

The background of the entire page is a faded, light blue image of a tea processing machine, showing various rollers and gears. The machine is set against a bright, slightly cloudy sky. The overall design is framed by dark blue curved borders at the top and bottom.

Kaizen™

CTC MACHINE

The logo for T & I Pvt. Ltd. consists of a stylized red 'T' and 'I' with a small green square above the 'I'.

T & I Pvt. Ltd.

Tea processing
machinery
from plucking to packing



Kaizen™ “Continuous Improvement”, the secret behind Japan's success story, the rapidly growing international concept, a reality in T&I! Conceptualised and designed with one underlying objective - Quality, the Kaizen™ is a culmination of the highest standards of engineering, performance and most importantly, the end product - TEA!



TECHNICAL FEATURES

Unique Cutting Unit Cover

An inclined, straight-type cover for each cutting unit, using a continuously moving PVC belt, to prevent any spillage or accumulation of teas and thereby eliminating the possibility of bacteria formation.

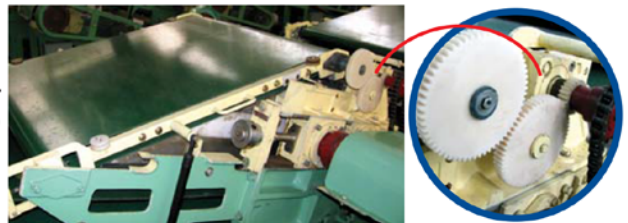
The continuous movement of the cover belt is achieved by a specially designed and unique gear mechanism. A set of three gears - made from the highly durable, self-lubricated Nylon, works in synchronisation to provide the drive from the main conveyor system.

A pair of custom-made, heavy-duty Gas Springs, makes it effortless for the user to lift the entire cover assembly.

The Moving Cover assembly also incorporates a dual-purpose scraper made from self-lubricated Polyurethane strip which ensures proper cleaning of the moving cover, whereas the angle and width of the scraper's frame, prevents any slippage or fly-off that may be caused by the centrifugal forces generated by the high-speed cutting roller.

The benefits:

- Eliminates lump-formation.
- No accumulation, hence no over-fermentation.
- Uniform cutting, since erratic load due to lump discharge, is eliminated.
- No ball formation.
- More efficient scraping.



Unique Cutting Roller Mechanism, to ensure better cuts

The mandrels are made of 15mm thick seamless pipes - almost 65% thicker than in other known makes! T & I's in-house infrastructure uses MIG welding technology, Dynamic Balancing and High-precision Lathes - all this to ensure that the Kaizen™ achieves the highest possible quality of cuts.

To ensure vibration-free movement of the rollers, the mandrels rest on specially designed, single-piece, bolt-free, cassette-type hand-scraped housing assemblies, which require minimum effort for removal during roller changing.

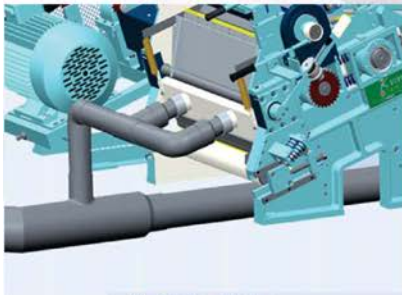
Operational Hygiene & Safety

Kaizen™ ensures Bacteria-free operating conditions through

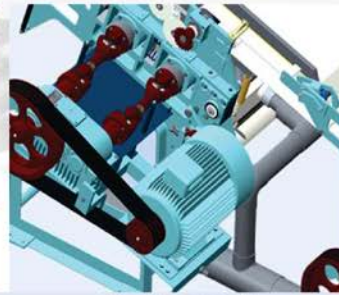
- PVC conveyor belts.
- Frameless conveyors.
- Minimum spillage.



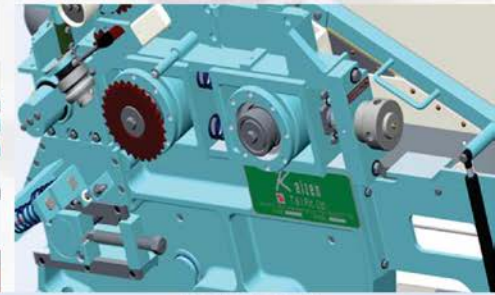
To prevent operational hazards, safety is provided in compliance with the British Standards (Bs5304). All moving parts of the machine are painted using Signal Red colour and are completely covered with MS/SS guards. Optional inter-locking guards with trip-switches can be provided to ensure that the machine is not in operation in case any of the guards is not in position.



Air Cooling System



Drive Arrangement



Housing Assembly

Apart from the T & I pioneered Auto-Dejamming and Auto-Trip mechanisms, Bolt-free housings and Micro-Mesh systems, the Kaizen™ incorporates the following additional engineering features:

Zero-Spillage

- Reduced slope of conveyors, no ball formation or roll-back.
- Inclined side plates and guards for effective spill-proofing.
- Full-length skid plates, to prevent leaf entry into the conveyor belts.

