



# MILLENNIUM REFINER/ CONCHE

*250 KG TO 5000 KG UNIVERSAL CHOCOLATE MILLENNIUM  
REFINER/CONCHE (POWER ASSISTED)*



## 250 KG TO 5000 KG UNIVERSAL CHOCOLATE MILLENNIUM REFINER/CONCHE (POWER ASSISTED)

### Features

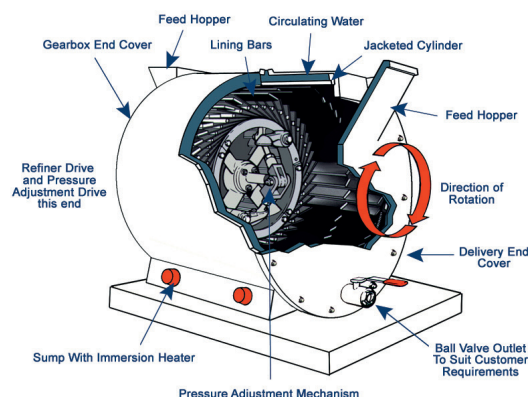
- Electric Immersion Heating
- Electric Main Drive Motor
- Electric Extraction Fan
- Auto Temperature Control
- Control Panel
- Power Assisted Pressure Control for increasing and decreasing pressure
- Sampling & Take Off Valve
- Hard Wearing D Section lining bars

### Optional Extras

- Sound Reduction Blanket - is a combination of rigid urethane board and polished aluminium shrouding, it is fitted round the cylinder of the Refiner/Conche to reduce the noise level
- Anti Vibration Strip - reduces vibration and therefore transmitted noise. We recommend using it in conjunction with our Sound Reduction Blanket
- PLC Control Panel - A fully automatic control system can be used to run the machine overnight or to allow operators to concentrate on other tasks. A PLC is used to monitor system parameters and adjusts the machines characteristics to achieve the optimum refining cycle. The system can be configured by the user to run each stage of the process for a given time and at user specified temperatures.
- Shear Attachment - to enable processing of chocolate down to 21.5% fat content - see Datasheet
- Vacuum Extraction
- Cabling between the Refiner/Conche and Control Panel

### Benefits

- Cost effective system for the production of pure chocolate, compound, couverture, praline, truffle, cream fillings, etc
- Requires the minimum of floor space as this universal system performs the function of a sugar mill, cocoa mill, pre-mixer, refiner and conche, all in the one machine
- Low energy consumption
- Minimal labour requirements
- Moisture content achievable as low as 0.3%
- Low metal count (approximately 12 added parts per million)
- Fat contents of 24% to 70% can be handled (as low as 21% can be achieved with the addition of a Shear Attachment)
- Hard wearing grinding section made from specially developed alloy steel



### Technical Data

Machine Capacity (kg)	Main Drive Motor (kw)	Power Assisted Motor (kw)	Electric Immersion (kw)	Length (mm)	Width (mm)	Height (mm)	Net Weight (kg)
250	11	0.12	1-3	1676	1067	1342	2500
500	15	0.12	2-3	2520	1067	1342	2750
1250	22	0.55	2-3	3038	1330	1640	4750
2000	37	0.55	2-3	3250	1700	1960	6500
3000 STD	45	0.55	2-3	3350	2035	2280	8200
3000 H/D	55	0.55	2-3	3350	2035	2280	8200
5000	75	0.55	2-3	3420	2520	2780	11470



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## Installation

- Ideally 1 metre clearance is required around the equipment's perimeter. The area should be adequately ventilated to prevent overheating of the motors and gearboxes
- The machine is best installed on a flat reinforced concrete foundation floor- minimum thickness 230mm (9") of 30 Newton grade concrete. The machine does not have to be bolted to the floor
- It is advisable that the machine be mounted on anti-vibration pads, or strip, mounted under the channel sections that form the machine plinth. These pads also allow the machine to sit stably on slightly uneven floors and slightly reduces noise levels
- Control panel is a standalone unit but should be located so operators can observe and monitor the equipment in operation
- Consideration of service provision to and from the machine should also be made. Electrical supplies should be carried to the equipment using cable trays or trunking
- Water feed and return lines will need to be connected to the machine to provide cooling taking into consideration the following cooling requirements
- Three phase electrical supply is required

<b>Ambient Temperature</b>	25°C
<b>Cooling Water Temperature</b>	12 - 16°C

<b>Machine Capacity (kg)</b>	<b>Machine Style</b>	<b>Cylinder Capacity (Litres)</b>	<b>Consumption (Litres per Hour)</b>	<b>Water Cooling Capacity (kW)</b>
250	Millennium	67	500 - 700	8.8
500	Millennium	126	750 - 1000	16.6
1250	Millennium	265	1200 - 1500	27.2
2000	Millennium	335	1800 - 2000	34.8
3000	Millennium	392	2600 - 2800	42.4
5000	Millennium	513	3900 - 4100	53.2

## Notes

- Values are for guidance only and will vary depending upon the ambient temperature, the cooling water temperature, the product being manufactured and the machine's settings
- If the ambient temperature in the room where the machine operates is between 35 – 40°C then the above water consumption values should be increased by 40%
- When cooling water temperature is 25 – 30°C and ambient temperature is 25°C then the above water consumption values should be increased by 60%
- Maximum pressure permitted in the cylinder water cooling jacket is 1.5 bar (21.5 psi)
- Cooling capacity based upon 6.5 kW/m<sup>2</sup> transferred to cooling water over effective area of internal cylinder wall giving a 5°C temperature gradient through the wall and 0.2 kW/m<sup>2</sup> lost to ambient atmosphere through cylinder jacket giving a 1°C temperature gradient through the jacket wall
  - We recommend that product ingredients will need to be conveyed to the machine and processed product piped from the machine for downstream processing (additional equipment available from MacIntyre for this purpose. Pipe runs for these elements should be planned before equipment installation commences)

## Cycle Times

- Cycle times are dependant on recipe, quality of raw materials, fineness required and model of Refiner/Conche being used. Please contact the sales office for a cycle time estimation

MacIntyre reserve the right to change specifications without prior warning.

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