

# TRT



WORLD CLASS ONE STOP SERVICE  
SOLUTIONS FOR RUBBER INDUSTRY

**MO**  
MOLD CLEANER COMPOUND  
**KLEAN**

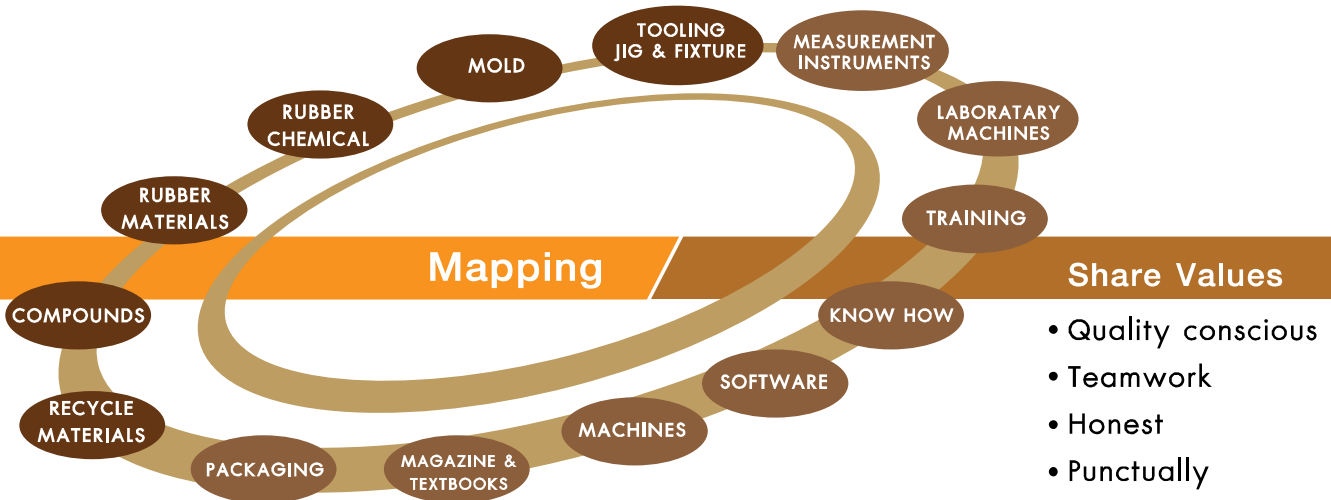
### Company Overview

#### Who we are

**THAI RUBB TECH CO.,LTD. (TRT)** is a Thai registered company, founded in 2000.

We are world class one stop & solutions for rubber industry who started with Producer of rubber mold and plastic mold 18 years ago.

**TRT** is one of few domestic manufacturers with reputable and well-established customer base (over 15 years). After that we have expand our product that can support every activity in the midstream of the rubber industry.



#### Current products provided include 6 class

1. Natural Rubber
2. Compound Master Batch
3. Moklean
4. Tooling Jig&Fixture
5. Mold For Rubber & Mold For Plastic Products
6. Jewelry Molding Compound (MOGEM)
7. Insulator
8. Machine of Rubber Industry



### MOLD

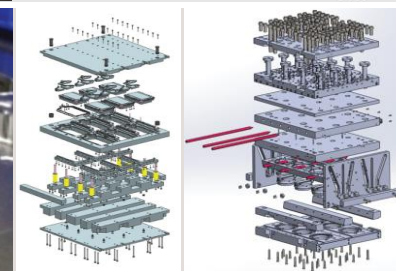
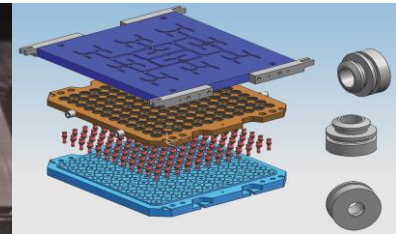
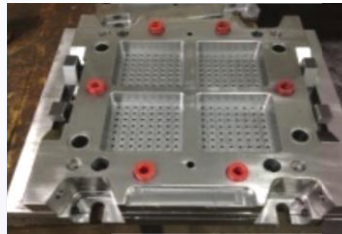
### MOLD FOR RUBBER PRODUCTS

