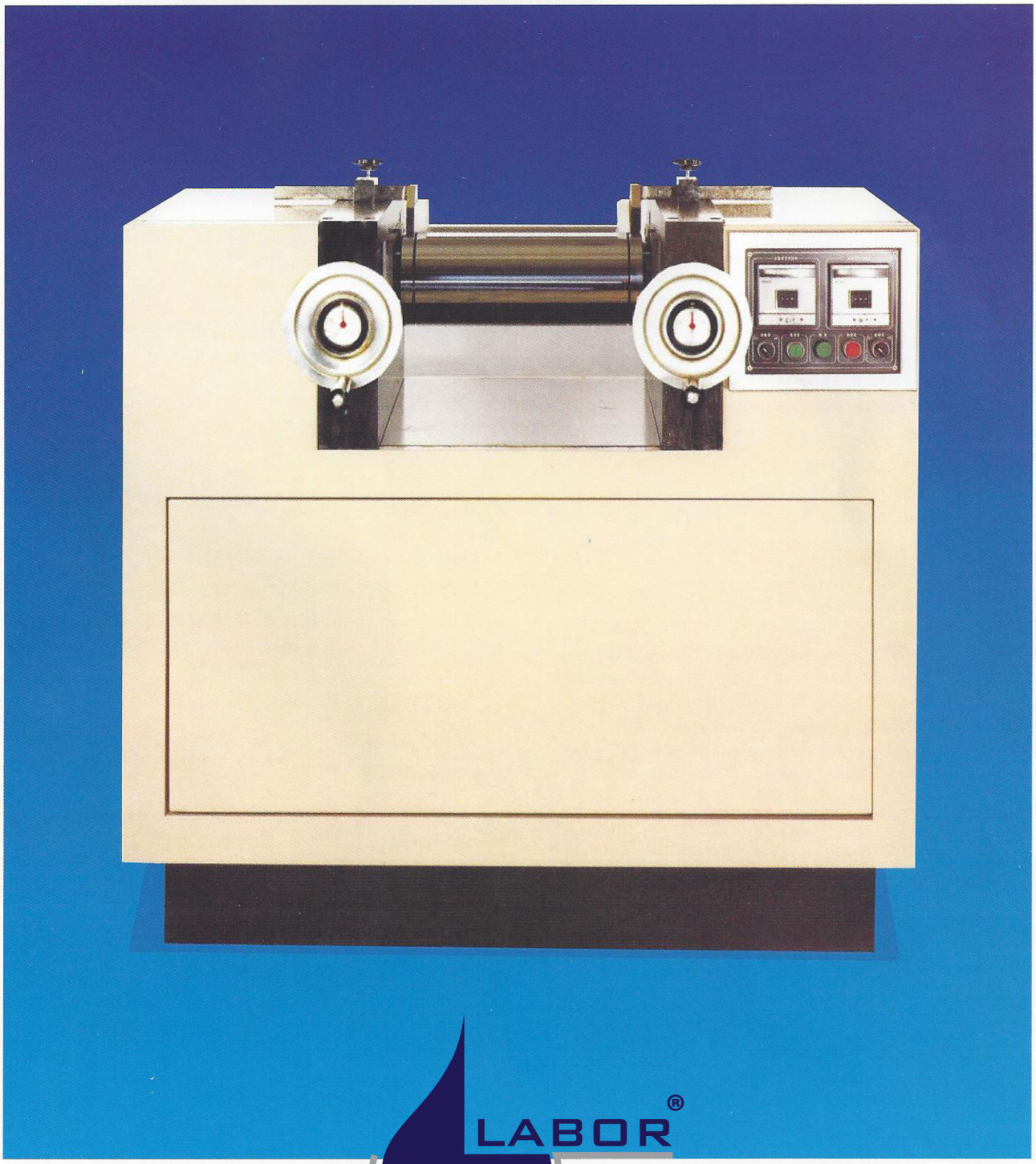
LABORATORY ROLL MILL

for Rubber/Plastic and Process Engineering

橡膠、塑膠實驗用試色機



LABOR® TEKS

A compact model with lowest noise level,

Machine Description and Special features: -

(1) Many years' production experience results in a compact, streamlined machine body which facilitates Installation and safe maintenance work.

(2) Built-in driving unit, less space requirement. 6-pole electric motor using circular type reducer gives lowest noise level.

