

**USER AND SERVICE MANUAL
SPARE PARTS**

***italdem* GK-75 S**

The Power of Demolition



 ***italdem***



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INTRODUCTION

We thank you for trusting us by choosing an ITALDEM product coming out of "Italiademolitori Srl" factories.

We remind you that it is highly recommendable to carefully read this booklet before starting to work with the hammer. A long lifetime of your ITALDEM hydraulic breaker can only be guaranteed if the instructions given herein are being followed, if the hammer is being used correctly and if maintenance is being made regularly. The perfect match between breaker and carrier machine is always essential: it is the main requirement for a quiet and satisfying job. An incorrect use can be the cause of great damages and of premature wear of the parts which are not covered by warranty. Furthermore, it is recommendable to use only original ITALDEM spare parts, as all parts sourced elsewhere can damage the breaker and shorten its lifetime. No warranty claims will be accepted in case non-original spare parts have been used for a breaker repair.

ITALDEM – "Italiademolitori Srl" reserves itself the right to change these instructions without further notice.



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TECHNICAL DRAWING

GK 75 S

WEIGHT AND DIMENSIONS

| | |
|------------------|---------|
| Operating Weight | 75 kg |
| Height | 1048 mm |
| Width | 250 mm |
| Chisel Diameter | 40 mm |

FITTING TO CARRIER

| | | |
|-----------------|---------|-----|
| Carrier weight | 0.5 - 2 | Ton |
| Inner Ø HP line | 16 | mm |
| Inner Ø LP line | 20 | mm |

At the breaker:

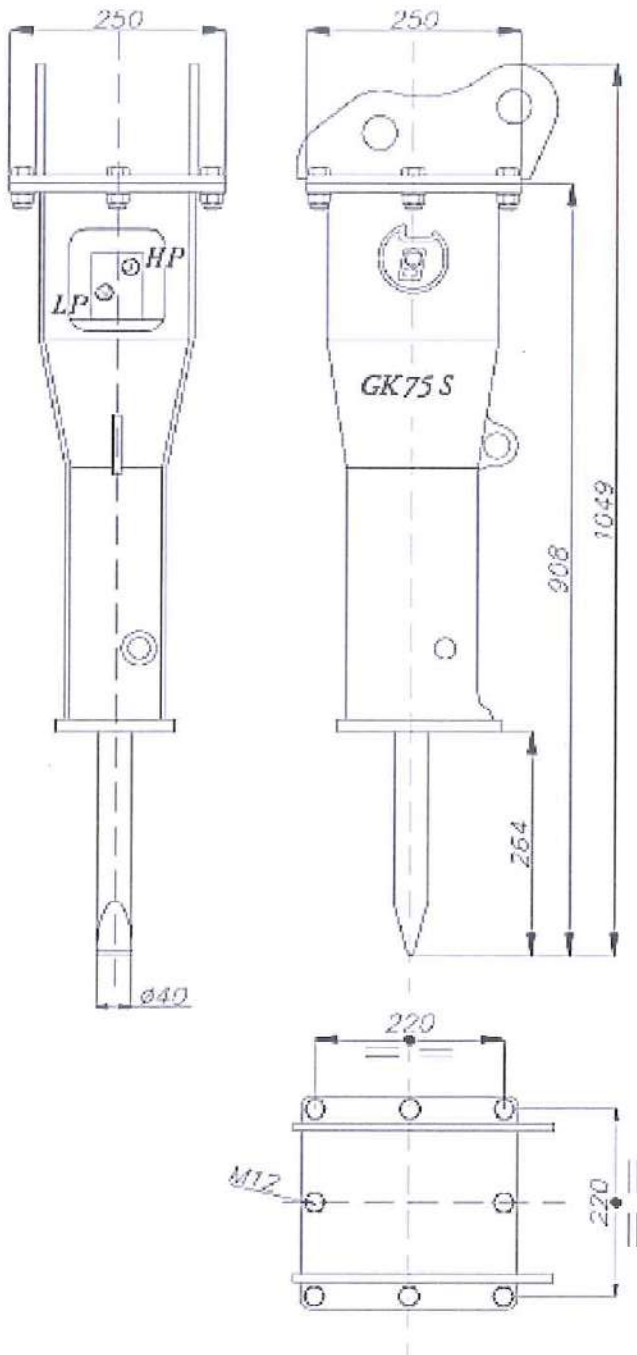
| | | |
|-----------|----|-----|
| HP thread | ½" | NPT |
| LP thread | ½" | NPT |

