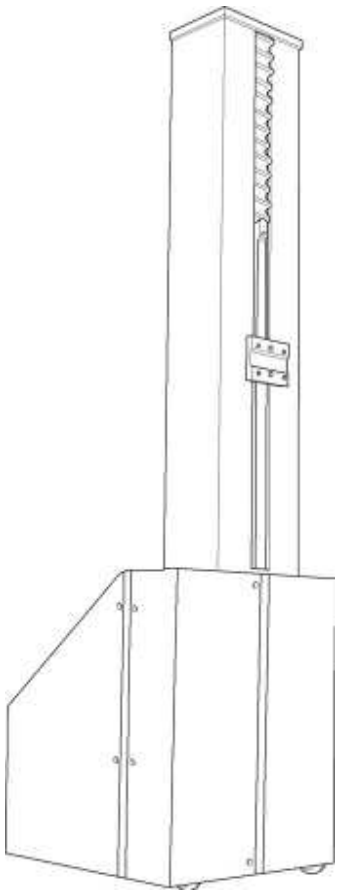
Operating and maintenance manual

GB



Machine

OSCILLATOR

Model

HOS-V 05

Serial No./ Year of manufacture

IMPORTER

CUSTOMER

.....
.....
.....
.....
.....
.....

NB: descriptions and illustrations in this publication are simplified.

For eventual technical reasons ***Nordson***® reserves the right to modify their product data or features without any prior notice.

TITLE OF THE DOCUMENT :	NO. :
OPERATING AND MAINTENANCE MANUAL	REVISION : **1.2**

CUSTOMER :	JOB ORDER NO.:
SERIAL NO. :	DATE :

REV.	DATE	DESCRIPTION
1.0	12/09/03	General revision
1.1	07/09/06	General revision
1.2	01/09/08	General revision

Prepared	Controlled	Approved	

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CHAPTER 7.0 MOVING AND TRANSPORT

CHAPTER 8.0 MACHINE INSTALLATION

CHAPTER 9.0 SETTING UP THE MACHINE

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CHAPTER 11.0 USE OF THE MACHINE

CHAPTER 12.0 MAINTENANCE

	INTRODUCTION	REV. 1.2

TITLE OF THE DOCUMENT : Operating and maintenance manual OSCILLATOR HOS-V

0.0 INTRODUCTION

Page 1 to 9

CHAPTER 0.0 INTRODUCTION

0.1 Document identification

The operating and maintenance manual is a document issued by ***Nordson***® against a specific job order and it is an integral part of the machine.
Such a document is marked with a serial number that corresponds to that of the machine, in order to permit tracing and identification.

0.2 Object of the document

This manual sets out:

- To provide technicians, workers and maintenance people with instructions, information and advice on how to work in the best safety conditions.
- To put the worker in a position to use the machine correctly and safely and to maintain it in a good and efficient condition.
- To be able to prove, through the provided information, the compliance of the machine with the directives in force regarding industrial safety standards.

0.3 General conditions

During the drawing up of this document the following directives have been considered:

- UNI EN 292:1992, Safety of machinery - Basic concepts; general principles for design:
  Part 1a - Basic terminology, methodology (UNI EN 292-1:1992)
  Part 2a - Technical principles and specification (UNI EN 292-2:1992/A1:1995)
- UNI EN 954-1:1998, Safety of machinery - Safety-related parts of control systems - General principles for design
- UNI EN 1050:1998, Safety of machinery - Principles or risk assessment
- UNI EN 294:1993, Safety of machinery - Safety distances to prevent danger zones being reached by the upper limbs
- UNI EN 349:1994, Safety of machinery - Minimum gaps to avoid crushing of parts of the human body
- UNI EN 811: 1998, Safety of machinery - Safety distances to prevent danger zones being reached by the lower limbs
- UNI EN 418:1994, Safety of machinery - Emergency stop equipment - Functional aspects - Principles for design
- CENELEC - Reference CEI EN 60204-1:1993 (second edition)
  Safety of machinery - electrical equipment of the machines - Part 1:General rules

D **ATTENTION :** If this machine is an integral part of a plant , it is forbidden to start it unless the whole plant is in compliance with the **"Machine directive" 89/392 EEC** and those that follow.

0.4 Identification data of the manufacturer

The identification of ***Nordson*** ® as machine manufacturer, is in compliance with the legislation in force through these certificates:

- **Declaration of conformity** (see attached)
- ¡ **plate**
- **Operation and maintenance manual**

A special identification plate, applied to the machine, permanently carries information regarding ¡ mark. The copies of the identification plates **" ¡ MARK"**, applied on each single machine, and the relevant **"DECLARATION OF CONFORMITY"** are attached.

The machine has been manufactured by:

NORDSON CORPORATION

0.5 Nordson International

Europe

COUNTRY		PHONE	FAX
Austria		43-1-707 5521	43-1-707 5517
Belgium		31-13-511 8700	31-13-511 3995
Czech Republic		4205-4159 2411	4205-4124 4971
Denmark	*Hot Melt*	45-43-66 0123	45-43-64 1101
	Finishing	45-43-66 1133	45-43-66 1123
Finleand		358-9-530 8080	358-9-530 80850
France		33-1-6412 1400	33-1-6412 1401
Germany	*Erkrath*	49-211-92050	49-211-254 658
	Lüneburg	49-4131-8940	49-4131-894 149
	Düsseldorf-Nordson UV	49-211-3613 169	49-211-3613 527
Italy		39-02-904 691	39-02-9078 2485
Netherlands		31-13-511 8700	31-13-511 3995
Norway	*Hot Melt*	47-23 03 6160	47-22 68 3636
	Finishing	47-22-65 6100	47-22-65 8858
Poland		48-22-836 4495	48-22-836 7042
Portugal		351-22-961 9400	351-22-961 9409
Russia		7-812-11 86 263	7-812-11 86 263
Slovak Republic		4205-4159 2411	4205-4124 4971
Spain		34-96-313 2090	34-96-313 2244
Sweden	*Hot melt*	46-40-680 1700	46-40-932 882
	Finishing	46 (0) 303 66950	46 (0) 303 66959
Switzerland		41-61-411 3838	41-61-411 3818
United Kingdom	*Hot Melt*	44-1844-26 4500	44-1844-21 5358
	Finishing	44-161-495 4200	44-161-428 6716
	Nordson UV	44-1753-558 000	44-1753-558 100

Distributors in Eastern & Southern Europe

DED, Germany	49-211-92050	49-211-254 658

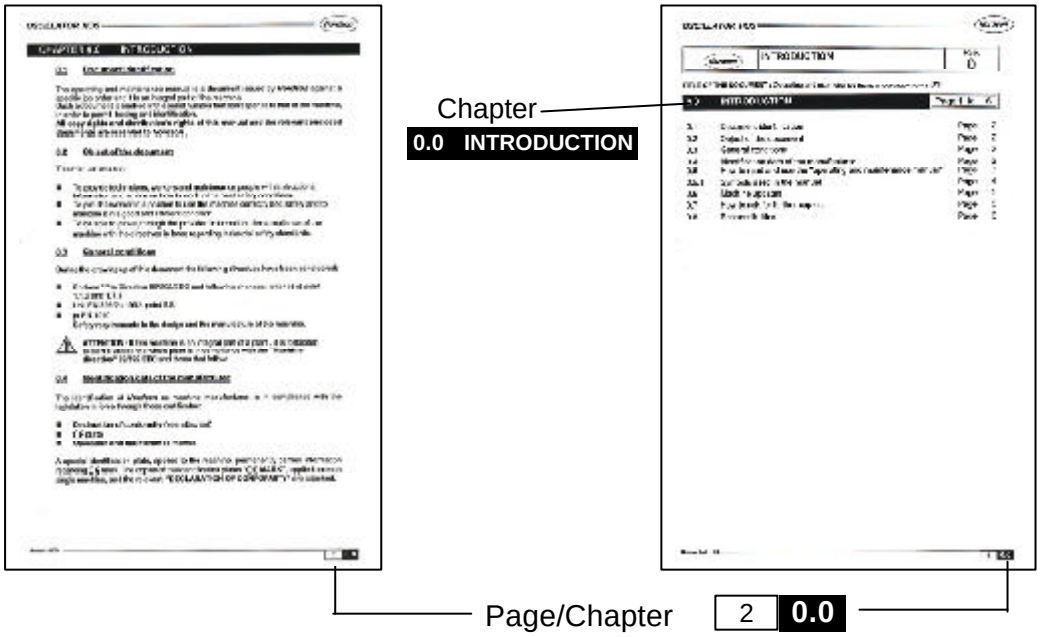
Outside Europe

For Your nearest **Nordson**® office outside Europe contact the Nordson offices below for detailed information.

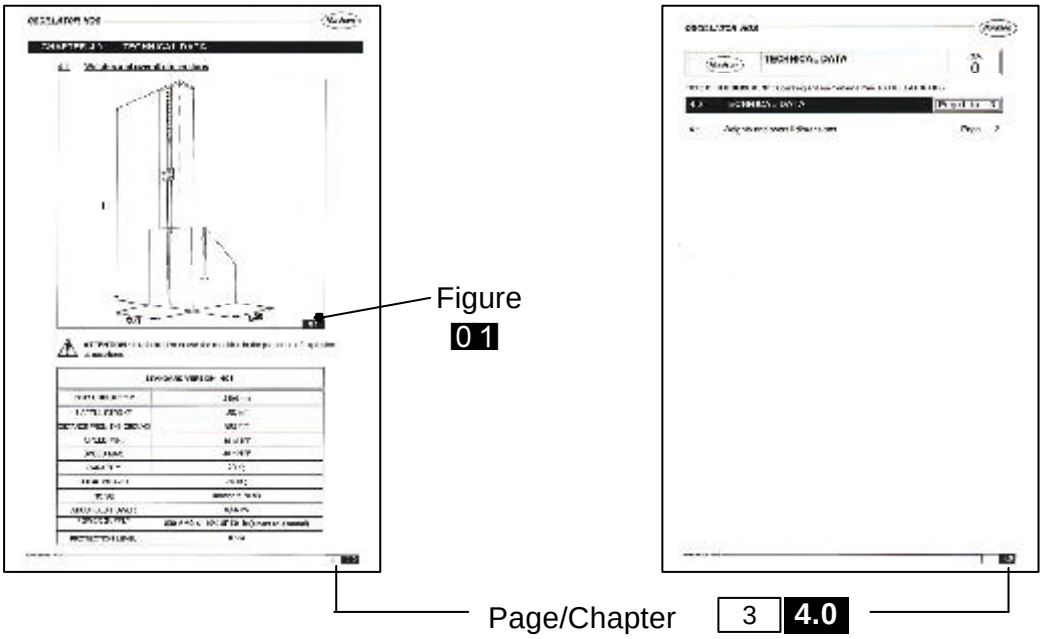
	CONTACT NORDSON		PHONE	FAX
Africa/Middle East	**DED, Germany**		49-211-92050	49-211-254 658
Asia/Australia/ Latin America	**Pacific South Division, USA**		1-440-988-9411	1-440-985-3710
Japan	**Japan**		81-3-5762 2700	81-3-5762 2701
North America	**Canada**		1-905-475 6730	1-905-475 8821
	USA	*Hot Melt*	1-770-497 3400	1-770-497 3500
		Finishing	1-440-988 9411	1-440-985 1417
		Nordson UV	1-440-985 4592	1-440-985 4593

0.6 How to read and use the "operating and maintenance manual"

This manual is an integral part of the machine, therefore it must be preserved and appropriately used for the whole operating life of the machine, also in case of transfer to outside parties.
The manual is subdivided into chapters each identified by a summarizing first page.
Each page reports its progressive number depending on the chapter and to the number of the chapter itself.



The graphic illustrations, reported in the manual, are identified by a progressive number depending on the chapter.



0.6.1 Symbols used in the manual

To make the reading and the understanding of this manual easier and immediate the following symbols have been used:

A

"Conductor": qualified and authorized person that has been instructed to start the machine with the necessary protections in place via the use of the commands on the push-button panel.

B

Mechanical maintenance person: a technician, qualified and authorized to install, repair and carry out special maintenance that is exclusively mechanical.

C

Electrical maintenance person: a technician, qualified and authorized to install, repair and carry out special maintenance exclusively electrical.

q

Manufacturer's technician with mechanical competences: for complex and/or special operations.

r

Manufacturer's technician with electrical or electronic competences: for complex and/or special operations.

0.7 Machine updates

In the case of technical changes made by ***Nordson***® during the operating life of the machine an appropriate revision of the document itself will be supplied with the essential data specified on the page "**DOCUMENT IDENTIFICATION**".

In the case that ***Nordson***® submits a copy of the document with revisions, the costumer should see to the elimination of the parts concerned and to the replacement.

0.8 How to ask for further copies

Further copies should be ordered from ***Nordson***® offices (see tables page 3 and 4).

0.9 Responsibilities

This manual reflects the technical state of the machine at the moment of sale and it is open to changes, depending on the firm opinion of the manufacturer.

In case of manual changes the manufacturer is not obliged to update those manuals that accompany machines already sold.

The manufacturer is released from any responsibility in any case of improper or incorrect use such as, for example:

- the use of the machine by not trained staff;
- use without following the regulations in force;
- incorrect installation;
- mains supply defects;
- serious lack of maintenance;
- not authorized modifications to the machine;
- the use of unsuited spare parts;
- inobservance of the "operating and maintenance manual";

It must be remembered that any total or partial reproduction of this manual is forbidden unless authorised by ***Nordson***®.

Nordson	**TECHNICAL ASSISTANCE**	*REV.* 1.2

TITLE OF THE DOCUMENT : Operating and maintenance manual OSCILLATOR HOS-V

1.0 TECHNICAL ASSISTANCE

CHAPTER 1.0 TECHNICAL ASSISTANCE

For any technical or commercial requirements, please contact:

	GENERAL SAFETY INSTRUCTIONS	REV. 1.2

TITLE OF THE DOCUMENT : Operating and maintenance manual OSCILLATOR HOS-V

2.0 GENERAL SAFETY INSTRUCTIONS

Page1 to 6

CHAPTER 2.0 GENERAL SAFETY INSTRUCTIONS

Each interaction between the worker and the machine has been carefully studied and analysed during the planning stages.
The choice in construction, the technical features of the machine and the indications reported in this document are intended to guarantee the greatest safety level to the exposed people and the worker.
According to the **"Machine directive" 89/392 EEC** it is useful to remember the following definitions:

"Dangerous zones": every zone inside and/or in proximity to a machine where the presence of an exposed person is a danger to safety and health.

"Exposed person": any person situated entirely or partially in a dangerous zone.

"Worker": a person instructed to operate, regulate and carry out ordinary maintenance and/or clean the machine.

To better define the limit of operation, the relevant qualifications of the **"worker"** and to make the immediate reading and the understand of the manual easier, the following classifications have been used:

A **"Conductor"**:
qualified and authorized person that has been instructed to start the machine with the necessary protections in place via the use of the commands on the push-button panel.

B **Mechanical maintenance person:**
a technician, qualified and authorized to install, repair and carry out special maintenance that is exclusively mechanical.

C **Electrical maintenance person:**
a technician, qualified and authorized to install, repair and carry out special maintenance exclusively electrical.

□W **Manufacturer's technician with mechanical competences:**
for complex and/or special operations.

□t **Manufacturer's technician with electrical or electronic competences:**
for complex and/or special operations.

The employer should provide the necessary training to the staff regarding the risks of accidents, and safety devices to protect the worker, and must also insist on the observance of rules and company instructions about safety and protection measures.

The worker has to respect the instructions given by the employer or other authorised people and particularly:

- Use correctly the machine, equipment, tools, and safety's devices;
- Use correctly the individual protective devices;
- Notify immediately any dangerous conditions;
- Must not remove or modify safety devices or control signal;
- Follow scrupulously the indications in this manual;

The unauthorised tampering and substitution of one or more parts or groups of the machine, the use of equipment or normal wear material other than that indicated by ***Nordson***®, can pose a risk of accidents and hence release the manufacturer from civil or penal responsibilities.

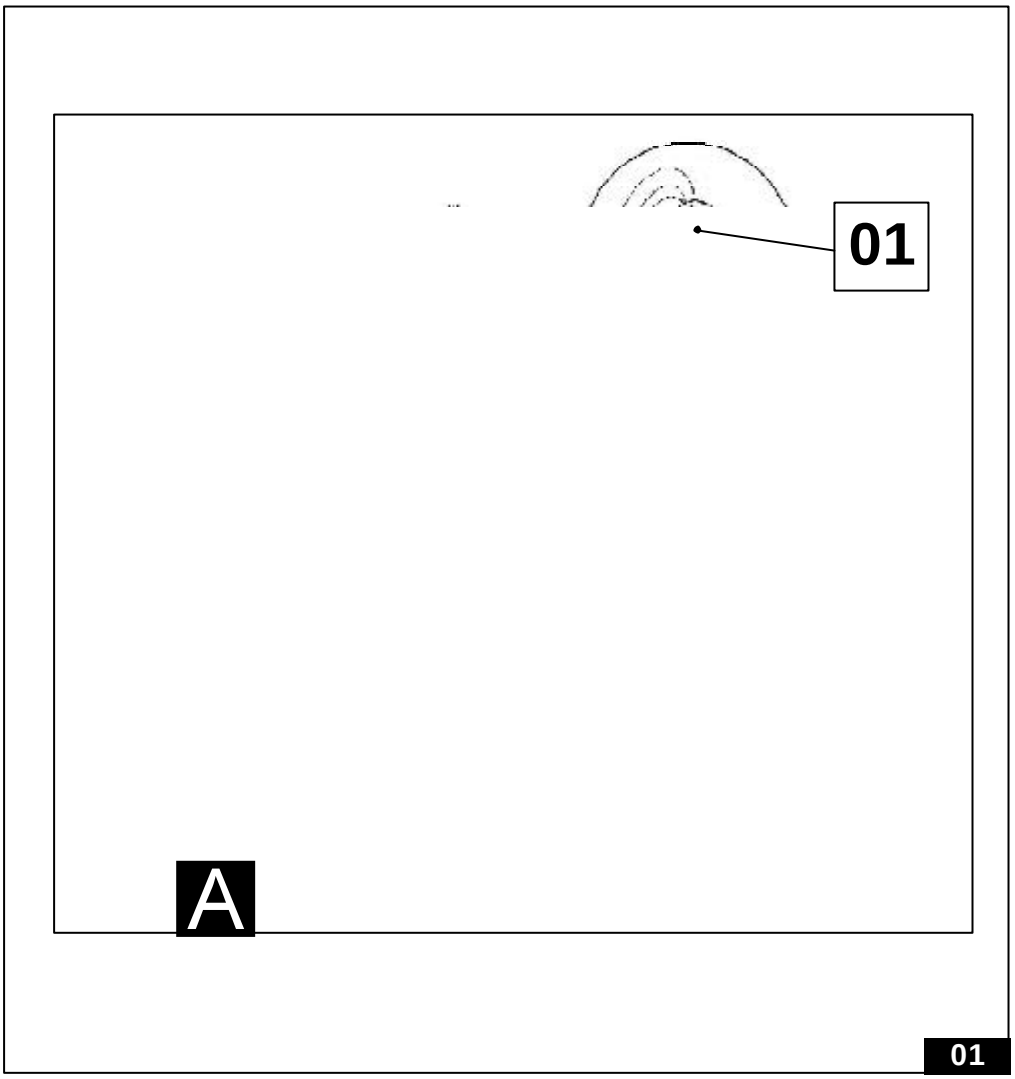
D **ATTENTION :** Before starting up the machine and carrying out working operations, electric boards, control panels, and all protections, must be closed and the working area must be free and clean.

D **ATTENTION :** If this machine is an integral part of a plant, it is forbidden to start it unless the whole plant is in compliance with the **"Machine directive" 89/392 EEC** and those that follow.

2.1 Dangerous areas and placing of safety devices

- Due to the structural typology of the machine that is integrated in painting plants, it is necessary to determine and fence an area **A** where the operator must not enter when the plant is in function.

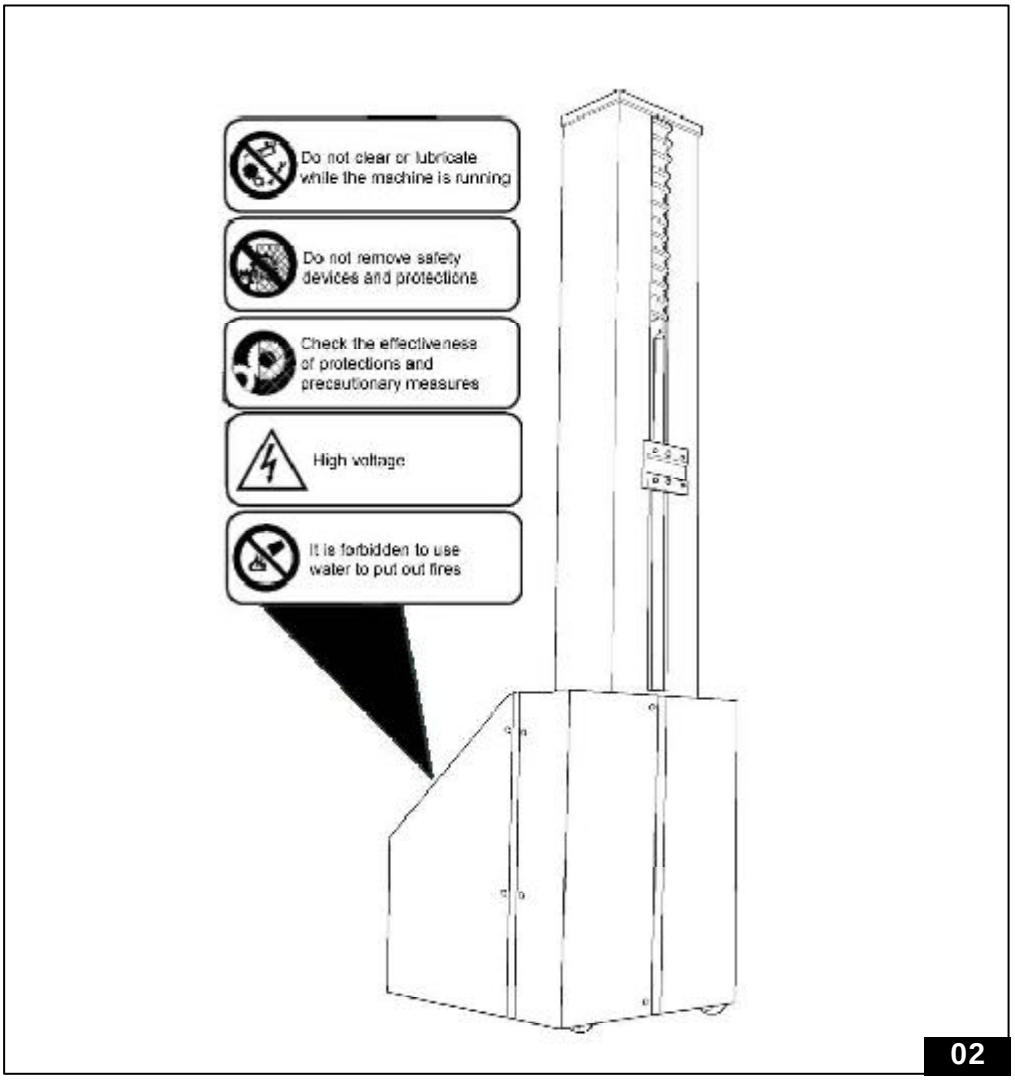
As regards to the position of emergency/stop push button **01 (01)**, it must be connected to the general push button panel of the plant.
Therefore the machine is provided with the emergency/stop signal input.



