Achtung

- Vor dem Auspacken oder vor der Betätigung des Gerätes unbedingt die in dieser Bedienungsanleitung enthaltenen Anweisungen sorgfältig durchlesen.
- Der Hersteller übernimmt in keinem Falle die Haftung für Schäden an Personen, Sachen oder am Gerät, die Folge eines Unsachgemäßen Einsatzes, bzw. einer fahrlässigen und Oberflächlicher Auslegung der Sicherheitskonzepte dieser Anleitung sind.
- Wird das Gerät von verschiedenen Personen bedient, muss sich jeder Bediener genau an
  die nachstehend aufgeführten Anweisungen halten.

BEDIENUNGSANLEITUNG

1) Arbeitshandschuhe anziehen, Deckel aufschrauben und nach oben herausziehen (gegen Uhranzeiger Sinn drehen.)
2) Kessel bis zum oberen Rand mit Spritzwachs befüllen ca. 1-1,5 Kg
3) Deckel vollständig zuschrauben, versichern das der Deckel richtig zu ist
4) Netzstecker anschließen 220 V 50-60 Hz
5) Grünen Hauptschalter einschalten
6) Richtige Temperatur einstellen, Temperaturregler betätigen
   ACHTUNG die Optimale Schmelztemperatur ist von Wachs zu Wachs unterschiedlich, (fragen sie Ihren Lieferant) IP Spritzwachs 72°C
7) Nach ca. 4-.5 Stunden ist das Wachs betriebsbereit(geschmolzen)
8) Um den Druck einzustellen die Handpumpe handeln (Handpumpe befindet sich auf dem Deckel) Druck ca. 0,5- 1 bar einstellen. Um den Druck zu reduzieren Ablassventil aufschrauben (befindet sich auf dem Deckel)
9) Silikonform gleichmäßig mit den IP Halteplatten festhalten, durch leichtes andrücken an der Einspritzdüse wird das Modell mit Wachs befüllt
10) Danach einige Minuten auskühlen lassen, fertig.

Achtung: Niemals den Deckel unter Druck öffnen!

Anleitung zum Einstellen der Temperatur

Das Gerät ist mit einem Digital-Mikroprozessorenregler von hoher Genauigkeit ausgestattet.

- Die Temperatur wird am Display angezeigt
- Die Programmierung erfolgt mittels der Betätigung der zwei Pfeiltasten (auf und Abwärts)
- ↑ bei der Betätigung dieser Pfeiltaste wird die Temperatur erhöht
- ↓ bei der Betätigung dieser Pfeiltaste wird die Temperatur verringert

Nachdem die gewünschte Temperatur eingestellt ist, leuchtet die Displayanzeige für einige Sekunden, die Temperatur wird danach automatisch gesteuert.

Auswechseln der Düse (Einspritzdüse)

- Gerät von der Stromversorgung entfernen
- Gerät soll nicht unter Druck stehen
- Einspritzdüse mit einem Schlüssel Nr.14 aufschrauben
- Düse auswechseln und wieder zuschrauben

Es gibt 3 verschiedene Düsen:

1) Düse rund
2) Düse flach
3) Düse spitz

Wartung

Das Gerät bedarf mit Ausnahme der normalen Reinigung des Kessels keiner besonderer Wartung.
Während der Reinigung sollte das Gerät nicht unter Druck stehen.
Handschuhe und Arbeitskittel benutzen, Deckel wie gewöhnt öffnen das noch warme flüssige Wachs entleeren, und den Kessel mit einem geeigneten Werkzeug säubern.

