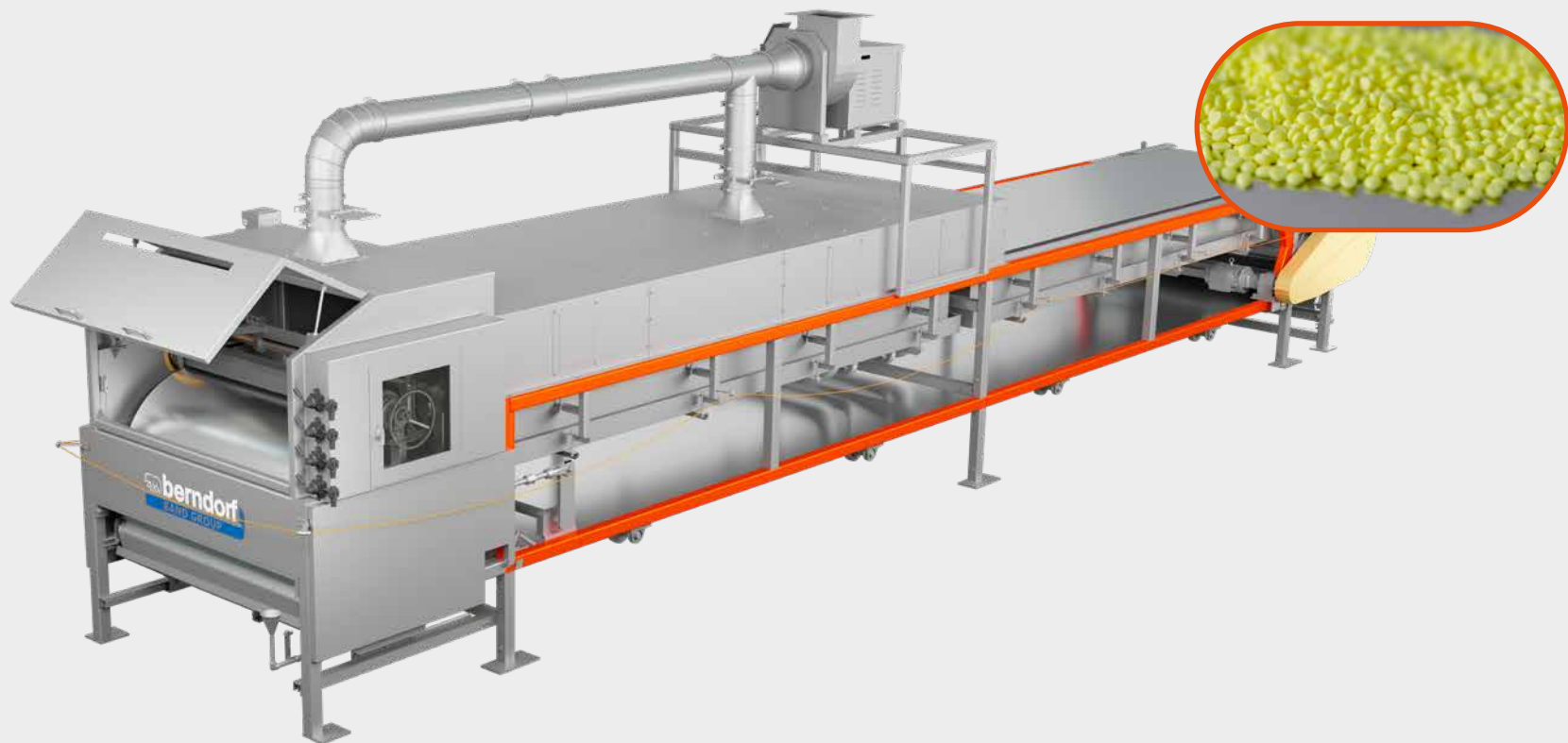


COOLING & SOLIDIFICATION SYSTEMS FOR SULPHUR PROCESSING



PROCESS EQUIPMENT FOR SULPHUR PROCESSING

The Berndorf Band Group has stood for quality and innovation in the fields of engineering and manufacturing since 1843. We continue to be a leading company in the sulphur industry with dozens of successful Cooling and Solidification System installations for the processing of sulphur and sulphur derivatives worldwide. Our expertise extends far beyond the solidification process. Berndorf Band Group is your reliable partner for turn-key applications.

