MPM Instruments srl progettazione e realizzazione strumenti da laboratorio

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Owner's Manual

Oven - Incubators
Refrigerated incubators
Auto-sterilising incubators

MI 2012-02 GB Rev. 1

Dear customer,
We thank You for the choice of an MPM Instruments products.
We inform You that we are producing many types of instruments and in detail:

- Thermostatic and cryostatic baths
- Shakers
- Dry heaters

For further information You can visit
www.mpminstruments.com

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Technical specifications

- HI-tech oven and incubator for all thermostatic applications where a specific precision is needed.
- Carbon steel external body, treated with anti-acid epoxy paint.
- Thermal insulation with natural mineral fibre.
- Internal chamber in AISI 304, with rounded edges.
- One or double wing door with silicone gasket for high temperature.
- Internal crystal door for inspection (Incubators).
- Door with porthole for inspection (M8-TB / M20-TB).
- Temperature control with digital PID thermo regulator.
- Operating range from + 50℃ to + 280℃ (Heater).
- Operating range from + 50℃ to + 200℃ (M8-VN heat er).
- Operating range from + 5℃ above ambient temperatu re to+ 80℃ (Incubators).
- Operating range from + 5℃ to + 80℃ (Refrigerated incubators).
- Safety thermostat with visual alarm and manual reset.
- Refrigerating unit with ecological gas (Refrigerated incubators).
- System Automatic sterilization at 160 ℃ (TBA)
- Internal shelves adjustable in height.
- Aeration chimney.
- Antiskid rubber feet determinate the stability of the instrument.
- Main switch with luminous indicator.
- Insulated silent block.
- Power supply (See label).

Design and specifications subject to change without notice.

Model VN-VF-TB Code	M40 04.1001	M60 04.1002	M80 04.1003	M120 04.1004	M250 04.1006	M400 04.1007	M700 04.1008
Internal Dimensions							
Volume Lt.	40	60	80	120	250	400	700
Width mm.	348	408	458	498	593	693	693
Depth mm.	312	372	372	477	522	607	607
Height mm.	367	422	472	512	797	980	1470
External Dimensions							
Width mm.	686	746	796	836	956	901	901
Depth mm.	515	570	570	680	730	815	815
Height mm.	575	605	680	720	1025	1487	1977
Temperature control	Digital display						
Shelves	1	2	2	2	2	2	3
Power W Mod. TB	350	500	500	800	1250	1500	/
Power W Mod. VN	700	1000	1000	1600	2500	3000	6000
Power W Mod. VF	800	1200	1200	1600	3200	3200	6000
Weight Kg.	35	40	45	50	90	140	180
Power supply	See label						
Fuse **"F"** 220V	2A TB 4A VN 4A VF	2A TB 6.3A VN 6.3A VF	2A TB 6.3A VN 6.3A VF	4A TB 8A VN 8A VF	4A TB 12A VN 16A VF	4A TB 16A VN 16A VF	/ 10A VN 10A VF

Model Code	M120-TBR 04.3104	M250-TBR 04.3106			
Internal Dimensions					
Volume Lt.	120	250			
Width mm.	498	593			
Depth mm.	477	522			
Height mm.	473	797			
External Dimensions					
Width mm.	836	956			
Depth mm.	680	730			
Height mm.	1232	1392			
Temperature control	Digital display				
Shelves	2	2			
Power W	900	1400			
Weight Kg.	80	120			
Power supply	See label				
Fuse **"F"** 220V	6.3A	8A			

Model Code	M8-VN 04.5001	M8-TB 04.5011	M20-VN 04.5002	M20-TB 04.5012
Internal Dimensions				
Volume Lt.	8	8	8	8
Width mm.	208	208	285	285
Depth mm.	202	202	252	252
Height mm.	220	220	285	285
External Dimensions				
Width mm.	465	465	550	550
Depth mm.	330	330	380	380
Height mm.	370	370	433	433
Temperature control	Digital display			
Shelves	1	1	1	1
Power W	240	120	400	200
Weight Kg.	15	15	20	20
Power supply	See label			
Fuse **"F"** 220V	2A	2A	4A	2A

