

DRC TECHNO



D-Craft

USER MANUAL v 1.0



**No. 1 choice
of Gem & Jewellery business owners.**

CONFIDENTIAL

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Thank you for choosing the D-Craft polishing machine. Manufacturing diamond with excellent cut with low cost is the most essential requirement of all business owners in the Diamond manufacturing industry. In close cooperation with diamond industry experts, DRC, the global leader, has researched and developed diamond polishing machine that perfectly meet the natural diamond business owner's needs. For Business owners who insist on the best for their customers and themselves.

Intended use

The intended use of diamond polishing machine.

Diamond polishing machine are intended to be used by Diamond manufacturing unit owner for polishing full pavilion and 8 main facets on crown side.

About Company

DRC Techno is an organization with a social touch actively engaged in research and development of techno-commercial solutions for trade, industries and society at large. Alongside participating & engaging into activities that ensure the access to education for children who are marginalized or deprived of their basic right to quality education and empowerment.

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1. Safety First

At DRC Techno the safety of all individuals working with the equipment is important and recommends reading the safety information mentioned below before attempting to operate the system or perform any other process. Failure to observe these instructions can lead to injury or damage to the Device.

1.1 Symbol Definitions

1. Observe and follow all written & sign warnings, and caution indicators given in this document.
2. All the procedures of the machine should be performed by trained or authorized personnel only unless specified in the document.

No.	Symbol	Description
1.		This symbol indicates a possible damage or loss of data that may have occur and cause permanent loss of the instrument if handled by an <i>unauthorized person</i> .
2.		This symbol indicates the rays of invisible laser radiation. Avoid exposing your eyes and skin to direct or scattered radiation. Proper eye and skin protection required .
3.		<p>To reduce the risk of electric shock or damage to the equipment:</p> <ol style="list-style-type: none"> 1. Do not disable the power cord grounding plug, it is an important safety feature. 2. Plug the power cord into a grounded (earthed) electrical outlet that is easily accessible at all times. 3. Unplug the power cord from the power supply to disconnect power to the equipment. <p>Place the power cord where it is not damaged by or pressed by items placed near it. Pay attention to the plug, electrical outlet, and the point where the cord extends to the server.</p>

1.2 Important Safety Information

- Failure to follow these instructions/safety information can lead to danger from the device. Subject to technical changes.

1.2.1 Machine

- Use the D-Craft only for its intended use as described in this manual.
- Danger of electrocution! Keep the device dry! Away from water and other liquids.
- The D-Craft is not heat-resistant: keep away from radiators and open flames.
- Repairs must be performed only by an authorised service executive. Do not repair yourself! No modifications to the device are permitted.
- Never operate an electrical device if it has a damaged cord or plug, if it is not working properly, if it has been dropped or damaged, or dropped into water.
- Replace damaged or worn parts for best results.

1.2.2 Electrical use

- Separation from the mains is only assured through the disconnection of the power supply from the wall socket outlet.
- Keep the Machine and Power supply away from heated surfaces.
- Do not reach for any electrical device if it has fallen into water. Unplug immediately.
- The D-Craft should never be left unattended when plugged into a power source.

2. Device Capabilities & Features

1. Pavilion polishing- 16 halves and 8 main facet
2. Crown polishing – 8 main facets
3. Equipped with unique dual protection system, prevents over polishing and damaging.
4. Minimizes downtime and maximizes cost-efficient, continuous production.
5. Automatic and manual adjustment modes.
6. Two stages of speed: slow speed for polishing and fast speed for zeuting.
7. Special feature to cut selected facets.
8. Automatic grain seeking logic.
9. Sturdy and robust mechanism.
10. Diamond size above 5 cents after 4p and blocking process can be polished in machine.
11. Automatic weight control prevents burning of stone.
12. Error identification system instantly lifts the machine to protect stones from damage.
13. Error code is displayed on screen.
14. Laser bruted stone can be directly blocked without boiling process.
15. Inexperienced workers can produce quality stones after a brief training period.
16. User-Friendly: Simple and easy to use
17. Soft touch key pad with live viewing facet status.
18. Minimum weight loss.