POWER DATA

| | | |
|----------------------|------------|-------|
| Power of the breaker | 5 | HP |
| Required power | 6 | HP |
| Yield | 0.83 | |
| Energy of the blow | 160 | Joule |
| Blows per minute | 750 - 1430 | |

SETTINGS

| | | |
|------------------------|---------|-------|
| Oil Supply | 13-25 | L/Min |
| Working pressure | 95 -105 | bar |
| Backpressure | 12 | bar |
| Relief valve (carrier) | 140 | bar |
| Max. oil temperature | 80° | C |
| Nitrogen Pressure | 35 | bar |
| Noise level | 93 | dB-A |

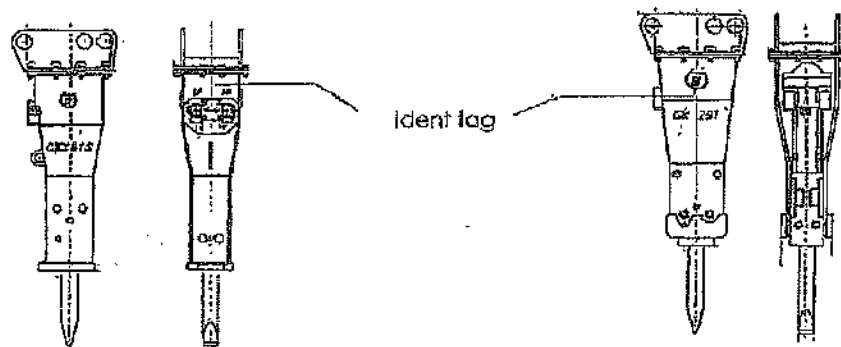


SPECIFICATIONS AND MARKS

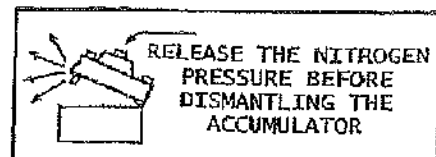
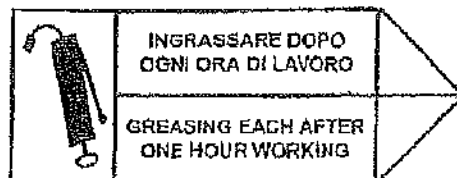
Every ITALDEM breaker has a tag according to the European Directive CE 89/392/EWG which shows:

- 1) Manufacturer's name
- 2) Manufacturer's address
- 3) Model
- 4) Serial number
- 5) Year of manufacturing
- 6) Required oil supply
- 7) Operating pressure
- 8) Weight

On silenced „S“ versions, this tag is being fixed on the front side of the breaker (near the swivels). On side-plate versions, the tag is being fixed on the right side plate (as seen from the driver's cabin).



Furthermore, the grease points are marked with yellow stickers. Another yellow sticker on the accumulator shows the danger of explosion: by means of the filling screw, the nitrogen pressure has to be relieved before opening the accumulator!



GENERAL SAFETY INSTRUCTIONS

Anyone who is working or servicing this hydraulic breaker should know and respect the security instructions given in this booklet or shown on the tags or on the stickers which are to be found on the breaker itself.

It is recommended to read the instructions carefully before starting to work and before servicing the breaker.

Superintendents of job sites also need to make sure that all safety instructions concerning the site and all local safety regulations are being followed closely. Elsewise, serious damage may be caused to persons as well as to the breaker.

According to the model, the breaker is to be fixed on an excavator, on a mini-excavator, on a backhoe loader or on some other carrier machine. Each type of application requires its own safety measures, which are to be discussed with the manufacturer. The driver also needs to know the safety instructions of the carrier machine.

