



Ultrasonic Die Polishing Machine

Model : USM 150 / USM 250 / USM 300



Box Type Die Table*



Open Type Die table*

Same as (b) but with oscillating die table

Open Type Die table*

These machines are designed and developed for resizing and repolishing of Polycrystalline, Natural & Mono diamond dies.

The simple and manually operated ultrasonic machine consists of an ultrasonic generator, drilling head and die table. Drilling head assembly consists of a sandwich type piezo ceramic transducer, which produces fine and continuous ultrasonic power. Ultrasonic head up and down movement is by rack and pinion mechanism. Die table assembly is with counter weight balance.

Die rotation speed is continuously variable. Needle fixing is by soldering for Optimum transfer of ultrasonic power. Collet arrangement can be supplied as an optional accessory. A separate bench grinder is provided for needle grinding. This machine can also be used for drilling round holes on Sapphire, Ruby, hard metals etc. The machine is supplied with a set of spares and standard accessories, which makes a package and ready to use.

ITEM	USM 150	USM 250	USM 300
Generator			
Die size range	0.050 - 1.50 mm	0.10 to 2.50 mm	0.10 - 8.00 mm
Ultrasonic Generator	150 watts	250 watts	300 watts
System	Continuous current	Continuous current	Continuous current
Max. hf current	400 ma	500 ma	600 ma
Frequency Tuning	Coarse & fine	Coarse & fine	Coarse & fine
Input mains	220v, 50 c/s	220v, 50 c/s	220v, 50 c/s
Power consumption	200 VA	300 VA	400 VA
Main fuse	5 Amps	5 Amps	5 Amps
Transducer			
System	Piezo electric	Piezo electric	Piezo electric
Frequency	22 KHz ± 5%	22 KHz ± 5%	22 KHz ± 5%
Type	Sandwich	Sandwich	Sandwich
Machine			
Operation	Manual	Manual	Manual
Die Rotation Speed	60 - 120rpm (↻)	60 - 120 rpm (↻)	60 - 120 rpm (↻)
Net wt.	65 kgs.	85 kgs.	85 kgs.
Gross wt.	110 kgs.	120 kgs.	120 kgs.

STANDARD ACCESORIES

USM150:

Soldering type horns: φ1, 2, 3 – 2 no's each,
Needles: φ1, 2, 3 – 100 no's each
Spanner 14-15 :-1no
Weight: W,X,Y,Z – 1 no each.
Pot meter: 100 Ω, 25K, 1K – 1 no each
Fuse: 3A, 5A – 5 no's each
Belt: φ 4X500 mm – 1 no
Water can: 1no, Grinding motor: 1 no
Wax cake: 1 no, Soldering paste : 250Gms.

USM250:

Soldering type horns: φ1, 2, 3,4,5 – 2 no's each,
Needles: φ1, 2, 3,4,5 – 100 no's each
Spanner: 14-15
Weight: W,X,Y,Z – 1 no each.
Pot meter: 100 Ω, 25K, 1K – 1 no each
Fuse: 3A, 5A – 5 no's each
Belt: φ 4X500 mm – 1 no
Water can: 1no, Grinding motor: 1 no
Wax cake: 1 no, Soldering paste : 250 Gms.

USM300:

Soldering type horns: φ2, 3,4,5,6,8,10,12,&14 – 2 each
Needles: φ2, 3,4,5 – 100 no's each
Spanner 14-15:- 1no
Weight: W,X,Y,Z – 1 no each.
Pot meter: 100 Ω, 25K, 1K – 1 no each
Fuse: 3A, 5A – 5 no's each
Belt: φ 4X500 mm – 1 no
Water can: 1no, Grinding motor: 1 no
Wax cake: 1 no, Soldering paste : 250Gms.

Optional accessories

1. Collet type ultrasonic horn, collet and nut.
2. Needle grinder for accurate grinding of soldered needles (along with horn)
3. Needle soldering fixture : To solder ultrasonic needles in the horn concentrically
4. Template for needle angle checking.

*The machine with Box type die table is recommended for die sizes above 0.100mm, Open type is for super fine sizes, and with oscillation type is for polishing of sizes above 0.100mm. The customer has to choose based on their maximum usage.



MIKROTEK MACHINES LIMITED

No.16, 2nd cross, 'A' Sector, Street opposite to Sharadha Vidyalaya, Amrut nagar Main Road, BANGALORE – 560 092. INDIA

Phone : +91 80 42688999 (30 lines), +91 80 23623082/90, Fax : +918023621769

E-mail : info@mikrotek.org

Web : www.mikrotek.in