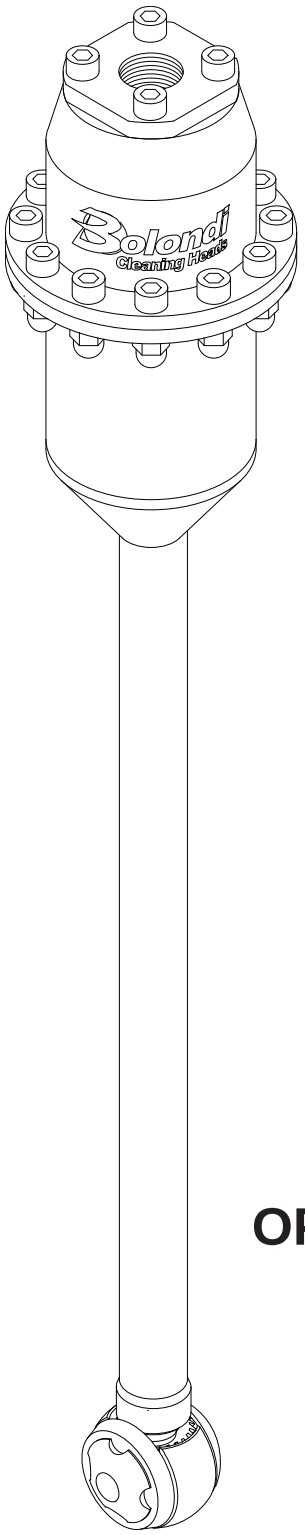
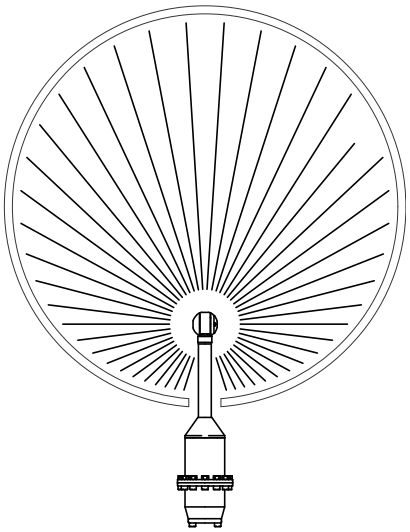
Bolondi
Cleaning Heads



CE



OPERATING AND MAINTENANCE MANUAL
HEADS mod. XB031-AAD_BQ.02

SERIAL N°: XXXXXXXX

WARNING: THIS MANUAL IS AN INTEGRAL PART OF THE MACHINE AND MUST BE READ AND KEPT FOR REFERENCE.

Translation of the original instructions

INTRODUCTION

DECLARATION OF INCORPORATION OF INCOMPLETE MACHINES

The undersigned Bolondi Ivano in his role of Legal Representative of Officina meccanica Bolondi Ivano and Person authorised to constitute the technical folder, DECLARES under his own responsibility that the material supplied, indicated in this manual and to which this declaration refers, consists of a washing head that complies with:

- The applicable essential safety requirements (1.1.2 – 1.1.3 – 1.1.5 – 1.3.1 – 1.3.2 – 1.3.3 –1.3.4 – 1.3.9 – 1.5.2 – 1.5.3 –1.5.4 –1.5.6 – 1.5.7 – 1.5.8 – 1.5.13 – 1.6 – 1.7) of appendix I of machinery directive 2006/42/EC
- The applicable essential safety requirements of directive 97/23/EC (pressurised equipment classified in art. 3 cat. 3)

It also complies with the following harmonised European standards:
UNI EN 14121:2009 - Risk Assessment Principles
UNI EN ISO 12100:2010 - Safety of machinery - General principles for design.

The undersigned also declares that the incomplete machine cannot be started-up until the machine on which it will be incorporated and of which it will become part has been identified and declared to be compliant with the provisions of directive 2006/42/EC; in other words until the incomplete machine to which this declaration refers has become an integral part of the end machine.
The pertinent technical documents have been drawn-up in compliance with appendix VII B.
We shall forward the information concerning the incomplete machine by fax, e-mail or other means following a reasonable request from National authorities.
(00A-01CE-06-EN)

BOLONDI IVANO
The legal representative
Ivano Bolondi

Bolondi Cleaning Heads
Via Volta 4
42027 Montecchio (R.E.) ITALY
Tel.+39 522 864434 Fax. +39 522 865780

CE

ROTOJET ...
MATRIC. - SERIAL N. ...
ANNO - YEAR ...
PORTATA - FLOW MAX ... lt/min
PRESSIONE - PRESSURE MAX ... bar
TEMP. MAX ... °C

REFERENCE LEGISLATION

AIRBORNE NOISE AND VIBRATIONS:

Sound intensity measurements relating to the noise produced by the machine were taken in compliance with DIR. 2006/42/EC.
The acoustic pressure was measured at the workstation, at 1 m from the machine surface and 1.6 m off the ground, in normal machine operating conditions.

Sound intensity measurements gave readings below 70 dB(A).

Measurement of vibrations was not made as these were considered clearly below risk levels.

The intensity of the sound produced by machine operation is normally below sound intensity caused by the impact of washing water against the walls to be washed.
(00D-010-01-EN)

TERMS OF WARRANTY

1) The Manufacturer guarantees the rotating head as free of material or construction faults and defects.

2) Warranty: 2 years from the date of delivery for EEC countries, 1 year from the date of delivery for non-EEC countries. During this period the Manufacturer undertakes to repair or replace parts that present acknowledged construction defects free of charge excluding transport and labour costs which are entirely at the expense of the purchaser.

3) The warranty does not cover: all parts that are subject to wear, parts that have been damaged due to improper use or negligence; these parts are always and entirely at the Customer's expense.

4) The validity of the warranty is at the exclusive and unquestionable judgement of the Manufacturer.

5) All spare parts replaced under warranty must be returned to the Manufacturer carriage free within 20 days maximum, failure to do so shall cause the warranty to be invalidated.

6) The warranty shall become invalid if the head is intentionally tampered with without the written authorisation of the Manufacturer.

7) Any disputes shall be assigned to the jurisdiction of the Judicial Authority of the Reggio Emilia Law Court.
(00C-01-Garanzia-EN)

1) INTRODUCTION

Read this operating and maintenance manually carefully before using the head. Only by following the instructions herein and becoming familiar with the symbols used is it possible to obtain conditions of maximum efficiency and safety. The contents of this manual are in compliance with machine directive 2006/42/EC and subsequent amendments. The Manufacturer reserves the right to make any modifications without notice and without incurring any sanctions on condition that the main technical safety features are not affected. The Manufacturer is not responsible for personal injury or material damage resulting from the non-observance of the indications that accompany the symbol.

The symbol  represents a safety warning.
Failure to follow the instructions given can cause serious personal injury.

N.B.: for accident prevention purposes the equipment must be fitted with suitable devices to prevent automatic re-starting when the equipment is powered after a shut-down. The head must not be used without these devices. The Manufacturer declines all responsibility in the case of improper use of the equipment.
(01-000-01-EN)

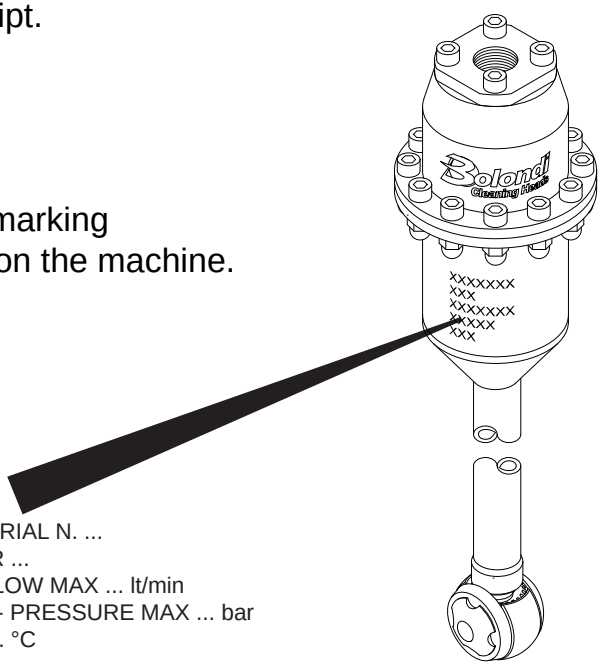
2) RECEIVING AND UNPACKING

2.1) CHECKING AND UNPACKING

2.1.1) Check on receipt that the goods delivered correspond to those ordered.
2.1.2) Make sure that goods were not damaged during transport.
2.1.3) Any damage found when the goods are received must be documented and the sender informed within 3 days of receipt.

2.2) MARKING AND IDENTIFICATION

Upon receiving the head, make sure the marking shown below is identical to that stamped on the machine.



Bolondi Cleaning Heads
Via Volta 4
42027 Montecchio (R.E.) ITALY
Tel.+39 522 864434 Fax. +39 522 865780

CE

ROTOJET ...
MATRIC. - SERIAL N. ...
ANNO - YEAR ...
PORTATA - FLOW MAX ... lt/min
PRESSIONE - PRESSURE MAX ... bar
TEMP. MAX ... °C

2.3) DEMOLITION AND DISPOSAL

It is the purchaser's responsibility to follow the correct procedure and comply with the current laws in force in his country as regards to disposing of consumables and materials resulting from demolition.
Please remember that by waste is meant any substance or object under obligation of disposal.
According to their origin and pursuant to the above mentioned Decree, waste products are classified as urban or special waste and, depending on their dangerous characteristics, as hazardous or non-hazardous waste.
Waste resulting from the demolition of the machine is classified as special waste.

WARNING! It is forbidden to mix together different categories of hazardous waste and hazardous waste with non-hazardous waste.

INSTRUCTIONS FOR THE MOST APPROPRIATE HANDLING OF WASTE.

Ferrous materials:

Ferrous materials are recyclable (secondary raw materials) and must be given to the relevant authorised collection centres.

Plastics:

Recycling Allowed where carried out.
Dispose of in dumps for waste assimilable to urban waste.
Incineration Allowed in plants equipped with post-combustion and a system to eliminate dust before being let into the atmosphere.
(02-000-00-EN)

3) CONDITIONS AND LIMITS OF USE

3.1) Never point the jet of water at people, animals or electrical parts.

3.2) Always check that the equipment and the safety features are in good working before using the machine. It is forbidden to use the equipment if it is not in perfect condition.

3.3) **Intended use: the head was designed exclusively for washing closed containers.**

3.4) Improper use: any other use that does not comply with the safety standards indicated in this manual is to be considered improper.

3.5) Declaration of the manufacturer: if the head is installed, as a component, on machines or systems, it is forbidden to use it before the latter have been declared to comply with the provisions of the Machine Directive.

(03-000-00-EN)

4) GENERAL SAFETY STANDARDS

4.1) The equipment should be used by the persons assigned, having specific training or having shown the necessary competence, only. It forbidden for children or adolescents to use the equipment.

4.2) Never leave the equipment unattended.

4.3) Before using, and after each operation, make sure the screws are perfectly tight. **See table D "Torque wrench settings".**

4.4) Make sure that the supply motor pump is fitted with a relief valve and that the valve setting is compatible with the head.

4.5) Make sure that the supply pipes and connections are suitable for the working pressures and for the type of fluids used.

4.6) Make sure that the quantity and diameter of the nozzles is suitable for the characteristics of the plant (pressure and flow rate of pump).

