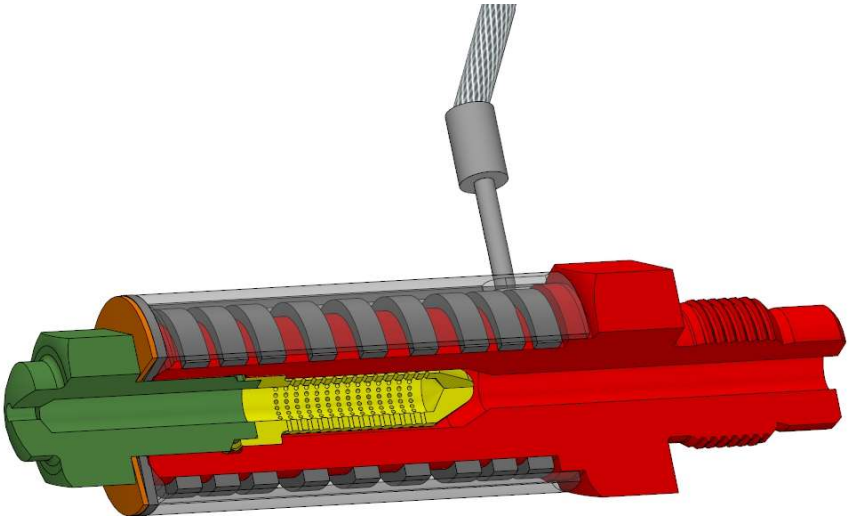
Nehlep & Schmidt GmbH

Your partner
for everything to do with
injection moulding cylinders



heated nozzle with sieve insert

all you need

Contents

If you have not found what you are looking for, just give us a call.

Your partner for everything to do with injection moulding cylinders all you need

Nozzle tip

An open, short nozzle tip is the basic requirement. In using this, the melted plastic flows into the mould cavity through a permanently open hole. This is the best way of reducing pressure loss, malfunctions and localised material disintergration (in principle there is always friction in the gate system area).

On opening the tool, the gate system pulls down the mould casing. Ensure that the chosen outlet areas not too large, as the material must cool down on the mould casing.

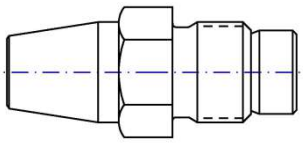
As rule of thumb, the following is valid for the nozzle hole dimensions:

Nozzle hole should be approx 0.5 – 0.1 mm smaller than the gate system hole

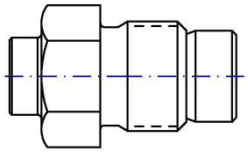
However, with plastics of low viscosity or with a tendency to stringing, our spring cap nozzles – large spring cap nozzle EN 47 (page 25) or spring cap nozzle EN 37 (page 23) or the small spring cap nozzle EN 40 (page 21) must be used. This also applies for vertical alignment of the spraying unit.

When using long nozzles, the plastic material must be heated. This can be done using our heated nozzle EN 38 (page 4) or our heated nozzle EN 48 (page 6) with coiles tube cartridge. This prevents the formation of solidified sureface layers. This means that the floe cross-section and the colour change are not affected.

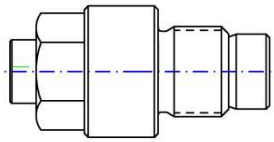
A heat sensor is required in the immediate proximity of the material flow in the nozzle spraying area in order to be able to set an optimum processing temperature. We can offer you an underlay sensor, a screw-in-sensor, or a sensor integrated into the nozzle heating band / coiled tube cartridge (page 27 / page 28).



own construction
nozzle tip for Arburg
length 40 mm



standard
nozzle tip for Arburg
length 20 mm



standard
nozzle tip for Arburg
length 40 mm or 60 mm

Nozzle tips can also be produced according for all machine producers or to customer specifications. We will be happy to produce them based on your sketches, designs or samples.

We can deliver standard nozzle tips for machines form manufactures from stock.

Heated nozzle EN 38

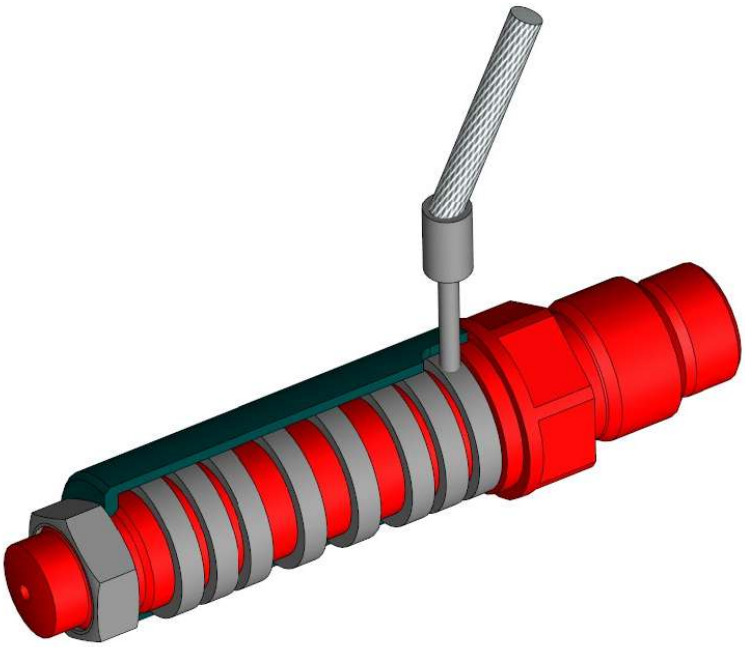
The heated nozzle has been specially designed for use in small tool spaces. The extremely small external diameter provides optimum heat distribution right to the tip of the nozzle. The heated nozzle has an integrated coiled tube cartridge with a thermocouple. The connection to the coiled tube cartridge can be positioned individually at each point.

We can also provide the corresponding regulating device on request.

Additional heating/heat sensors are not required in the immersion area.

All parts of the robust construction are exchangeable parts and can be supplied as individual components.

The heated nozzle extends the use of your injection moulding machine (it is also suitable for older machines), and can alternatively be supplied with an outer diameter of 20mm or 25mm.



The heated machine nozzle can be produced to your specifications (nozzle radius, nozzle hole, screw in thread) for all kinds of machines.

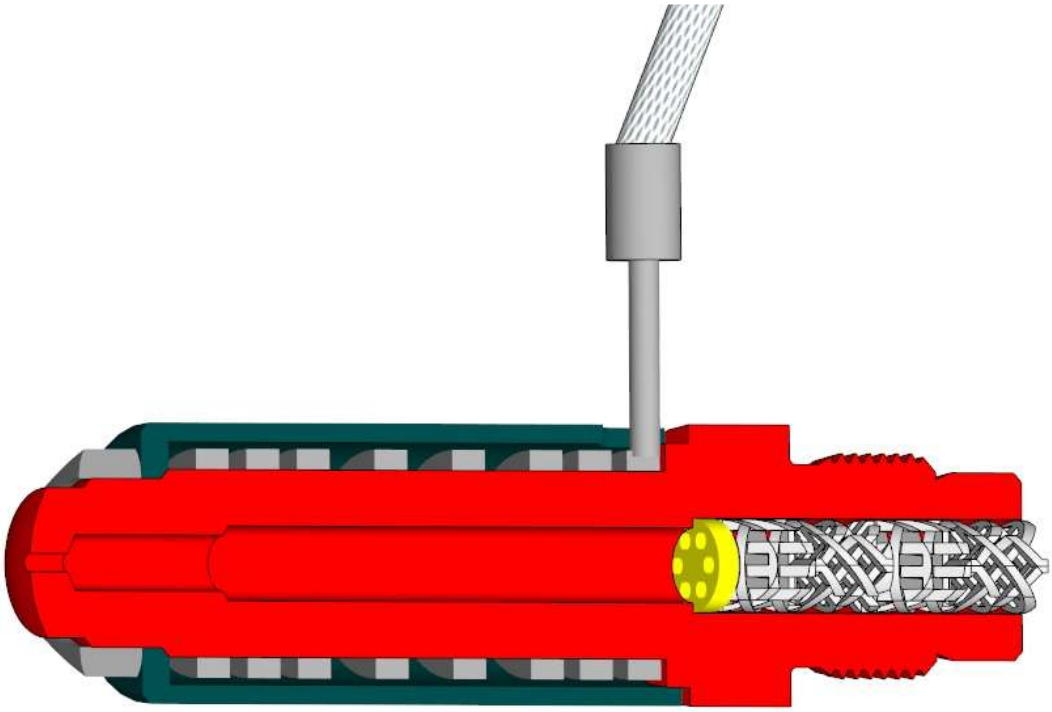
Heated nozzle, complete with coiled tube cartridge and integrated sensor, ready for installation

Heated nozzle EN 83 with mixer rod

The heated machine nozzle EN 83 with mixer rod is specifically designed for use in deeper gate system casing applications. It comes in a range of extremely small outer diameters - Ø 20 mm, Ø 25 mm and Ø 30 mm. The maximum immersion depth to the tool is 75 mm. The heated nozzle has an integrated coiled tube cartridge with a thermocouple, which is protected by casing. The connection to the coiled tube cartridge can be positioned individually at each point.

The integrated mixer rod is suitable for evening out minor inhomogeneities such as flecks or stripes of colour or clouding, as well as uneven temperature distribution in the plastic melt and poor integration of regrind. The mixer rod has a diameter of 9.9 mm and is 40 mm long. The mixer rod is suitable for use in injection moulding machines up to approx. 150 tons clamp force.

We can manufacture the heated nozzle EN 83 with mixer rod with a nozzle radius, bore radius and connection thread to meet your requirements, for all brands and machine types.



Heated nozzle EN 83 including casing with coiled tube cartridge integrated sesor and mixer rod

Heated nozzle EN 84 with decompression function

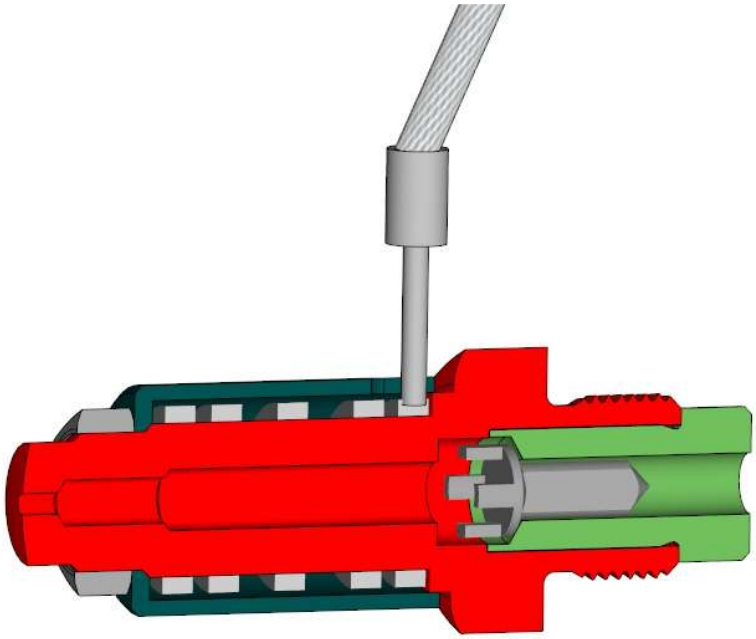
The heated machine nozzle EN 84 with decompression function is specifically designed for use in deeper gate applications. It comes in a range of extremely small outer diameters - Ø 20 mm, Ø 25 mm and Ø 30 mm. The maximum immersion depth to the tool is 75 mm. The heated nozzle EN 84 with decompression function has an integrated coiled tube cartridge with a thermocouple, which is protected by casing. The connection to the coiled tube cartridge can be positioned individually at each point.

The integrated decompression function (retraction function) prevents dripping from thermoplastics after the spraying processes are complete. This means the workplace remains clean and the decompression nozzle prevents the loss of material.

At the start of the spraying process, the screw is driven up and the nozzle opens so that the material can escape. After the end of the process, the screw is drawn back and the nozzle therefore closes again.

For the decompression function to operate, the screw must be withdrawn.

We can manufacture the heated nozzle EN 84 with decompression function with nozzle radii, bore radii and connection threads to meet your requirements, for all brands and machine types.



Heated nozzle EN 84 with decompression function including casing with coiled tube cartridge and integrated sensor.