(3) Rolls are hard-chromium plated, ground and polished, surface hardness 60 HRC or above (hardness depth approx 1.5 m/m) roughness height of 0.5 μ m.

(4) Roll bearings are in the form of double-row Taper Self-Aligning Roller bearings. Roll precision allows sheeting-out thickness to 0.12 mm (thinner on request.)(4″ϕ Type are self-lubricated bushing Type).

(5) The bearings are lubricated with a auto-lubricating system.

(6) Specially produced Roll Mill prevents the two rolls from touching each other during operation.

(7) An emergency safety device by a knee pedal to facilitate automatic stopping the machine and to enable the rolls to be reversed about ¾ of the circumference.

(8) Material guide plates produced of Teflon, heat and acid-resistant, no staining and will do no harm to the rolls as comparing with conventional bronze guide bars (Fig 3).

(9) Maximum working temperature upto 240℃ (eleciric heating system higher on request) most precise temperature control thanks to speciallsed heating systems. For electric heating, most precise automatic temperature controller and specially designed temeprature sensors are used with accurate indication of working temperature to also allow tolerance of ±2℃ or less. This system is recommended comparing to oil heating for the reason of costs.

(10) Surface temperature deviations are ±2℃(electric heating) and for oil-heating ±1℃

Machine Designation:-

Laboratory 2-Roll Mill capable to carry out the following tests:-

(1) Pigment amalgamation test (mixing,masticating)
(2) Hardness test
(3) Stabillzing test
(4) Physical and/or Chemical test
(5) Various specific formulations and formula preparations
(6) Small output production operations

塑膠、橡膠試驗機：

由於我們長期制作上的經驗，已開發成體積小、噪音度極低、安全性高的機型。尤其是在加熱系統方面有獨特的研究，可使用電氣方式的加熱，即可取代油熱的熱分佈均勻的效果，可節省貴公司一筆熱媒系統的經費，至爲經濟。

主要9大特點：

(1)軋輪表面硬化處理，再鍍硬鉻，而後鏡面研磨而成(0.5μm光滑表面)而且硬度60HRC以上。（鏡面處理依需求訂制）

(2)軋輪承軸用自動調心培林（Taper Roller Bearing）軸心精度極高，可制成極薄膠膜，最小可做到0.12㎜以上(若要特殊薄膜可另訂制)。

(3)使用自動加油潤滑系統，定時定量加油。

(4)機械所有零件采用內藏方式，故所占體積小，不占空間，操作極爲簡單，合乎人體工學。

(5)用膝壓式做爲安全擋板，遇緊急狀況祇要一經觸碰會自動停止，且會自動反轉¾圈，以解除危急。

(6)使用6極馬達以及使用賽曲樂（Circulte）的減速方式，而不用傳統的齒輪減速，故有極低的噪音，以維持試驗室的安靜。

(7)軋輪特別制造，即使是做極薄的試驗也不至於發生兩輪相碰撞的情形。

(8)精良的控溫系統
電熱方面：利用特殊的探針及電熱管祇要您將所需的溫度設定後即可得到正確的軋輪溫度及正確的指示，誤差2℃之內，而且輔軋輪上誤差亦2℃之內。
油熱方面：更精確誤差1℃以內。

(9)使用特弗龍(Teflon)爲擋料板(如圖3)其優點爲
①不會傷到軋輪的表面。
②不會導走軋輪熱量，使軋輪有均勻的溫度。
③不會沾上色料，影響試色品質。

主要功能

試驗軋輪機廣泛使用於下列試驗工程

(一)配色試驗
(二)軟硬度試驗
(三)試安定性
(四)物理試驗
(五)化學試驗
(六)各種特殊配料
(七)小量生產作業

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Highest safety and most even temperature dist

Technical Specifications and Model No . Designation

M-4A-00

ROLL DIAMETER X FACE WIDTH
4 4″×10″
6 6″×15″
8 8″×20″

SPEED CONTROL
☐ A--STANDARD TYPE

	FRONT ROLL(rpm)	REAR ROLL(rpm)	FRICTION RATIO
M4	19	15.5	1.2: 1
M6	23	19	1.2: 1
M8	19	16	1.2: 1

☐ B--VARI-SPEED TYPE (BY INVERTER)
FRONT ROLL SPEED FROM 3-25 RPM
FRICTION RATIO 1.2:1

☐ C- -SPECTAL VARI-SPEED TYPE FOR INDIVIDUAL ROLL (BY 2 INVERTERS)
RELL SPEED FROM 3-25 RPM.

