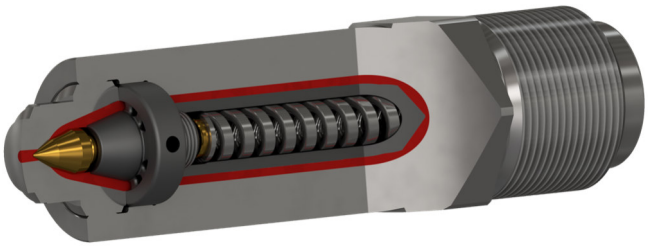
Machine nozzle with needle shut-off type-A(S) spring operated



Applications:
Thermoplastics (not applicable for PVC, PPS)

Shut-off mechanism:
Operated with one axial high performance spring

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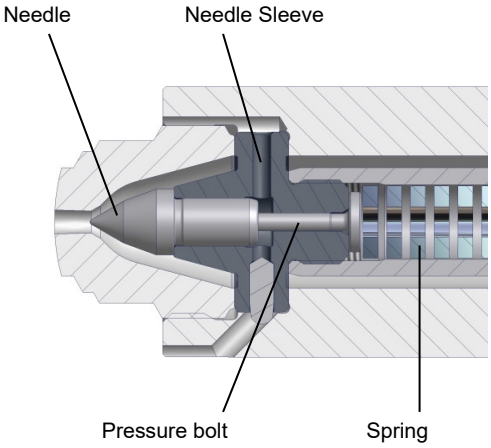
Machine nozzle with shut-off, type A(S)



- Melt flow separation at nozzle orifice
- Easy to install
- Economic solution
- Compact, space saving design

Technical description

The spring actuated machine needle shut-off nozzles type A(S) are used in processing of thermoplastics, principally with low viscosity materials.

Operation:
The nozzle is opened directly from the injection pressure and closed again with spring force. A needle which moves axially in the needle shut-off nozzle is held in the closed position by the force of the spring. The nozzle orifice is normally closed.

- If the standard opening pressure is not appropriate, the needle must be modified to the requirements (modification of the spring is not possible).
- A temperature resistant material (to max. 520°C) is used for the spring construction.
- The nozzle size required depends on the injection rate per second (cm^3/s).

Note:
Values and measurements in this documentation refer to standard applications.

Arguments for this nozzle type

Prevents:
- Stringing, drooling
- Material leakage when dosing with a withdrawn injection unit
- Material leakage while vertically injecting

Productivity factors:
- Controlled, clean shut-off of the melt stream
- Shorter cycle times - increase in productivity
- Increased process reliability and repeatability
- Usability with increased back pressure - improved homogenization
- Quick installation
- Add-on capability (on tool side)

Options:
- Filter module

What speaks for Herzog

- Nozzle activity is the core business
- Many years market presence
- Design and assemblies matching today‘s requirements
- Development of special applications
- Fast delivery
- Service performance

Machine nozzle with shut-off, type A(S)

Option: Integrated melt filter in A-Type nozzle

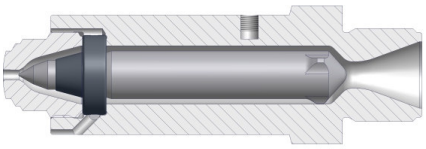
For a trouble-free production process (keeping the injection opening clear) a final filtration of the material may be needed.

The Herzog® melt filter is based on the so called „gap filter principle“ and can be assembled into the existing spring operated shut-off nozzle without any modification.

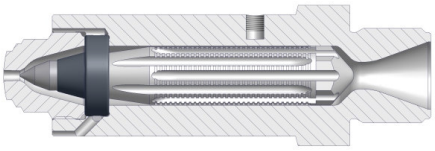
Filter gap: A0 → 0.3 mm
A1 → 0.5 mm
A2 → 0.8 mm

Retrofitting
Just by changing the standard spring chamber with a filter-spring chamber the retrofit is already done and the nozzle is again operational.

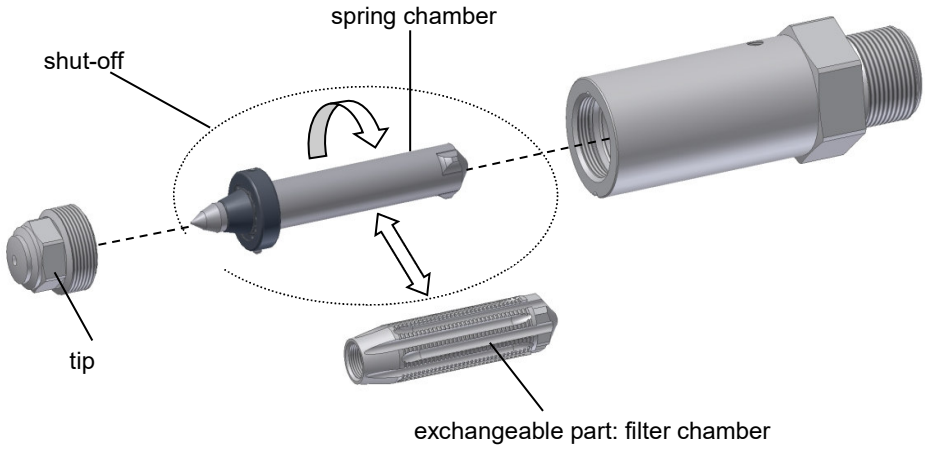
Nozzle disassembly according to service manual



Standard System



Filter System



Cleaning the filter
Remove tip from heated nozzle. Shut-off with filter chamber is easiest to clean by extrusion discharge (injected freely out of the nozzle). Filter is now accessible for mechanical cleaning.

