ITM-U32

IMPACT SPECIMEN NOTCH BROACHING MACHINE OPERATION MANUAL

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ES -- Por favor, escanee el código QR o visite la página web para ver el manual de instrucciones.

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I. Summary

With the development and requirements of industrial technology, more and more industries are beginning to implement Charpy notch tests. In conducting Charpy notch impact tests, the processing of V and U-shaped notches in the specimens has become the only obstacle to normal testing. This broaching machine provides you with an ideal specialized machine that can process qualified V and U-shaped notches.

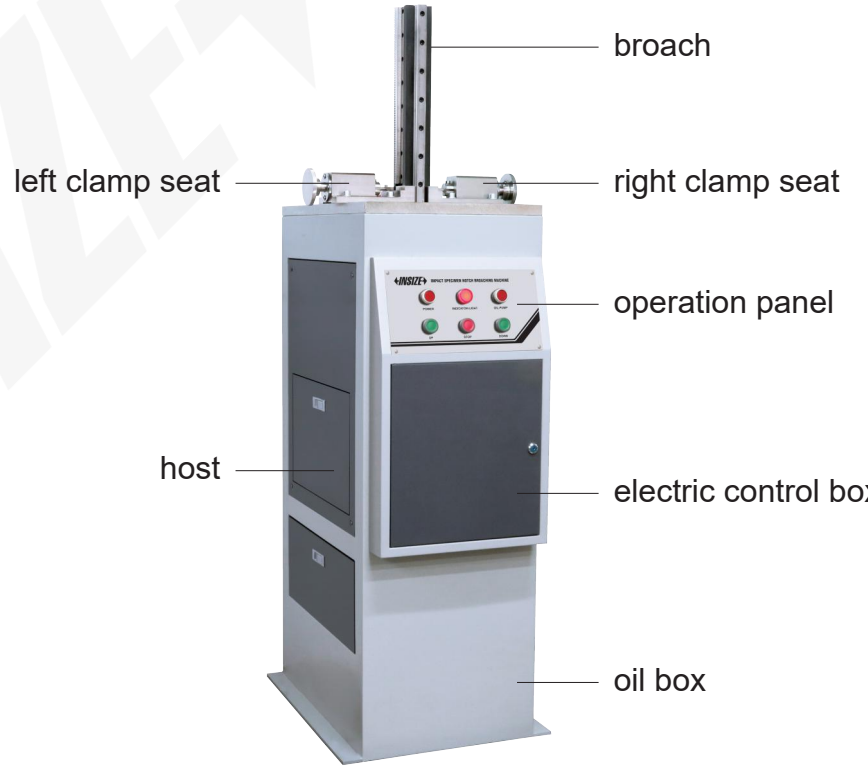
This broaching machine is a product developed by us based on the actual needs of our current users and the development experience of this field at home and abroad, which has a leading level in China.

This product is a dual broach structure with hydraulic transmission, which has the advantage of being able to simultaneously process two sample notches: one V-shaped and one U-shaped (or two V-shaped or two U-shaped notches). Whether processing V-shaped or U-shaped notches, there is no need to change the broach. The processing speed of the sample notch can be adjusted between 9 seconds and 1 minute, meeting the cutting speed requirements of different materials. The operation is simple and reliable. The processed V-shaped and U-shaped notches can respectively meet the requirements of GB2106 "Metallic Charpy (V-notch) Impact Test Method" and GB229 "Metallic Charpy Pendulum Impact Test Method", as well as the corresponding requirements in domestic and foreign standards such as ASTM E23, ISO148, ISO083, etc.

Years of practice have proven that the impact specimen notch broaching machine is currently the only tool in China, apart from optical curve grinders, that can process qualified specimen notches. Due to the principle of one-time molding processing, the uniformity of the gaps produced is good. The broach of this machine has high hardness and good wear resistance. Each tool can process up to 20000 samples (with a hardness of HRC40 or less).

