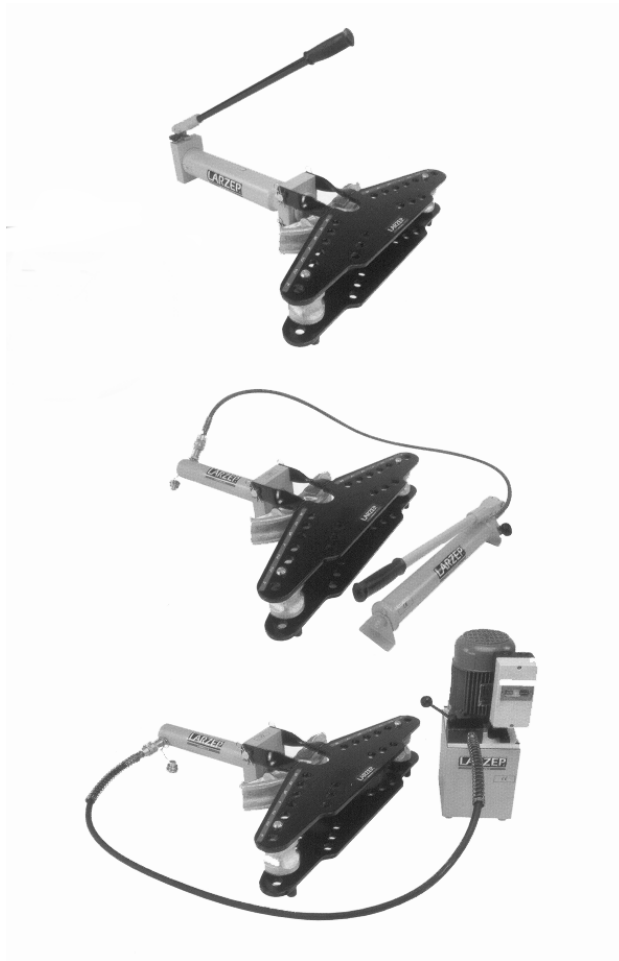




HYDRAULIC BENDER

“VA1225” “VC1225”

“VA1227” “VB1227”



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ANNEX

- GENERAL DRAWINGS

1. BEFORE USING THE EQUIPMENT AND SECURITY.

LARZEP hydraulic benders are designed and manufactured in accordance with internal quality standards, in compliance with the ISO 9001 regulation. However, improper use may result in serious physical injury to the user, as well as in damage to the machine and the material being treated.



Never use hydraulic equipment that is damaged or suspected to be in poor condition.

The tools are designed for the applications described in this manual. Any other use may pose a risk to the equipment and result in hazardous situations for the operator. The manufacturer accepts no responsibility for damage resulting from the improper use of the tool.



Do no store or leave the press where is can be accessed by the children.



The operator should be fully aware of the risks inherent in the use of high-pressure hydraulic tools, and should act responsibility in accordance with that described in this manual, ensuring both his/her own safety as well as the safety of others located in the vicinity of the working zone.

El personal expuesto debe utilizar materiales de protección personal tales como botas, casco, gafas, guantes, ropa... y conocer las normas aplicables sobre prevención y medioambiente.



Boots



Helmet



Glasses



Gloves



Clothes

Never modify the tool or add elements that may affect its safety, without express authorisation from the manufacturer.

Before using, check for:

- 1- There are not operators standing around dangerous area.
- 2- Ensure that the equipment it's located over firm ground.
- 3- Do not work around dangerous area.
- 4- The commands have been operated with the hands.
- 5- Damaged or dirtied connections or coupler.
- 6- The flexible hydraulic hoses are not twisted.
- 7- The commands are in neutral position.



Check that the working pressure is less than the 80% of nominal capacity

Specialist personnel should only carry out repairs and maintenance operations, etc. Always use original LARZEP spare parts.

Carry out maintenance operations on a regular basis, as indicated in this manual.

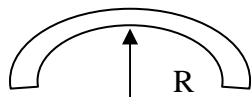
Once you have finished using the tool, disconnect it, clean it and store it in a clean, safe place.

2. TECHNICAL FEATURES.

The benders supplied in standard equipment are indicated in the table below. The table also indicates the radiuses obtained when bending a pipe 90° (long-radius benders).

On request, LARZEP, S.A. can also supply short-radius benders.