4.7) Install a relief cock **(1)** that is as near the water inlet **(2)** as possible when the head is in use but always remains on the outside and is easily accessed by the operator **(Fig. 4.0)**.

4.8) The cock should be normally closed and the head should only be started inside the container to be washed and with the container properly closed.

4.9) The screw connections of all the flexible connecting pipes must be airtight.

4.10) The high pressure flexible pipe must be in perfect condition (danger of bursting). If the high pressure flexible pipe is damaged it must be replaced immediately.

4.11) Never inspect the container when the head is working or in the presence of considerable quantities of vapour.

4.12) The symbol  marked on the head draws the operator's attention to situations that could compromise human safety.

4.13) The general safety and accident prevention regulations laid down by law must be observed as well as the warnings given in the operating instructions.

(04-000-02-EN)

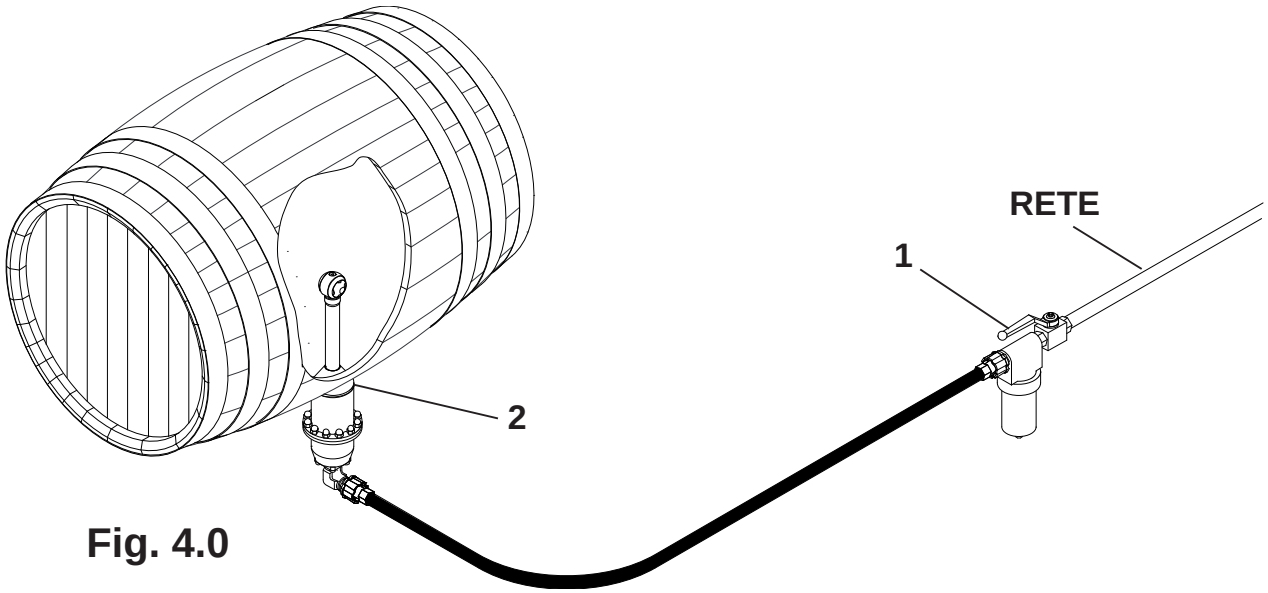
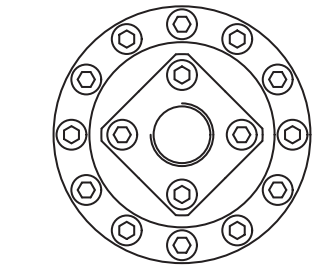
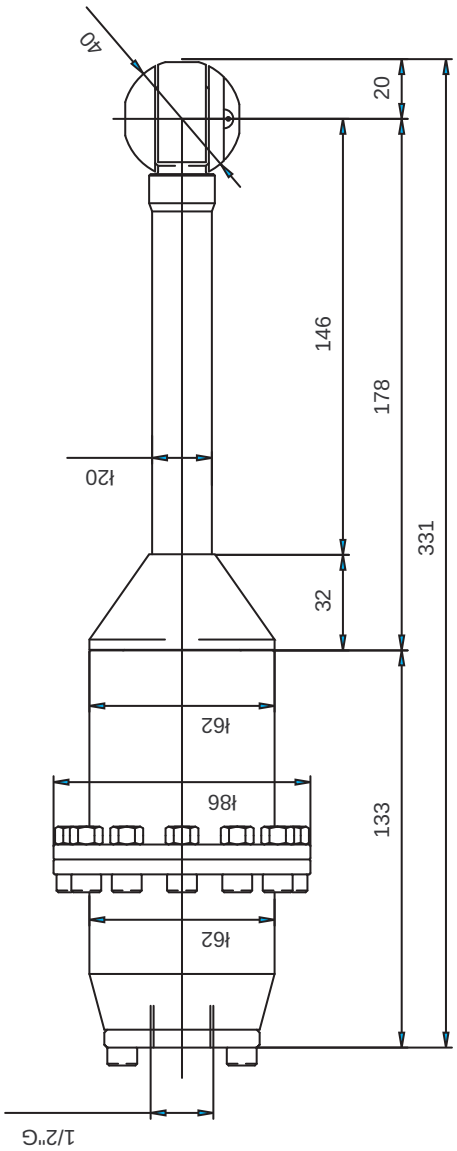


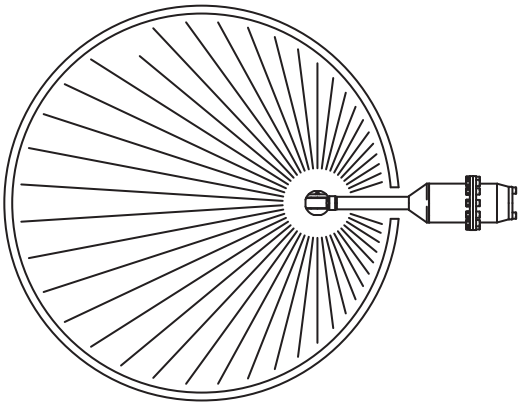
Fig. 4.0

5) TECHNICAL SPECIFICATION

MAX FLOW	30 L/min
MAX PRESSURE	150 bar
MAX OPERATING TEMPERATURE	90 °C
NUMBER OF NOZZLES	2 - 4
NOZZLES	SPECIAL XB030
O.RING	EPDM
SEALS	PTFE + CARBON FIBRE
MATERIAL	AISI 316
MODULE	1
GEARS	FIXED Z=23 ROTATING Z=25
ROTATION SPEED	24 RPM
FULL CYCLE	25 ROTATIONS
FULL CYCLE TIME	1.1 MIN.
WEIGHT	Kg. 4,6







MODIFICA		12			3		45				
FOGLIO		XXXX									
DATA		XX.XX.XX									
TOLLERANZE GENERALI classe m UNI-EN 22768/1											
0-6	6-30	30-120	120-400	400-1000	1000-2000						
++ 0.1	0.2	± 0.3	± 0.5	± 0.8	± 1.2						
NOTE:											

RUGOSITA' (UNI 4600)

GREZZO ~ = 6.3

SGROSS. ▽ = 3.2

FINITURA ▽▽ = 1.6

RETTIFICA ▽▽▽ = 0.8

DESCRIZIONE: APPLICATION DRAWING
XB 031 AAD 02

Bonardi
CLEANING HEADS
MONTECCHIO E. (RE) - ITALY

DISEGN.: CR | CONTR.: DM

DATA: 19.12.08 | MOD.

SCALA 1:2 | A4 | 0

CODICE: XB 031-AAD_BQ 02

6) DIAGRAM OF THE ASSEMBLY

1) Water inlet

2) Acquamotor

3) Identification plate

4) Stem

5) Nozzle-holder

(06-XB015AAA-00-EN)

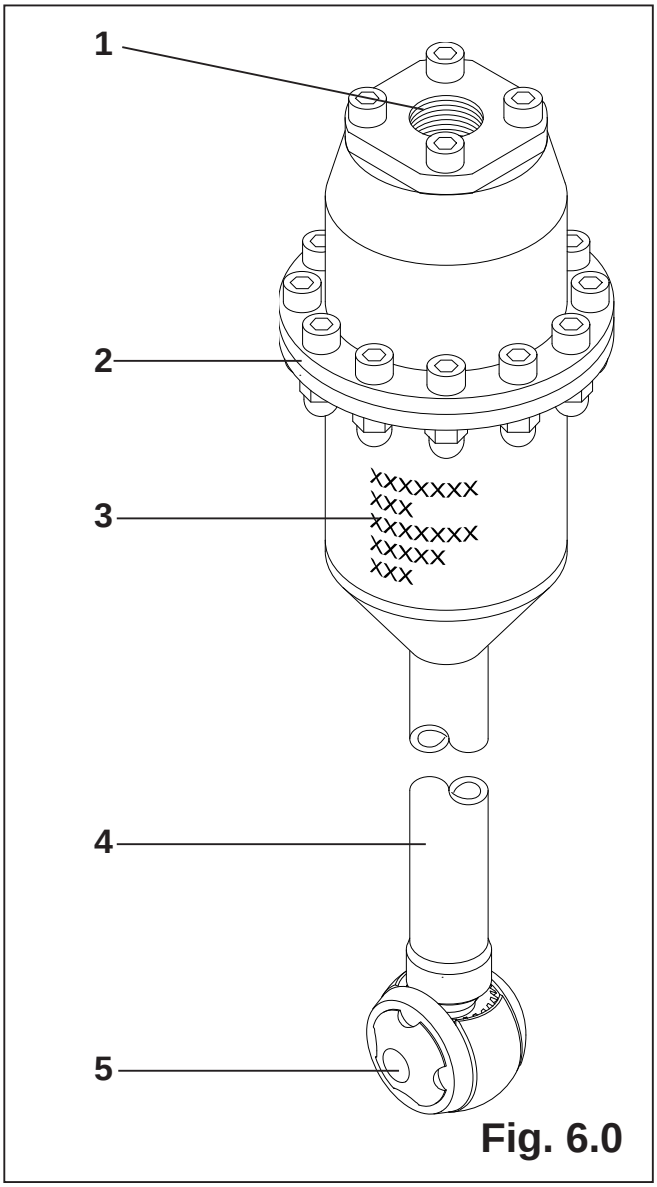


Fig. 6.0

7) INSTALLATION AND COMMISSIONING

Before you actually start the system, you are recommended to purge it to eliminate any sludge or impurities. Breakages or problems caused by soiling will not be accepted under warranty.

On the head inlet install a safety valve set at the maximum pressure shown on its mark or at page 8 of this manual.

7.1) Place the head in the barrel **fig.7.0**.

7.2) Connect the head to the pump using a 1/2” **(1)** union and high pressure hose **(2)** [see max.pressure punched on hose]. Install a safety cock between the head and the supply pump **(3)**, as explained in **chapter 04 section 4.6 4.7**.

7.3) Make sure the materials of the head components are compatible with the chemical specifications of the fluids used.

7.4) Make sure the technical specifications, flow rate and pressure of the head (page 8) are compatible with the specifications of the pump installed on the system.

