

16-T0028/B
Soil lathe, Trimmer
and Extruder



MANUALE DI ISTRUZIONI
INSTRUCTION MANUAL

Index

1. INTRODUCTION	1
1.1 Icons appearing in the manual	2
1.2 Manual revision history	3
2. DESCRIPTION	4
2.1 Identification plate	5
2.2 Technical specifications.....	6
3. USE OF THE EQUIPMENT	7
3.1 Use of the apparatus as lathe	8
3.2 Use of the apparatus as trimmer	9
3.3 Use of the apparatus as Extruder (triaxial sample)	10
4. MAINTENANCE	11
4.1 Operator's and Preventive maintenance	11
4.1.1 Cleaning after use.....	12
4.1.2 Greasing	13

This instruction manual is an integral part of the machine and should be read before using the machine and be safely kept for future reference.

CONTROLS reserves all rights of this manual, no part or whole can be copied without the written permission of **CONTROLS**.

The proper use of this machine must be strictly adhered to, any other use must be considered as incorrect.

The manufacturer cannot be held responsible for damage caused by incorrect use of the machine.

The machine must not be tampered with for any reason. In case of tampering, the manufacturer declines any responsibility of functioning and safety of the machine.

This Manual is published by **CONTROLS**.

CONTROLS reserves the right to update its manuals without notification in order to correct possible typing errors, mistakes, updating of information and/or updating of programs and/or accessories.

Such changes will be inserted in the latest edition of the current manual.

The present in English is the original version of the manual. Printed in Italy

1. INTRODUCTION



NOTE:

The present manual is updated for the product it is sold with in order to grant an adequate reference in operating and maintaining the equipment.

The manual may not reflect changes to the product not impacting service operations.

This apparatus is used to prepare any size of cylindrical soil sample:

- Specimen lathe function: from dia. 35x70 mm to dia. 110x220 mm
- Specimen trimming and extruding function: from dia. 35x70 mm to dia. 50x100 mm

The apparatus which can be used either as a trimmer or as a sampler consists of:

1. A rotating round base with reference guide where the specimen is placed;
2. A vertical threaded rod actuated by a wheel knob, whose purpose is to regulate the vertical height of the specimen and to maintain it in position during trimming operations;
3. Two vertical lateral rod which are used as reference guides for the trimming saw;
4. A graduated rule fitted to the slide which is used to check and set the diameter of soil sample to be obtained placing appropriately the reference pointer;
5. Adapter for grubbing the sample (100, 70mm) during lathing;
6. Adapter for grubbing the sample (50, 38, 35mm) during lathing;
7. Adapter for trimming (35-38 mm) and extruding (50mm) the sample;
8. Adapter for trimming (50 mm).

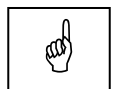
Main features:

- Specimen **lathe** function: from dia. **35x70 mm** to dia. **100x200 mm**;
- Specimen **trimming and extruding** function: from dia. **35x70 mm** to dia. **50x100 mm**.

The device must be used in compliance with the procedures described in this manual. Never use the device for purposes different from those herewith indicated.

Please read this manual thoroughly before you start using the equipment.

1.1 Icons appearing in the manual



This icon indicates a **NOTE**; please read thoroughly the items marked by this picture.



This icon indicates a **WARNING** message; the items marked by this icon refer to the safety aspects of the operator and/or of the service engineer.

1.2 Manual revision history

Revision/Date	Change description
Rev. 1 December 11 th 2018	First manual release.

2. DESCRIPTION

Refer to the following picture to identify the main parts of the equipment.

