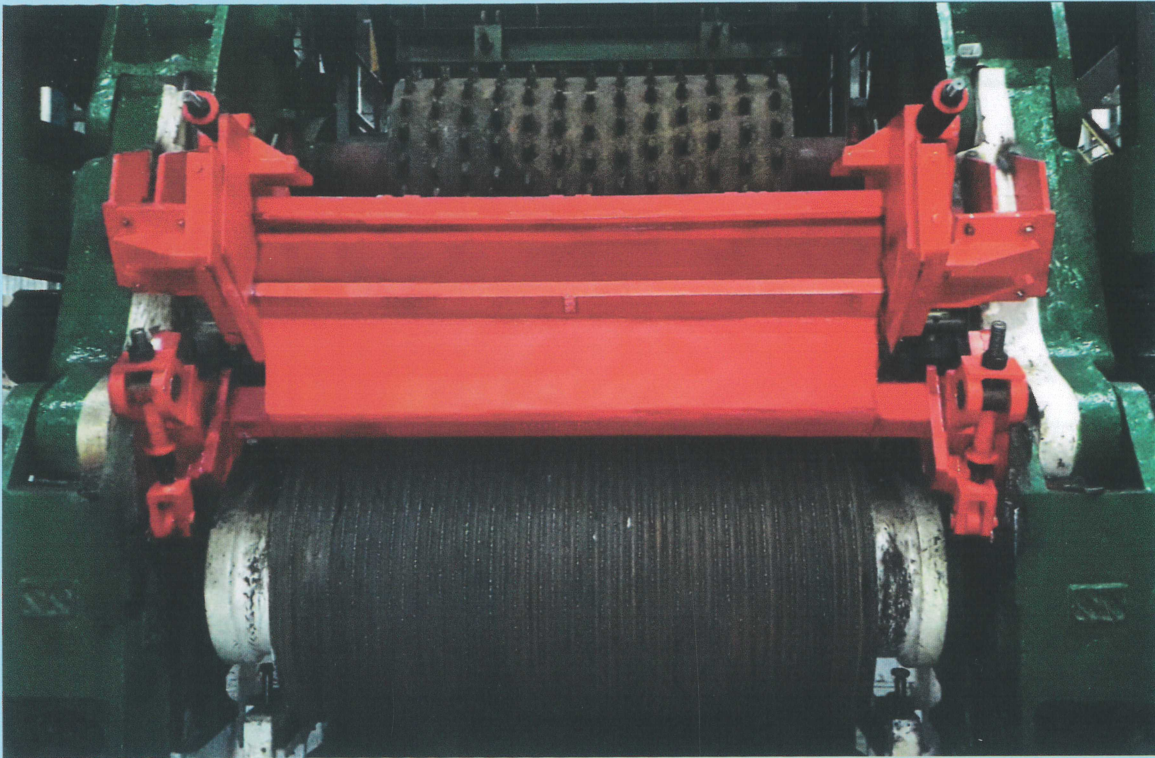


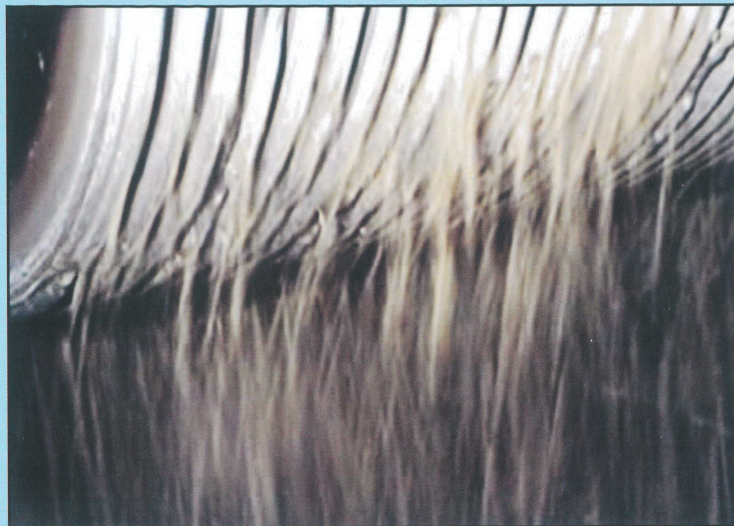
“JPMA MOISTURE CONTROL UNIT (MCU)”

INNOVATIVE DESIGN

Patent No. :514891



“MOISTURE CONTROL UNIT”



**Additional Juice drainage
at discharge side of discharge roller**

Design Developed & Marketed by :

