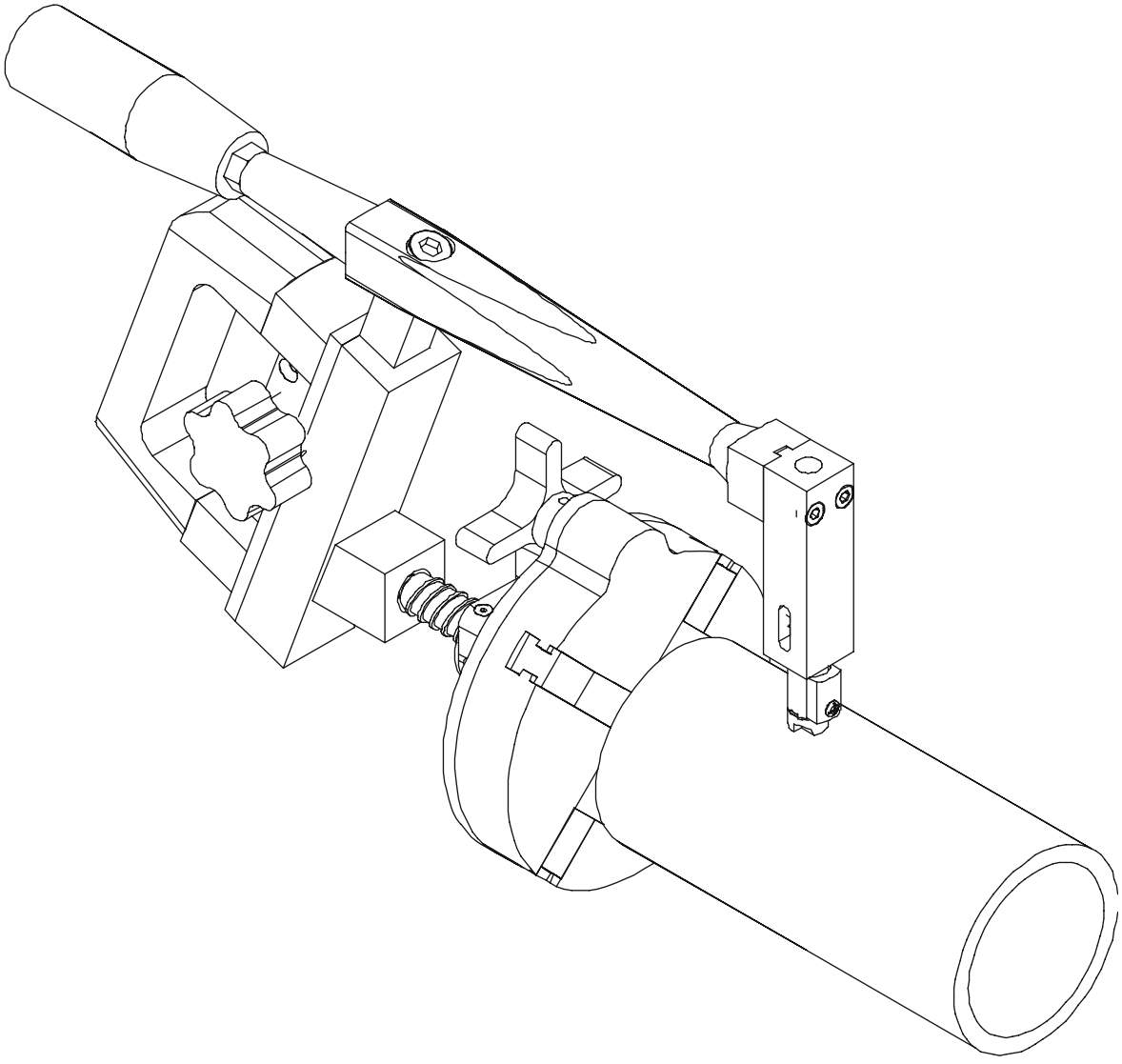
Ritmo
PLASTIC WELDING TECHNOLOGY

SINCERT
Sistema di Gestione per la Qualità certificato
Certificato N° 206
IIS
UNI EN ISO 9001

PIPE SCRAPER RTC 160



USE AND MAINTENANCE MANUAL

1. INTRODUCTION

Dear Customer,
Thank you for choosing a machine from the ***ritmo*** range of products.
This manual is designed to illustrate the features and operating methods of your new machine model **RTC 160**. It contains all the necessary information and prescriptions for correct and safe use of the equipment by professional operators. Please read all parts of the manual carefully and keep it in a safe place for future consultation and/or to transfer to any future owners/users of the machine.
We are confident that you will enjoy getting to know your new equipment and will be able to use it profitably for many years to come.

All the best from,

ritmo S.p.A.

INDEX

S.p.A.

via A. Volta, 7 - Z.I. Selve
35033 BRESSEO DI TEOLO (PD)
ITALY
Tel. +39.049.990.1888
Fax +39.049.990.1993
ritmo@ritmo.it
ritmo@ritmospa.com

1. TECHNICAL FEATURES

Dimensions	380×250×120 mm (14.96×9.84×4.72 in)
Box dimensions	390×210×135 mm (15.35×8.27×5.31 in)
Weight	3,85 kg (8.5 lb)
Max weight while using	2,5 kg (5.5 lb)
Field of application: **external** diameter	Ø 50 ÷ 160 mm (Ø 2 ÷ 6.3 in)
internal diameter	Ø 38 ÷ 154 mm (Ø 1.5 ÷ 6.06 in)

2. FIELD OF APPLICATION

Pipe scraper **RTC 160** is a manual tool with a cutting device for the removal of material from the surface of polyethylene (PE) and polypropylene (PP) in the different dimensions and the fields of application.

Warning
This tool is not for:
- scraping (cleaning) other materials different from polyethylene (PE) and polypropylene (PP);
- making any kind of operation not described by the instructions of the constructor in this manual.

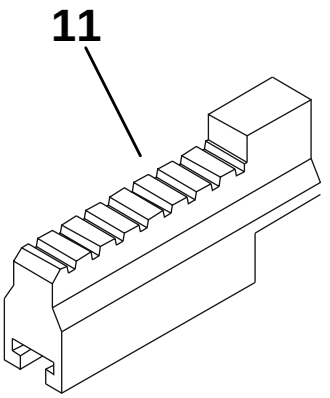
3. PRINCIPLE OF SCRAPING

The purpose of the pipe scraper is for the removal of the oxidized film formed on the surface of the pipe due to the atmospheric agents. In accordance with the thickness of such a oxidized surface, the elecrofusion of pipes and fittings can be partially or totally compromised. It is very important then to remove the oxidized surface with special tools, by scraping from the surface of the pipe about 0,20 mm (0.008 in) of material, before fusing.