Accessories

04.4001 Analogic timer to 24 hours for model from lt.20 to lt.700
04.4004 Fixed support (specify model from lt.40 to lt.120)
04.4005 Fixed support lt.250
04.4006 Support on wheels (specify model from lt. 40 to lt. 120)
04.4007 Support on wheels lt. 250
04.4008 On/Off forced ventilation (specify model from lt. 40 to lt. 120)
04.4009 On/Off forced ventilation (specify model from lt. 250 to lt. 400)
04.4010 Additional shelf for lt. 40
04.4011 Additional shelf for lt. 60
04.4012 Additional shelf for lt. 80
04.4013 Additional shelf for lt. 120
04.4015 Additional shelf for lt. 250
04.4016 Additional shelf for lt. 400
04.4017 Additional shelf for lt. 700
04.4020 2 channels temperature recorder with thermic paper
04.4021 Programmer with 16 step and 1 program
04.4023 200 x 200 mm. inspection porthole for oven
04.4024 Internal light for incubators / oven
04.4025 Power supply 400V three phases / 110V mono phase
04.5003 Additional grate shelves M8-VN and M8-TB
04.5013 Additional grate shelves M20-VN and M20-TB

Safety and safety devices

Tool to be used for professional use prior knowledge of the user manual and maintenance by qualified or postoperative. It 'not tamper with safety devices supplied. Provision is made for the datum node. The sound pressure level is less than 70dB. Do not use the tool improperly.

I.P.D. (Individual Protection Devices) – MINIMUM REQ.'S

To avoid accidents, please follow these minimum requirements:
- Use protective gloves heat, steam-resistant and low temperature.
- Use face-protecting mask to avoid possible scald injuries.
- Goggles, safety shoes and shirts

PRECAUTIONS

Ensure that:
- The unit is installed in a stable, horizontal position.
- The internal ventilation openings are not blocked.
- The instrument has a minimum space of 10 cm from the wall for a correct installation
- The internal working (professional use)
- The working space has a temperature range from 5°C to 28℃ and the humidity range has to be between 30% and 80%. (MPM don't respond in case of an uncorrect use).
- The instrument has to be connect to an circuit with ground (system) and with conformity to law.
- The instrument is correctly connect to a plug near to the unit, accessible and with identification sign.
- Need to introduce item in the correct way inside the instrument to avoid fall down of them.
- Prohibition to introduces inflammable and explosive substances.
- Prohibition the use in environments inflammable and explosive.
- In case of black-out to stop the tool through the general interrupter .

Do not:
- Remove the protections while the unit is working or power is On.
- Put anything heavy on the unit.
- Dust excess.
- Exceed bearable load.

Attention:
- Pay attention to heat when the door is opened.
- Place objects containing liquids which might spill in the event of a spill into the device, turn it off, unplug the power cord, wait until completely dry before reusing

In event of accident:
- Switch off without the general button.
- Remove machine to the electric network.
- Contact immediately the staff qualify for the first assist.

In event of damage:
- Switch off the instrument without the general interrupter and remove the elettric network.
- Contact the personal indicate for the maintenance and/or technical assistance.
- For the unblocking of mechanic organ (fan,etc...) rotate manually in the direction more opportune.

ON-BOARD SAFETY LABELS

USE I.P.D.