J. P. MUKHERJI & ASSOCIATES PVT. LTD.

An ISO 9001 : 2015 certified company

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Re-absorption in Conventional Milling

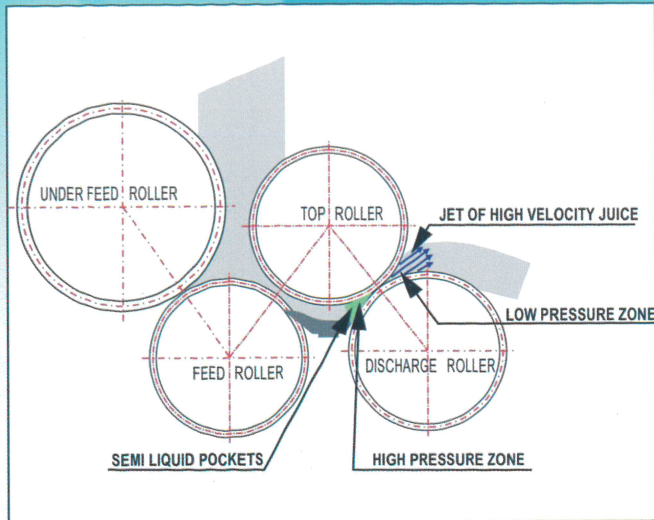
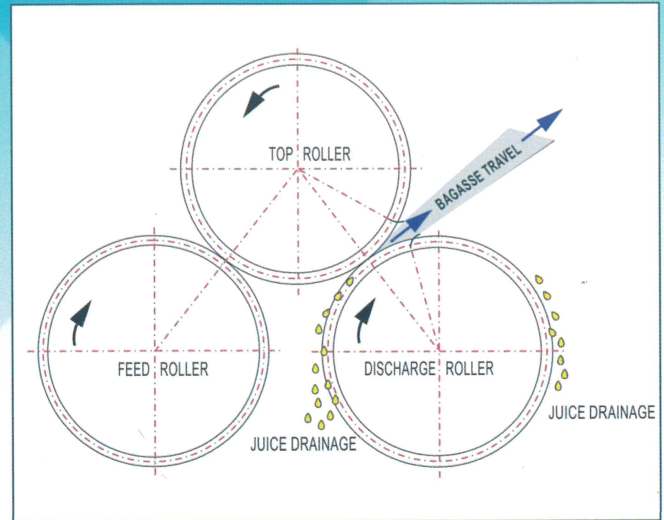


Figure shows the location of high and low pressure zones in the bagasse blanket as it passes through a mill. According to theory, the huge pressure difference before and after discharge opening causes juice particles to extrude at a high speed from high pressure zone to low pressure zone, this juice is again absorbed in bagasse on the discharge side of axial plane and this phenomena is called reabsorption.

Re-absorption Control



MCU is designed to control the reabsorption by creating a pressure zone after the discharge work opening. Pressure after the axial plane is gradually released in MCU. A lower pressure difference is created, less juice extrudes into pressure zone and ultimately more juice is drained from low pressure areas i.e. discharge roller.

● TECHNOLOGY CONCEPT

Bagasse flow after discharge nip passes through a controlled passage which reduces:

- Excess speed coefficient
- Forward slip of bagasse

● This helps in:

- Controlling re-absorption of extracted juice
- Increasing juice drainage at discharge nip
- Reduces bagasse moisture of mill

● MCU Features:

- Controls Re-absorption of Juice in mills
- Reduces moisture % final bagasse
- Improves Juice extraction efficiency of individual mill
- Increase in Juice drainage at discharge nip
- Mill accepts increased imbibition, still delivers lower bagasse moisture
 - Improves mill extraction and reduces bagasse pol
- Elimination of Juice spitting from discharge nip
- MCU performance not affected
 - Even at low crush rate
 - Even when mills are operated at higher than the required speed
- No additional drive / power
- More than 95+ installations.