Steuerschalttafel

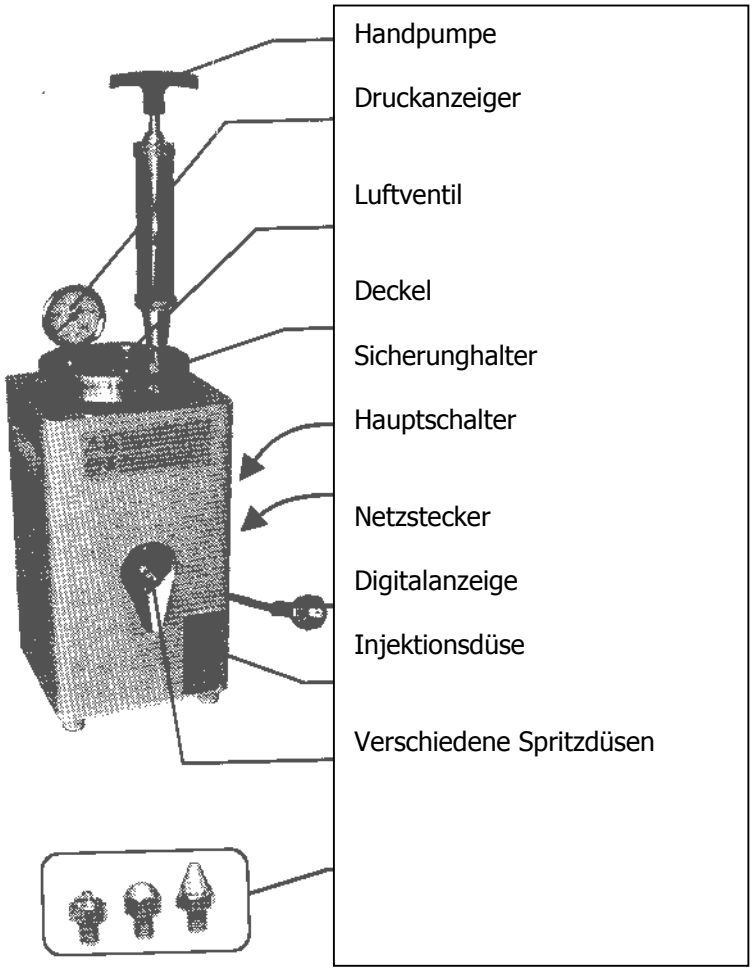
- Handpumpe
- Manometer Druckanzeige
- Kessel mit Heizung
- Einspritzdüse
- Digitale Temperatursteuerung mit Anzeige Max ca. 85°

Technische Daten

Kesselinhalt	1,5 Liter
Außenmaße	520x160x160 mm
Leistung	160 Watt
Spannung	220 Volt 50-60 HZ
Gewicht	ca. 8 Kg

Garantie: 12 Monate

Lieferumfang: 1x Wax-Injektor, 2x Spritzdüse
Sonderzubehör: Spritzdüse rund, Silikon, Wachs, Dublierrahmen, Halteplatten, CD-ROM



WICHTIG
Bei jeder Anwendung unbedingt, Arbeitskittel, Schutzbrillen und Schutzhandschuhe benutzen.

CE KONFORMITÄTSERKLÄRUNG

Die Firma IP Division erklärt das die Wax-Injektoren
Mod: 1,5 und 2,5 kg

den folgenden EG-Richtlinien entsprechen

73/23 CEE, 92/31/CEE EWG 89/336 EWG
Harmonisierte Europäische Normen: EN von dieser Norm wurden
unsere betreffenden Produkte angewendet.

D.P.R. 547/55 Normen für Vorbeugung bei Arbeitsunfällen.
CEN EN 60204-1 Sicherheit der Geräte, Elektrische Ausrüstung
der Geräte. Teil 1a: Allgemeine Erfordernisse.

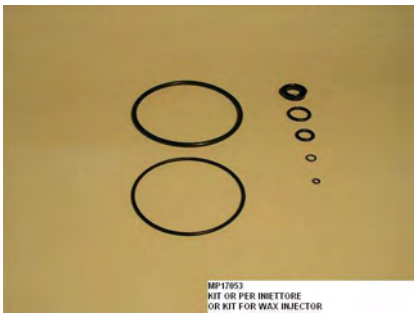
Haimhausen 2007 IP Division GmbH

INSTRUCTION/ ISTRUZIONI
Bedienungsanleitung

IP Wax-Injektor

IP Division Pfarrstr.3 D-85778 Haimhausen
Tel:+49-8133-444951 Fax:+49-8133-444953
E-Mail:kontakt@ipdent.de www.ipdent.de

