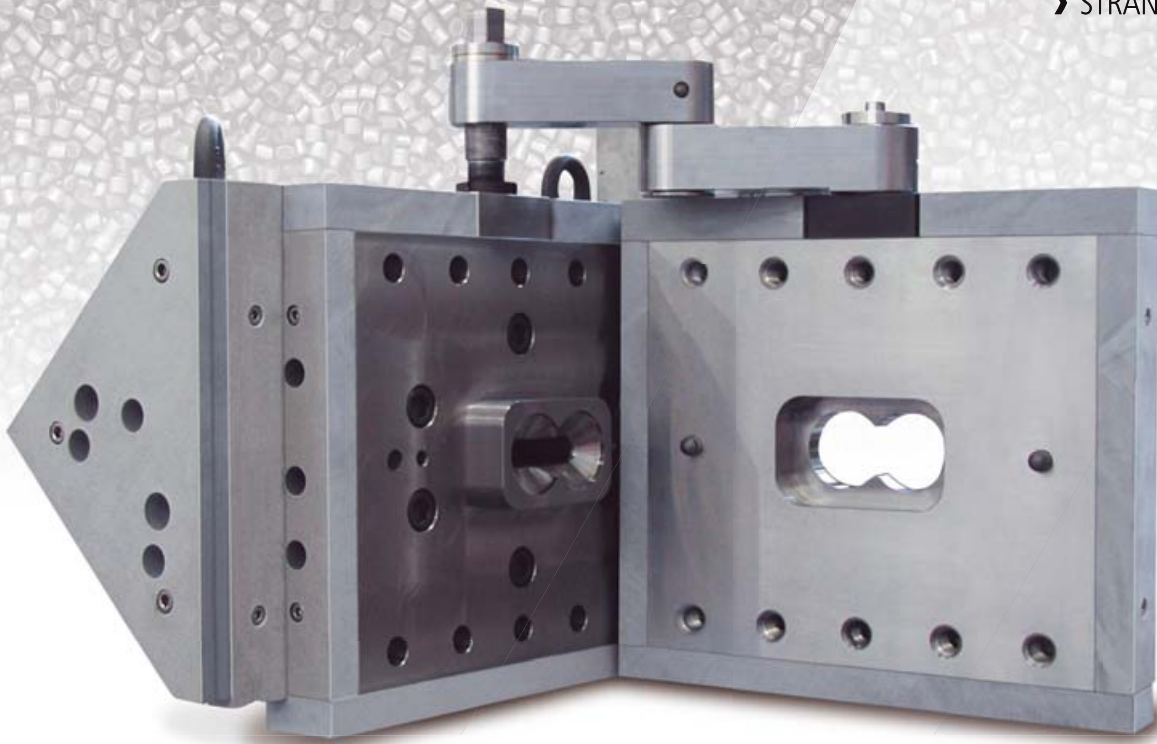


PELLETIZING SYSTEMS >

> STRAND PELLETIZING



SG

Die heads for compounding and masterbatch

Die heads or pelletizing units are used in strand pelletizing systems for extrusion of strand profiles. They are responsible for even strand flow and uniform pellet shape.

SG series die heads have been specifically developed for applications in masterbatch, compounding and recycling processes. Adapted to your process and product, they can be used downstream of single or dual screw extruders, pumps or melt filters.



Your benefits

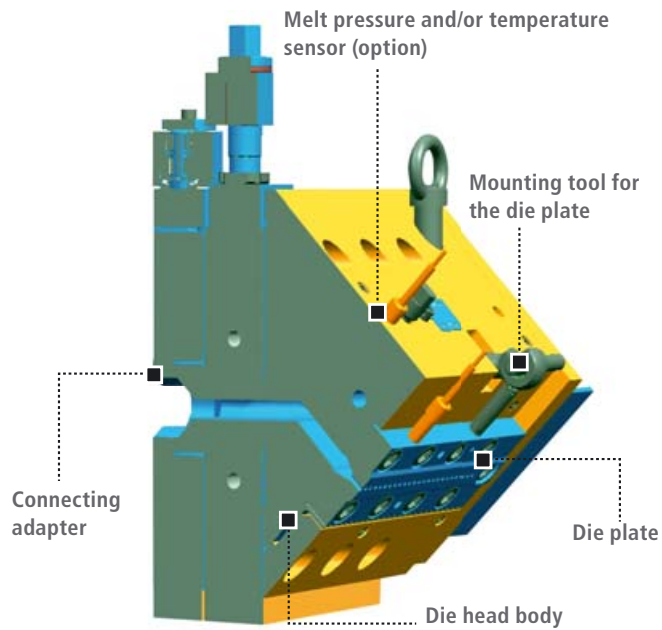
- Uniform and homogeneous melt distribution
- Minimized dwell-time and short flow path of the melt
- No separation or de-mixing of the components
- Minimum pressure drop
- Simple and easy cleaning
- Mounting tool for the die plate
- Cleaning Device for reduction of die drools (Hot-Air-Knife)

