

CAT MANUAL D'INSTRUCCIONS

DE BEDIENUNGS- ANLEITUNG

ES MANUAL DE INSTRUCCIONES

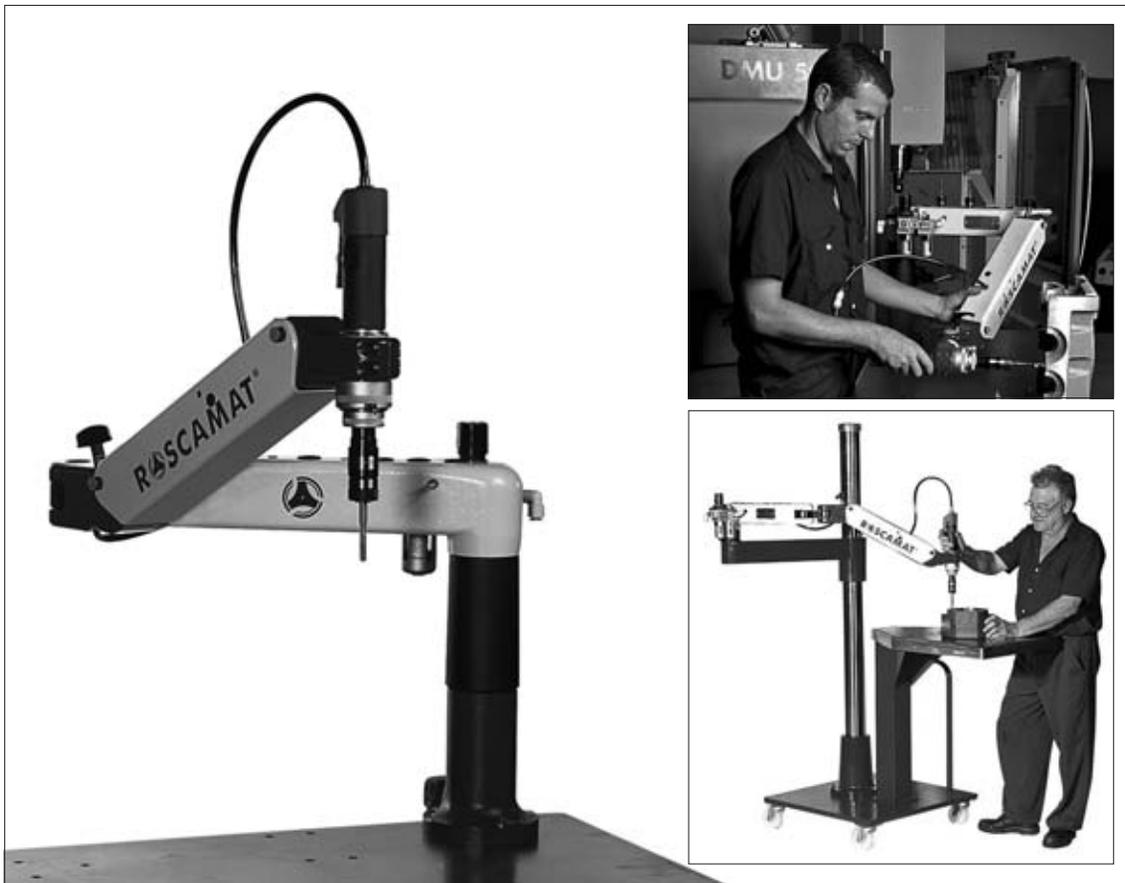
IT MANUALE ISTRUZIONI

GB OPERATOR'S MANUAL

PT MANUAL DE INSTRUÇÕES

FR MANUEL D'INSTRUCTIONS

ROSCAMAT® 400



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ROSCAMAT® 400

Dear customer:

We wish to take this opportunity to thank you for choosing a "ROSCAMAT" tapping machine to produce quality threads and associated operations.

This Operation's Manual is given to you so that by careful reading of its content, it will enable you to maintain its reliability and performance for long-life.

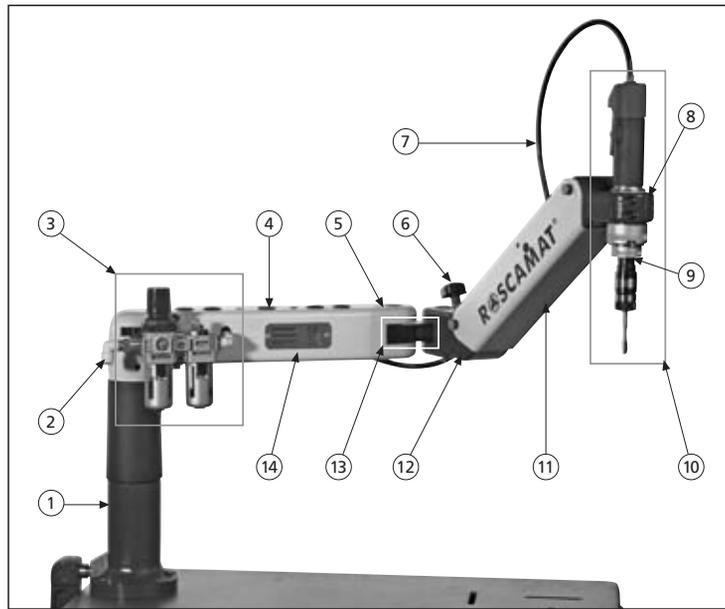
ROSCAMAT-400

DESCRIPTION MACHINE

The machine is formed by a tilting arm being by means of a pneumatic spring, said arm being fitted through an intermediary union to a radial arm being revolvable around 360°. The assembly is secured to the workbench by means of a raised base clearing the whole table area. The motor head finds itself at the end of the tilting arm and is apt to always move at right angles with respect to its working area.

The modular system is apt to be fitted to the compressed-air motor and consists of 7 quick-change planetary speed reducers providing 7 different speeds and torques. The speed can be thus adapted to every thread type.

The toolholders (or tap holders) with or without safety clutch are also apt to be fitted to the modules by means of a quick-change system.



- | | |
|--------------------------------|-----------------|
| 1. Machine base plate | 8. Head member |
| 2. Intake connection | 9. Module |
| 3. FRL air preparation group | 10. Motor |
| 4. Tap holder nest | 11. Tilting arm |
| 5. Brake handle | 12. Cross unit |
| 6. Damper regulation handwheel | 13. Union |
| 7. Intake pipe | 14. Radial arm |

ROSCAMAT-400 VH

DESCRIPTION MACHINE

La ROSCAMAT-400 VH is supplied with an articulated head of easy handling which allows us to positionate the motor in 4 position at 90° and tap in horizontal sites.

ORIENTABLE HEADMEMBER VH

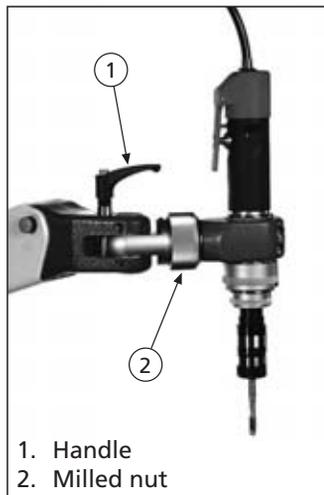
Vertical Operations:

- Place the motor in vertical position and lock the handle (1) and the milled nut (2) **until being firmly completely tightened**. The ROSCAMAT is ready to work.

