

VIBRORIPPER TABE- TYR



ADVANTAGES

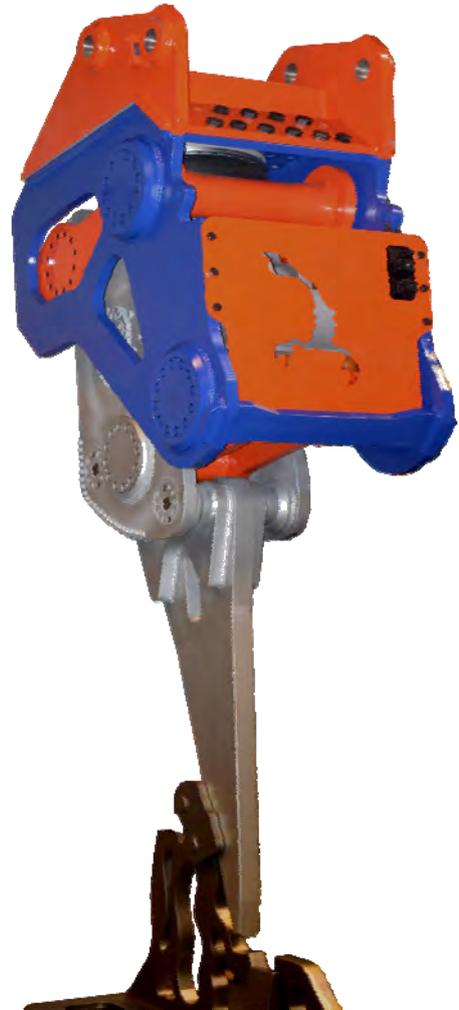
- Productivity can reach up 4 times an equivalent breaker.
- Low noise level. (aprox. 30dBA lower than equivalent breaker).
- Underwater works
- All units are tested before be delivered to the customer.



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VIBRORIPPER TABE- TYR



	TYR 8	TYR12	TYR15	TYR25	TYR35/40	TYR45/50	TYR55/60	TYR90
OPERATIVE WEIGHT (kg)	885	1.585	1.995	3.091	3.865 / 3.940	5.503 / 5.850	6.200/6.350	9.000
ECV. Recomend (Ton)	8 12	12 17	18 24	24 35	30 42	40 51	47 65	63 120
Optimal Motor Flow (l/min)	50	75	130	155	170	150	160	175
Excavator Flow (l/min)	65	100	170	200	220	200	210	230
Nominal Working Pressure (bar)	110	120	120	110	130	170	170	170
Max. Working Pressure (bar)	210	220	230	280	280	280	290	300
Total height without adaptor (mm)	1.714	2.170	2.338	2.353	2.650	3.516	3.652	4.000
Pressure and return hoses	1/2"G	3/4"G	1"G	1"G	1"G	1"G	1"G	1-1/2"G
Drain hose	1/4"G	1/2"G	1/2"G	1/2"G	1/2"G	1/2"G	1/2"G	3/4"G

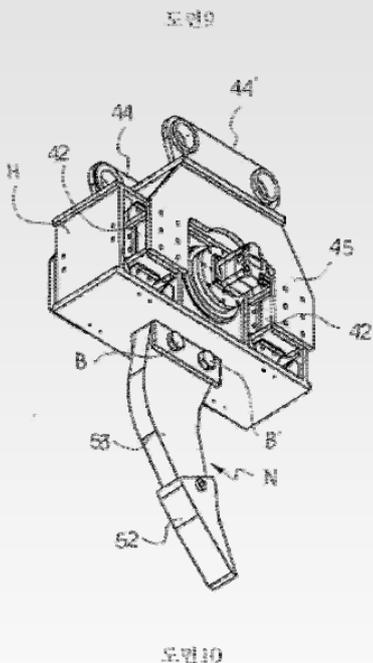
**New concept of work and
performance
Own technology**



VIBRORIPPER TABE-TYR

LEGAL INFORMATION

- The internal policy of the company is quite rigorous and respectful of intellectual property laws in force in each country. TABE always works two aspects in the development of their products. One is the technical, always developing high quality, performance and technology equipments. Another aspect, not least, is legal. TABE is in compliance with applicable law in each country.
- On this last point, there is a patent on vibrorippers with priority since 2006 in South Korea. This patent is applicable in that country for 20 years. The fact that this patent was not transposed in international patent term, and this situation allows other manufacturers to be able to develop vibrorippers worldwide except South Korea.



