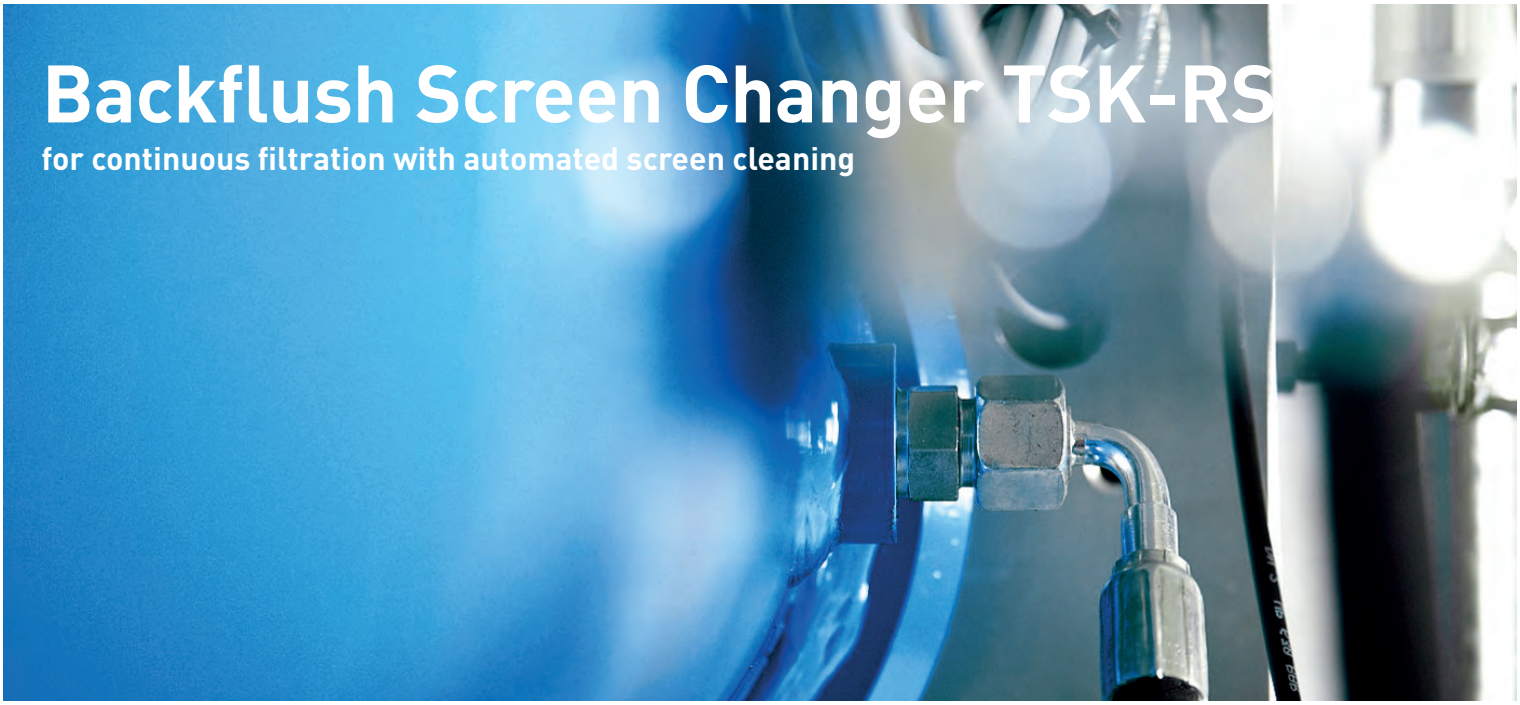
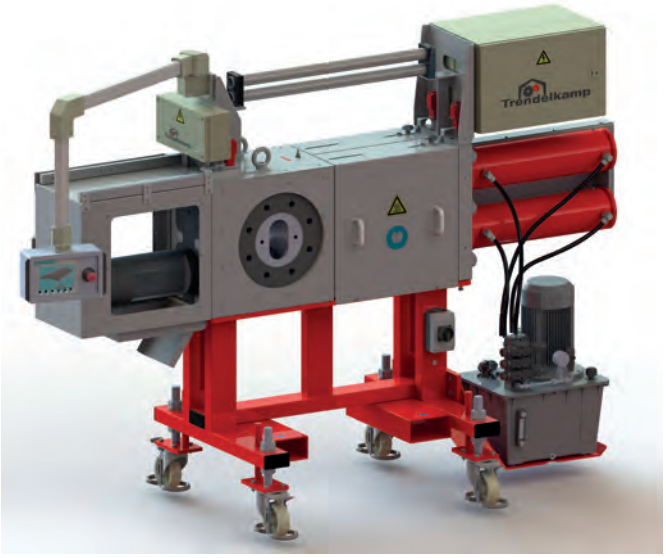
Trendelkamp