In short, this machine is an essential specialized equipment for the physical and chemical testing laboratories of metallurgy, boiler and pressure vessels, vehicles and ships, engineering machinery manufacturing, and scientific research departments.

II. Structures



III. Structures

Broach stroke	350mm (V2, U2, U3 broaches) 400mm (U5 broach)
Specimen size (T×W×L)	10×10×55mm
Broaching speed	0.35-2.5m/min
Driving method	hydraulic
Power supply	380V, 50Hz, 0.4kW
Dimension	660×400×1200mm
Weight	200kg

IV. Instructions of Installation

1. This machine can be installed without laying a foundation.
2. After opening the box, the first thing to check is whether there is any collision damage during transportation, especially whether there is relative displacement between the upper cover plate and the box body, and between the left and right clamp seats and the upper cover plate (check whether the paint at the joint between them has peeled off due to mutual displacement).
3. After installation, open the upper and lower cover plates, clean up the debris inside and outside the machine, and check for any damage.
4. Inject 46 # hydraulic oil into the lower box, with an appropriate amount to cover 100mm above the oil filter. If the ambient temperature is low, lower grade hydraulic oil can be used.
5. Connect the power supply, turn on the power switch, and the indicator light will turn on. Turn on the oil pump switch. If the oil pump discharges oil, the power wiring is correct; Otherwise, a phase change is required.

V. Instructions of Operation

1. Turn on the power switch and the indicator light will turn on.

2. Turn on the oil pump switch.
3. Press the UP button to raise the broach to the top.
4. Adjust the size of the throttle valve on the valve block based on the empirical values of the broaching speed of different material samples to meet the cutting speed of the samples.
5. Clamp the sample on one or two clamp seats as needed and tighten them.
6. Press the Down to lower it to the bottom, completing the broaching process.
7. Release the sample clamp and remove the sample, completing the machining of the sample notch.

VI. Notes

1. Be sure to connect the grounding wire.
2. Do not adjust the return valve of the oil circuit arbitrarily, otherwise it may burn out the oil pump motor.
3. After the broaching is completed, the clamp seat must be released to take out the sample before allowing the broach to rise.
4. Before processing each sample, the iron filings on the broach must be cleaned thoroughly to avoid affecting the processing quality.
5. After replacing the new broach, it is necessary to adjust the relative position between the broach and the sample clamp seat. After installing the new broach, tighten one bolt diagonally at each end of the broach and tighten it slightly. Fix the dial gauge seat on the workbench, and place the gauge head on the side of the broach to raise or lower the broach. Observe the fluctuation of the dial gauge, gently pull the top or bottom of the broach by hand to make the fluctuation of the dial gauge within ± 0.03mm, tighten the bolts at both ends, and then tighten them with the bolts. Try broaching a sample and observe the depth of the notch on the projector. If it does not meet the requirements, slightly loosen the four bolts on the clamp base (to give the bolts a certain tightening force), fix the dial gauge base on the workbench, and place the

gauge head on the front stop surface of the clamp base sample. Gently tap the clamp base forward or backward with a hammer, and adjust it to the appropriate position according to the deviation of the notch observed on the projector.

