Selection guide for OFS-standard-filternozzles:

nozzle type	S-nozzle	SR-nozzle	SF-nozzle	UR-nozzle	SF-filterinsert
material					
amorphous					
PMMA	●	●	□	□	□
ABS	●	●	●	●	●
SAN	●	●	●	●	●
PS	●	●	●	●	●
PVC	●	□	○	○	○
PC	●	□	○	○	○
semicrystalline					
PE	●	●	●	●	●
PP	●	●	●	●	●
PA	●	●	●	●	●
POM	●	□	○	○	○
additives					
flame retardants	●	●	□	□	□
reinforcements	●	●	□	□	□
***handling efforts**	-	-	-	-	-
***shot weights**	type I 150 g type II 500 g type III 1200 g type IV 2500 g type V 4000 g	type I 150 g type II 500 g type III 1200 g type IV 2500 g	type I 200 g type II 400 g type III 1200 g	type I 400 g type II 1300 g type III 3000 g	type I 200 g type II 400 g type III 1200 g

Clarification	**material:**	***handling efforts**	***shot weights**
	● suitable □ limited suitable ○ unsuitable	- no special knowledge needed (easy handling / only screw in and out of parts) + specific knowledge needed (requires handling in the correct sequence) ++ more specific knowledge needed (handling more complex than „+“)	The possible shot weight is dependent on the material (MFI/MVR), the filtration gap and the injection time. The data shown is only given as a tendency (the data is determined with a filtration gap and material PS).

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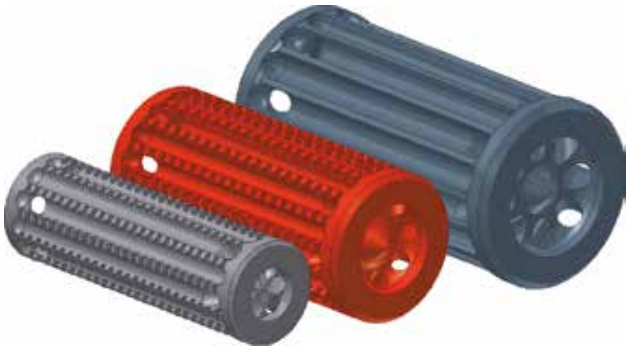
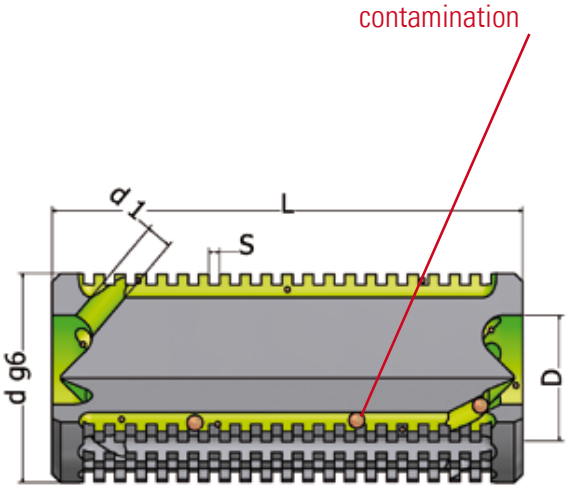
OFS-filterinsert



!!! filtersizes up from 0,2 mm possible!!!



mm	L	d	D	d1	S
type 1	45	ø 14	ø 8	ø 2.5	0.2, 0.3, 0.6, 0.8, 1.0
type 2	45	ø 20	ø 12	ø 2.8	0.2, 0.4, 0.6, 0.8, 1.0
type 3	50	ø 25	ø 16	ø 3.8	0.2, 0.4, 0.6, 0.8, 1.0

The measurements in the list can be delivered from stock. If other measurements are needed, please inquire.

Application fields:

- **characteristic:**

The OFS-filterinsert is a mechanical filter. It ensures the undisturbed processing on hot runner systems and moulds with small feed points.
The OFS-filterinsert prevents blockages of feed points caused through contamination. Because it's huge filtration surface, you get only a small pressure loss and friction.
A huge advantage of the OFS-filterinsert is it's very simple cleaning. The contaminations are filtered out at the diameter of the filter insert and can be removed through simple brush off.

The OFS-filterinsert can be delivered in three different sizes with several filtration gaps, as you can find in the list below.

- **function:**

The OFS-filterinsert is fitted in a hole in the nozzle. Its design is symmetrical, so that no mistakes can happened during the installation.
The melt flows through the drills on the one side into the run-in canals. These run in canals are closed at the other end so that the melt is diverted over the filtration gaps, which are positioned along the complete length of the run in canals. Through the filtration gaps, the contaminants are filtered out. The cleaned melt flows into the run-out canals, which are opened in the flow direction, so that the cleaned melt can be injected into the mould. The OFS-filterinsert ensures the filtration of every contamination, metallic or non-metallic (metal, glass, stones, wood, foreign granules,....) down to the smallest particle sizes.

OFS-filternozzle type S

Application fields:

- **suitable materials:**

The OFS-filternozzle type S is highly suitable for processing all technical plastic materials. The nozzle is particulary suitable when frequent changes of color and material are carried out.
Because of the optimally rheological design, the nozzle is also suitable for reinforced materials. But for reinforced materials, we recommend special coatings. The coatings counteract the abrasive and corrosive attacks of the reinforced materials and increase the life span of the filternozzle.

- **shot weights:**

The possible shot weight is dependent on the material, the filtration gap and the injection time. The OFS-filternozzle type S is offered in five sizes. As a guide, the following datas can be used (filtration gap S= 0.6 mm and material PS)

type SI → appr. 150 g
type SII → appr. 500 g
type SIII → appr. 1200 g
type SIV → appr. 2500 g
type SV → appr. 4000 g

- **cleaning-expenditure:**

Very simple handling (screw in and out of parts).

- **filtration gap:**

Filtertorpedos with filtration gaps (mm)
S= 0.25, 0.3, 0.4, 0.6, 0.8, 1.0, 1.2, 1.4, ...
can be delivered from stock.

