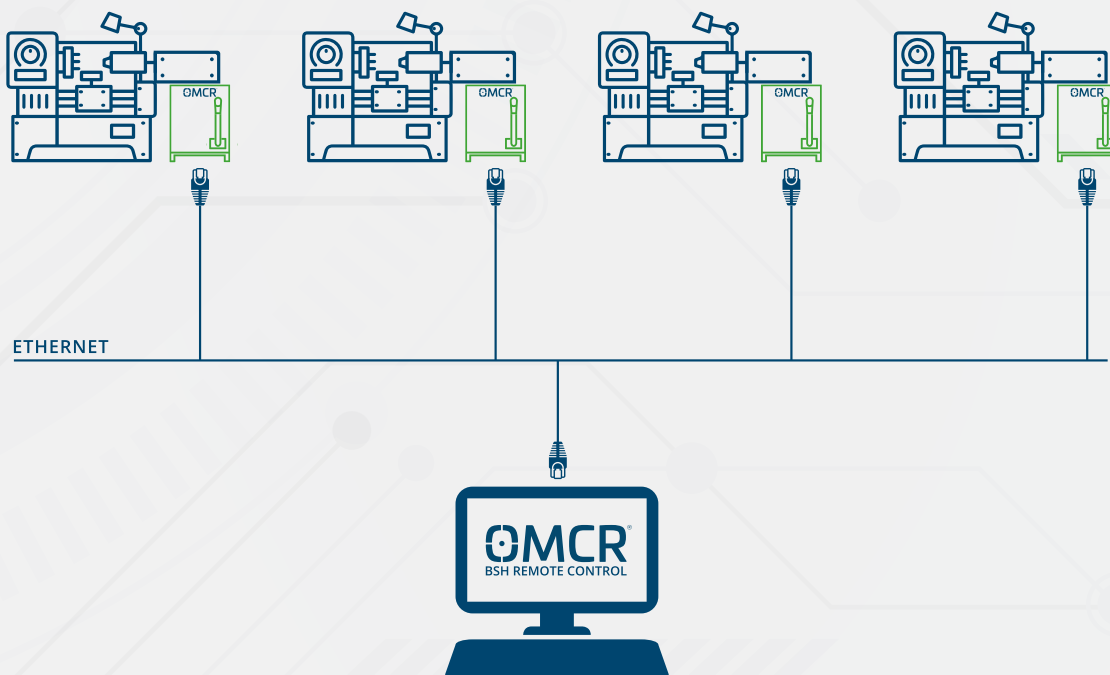
OMCR BSH briquetting machines meet the requirements to access the tax breaks in the countries where it is provided.

The OMCR briquetting machine have a user-friendly Siemens control panel that enables the operator to modify the machine parameters, check the diagnostics, view the production status, plan shutdown and manage the control of full swarf bin.



Control panel - detail

With our **“BSH Remote Control”** management software, the briquetting machines can be connected in a network so that it’s possible to check the operating status and to monitor the briquetting machines installed in the company, all at the same time.



BSH REMOTE CONTROL

The OMCR software can manage up to thirty briquetting machines in the network, showing the status of each individual unit on a user-friendly control panel.

StandBy Attivo	Ciclo In Marcia	Ciclo In Marcia	Ciclo In Marcia	StandBy Attivo	Ciclo In Marcia
B5H001	B5H002	B5H003	B5H004	B5H005	B5H006
Ciclo In Marcia	Ciclo In Marcia	Ciclo In Marcia	StandBy Attivo	StandBy Attivo	Ciclo In Marcia
B5H007	B5H008	B5H009	B5H010	B5H011	B5H012

Control panel - operating status of the briquetting machines

From the control panel, the operator can access each individual machine to view and personalize the operating parameters.

The available functions are:

- check the diagnostics, view production status, plan shutdown and manage control of full swarf bin;
- update the working parameters by loading personalized “recipes” on each individual machine;
- export production reports;
- plan scheduled shutdowns;
- obtain an instantaneous diagnosis of the briquetting machines status and autonomously signal a full swarf bin or a breakdown by means of an e-mail.

The screenshot displays the control panel for machine BSH009, divided into several sections:

- Stato Macchina:** Shows the machine is in 'Automatico' mode. The 'Ciclo In Corso' indicator is active, and the 'Progresso Ciclo Automatico' is at 93%. A 'STOP CICLO' button is visible at the bottom.
- Stato Produzione:** Displays production statistics:
 - Cicli Totali: 15993
 - Cicli Falliti: 9924
 - Tempo Ciclo Sec.: 6000.00
 - Cicli Lanciate Pieno: 5279
 - Peso Totale Prodotto: 1777.2
 - Peso Rimane Prodotto: 1777.2
- Opzione Spegnimento Macchina:** Shows the date and time for the next scheduled shutdown: 2022/08/14 14:48.
- Parametri Funzionamento:** A list of adjustable parameters for the recipe (Ricetta No. 1):
 - Nome: OMCR
 - Tempo Riduzione Quarta Sec.: 5.0
 - Tempo Riduzione Ammassa Sec.: 1.0
 - Numero Cicli Compattazione: 2
 - Tempo Compattazione Avanti Sec.: 4.3
 - Numero Cicli Riposa di Standby: 3
 - Tempo di Standby Sec.: 180
 - Rendimento Kg Per Prodotto: 8.3

Control panel - working parameters

SUSTAINABLE DEVELOPMENT GOALS



The 2030 Agenda for Sustainable Development is a plan of action for people, the planet and prosperity that comprises 17 Sustainable Development Goals that tackle a wide range of economic and social development issues: poverty, hunger, the right to health and education, access to water and energy, work, inclusive and sustainable economic growth, climate change and protection of the environment, urbanization, production and consumption patterns, social and sexual equality, justice and peace.

OMCR's daily commitment to sustainability is reflected in the following goals:

To build resilient infrastructure, to promote inclusive and sustainable industrialization and promote innovation



To guarantee sustainable production and consumption patterns



The use of ecofriendly methods of production and reduction of the waste that we produce are included in goal no. 12.

Starting from 2030, the national recycling rates indicated by the tonnes of material recycled should increase. Companies should also adopt sustainable business practices and publish sustainability reports.



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INDUSTRIAL SOLUTIONS

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