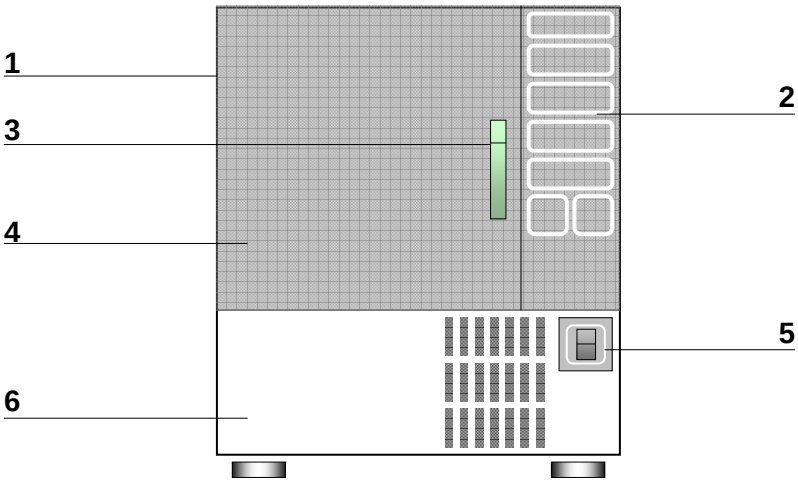
READ OWNER'S MANUAL

SOURCE OF HEATE

SOVRATEMPERATURA

Structural description

1) Carbon steel external body
2) Control panel
3) Catch
4) One-wing door
5) Refrig. unit main switch
6) Refrigerating unit



Installation and use

NOTE: (for refrigerated incubator only)
In case of overturning or inclination of the instrument, please wait about 60 minutes before start it to allow the oil of the refrigerating unit to return into its original position.

- Once received the packed unit, use adequate lifting tools for move it, to avoid damages.
- Lift the instrument from its four base perimetral corners.
- Open the package and remove carefully the protective material.
- Install unit in a place suitable for his operability.
- Use the unit in a stable, horizontal position.
- The instrument situated on the dolly and/or dolly owe find envoy in security with stirrup aplly at the wall like from draw.
- First, firmly connect the small end of the AC power cord into the unit, and then plug the larger end of the AC power cord into the AC outlet (from Lt. 8 to Lt. 20). Verify Voltage on label.
- Use I.P.D. (Individual Protection Devices).
- Turn on 0-1 main switch green light indicates that unit is on (“0” off and “I” on).
- Set operating temperature by digital thermo regulator.
- To set the temperature, press the "↑" so that the amount of temperature flashes; press "←" to select the digit to be changed, press the "↑" or "↓" for set the temperature. Wait a few seconds the setting is complete except for the card automatically setting.
- **To use the programmer Mod 1341, downloaded from www.mpminstruments.com the download program and manual password: 521965.**

The alarm set-point

- Is active when the value of operating temperature overtakes the safety temperature value, or for a malfunction of the digital thermo regulator.
- To reset it increase the set temperature on the alarm set-point, subsequently push the red button.
- The unit will automatically restart the normal operating condition.
- Regulation of **air exchanger** by the knob placed on control panel.
- 35 mm. dia. Outlet is placed on rear side of climatic chamber.
- Is possible connect it to an extractor fan.

Adjusting the air exchanger and its use

- The output, with a diameter of 35 mm., Is located at the back of the room.
- It 'can be connected to a vacuum system for evacuation of smoke.

Refrigerating device

- Used when it's necessary to operate below ambient temperature.
- Turn on 0-1 main switch placed near radiator – green light indicates that unit is on (TBR).

Setting Incubator self sterilizing TBA

- To start the sterilization of the instrument, press the green button (Start). Automatically the instrument will reach the temperature of 160 °C for a period of 12 0 min actual sterilization.
- At the end of the sterilization instrument will trip over temperature, wait for the com-plete cooling and press the reset button to activate the incubator.
- Press the red button (Stop) stops the sterilization phase.
- To capture the performance of sterilization using a PC, see "Using Programmer (Mod.1341)".

Count-down timer

- To connect timer to the instrument press the switch in the *"Watch"* position.
- While commuting, you will see that digital set display is off.
- Set the desired time by turning clockwise the ring pay attention to hours graduate scale
- Now you will see that digital set display turn on.
- When setted time elapsed, timer turn off the instrument (digital set display off).
- To disconnect timer from the instrument press the switch in the *"Manual"* position.