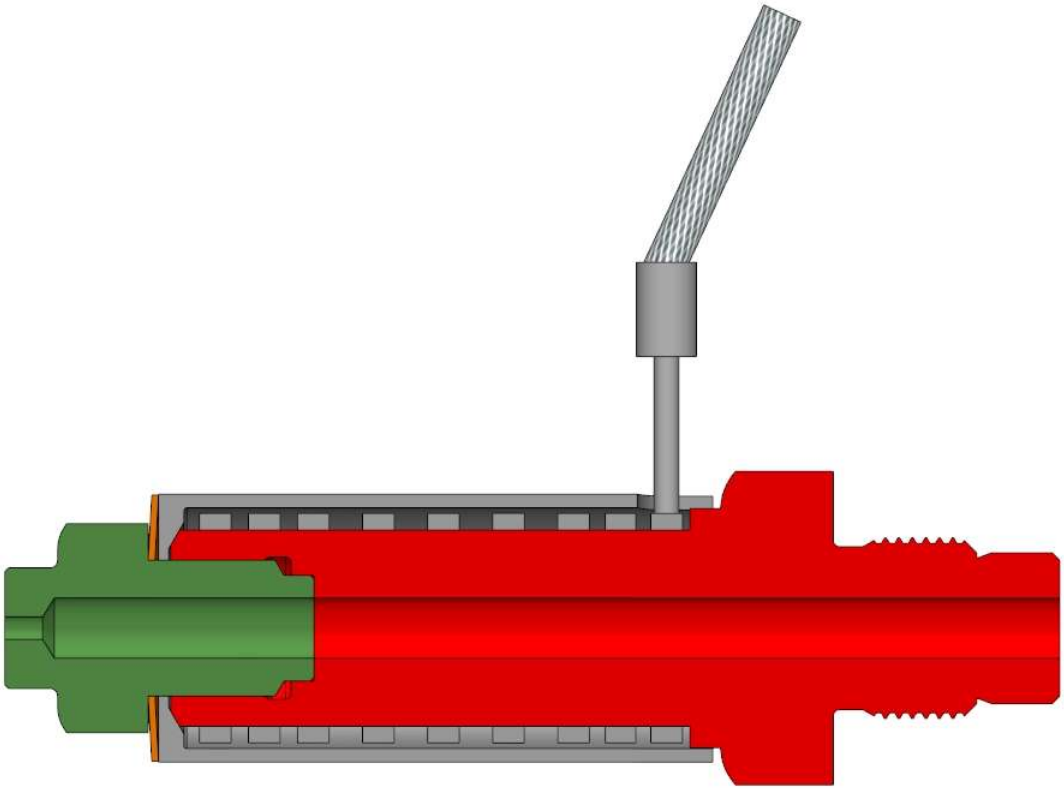
Heated nozzle EN 49 with interchangeable nozzle tip

The EN 49 heated machine nozzle is designed for use in deeper gate system casing in tools. The nozzle tips are interchangeable so that the heated nozzle EN 49 can be used in the gate system casing with as many different tools of varying radii as possible. The nozzle tips can be ordered as individual components to suit your specifications (nozzle radius, nozzle hole).

A coiled tube cartridge with an integrated thermocouple and a power of 650 watts/230 volts provides a constant melting temperature. The coiled tube cartridge is **not** firmly cast and can therefore be replaced quickly. In addition, the cable outlet can also be positioned next to any of the EN 49 heated nozzles.

A casing with a diameter of 35.5 mm sealed onto the nozzle tip protects the coiled tube cartridge from over-spraying and other mechanical effects. The maximum immersion depth into the tool is 85 mm.

We produce the connection thread of the EN 49 heated nozzle for all brands and models of machine, and can also produce them to meet your requirements.



Heated nozzle EN 49 including casing with coiled tube cartridge and integrated sensor, and an interchangeable nozzle tip

Heated nozzle EN 81 with sieve insert and interchangeable nozzle tip

The heated machine nozzle EN 81 is designed for use in deeper gate system casing in tools. The nozzle tips are interchangeable so that the heated nozzle EN 81 can be used in the gate system casing with as many different tools of varying radii as possible. The nozzle tips can be ordered as individual components to suit your specifications (nozzle radius, nozzle hole).

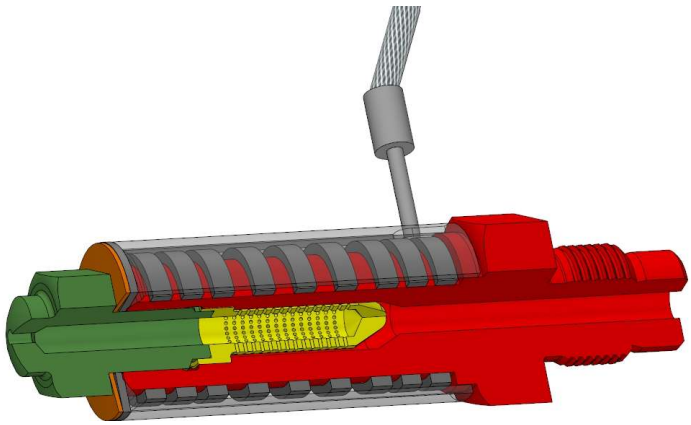
The integrated sieve insert is suitable for all thermoplastics to be processed, especially in the use of regenerated and impure plastics, and is intended to enable trouble-free, economic production of injection moulding parts.

Foreign bodies of any kind, be they metallic or non-metallic, and granulate particles which have not melted with a particle size of 0.9 mm are retained by the sieve insert. This means that time-consuming cleaning work due to blockages in the nozzle outlet hole or in the hot runner will no longer be necessary. This means that high amounts of downtime and related costs are dispensed with. The sieve insert can be replaced and cleaned very quickly, because it can be removed from the heated nozzle EN 81 from the front by unscrewing the nozzle tip.

A coiled tube cartridge with an integrated thermocouple and a power rating of 650 watts/230 volts provides a constant melting temperature. The coiled tube cartridge is **not** firmly cast and can therefore be replaced quickly. In addition, the cable outlet can also be positioned anywhere around the heated nozzle EN 81.

A casing with a diameter of 35.5 mm sealed onto the nozzle tip protects the coiled tube cartridge from over-spraying and other mechanical effects. The maximum immersion depth into the tool is 85 mm.

We produce the connection thread of the heated nozzle EN 81 for all brands and models of machine to meet your requirements.



Heated nozzle EN 81 including casing with coiled tube cartridge and integrated sensor, and an interchangeable nozzle tip and sieve insert 0.9 mm

Heated nozzle EN 82 with mixer rod and interchangeable nozzle tip

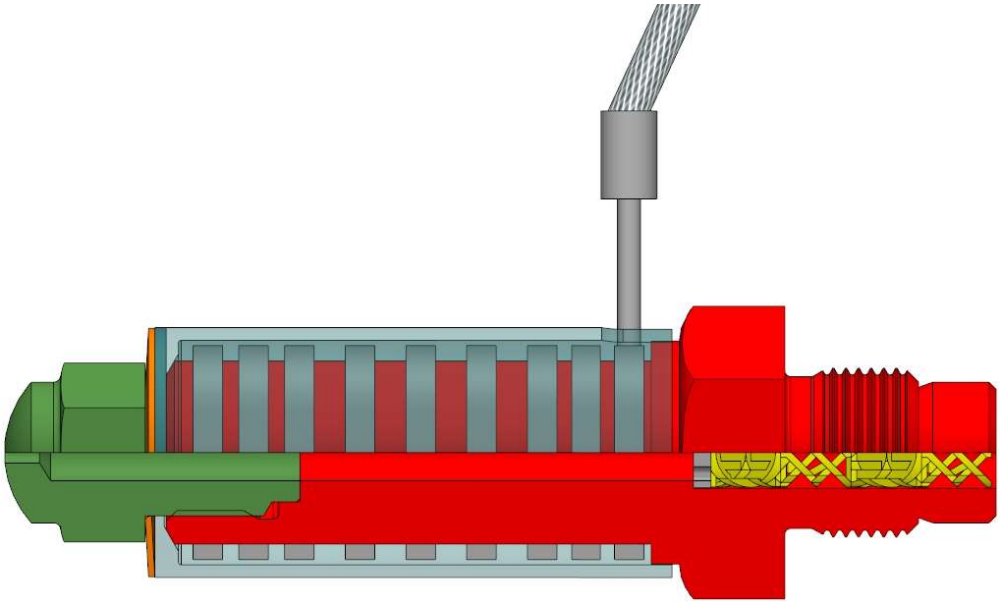
The heated machine nozzle EN 82 is designed for use in deeper gate system casing in tools. The nozzle tips are interchangeable so that the heated nozzle EN 82 can be used in the gate system casing with as many different tools of varying radii as possible. The nozzle tips can be ordered as individual components to suit your specifications (nozzle radius, nozzle hole).

The integrated mixer rod is suitable for evening out minor inhomogeneities such as flecks or stripes of colour or clouding, as well as uneven temperature distribution in the plastic melt and poor integration of regrind. The mixer rod has a diameter of 9.9 mm and is 40 mm long. The mixer rod is suitable for use in injection moulding machines up to approx. 150 tons clamp force.

A coiled tube cartridge with an integrated thermocouple and a power rating of 650 watts/230 volts provides a constant melting temperature. The coiled tube cartridge is **not** firmly cast and can therefore be replaced quickly. In addition, the cable outlet can also be positioned anywhere around the heated nozzle EN 82.

A casing with a diameter of 35.5 mm sealed onto the nozzle tip protects the coiled tube cartridge from over-spraying and other mechanical effects. The maximum immersion depth into the tool is 85 mm.

We produce the connection thread of the heated nozzle EN 82 for all brands and models of machine, and can also produce them to meet your requirements.



Heated nozzle EN 82 including casing with coiled tube cartridge and integrated sensor, and an interchangeable nozzle tip and mixer rod

Heated nozzle EN 48 with interchangeable nozzle tip

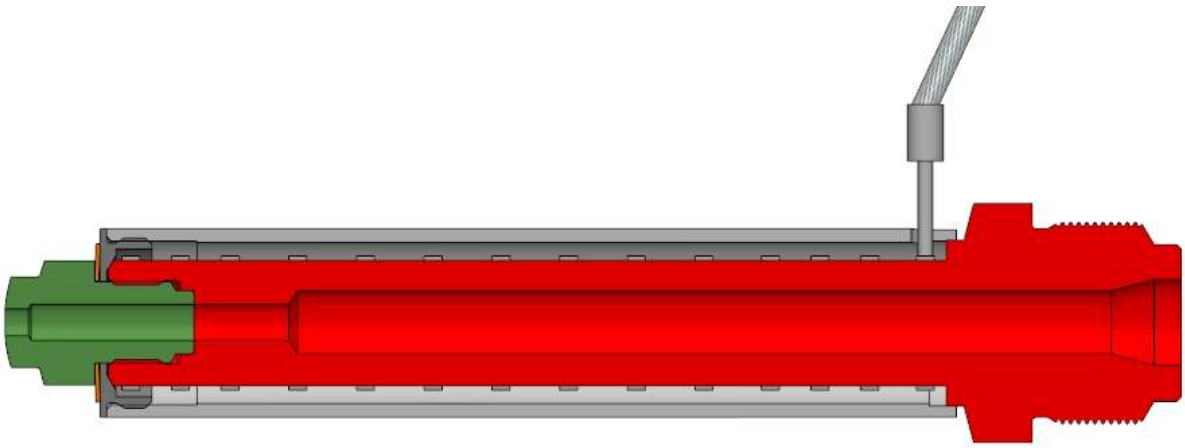
The heated nozzle EN 48, which has been designed specially for gate systems in deep tool spaces, is impressive due to its large immersion depth.

A coiled tube cartridge with an integrated thermocouple with a power of 230 volts / 840 watts provides a constant melting temperature. The coiled tube cartridge is **not** firmly cast, therefore repairs can be made more quickly, and in addition the power outlet can be positioned next to any of the heated nozzles EN 48.

A casing with a diameter of 42mm sealed onto the nozzle tip protects the coiled tube cartridge from over-spraying and other mechanical effects.

The nozzle tips are interchangeable so that the heated nozzle EN 48 can be used in the gate system casing with as many different tools of varying radii as possible. The nozzle tips can be ordered as individual components to suit your specifications (nozzle radius, nozzle hole).

We produce the connection thread of the heated nozzle EN 48 for all brands and models of machine, and can also produce them to meet your requirements.



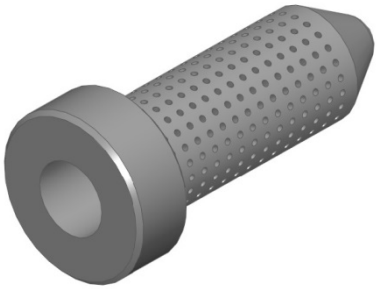
Heated nozzle EN 48 including casing with coiled tube cartridge and integrated sensor as well as a nozzle tip.

Sieve nozzle EN 35

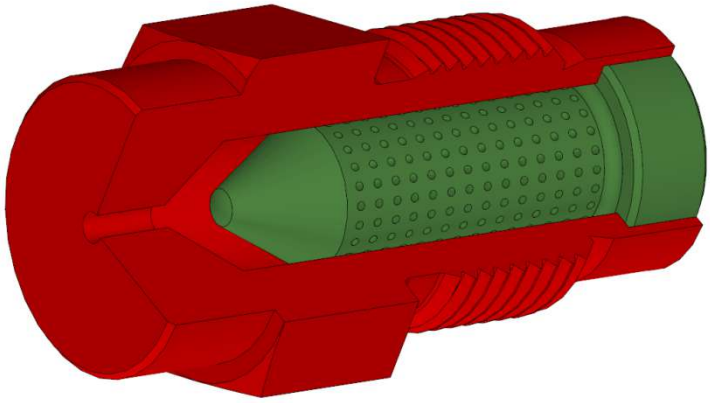
The sieve nozzle is designed for all thermoplastics to be processed, especially in the use of regenerated and impure plastics, and is intended to provide a trouble-free, economic production of injection moulding parts.