Covered by Korean Patent:
KR200433903Y1

- All other manufacturers who have tried or try to patent their own models of vibrorippers have seen, and will see, how their patent applications are rejected at the time of passing the examination by the evaluators of the national patent and trademarks offices.
- Manufacturers can undertake utility models at the national level to protect their own development against copies within the context of each country. This minor figure exist in Spain.
- With everything explained above, TABE is legitimated to develop its own vibroripper, manufacture and market it worldwide, except in the nation of South Korea.



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VIBRORIPPER TABE-TYR

- PROJECT DESCRIPTION.

- This project began in November 2009. It has been developed by TABE in collaboration with INSTITUTO TECNOLÓGICO DE ARAGÓN (ITA) and financed by the Spanish Ministry of Industry through the CENTRO PARA EL DESARROLLO TECNOLÓGICO INDUSTRIAL (CDTI).



Centro para el Desarrollo
Tecnológico Industrial

- PRODUCT DESCRIPTION.

- We have here a new concept in excavation and demolition equipments. The vibroripper may exceed the productivity of a hydraulic hammer equivalent to 4 times, but can not replace the breaker in all rock types.

- The main mistake made by other manufacturers, is to propose the vibroripper as global alternative to the hydraulic breaker. This aspect is not true and is conditioned by a simple reason which is that the majority of vibrorippers manufacturers can not offer any alternative in extremely hard and compact rocks. That is, the majority of manufacturers are not hydraulic breaker manufactures and have no alternative to offer in such rocks.

- With this clear lest describe the product.



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VIBRORIPPER TABE-TYR

PRODUCT DESCRIPTION.



- The TYR vibroripper of TABE is extremely effective in those sites with the presence of "CRACKS" or stratified layers.

- These "CRACKS" may be natural or induced. There are many types of rock presenting in its structure natural cracks. Others, however, are very compact and require the use of very powerful equipments or even explosives. When in a mining operation there has been a "Blasting", a great part of the land blown up is affected by the explosion and is in a more fragile situation. These devices allow replacing the explosive in many types of soils, and in those areas where it is not possible, due to the nature of the rock, can grown the explosives grid, greatly reducing the amount of explosive used.

- Another advantage is its low noise level, which makes it ideal for urban environments or works near sensitive areas like hospitals, health centers, schools, etc. ... Depending on the type of material to break the TYR vibroripper of TABE can be noiseless.

VIBRORIPPER TABE-TYR

VIBRORIPPER STRUCTURE

1 – VIBRATION BOX

Located inside the housing, inside it is generated the vibration and the force for breaking the stone.

2 – HYDRAULIC MOTOR.

It generates the movement of the excentric masses.

3 – UPPER LEVER.

Allows the relative movement from the vibration box and the housing.

4 – BOTTOM LEVER.

Allows the relative movement from the vibration box and the housing.

5 – HOUSING.

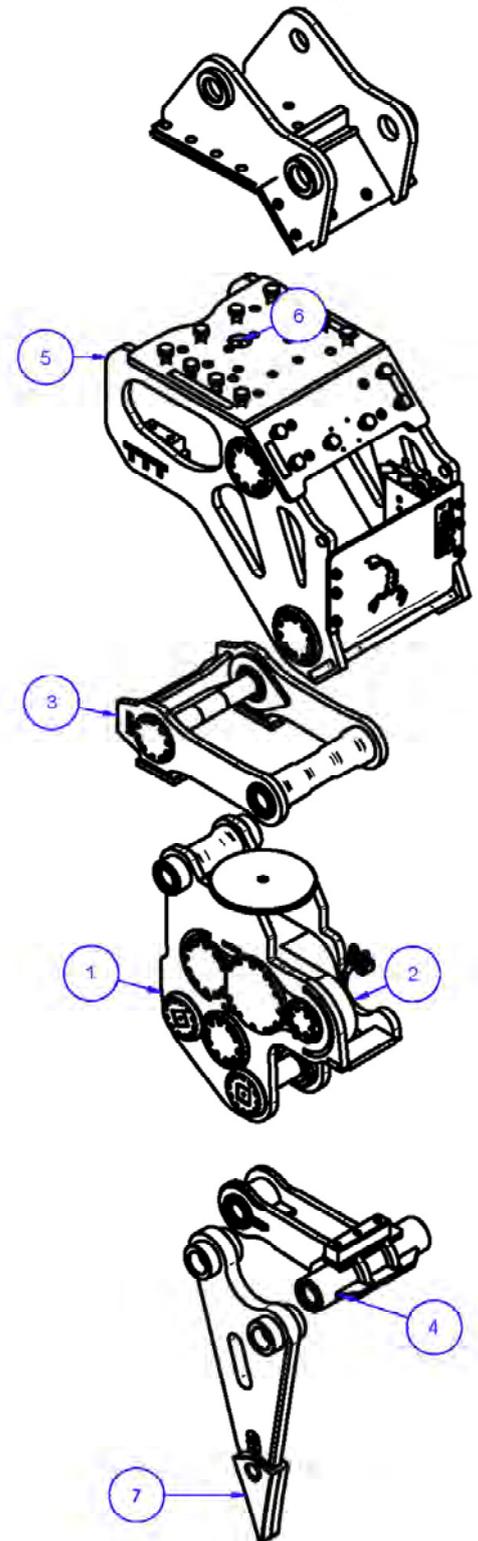
Protects the vibration box and reduce the sound emission. In the upper side is possible to assembly the adaptor to the excavator. In the upper side of the housing you will find pressure, return and drain hoses. Also in the upper side is located the pneumatic damper.