Horizontal operations:

- Loose the milled nut (2) to unlock the joint of the motor.
- Turn the head 90° till you reach the interlock and **strongly** tighten the milled nut by its handle (2) again.
- Unlock the handle (1) located in the upper side of the head.
- When moving the arm, the operator will have to manually maintain the perpendicularity to the working level surface.

Do not lock the handle (1) in horizontal operations.



- Handle
- Milled nut



Orientable headmember VH

Description

LIFTER

The working height of the machine can be increased by 140 mm in order to thus be in a position to work at different heights. For such a purpose, proceed to:

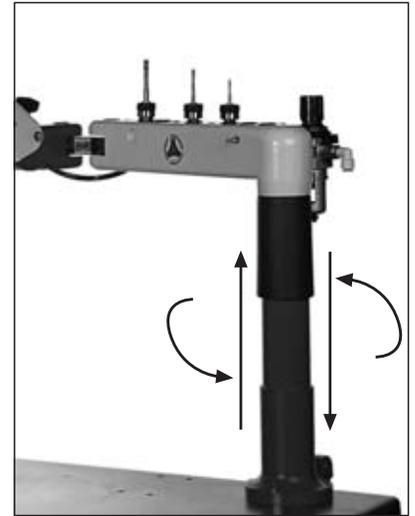
Lifter:

1. Place the tilting arm in its locked position.
2. Take with both hands the machine assembly, lift it by its sheath, and turn this latter till reaching the stop. The machine will then be resting on the "sheath".

Lower:

1. Place the tilting arm in its locked position.
2. Slightly hold the weight of the machine and turn the sheath 90° to thus enable it to be lowered along the shaft of the base plate. Carefully lower the machine assembly.

***Attention: Not to locate the hands in the lower part of the cover!**



AUTOMATIC TOOL LUBRICATION EQUIPMENT (E)

Caution: USE CUTTING OIL. Certain lubricant types containing trichlorines and alcohols can damage some of the valve components.

- The machines of the model ROSCAMAT 400 E incorporate an automatic tap lubrication system.

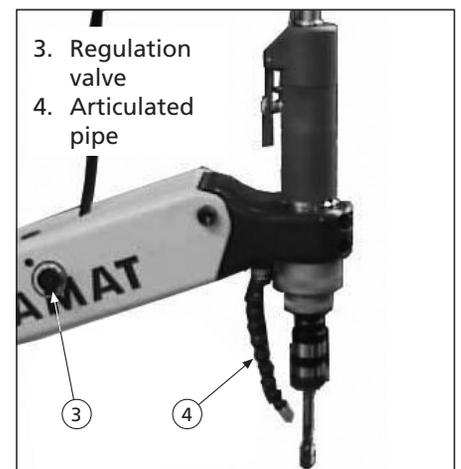
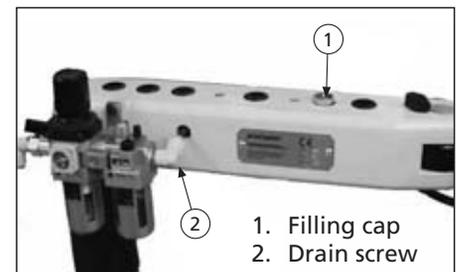
The oil reservoir is arranged inside the radial arm and is connected to an innerly arranged hydropneumatic cylinder. The desired cutting oil flow rate is adjusted by means of the control valve (3). When pressing the motor lever the system pumps the flow rate residing in the pump being arranged inside the tilting arm.

- **After having filled the oil reservoir, immediately bleed the system by applying pressurised air through the hole being provided in the filling cap of the reservoir (1).**

Main features of the cutting oil type to be used:

Pure cutting oil

Viscosity of 20-40 cSt.
Additives -extreme pressure-E.P. (Sulphur, Phosphorous and Chlorine inactives)
It does not contain dissolvents

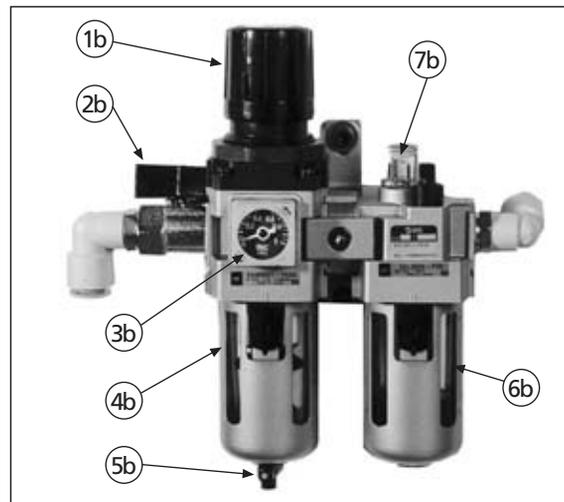


Description

REGULATING FILTER UNIT-AIR LUBRICATION

REGULATING FILTER UNIT-AIR LUBRICATION

- 1b - Pressure regulator.
- 2b - Flow rate regulating valve.
- 3b - Pressure gauge.
- 4b - Reservoir (condensed water).
- 5b - Drain pipe (WATER)
- 6b - Oil reservoir (SAE-10)
- 7b - Lubrication regulating knob and inspection sight glass.



MODULAR SYSTEM

Setting off from a single motor, seven different speed modules are available with their relevant power torques.

The 7 quick-change speed modules provide the speed and torque for each tapping type, from M2 to M24, obtaining in this way high efficiency and time saving.



Module	Max. speed (rpm)	Max. torque (Nm)	Coupling diameter	Max. thread aluminium	Max. thread steel < 80 kg.	Max. thread steel > 80 kg.
90	90	150	Ø 31	M27	M24	M22
170	170	79	Ø 31	M22	M18	M16
300	300	44	Ø 19	M16	M16	M14
550	550	24	Ø 19	M14	M12	M10
750	750	17	Ø 19	M12	M10	M8
1050	1050	12,5	Ø 19	M8	M8	M6
2100	2	6	Cone B-16	To drill up to Ø 8 (Aluminium, foundry)		

INSTALLATION

- A: Attach the machine base plate to the work table by means of three M8 screws or a clamp.
- B: Fit the machine into the base plate shaft, and firmly tighten the M12 threaded rod with a 6 mm. ALLEN wrench.
- C: Install the FRL air servicing unit (see photograph in page 45). Exerting pressure, solidly fit to the outlet nipple of the unit the black polyurethane pipe transporting the air to the motor.
- D: Fill up the reservoir (6b, page 47) with lubricating pneumatic motors oil, SAE-10.
- E: The air connection is carried out by means of a notched connection (2, page 45) located on the air FRL unit.

IMPORTANT: Table showing the ratio length to inside diameter of the feeding pipe:

Length in meters	Minimum inside diameter in mm.
< 8	12
> 8	14

VERIFICATION

Once the machine has been connected to the main, the following points have to be checked:

1. Supply pressure: 6-8 bar for full power
2. The pressure gauge reading can drop 0,5 to maximum 1,5 bar when the motor is started. **If a drop greater than 2 bar is noticed, this means that the supply flow rate is not sufficient.**
3. Make sure, by checking the sight glass (8b, page 14) that when the machine is in operation two to three drops per minute are fed. The regulation is carried out by means of the control knob (7b, page 14).
4. Arm balance:
By turning the regulating handwheel (6, page 45) to the right (-) or to the left (+) different weight at the arm end are balanced. Handle the handwheel once having situated the arm in a horizontal or a slightly upwardly inclined position.