Before starting to work with the breaker, the driver has to put on safety clothes: eyewear, gloves, dust protection, ear protection, helmet, etc. Light clothes, watches or bracelets can be dangerous under certain circumstances. While working, it is absolutely forbidden to drink alcoholics or to take drugs that may cause somnolence. The breaker should be put to work only if the driver has a clear mind.

Illuminating the job site in a sufficient way is part of the preventive safety measures. The underground of the job site has to be stable enough to carry the machine and the breaker; a loss of equilibrium may cause serious damages to machines and to persons.

The breaker user has to follow the maintenance plan. Every time the breaker is being put at work, it is recommended that the driver first checks the chisel, the retaining pins, the pressure relief valve on the carrier machine, the bolts of the top bracket, and the HP and LP hoses that connect the breaker to the carrier.

Before starting to work, the user has to make sure that there are no underground electricity-, water- or gas-lines. Working in areas with high concentrations of gas or of explosives in general have to be avoided, just as working in areas with very high temperatures.

Non authorized persons should not enter the job site. Chips, parts and splinters that the breaker is casting away can be the cause of serious injuries.

While working, the breaker is shaking and vibrating. Therefore do not touch it or place any objects on top of it. At the end of a job, the tool is very hot. Do not touch it unless it has cooled down. The use of gloves is being recommended.

To avoid any damage to persons or to the breaker itself, any maintenance and service job should be done by authorized and trained mechanics only.

ATTENTION: The above mentioned safety instructions are sufficient for most cases of dangerous situations. Nevertheless, they cannot be considered as sufficient for avoiding all dangers, as not all situations or mistakes can be foreseen. It is therefore the user's task to pay the utmost attention during the work and service operations.

INSTRUCTIONS FOR USING THE BREAKER CORRECTLY

Apart from the safety instructions, the breaker user is also supposed to follow the instructions for use and maintenance listed here under:

Do not use the breaker for jobs that would require a bigger breaker. Use the breaker only for purposes for which it has been designed, such as splitting of boulders, excavating, trenching, demolition jobs,

Do not use the hammer without retaining pins; do not use tools which are not authorized by ITALDEM; make sure that the tool has no cracks and has not become round at the end (due to wearing); if too worn, sharpen the tool again for maximum efficiency of your breaker; tool repairs have to be made by authorized workshops only.

Do not use the breaker under water, unless it has been specifically equipped for under-water-jobs. In this case, compressed air will be injected into the breaker.

Do not apply forces onto the breaker (or onto the tool) which are bigger than what the breaker has been designed for. In other words, do not use the breaker for jobs that are too heavy.

Never use the breaker without tool, or without that the tool touches the ground. Never direct the breaker onto persons.

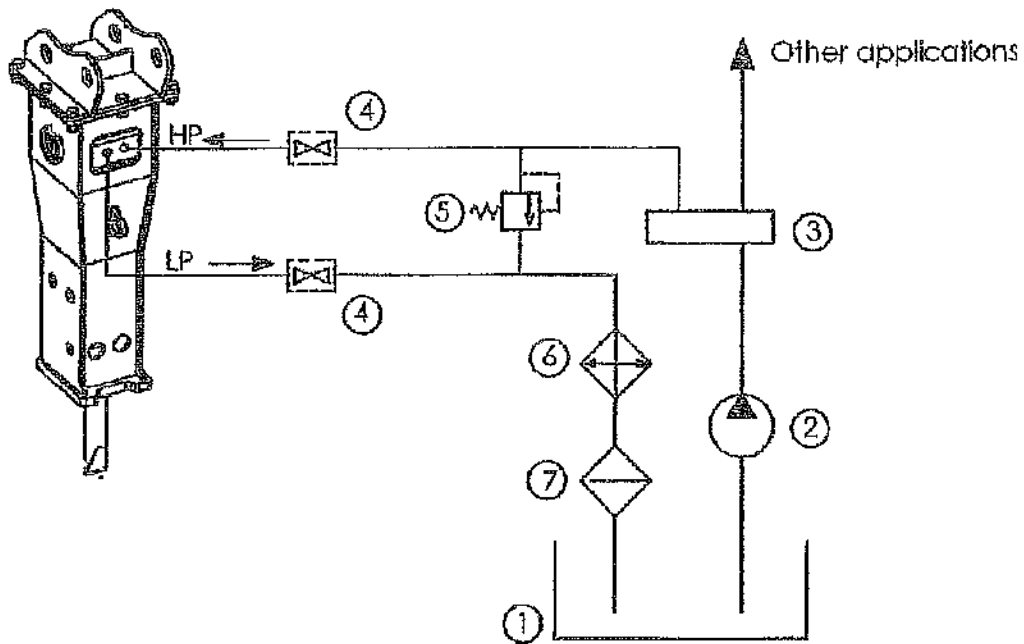
Before connecting the breaker to the carrier machine, make sure that all hoses, tubes and couplings are clean.