TUBE	INCHES	3/8 “	1/2 “	3/4”	1”	1 1/4 ”	1 1/2 “	2”
	DIAMETER (mm)	16,5	21	27	34	42	48	60
RADIUS		60	85	120	140	175	210	260
ANGLE		90	90	90	90	90	90	90



All the models incorporate a complete set of benders for coupling to the piston, as well as two bending rollers with the corresponding slots for supporting the pipes. Machines also come with a support structure with upper and lower templates and bending roller shafts.

MODEL	VA1225	VC1225	VA1227	VB1227
DESCRIPTION	Bender with cylinder and manual pump	Bender with cylinder and electro pump	Bender with horizontal bottle jack	Bender with horizontal bottle jack and tripod.
CYLINDER	SM01025 single acting and spring return	SM01025 single acting and spring return	-	-
JACK	-	-	AV1227 Horizontal Bottle jack with internal spring return	AV1227 Horizontal Bottle jack with internal spring return
PUSH CAPACITY	11.1 ton	11.1 ton	11.1 ton	11.1 ton
PISTON STROKE	262 mm	262 mm	285 mm	285 mm
PUMP	W00607	YAM1114	-	-
TANK CAPACITY	660 cc	2 Litres	-	-
FLOW PER STROKE	2.6 cc	0.35 L/min.	4.2 cc	4.2 cc
POWER	-	.37 Kw380 V 50Hz 3 ph	-	-
WEIGHT	55 Kg	50 Kg	61 Kg	70 Kg

3. START UP.

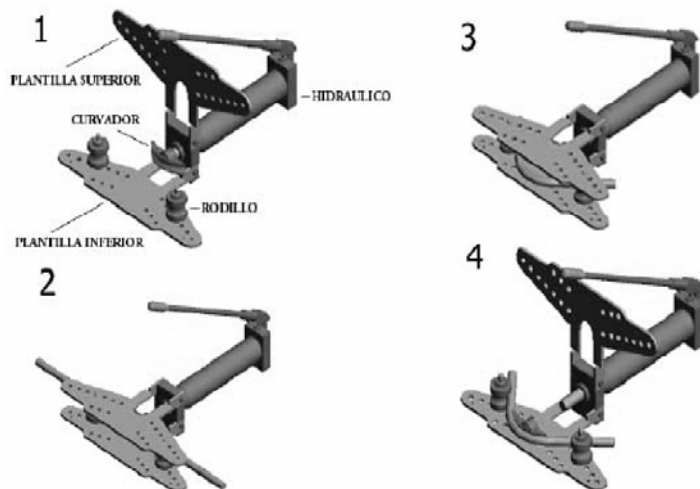
- ❖ The bender is packed in a sturdy wooden box, which protects it from the knock damage throughout the transportation. Once the tool is used, clean it and keep it into the box, to be stored until next usage.
- ❖ Unpack the equipment assuring that all the parts indicated in the drawing provided in the manual are found and the material has not been damaged.
- ❖ The hydraulic part is provided threaded to the structure plate of the grounds. Mount in this plate the lower and upper grounds. (Stick with the tube measures up faced) with the axles and clips. Checking that the upper ground tilts free.
- ❖ In model VB1227, assemble the tripod by screwing the coupling into the support plate and inserting it into the tripod shaft.

MODEL VA1225	MODEL VC1225	MODEL VA1227	MODEL VB1227
1. Connect the pump to the cylinder via the hose and the quick plug.	1. Connect the electric pump to the cylinder via the hose and the quick plug.	1. This model does not require any type of hydraulic connection.	1. This model does not require any type of hydraulic connection.
2. Enable a few pump strokes using the lever with the screw slightly loose (turn anticlockwise) in order to bleed the circuit.	2. Replace the electric pump's transport plug with its operating plug.	2. Enable a few pump strokes using the lever with the screw slightly loose (turn anticlockwise) in order to bleed the circuit.	2. Enable a few pump strokes using the lever with the screw slightly loose (turn anticlockwise) in order to bleed the circuit.
3. Tighten the screw manually (turn clockwise).	3. Make sure that the voltage in the mains corresponds to that required by the machine and that the motor rotates in the direction indicated by the arrow.	3. Tighten the screw manually (turn clockwise).	3. Tighten the screw manually (turn clockwise).
4. When you pump now, the cylinder piston will move forward.	4. With the manual distributor control set to tank (lever towards the motor), press the switch in order to start the motor.	4. When you pump now, the jack piston will move forward.	4. When you pump now, the jack piston will move forward.
5. When the screw is loosened once again, the piston moves back due to the action of an internal spring.	5. After making sure that the working zone is unoccupied and all the elements are fixed in place moves the distributor lever to its open position by turning 90°. The cylinder piston will move forward.	5. When the screw is loosened once again, the piston moves back due to the action of an internal spring.	5. When the screw is loosened once again, the piston moves back due to the action of an internal spring.
	6. When the lever is moved back to its tank position, the piston will move back due to the pressure applied by the cylinder spring.		

