



## **TIMATIC SERIES**

**A MODERN, ECONOMICAL AND PRODUCTION EFFICIENT SYSTEM FOR EXTRACTING ACTIVE CONSTITUENTS FROM BIOLOGICAL AND OTHER MATERIALS**

**It is possible to treat: flowers, leaves, fruits, bark, roots, buds, seeds and stems from aromatic, condiment & medicinal plants.**

### **APPLICATIONS:**

- **Extraction from medicinal plants for the Pharmaceutical, Homeopathic and Food sectors**
- **Extraction from medicinal plants for the herbal and cosmetic sector**
- **Extraction for food companies**
- **Production of spirits**
- **Production of biological extracts**
- **Laboratory experimentation, analysis and research**

**The extraction cycle is made at room temperature and the extract obtained maintains (in an unaltered state) all natural properties and characteristics of the active constituents. The exhaustion value of drugs is considerably higher than traditional systems as maceration, infusion and percolation.**

**This advanced technology can use many type of solvent ( alcohol, water, glycerine, oil ) and is based on the double effect of pressure - depression and forced percolation of biological material.**

### **ADVANTAGES USING THE TIMATIC EXTRACTORS:**

- **Fast efficient extraction, compared with traditional systems, gives significant cost reduction benefit**
- **Production of clear, pre-filtered extracts**
- **Flexibility: it is possible to have different extraction cycles in sequence**
- **High reproducibility of process by simply setting a program number**
- **Better quality of extract: no oxidation or contamination**
- **Reduction in raw material storage space requirements**
- **Space saving**
- **Reduction in labour time and costs**
- **Minimal loss of solvent during process phases**
- **Versatility, stainless steel construction**

### **OTHER IMPORTANT ADVANTAGES:**

- **Ease of operator use, combined with simple cleaning and maintenance procedures**
- **Full Microprocessor control of all functions**
- **" Real time " visual display showing cycle sequence and process parameters**
- **Automatic alarm indication of any process anomalies**

## TECHNICAL FEATURES

The extraction cycle alternates a dynamic phase - obtained via a programmed pressure - with a static phase, for the transfer of the extract into the solvent.

At end of the cycle - using automatic pressure control in the extraction chamber - the product is pressed to obtain the maximum extraction.

The double action of the pistons - pushing the solvent into the material - generates a movement of liquid in the extraction chamber and this averts any over-saturation and also the formation of preferential channels in the product.

The cycle can be automatically repeated multiple times and this repetition guarantees full and complete extraction of active constituents, especially when treating hard materials such as roots, barks and leaves.

Timatic extractors work via programmed pressure and low temperature.

Especially recommended for the extraction of active constituents from: flowers, leaves, fruits, barks, roots, buds and stems, from aromatic, condiment & medicinal plants.

- Double action from pistons generating a positive movement in the extraction chamber ( \* )
- Feeding and discharging of solvent in automatic mode via pump ( \* )
- Double washing system: direct from water line or through pumps for solvent re-use ( \* )

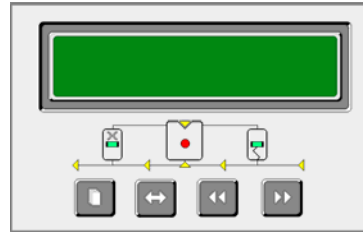
Note: ( \* ) Not for table top models

## MATERIAL USED

- Stainless steel AISI 316 for the framework and trolley
- Stainless steel AISI 316 L for the extraction chamber and all pipe work
- Stainless steel AISI 316 for all the clamping and closure systems
- Stainless steel AISI 316 for all pipes connections, taps, [fast connections] and valves.
- Stainless steel AISI 316 for the pistons
- Stainless steel AISI 316 for the pneumatic valves
  
- The cover of the extraction chamber uses Rathmann type closure systems to guarantee maximum safety along with easy and practical opening of the cover.
- PTFE ( Teflon ) and Viton is used for all pistons and others gaskets
- Safety valve for the extraction chamber
- Pumps - double membrane - stainless steel AISI 316 - for the solvent
- Pressure regulator with filter and automatic cleaning
- Air tubes in Rilsan
- PTFE ( Teflon ) pouch
- 24 V solenoid valves.