HEATING SYSTEM
0- ELECTRIC HEATING (CONFIRM 3 PH VOLTAGE AND HZ)
1- OIL HEATING

ADJUSTMENT OF ROLL GAP WIDTH
0- STANDARD TYPE
1- SPECIAL TYPE

[ ] ON REQUEST ONLY AT EXTRA PRICE

規格：

M-4A-00

軋輪尺寸
4 4″×10″
6 6″×15″
8 8″×20″

控速方式
☐A--標準式

	前輪(rpm)	後輪(rpm)	轉速比
M4	19	15.5	1.2: 1
M6	23	19	1.2: 1
M8	19	16	1.2: 1

☐B--轉速可變式(單變頻方式)
前輪控速3到25rpm
後輪轉速比1.2:1變速

☐C--2 Roller 各別變速式(雙變頻方式)
各別速可調3到25rpm

加熱方式
0 – 電熱
1 – 油熱

間隙調整
0 – 標準式
1 – 微調式

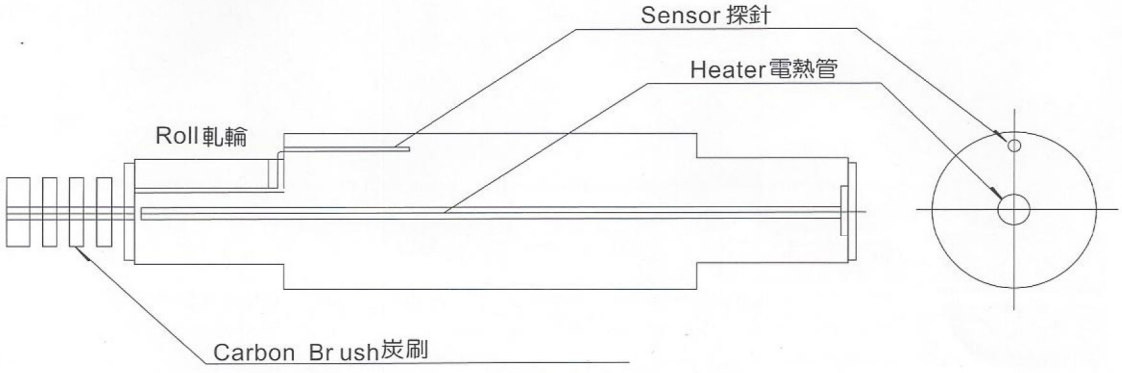
[ ] 特殊規格

Electric heating

Specially designed electric heater with controlled heat radiation and accurately positioned temperature sensor give precise and evenly distributed surface temperature

電熱方式

我們有特殊設計的探針位置及特殊設計的電熱管：（此電熱管每點發熱密度不同）故你可得到正確且均一的表面溫度。



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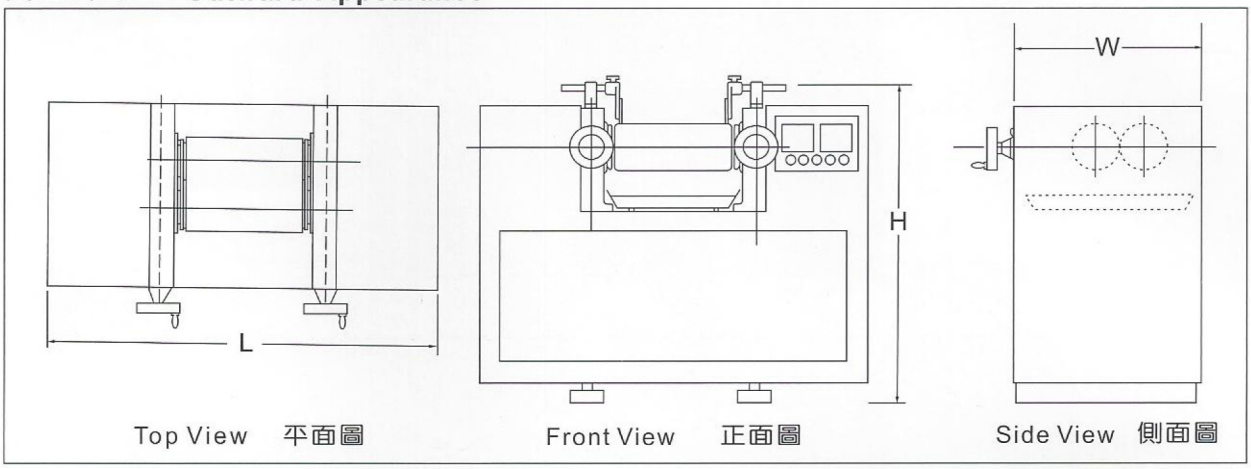
機器外觀圖 Outward Appearance



