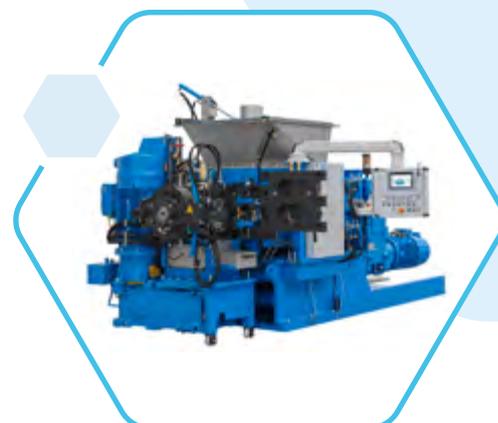


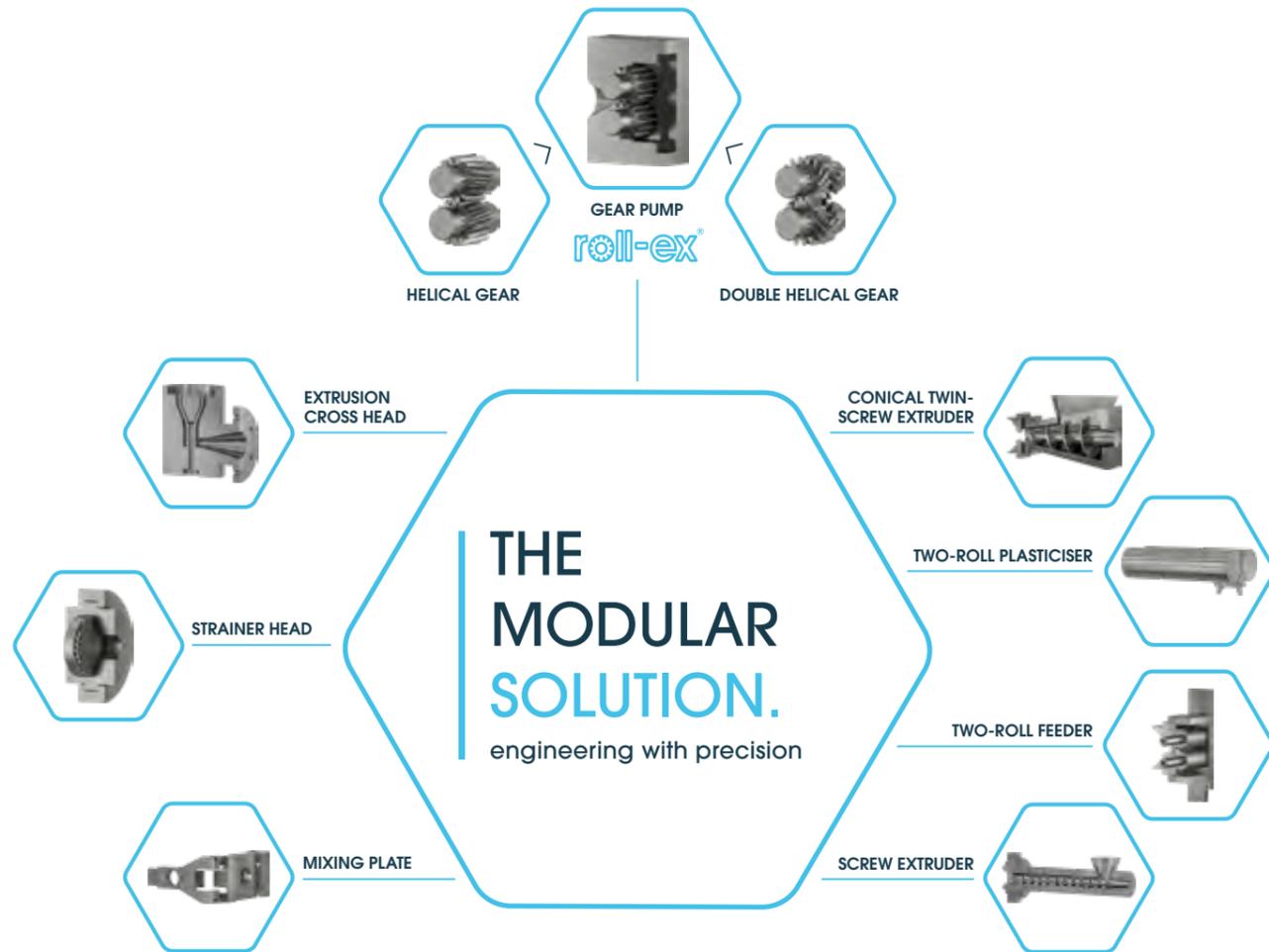


SILICONE PROCESSING

engineering with precision



THE MODULAR SOLUTION FOR SILICONE PROCESSING



SILICONE PROCESSING

In the demanding field of silicone compounding, we offer tailored solutions for both batch and continuous processes – from conical twin-screw extruders to TRP technology.

THE RESULT:

gentle mixing, maximum process reliability and consistent quality.



EXPLORE THE roll-ex®-SYSTEM

YOUR APPLICATIONS

COMPOUNDING

Homogeneous, efficient and gentle mixing of silicone compounds with different technologies:

- MDSE type for batch-mixing
- TRP type for continuous mixing



SILICONE COMPOUNDING: MDSE



SILICONE COMPOUNDING: TRP

FINE MESH STRAINING

High-quality silicone by fine mesh straining with:

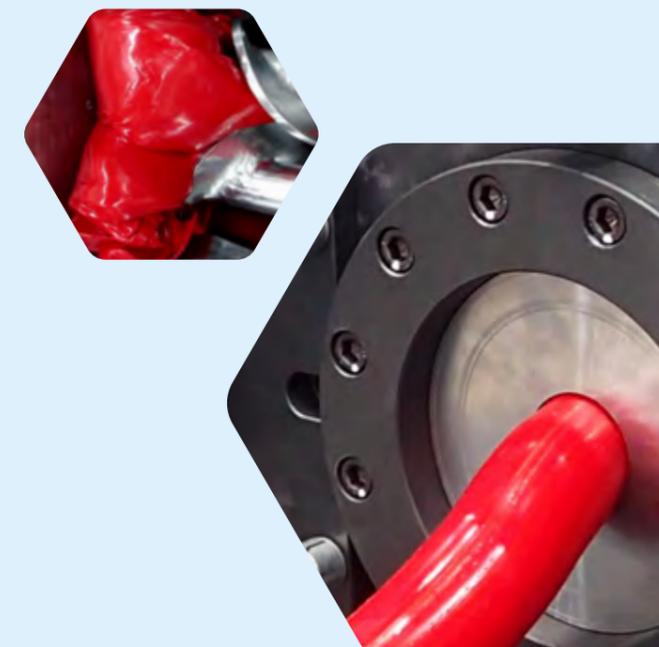
- roll-ex® TRF type
- roll-ex® SF type
- roll-ex® DSE type



FINE MESH STRAINING: roll-ex® TRF



FINE MESH STRAINING: roll-ex® SF



MIXING OF SILICONE COMPOUND BY THE MDSE TYPE

Based on the conical twin-screw extruder, the MDSE is the integrated solution for **batch-mixing**, discharging and subsequent straining of high consistency silicone rubber with high filler content:

Two highly tapered screws are counterrotating and inter-meshing. The body consists of a large open pressureless area designed as feed trough, as well as a closed area. Fillers can be integrated faster by a compression zone.

Discharge can be shaped as feed strips or blanks in a single step. Alternatively, the material can be passed onto a connected downstream device such as a gear pump or single-screw extruder for fine mesh straining.