More useful information can be found in the leaflet „USE AND MAINTENANCE“.

SETTING THE HYDRAULIC CIRCUIT

In order to guarantee a smooth and correct functioning of the breaker, it is necessary that the hydraulic circuit of the carrier machine is being calibrated in a way, so that the parameters correspond with the ones given in the "Technical Data" table of page 2.

If required, the existing settings of the hydraulic circuit have to be modified in order to realize a maximum efficiency of the breaker. Recommendations and instructions of the Hammer Manufacturer as well as of the Excavator manufacturer have to be followed carefully.



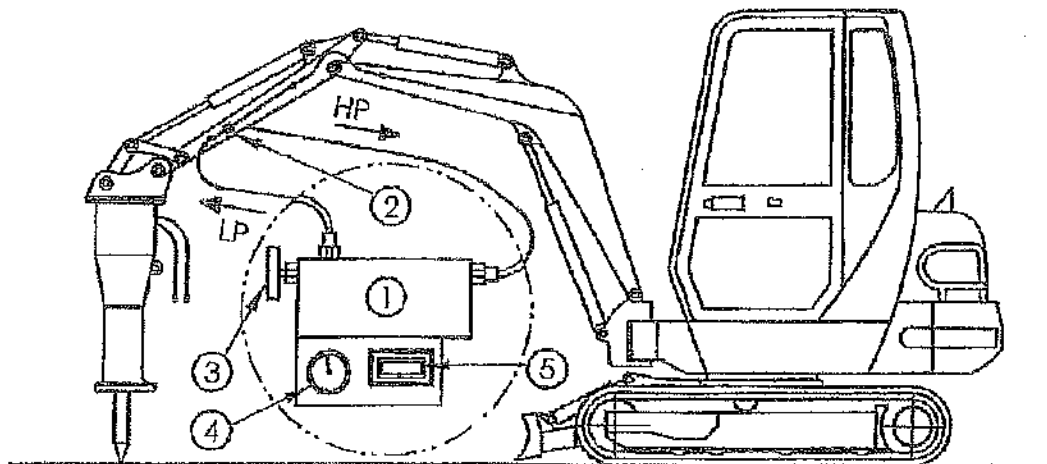
- | | |
|-----------------|---------------------------|
| ① - Oil tank | ⑤ - Pressure relief valve |
| ② - Pump | ⑥ - Oil cooler |
| ③ - Valve chest | ⑦ - Filter |
| ④ - Ball valve | |

CALIBRATING THE OIL FLOW

Before connecting the breaker to the hydraulic circuit of the carrier, the oil flow to the breaker has to be calibrated (oil flow and working pressure, back pressure in the return line, switching level of the pressure relief valve in the excavator).

1) INSTALLING THE FLOW METER

The flow meter has to be installed as shown in the drawing below, between HP and LP lines (with NO hammer in between). Usually, the HP line is on the right side (as seen from the driver's cabin) and the LP line is on the left.