SG-C

Die head for compounding

Options

- Connecting adapters for all extruder types and other up-stream components (e. g. melt pump, melt filter)
- Die plate with wear protection
- Swivel joint for quick access to the extruder screws
- Adapters for melt pressure and temperature sensors
- Die scrapers for the start-up of automatic pelletizing lines (JSG)
- Cleaning Device for reduction of glass fiber die drools (Hot-Air-Knife)

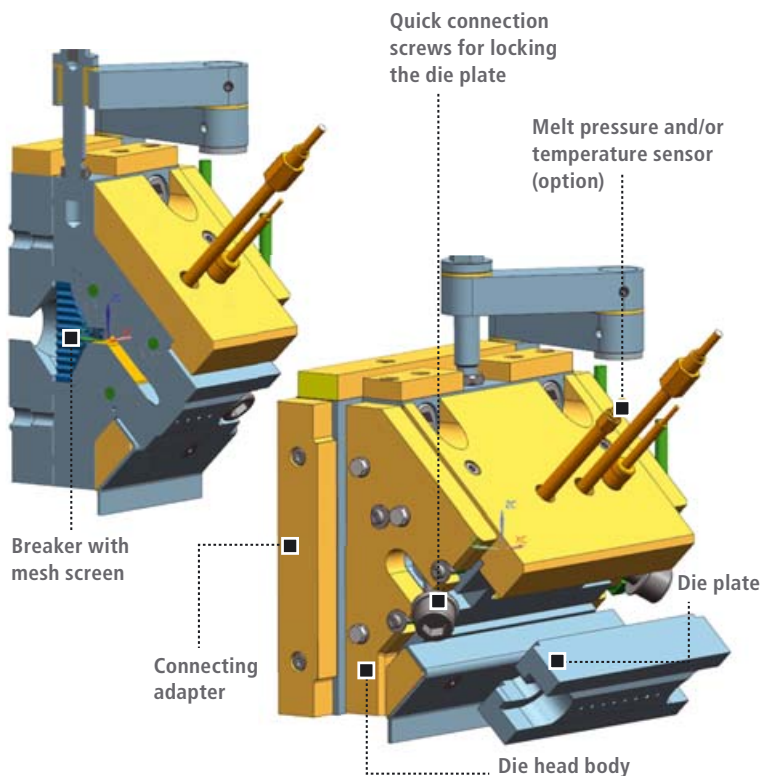


SG-M

Die head for masterbatch

Options

- Connecting adapters for all extruder types and other up-stream components (e. g. melt pump, melt filter)
- Fast material changeovers due to quick connection system for die plates and easy clean pivot design
- Integrated breaker with mesh filter for breaking agglomerates, blending product and avoid blocking of die plate
- Die plate with wear protection available
- Swivel joint for quick access to the extruder screws
- Adapters for melt pressure and temperature sensors
- Available in working width of 50 and 100 mm
- Hot Air Knife cleaning device for reducing deposits like pigments available



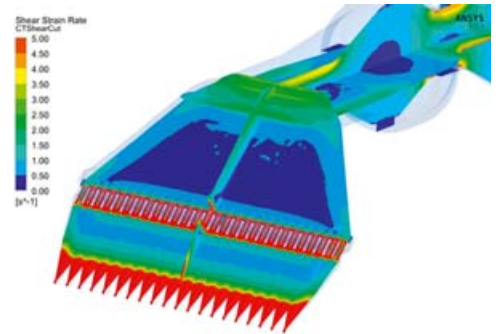
SG

Die heads for compounding and masterbatch

CFX Analysis

Requirements for a uniform geometrical shape and the most uniform pellet size possible rank very highly. Pellets are produced by mechanical cutting of the melt or of the extruded strands. In designing and dimensioning the die heads, very complex physical relationships must be analyzed. When knowing the material properties and composition of the melt it is possible to design the perfect geometry of the die head.