4. DESCRIPTION OF RTC 160

Pipe scraper **RTC 160** is composed by two principal parts: base part and arm. Scraper base is the part composed by a system for fixing the scraper to the pipe with a chuck with aluminum clamps; the arm is the moving part, turning around the pipe, which allows the cutting device to scrape by scrolling on the surface of the pipe and advancing along pipe's axis thanks to the trapezoidal screw pivoted in the center of scraper's base.

5. PARTS DESCRIPTION



Ø 78 ÷ 115 mm
Ø 3.07 ÷ 4.53 in

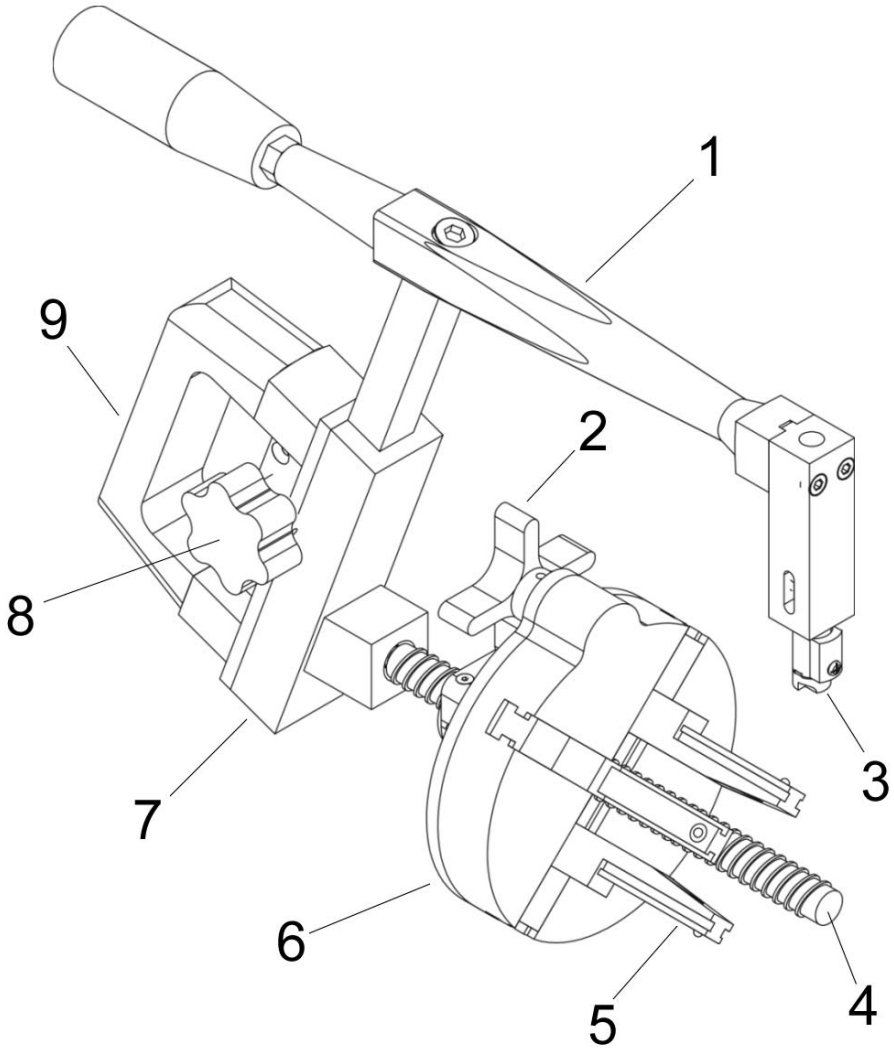
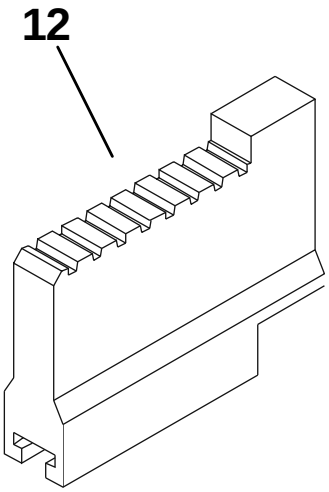


fig. 1A



Ø 116 ÷ 154 mm
Ø 4.57 ÷ 6.06 in

1- Scraper arm
2- Handwheel open/close clamps
3- Cutting plate
4- Trapezoidal screw
5- Clamp
6- Chuck base
7- Arm guide
8- Handwheel for the locking of arms position
9- Handle
10- Handle for arm's rotation
11- Extension 1
12- Extension 2

1. Extension 1 (4 pieces)
2. Extension 2 (4 pieces)
3. Deburring knife
4. Screw driver
5. Plate carrier
6. Plate
7. Storage box