Polymer Technology
>>>

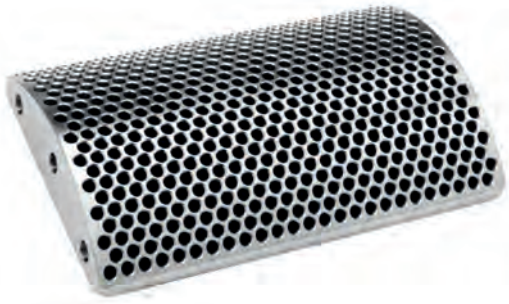
Backflush Screen Changer TSK-RS

for continuous filtration with automated screen cleaning





- Two screen cavities
- Integrated backflush feature
- Rectangular breaker plate



Continuous screen changers from Trendelkamp are built to meet the highest quality standards in polymer melt filtration. TSK-RS backflush screen changers are based on the proven dual bolt design and are highly reliable.

Unique to all Trendelkamp screen changers are the curved and rectangular breaker plates. Utilizing this rectangular design offers the largest screen area per bolt size, enabling smaller overall machine sizes to operate greater throughputs. Furthermore, our thin, curved breaker plate design optimizes strength while maintaining more uniform bore length throughout the plate. The integrated backflush feature cleans each filtration screen pack when a predetermined level of contamination is reached. This feature increases the lifetime of filtration screen packs significantly, thus reducing overall operational costs.

Benefits:
- Reliable continuous operation
- Lower screen cost
- Reduced shear stress on product
- Reduced pressure drop across screen changer
- Safe, easy operations and reduced maintenance
- Extended screen life

Design Options:
- Oil, steam, or electrical heating
- High-temperature design, up to 450°C
- Special coating for abrasive/corrosive applications
- Stainless steel design
- Hazardous area design

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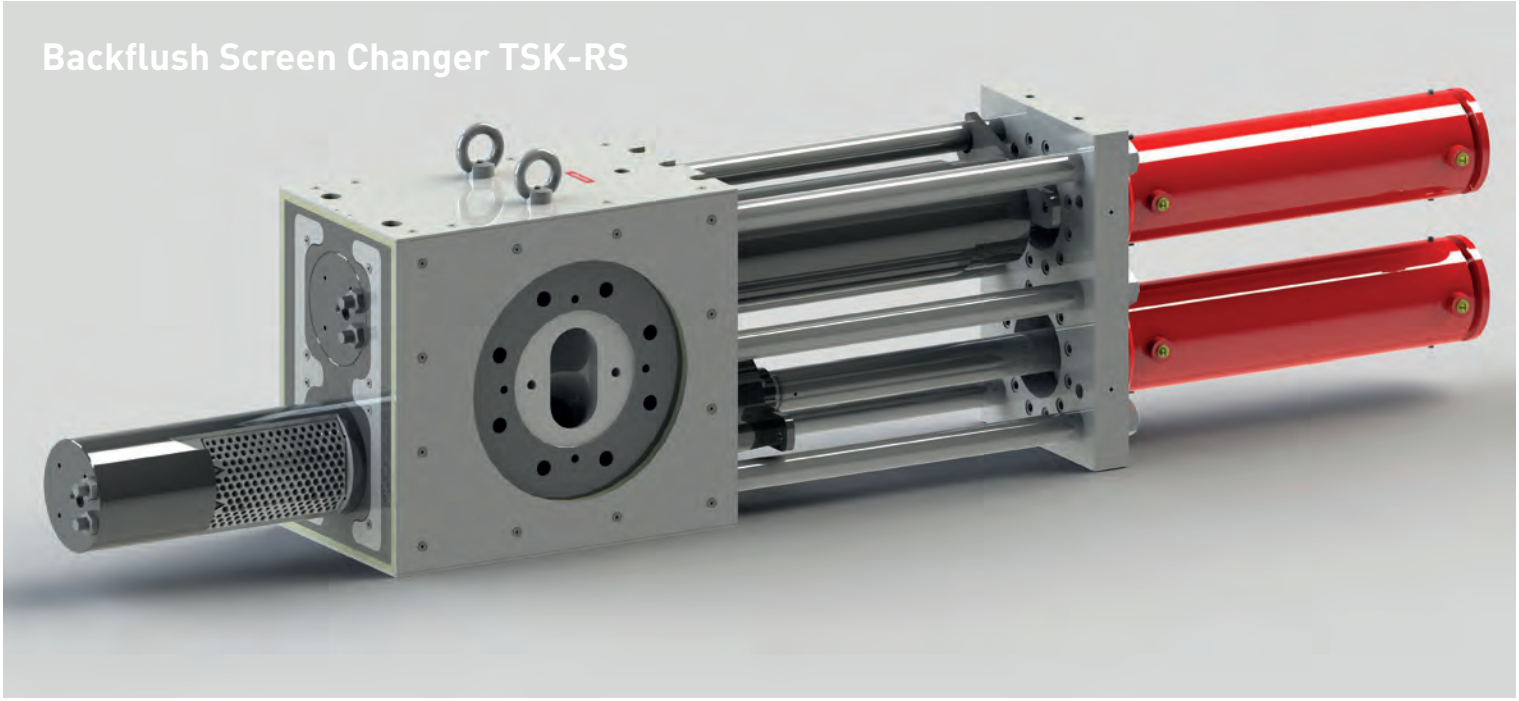


