

Hydraulic Driving Machine

**Models 3 6242 0010
3 6243 0010**



Illustration can differ from the original.

Operation and Maintenance Manual

TECHNICAL SPECIFICATION

	3 6242 0010	3 6243 0010
Drive torque	500 Nm	160 Nm
Drive square	20 mm i.	20 mm i.
Speed (loaded)	20 1/min	95 1/min
Performance	1 kW	1,6 kW
Operating pressure	60- 140 bar	90- 140 bar
Displacement	15-50 l/min	15-50 l/min
Distance centre – outer edge	30 mm	30 mm
Connection/ Quick-seal coupling	½" FF	½" FF
Length	498 mm	498 mm
Weight	10 kg	10 kg

Operation instruction

Contains basic information regarding pneumatic machines, maintenance instructions, wear and tear, as well as disassembly and re-assembly.

Spare parts documentation

Consists of parts lists and sectional drawings.

Supplement

Maintenance of hydraulic tools

SAFETY INSTRUCTIONS



As our driving machines are designed for the demanding case of operation, it is necessary to follow all instructions, which we supply with the machine.

We would like to highlight the instructions mentioned below:

- Always disconnect the hydraulic hoses before changing the drill bits.
- Ensure that the hydraulic hoses are depressurized before uncoupling.
- Wear appropriate clothing.
- Protect your eyes and ears, hands and feet.
- Never work under the influence of alcohol, drugs or strong medication.
- Keep your work place clean and tidy. Ensure safe footing. Never work with the machine while standing on a ladder or leaning against a scaffolding.

Follow the general current and appropriate **Accident Prevention and Safety Procedures**.

USE

Intended Use

The machine serves as a drive for drilling tools during the boring of pipes. The machine is operated by hand. When working with drilling or milling tools with diameters of more than 100 mm, the machine must continually contact a fixed dead stop in order for the torque to be transmitted to the machine.

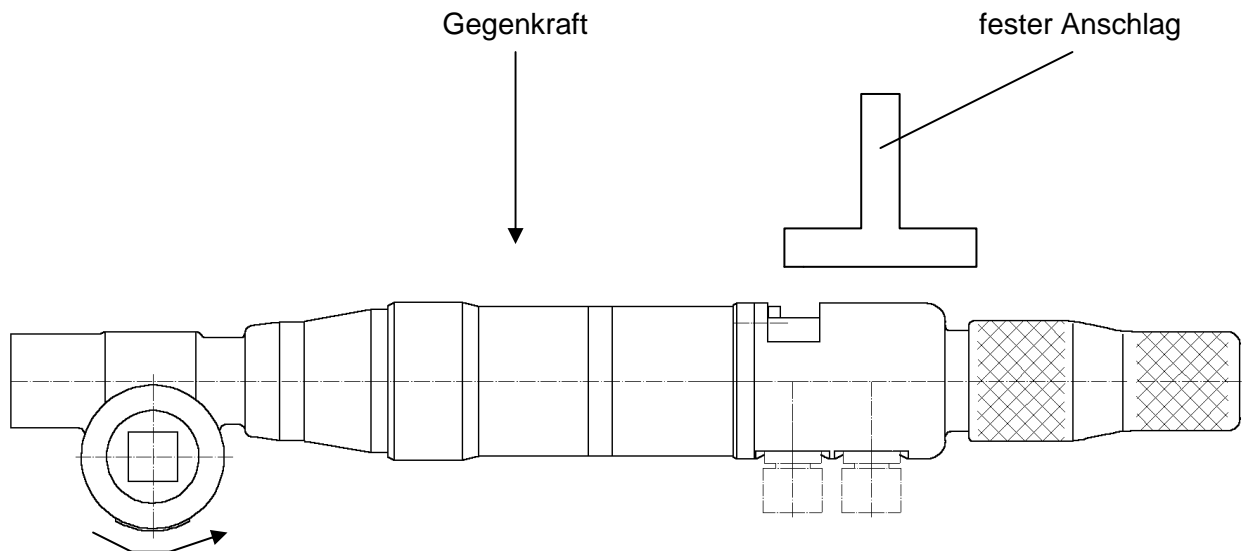
Any use which deviates from the instructions mentioned in this guide qualifies as unintended use.