2.2 Position of warning labels

The warning labels that are clearly visible and attached to the machine are additional and not alternative measures to the already foreseen protections.

Such labels further improve the operator's safety, in that they give correct information regarding requirements and cautions.



02

2.3 General prohibitions

9 Do not remove safety devices and protections.

9 **Temporary removal of protections -** protections and safety devices of the machine must NOT be removed during maintenance; it is necessary to adopt immediately measures to reduce risks, under the supervision of authorised people.

7 It is forbidden for any person, except the conductor, to access to the operating area of the machine.

8 Do not clear or lubricate while the machine is running.

Q It is forbidden to use water to put out fires.

2.4 General obligations

4 Switch off at the mains supply before unplugging electrical devices.

6 Check the effectiveness of protections and precautionary measures.

2 Notify immediately faults and lack of protections and precautionary measures and any dangerous situation.

2.5 Dangers

E High voltage.

2.6 Advice about lighting

The machine is not provided with an autonomous lighting system, because a normal working environment condition, that is at least 300 lux, is sufficient.

The customer should supply a similar lighting value, to carry out the normal working operations.

For maintenance work a portable lamp is recommended.

	DESCRIPTION OF THE MACHINE	REV. 1.2

TITLE OF THE DOCUMENT : Operating and maintenance manual OSCILLATOR HOS-V

3.0 DESCRIPTION OF THE MACHINE

Page1 to 4

CHAPTER 3.0 DESCRIPTION OF THE MACHINE

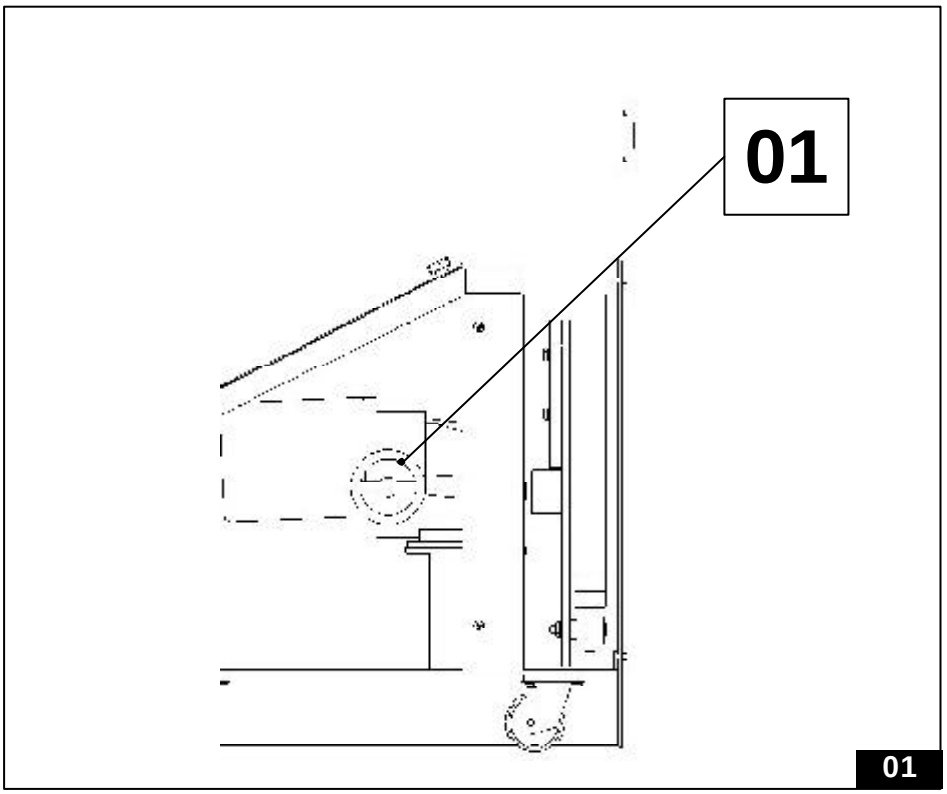
The ever-increasing need to produce automatically and to optimise the production cycles of spray-coating systems has led in these years to the development of machines, that, replacing the operator during the most repetitive phases of working processes, eliminate errors caused by carelessness and inexperience.

The **Oscillator mod. HOS-V** represents an innovation in automated systems; they have been studied to support loads to 40 Kg they allow a great versatility in use, because they can be used with various possibilities of gun supporting-arm.

The main feature of this machine is the alternative movement of the gun supporting-arm, thanks to a sliding guide between two pairs of wheels integral with the structure of the machine.

Moreover the use of a new transmission system, with the consequent elimination of the connecting rod, has allowed to obtain a constant speed along the whole stroke, and to keep uniform the movement also during the reversal.

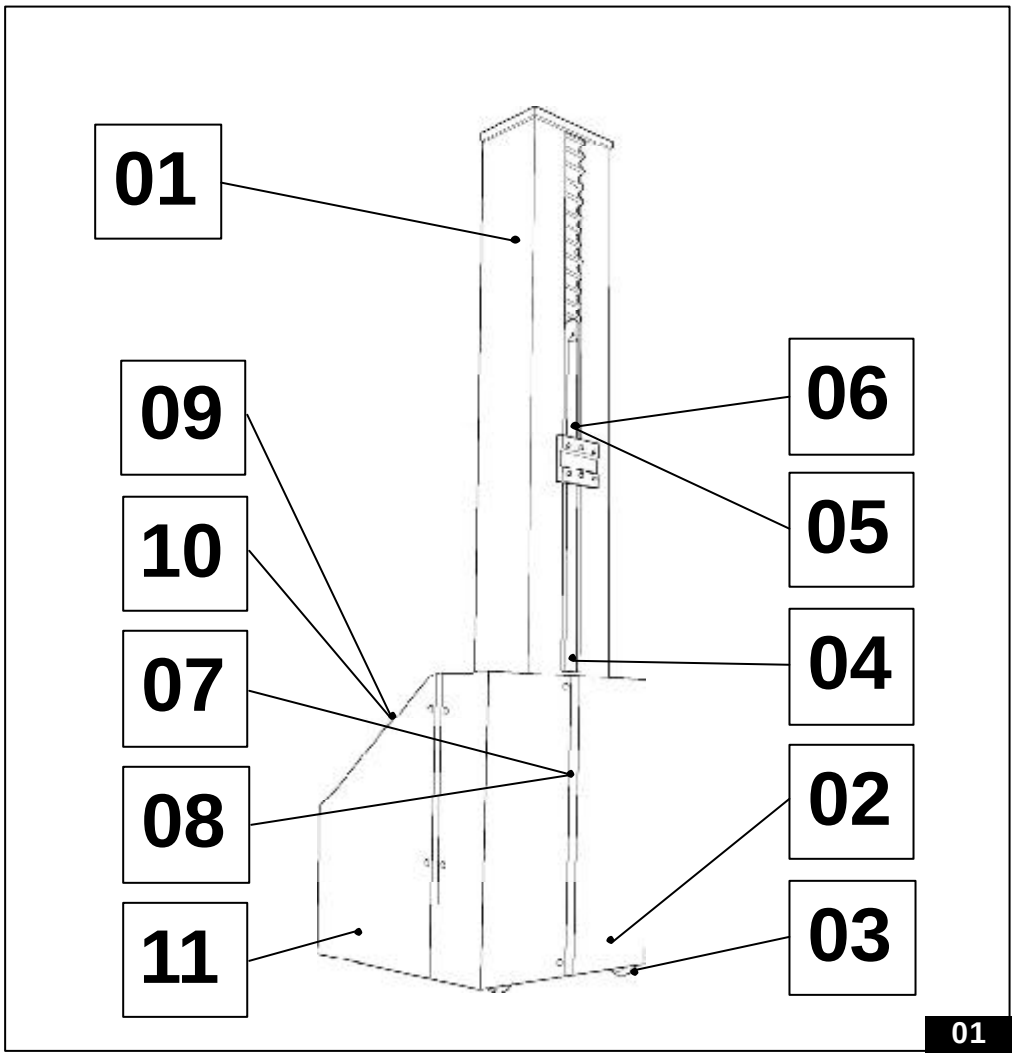
The speed adjustment occurs manually by operating on the handwheel of the variable-speed motor, located under the cover at the rear part of the machine; that allows a variable speed from a minimum of 10 to a maximum of 50 cycles/minute **0 1 (01)**.



01

Description

The oscillator HOS-V is a carbon steel self-supporting structure 0 1 **(01)**.
In order to help the positioning, the base 0 1 **(02)** of the machine is equipped with rotating wheels 0 1 **(03)**.
A special guide 0 1 **(04)** with self-cleaning profile, that slides between two pairs of anti-friction wheels 0 1 **(05)**, is fixed to the inner part of the structure.
The two sliding wheels are fixed on pivots 0 1 **(06)** integral with the machine structure.
Two wheels are concentric, while the other two are eccentric, so as to avoid the play adjustment between wheels and guide.
The movement is obtained via a system that turn the circular movement into linear movement; this system is constituted by an adjustment plate 0 1 **(07)** with a wheel 0 1 **(08)** on which the sliding guide is located 0 1 **(09).**
The position of this wheel can change, because the adjustment plate is endowed with holes with different distance between centres, where the threated pivot can be inserted; in this way it is possible to change the amplitude of the guide stroke.
The movement is guaranteed by a strong gear 0 1 **(09)** driven by an electric motor 0 1 **(10)** located at the basement and suitably protected by a safety guard 0 1 **(11)**.



01

3.1 Terminology used

- **SLIDING GUIDE:** movable part of the machine fitted to move the gun supporting-arm.
- **SLIDING WHEELS:** are assembled on pivots fixed to the structure of the machine through a plate, and the guide with the gun supporting-arm slides between them.
- **ARM:** part of the machine for fitting the spray gun
- **GUN:** apparatus not supplied by ***Nordson*** ® suitable for the praying of epoxidic powders or paints.

Nordson	**TECHNICAL DATA**	*REV.* 1.2

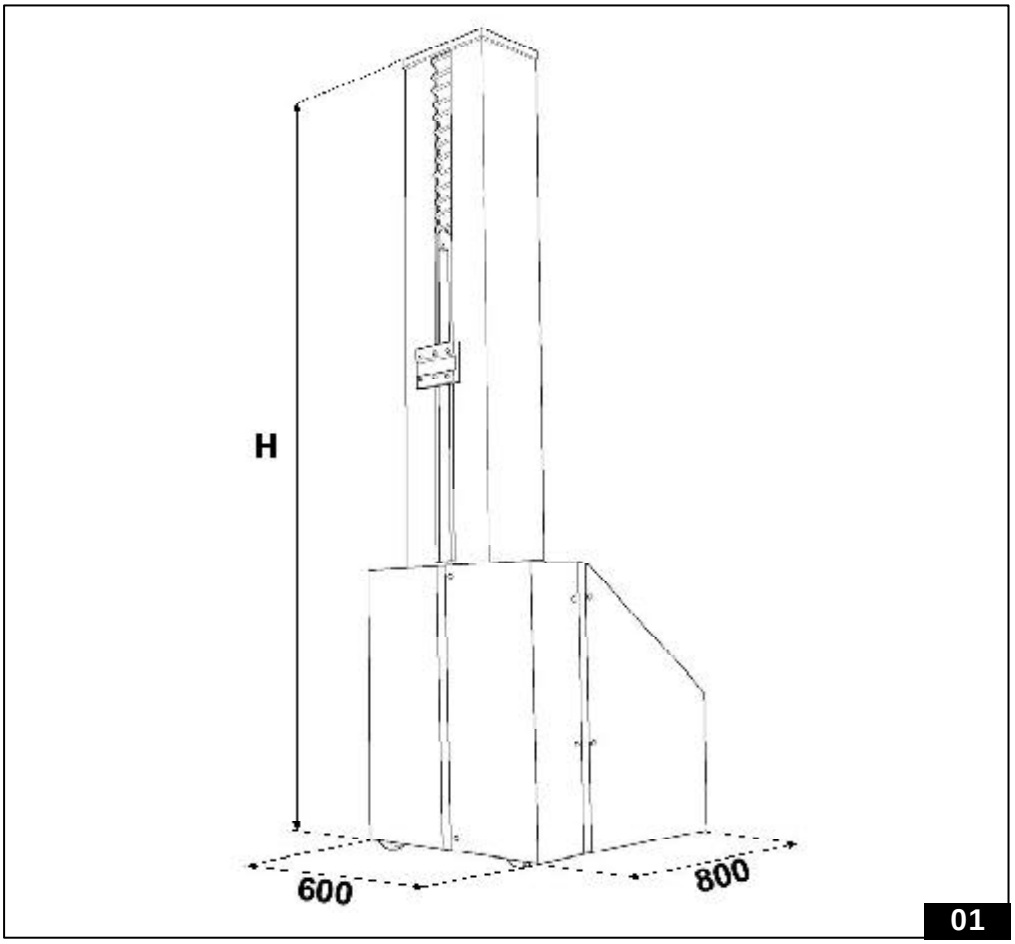
TITLE OF THE DOCUMENT : Operating and maintenance manual OSCILLATOR HOS-V

4.0 TECHNICAL DATA

Page1 to 3

CHAPTER 4.0 TECHNICAL DATA

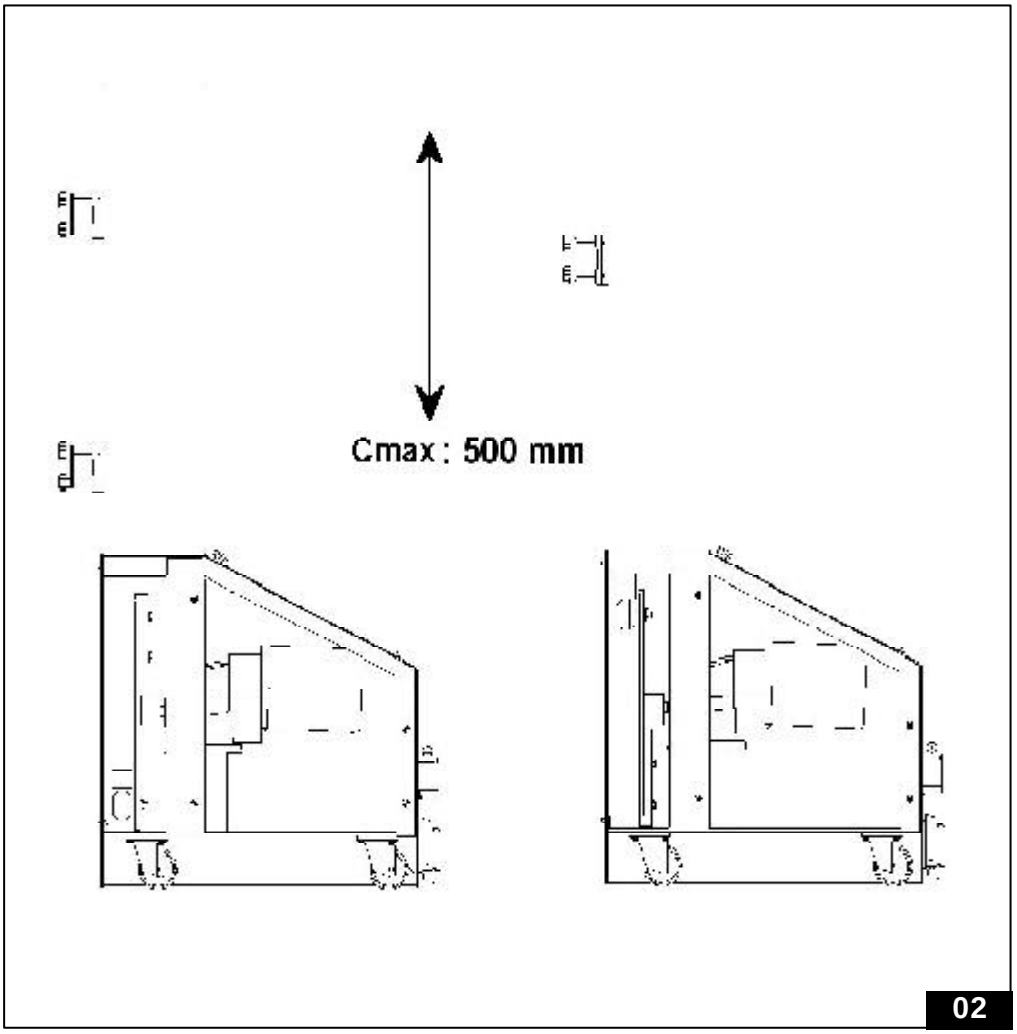
4.1 Weights and overall dimensions



D **ATTENTION :** It is forbidden to use the machine in the presence of explosive atmosphere.

STANDARD VERSION HOS	
TOTAL HEIGHT "H"	2350 mm
USEFUL STROKE	100 ÷ 500 mm - 20 step
DISTANCE FROM THE GROUND	900 mm
SPEED MIN.	10 cycles/1'
SPEED MAX.	50 cycles/1'
CAPACITY	40 Kg
TOTAL WEIGHT	240 Kg
NOISE	inferior to 70 dB
ABSORBED POWER	0,75 kW
POWER SUPPLY	230 V AC +/- 10% 3F 50 Hz (others on demand)

MOVEMENT GROUP -LATERAL VIEW : this figure shows the most important parts of the machine: the guide is located first in the lower and then in the upper end of stroke position. 02



02

	IDENTIFICATION OF THE MACHINE	REV. 1.2

TITLE OF THE DOCUMENT : Operating and maintenance manual OSCILLATOR HOS-V

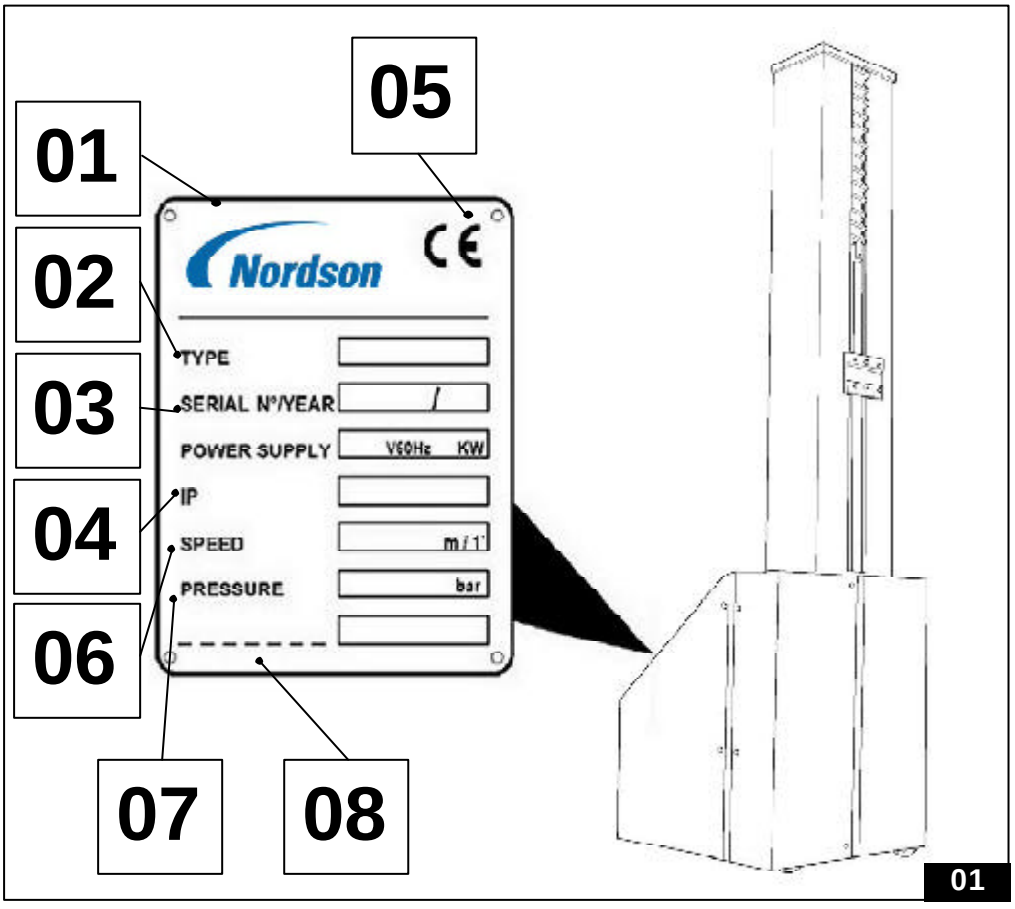
5.0 IDENTIFICATION OF THE MACHINE

CHAPTER 5.0 IDENTIFICATION OF THE MACHINE

5.0.1 - This manual contains the operating and maintenance instructions for the machine manufactured by ***Nordson***®.
The figure 01 shows the location of the identification plate of the machine, that specifies the following information:

- 01**(01)** Name of the manufacturer
- 01**(02)** Model
- 01**(03)** Serial No. and year of manufacture
- 01**(04)** Power supply
- 01**(05)** Certification mark
- 01**(06)** Protection level
- 01**(07)** Speed
- 01**(08)** Pressure (only for pneumatic releases)

D **ATTENTION :** the serial no. 01**(03)** on the plate must be mentioned whenever contacting the Manufacturer for information or spare parts.