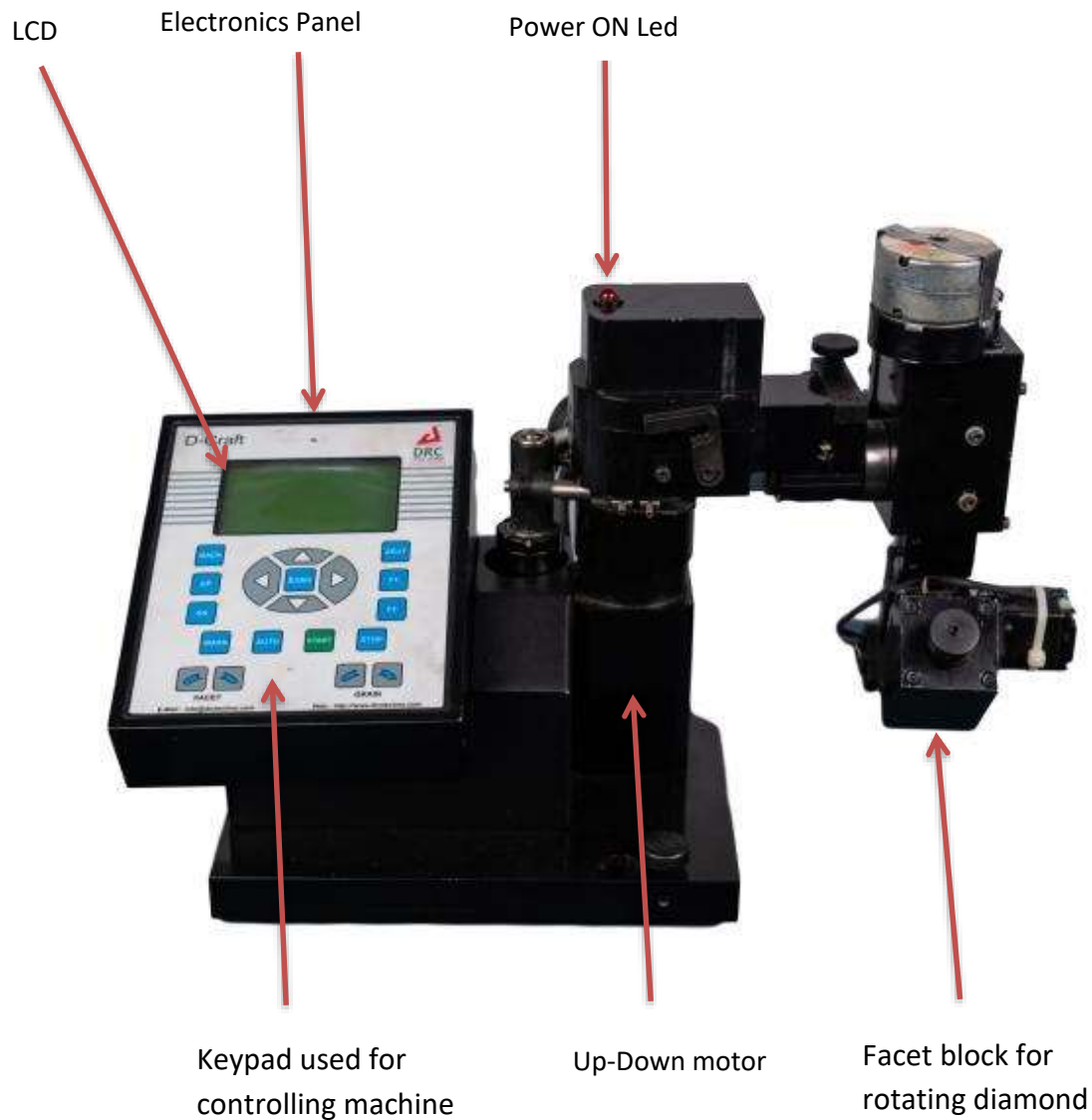
3. Device Specifications

Device	Dimensions (mm)	Weight
D-Craft		

3.1 Power Supply

- Input Voltage Range: 220-240 V AC, 415 V AC
- Input Current $\geq 3A$
- AC Frequency Range: 50 Hz
- Typical Response Time $\leq 5 s$
- Temperature Range: 5 to 25 °C

4. Device Description





4.1 Accessories



Machine power supply

(Four machines can operate using one power supply)



Carbon PCB cable



Machine Power cable

Accessory list	No's
Machine Power Supply	1
Machine power cable	1
Carbon PCB Cable	1

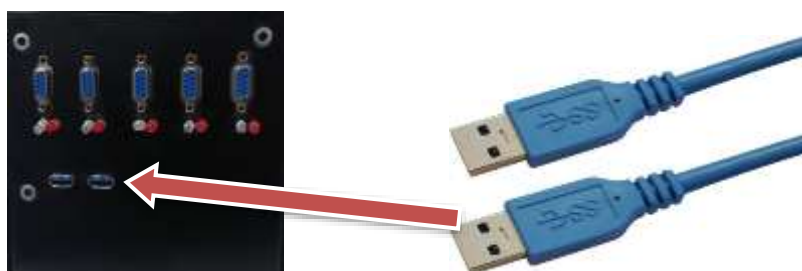
5. Device Installation

Installation of the D-Craft is very simple and easy - just plug & play.

1. Plug one end of power cable in power supply and second end in electronics panel as per shown in figure.



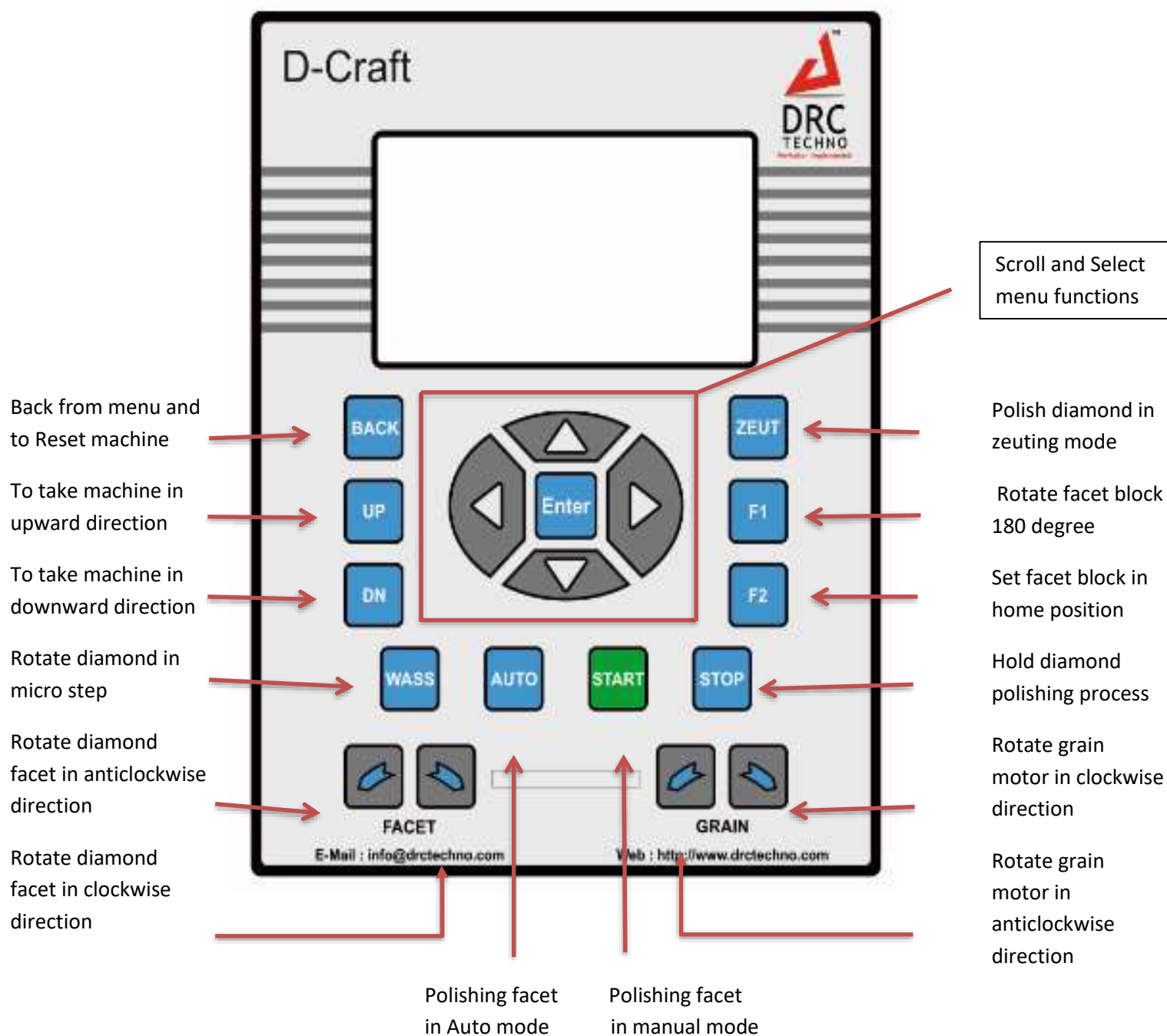
2. Plug carbon cable into power supply and second end into carbon module.