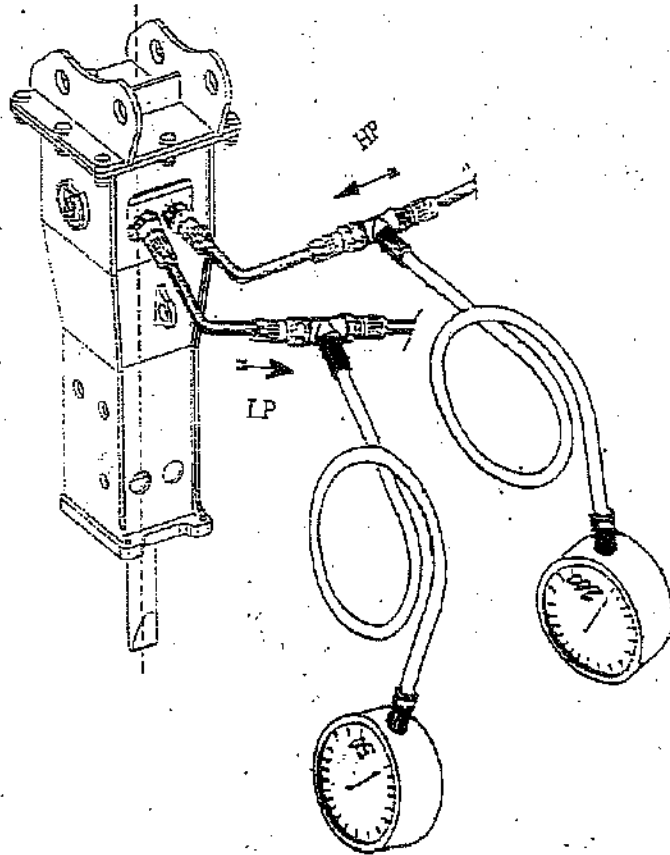


- | | |
|-------------------|--------------------|
| ① - Flow meter | ④ - Pressure gauge |
| ② - Ball valve | ⑤ - Flow gauge |
| ③ - Loading valve | |

CONTROLLING AND ADJUSTING THE PRESSURE AT THE BREAKER ITALDEM GK-75S

Checking and adjusting has to be made with warm hydraulic oil. Place a T-connection with a pressure gauge in the HP (input) line (scale up to 200 bar), and another T-connection with a pressure gauge in the LP (output) line (scale up to 30 bar)

Make the hammer work with an ideal oil flow of 25 litres/min and check the pressure on the HP and on the LP line.