Handling:

1. Lift of aggregate.
2. Spray off.
3. Pressure relief (move back the screw).
4. Screw out nozzlehead (5) (ring spanner is included in the delivery).
5. Take out filtertorpedo (2).
6. If necessary, remove remaining material carefully.
7. Install the changing-set (nozzlehead and filtertorpedo) and tighten it (handle thread with heat resistant molycote).
8. Start again injection moulding process.
9. Clean changing-set (nozzlehead and filtertorpedo) for next cleaning-process.

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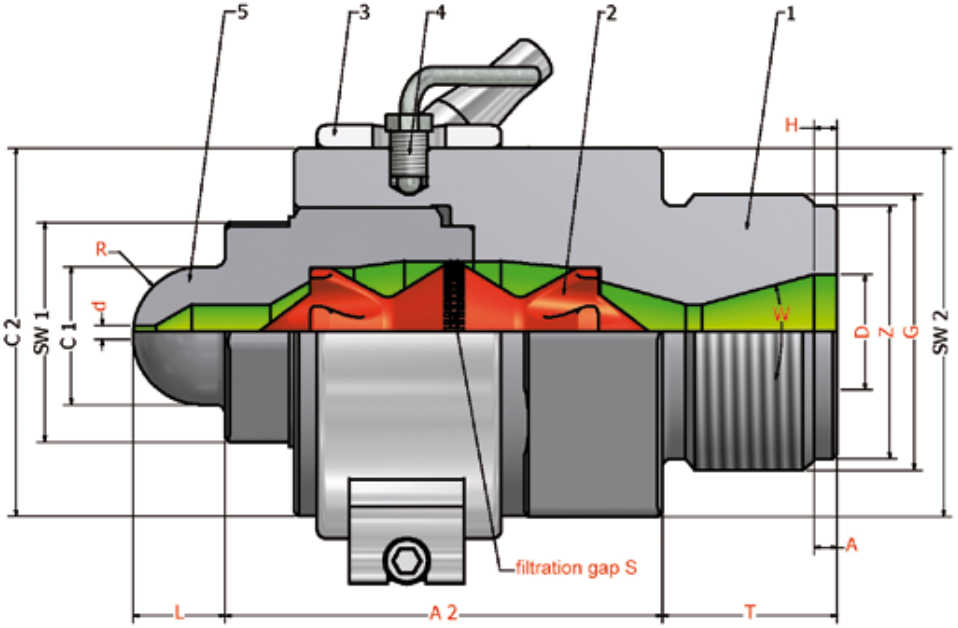
Dimensions

datas and standard dimensions (mm)		SI	SII	SIII	SIV	SV
possible shot weight*	gr.	150	500	1.200	2.500	4.000
max. injection pressure	bar	3.000	3.000	3.000	3.000	3.000
length	A2	75	96	125	154	198
head diameter	C1	30	30	40	40	60
base diameter	C2	60	80	100	110	130
head hexagon	SW1	32	46	60	60	80
base hexagon	SW2	60	80	90	90	100

*at PS and S= 0,6 mm

1 nozzle base
2 filtertorpedo
3 heater
4 thermocouple
5 nozzlehead

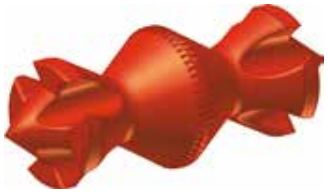


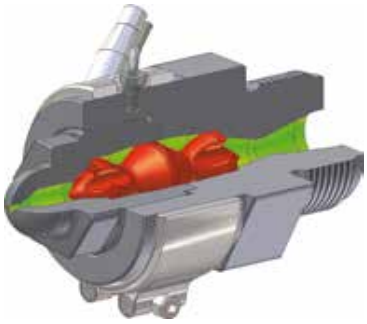
required dimensions (mm)			required informations		
machine thread	G		material (MFI)		
T/ A/ D/ Z/ W°/ H		specify if required	shot weight	gr.	
filtration gap	S		melt temperature	C°	
length of nozzlehead	L		injection time	sec	
drill	d		injection pressure (specific)	bar	
radius / surface	R		machine type		
			screw diameter	mm	

additional options:

- with shut-off function
- nozzlehead with dip nozzle
- nozzlehead with internal thread
- with mixing insert
- nozzle base with needle seat
- etc.

filtration gap up from S= 0,25 mm
filter gap up from SP= 0,1 mm





OFS-filternozzle type SR

Handling:

1. Lift of aggregate.
2. Spray off.
3. Pressure relief (move back the screw).
4. Screw out nozzlehead (6) to the marked of cleaning-position (7) (ring spanner is included in the delivery)
   ! Attention, safety warning, screw out only to marked position !
5. Reduce injection pressure. Spray off once or twice in the open air. Observe the safety-regulations!
6. Screw in nozzlehead (6) and tighten it.
7. Start again process of moulding injection.

Application fields:

- **suitable materials:**
  The OFS-filternozzle type SR is highly suitable for processing all technical plastic materials. Because of the optimally rheological design, the nozzle is also suitable for slightly reinforced materials. But for reinforced materials, we also recommend special coatings. The coatings counteract the abrasive and corrosive attacks of the reinforced materials and increase the life span of the filternozzle.

- **shot weights:**
  The possible shot weight is dependent on the material, the filtration gap and the injection time. The OFS-filternozzle type SR is offered in four sizes. As a guide, the following data can be used (filtration gap S= 0.6 mm and material PS):

  type SRI → appr. 150 g
  type SRII → appr. 500 g
  type SRIII → appr. 1200 g
  type SRIV → appr. 2500 g

- **cleaning-expenditure:**
  Very simple handling (screw in and out nozzlehead)

- **filtration gap:**
  Filtertorpedos with filtration gaps (mm)
  S= 0.25, 0.3, 0.4, 0.6, 0.8, 1.0, 1.2, 1.4, ...
  can be delivered from stock.