FULL SOLUTION PROVIDER

- » Engineering and manufacturing of required process equipment, from molten sulphur handling over solidification to final pastille handling and bagging
- » Start-up and process technology support
- » Plant layout design
- » Equipment specifications



OUR EXPERTISE

-  **+100 MACHINES IN OPERATION**
-  **PROJECTS FROM 1 – 8 MACHINES FOR PROCESSING ELEMENTAL SULPHUR**
-  **MACHINE DESIGN THAT ALLOWS FOR SWITCHING BETWEEN PRODUCING SULPHUR & SULPHUR BENTONITE**

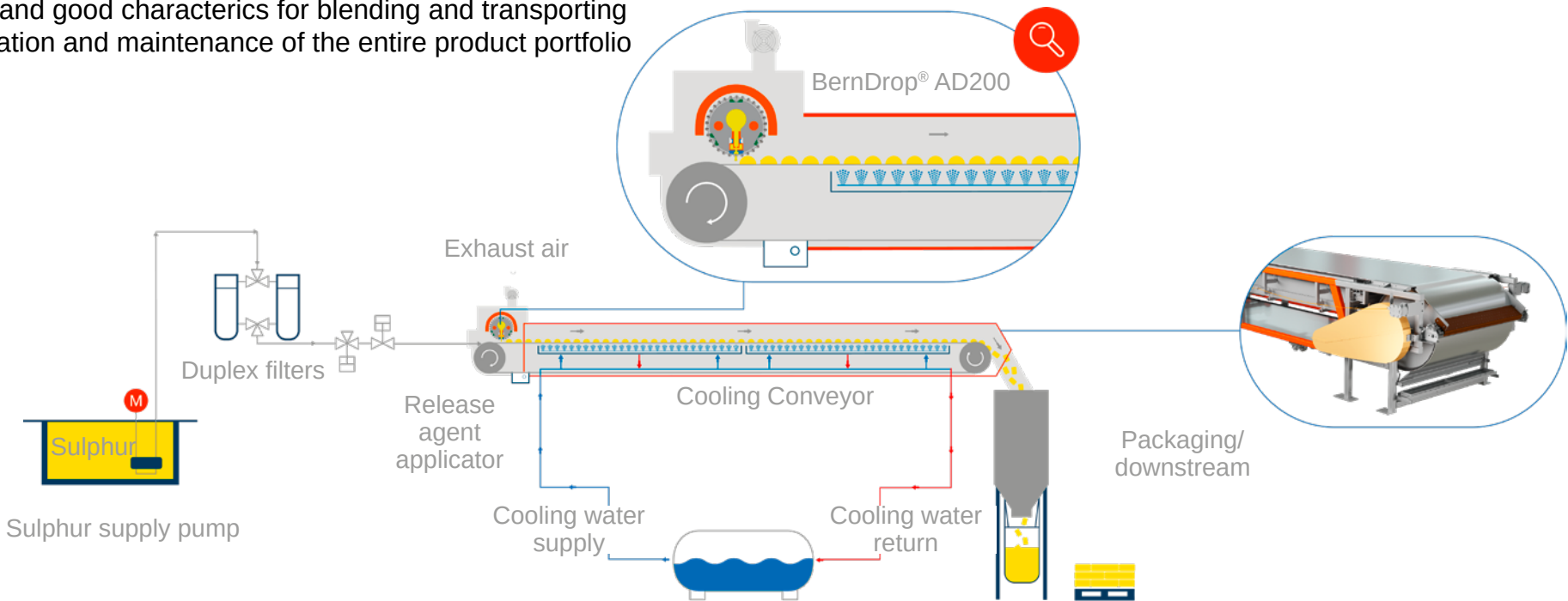
-  **PROJECT SPECIFIC SCOPE FROM PASTILLATOR & STEEL BELT COOLER TO COMPLETE ENGINEERING PACKAGES FOR UP- & DOWNSTREAM**

THE FINAL PRODUCT: SUDIC QUALITY SULPHUR PASTILLES

Berndorf Band Group Process Equipment meets the special requirements for the production of high quality pastilles. Experts are continuously developing our Solidification and Cooling Systems to meet the specifications of SUDIC premium quality.