6 – PNEUMATIC DAMPER.

Reduce the vibrations that could reach to the excavator boom.

7 – RIPPER TOOL.

Wearing part used to break the stone, concrete or other soft materials.



VIBRORIPPER TABE-TYR

WORKING PRINCIPLE.

- The Silent Ripper multifunction has many advantages. It is the ideal tool for jobs where low noise levels are necessary and / or high productivity in brittle areas.
- Not all materials are suitable for working with the vibroripper, besides the harder field and where the resistance to penetration increases, the sound level coming to give approximate values for the equivalent hydraulic hammer, if it is true that in adequate and suitable materials, equipment noise emissions may become imperceptible.
- We can affirm that replaces and surpasses the hydraulic breaker in more than 70% of the materials and grounds.

VIBRORIPPER - DEMOLICIÓN PRIMARIA - SUELO SIN PREPARAR CORTE VERTICAL													
Material a romper		Resistencia a la compresión (Mpa)			fragilidad de la roca (10-1)	Factor K	Producción m³/h en losas de menos de 50cm de espesor.						
							2937	3100	3023	2411	2799	2256	2718
Roca	Rock	Min	Max	MEDIA	Fgr	k	TYR8	TYR12	TYR15	TYR25	TYR35	TYR45	TYR55
Granito	granite	97	310	203,5	10	3	2,2	4,3	5,9	6,6	11,2	14,3	25,1
Sienita	syenite	186	434	310	6	3	2,4	4,7	6,4	7,2	12,3	15,7	27,4
Gabro, diabasa	Gabbro, diabase	124	303	213,5	9	3	2,3	4,5	6,2	7,0	11,9	15,2	26,5
Basalto	basalt	110	338	224	6	2	4,9	9,7	13,3	14,9	25,5	32,5	56,9
Caliza	limestone	14	255	134,5	5	2	9,9	19,4	26,6	29,8	51,0	65,0	113,7
Arenisca	sandstone	34	248	141	5	2	9,4	18,5	25,4	28,5	48,6	62,0	108,5
Gneiss	gneiss	152	248	200	4	2	8,3	16,3	22,3	25,1	42,9	54,6	95,6
Cuarzita	quartzite	207	627	417	10	3	1,1	2,1	2,9	3,2	5,5	7,0	12,2
Mármol	marble	69	241	155	9	2	4,7	9,4	12,8	14,4	24,6	31,3	54,8
Pizarra	slate	138	207	172,5	7	3	3,7	7,2	9,9	11,1	18,9	24,1	42,2
Hormigón	concrete	5,5	69	37,25	7	3	16,9	33,4	45,7	51,3	87,7	111,7	195,6
Yeso	Gypsum	4	43	23,5	4	2	70,5	139,0	190,1	213,5	364,7	464,9	813,7