5. Switch on electronics Panel. Take level of machine.

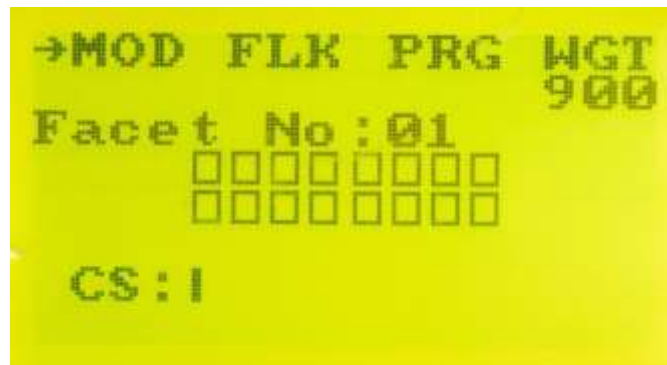


6. Overview of the D-Craft Keypad



7. Functionality

SCREEN 1:



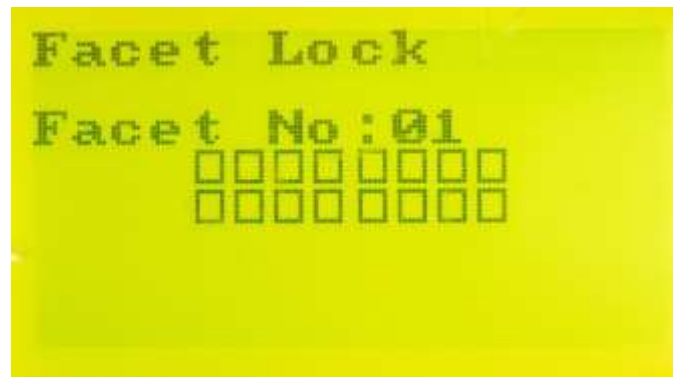
MOD

- Select “MOD” option for program selection as per requirement from the given options:
 - 16 F/Pavilion
 - 8 F/Pavilion
 - 8 F/Crown



FLK

- Select “FLK” option to lock selected facets during auto mode operation.



PRG

- Select “PRG” option to select program from below options.



RESET - Select “RESET” option to reset the Program.

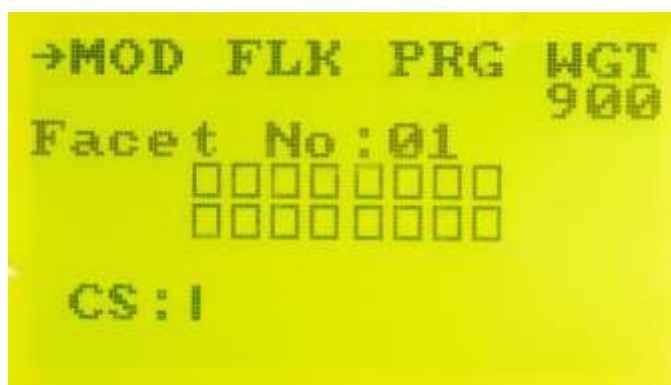
INVERSE - Select “INVERSE” option to inverse the facet lock selection.

COUNT - Select “COUNT” option to set Facet No. to position 1.

NO - Select “NO” option to clear the facet polish status.

WGT

- Select “WGT” option to change weight on diamond during polishing.



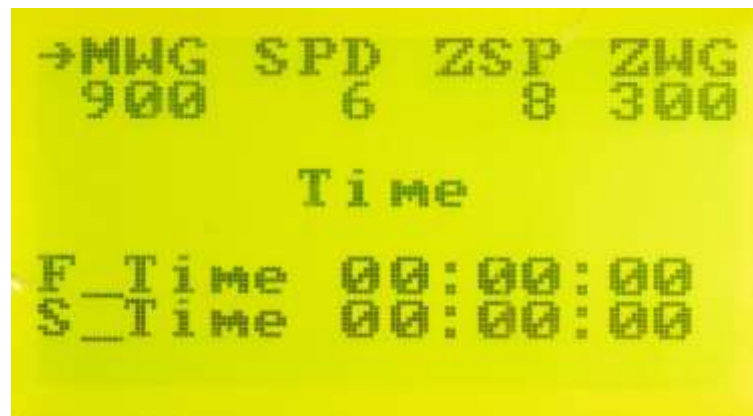
SCREEN 2:

Figure: Screen 2

MWG

- Select “MWG” option to change maximum weight.