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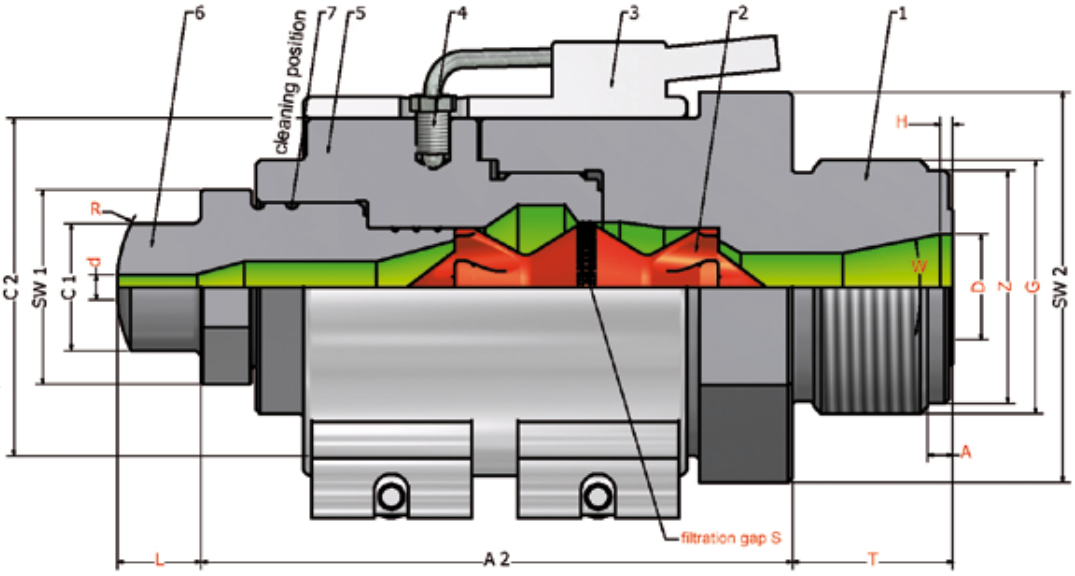
Dimensions

datas and standard dimensions (mm)		SRI	SRII	SRIII	SRIV
possible shot weight*	gr.	150	500	1.200	2.500
max. injection pressure	bar	2.500	2.500	2.500	2.500
length	A2	115	140	190	220
head diameter	C1	30	30	40	40
base diameter	C2	60	80	100	110
head hexagon	SW1	32	46	60	60
base hexagon	SW2	60	80	90	90

*at PS and S= 0,6 mm

1 nozzle base
2 filtertorpedo
3 heater
4 thermocouple
5 guide piece
6 nozzle head
7 marking
"cleaning position"

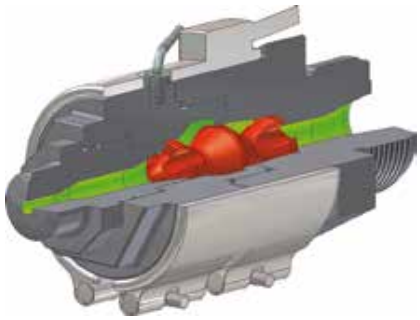


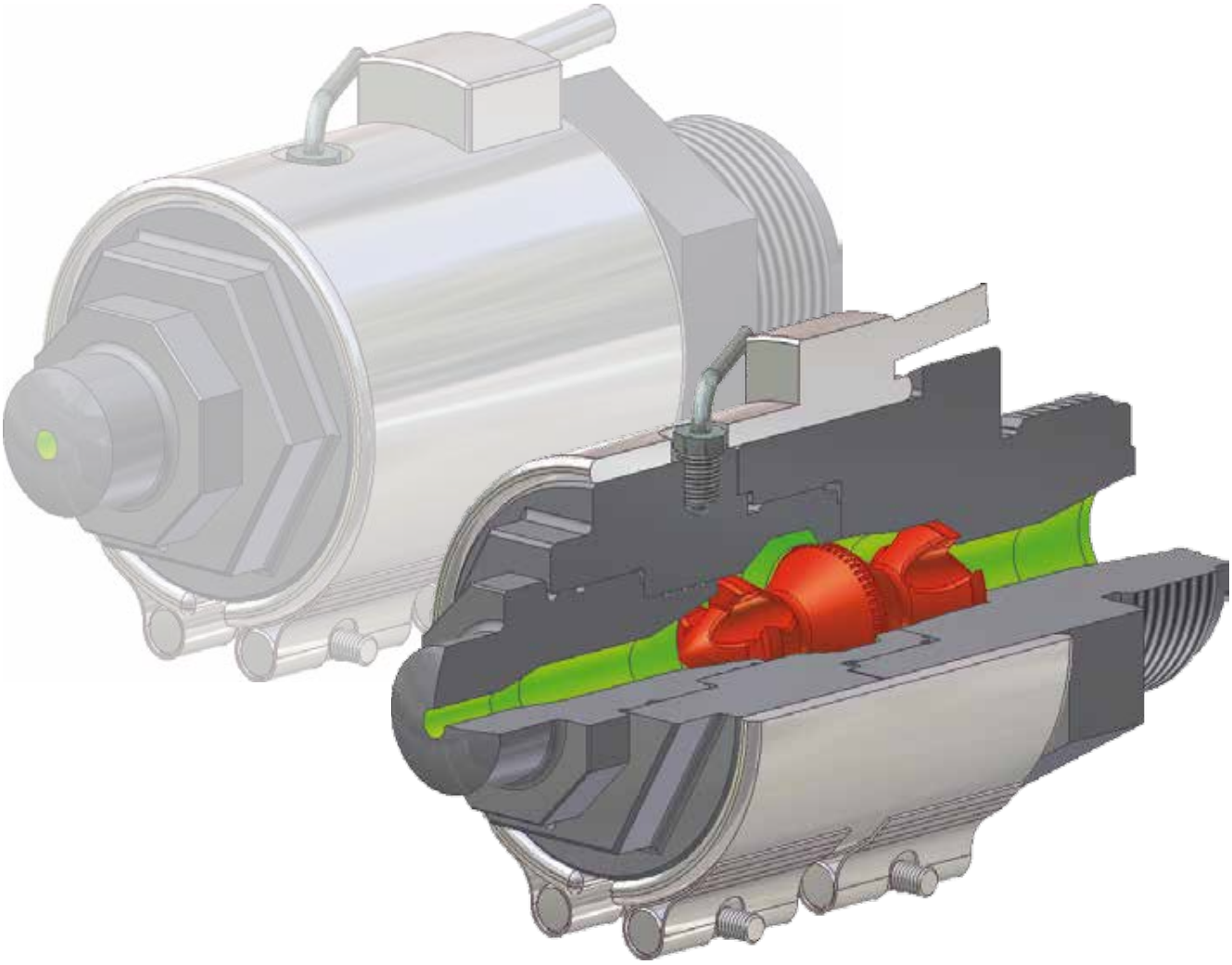
required dimensions (mm)			required informations		
machine thread	G		material (MFI)		
T/ A/ D/ Z/ W°/ H		specify if required	shot weight	gr.	
filtration gap	S		melt temperature	C°	
length of nozzlehead	L		injection time	sec	
drill	d		injection pressure (specific)	bar	
radius / surface	R		machine type		
			screw diameter	mm	