## PANEL AND DISPLAY

- Display is 24 x 2 character - back-lit - with indication of all parameters
- Dedicated key-board with ease of use and LED indications
- Powerful Microprocessor for program storage and customised cycles
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The microprocessor control guarantees a continuous control of all cycles and phases of the process. It is possible to store a large number of customised programs.

Reproducibility of extraction process is guaranteed, by the setting of the relevant program number.

The display shows the following information:

- Total time and remaining time to the end of cycle
- Number of cycles set
- The max and min pressure times
- The program number
- The minimum, maximum and working pressure
- The feed and discharge times
- The alarms in case of process anomalies
- The position of piston ( up-down )

PROCESS 01	Trem	Tpr
0.00	>	149:58 150

Pmin	Pmax	Tdis	OK
7.00	9.00	0:15	run

TP1	TP0	Ttot	CL	OK
5:00	5:00	150	15	01

ALARM
EMERGENCY

ALARM!	OK
Pmax 0.00	

ALARM!	P-ON
Pmin 4.15	

ALARM!	OK
Timeout: 50 Sec.	

ALARM!	P-ON
P 6.62	

ALARM!	P-ON
Pmin 9.33	

PRIMING	PRG 01
6.86	P-ON

PRIMING	CLEANING
OFF	OFF

DISCHARGE	OFF
0:15	

## MODELS AVAILABLE

TIMATIC MICRO “Table top models” having a capacity of 0,5 - 1 and 2 litres are particularly recommended for laboratory experimentation and analysis, as well as research and testing equipment using small quantities of solvent and product.

TIMATIC MINI - DUO - MAXI are available in a wide range of models having a capacity going from: 5 to 200 litres ( 5, 10, 20, 30, 50 100, 200, )



**TIMATIC MICRO C:** Continuous action  
Table top model

Models Available: 0,5 - 1 - 2 Litres

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**TIMATIC MINI P:** Double action  
Forced Percolation by the secondary piston

Models Available: 5 - 10 - 20 - 30 - 50 Litres

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**TIMATIC DUO P:** Double action,  
Forced Percolation by the secondary piston

The Timatic Duo combines 2 extraction chambers having different capacities ( 20/5 – 30/10 – 50/20 )

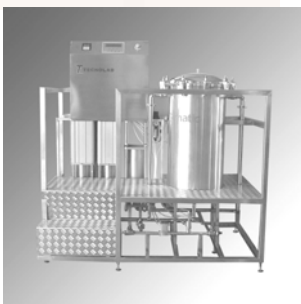
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**TIMATIC MAXI P:** Double action  
Forced Percolation by the secondary piston  
with platform step, printer and filter bag lifting  
assembly

Models Available: 100 - 200 Litres

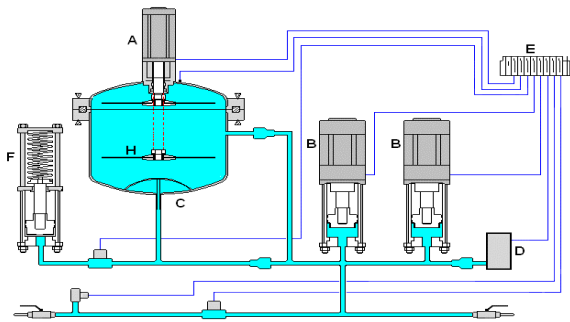
Timatic Maxi 100 Lt – P



Timatic Maxi 200 Lt – P

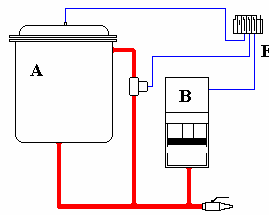
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## MODELS FOR SPECIAL APPLICATIONS WITH TOP PISTON

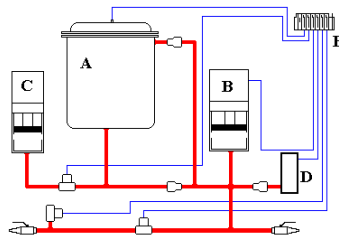


- LEGENDA:**
- A ACTIVE PISTON INTO THE EXTRACTION CHAMBER
  - B EXTERNAL ACTIVE PISTONS
  - C MECHANICAL STRIKER
  - D PUMP
  - E PNEUMATIC VALVES
  - F SECONDARY PISTON ( FORCED PERCOLATION )
  - H PUSHING DISK