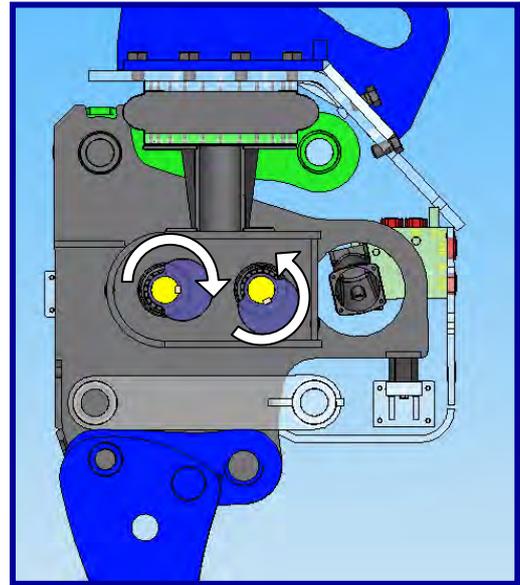
MARTILLO HIDRAULICO - DEMOLICIÓN PRIMARIA - SUELO SIN PREPARAR CORTE VERTICAL													
Material a romper		Resistencia a la compresión (Mpa)			fragilidad de la roca (10-1)	Factor K	Producción m³/h en losas de menos de 50cm de espesor.						
							980	1060	870	760	670	580	540
Roca	Rock	Min	Max	MEDIA	Fgr	k	BPM-KG	BPM-KG	BPM-KG	BPM-KG	BPM-KG	BPM-KG	BPM-KG
Granito	granite	97	310	203,5	10	3	0,3	0,8	1,5	2,9	4,7	7,3	10,6
Sienita	syenite	186	434	310	6	3	0,4	0,9	1,7	3,2	5,2	8,0	11,6
Gabro, diabasa	Gabbro, diabase	124	303	213,5	9	3	0,3	0,9	1,6	3,1	5,0	7,7	11,3
Basalto	basalt	110	338	224	6	2	0,7	1,9	3,5	6,6	10,8	16,6	24,1
Caliza	limestone	14	255	134,5	5	2	1,5	3,8	7,0	13,1	21,6	33,2	48,3
Arenisca	sandstone	34	248	141	5	2	1,4	3,6	6,7	12,5	20,6	31,6	46,0
Gneiss	gneiss	152	248	200	4	2	1,2	3,2	5,9	11,1	18,1	27,9	40,6
Cuarzita	quartzite	207	627	417	10	3	0,2	0,4	0,8	1,4	2,3	3,6	5,2
Mármol	marble	69	241	155	9	2	0,7	1,8	3,4	6,3	10,4	16,0	23,3
Pizarra	slate	138	207	172,5	7	3	0,5	1,4	2,6	4,9	8,0	12,3	17,9
Hormigón	concrete	5,5	69	37,25	7	3	2,5	6,5	12,0	22,6	37,1	57,0	83,0
Yeso	Gypsum	4	43	23,5	4	2	10,6	27,1	50,1	94,1	154,2	237,3	345,2

Type of breaking materials.

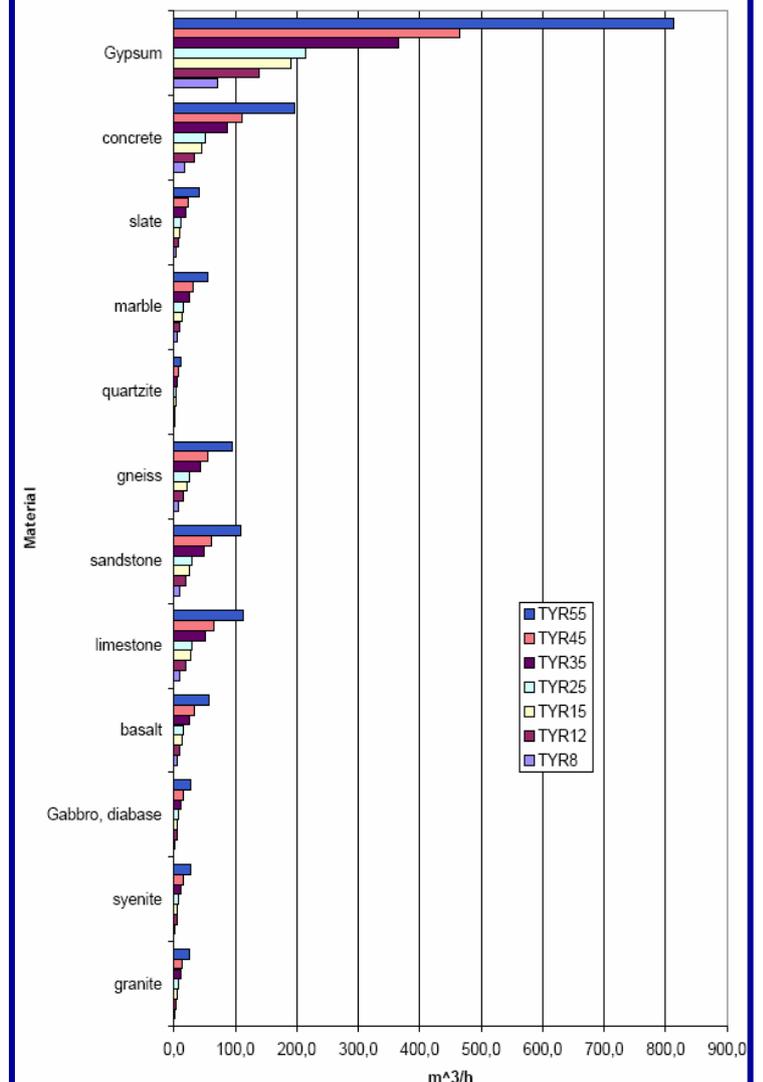
VIBRORIPPER TABE-TYR

WORKING PRINCIPLE.