Unintended use

Working without a dead stop.

Use the machine as a drive for lifting goods or people.

Working without using personal safety protective measures



OPERATION INSTRUCTION

General

The performance and pull-through force of this machine are designed for the drilling and milling of steel and cast iron. Freehand drilling and milling can only be performed for tools up to 100 mm in diameter. For tools with larger diameters, always work with a dead stop and ensure against rotation of the machine (danger of injury).

Drilling/ Milling

- Attach desired tool to the machine.
- Centre the machine on a suitable support, if working with a tool having a diameter of more than 100 mm.
- Prevent the machine from rotating upwards (do not hold by hand), if working with a tool having a diameter of greater than 100 mm. See the section entitled "USE".
- Open the valve and begin the drilling or milling operation.
(The rpm's can be regulated by opening of the valve to different degrees).

After finishing the operation

- Close the valve.
- Take the machine out of the square holder
- Remove the tool.
- Clean the tool holder seat.

Hydraulic Supply

A minimum volume flow of 15 l/min and an operation pressure of 60 or 90 bar (depending on machine type) are required in order to obtain the indicated performance data. Oil oversupplied up to max. 50 l/min and an operation pressure of max. 140 bar is lead back to the tank by an internal bypass.

Attention:

Operating the machine with max. volume flow up to 50 l/ min and max. operating pressure up to 140 bar causes stronger wear and leads to short lifetime. Therefore it is recommended choosing a larger return to the tank and cooling the oil, in order to avoid heat by back pressure.

Hydraulic fluid	High quality, wear resistant hydraulic oil
Viscosity	min. 13cSt, optimal 20-43 cSt
Oil temperature	35°C – 80°C
Oil filtration	ISO-Purity-Degree 18/13

DANGER ZONES

Operating conditions / Life phase	Normal function	Malfunction	Misuse	Expected use
Transport	Transport of the machine in an inoperable condition	Machine is dropped	Transport of the machine in an operable condition	Unknown
Start-up	Inserting the machine into the drill stand provided	Unknown	Drilling without using the drill stand	Unknown
Operation	Machine runs only when valve is open	Machine runs unintentionally	Valve is blocked while open	Unknown
	Machine moves the tool	Tool is blocked	Unknown	Unknown
Maintenance	Maintenance free	Breakdown of machine	Unknown	Unknown

Spare Parts List

Description:

Hydraulic Driving Machine

Part and drawing number:

3 6242 0010

Item	Qty.	Description	Part and drawing no.		Remarks
10	1	Connection plate	5 1220 3070		
11	2	Connection nipple	5 1220 3100		
12	2	O-Ring	9 1901 3410	*	
13	2	O-Ring	9 1901 2140	*	
14	3	Socket head screw	9 1112 5130		
20	1	Gearbox housing I	3 6242 4020		
21	1	Grooved ball bearing	9 1004 0020	*	
22	1	Planetary wheel carrier	3 6339 4030		
23	2	Planetary wheel bolt	3 6339 4050		
24	4	Needle cage	9 1015 0390	*	
25	2	Planetary wheel	3 6339 4040		
26	1	Intermediate housing	3 6242 4510		
27	5	Socket head screw	9 1110 4020		
28	1	Drive shaft	3 6242 1030		
29	1	Hydraulic motor, Assy.	9 5501 0170	*	only sealing set 2 2406 9000
30	1	Adjusting washer	9 3331 0530		
30	1	Adjusting washer	9 3331 0540		
30	1	Adjusting washer	9 3331 0550		
30	2	Adjusting washer	9 3331 0590		
31	1	Coupling	3 6339 4110		
40	1	Gearbox housing II	3 6339 4220		
41	1	Axial grooved ball bearing	9 1021 0020	*	
42	1	Compensating ring	9 3326 1220		
43	1	Grooved ball bearing	9 1003 0020	*	
44	2	Needle sleeve	9 1014 0200	*	
46	1	Worm wheel	3 6339 4130	*	
47	1	Worm	3 6339 4120	*	
48	1	Grooved ball bearing	9 1003 0020	*	
49	1	Locking ring	3 6339 4190		
50	1	Bearing cover	3 6339 4160		