Our main objective is to offer our customers high-quality equipment designed specifically for making sulphur pastilles that meet the strict SUDIC standards. This ensures that sulphur can be transported easily and safely.

- » Good flow characteristics as well as consistent high purity and quality
- » Minimized dust and moisture levels in the pastilles
- » Maximum versatility, uniform quality, and steep angle of repose
- » Minimal environmental impact
- » Even size and good characteristics for blending and transporting
- » Easy operation and maintenance of the entire product portfolio

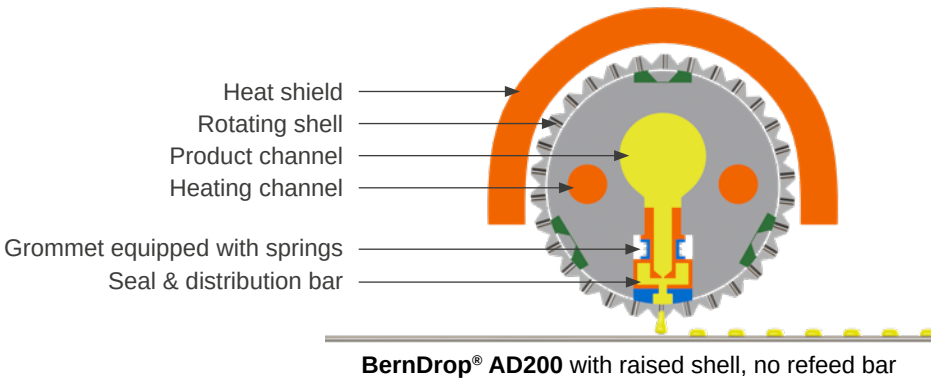


FEEDING DEVICE FOR PRODUCING UNIFORM DROPS OF SULPHUR

The variety of Berndorf feeding devices has been developed to meet different process requirements for a wide range of products. The **BernDrop® AD200** is the world's preferred feeding device for the solidification of sulphur and sulphur derivatives. The rotating, special shaped shell design liminates the possibility of product deposits on the outer surface of the shell. Any product which remains on the shell surface is forced to the peak to join the next drop.

BERNDROP® AD200

In addition, this increased surface area causes forced convection, which pre-cools the product and slightly increases viscosity. As a result it can achieve higher production speeds than the competition. The shell design enables a production of sulphur and sulphur derivative pastilles without refeed bar and external seals. Consequently, the **BernDrop® AD200** has the advantage of lower operating costs.



ADVANTAGES OF BERNDROP® AD200



RAISED SHELL FOR OPTIMAL PASTILLE QUALITY



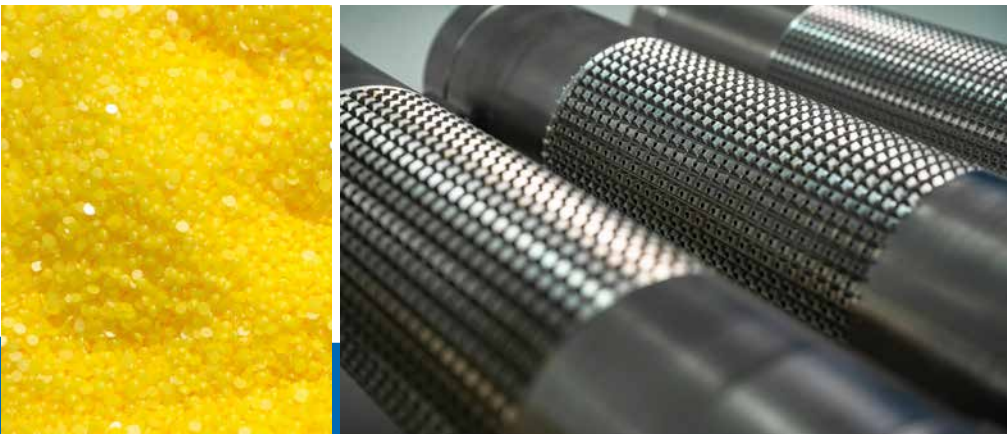
REFEED BAR AND EXTERNAL SEALS NOT REQUIRED