Foreign bodies of any kind, be they metallic or non-metallic, and granulate particles which have not melted with a particle size down to 0.7mm (on request 0.9mm) are caught in the sieve insert.

Time-consuming cleaning work due to blockages in the nozzle outlet hole will no longer be necessary. This means that high amounts of downtime and related costs are dispensed with. The sieve insert can be removed from the sieve nozzle and cleaned very easily.



Sieve insert



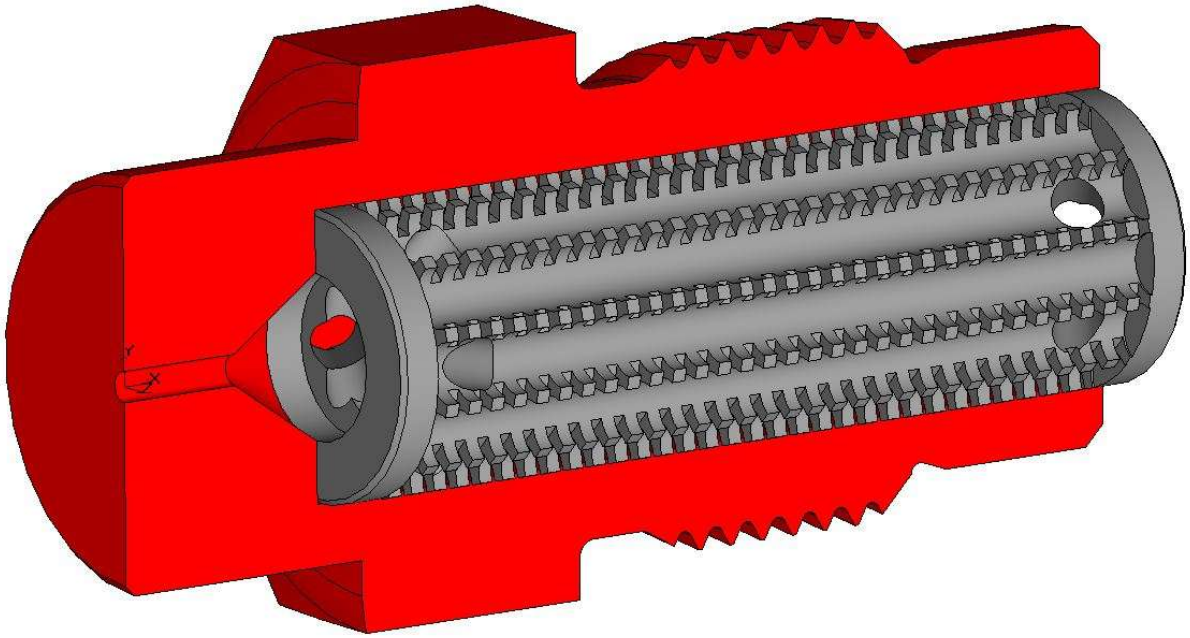
The nozzle casing, nozzle radius and nozzle hole can be adjusted to your machine according to your specifications.

Disc filter nozzle EN 45

The disc filter insert is inserted into our nozzles, irrespective of direction, in order to hold back impure thermoplastics before they end up in the mould shape, especially when using regenerated materials. This ensures trouble-free operation of the hot runner and/or tools within tight sections.

The disc filter insert is connected to the front of the device by 6 holes positioned symmetrically with the longitudinal slots. The material enters the appropriate longitudinal slots, which are closed in the flow direction, through the holes. Crosswise slots are used throughout the length of the filter insert, through which the melt passes into the neighbouring longitudinal slots. In doing this, foreign bodies are retained. These longitudinal slots are open in the flow direction; the melt can escape into the mould shape.

Foreign bodies of any kind, be they metallic or non-metallic, and granulate particles which have not melted with a **particle size** down to **0.6 mm** are caught in the longitudinal holes. The disc filter insert can be removed from the nozzle and cleaned very easily. As a result of the large area of the filter, approx 125mm², there is only a minimal loss of pressure.



The nozzle casing, nozzle radius and nozzle hole will be produced according to your specifications to fit your injection moulding machine.

Rhomboid filter nozzle EN 130

In order to achieve trouble-free production the melt must not contain any foreign bodies, especially when using hot runner technology.

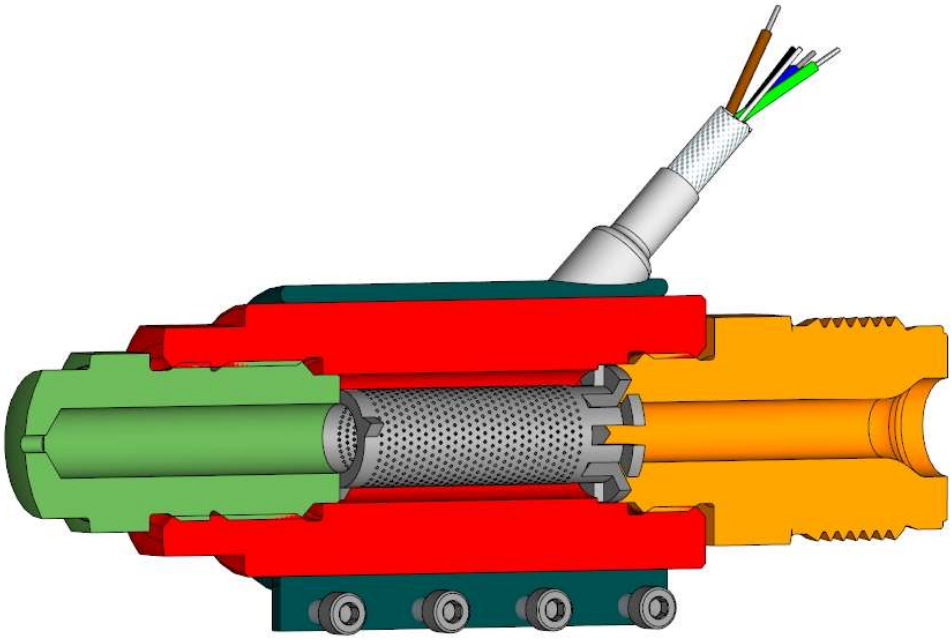
The rhomboid filter nozzle has a rhomboid insert integrated into the nozzle casing, which is used to filter impurities out of the plastic material.

The special cleaning position of the nozzle tip makes it quick and easy to clean, without having to remove the nozzle.

The rhomboid filter contains more than 1000 individual rhombuses, each with a side length of 0.6 mm, and is therefore suitable for even the largest shot weight.

The rhomboid filter nozzle can be used instead of normal open nozzles to process all unreinforced thermoplastics (e.g. PP, PE, PS, ABS, PA). It is also suitable, in some cases, for processing temperature-sensitive and shear-sensitive plastics.

If required, you can add further elements to the three-part design of the rhomboid filter nozzle, e.g. nozzle tips with different radii and bore holes and adapters suitable for all injection moulding machines.



The rhomboid filter nozzle is manufactured and supplied according to your requirements, complete with a nozzle heating band and integrated sensor.

Slice filter nozzle EN 55

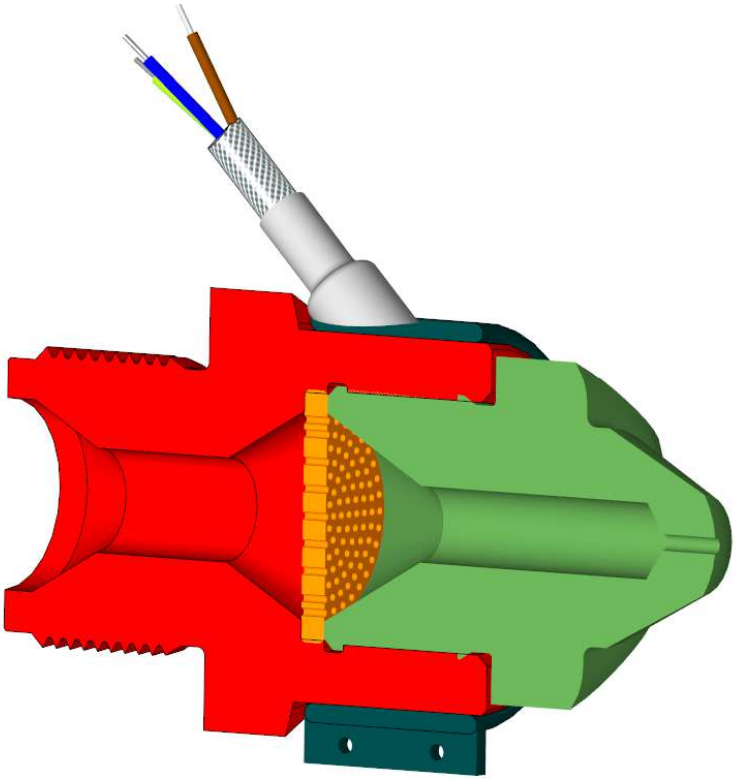
This slice filter nozzle is designed so that economic production of injection moulding parts is guaranteed.

Our slice filter nozzle EN 55 is needed for all thermoplastics being processed which contain impurities, or when regenerated plastic is being used, especially if the injection moulds are large in volume.

Its small size and optimised flow geometry make the slice filter nozzle EN 55 very flexible.

The sieve slice with filter bores catches all kinds of foreign bodies and avoids the need for time-consuming cleaning work in the hot runner.

The sieve slice on the nozzle can be replaced and comes with the appropriate bore holes for this.



The filter slice nozzle consists of:

- nozzle casing
- nozzle tip
- sieve slice
- nozzle heating band with integrated thermocouple

Individual components are adjusted according to the specifications you provide for your machine and supplied ready for installation.

Nozzle tip with mixer rod EN 21

Area of application: evening out minor inhomogeneities such as flecks or stripes of colour or clouding, as well as uneven temperature distribution in the plastic melt and poor integration of regrind.

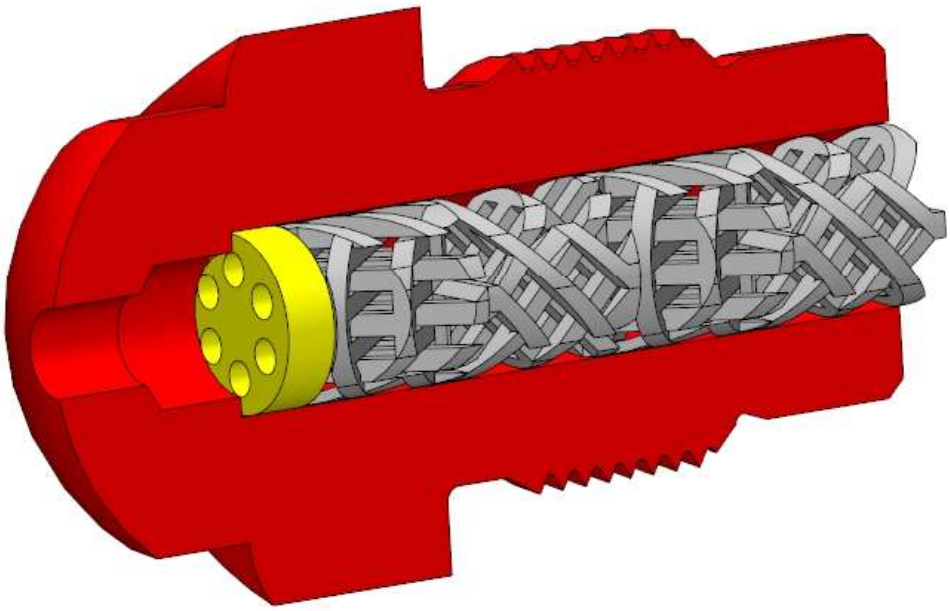
This cost-effective version offers better product quality than a mixer nozzle, as well as increasing productivity with reduced reject rates.

The mixer rod has a diameter of 9.9 mm and is 40 mm long. We will manufacture the appropriate nozzle tip in accordance with your specifications.

The nozzle tip with mixer rod is suitable for a screw diameter of approx. 30 mm.

The nozzle tip with mixer rod is supplied as a replacement for the existing machine nozzle and can be added to any injection moulding machine.

The mixer rod is designed for use in injection molding machines up to 150 tons of clamping force.

