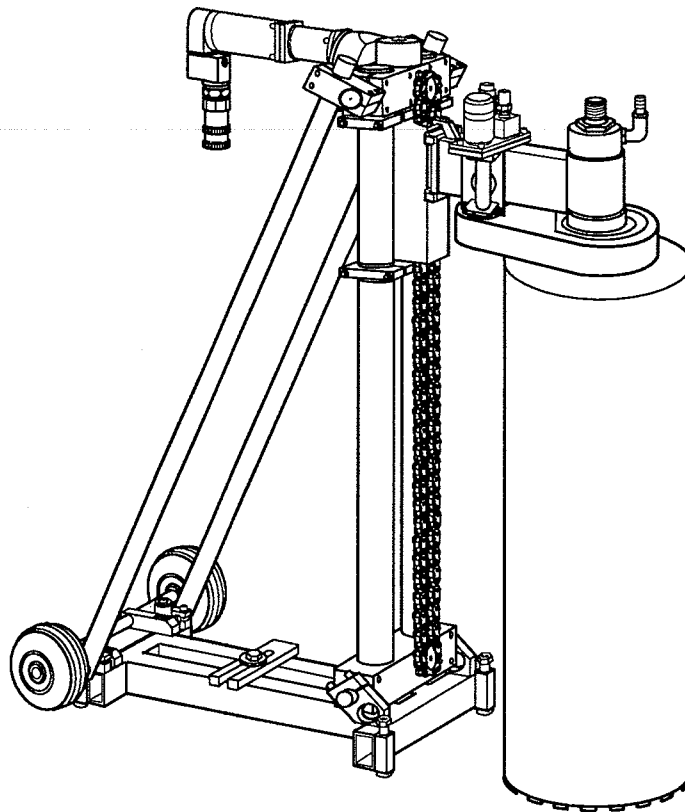


**OPERATING INSTRUCTIONS**  
**AND**  
**SPARE PARTS LIST**



**CORE DRILL SYSTEM GR**

## PREFACE

Dear customers,

Congratulations on having decided to buy a HYDROSTRESS system - you acquired a highly sophisticated and reliable state-of-the-art unit.

Due to our special efforts in the field of quality assurance, the core drill system GR is a further Swiss, top-of-the-range product:

- high drilling performance
- reliable operation
- high mobility
- easy handling

This manual contains any information required for operation, maintenance, and ordering of spare parts. The exclusive use of genuine HYDROSTRESS spare parts ensures quality and interchangeability.

In the case of neglected or inappropriate maintenance, we refuse to accept any warranty commitment as specified in our terms of delivery.

Any repair work is to be carried out by trained specialists exclusively.

Should you need to know more details concerning your HYDROSTRESS system in order to keep it in perfect condition, please contact our after-sales service for further information.

We would be pleased to hear that working with your HYDROSTRESS system was without any difficulties and troublefree.

**HYDROSTRESS**®

The Management

These instructions are only valid for the core drill system GR, mutation code 001. Technical modifications reserved that do not affect handling and function.

1st Edition, April 1992

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1992

In this manual we use the following remarks:

**CAUTION**

This headline indicates that any inappropriate compliance or noncompliance of instructions or procedures may cause injuries or fatal accidents.

**IMPORTANT**

This headline indicates that any inappropriate compliance or noncompliance of instructions or procedures may damage the unit.

**NOTICE**

The headline indicates an important feature.

Please observe any instructions and safety regulations attached to the unit.











**Abbreviations:**

Op.Instr.	-	Operating Instructions
ETL	-	Spare parts list
NA	-	Not shown in the illustration
Fig.	-	Figure
Tab.	-	Table
HS	-	HYDROSTRESS

In the following description the core drill system GR will only be referred to as the „drill system“.

## GENERAL SAFETY REGULATIONS

Please read these safety regulations very **CAREFULLY**:

-  **Maximum water pressure is 10 bar. If the local water supply provides water at a higher pressure, be sure to insert a pressure reducing valve.**
-  **Never start drilling without chain guard.**
-  **Never start the core drill system when it is not equipped with its chain guard.**
-  **Always check the unit prior to operation according to our instructions and make sure that it is in perfect condition.**
-  **Never connect or disconnect hoses when the unit is running or when being under pressure.**
-  **Before carrying out any maintenance and repair works make sure that there is no pressure in the hydraulic system.**
-  **Connect only equipment authorized by HYDROSTRESS to the core drill system. HYDROSTRESS refuses any liability if other than genuine equipment was used.**
-  **Only genuine HYDROSTRESS spare parts will ensure the perfect operation of the unit. HYDROSTRESS declines any liability for damages resulting from the use of other than genuine components.**
-  **Observe all general and specific regulations for prevention of accidents of the relevant professional and insurance associations.**
-  **The core drill system is designed exclusively for drilling reinforced and ordinary concrete, natural stone and asphalt. Do not drill materials other than specified! In case of inappropriate use HYDROSTRESS will not be responsible or fulfill any warranty commitment.**

<b>CONTENTS</b>	<b>Page</b>
PREFACE .....	0-2
SAFETY REGULATIONS .....	0-4
CONTENTS .....	0-5
TECHNICAL DATA .....	0-6
<b>1 RANGE OF APPLICATION .....</b>	<b>1-1</b>
1.1 Connectable units .....	1-1
1.2 Possible applications .....	1-1
<b>2 DESIGN AND FUNCTION .....</b>	<b>2-1</b>
<b>3 PREPARATORY OPERATIONS .....</b>	<b>3-0</b>
3.1 General .....	3-1
3.2 Selecting the reduction arm .....	3-1
3.3 Mounting the reduction arm .....	3-2
3.4 Selecting the gear motor .....	3-3
3.5 Changing the gear motor .....	3-7
3.6 Mounting the drill head .....	3-8
3.7 Connecting the power unit .....	3-9
<b>4 SERVICING AND MAINTENANCE .....</b>	<b>4-0</b>
4.1 Check of chain tension .....	4-1
4.2 Readjustment of chain tension .....	4-1
<b>5 TROUBLESHOOTING .....</b>	<b>5-0</b>
<b>6 ACCESSORIES .....</b>	<b>6-1</b>
<b>7 SPARE PARTS LIST .....</b>	<b>7-1</b>