HIGH PRODUCTION RATES AND LOW OPERATING COSTS



EASY ACCESSIBILITY FOR SERVICE & MAINTENANCE

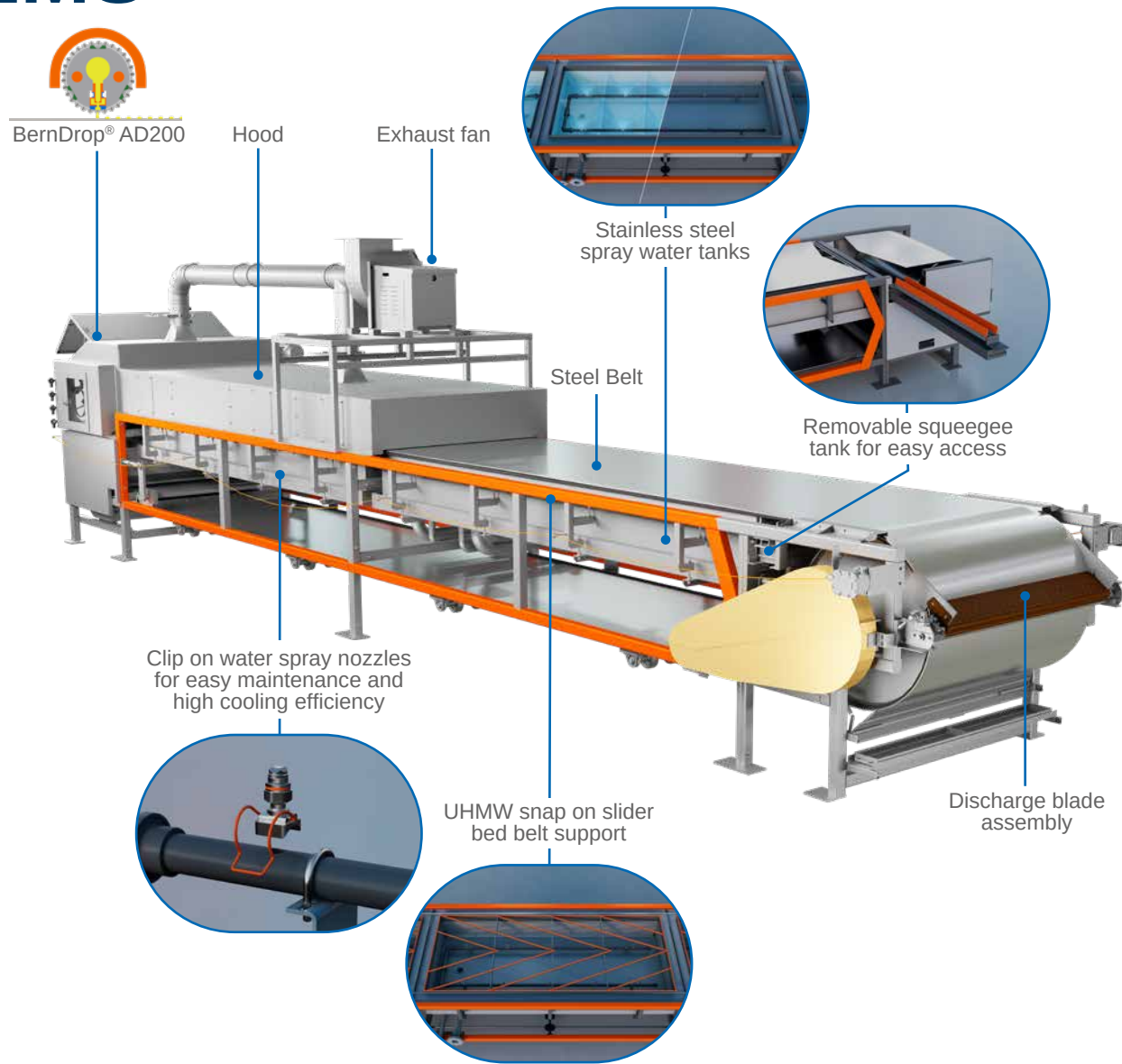


SINGLE BELT COOLING SYSTEMS

Berndorf Cooling Systems excel in heat transfer, efficiently evacuating escaping heat during the cooling and hardening processes of diverse products through our cutting-edge indirect cooling technology.