Timer

- To connect timer to the instrument press the switch in the *"Watch"* position.
- While commuting, you will see that digital set display is off.
- Set the solar time by turning clockwise the ring pay attention to time index.
- Set the desired duration (with reference to solar time) by lowering corresponding switches.
- When setted time elapsed, timer turn off the instrument (digital set display off).
- To disconnect timer from the instrument press the switch in the *"Manual"* position.
- If the unit does not operate properly, we suggest you to contact technical assistance service.
- In case of blackout, the instrument will maintain the configuration and at the restore of the power it will restart automatically to work with the old configuration.
- Obligation to fixing to the wall the instruments on you dolly

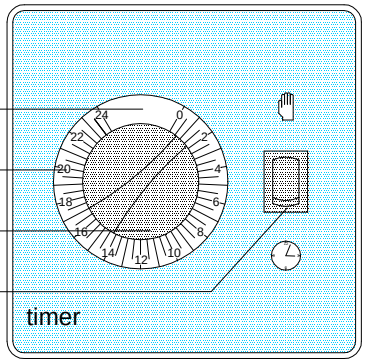
Fuses ((Fuse 5x20 and 10x38 AL250V type F, for the value see table).

- Oven/incubators from 8 to 20 Lt. - placed on power connector.
- Oven from 40 to 120 Lt. - placed on control panel.
- Oven from 250 to 700 Lt. - placed on control panel + internal space of control panel.
- Incubators from 40 to 400 Lt. – placed on control panel.

For extract fuses, first disconnect power, after press down on fuse-holder and rotate in anti-clockwise direction.