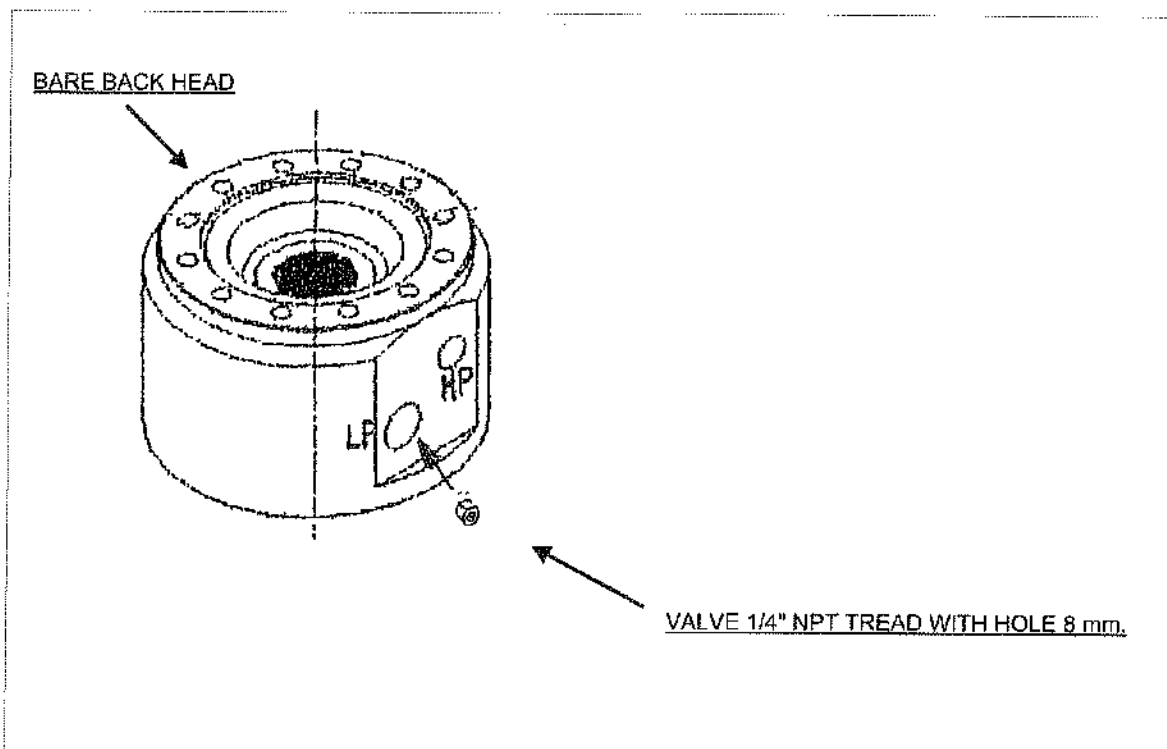


If the HP-value is lower than the one given in the table „TECHNICAL DATA“ screw off the valve with 1/4" thread NPT with a 6 mm bore into the return line of the hammer and replace with a new valve with 1/4" thread NPT with a 5 mm bore . Then check the pressure again.

If instead the HP-value is higher than the one given in the table “TECHNICAL DATE” remove totally the valve with 1/4" thread NPT

STEPS

- Lay the hammer on the ground underneath the boom
- Stop the engine
- Close the ball valve on the boom
- Relief the pressure in the tank, in case it is pressurized
- Screw off the LP hose; replace or remove the valve



TROUBLESHOOTING

| PROBLEM | CAUSE | REMEDY |
|--|--|---|
| 1) the breaker does not start | 1) the oil does not reach the breaker | 1) check hydraulic circuit, valve chest, breaker valve |
| | 2) the ball valve on the boom is closed | 2) open the ball valve |
| | 3) the HP hose has been fixed onto the return line of the breaker | 3) check on the excavator which side is the feed line and which is the return line. Fix them correctly on the breaker |
| | 4) the chisel does not touch the ground | 4) press the breaker onto the ground |
| 2) the breaker blows intermittently, but with full power | 1) small pieces of dirt, rubber or filter in the hydraulic system which are blocking the movement of the hammer distribution | 1) check the filters |
| | 2) high back pressure in the return line | 2) check the filters |
| | 3) pressure relief valve constantly open | 3) check the valve and adjust the switch pressure |
| 3) the breaker is giving a few blows and they are weak | 1) pressure of the relief valve too low | 1) Check the relief valve and adjust the switch pressure according to the value given in the table "TECHNICAL DATA" |
| | 2) a tie rod is broken | 2) dismantle the breaker and repair it |
| 4) the blows have no power and the hoses are shaking | 1) no nitrogen in the accumulator | 1) replace the diaphragm (through an official ITALDEM mechanic) and charge the accumulator again |
| 5) overheating of the hydraulic oil | 1) pressure relief valve is leaking 2) oil cooler not working | 1) control and repair the valve 2) repair oil cooler |
| 6) oil running down the chisel | 1) lip seals not tight | 1) dismantle the hammer and replace the lip seals |
| 7) oil leakage between hammer and casing | 1) seals of the upper head are damaged | 1) dismantle the hammer and replace the seals |

SERVICE JOBS

1) The chisel should be greased every one or two hours (depending on the type of demolition job) with approx. ten shots of grease from the hand pump. In case of heavy jobs, for example stone breaking in quarries, breaking of very hard or abrasive rock, it is recommended to grease at least once an hour. It is recommended to use „Molybdene-bisulfide“ Grease, classified as "NLGI 2" class.

2) At the end of each working day, check that all bolts are tight; check all the bolts of the hammer itself, as well as the bolts of the bracket.

3) At the end of a job or every five working days, grease the whole chisel in order to prevent corrosion.

4) It is recommended to check each day that there are no cracks in the weldings of the casing.