additional options:

- with shut-off function
- nozzle head with dip nozzle
- nozzlehead with internal thread
- with mixing insert
- nozzle base with needle seat
- etc.

filtration gap up from S= 0,25 mm
filter gap up from SP= 0,1 mm





OFS-filternozzle type SR

the optimum nozzle
for engineering plastics
with quick cleaning

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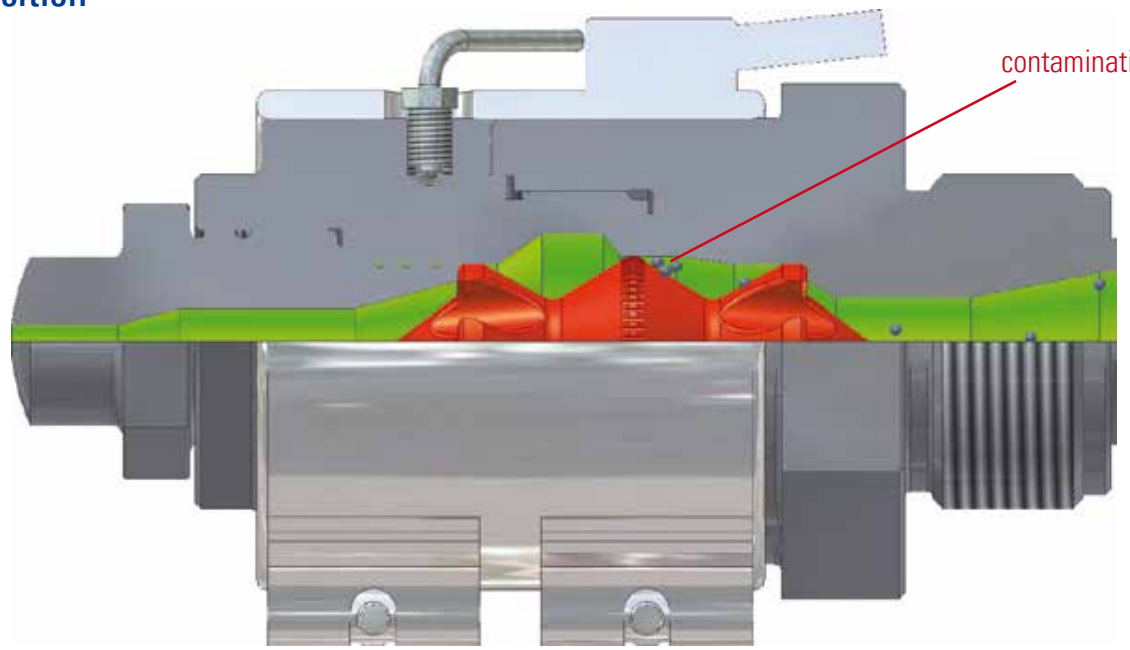
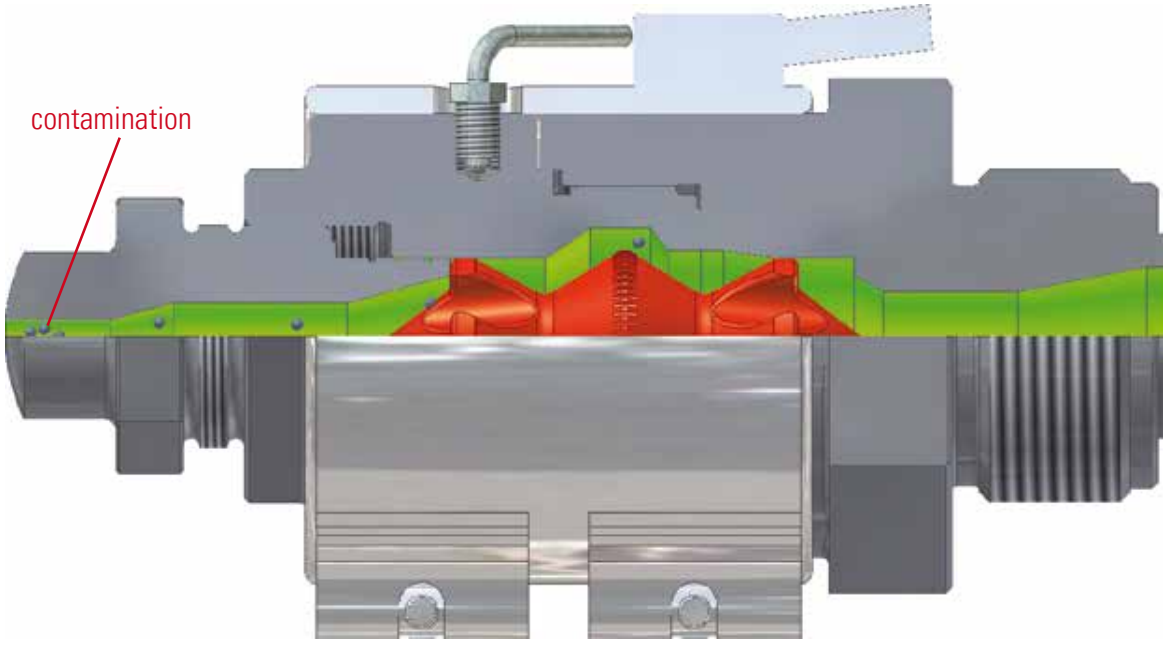
filter position



