TR 250 H

OPERATING INSTRUCTIONS

NORTON
SAINT-GOBAIN

clipper®

CE Declaration of conformity

The undersigned manufacturer:

SAINT - GOBAIN ABRASIVES S.A.
190, BD J.F. KENNEDY
L- 4930 BASCHARAGE

Declares that this product:
Tile saw: ***TR 250 H***

Code : ***70184629084***
70184629611

is in conformity with the following Directives:

- ***European Machinery Directive 2006/42/CE***
- ***"LOW VOLTAGE" 2006/95/CE***
- ***Electromagnetic Compatibility Directive 2004/108/CE***

and European standard:

- ***EN 12418 – Masonry and stone cutting-off machines for job site – Safety***

Olivier Plenert
Machine Design Manager

TR 250 H

OPERATING INSTRUCTIONS

1 Basic Safety Instructions

The TR 250 is exclusively designed for the cutting of tiles and abrasive materials with NORTON diamond disks mainly on construction sites.
Uses other than the manufacturer's instructions shall be considered as contravening the regulations. The manufacturer shall not be held responsible for any resulting damage. Any risk shall be borne entirely by the user. Observing the operating instructions and compliance with inspection and servicing requirements shall also be considered as included under use in accordance with the regulations.

1.1 Symbols

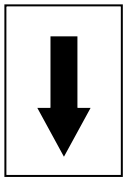
Important warnings and pieces of advice are indicated on the machine using symbols. The following symbols are used on the machine:

Read operator’s instructions

Ear protection must be worn

Hand protection must be worn

Eye protection shall be worn



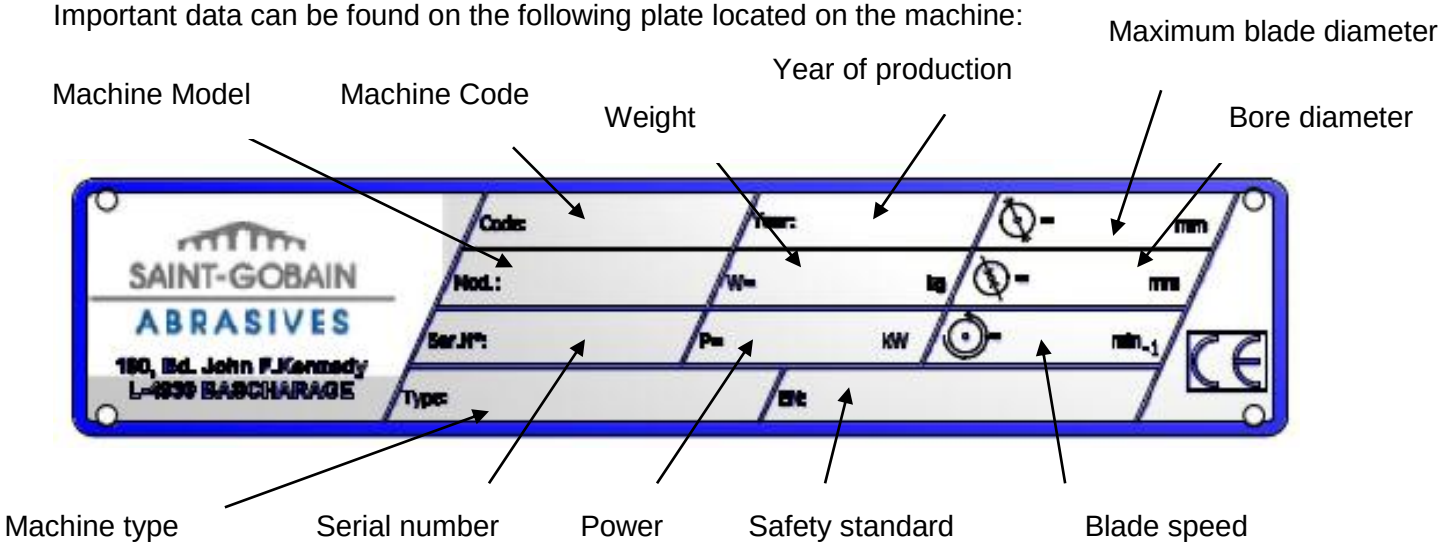
Rotation direction of the blade

Pump on

Pump off

1.2 Machine plate

Important data can be found on the following plate located on the machine:



1.3 Safety instructions for particular operating phases

Before commencing work

- Before commencing work, make yourself familiar with the working environment at the place of use. The working environment includes: obstacles in the area of work and manoeuvre, the firmness of the floor, necessary protection at the site relating to public thoroughfares and the availability of help in the event of accidents.
- Site the machine on an even, firm and stable base!
- Check for correct mounting of the blade regularly.
- Immediately remove damaged or badly worn blades, as they endanger the operator whilst rotating.
- The material to be cut must be held securely in place on the table to allow no unexpected movement during cutting operation.
- Always cut with the blade guard in position.
- Only fit NORTON diamond blades with continuous rim to the machine! The use of other tools can damage the machine!
- Read the blades' specifications carefully to choose the correct tool for your application.
- Attention is drawn to the use of BS2092 safety goggles in conformity with specified Processes No.8 of the Protection of Eyes Regulation 1974, Regulation 2(2) Part 1.

Electrical powered machine

- Always turn off the machine and separate it from the main source of electricity before any work on the machine is done.
- Make all electrical connections securely to eliminate contact of live wires with spray water or dampness
- When the machine is used with water, it is IMPERATIVE that you earth the machine properly. Let a qualified electrician check in case of doubt.
- Press the red button on the switch to stop the machine in case of emergency.
- In the event of the machine breaking down or stopping for no apparent reason, switch off the main electricity supply. Only a qualified electrician is allowed to investigate the trouble and remedy the fault.

2 Machine description

Any modification, which could lead to a change in the original characteristics of the machine, may be done only by Saint-Gobain Abrasives who shall confirm that the machine is still in conformity with the safety regulations.

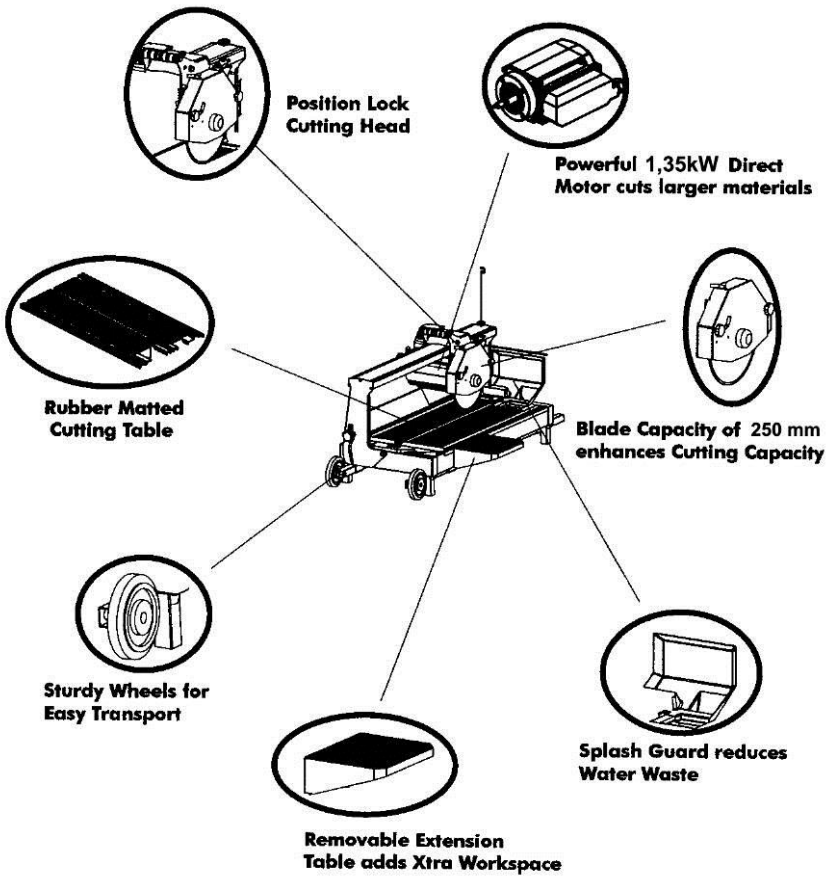
2.1 Short description

The TR 250 Saw is designed for durability and high performance for onsite wet cutting operations of a wide range of tiles and masonry products.
As with all other NORTON CLIPPER products, the operator will immediately appreciate the attention given to detail and quality of materials used in construction. The machine and its component parts are assembled to high standards assuring long life and minimum maintenance.