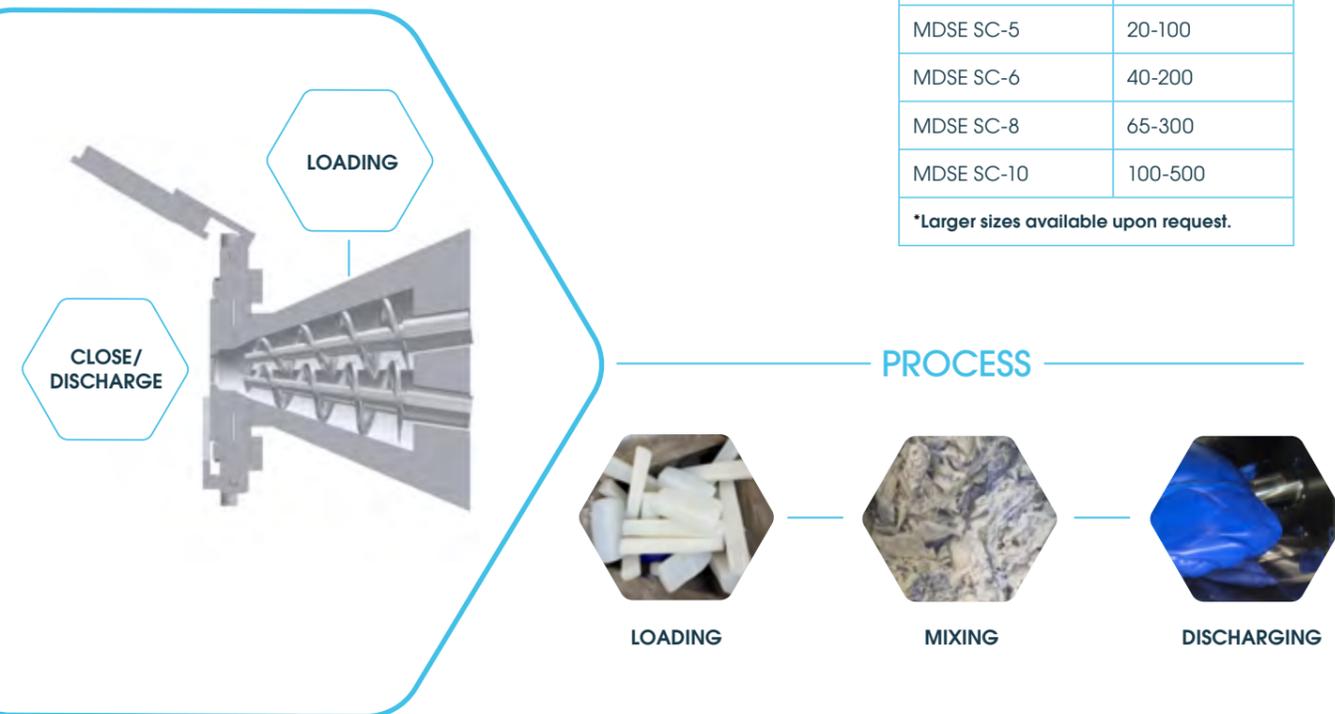
THE MDSE, CONICAL TWIN-SCREW EXTRUDER

For silicone compounding application.
Optional: with integrated roll-ex® gear pump for fine mesh straining.

RANGE BATCH VOLUME:

