BMS
Manufacturer for the plastic industry
MANUFACTURER FOR THE PLASTICS INDUSTRY FOR 15 YEARS

Removable tip nozzle, Internally heated nozzle,
Mixing nozzle, Filtration nozzle,
Shut-off nozzle, Screw tip,
Screw, Barrel, End cap.
Located in the heart of Europe a few kilometers between Geneva and Lyon, we have a large production area with brand new CNC machines.

We manufacture any kind of injection molding nozzles, screw tips,... For each type of injection molding machine our products are tailored to your specific needs especially regarding wear, corrosion resistance or to solve lamination problems: our engineers design the best components to meet your requirements.

All of our manufactured products are fully exchangeable with original genuine parts of all IMM.
Removable Tip Nozzles

Significant savings made in comparison to traditional nozzles.

Equipped with spare removable tips with rear threading adaptable to all machines from 7/8”-14” including other nozzle tips.

General purpose
Style A

Standard free passage design for general use.
- Minimal flow resistance and reduced back pressure.
- Standard diameter Ø 12,7 mm or custom made.

Nylon reverse taper
Style B

Adapted for molten plastics in particular polyamides, acrylics and other high cost and heat sensitive substance.
Melt flows through a 3mm channel into a reversed cone assuring clean extraction and the absence of burrs.

Full taper ABS
Style C

For use with high viscous melt including ABS, PVC.
Assures unhindered flow of melt and mitigates overheating.

Download the template from www.bmsfrance.eu
NOZZLES WITH REMOVABLE TIPS

REMOVABLE TIPS
4 lengths available
38, 70, 95 and 127 mm
Internally heated nozzles

Designed for recessed or restricted sprue application where space is not sufficient to accept the use of traditional heater elements, such as mica heaters. Our nozzles come with spiral heater elements with thermocouple.

Advantages

- Strong heating power
- Adjustable heating distribution
- Integrated heating-element regulation
- Heating elements protected against material projection.

Solid nozzles

Chrome vanadium treated steel for prolonged life. Tailor made specifications including sintered and cupronickel steels with increased thermal conductivity with “hard” finish for improved duration.

Standard design as well as custom made for all markets. “Design” made of ABS Nylon etc.

Our nozzles are quality controlled as well as being highly polished for high performance.
INTERNALLY HEATED NOZZLES with incorporated thermocouple
Mixing nozzles

Two methods exist using static mixers with high performance homogenization. Maintenance is facilitated as there are no moving parts in the nozzles. Filters and shut off devices can be fitted to the components.

Two standard versions exist:
- ISOMIX model
- XPS model

- Broad dispersion power.
- Savings in dry colouring and color concentrations.

Filtration Nozzles

Adapted for moulds using regrind / polluted products or for use with hot channels where high quality filtration is essential.

Eliminates efficiently fusion defects/ foreign particles (metal and other) protecting equipment. Filters models include:

- Filter discs
- Cylindrical trap filters TPF
- BMF filters

Download the template from www.bmsfrance.eu
MIXING NOZZLES with elements of the ISOMIX type

CYLINDRICAL TRAP FILTER

FILTRATION NOZZLE with forced passage

XPS TYPE ELEMENTS

FILTER DISCS & end filters

ISOMIX TYPE ELEMENTS

FILTRATION ELEMENTS BSEF type
Shut-off nozzles
Type SES

Spring activated shut-off nozzle destined for use of low viscosity melt including PA, PP, PPS, PE, POM, etc. Uses include packaging, in the automotive, medical and electronic industries.

Three models exist

- SES10 (for 500 cm³/sec with PS, Ø screw <30 mm, orifice max. 4 mm)
- SES20 (for 1500 cm³/sec with PS, Ø screw 20 - 60 mm, orifice max. 7 mm)
- SES30 (for 3500 cm³/sec with PS, Ø Vis 50 - 120 mm, orifice max. 11 mm)

Shut-off nozzles
Type SEP

Hydraulic or pneumatic permanently controlled nozzles avoid loss of pressure. The opening and closure processes are performed by a hydraulically or pneumatically controlled actuator.