2.2 Purpose of use

The machine is designed for wet cutting of a large range of building and refractory materials, or tiles. It is not designed for cutting wood or metals.

2.3 Layout



2.4 Technical Data

Electric motor	1,3kW
Voltage	230V, 50Hz
Protection rating	IP 54
Max. blade diameter	250 mm
Bore	25.4 mm
Rotation speed of the blade	2800 min^{-1}
Flange diameter	90 mm
Cutting depth mm	60 mm
Cutting length mm	1000 mm
Sound pressure level	73 dB (A) (ISO EN 11201)
Sound energy level	87 dB (A) (ISO EN 3744)
Table dimension (LxW)	1110x490 mm
Machine dimensions (LxWxH)	1400x670x1460 mm
Weights	
Machine cpl.	66 kg
Ready for use (with water)	89 kg

3 Assembly and commissioning

The machine is delivered fully equipped. It is ready for operation after assembly the diamond blade and after connection to the appropriate power supply.

3.1 Assembly of the legs

Lift up one side of the saw, slide in the legs (with no wheels) to the front side of the saw. Lock the wing nut to tighten the legs in place. Lift up the other side of the saw and slide in the legs with the wheels. Lock the wing nut to fasten the legs in place.

3.2 Cutting head

You have to detach the cutting head by unscrewing the knob securing the head on the rail of the machine.

3.3 Tool assembly

Only NORTON blades with a maximum diameter of 250 mm can be used with the TR 250.
All tools used must be selected with regard to their maximum permitted cutting speed for the machine's maximum permitted rotation speed.
Before mounting a new blade into the machine, switch off the machine and isolate it from the main source of electricity.
To assemble a new blade, follow these steps:

- Loosen on the two nuts holding the outer cover of the blade guard, and remove it.
- Loosen the hexagonal nut (left threaded) on the blade shaft with the 30mm wrench, which holds the removable outer flange.
- Remove the outer flange.
- Clean the flanges and blade shaft and inspect for wear.
- Mount the blade on the arbor ensuring that direction of rotation is correct (check with the arrow on the blade guard). Wrong direction of rotation blunts the blade quickly.
- Replace outer blade flange.
- Tighten hexagonal nut.
- Retighten the two mutter screws maintaining the outer cover the blade shaft.

The blade bore must correspond exactly to the diameter of the blade shaft. Cracked or damaged bore is dangerous for the operator and for the machine.

3.4 Electrical connections

Check that,

- The voltage/phase supply corresponds to the information indicated on the motor plate.
- Available power supply must have ground connection in conformity with safety regulations.
- The connecting cables should have at least a 2.5mm^2-section per phase.

3.5 Water cooling system

- Fill the water pan with clean water to 1cm of the edge of the water tray.
- Ensure that water is delivered adequately to both sides of the blade, as insufficient water supply may result in premature failure of the diamond blade.
- The water pump must never run without water. Always make sure that there is enough water in the pan and refill if necessary.
- In case of frost, empty the water cooling system from its water.

3.6 Starting the machine

Connect the machine to the electrical supply. You can start it by pressing the switch on I. To stop the machine, press switch on 0. 0 is also the emergency switch.

4 Transport and storing

4.1 Securing for transport

Before transporting the machine, always remove the blade and empty the water pan. Secure the cutting head on the rail by using the knob.

4.2 Long period of inactivity

If the machine is not going to be used for a long period, please take the following measures:

- Completely clean the machine
- Empty the water system
- Take the water pump out of the water tray, and clean it thoroughly.

The storage site must be clean, dry and at a constant temperature.

5 Operating the machine

5.1 Site of work

5.1.1 Siting the machine

- Remove from the site anything, which might hinder the working procedure!
- Make sure the site is sufficiently well lit!
- Observe manufacturer's conditions for connecting to power supplies!
- Place electric cables in such a way that damage by the device is excluded!
- Make sure you have a continual adequate view of the working area so you can intervene in the working process at any time!
- Keep other staff out of the area, so you can work securely.