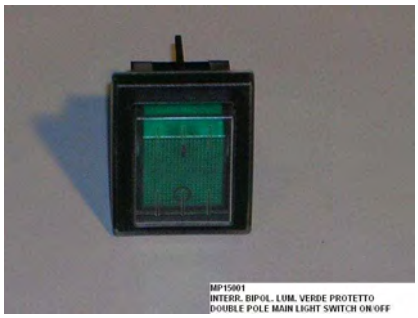
Spare Parts



KIT OR

MP09009

MP09011



MP31000

MP31009

MP35001

MPME048

MPME051

SL15001

SL15002

INSTRUCTION MANUAL WAX INJECTOR

INDEX

SCOPE.....9

RESPONSIBILITY..... 9

WARRANTY..... 9

RULES FOR PERSONNEL PROTECTIVE EQUIPMENTS.....10

USE PRECAUTIONS 10

GENERAL DESCRIPTION..... 10

TECHNICAL DATA..... 11

USE OF THE MACHINE..... 11

USEFUL ADVICE..... 12

NOZZLE REPLACEMENT AND VALVE CLEANING 12

SPARE PARTS..... 12

SCOPE

This manual, written in compliance with the requirements of Directive 73/23/CE and supplied as integral part of the Customer's order, has been planned and drawn up for the purpose of indicating to the user the correct use of the machine as outlined by the project hypothesis, and to illustrate the main technical characteristics that the user needs to know for operating under safe conditions.
Keep in mind however, that for fully safe use of the machine, the instruction manual does not replace adequate experience of the user.

RESPONSIBILITY

Our machines are manufactured in the fullest respect of the applicable standards relative to safety and health in the workplace, in order to be able to provide the user with the maximum guarantee in the performance of all the operations for which they are designed and which are allowed, as well as ensuring the minimum risk of accidents due to possible residual risks.
We remind you that possible injuries to people, machine, equipment or environment arising from:

- not corrected installation of the machine
- wrong feeding electrical working of the machine
- improper use of the machine
- use contrary to the regulations in effect
- unauthorized modifications or intervention
- tampering of safety devices
- use of spare parts that are not original or not specific for the machine model
- partial or total failure to comply with these instructions

they lead to immediate:

DISCLAIMING OF LIABILITIES ON THE PART OF MANUFACTURER AND LOSS OF THE WARRANTY ON THE PART OF THE CUSTOMER

WARRANTY

Our machines are guaranteed for 12 months from the date of purchase against whichever defect of material or manufacturing. The components which had to turn out defective to the origin will be replaced off charge. Our responsibility is limited to the single repair or substitution of the parts that to our unobjectionable judgement were demonstrated not efficient. The integral substitution of the machine is excluded.
In the case of unjustified claim, all expenses due to repair of the machine and/or

substitution of spare parts will be charged to the customer.
The machine will have to reach after-sales centre or the manufacturer at expenses of the customer, to which also shipment expenses will be debited.
In case of tampering, or improper use of the machine, or non-observance of the use and maintenance instruction explained on this manual, warranty loses.
The expenses due to falls during transport or to placement of the machine in plant as well as the expenses due to damages not chargeable to the manufacturer will not be recognised.

The machines repaired or tampered by third parties will lose guarantee.
After any technical operation the extension of the guarantee is excluded.
Eventual guarantee extensions assured by the reseller will be charged on this.
Guarantee period starts from cash slip or invoice date whose photocopy, in case of intervention by manufacturer site shall be part of the machine otherwise the intervention will have to be paid.
Guarantee does not include compensation for direct, indirect damages of any kind to things or people during machine inefficiency period.
In case of dispute the court of Haimhausen Germany will be competent.

RULES FOR PERSONNEL PROTECTIVE EQUIPMENTS

During use of the machine the operators must wear suitable working clothes and adequate personnel protective equipments for hazard prevention rising from potential residual risks.
On the basis of our experience, we suggest, when performing such operations, the use of the following personnel protective equipments:

- heat-proof gloves
- apron
- glasses

USE PRECAUTIONS

- Never try to open cover injector when tank is under pressure

CAUTION

The raising pressure of the tank is possible only by means of the special manual pump supplied with the machine placed on its cover.
Absolutely never connect injector with a compressed-air system: EXPLOSION DANGER!!!
Limit wax tank pressure at no more than 1,5 bar!
Never press freely on the nozzle to avoid liquid and hot wax jet overflowing

GENERAL DESCRIPTION

Wax injector models **1500D** and **2500D** have been planned and realized for production, in safety conditions, of wax models with homogeneous, without porosity and air bubbles surfaces.
The machine is composed by an aluminium wax container, heated by an electric resistance controlled by a thermostat and equipped with a nozzle for wax injection, manual pump for tank pressurization, relief valve, pressure and temperature gauges.
Tank temperature check system has been realized in order to guarantee injection thermal stability.
The machine is supplied with two interchangeable nozzles of different shapes to be adapted to various rubber matrix.
The manufacturer reserves the right to make technical changes to these models without prior advice.