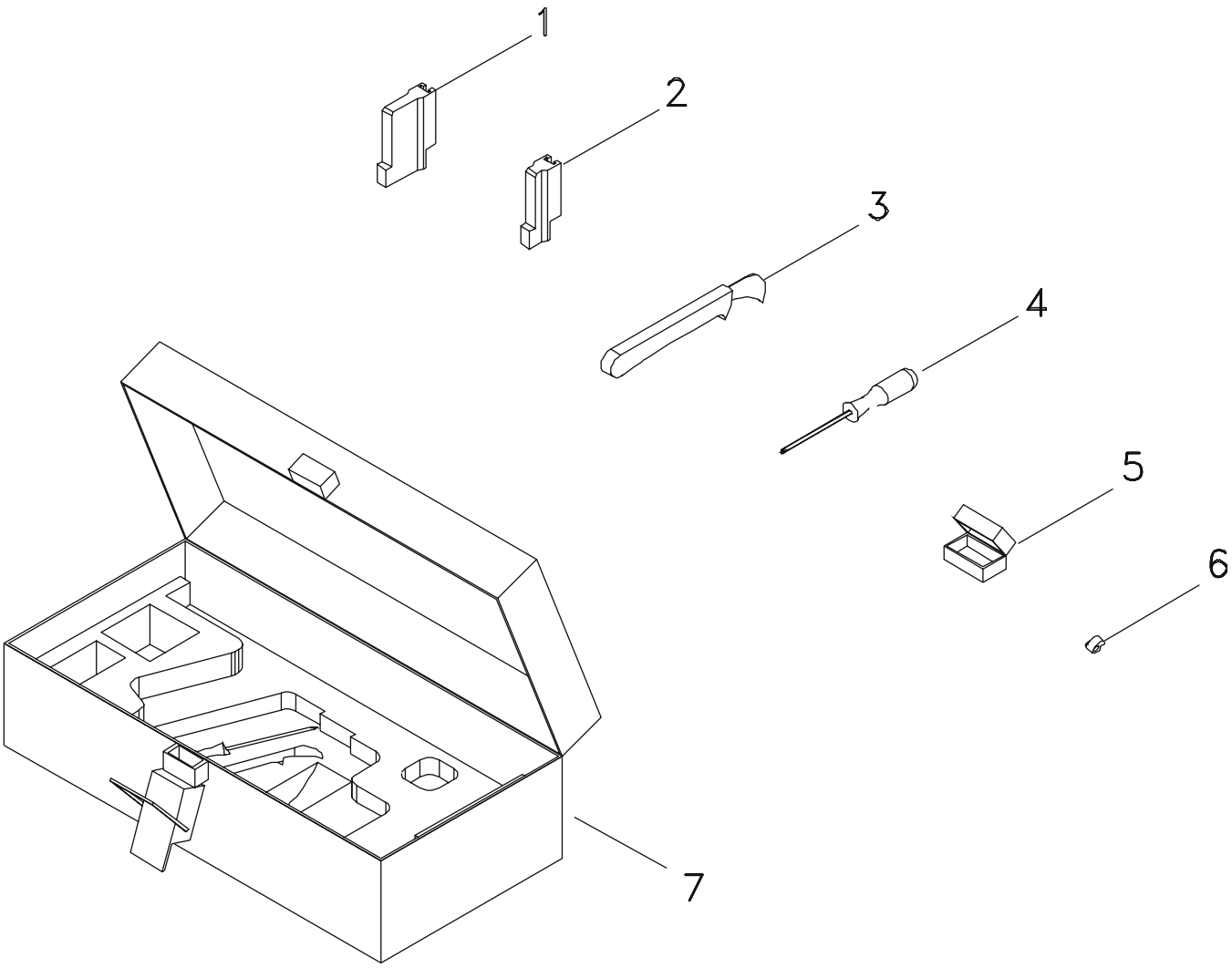


fig. 1B

6. SAFETY INSTRUCTIONS

While using manual equipment, tools and saws, the principal requirements for reducing the risk of injuries are the careful handling, the respect of the instructions for use and of the safety laws in force.

Carelessness and the lack in respecting safety laws can be cause of injuries in workplace.

Firmly tighten: check that the pipe is firmly tighten to a support (we suggest RITMO product "Inclinable pipe support" cod. 99601000 - fig. 2) and that the scraper is firmly locked in the pipe. A scarce clamping can make the pipe or the support fall compromising the scraping, an excessive clamping of the tool in the pipe can ruin or brake the aluminum clamps; in both cases the situation is dangerous for the operator with the risk of injuries**.**

It is compulsory to use locking wrench supplied;

it has been created for a correct fixing; different wrenches can cause an excessive fixing.

fig. 2

Tools maintenance: sharp and clean tools give better results and are safer; carefully read the section about the instructions for the maintenance of this manual. Immediately replace the worn, broken or lost parts; it is not admitted the use of a tool or a machine with components which do not work properly or are missing; worn, broken or lost components can be cause of risk for the operator: the tool can suddenly brake and compromise the safety of the surrounding environment. Carefully place the tool in the special case; a scarce attention may damage the ends of scraper arm, the clamps and the extensions. The clamps, if damaged or dirty, may prevent extensions positioning or a good fixing.

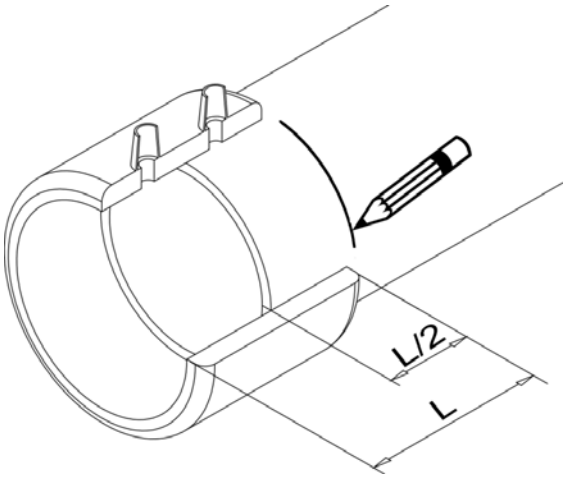
Use suitable work garments: the tool has a little sharp blade: we suggest to wear suitable protective gloves. Avoid to keep belts untied, rags jutting from the pockets, long hair and beard untied: they may get caught in the moving parts endangering the operator and compromising the scraping.

Keep workplace clean: untidy and dirty workplaces, because of their scarce efficiency, are cause of injuries in workplaces: it is necessary to keep clean and tidy workplaces.

WARNING: the tool is supplied with a small blade which can cause injuries to the operator if incorrectly handled.

ritmo **S.p.A. is not responsible for damages or injuries to persons caused by the non-reading of this manual.**

7. INSTRUCTIONS FOR USE



1) A correct scraping is extended from the edge of the pipe, for a length a little longer than half the length of the fitting. Before starting working it is useful to mark on the pipe the limit of the scraping, bringing the pipe near the fitting and marking the line from which the pipe is uncovered.

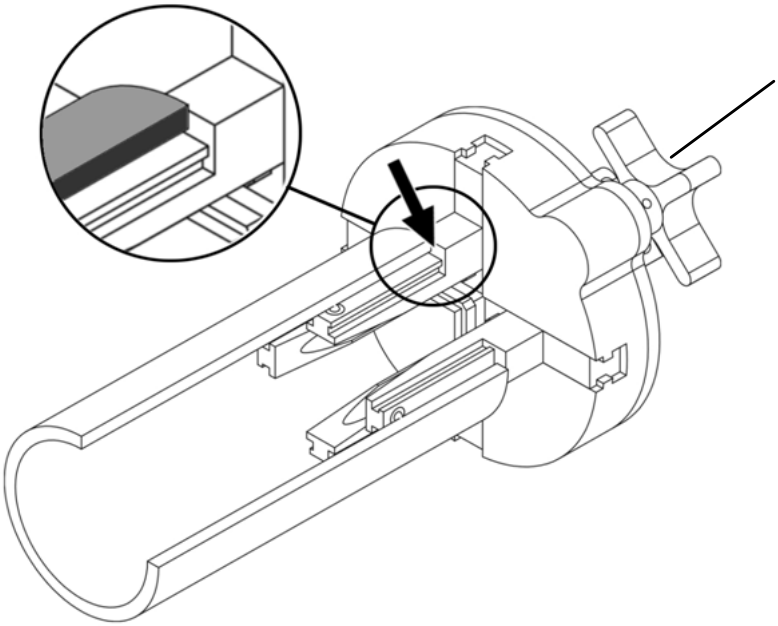


fig.3

2) Insert the clamps of the scraper inside the pipe.