#### COMPRESSION MOLD, TRANSFER MOLD

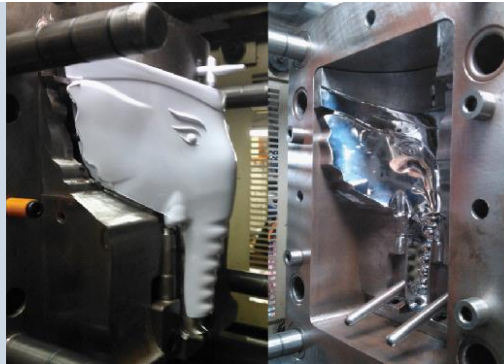
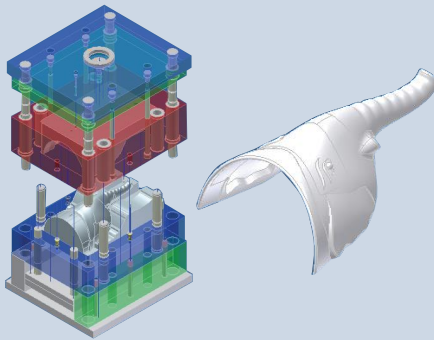
- High Precision
- Improve Productivity
- Easy trimming
- Reduce Defect Rate
- Short Lead time
- On Time Delivery

#### INJECTION MOLD

- High Precision
- Improve Productivity
- Material Saving by non runner waste
- Cold Runner Box
- Reduce Defect Rate
- Short Lead time
- On Time Delivery



### MOLD FOR PLASTIC PRODUCTS



#### INJECTION MOLD

- High Precision
- Short Cycle Time
- Material Saving by hot runner system
- Reduce Defect Rate
- Short Lead time
- On Time Delivery

### MACHINE LIST

#### CNC machine center 4 Units

- Harding ( 1000 x 500 mm. )
- Makino ( 350 x 450 mm. )
- Haas VM3 ( 1016 x 660 mm. )
- Haas VF3 ( 800 x 600 mm. )



#### Grinding 4 Units

- Okamoto 400 x 600 mm.
- Darex ( 1.6 Dia - 26 Dia mm. )
- Darex ( 3.0 Dia - 25 Dia mm. )
- Darex ( 3.0 Dia - 25 Dia mm. )

#### Lathe 4 Units

- Chu-Shing Machinery ( 600 mm. Dai. ) 3 Units.
- Takang Industries ( 400 mm. Dai. )

#### Milling 4 Units

- Lilian ( 254 x 1270 mm. ) 3 Units.
- Taiwan ( 254 x 1270 mm. ) 1 Unit.

#### EDM 1 Unit

- JS-EDM ( 850 X 500 mm. )



## RUBBER COMPOUND

The company customizes compound according to customer's order. Having thrie own formula of rubber material and rubber chemical , TRT is able to produce more than thousands types of compounds at the best quality.

**Material rubber be use able in  
process such as.**

- Natural rubber (NR)
- Styrene-Butadiene rubber(SBR)
- Acrylonitrile -Butadinene rubber(NBR)
- Butadeien rubber(BR)
- Butly rubber (IIR)
- Polychloropane rubber(CR)
- Ethylene-Propylenediene-monomer(EPDM) and other.

**Can denerate Compound in order  
to several industry such as.**

- automotive
- Electronic
- Sport
- Construct
- rubber slipper and other



## Products

1. Masterbatch (Compound A)  
have not mix with vulcanizing
2. Compound Rubber (Compound B)  
mix with vulcanizing
3. Compound Rubber (Compound C)  
from Preformer machine
4. Silicone
5. Color Compound

Rheometer



Universal Testing  
Machines



Internal Mixer



Banbury



Two-Roll Mill



Preformer





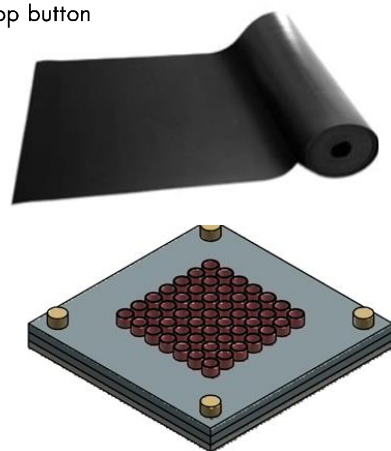
## PRESS CUTTING MACHINE

PRESS CUTTING MACHINE is machine for trimming Rubber part, Paper, Eva sponge, rubber foot or rubber part with adhesive tape