01

5.0.2 - Copies of the plates **" ¡ MARK"**, applied to each machine, and the relevant **"DECLARATION OF CONFORMITY"** are attached.

5.0.3 - If the plate **CE MARKING** is accidentally damaged , removed from the machine or simply the manufacturer mark is removed, the customer must inform ***Nordson***®.

Nordson	FORESEEN AND NOT FORESEEN USE OF THE MACHINE	REV. 1.2

TITLE OF THE DOCUMENT : Operating and maintenance manual OSCILLATOR HOS-V

6.0 FORESEEN AND NOT FORESEEN USE OF THE MACHINE

Page1 to 2

CHAPTER 6.0 FORESEEN AND NOT FORESEEN USE OF THE MACHINE

The use of the **Oscillator HOS-V** is foreseen **exclusively** in automatic systems of spray-coating with thermosetting powders or paints.
It has been planned for automatic guns that perform vertical movements.

D **ATTENTION :** If this machine is an integral part of a plant , it is forbidden to start it unless the whole plant is in compliance with the **"Machine directive" 89/392 EEC** and those that follow.

The use of the machine must be carried out **exclusively** by staff that knows its work and have acknowledged all that is described on this manual.

D It is absolutely forbidden to use the machine for any use other than that for what it is intended unless a specific request has been made to ***Nordson***®.

The incorrect use of the machine could cause risks both to the operator and to the machine itself.

6.1 Residual risks

The normal automatic modality of the machine does not forsee risks, on condition that the whole plant, where the machine is integrated, is in compliance with the **"Machine directive" 89/392 CEE.**

The only residual risk is the possibility to reach the movable sliding vertical parts with the upper limbs.
This risk can occur only during the maintenance operations where the operator is close contact with the machine.
In any case the risk has been limited by using special protections and safety plates that inform and make the reaching of the dangerous zone difficult.

Nordson	**MOVING AND TRANSPORT**	*REV.* 1.2

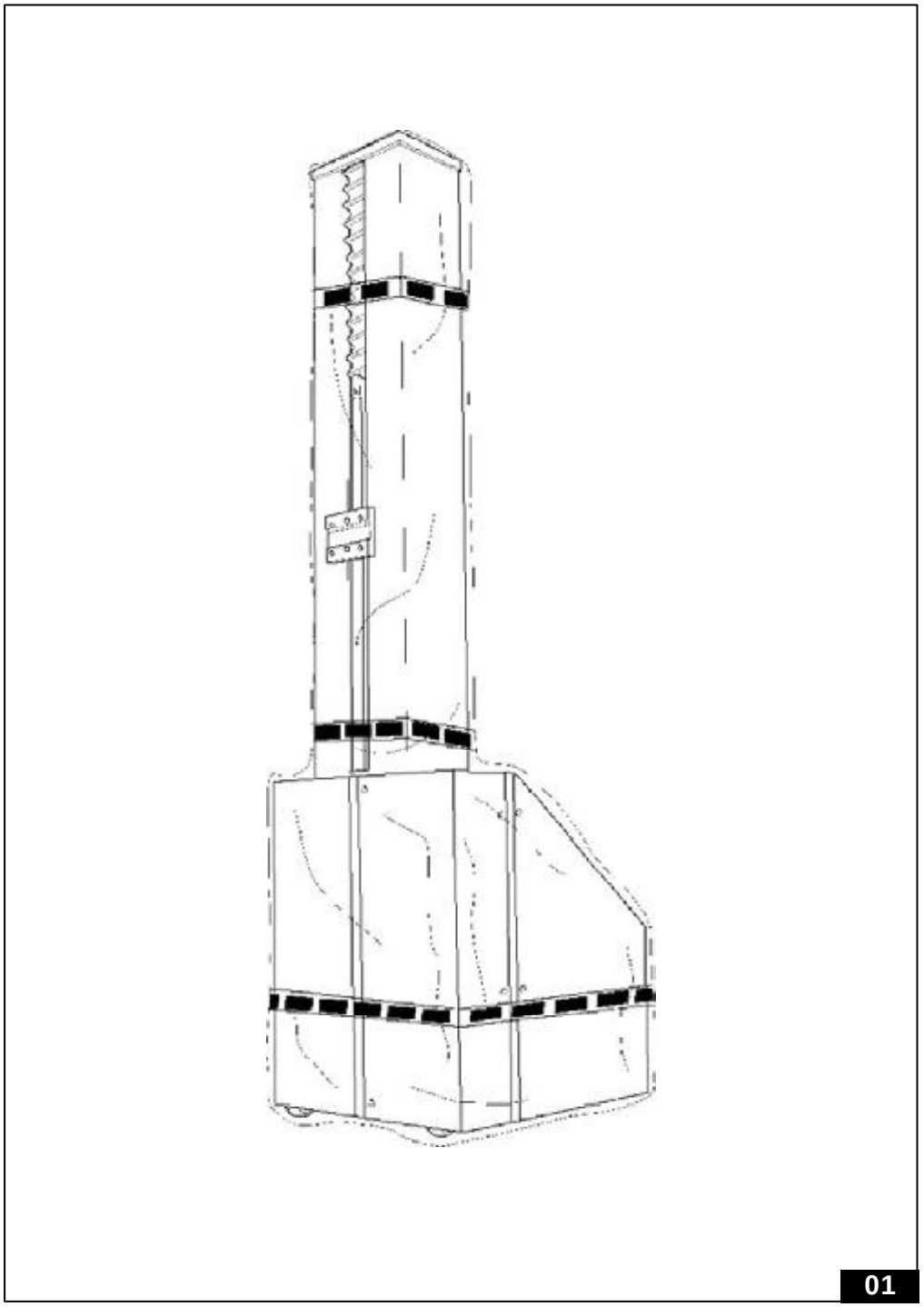
TITLE OF THE DOCUMENT: Operating and maintenance manual OSCILLATOR HOS-V

7.0 MOVING AND TRANSPORT

Page1 to 5

CHAPTER 7.0 MOVING AND TRANSPORT

The machine is normally sent completely wrapped up with Pluriball, but depending on distance and type of contractual agreements it may be also blocked to a pallets or in a crate.



01

7.1 Staff qualification

B 0 ; 3

During the movement and unloading from the means of transport qualified staff for the use of fork lift trucks, cranes or hoists should be used.

7.2 Equipment and means to use

D **ATTENTION:** Before carrying out any moving operations of the machine, make sure there is nobody in the proximity.

Use chains and ropes and make sure that their characteristics are compatible with the weight and the overall dimension of the machine to move and in accordance with the regulations in force.

ADVICE

- Slings must be in accordance with the regulations ISO 4878 - ISO 9351.
- Only use slings, if the label, indicating all manufacturer's data, is attached and the capacity is clearly shown.
- Check slings before each lifting.
- Do not used in case of damage, cuts or wear.
- Follow the load factors indicated for each standard configuration.
- Use suitable protections to lift loads with sharp corners.
- Do not twist or knot the belt.
- Follow the instructions for use indicated by the supplier.
- Hook the other ends of the slings on to the hook of the lifting machineries.

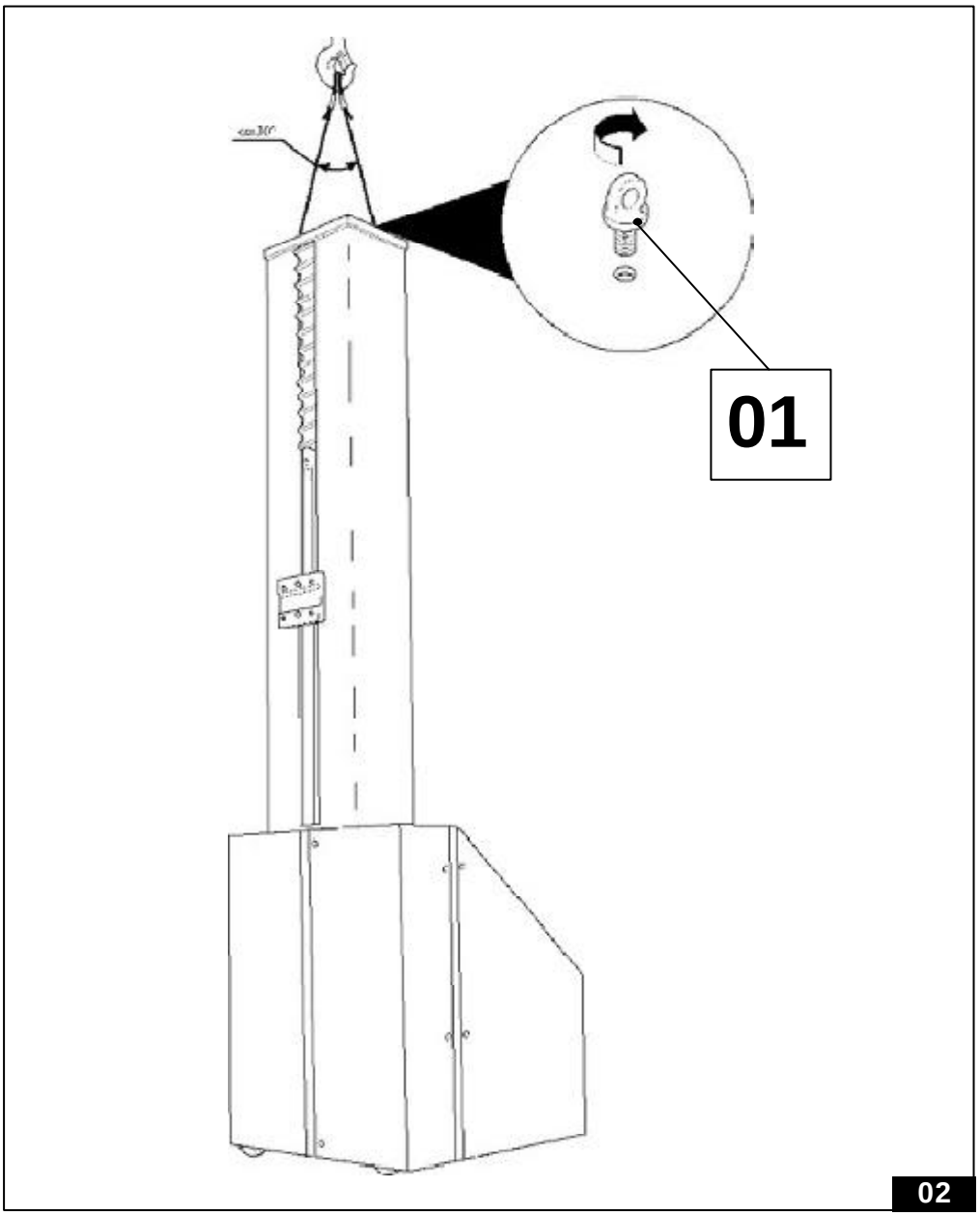
7.3 Advice about lifting

Depending on transport conditions, the reciprocator by ***Nordson*** ® can be moved by lifting with ropes or fork lift trucks.

7.3.1 Lifting with ropes

A 0 3

Place the special lifting eyebolts 0 2 **(01)** in the special hooking points as indicated in figure 0 2 using two ropes, with maximum corner α equal to 30° and rope characteristics adapted to the lifting of loads indicated.

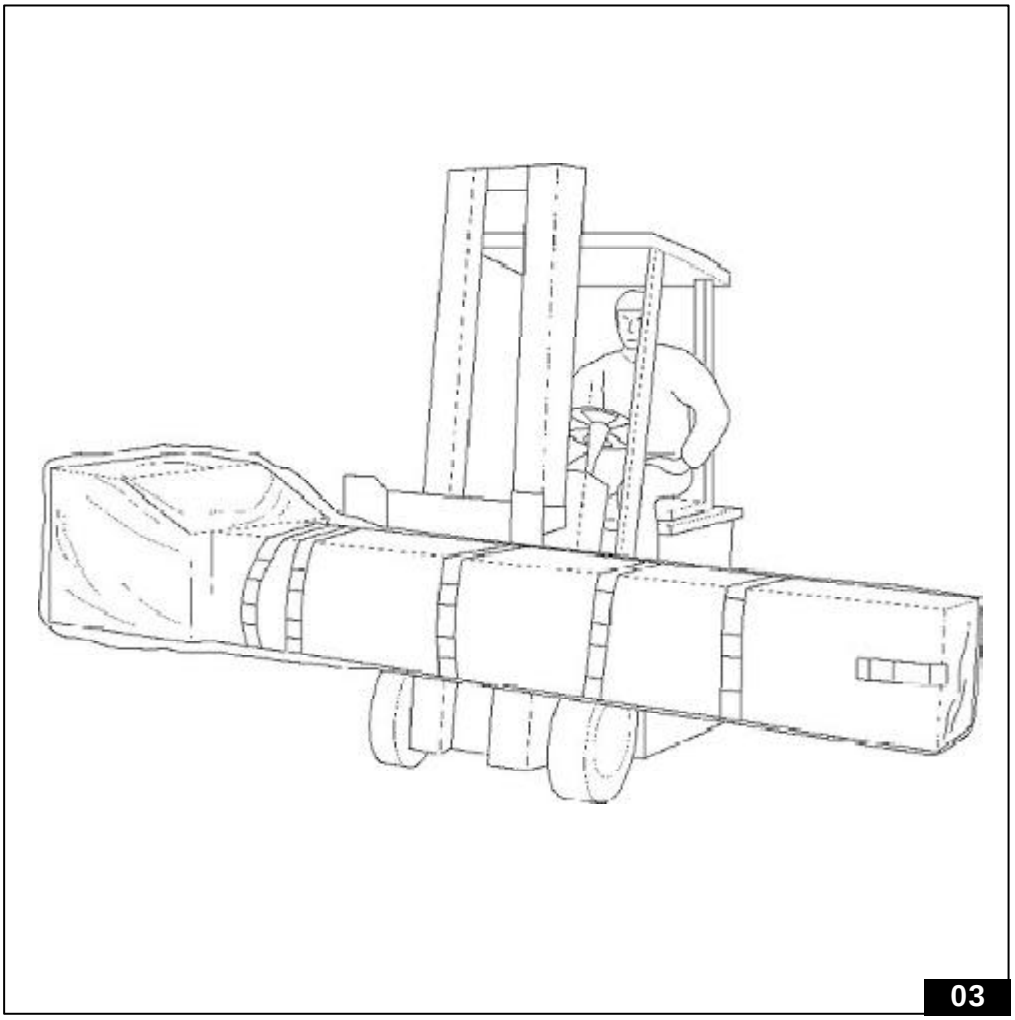


02

7.3.2 Lifting with machines

A 0 3

If the oscillator by ***Nordson***® is moved horizontally, it is necessary to lay it down on the forks of the forklift truck paying attention to position the spray coupler facing down as in figure **0 3**.
During the positioning on the fork, pay attention not to damage the bellows.



03

7.4 Storage conditions

If the machine has already been installed and a storage period, during which the machine will not be used, is necessary, all precautions must be taken to avoid contact with dust dirt, humidity and all moving mechanical parts that are prone to rust must be covered with a layer of grease. If the machine has to be moved, wrap it up with Pluriball and follow the previous procedures in order to move it.

7.5 Checking the machine

When unpacking the machine, check immediately that during transport none of the parts have been damaged.

Any damage to the machine, loss of additional or supplied parts must be communicated immediately to ***Nordson***®**.**

Nordson	**MACHINE INSTALLATION**	*REV.* 1.2

TITLE OF THE DOCUMENT: Operating and maintenance manual OSCILLATOR HOS-V

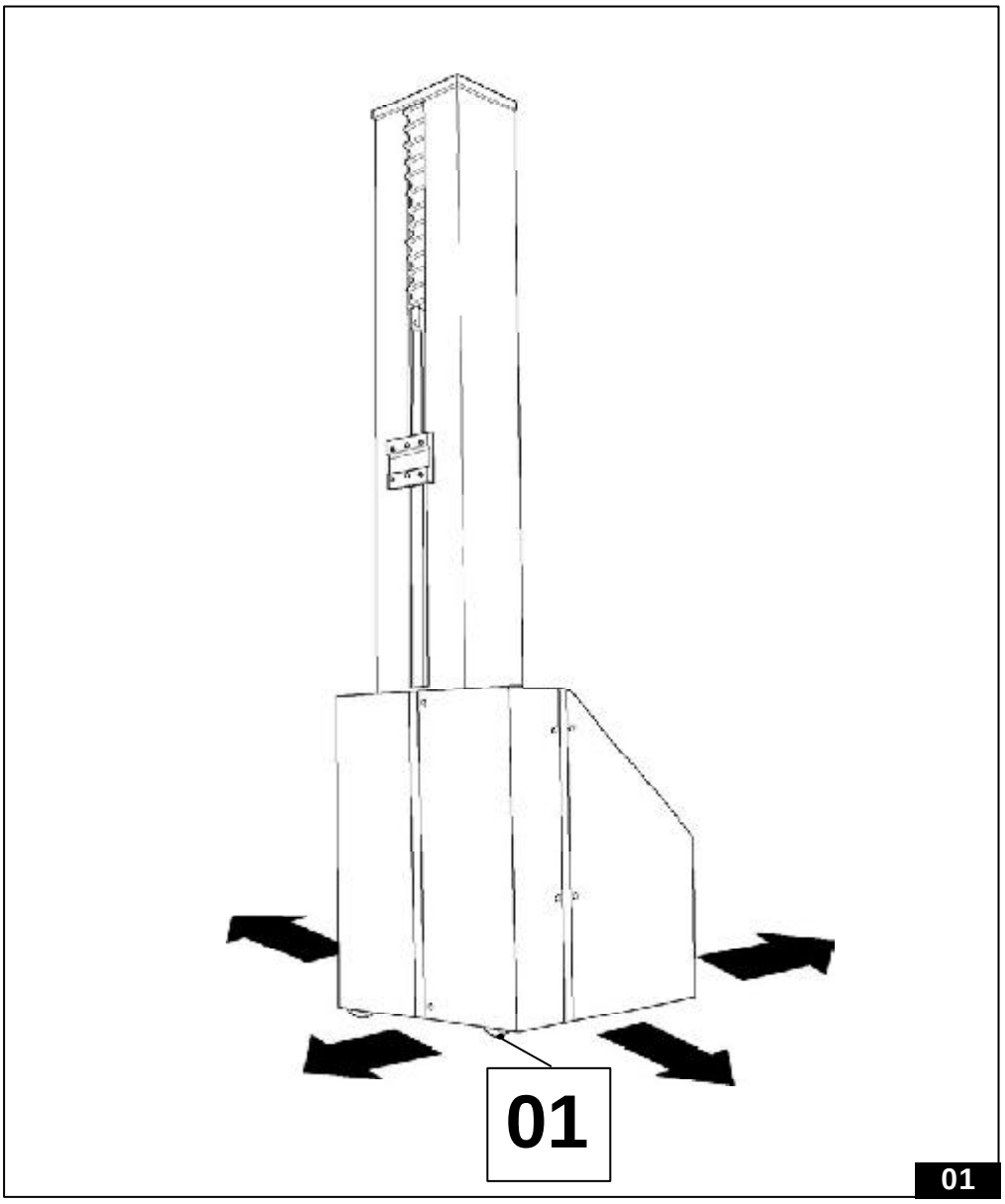
8.0 MACHINE INSTALLATION

Page1 to 4

CHAPTER 8.0 MACHINE INSTALLATION

There is no particular advice or precautions to take during the installation of the machine that can be placed on a normal floor.

To place the machine in a paint plant, it is sufficient to let it slide on the wheels **01 (01),** of the base, up to the required position. Further operations are not necessary.