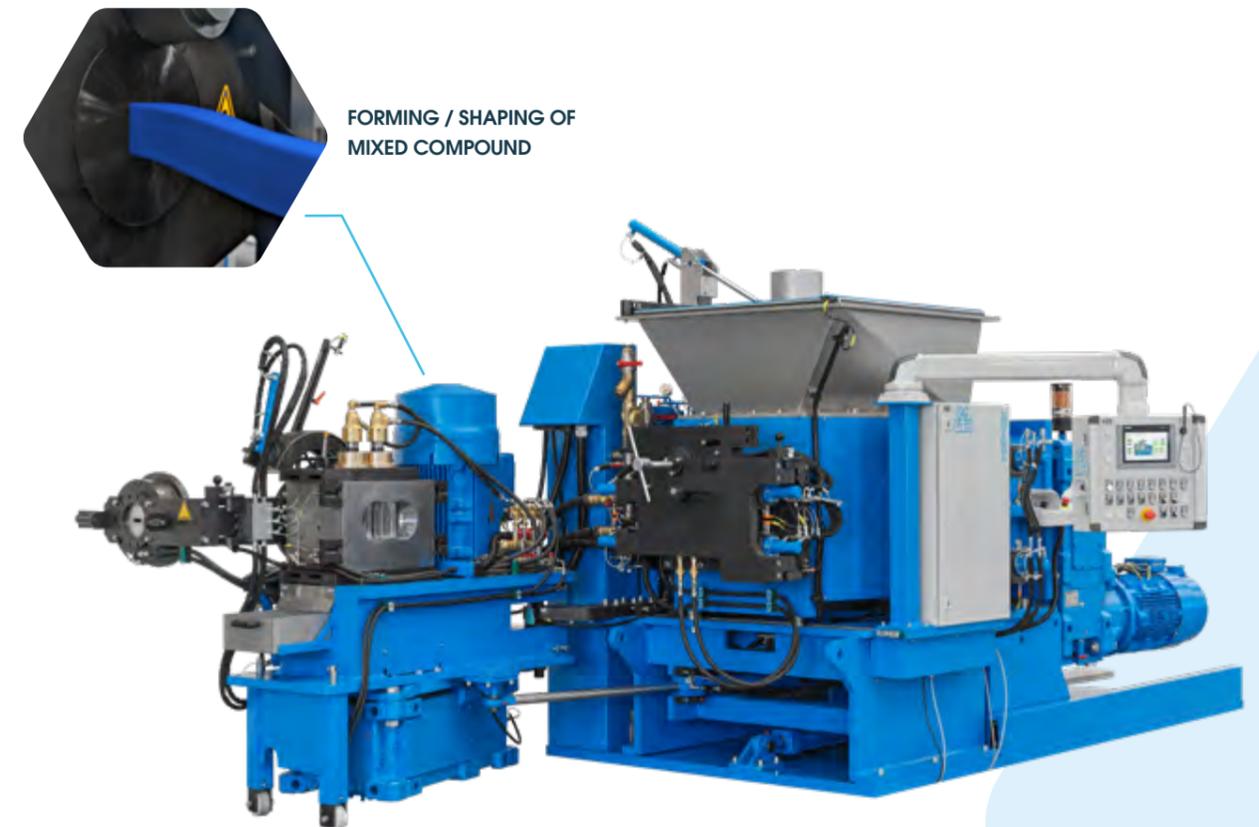
MODEL	LITRE*
MDSE SC-1	1-5
MDSE SC-2	5-10
MDSE SC-3	10-40
MDSE SC-5	20-100
MDSE SC-6	40-200
MDSE SC-8	65-300
MDSE SC-10	100-500

*Larger sizes available upon request.



PROCESS-TECHNOLOGICAL BENEFITS:

- ✓ Efficient, homogeneous and highly automated mixing process of all components as solids, liquids, pastes, oils and fillers
- ✓ Special coatings for high abrasive compounds
- ✓ High cooling efficiency for temperature-sensitive mixing with a very short mixing time
- ✓ Easy cleaning due to good accessibility of all surfaces
- ✓ Process data and recipe management are directly connected to the customer's MMS/MES/ERP-systems
- ✓ Further material handling e.g. different feeding solutions for ingredients, straining, discharging, packaging
- ✓ Clean room versions available



MIXING OF SILICONE COMPOUND BY THE TRP TYPE

The Two-Roll Plasticiser (TRP) provides a gentle solution for the **continuous mixing** of silicone compounds. The system offers fully automated processing with excellent temperature control and gentle material treatment.



PROCESS-TECHNOLOGICAL BENEFITS:

- ✓ Gentle and homogeneous continuous mixing process with very good temperature control
- ✓ Peripheral equipment enables the precise dosing of additives and chemicals
- ✓ Good access to the system components for cleaning or compound changes
- ✓ High level of work safety by fully enclosed process area
- ✓ Compact design
- ✓ By integration of roll-ex® gear pump, with an option of fine mesh straining, material can be precisely extruded in various shapes

MIXING OF SILICONE COMPOUND CUSTOMER-SPECIFIC SOLUTIONS

UTH GmbH delivers complete, fully automated solutions for:

- Mixing
- Straining
- Loading
- Cooling
- Discharge
- Packing

PROCESS-TECHNOLOGICAL BENEFITS:

- ✓ High reachable throughputs by parallel process of mixing and straining
- ✓ Processing of even high abrasive compounds
- ✓ Process data and recipe management are directly connected to the customer's MMS/MES/ERP-systems