### FEATURE

- The machine is designed to support and distribution pressure therefore the compression pressure are equal every point
- Two-sided of working space
- Semi-Auto Machine by up-down using auto mode, plate slide in-out using manual mode.
- Adjustable Speed and Pressure
- Safety sensor, Plate must be pulled out to the sensor before use the opposite side
- Safety with emergency stop button



### TECHNICAL PARAMETER

### TRT-PC-25

Items	Unit	Spec.
TON		25
Maximum PRESSURE	KG/cm <sup>2</sup>	210
Plate Size	mm*mm	400 * 400
STROKE OF PISTON	mm	150
Maximum size of die cut	mm	300 * 300
Power	HP	5 HP * 4P
Machine Size ( L*W*H )	mm*mm*mm	1220 * 990 * 850
Weight	kg	1500

## ULTRASONIC CLEANER MACHINE

### เครื่องทำความสะอาด ระบบ อัลตราโซนิก

เนื่องจากการทำงานเป็นระยะเวลานาน ทั้งร้อนและเย็น ส่งผลให้แม่พิมพ์เกิดสนิมและมีการสกปรกจำนวนมากจากการผลิต ส่งผลกระทบต่อคุณภาพแม่พิมพ์ในกระบวนการผลิต ซึ่งส่งผลให้คุณภาพผลิตภัณฑ์ออกมาไม่ดี ประสิทธิภาพในการผลิตลดลง



Model : TRT- UL-28

### ขั้นตอนการทำความสะอาด

1. ผสมน้ำยาที่ใช้ในการทำสะอาด
2. ต้มน้ำยาให้เดือดที่อุณหภูมิที่กำหนด
3. ใส่แม่พิมพ์หรือชิ้นงานที่จะทำความสะอาด
4. จับเวลาที่ใช้ในการล้าง
5. ยกชิ้นทำความสะอาด และเป่าแห้ง

### Specification

Internal Tank Dimention (LxWxH)	800 x 300 x 650
Overall Dimention (LxWxH)	1490 x 600 x 900
Ultrasonic Output power (W)	1500 x 2
Ultrasonic Output Frequency (Khz)	28 x 2
Heating power (Kw)	3.0 x 4
Temperature Controller	Digital
Timer setting	Omron
Circulate System	10" x 1
Wheel Material	SUS
Adjustable Footer	SUS

Before



After



### ประโยชน์ในการใช้งาน

ทำความสะอาดสนิมและคราบสกปรกที่ขัดเกาะบนผิวแม่พิมพ์ หรือชิ้นงานที่ทำสะอาด

## SPIN RUBBER DEFLASHING MACHINE



### Technical parameter

Power 5.5 kw weight 290 kg  
Dimension L\*W\*H = 1500\*640\*1300 mm  
Capacity 35L or 3-5 kg  
Work time 20-60 sec/time 24 hrs continually  
Lifetime 4-6 years

Power 120W  
Weight 90 kg  
Dimension L\*W\*H = 1330\*540\*500 mm

### TRT Deflashing Machine



### Set of Machine

1. Deflasher
2. Separator

### Work Principle

Use centrifugal force to get rid of unwanted rubber parts.

### Thickness Requirement

Cut edge  $\leq 0.3$  mm

Suitable for good cutting line mold or removeable flash by hand

High quality deflashing of small to medium size rubber parts (Silicone , NBR , EPDM , VITON ) such as O-Rings ( Diameter 3 – 150 mm ) , Seals, Gaskets, Grommet etc.