5.1.2 Space required for operation and maintenance

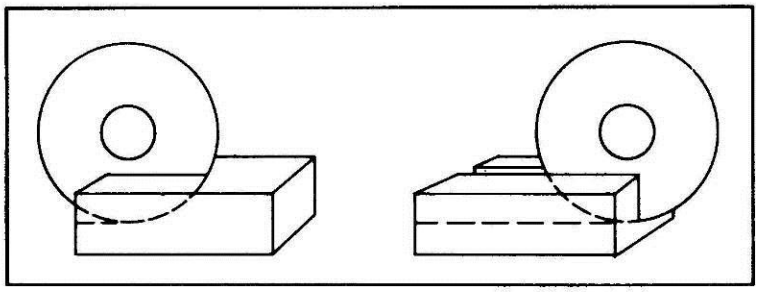
Leave 2 m in front of the machine and 1,5 m around it for usage and maintenance of the TR 250.

5.2 Cutting methods

To use the machine correctly, you must face it with one hand on the cutting head, and one on the material to be cut to maintain it against the material stops. Always keep your hands away from the moving blade.

5.2.1 Full depth or fixed cutting

In full depth or fixed cutting, the cutting head is locked in a fixed depth pushed into the material as shown.

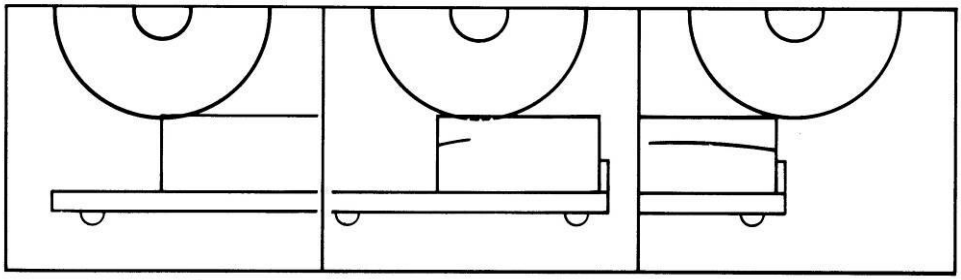


- Lower the cutting head to the desired cutting depth (in “through cutting”, lower cutting head until blade periphery reaches max. 3mm under the surface of the table) by means of the handle on the blade guard
- Fix position by tightening the clamping device
- Put material on table
- Push the cutting head slowly and without undue pressure towards the material and cut the material as shown on the picture.

NOTE: While recommended, it is not absolutely necessary to lock the cutting head into a given depth position when jam cutting. The desired cutting depth can be maintained by holding firmly the depth feed handle on the cutting head. If the full depth of cut requires excessive pressure (on very dense material e.g.) make 2 or 3 shallow cuts.

5.2.2 Multiple step cutting

Multiple step cutting consists of moving the head back and forward on the material to be cut.



- Place the material to be cut on the table firmly against the guide-a-cut and the backstop, keeping the hands well away from the blade.
- Move blade forward near the material and pull down the cutting head until blade is lowered to a point where it will lightly contact the surface of the material.
- Then pass the blade beneath with rapid full length strokes, taking a shallow cut (approximately 3 mm deep as shown on the picture) on the forward. On the backward stroke, lift the blade just clear over the cutting line.
- Complete each rapid stroke backward and forward by passing the material beyond the centre of the blade before starting the reverse movement of the cutting head.

NOTE: the harder the material, the more rapid should be the forward and backward strokes.
Step cutting lessens the area of the blade circumference in contact with the material, keeping the blade cool, running free and cutting at peak efficiency.

5.3 Cutting with an angle

You can cut from 0º to 45º by tilting the head. To this purpose:

- Loosen the two knobs maintaining the head to tilt the head to the desire angle.
- Retighten the two knobs.

5.4 General advice for the cutting

- Only materials with max. dimensions 1110x490x60mm and max. weight 10kg can be cut with the machine.
- Before commencing work make sure tools are firmly seated!
- Select the right tools as recommended by the manufacturer depending on the material to be worked, the working procedure (dry or wet cut) to be carried out and the required efficiency.
- Make sure the water pan contains enough water.
- Set the guide-a-cut to the desired width of cut, and to the desired angle using the two engraved measurements to align it correctly.

6 Maintenance and servicing

To ensure a long-term quality from the cutting with the TR 250, please follow the maintenance plan below:

		Begin of the day	During the changing of tool	End of the day or more often if required	After a fault	After a damage
Whole machine	Visual control (general aspect, watertightness)					
	Clean					
Flange and blade fixing devices	Clean					
Motor cooling fans	Clean					
Water pan	Clean					
Motor housing	Clean					
Reachable nuts and screws	Tighten up					

Maintenance of the machine

Always perform the maintenance of the machine with the machine isolated from the electrical supply.