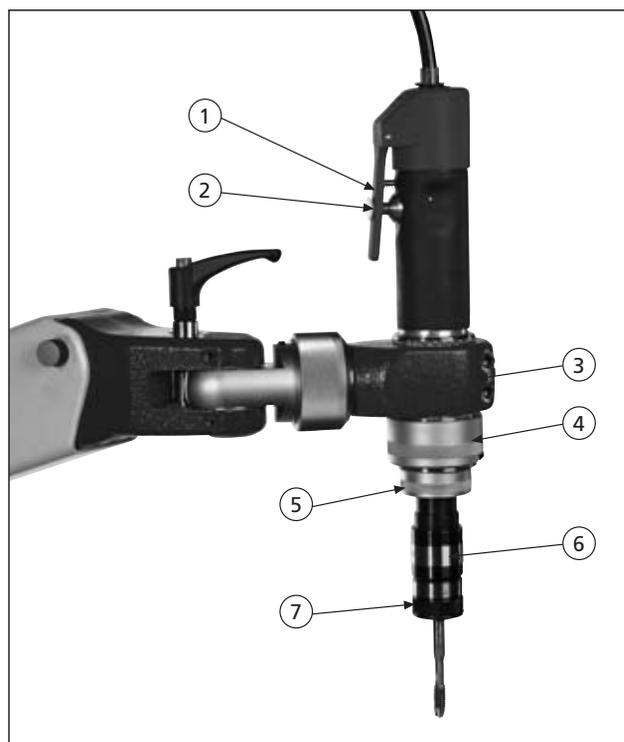
ATTENTION: Machines with automatic tool lubrication equipment: After having filled the oil reservoir, immediately bleed the system by applying pressurised air through the hole being provided in the filling cap of the reservoir (page. 46).

Operation

Operation:

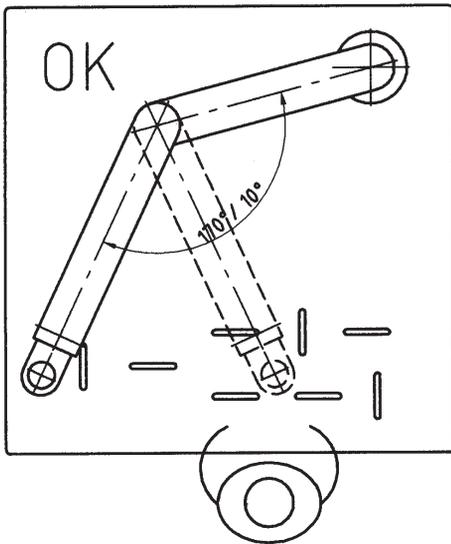
1. Turn the slide collar (4) to the left, insert the module and turn the slide collar to the right.
2. Insert the tap holder in the quick change of the module (6).
3. Clockwise rotation: push lever (1).
4. Counterclockwise rotation: push simultaneously lever (1) and button (2).
5. Pulling up the tool change slide collar (6) the tap holder will come out automatically.

IMPORTANT: When cutting threads of a bigger size than M10 (>M10), tight the handle (5, page 45) in order to prevent a sudden turning reaction of the "union" (13, page 45) against the end of the arm. A tool breakage will be in this way avoided.

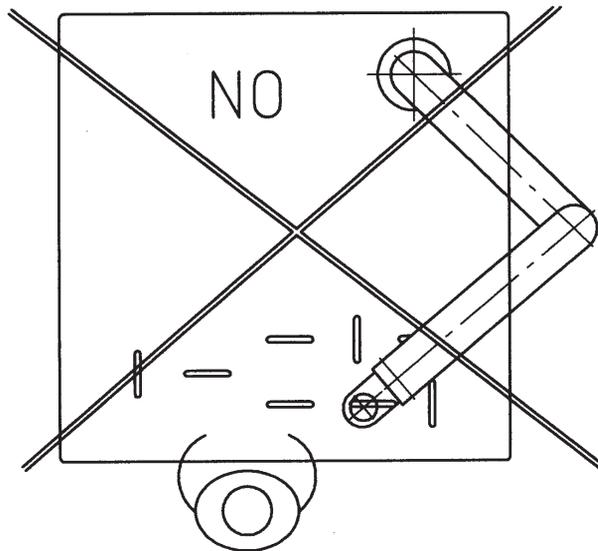


1. Starting lever
2. Reversing button
3. Motor Head
4. Module change slide collar
5. Module
6. Quick change (module)
7. Tap holder with clutch

Correct position of the arms to get higher precision and perpendicularity of the machine.



The position of the arms are **incorrect**. Less precision and perpendicularity of the machine.



WARNINGS

The use and operation of the machine involve certain risks and precautions that have to be taken into account by the operator in order to preclude the occurrence of serious injuries.

1. **Always use eye-protective glasses** when operating the machine.
2. **Don't insert** your fingers into the vicinity of the head stop when the arm is nearing its most raised position.
3. **Don't put** your hand in the area below the lifter sheath (see page 46) when repositioning this latter in its lowest position (lowering)
4. When changing a module 90, 170, **place the arm in its most raised position** in order to prevent a sudden jerk of the arm upwards.

Always shutoff the compressed-air supply before carrying out jobs of any description on the machine, whether for testing or handling or for repair or maintenance purposes.

Anomalies

GB If the tilting arm descends too far:

	Possible Causes	Remedy
1.	The arm is not balanced	Balance the arm as per the weight to be supported. Check point 4 (page 48)
2.	Defective damper	Replace it with a new one damper (page 50)

The clutch slips and the tap cannot be turned:

	Possible Causes	Remedy
1.	Clutch slackness	Clutch adjustment (page 50)
2.	No tools lubrication	Use cutting oil
3.	Inappropriate tap for the material to machine	Use the correct tap (page 60)
4.	Tap spoiled, "worn"	
5.	Misaligned hole	
6.	Drilled hole diameter too small	

The motor doesn't turn

	Possible Causes	Remedy
1.	Check items 2 to 6 of previous position	
2.	The intake filter is dirty	Replacement (page 50)
3.	Clogged exhaust filter	Replacement (page 51)
4.	Worn motor plates	Replacement (page 51)

The lubrication system fails to operate

	Possible Causes	Remedy
1.	The oil reservoir is empty	Fill the reservoir (page 46)
2.	The oil-hole is clogged	Unscrew the end of the lubrication nipple and clean it. (Attention: do not mislay the spring and the ball located inside).

Important remark: Upon having filled the oil reservoir immediately bleed the system (page 46)

Maintenance - Repairs

WARRANTY

The warranty period for the machine is 12 months. The warranty does not cover any damage caused by overloads, wear and improper handling of the machine. The warranty covers the costs of labouring and damaged spare parts. The transport, packaging and assurances are at customers' cost.

MAINTENANCE, REPAIRS

Practically the only machine's part that can wear is the motor. Therefore its maintenance should be carried out very carefully, which means that the air supply must be in dry & clean conditions.