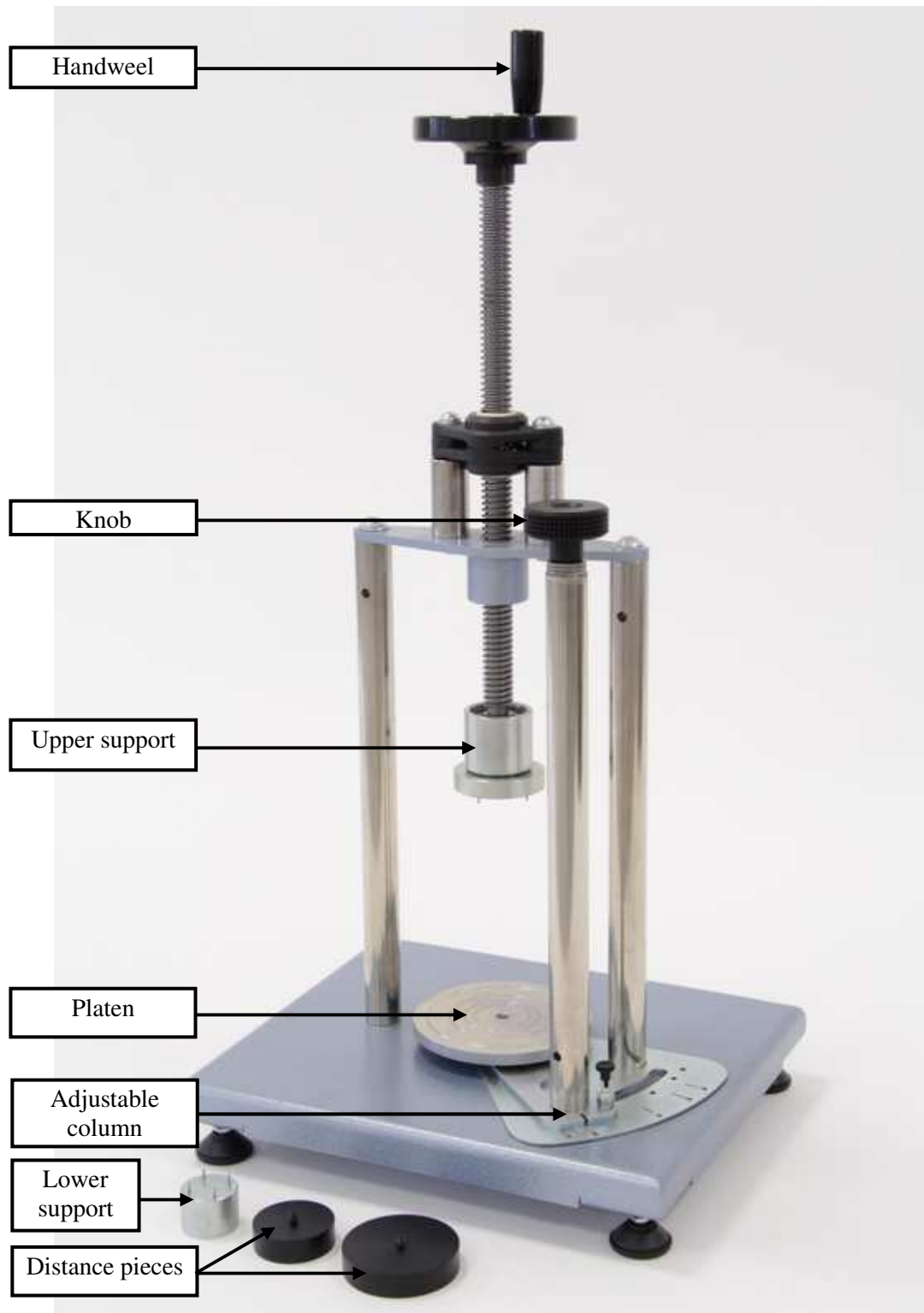


Fig. 2-1

2.1 Identification plate

The identification plate is located on the readout unit.

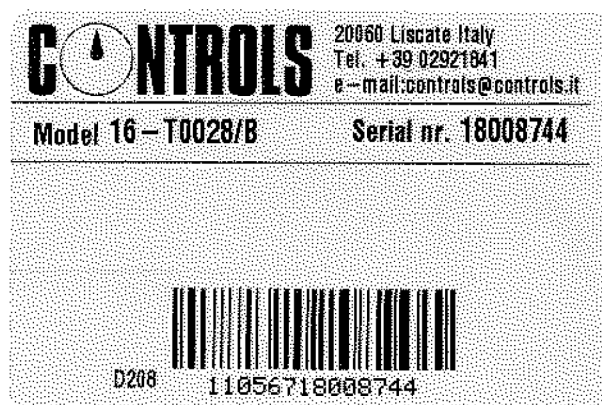


Fig. 2-2

2.2 Technical specifications

Main characteristics	
Product	Soil lathe, Trimmer and Extruder
Manufacturer	CONTROLS Liscate (MI) Italy
Product code	16-T0028/B
Specimen lathe function	from dia.35x70 mm to dia. 100x200 mm
Specimen trimming and extruding function	from dia. 35x70 mm to dia. 50x100 mm
Adjustable vertical daylight	up to 240 mm
Horizontal daylight	155 mm
Weight approx.	15 kg
Dimensions approx.	220x300x450 mm

3. USE OF THE EQUIPMENT

This chapter describes the use of the equipment and the execution of a test.