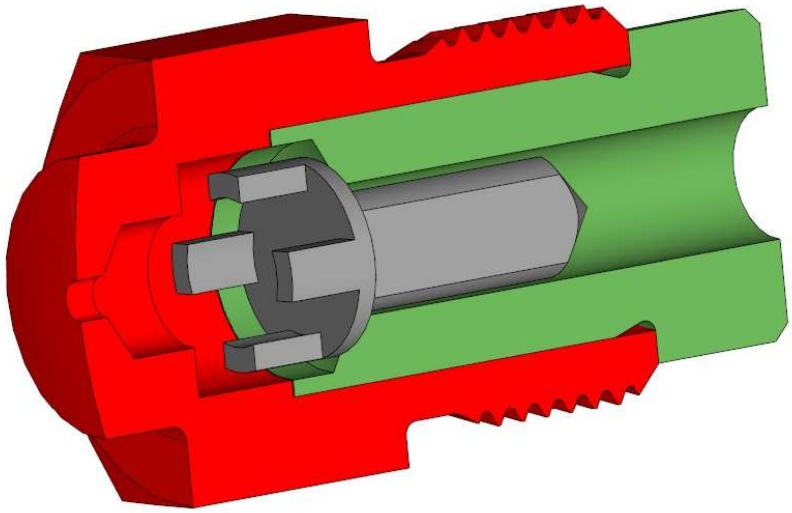


Decompression nozzle EN 36

The decompression nozzle (retraction nozzle) prevents dripping from thermoplastics after the spraying processes are complete. This means the work place remains clean and the decompression nozzle prevents the loss of material. The decompression nozzle is installed instead of the open nozzle without the use of additional adaptors.

At the start of the spraying process the screw is driven up and the nozzle opens so that the plastic can escape. After the end of the process, the screw is drawn back and the nozzle therefore closes again.

In order for the decompression nozzle to operate, the screw must be drawn back. If this is unsuitable for your requirements, the small spring cap nozzle EN 40 must be used instead.



The nozzle casing, the nozzle radius and the nozzle hole are produced to your specifications.

Adapter

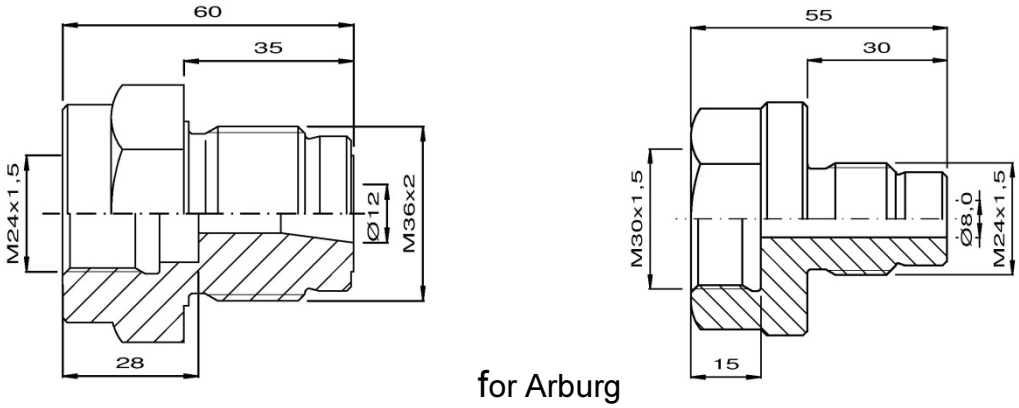
Fully hardened model

The adapter is the connecting element between the nozzle tip and spraying unit. The adapter is always used if the nozzle tip does not screw directly into the cylinder cover/injection moulding cylinder.

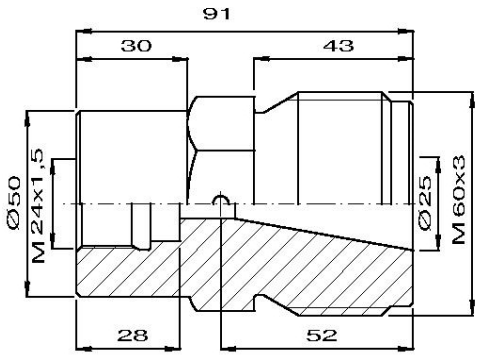
This may be useful if you frequently need to change the nozzle tip quickly as it saves a significant amount of setup time. The adapter can also help if you want to use nozzle tips with different connection threads in an injection moulding machine.

Another possible use for the adapter is as an extension of the machine nozzle, in order to reach deeper gate system casing in tools. However, bear in mind that the adapter often requires additional heating in order to ensure a safe injection process.

If the diameter of the adapter is too large with a heating band, however, we offer our heated nozzles as an alternative solution.



for Arburg



for Demag

We deliver adapters for all types of machine (custom-made products are also available)

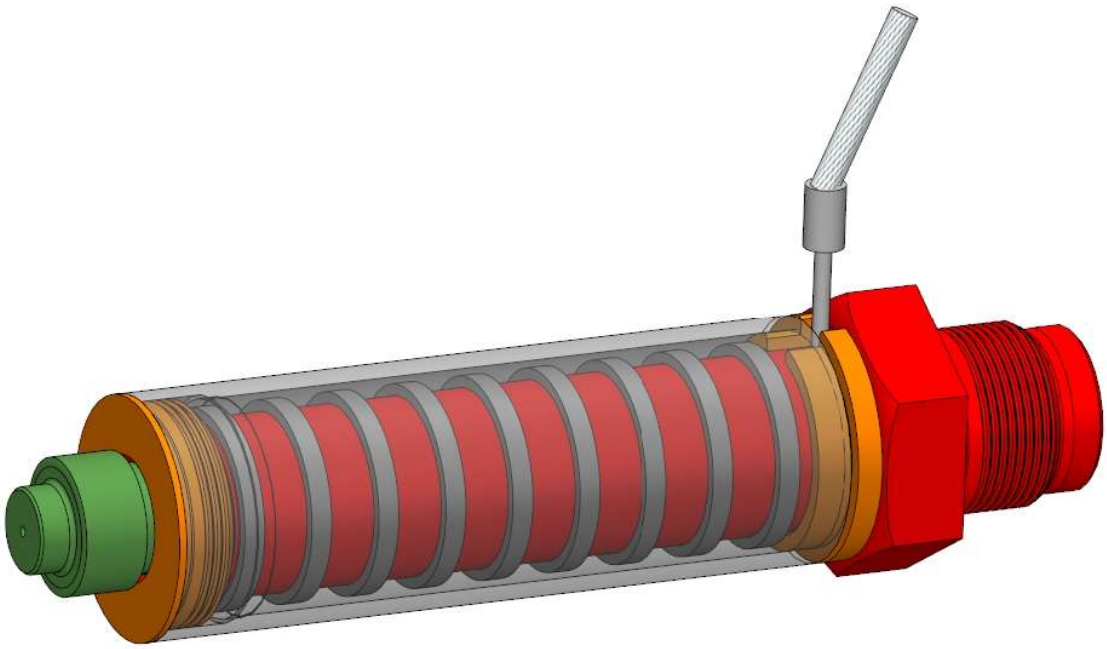
Heated adapter EN 80

Adapter EN 80 with integrated heating system is designed for use as an extension of the nozzle tip to allow long immersion depths inside tools. The connection thread for the nozzle tips is M24x1.5 which is suitable for Arburg and Demag Sumitomo nozzle tips.

A coiled tube cartridge with an integrated thermocouple and a power rating of 840 watts/230 volts provides a constant melting temperature. The coiled tube cartridge is **not** firmly cast and can therefore be replaced quickly. In addition, the cable outlet can be placed anywhere around the heated adapters EN 80 by twisting the clamping ring.

A casing with a diameter of 48 mm sealed onto the nozzle tip protects the coiled tube cartridge from over-spraying and other mechanical effects. The maximum immersion depth into the tool is 140 mm without the nozzle tip.

We produce the connection thread of heated adapter EN 80 for all brands and models of machine and all nozzle tip variants can be supplied upon request.



Heated adapter EN 80 including casing with coiled tube cartridge, integrated sensor and optional nozzle tip

Mixer nozzle
With integrated static mixer elements

The cross section shows the increase in the accumulated layers during the mixing of two epoxy resins in the mixer.

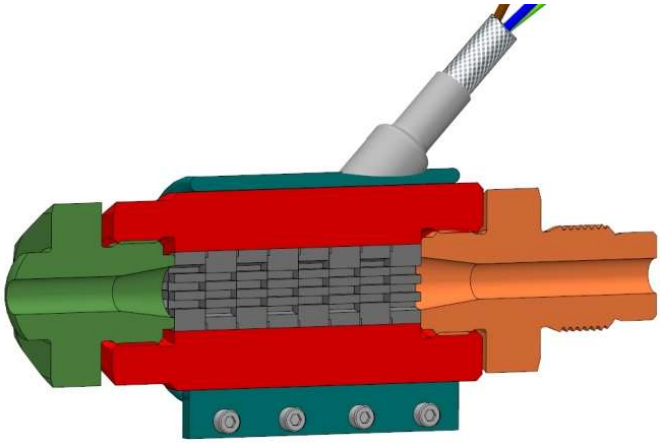
The mixer nozzle contains 8 static mixer elements (SME). The outer and front areas of the high-strength, rustproof mixer are produced mechanically. The mixer elements are placed into the mixer nozzle, where pins ensure the correct assembly.

The cores do not have any free ends which could break off. The size of the nozzles/mixer elements is dependent on the injection current volume and the viscosity of the polymer melt.

The mixer nozzle provides a homogenous polymer melt, which facilitates a constant injection process. This is the precondition for trouble-free production.

The mixer elements can be used for all thermoplastics (except PVC, depending on the composition).

- Excellent thermal homogeneity of the melt
- Improved quality when using regenerated materials
- Equal colour distribution when using direct dyeing
- Dye use reduced by up to 30%
- Less colour flecks, stripes and clouding
- Lower reject rate/instances of delay
- Shorter cycle times
- Improved melt flow characteristics
- Narrower tolerances due to improved dimensional accuracy

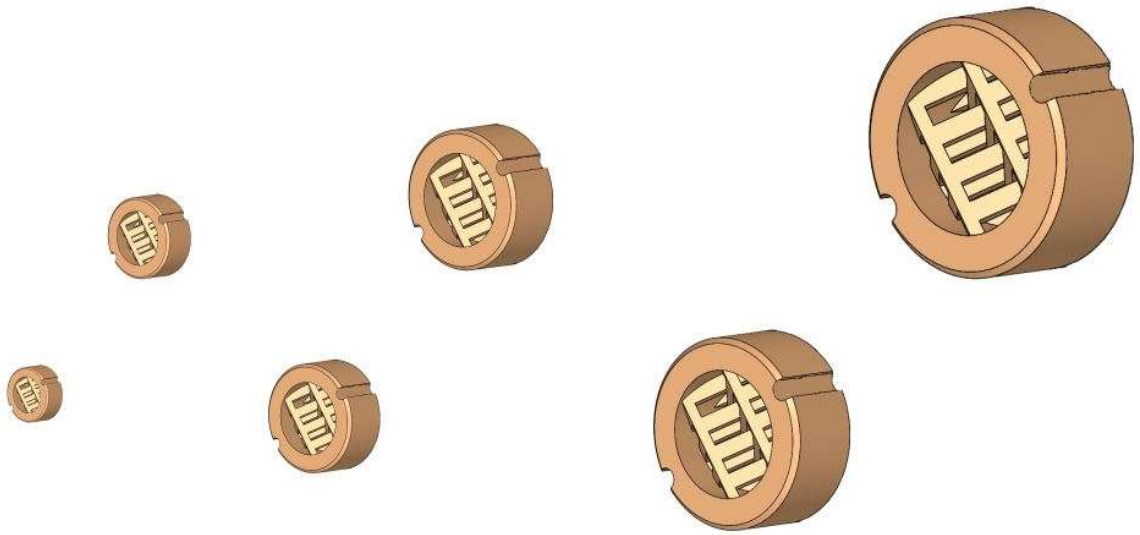


The wear-resistant mixer nozzle is produced to your requirements (nozzle radius, nozzle hole diameter, connection thread and screw diameter will be needed) for each injection moulding machine, and supplied ready for installation **complete with mixer elements (8 pieces), heating band and sensor.**

Static mixer elements

licensed by Bayer AG

Article	Inner Ø in mm	Outer Ø in mm	Screw Ø in mm	Injection current viscosity		Total length (8 parts) in mm
				low in cm^3/s	high in cm^3/s	
SME 12-18	12	18	20-50	300	200	64
SME 18-26	18	26	40-75	1000	700	90
SME 22-30	22	30	50-90	1800	1200	108
SME 27-35	27	35	70-120	3400	2300	132
SME 33-42	33	42	80-140	6200	4000	160
SME 40-50	40	50	100-180	11000	7400	192

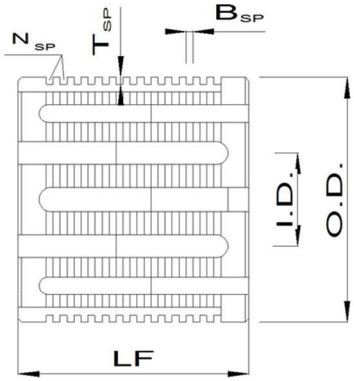


different sizes of static mixer elements

Mixer filter to protect the hot runner system

The mixer filter protects the hot runner system from blockages and damages. Foreign bodies of any kind and only partially melted granulate with a particle size down to 1mm are retained. This ensures problem-free, economic production especially when using regenerated materials.