BENDING OPERATION

Once you know the dimensions of the pipe you need to bend, proceed as follows:

1. Lift the upper template so that it is vertical. (1)
2. Place the shafts in the corresponding holes in accordance with the pipe dimensions, as indicated on the chart.
3. Place the shafts rollers in the position corresponding to the pipe to be bent. See the markings on the rollers.
4. Place the bender corresponding to the pipe on the protruding end of the piston.
5. Close the upper template, thereby fixing all elements in place.
6. Insert the pipe to be bent in one side, between the two templates. Be careful not to rotate the rollers out of their correct position and make sure that the bender stays on the end of the piston. (2)
7. Activate the hydraulic element as described in the previous section.
8. Move the piston out as far as necessary in order to achieve the desired curve angle, bearing in mind the elasticity of the pipe at all times. (3)
9. Depressurise the hydraulic element, the piston will move back in releasing the pipe.
10. Lift the template and remove the pipe. The bender will normally remain attached to the pipe. Use a plastic mallet to separate them. (4)



4. MAINTENANCE.

1. Depressurise the system and disconnect the hydraulic and electric elements before carrying out any maintenance operations.
2. Always use original LARZEP, S.A. spare parts.
3. Whenever you use the machine, visually check the oil level and inspect for damage to the hydraulic element (piston scratched, threads, leaks, etc.) and make sure all the accessories are in perfect working order (hose, quick plug, etc.)
4. Clean the machine after every use and lubricate the critical zones: threads, shafts, inside of the rollers, piston, etc. before storing in its wooden box.
5. In event of heavy duty use, change the hoses and plug regularly, even if they appear undamaged to the naked eye.
6. Regularly replace the hydraulic oil in the tank with clean oil (at least once a year). Always use LARZEP, S.A. oil.
7. Maintenance or repair operations that require the disassembly of the machine’s mechanical parts (jack, cylinder or pump) should only be carried out by specialist personnel.

MODEL	VA1225	VC1225	VA1227	VB1227
TANK FILLING	The pump oil tank should be filled using the plug. Check the level using the rod provided, placing the pump vertically with the head facing downwards. Always use LARZEP, S.A. oil Ref: AZ8901	The pump oil tank should be filled using the plug. Check the amount of oil in the tank using the level provided. Always use LARZEP, S.A. oil. Ref: AZ8902	The oil tank should be filled using the rubber plug. The level is indicated by this orifice, placing the jack vertically with the base facing upwards. Always use LARZEP, S.A. oil. Ref: AZ8901	The oil tank should be filled using the rubber plug. The level is indicated by this orifice, placing the jack vertically with the base facing upwards. Always use LARZEP, S.A. oil. Ref: AZ8901
SPARE PARTS	See ANNEX	See ANNEX	See ANNEX	See ANNEX

5. PROBLEMS, MALFUNCTIONS AND SOLUTIONS.

MODEL VA1225		
PROBLEMS	DIAGNOSIS	SOLUTION
1- The piston does not move forward.	- No or excess oil in the tank.	1. Check level and refill.
	- Filter obstructed.	2. Disassemble and clean the pump.
	-Oil leak through the pump admission ball.	3. Repair ball seat and replace the ball.
	- Pump restrictor valve not properly adjusted.	4. Re-gauge valve.
	- Pressure flange in the cylinder damaged.	5. Replace seal.
	- Bad hose connection.	6. Check the connection.
	- Pump cup damaged.	7. Replace flange.
2- No pressure in the cylinder	- Cylinder pressure flange damaged.	See Solution 5.
	- Leak through pump drive screwball.	See Solution 3.
3- The piston does not move back	-Leak through pump retention ball.	8. Repair ball seat and replace ball.
	- Drive screwball stuck.	9. Loosen screw and move ball.
	- Piston jammed or twisted in the cylinder.	10. Repair or replace piston.
	- Spring damaged.	11. Replace spring.
	- Excess oil.	12. Check level



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Hydraulic Bender
“VA1225” “VC1225” “VA1227” “VB1227”

Specialist personnel should carry out the solutions in bold type only.

