

Centrifugal casting



The METACONCEPT Group, specialising in the manufacture of tin-based alloys for the production of parts via centrifugal casting processes, has joined forces with NICEM (Italy), the leading European manufacturer of centrifugal casting equipment and elastomers.

This collaboration means that we can offer a range of unique services to our clients:

- ➔ Offering the best alloys on the market;
- ➔ Distributing a range of very high quality elastomers;
- ➔ Supplying all equipment and accessories necessary for designing and creating moulds.

The METACONCEPT Group also has a **technical laboratory** (with a full centrifugal line) where it offers training in the creation of silicone moulds.

This sheet covers equipment used with **centrifugal casting materials**.

Our **centrifugal lines** are designed for the fusion of metal elements (zamak, tin alloys) or polyester resin, with small and medium dimensions, in small and medium quantities.

The benefits of this technology, compared to traditional fusion systems (clay casting, die-casting, micro-fusion, lost wax casting, mechanical casting or gravity casting) are the speed and ease with which the fusion dies (moulds) can be made as well as the extremely straightforward fusion process.

This production technique does not require specialist staff.

With our very diverse range of equipment (dimensions, quantities), we meet the needs of markets such as:

- ➔ Fashion jewellery;
- ➔ Fashion accessories and leather goods;
- ➔ Furniture accessories (door knobs, handles, etc.);
- ➔ Metal or resin figurines;
- ➔ Eyewear;
- ➔ Dental prosthesis;
- ➔ Fishing weights;
- ➔ Various other industries.

Characteristics

A centrifugal line consists of a vulcaniser, a fusion furnace and a centrifuge. Its size is determined by the dimensions of the parts being created and the quantity of parts being produced.

Vulcaniser	Characteristics	Centrifuge	Characteristics	Fusion furnace	Characteristics
P 300 PILOT	Semi-automatic vulcanising machine for the production of silicone and organic rubber (Ø 300 mm maxi)	C 300 PILOT	Centrifuge with a station accepting moulds from 230 mm to 300 mm in Ø	F 50 PILOT	Automatic electric furnace for the fusion of tin and zinc alloys (zamak)
P 400/16" MATIC	Automatic vulcanising machine for the production of silicone and organic rubber (Ø 400 mm maxi)	C 400/16" MATIC or CSE 400SC	Automatic electric centrifuges with a station accepting moulds from 230 mm to 400 mm in Ø	F 80 MATIC F 120 MATIC	Automatic electric furnaces for the fusion of tin and zinc alloys (zamak)
P 400/16" MATIC	Automatic vulcanising machine for the production of silicone and organic rubber (Ø 400 mm maxi)	C 400 MATIC R	Centrifuge with a hot chamber and station (particularly useful for polyester resins) accepting moulds from 230 mm to 400 mm in Ø)	NO	NC
P 400/16" MATIC	Automatic vulcanising machine for the production of silicone and organic rubber (Ø 400 mm maxi)	TRSME 350/3 TRSME 400/3	Semi-automatic electronic centrifuge with 3 stations accepting moulds from 230 mm to 350 mm or 400 mm in Ø, depending on the model of the machine	F 80 MATIC F 120 MATIC	Automatic electric furnaces for the fusion of tin and zinc alloys (zamak)
P 400/16" MATIC	Automatic vulcanising machine for the production of silicone and organic rubber (Ø 400 mm maxi)	TRSE 300/8 – F220 or TRSE 300/8 – F350	Automatic electronic centrifuge with 8 stations accepting moulds from 230 mm to 300 mm or 400 mm in Ø, depending on the model of the machine	F 220 MATIC F 350 MATIC	Integrated furnaces
P 500 MASTER	Automatic vulcanising machine for the production of silicone and organic rubber (Ø 500 mm maxi)	C 500 MASTER	Centrifuge with a station accepting Ø 500 mm moulds (do not use 230 mm moulds)	F 120 MATIC F 220 MATIC F 350 MATIC	Automatic electric furnaces for the fusion of tin and zinc alloys (zamak)
P 700 MASTER	Automatic vulcanising machine for the production of silicone and organic rubber (Ø 700 mm maxi)	C 700/16"	Automatic electronic centrifuge with a station accepting moulds from Ø 500 to 700 mm	F 120 MATIC F 220 MATIC F 350 MATIC	Automatic electric furnaces for the fusion of tin and zinc alloys (zamak)

Additional devices for the centrifugation line

Designation	Characteristics	Use
System – ASP MATIC	Talc suction system	Used when closing the mould to remove surplus talc. Recommended and obligatory, in accordance with occupational health standards
ASP/2 MATIC vacuum	Activated carbon vacuum to purify the smoke	Used when opening the moulds to remove the parts
TRA – MATIC table	Forced air cooling table	Accelerated cooling of rubber dies Used for moulds from 230 mm to 400 mm

Accessories

For silicone vulcanisation, you should use mould boxes from 230 mm to 700 mm, depending on the parts that you are wanting to create. The size of the ladle also depends on the type of parts that you are going to produce.

Have you defined the type of application? [Contact us](#), as our staff will be happy to assist you in deciding which equipment and materials to choose.

Applications

Application	Uses	Characteristics
PILOT casting line	Economical, suitable for the production of small quantities, dimensions and sizes	For application in the areas of dental prosthesis, figurine manufacture, eyewear, etc.
400 series casting line	Economical, suitable for the production of small and medium quantities and dimensions	80% of casting lines are equipped with a 400 series either in a manual or semi-automatic line
500 series casting line	Suitable for the production of small and medium quantities, for medium or large parts	Used in areas such as furniture, leather accessories and manufacturing, decoration, various electrical and mechanical applications.
700 series casting line	Suitable for the production of small and medium quantities, for medium or large parts	Used in areas such as furniture, leather accessories and manufacturing, decoration, various electrical and mechanical applications.

The semi-automatic TRSME and automatic TRSE centrifuges have been specially designed for high volume productions (series greater than 20,000 pieces). They can be used for applications such as costume jewellery, key rings and in the engineering industry.

Implementation

The product safety datasheet below is available upon request to the METACONCEPT Group.

The implementation process is specific to the chosen medium (metal or polyester resin) and the characteristics of the part being produced, [The METACONCEPT Group's technical department](#) will advise you on which silicone to choose and the appropriate implementation procedure.

Precautions for use

To prevent burns caused by the molten metal, it is advisable to wear a protective apron, shoes, gloves, helmet and glasses.

Do not smoke at the workstation.

The workstation must be well ventilated.

Wash your hands when leaving the workstation.

Comments:

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