For this purpose the following three points must be taken into account:

1. Drain periodically the water collected in the left air treatment unit cup by pressing the relief knob (5b, page 47).
2. Fill up the right air treatment unit cup (6b, page 47), with special pneumatic motor oil, SAE-10. (light duty oil)
3. Make sure, by checking the sight glass (7b, page 47) that, when the machine is in operation, between 2 to 3 drops/min are supplied. The regulation is made by means of the control knob (7b, page 47).

CLUTCH ADJUSTEMENT

(compensating for tap wear)

Remove small spring clip around perimeter and turn the notched nut clockwise or counterclockwise to increase or decrease the clutch tension and put the small ring back on the new notch.

DAMPER (REPLACEMENT)

Ref. 40101903 (R-400) / Ref. 407A0303 (R-400 VH)

1. Close the air inlet valve (2b,p. 47) being arranged to the left of the FRL air unit. Press the motor lever so that the air goes out.
2. Tilt the arm up to its most raised position.
ATTENTION: Always keep the arm in this position!
3. Remove the plastic cover being arranged between the cross unit and the tilting arm.
4. Turn clockwise the regulating arm balance handwheel up to the maximum.
5. Remove the M5 ALLEN screw being provided at the end of the regulating fork.
6. Turn counterclockwise the regulating handwheel until the damper won't be in tension.
7. With the aid of a M5 screw, remove the fork spindle.
8. Remove the "positioning screw" from the fork assembly, and move the whole block downwards.
9. Remove the damper pin of the fork.
10. Remove the arm damper spindle and dislodge the damper from the arm.

Carry out the whole process in reverse order.

- Pay special attention to the damper position in the spindle notch at the arm.
- Make sure that the "positioning screw" is properly centred with the separator of the "regulating rod" assembly.

INTAKE FILTER (REPLACEMENT)

Ref. NH120856

Unscrew the left air treatment unit cup (4b, page 47), unscrew the filter and replace it with a new one. The installation is carried out in the reverse order.

MOTOR (REPLACEMENT)

1. Close the air inlet valve (2b, page 47) being arranged to the left of the FRL air servicing unit and actuate the motor air lever to expel the air compressed.
2. Disconnect the air intake pipe being connected upper the motor.
3. Remove the motor slide change collar (4, page 48). First, you must remove the "seeger ring" situated under the lower part of the slide collar.

PAY ATTENTION TO THE BALLS OF Ø 9 MM. LOCATED INSIDE OF THE SLIDE CHANGE COLLAR

4. Loosen the two ALLEN screws of the head.
5. Extract the motor (upwards) by aligning the bolt ø2,5 mm of the motor gearbox with the front milled gap of the machine motorhead.

Carry out the whole process in reverse order for the assembly

PRESSURE GAUGE (REPLACEMENT)

Ref NH040516

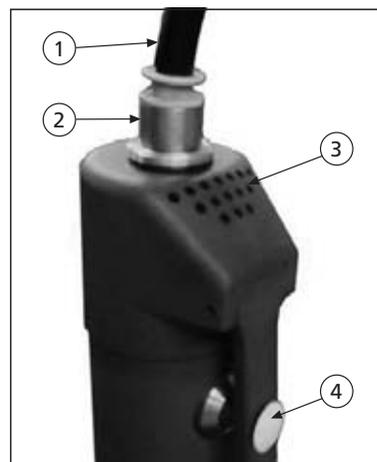
1. Close the flow control valve (2b, page 47), and actuate the motor lever in order to expel the compressed air from the inside of the motor
2. Turn the manometer "sight" to the right, and unscrew the two screws securing the manometer to the FRL air servicing unit.
3. Replace the manometer with a new one, and carry out the whole process in reverse order

EXHAUST FILTER (REPLACEMENT)

Ref.40202304

1. Close the flow rate regulating valve (2b, page 47). Actuate the air-lever of the motor so that the internal air goes out.
2. Take out the intake tube and the reversing button. (1, 4).
3. Unscrew the raccord (2) situated on the upper side of the motor. Remove the external casing (3) and take out the exhaust filter.
4. Replace the exhaust filter.

Reverse the process for the reassembling.



MOTOR PLATES REPLACEMENT

Ref. NH1 208 46

1. Close the air inlet valve (2b, pag. 47) located on the left side of the air filtering unit and press the motor lever so that the air goes out.
2. Remove the intake pipe and unscrew the raccord situated on the upper side of the motor.
3. In continuation, pull out the inversion button, remove the external casing and take out the exhaust filter.
4. Using a pin spanner, loosen the motor housing by **unscrewing to the left**.
Be careful with the steel ball that is housed inside the shell.
5. Remove the whole rotor assembly from inside the casing.
6. Pull out the "seeger ring" of the upper part of the motor and remove the upper head, the stator and the MOTOR PLATES.

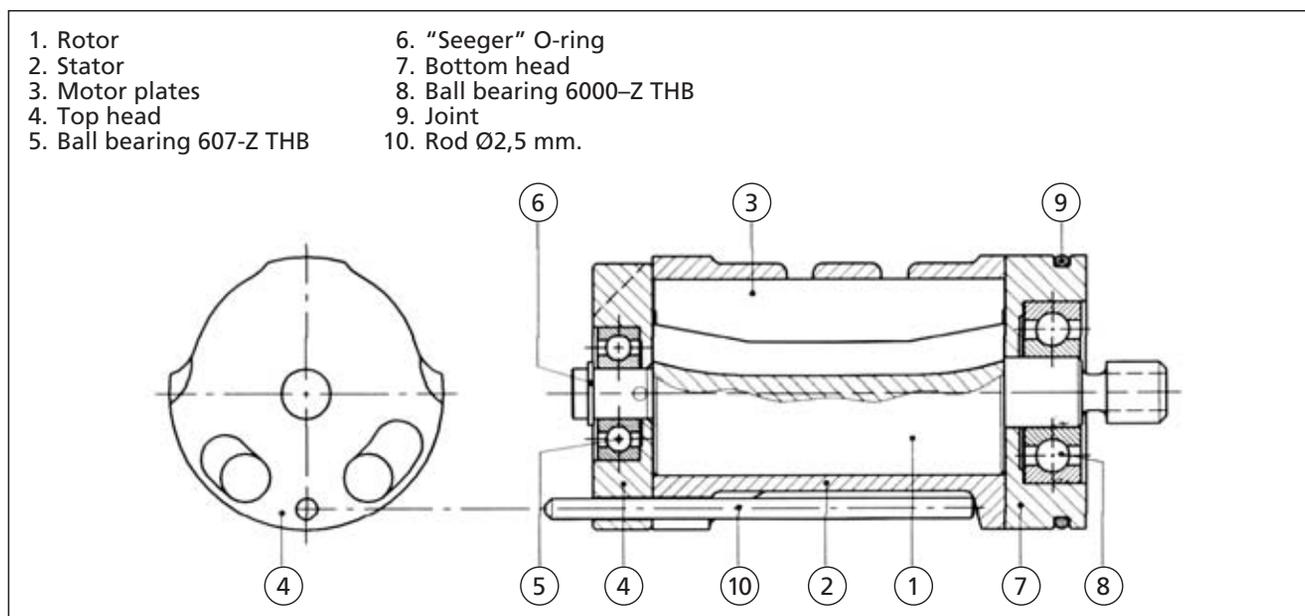
Notice the direction and positions of the motor stator and the top head.