MODEL VC 1225

PROBLEMS	MALFUNCTION	SOLUTION
1- The piston does not move forward.	- No or excess oil in the tank.	1. Check level and refill.
	- Vacuum in the tank.	2. Clean working plug.
	- Pump not primed.	3. Prime pump by running for a few minutes.
	- Pump piston obstructed.	4. Disassemble and clean pump.
	- Cylinder pressure seal damaged.	5. Replace seal.
	- Pump restrictor valve not properly adjusted.	6. Re-gauge valve.
	- Bad hose connection.	7. Check the connection.
	- Distributor valve damaged.	8. Repair or replace the valve.
2- No pressure in the cylinder.	- Cylinder pressure seal damaged.	See Solution 5.
	- Distributor valve damaged.	See Solution 6.
	- Pump restrictor valve not properly adjusted.	See Solution 6.
3- The piston does not move back	- Leak through pump retention balls.	9. Repair ball seat and replace ball.
	- Distributor valve ball stuck.	10. Remove valve and move the ball.
	- Piston jammed or twisted in the cylinder.	11. Repair or replace piston.
	-Spring damaged.	12. Replace spring.

Specialist personnel should carry out the solutions in bold type only.

MODEL VA1227 and VB1227

PROBLEMS	MALFUNCTION	SOLUTION
1- The piston does not move forward.	- No or excess oil in the tank.	1. Check level and refill.
	- Pump piston obstructed.	2. Disassemble and clean jack.
	-Oil leak through the admission ball.	3. Repair ball seat and replace the ball.
	- Cylinder pressure seal damaged.	4. Replace seal.
	- Flange damaged.	5. Replace flange.
2- No pressure in the jack.	- Cylinder pressure seal damaged.	See Solution 4.
	- Leak through drive screw ball.	See Solution 3.
	- Leak through retention ball.	See Solution 3.
3- The piston does not move back.	- Drive screw ball stuck.	6. Loosen screw and move ball.
	- Piston jammed or twisted in the cylinder.	7. Repair or replace piston.
	- Spring damaged.	8. Replace spring.

Specialist personnel should carry out the solutions in bold type only.

6. WARRANTY.

LARZEP, S.A. guarantees its products against all design and manufacturing defects for the durations of two years from the date of purchase. This guarantee does not include the ordinary wear of both metal and non-metal parts, abuse, using the equipment beyond its rated capacity and any wear or damage incurred as a result of using a hydraulic fluid which is not recommended by **LARZEP, S.A.**

Please note that if the equipment is disassembled or serviced by anyone other than an authorized service dealer or by **LARZEP, S.A.**, this guarantee is rendered null and void.

In the event of a warranty claim, return the equipment, to **LARZEP, S.A.** or the authorized dealer which sold you the hydraulic equipment, **LARZEP, S.A.** will repair or replace the faulty equipment, whichever is deemed most appropriate. **LARZEP, S.A.** shall not be held liable for any consequential damages or losses, which may occur as a result of faulty equipment.

7. DECLARATION OF CONFORMITY.

DECLARACION DE CONFORMIDAD

LARZEP, S.A.
Dirección: Avda. Urtiaga, 6
48269 Mallabia ESPAÑA
Declaramos bajo nuestra exclusiva responsabilidad la conformidad de los productos a los que refiere esta declaración, con las disposiciones de la directiva:
89/392/CEE, 91/368/CEE, 93/44/CEE, 93/68/CEE, 98/37/CEE

E

DECLARATION DE CONFORMITE

Nous, LARZEP, S.A.
Adresse: Avda. Urtiaga, 6
48269 Mallabia SPAIN
Déclarons sous notre seule responsabilité que les produits auxquels se réfère cette déclaration sont conformes aux dispositions des Directives:
89/392/EEC, 91/368/EEC, 93/44/EEC, 93/68/EEC, 98/37/EEC

F

DECLARAÇÃO DE CONFORMIDADE

Nós, LARZEP, S.A.
Endereço: Avda. Urtiaga, 6
48269 Mallabia SPAIN
Declaramos, sob nossa única responsabilidade, que os seguintes produtos, incluídos nesta declaração estão em conformidade com o disposto na Directiva:
89/392/EEC, 91/368/EEC, 93/44/EEC, 93/68/EEC, 98/37/EEC

P

ÖVERENSSTEMMELSESERKLÆRING

Vi, LARZEP, S.A.
Adresse: Avda. Urtiaga, 6
48269 Mallabia SPAIN
Erklærer på eget ansvar, at følgende produkter som er omfattet af denne erklæringen, er i overensstemmelse med bestemmelsene i Direktiv:
89/392/EEC, 91/368/EEC, 93/44/EEC, 93/68/EEC, 98/37/EEC