The Single Belt Coolers are equipped with unique features such as the **clip on water spray nozzles**, the **UHMW snap on slider bed belt support**, and a **removable squeegee tank assembly**, ensuring the highest cooling efficiency and easy maintenance. The high-quality **Steel Belt** guarantees a reliable operation.

- ✓ Solidification of the pastilles formed on the Steel Belt occurs due to heat transfer caused by cooling water being sprayed on the underside of the Steel Belt
- ✓ Exhaust ventilation system and hood in the first cooling zone for efficient fume removal
- ✓ Release agent applicator to avoid pastilles sticking to the Steel Belt



STEEL BELTS

PHYSICAL & MECHANICAL PROPERTIES – TYPICAL VALUES

Material			Nicro 12.1	Nicro 94
Type			CrNi 17 7	CrNiMoN 22 5 3
Similar material		DIN AISI	1.4310 301	1.4462
Tensile strength	at 20 °C at 68 °F	N/mm² psi	1,150 166,800	1,400 203,100
0.2 %-offset yield strength	at 20 °C at 68 °F	N/mm² psi	950 137,800	1,050 152,300
Hardness		Rockwell HRC Vickers HV 10	37.0 360	36.0 350
Elongation 50 mm 1.97 in		%	18	9.5
Welding factor			0.70	0.65
Fatigue strength under reversed bending stress*	at 20 °C at 68 °F	N/mm² psi	480 69,600	450 65,300
Modulus of elasticity	at 20 °C	N/mm²	200,000	200,000
	at 200 °C	N/mm²	180,000	184,000
	at 68 °F	ksi	29,000	29,000
	at 392 °F	ksi	26,100	26,700
Density		kg/dm³ lb/in³	7.90 0.29	7.80 0.28
Mean coefficient of thermal expansion	20-100 °C	10 ⁻⁶ m/m°C	16.0	13.3
	20-200 °C	10 ⁻⁶ m/m°C	17.0	13.8
	20-300 °C	10 ⁻⁶ m/m°C		14.2
	20-400 °C	10 ⁻⁶ m/m°C		
	68-212 °F	10 ⁻⁶ in/in°F	8.9	7.4
	68-392 °F	10 ⁻⁶ in/in°F	9.4	7.7
	68-572 °F	10 ⁻⁶ in/in°F		7.9
	68-752 °F	10 ⁻⁶ in/in°F		
Specific heat		J/g°C BTU/lb°F	0.50 0.12	0.50 0.12
Thermal conductivity	at 20 °C	W/m°C	15	15
	at 68 °F	BTU/lb°F	8.7	8.7
Specific electric resistance	at 20 °C	Ω mm²/m	0.73	0.80
	at 68 °F	μΩ in	28.74	31.50
Min. permissible operating temperature		°C °F	-196 -321	-50 -58
Max. permissible operating temperature		°C °F	250 482	250 482
Tensile strength at max. permissible operating temp.		N/mm² psi	940 136,300	1,130 163,900
0.2 %-offset yield strength at max. permissible oper. temp.		N/mm² psi	770 111,700	990 143,600



HIGH QUALITY STEEL BELTS

- » Optimum flatness & straightness due to special production method
- » Corrosion resistant
- » Smooth Surface
- » Perfect adhesion of vee-ropes

VEE-ROPES

We ensure perfect adhesion of vee-ropes.

Vee-rope-material	Operating temperatures
Nitrile rubber	-20 °C to +100 °C -4 °F to +212 °F
Natural rubber	-60 °C to +60 °C -76 °F to +140 °F

*50 % of the test specimens withstand 2,000,000 load cycles. If not otherwise specified, the values given apply at room temperature. Subject to change due to technological progress. Errors and omissions excepted. Special materials available upon request.



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