5) Once a year or every 1000 working hours, recondition the hammer completely, dismantling it and replacing all the seals, also the ones that do not seem to be worn or damaged.

Check the clearance between breaker body and casing. Check the wearing of the wear plates.

Clean the hydraulic circuit by replacing the filters as well as the hydraulic oil.

6) Make sure that the clearance between chisel and lower bush does not exceed the dimensions given in the „Operation and Maintenance“ booklet (see page 7). If the dimensions do exceed, replace the existing lower bush with a new one.

Check the status of the spacer bush and make sure that it is not worn more than 5 mm. If the wearing exceeds 5 mm, replace the old spacer bush with a new one.

Replacing these wear parts is not covered by the manufacturers warranty.

ACCUMULATOR AND NITROGEN FILLING

For getting best results with your ITALDEM breaker, the nitrogen pressure inside the accumulator has to be as given in table "TECHNICAL DATA" on page 2.

The nitrogen pressure and the status of the diaphragm should be checked every 1000 working hours.

A low pressure in the accumulator or a broken diaphragm can be recognized very easily, by both the HP hose and the LP hose starting to shake heavily. At the same time, the energy of the blow is lowering considerably (the hammer blows quickly but has no power).

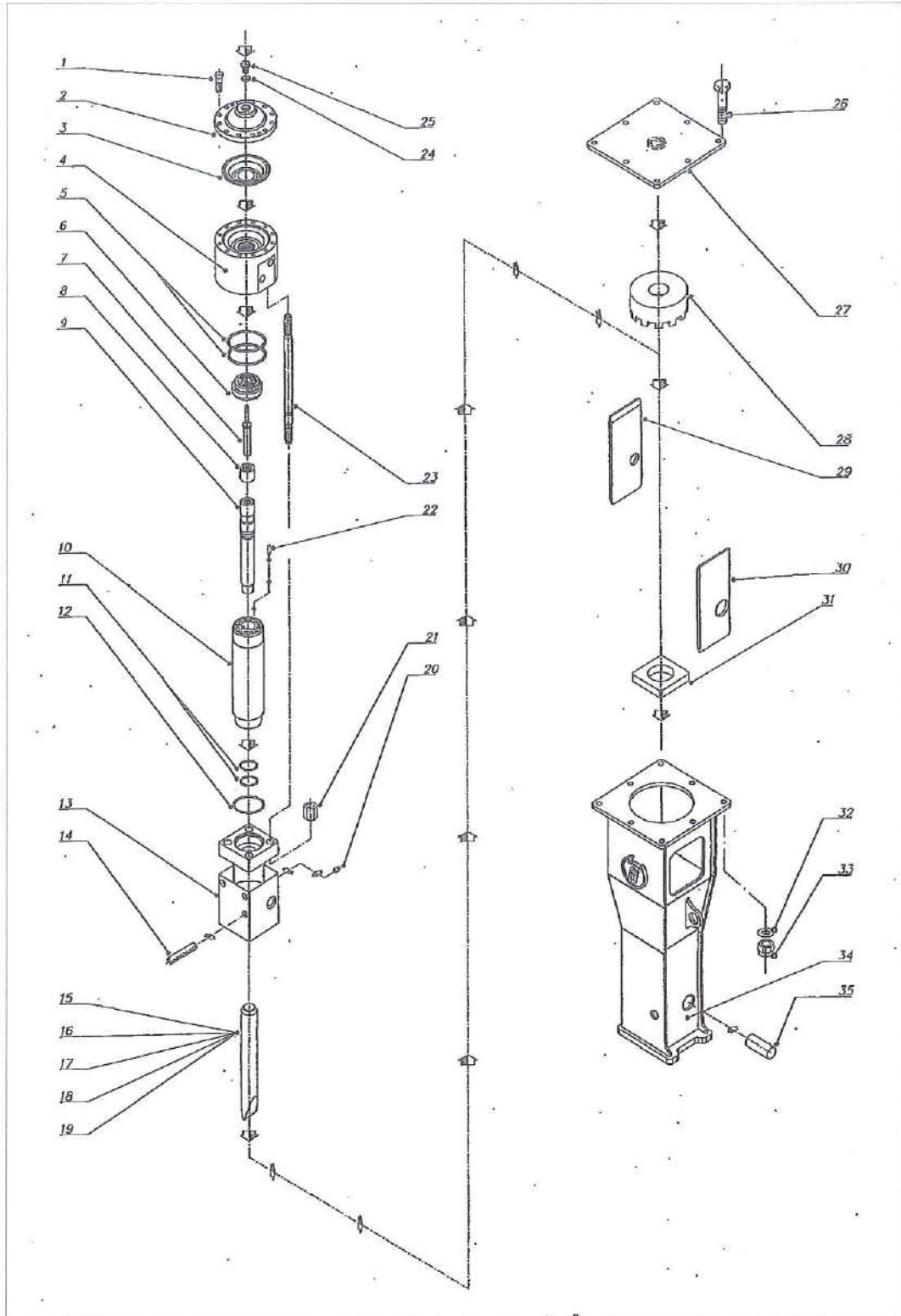
For a further confirmation of a broken diaphragm without having to dismantle the breaker, fix a pressure gauge with a scale up to 300 bar near the hammer. The oscillations will be very big in case of a broken diaphragm (whereas they should be minimal with a new diaphragm).