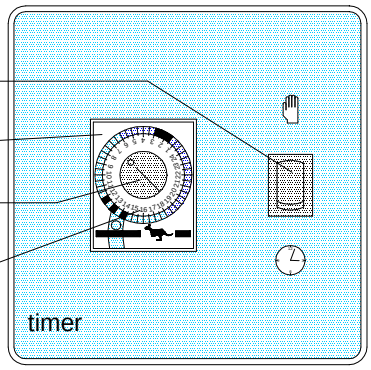
COUNT-DOWN TIMER

D. Zero timer index
B. Hours graduate scale
C. Time selection ring
A. Switch

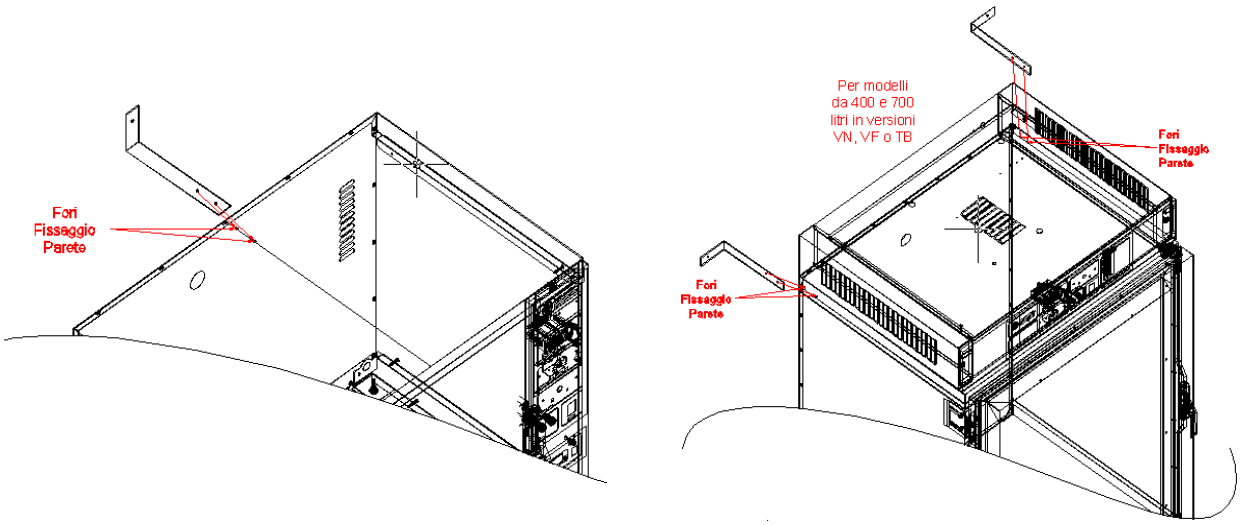


TIMER

A. Switch
B. Timer
C. Time selection ring
D. Time index



EX. OF FIXING TO THE WALL

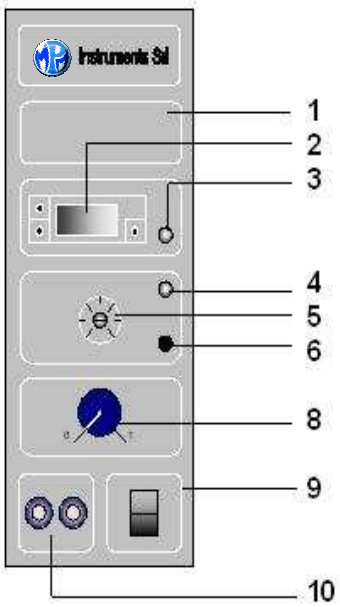


COMPARISON TABLE FOR SAFETY THERMOSTAT

POSITIONS	INCUBATORS	OVEN
0	0℃	0℃
1	+20℃	+50℃
2	+40℃	+100℃
3	+60℃	+150℃
4	+80℃	+200℃
5	+100℃	+250℃
6	+120℃	+300℃

Control panel

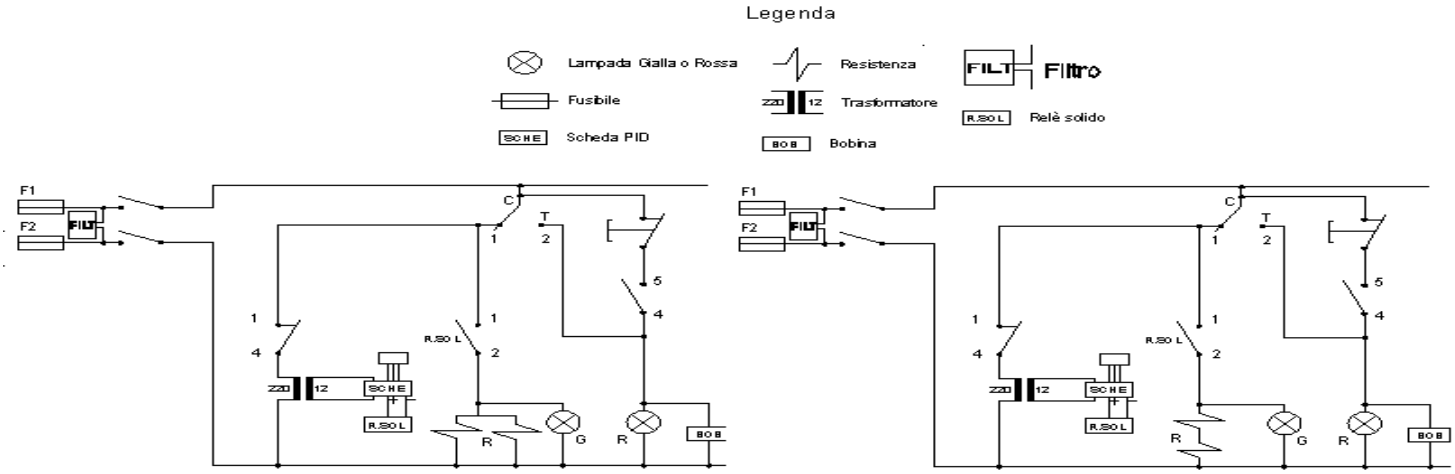
1) Instrument model
2) Digital thermo regulator
3) Heating lamp
4) Alarm red lamp
5) Safety thermo regulator
6) Reset button (red)
7) Timer (on request)
8) Air change manual regulator
9) Main switch
10) Fuses