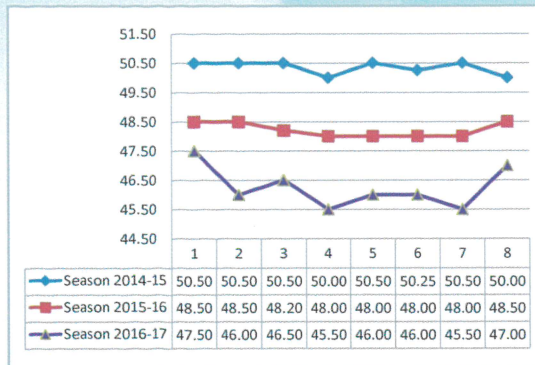
The MCU is an indigenously developed product, design & is an intellectual property of JPMA

PERFORMANCE - Before and after installation of MCU

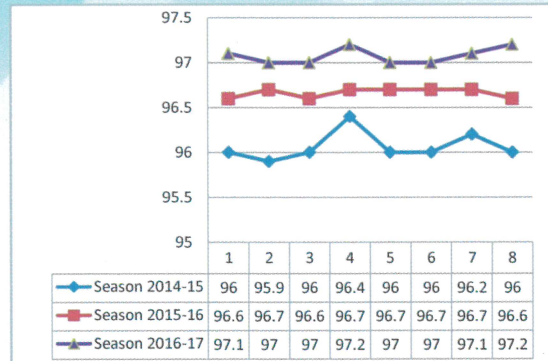
K.M. Sugar Mills Ltd., U.P., India

(Installed on all Five Mills, Zero-Ø45"x90" & 4 Nos. - Ø38"x75"mills - 9000 TCD)

Moisture % Bagasse



RME

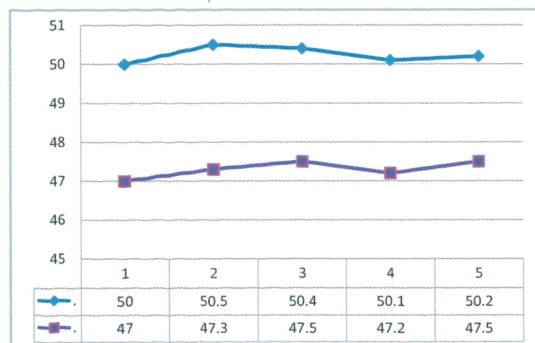


- Before Installation of MCU
- MCU Installed on Zero and Last Mill
- After Installation of MCU on Five Mills

Green Power Sugars Ltd., Gopuj, Maharashtra

(Installed on all Four Mills Ø33"x66" 4 Nos. - 4500 TCD)

Moisture % Bagasse

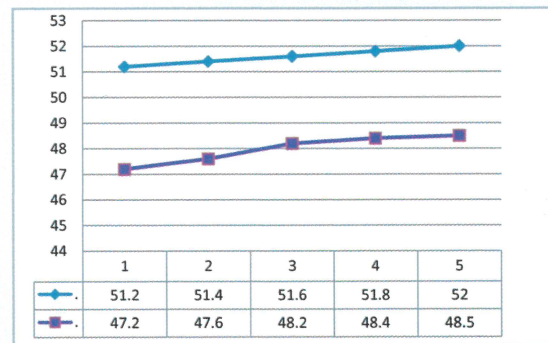


- Before Installation of MCU
- After Installation of MCU

Rana Sugar Ltd., Butter, Punjab

(Installed on all Four Mills Ø36"x72" - 8000 TCD)

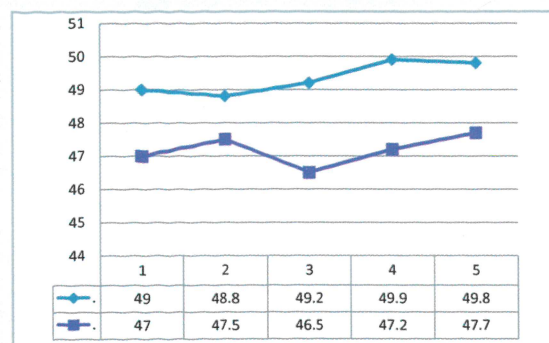
Moisture % Bagasse



Kumbhi Kasari S.S.K.Ltd., Kuditre

(Installed on First & last Mill Ø36"x72" - 5500 TCD)

Moisture % Bagasse

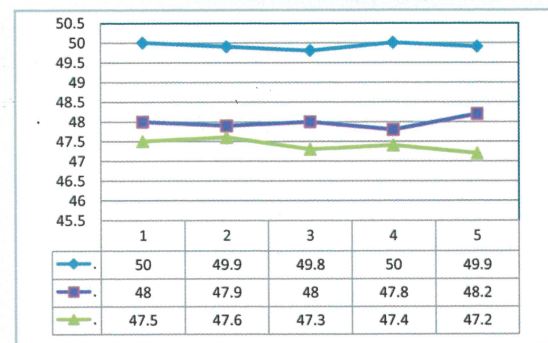


- Before Installation of MCU
- After Installation of MCU

Vijaynagar Sugar Pvt. Ltd., Gadag, Karnataka

(Installed on second & last Mill Ø33"x66" - 5000 TCD)