In case of a broken diaphragm, it is recommended to replace it together with the filling screw and the nitrogen seal, applying to an authorized workshop.

EXPLODED VIEW AND PARTS LIST



HYDRAULIC BREAKER GK-75 S



SPARE PARTS LIST ITALDEM GK-75 S

| Pos. | Code | Description | Q.ty |
|------|----------|------------------------|------|
| 1 | 85-002 | ACCUMULATOR BOLT | 12 |
| 2 | 70-004 | UPPER ACCUMULATOR | 1 |
| 3 | 90-004 | DIAPHRAGM (POLYURETAN) | 1 |
| 4 | 71-004 | BARE BACK HEAD | 1 |
| 5 | 70-021 | O'RING | 2 |
| 6 | 71-025 | DISTRIBUTION COVER | 1 |
| 7 | 70-009 | PLUNGER | 1 |
| 8 | 70-008 | DISTRIBUTOR | 1 |
| 9 | 71-006 | PISTON | 1 |
| 10 | 71-008 | CYLINDER | 1 |
| 11 | 0095-308 | OIL GASKKET | 2 |
| 12 | 1317 | O'RING | 1 |
| 13 | 71-010 | BARE CHUCK HOUSING | 1 |
| 14 | 86-005 | ELASTIC PIN | 1 |
| 15 | 70-018 | CHISEL POINT | 1 |
| 16 | 70-019 | MOIL POINT | 1 |
| 17 | 70-032 | ASPHALT CUTTER TOOL | 1 |
| 18 | 70-032 | LARGE CHISEL POINT | 1 |
| 19 | 70-034 | FLAT POINT | 1 |
| 20 | 820 | GREASER | 1 |
| 21 | 85-017 | TIE ROD NUT | 4 |
| 22 | 85-013 | REFERENCE PIN | 1 |
| 23 | 71-007 | TIE ROD | 4 |
| 24 | 827 | NITROGEN GASKET | 1 |
| 25 | 828 | NITROGEN SCREW | 1 |
| 26 | 70-025 | PLATE BOLT | 8 |
| 27 | 70-031 | TOP PLATE | 1 |
| 28 | J200-003 | UPPER SHOCK ABSORBER | 1 |
| 29 | J160-007 | BACK PANEL | 1 |
| 30 | J160-006 | FRONT PANEL | 1 |
| 31 | J160-003 | LOWER SHOCK ABSORBER | 1 |
| 32 | 70-027 | WASHER | 8 |
| 33 | 70-026 | PLATE NUT | 8 |
| 34 | J160-005 | BARE CASING | 1 |
| 35 | 70-017 | RETAINER PIN | 1 |
| 36 | 71-023 | SEL KIT COMPLETE | 1 |

NOTES



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