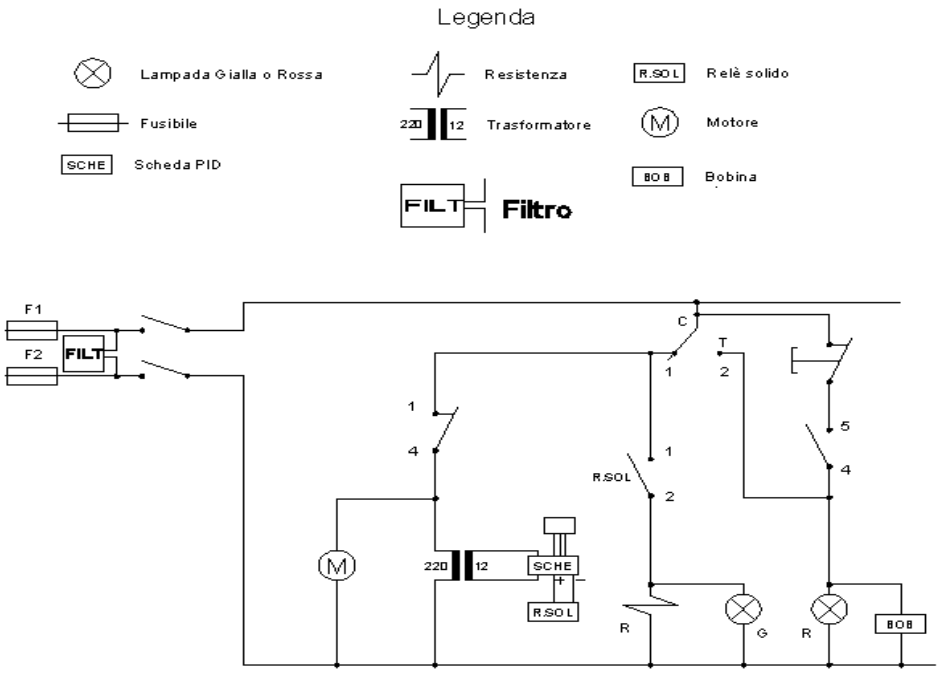
Electric outline

Scheme 1 Oven M8-VN, M20-VN, M40-VN, M60-VN, M80-VN, M120-VN)

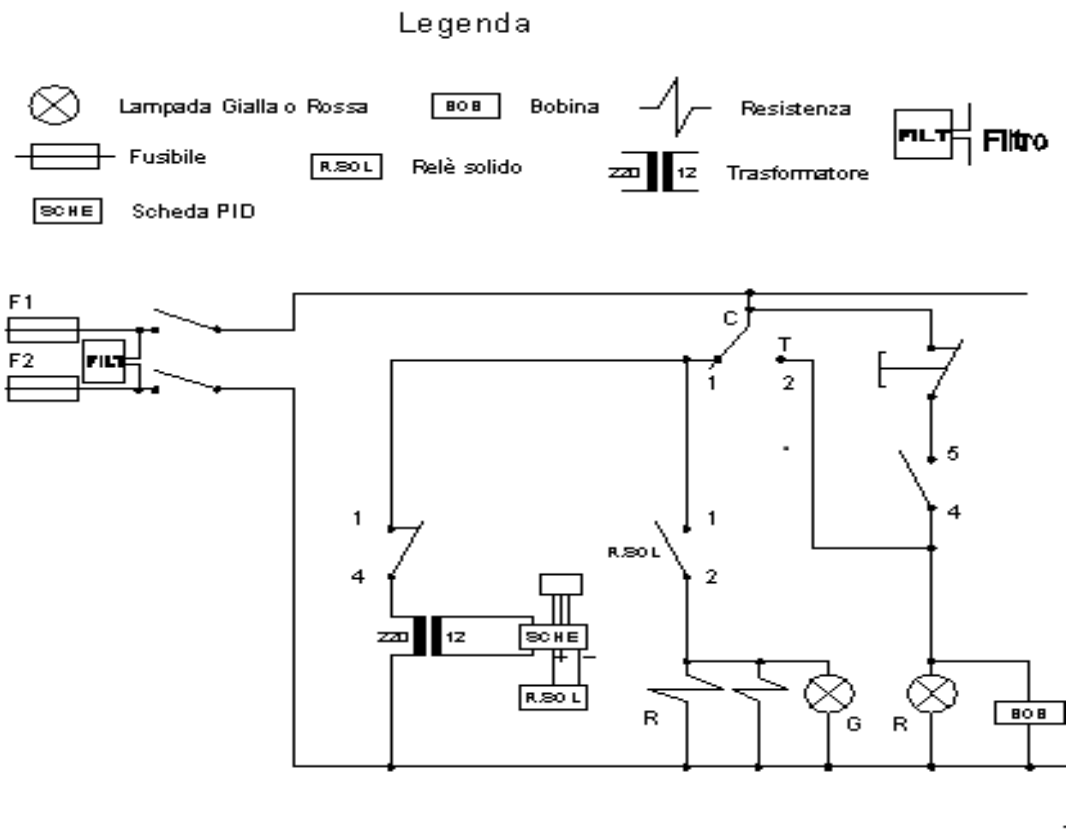
Scheme 2 Incubator ((M8-TB, M20-TB, M40-TB, M60-TB, M80-TB, M120-TB)