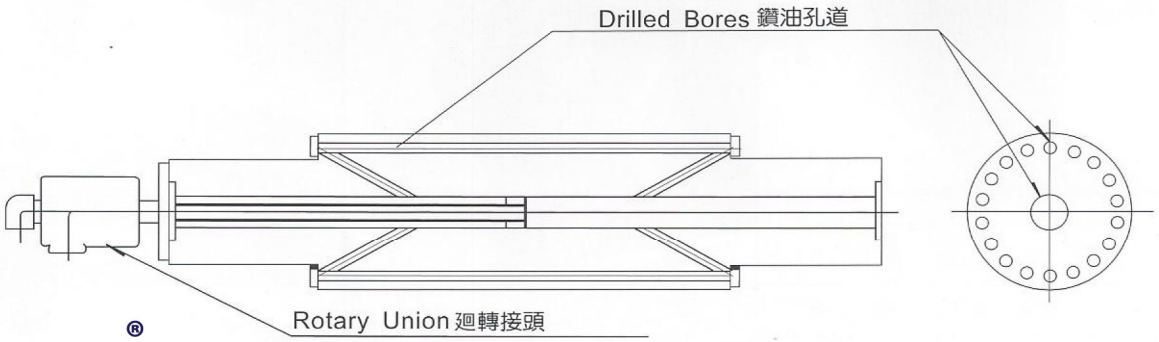
型 號 Roller尺寸 MODEL NO. ROLL DIAMETERϕ ROLL FACE WIDTH	(不含油熱系統) 機械尺寸(cm) MACHINE DIMENSIONS (CM) NOT INCLUDING OIL HEATING			馬 力 POWER (HP)		電 力 CONSUMPTION (KW)		備 考 REMARKS
	L	W	H	單馬達 1 MOTOR	雙馬達 2 MOTORS	電 熱 ELECTRIC HEATING	油 熱 OIL HEATING	
MODEL NO. M-4 4″ϕ×10″	90	40	100	2 HP	N.A.	3 kW	N.A.	不生產油熱 OIL HEATING NOT AVAILABLE
MODEL NO. M-6 6″ϕ×15″	126	58	112	7½ HP	3 + 3 HP	8 kW	15 kW	
MODEL NO. M-8 8″ϕ×20″	140	72	120	10 HP	5 + 5 HP	12 kW	20 kW	

Oil heating

Bores are drilled very nearto the roll surface results in extremely precise surface temperature distribution. Drilled rolls are suitable for both oil and steam heating and can be used for cooling during Rubber tests