The mixer filters (protector) are the same size as our mixer nozzles and can be placed at any point because they are not dependent on the direction of flow. In complete orders the nozzle casing will be adjusted to the length of the mixer filter. When mixer nozzle units are already in place, 2 static mixer elements can be exchanged for the mixer filter.



Main dimensions of the mixer filter

Type	I.D. in mm	O.D. in mm	NSP BSP/TSP=1mm	LF in mm	LME pieces
MF 12-18	12	18	6	16	2
MF 18-26	18	26	8	22.5	2
MF 22-30	22	30	11	27	2
MF 27-35	27	35	13	33	2
MF 33-42	33	42	15	40	2
MF 40-50	40	50	19	48	2

LF Length of the filter
LME Length of the mixer elements,
I.D. Inner diameter
O.D. Outer diameter
BSP Disc filter width
TSP Disc filter depth
NSP Number of disc filters

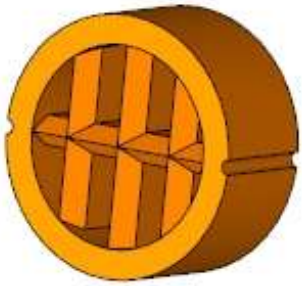
Mixer grating protection

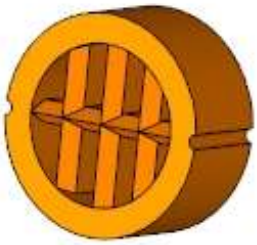
The mixer grating protection is used to protect the static mixer elements during the start-up phase.

If the production process is started too early in the heating phase, the polymer in the adapter is not completely melted (cold start). As a result, the hard polymer could damage the static mixer elements.

The mixer grating protection splits the hard polymer into smaller components that can then be processed without any problems.

When mixer nozzle units are already in place, one static mixer element can be exchanged for the mixer grating protection.





Mixer grating protection elements

Reverse current cut-off

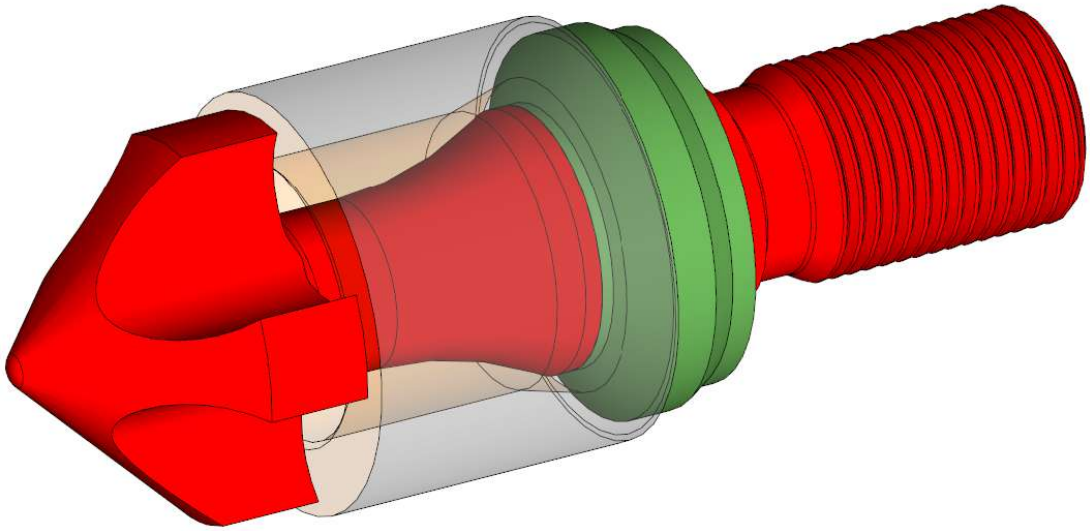
The reverse current cut-offs prevents plastic material flowing back into the front screw area during the injection process. This makes it possible to achieve constant injection pressure and post pressure. In order to maintain effective post pressure, material padding must be used.

Movement of material padding or even the screw running through (material padding towards zero) usually points to a defect reverse current cut-off. This must be replaced immediately.

The reverse current cut-off is made up a screw tip and a sealing ring (also referred to as pressure or intermediate ring): Some models also have an additional pre-control ring. In principle individual worn components can be replaced. However, we recommend that the reverse current cut-off always be completely replaced.

We produce reverse current cut-offs for all machines from Arburg, Battenfeld, Billion, Dr. Boy, Bühler, Cincinnati, Cosmo, Demag, Demag Ergotech, Engel, Fahrbucher, Fanuc, Ferromatic Milacron, Frömag, Husky, Krauss Maffei, KuAsy, Maurer, MIR, Negri Bossi, Netstal, Nova Pax, Richter, Sächsische Kunststoff, Sandretto, Stork Lawson, Sumitomo, Uniloy, Werner + Pfleiderer, Windsor.

Reverse current cut-offs can also be produced according to customer specifications. We will be happy to produce them based on your sketches, designs or samples.



We can deliver standard reverse current cut-offs for machines from current manufactures from stock.

Mixer reverse current cut-off

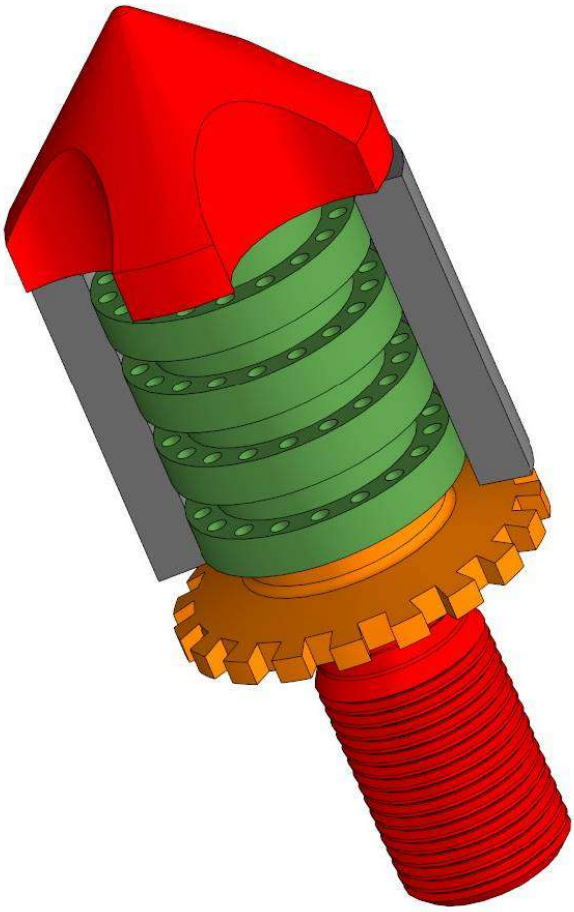
When carrying out automatic dyeing of thermoplastics with a normal three-zone screw, the homogeneity of a compound dyeing process can often not be achieved. As a result there are often flecks or stripes of colour or clouding on the injection mould part.

The mixer reverse current cut-off remedies this homogenisation problem.

The mixer reverse current cut-off is used instead of a standard reverse current cut-off from a screw diameter of 25mm without additional alterations to the placing unit and is available for all brands of injection moulding machine.

The mixer reverse current cut-off can be used for all thermoplastics (ABS, PS, PP, PE etc.); good results are also achieved with shear sensitive plastics such as POM or PBT, as well as transparent materials such as PC and SAN.

Our dynamic mixer reverse current cut-off works with a breaker plate system and therefore achieves the best mixing and homogenisation qualities, even at a low dynamic
pressure.



When using our mixer reverse current cut-off for automatic dyeing, you will benefit from the following advantages:

Excellent thermal homogeneity of the melt
No injection pressure loss
Use possible in restricted spaces
Simple installation

The mixer reverse current cut-off comes in a wear-resistant design and is therefore also suitable for aggressive metals.

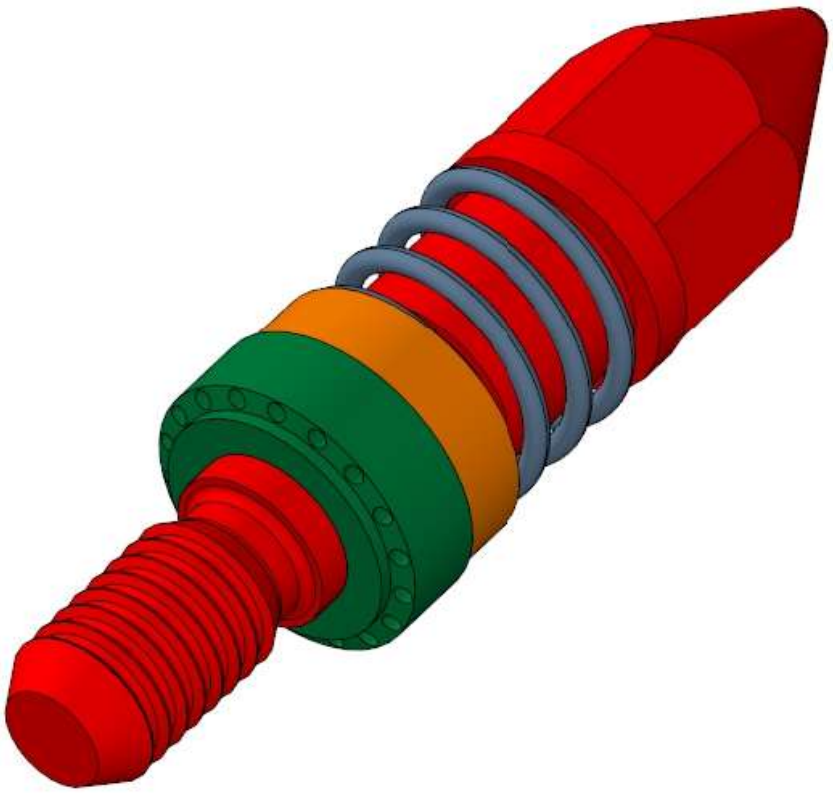
Reverse current cut-off for LSR

Liquid Silicone Rubber

For these short cycles and with the low viscosity of the material, a standard reverse current cut-off cannot shut quickly enough. This results in an uncontrolled backflow of the material. The LSR reverse current cut-off was specially designed for LSR and has proven its effectiveness in practice many times. It has a quicker closure time and through precise dosages it makes the processing of **L**iquid **S**ilicone **R**ubber possible for the first time, making its use in this area essential.

Using this innovation ability to reproduce the shot weight is improved tenfold.

The LSR reverse current cut-off comes in a wear-resistant design and can be supplied for all brands/models of machine. As a result of our extensive expertise, we can offer you tailor-made solutions for special requirements.



Reverse current cut-off wrench

Installation wrench for assembly and disassembly of reverse current cut-offs

The reverse current cut-off wrench prevents the reverse current cut-off being damaged when it is being assembled and disassembled in the screw. During assembly a preset torque ensures that the reverse current cut-off is tightened in a controlled manner.

The reverse current cut-off wrench consists of a one-armed torque wrench, which can be set using a clear scale on the handle, with protection against unintentional adjustments. When the set value is achieved the buckling mechanism of the guide roller sets off a signal, which can be felt and heard, and is then immediately ready to be used again.

The ratchet built into the middle axis at the end of the reverse current cut-off wrench can be switched to clockwise or anti-clockwise rotation. This ensures the take-up of the interchangeable parts with the negative grinding of the respective reverse current cut-off model. The negative grinding unit is inserted into the ratchet and secured with a quick locking mechanism.

The interchangeable parts with the negative grinding of the respective reverse current cut-off type can be obtained from us individually. You can obtain the torque value from your machine producer. The following data can be used as provisional benchmark figures:

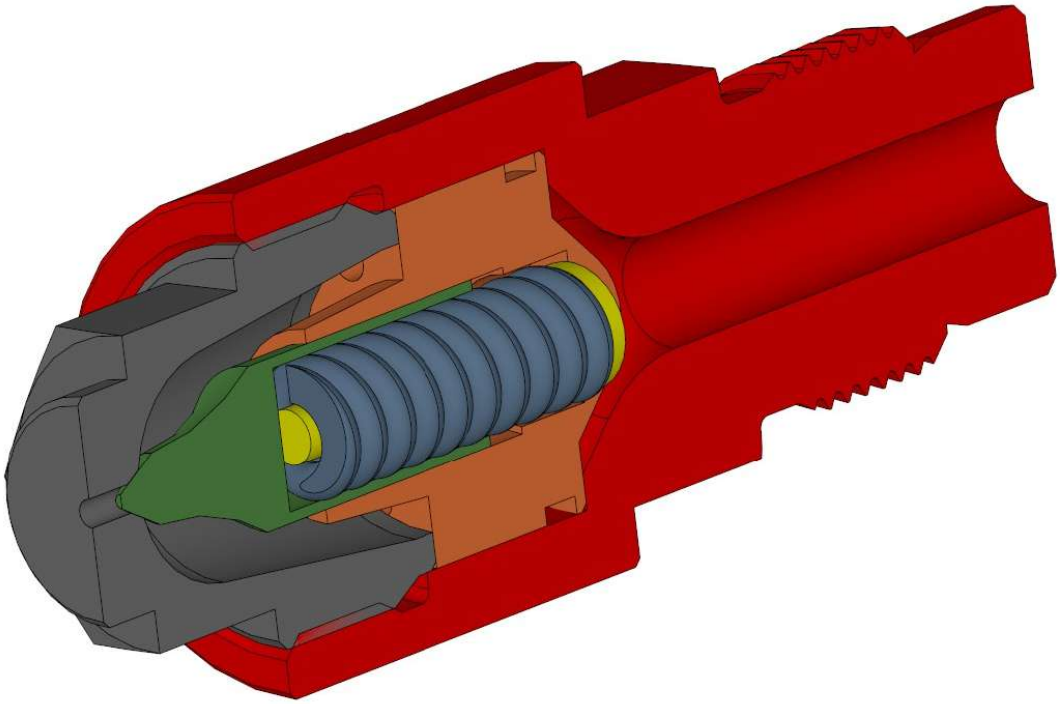
Screw diameter in mm	18	22	25	30	35	40	45
Tightening torque Benchmark No	30	35	35	40	50	60	80

The small spring cap nozzle EN 40

Due to its compact design, the small spring cap nozzle (cap nozzle tip) is intended for use as a replacement for the open nozzle. It prevents dripping from thermoplastics after the spraying process is complete.