7.5) The head is set for the specifications indicated on page 8 of this manual. If these parameters vary, please contact the manufacturer. Breakages or problems due to parameters that fail to comply with the specifications will not be accepted under warranty.
(07-XB031AAD-00-EN)

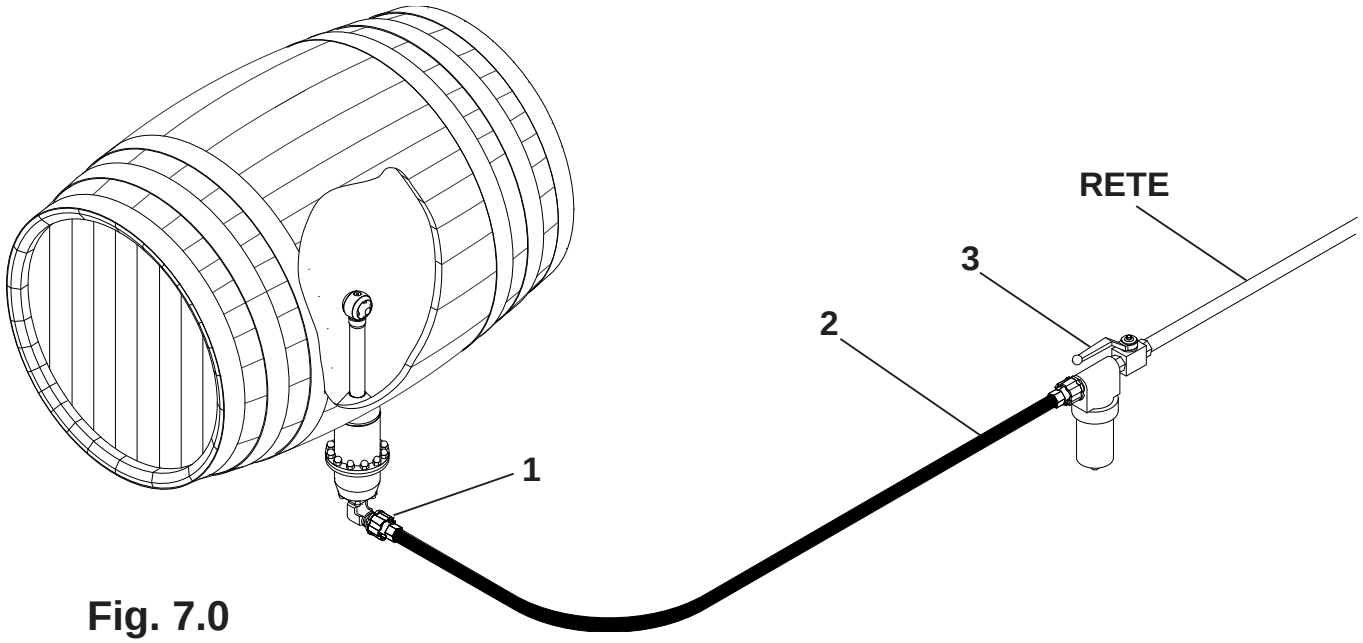


Fig. 7.0

8) INDICATIVE CHOICE OF THE DIFFUSER AND NOZZLE BASED ON THE FLOW RATE

Upon consignment, the head is built as requested in the order placed.

If the flow rate and pressure vary, replace the diffuser **(pos.33)** and the nozzle **(pos. 89)** to ensure optimum operation.

From table “A”, choose the most suitable diffuser **pos. 33** for the new parameters.

From table “B” and “C” choose the suitable nozzle

Before you make any changes you are recommended to contact the manufacturer.

Follow the procedure given in the maintenance manual to replace the internal diffuser.
(08-XB031AAD-00-EN)

TABLE “A”	
Flow l / min	Diffuser code
15	DF0403
20	DF0403
25	DF0405
30	DF0406

9) MAINTENANCE

WARNING:
Disconnect the head from the hydraulic system before starting any routine or extraordinary maintenance.

(NB. For all the numbers and references written in the chapter refer to the spare parts exploded diagram on **page 27**)
(NB. For all the tightening jobs with dynamometric spanner refer to the **table "D" on page 25**)

01) Cleaning the inlet filter pos.63.

Disassembly
1.01) Unscrew and remove the screws **pos. 57**, disassemble the filter holder flange **pos.62** and remove the cartridge **pos.63 (Fig.1.0)**.
1.02) Clean the cartridge **pos.63** thoroughly, make sure there are no breakages and fit back in place (pay attention, as per **fig.1.1**).

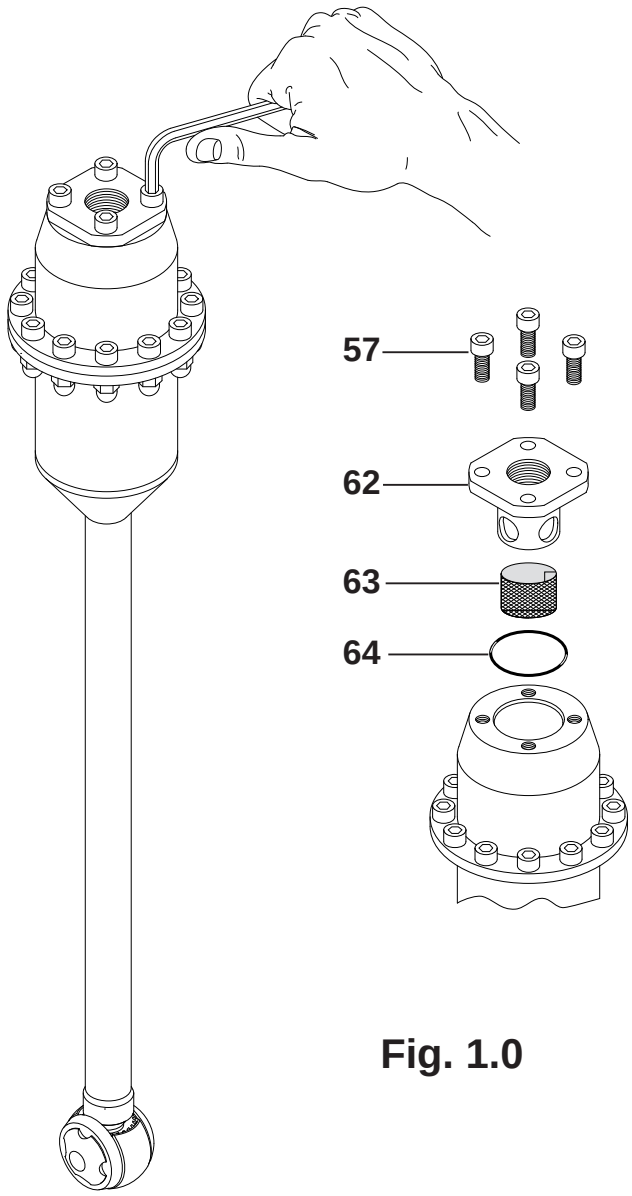


Fig. 1.0

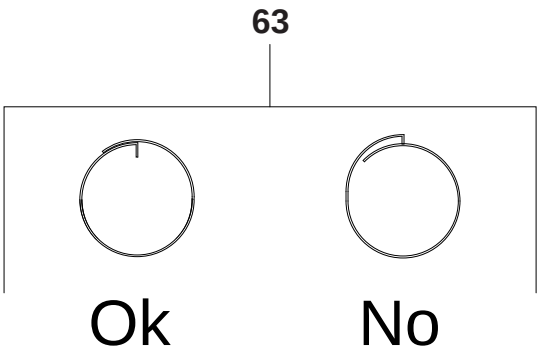


Fig. 1.1

Assembly
1.03) Lubricate the filter holder flange **pos. 62** by the O-ring **pos.64** with silicone grease type KLUBER PARALIQ ® GTE 703.
1.04) Put the filter holder flange **pos. 62** back in its seat.
1.05) Screw the screws **pos. 57**, using a dynamometric spanner.

02) Replacing the diffuser pos.33.

Disassembly
2.01) Disassemble the inlet filter, as explained in section **1.01**.
2.02) Using a 5-mm hex spanner and a 10-mm ring spanner, unscrew the twelve screws and the twelve nuts, **pos. 57** and **pos. 58**, see **fig.2.0**.
2.03) Take the top casing **pos. 1** off and push the diffuser kit **pos.33** out **(fig. 2.1)** then replace after selecting the required diffuser, as in **table "A" pag. 12**.

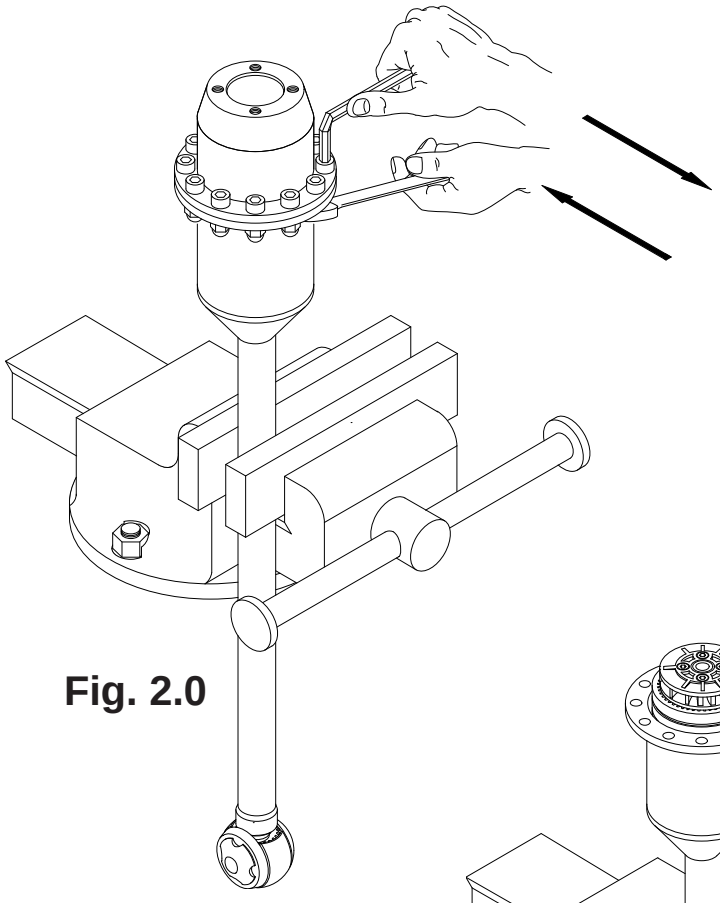


Fig. 2.0

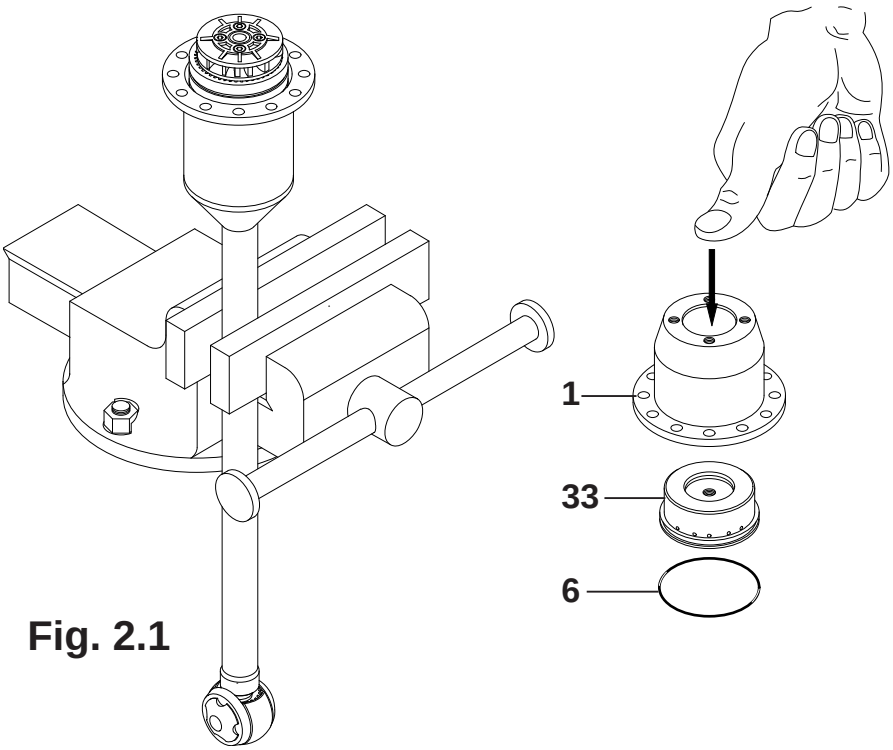


Fig. 2.1

Assembly
2.04) Insert the O-ring, **pos. 6** in the seat of the diffuser **pos.33** and lubricate with silicone grease type KLUBER PARALIQ ® GTE 703.
2.05) Fit the diffuser kit on the impeller **kit "G"** making sure to position the washer **pos.5** correctly **(see fig.2.2)**.