cleaning position



! Attention, safety warning, screw out only to marked position !

OFS-filternozzle type SF

Handling:

1. Lift off aggregate.
2. Spray off.
3. Pressure relief (move back the screw).
4. Screw out nozzlehead (5) (ring spanner is included in the delivery).
5. Take out filterinsert (2).
6. If necessary, remove remaining material carefully. Sealing surfaces must be clean.
7. Put in changing-set (nozzlehead and filter insert) and tighten it (handle thread with heat resistant molycote).
8. Start again injection moulding process.
9. Clean changing-set (nozzlehead and filter insert) for the next cleaning-process.

application fields:

- **suitable materials:**
  The OFS-filternozzle type SF is highly suitable for processing of all unreinforced standard-plastics (f.e. PE, PP, PS, ABS, PA). For reinforced materials, like glass fibre and flame retardant, the nozzle is not suitable. Because of the change in the flow direction while the filtration, the nozzle has an additionally homogenization or mixing effect, especially for applications with blended materials.

- **shot weights:**
  The possible shot weight is dependent on the material, the filtration gap and the injection time. The OFS-filternozzle type SF is offered in 3 sizes. As a guide, the following datas can be used (filtration gap S= 0.6 mm and material PS):

  type SFI → appr. 200 g
  type SFII → appr. 400 g
  type SFIII → appr. 1200 g

- **cleaning-expenditure:**
  Very simple handling (screw in and out parts).

- **filtration gap:**
  Filterinserts with filtration gaps (mm)
  up from S= 0.2 mm can be delivered from stock

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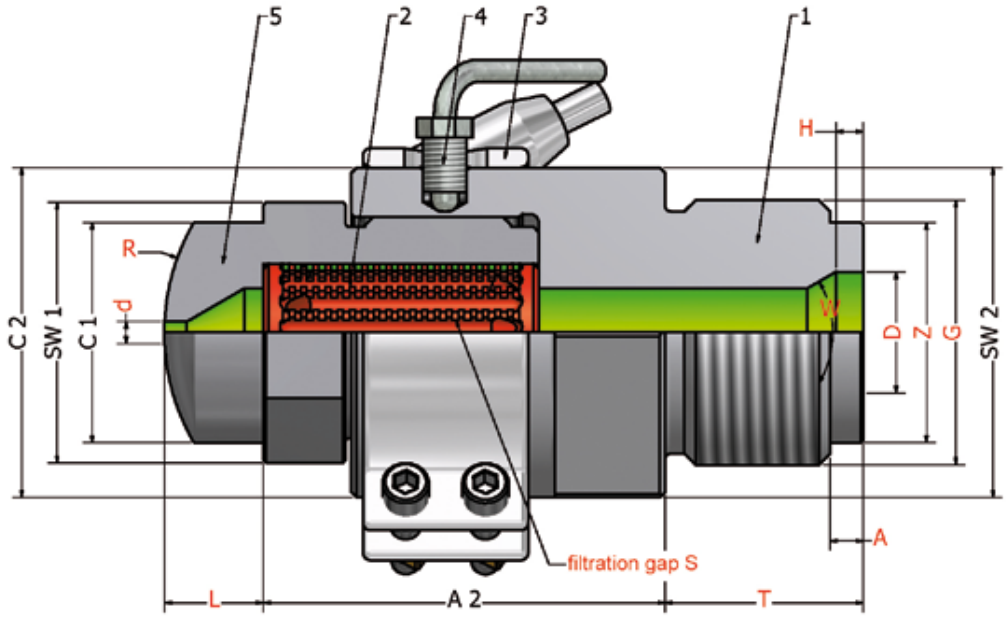
Dimensions

datas and standard dimensions (mm)		SFI	SFII	SFIII
possible shot-weight*	gr.	200	400	1.200
max. injection pressure	bar	3.000	3.000	3.000
length	A2	55	71	71
head diameter	C1	24	40	40
base diameter	C2	40	60	60
head hexagon	SW1	27	41	41
base hexagon	SW2	41	60	60

*at PS and S= 0,6 mm

1 nozzle base
2 filterinsert
3 heater
4 thermocouple
5 nozzlehead



required dimensions (mm)			required informations		
machine thread	G		material (MFI)		
T/ A/ D/ Z/ W°/ H		specify if required	shot weight	gr.	
filtration gap	S		melt temperature	C°	
length of nozzlehead	L		injection time	sec	
drill	d		injection pressure (specific)	bar	
radius / surface	R		machine type		
			screw diameter	mm	

additional options:

- with shut-off function
- nozzlehead with dip nozzle
- nozzlehead with internal thread
- with mixing insert
- nozzle base with needle seat
- etc.

filtration gap up from S= 0,25 mm
filter gap up from SP= 0,1 mm

OFS-filternozzle type UR

Handling:

1. Lift of aggregate.
2. Spray off.
3. Pressure relief (move back the screw).
4. Screw out nozzlehead (5) to the beginning of the thread (6). According to the nozzle-type 4-8 mm (ring spanner is included in the delivery).
   ! Attention, safety warning, screw out only to marked position !
5. Reduce injection pressure. Spray off once or twice in to the open. Observe the safety-regulations!
6. Screw in nozzlehead (5) and tighten it.
7. Start again injection moulding process.