- The generation of the breaking strength of vibration is produced by the actuation of two excentric masses through a hydraulic motor.
- The combination of a high speed with excellent sizing and timing of the eccentric masses are able to generate a high value of tons of centrifugal force.
- The centrifugal force itself added to the tons of shear force that may exercise the boom of the excavator mean that vibroripper productivity in those areas very brittle higher than any other mechanical implement that we may use for the disintegration of rocks.
- It is necessary to mention that the data presented in the tables and graphs above are estimates, as there are many factors that can bring productivity is higher or lower. (Machine size, skill of the operator, the fragility of the rock, ...)



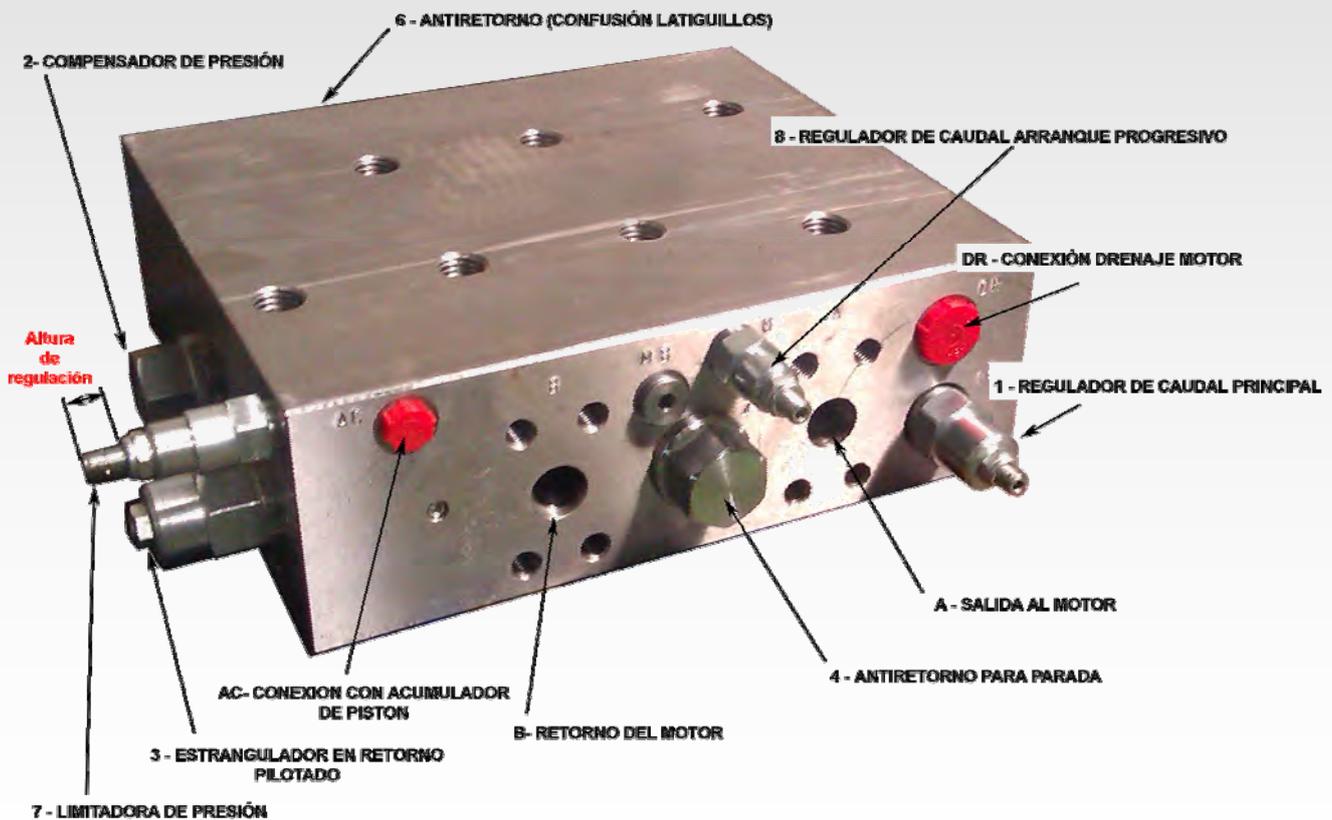
PRODUCCIÓN HORARIA - TYR



VIBRORIPPER TABE-TYR

WORKING PRINCIPLE.