WARNING:

We recommend the operator to perform the checks listed in the Maintenance section at the beginning of each working session.

In case any anomaly is encountered, notify your authorized service organization.

3.1 Use of the apparatus as lathe

- Once the soil sample has been extruded from the tube, cut it in a length similar to the sample to be obtained using the suitable wire saw and operating in such a way to obtain perpendicular and plain cuts.
- Grease the rotating base of the apparatus with silicone grease (to avoid the sticking of sample on it) and place the sample on it.
- Position the adjustable column according to the sample dimension.



Fig. 3-1

- Use now the wire saw vertically using as reference the two lateral rods cutting the sample from the top to the base.
- Repeat this operation rotating gradually the base after each vertical cut until a suitable sample is obtained.
- Remove then the sample from the machine unscrewing the knob on top of vertical rod and adjust the vertical height using the wire saw.

3.2 Use of the apparatus as trimmer



Fig. 3-2

The vertical threaded rod can be easily used to push a cutting tool on a bigger soil sample using the following instructions:

- Prepare a soil sample with an height slightly bigger than the sample to be obtained.
- Place the cylindrical metal sampler (normally supplied with the oedometers shear testing machine or triaxial apparatus) with the cutting ring downward. The metal surfaces should be covered by a thin film of silicone grease.
- Place a suitable rigid plate on top of the cylindrical sampler.
- Rotate the top knob pushing on the rigid plate previously placed on top of sampler.
- Maintain in position the sampler using one hand and continue rotating the top knob so the sampler can uniformly penetrate far some extent in the soil sample.
- Using the wire saw trim alternatively the soil sample obtaining an outside dia. slightly bigger than the sampler. To make this operation easier, rotate the base plate but pay attention of not disturbing the soil sample.
- Proceed uniformly in pushing the sampler in the soil paying attention of not pressing the top soil sample when at the end of the sampling.

At the end of this operation unscrew the vertical rod and remove the sampler which is now ready, if necessary, for the extrusion operations (see next chapter).

3.3 Use of the apparatus as Extruder (triaxial sample)

The vertical threaded rod can be easily used to push a cutting tool on a bigger soil sample using the following instructions:

- Position the receiver on the rotating round base.
- Put the cutting cylinder (with soil sample inside) on the receiver and extrude the sample using the following accessories, depending on sample dimensions:
 - **35-38** mm diameter sample: use the wooden dolly for extruding the sample, supplied with the hand sampler.
 - **50** mm diameter sample: use the platen supply with T0028/B.
- Get the sample from the receiver.

4. MAINTENANCE



WARNING:

Failing to perform the recommended maintenance actions or maintenance performed by unauthorized people can void the warranty.

CONTROLS will not be responsible for maintenance and service actions performed by unauthorized people.

4.1 Operator's and Preventive maintenance

Action	Who	When
Cleaning after use (see chapter 4.1.1)	Operator	After every working session
General inspection	Operator	Weekly
Greasing (see chapter 4.1.2)	Operator	Monthly

4.1.1 Cleaning after use

Remove the platen from the frame to clean it after use.



Fig. 4-1

4.1.2 Greasing

Clean from dirt the threaded shaft [1] and the ball bearing [2] under the platen and lubricate them with grease.



Fig. 4-2

CONTROLS GROUP

CONTROLS Your Partners
Masters of Technology

controls-group.com

Wf *Wykeham Farrance* Since 1941
PIONEERS IN ADVANCED SOIL TESTING

wfi.co.uk

IPC global[®]

ipcglobal.com.au

CONTROLS
PAVELAB[®]
SYSTEMS
EXCELLENCE IN PAVEMENT TESTING SOLUTIONS

pavelabsystems.com