Application fields:

- **suitable materials:**
  The OFS-filternozzle type SF is highly suitable for processing of all unreinforced standard-plastics (f.e. PE, PP, PS, ABS, PA). For reinforced materials, like glass fibre and flame retardant, the nozzle is not suitable. Because of the change in the flow direction while the filtration, the nozzle has an additionally homogenization or mixing effect, especially at applications with blend.

- **shot weights:**
  The possible shot weight is dependent on the material, the filtration gap and the injection time. The OFS-filternozzle type UR is offered in three sizes. As a guide, the following data can be used (filtration gap S= 0.6 mm and material PS):

  type URI → appr. 400 g
  type URII → appr. 1300 g
  type URIII → appr. 3000 g

- **cleaning-expenditure:**
  Very simple handling (Screw in and out nozzlehead)

- **filtration gap:**
  Filter inserts with filtration gaps (mm) up from S= 0.2 mm can be delivered.

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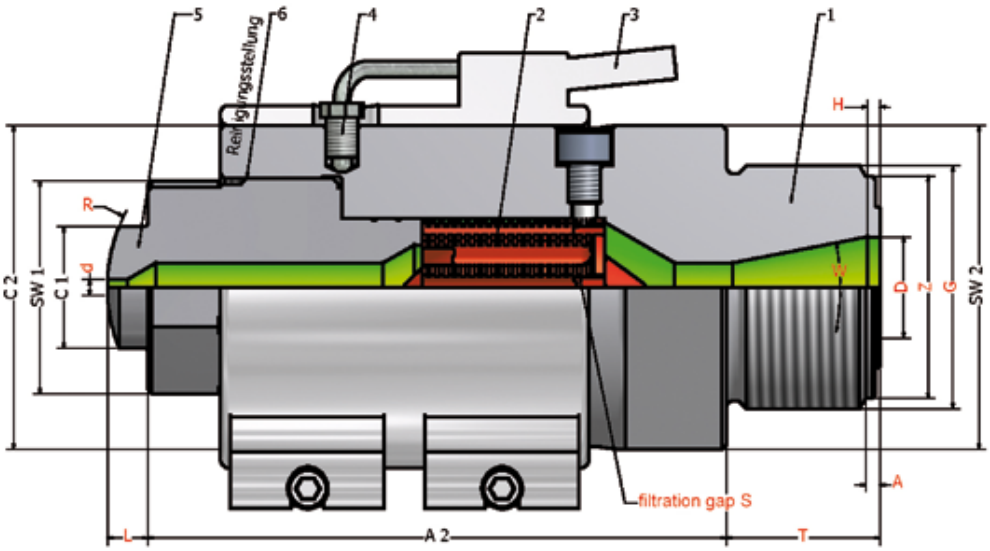
Dimensions

datas and standard dimensions (mm)		URI	URII	URIII
possible shot-weight*	gr.	400	1.300	3.000
max. injection pressure	bar	3.000	3.000	3.000
length	A2	115	140	170
head diameter	C1	30	30	40
base diameter	C2	60	80	100
head hexagon	SW1	32	46	60
base hexagon	SW2	60	80	90

*at PS and S= 0,6 mm

1 nozzle base
2 filterinsert
3 heater
4 thermocouple
5 nozzlehead
6 beginning
of the thread