Functional Principle:

A rheological optimized flow channel divides the incoming polymer melt into two screen cavities equally. Inside the screen cavity a breaker plate is equipped with a filtration screen pack suitable for the required filtration fineness. Downstream of the screens the filtered melt streams converge and flow out of the screen changer housing as a single stream.
When a predetermined level of contamination is reached, one bolt moves to the backflush position while the other bolt remains in production mode. Within the backflush position, a small portion of the downstream polymer melt is pushed through the screen pack from the opposite direction, thus removing contamination from the screen. After the screen has been cleaned it moves back into the production position. The process is then repeated for the other bolt.
When a screen change is required, one bolt is moved hydraulically out of the housing so the screen pack can be changed. The other bolt remains in operating position and continues the melt flow. After the screen is changed the bolt moves to a venting position to prevent air from entering the production process before resuming operation. These steps are then repeated for the other bolt.

Control Options:

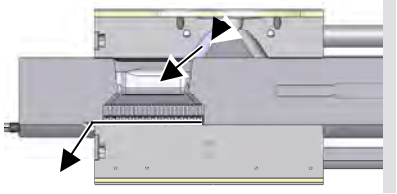
- PLC control system (automatic venting)
- Control system preparation for external PLC
- Heating control system
- Pressure and temperature monitoring

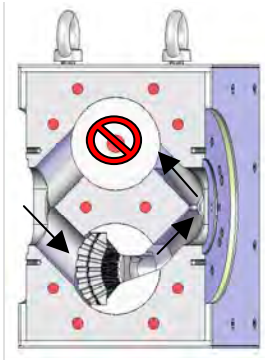
Design Features:

- Hydraulically operated
- Operating limits: 400 bar/400°C
- Differential pressure: up to 100 bar
- Energy efficient due to insulated housing
- LED Heating status indicator (from TSK 6-2)
- LED Bolt maintenance indicator (from TSK 6-2)

Applications:

- Compounding
- Recycling
- Masterbatch
- Polymerization
- Fiber
- Sheet/Film
- Profile/Pipe





Backflush position

Backflush Screen Changer TSK-RS >>> Data based on: Polyolefin's, Filter fineness 200 µm				
Model	**Filter Area**	**Extruder Throughput**	**Heating Power**	**Hydraulic Power**
TSK 4-2 RS	2 x 87 cm²	bis 500 kg/h	6,0 kW	3,0 kW
TSK 5-2 RS	2 x 161 cm²	bis 1.100 kg/h	9,0 kW	3,0 kW
TSK 6-2 RS	2 x 270 cm²	bis 1.650 kg/h	16,0 kW	5,5 kW
TSK 7-2 RS	2 x 437 cm²	bis 3.000 kg/h	18,0 kW	5,5 kW
TSK 8-2 RS	2 x 538 cm²	bis 5.000 kg/h	25,6 kW	5,5 kW
TSK 9-2 RS	2 x 759 cm²	bis 7.500 kg/h	41,6 kW	7,5 kW
TSK 10-2 RS	2 x 875 cm²	bis 10.000 kg/h	51,2 kW	7,5 kW