SPD

- Select “SPD” option to change fighter motor speed.

ZSP

- Select “ZSP” option to change fighter motor speed in Zeuting mode.

ZWG

- Select “ZWG” option to change weight on diamond while diamond polishing in Zeuting mode.

SCREEN 3:

Figure: Screen 3

DIG

- “DIG” option shows encoder count.

TMR

- Select “TMR” option to change particular facet polishing time in minutes.
- If time is exceeded for current facet polishing as per “TMR” setting, then D-Craft keeps current facet on hold and jumps to next facet polishing. Incomplete facets are polished in second round.

GTM

- Select “GTM” option to change grain motor rotation time in seconds. If diamond is not cutting in selected time, then automatic chal(path) rotation logic changes the chal(path) and find chal(path) in which diamond polishing is fast.

SET

- Select “SET” option to change the Settings.

SCREEN 4:**STK**

- Select “STK” option to start/stop fighter during levelling of machine.

090

- Select “090” option to rotate grain motor 90 degree during levelling of machine.

180

- Select “180” option to rotate grain motor 180 degree during levelling of machine.

8. Machine operating Instructions

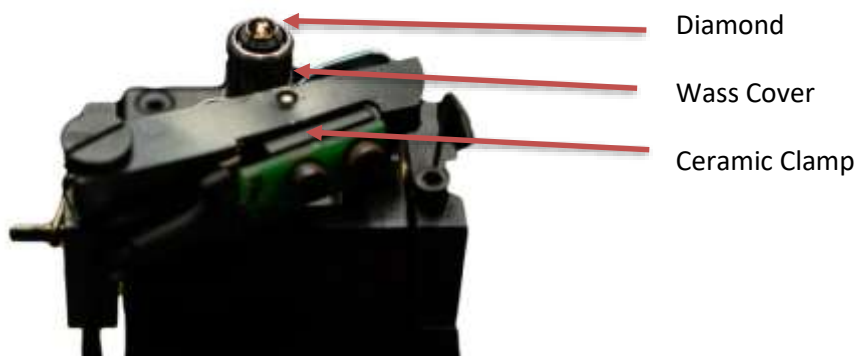
Step 1: Switch on electronics panel and diamond wheel.



Electronics Display

Diamond Wheel

Step 2: Fix the diamond properly in Die, fix the Die in Wass Cover and fit Wass Cover in Culet. Make sure the sensor ceramic clamp touches the wass cover.

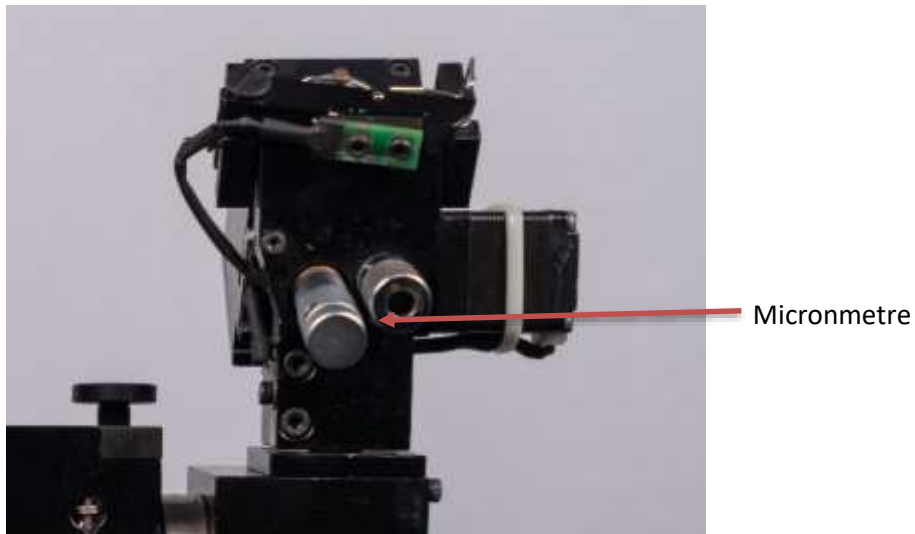


Diamond

Wass Cover

Ceramic Clamp

Step 3: Set pavilion facet angle using Micrometre as per micron given in diamond packet.

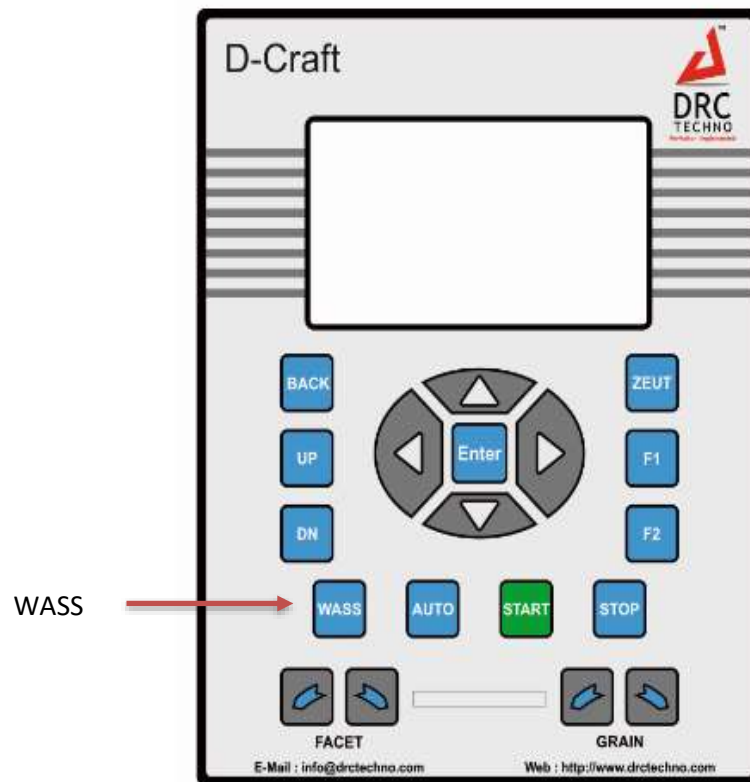


Step 4: Select mode from menu in MOD, the options are :

1. 16 F/pavilion
2. 8 F/pavilion
3. 8 F/crown



Step 5: Set diamond position properly using “WASS” button on keypad for accurate cutting.
No need to set “WASS” in 8 F/pavilion or 8 F/crown mode.