<b>LIST OF FIGURES</b>	<b>Page</b>
0-1 Dimensions and type plate .....	0-7
1-1 Connectable units .....	1-0
2-1 Design of the core drill system BC-2/GR .....	2-0
3-1 Selecting the reduction arm .....	3-1
3-2 Connecting the reduction arm .....	3-3
3-3 Speed table GR 550/700 .....	3-4
3-4 Speed table GR 700-2 .....	3-5
3-5 Speed table GR 1000 .....	3-6
3-6 Changing the gear motor .....	3-7
4-1 Regular maintenance works .....	4-0
4-2 Check of chain tension .....	4-1
4-3 Readjustment of chain tension .....	4-1
5-1 Troubleshooting .....	5-0

## TECHNICAL DATA

### Weights:

GR 550	24 kg
GR 700	28 kg
GR 1000	31 kg
Hydraulic motor	8 kg

### Gear:

Output	max. 11 kW max. (16 HP)
Reduction GR 550	1:7
Reduction GR 700	1:7
Reduction GR 700-2	1:11
Reduction GR 1000	1:14

### Drill heads:

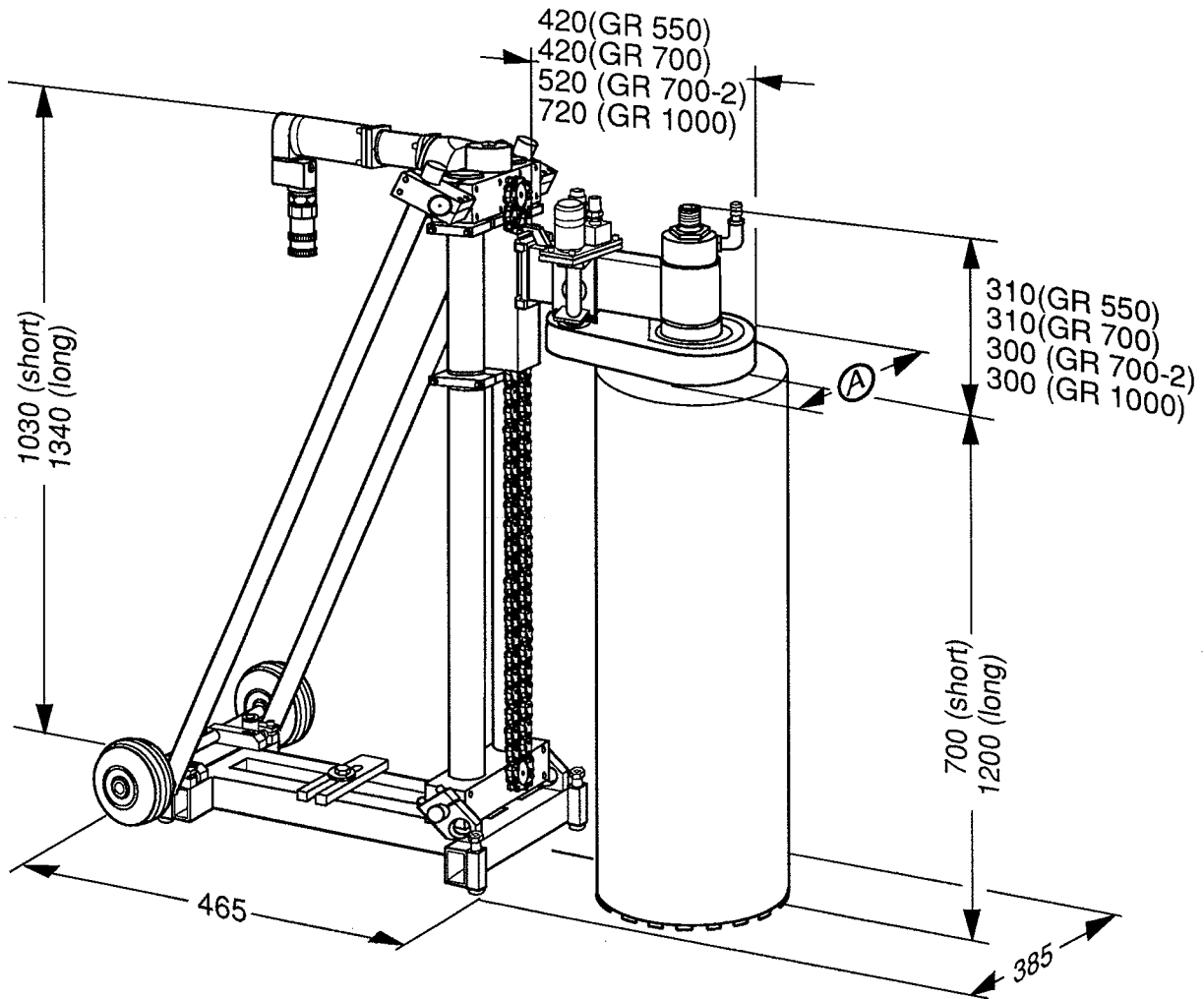
GR 550	40 - 550 mm $\varnothing$
GR 700	40 - 700 mm $\varnothing$
GR 1000	40 - 1000 mm $\varnothing$

### Hydraulic system:

Hydraulic motors	Gear motors with a cubic capacity of 8 ccm/rev. up to 30 ccm/rev.
------------------	--

TECHNICAL DATA

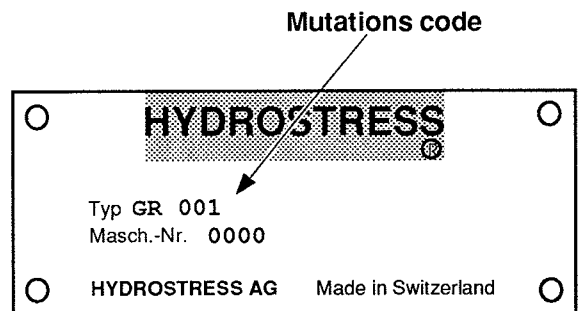
(Dimensions in mm)