### Why Machine Deflashing ?

#### Deflasher



Machine /5y\*300 d = 8 USD/ day  
Electricity cost  $\approx$  8.57 USD / day  
Total cost /day = **16.57 USD /day**

#### Trimming



Man cost = 2 man x 3 shift x 11.4 USD/Day  
= 68.4 USD /day  
Total cost /day = **68.4 USD /day**



## SPIN RUBBER DEFLASHING MACHINE

Item

### TRT-DF-05 : Deflashing Machine

Picture



No	Name	Size	Unit	Qty
----	------	------	------	-----

1	Working Bucket	Φ 380 mm	set	1
2	Frame (Square Pipe)	60*60*3 mm	set	1
3	Top Cover	Thk 1.5 mm	set	1
4	Slide Cover	Thk 1.5 mm	set	1
5	Cylinder		set	1
6	Bearing		set	2
7	Motor	3 phase 380V 5.5 KW	set	1
8	Inverter	3 phase 380V 5.5 KW	set	1
9	PLC		set	1
10	Touch Screen	7 inch	set	1
11	PK Drive Belt		set	1
12	Machining Parts		set	1
13	Spinning Plate		set	1
14	Magnetic Valve		set	1
15	Pneumatic		set	3
16	Automatic Spray		set	1
17	Anti -Hand cut -Sensor	DC24V	set	1
18	Vacuum Cleaner system	400W	set	1
19	Level meter		set	1
20	Alarm		set	1



21	Foma Wheel		set	4
22	Plug in 220V			
23	On / Off switch			

Item

### TRT-DF-05 : Separator Machine

Picture



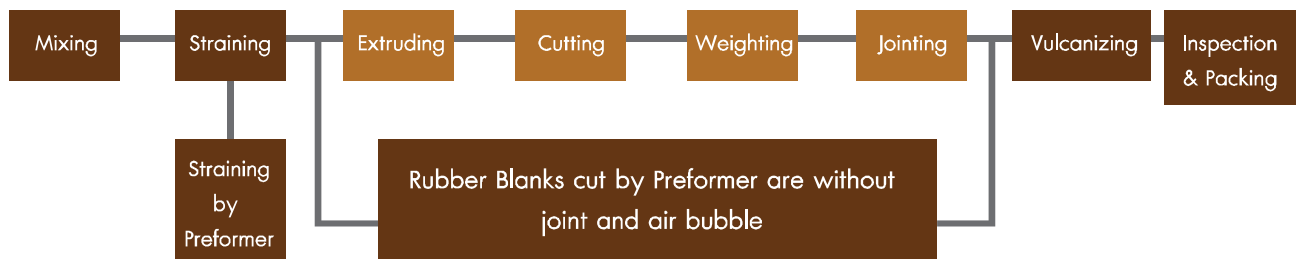
No	Name	Size	Unit	Qty
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1	Frame	40*40*3 mm	set	1
2	Sheet Metal Parts	Thk 2.0 mm	set	1
3	Bearing		set	12
4	Chain Wheel		set	1
5	Drive Pole		set	1
6	Drive Axis		set	1
7	Speed Adjustment Motor		set	1
8	Speed Adjuster		set	1
9	Machining Part		set	1
10	Screening Plate		pcs	14



### RUBBER PREFORMER MACHINE

Precision Preformer is a type of rubber blank manufacturing equipment with high efficiency and high accuracy. It can process a wide range of all rubber material including silicone, Natural rubber, NBR and FKM compound etc. It can extrude rubber blanks of circular, rectangle, strip and odd shapes. It is especially suitable to produce sealing, oil seal, tire valves, bottle stoppers, tennis balls, shoe soles and friction lining, etc. It integrates a variety of different functions such as vacuuming, filtrating, extruding, cutting, weighing, counting, etc.



**JYZ250 Precision Preformer**



**JYZ200 Precision Preformer**

### TECHNICAL PARAMETER

Items	Unit	JYZ150	JYZ200	JYZ250	JYZ200H	JYZ250H
Head option	mm	150	200	250	200	250
Total power	kW	16.0	16.0	28.0	16.0	28.0
Max. extruding pressure	MPa	36.8	20.7	20.7	40.0	25.0
Max. barrel temperature	°C	95	95	95	95	95
Max. die diameter	mm	125	125	190	125	190
Blank weight range	g	0.3~100	0.3~200	0.3~2000	0.3~200	0.3~2000
Blank weight accuracy	%	±1.0	±1.0	±1.0	±1.0	±1.0
Single load capacity	kg	13~15	20~30	60~70	20~30	60~70
Cutter speed	r/min	35~300	35~300	23~300	35~300	23~300
External dimension	mm	4080×1220×1640	4080×1250×1640	5100×1250×1640	4700×1350×1850	5100×1250×1640
Weight	kg	2500	2500	3600	4600	5000