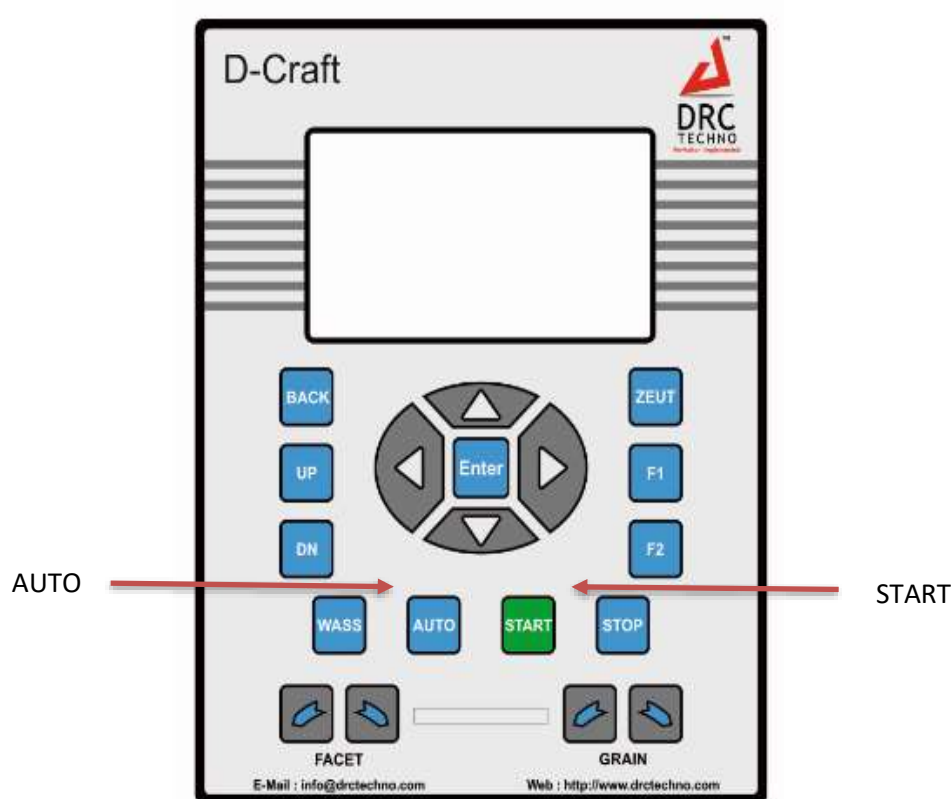


Step 6: Start diamond polishing, two modes are available:

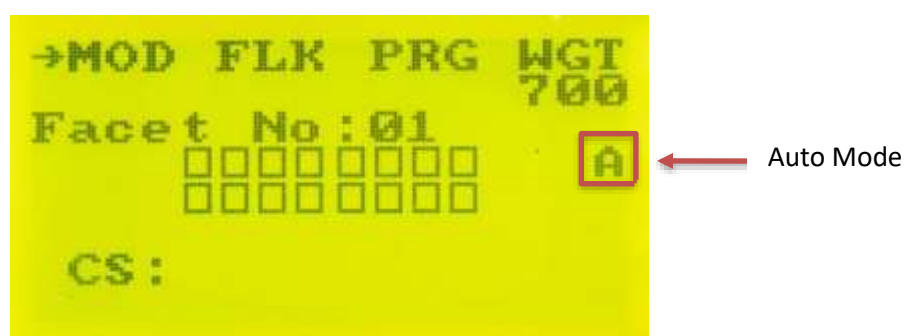
1. **Manual Mode:** Press “START” button for manual mode.
2. **Auto Mode:** Press “AUTO” button for auto mode and the machine will start polishing diamond automatically.

OR

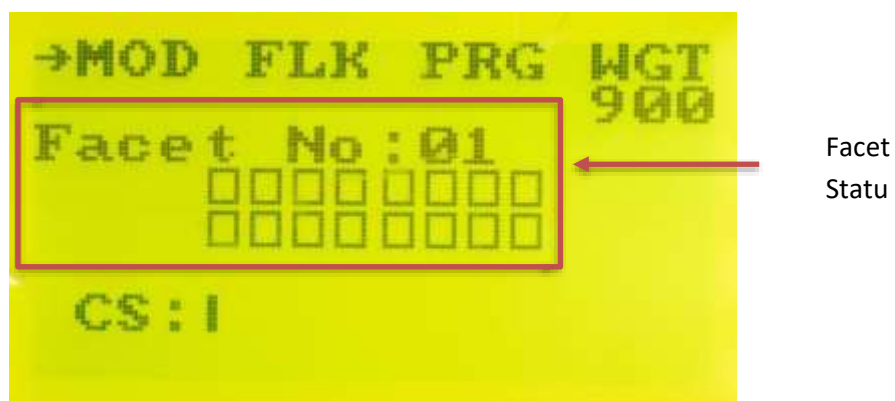
Polish first facet in Manual mode and then select Auto Mode by pressing “AUTO” button.