**Dimensions A:**

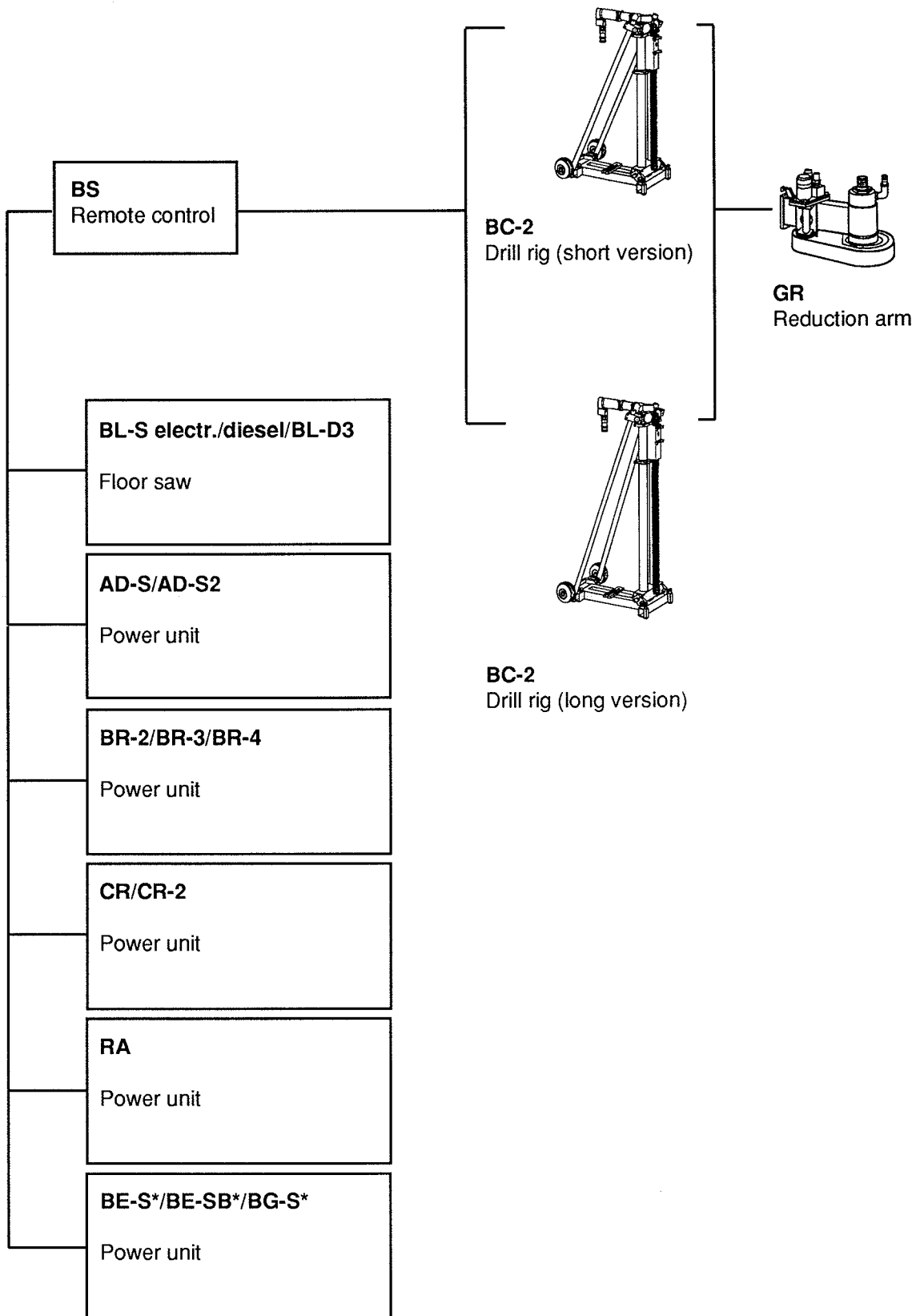
250	(GR 550)
250	(GR 700)
370	(GR 700-2)
470	(GR 1000)

**Core drill system GR 550**  
 Total weight 24 kg (without drill rig BC-2)



Type plate GR

Fig. 0-1 Dimensions and Type Plate



**\* IMPORTANT**

BE-S, BE-SB and BG-S must only be operated when an additional hose isolating valve or a motor unit are employed.

Fig. 1-1 Connectable Units



## 1 RANGE OF APPLICATION

### 1.1 Connectable Units

The core drill system GR can be operated with the following HYDROSTRESS units:

- Power unit RA
- Power units AD-S / AD-S2
- Floor saw BL-S electr. / BL-S diesel / BL-D3
- Power units BR-2 / BR-3 / BR-4
- Power unit CR / CR-2
- Power units BE-S / BE-SB / BG-S
- and via remote control BS

#### Observe the following when connecting units and equipment:

The output of the various units differs according to their type. In order to obtain the optimum drilling performance, the appropriate gear motor must be selected according to the unit employed and the type of application intended. See section 3.

POWER UNIT/EQUIPMENT	TO BE OBSERVED
Power units BE-S/BG-S/BE-SB	<ol style="list-style-type: none"> <li>1. Advance feed circuit cannot be connected</li> <li>2. Drill heads: Ø up to 1000 mm</li> </ol>
Power units BR-2/BR-3/BR-4	<ol style="list-style-type: none"> <li>1. Two performance levels are available</li> <li>2. Drill heads: Ø up to 1000 mm</li> </ol>
Power units AD-S/AD-S2, BR-2/ BR-3/BR-4, CR/CR-2	Drill heads: Ø up to 1000 mm
Remote control BS:	<ol style="list-style-type: none"> <li>1. Only connectable with AD-S, AD-S2, BL-S, BR-2, BR-3, BR-4, CR, CR-2</li> <li>2. Additional hose length: 16 m (in addition to the hose package of 8 m of the power unit).</li> </ol>