### Product Features

- PLC control and touch screen operator interface, convenient to input data, password protection.
- Emergency standby keys on touchscreen for real button switches.
- Weigh scale close loop feedback system for adjusting cutter speed automatically to control blank weight.
- RS232 connection to weigh scale.
- 1000 products technics database available to connect.
- Graphic and text display for failure point and cause.
- Reliable safety performance.
- Interlocks designed for head closing, cutter rotating, and ram moving forward & retract.
- Extended center for easier cleaning.
- Reversing stainless steel conveyor to separate the incorrect weight blanks at initial phase.



Molds



Blanks



Standard RS232 Weigh Scale



GP Head



SH Head

## RAM RUBBER STRAINER MACHINE



## Ram Rubber Strainer

ram Rubber Strainer

Ram Rubber Strainer can screen various rubber compounds include silicon, NBR,NR, butyl, and fluorine compound . Compared to screw strainer, it will not have heat up & scorching in the whole screening process, it can screen the rubber compound with accelerants. easy to operate, good safety performance, higher efficiency.

## TECHNICAL PARAMETER

Items	Unit	TRT-RS-150 (JYLZ150)	TRT-RS-200 (JYLZ200)	TRT-RS-250 (JYLZ250)	TRT-RS-200H (JYLZ200H)	TRT-RS-250H (JYLZ250H)
Barrel inner diameter	mm	150	200	250	200	250
Total power	kW	14.0	14.0	18.0	18.0	18.0
Max. extruding pressure	MPa	36.8	20.7	20.7	40.0	25.0
Max. barrel temperature	°C	95	95	95	95	95
Single load capacity	kg	10~15	20~30	60~70	20~30	60~70
External dimension	mm	3100×1250×1640	3100×1250×1640	4200×1250×1640	3600×1250×1640	4200×1250×1640
Weight	kg	2200	2200	3300	3300	4300

## Main Industries Served:

1. Automotive, Motorcycle Industry
2. Footwear Industry
3. Sporting and Leisure Goods Industry
4. Other General Rubber Goods



### COOLING CONVEYER

Water cooling conveyor is a specifically designed auxiliary machine to avoid the sticking of hot rubber blanks that produced on a precision preformer. After cooling down with cooling water or cooling solution and forcible cooling wind, the rubber blanks will not become deformed and more table. The feature of the machine is the running speed can be adjusted by the horizontal stainless-steel net belt during the whole process, to go with all the cutting speeds of precision preformer.

#### TRT-WC-650 Water Cooling Conveyor



#### Product Features



#### Precision Preformer & Water Cooling Conveyor

#### TECHNICAL PARAMETER

TRT-WC-650 Water Cooling Conveyor

Items	Unit	TRT-WC-650
Sloping conveyor(stainless steel material)		
Water tank dimension	mm	2000×760×300
Distance of blank conveying (in water)	mm	1300
Slope conveying width	mm	450
Slope conveying speed	m/min	7.6
Slope cooling air volume	m <sup>3</sup> /h	3720
Horizontal conveyor		
Horizontal conveying width	mm	450
Horizontal conveying speed (adjustable)	m/min	3.1~6.2
Layers		3
Horizontal cooling air volume	m <sup>3</sup> /h	29040
Total power	kW	2.6
External dimension	mm	6100×750×1840
Weight	kg	1200

### COOLING & CUTTING CONVEYER



#### TRT-VC-1050 Vibra Cooling Conveyor

##### Product Features

Vibra Cooling Conveyor is a specifically designed auxiliary machine to avoid the sticking of hot rubber blanks that produced on a precision performer. It is space -saving, the part directly contact with rubber blanks is stainless steel to prevent contamination. Rubber blanks travel through vibratory way to prevent the stickiness and deformation effectively. It is with long cooling distance at 35 meter, the max. cooling distance up to 50 meter. The cooling process can be strengthened by air or spraying water. For small rubber blanks, can use the air cooling with cover; for the heavy weight and much hot rubber blanks, can use circulation water connected with external reservoir to spray water. Especially with prominent cooling effect for FKM, NBR, CR, EPDM, pelleting, bearing seals, oil seals and O-rings etc.