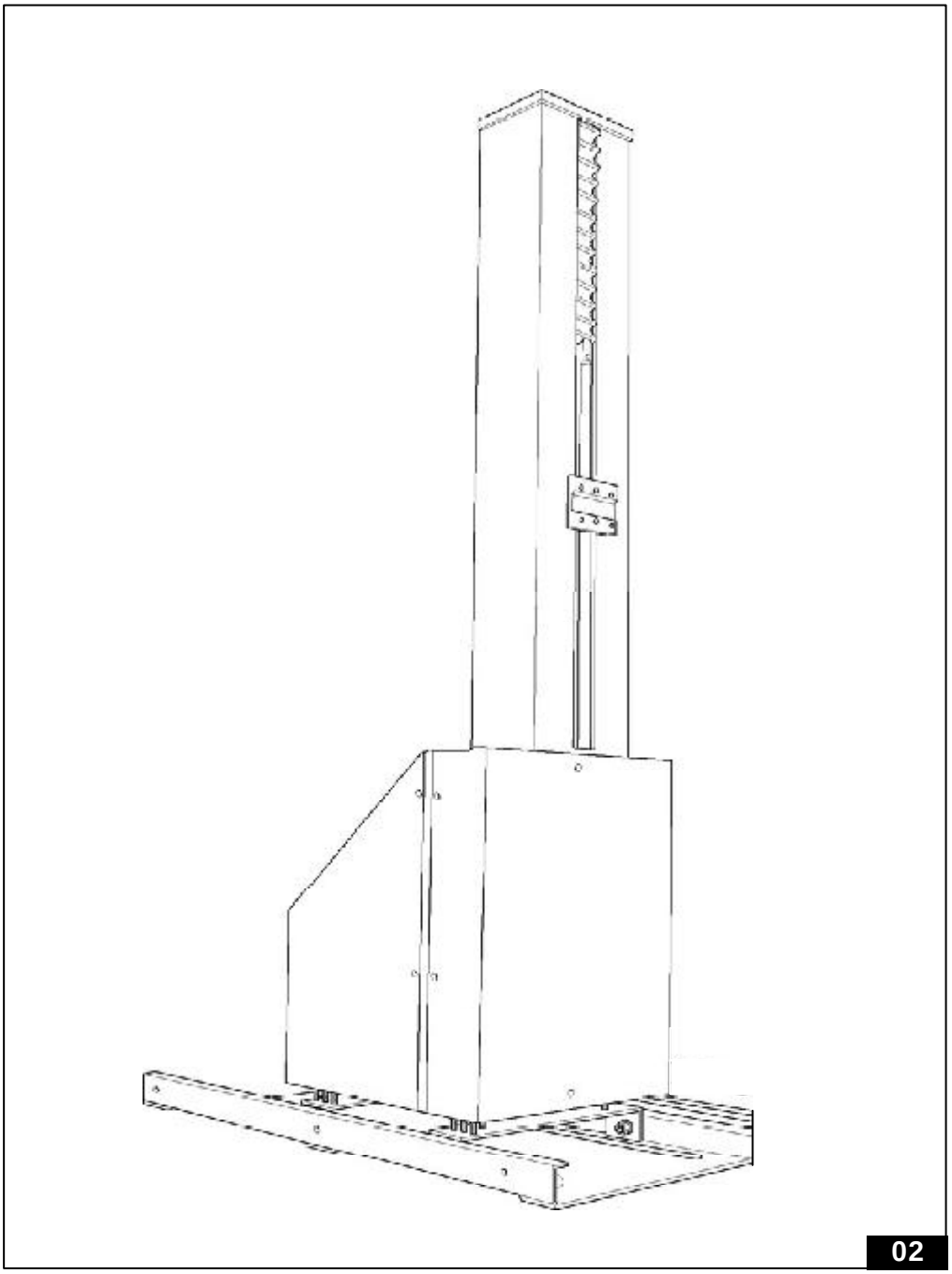
01

The oscillator can be provided with special wheels, fitted to use the machine with the manual base HBA. 0 2

In this case, the oscillator can slide only along tracks with a "C" profile of the manual base.

This disposition is often used to move the oscillator from the working position (in the spray booth) to the rest position, where both cleaning and dispenser maintenance/ replacing are carried out .

Regarding the assembly and the further information about the manual base refer to the specific manual.



02

8.1 Environmental conditions

The machine can work with the following environmental and climatic conditions:

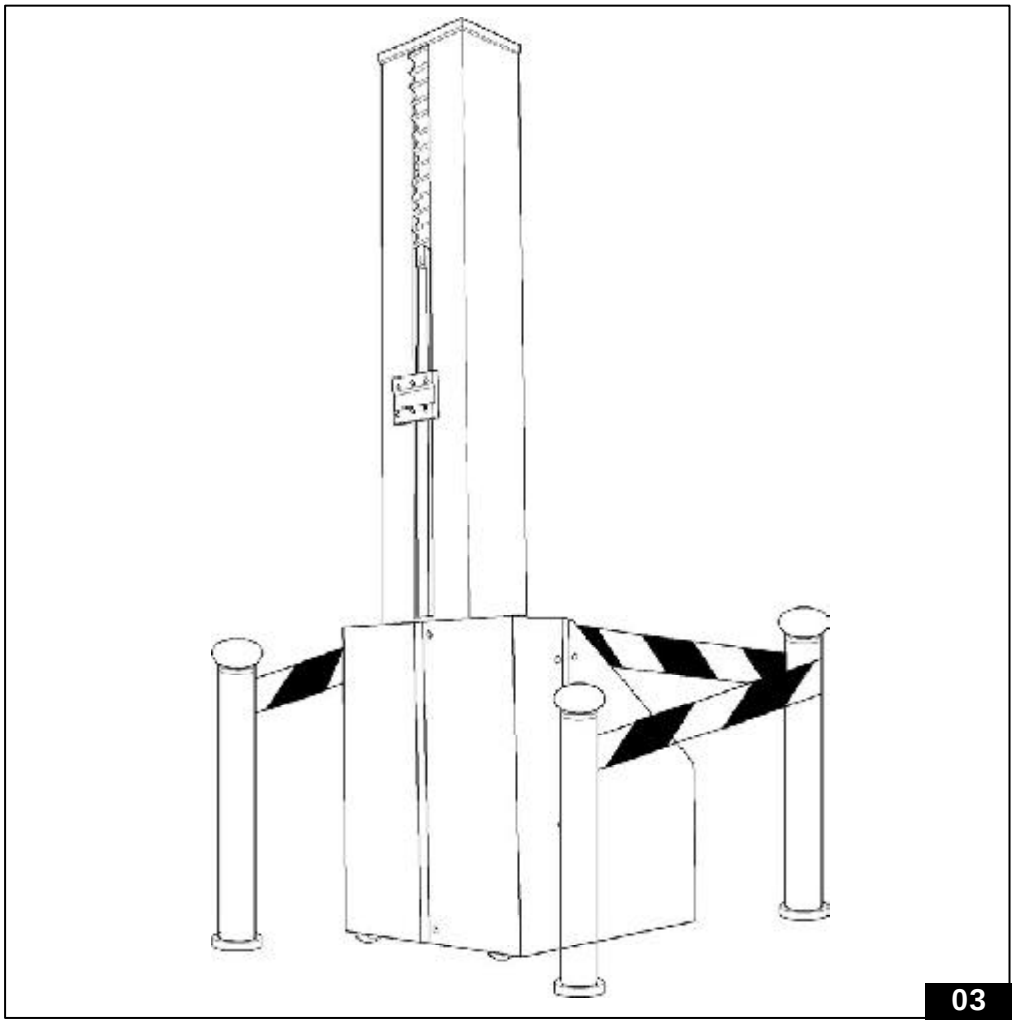
- Environmental luminosity **min.300 Lux.**
- Environmental temperature **+5°/+40° C**
- Relative humidity maximum **50%** at **40° C**
- Relative humidity maximum **90%** at **20° C**

D **ATTENTION :** It is forbidden to use the machine in explosive atmospheres.

D **ATTENTION :** In case of use in explosive atmospheres, it is possible to supply the version with a flameproof motor.

8.2 Need of free spaces

D **ATTENTION :** When the reciprocator is positioned, it is necessary to define the area, where the moving parts (gun supporting arm) have their range, according to the EEC laws regarding the security on working stations 0 3



03

Nordson	SETTING UP THE MACHINE	REV. 1.2

TITLE OF THE DOCUMENT: Operating and maintenance manual OSCILLATOR HOS-V

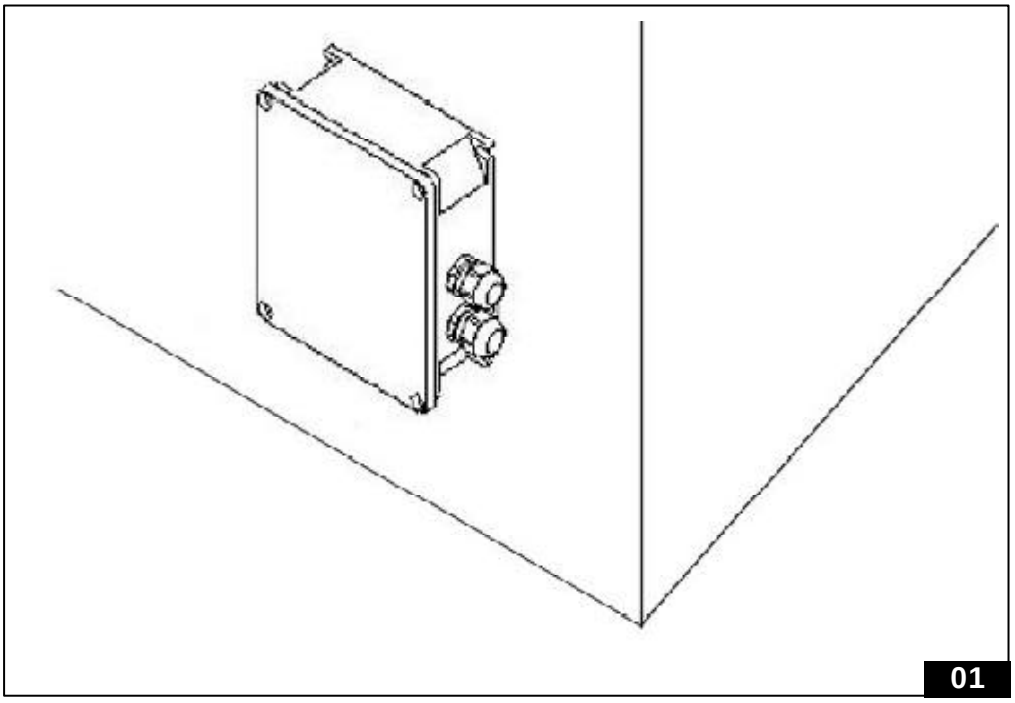
9.0 SETTING UP THE MACHINE

Page1 to 6

CHAPTER 9.0 SETTING UP THE MACHINE

9.1 Connection of the oscillator to the control module

C Connect the machine with the control module, by using the cables already connected to the junction box located on the side of the motor gear 0 1
The ON/OFF command of the oscillator mod. HOS-V must be predisposed according to the following instructions:



01

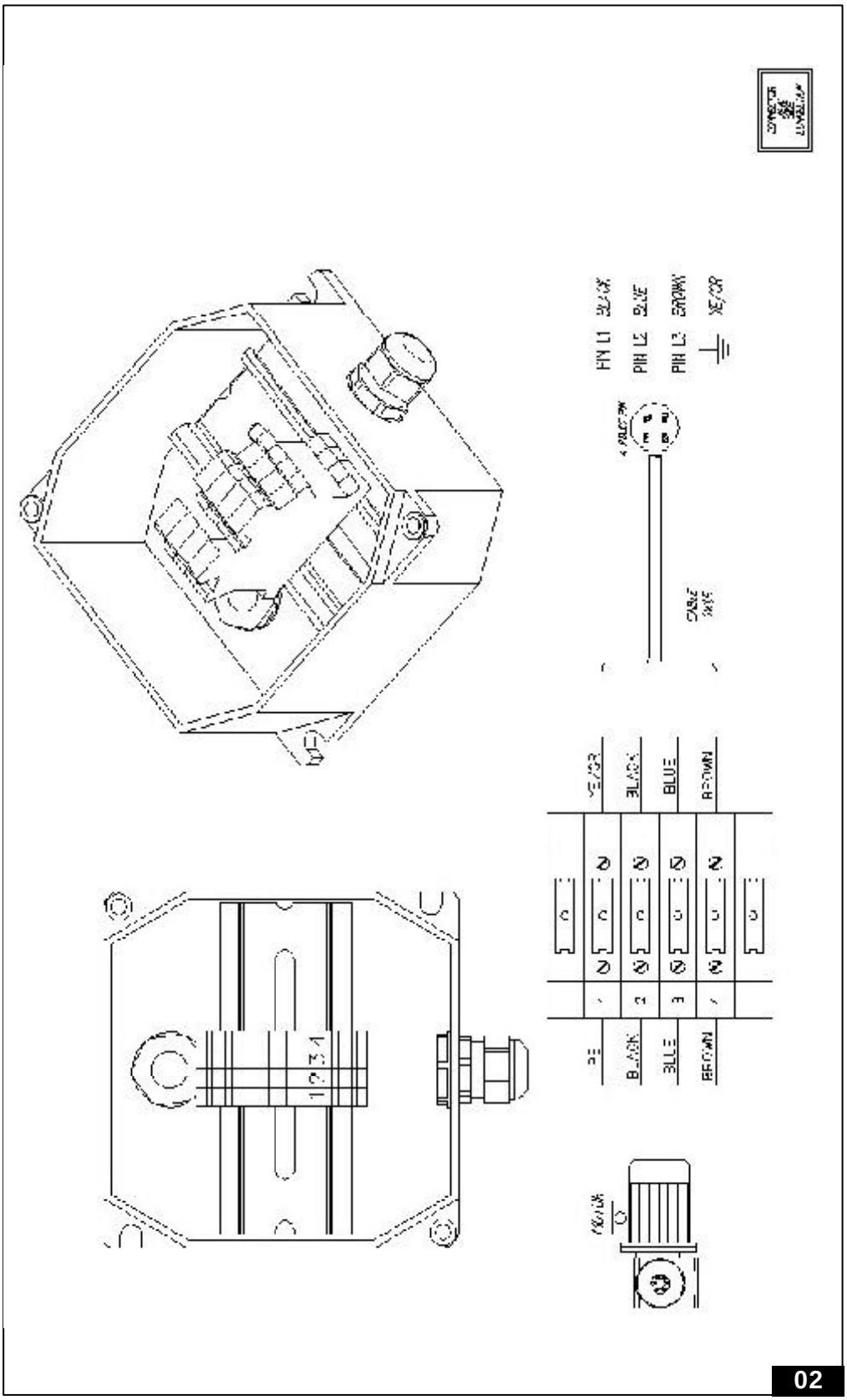
D **ATTENTION:** the oscillator mod. HOS-V needs the following power supply:

400V 3F 50HZ 0,75KW

D **N.B.** Follow the regulations in force regarding the electrical motors protections.

For any other kind of application, contact the ***Nordson*** ® technical office in advance.

Electrical connection of the machine

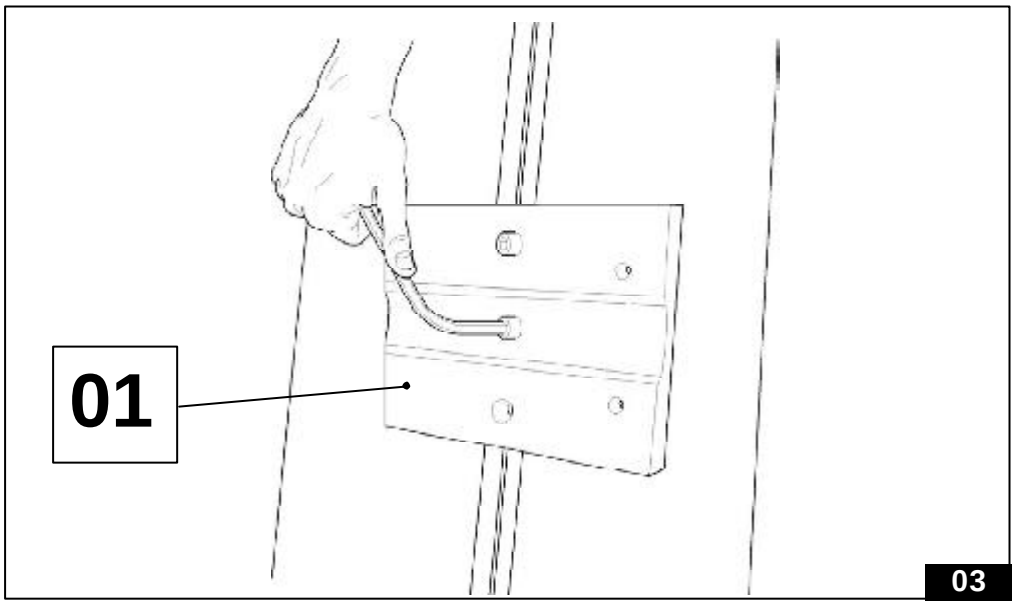


9.2.1 Assembly of dispenser supports

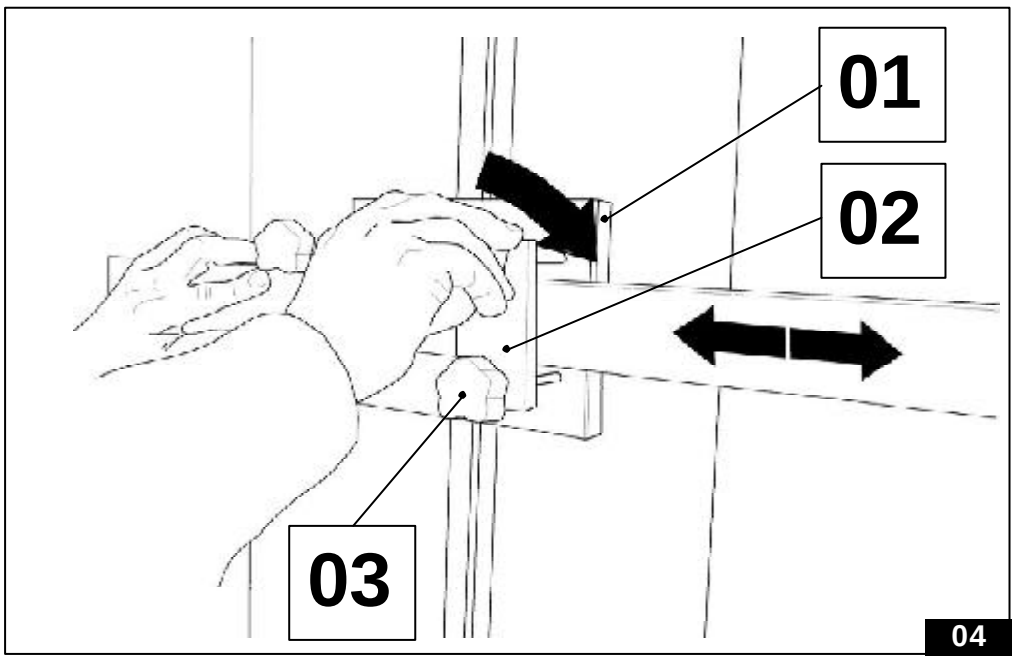
C 4 ; 3

An attachment is located on the oscillator for fitting the gun supporting-arm.
To assemble do as follows:

- Assemble the plate 0 3 **(01)** on the special support using a setscrew wrench No. 6.



- Position the two stopper plates 0 4 **(02)** fixing them to the plate 0 4 **(01)** with the special knob screws 0 4 **(03)**, then insert the gun and tighten the knob screws, at the same time setting the arm at the required distance.

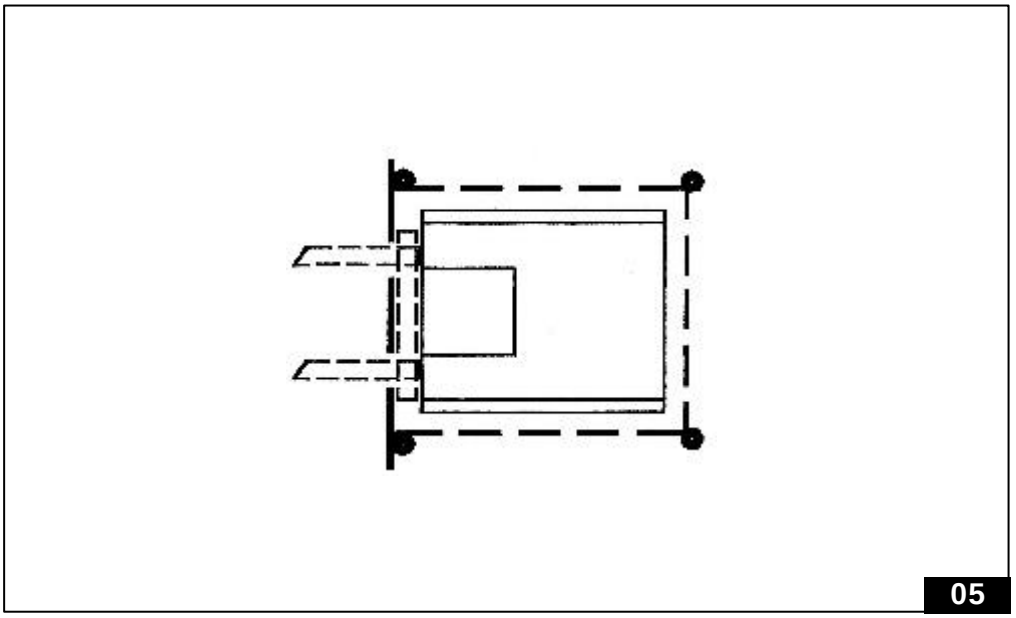


D **ATTENTION:** The oscillator HOS-V has a maximum capacity of 40 kg, this value reduces depending on the position; to determine the correct position see chapter 9.2.2 "Machine balancing".

D **ATTENTION: The arms must be earthed.**

Examples of assembly/use of gun supporting arm are now shown.

■ **Example n°1**

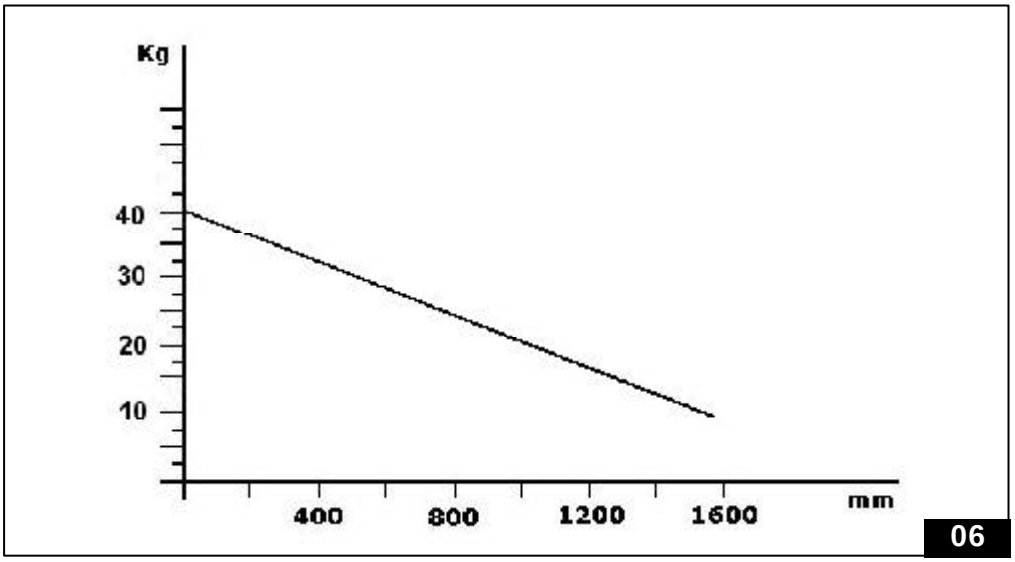


05

9.2.2 Machine balancing

C 4 ; 3

The oscillator HOS by ***Nordson***® can support a maximum capacity of 40 kg, this value reduces depending on the position of the gun supports as indicated in the graph in fig 06.
The machine is supplied, if agreed in the order, already balanced.
In case of no specification the standard configuration is with 2 counterweights (total weight 7 Kg), further additions will be agreed upon with ***Nordson***®.