Heavy-Duty Construction

- More rigidity and vibration-free operation.
- Enables inter-changeability of fittings.

Reduced Machine-Height

- Provides better access for maintenance.
- Easier roller setting and mesh adjustment.

Bearing Sleeves

Hardened and Ground Bearing Sleeves are provided on the Mandrel Bearing Journals, to ensure minimum damage to bearings. The sleeves can be easily replaced while the bearings remain intact.

Quick Roller Removal

- Unique roller withdrawal mechanism makes removal of rollers convenient and quick.
- Extended Roller-rest (support). This provides additional safety and eases the changing of rollers.
- The design eliminates the need for removing the Top-arm for changing the rollers.

Chain and Sprocket Drive for Conveyors

- Reduced maintenance costs.
- Positive drive - eliminates belt slippage.

Superior Gearbox

- Induction-hardened Shafts and Gears and heavier bearings have been provided for long trouble-free operation.
- The casing of the Gearbox is made from Grade 25 Cast Iron, using the "no-bake" process. This provides additional durability and enhances shock-absorbing ability of the gearbox.

Cooling Arrangement

- Cold air induced from behind the rollers prevents cutting temperatures of tea from rising, thereby retaining the inherent liquor qualities.
- The outlet for the cold air is provided across the entire width of the distance piece. This ensures that the complete width of the cutting roller is properly aerated.



TECHNICAL SPECIFICATIONS

		MODEL	760	910	1060	S-1320
		(WIDTH)	30"	36"	42"	52"
OVERALL DIMENSIONS (mm/inch)	No. of cuts		1 - Singlet	2 - Duplex	3 - Triplex	4 - Quadruplex
	Length		4,535 / 178.5	6,620 / 260.6	8,705 / 342.7	10,790 / 424.8
	Width		2,278 / 89.7	2,430 / 95.7	2,582 / 101.7	2,836 / 111.6
	Height		1,148 / 45.2	1,148 / 45.2	1,148 / 45.2	1,148 / 45.2
MOTOR SPECIFICATIONS (kw/hp)	216mm / 8.5" dia Kaizen 'Minor'	First Cut	11.19 / 15	14.92 / 20	Not Available	Not Available
		Subsequent Cuts	9.32 / 12.5	11.19 / 15		
	240mm / 9.5" dia Kaizen 'Junior'	First Cut	11.19 / 15	14.92 / 20	14.92 / 20	Not Available
		Subsequent Cuts	9.32 / 12.5	11.19 / 15	11.19 / 15	
	330mm / 13" dia Kaizen 'Standard'	First Cut	14.92 / 20	18.65 / 25	18.65 / 25	29.84 / 40
		Subsequent Cuts	11.19 / 15	14.92 / 20	14.92 / 20	22.38 / 30
In addition to the above, an Air Cooling Fan fitted with 1.5 kw / 2 hp Motor, is also supplied as a standard feature.						
RATED OUTPUTS (kgs./hr.)	216mm / 8.5" dia Kaizen 'Minor'	Green Leaf / Withered Leaf	925 / 665	1,090 / 785	1,320 / 950	1,640 / 1180
	240mm / 9.5" dia Kaizen 'Junior'		975 / 700	1,150 / 830	1,390 / 1000	1,730 / 1245
	330mm / 13" dia Kaizen 'Standard'		1,080 / 850	1,390 / 1000	1,670 / 1200	2,085 / 1500
	The above outputs have been calculated on the basis of data provided by various users of the machine from various regions. The data will vary substantially, depending on quality of input leaf, wither percentage, desired type of cuts, Motor Specifications, RPM, Quality of Rollers, etc.					
SHARPENING SPECIFICATIONS	Chasing / Grooving		8 TPI or 10 TPI		Typical Ratios	1:1, 1:2 & 5:3
	Helical Milling		50, 60, 70, 80, 96, 100 Helicals			
SPECIFICATIONS OF STAINLESS STEEL SEGMENTS	8.5" dia	Outer Diameter (OD)	216 mm	Inner Diameter (ID)	162 mm	
	9.5" dia		241 mm		185 mm	
	13" dia		330 mm		270 mm	
STANDARD SPEEDS OF ROLLERS	8.5" dia	Slow Speed Roller	72 rpm	High speed Roller	720 rpm	
	9.5" dia		62 rpm		620 rpm	
	13" dia		55 rpm		550 rpm	

The Kaizen is available in other widths also, ranging from 18" to 52" width, but with increments of 2" only. The diameter of rollers is limited to 3 sizes, as specified above. The length of the final discharge conveyor can be optionally increased as per necessity, based on the layout of the factory.

In view of our continuous process of product development, the design of the machine is subject to change without prior notice.