Moisture % Bagasse



- Before Installation of MCU
- After Installation of MCU on Last Mill (2015-16)
- After Installation of MCU on First & Last Mill (2016-17)

Performance achieved after Installation of Moisture Control Unit (MCU)

Sr. No.	Factory	Year	MCU Installed on mills	Moisture % Bagasse		Primary Extraction		RME	
				Before MCU	After MCU	Before MCU	After MCU	Before MCU	After MCU
	UTTAR PRADESH								
1	K M Sugar Mills Ltd., Motinagar.	2015	5 Mills	50.5 - 51	46.5 - 47	74 - 75	80.4	96.5	97.21
2	Novel Sugar Ltd., Barkhera.	2017	1 st & 5 th	50.8 - 51	48.5 - 49	67	69	95.2	95.45
3	Nanglamal Sugar Complex, Nanglamal.	2018	5 th	51.5 - 52	50 - 50.5	-		-	
	PUNJAB								
4	Rana Sugars Ltd., Butter.	2017	4 Mills	51.5 - 52	48.5 - 49	74	76	95.8	96.22
	KARNATAKA								
5	Vijaynagar Sugar Pvt. Ltd., Gadag	2016	2 nd & 5 th	50.5 - 51	47.5 - 48	-	-	96.4	96.7
6	Ugar Sugar Works Ltd. Tandem 1 & 2	2017	5 th	50.5 - 51	49 - 49.5	-	-	-	-
7	Bidar Kissan Sugars Ltd., Magdal.	2018	1 st & 4 th	51.5 - 52	48 - 48.5	69	72	95.5	95.8
8	Bilagi Sugar Mill Ltd., Tandem 1	2018	1 st & 4 th	50.5 - 51	49 - 49.5	70	72.5 - 73	95.5	95.75
9	Bilagi Sugar Mill Ltd., Tandem 2	2018	1 st & 4 th	50 - 50.5	48 - 48.5	71	73.5 - 74	96	96.25
10	Manali Sugars Ltd., Malaghan.	2018	1 st & 4 th	51.5 - 52	49.5 - 50	69	71.5 - 72	95.5	95.75
	MADYA PRADESH								
11	Mahakaushal Sugar & Power Ind. Ltd. Bachai.	2017	1 st & 4 th	51 - 51.5	49 - 49.5	68	70.5	95.4	95.65
	MAHARASHTRA								
12	Shree Chh. Shahu SSK Ltd., Kagal.	2015	4 Mills	50 - 50.5	47.5 - 48	73 - 74	77 - 78	95.5	96
13	Ajinkyatara SSK Ltd., Satara.	2015	1 st & 4 th	51	48	72	75	95.58	95.78
14	Green Power Sugars Ltd., Gopuj.	2016	4 Mills	50 - 50.5	47 - 47.5	72	74.5	96.2	96.62
15	Shree Chh. Rajaram SSK Ltd., Kasba Bawda.	2016	5 th	51	49	-	-	95.78	95.98
16	Kumbhi Kasari SSK Ltd., Kuditre	2017	1 st & 5 th	49	46.5 - 47	74	76.5	96.2	96.45
17	Krantiagrani Dr. G D Bapu Lad SSK Ltd., Kundal.	2017	1 st & 5 th	50.5	48 - 48.5	71	73	96.05	96.25
18	Padmashree Dr. D Y Patil SSK Ltd., Aslaj.	2017	1 st & 4 th	50.5 - 51	48 - 48.5	70	72	95.7	95.9
19	Babanraoji Shinde Sugar & Allied Industries Ltd., - Dewatering Mill.	2017	Dewatering Mill	51.5 - 52	49 - 49.5	-	-	-	-
20	Utopian Sugars, Pantnagar.	2018	1 st & 4 th	50	47 - 47.5	70	72.5 - 73	95.75	96
21	Jakraya Sugar Ltd., Watwate.	2018	1 st & 4 th	50.5 - 51	47 - 47.5	70	72.5 - 73	95.75	96
22	Jagruti Sugar Ltd., Latur.	2018	1 st & 4 th	50 - 50.5	48 - 48.5	68	70.5 - 71	95.6	95.85
	ANDHRA PRADESH								
23	SNJ Sugars (Diffuser Dewatering Mill)	2018	Dewatering mill #2	52.5 - 53	50 - 50.5	-	-	-	-