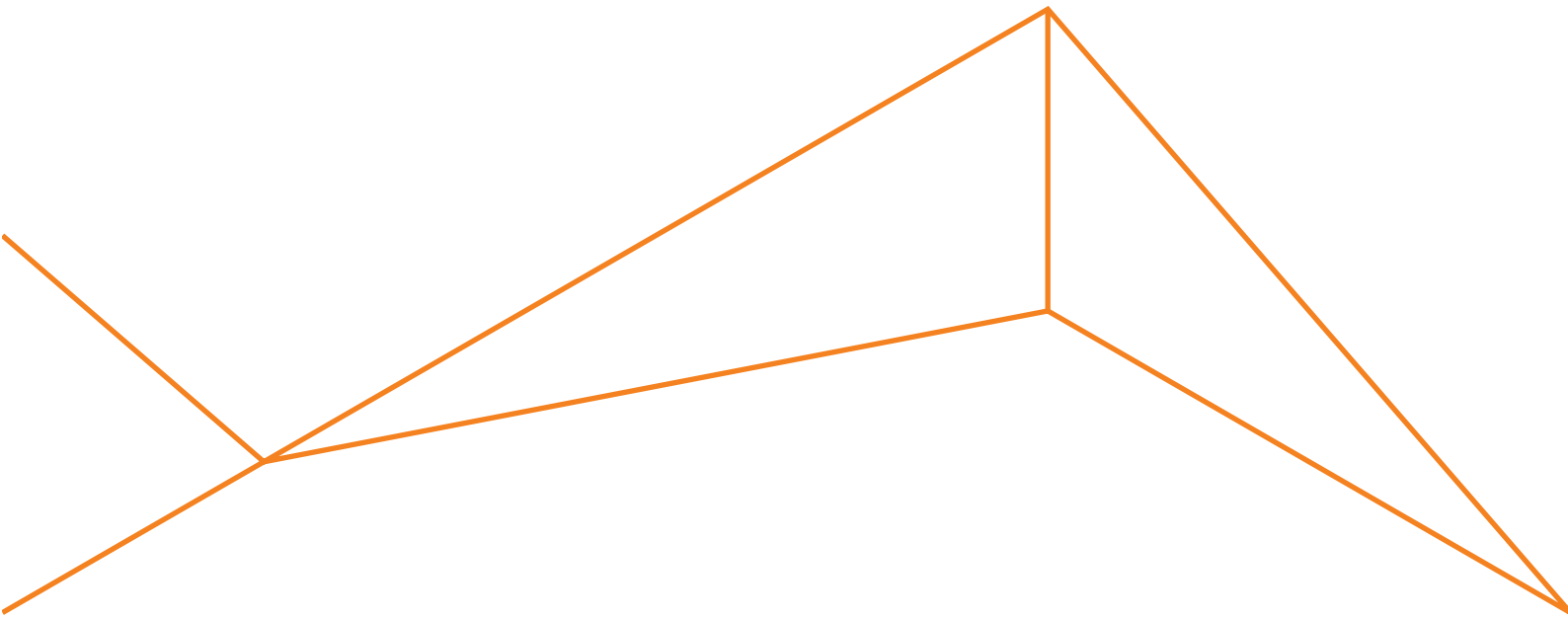




BRIMROCK RS1500™ SULPHUR GRANULATOR



CONTINUOUS, HIGH CAPACITY PRODUCTION BASED ON LOW MAINTENANCE DRUM GRANULATION



The patented Sandvik Brimrock RS1500™ process generates seed or nuclei particles of solid sulphur by freezing sprays of liquid sulphur in a water bath at controlled pressures to form the desired size range. These particles are then augured into a slowly rotating drum with appropriately placed flights attached to its inner surface. These flights create curtains of particles inside the drum as well as gently moving them towards the discharge end of the drum.

These nuclei particles are progressively enlarged to appropriate size by coating the curtains of particles with sulphur spray from a bank of nozzles on a header running the length of the drum. The temperature in the drum is moderated by the evaporation of water from spray nozzles located inside the drum.

Sulphur granules of SUDIC premium quality are discharged to a belt conveyor for transportation to storage and/or further handling.

CLEAN, SAFE AND ENVIRONMENTALLY FRIENDLY PRODUCTION

A fan is used to draw a stream of air through the drum to sweep out the water vapour as well as any fugitive dust inside the drum. The dust is scrubbed out of this exhaust stream using a Venturi cyclone type wet scrubber before the process air stream is released to the atmosphere.