Three models are available

- SEP10 (for 500 cm³/sec with PS, orifice max. 4 mm)
- SEP20 (for 1500 cm³/sec with PS, orifice max. 7 mm)
- SEP30 (for 3500 cm³/sec with PS, orifice max. 11 mm)

Download the template from www.bmsfrance.eu
INTERNAL SPRING SHUT-OFF NOZZLES
Type S

SHUT-OFF NOZZLES CONTROLLED BY ACTUATOR
Type P
Screw Tips, Steels and Coatings

BMS’s engineering research and development department design and manufacture screw tips which are tailor made for injection equipment in the market.

**TYPE A**
Nitrided steel.
For conventional non-abrasive and non-corrosive applications.
Hardness \( \geq 1000 \) HRC

**TYPE E3**
High Strength Bimetallic
The screw tips are designed with a stellite insert providing 62 HRC hardness or back of the flutes:
- Extends life of component.
- Improved melt flow.

**TYPE E4**
Very great strength. Made of steel from powder metallurgy; specially designed for ultra-abrasive and/or corrosive materials.
Best compromise to provide a sustainable solution to the problems of wear and corrosion caused by technical materials.

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Coatings

- CrN coating
- CrN mod. coating
- TiN coating
Screw tips
Standard

COMPLETE SCREW TIPS
Free flow designs

APPLICATIONS
Ideal for most moulding applications. Designed to improve yields.

ADVANTAGES
- Manufactured from premium quality materials.
- Free passage, improved flow and consistency with enhanced yields.
- 3 component screw tip design enables components to be replaced individually.
- Available in 4 fin model or in accordance with manufacturer’s specifications.
Screw tips - Specific

**Type D - PVC tips**

**APPLICATIONS**
- Rigid PVC or fluoropolymers.
- High viscosity melt with low shearing tolerance, screw tips equipped with 3 or 4 parts.

**ADVANTAGES**
- Reduced corrosion.
- Minimal friction produces quality output.
- Adaptable to all IMM.

**Lawson type with serrated ring**

**APPLICATIONS**
General use or specific to technical materials.

**AVANTAGES**
- No speed between ring and retention system.
- Large choice of construction materials.
- Good reproducibility of injections.
- Flow duct is adaptable to a wide range of resins.
- Adaptable to all IMM.
**LAWSON TYPE WITH SERRATED RING**

Minimise the risk of breakage for thermoset and other highly viscous plastics.

**THERMOSET SCREW-TIP-SET**

Minimise the risk of breakage for thermoset and other highly viscous plastics.

**VKS SCREW-TIP-SET**

Shut off quickly and has little wear because of its specific geometry.
Screw tips - Specific

**VIP Mixer**

**APPLICATIONS**
- Injection machines with limited pressures
- Polymers with reduced stagnation time

**AVANTAGES**
- Very good mixing qualities
- Easy installation
- Little loss of pressure
- Excellent self-cleaning capability
- All injection pressure remains available
- No idle time
- Very quick return on investment
- Adaptable to all types of IMM.

**Standard free-ball shut-off tips**

**APPLICATIONS**
- All materials based on polyolefin greater than 8 mi
- Polystyrene
- LSR

**AVANTAGES**
- Easy and inexpensive maintenance.
- The internal ball system is designed for a quick and easy flow, providing a very good flow of material.
- Adaptable to all types of IMM.
VIP MIXER

STANDARD FREE-BALL SHUT-OFF TIPS

DIAGONAL BALL SCREW-TIP-SET
Reduce the flow-cross-section.
Suitable for plastics with low viscosity.
### STEELS & TREATMENTS