- In addition the double buffer architecture that we implemented in our equipment means that more than 86% of the vibrations generated are buffered before reaching the housing, so the boom of the excavator is protected. This also means that the operator's position is exempt from damaging reactions, so that the ergonomics of the operator's site is guaranteed.
- The equipment supplied by TABE incorporate a valve block and protections that stabilize the hydraulic motor and control the starts to protect the inner mechanics of the device. In addition this block prevents errors in the regulation of the excavator, or errors in the connection of the hoses.



Valve block.

VIBRORIPPER TABE-TYR

MODE OF BREAKING IN RIPPER MODE

- Apply the tool to the material you want to break in the direction of the axis of the vibroripper. Once the damper is compressed, send oil to the vibroripper, let the ripper tool penetrate into the material and begin to break using the boom, without stopping the oil flow.



- When breaking the material, we will use a combination of vibration power and the proper force from the excavator boom.
- Cut off the oil supplying the vibroripper whenever the material is break and the ripper tool is free.
- If you want to see teams at work can watch them in our Youtube Channel at the following link: :

www.youtube.com/user/TABEGTNEC



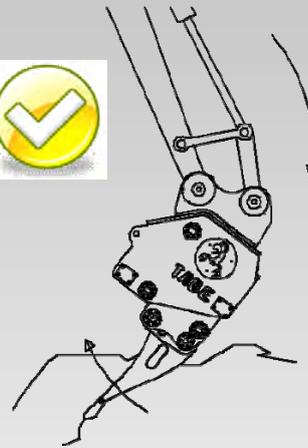
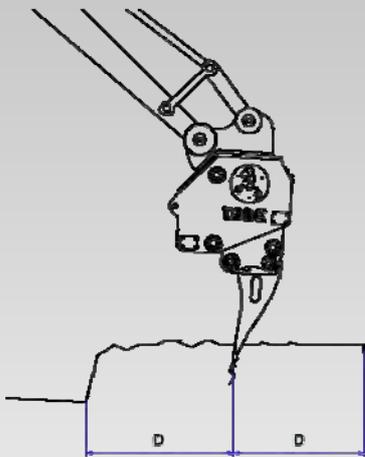
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VIBRORIPPER TABE-TYR

MODE OF BREAKING IN RIPPER MODE

- Do not break with the boom cylinders totally inside or totally out the cylinder's housings. If you usually work in that situation, with a few hours, the cylinders and other main parts of the excavator will have a serious damage.
- When a new vibroripper is installed it is recommended working for one tour in a low flow regimen.
- Distance indicated by D is the forward movement. D value must be a value that after 30 sec. working with the vibroripper it loses down. If it doesn't, that means that the distance must be reduced.



- Levering is forbidden for a conventional hydraulic hammer, but this equipment is designed for this operation. You must work as you are using a conventional bucket.

This is the correct working mode.



IMPORTANT WARNING

- Immediately stop the vibration when breaking the material. Keep the ripper tool pressed or buried in the ground until the vibroripper is completely stopped. Once you have ceased to vibrate vibroripper can displace to another position. Never vibrate the vibroripper suspended in the air. Doing so will damage the bottles of the excavator boom.
- NEVER allow the ripper tool crossing the material and working on the air.

VIBRORIPPER TABE-TYR

UNDERWATER WORKS

- The vibroripper TYR is ready to do underwater Works, but you must follow the steps described below:

WARNINGS:

- If vibroripper will submerge completely, it is necessary to remove the vent valve and place a M16 plug. If this valve is submerged under water, water can enter in the gear box, thereby deteriorating the oil stayed inside. This valve is located in the upper side of the gear box.



If we put the plug, you need to check every 30 minutes the temperature of the gear box. If it exceeds 100 ° C, loosen the plug situated in place of the vent valve to release the gases that are generated in the gear box. Once released, these gases, re-tighten the plug and continue working. You should take precautions to release the gas, that should not be inhaled and will be very hot (use a mask, protection glasses and gloves).