06

	BEFORE START UP	REV. 1.2

TITLE OF THE DOCUMENT : Operating and maintenance manual OSCILLATOR HOS-V

10.0 BEFORE START UP

Page1 to 3

CHAPTER 10.0 BEFORE START UP

When starting the machine no particular preparatory procedures are necessary because the machine is tested and adjusted in all its functions by ***Nordson***®.

10.1 Staff qualification

The operator of the machine, before carrying out any kind of productive cycle, must know all the information, shown in this technical manual about the machine.

10.2 Foreseen control positions

The machine has been projected to be commanded and controlled in all its functions by one operator only.

The foreseen working position is in front of the control panel, integrated in the control system of the plant, from where the operator can verify the correct working of the plant.

10.3 Control boards

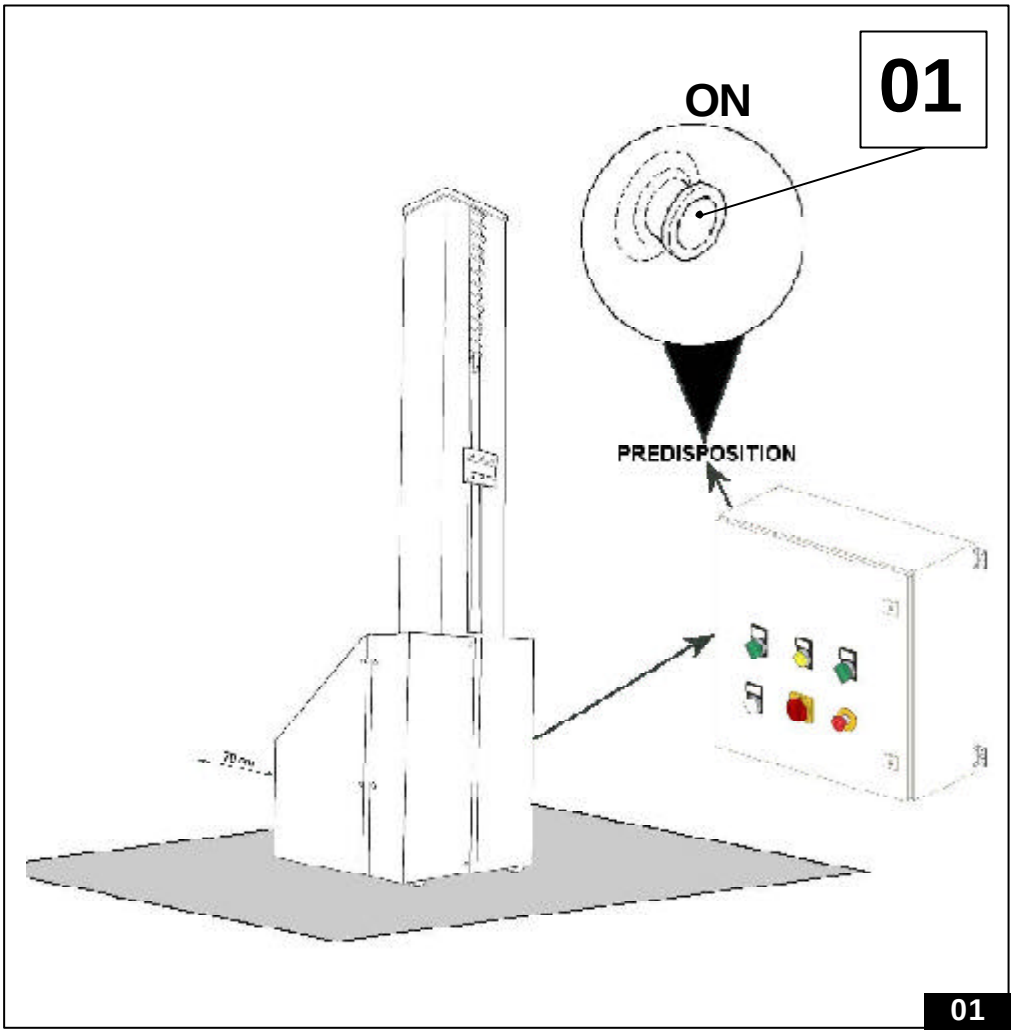
The **Oscillator** by ***Nordson***® is projected to be connected to the proper control module.

For the descriptions of modules see chapter 9.1.

10.4 Stop-commands and their placing

In case of danger, failure or any emergencies it is necessary to press the **EMERGENCY STOP** push button **0 1 (01)** common to the whole plant.

D To reset press the **EMERGENCY** push button, with rotating it.



Nordson	**USE OF THE MACHINE**	*REV.* 1.2

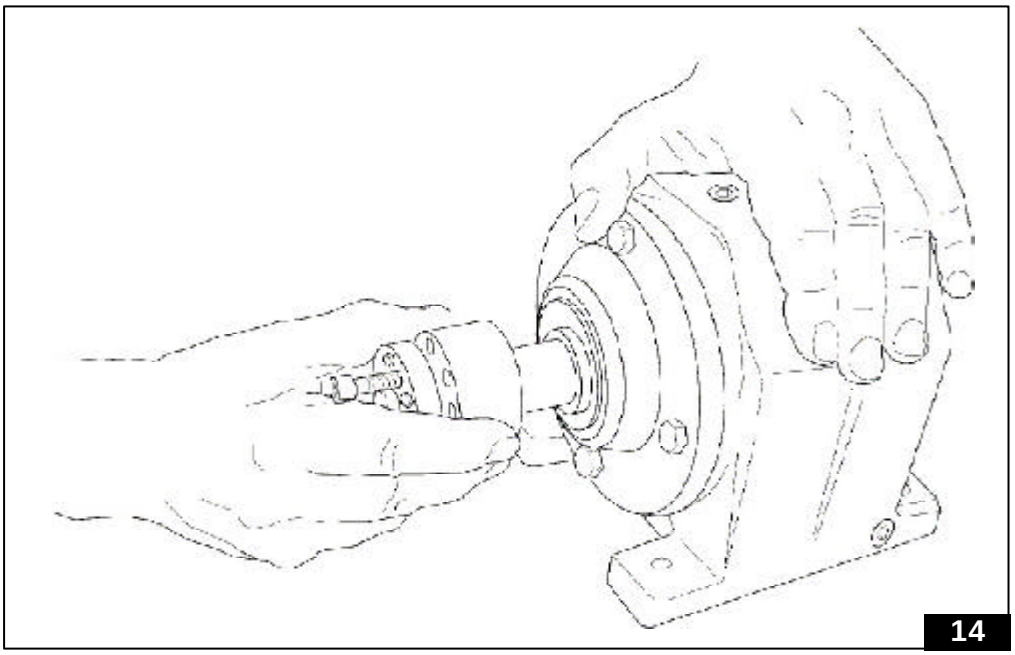
TITLE OF THE DOCUMENT: Operating and maintenance manual OSCILLATOR HOS-V

11.0 USE OF THE MACHINE

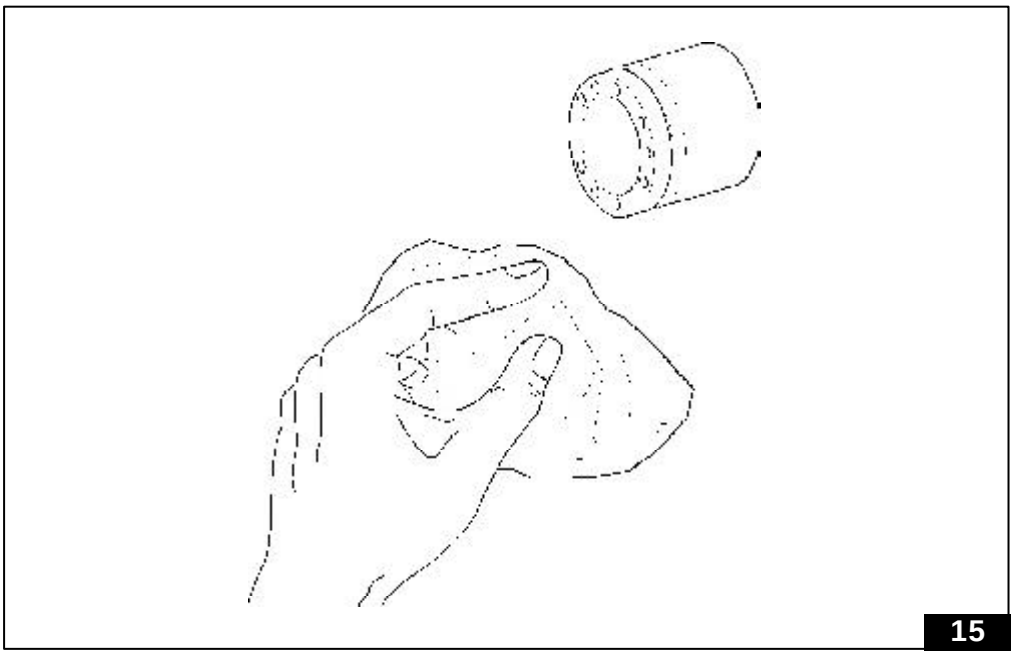
CHAPTER 11.0 USE OF THE MACHINE

D **For a correct use and programming, see the present operating manual.**

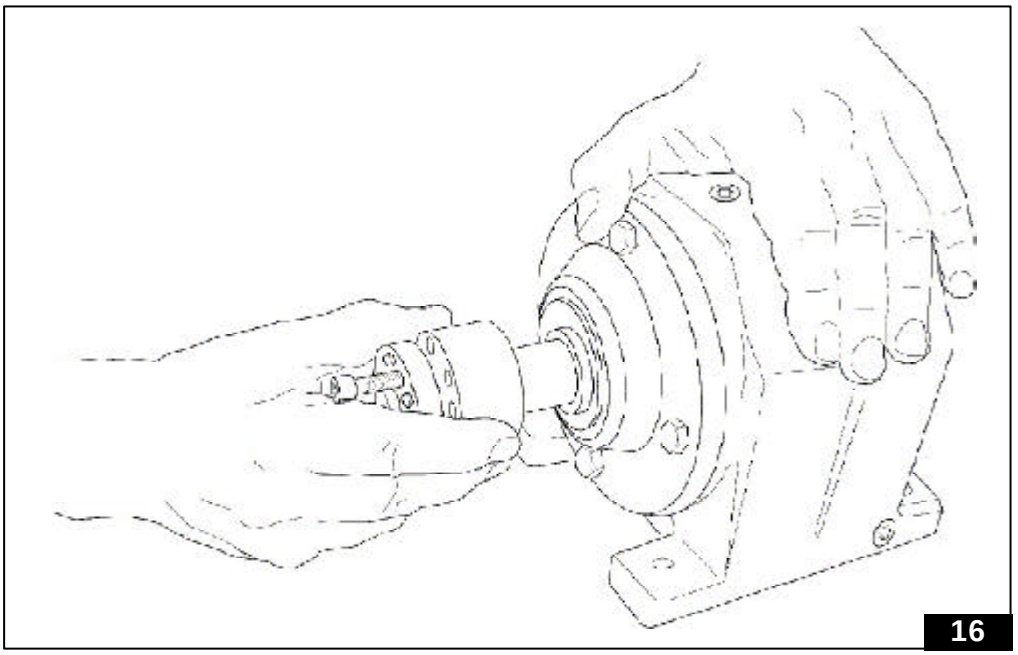
- Unscrew the screws from the threated holes of the ring block. 14



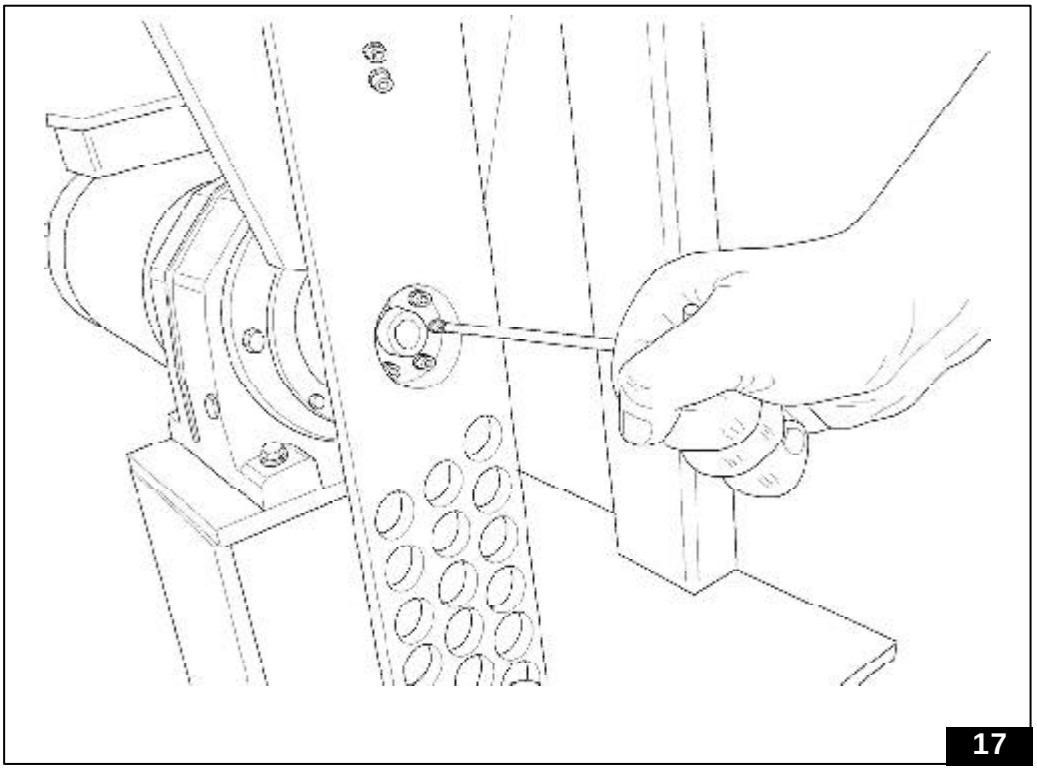
- Clean the ring block with a cloth. 15



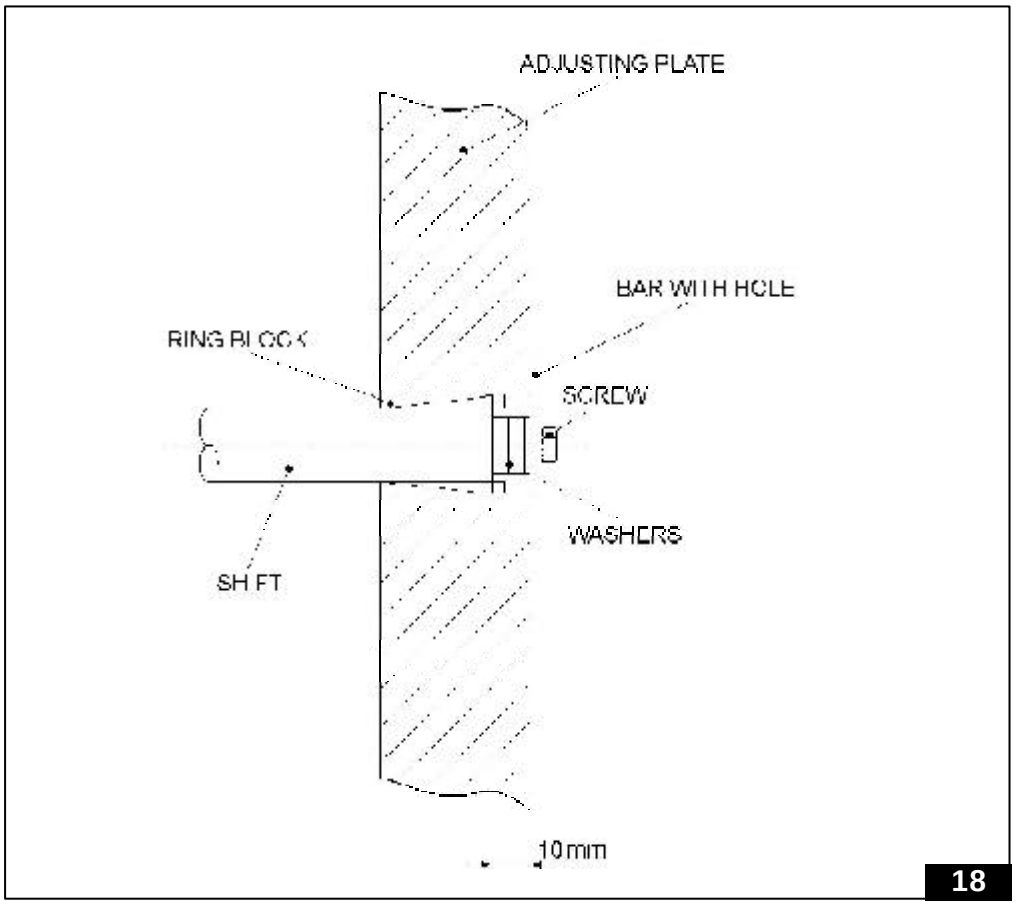
- Retighten, without closing, the screws, on the new gear motor, in the first position and insert the ring block on the shift. 16



- Place the pulley on the driving shaft, then tighten the clamping screws of the ring block, cross ways. The screws should be tightened to 1,7 Kg. 17



NB: to insert correctly the pulley on the ring block assembled on the driving shaft of the motor-gear, it is necessary to respect the distance between the hub of the pulley and the surface of the shaft shown in figure 18.



18

To carry out this operation a certain number of washes of suitable size must be inserted inside the hole of the ring block to act as a spacer equal to the distance between the shaft and the hub of the pulley.
Using a screw (with a thread equal to that of the hole in the gear shaft) and a metal bar with the necessary holes as shown in the drawing, it is possible to keep the pulley in position during the tightening of the screws in the ring block.

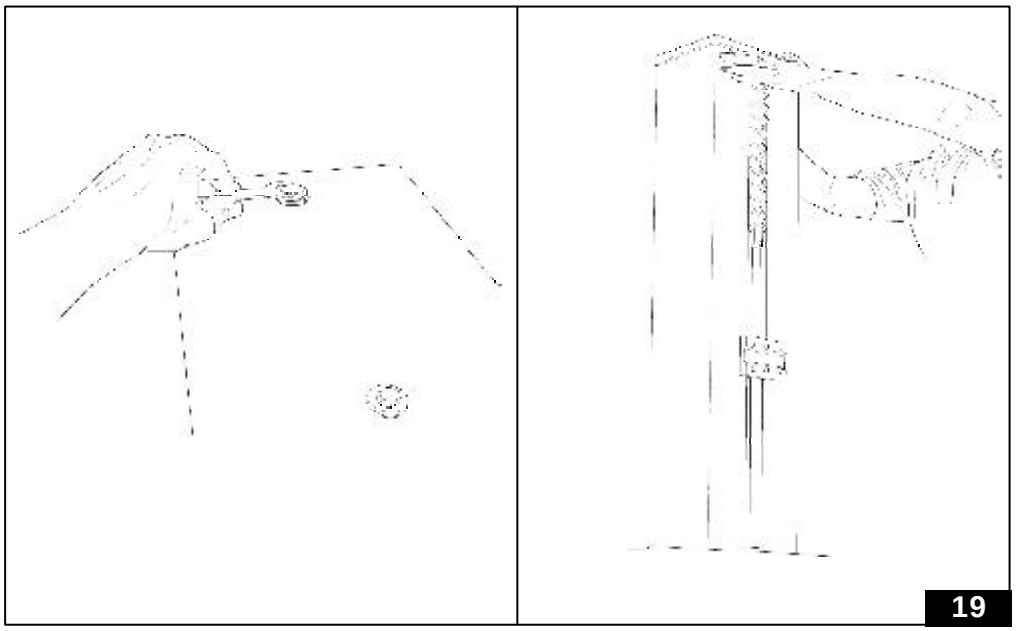
- Re-establish the electric connections and close the rear and the front safety guards.