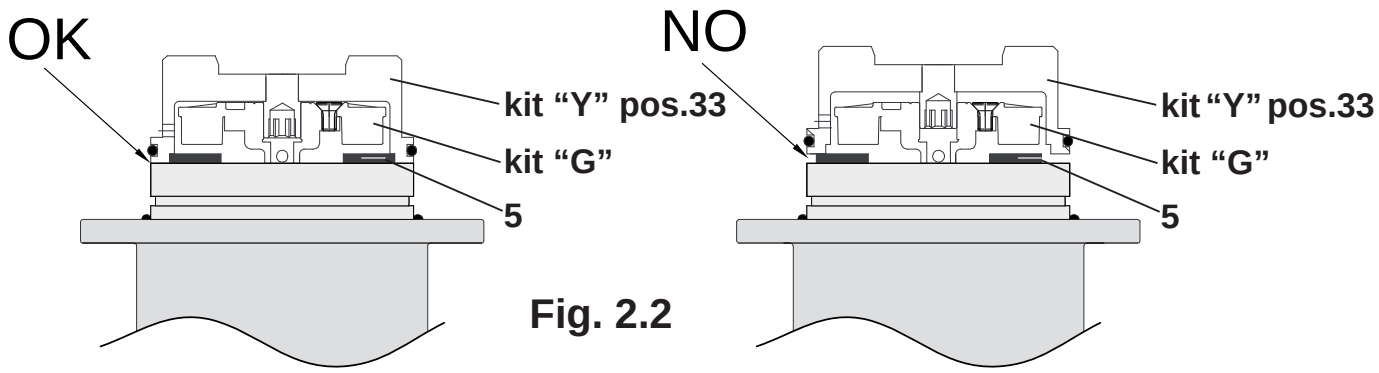


Fig. 2.2

2.06) Position the top casing and secure it with the twelve screws **pos. 57** and the nuts **pos. 58**, using a dynamometric spanner.
2.07) Fit the inlet filter back in place, as explained in section **1.03 to 1.05**.

03) Replacing the nozzle pos.89

Disassembly
3.01) Using the dedicated spanner ZB0001 unscrew and remove the nozzle **pos.89** and the O-ring **pos.76**.

Assembly
3.02) From **table "B" or "C"**, select the nozzle that you intend fitting.
3.03) Position the O-ring in its seat on the pin **pos.83**
3.04) Fit the nozzle selected and tighten with the dedicated spanner ZB0001.

04) Replacing the seals in the end part of the nozzle holder pos.75.

Disassembly
4.01) Clamp the head in a bench vice and using a 3-mm hex spanner, unscrew and remove the screw **pos.86** on part **pos.85**.

4.02) Remove the protection **pos.85**, the crown **pos.84** and slide the nozzle holder pin **pos.83** out with the washer **pos.82 (fig.4.0)**.
4.03) Using the dedicated tool, remove the seals and the o-rings **pos.75** from their seats **(fig.4.1)**.

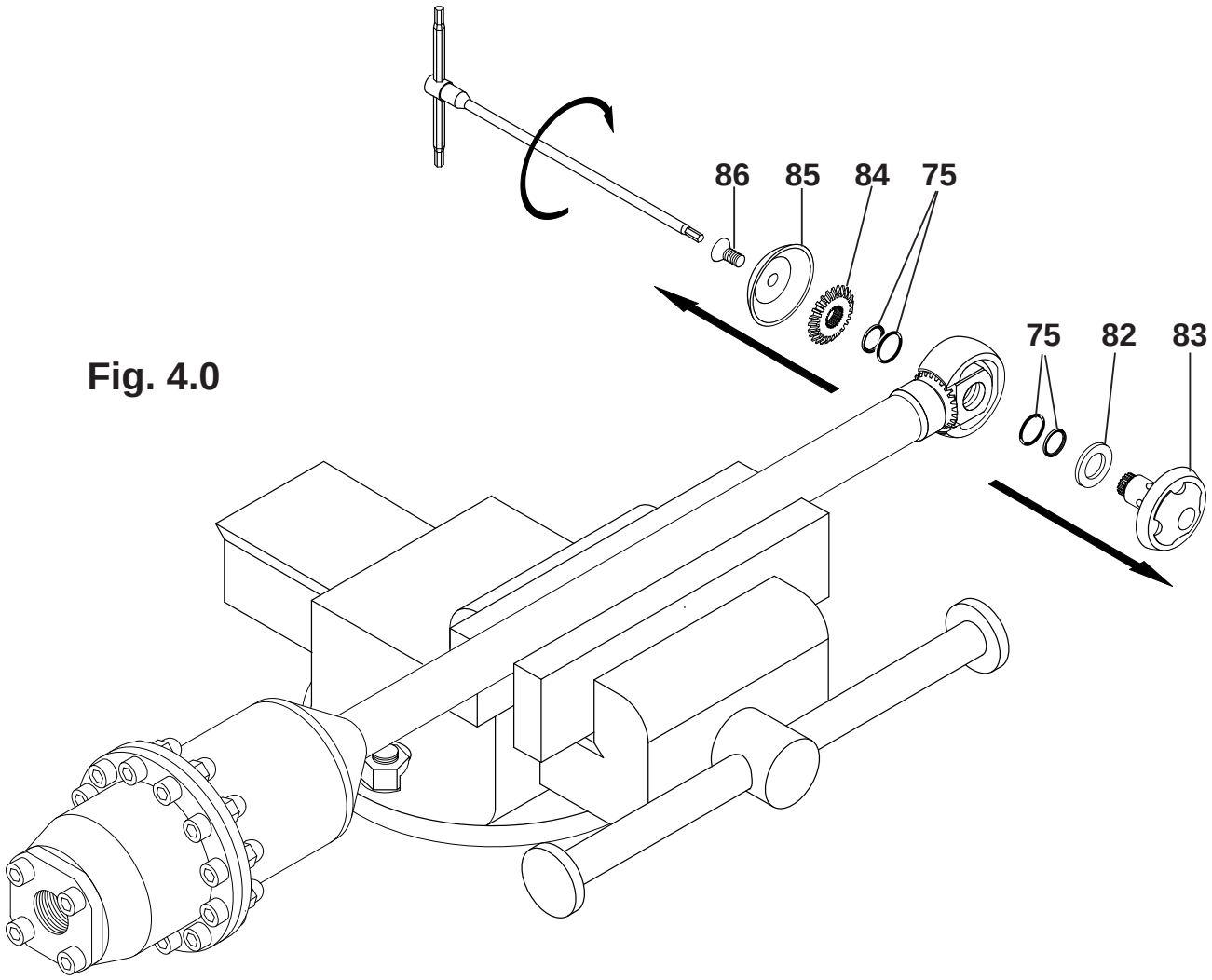


Fig. 4.0

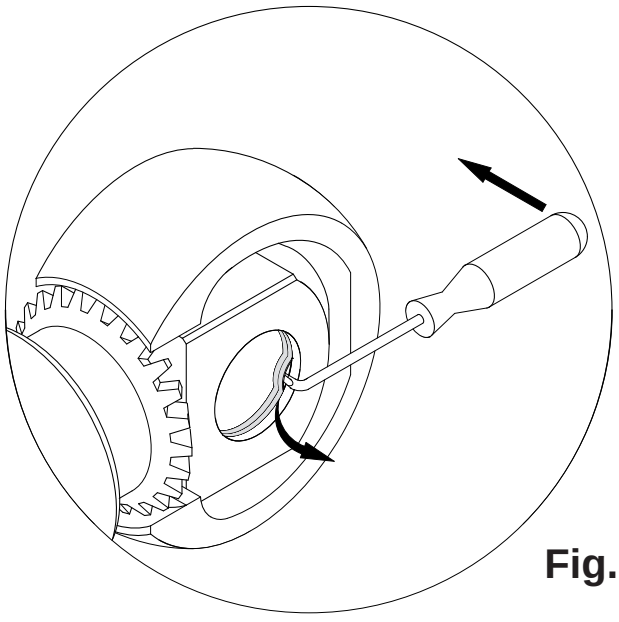


Fig. 4.1

Assembly

4.04) First fit the O-ring back in its seat and then the seal ring **pos.75** making the O-ring adhere perfectly using a blunt tool. To make it easier to insert the ring, follow the instructions in **fig.4.2**.

4.05) Make sure everything is fitted correctly in its seat and lubricate with silicone grease type KLUBER PARALIQ ® GTE 703.

4.06) Fit the washer **pos.82** on the pin **pos.83**, insert the pin in the pipe **pos.80**.

4.07) Fit the crown **pos.84** on the spline of the pin **pos.83** (check correct coupling of toothing between pinion **pos.73** and crown **pos.84**).

4.08) Fit the protection back in place **pos.85** and lock it with the screw **pos.86** (put two drops of Loctite 572 on the thread) **fig.4.3**.