### OPERATING LAYOUT

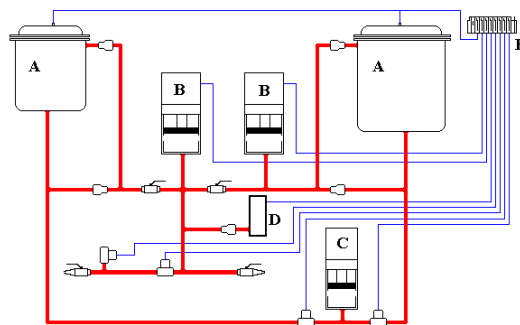


#### TIMATIC MICRO C: Continuous action



#### TIMATIC MINI - MAXI P: Double action

#### Forced Percolation by the secondary piston



#### TIMATIC DUO - P: Double action

#### Forced Percolation by the secondary Piston

<b>A = Extraction Chamber</b>	<b>B = Active Piston</b>	<b>C = Secondary Piston</b>
<b>D = Pump</b>	<b>E = Pneumatic valve</b>	

## TECHNICAL SPECIFICATIONS

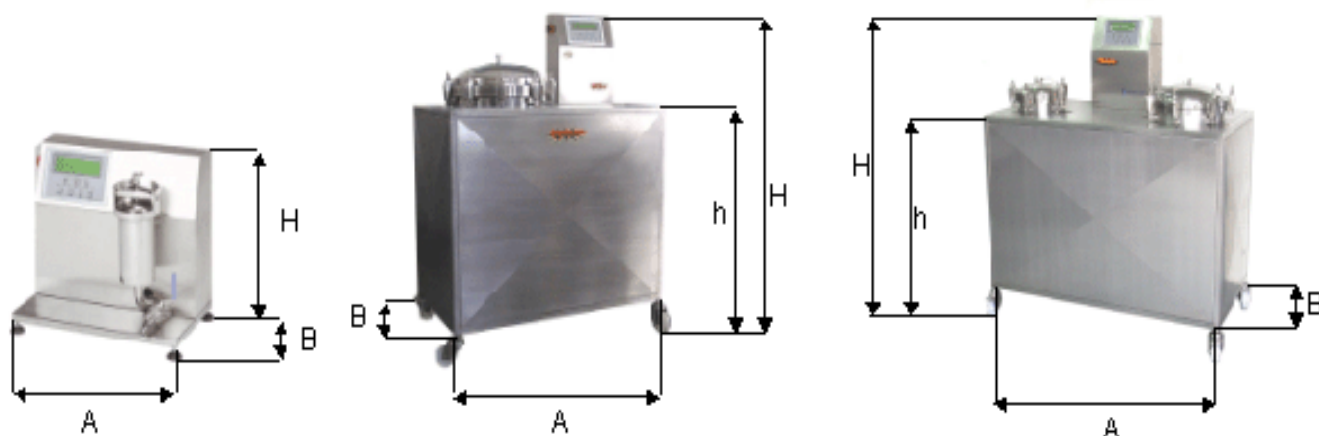
MODELS		TIMATIC MICRO C				TIMATIC MINI / MAXI					
		0,5	1	2	5	10	20	30	50	100	200
Total unload capacity	litres	0,8	1,2	2,4	6	12	24	36	56	120	240
Max Air consumption	nl/min	24	36	48	62	95	155	195	320	95	155
Power requirements		230 VAC - 50/60Hz – 500 W									
Max working air pressure	bar	8 max									
		0,5	1	2	5	10	20	30	50	100	200
Dimensions (mm)	A	550	550	550	800	850	900	900	1100	1450	1850
	B	350	350	350	600	600	600	600	650	850	1100
	h				920	920	920	920	920	1100	1450
	H	550	550	550	1340	1340	1340	1340	1340	1850	1920

The manufacturer reserves the right to make any modification without prior notice. Rev 10 – 05

**NOTE:**

The maximum height of extractors Timatic Maxi 100 Litres is of cm 260

The maximum height of extractors Timatic Maxi 200 Litres is of cm 305



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