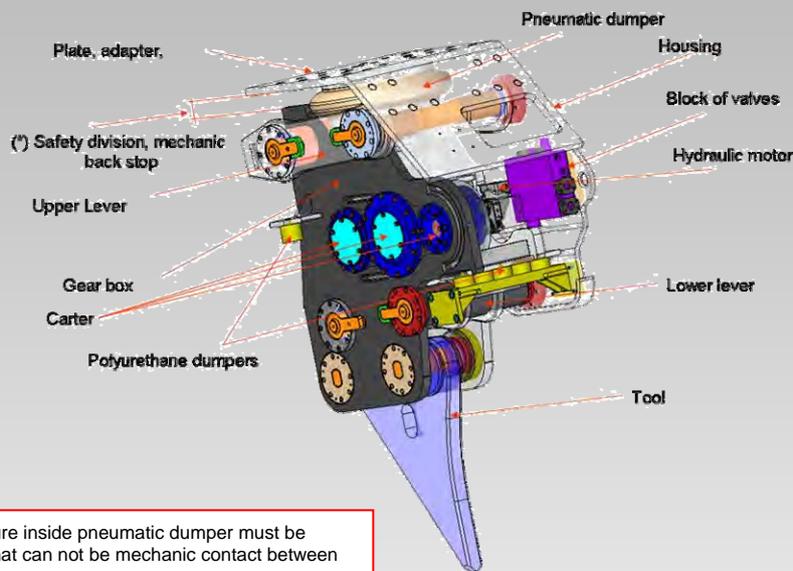
MAINTENANCE:

- Check the colour of the hydraulic oil in the excavator tank, to check that is not white (sign of the mixture with water), because if so, you must inspect the entire vibroripper and excavator.
- If the work is done in salt water, clean with fresh water and dry thoroughly to avoid possible oxidation.

VIBRORIPPER TABE-TYR

MAINTENANCE.

- As a commercial argument, we assume to provide a equipment maintenance-free, it does not need periodical greasing or any kind of daily maintenance.
- But it is true that needs a preventive maintenance, basically a lubricant change every certain hours.



(*) Pressure inside pneumatic dumper must be enough that can not be mechanic contact between those pieces.

DAILY INSPECTION (BEFORE TO START WORK)

- It's necessary to check and verify the correct state of all vibroripper systems before starting the daily job.
- To check the general state from the unit, only take few minutes. If you detect a problem, solve it as the following chart shows. These daily checks and daily maintenance will save time and money. Also you'll get one unit ready to work on the best conditions at every time.

VIBRORIPPER TABE-TYR

MAINTENANCE

Daily Inspection.

CHECK	WHERE	SOLUTION
Check the proper tightening of: <ul style="list-style-type: none"> Screws. Nuts. 	<ul style="list-style-type: none"> Bracket Housing. Dumper system Gear box 	<ul style="list-style-type: none"> Tighten. Change. Replace.
Verify possible leaks: <ul style="list-style-type: none"> Oil leaks. 	<ul style="list-style-type: none"> Hydraulic hoses Hydraulic motor Block Valves Carter. 	<ul style="list-style-type: none"> Tighten. Change. Replace.
Structural state, check possible: <ul style="list-style-type: none"> Wears Fissures. 	<ul style="list-style-type: none"> Tool. Housing. Lever. 	<ul style="list-style-type: none"> Regrind. Replace. Repair.
Check the correct state from the dumper system. <ul style="list-style-type: none"> Estate 	<ul style="list-style-type: none"> Polyurethane dumpers. Pneumatic dumper. 	<ul style="list-style-type: none"> Tighten. Change. Reload.
Check state of: <ul style="list-style-type: none"> Warning signals 	<ul style="list-style-type: none"> Housing 	<ul style="list-style-type: none"> Replace.

PERIODIC INSPECTION AND MAINTENANCE CHART.

The Vibroripper supplied by TABE, requires a minimal maintenance, but it has to be done as shows the following chart. Hours indicated are for excavator with the vibroripper attached.

CHECK	WORKING HOURS				
<ul style="list-style-type: none"> State of bracket, adapter and screws 	8				
<ul style="list-style-type: none"> Check leaks on hydraulic circuit. (hoses, motor, block of valves) 	8				
<ul style="list-style-type: none"> Check leaks on gear box (Fill plugs, cover sides) 	8				
<ul style="list-style-type: none"> Check Fissures and housing deformations. 	8				
<ul style="list-style-type: none"> Check fissures and bracket deformations 	8				
<ul style="list-style-type: none"> Check state of warning and security labels. 	8				
<ul style="list-style-type: none"> Check pneumatic dumper (Leaks, deformations and breaks) Check that there isn't mechanical contact (back stop) between box gear and housing, when the excavator is completely supported over the vibroripper on working position. 	8				
<ul style="list-style-type: none"> Check the correct grinding of tool and the state on the box gear coupling system. 	8				
<ul style="list-style-type: none"> Check the state from polyurethane dumpers. 	8				
<ul style="list-style-type: none"> Check pressure on pneumatic dumper. 		40			
<ul style="list-style-type: none"> Change polyglicol from the carter (only first time) 			100		
<ul style="list-style-type: none"> Check the volume of polyglicol from the carter and refill it. 				500	
<ul style="list-style-type: none"> Change the polyglicol 					1000

VIBRORIPPER TABE-TYR

MAINTENANCE

Lubrication.