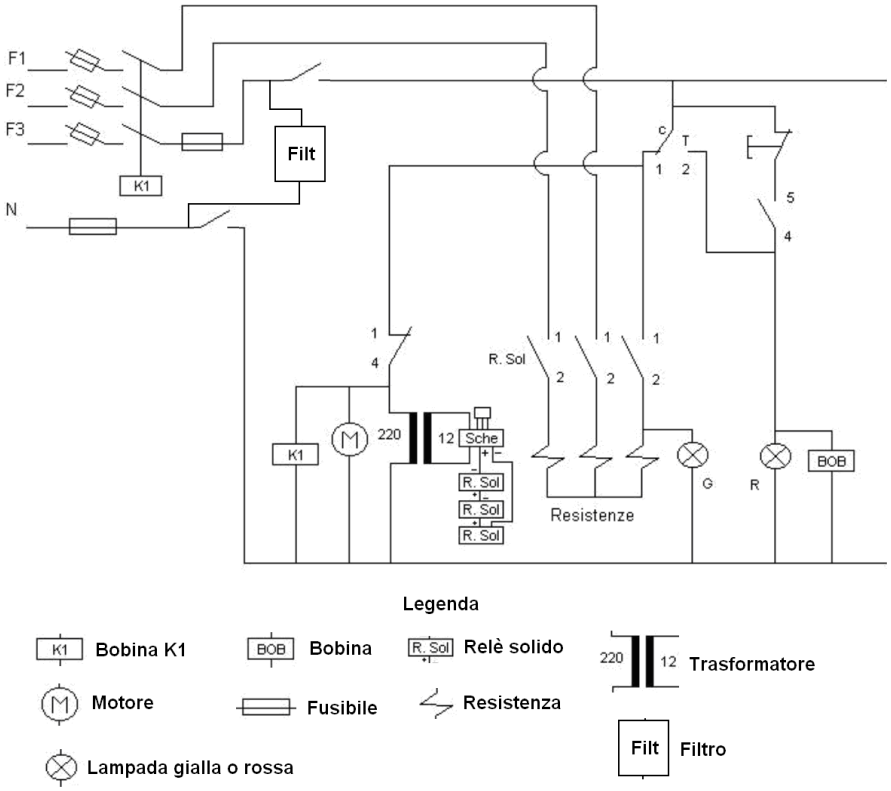
Scheme 3 Oven (M40-VF, M60-VF, M80-VF, M120-VF).



Scheme 4 Oven (M250-VF, M400-VF, M250-TB/VN, M400-TB/VN).



Scheme 5 Oven (M700-VF, M700-VN).



Maintenance

For proper instrument working and to guarantee long lasting life, please six months follow the under mentioned recommended rules for maintenance:
1. Execute the maintenance only by the qualify personal.
Use a font of illumination for a greater vision and for reduce possible risk of incision.
The qualify technical during the maintenance, can remove the mobile protection, but he cant abadon the instrument, actually complete assemblage and put security the instrument.

- Do you remember:
- Switch of the instrument and disconnect from the elettrical and water net.
- Wait that the instrument and all its parts will be a normal temperature.
- Use a detergent with less than 5 percent of not ionic surfactant inside for the internal and external cleaning of the instrument.
- Lubricate the door hinge and the closing system of the handle.
- Lubricate the bearing of the motor using the synthetic oil every 500 hours. (only 40 to 120 litres).
- Clean the condenser of the refrigerator unit. (Refrigerated incubators).
- Clean periodically the float (Refrigerated incubators).

Annually:

- Check-up functions of the thermo regulator.
- Inspect and check the temperature probe.
- Inspect and check the safety thermostat.

If help is required, contact our technical assistance for maintenance, repairs or spare parts replacement.