CLEAN and BLOW OFF all parts before doing the assembly.

6a) If it is necessary to replace the motor bearings:

- 6b) Use a nylon hammer to separate the assembly bottom head-ball bearing (7,8) from the rotor (1).
- 6c) Assemble the entire rotor unit again using two plates with a thickness between 0.6 and 0.8 mm positioned between the rotor (1) and the bottom head unit (7,8).

7. Lubricate the new motor plates with SAE-10 oil and mount them on their rotor seatings.
8. Place the motor stator in its right position, install the upper head together with its ball bearing and mount the "seeger ring.
9. Take the whole rotor assembly and insert it vertically and without turning it so that the rod is introduced into the hole provided in the bottom of the motor casing. Once having placed the rod in its seat, screw the whole assembly (LEFT-HAND THREAD) and tighten it with a pin spanner.
10. Mount again the exhaust filters and its casing, exhaust-cover.
11. Screw the intake raccord, install the inversion button and connect the air motor pipe



Replacement parts

REPLACEMENT ARM PARTS

 <p>Ref. 401 004 04 Ref. 401 008 07</p> <p>Base Base casing</p>	 <p>Ref. 401 003 04</p> <p>Radial arm</p>	 <p>Ref. 401 007 A3</p> <p>Tilting arm</p>
 <p>Ref. 401 002 04</p> <p>Cross unit</p>	 <p>Ref. 401 009 04</p> <p>Regul. Handwheel assembly</p>	 <p>Ref. AC0 200 56</p> <p>Damper regulating handwheel</p>
 <p>Ref. 401 001 04</p> <p>Vertical motor head C41</p>	 <p>Ref. 407 A01 04</p> <p>Orientable motor head VH</p>	 <p>R-400 Ref. 401 019 03 R-400 VH Ref. 407 A03 03</p> <p>Damper</p>
 <p>Ref. 401 005 03</p> <p>Union</p>	 <p>Ref. AC0 603 76</p> <p>Handle</p>	 <p>Ref. 401 020 05</p> <p>Stay</p>
 <p>Ref. 401 016 03</p> <p>Spindle of the arm damper</p>	 <p>Ref. CL0 209 26</p> <p>Spindle of the fork damper</p>	 <p>Ref. 401 017 04</p> <p>Spindle arm with screws</p>

Replacement parts

MOTOR REPLACEMENT PARTS

 <p><u>Ref. 402 001 02</u> Pneumatic motor TS VIII</p>	 <p><u>Ref. 402 017 03</u> Rotor</p>	 <p><u>Ref. 402 017 05</u> Rotor assembly</p>	
 <p><u>Ref. 402 019 03</u> Rotor casing</p>	 <p><u>Ref. 402 011 05</u> Gearbox assembly</p>	 <p><u>Ref. 402 012 A3</u> Motor slide change collar</p>	
 <p><u>Ref. 402 014 04</u> Planetary gear train</p>	 <p><u>Ref. 402 022 04</u> Raccord</p>	 <p><u>Ref. 402 001 004</u> Motor framework</p>	
 <p><u>Ref. CO0 112 76</u> Top head ball bearing</p> <p><u>Ref. 402 024 04</u> Rotor ball bearing bottom head</p>	 <p><u>Ref. NH120846</u> Motor plates</p>	 <p><u>Ref. 402 003 04</u> Punch kit air lever</p>	
 <p><u>Ref. 402 030 04</u> Inversion button</p>	 <p><u>Ref. 402 002 03</u> Exhaust cover</p>	 <p><u>Ref. 402 023 04</u> Exhaust filter</p>	 <p><u>Ref. NH0 205 14</u> Splitter joint pack</p>

Replacement parts

PNEUMATIC REPLACEMENT PARTS

 <p>Ref. NH1 202 26 Notched spigot assembly 3/8 - 12</p>	 <p>Ref. NH0 909 46 Ref. NH0 906 06 Elbow fitting 90° 3/8- Elbow fitting 90° 3/8-</p>	 <p>Ref. NH0 603 16 Flowrate regulating valve</p>
 <p>Ref. NH1 109 15 Air FRL unit</p>	 <p>Ref. NH1 108 26 Sight glass filter (water)</p>	 <p>Ref. NH1 108 36 Sight glass filter (water)</p>
 <p>Ref. NH0 405 16 Pressure gauge</p>	 <p>Ref. NH1 208 56 Intake filter</p>	

Replacement parts

AUTOMATIC LUBRICATION REPLACEMENT PARTS

 <p>Ref. 404 005 05 Oil tank assembly</p>	 <p>Ref. CL0 505 76 Filler plug</p>	 <p>Ref. CL0 505 66 Drain plug</p>
 <p>Ref. 404 001 04 Lubrication pump</p>	 <p>Ref. AC0 203 56 Control knob</p>	 <p>Ref. 311 025 04 Articulated pipe & lubr. nipple</p>

ACCESORIES REPLACEMENT PARTS

 <p>Ref. AC080426 700 x 700 / 850 x 850 Trolley & Table wheel (without brake)</p> <p>Ref. AC080436 700 x 700 / 850 x 850 Trolley & Table wheel (with brake)</p>	 <p>Ref. AC0 803 46 500x500 Table wheel</p>	 <p>Ref. AC0 900 46 (Modules 90, 170) Quick-change</p>
 <p>Ref. AC0 900 36 (Modules 300, 550, 750, 1050) Quick-change</p>	 <p>Ref. AC0 903 56 (Module 2001) Drill chuck Ø 10</p>	

STANDARD PRODUCT RANGE

QUICK-CHANGE TOOLHOLDER

A wide range of tapholders, all of them with or without clutch, apart from other quick holding fixture for different tools, such as drills, sinking tools, threading dies, socket wrenches, etc, are available.

• **Tapholder with safety clutch**
(so that it slips when it reaches the hole bottom)

• **Tapholder without safety clutch**
(for holding different tools with cylindrical shank and driving cube)

Type 1 – Ø19 mm.: capacity M2-M16
(For modules 300, 550, 750, 1050)

Type 2 – Ø 31 mm.: capacity M14-M30
(for modules 90, 170)



THREADING DIE HOLDER

For die threading.

Capacity range: M5-M20



LONG THREADING DIE HOLDER

For guided die threading

Capacity range: M6-M12



- Long threading die holder 19/1 M5-M6
- Long threading die holder 19/1 M8
- Long threading die holder 19/1 M10
- Long threading die holder 19/1 M12-M14
- Long threading die holder 31/2 M16-M18-M20

QUICK CHANGE EXTENSION

To separate 80 mm. tool from the head member, and gain access to difficult areas.



TOOL-HOLDERS: DIN NORMALIZED MEASURES

Metric	Coupl. Ø	Tap: Ø x □	Norm
M3	19	3,5 x 2,7	DIN 371
M4	19	4,5 x 3,4	DIN 371
M5	19	6 x 4,9	DIN 371
M6	19	6 x 4,9	DIN 376
M7	19	7 x 5,5	DIN 376
M8	19	8 x 6,2	DIN 376
M10	19	10 x 8	DIN 376
M12	19	9 x 7	DIN 376
M14	19/31	11 x 9	DIN 376
M16	19/31	12 x 9	DIN 376
M18	31	18 x 14,5	DIN 376
M20	31	16 x 12	DIN 376
M22	31	18 x 14,5	DIN 376
M24	31	18 x 14,5	DIN 376
M27	31	20 x 16	DIN 376

REDUCING CUP

To convert different tapholder coupling diameters to modules with different output diameters.