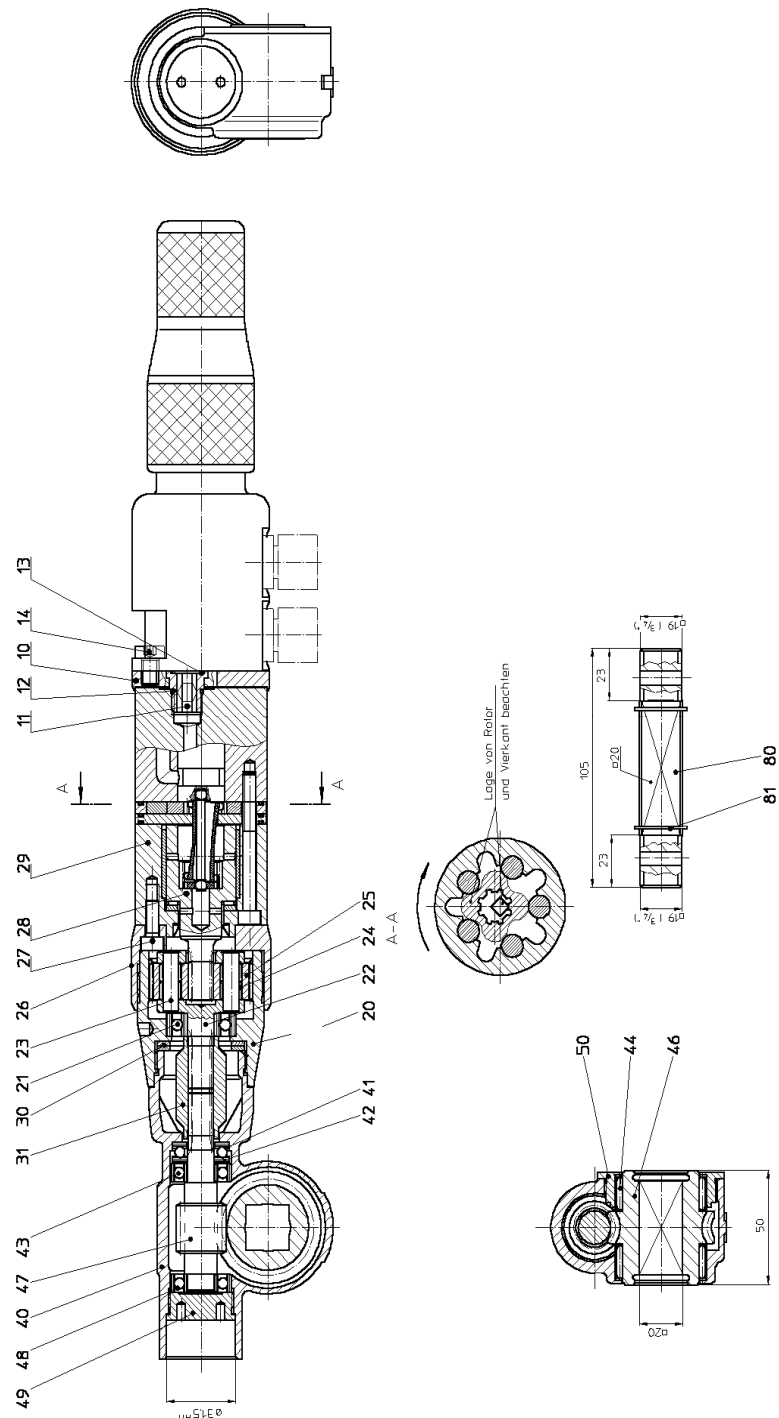
Spare Parts List

Description:

Hydraulic Driving Machine

Part and drawing number:

3 6242 0010



Spare Parts List					
Description:				Part and drawing number:	
Twist Valve				5 1220 3600	
Item	Qty.	Description	Part and drawing no.		Remarks
301	1	Valve housing ass.	5 1220 3910		
302	1	Rotary sleeve	5 1220 3020		
303	1	Pressure pin	5 1220 3060		
304	1	Screw	9 1166 0170		
305	1	Snap ring	9 1702 0020		
306	1	Gland d=4,0mm 15l/min.	5 1220 3050		
307	1	Snap ring	9 1703 0260		
308	1	Fillister head screw	9 1110 2090		
309	1	Washer	9 3302 0150		
310	1	Control piston	2 1317 3320		
311	1	Spring seat	2 1317 3070		
312	1	Pin	2 1317 3110		
313	1	Snap ring	9 1706 0140		
314	1	Bushing	2 1317 3090		
315	1	Guide	2 1317 3100		
317	1	Pressure spring	9 1803 1700		
318	1	Pressure spring	9 1706 0180		
319	1	Snap ring	9 1901 3290		
320	1	O-Ring	9 1901 9800	*	
321	1	O-Ring	9 1901 2550	*	
323	1	O-Ring	9 1901 6020	*	
326	1	O-Ring	9 1901 2080	*	
327	1	Pressure spring	9 1803 4070		
331	2	Locking screw	9 1174 0010		
333	2	Adjusting washer	9 3331 0130		
333	2	Adjusting washer	9 3331 2010		
337	1	Adjusting washer	9 3331 0170		
390	1	Safety valve, assy.	5 1220 3200		see extra list

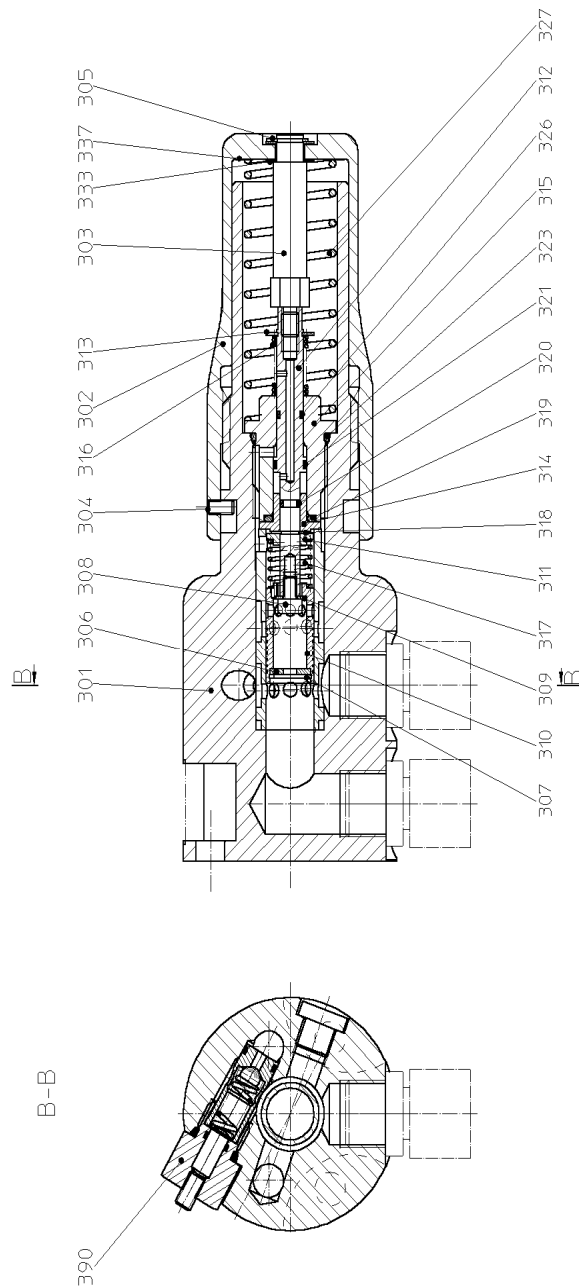
Spare Parts List

Description:

Twist valve

Part and drawing number:

5 1220 3600



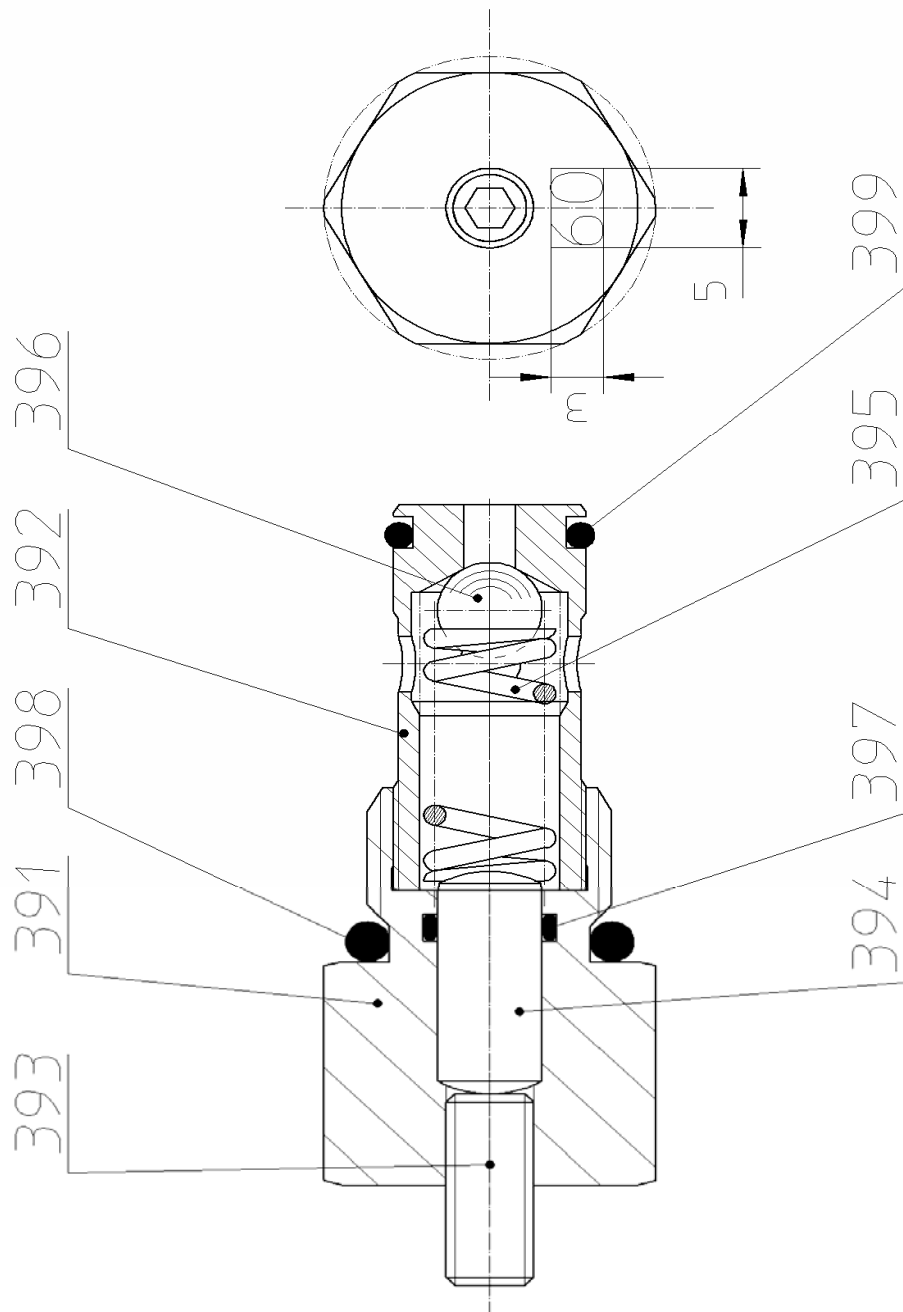
Spare Parts List

Description:

Safety valve, assy.