油熱方式

鑽孔軋輪是我們在最近軋輪的表面鑽孔，故較一般傳統的鏜孔軋輪得到極精確的表面溫度。
此鑽孔軋輪(Drilled Roll)或在橡膠試驗時做冷卻系統。



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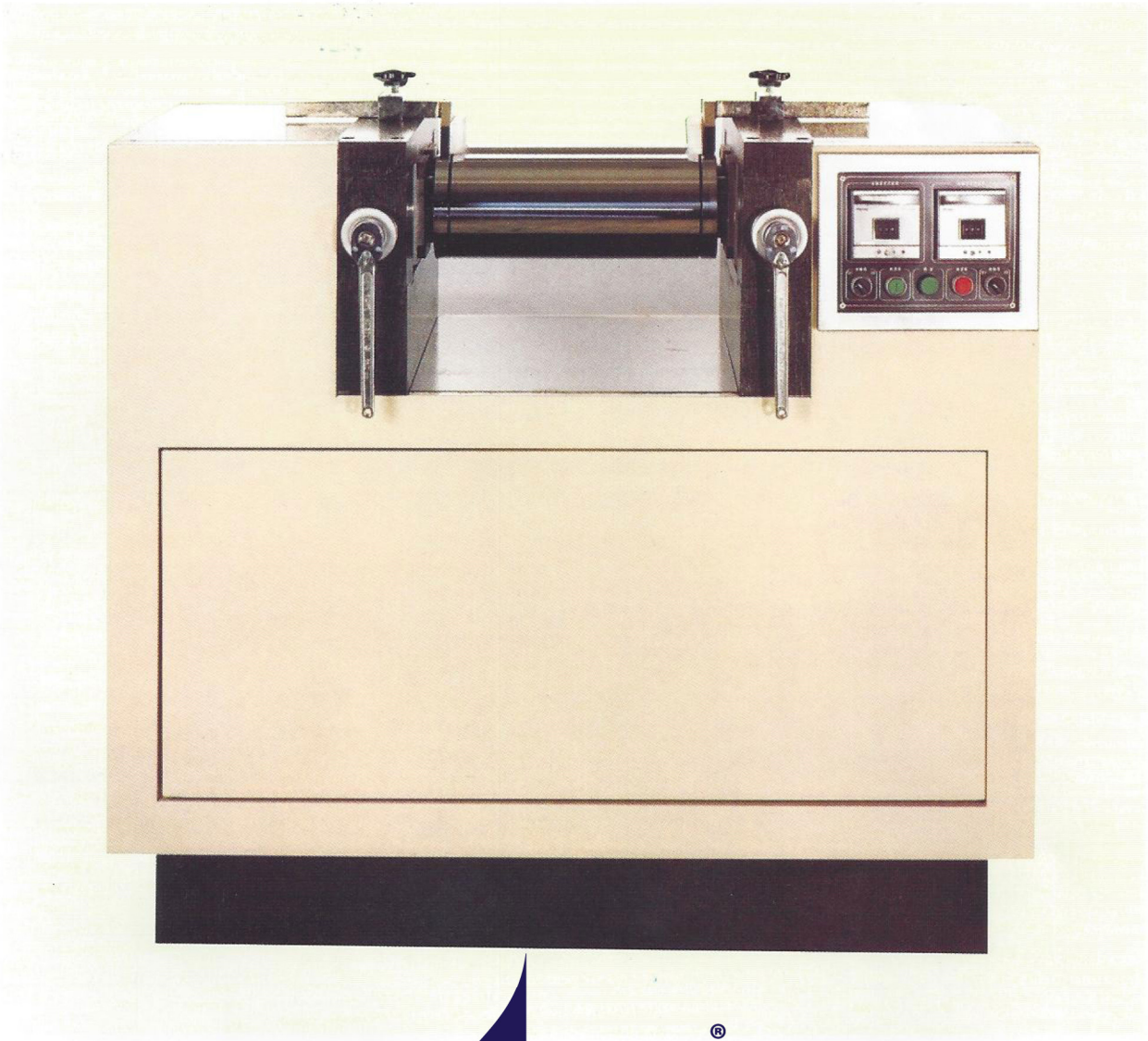
體積小・溫度分佈均勻・低噪音・高安全性



RM4

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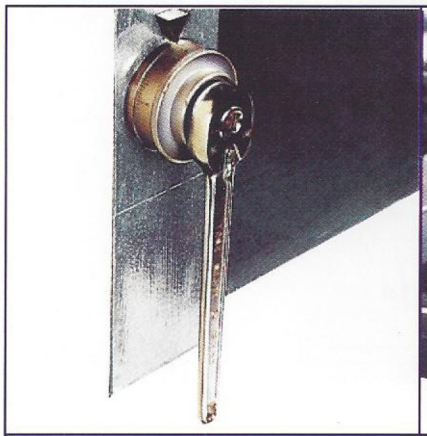
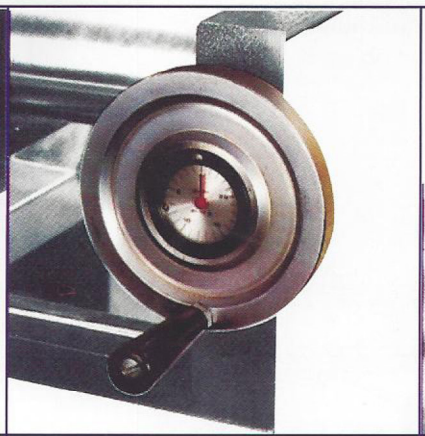