Models: - Input diameter: Ø31 mm.

- Output diameter: Ø19 mm.



STANDARD PRODUCT RANGE

DETACHABLE TABLES

TABLE 1100 x 850

Measures: 1100 x 850 x 850 mm.

Weight: 120 Kg.

Maximum weight on table: 500 Kg.

Provided with:

- 4 wheels (2 with brake)
- Notches for fixing the workpieces or tools
- Lateral side with notches
- Lockable drawer



TABLE 500 x 500

Measures: 500 x 500 x 900 mm.

Weight: 80 Kg.

Light and robust, very useful for medium or small pieces.

Provided with 4 wheels and notches for attaching the workpieces or tools.



TABLE 850 x 850

Measures: 850 x 850 x 850

Weight: 74 kg.

Max. weight on table 850 x 850 = 200 Kg.

Provided with:

- 4 wheels (2 with brake)
- Notches for fixing the workpieces or tools
- Supports for tapholders



SUPPORTS

SMALL CLAMP

For mounting the machine on to any table or workbench.



MAGNETIC SUPPORT

To mount the machine on any flat metallic surface

Diameter = Ø 200 mm



STANDARD PRODUCT RANGE

TROLLEY WITH COLUMN

For moving the working unit. The column is used to fix the machine by means of 4 metallic dowels. Provided with 4 pivoted wheels (2 with brake)

Measures: 700 x 700 x 940 mm

Weight: 124 kg.



LIFTER 2 types:

- **Mechanic:** 500 mm. Stroke in vertical direction.
- **Pneumatic:** 550 mm. Stroke in vertical direction.

In consists of a collapsible column and a torsion – vertical cylinder.



COLUMN

For fixing the machine on the floor by means of 4 metallic dowels.

Measures:

- Base: 350x350x750 height
- Weight: 20 Kg



Attention: the lifter can be mounted on to a column, on to a trolley, on to a table.

ANNEXE

TECHNICAL DATA

Pneumatic motor, model TSVIII
 Modular system: 90 - 2100 rpm.
 Power: 730 W
 Consumption: 300-900 l/min.
 Intake filter: 5 Um.

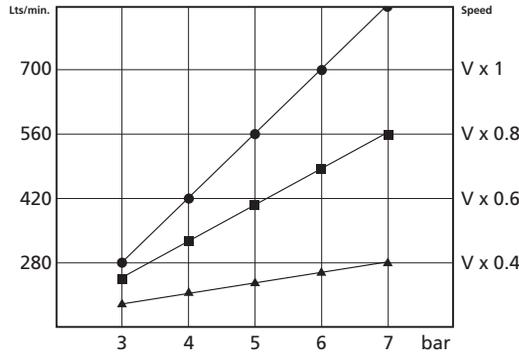
Noise level: 78 db
 Machine weight: 20 kg.
 Motor weight: 1,2 kg.
 Max. weight hold in the headmember: 4 kg.
 Machine colours: White RAL 7035
 Grey RAL 7021

Pneumatic motor,
 model TSVIII

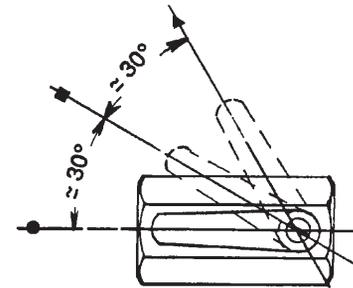


SPEED CONTROL CONSUMPTION CONTROL

It is made by means of the flowrate regulating valve (2b, page. 47) and the pressure regulator (1b, page. 47).



VALVE POSITION



TECHNICAL DATA

TURNING TORQUE (Nm) FOR THREADING

Metric thread	Steel > 100 kg.	Steel 80-100 kg.	Steel < 80 kg.	Aluminium - Cast Iron
3				
4	2	1.3	1.2	0.8
5	3	2	2	1.3
6	5	4	4	2.4
8	11	8	8	5
10	20	15	14	9
12	33	24	23	14
14	50	36	35	22
16	57	42	40	26
18	101	73	70	45
20	112	81	78	50
22	123	90	86	55
24	194	140	135	86
27	218	158	152	97
30	330	240	230	150

MACHINE TAPS

Blind hole	Helical-flute tap	Lubrication
Through hole	Straight-flute tap with helical feed-in	
Steel > 80 kg.	Rake angle 8-10	Cutting oil with additives
Steel < 80 kg.	Rake angle 12-14	Cutting oil
Steel < 50 kg. Stainless Siemens	Rake angle 14-16 Surface treatment	
Cast iron	Straight-flute tap Surface treatment. Nitrated Rake angle 5	Petroleum, coolant, dry machining
Duraluminium	Rake angle 12-15	Coolant, dry machining
Aluminium	Rake angle 17-25	Cutting oil with additives

TORQUE RELATION-METRIC SIZE-MODULES

TORQUE	METRIC	WHITWORTH	GAS	STEEL>80	STEEL<80, FOUNDRY, BRONZE<40	ALUMINIUM, PLASTIC	
0.5 0.6 0.8	M3	1/8"		1050	1050	1050	
1 1.2 1.6 2 2.5	M4 M5	5/32"					
3 4 5	M6	3/16" 7/32" 1/4"					
6			G 1/8"				750
8	M8						
10		5/16"		550	750		
12 16	M10	3/8"					
18 20				300			
22	M12	7/16"					
25 28 32 36	M14	1/2"					
40	M16	9/16"		170	300		
45 50		5/8"	G 1/2"	90	170	170	
56 63	M18		G 5/8"				
70 80	M20 M22	3/4"	G 3/4" G 7/8"				
90 100 110		7/8"			90	90	
125	M24						
140	M27	1"					
220	M30	1.1/8"					