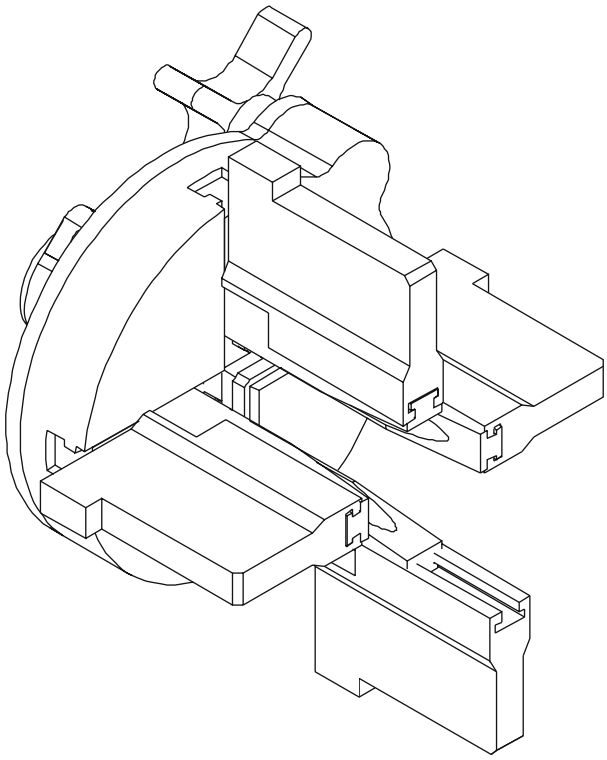
3) Adjust the spread of the clamps by rotating handwheel **X** (fig.3); the clamps will open outward rotating the handwheel in an clockwise sense, while they close inward rotating the handwheel in an anticlockwise sense.

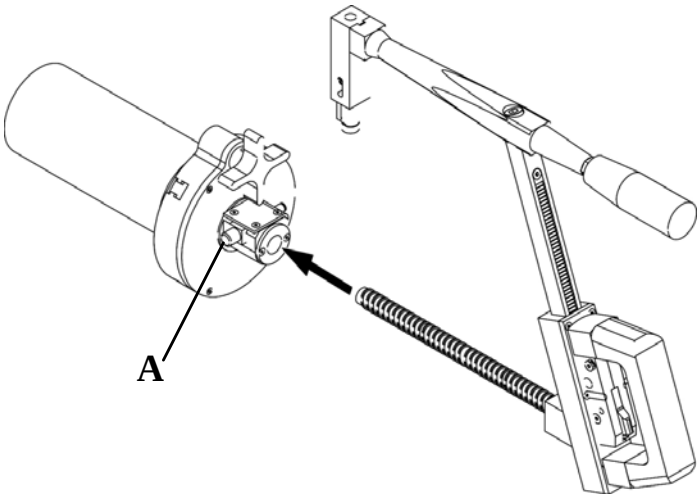
Warning!!!:

- *The pipe must be positioned in such a way that its extremity leans on the beat of the clamps as indicated by the arrow in figure 3.*
- *Lock the pipe without forcing, because an excessive strength may deform the pipe.*

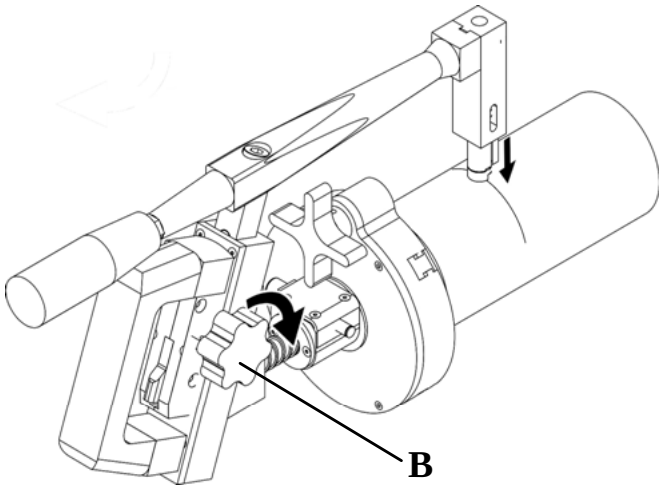
When the internal diameter of the pipe is greater than 77 mm (3.03in) insert on the aluminum clamps, the set of extensions necessary. Inserting it until the beat, in order to obtain the locking. To choose the necessary extensions consult table page 14.

- *Thoroughly follow the indications of page 14; scraping a pipe with too small extensions, may damage the teeth of the chuck.*

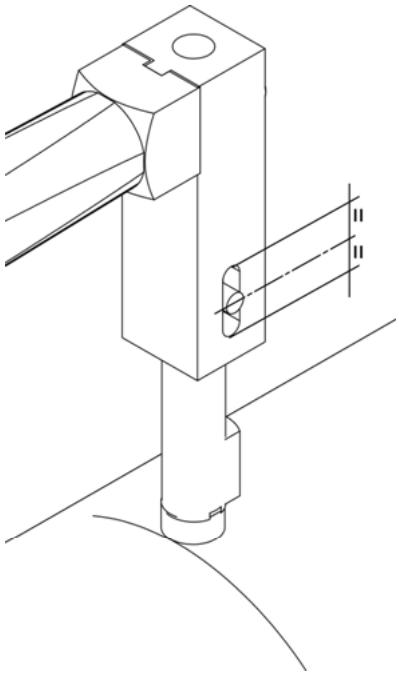




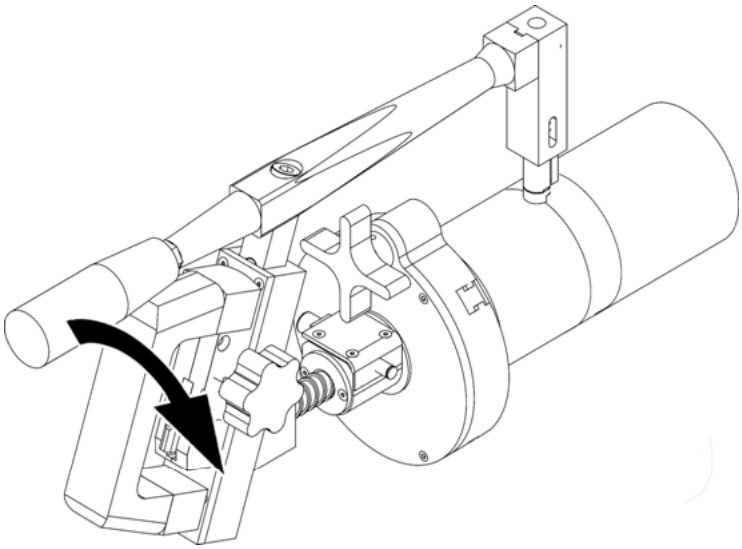
4) Insert the big screw of the arm in the base, keeping pressed the button for the rapid sliding **A**.
Push the arm forward until the cutting device reaches the mark previously made on the pipe.