### 1.2 Possible Applications

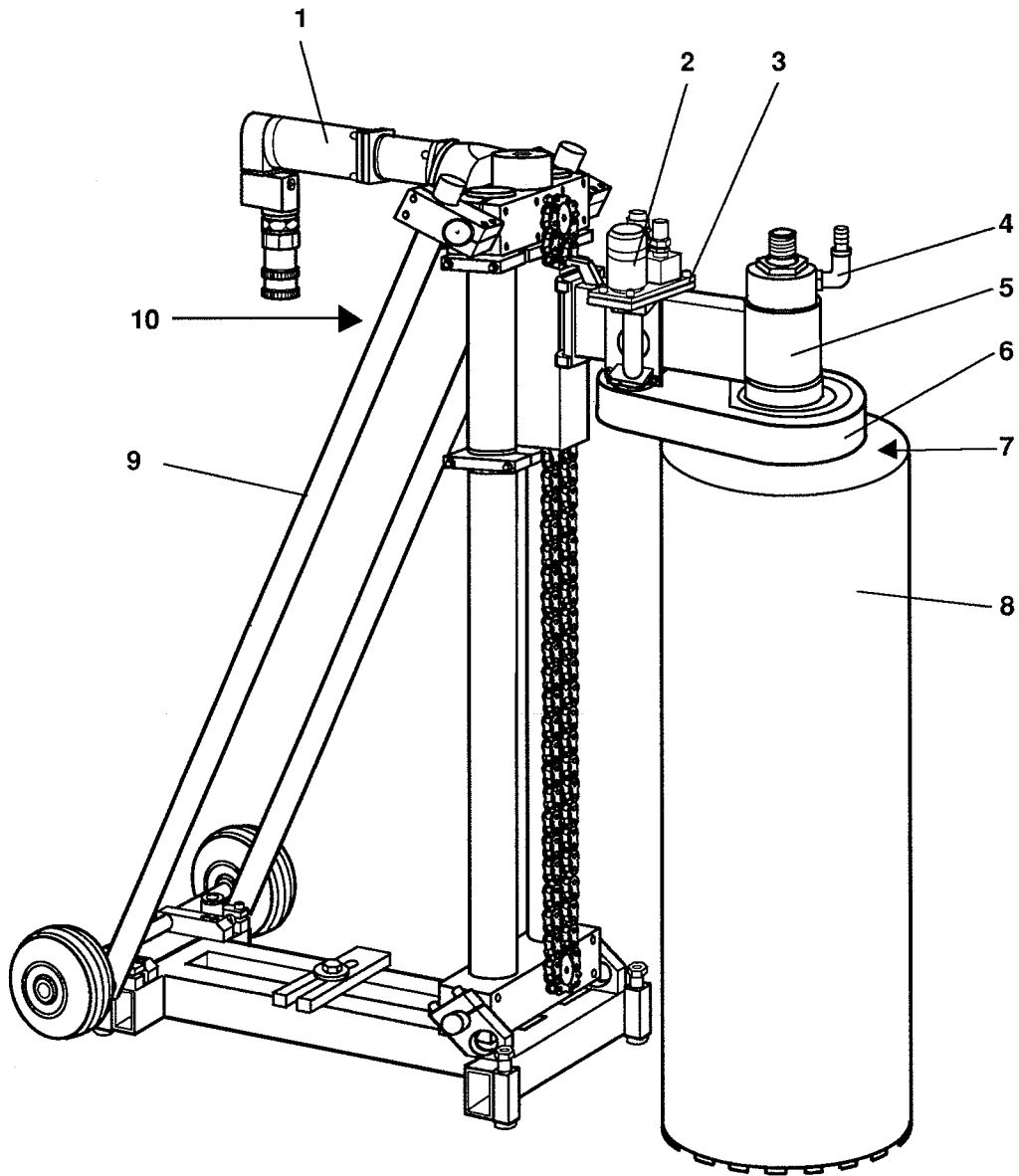
All kinds of reinforced or ordinary concrete, natural stone and asphalt can be processed by means of the core drill system GR.

Any drill works (also inclined bores) can be carried out in walls, ceilings, and floors.

**2 DESIGN AND FUNCTION**

The core drill system GR consists of the drill rig BC-2 (9, Fig. 2-1) and the reduction arm (5).

- Drill rig** BC-2 short version with a drilling stroke of 520 mm and BC-2 long version with a drilling stroke of 830 mm (see Op.Instr. BC-2).
- Reduction arm** The reduction arm is provided with a water-cooled casing of light metal. Mounting hook and support screw (10) enable a simple and quick connection of the arm to the drill rig BC-2.  
Drill heads with a diameter of up to 1000 mm can be driven by means of the reduction arms GR 550/700/1000.  
The reduction arm is provided with a large-hole adapter device so that the drill head can be removed without forcing.
- Gear motors** These are gear motors with a cubic capacity of 8 ccm/rev up to 30 ccm/rev (see Fig. 31).  
The saw motors AZ-S and DZ can be employed as well.



- |                     |                   |
|---------------------|-------------------|
| 1 Hydraulic advance | 6 Chain guard     |
| 2 Gear motor        | 7 Drill head seat |
| 3 Connection plate  | 8 Drill head      |
| 4 Cooling water     | 9 Drill rig       |
| 5 Reduction arm     | 10 Support screw  |

Fig. 2-1 Design of the Core Drill System BC-2/GR

## 3 PREPARATORY OPERATIONS

### 3.1 General

Always proceed as follows:

1. **Settle fundamental conditions.**
2. **Secure the construction site.**
3. **Determine both position and sequence of the drillings.**
4. **Select first the drill heads and then the gear motor.**
5. **Carry out visual inspections and maintenance works.**

Prior to putting the drill system into operation, the following steps are absolutely always to be observed:

#### **Position of supply lines:**

Inform yourself about the position of supply lines in walls and ceilings.

#### **Water:**

Where does the cooling water drain off that is needed for the drill process by the core drilling system?  
Take appropriate precautions, if necessary.

#### **Secure the construction site:**

Secure the operating area of the core drill system. No access to unauthorized persons! When drilling into walls, think also of the other side of the wall, with floors think of the rooms beneath! Secure these areas as well.

#### **Secure the cutouts:**

Secure the drill parts and cores cut out of walls and especially of ceilings by appropriate means, e.g. by a crane, supports etc. Consider the weight of concrete! (1 m<sup>3</sup> weighs approximately 2.6 t).

#### **Position of the drilling holes:**

Inform yourself about the concrete in which the drilling holes are to be placed. Where is the reinforcement?  
Is the concrete heavily or lightly reinforced?

## 3.2 Selecting the Reduction arm

### NOTICE

The application of normal drill arms is recommended up to a drill hole diameter of 400 mm; with drill hole diameters larger than 400 mm reduction arms should be employed.

Reduction arm GR:

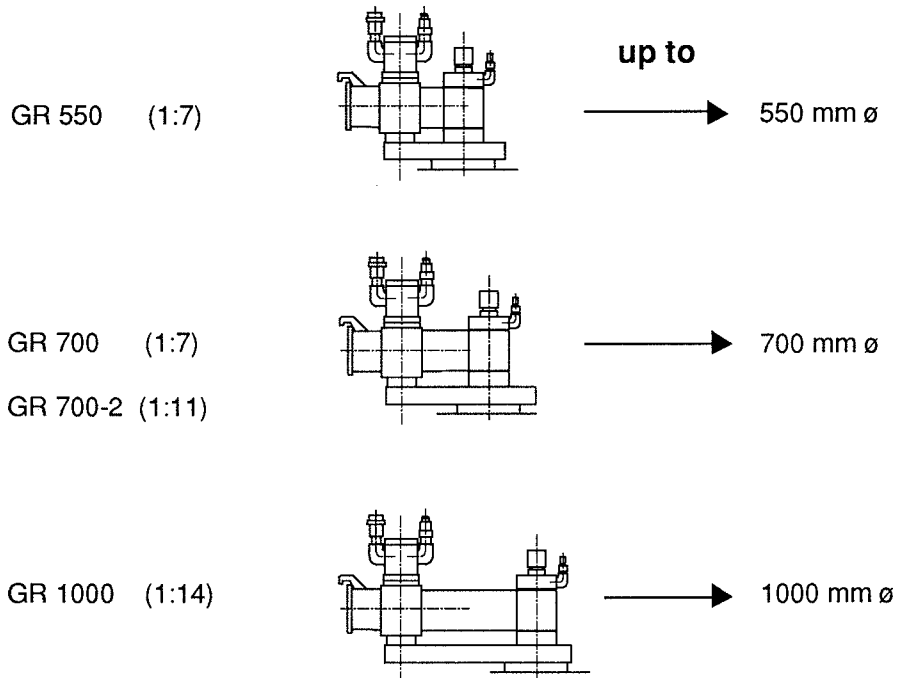


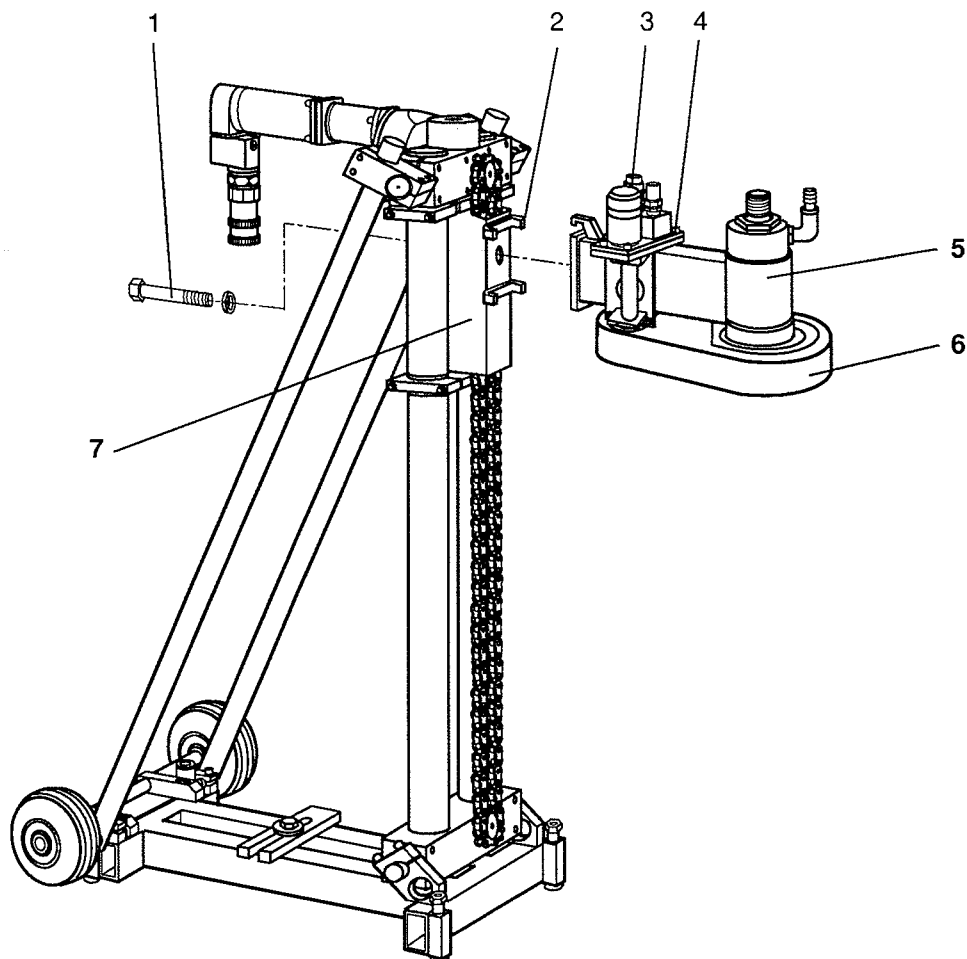
Fig. 3-1 Selecting the Reduction Arm

## 3.3 Mounting the Reduction Arm

### CAUTION

The reduction arm must only be mounted with complete chain guard.

1. Insert the arm (5, Fig. 3-1) into the guiding device (2) at the support (7).
2. Tighten the support screw (1) firmly.
3. Screw the gear motor (3) with the four Allen head screws onto the connection plate (4). Tighten the screws firmly (see 3.4).



- |   |                  |   |               |
|---|------------------|---|---------------|
| 1 | Support screw    | 5 | Reduction arm |
| 2 | Guiding device   | 6 | Chain guard   |
| 3 | Gear motor       | 7 | Support       |
| 4 | Connection plate |   |               |

Fig. 3-2 Connecting the Reduction Arm

### 3.4 Selecting the Gear Motor

The selection of the appropriate gear motor ensures an optimum cutting performance of the core drill system. The selection of the gear motor depends on the drill hole diameter.

The optimum drilling performance is obtained:

- |                                 |                                    |
|---------------------------------|------------------------------------|
| in normally reinforced concrete | - at a cutting rate of 3 to 6 m/s. |
| in flint                        | - at a cutting rate of 3 m/s.      |

**The optimum peripheral velocity of the drill head is:**

- approx. 3 to 4 m/s with hard quality concrete and strong reinforcement,
- approx. 5 m/s with normal quality concrete and strong reinforcement, and
- approx. 6 m/s with green concrete and light or no reinforcement.

**Select the gear motor as follows:**

1. Determine the drill hole diameter you want to obtain.
2. Select the extension or intermediate plate for drill heads with a diameter equal to or larger than 400 mm.
3. Determine the gear motor according to the following speed table and in dependence on the power unit employed.

**Example:**

Drill hole diameter 440 mm, power unit BR-3, 1st stage. The selection of the gear motor according to the speed table shows:

- Gear motor of 11 ccm, stage 1
- Cutting rate of approx. 4 m/s

For soft concrete or concrete without reinforcements a higher cutting rate (approx. 6 m/s) can be obtained by switching to stage 2 (BR-3).

#### NOTICE

**When changing the drill head, always employ the optimum gear motor indicated in the table as well. Doing so results in the following advantages:**

1. Optimum cutting performance
2. Minimum drill head wear
3. The drill system is not subject to excessive stress.
4. The drill head is kept in exact position at optimum speed.