The underflow from the wet scrubber cyclone is pumped to the same settling/dewatering tank that is used to generate the seed particles. Here the fines settle out and are

augured up along with the sulphur particles generated by the seed generator sprays.

The RS1500™ is a fully automated process, designed to run under a variety of ambient conditions.

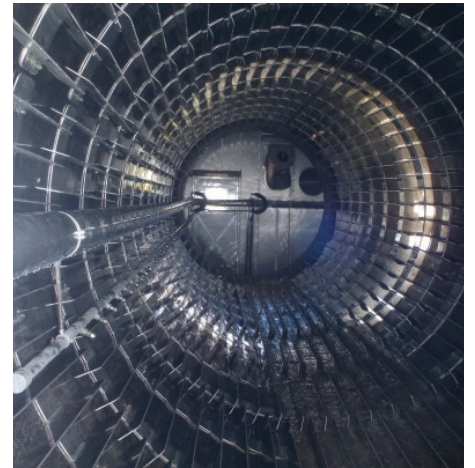
The CPU control cabinet has a dual HMI allowing the operator to see process overview, operating control status and detailed real time trend analysis. The systems are auto correcting within the set process parameters and will automatically shut down for any out of control situation.

The forming unit start up and shut down are sequenced with single click of a mouse. Data collection, reporting and storage will be tailored to your specific requirements.

FULLY AUTOMATED GRANULATION PROCESS BASED ON ROTATING DRUM TECHNOLOGY DELIVERS FAST AND RELIABLE PRODUCTION OF PREMIUM QUALITY GRANULES

UTILITIES AND PLOT SPACE

■ Sun roof/shelter footprint	26m L x 11m W x 9m H
■ Sulphur flow rate	65 mtph (nominal)
■ Sulphur pressure	0 – 500 kPa(g)
■ Sulphur temperature	<150 °C
■ Steam flow @ start-up	23 kg/hr
■ Steam flow @ normal operation	23 kg/hr
■ Steam pressure	350 kPa(g)
■ Process water supply rate	2.54 m3/hr
■ Instrument & plant air flow rate	11.7 scfm
■ Instrument & plant air pressure	680 kPa(g)
■ Electrical power – connected	250 kW



- The highest capacity granulation unit in the industry
- Capability to vary production of new granules and control PSD while in operation
- Small footprint (60% less than the next highest capacity units available)
- Simple, effective design minimises rotating equipment, piping, structure and overall scope of supply for low CAPEX
- Highest quality, proven machinery and instrumentation
- Prefabricated for fast delivery, rapid installation and low shipping costs
- No sulphur 'pre-conditioning' equipment required – process unaffected by high sulphur temperatures
- Continuous operation – no need to routinely shut down to clean drum internals, scrubbers, fans or ducts
- No solid waste streams or liquid effluents to be remelted, treated or disposed
- Low maintenance – horizontal 0° drum minimises stress on rotating components
- Excellent HSE performance – dust free, fully automated, unhindered maintenance access
- Full performance guarantees, warranties, and technical support

PREMIUM GRANULAR PRODUCT TO SUDIC SPECIFICATION

The spherical RS1500™ product meets the shape criteria and Stress Level I and II friability specifications of the SUDIC premium product specification (see below). The completely spherical granule shape, along with the repeated spraying and cooling of thin layers of molten sulphur on the surface of the granules as they pass through the granulator accommodates the natural shrinkage of the product as it completes the molten to solid phase transition, without weakening the product. All other criteria are easily met, at any production rate.

SPECIFICATIONS

■ Shape	Generally spherical
■ Friability (Stress Level I)	</= 1%
■ Friability (Stress Level II)	</= 2%
■ Moisture (as produced)	< 0.5% (bulk average)
■ Bulk density (loose)	Minimum 1040 kg/m ³
■ Bulk density (compacted)	Minimum 1200 kg/m ³
■ Angle of repose	Minimum 25°



S-PS429-D-ENG-14



Sandvik Process Systems
Division of Sandvik Materials Technology Deutschland GmbH, Salierstr. 35, 70736 Fellbach, Germany
Phone +49 711 5105-0, Fax +49 711 5105-152, E-mail: info.spsde@sandvik.com
www.processsystems.sandvik.com