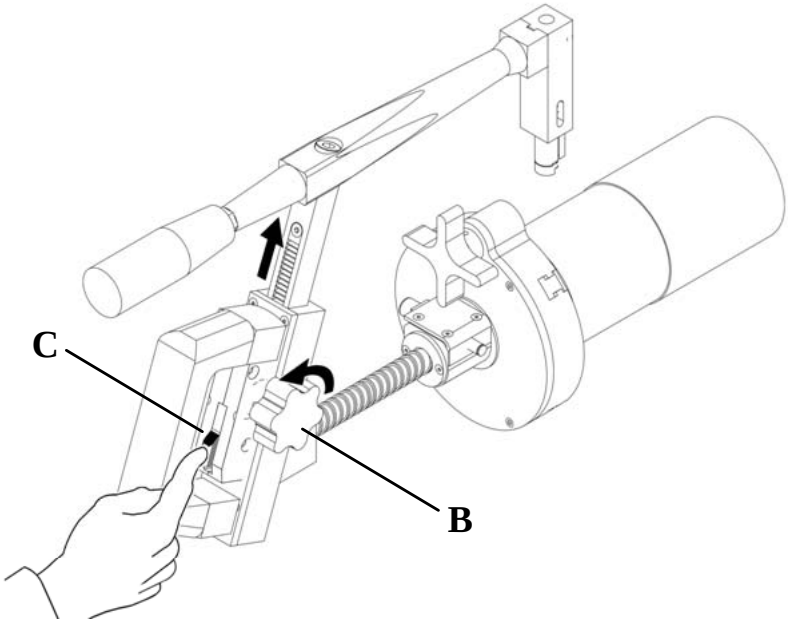
5) Turn handwheel **B** until the cutting point touches the pipe.



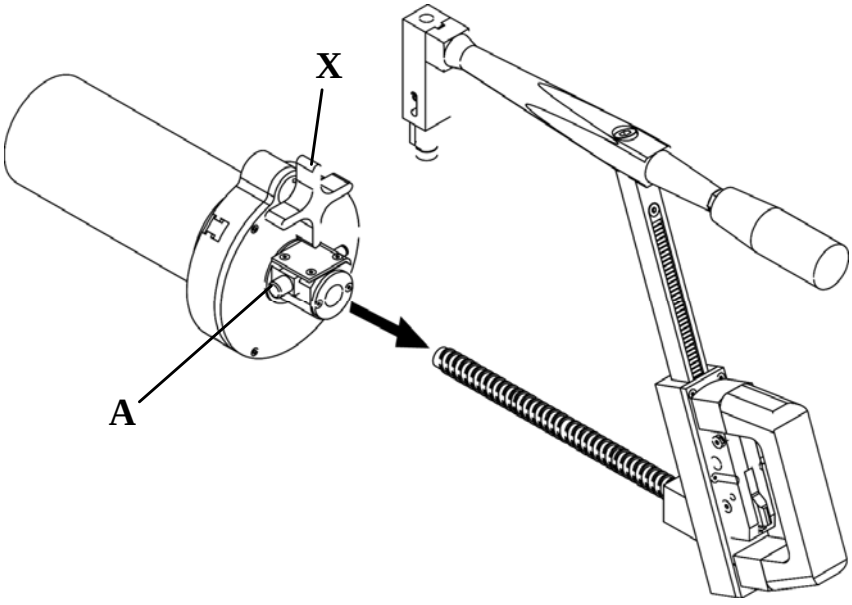
6) Load the tool by turning handwheel **B** until the pin of the tool carrier is positioned at half of its stroke.



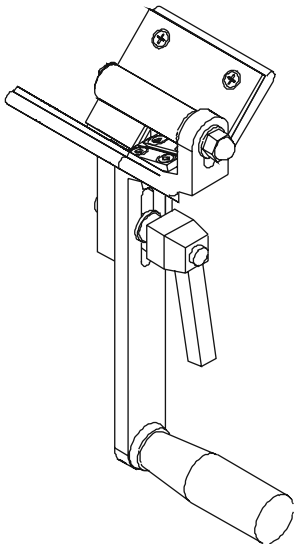
7) Make the scraping of the pipe by turning the arm in a clockwise sense.

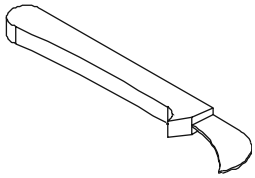


8) After scraping, push trigger **C** and turn handwheel **B** in an anticlockwise sense, until the arm is lifted enough to take it off.



9) Push button **A** and take the arm off.
Release the chuck by turning handwheel **X** in an anticlockwise sense.





10) After these operations, the external bead of the pipe has to be beveled with a special tool (we suggest RITMO item "Beveling tool SME 1 ∅ 25 ÷ 160 mm" cod. 98380000), and the internal has to be deburred (we suggest RITMO "Small deburring knife" cod. 98420001 o "Big deburring knife" cod. 98420051); now the pipe is free from impurities and ready to be welded.

8. MAINTENANCE

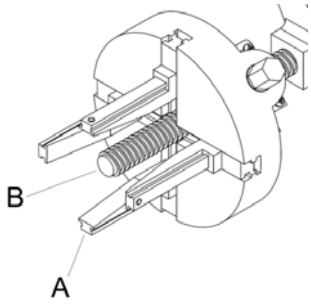


fig.4

Tool **RTC 160** requires simple maintenance to follow constantly for maintaining the efficiency and safety of the tool itself. The life of the tool and its reliability will be greater if the instructions will be followed.

- Keep the tool clean with particular attention to the clamps **A** and to trapezoidal screw **B** (fig. 4). For the cleaning use gasoline or diesel fuel, using impermeable gloves and a safety mask, and proceed as follows:

1 – extract the clamps from tool base, turning handwheel **X** in a clockwise sense (the first one to come out will be number 4, then 3, 2 and the last one will be number 1);

2 – Remove cover **F** taking off screws **E** (fig. 5) and extract button **H**; after that take off screws **C**.