Lubrication

The TR 250 uses life-lubricated bearings. Therefore, you don’t need to lubricate the machine at all.

Cleaning of the machine

Your machine will last longer if you clean it thoroughly after each day of work, especially water pump, water pan, motor and blade flange.

7 Faults: causes and cures

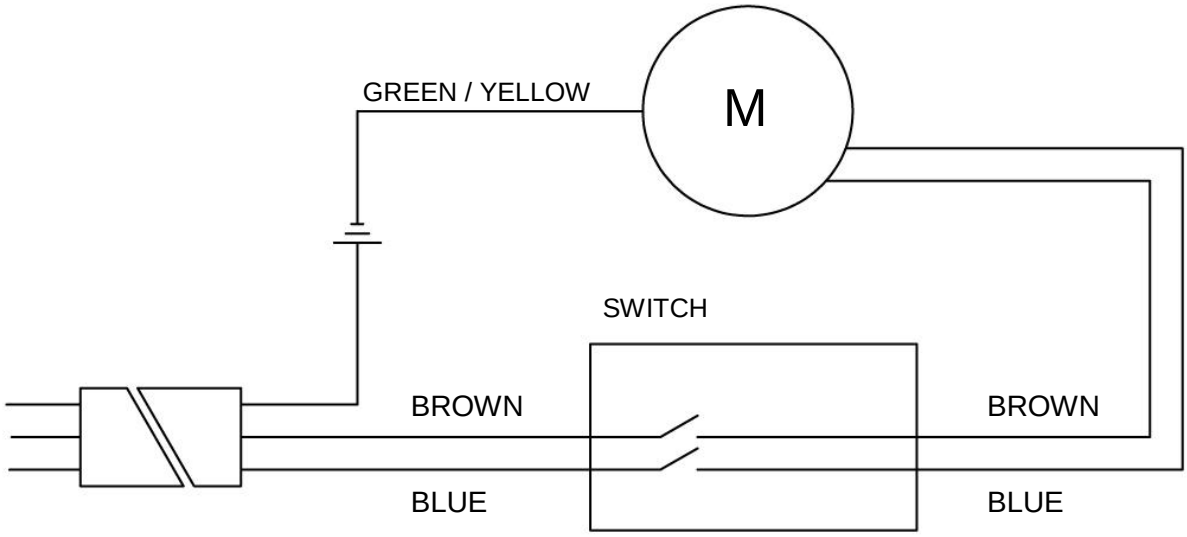
7.1 Fault-finding procedures

Should any fault occur during the use of the machine, turn it off, and isolate it from the electrical supply. Any works dealing with the electrical system or supply of the machine can only be carried out by a qualified electrician.

7.2 Trouble-shooting guide

Trouble	Possible source	Resolution
Motor is not running	No electricity	Check the electrical supply (fuse for example)
	Connection cable section too small	Change connection cable
	Defective connection cable	Change connection cable
	Defective switch	CAUTION : can only be solved by qualified electrician
	Defective motor	Change motor or contact motor manufacturer
Motor stops during the cutting, but can be restarted after a short period (overload protection)	Cutting advance too quick	Cut slowly
	Blade is blunt or glazed	Sharpen the blade in calcareous stone
	Defective blade	Change blade
	Wrong blade specification for the application	Change blade
No water on the blade	Not enough water in the pan	Refill the water pan
	Water supply system is blocked up	Clean water supply system
	Water pump is not working	Change the pump

7.3 Circuit diagram



7.4 Customer service

When ordering spare parts, please mention:

- The serial number (7 digits).
- The code of the part.
- The exact denomination.
- The number of parts required.
- The delivery address.
- Please indicate clearly the means of transportation required such as "express" or "by air". Without specific instructions, we will forward the parts through the means which seem appropriate to us --- but which is not always the quickest way.

Clear instructions will avoid problems and faulty deliveries.
If not sure, please send us the defective part.
In the case of a warranty claim, the part must always be returned for evaluation.
Spare parts for the motor can be ordered with the manufacturer of the motor or with their dealer, which is often quicker and cheaper.

This machine has been manufactured by

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