# GR 550/700

## DRILLING

### TABLE OF REVOLUTIONS FOR BC/BC-2 WITH REDUCTION ARM GR 550/700

For a cutting speed of 3-6 m/s

JAN. 1993

HYDRAULIC-MOTOR	POWER PACK									
	BR-2, 1. Stage BR-3, 1. Stage		RA BR-4		BR-2, 2. Stage BR-3, 2. Stage		AD-S AD-S2		RA/RC	
			BE-S/BE-SB * BG-S*		BL-S diesel		BL-S electr. BL-D3			
			CR/CR-2, Stage I CR-3, Stage I		CR/CR-2, Stage II CR-3, Stage II		BL-D4 CR-3, Stage III		CR-3 Stage IV	
	ø mm from - to	rpm	ø mm from - to	rpm	ø mm from - to	rpm	ø mm from - to	rpm	ø mm from - to	rpm
8 ccm	120 ↓ 240	460	100 ↓ 200	600	---	720	---	800	---	1070
11 ccm	170 ↓ 340	330	130 ↓ 260	430	110 ↓ 220	520	100 ↓ 200	580	---	780
16 ccm	250 ↓ 500	230	190 ↓ 380	300	160 ↓ 320	360	140 ↓ 280	400	100 ↓ 200	540
18 ccm	300 ↓ 600	190	210 ↓ 420	270	180 ↓ 360	320	160 ↓ 320	350	120 ↓ 240	475
22 ccm	350 ↓ 700	160	280 ↓ 520	220	220 ↓ 440	260	200 ↓ 400	290	140 ↓ 280	390
30 ccm	500 ↓ 700	120	350 ↓ 700	160	300 ↓ 600	190	270 ↓ 540	210	200 ↓ 400	280

#### \*ATTENTION

Working with BE-S, BE-SB and BG-S is only possible when a hose isolating valve or a drill motor unit is used.

Fig. 3-3 Table of Revolutions GR 550/700



<b>GR 700-2</b>										
<b><u>DRILLING</u></b>										
<b>TABLE OF REVOLUTIONS FOR BC/BC-2 WITH REDUCTION ARM GR 700-2</b>										
For a cutting speed of 3-6 m/s										
JAN. 1993										
<b>HYDRAULIC- MOTOR</b>	<b>POWER PACK</b>									
	BR-2, 1. Stage BR-3, 1. Stage		RA BR-4		BR-2, 2. Stage BR-3, 2. Stage		AD-S AD-S2		RA/RC	
			BE-S/BE-SB * BG-S *		BL-S diesel		BL-S electr. BL-D3			
			CR/CR-2, Stage I CR-3, Stage I		CR/CR-2, Stage II CR-3, Stage II		BL-D4 CR-3, Stage III		CR-3 Stage IV	
	ø mm from - to	rpm	ø mm from - to	rpm	ø mm from - to	rpm	ø mm from - to	rpm	ø mm from - to	rpm
<b>8 ccm</b>	200 ↓ 400	290	150 ↓ 300	380	120 ↓ 240	450	110 ↓ 220	500	---	680
<b>11 ccm</b>	270 ↓ 540	210	200 ↓ 400	270	170 ↓ 340	330	150 ↓ 300	360	110 ↓ 220	500
<b>16 ccm</b>	400 ↓ 700	140	300 ↓ 600	190	260 ↓ 520	220	220 ↓ 440	250	160 ↓ 320	350
<b>18 ccm</b>	500 ↓ 700	120	330 ↓ 660	170	280 ↓ 560	200	260 ↓ 520	220	190 ↓ 380	300
<b>22 ccm</b>	550 ↓ ---	100	400 ↓ 700	140	350 ↓ 700	160	300 ↓ 600	180	220 ↓ 440	250
<b>30 ccm</b>	700 ↓ ---	75	550 ↓ ---	100	500 ↓ ---	120	400 ↓ ---	130	320 ↓ 640	180

**\*ATTENTION**

Working with BE-S, BE-SB and BG-S is only possible when a hose isolating valve or a drill motor unit is used.

Fig. 3-4 Table of Revolutions GR 700-2

# GR 1000

## DRILLING

### TABLE OF REVOLUTIONS FOR BC/BC-2 WITH REDUCTION ARM GR 1000

For a cutting speed of 3-6 m/s

JAN. 1993

HYDRAULIC-MOTOR	POWER PACK									
	BR-2, 1. Stage BR-3, 1. Stage		RA BR-4		BR-2, 2. Stage BR-3, 2. Stage		AD-S AD-S2		RA/RC	
			BE-S/BE-SB* BG-S*		BL-S diesel		BL-S electr. BL-D3			
			CR/CR-2, Stage I CR-3, Stage I		CR/CR-2, Stage II CR-3, Stage II		BL-D4 CR-3, Stage III		CR-3 Stage IV	
	ø mm		ø mm		ø mm		ø mm		ø mm	
	from - to	rpm	from - to	rpm	from - to	rpm	from - to	rpm	from - to	rpm
8 ccm	250 ↓ 500	230	190 ↓ 380	300	160 ↓ 320	360	140 ↓ 280	400	100 ↓ 200	540
11 ccm	350 ↓ 700	160	280 ↓ 560	200	220 ↓ 440	260	190 ↓ 380	300	140 ↓ 280	390
16 ccm	500 ↓ 1000	110	350 ↓ 700	150	300 ↓ 600	180	280 ↓ 560	200	200 ↓ 400	270
18 ccm	550 ↓ 1000	100	400 ↓ 800	130	350 ↓ 700	160	300 ↓ 600	180	230 ↓ 460	240
22 ccm	700 ↓ 1000	80	500 ↓ 1000	110	400 ↓ 800	130	350 ↓ 700	150	280 ↓ 560	200
30 ccm	1000 ↓ ---	60	700 ↓ 1000	80	550 ↓ 1000	100	500 ↓ 1000	110	350 ↓ 700	150

**\*ATTENTION**

Working with BE-S, BE-SB and BG-S is only possible when a hose isolating valve or a drill motor unit is used.

Fig. 3-5 Table of Revolutions GR 1000

### 3.5 Changing the Gear Motor

#### CAUTION

- Never connect or disconnect hoses when the unit is running or under pressure.
- Never force connections.

1. Switch the unit off and reduce the pressure to zero.
2. Disconnect the hoses of the gear motor.

#### IMPORTANT

- Keep the hose couplings always clean.
- Do not drop the hose couplings to the ground.

- Turn the locking ring into its unsecured position.
- Hold the hose end in straight position in order to avoid jamming.
- Push the coupling sleeve back and remove the hose.