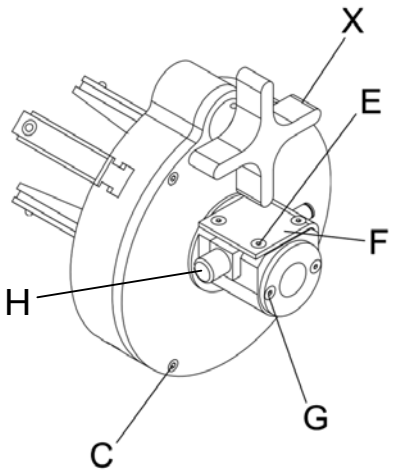


fig.5

3 – disassemble the base and clean;

4 – after having dried, grease and reassemble in the opposite way; to reassemble correctly the clamps it is necessary, observing from the clamps side, to proceed as follows:
Rotate the lead until you bring the beginning of the thread on the marked guide 1. When the thread is visible, make it go back to insert clamp 1.
Keep pressing the clamp toward the center of the scraper base and rotate the lead, turning handwheel in an anticlockwise sense for a quarter of a turn, until the beginning of the thread is visible again on the guide marked 2. Make the thread go back enough to make the beginning disappear under the guide, insert clamp 2 and, keeping it pressed toward the center of the scraper base, rotate the lead for a quarter of a turn, turning handwheel in a anticlockwise sense. Repeat the procedure, in order, also for clamps 3 and 4.

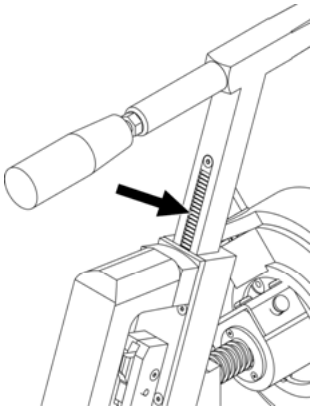


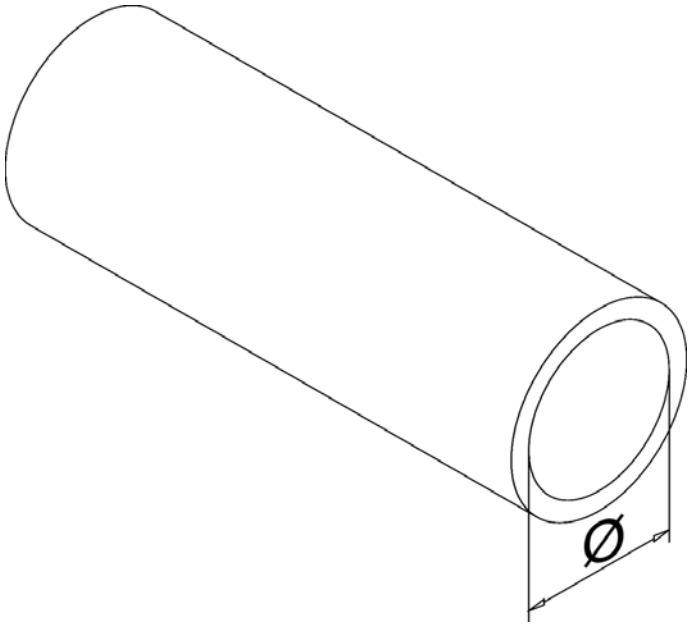
fig.6

5 – clean the trapezoidal screw as already described and, after having dried it, oil. The trapezoidal screw requires a more frequent cleaning than the base.

- Check the efficiency and the integrity of the blade. For the replacement, it is necessary to take off locking screw, insert the new blade and fix. The plate has 2 cutting points, so that you can turn the blade and it is not necessary to replace it. If after this procedure, the scraper is not sharp, it is necessary to fix again the plate pushing the cutting part outward.
- Keep clean and with oil the rack of the vertical movement of the scraper arm (fig. 6).