TECHNICAL DATA

Characteristics	Model	1500D	2500D
Overall dimensions	[mm]	160 x 160 x h 535	190 x 190 x h 535
Weight	[kg]	5,5	7,6
Tank capacity	[cm^2]	1500	2500
Voltage	[V] [Hz]	220 50/60	220 50/60
Heating power	[W]	160	320
Max electrical input	[A]	0,7	1.5

USE OF THE MACHINE

In order to correctly use the machine it is necessary to respect the following procedure:

- insert the plug into the electric outlet of 220 V - 50/60Hz;
- press the main switch on position "1";
- wear work gloves, seize the cover, rotate it counterclockwise and extract it up;
- fill in the tank with wax in order to avoid overflowing from upper edge;
- close tank rotating the cover clockwise till limit stop and be sure it is well closed;
- set up thermostat on wax work temperature working on end as follows:
  -press "P" and release
  -led "OUT" starts lightening to show that programming is begun
  -press "Δ" to increase set functioning temperature or "V" to decrease it. Keeping the keys pressed for more than a second temperature increases or decreases quickly
  -wait 5 seconds
  -the instrument goes out automatically from programming modality and real machine temperature is shown on display.
  -act on thermostat for adjustments, consider that it takes 4-5 hours to a new charge to get a complete melting.
- when wax heating is finished, act on the pump placed on the cover to pressurize the tank
- to reduce pressure in the tank release relief valve
- press rubber matrix in the middle of the nozzle. The result is therefore a continuos wax jet until it is released

USEFUL ADVICE

Optimum wax melting temperature can vary according to wax (ask supplier for information).
However, remember that with low temperatures wax becomes thicker with the advantage of models lower shrinkage, but with the disadvantage of matrix more difficult filling, in case of complex forms objects.
At too high temperatures wax may evaporate and form small bubbles or pores in the models.
Therefore the operator experience will decide the correct temperature according to models characteristics.
Use only wax of good quality.
If you want to use wax again (residual wax model products), it is advisable to melt it in a container on electric plate and pour it inside the tank when completely melted; when doing it remind to filter with a gauze or other thin net in order to avoid residual impurities which could compromise the functioning of the injection valve. We also recommend not to turn the injector off unless it is not used for longer periods (one week or more).

NOTE

Open and close the cover only when the injector is hot and without pressure in order not to damage the O-Ring of the cover.

NOZZLE REPLACEMENT AND VALVE CLEANING

In case of nozzle replacement with one of different shape, do as follows (See pict. 1-Page12):
Wear protection gloves.
Never unscrew the nozzle with machine in pressure, discharge air by suitable relief valve open the cover and empty the tank from all the wax inside.
Do not turn the machine off and keep it on normal working temperature to prevent wax cooling from blocking the threads.
Do not force screwing operation to prevent damaging of injection valve threads.

1. Insert a key n. 10 into point (A) of the cursor inside the tank, while with a key n. 14 inserted into point (B) you unscrew the nozzle turning counterclockwise
2. take the cursor out of the tank , clean from dirt or wax , replace the O-Ring (16) if damaged
3. re insert well the cursor inside the body of the valve and insert the spring (15) in the front place of the valve.
4. screw the chosen nozzle acting clockwise repeating the procedure from point (1).

SPARE PARTS

SPARE PARTS FOR WAX INJECTOR		
REF.	**CODE**	**DESCRIPTION**
1	MP37006	BREATHER VALVE
2	MP35001	PRESSURE GAUGE
3	SL15002	PUMP
4	MP17042	OR FOR COVER MOD. 1500D
4	MP17041	OR FOR COVER MOD. 2500D
5	MP09011	HEATING FOR MOD. 1500D
5	MP09009	HEATING FOR MOD. 2500D
6	MP17048	OR FOR TANK MOD. 1500D
6	MP17050	OR FOR TANK MOD. 2500D
7	MP15001	SWITCH ON/OFF
8	MP31000	DIGITAL THERMOSTAT
9	SL15001	SPECIAL VALVE FOR INJECTOR
10	MP17047	OR FOR VALVE
11	MP17005	OR U FOR HAND PUMP
12	MPME045	CONTROL VALVE
13	MPME048	FLAT NOZZLE
14	MPME051	CONICAL NOZZLE
15	MPME014	SPRING FOR INJECTION VALVE
16	MP17046	OR FOR CURSOR