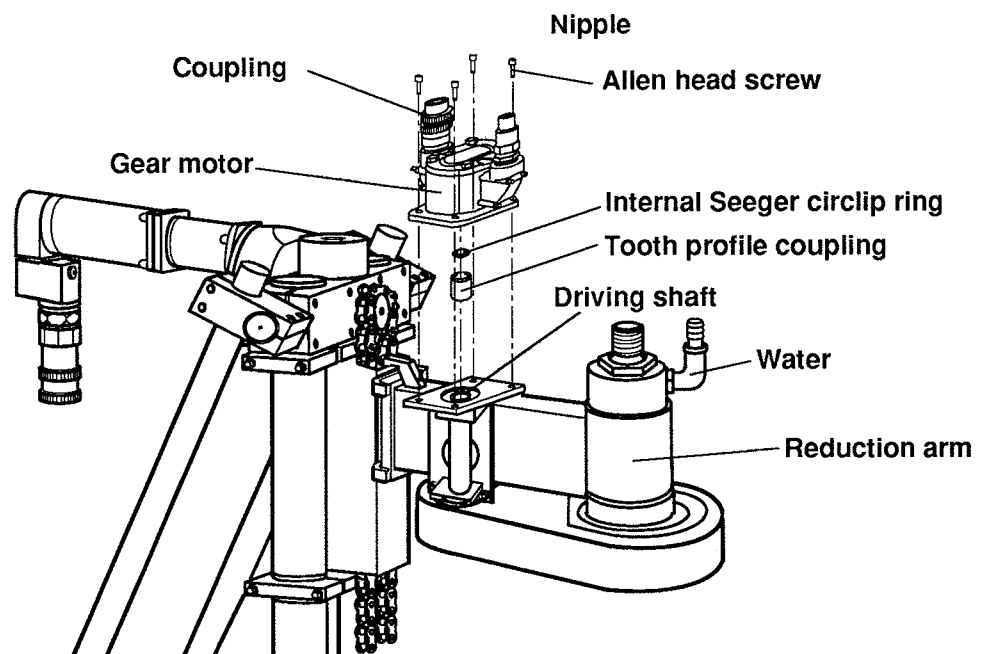


Fig. 3-6 Changing the Gear Motor

## NOTICE

If possible, leave the hoses connected to the unit. Should heating lead to a pressure build-up within the hoses, the pressure can easily be relieved via the unit.

3. Remove the Allen head screws (Fig. 3-6) and withdraw the gear motor in horizontal direction.
4. Install the tooth profile coupling on the other gear motor or on the driving shaft.

## IMPORTANT

**Make sure that the internal Seeger circlip ring is correctly positioned into its groove.**

5. Install the other gear motor together with the toothed coupling in horizontal direction on the driving shaft.
6. Fix the gear motor:
  - on its upper side by means of the Allenhead screws, length 25 mm
  - on its lower side by means of the Allen head screws, length 35 mm
7. Reconnect the hoses. Connect couplings with elbow pieces to the wall saw system, straight couplings to the unit:
  - a) Push the hose coupling on or into its counterpart until it is audibly locked into place.
  - b) Turn the locking ring of the coupling into its secured position.

## IMPORTANT

- **Make absolutely sure that the hydraulic hoses are properly connected.**
- **Always secure them after the coupling procedure.**
- **Inadequate coupling of the hydraulic hoses inevitably leads to damages to the gear motor as soon as it will be put into operation.**

## 3.6 Mounting the Drill Head

1. If necessary, install the drill extension plate.
2. Select the appropriate drill head and install it.
3. Check any connections for firm seat; if necessary, tighten again.

### 3.7 Connecting the Power Unit

#### General

- \* Connecting the hoses:
  - connect couplings with elbow pieces to the core drill system
  - Connect straight couplings to the power unit
- \* Always keep the couplings clean.
- \* Observe the service instructions and maintenance intervals indicated in section 4.
- \* When the hoses cannot be coupled or can be coupled only with difficulty, the hose or the power unit are under pressure (e.g. due to heating).

Reduce the pressure as follows:

At the unit: Actuate the main circuit valve or the spool valve several times.

At the hose: In case of hoses provided with TEMA couplings, pressure will be discharged automatically during the coupling procedure. Install the pressure relief valve on hoses with NS couplings and screw it in, until the pressure is reduced.

#### CAUTION

- Never connect or disconnect hoses when the unit is running or under pressure.
- Never force connections.

#### Connecting the Hoses

The following hose connections are to be established:

CORE DRILL SYSTEM GR	POWER UNIT	HOSES
* Gear motor	- Main circuit P1	Pressure hose Return hose
* Feed motor	- Feed circuit P2 or P3	2 hoses
* Water connection	- Water connection at the power unit, outlet	Water hose

1. Push the hose coupling on or into its counterpart until it is audibly locked into place.
2. Turn the locking ring of the coupling into its secured position.

#### IMPORTANT

- Set the pressure control valves of the feed circuit at the power unit to zero (turn them completely out).
- Before starting to work, check the moving sense of the feed motor.

Drilling: see Op.Instr. BC-2

## 4 SERVICING AND MAINTENANCE

Maximum performance and optimum reliability of the equipment are obtained as long as you carry out the necessary maintenance works indicated in the following table - or have them carried out - at regular intervals.

These maintenance works are specified as being obligatory by the manufacturer. HYDROSTRESS will reject any liability for damages resulting from nonobservance of the maintenance intervals and of maintenance works.

### CAUTION

- Before carrying out any maintenance works make sure to disconnect the core drill system from the power unit.
- Remove the chain guard only for repair and maintenance purposes.

Maintenance interval	Activity	Remarks
Daily	1. Visual inspection for: <ul style="list-style-type: none"> <li>- leakage</li> <li>- dirt accumulation</li> </ul> 2. Check the firm seat of any screw connections.	Remove strong dirt accumulations, if necessary clean with steam jet,  If necessary, tighten again
Weekly	1. Check the couplings for: <ul style="list-style-type: none"> <li>- leakage</li> <li>- damage</li> </ul> 2. Clean the reduction arm  3. Lubricate the arm  4. Check the chain tension	Replace leaking or damaged couplings.  <div style="border: 1px solid black; padding: 5px; text-align: center;"> <b>IMPORTANT</b>                      ■ Do not force the grease in.                      ■ Use water-resistant, normal grease.                 </div> Use the grease gun  If necessary, readjust chain tension; see 4.1
Annually	Major service	Will be carried out only by HYDROSTRESS or an authorized HYDROSTRESS representation.