Part and drawing number:

5 1220 3200



Spare Parts List

Description:

Hydraulic Driving Machine

Part and drawing number:

3 6243 0010

Item	Qty.	Description	Part and drawing no.		Remarks
10	1	Connection plate	5 1220 3070		
11	2	Connection nipple	5 1220 3100		
12	2	O-Ring	9 1901 3410	*	
13	2	O-Ring	9 1901 2140	*	
14	3	Socket head screw	9 1112 5130		
20	1	Gearbox housing I	3 6242 4020		
22	1	Pinion	3 6242 4510		
23	1	Feather key	9 1501 3110		
26	1	Intermediate housing	3 6242 4510		
27	5	Fillister-head screw	9 1110 4020		
28	1	Hydraulic motor, Assy.	9 5501 0170	*	Only sealing set 2 2406 9000
30	1	Adjusting washer	9 3331 0530		
30	1	Adjusting washer	9 3331 0540		
30	1	Adjusting washer	9 3331 0550		
30	2	Adjusting washer	9 3331 0590		
31	1	Coupling	3 6339 4110		
40	1	Gearbox housing II	3 6339 4220		
41	1	Axial grooved ball bearing	9 1021 0020	*	
42	1	Compensating ring	9 3326 1220	*	
43	1	Grooved ball bearing	9 1003 0020	*	
44	2	Needle sleeve	9 1014 0200	*	
46	1	Worm wheel	3 6339 4130	*	
47	1	Worm	3 6339 4120	*	
48	1	Grooved ball bearing	9 1003 0020	*	
49	1	Locking ring	3 6339 4190		
50	1	Bearing cover	3 6339 4160		
80	1	Exhaust square	6 1015 7030		
81	2	Snap ring	9 1702 0320		
	1	Twist valve	5 1220 3800		see extra list
	2	Screw-in screwing	9 2124 0240		
	1	Quick-seal coupling set	2 1317 9010		