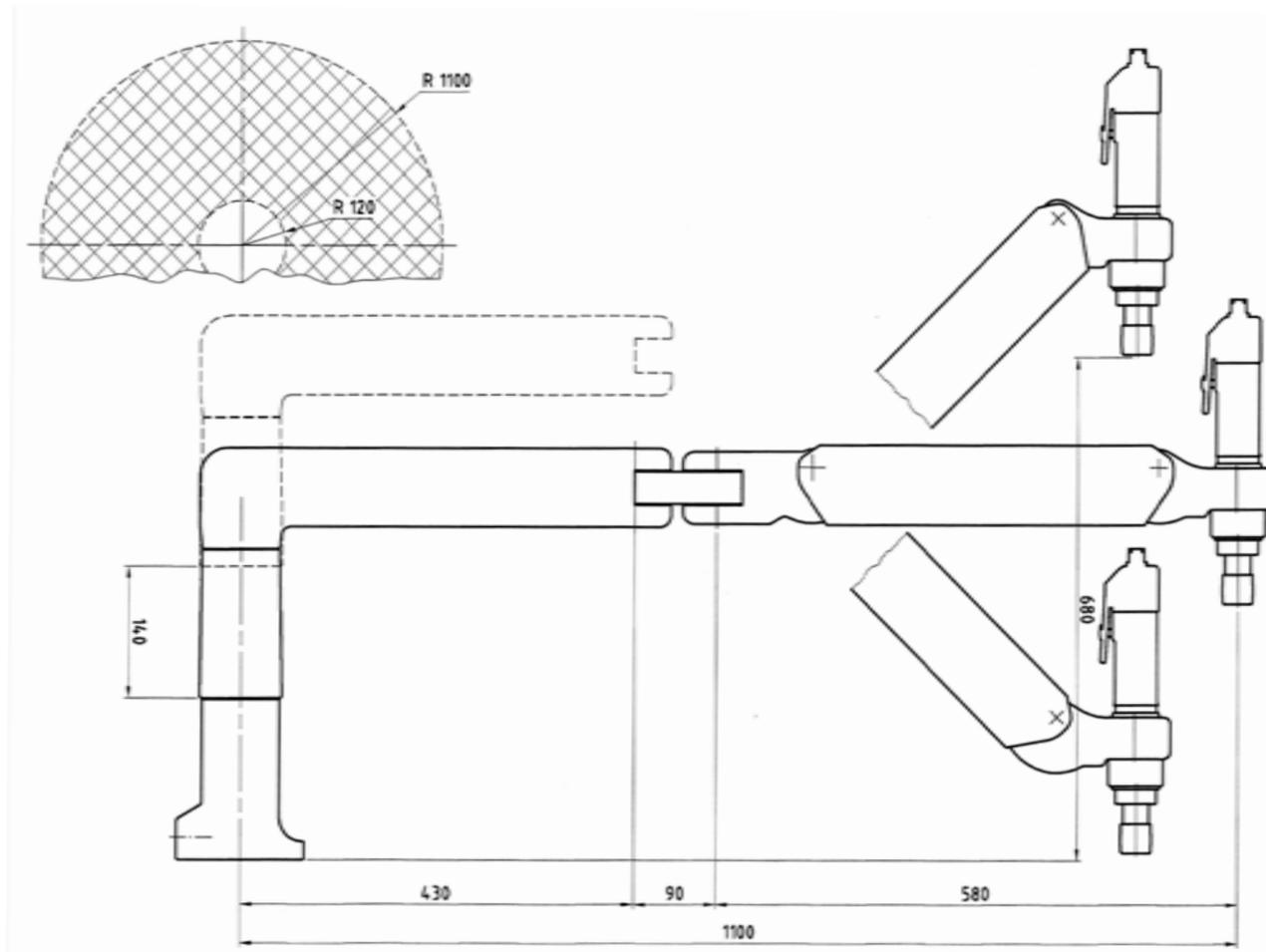
MODULAR SYSTEM

Module	Max. speed (rpm)	Max. torque (Nm)	Coupling diametre	Max. thread aluminium	Max. thread steel < 80 kg.	Max. thread steel > 80 kg.
90	90	150	Ø 31	M27	M24	M22
170	170	79	Ø 31	M22	M18	M16
300	300	44	Ø 19	M16	M16	M14
550	550	24	Ø 19	M14	M12	M10
750	750	17	Ø 19	M12	M10	M8
1050	1050	12,5	Ø 19	M8	M8	M6
2100	2100	6	Cone B-16	To drill up to Ø8 (Aluminium, foundry)		

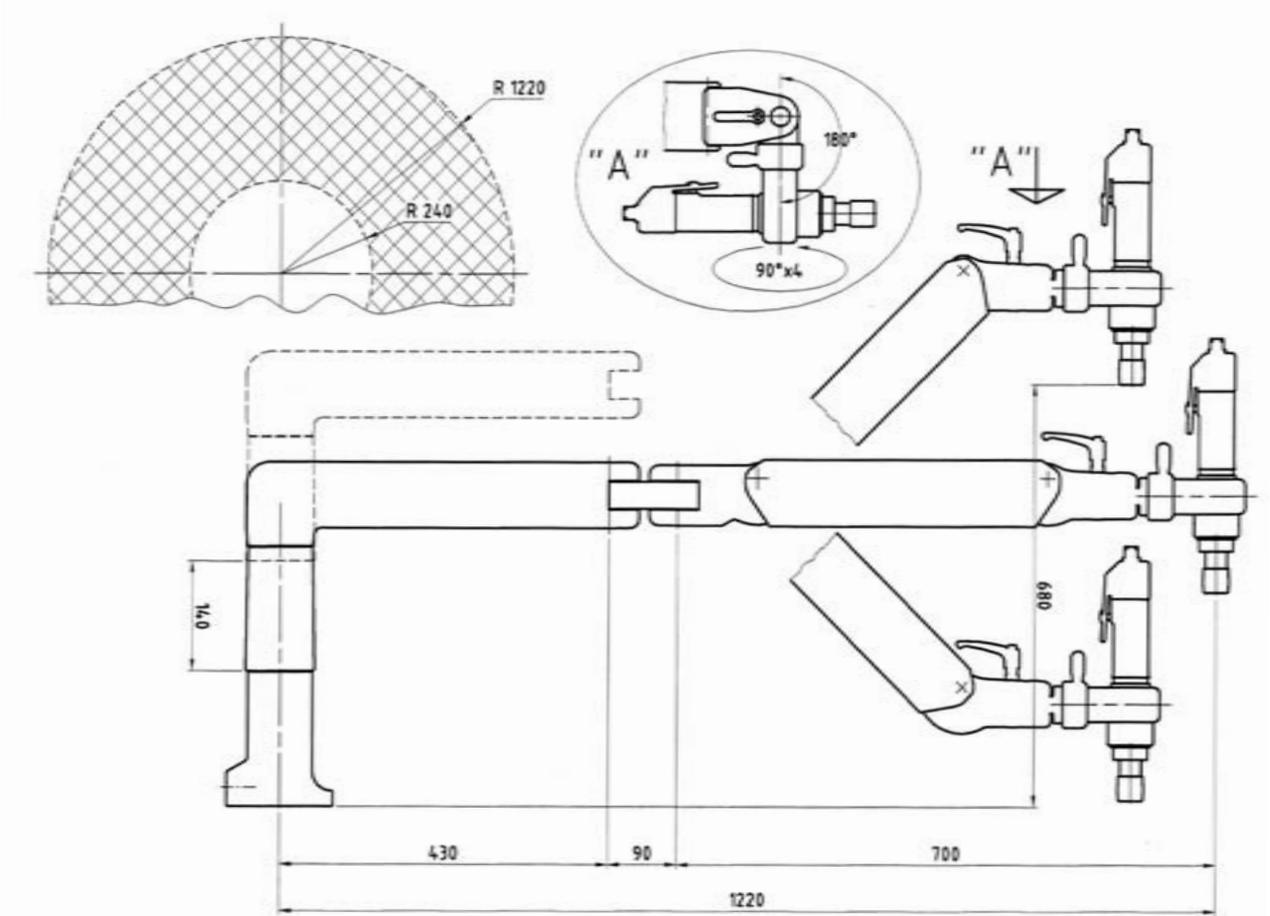
The modular system provides a great advantage in that provides different speeds with the same motor and thus allows to adapt the tapping speed to the size of the tool to be used. If you don't have the proper module for your next job, you can chose it by following the indications as per the above table in terms of the material, metric pitch or torque to be used for the tapping job.