The internal needle is pressed onto a spring through material pressure. Through melt pressure the nozzle is opened and/or closed due to spring tension. Due to its small construction, the spring cap nozzle is suitable for use with a screw diameter of up to 30mm. At higher injection pressures the spring cap nozzle EN 37 must be used.

All parts come in a wear-resistant design and can also be ordered as individual components.



The small spring cap nozzle will be manufactured and supplied ready for installation according to your requirements (nozzle radius, hole diameter and connection thread).

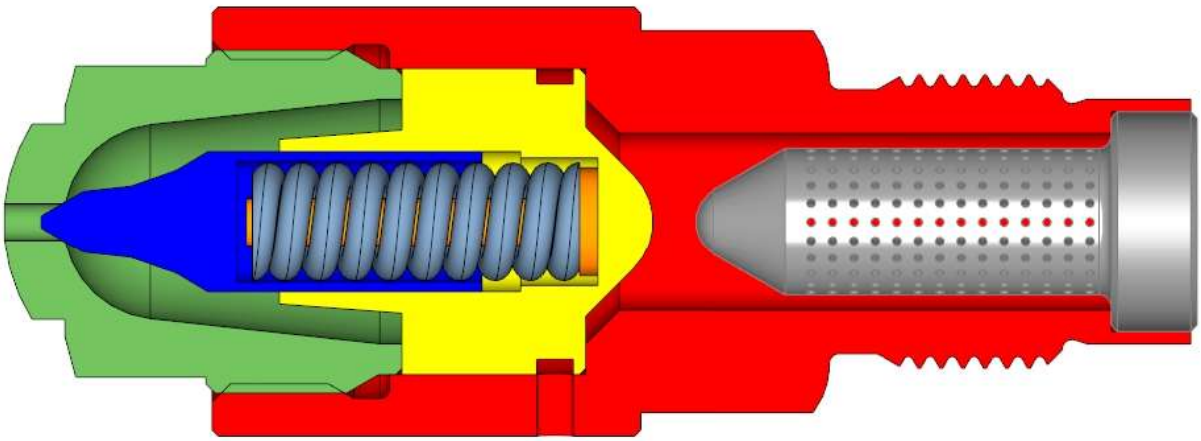
Spring cap nozzle EN 42
with sieve insert

The small spring cap nozzle (cap nozzle tip) with sieve insert prevents dripping from thermoplastics after spraying processes are complete, while impurities in the granulate are caught in the sieve insert.

Function of spring cap nozzle:
The internal spring is pressed onto a spring through material pressure. Through melt pressure the nozzle is opened and/or closed due to spring tension. Due to its small construction, the spring cap nozzle is suitable for use with a screw diameter of up to 30 mm. At higher injection pressures the spring cap nozzle EN 37 must be used.

Job of the sieve insert:
Foreign bodies of any kind, be they metallic or non-metallic, and granulate particles which have not melted with a particle size down to 0.7mm are caught in the sieve insert. No time consuming cleaning work due to blockages will be necessary anymore, especially in the hot runner. The sieve insert can be removed from the small spring cap nozzle and cleaned very easily.

All parts come in a wear-resistant design and can also be ordered as individual components.



The small spring cap nozzle with sieve insert will be manufactured and supplied ready for installation according to your requirements (nozzle radius, hole diameter and connection thread).

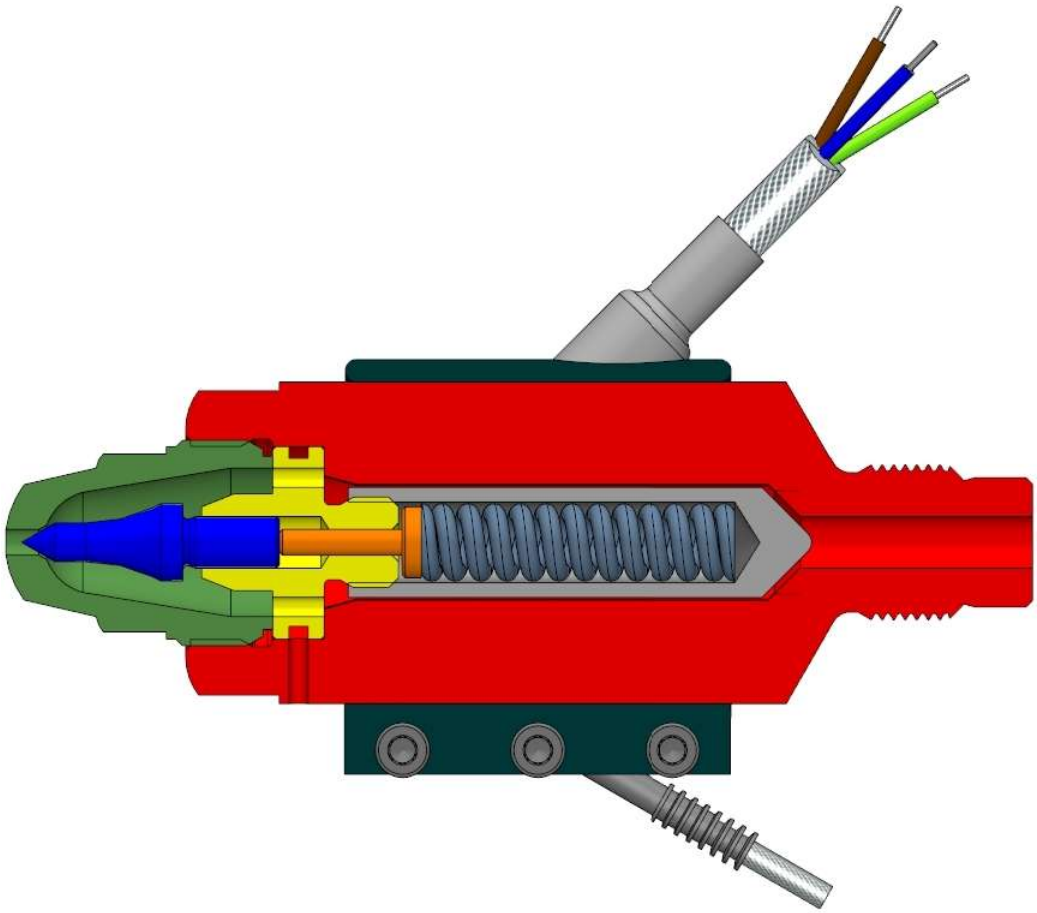
Spring cap nozzle EN 37

The decompression nozzle (needle valve) prevents dripping from thermoplastics when the spraying process is complete.

The moving needle is pressed onto an internal spring (enclosed design) by the melt pressure. The nozzle opens at a melt pressure of 50 bar and is closed as the pressure drops, due to the spring tension. Thanks to its optimised flow geometry, the spring cap nozzle operates with minimal pressure loss.

The compact, easy-to-disassemble construction enables efficient heat transfer and fast, effective cleaning.

All parts come in a wear-resistant design and can also be ordered as individual components. It is not necessary to change settings when exchanging parts.



The spring cap nozzle can be manufactured and supplied ready for installation according to your own requirements (nozzle radius, hole diameter, connection thread and screw diameter) *complete with heating band and underlay sensor*.

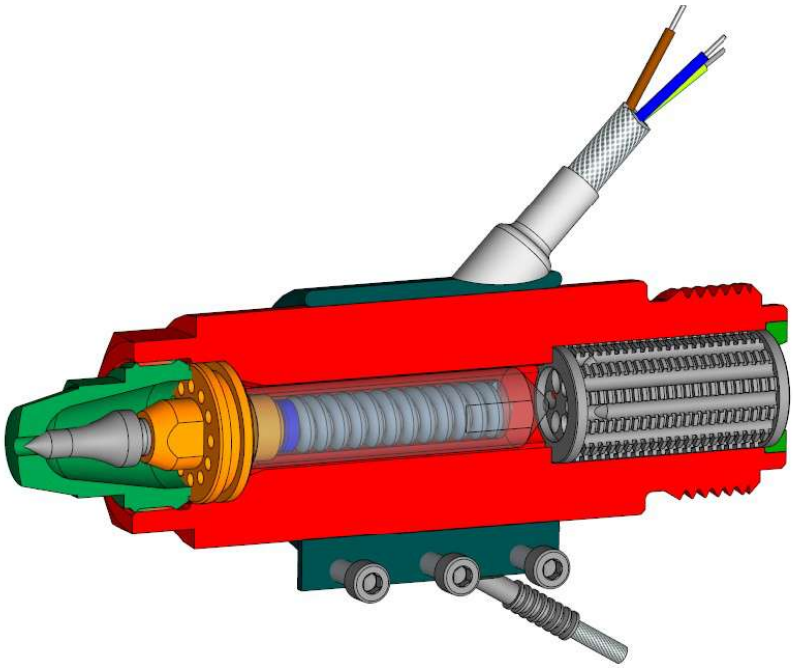
Spring cap nozzle EN 41
with filter

The spring cap nozzle (needle valve) prevents dripping from thermoplastics after spraying processes, while impurities in the granulate are caught in the torpedo filter.

Function of spring cap nozzle:
The moving needle is pressed onto an internal spring (enclosed design) through melt pressure. The nozzle opens at a melt pressure of 80 bar and is closed as the pressure drops, due to the spring tension. Thanks to its optimised flow geometry, the spring cap nozzle operates with minimal pressure loss. The compact, easy-to-disassemble construction enables efficient heat transfer and fast effective cleaning.

Function of filter:
The material enters the filter insert, which is closed in the flow direction. The comb delivers the melt in the adjacent longitudinal holes. Foreign bodies are retained. These longitudinal slots are open in the flow direction.

All parts come in a wear-resistant design and can also be ordered as individual components.



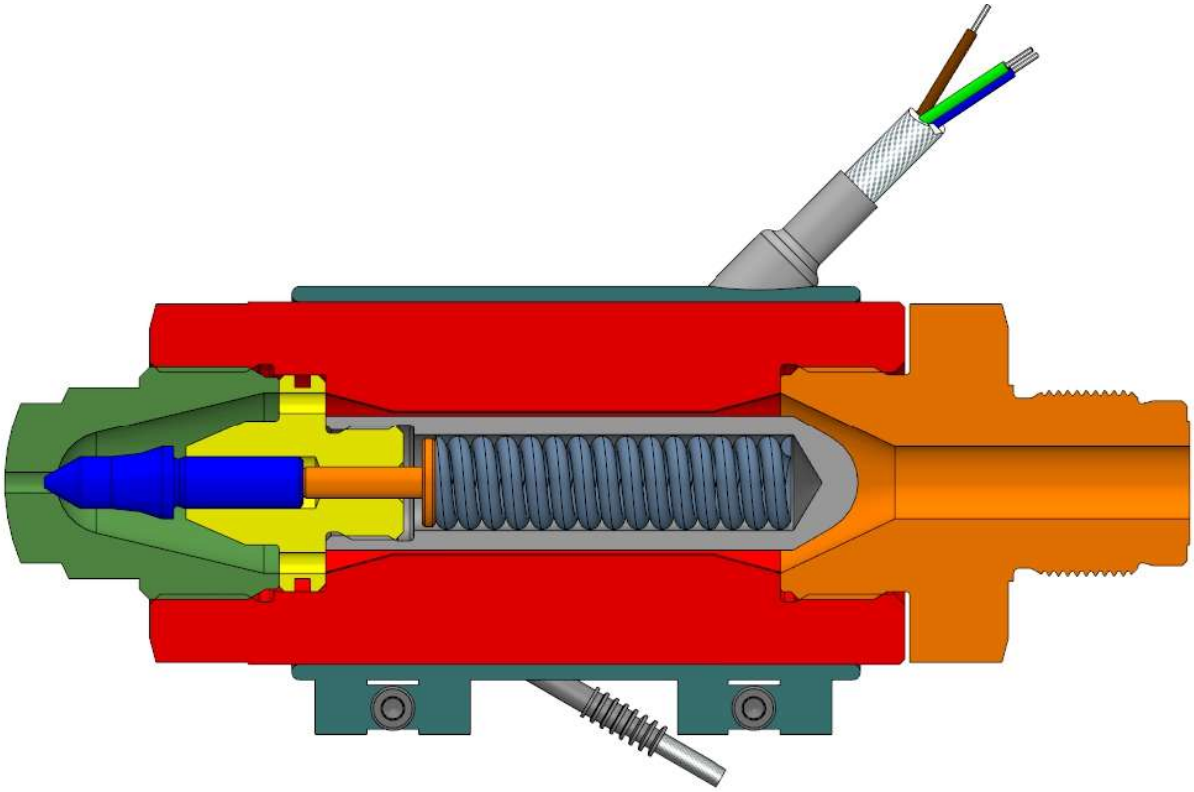
The spring cap nozzle with filter can be manufactured and supplied ready for installation according to your own requirements (nozzle radius, hole diameter, connection thread and screw diameter), *complete with heating band and underlay sensor.*

Large spring cap nozzle EN 47

The large spring cap nozzle EN 47, designed for standard use, can also be used instead of more time-consuming and expensive pneumatically or hydraulically controlled machine nozzles. Our large spring cap nozzle EN 47 can be used with screw diameters between 60mm and 120mm.