6. Before each startup, a small amount of lubricating oil should be injected around the broach box with an oil gun.

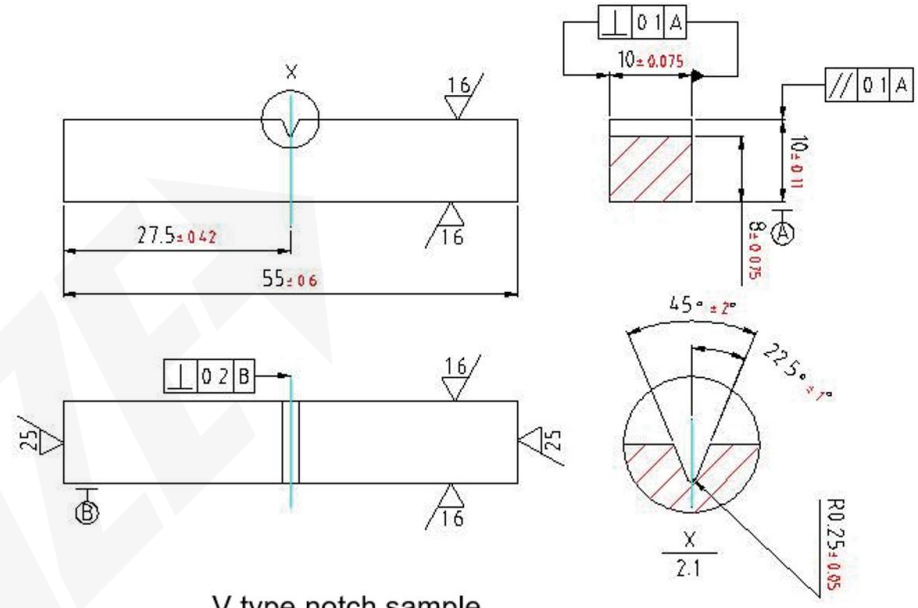
7. Regularly clean the iron filings inside the chip box to prevent them from entering the oil tank and blocking the pipelines.

8. According to actual usage, the hydraulic oil of this machine needs to be replaced every 1-3 months.

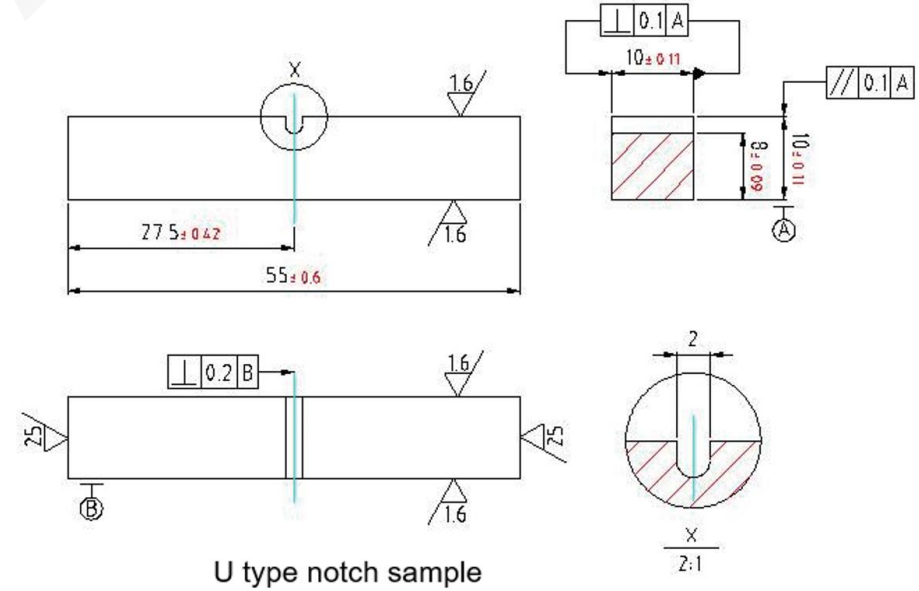
VII. Common faults and their solutions

No.	Common faults	Analyze the reasons	Processing method
1	Turn on the power, press the UP or DOWN, the device does not work	Check if the oil inlet filter in the fuel tank is blocked; Check if the solenoid valve or overflow valve is blocked	Clean the filter; Clean the solenoid valve or overflow valve core
2	UP or DOWN speed significantly slow	The throttle valve adjustment position is too small	Adjust the throttle valve to the appropriate speed
3	The V/U notch does not meet the standard	The relative position between the clamp seat and the broach has changed	Adjust the relative position between the clamp seat and the broach

VIII. Specimen Dimension Drawing



V type notch sample



U type notch sample

IX. Electrical Schematic diagram