DK

ERKLÆRINGOM OVERENSSTEMMELSE

Vi, LARZEP, S.A.
Adresse: Avda. Urtiaga, 6
48269 Mallabia SPAIN
Erklærer på eget ansvar, at følgende produkter som dækkes af denne erklæringen, er i overensstemmelse med bestemmelsene i Direktiv:
89/392/EEC, 91/368/EEC, 93/44/EEC, 93/68/EEC, 98/37/EEC

N

ÜBEREINSTIMMUNG-SERKLÄRUNG

Wir, LARZEP, S.A.
Anschrift: Avda. Urtiaga, 6
48269 Mallabia SPAIN
Erklären auf eigene Verantwortung, daß folgende Produkte, auf die sich diese Erklärung bezieht, mit den Bedingungen der Direktiven 89/392/EEC, 91/368/EEC, 93/44/EEC, 93/68/EEC, 98/37/EEC übereinstimmen.

D

Tipo, Type, Typ, Tyyppi.

SM / SH / SP / SMP / SX / SMX / ST / STX / SL / SMA / SHA / SSR / T / TE / TD / D / DH /
DDR / Z / ZR / W / X / YA / YG / YZ / HM / HE / HG / HZ / HS / WI / CK / CC / CN / FU / FV
/ FZ / FA / CY / AA / AU / CT / C / KC

A / AB / AC / BL / B / AF / F / HN / DLG / DL / DP / VA / VB / VC / VZ / EC / EE / EG / EM /
EZ / CA / CS

Mallabia, ESPAÑA 2005 / 04 / 27

Lugar y fecha, place and date, lieu et date, plats och datum, paikka ja päivämäärä, utstedelsessted og-dato, ort und datum, plaats en datum, local e data, luogo e data.

DECLARATION OF CONFORMITY

We, LARZEP, S.A.
Address: Avda. Urtiaga, 6
48269 Mallabia SPAIN
Declare under our sole responsibility that the following products to which this declaration relates conform with the provisions of Directives:
89/392/EEC, 91/368/EEC, 93/44/EEC, 93/68/EEC, 98/37/EEC

GB

DICHIARAZIONE DI CONFORMITÀ

Noi, LARZEP, S.A.
Indirizzo: Avda. Urtiaga, 6
48269 Mallabia SPAIN
Dichiariamo sotto la nostra esclusiva responsabilità che i prodotti ai quali questa dichiarazione si riferisce sono conformi quanto previsto dalle Direttive:
89/392/EEC, 91/368/EEC, 93/44/EEC, 93/68/EEC, 98/37/EEC

I

VAATIMUSTEMUKAISUSVAKUUTUS.

Me, LARZEP, S.A.
Osoite: Avda. Urtiaga, 6
48269 Mallabia SPAIN
Vakuutamme yksinomaan omalla vastuullamme, että seuraavat tuotteet, joihin tämä vakuutus liittyy, ovat seuraavien Direktiivien vaatimusten mukaisia:
89/392/EEC, 91/368/EEC, 93/44/EEC, 93/68/EEC, 98/37/EEC

FIN

VERKLARINGVAN OVEREENKOMST.

Wij, LARZEP, S.A.
Adres: Avda. Urtiaga, 6
48269 Mallabia SPAIN
Verklaren geheel onder eigen verantwoordelijkheid dat de volgende producten, waarop deze verklaring heeft in overeenstemming zijn met de bepalingen van Richtlijn:
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NL

FÖRSÄKRAN OM ÖVERESSTÄMMELSE

Vi, LARZEP, S.A.
Adress: Avda. Urtiaga, 6
48269 Mallabia SPAIN
Försäkrar under eget ansvar att följande produkter som omfattas av denna försäkran är i överensstämmelse med villkoren i Direktiv:
89/392/EEC, 91/368/EEC, 93/44/EEC, 93/68/EEC, 98/37/EEC