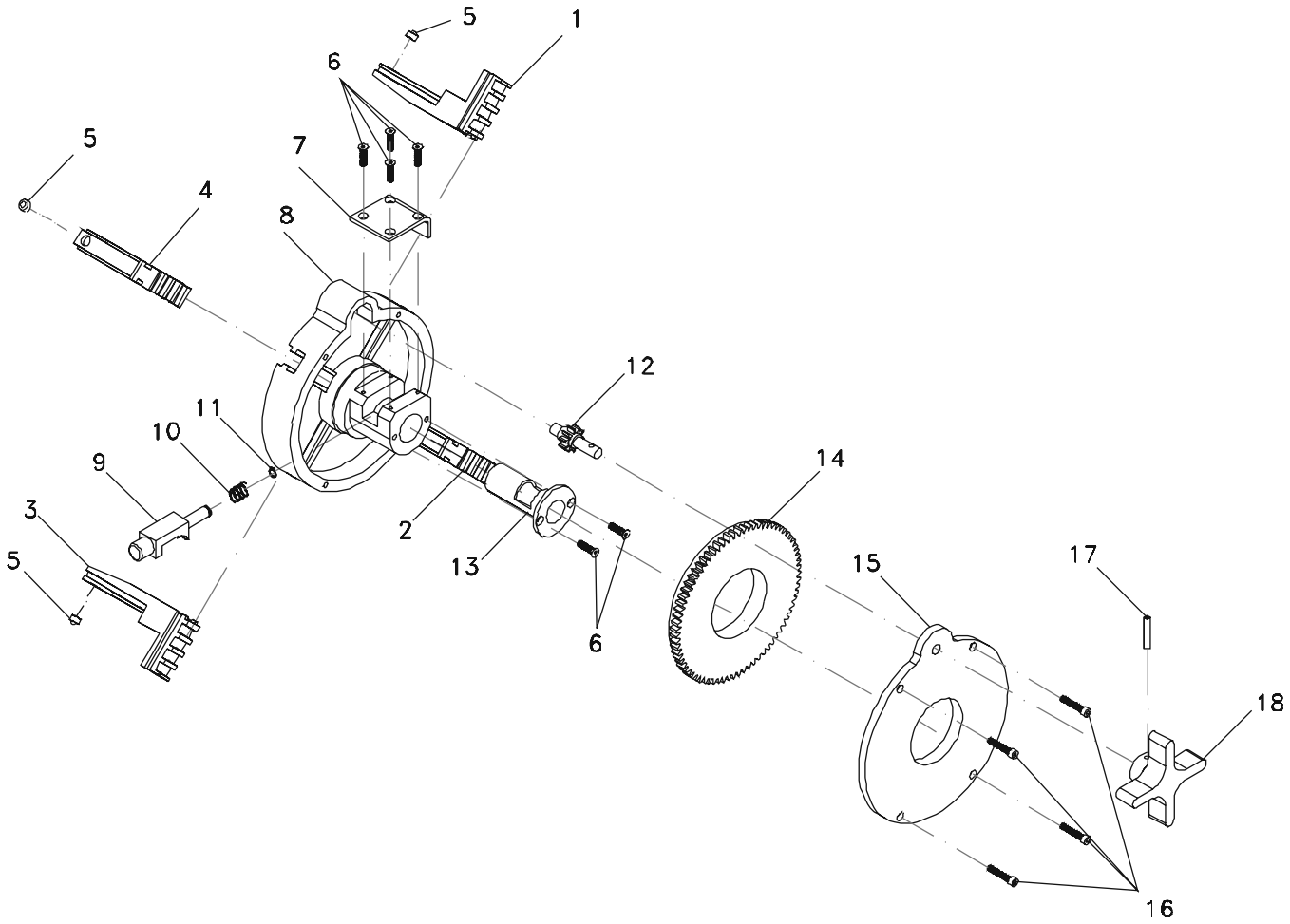
9. FIELD OF APPLICATION FOR EXTENSIONS

Measure the internal diameter Ø of the pipe. If it is included between 38 mm (1.50 in) and 77 mm (3.03 in) it is not necessary to apply extensions to the clamps. For internal diameters greater than 78 mm (3.07 in) it is necessary to apply to the clamps one of the two series of extensions as in the following table.

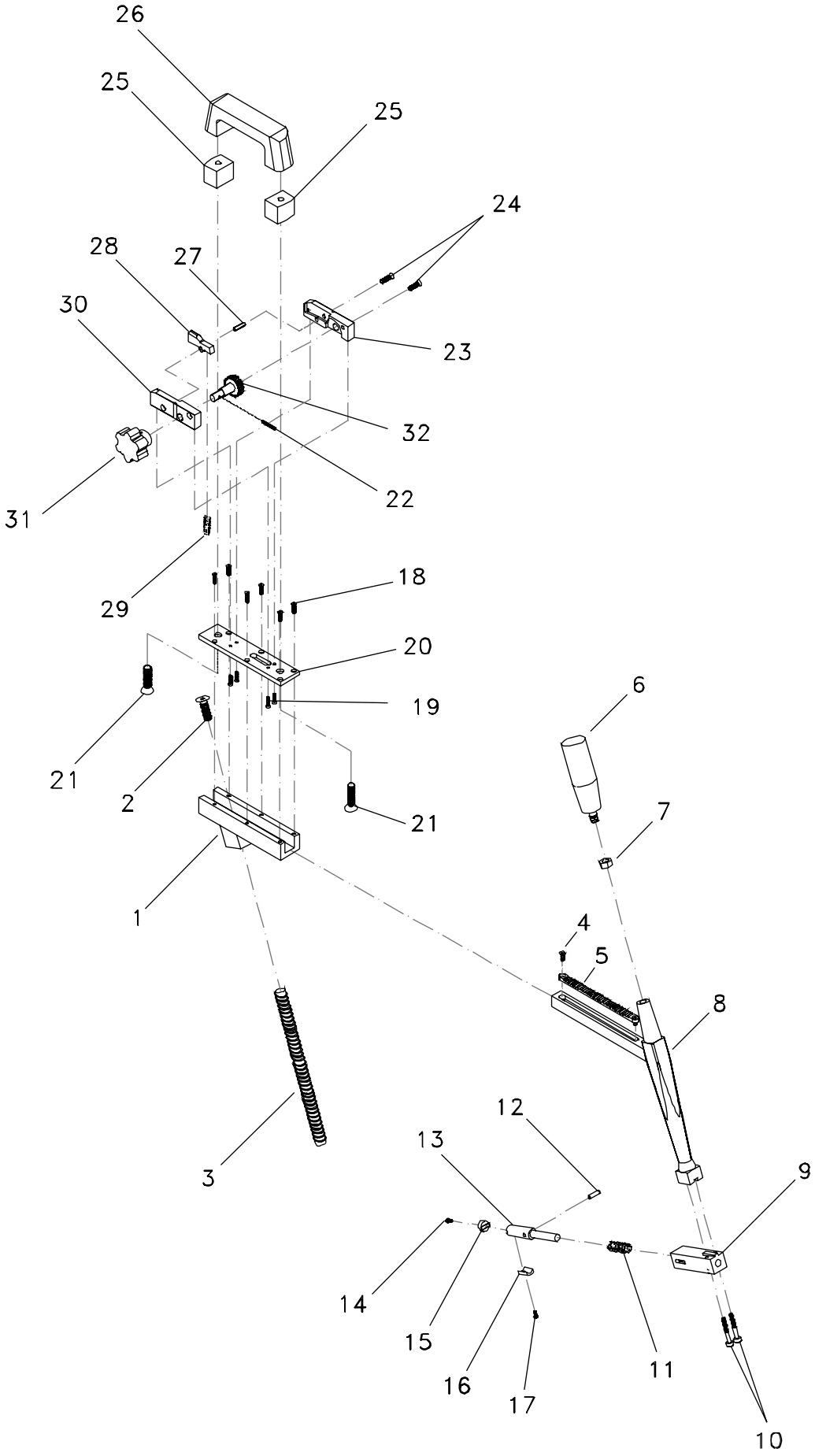


Ø MIN		Ø MAX		EXTENSION
[mm]	[inch]	[mm]	[inch]	
38	1.50	77	3.03	NO
78	3.07	115	4.53	1
116	4.57	154	6.06	2

