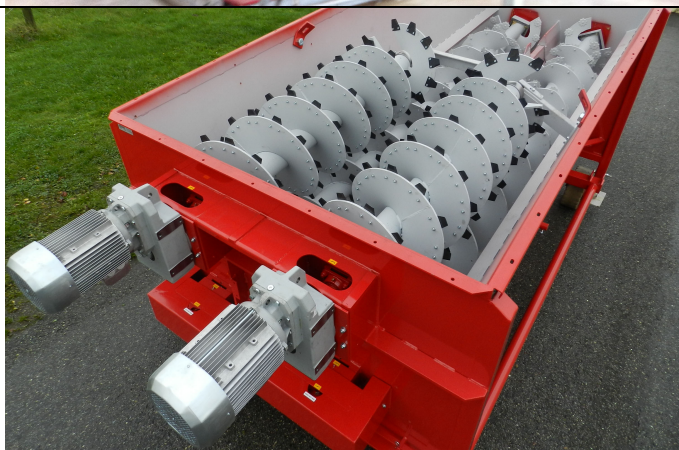


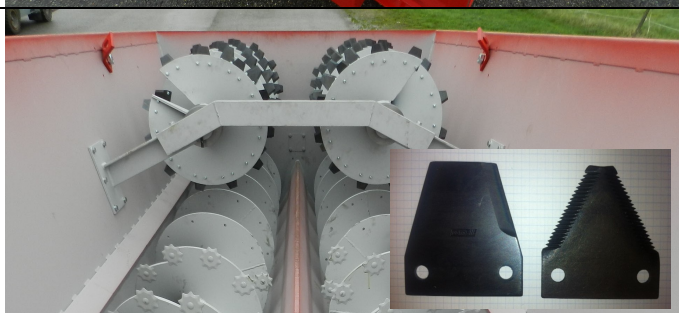
MTX_H 50 mounted with 2x bale breaker augers



MTX_H18 mounted with 2x bale breaker augers



Holding bar inside MTX_H



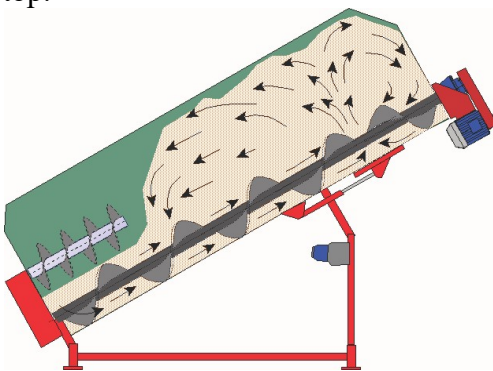
Flexible shear bar inside machine, not used with round bales, only for square bales




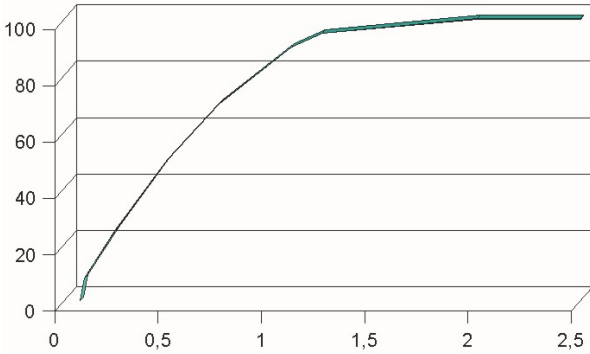


Data Sheet:

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SBB 2000 - Bale breaker augers

Machine number	1039-450, for MTX H 18-50
Custom tariff number	84369900
Machine paint	Standard ISO 12944-5 category C2. Machines, guards etc. comes in a color type RAL 3001 red suitable for indoor, non corrosive environment, aggregate that is used inside the machine is only with gray primer paint – paint is water and oil resistant -15 to + 60 degrees C, surface purified with alkaline degreaser, painted with a machine primer and here after coating paint.
Standard	DS/EN 60204-1:2006 Safety of Machinery - Electrical Equipment of Machines, DS/EN ISO 13850 of January 29th 2007 emergency stop, DS/EN ISO 13849-1 safety-related parts of control systems, DS/EN 60204-1: 2006, cable installation method E
Machine function	<p>The Cormall bale breaker augers are used to break up any bale before it is contained, mixed and feed out as a buffer, using straw bales as main material. They are made so they can be retrofit into any existing Cormall MTX mixer. The material is filled into the rear of the machine where the two bale breaker augers with flexible shear bars destroy bale stamps or round bale structure (round bales with shear bar) and fills the material into the two main augers that transport the material to the top.</p>  <p>The diagram shows a cross-section of the machine's internal components. It illustrates two main augers (screw conveyors) that transport material upwards. At the rear of the machine, there are two bale breaker augers with flexible shear bars that break apart straw bales. Arrows indicate the flow of material from the rear, through the breaker augers, and into the main transport augers. The entire assembly is supported by a red frame.</p>
Blockage and overload control:	<p>The two augers are breaking the material against the flexible shear bar. Material can be contaminated and block and the material itself can cause blocking of the augers. To overcome this are they both controlled with “augers reversed system”: The frequency inverter on each motor measures the amp usage and makes the automatic reverse when the augers are overloaded.</p> <p>Value settings: overload above 80% of A_{max} for more than 0,7 sec. = stop, and rev. 2 sec and start again with small ramp. .</p>