12.7 Sliding wheels adjustment

B 4 ; 3

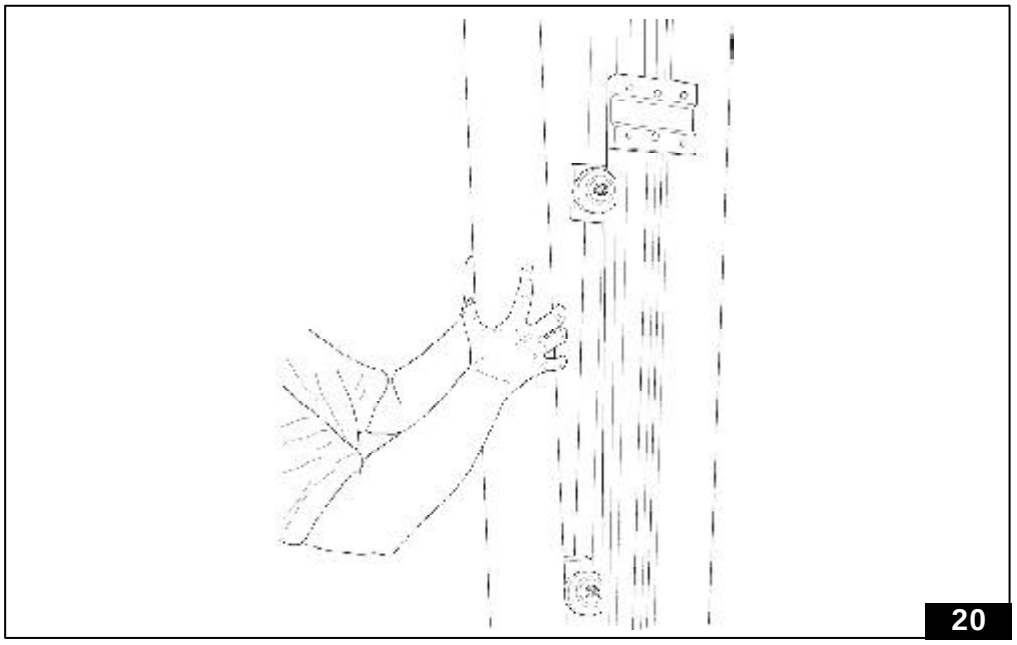
To adjust the sliding wheels of the movable guide, do as follows:

- Turn off the power supply to the machine.
- Remove safety guard of the base.
- With an adjusting wrench Nr. 13 unscrew the screws that block the upper cover, and remove it, by lifting it. 19



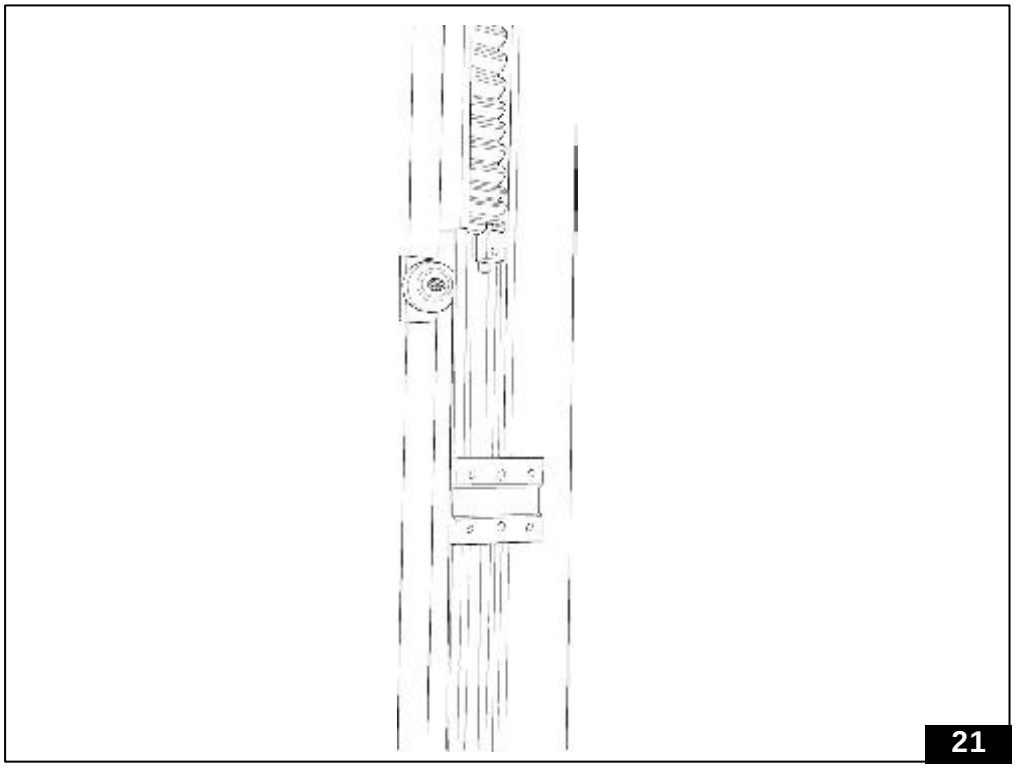
19

- Remove the two lateral safety guards of the upper side of the machine and lift them up. 20



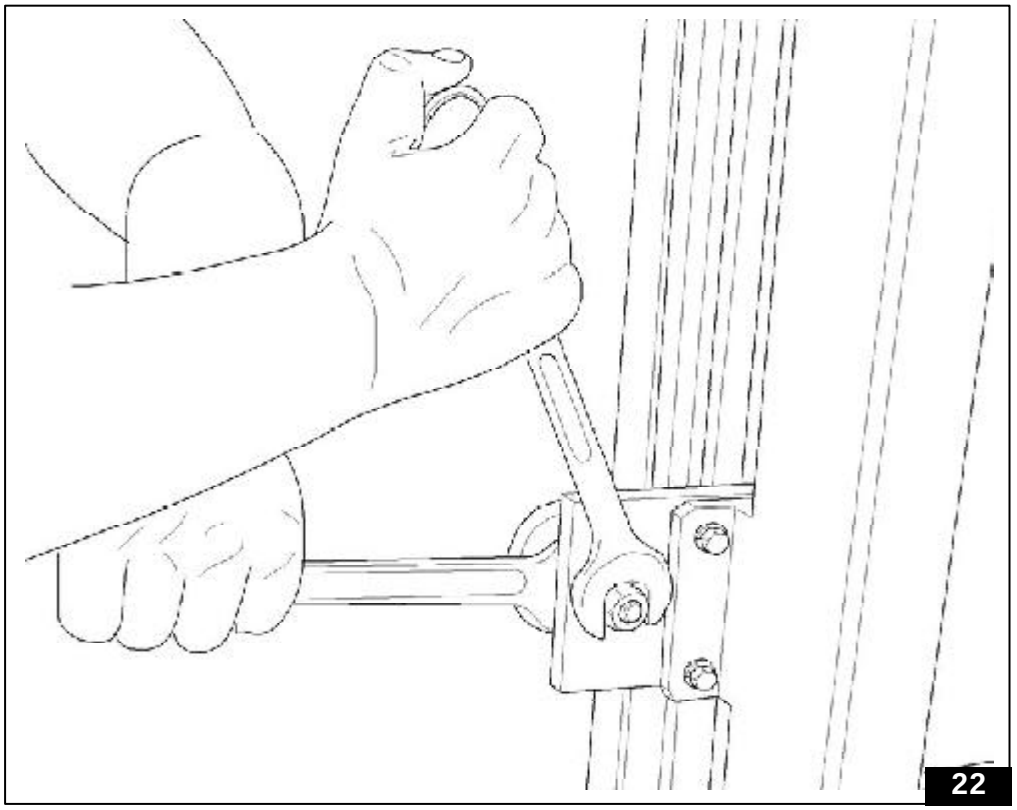
20

- Once the safety guards are removed, it is possible to adjust the eccentric wheels. 2 1



21

- Unloosen the nut (Nr. 24) that blocks the eccentric pivot of the wheel, holding the pivot with a spanner Nr. 30. 2 2

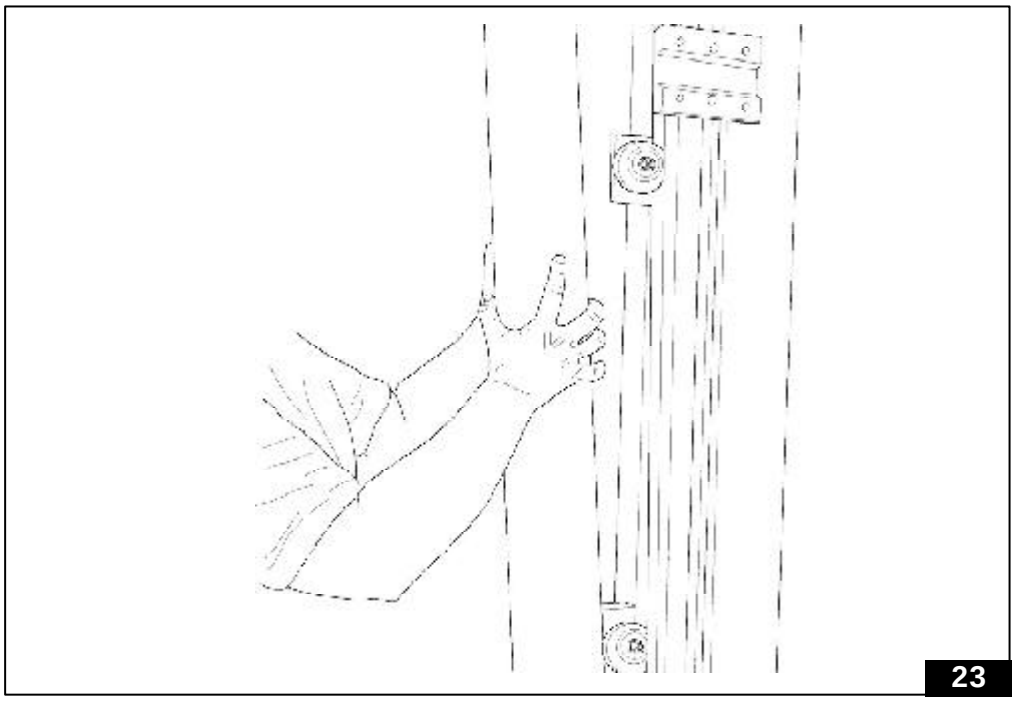


22

D **ATTENTION:** It is important that there is no play between the wheels and the guide but at the same time the wheel must not be blocked.

- Adjust the position of the eccentric pivot so as to create a certain friction between the wheels and the guide.

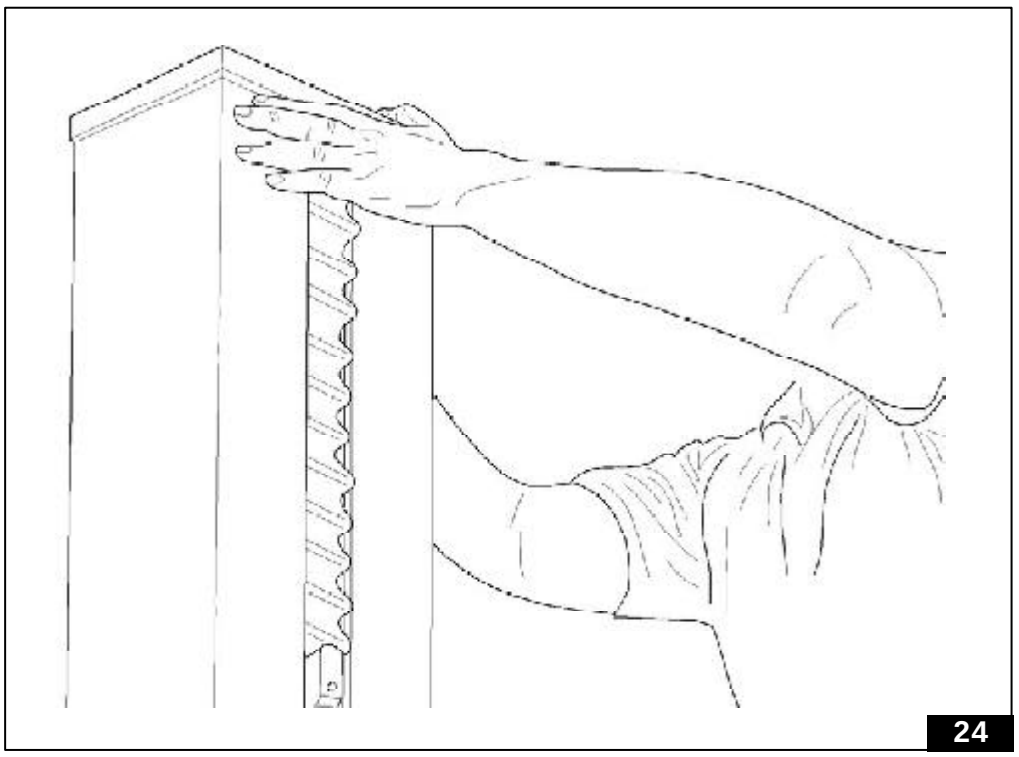
- When finished, hold the eccentric pivot with a spanner Nr. 30, in order to tighten the lock nut with the spanner Nr. 24; than reassemble the two safety guards of the upper side. 23



23

D **ATTENTION:** Avoid excessive loads on the wheels so as to damage the surface.

- Block the safety guard fixing the upper cover. 24
  Reassemble the two front safety guards of the basement.



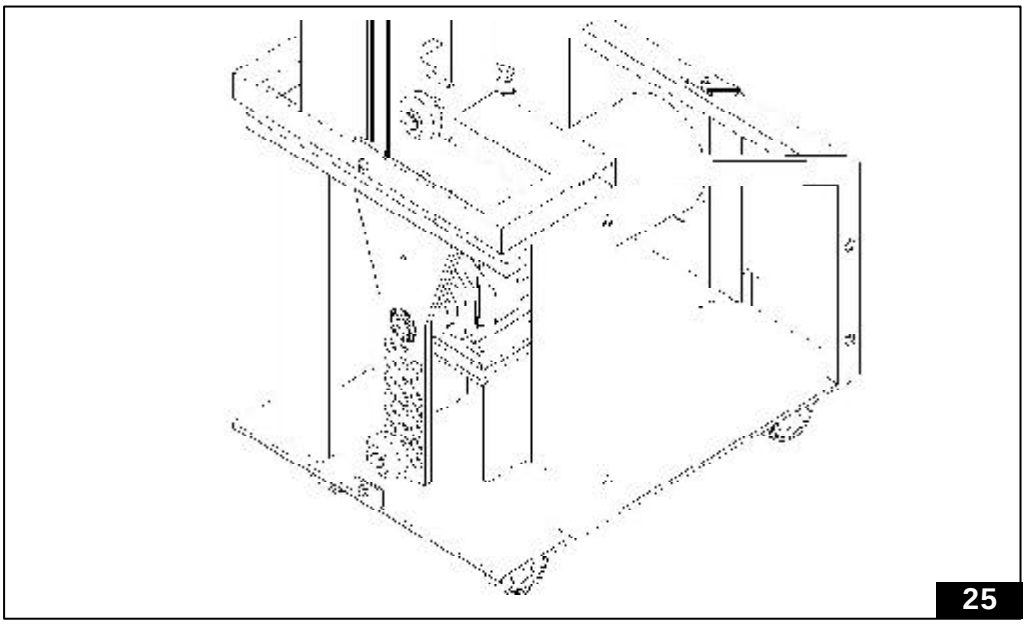
24

12.8 Sliding wheels replacement

B 4 ; 3

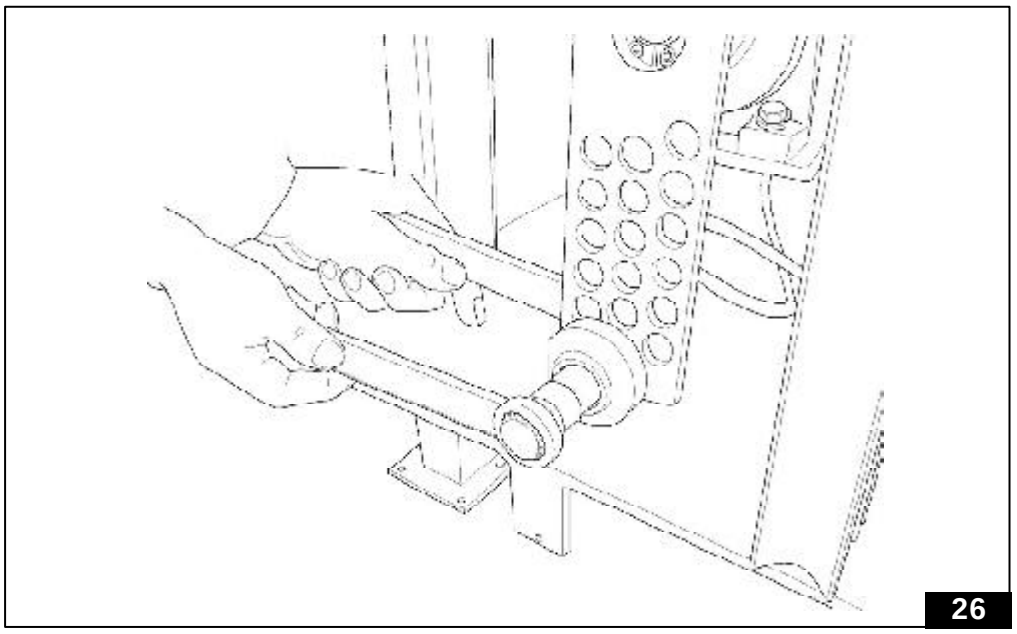
To replace the sliding wheels of the movable guide, do as follows:

- Turn off the power supply to the machine.
- Remove the safety guards of the base, and those of the column (after having unloosened the fixing screws of the upper cover), as described on the paragraph "sliding wheels adjustment".
- Position the guide up, and block it through a staff. 25



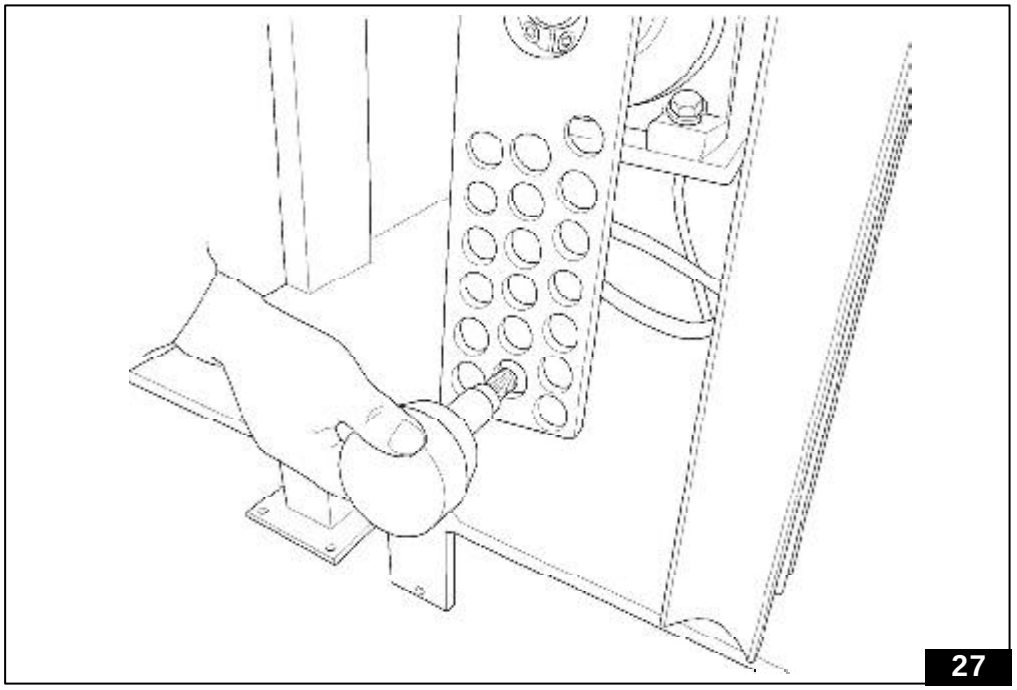
25

- Unloosen the nut (Nr. 24) that blocks the eccentric pivot of the stroke adjusting wheel. 26



26

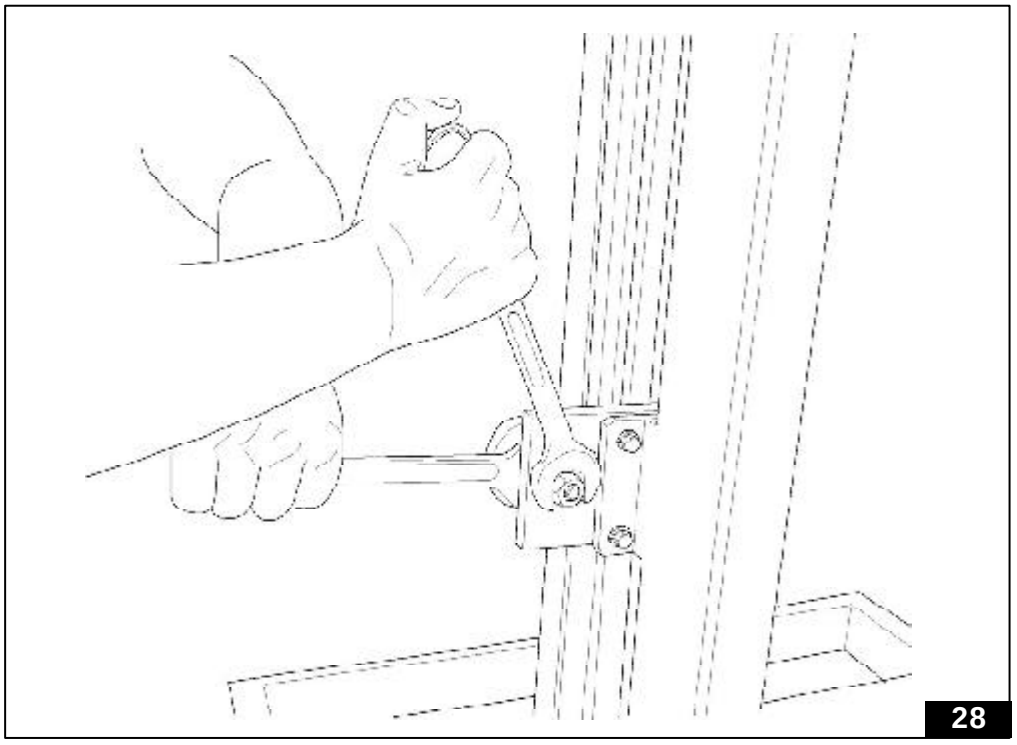
- Remove the stroke adjusting wheel with its pivot from the plate. 27



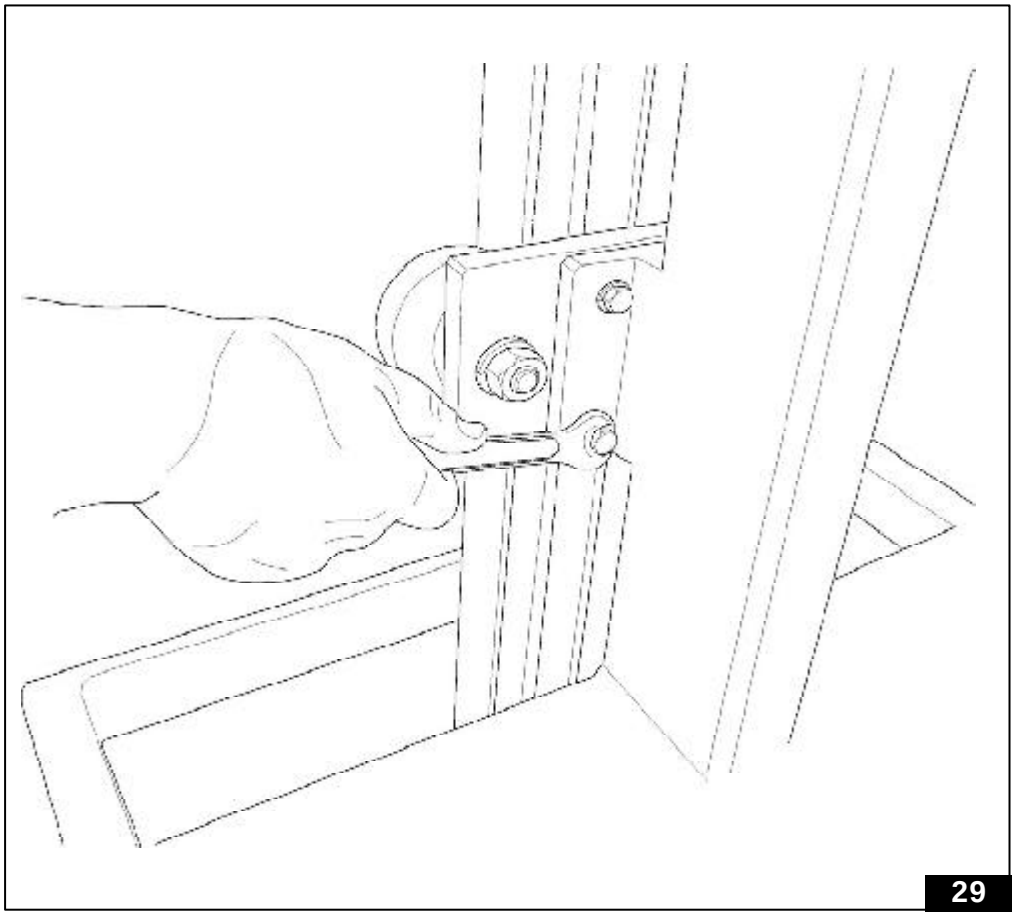
- Now, removing the supporting staff, it is possible to lower the movable guide up to the basement of the machine.