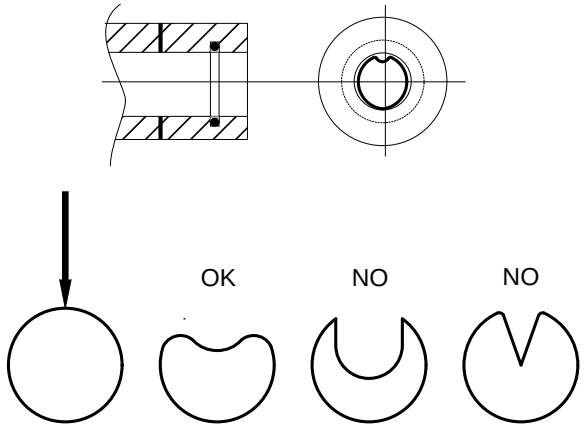


Fig. 4.2

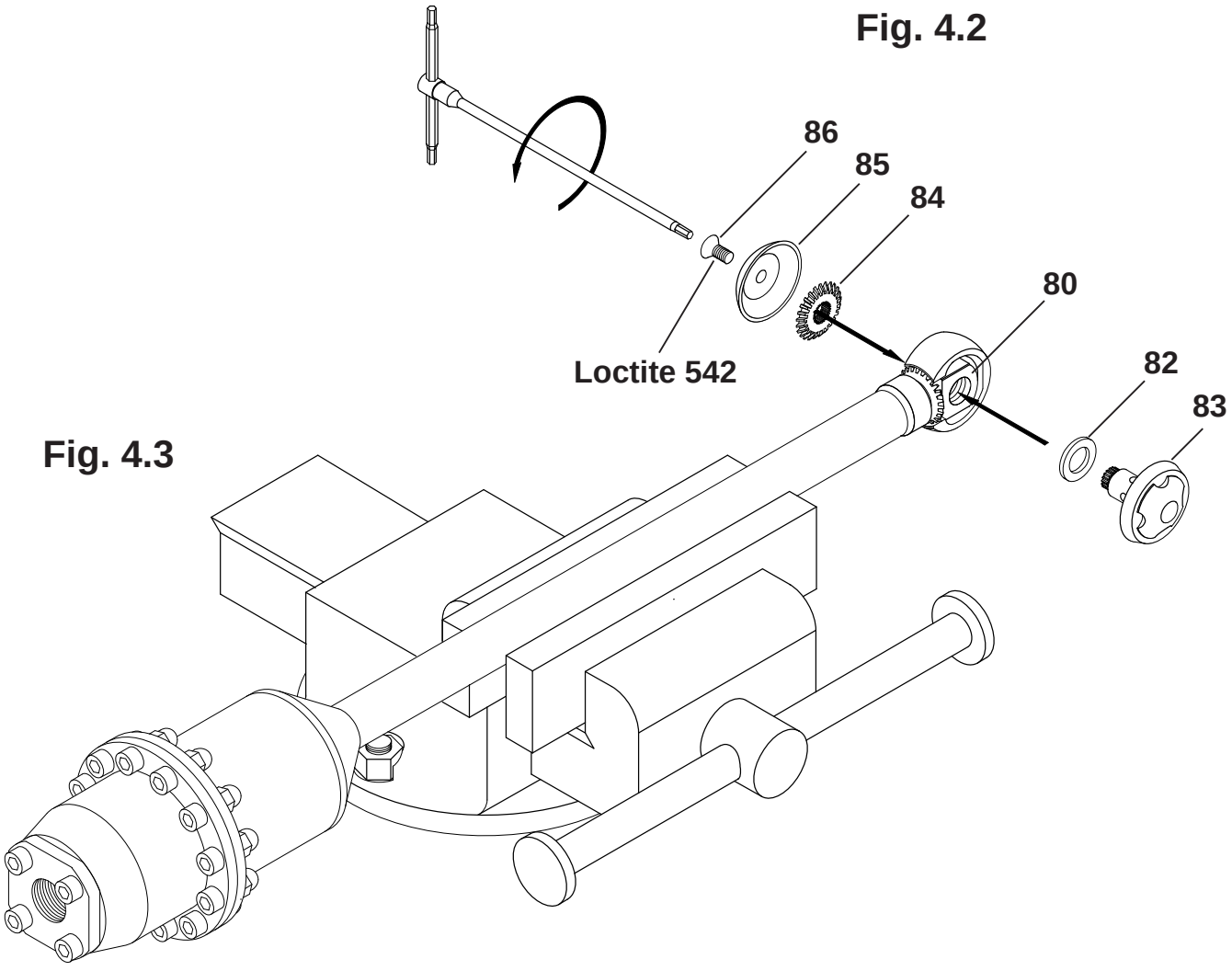


Fig. 4.3

05) Replacing the seals pos.72 on the pinion pos.73.

Disassembly

5.01) Once you have disassembled the head, as explained in **chapter 02** (from section **2.01** to section **2.03**) and **chapter 04** (from section **4.01** to section **4.02 Fig.5.0**), take all the parts out as in **fig.5.1**

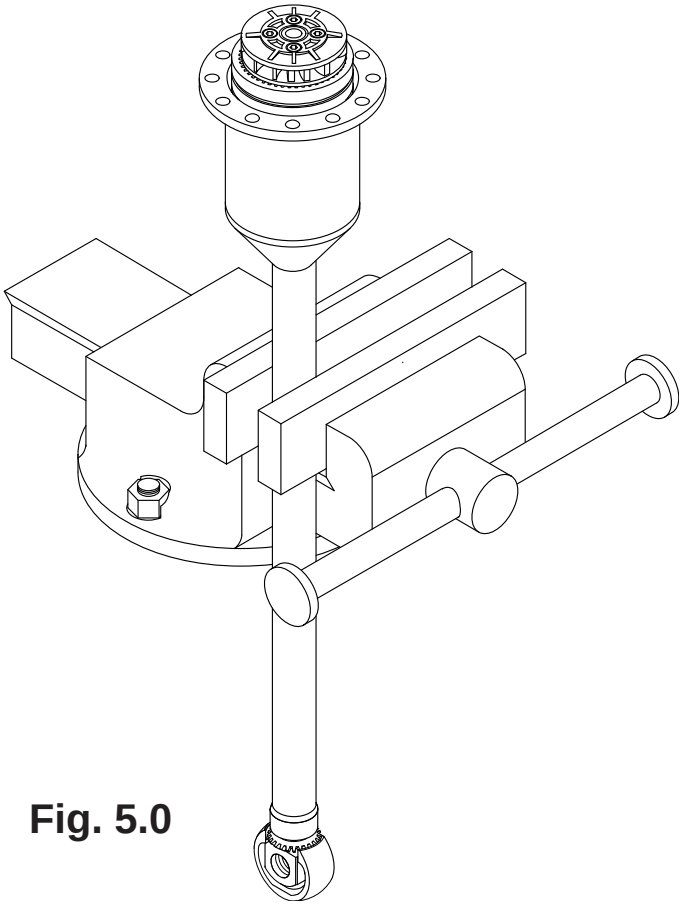


Fig. 5.0

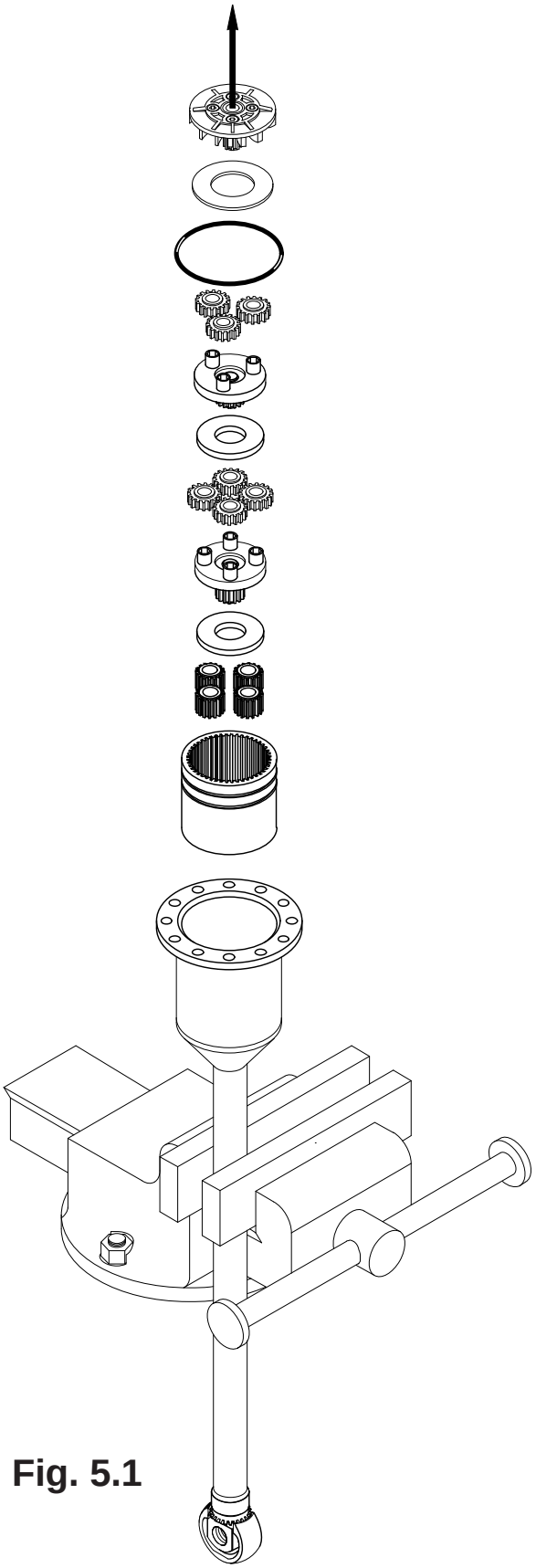


Fig. 5.1

5.02) Lower the cone **pos.90** and using the special half-moon spanner, loosen the ring nut **pos.70** and tighten the bottom casing slightly **pos.40 (fig.5.2)**
5.03) Using the spanner supplied BZ0031 unscrew and disassemble the output shaft **(Kit "D")**, the bearing unit **pos.43-44-45 (Fig.5.3 – 5.4)**.