The following image shows, as example, the simulated shear rate in an insulated die head under adiabatic conditions. Depending on material throughput and process temperature with the results of specific CFX-analysis it is possible to predict melt distribution in the die plate and thus the uniformity of pellet diameter. To go one step further also the demixing behavior can be simulated in advance using a two-phase-CFX analysis.



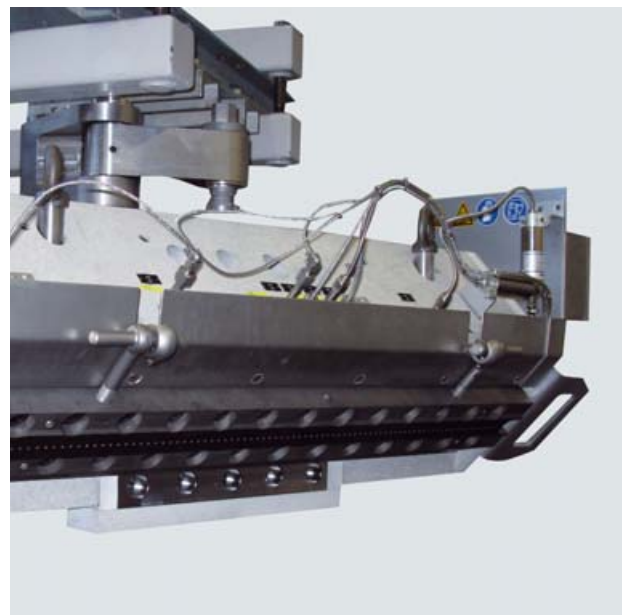
Shear stress rate analysis of SG100 with breaker and mesh filter

SG-M and SG-C - established equipment for optimized processes

Both die heads the SG-M and the SG-C are established in various applications. When it comes to challenging processes it is necessary to have a look at the quality and suitability of the equipment especially in the upstream process line. High content of fillers like glass fibers, minerals, color pigments, uv stabilizer etc. make the production of high quality pellets more complex and requires further attention to the process. Paying attention to the most suitable upstream equipment will result in better product quality and less effort in the downstream process. The design of both die heads is next to the rheologic optimized melt channel focused on excellent accessibility and minimized dead spots in the product area and make them therefore a good partner when fast material changeovers and excellent capabilities for cleaning are necessary. Combined with the patented hot air knife (HAK) technology which avoids the build-up of deposits at the die plate the extrusion process is taken to a new level.



SG100M



Stranggiesser SG900C

SG

Die heads for compounding and masterbatch

Technical data:	SG 50 C/M	SG 100 C/M	SG 200 C	SG 300 C	SG 450 C	SG 600 C	SG 900 C
Design pressure [bar]:	160	160	160	160	160	160	160
Design temperature [°C]:	350	350	350	350	350	350	350
Heating power [kW]:	1	2	3	4.5	7.5	9	10
Number of heating zones:	1	1	1	2	4	4	4
Type of heating:	Heating rods						
Insulation:	Mineral fiber plates attached to the surface of the die head body						

Hot Air Knife (HAK)

The Hot Air Knife (HAK) has been specially designed to reduce deposits at the die plate to an absolute minimum and increase efficiency of the extrusion process. It uses heated and pressurized air that eliminates die drool residues and thus avoids build-up of deposits which cause contaminations. The HAK is suitable for different operating sizes from 100 mm up to 900 mm and can be integrated directly at the die head or run by an autarkic control system, as shown below. This means in effect maximum flexibility regardless of the type of die head or other downstream equipment. Trials under real production conditions on customer's side have shown that the risk of product containment can be reduced by 90%.



Stand alone HAK integrated in WSG extrusion line