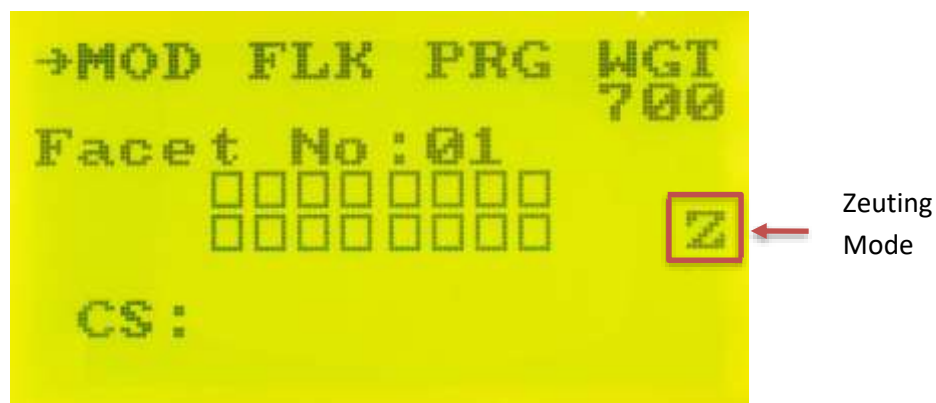
- The “A” symbol indicates the Auto Mode.



Step 7: After polishing, check the diamond facets using magnifying glass. If repairing is needed select particular facet no. and click START button, do repair in manual mode not in auto mode.



Step 8: After polishing the diamond, select ZEUTING function to give the diamond extra shine. This step is optional. The "Z" symbol indicates zeuting mode.



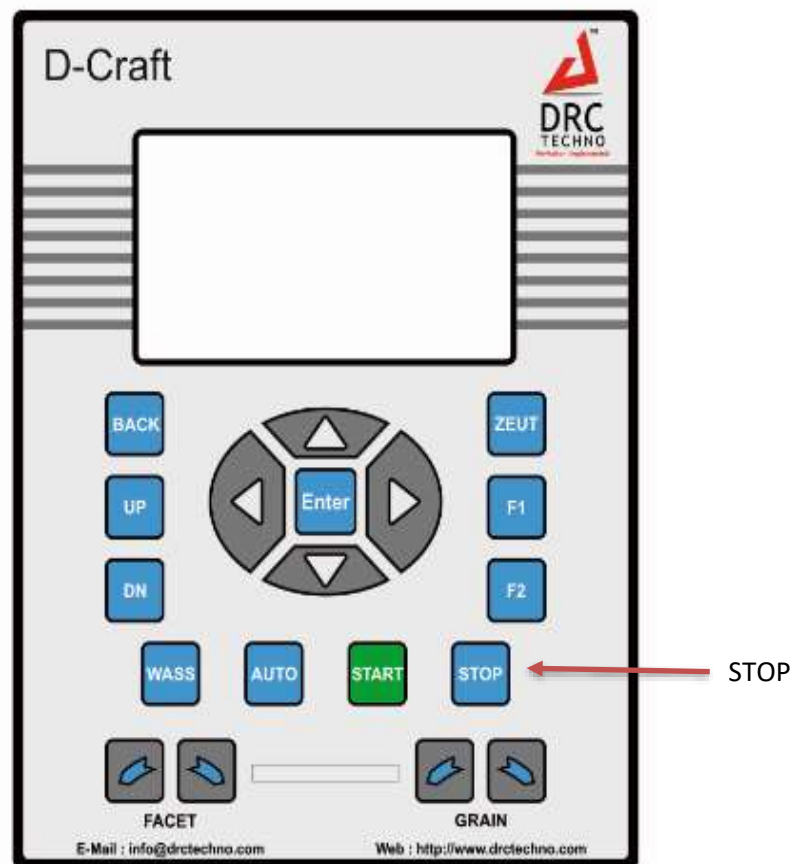
Step 9: Change mode to 8 F/Pavilion and set micron accordingly in micrometer and continue the remaining process from step 4.



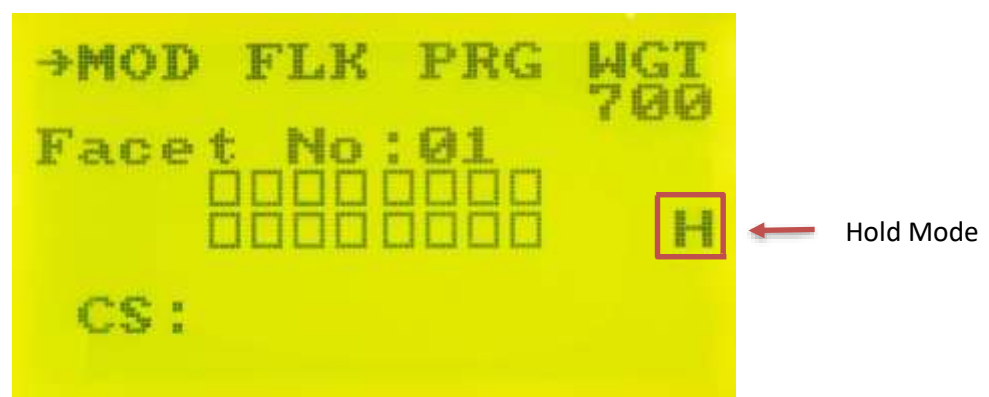
Step 10: After completing 8 F/Pavilion polishing, change mode to 8 F/Crown and set micron accordingly in micrometer and continue the remaining process from step 4.



Step 11: To hold /stop the polishing, Press the “STOP” button.



- The “H” symbol indicates hold/stop mode.



9. Troubleshoot

1) If the Machine is not working and Error is displayed on LCD.

- Plug in the right power supply as specified in the operation manual then restart machine.
- After starting machine if Error displayed on LCD then follow instruction for particular error.

ERROR 1 - This error is displayed if grain motor is not working properly.

First check if all cables are attached properly.

Check the grain motor assembly.