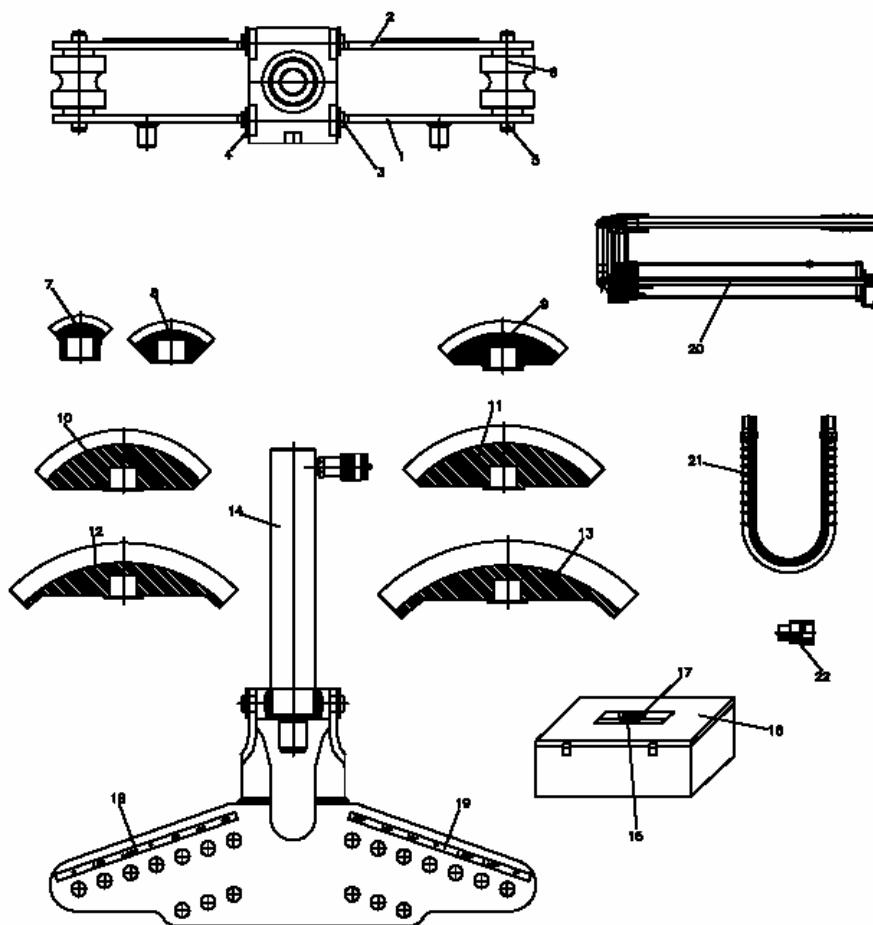
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LARZEP, S.A.

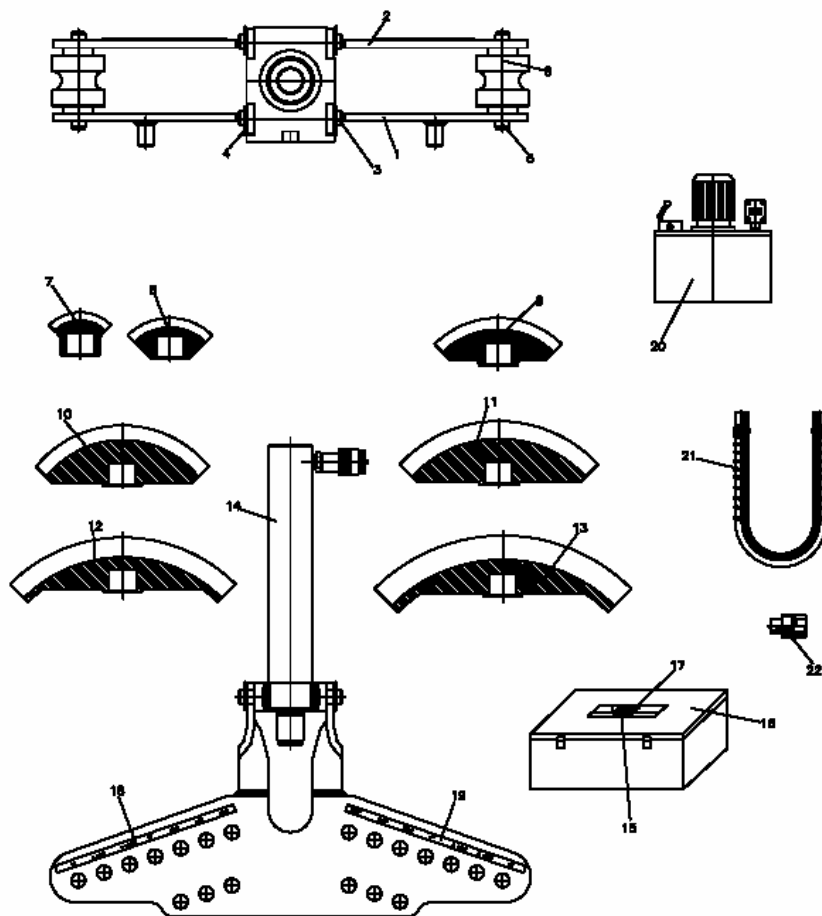
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VA1225