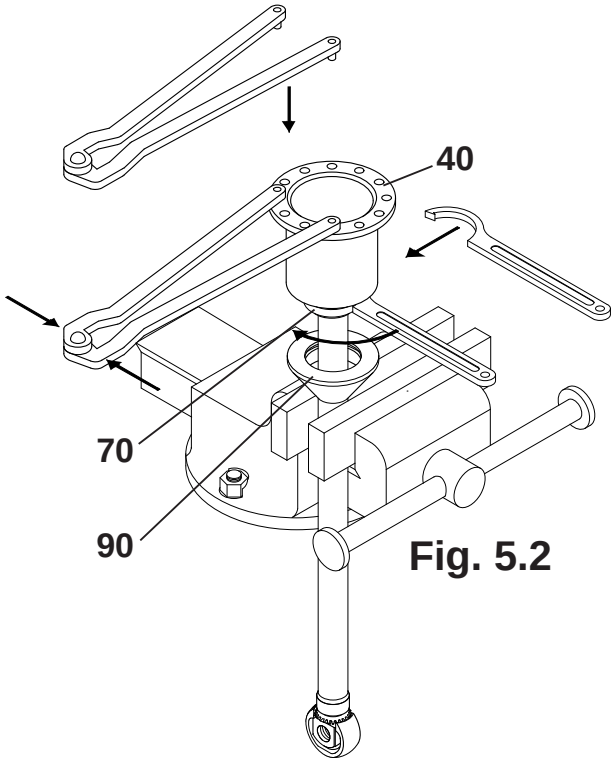


Fig. 5.2

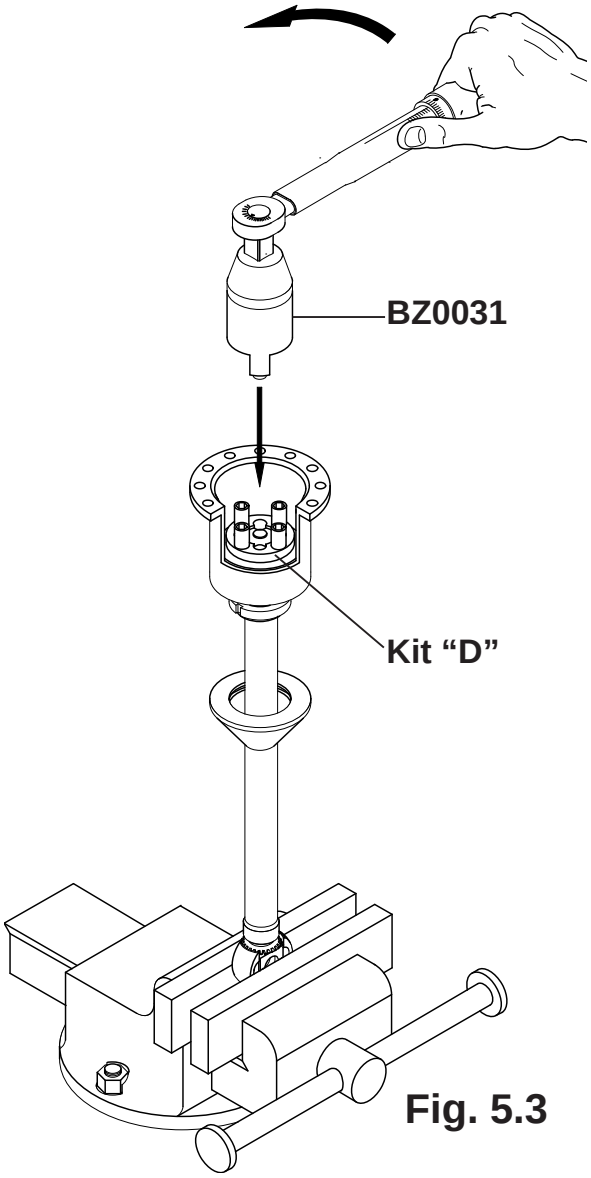


Fig. 5.3

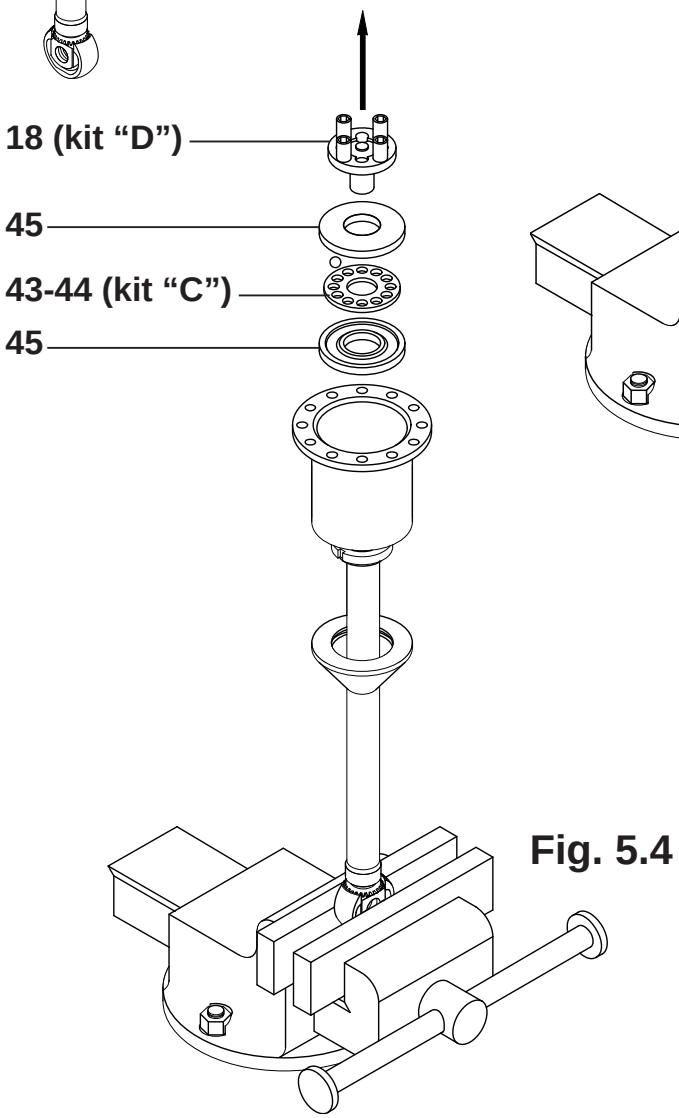


Fig. 5.4

5.04) Slide the complete internal rod out **“A” (Fig.5.5)**
5.05) Using a 19-mm fixed jaw spanner, unscrew the pinion **pos.73** from the external hose **pos.71**
ATTENTION! LEFT-HAND SCREW THREAD. (Fig.5.6).
5.06) Using the special tool, remove the ring and o-ring **pos.72** from the pinion **pos.73 (Fig.5.7)**.

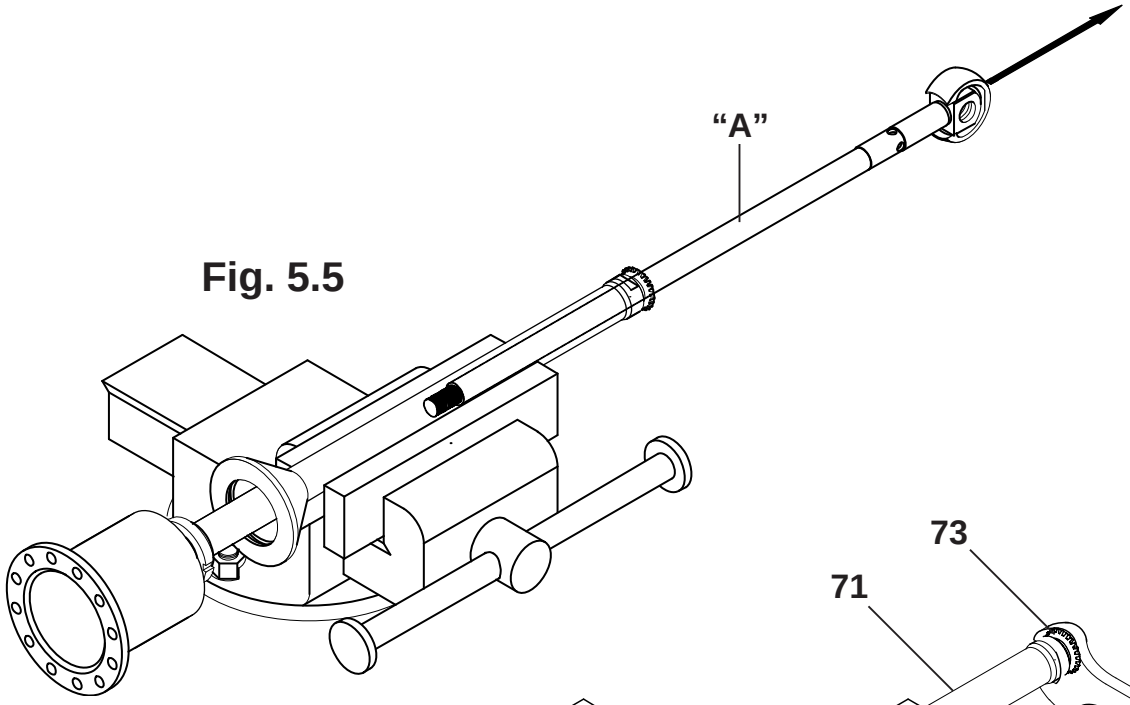


Fig. 5.5

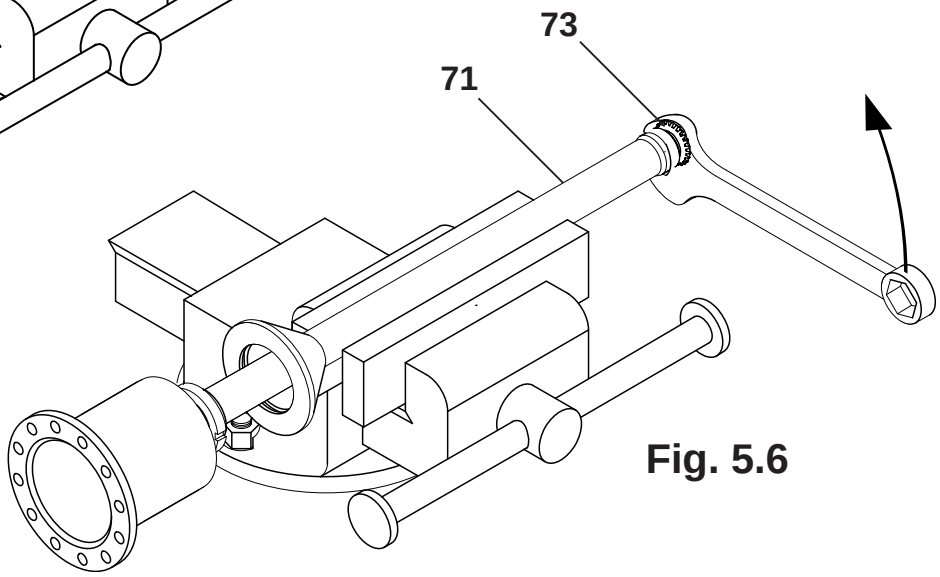


Fig. 5.6

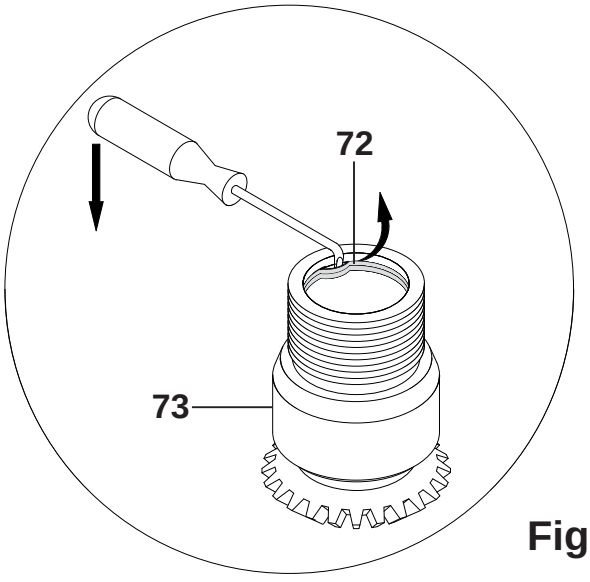


Fig. 5.7

Assembly

5.07) First fit the O-ring back in its seat and then the seal ring **pos.72** making the O-ring adhere perfectly using a blunt tool. To make it easier to insert the ring, follow the instructions in **fig.4.2. pag. 16.**

5.08) Make sure everything is fitted correctly in its seat and lubricate with silicone grease type KLUBER PARALIQ ® GTE 703.

5.09) Put a few drops of Loctite 572 on the thread of the pinion **pos.73**, screw onto the external hose **pos.71** and tighten with a 22-mm fixed jaw spanner

ATTENTION! LEFT-HAND SCREW THREAD (Fig.5.8).

5.10) Fit the bearing unit **pos.43-44-45** in the bottom casing **pos.40** and screw the same right up against the ring nut loosened previously in **section 5.02 (fig.5.9)**.

5.11) Insert the internal rod **"A"** in the pinion **pos.73** fitted previously on the external hose **pos.71 (fig.5.10)**.