##### TECHNICAL PARAMETER

Items	Unit	TRT-VC-1050
Vibration groove diameter	mm	1050
Vibration Groove width	mm	245
Vibration groove height	mm	1600
Material running distance	mm	35000
Helical pitch	mm	110
Width of inlet	mm	650
Height of inlet (Off the ground)	mm	300
Width of outlet	mm	220
Height of outlet (Off the ground)	mm	1650
Conveying Speed (adjustable)	m/min	6~18
Power for vibration motors	kW	0.75*2
Power for cooling fan	kW	3.7
Power for water pump		0.37
Total power	kW	5.6
External Dimension (LxWxH)	m	2800×1400×2700
Weight	kg	1200

##### Optional:

- Air chiller: chilled air cooling
- surrounded by a cover



Precision Preformer & Vibra Cooling Conveyor

### Length-fixing Cutting Conveyor

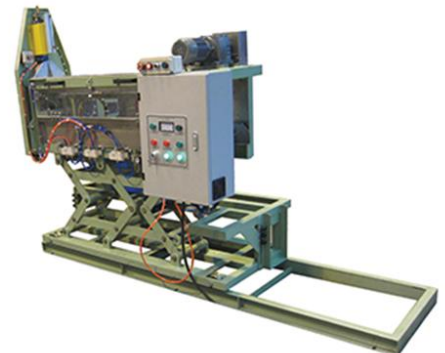
##### Product Features

##### Application:

Ancillary for ram rubber strainer, to cut silicone or lower hardness rubber strips with fixed length after screening through ram rubber strainer.

##### TECHNICAL PARAMETER

Item	Unit	TRT-FC-500
Conveying width	mm	500
Conveying speed	m/min	5.5~11
Distance between conveying plane and ground	mm	800~900 (Adjustable)
Pneumatic cutting stroke	mm	160
Pneumatic cutting width	mm	160
Pneumatic pressure	MPa	0.5~0.8
Total power	kW	0.37
External dimension (L×W×H)	mm	2800*1000*1850
Total weight	kg	300





## COOLING CONVEYER



## Clean-up &amp; Auto-weighing Water Cooling Conveyor

## Product Features

TRT-AWC-800 clean-up & auto-weighing water cooling conveyor is a specifically designed auxiliary machine to avoid the sticking of hot rubber blanks that produced on a precision performer, which used for cooling, conveying, drying, weighing and sorting rubber compounds into charging-basket. Rubber blanks cut by precision preformer can be sorted into charging-baskets after dipping into water, conveying, drying then delivered by cross belt conveyor. When the rubber compounds reach the set weight, the cross-belt conveyor will stop running, the basket-pushed device will change this full charging-basket with an empty one automatically, and cross belt conveyor will run again to fulfill the functions of auto-weighing, automatic basket-sorting and automatic basket-changing. Meanwhile, full charging basket will be delivered to roller conveying line, and then operating personnel can deal with it. Water-dipping device facilitates to cool down the rubber blanks and to avoid polluted by kinds of rubber chippings mutually. There is a charging-basket for remaining compounds which is easy to take out and clean up. When there is no rubber compound on the cooling conveyor, it will stop after 5 minutes' automatic dry run.

## TECHNICAL PARAMETER

TRT-AWC-800 Clean-up & Auto-weighing  
Water Cooling Conveyor

Items	Unit	TRT-AWC-800 (LSS-Q-800)
Water-dipping conveying speed	m/min	4-8
Conveying length	mm	1500
Slope conveyor belt speed	m/min	3-6
Slope cooling air volume	m3/h	3720
Horizontal conveyor		
Horizontal conveying width	mm	450
Horizontal conveying speed (adjustable)	m/min	3.1~6.2
Layers		3
Horizontal cooling air volume	m3/h	29040
Total power	kW	2.6
External dimension	mm	6100×750×1840
Weight	kg	1200