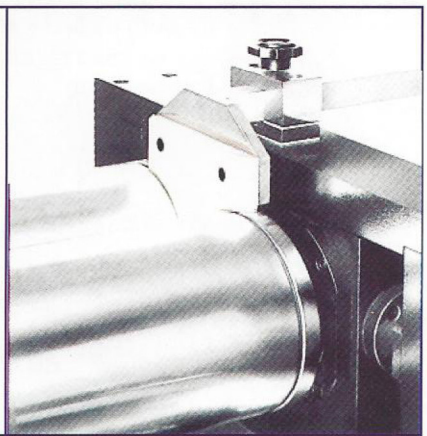
(Fig 1) Ratchets type for option

(圖1) 板杆手柄，按要求制作。



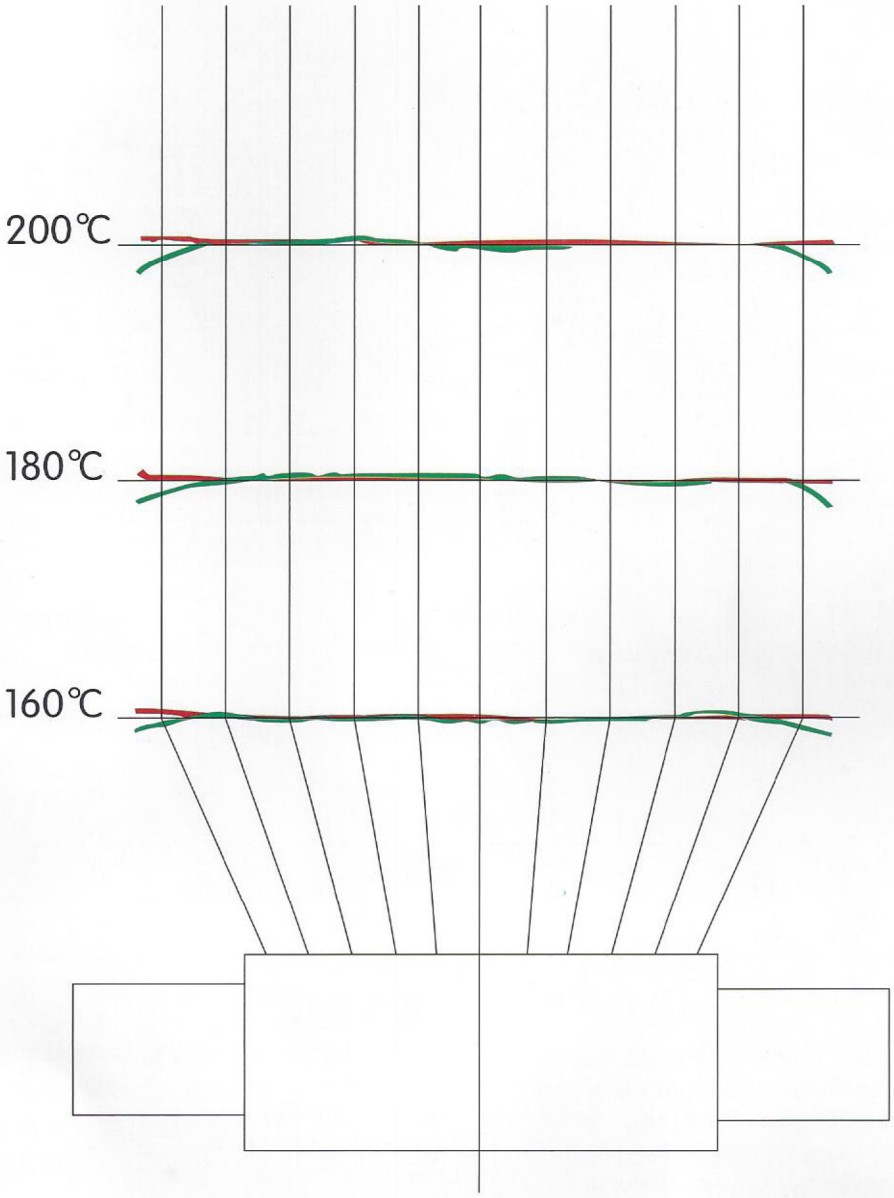
(Fig 2) Solid handwheels for standard

(圖2) 手輪手柄，標準配置。



(Fig 3) Teflon guide bars.

(圖3) 特弗龍製的擋料板。



Temperature distribution
熱分佈圖

— oil heat 油熱
— electric heat 電熱

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