Check sensor connection (pin 7) is properly fit or not.

ERROR 2 - This error is displayed if pressure motor is not working properly.

First check if all cables are attached properly.

Check the magnet drive on the shaft of pressure motor is properly fit or not.

Check pressure sensor PCB is properly fit or not.

ERROR 3 - This error is displayed if carbon cable or carbon is not fit properly.

ERROR 4 - This error is displayed when facet sensor does not sense wass cover.

Check if ceramic-clamp is in contact with was cover.

ERROR 5 - This is error is displayed if the lifting motor is not working properly.

First check if all cables are attached properly.

Check the lifting motor in the gear box.

Check motor and encoder power connection.

- If all the conditions are right as per above instructions and still problem exist, then contact to our customer service centre. They will provide you the necessary assistance.

2) If facet repairing is higher.

- Ensure that diamond is properly fixed in die and wass cover and wass cover is as per our standard.
- If wass cover surface which touch to diamond wheel when facet is polished is not good then finish wass cover in lath machine properly.
- Clean 7 pin connector pin for remove dust from that and fit properly.
- Check earthing is as per standard or not
- Check machine level is as per standard. After that same problem found then contact to our customer service centre. They will provide you with the necessary assistance.

10. FAQ

What is the purpose of D-Craft?

Purpose of D-Craft is polishing of 16 halves and 8 main facet in pavilion side and 8 main facet in crown side as per parameter of rough diamond planning machine.

What shape and size of diamond polished?

D-Craft can polish only round type diamond and its size must be above 5 cents for pavilion and 10 cents for crown and diameter above 2mm after 4p or blocking process.

Which process required before polished in machine.

- 1) 4p process or blocking process must be done. Girdle variation below 1 present and table must be flat and polished.
- 2) Defect (khad chamda) should be low for better result and production.
- 3) Diamond must be measured in rough planning machine and its parameter print must be attached on each diamond packet.
- 4) Measure diamond in Pro-angle machine and set parameter as per rough planning machine. Ensure that all diamond area must be covered in graph.

How to operate?

Operating this instrument is very simple and easily understandable. The operator needs to go through the operation manual before operating D-Craft. Operator requires training before operating this machine and operator must have basic diamond polishing experience.

What about after sale service?

While designing the machine, we have taken care of using limited parts that require service in the machine. If anything happens to the machine within the warranty period or even after the warranty period, the customer is advised to use the service centre of India. Soon we will be on-boarding an agency or a technician who can provide on-shore services in the country.

11. Terms and Conditions

By ordering "D-Craft", a diamond testing device, buyers/users hereby abide and agreed Following Terms and Conditions.

1) DEFINITION

In this document the following words shall have the following meanings:

- "Buyer" means the organization or person who buys Goods.
- "Goods" means the articles to be supplied to the Buyer by the Seller.
- "Intellectual Property Rights" means all patents, registered and unregistered designs, copyright, trademarks, know-how and all other forms of intellectual property wherever in the world enforceable.
- "Seller" means an individual or entity that exchanges any type of good or service in return for the payment.

2) GENERAL

These Terms and Conditions shall apply to sales of Goods by the Seller to the Buyer to the exclusion of all other terms and conditions referred to, offered or relied on by the Buyer whether in negotiation or at any stage in the dealings between the parties, including any standard or printed terms tendered by the Buyer, unless the Buyer specifically states in writing, separately from such terms, that it wishes such terms to apply and this has been acknowledged by the Seller in writing. Any variation to these Terms and Conditions (including any special terms and the conditions agreed between the parties) shall be in applicable unless agreed in writing by the Seller.

3) ORDER

Order is only valid once 30% deposit received. Once the buyer fills the complete order-form, a Performa Invoice will be generated through which the buyer needs to pay 100% of the price of the goods.

4) PRICE & PAYMENT

- The price shall be the Recommended Retail Price less agreed discount, unless otherwise agreed in writing between the parties. The price is exclusive of VAT or any other applicable taxes.
- Credit terms may be offered subject to satisfactory credit vetting of the Buyer by the Seller. The offer of credit will be at the sole discretion of the Seller.
- Where credit is offered payment of the price and VAT and any other applicable taxes shall be due within 15 days of the date of the invoice supplied by the Seller, unless otherwise

agreed in writing. In cases where credit is not offered payment will be required before release of goods by the Seller.

- The Seller shall be entitled to charge interest on overdue invoices from the date when payment becomes due from day to day until the date of payment at a rate of 12 per cent per annum.
- If payment of the price or any part thereof is not made by the due date, the Seller shall be entitled to:
 - a) Require payment in advance of delivery in relation to any Goods not previously delivered.
 - b) Refuse to make delivery of any undelivered Goods without incurring any liability whatever to the Buyer for non-delivery or any delay in delivery.

5) DESCRIPTION

Any description given or applied to the Goods is given by way of identification only and these of such description shall not constitute a sale by description. For the avoidance of doubt, the Buyer hereby affirms that it does not in any way rely on any description.

6) DELIVERY

- Unless otherwise agreed in writing, delivery of the Goods shall take place at the address specified by the Buyer on, or as close as possible to the date required by the Buyer. The Buyer shall make all arrangements necessary to take delivery of the Goods whenever they are tendered for delivery.
- If the Seller is unable to deliver the Goods because of actions or circumstances under the control of the Buyer, then the Seller shall be entitled to place the Goods in storage until such times as delivery may be affected and the Buyer shall be liable for any expense associated with such storage.
- Any damages, shortages, over deliveries and duplicated orders should be reported to the Seller within 14 days of signed receipt to enable replacement or refund.
- Delivery is strictly based on First come First Serve bases and sole discretions of DRC Techno.

7) RISK

Risk in the Goods shall pass to the Buyer upon receipt of the goods. Where the Buyer chooses to collect the Goods itself, risk will pass when the Goods are entrusted to it or set aside for its collection, whichever happens first.