RISK ASSESMENT Machine	The machine can be only be used with a MTX_H machine.																																				
RISK ASSESMENT – ATEX	<table><tr><td></td><td colspan="2">GESTIS-STAUB-EX</td></tr><tr><td>Material</td><td>Stroh (2213)</td><td>Miscanthus</td></tr><tr><td>Feuchte</td><td>-</td><td>10,2 %</td></tr><tr><td>Korngrösse < 500 µm</td><td>96%</td><td>56%</td></tr><tr><td>Korngrösse < 125 µm</td><td>26%</td><td>35%</td></tr><tr><td>Median-Wert µm</td><td>200 µm</td><td>280 µm</td></tr><tr><td>UNtere Ex-Grenze</td><td>125 g/m³</td><td>60 g/m³</td></tr><tr><td>Max Ex Überdruck</td><td>8,0 bar</td><td>7,7 bar</td></tr><tr><td>K_{ST}-Wert [bar m/s]</td><td>47</td><td>115</td></tr><tr><td>Ex-Fähigkeit</td><td>St1</td><td>St1</td></tr><tr><td>Zündtemp.</td><td>470 C</td><td>-</td></tr><tr><td>Glimmtemperatur</td><td>310 C</td><td>-</td></tr></table> <p>Wheat straw:</p> <p>We have primary evaluated the risk for dust explosion based on the conditions that have to be full filled with regard to dust explosion, and have used the official figures from the German institute BGIA: As translation to the above table sheet is the most important figures as follows:</p> <ul style="list-style-type: none">- Fragmentation must contain 96 % below 0,5 mm.- The medium length must be 0,2 mm <p>The fragmentation of any straw quoted from 5 mm screen and more:</p> <ul style="list-style-type: none">- 96 % will be more than 1,3 mm <p>We conclude that no person is in danger of explosive burning, only normal fire is possible.</p>		GESTIS-STAUB-EX		Material	Stroh (2213)	Miscanthus	Feuchte	-	10,2 %	Korngrösse < 500 µm	96%	56%	Korngrösse < 125 µm	26%	35%	Median-Wert µm	200 µm	280 µm	UNtere Ex-Grenze	125 g/m³	60 g/m³	Max Ex Überdruck	8,0 bar	7,7 bar	K _{ST} -Wert [bar m/s]	47	115	Ex-Fähigkeit	St1	St1	Zündtemp.	470 C	-	Glimmtemperatur	310 C	-
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Screening sample showing safety margin with regard to ATEX standard and BGIA (DONG/E2 2002)	 <p>Straw dust fragment in % (w. 6 mm milling screen)</p>																																				
EN/ISO 13849-1	<p>Safety levels:</p> <p>PLr: c, as machine with automatic start if access is possible and not restricted.</p>																																				

Analyzed risk following EN-ISO 13849-1:	S	F	P	PLr
1. Mounting: The machine is provided lifting positions that ensures balance when lifting and strong enough to hold machine load. The auger has to be lifted in the center, using rope for balance. Before stepping into the MTX_H machine, is placed a wood plate over the two main augers, this plate is used to stand on, during work, and to place the two breaker augers on for alignment. Work place assessment should be made, before start with mounting.	S2	F1	P1	c
2. Operating: The machine has to be mounted inside a Cormall MTX_H machine, with a closed filling device, Cormall BT 170 bale table or similar.	S2	F1	P1	c
3. Servicing: All lubrication positions are from safe position.	S1	F1	P1	a
4. Renovation: On the Auger is placed knives that has to be either turned or exchanged. 1-2 times per year. Before entering the machine must be turned off on the main switch and locked. Before stepping into the MTX_H machine, must be placed a wood plate over the two top augers, after this is placed another 2 wood plates over the lower augers, where one of them is pushed under the two upper augers. Work place assessment should be made, before start with mounting.	S2	F1	P1	C
5. Scrapping/recycling: same comment as under 1. Mounting	S2	F1	P1	C

Data Sheet:

SBB 2000 - Bale breaker augers



januar 11, 2021