Lifting Device

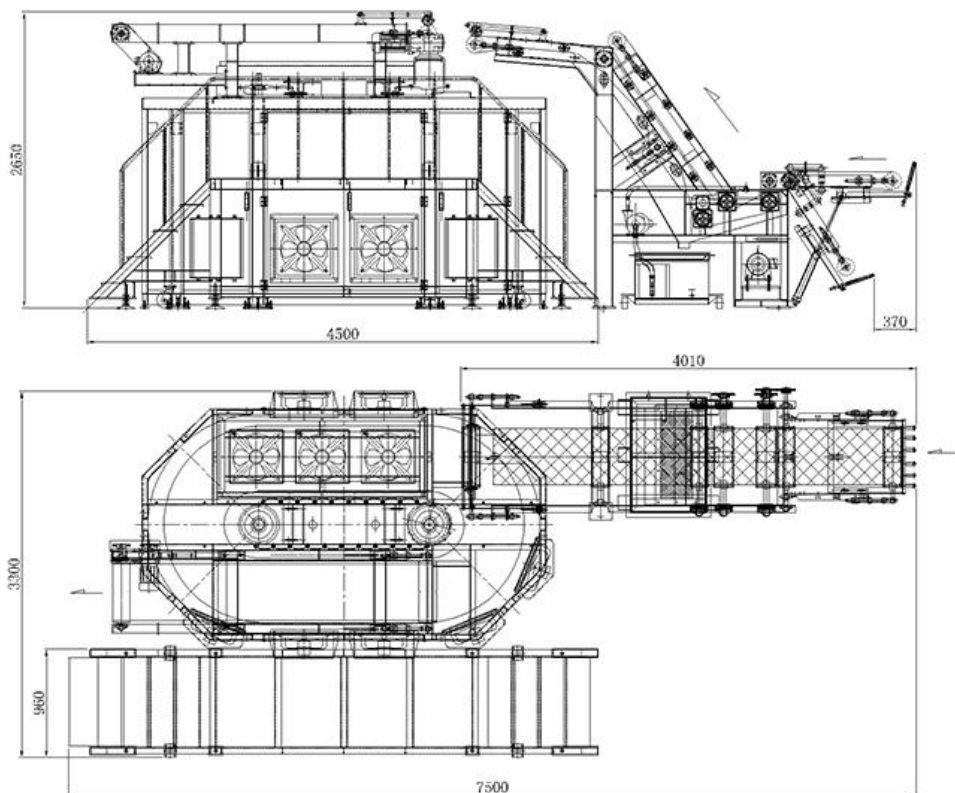


Automatic Weighing Device

1. Water-dipping conveying net belt speed: 4-8 m/min    Conveying length : 1500mm
2. Slope conveying net belt speed: 3-6m/min (infinite speed regulation)    Conveying length: 3000mm
3. Horizontal conveying net belt speed: 1.5-3m/min (infinite speed regulation)    Conveying length: 4000mm
4. &=1.5mm stainless steel net belt, belt width: 300mm
5. Weight range for rubber compounds in charging-basket:10~20kgs/basket(adjustable)  
customized accordingly if outside this range
6. Overall dimension (L\*W\*H)    9000\*2400\*2100mm
7. Weight: 2000kgs
8. Select matching charging-basket dimension:Charging-basket base L\*W : (500-600)\*(400-460)mm  
Charging-basket Height:150-170mm

Automatic basket-changing device will be customized as per charging-basket external dimension.

### HANGING COOLING LINE FOR RUBBER SHEET



#### Application:

Ancillary for ram rubber strainer, to cut silicone or lower hardness rubber strips with fixed length after screening through ram rubber strainer.

#### TECHNICAL PARAMETER

Item	Unit	LPX450
Applicable rubber sheet specification	mm	≤450
Receiving conveyor belt speed	m/min	15~46
Number of hanging rods	pc	28
Max. hanging height for rubber sheet	mm	1500
Cooling wind fan power	kW	0.37kW×10
Max. power (3 phase)	kW	10
Soaking conveyor motor power	kW	2.2
Soaking water pump power	kW	0.75
Mixing motor power	kW	0.4
Hanging motor power	kW	2.2
External dimension (L×W×H)	mm	7500×3300×2650
Total weight	kg	3500