Fig. 4-1 Regular Maintenance Works

## 4.1 Check of Chain Tension

### IMPORTANT

Take the half of the free chain length as measuring point.

#### Control dimensions:

GR 550	:	4-6 mm
GR 700	:	4-6 mm
GR 700-2	:	5-7 mm
GR 1000	:	8-10 mm

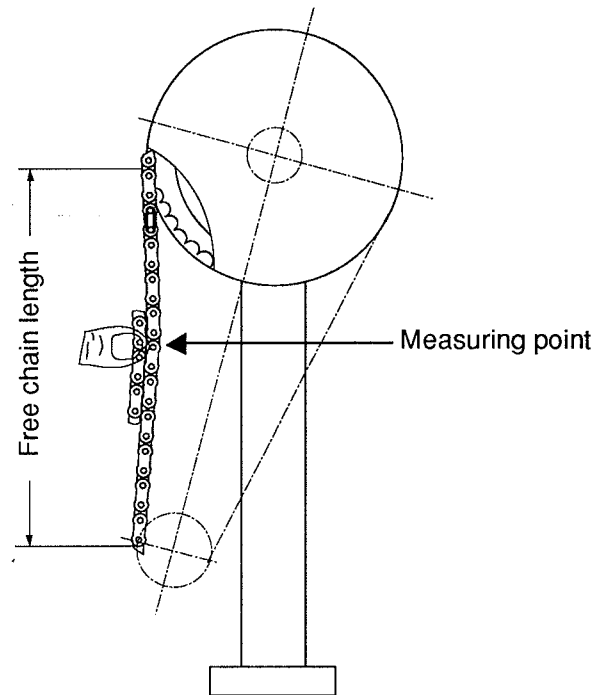


Fig. 4-2 Check of Chain Tension

Press your thumb strongly against the chain (see figure above):

- \* The chain is too taut when it can be moved less than shown in the above figure.
- \* The chain tension is correct when it can be moved as shown in the above figure.
- \* The chain is too slack when it cannot be moved as shown in the above figure.

In the latter case readjust the chain tension. The correct chain tension is vital. An inadequate chain tension results in loss of performance and excessive wear.

## 4.2 Readjustment of Chain Tension

1. Remove the cover (Fig. 4-3):
  - Loosen the four Allen head screws, but do not remove them.
2. Push the drive seat backwards until the chain is tensioned correctly.
3. Tighten the Allen head screws again.

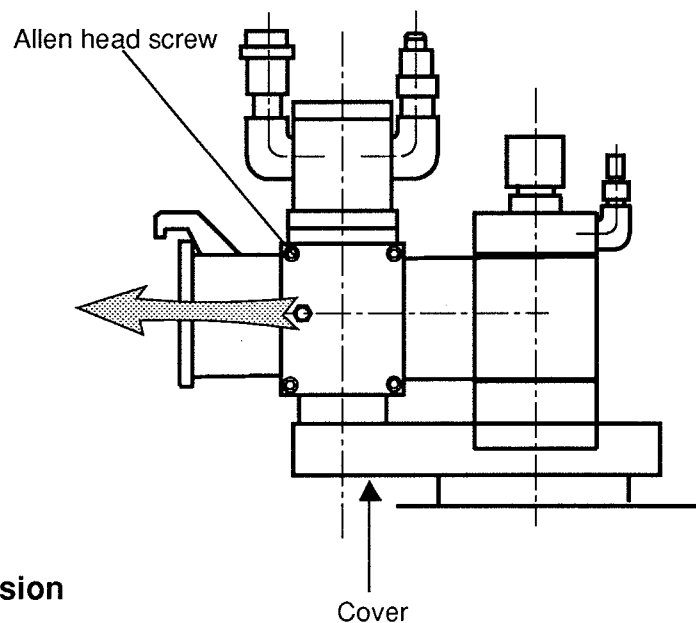


Fig. 4-3 Readjustment of Chain Tension

## 5 TROUBLESHOOTING

Proceed systematically when looking for the cause of defects.

If you cannot find the defect or eliminate the faulty condition, please contact our after-sales service.

Before calling us, please observe the following:

- The better you describe the defect, the better we can help you.
- Have the operating instructions at hand.
- Note machine type and machine number of your unit.

Trouble	Cause	Remedy
The drill head does not move, main circuit valve is switched on.	<ul style="list-style-type: none"> <li>- The drill head got jammed</li> <li>- The return circuit is not coupled</li> </ul>	<ul style="list-style-type: none"> <li>- Free the drill head.</li> <li>- Connect the return circuit, check the hydraulic motor.</li> </ul>
Oil leakage in the area of the hydraulic motor.	The shaft seal is defective	Replace the shaft seal.
Oil leakage at the couplings.	The couplings are defective.	Replace the couplings. The o-rings at the return connections (couplings) can be replaced.
The drill head vibrates, especially when beginning to drill.	<ol style="list-style-type: none"> <li>1. The selected speed is too high</li> <li>2. The drill head is not fixed correctly</li> <li>3. The chain tension is too slack</li> </ol>	<p>Change the gear motor</p> <p>Tighten the drill head firmly by means of a fork wrench</p> <p>Radjust the chain tension according to 4.2</p>
No water at the drill head	<ol style="list-style-type: none"> <li>1. The water shut-off valve at the unit is.</li> <li>2. Coupling is not done correctly.</li> <li>3. The water pressure is too low</li> <li>4. The main water shutoff valve is closed.</li> </ol>	<p>Open the water regulating valve</p> <p>Connect the coupling appropriately.</p> <p>The water pressure should not fall below 1 bar</p> <p>Always make sure that the water supply is not interrupted.</p>
Full performance of the core drill system is not reached.	<ol style="list-style-type: none"> <li>1. Pump/pressure control valve at the unit are defective.</li> <li>2. The gear motor is defective</li> <li>3. Selection of inappropriate gear motor</li> </ol>	<p>Contact the aftersales service.</p> <p>Replace the motor.</p> <p>Select the correct gear motor according to section 3.</p>

**Fig. 5-1 Troubleshooting**



**6 ACCESSORIES**

DBZ1 - 52544 - 01	Threaded connection M38
99MK - 52374 - 00	Large-hole flange (starting with a diameter of 400 mm)
99MK - 52261 - 00	Extension 190 mm
99MK - 52261 - 10	Extension 360 mm
99MK - 52261 - 20	Extension 530 mm

**NOTES**