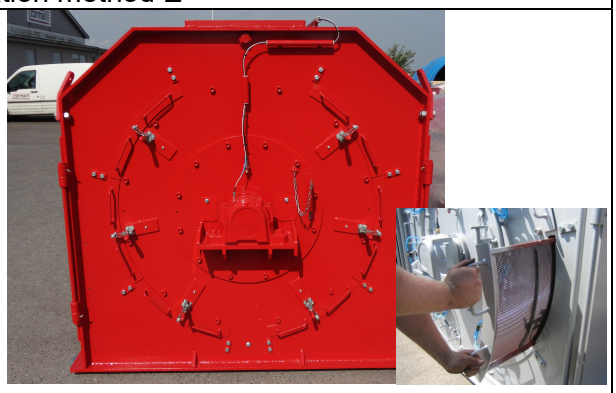
Data sheet:	Straw mill LSM 1300-800/1000/1200

januar 8, 2021

Picture	
Machine function	Welded with reinforced frame to absolve vibrations from straw material. Working with 5 to 70 mm screen. It needs a suction system with ventilator. With the machine is: - Including large bended pipe for filling in mill. - Centre filled and with reversed rotation for usage of backside of the flails. - Safety guard incorporated with control panel to ensure safe opening of the doors. - PT 100 temp. measure on both bearings also incorporated with control panel
Machine number	1039-200
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 - water and oil resistant -15 to + 60 degrees C, surface purified with alkaline degreaser, painted with a machine primer and here after coating paint.
Custom tariff number	84369900
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
Screen size	5 mm 8 mm 10 mm 15 mm 20 mm 30 mm 40 mm 50 mm 70 mm 

Power consumption kW Starter and wiring, (400V, 1480 rpm.)	kW	Starter	Cable mm^2	800	1000	1200
	132	Y/D	7 x 50	X	-	-
	160	Y/D	7 x 70	X	-	-
	200	Y/D	7 x 90	X	X	-
	250	Y/D	7 x 120	X	X	X
	315	Y/D	13 x 70	-	X	X
	400	Y/D	13 x 95	-	-	X

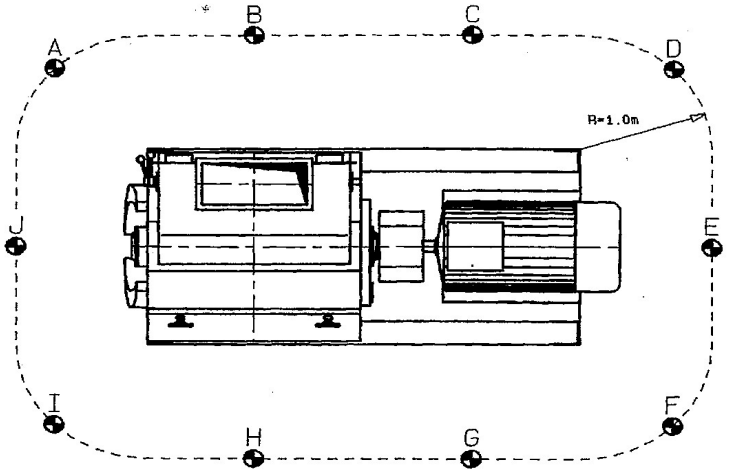
Data sheet:	Straw mill LSM 1300-800/1000/1200

januar 8, 2021

Data for: 800, 1000 and 1200:	Data	1300/800	1300/1000	1300/1200
	Width, mm:	1960	1960	1960
	Height, mm (1885):	2485	2485	2485
	Length, mm:	2550*	2750*	2950*
	Service width:	+1000	+1200	+1400
	Service length:	+1000	+1200	+1400
	Weight, Kg:	4500 kg up to 6680 kg		
	Screen area:	2,44 m^2	3,05 m^2	3,66 m^2
	Flails quant.:	174	222	270
	*) depending on the mounted motor			

Health and safety issues:

POS	DB
A	96
B	97
C	95
D	95
E	97
F	97
G	96
H	96
I	95
J	95



RISK ASSESMENT – ATEX

Example test results

Sample	Kst value (bar m/sec)	Pmax (bar)	ST class
Grain dust	89	9.3	1
Coal dust	85	6.4	1
Flour	63	9.7	1
Sugar	138	8.5	1
Wood dust	224	10.3	2
Aluminium dust	515	11.2	3
Sewage sludge	102	8.1	1

BGIA	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/m^3	60 g/m^3
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	-

Wheat straw:
We have primary evaluated the risk for dust explosion based on the conditions that have to be full filed with regard to dust explosion from straw dust, 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:

- Fragmentation must contain 96 % below 0,5 mm.
- From this must 26 % be below 0,125 mm
- The medium length must be 0,2 mm

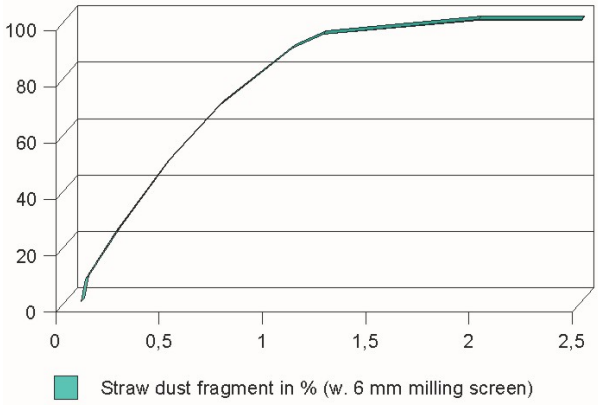
The fragmentation of any straw from 5 mm screen and more:

- 96 % will be more than 1,3 mm

We assert that the machinery will not create any situation that can course explosive burning of the straw or of the straw dust.

Data sheet:	Straw mill LSM 1300-800/1000/1200

januar 8, 2021

Screening sample with 6 mm screen in hammer mill, showing safety margin with regard to ATEX standard and BGIA measures. (DONG/E2 2002)	

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. Work place assessment should be made, before start with mounting.	S2	F1	P1	C
2. Operating: The machine has to be mounted with a closed filling device, Cormall Stone trap and piping or similar, and with a closed connected outtake, Cormall tray collector, auger or similar device.	S2	F1	P1	C
3. Servicing: a. All lubrication positions are from safe position.	S1	F1	P1	A
b. Change of flail, requires opening of the service doors on either side of the machine. Before opening the door, the must be turned off on the main switch and locked. The service door is bolted and also mounted with electric safety lock that prevents from: - accidental opening of the door, before the flail rotor is at a standstill, current in the main motor is measured and only when this is stopped, may opening of the door be released from the control. - Accidental start of the machine during opening and renovation inside the machine. P1: A locking bolt is provided to block the rotor in a position, from the outside, this bolt can block the electric motor and but also hold the flail rotor in its position, when changing a hole flail cassette. There is placed a sensor detecting when this bolt is mounted, restart after flail change must be prohibited, if this bolt is in its hole.	S2	F2	P1	D
c. Change of screen. These can be changed from outside of the machine and does not require opening of the machine. It is recommendable to turn of the machine before doing this, but not strictly necessary.	S1	F1	P1	C
4. Renovation: Same as on 3b	S2	F2	P1	B
5. Scrapping/recycling: same comment as under 1. Mounting	S2	F1	P1	C

Data sheet:	Straw mill LSM 1300-800/1000/1200

januar 8, 2021