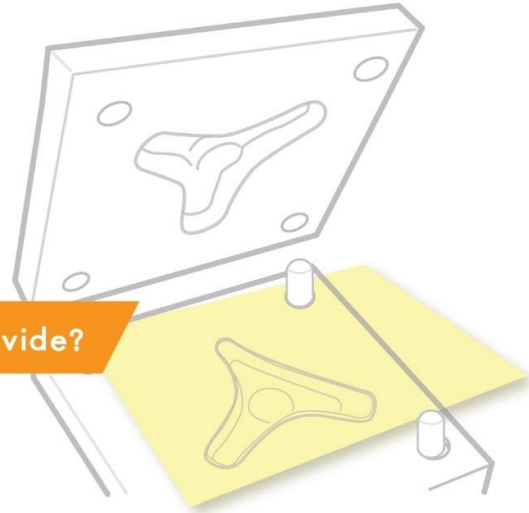
## What is MOKLEAN

MOKLEAN is rubber-mold cleaning compound, developed by a Thai chemical expert team. MOKLEAN has been created to provide value-added benefits to the rubber industry.

For more than 20 year, our R&D team, developing thousands of rubber formulas, has had experiences with tens of raw-material rubbers and been challenged by countless mold-related problems. Now, collaborating with professors and rubber specialists from government sector, we have successfully invented the latest mold cleaning innovation MOKLEAN

we have successfully invented the latest mold cleaning innovation, MoKlean.

# MO MOLD CLEANER COMPOUND KLEAN



### What benefits does MOKLEAN provide?

Besides the increase in effectiveness and ease of use, the total cost of mold cleaning with MoKlean is found to be less than with other mold cleaning methods.

Cost  
reduction

Flawless molds that have been cleansed with MoKlean can greatly reduce defects, thus significantly boosting productivity.

Productivity  
Boost

Though offering powerful cleaning performance, MoKlean is very gentle to the mold surface. The chemicals in MoKlean have been carefully selected to minimize mold attrition and maximize the lifespan of the tooling.

Long Mold  
Lifespan

Produced from high-quality raw materials, MoKlean is harmless to both humans and the environment.

Safer

Cleaner

When fluidized by heat, MoKlean's exceptional flow properties allow it to penetrate all angles and crevices of even the most complex mold, completely extracting and removing all unwanted chemical stains from the mold surface.

Faster

MoKlean was developed to provide industry with a new cleaning method combining convenient use with less time consumption.

Easier

MoKlean cuts out all time-consuming cleaning processes, such as removing tooling from the machine, hand-polishing and reheating the mold after cleaning.

Using MoKlean is as easy as the regular molding process. Simply place MoKlean onto the mold and then set the temperature and time. In a few minutes, the mold will be completely cleansed, just like new!



ThaiRub Tech Co., Ltd.  
Integrated Solutions of Rubber Technology

[www.thairubtech.com](http://www.thairubtech.com)



## How to Use MOKLEAN

Instruction on MoKlean : MC002 usage.

1. set up the time in relation to the recommended temperature.

TEMP (°C)	TIME (Min)
160	6
165	4.5
170	3
180	1.5

2. Prepare the MOKLEAN by weight as following.

$$\text{MOKLEAN weight} = \frac{\text{existing compound weight} \times 1.07}{\text{existing compound SG}}$$

3. Properly place the MOKLEAN on the mold.

4. Follow the normal molding process.



## What advantages does MoKlean offer?

### Comparision of Mold Cleaning Methods after One Time Cleaning.

Item	Mold Cleaning Method			
	Hand Polish	Chemical Wash	Sand Blasting	MoKlean : MC 002
Cleaning result	Unable to get rid of all dirt in the corners of the tooling	Good result, but requires additional hand polish	The tooling is still dirty, especially in the corners of the tooling	Surface and corners of the tooling are completely cleansed
Cleaning time	5 hours	13 hours	4 hours	20 minutes - 1 hours
Machine utilization loss per day	20.10 %	53.50 %	16 %	4.2 % (lowest)
Effects on health	None	Eye and skin allergy from concentrated acid and alkali	None	None
Tooling Life Loss	1 %	1%	5 %	0 - 0.5 %
Necessary skills and knowledge	1. Chemical usage 2. Tooling and iron material 3. Chemical properties of rubber	1. Chemical usage 2. Tooling and iron material	Tooling and iron material	None
* Proportion of expenses per time	100 %	287.8 %	392.7 %	152.6 %

\* In addition to operating cost, there will be a business opportunity cost which is of high value, but difficult to estimate.

Not for use with CR rubber and acid compounds

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