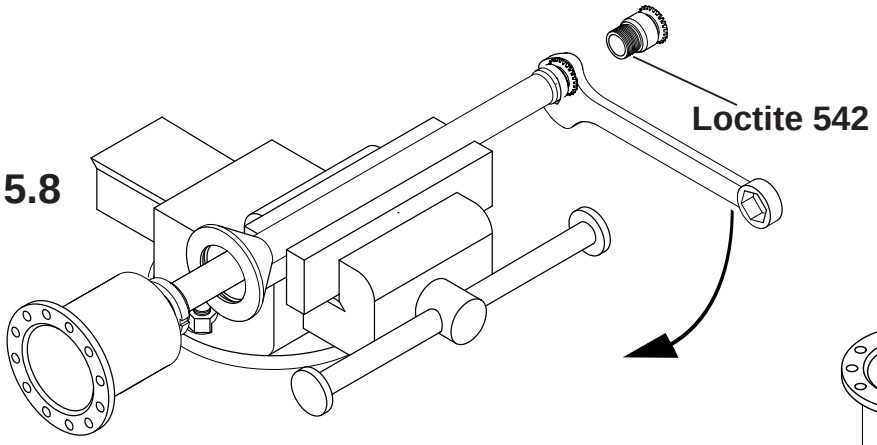


Fig. 5.8

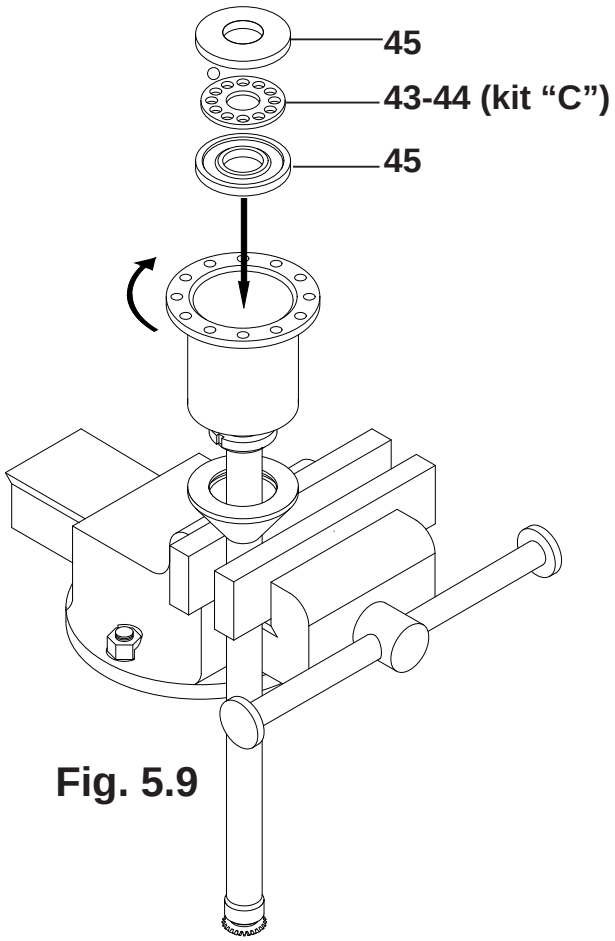


Fig. 5.9

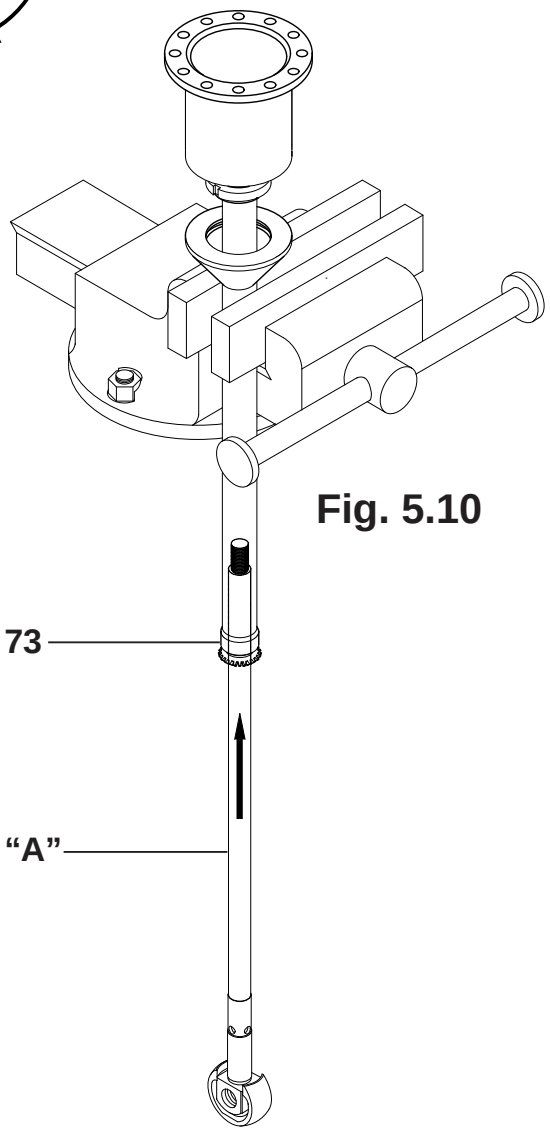


Fig. 5.10

5.12) Put a few drops of Loctite 222 on the thread of the output shaft **pos.18 (Kit "D")**, screw the same onto the internal rod and tighten with the special spanner supplied (BZ0031) and check with dynamometer **(fig.5.11)**.
5.13) Fit as explained in **chapter 04** (from section **4.06** to section **4.08**).
5.14) Adjust the ring gear as follows:
a) Unscrew the bottom casing **pos.40** until the semi-spherical end part and output shaft are unable to turn.
b) Slowly screw the casing **pos.40** so that there is a play of approx.0.1 mm between the teeth of the pinion **pos.73** and the pin **pos.80** (check with gauge) **fig.5.12**.

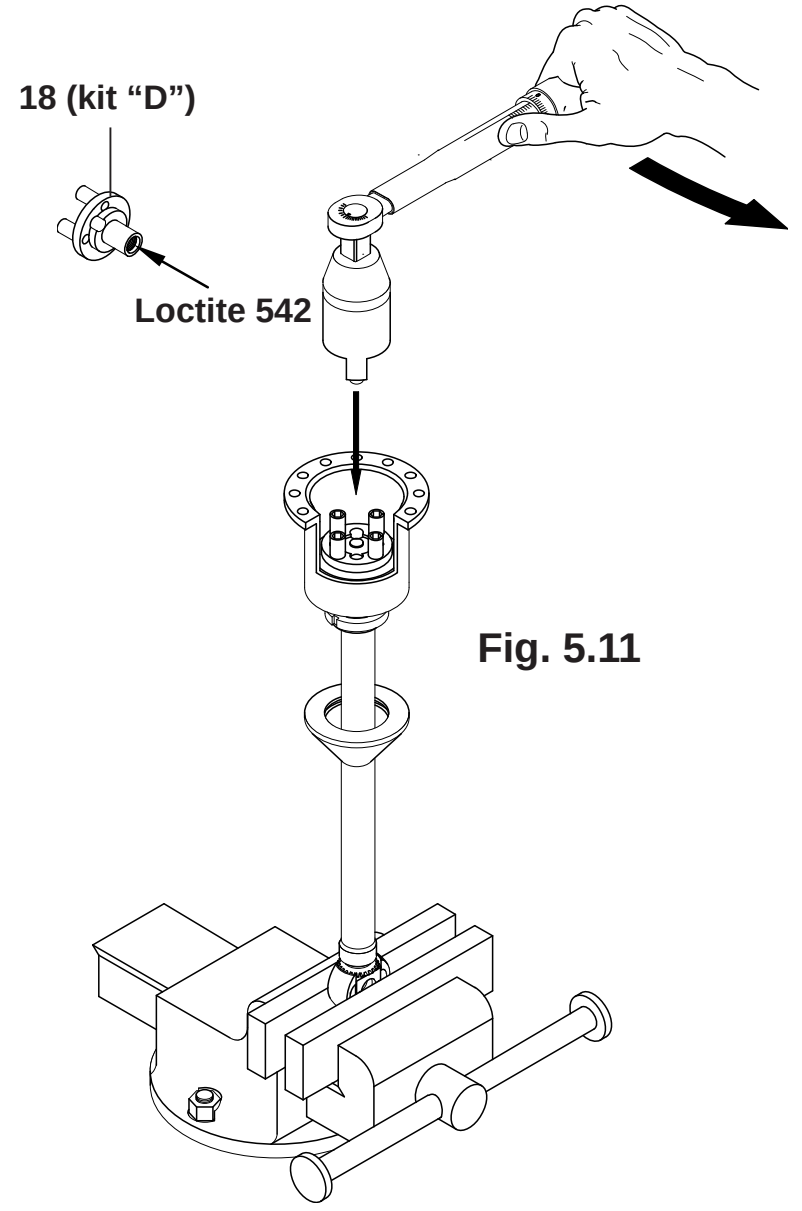


Fig. 5.11

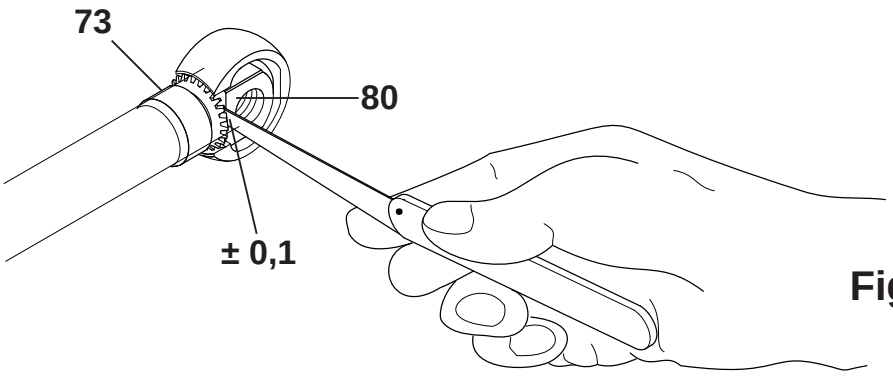


Fig. 5.12

c) Slightly tighten the ring nut **pos.70**, make there is no friction in the rotation of the end semi-spherical part.
d) Once adjusted as required, tighten the ring nut **pos.70** against the bottom casing **pos.40**.
5.15) Fit the crown **pos. 31** in the bottom casing **pos.40**.
5.16) Fit the four gears **pos.10 (kit "F1")** on the output shaft **pos.18 (kit "D")**.
5.17) In the following sequence, fit the washer **pos. 8**, the planetary holder **pos. 15 (kit "E1")** and the four planetary gears **pos. 32 (kit "F1")**; repeat the sequence for the next stage, inserting the second washer **pos. 8**, the planetary holder **pos. 13 (kit "E")** and the three planetary gears **pos. 29 (kit "F")**.
5.18) Place the washer **pos. 5** on the crown **pos.31**. Make sure everything has been assembled correctly, checking there is no friction between part **pos.5** and the gears **pos.29**, see **fig. 5.13**.
5.19) Fit the O-ring **pos.24** and the complete turning unit **(kit "G")**, as per **fig. 5.14**.
5.20) Complete the assembly as explained in **chapter 02** (from section **2.05** to section **2.07**).
(00M-XB031AAD-00-EN)