8) TITLE

Title in the Goods shall not pass to the Buyer until the Seller has been paid in full for the Goods.

9) RETURN OF UNUSED GOODS

- All goods are sold on a firm sale basis, i.e. the Seller will not take back any goods not required or sold by the Buyer, unless otherwise agreed, in which case the following terms apply.
- Any returns must be authorized by a representative of the Seller before any credit will be given.
- Credit of amount due or paid-in will only be given for goods that are in saleable condition.

10) LIMITATION OF LIABILITY& WARRANTY

Warranty is void if the device is tampered / physically damaged / dispersed or dissipated by other than the authorized technician; will full damage is offensive under IP law.

11) INTELLECTUAL PROPERTY RIGHTS

All Intellectual Property Rights produced from or arising as a result of the performance of this Agreement shall, so far as not already vested, become the absolute property of the Seller, and the Buyer shall do all that is reasonably necessary to ensure that such rights vest in the Seller by the execution of appropriate instruments or the making of agreements with the third parties.

12) FORCE MAJEURE

The Seller shall not be liable for any delay or failure to perform any of its obligations if the delay or failure results from events or circumstances outside its reasonable control, including but not limited to acts of God, strikes, lock outs, accidents, war, fire, breakdown of plant or machinery or shortage or unavailability of raw materials from a natural source of supply, and the Seller shall be entitled to a reasonable extension of its obligations. If the delay persists for such time as the Seller considers unreasonable, it may, without liability on its part, terminate the contract.

13) RELATIONSHIP OF PARTIES

Nothing contained in these Terms and Conditions shall be construed as establishing or implying any partnership or joint venture between the parties and nothing in these Terms and Conditions shall be deemed to construe either of the parties as the agent of the other.

14) ASSIGNMENT AND SUB-CONTRACTING

The contract between the Buyer and Seller for the sale of Goods shall not be assigned or transferred, nor the performance of any obligation sub-contracted, in either case by the Buyer, without the prior written consent of the Seller.

15) WAIVER

The failure by either party to enforce at any time or for any period any one or more of the Terms and Conditions herein shall not be a waiver of them or of the right at any times subsequently to enforce all Terms and Conditions of this Agreement.

16) SEVERABILITY

If any term or provision of these Terms and Conditions is held invalid, illegal or unenforceable for any reason by any court of competent jurisdiction such provision shall be severed and the remainder of the provisions hereof shall continue in full force and effect as if these Terms and Conditions had been agreed with the invalid, illegal or unenforceable provision eliminated.

17) GOVERNING LAW AND JURISDICTION

This Agreement shall be governed by and construed in accordance with the laws of India and the parties hereby submit to the exclusive jurisdiction of Surat district court.

18) PRIVACY

- Supplementary PC can only be used with D-Craft and not for any other purpose. DRC Techno enjoys the right to access the supplementary PC if/when required. Access data may be used for improvement opportunities; such data will be kept confidential by DRC Techno.
- Buyers/Users of this device must keep the supplementary PC connected to the internet to receive regular over the air software updates.
- Buyers/Users are not allowed to resale or purchase on Behalf without prior permission, D-Craft is running on an online validation Process, System will stop working if owner details mismatch.
- Buyers of the device must register themselves with a UID provided & listed with each device. Purpose of UID is to maintain chain of custody system. UID and scanning data may also be used as evidence in protection of user from fraudulent claims.

19) MACHINE MAINTENANCE POLICY

Following is the significance of the maintenance policy:

- Ensures the equipments are always calibrated to provide good-quality products.
- Ensure proper earthing value and power supply.
- Ensure proper ventilation with a room temperature of 27°C.

If organizations are not able to implement an effective maintenance policy than it can result in the following results:

- Increase in production cost as fixed labour cost cannot be reduced.

- Increase in maintenance cost as more spare parts are required.
- Reduction in product quality and increase in wastage.
- Safety of workers and operators in jeopardy.

20) MACHINE SERVICE POLICY

A. Online Troubleshoot

- Online service support helps to troubleshoot based on virtual analysis.
- Online Service support helps you to find out the cause of the problem.
- Service support does not commit to solve exact problem through online troubleshoot except from software related problem.
- Once the final Proforma invoice is generated it cannot be changed.
- Tax invoice should be generated on behalf of Proforma invoice it cannot be changed afterward.

B. Physical Troubleshoot

a) Customer Premises

- Check of Non-critical/critical defective parts as per our company policy.
- Inform external / internal parts quality and it's report.
- Defective parts should be returned to DRC once the service is complete.
- Providing separate space for repair, photography, and video are strictly prohibited.
- Inform and guide external accessories quality standard to be maintained.
- Inform and update Software and Driver.
- During Health check-up engineer will inform customer for the parts capacity and damaged, according to the company policy.

b) Company Premises

- Defective parts can vary between Online & Offline troubleshooting.
- As per the demand of service.

C. Machine Transfer Policy

- To continue service support after sale/transfer of machine clients need to provide us some legal documents accordingly.

21) USING THIRD-PARTY APPS AND SERVICES POLICY

- Using Third-Party Apps and Services may stop the process due to the windows security update. It requires to update according to the software update.
 - Third-Party Apps requires continuous attention for smooth running.
 - **Using Third-Party Apps and Services.** The Services may allow you to access or acquire products, services, websites, links, content, applications from independent third parties (companies or people who aren't DRC) ("**Third-Party Apps and Services**").
 - Many of our Services also help you find, make requests to, or interact with Third-Party Apps and Services or allow you to share Your Content or Data, and you understand that by using our Services you are directing them to make Third-Party Apps and Services available to you.
- ❖ From above it can safely be concluded that it is very critical for company to have a robust and effective maintenance and repair policy.

Notes:



DRC
TECHNO

SOLVING
THE UNSOLVED PROBLEMS
THROUGH
TECHNO-COMMERCIAL
SOLUTIONS

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