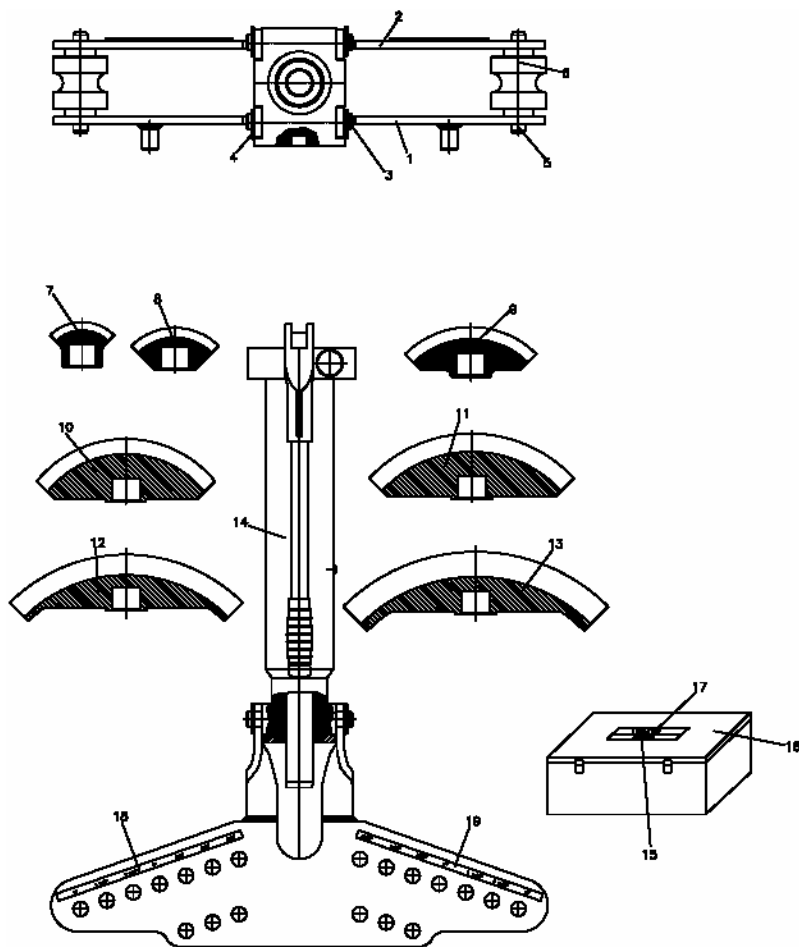
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1	BENDING LOWER SHOES	24K0037	1
2	BENDING UPPER SHOES	24K0038	1
3	SHAFT	15I0135	2
4	PIN "R" (CLIPS)	14E0017	4
5	SHAFT	15I0032	2
6	ROLLER	24M0001	2
7	BENDER 3/8"	24K0009	1
8	BENDER 1/2"	24K0010	1
9	BENDER 3/4"	24K0011	1
10	BENDER 1"	24K0012	1
11	BENDER 1 1/4"	24K0013	1
12	BENDER 1 1/2"	24K0014	1
13	BENDER 2"	24K0015	1
14	CYLINDER	SM01025	1
15	LABEL	30 A0034	1
16	WOODEN BOX	25C0001	1
17	LABEL	30 A0021	1
18	LEFT LABEL	30 A0030	1
19	RIGHT LABEL	30 A0031	1
20	HAND PUMP	W00607	1
21	HOSE	18B0004	1
22	MALE COUPLER	17 A0005	1
23	TEMPLATTE	24K0308	1