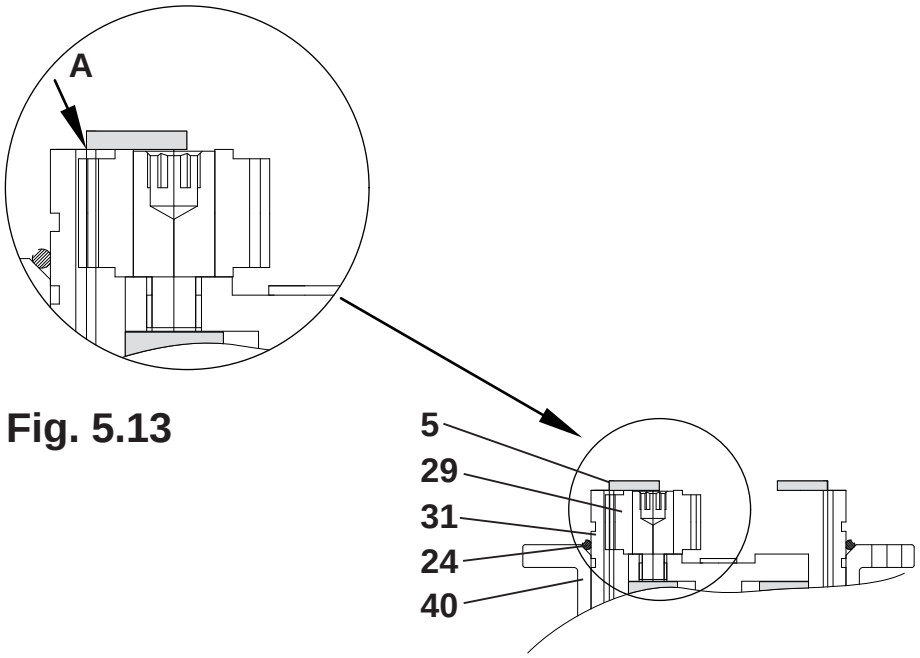


Fig. 5.13

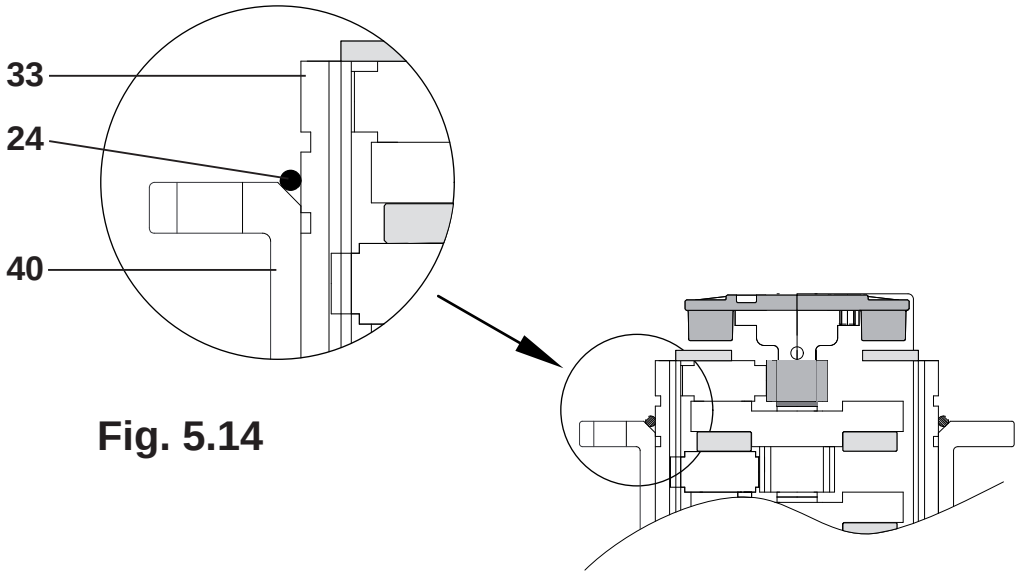


Fig. 5.14

10) SPARE PARTS

Always refer to the spare parts tables when choosing spare parts. Spare parts should be requested by fax to following address:

Bolondi
Via A. Volta, 4 - 42027 MONTECCHIO (RE) - ITALY
Tel. +39 0522 864434 Fax +39 0522 865780
e-mail: bolondi@bolondi.com

always indicate:
- the model and serial number of the head (see identification plate)
- the code and description of the part ordered (see table)
- the quantity required
- the preferred means of shipment

(11-000-00-E)

TABLE “D” TORQUE WRENCH SETTINGS

TABLE “D” TORQUE WRENCH SETTINGS		
Structural screws		
Pitch	Nm	
M5	7	All
M6	11	All
M10 x 1,00	20	All
M24 x 1,00 sx	20	All
M27 x 1,00	27	All
1/8	5	All

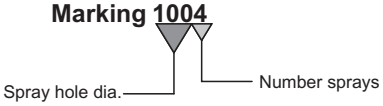
TABLE "B"

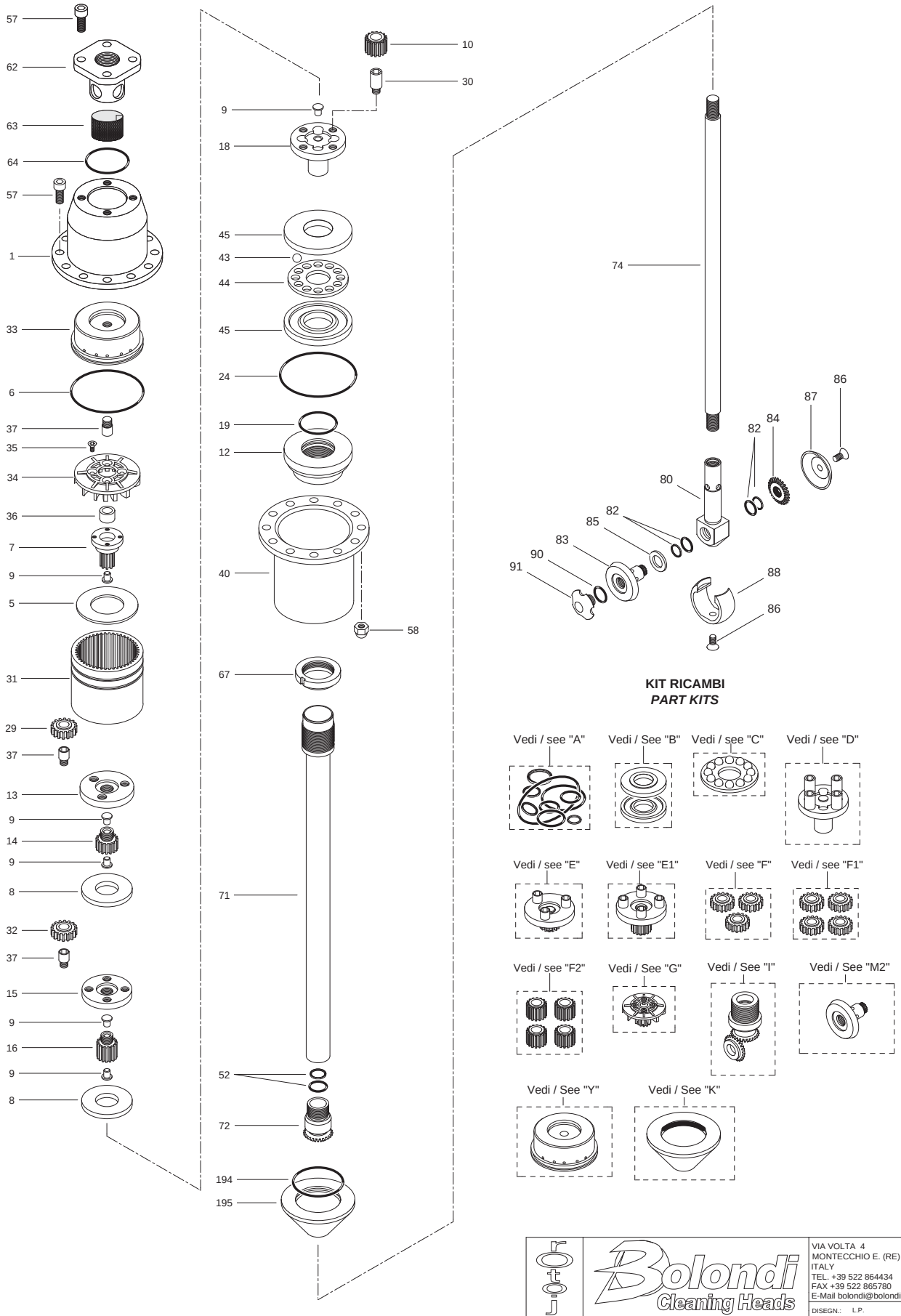
NOZZLE CHART XB031 2 sprays (lt / min)																	
	Marking	Spray hole diam. mm	PRESSURE (Bar)														
			10	20	30	40	50	60	70	80	90	100	110	120	130	140	150
FLOW NOZZLE (lt / min)	0902	0,90					6	6,5	6,75	7	7,5	7,75	8	8,25	8,75	9	9,25
	1002	1,00			6	6,5	7	7,5	7,8	8,25	8,75	9	9,5	10	10,25	10,75	11
	1102	1,10		6,25	7	7,5	8,5	9,25	9,75	10,5	10,75	11,5	11,75	12	12,5	13	13,5
	1202	1,20		6,75	7,75	9	9,75	10,5	11,25	12	12,75	13,25	13,75	14,25	15	15,5	15,75
	1302	1,30	6,5	7,5	9	10	11	12	13	13,75	14.5	15,25	16	16,5	17	17,5	18
	1402	1,40	6,75	8,75	10,5	11,5	12,75	13,75	14,75	15,75	16,5	17,5	18	18,75	19,5	20,25	21
	1502	1,50	8	10	12,75	13,25	14,5	15,75	17	18	19	20	20,75	21,5	22,5	23	23,75
	1602	1,60	9,25	12	14	16	17,5	19	20,25	21,5	22,5	23,5	24,75	25,75	27	27,75	28,5
	1702	1,70	9,5	13	15	17	18,5	20	21,5	22,75	24	25	26,5	27,5	28,5	29,25	30,25
	1802	1,80	12	15,5	18	20,5	22,5	24,25	26	27,75	29	30,5					
	1902	1,90	12,5	16	19	21,5	23,75	26	27,5	29,5							
	2002	2,00	13,5	17,5	21	23,5	26,5	28,5	30,25								

TABLE "C"

NOZZLE CHART XB031 4 sprays (lt / min)																	
	Marking	Spray hole diam. mm	PRESSURE (Bar)														
			10	20	30	40	50	60	70	80	90	100	110	120	130	140	150
FLOW NOZZLE (lt / min)	0954	0,95		7	8,5	10	11	12	13	13,5	14,5	15	16	16,5	17	18	18,5
	1004	1,00	6	8	9,5	11	12	13	14	15	16	17	17,5	18	19	20	20,5
	1054	1,05	6,5	8,5	11	12	13,5	14,5	16	17	18	18,5	19,5	20,5	20	21	22,5
	1104	1,10	7	10,5	12	13,5	15,5	16,5	17,5	18,5	19,5	20,5	21,5	22,5	23,5	24	25
	1154	1,15	7,5	11,5	12,5	14,5	16	18	19	20	21	22	23	24	25	26	27
	1204	1,20	8,5	12	14	16	18	19	20,5	22	23	24,5	25,5	27	28	29	30
	1254	1,25	9	12,5	15	17	19	20,5	22	23,5	25	26,5	27,5	28,5	30		
	1304	1,30	10	13,5	16,25	18,5	20,5	24	26	27,5	28,5	30					
	1354	1,35	11	14	17,5	20	22,5	24,5	26,5	28,5	30						
	1404	1,40	11,25	14,5	17,5	20	22,5	24,5	26,5	27	28,5						
	1454	1,45	11,5	15	17,5	21	23,5	25,5	27,5	28,5	30						

Marking 1004





KIT RICAMBI
PART KITS

rotojet	Bolondi Cleaning Heads	VIA VOLTA 4 MONTECCHIO E. (RE) ITALY TEL. +39 522 864434 FAX +39 522 865780 E-Mail bolondi@bolondi.com
		DISEGN.: L.P.
	MODELLO: XB 031-AAD_BQ	Versione: 02
	NOTE:	Data: 01.05.2009

Via A.Volta, 4
Tel. (0522) 864434 - Fax 865780
42027 MONTECCHIO E. (Reggio E.) Italy

E-mail: bolondi@bolondi.com
Web site: http://www.bolondi.com