



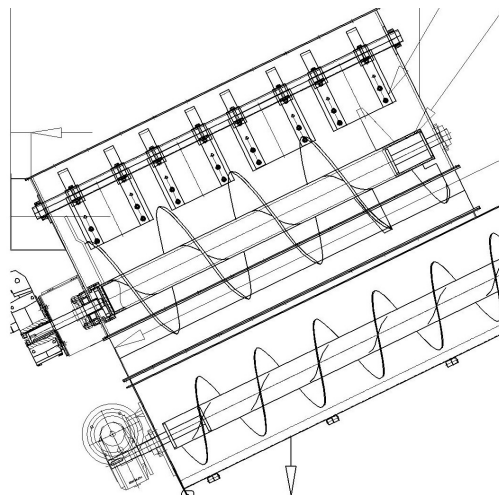
Data Sheet:**SBB 1800 - Bale breaker**

januar 11, 2021

Bale breaker housing and TDA auger	
Design is made with narrow space, better cut angle and more knives, up to 140 Psc./auger.	
Machine number	1039-410,
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

The Cormall bale breaker augers SBB 1800 is used to break up any bale. 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 without shear bar) and fills the material down into the two augers inside our TDA auger. A level sensor in the machine ensures that it is not overfilled, by stopping the bale feed table, until level below sensor is cleared. The TDA auger is the flow regulating machine in this setup.




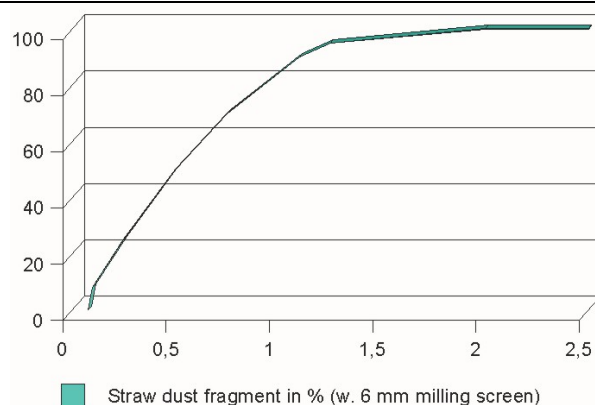
Blockage and overload control:

The two augers are breaking the material against the flexible shear bar. Material can be contaminated and block, and also the material itself can be wheat and cause blocking of the augers. To overcome this are both augers individually 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.

Value settings: overload above 80% of A_{max} for more than 0,7 sec. = stop, and rev. 2 sec and start again.

Optional equipment, hinge for letting round bales pass the SBO



RISK ASSESMENT Machine	The machine can only be used in combination with filling aggregate and emptying solution, mad by Cormall, such as BC conveyer and TDA auger.																																						
RISK ASSESMENT – ATEX	<div></div> <table><thead><tr><th></th><th colspan="2">GESTIS-STAU-EX</th></tr><tr><th>Material</th><th>Stroh (2213)</th><th>Miscanthus</th></tr></thead><tbody><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></tbody></table>		GESTIS-STAU-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	-	<p>Wheat straw:</p> <p>We have primary evaluated the risk for dust explosion based on the conditions that have to be full filed 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>	
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Screening sample showing safety margin with regard to ATEX standard and BGIA (DONG/E2 2002)	<div><p><i>This sample was provoked with long time vibration, where many longer straws where going through the screen on the long side.</i></p></div> <div></div> <div>Straw dust fragment in % (w. 6 mm milling screen)</div>																																						
EN/ISO 13849-1	<p>Safety levels:</p> <p>PLr: c, as machine with automatic start if access is restricted and not possible.</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. Before stepping into the SBB machine, must be placed a wood plate over the two augers, this plate is used to stand on, if you have to do work inside the machine. Work place assessment should be made, before start with mounting.	S2	F1	P1	c
2. Operating: The machine has to be mounted with a TDA auger on the outlet, or similar machine that closed access into the two rotating bale breaker augers. It also has to be used with a closed filling device, Cormall BT 170 bale table or similar, and access to the table has to be protected by hand rail min 1100 mm or the table itself as barrier	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 approx 1-2 times per year. On both sides of the machine is placed a 2 sectioned service door, for change of knives: DO NOT STEP INTO THE MACHINE FOR KNIFE CHANGE. Have always ensured the machine is turned off and secure the power supply to the motors with a cabinet lock, that you hold the keys for and nobody else, - all this to prevent accidental start up during knife change. 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

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