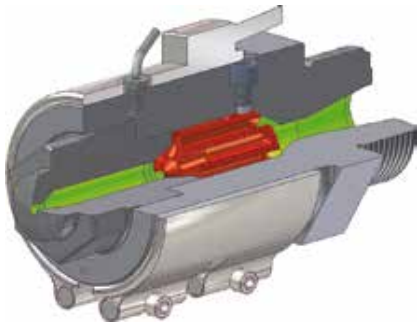


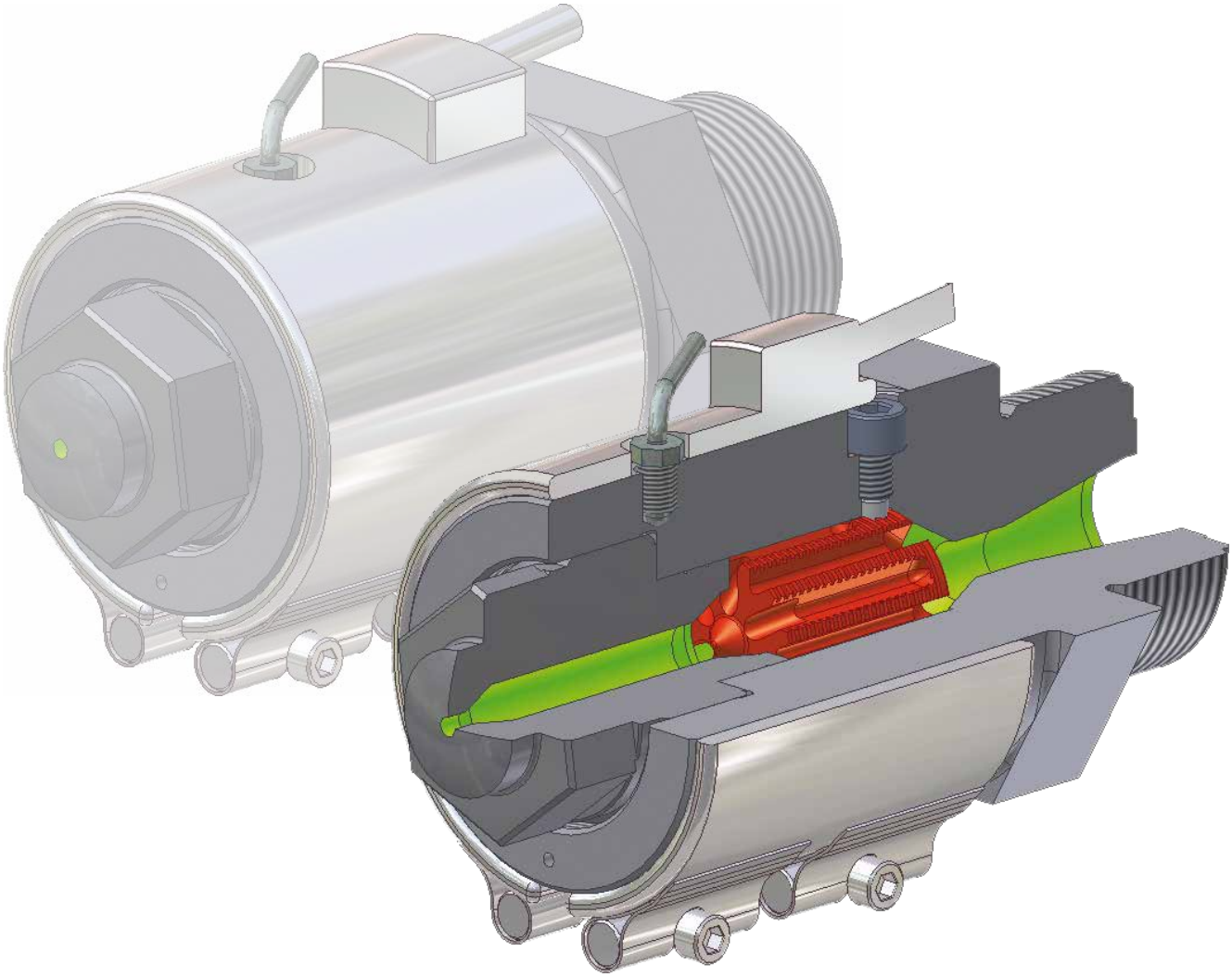
required dimensions (mm)			required informations		
machine thread	G		material (MFI)		
T/ A/ D/ Z/ W°/ H		specify if required	shot weight	gr.	
filtration gap	S		melt temperature	C°	
length of nozzlehead	L		injection time	sec	
drill	d		injection pressure (specific)	bar	
radius / surface	R		machine type		
			screw diameter	mm	

additional options:

- with shut-off function
- nozzlehead with dip nozzle
- nozzlehead with internal thread
- with mixing insert
- nozzle base with needle seat
- etc.

filtration gap up from S= 0,2 mm
filter gap up from SP= 0,1 mm





OFS-filternozzle type UR

the optimum nozzle
for standard plastics
with quick cleaning

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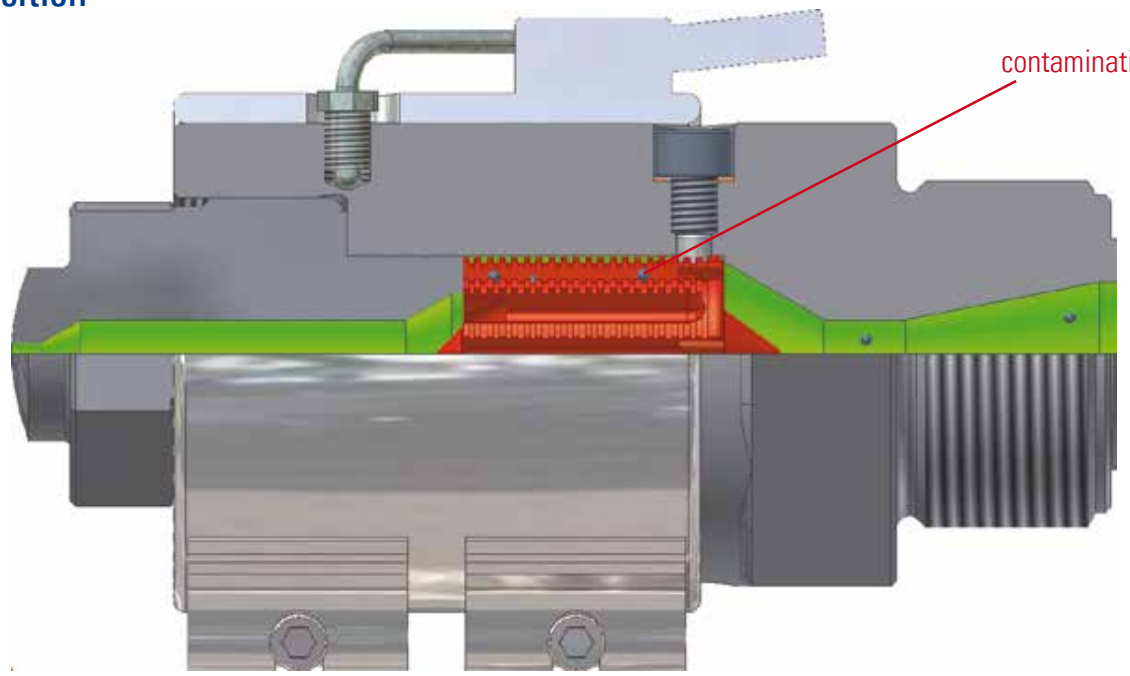
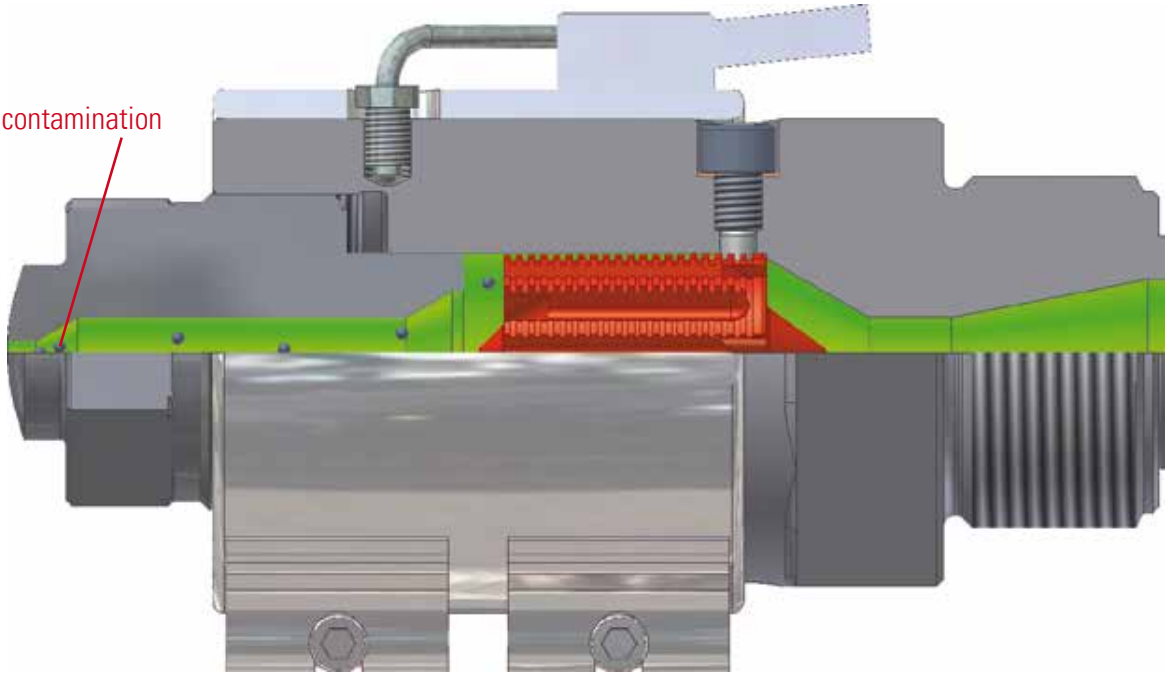
filter position