NB: it is necessary to take care of the adjusting plate with counterweight: in order to avoid unwelcome rotations, it is necessary to rotate the counterweight in the lower position.

- Unloosen with a spanner Nr. 24 the tightening nuts of the eccentric pivots and than rotate them with a spanner Nr. 30, so as to increase the play between the wheels and the guide. 28



- Unscrew completely the screws that fix the two trolley groups to the structure of the machine. 29
  In this way it is possible to remove the trolleys from the movable guide, by letting them slide to the top.



29

- After having removed the trolleys from the machine, it is possible to remove the four wheels (concentric and eccentric) and eventually replace them.
  For their adjustment see paragraph 12.7.

- To reassemble, do the reverse operations.

Nordson	**ALARMS**	*REV.* 1.2

TITLE OF THE DOCUMENT : Operating and maintenance manual OSCILLATOR HOS-V

13.0 ALARMS

CHAPTER 13.0 ALARMS

ANOMALY	CAUSE	REMEDY
NOISE AND VIBRATIONS DURING THE STROKE	■ Incorrect adjustment of the sliding wheels	■ Adjust the wheels
	■ Worn-out sliding wheels	■ Replace the wheels
	■ Dirty guide	■ Clean the guide
NOISE DURING REVERSAL	■ Play of reductor gear	■ Replace the motor gear
THE OSCILLATOR DOES NOT START	■ Lack of voltage	■ Check the general switcher on the control board
		■ Check the feeding cable of the machine and the relative connectors

Nordson	**SPARE PARTS**	*REV.* 1.3

TITLE OF THE DOCUMENT : Operating and maintenance manual OSCILLATOR HOS-V

14.0 SPARE PARTS

Page 1 to 3

CHAPTER 14.0 SPARE PARTS

14.1 General advice

- In order to optimise and address correctly the demand of spare parts and/or technical assistance, it is necessary to refer to ***Nordson®*.**
- If the customer uses, above all during the period of contractual guarantee of the machine, not original ***Nordson®*** spare parts, the guarantees about functional performances and above all accident prevention safeties are no more valid. Therefore ***Nordson®*** declines each possible responsibilities direct, indirect or consequential, about accidents occurred to staff, or about possible restrictions of productive performances of the machine.
- The safety, reliability and interchangeability of ***Nordson®*** spare parts is guaranteed by the using of the same technological/productive and qualitative processes used to the achievement of the machine.
- Before removing any components of the machine and replacing them with spare parts, it is necessary to look it up in the "**OPERATING AND MAINTENANCE MANUAL**" attached.
  This is necessary to identify all information to adopt to guarantee safety during the interventions (safety and accident prevention measures).

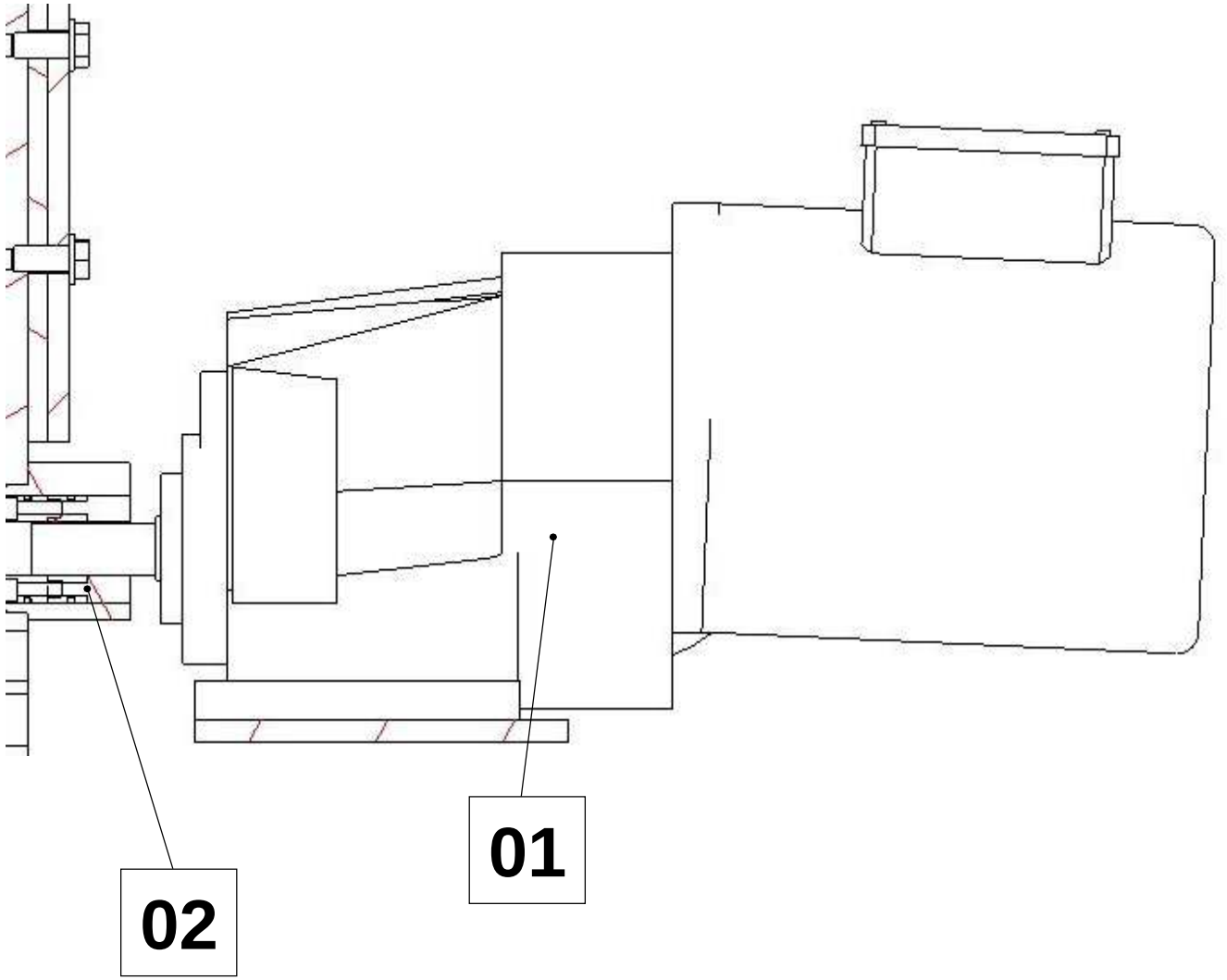
14.2 How to order spare parts

To order spare parts see the data on the CE plate.
The order will have to contain the following elements:

- Model/Type of machine
- Serial No.
- Table No.
- Position No. of spare part
- Description of spare part
- Code of spare part
- Quantity

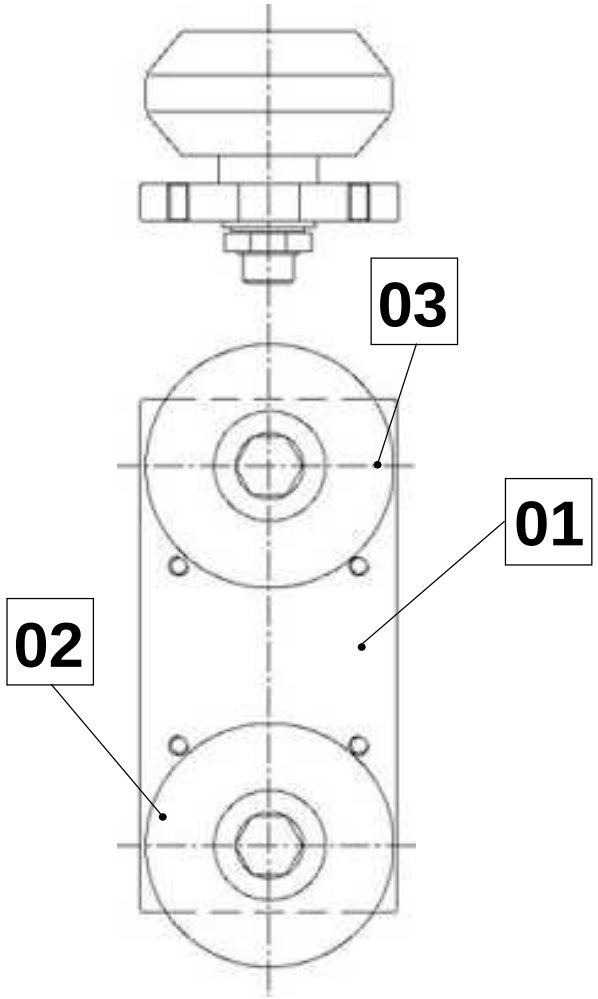
Example:

- Oscillator HOS-V 05
- Serial No. 99999
- Table 2.0
- Position 2
- Concentric shaped wheel
- 736410
- No. 1 pieces

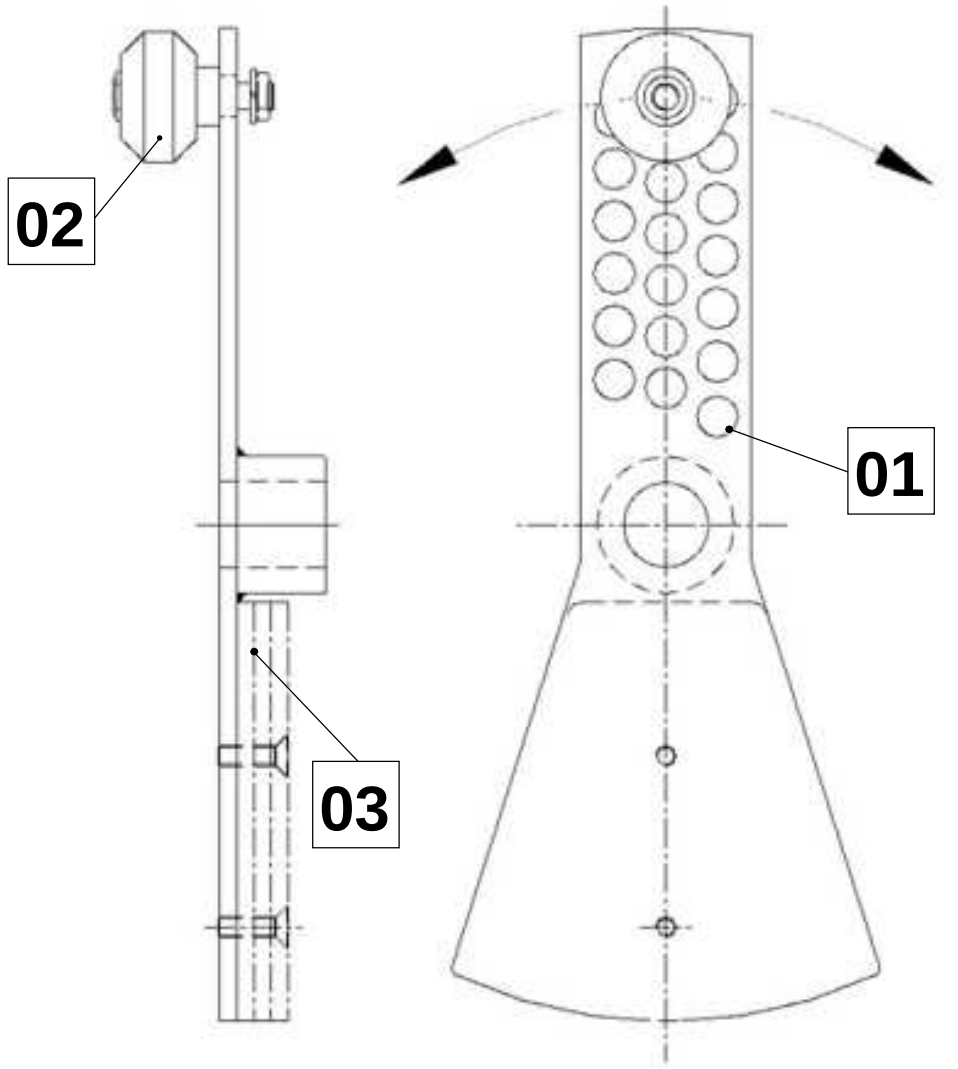


Nordson	MOTOR GEAR GROUP	TAB. 1.0

Nordson	MOTOR GEAR GROUP			TAB. 1.A
Pos.	Part Number	Mu	Q.ty	
1	-		1	400.1002 - Motovariator KW 0,75 Poles 4 rev.:9-50 (Contact Nordson for part number)
2	-		1	330.0504 - Ring block


03
01
02

Nordson	TROLLEY GROUP			TAB. 2.A
Pos.	Part Number	Mu	Q.ty	
1	-		1	220.1704 - Trolley plate
2	736410		1	335.0015 - Concentric shaped wheel
3	736411		1	335.0016 - Eccentric shaped wheel



Nordson	ADJUSTING PLATE GROUP	TAB. 3.0

Nordson	ADJUSTING PLATE GROUP			TAB. 3.A
Pos.	Part Number	Mu	Q.ty	
1	736289		1	130.1701 - Stroke adjustment drilled plate
2	736410		1	335.0015 - Sliding wheel
3	-		1	250.0804 - Additional counterweights plate

Nordson	**DRAINING OF HARMFUL SUBSTANCES AND DISMANTLING THE MACHINE**	*REV.* 1.2

TITLE OF THE DOCUMENT : Operating and maintenance manual OSCILLATOR HOS-V

15.0 DRAINING OF HARMFUL SUBSTANCES AND DISMANTLING THE MACHINE

CHAPTER 15.0 DRAINING OF HARMFUL SUBSTANCES AND DISMANTLING THE MACHINE

The user must remember that the harmful substances used, see lubricating oil, grease etc., must be drained in accordance with the local laws in force.

The dismantling of the machine and the removal of its components must be carried out according with the local laws or directives.

The machine is prevalently composed by:

- ferrous materials (structure and mechanical parts)
- materials derived from copper (electric wires and electric motor winding)

Nordson	**ATTACHED**	*REV.* 1.2

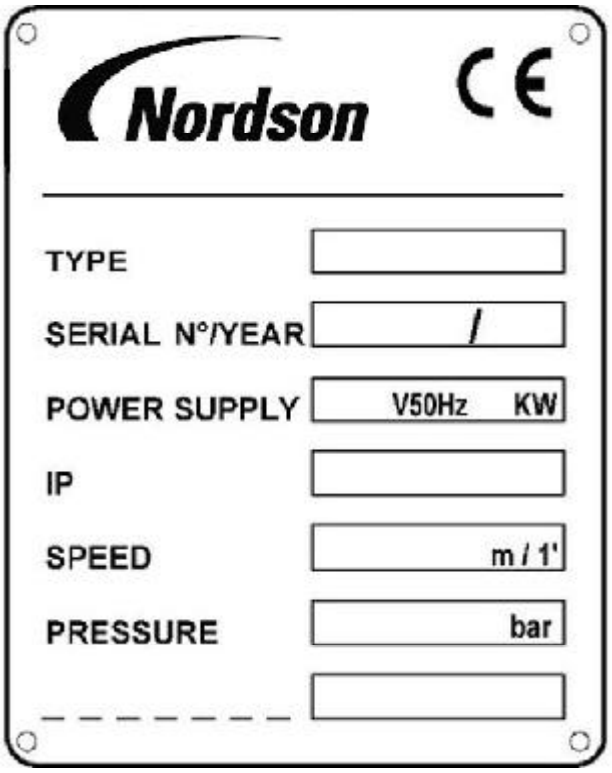
TITLE OF THE DOCUMENT : Operating and maintenance manual OSCILLATOR HOS-V

16.0 ATTACHED

Page1 to

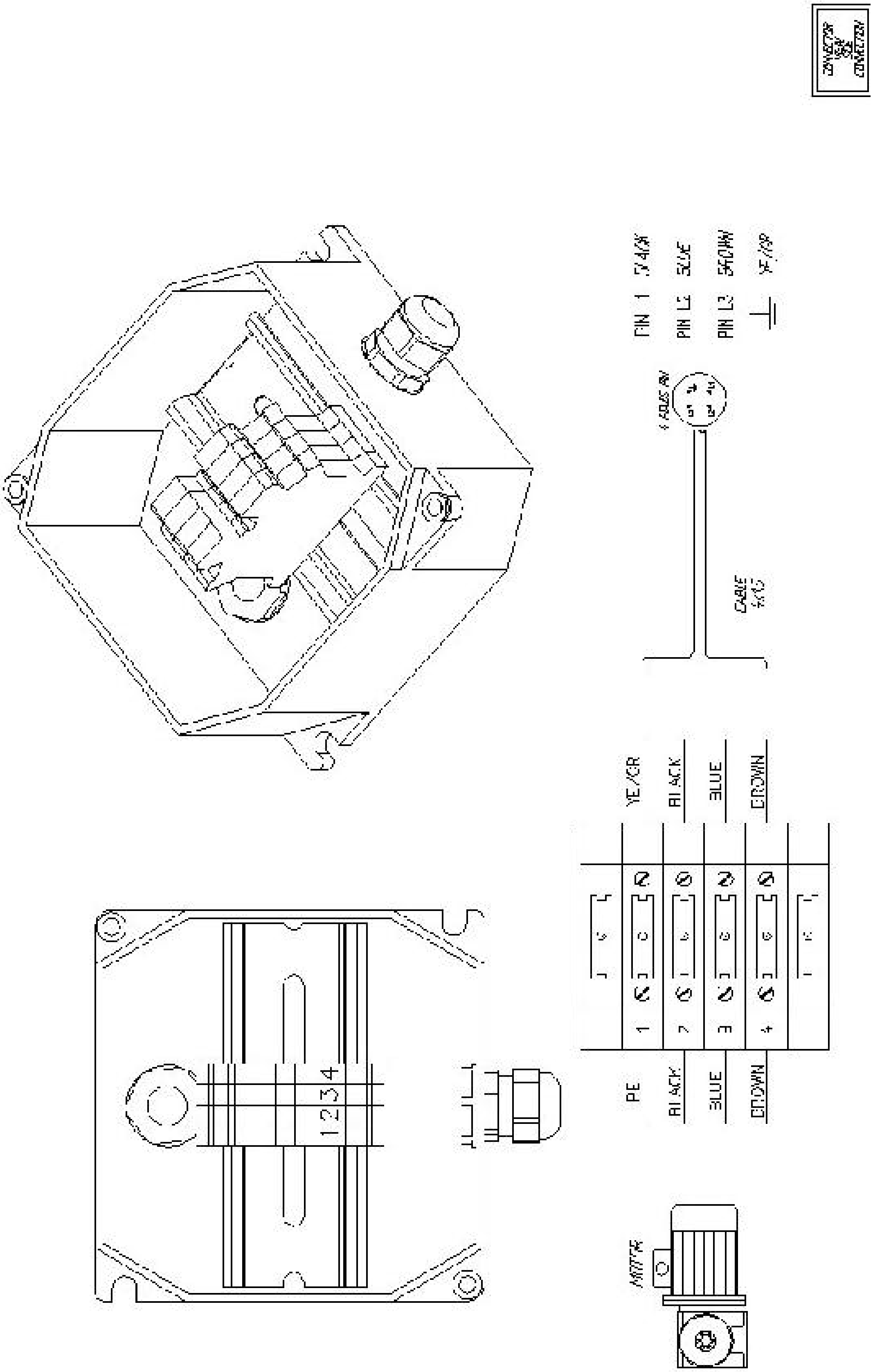
- ☐ CE plate
- ☐ Declaration of conformity
- ☐ Wiring diagrams
- ☐ Recommended oils

CE PLATE


Nordson
CE
TYPE
SERIAL N°/YEAR
/
POWER SUPPLY
V50Hz KW
IP
SPEED
m / 1'
PRESSURE
bar

DECLARATION OF CONFORMITY

WIRING DIAGRAMS


YE/GR
PE
BLUE
1 2 3 4

RECOMMENDED OILS

LUBRIFICATION

The gearboxes division of the variators of the series VAR 2-5-10-20-30/1/2 is supplied with long-life synthetic grease for gears, which has a viscosity of the basic oil at 40° C of 165 cSt. The synthetic grease can be used for applications with ambient temperature from -15°C to +50°C.
The variators of the series VAR 55-75/1/2 are lubricated with synthetic oil.
In order to orient the breather-pipe and the oil-level in a proper way, we suggest you to specify always the mounting position you desire.