<table>
<thead>
<tr>
<th>Steel/Treatment</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>D2</strong></td>
<td>Tempered steels for work in a corrosive environment. Abrasion resistant. Increases resistance to abrasion. Hardness: 55 to 58 HRC.</td>
</tr>
<tr>
<td><strong>NPR1/CPM 9V</strong></td>
<td>Steel resulting from powder metallurgy. Very good resistance to abrasion. Little resistance to corrosion.</td>
</tr>
<tr>
<td><strong>AISI4140</strong></td>
<td>Basis steel treated DIN42CrMo4. Work in high temperature environment (450°C). Surface treatment improving resistance to abrasion, economical.</td>
</tr>
<tr>
<td><strong>Nitralloy 135M</strong></td>
<td>An alloy of aluminium, molybdenum and chromium, which can be treated to develop its physical resistance and then nitrided to obtain very great hardness. The best protection for the tops of threads.</td>
</tr>
<tr>
<td><strong>INOX 17-4PH</strong></td>
<td>For materials that are of medium corrosiveness, with or without surface treatment. Approves the abrasion resistance of thread bases.</td>
</tr>
<tr>
<td><strong>INCONEL</strong></td>
<td>Used for corrosive fluoropolymers, and for rigid and flexible PVC. Exclusively for sleeves lined with B306 and bimetallic sleeves using B800.</td>
</tr>
</tbody>
</table>
Screws

DO YOU WANT TO IMPROVE YOUR PROCESS?
LET’S TALK ABOUT PROFILES!

What type of screw?
- Nitrided
- Fully hardened
- Armoured
- Surface treatment with chrome/Nickel
- Specific coating

Most of the screws are made using chrome alloy steel HT (AISI 4140), nitriding steel or stainless steel. Special corrosion-resistant alloys are also available.

For each type of screw, we can advise you on a specific profile according to the material processed and its processing conditions.

Our engineers are also available to advise you on the choice of steels and treatments.

THE TREATMENTS
- Increases the service life of the screw.
- Effective against corrosion.
- Against abrasion and excessive wear.

What geometry?
What flight height?
- Single
- Double flight
- Barrier...

The thread sides remain in the base material

Treatments used for the tops of the threads
## STEELS

<table>
<thead>
<tr>
<th>Steel Code</th>
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<th>Composition</th>
<th>Advantages</th>
<th>Major Elements</th>
<th>Hardness</th>
</tr>
</thead>
<tbody>
<tr>
<td>B102</td>
<td>For general use</td>
<td>Alloy enriched with nickel boron-iron</td>
<td>• Very good quality / price ratio for injection or extrusion of polymers with little or no charge • Good thermal stability</td>
<td>Fe, Ni, C, B</td>
<td>58-64</td>
</tr>
<tr>
<td>B200</td>
<td>Resistant to wear</td>
<td>Boron-iron alloy highly enriched with chromium</td>
<td>• Good resistance to abrasion and corrosion</td>
<td>Fe, Cr, Ni, Mo, B</td>
<td>64-69</td>
</tr>
<tr>
<td>B306</td>
<td>Very good resistance to corrosion</td>
<td>Nickel/cobalt alloy, one of the alloys most resistant to corrosion</td>
<td></td>
<td>Co, Ni, Cr, B, (Mo)</td>
<td>48-54</td>
</tr>
<tr>
<td>B800</td>
<td>The undisputed leader</td>
<td>Particles of tungsten carbide uniformly dispersed in a matrix made of corrosionresistant nickel alloy</td>
<td>• Essential for highly abrasive materials, such as those &gt; 35%</td>
<td>Ni, W, Cr, C, B</td>
<td>58-65</td>
</tr>
</tbody>
</table>
Barrels

In order to adapt to the requirements of different processes and materials, 4 types of bimetallic barrels are available with different combinations and levels of resistance to abrasion and corrosion.

Unlike many manufacturers, we can supply long barrels, longer than 6.1 m.

Barrel nitrided upon request

End caps

Made of steel treated for a maximum service life... also available in high-strength steel for use with charged materials.

For all models or brands of machine. Manufactured on digitallycontrolled machines, from our plans produced on CAD software to ensure perfect compliance with tolerances and optimal material flow. EN19 or H13 steel, as well as high-strength steel for maximum resistance to abrasion and wear.

We guarantee you that you will not find better quality, prices or service.