UTH FINE MESH STRAINING SYSTEMS OFFER A WIDE RANGE OF OPTIONS

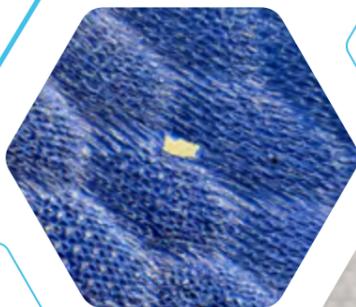
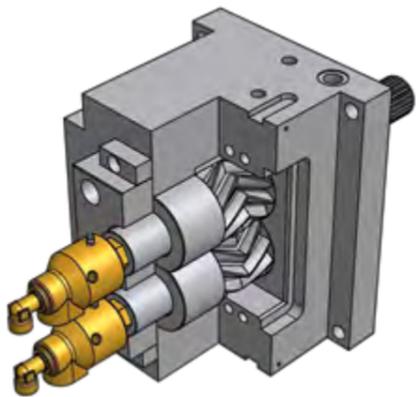
Ever since UTH GmbH was established in 1985, it has been providing innovative machinery and processing technique for the silicone, tyre and rubber industries.

The roll-ex® gear pump extrusion system, developed by UTH, has become the global benchmark of fine mesh straining for waste reduction and quality improvement. UTH GmbH is the pioneer in the field of development and manufacturing of gear pumps and gear extruders for silicone processing.

Quality problems can be counteracted by fine mesh straining the silicone compounds. Small impurities and residues of 50-800 µm are easily removed and further homogenizing after the mixing is achieved to solve quality problems successfully.

ROLL-EX® GEAR PUMP TECHNOLOGY

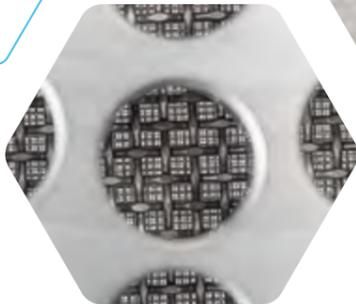
- Patented roll-ex® gear pump design with special features
- Optimised for straining application
- Modular concept for individual straining solutions