Through the melt pressure, the nozzle will be pressed onto an enclosed, internal spring via the closing needle. The nozzle opens as the melt pressure increases, and closes as it decreases. It is not necessary to control the nozzle, therefore the spring cap nozzle EN 47 is very easy to upgrade.

The spring cap nozzle ensures that there is no dripping and that the dosages given are safe, thereby guaranteeing economical, trouble-free production.



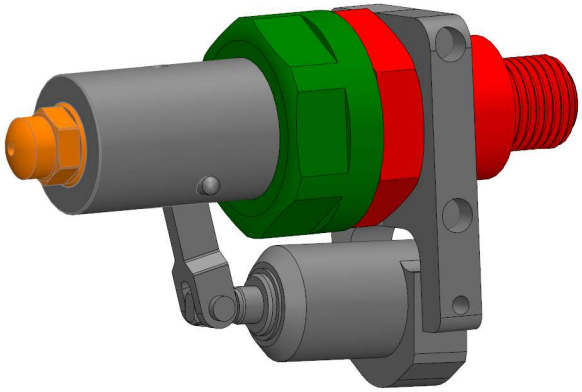
It is suitable for use with spraying volumes of up to1600g/s relating to polystyrene.

The spring cap nozzle EN 47 can be supplied for all types of machine, and will be produced according to your gate system casing.

The spring cap nozzle EN 47 can be delivered complete with a nozzle heating band and an underlay sensor.

Pneumatic needle valve nozzle

Pneumatic needle valve nozzles are used to process thermoplastics and liquid media. Opening and closing is carried out using pneumatic activation without loss of pressure. Plastic melt is fed centrally through the nozzle needle. The linear movement of the activation cylinder is transferred to the needle via a lever system. The activation elements are integrated into the nozzle assembly and form a compact unit. You can select any lever position. You can also activate the lever system directly via rods or cables.



Advantages of pneumatic needle valve nozzles

- Dosage when nozzle is lifted
- Shorter cycle times
- Controlled process-dependent separation of material
- No filament formation
- Uninterrupted, economic production

Technical data

Needle valve nozzle size	P1	P2	P3
Injection volume cm³/s based on polystyrene	500 cm³/sec	1500 cm³/sec	3500 cm³/sec
Screw diameter	up to 30 mm	20 – 60 mm	from 50 mm
Max. operating temperature		400°C	
Max. injection pressure		2500 bar	

The pneumatic needle valve nozzle can be upgraded easily, is available for all machine types, is manufactured to suit your gate system casing and supplied complete with nozzle heating band and sensor.

Hydraulic needle valve nozzles are also available upon request.

LS 100 – The super paste

LS 100 is temperature resistant from -180°C to +1200°C and is an excellent heat conductor. LS 100 can even be used with extreme pressure loads (230 N/mm²). In addition to being abrasion-proof and well-bonded, it is resistant to most acids, alkalis and salt water.

LS 100 is a corrosion preservative and high-grade lubricant for static parts subject to high stress and slowly rotating equipment.

This dual function effectively prevents

- Galling
- Frictional corrosion
- Adhesion
- Erosion
- Welding
- Stick-slip phenomenon
- Oxidation

in screws, bolts, springs, eyebolts etc. in the plastics industry

Use:
Clean and degrease the surface: Apply LS 100 evenly.

LS 100 – the super paste is supplied in a handy brush-in-cap bottle (120g)

LS 200 - The universal paste

The all-rounder - right down to the food sector

The universal paste LS 200 is metal-free, material-neutral, resistant to high temperatures and has NSF approval.

The exceptionally good lubrication-separation and protection effect even allows an application for highly stressed parts.

- - temperature resistant from - 40° C to + 1400° C
- - pressure load 230 N/mm²
- - thermal conductivity 0.7 W / m * K
- - NLGI class 0-1
- - color white

- prevents fretting corrosion
- adherent and abrasion resistant
- resistant to hot and cold water
- effectively prevents stick-slip effects

The universal paste LS 200 protects against electrolytic reactions (cold welding) in contrast to metal-containing pastes. The use of the paste LS 200 is well suited if no nickel- or metal-containing products are to be used.

The universal paste LS 200 has a health certificate for direct use in the food sector according to the USDA H1.

Application:
- clean and degrease surfaces
- apply universal paste LS 200 evenly

LS 200 – the super paste is supplied in a handy brush-in-cap bottle (120g)

Heating and regulating technology

Nozzle heating bands
Dense plastic design in

Brass	- the brass model for high quality standards
Stainless steel	- the stainless steel model with higher performance
Ceramic	- the stainless steel model with ceramic insulation

We have a wide range of nozzle heating bands for all possible uses. Lead outlets and cable lengths can be provided according to each customer's requirements. The standard delivery contains 300mm of metal netting, outlet of 45°.

Stainless steel	Ø 35 x 22	230 volts	160 watts	Connection 750mm
Stainless steel	Ø 50 x 34	230 volts	310 watts	Connection 750mm
Stainless/Ceramic	Ø 50 x 38	230 volts	500 watts	Connection 750mm
Stainless /Ceramic with Harting connector	Ø 50 x 38	230 volts	600 watts	Connection 750mm
Stainless steel	Ø 50 x 70	230 volts	640 watts	Connection 750mm
Stainless steel with Harting connector	Ø 60 x 60	230 volts	600 watts	Connection 750mm

Cylinder heating bands
The standard model can be delivered with and without heat shield cladding.
(max. power 3.5 Watt/cm²)
The high performance band is suitable for high temperatures and powers.
(max. power 7 Watt/cm²)

Heating bands for Arburg / Battenfeld / Demag are available from stock.

Micanite	Ø 65 x 130	230 volts	1050 watts	Connection 750mm
Micanite	Ø 65 x 195	230 volts	1600 watts	Connection 750mm
Micanite	Ø 70 x 100	230 volts	900 watts	Connection 750mm
Ceramic	Ø 65 x 126	230 volts	1900 watts	Connection 750mm
Ceramic	Ø 80 x 171	230 volts	2500 watts	CEE fitting

Heating elements can be ordered from us as individual components according to samples, drafts and designs. We will gladly support you in designing the best performance possible. We need to be informed of the lead outlets and lead length.

Heating bands, heating cartridges, temperature sensor

Frame and panel heaters

The frame heater is produced according to your specifications (max. power 3.5 Watt/cm²).
The panel heater is produced according to your specifications (max. power 3.5 Watt/cm²) with and without a pressure plate.

Heating cartridges

The standard model for many types of heating (e.g. heating tools). The high performance model for metric and customs dimensions (also with an integrated thermocouple). A large range of standard products can be delivered at short notice.

Temperature sensor

The thermocouples are available in various thermoelectric voltages.
(Equaliser 2x0.35mm²)

The resistance sensor is available in different resistance standards according to DIN.
(Connecting cable 2x0.5mm², silver-plated Cu wire).

A large range of standard models of both types of sensor can be delivered at short notice.

Temperature sensors for the most common makes of machine are available from stock.

Screw-in nozzle sensor
FeCuNi, M10x1 Ø 8mm Cable 1,100mm with 4-pin plug

Screw-in nozzle sensor
FeCuNi, M12 Ø 6mm potential-free Cable 1,000mm without plug

Cylinder sensor, angled
FeCuNi, M10x1 Ø 8mm Cable 1,100mm with 4-pin plug

Heating elements can be ordered from us as individual components according to samples, drafts and designs. We will gladly support you in designing the best performance possible. We need to be informed of the lead outlets and lead length.

Single-runner temperature controllers

The single-runner temperature controller is ideal for use with

- our heated nozzles EN 38, heated nozzles EN 48, heated nozzles EN 49,
- heated nozzles EN 80 with sieve insert and
- heated nozzle EN 82 with mixer rod
- heated adaptor EN 80
- Heat sensors
- Hot runner applications

The single-runner temperature controller and process control unit combine simple handling and precise operation for temperature control when processing plastics.

Technical data:

NSR 101 regulating device
Digital controller with one control station
with 4-digit actual and target value display
Voltage 230 V AC
Output max. 2.0 kW
Fuse FF 10 A
Cable 3 m with earth contact plug
Control range 0–450°C
Sensor FeCuNi (J)
Heating element and sensor via
5 PIN ILME / harting plug

Dimensions W x H x D approx. 205 x 85 x 190 mm

Alternatively, there is also a version with a power of 3.2 kW.

Screws– cylinders – reverse current cut-offs

Screws

Wear-resistant model made from high-alloyed steel
Fully hardened design made from high-alloyed steel
Extremely wear-resistant, made from powder metal with a high degree of chromium

The answer to wear and tear:	vertical plating
Cobalt base	standard design
Nickel base 50	extremely wear-resistant

Cylinders

Wear-resistant design made from high-alloyed steel
Wear-resistant design made from bi-metals

The answer to a large amount of wear and tear: completely disconnect
Coating made from fully-hardened and ionitrided 1.2379 steel, standard design up to approx. 15% glass filler

Coating made from bi-metals for up to approx. 25% glass filler

Coating made from powder metal and fully hardened, hardness approx. 62 on the Rockwell hardness scale and ionitrided
Extremely wear and corrosion-resistant for glass filler also over 30%
The powder metal model is more durable than the bi-metal model. This high durability is achieved by using a special alloy with a high chromium percentage of 28%.

Reverse current cut-offs

made from high-alloyed steel, fully-hardened

We have reverse current cut-offs available from stock, or we can produce them at short notice – even according to your samples

For high levels of wear and corrosion all measurements are also available in a wide range of powder metals.

The most wear –resistant design of all
The tip is plated with tungsten carbide – with new inhibiting and pressure rings

Nozzle tips, copper nozzles, adapters

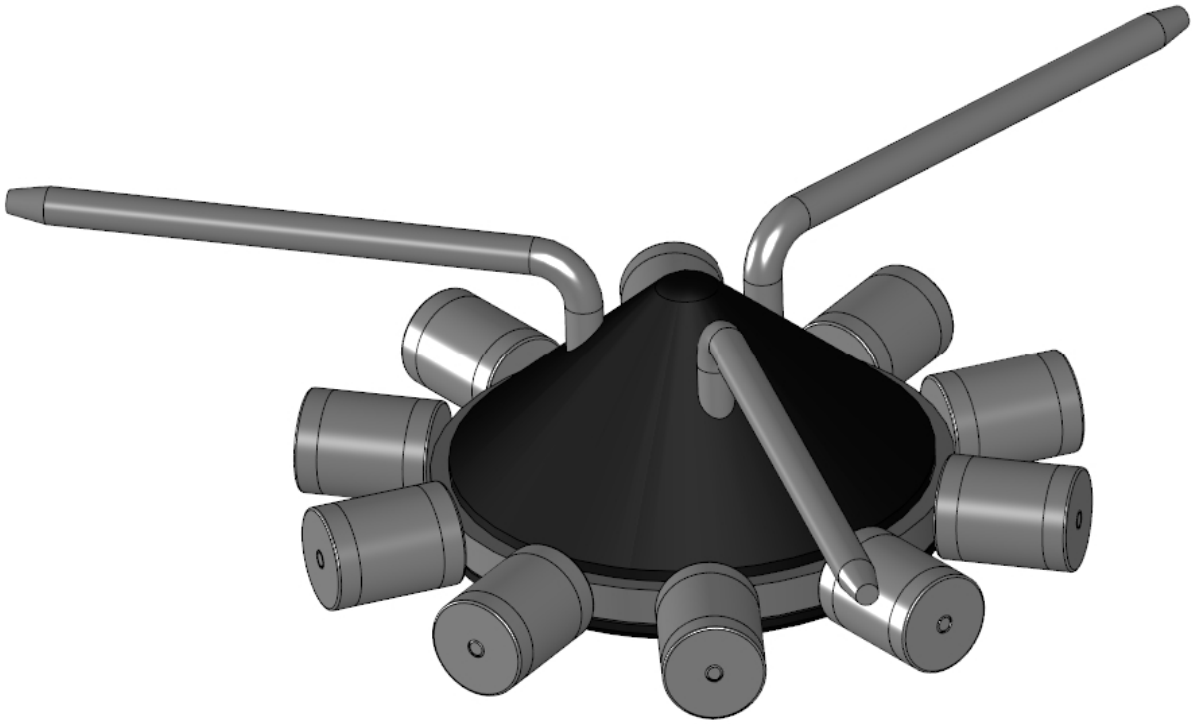
In addition to a stock programme, nozzle tips, adapters and covers can be produced at short notice according to customer specifications.