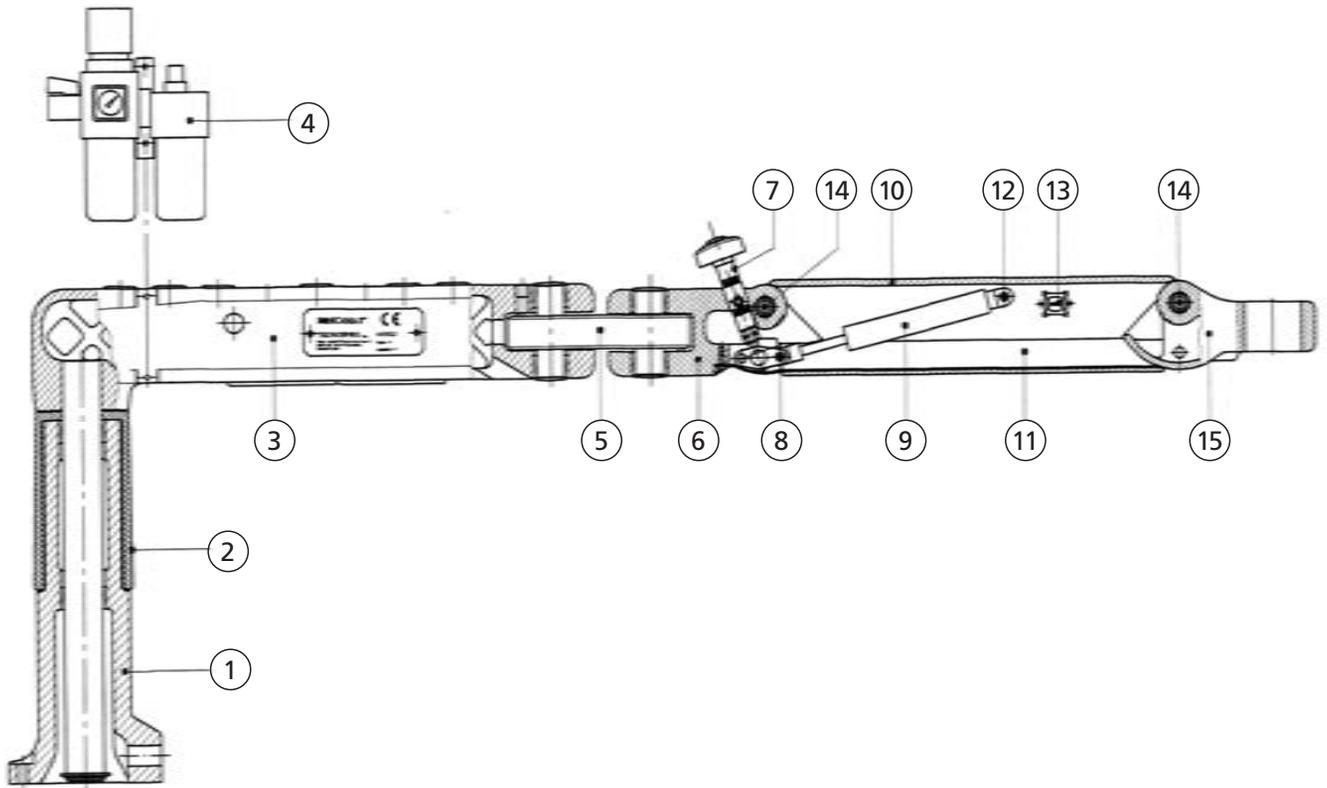
WORKING AREAS ROSCAMAT-400



WORKING AREAS ROSCAMAT-400 VH



MACHINE SECTION



1. Base
2. Base casing
3. Radial arm
4. Air FRL group
5. Union
6. Cross unit
7. Regul. handwheel assembly
8. Spindle of the arm damper
9. Damper
10. Spindle of the fork damper
11. Stay
12. Spindle of the fork damper
13. Fixation clip
14. Spindle arm with screws
15. Motor head

CAT CERTIFICAT "CE" DE CONFORMITAT

DE "EG"-ERFÜLLUNGSBESCHEINIGUNG

ES CERTIFICADO "CE" DE CONFORMIDAD

IT CERTIFICATO DI CONFORMITA "CE"

GB CERTIFICATE "CE" OF CONFORMANCE

PT CERTIFICADO "CE" DE CONFORMIDADE

FR CERTIFICATE "CE" DE CONFORMITE

TECNOSPIRO MACHINE TOOL, S.L.

POL. IND. PLA DELS VINYATS I, C/B, NAVE 2
SANT JOAN DE VILATORRADA
SPAIN

Declarem, sota la nostra única responsabilitat, que la màquina / Declaramos, bajo nuestra única responsabilidad, que la máquina
Hereby certify, on our own responsibility that the machine / Certifions, sous notre seule responsabilité, que la machine
Unter unserer alleinigen Verantwortung erklären, daß die Maschine / Dichiariamo sotto la nostra stessa responsabilità, che la macchina
Declaramos sob nossa única responsabilidade, que a máquina

ROSCAMAT 400

SÈRIE N°	MÀQUINA N°	ANY DE FABRICACIÓ
SERIE N°	MÁQUINA N°	AÑO DE CONSTRUCCIÓN
SERIES NR.	MACHINE NR.	YEAR OF BUILT
SÉRIE N°	MACHINE N°	ANNÉE DE CONSTRUCTION
SERIEN-NR.	MASCHINEN-NR.	BAUJAHR
SERIE N°	MACCHINA N°	ANNO DI COSTRUZIONE
N° DE SÉRIE	MÁQUINA N.º	ANO DE FABRICAÇÃO

Segons es descriu en la documentació adjunta, es conforme amb la Directiva de màquines 2006/42/CE
Según se describe en la documentación adjunta, es conforme con la Directiva de máquinas 2006/42/CE
As per description in the enclosed documents, is in conformance with the Machine Directions 2006/42/CE
Selon décrit dans la documentation ci-joint, est conformément à la Directive de machines 2006/42/CE
nach den in den beiliegenden Unterlagen gemachten Ausführungen die Bedingungen der Maschinenrichtlinie 2006/42/CE
Come descritto nella documentazione allegata, è in conformita con la Direttiva macchine 2006/42/CE
Segundo describe a documentação adjunta, está de cordo com a Diretriz de máquinas 2006/42/CE

Es conforme amb les normes harmonitzades / Es conforme con las normas armonizadas / It conforms with the standards
Normes / den harmonisierten Normen / Norme: / Se adequa às normas:

UNE-EN ISO 12100-1:2004
UNE-EN ISO 12100-2:2004

RAMÓN JOU PARROT

ADMINISTRADOR / ADMINISTRADOR / ADMINISTRATOR / ADMINISTRATEUR
VERWALTER / AMMINISTRATORE / ADMINISTRADOR

FIRMA / FIRMA / SIGNATURE / SIGNATURE / UNTERSCHRIFT / FIRMA / ASSINATURA:

TECNOSPIRO
MACHINE TOOL S.L.



SANT JOAN DE VILATORRADA,
wednesday, 25 september 2013