In case of repairs or maintenance by our staff c/o your works or our factory we request a document of *auto certification* of *sanification* on the company's letter headed paper before any work can be done.

Manufacturer's spare parts

When ordering spare parts, always mention instrument model, part code and instrument's serial number.
The year of the construction is identifiable from first two number of the register.
Example: M 11 01 0001 (11 year of the construction 2011)

Cod.	DESCRIZIONE
R. 1341	Digital thermostat
R. 1095	Solid relay
R. 1130	Probe
R. 1099	Resistor lt.8 TB - VN
R. 1100	Resistor lt.20 TB – VN
R. 1101	Resistor lt.40 TB – VN
R. 1102	Resistor lt.60 TB – VN
R. 1103	Resistor lt.80 TB – VN
R. 1104	Resistor lt.120 TB – VN
R. 1106	Resistor lt.250 TB – VN
R. 1107	Resistor lt.400 TB – VN

Cod.	DESCRIZIONE
R. 1108	Resistor lt.700 VN
R. 1110	Resistor lt.40 VF
R. 1111	Resistor lt.60 VF
R. 1112	Resistor lt.80 VF
R. 1113	Resistor lt.120 VF
R. 1115	Resistor lt.250 VF
R. 1116	Resistor lt.400 VF
R. 1117	Resistor lt.700 VF
R. 1053	Motor VF 40 – 120 / TB 250
R. 1052	Motor VF 250 – 700
R. 1004	Power cord "8 – 20 Lt"

Card configuration

Set the desired temperature
- Hold down the "set/blu" button repeatedly until the message AUTO.
- Press 2 times the "set/blu" button to display on the display AT.of.
- Press the "↑ " AT.of written to allow flashing.
- Press the "↑ " AT.on appear on the display, wait a few seconds for the data subject setting automatically.
- To return to the temperature display press "m".
- If autotuning is activated flashing a green light next to the temperature.

Probe calibration
- Press the "set/blu" button repeatedly until the message AUTO.
- Press the "set/blu" button until you see the written Bi.
- Press the "↑ " or "↓ " to set the calibration positive or negative.
- To return to the temperature display press "m".

Dismantling

Under the European Directive 2002/96 EC on waste electrical and electronic equipment (WEE), our instruments are classified as “Monitoring and controlling equipment” and can not be delivered to any public waste disposal site.
At the end of their service life, the equipment disposal shall be carried out by an entitled recycling centre. The latter shall instruct thereto skilled and qualified staff so as to avoid any possible dispersion of parts or scraps.
The authorized body shall devote particular care to recycle the individual parts resulting from breaking up and avoid leaving them in the external environment.
Please also note that eventual refrigerating units must be disposed of in facilities authorized to this purpose following the pertaining procedures.

Warranty

- All instruments are carefully tested in the factory before shipment and their functionality is guaranteed for **12 months** from the date of sale "instruments for professional use".
- All instruments are equipped with an Owner's Manual including CE marking Conformity Declaration and Warranty Certificate.
- Warranty covers all faults of parts or components.
- Warranty includes the complete replacement of pieces found defective according to our opinion, including labour costs for their replacement.
- In case of tampering or modification produced by third parties, warranty automatically becomes void.
- Any tampering or concealment of the identification label (serial number), or Owner's Manual, automatically cancels the responsibility of MPM Instruments srl.
- If instrument has not been used properly according to the Owner's Manual, warranty is considered void.
- Warranty does not include:
- transport expenses of instrument to and from the factory; consequently all shipment of the instrument returned to us should travel carriage free/free part.
- fuses substitution.
- ordinary maintenance
- possible re-calibration of temperature regulator.
- For external assistance covered by warranty, replaced materials and working hours spent at the Client site will not be charged; travelling time and expenses shall however be charged.
- Assistance out of warranty by our technicians, for checks and/or repairs outside our factory, will be charged for what concerns travel time, work hours, expenses, plus any possible spare parts.
- Spare parts installed on instruments out of warranty, are guaranteed for 3 months.
- Any possible damage, direct or indirect, resulting from failed or reduced functionality of our instrument, does not give right to complain.