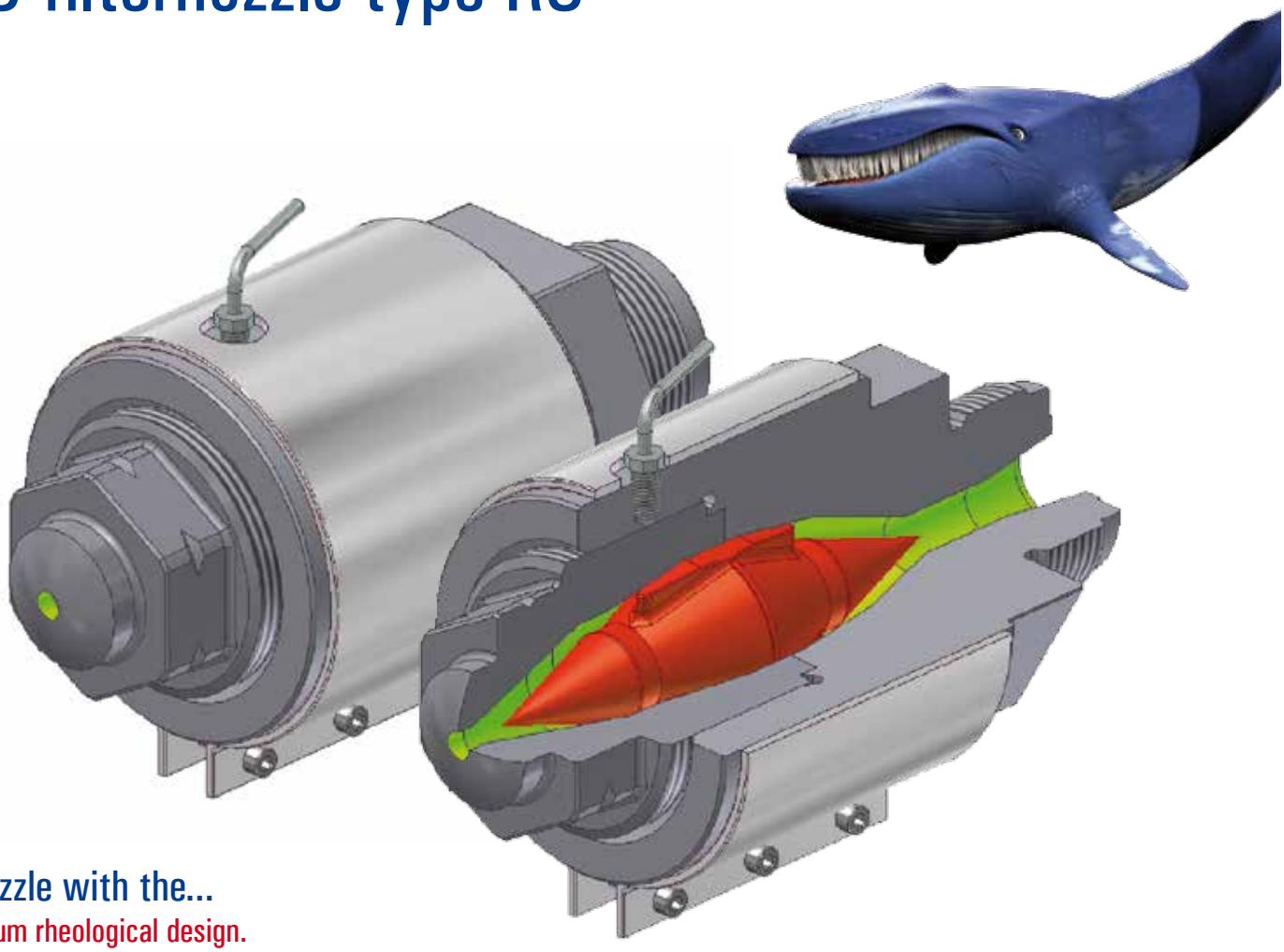


cleaning position



! Attention, safety warning, screw out only to marked position !

OFS-filternozzle type RS



the nozzle with the...

...optimum rheological design.

for use at:

- extreme shear and friction sensitive plastics
- extreme slow moving materials (low MFI)

This nozzle is available on request!