Funnel magnet EN 101

The funnel magnet offers constant security against iron impurities in the plastic granulate. The magnet core is protected from mechanical damage by a chrome-plated brass casing. Due to the powerful magnetic field even very small iron particles are filtered out of the granulate.

The 10 round magnets are arranged in a circle with equal spaces between them. The cone-shaped plastic top causes the granulate to be drawn past the magnets, meaning that they can be used to their full effect.

The 3 moveable, adjustable supports serve to adapt the size of the funnel to a diameter of between 210mm and 310mm.

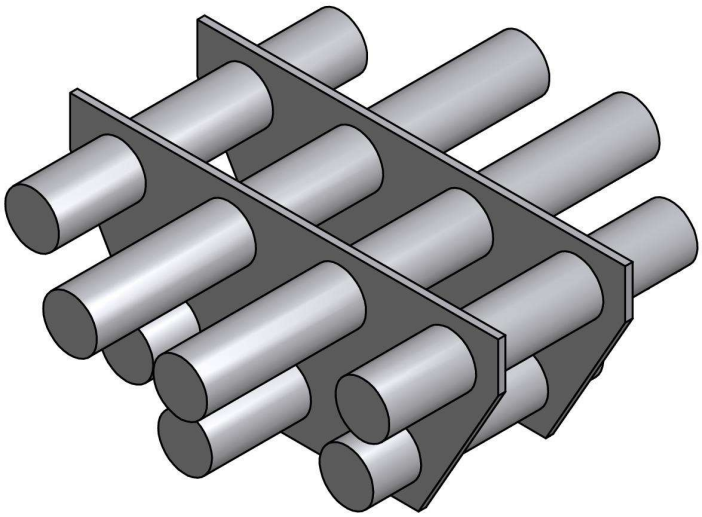


Type EN 101 – cone-shaped funnel

Funnel magnet NST

Funnel magnets are required to separate ferrous impurities from plastic granulate. The two-layer design ensures the best possible results during separation and prevents screw damage and faults in the hotrunner system. The bevelled edges mean that the magnet can simply be placed in the funnel. Stainless steel tubes protect the magnet against damage.

- excellent process reliability
- strong magnetic field
- high heat resistance
- easy to clean



Models:

NST 1

Dimensions	Ø 200 mm height 77 mm cone 60°
Number of rods (row 1/row 2)	4/3 with Ø 22 mm stainless steel coated
Weight	3 kg

NST 2

Dimensions	Ø 235 mm height 77 mm cone 60°
Number of rods (row 1/row 2)	5/4 with Ø 22 mm stainless steel coated
Weight	5 kg

Static plastic disposable mixer

Areas of application:

Mixing two-component adhesives or resin / hardener systems in industrial, chemistry and dental / medical technology sectors.

Advantages:

- Optimum static mixer geometry (X grating mixer)
- Flexible number of mixer elements
- Grating mixer with shorter mixer length than a spiral mixer with the same mix quality
- Lower mixer volume, resulting in less product loss

Basic information:

The X grating mixer geometry achieves significantly better mixing results than a spiral mixer. To achieve the same mix result, an X grating mixer needs up to 60 % less in terms of mixer length and volume. An X grating mixer can therefore be used for more difficult mixing tasks for which classic spiral mixers are unsuitable.

GXF-10 X grating disposable mixer

The GXF-10 disposable mixer is a folding disposable mixer with an inner diameter of 10 mm in standard pipes with 6, 9 or 12 mixer elements. The mixer elements are also available in loose form for installation in corresponding steel pipes with an inner diameter of 12 mm. This X grating mixer type is most suitable for resin / hardener systems that are hard to mix, e.g. two-component varnishes, PU, adhesives, sealants and media with significant viscosity differences.

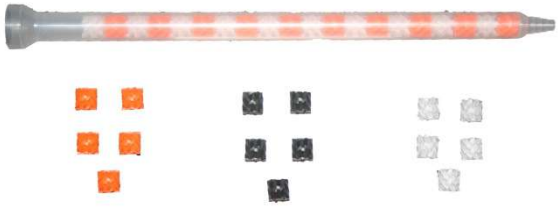
GXF-21 X grating disposable mixer

The GXF-21 disposable mixer is available with a large diameter of 21 mm. Standard pipes are available with 9, 12 or 15 mixer elements. These large pipes can be connected flexibly using flanges or pipe threads at the entrance (3/4").

Static plastic disposable mixer

GXP disposable mixer with grating structure

The static GXP disposable mixer made from PP or PA66 with 50 % fibreglass has a diameter and length of 9.4 mm each. Like the static GXF disposable mixer, it is used for difficult mixing tasks with smaller throughputs. Standard pipes are available with 20 mixer elements. Special mixer pipes are available for use under high pressure, with a maximum operating pressure of 100 bar.



GXR disposable mixer with grating structure

The GXR disposable mixer with an outer diameter of 29.8 mm and an inner diameter of 21 mm is made from PA66 with 50 % fibreglass. It is used for higher pressures and temperatures and must be inserted into a pipe; it is suitable for differential pressures of up to 100 bar. Like all mixers with the X grating structure, it is most suitable for processing components with significant viscosity differences and larger throughputs or for liquid silicone (LSR).

Spiral mixer (helical):

Spiral mixers achieve good but not always optimum mix results and are used as standard in industry. There is a wide selection of designs for processing two-component resin/hardener systems that range from easy to medium-hard to mix. Large spiral mixers are also available with larger diameters of 18.0 to 34.7 mm.

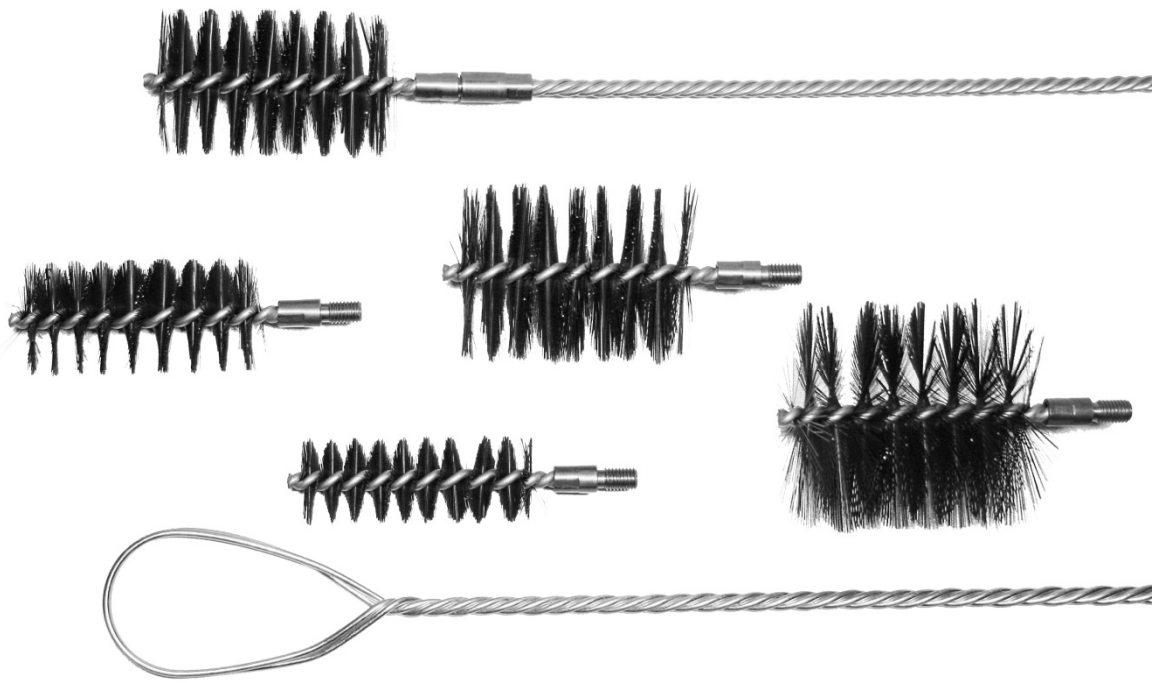
Steel brushes to clean your cylinders

Help is at hand for even the most awkward tasks!

Need to clean your cylinders again, perhaps because you need to change colours? We can offer you optimum support to make this annoying task simpler.

Steel brushes can clean your cylinders more easily and effectively. We offer brushes of various different diameters to match your cylinders. And naturally, we also offer the right brush holders and extensions if necessary. Holders and extensions are available for all steel brush diameters.

Interested in this effective way of cleaning cylinders? Just contact us and we will be happy to provide you with a no-obligation quote.



Heat insulation plates for tools asbestos-free

EN 2000

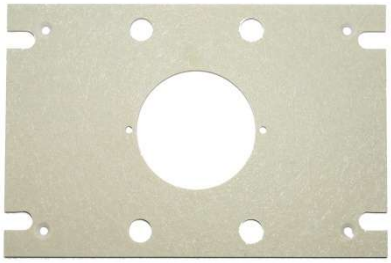
The newly developed heat insulation plate **EN 2000** is made of various glass mats using a new high-temperature resin system. This gives the material unusually good insulating properties. **EN 2000** was specially developed for the insulation of injection moulding machines, rubber mould shapes and the insulation of different plate presses.

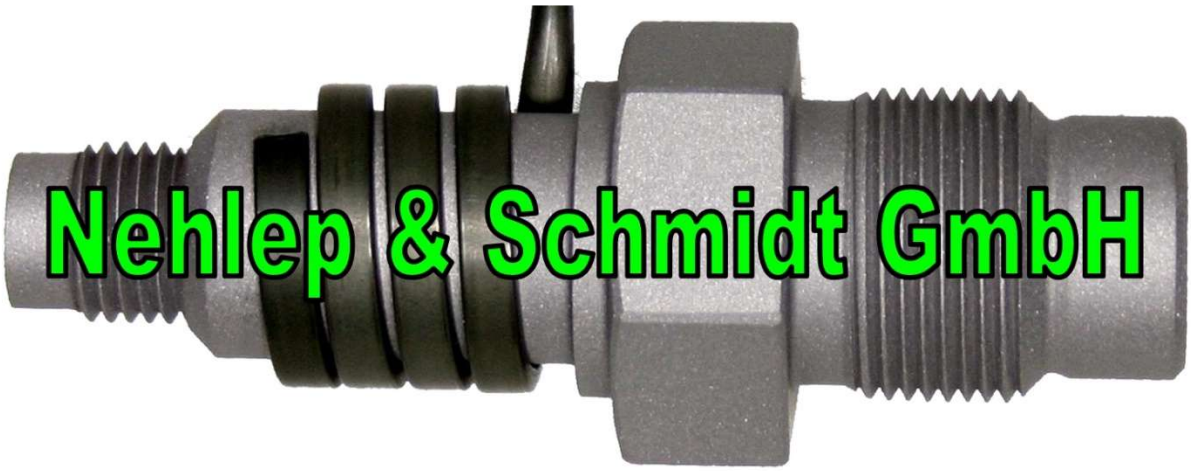
EN 4000

The heat insulation plate **EN 4000** is constructed using a special epoxy resin system and fine fibreglass. This material provides an excellent heat resistance and a high long-term temperature resistance. Years of experience of using **EN 4000** in long-term operation at high temperatures has allowed the application of the material in areas in which only silicone glass reinforced laminate had previously been used. Large construction parts can be produced from **EN 4000** because the dimensional stability is high because of the low thermal expansion. Even after long-term operation at high temperatures, **EN 4000** retains a high thermal bending strength far beyond the any of the requirements stipulated in industry standards.

Technical data			EN 2000	EN 4000
Pressure resistance		N/mm²	340	600
	at 200°C	N/mm²	140	330
Temperature resistance	long-term	°C	230	240
	short-term	°C	290	290
Heat co-efficient		W/mK	0.13	0.23
Density		g/cm³	1.5 – 1.6	1.9
Moisture absorption		%	0.1	0.1
Splitting power	DIN 53463	N	4000	3500
Leakage current resis-tance	DIN 53480	V	600	200
Standard	dimensions	mm	1020 x 2020	1250 x 2500
	thickness	mm	3 - 100	3 - 100
Plane parallelism± 0.05mm for 1m length				

We are specially equipped for the mechanical processing of our materials, and also in the position to produce complicated parts according to your specifications and designs within a very short period of time.





... and so you reach us always

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- Subject to technical alterations -
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