Cleaning tip
Immediately after discharging, blow the shut-off with compressed air. Use a pliers to help ease hardening plastic away from the nozzle.

Attention
Before tightening the tip, please pay attention to the fact that an equal temperature level between the tip and nozzle is needed. Torque on the tip according to service manual.

Machine nozzle with shut-off, type A(S)

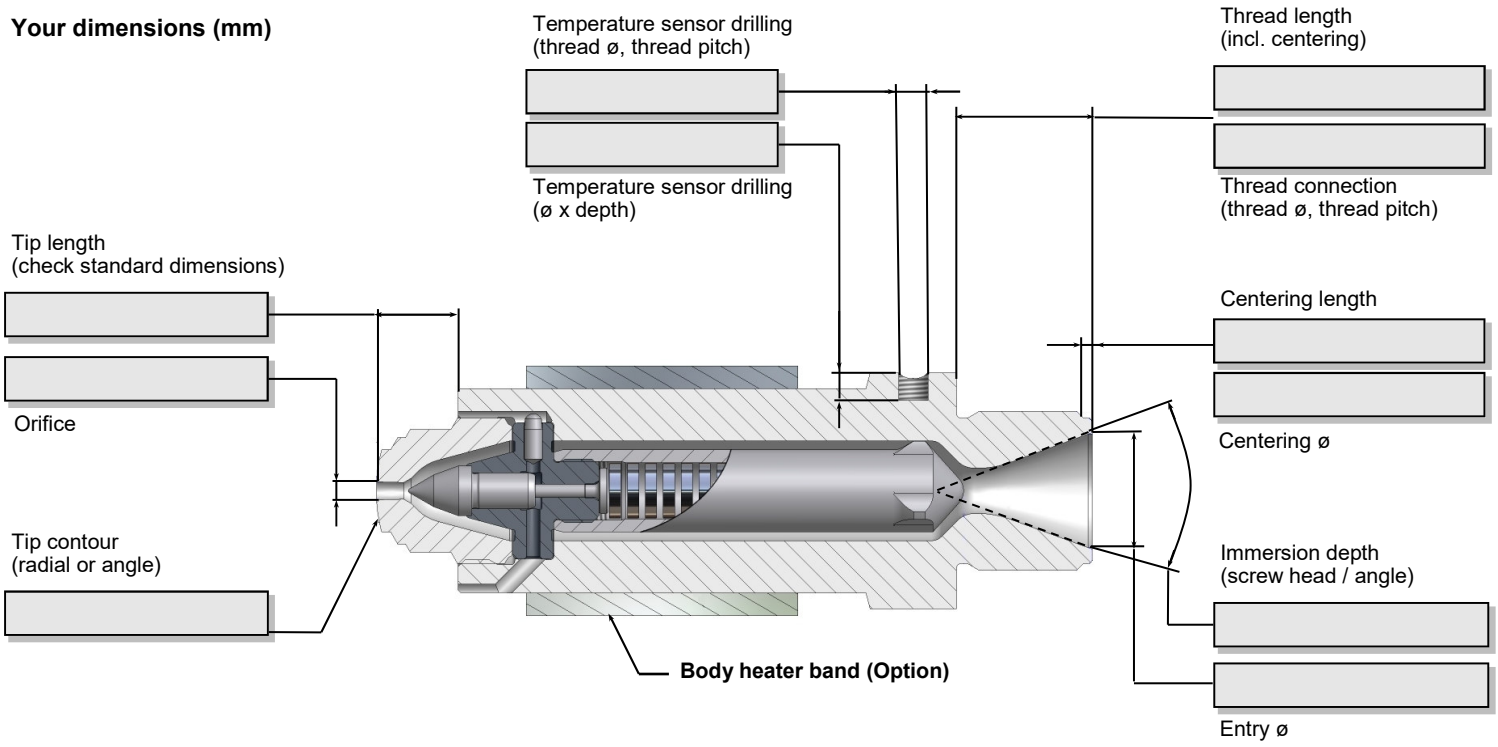
herzog®

Dimension sheet for enquiries		**or orders**		Machine needle shut-off nozzle type A(S), spring operated

Company:	Contact person:
Street:	Tel.:
City/Zip:	Fax:
Country:	E-Mail:

Operating data and standard dimensions	**A0**	**A1**	**A2**
max. injection rate cm^3 / s based on Polystyrene (PS)	45	500	1600
approx. screw diameter in mm	to approx. 20	to approx. 50	to approx. 120
contact force in kN	max. 30	max. 70	max. 120
max. back pressure	150 bar	150 bar	150 bar
min. injection pressure	200 bar	200 bar	200 bar
max. injection pressure at temperature	2000 bar at 350°C	2000 bar at 350°C	2000 bar at 350°C
standard tip length (other dimensions on request)	15 mm	18 / 28 mm	30 mm
max. orifice (larger drillings on request)	2.5 mm	5 mm	8 mm
body length; without **thread and tip length**	75 mm	110 mm	125 mm
heater band dimensions (inside ø * max. length)	ø40x55	ø45x65	ø60x90

Your dimensions (mm)



Nozzle size ☐ **A0** ☐ **A1** ☐ **A2**

Screw Ø | **Processed material**

Options

Temperature sensor - type J (FeCuNi)	**Yes**	☐
Body heater band	**Yes**	☐
Filter, gap size **A0** = 0.3 mm; **A1** = 0.5 mm; **A2** = 0.8 mm	**Yes**	☐
Tip with abrasion protection; recommended above 30% fillers	**Yes**	☐
Corrosion protection; recommended for additives such as flame retardants (only **A1** size)	**Yes**	☐

Customer information:
Technical modifcations reserved. We may need additional information for requirements which vary from our standard range e.g. drawing sample.
Our customer services will be pleased to help you.