TYPE	Quantity of lubricant (Kg)
VAR 5/1	0,1
VAR 5/2	0,2
VAR 10/1	0,4
VAR 10/2	0,5
VAR 20/1	0,4
VAR 20/2	0,6
VAR/30/1	0,4
VAR 30/2	0,6

TYPE	Quantity of lubricant (litres)						ta -30°C...+100°C
	Mounting position						Synthetic oil
	B3	B6	B7	B8	V1/V5	V3/V6	ISO VG
VAR 55/1	0,7	0,9	0,9	1,2	1,1	0,6	220
VAR 55/2	1,8	2,4	2,2	2,4	2,3	2,2	220
VAR 75/1	0,8	1	1	1,3	1,2	0,7	220

The section variator, is supplied with permanent lubrication (synthetic grease for bearings with cylindrical rolls).
For any problem regarding all this, please contact our technical office.

Nordson	**PERSONALIZATION/SPECIAL EXECUTIONS**	*REV.* 1.3

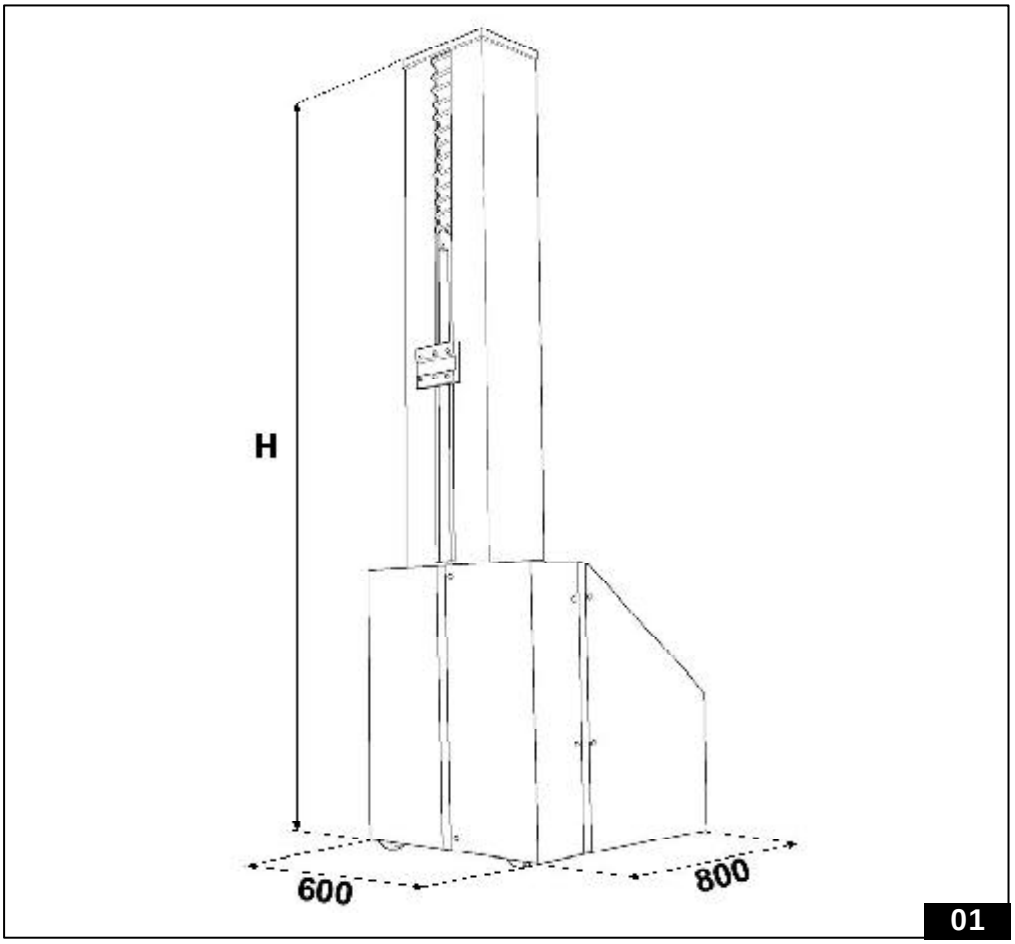
TITLE OF THE DOCUMENT : Operating and maintenance manual OSCILLATOR HOS-V

17.0 PERSONALIZATION/SPECIAL EXECUTIONS

Page1 to 8

CHAPTER 17.1 OSCILLATOR MOD. HOS-V 05/60 Kg

Weights and overall dimensions



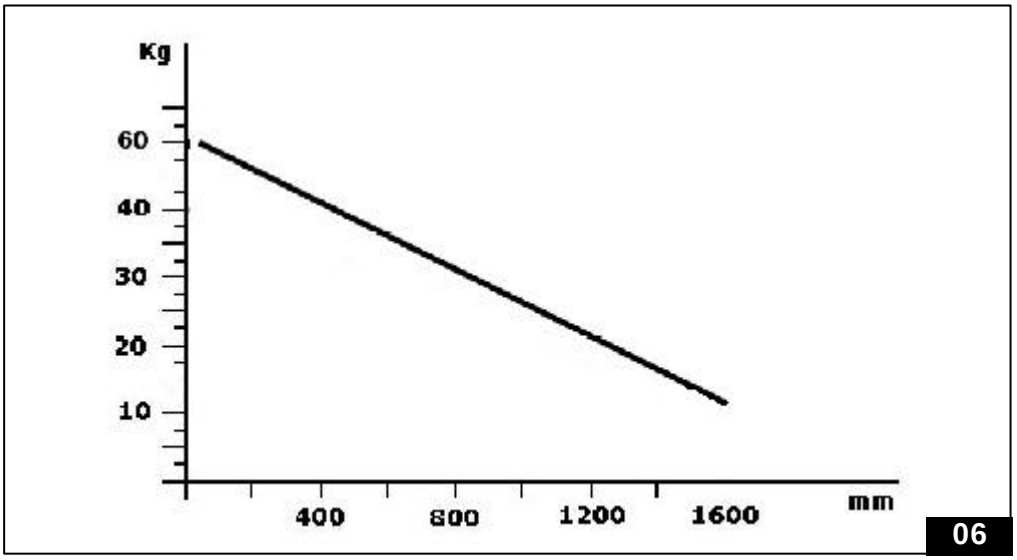
D **ATTENTION :** It is forbidden to use the machine in the presence of explosive atmosphere.

VERSION HOS 05/60	
TOTAL HEIGHT "H"	2350 mm
USEFUL STROKE	140 ÷ 500 mm - 20 step
DISTANCE FROM THE GROUND	900 mm
SPEED MIN.	12 cycles/1'
SPEED MAX.	60 cycles/1'
CAPACITY	60 Kg
TOTAL WEIGHT	280 Kg
NOISE	inferior to 70 dB
ABSORBED POWER	1,5 kW
POWER SUPPLY	230 V AC +/- 10% 3F 50 Hz (others on demand)

Machine balancing

C 4 ; 3

The oscillator HOS by ***Nordson***® can support a maximum capacity of 60 kg, this value reduces depending on the position of the gun supports as indicated in the graph in fig 06.
The machine is supplied, if agreed in the order, already balanced.
In case of no specification the standard configuration is with 2 counterweights (total weight 7 Kg), further additions will be agreed upon with ***Nordson***®.

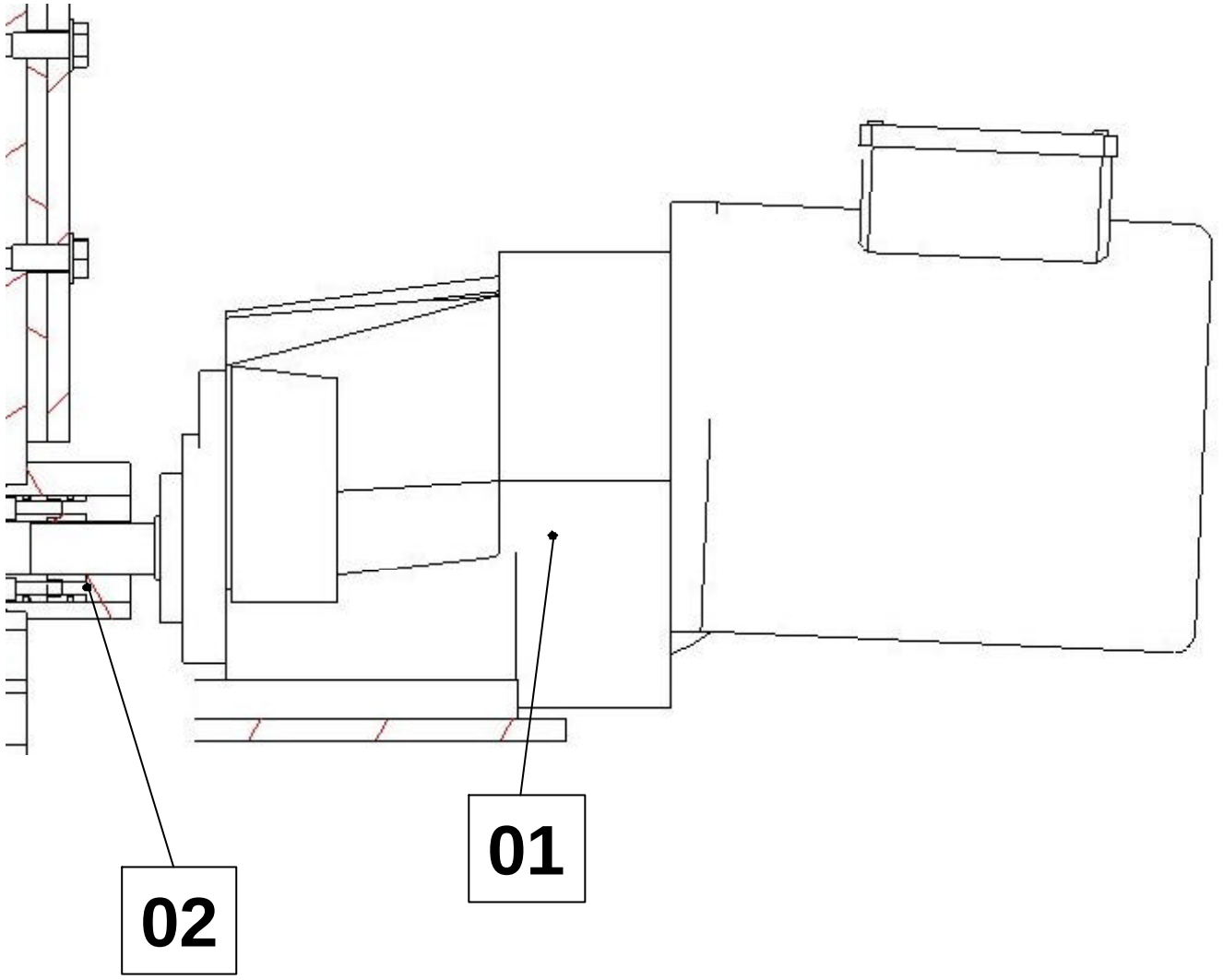


06

Summery table of suggested spare parts

The following components are subject to wear and so a suitable stock should be kept for spare parts.

DESCRIPTION	PART NUMBER
335.0015 - Adjustment stroke wheel with pivot	-
330.0508 - Ring-block	-
400.1011 - Motovariator	-
500.0001 - Set sliding wheels	736296
330.8002 - Bellows	736295

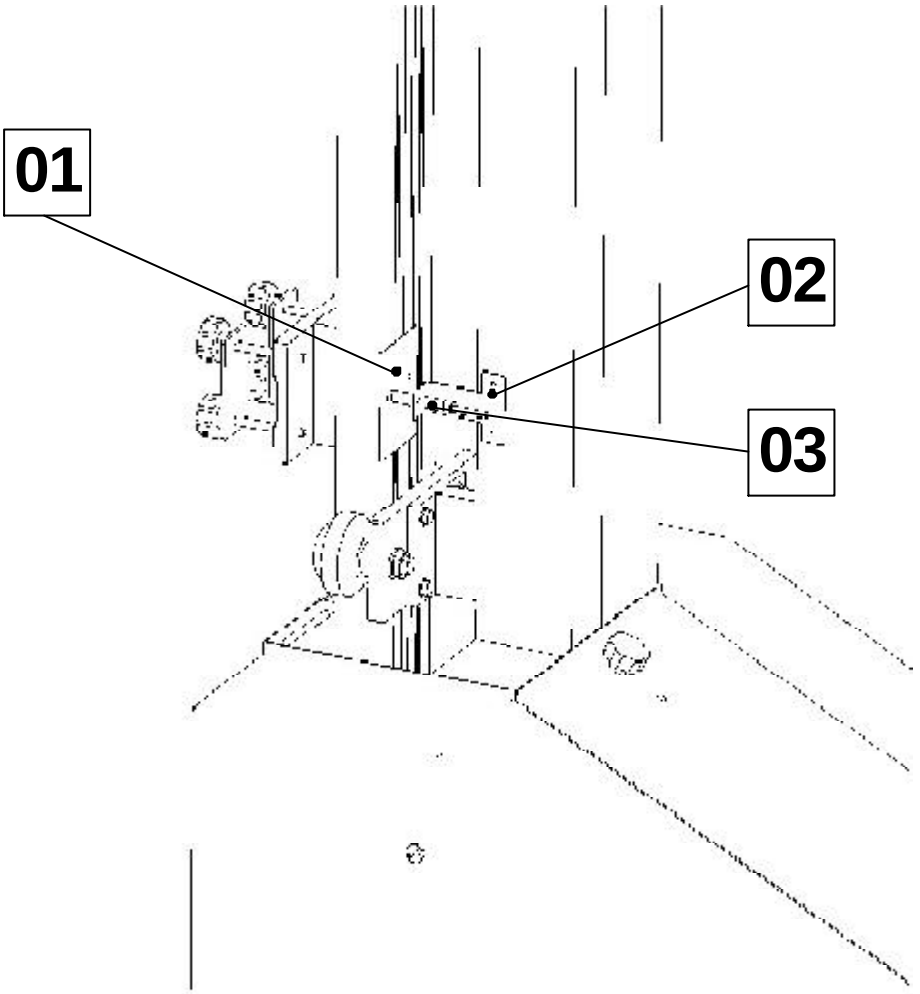


		MOTOR GEAR GROUP	TAB. 1.0

		MOTOR GEAR GROUP		TAB. 1.A
Pos.	Part Number	Mu	Q.ty	
1	-		1	400.1011 - Motovariator KW 1,5 poles 4 rev:12-63
2	-		1	330.0508 - Ring block

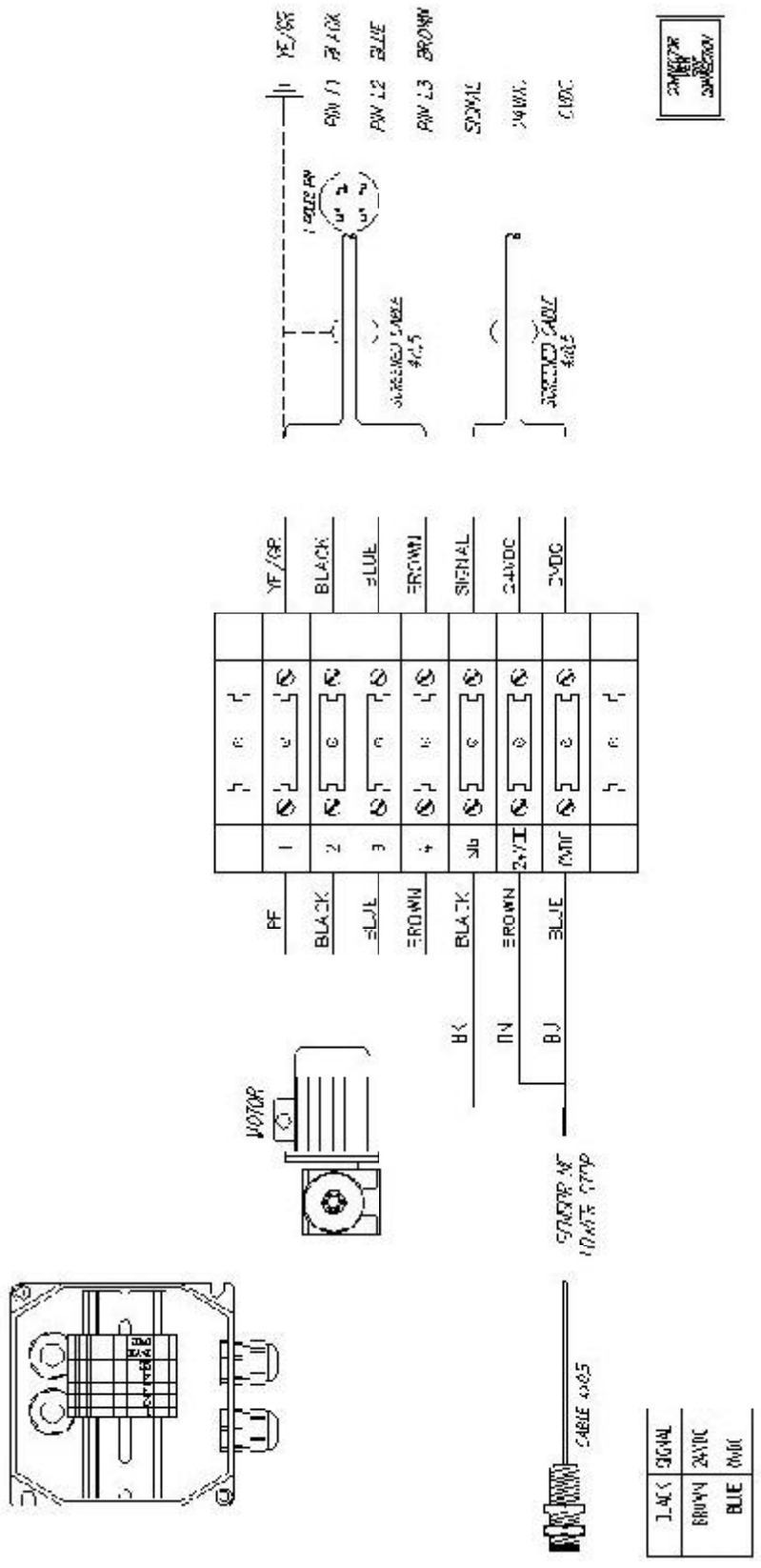
CHAPTER 17.2 OSCILLATOR WITH STOP CLEAN POSITION SENSOR

Assembly

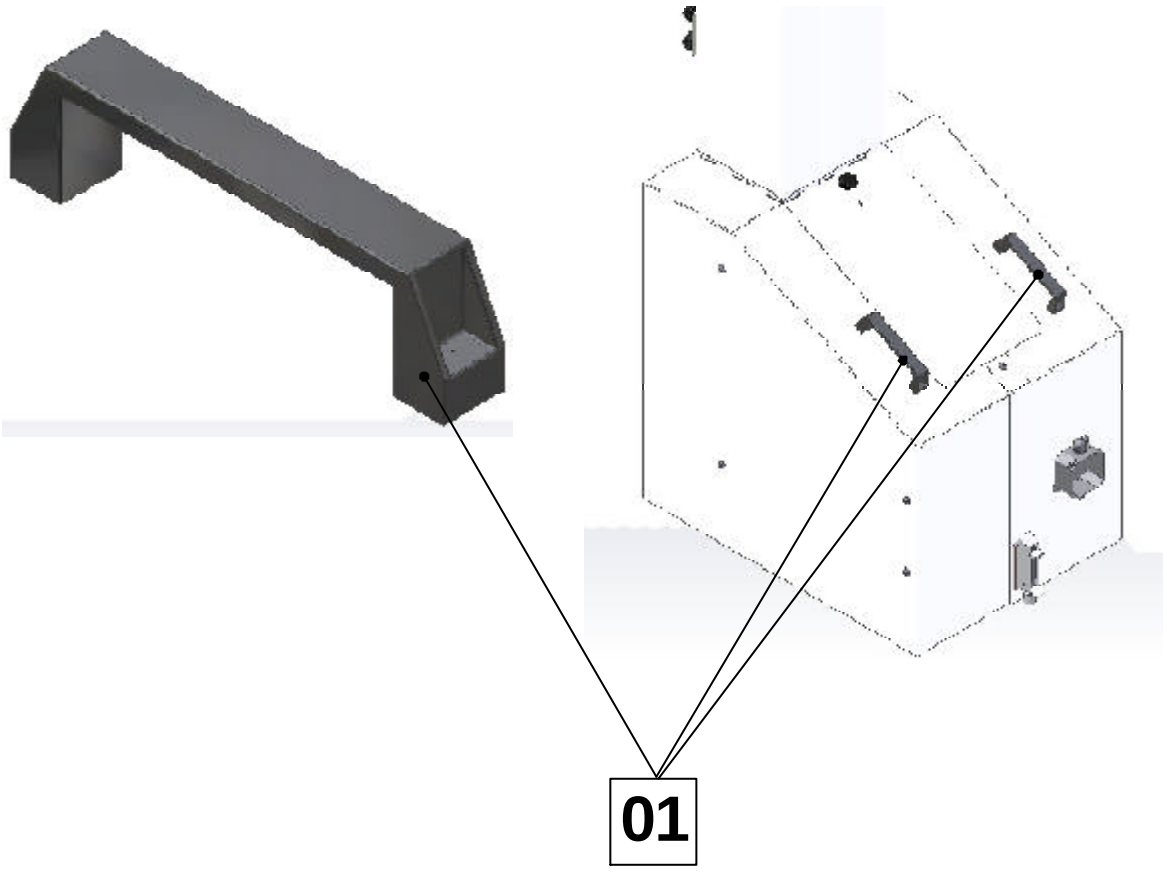


Pos.	Part Number	Mu	Q.ty	
1	-		1	250.0821 - reference plate
2	-		1	250.0822 - fixing plate
3	736339		1	310.8207 - Inductive sensor NC ø12 PNP

Electrical connection of the machine



CHAPTER 17.3 ADDITIONAL HANDLE FOR MANUAL MOVEMENT



Pos.	Part Number	Mu	Q.ty	Description
1	7033078	Nr.	1	500.0072 - Kit handle for manual moving


Nordson