- The gear box is lubricated with special polyglycol for gears.
- The polyglycol must be replaced every 1000 working hours or every year. (Whatever happens before).
- Is important to verify the volume of polyglycol every 500h and refill if it is necessary.
- The first change must be done after 100h. It is normal that the imantated plug presents metal shavings, as the following picture:



- With the continuous changes of lubricant the volume of this metal shavings will be lower each time.
- The recommended lubricant is Polyglycol ISO 32.
- Also is possible to use Polyglycol ISO 46.
- Each model has a defined amount of polyglycol inside the gear box.
- A lower volume of lubricant will cause a lack of lubrication inside the gear box. A higher amount of lubricant will cause an increase of the temperature inside the gear box.



VIBRORIPPER TABE-TYR

MULTIFUNCTIONN

- The TABE TYR vibrripper, can be connected in its lower part with a multitude of different devices.



- With a minimal investment the user can turn his TYR in many different equipments, such us:

- Ripper.
- Sheet pile
- Rail-driver
- Post-driver
- Sand compactor plate
-



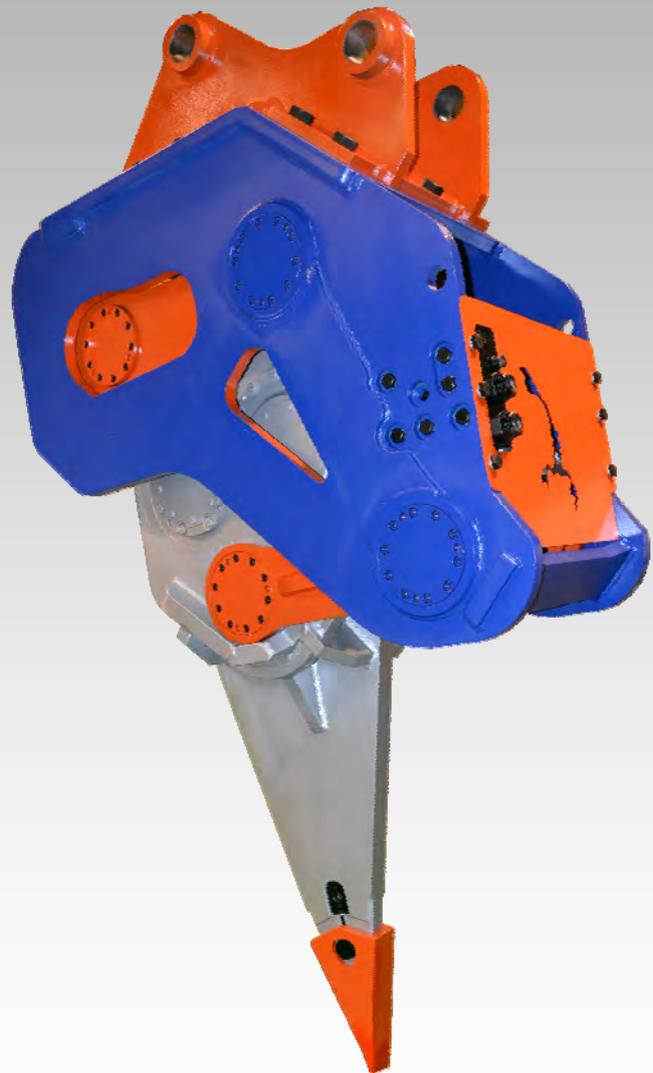
VIBRORIPPER TUBE-TYR

MULTIFUNCTION / MONOBLOCK

- For users who require a large earthmoving works such as quarries, where it is not essential multifunction, TUBE has developed a range of monoblock equipments. They are TYR40, TYR50, TYR60 and TYR90.



Multifuntion



Monoblock

VIBRORIPPER TABE-TYR

SPARE PARTS

- As it was indicated in previous sections, the equipment does not require any daily maintenance, and only needs a change of lubricant every certain hours. For this reason, the vibration box does not need any parts, as it has no wear.
- The main consumption of spare parts will be presented at the ripper tool, whose duration is extremely influenced by the type of rock on which we are acting.
- The ripper tool is made of wear resistant material and can be sharpened many times.
- We also have developed a ripper tool that incorporates special teeth for ripper applications. This type of teeth prevents the ripper tool to be sharp, but the teeth must be replaced when they have suffered a severe wear.



VIBRORIPPER TABE-TYR

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