VC1225



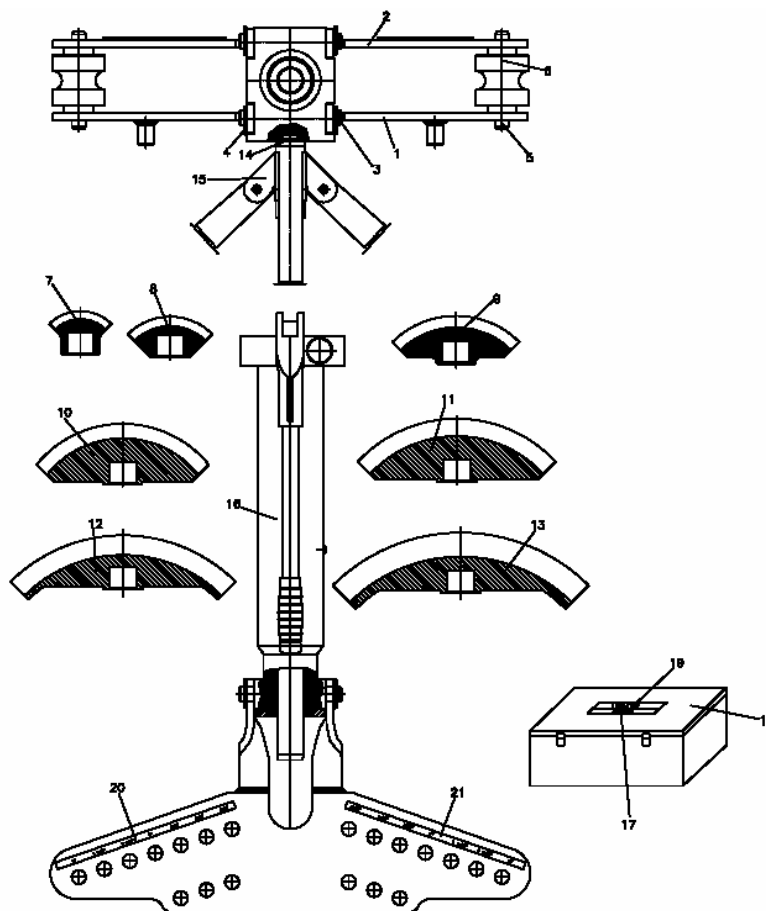
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2	BENDING UPPER SHOES	24K0038	1
3	SHAFT	15I0135	2
4	PIN "R" (CLIPS)	14E0017	4
5	SHAFT	15I0032	2
6	ROLLER	24M0001	2
7	BENDER 3/8"	24K0009	1
8	BENDER 1/2"	24K0010	1
9	BENDER 3/4"	24K0011	1
10	BENDER 1"	24K0012	1
11	BENDER 1 1/4"	24K0013	1
12	BENDER 1 1/2"	24K0014	1
13	BENDER 2"	24K0015	1
14	CYLINDER	71C0030	1
15	LABEL	30 A0035	1
16	WOODEN BOX	25C0002	1
17	LABEL	30 A0021	1
18	LEFT LABEL	30 A0030	1
19	RIGHT LABEL	30 A0031	1
20	ELECTRIC PUMP	YAM1114	1
21	HOSE	18B0004	1
22	MALE COUPLER	17 A0005	1

VA1227



N°	DESCRIPTION	CODE	N° PIECES
1	BENDING LOWER SHOES	24K0037	1
2	BENDING UPPER SHOES	24K0038	1
3	SHAFT	15I0135	2
4	PIN “R” (CLIPS)	14E0017	4
5	SHAFT	15I0032	2
6	ROLLER	24M0001	2
7	BENDER 3/8”	24K0009	1
8	BENDER 1/2”	24K0010	1
9	BENDER 3/4”	24K0011	1
10	BENDER 1”	24K0012	1
11	BENDER 1 1/4”	24K0013	1
12	BENDER 1 1/2”	24K0014	1
13	BENDER 2”	24K0015	1
14	HORIZONTAL JACK	AV1227	1
15	LABEL	30A0033	1
16	WOODEN BOX	25C0001	1
17	LABEL	30A0021	1
18	LEFT LABEL	30A0030	1
19	RIGHT LABEL	30A0031	1

VB1227



N°	DESCRIPTION	CODE	N° PIECES
1	BENDING LOWER SHOES	24K0037	1
2	BENDING UPPER SHOES	24K0038	1
3	SHAFT	15I0135	2
4	PIN “R” (CLIPS)	14E0017	4
5	SHAFT	15I0032	2
6	ROLLER	24M0001	2
7	BENDER 3/8”	24K0009	1
8	BENDER 1/2”	24K0010	1
9	BENDER 3/4”	24K0011	1
10	BENDER 1”	24K0012	1
11	BENDER 1 1/4”	24K0013	1
12	BENDER 1 1/2”	24K0014	1
13	BENDER 2”	24K0015	1
14	TRIPOD CONNECTION	15I0132	1
15	TRIPOD	33C0007	1
16	HORIZONTAL JACK	AV1227	1
17	LABEL	30A0033	1
18	WOODEN BOX	25C0001	1
19	LABEL	30A0021	1
20	LEFT LABEL	30 A0030	1
21	RIGHT LABEL	30 A0031	1