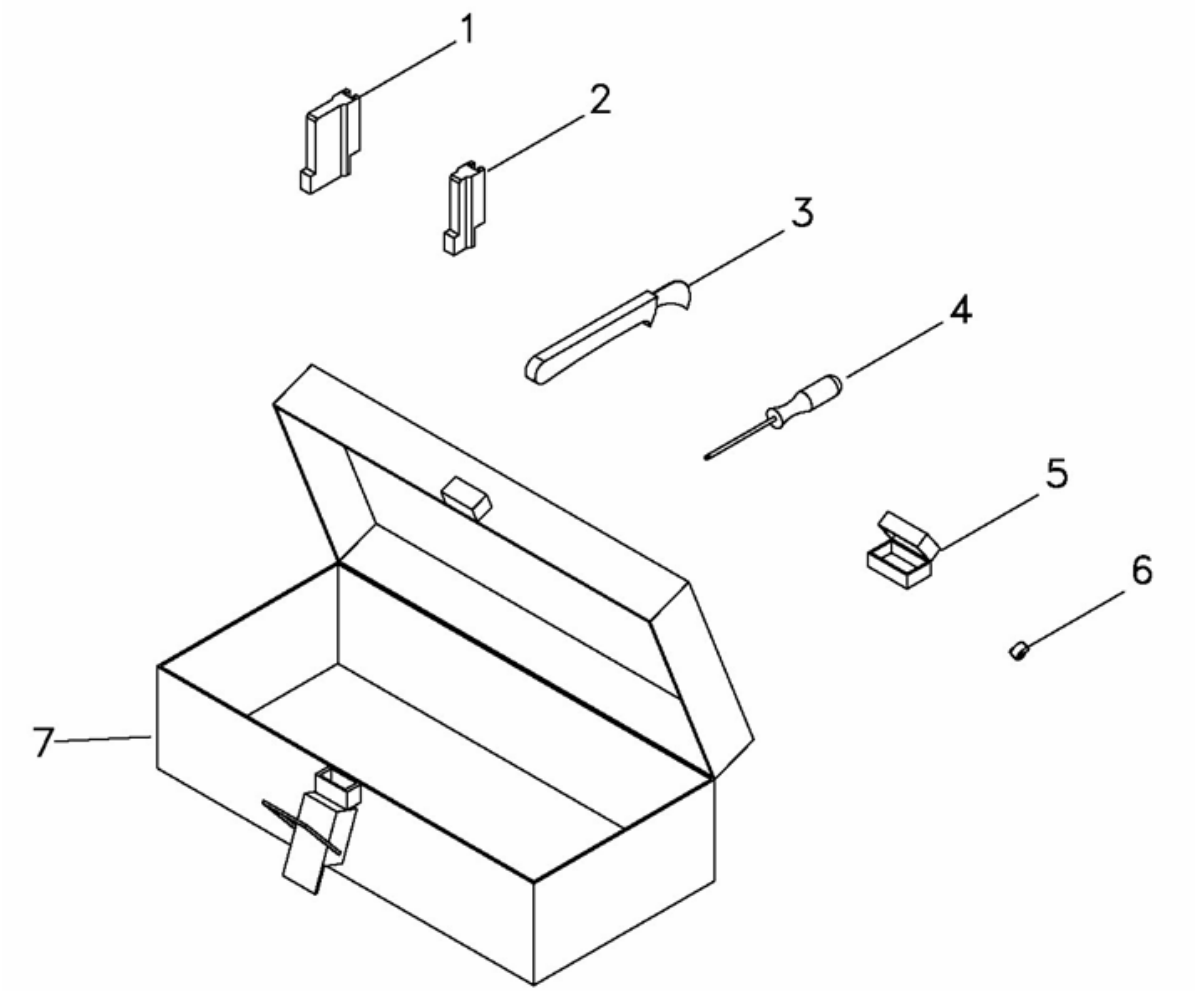
10. ASSEMBLY VIEW



N°	**PARTS LIST**	CODICE CODE
-	**PIPE SCRAPER BASE ASSEMBLY**	**81729850**
1	CLAMP n.1 RTC-160	75329850
2	CLAMP n.2 RTC-160	75329860
3	CLAMP n.3 RTC-160	75329870
4	CLAMP n.4 RTC-160	75329880
5	POSITIONER HWN208-2208.005	41800010
6	SCREW TSPEI 10.9 M3x12 UNI 5933-Zn	40240784
7	LOCKING PLATE	74499851A
8	PIPE SCRAPER BASE	71749850
9	BUTTON TPF14 sin	76769851B
10	SPRING De 9x1x19 cod.D11960-B	41851160
11	RING 6 UNI 7435-Br	41372090
12	WHEEL WITH PIN Z10 m 1.25	77579860
13	BEARING D30d14x45.5	70849850
14	SERRATED WHEEL Z75 m1.25	77579850
15	SCRAPER BASE COVER	71659860
16	SCREW TCEI 8.8M3x10 UNI 5931-Zn	40120772
17	ELASTIC PIN d3x18 UNI 6873-Br	41410980
18	HAND WHEEL D60 4 LOBES	79379850


26
25
25
24
28
27
30
23
32
22
31
29
18
20
19
6
21
2
21
7
1
4
5
8
3
12
13
9
14
15
16
17
11
10

N°	DENOMINAZIONE *LEGEND*	CODICE CODE
-	**ARM ASSEMBLY**	-
1	SCRAPER ARM GUIDING SUPPORT	78159850
2	SCREW TSPEI 10.9 M5x25 UNI 5933-Zn	40241374
3	GUIDE SCREW TPF 14x190	79299850
4	SCREW TSPEI 10.9 M4x12 UNI 5933-Zn	40241004
5	RACK m 0.75x112	71859850
6	HANDLE MGE/28x88 M8	32090090
7	NUT 6S M8 UNI 5588-Zn	41002082
8	MAIN ARM	70839870
9	PLATEHOLDER SUPPORT	78159040
10	SCREW TCEI 8.8 M4x25 UNI5931-Zn	40121062
11	SPRING d11.5x1.25x28 6 SPIRE	75209020
12	SPIROL PIN d4x18 UNI 6875-Br	41421500
13	PLATE HOLDER	76559032A
14	SCREW TCB 4.8 M2.5x8 UNI 7687-Zn	40780502
15	PLATE d12x7	76509017
16	SPARE SLIDING BLOCK	76259002A
17	SCREW TCB 4.8 M2.5x6 UNI 7687-Zn	40780482
18	SCREW TSPEI 10.9 M3x12 UNI 5933-Zn	40240784
19	SCREW TSPEI 10.9 M4x12 UNI 5933-Zn	40241004
20	SCRAPER ARM SUPPORT COVER	71659850
21	SCREW TSPEI 10.9 M5x30 UNI 5933-Zn	40241394
22	ELASTIC PIN d3x18 UNI 6873-Br	41410980
23	SERRATED WHEEL SUPPORT (left)	78159870
24	SCREW TSPEI 10.9 M4x16 UNI 5933-Zn	40241024
25	HANDLE SPACER	72239850
26	HANDLE MT/105-M5	32120301
27	PIN Fe 4x16 h8 UNIEN 22338	41431000
28	RELEASING PUSHBUTTON	76769012A
29	SPRING De 4.5x0.5x31 cod. D11240	41851150
30	SERRATED WHEEL SUPPORT (right)	78159860
31	HANDWHEEL VB/40 MODIFIED	79379500
32	PINION Z30 m0.75	76469002A



N°	PARTS LIST	CODICE *CODE*
-	BOX ASSEMBLY	81299850
1	EXTENSION n.2 (*4)	76629860
2	EXTENSION n.1 (*4)	76629850
3	SMALL DEBURRING KNIFE	98420001
4	PHILLIPS SCREWDRIVER 3x60	61520000
5	TRANSPARENT CONTAINER UB 22x8/1	32450000
6	PLATE d12x7	76509017
7	TOOL BOX Mod.V07	65000050

Warning
Technical features of the machine and data related in this manual may vary without prior notification of the constructor.