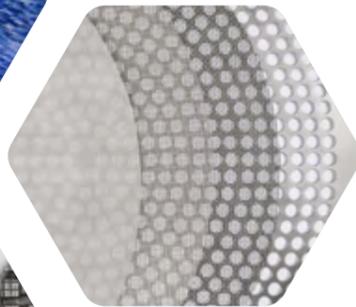
REMOVED IMPURITIES



SCREEN PACKAGE DETAIL



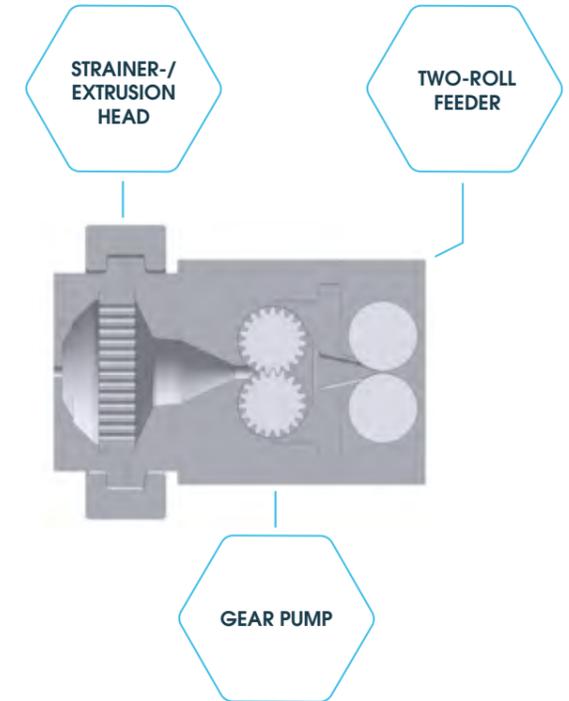
SCREEN PACKAGE WITH BREAKER PLATE



FINE MESH STRAINING OF SILICONE COMPOUND BY THE ROLL-EX® TRF TYPE

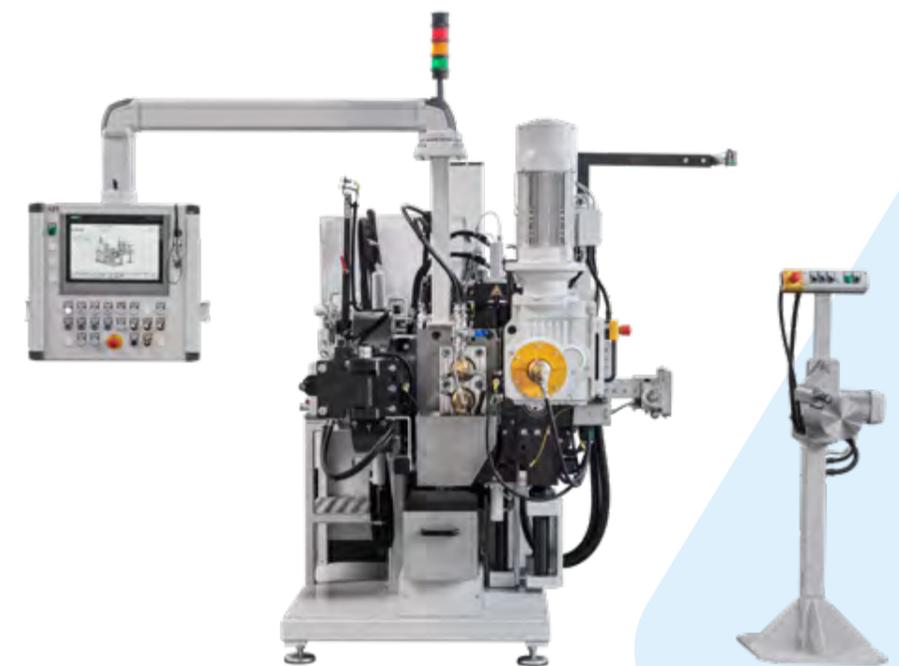
THROUGHPUT:

MODEL	(KG/H)	(LB/H)
70 TRF	400	900
120 TRF	1000	2200
150 TRF	1500	3300
220 TRF	2500	5500
300 TRF	3500	7700



PROCESS-TECHNOLOGICAL BENEFITS:

- ✓ Cold or warm feeding of strips
- ✓ Minimal dwell time
- ✓ Low-temperature straining process
- ✓ Low-shear feeding process



FINE MESH STRAINING OF SILICONE COMPOUND BY THE ROLL-EX® SF TYPE

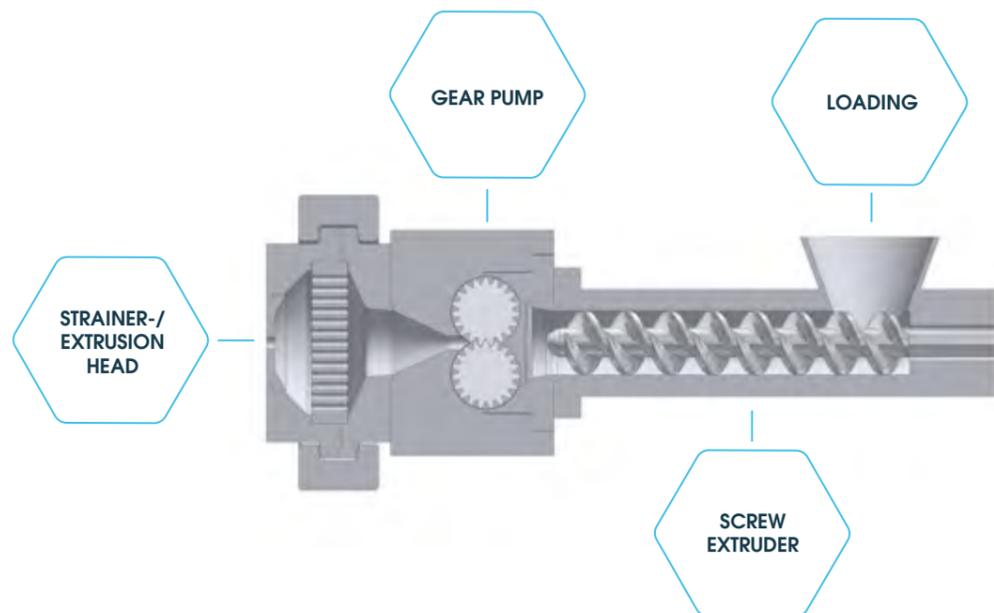
THROUGHPUT:

MODEL	(KG/H)	(LB/H)
70 SF	400	900
120 SF	1000	2200
150 SF	1500	3300
220 SF	2500	5500



PROCESS-TECHNOLOGICAL BENEFITS:

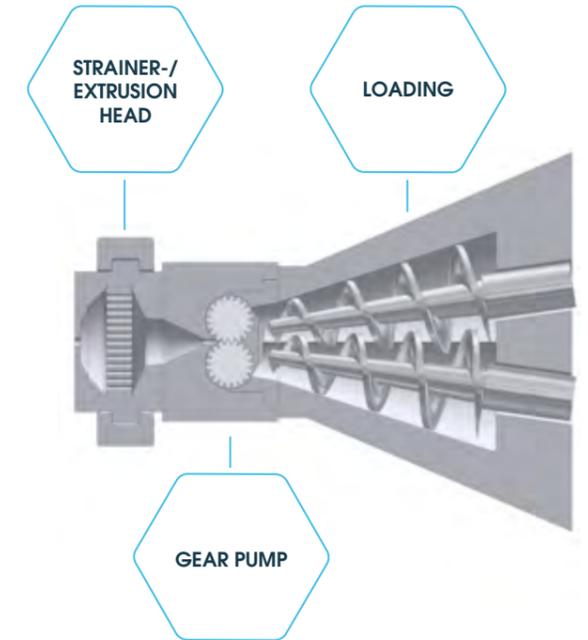
- ✓ Cold feeding of strips
- ✓ Low-temperature straining process
- ✓ Good plasticising of compound
- ✓ Blending of batches



FINE MESH STRAINING OF SILICONE COMPOUND BY THE ROLL-EX® DSE TYPE

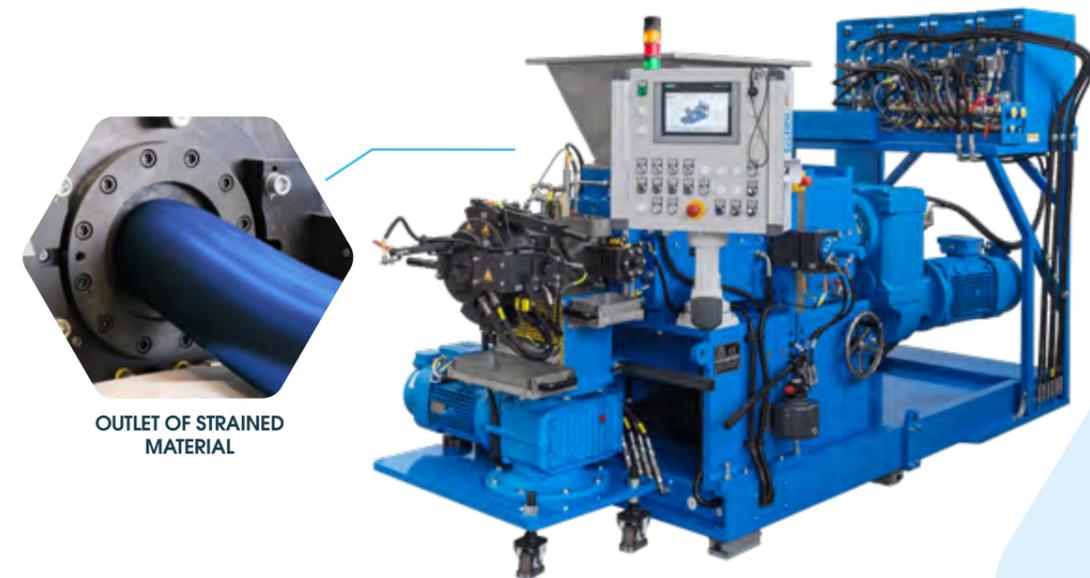
THROUGHPUT:

MODEL	(KG/H)	(LB/H)
70 DSE	400	900
120 DSE	1000	2200
150 DSE	1500	3300
220 DSE	2500	5500
300 DSE	3500	7700



PROCESS-TECHNOLOGICAL BENEFITS:

- ✓ Cold or warm feeding of slabs, blocks and batches in different shapes
- ✓ Low-temperature straining process
- ✓ Easy cleaning, easy compound change
- ✓ Good accessibility to all product-contacted surfaces



UTH North America Inc.
Fort Mill, SC

UTH GmbH
Head Office, Fulda

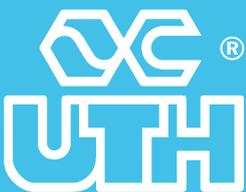
UTH Extrusion & Service
Shanghai Co. Ltd.
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UTH Japan
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