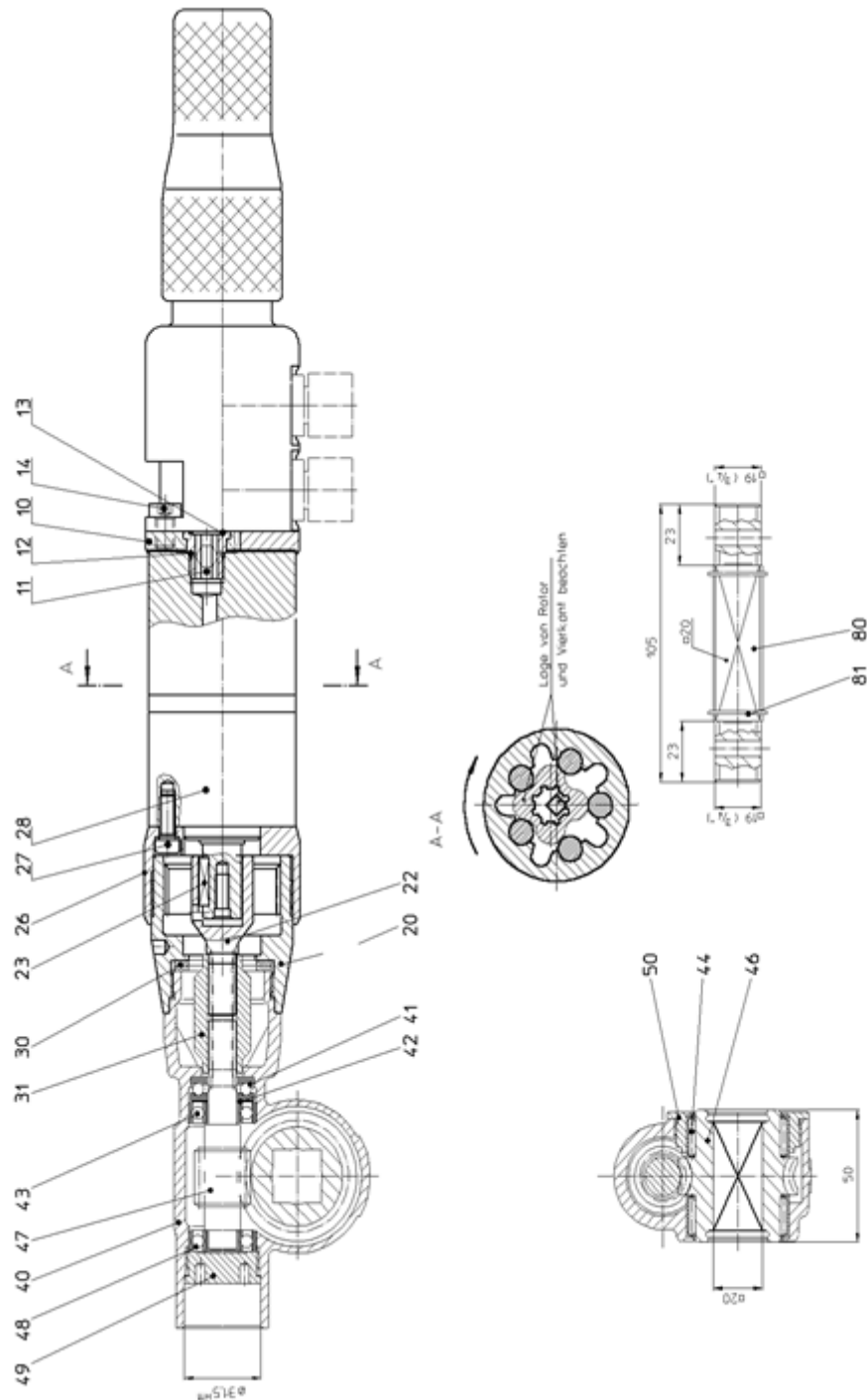
Spare Parts List

Description:

Hydraulic Driving Machine

Part and drawing number:

3 6243 0010



Spare Parts List				
Description:			Part and drawing number:	
Twist Valve			5 1220 3800	
Item	Qty.	Description	Part and drawing no.	Remarks
301	1	Valve housing Assy.	5 1220 3910	
302	1	Twist sleeve	5 1220 3020	
303	1	Pressure rod	5 1220 3060	
304	1	Lens screw	9 1166 0170	
305	1	Snap ring	9 1702 0020	
306	1	Gate	5 1220 3050	
307	1	Snap ring	9 1703 0260	
308	1	Socket head screw	9 1110 2090	
309	1	Disc	9 3302 0150	
310	1	Adjusting slide	2 1317 3320	
311	1	Spring plate	2 1317 3070	
312	1	Slide	2 1317 3110	
313	1	Lock washer	9 1706 0140	
314	1	Sleeve	2 1317 3090	
315	1	Guide	2 1317 3100	
316	1	Pressure spring	9 1803 0660	
317	1	Pressure spring	9 1803 1700	
318	1	Lock washer	9 1706 0180	
319	1	O-Ring	9 1901 3290	*
320	1	O-Ring	9 1901 9800	*
321	1	O-Ring	9 1901 2550	*
323	1	O-Ring	9 1901 6020	*
326	1	O-Ring	9 1901 2080	*
327	1	Pressure spring	9 1803 4070	
331	2	Locking screw	9 1174 0010	
333	2	Adjusting washer	9 3331 0130	
333	2	Adjusting washer	9 3331 2010	
337	1	Adjusting washer	9 3331 0170	
390	1	Safety valve	5 1220 3300	see extra list

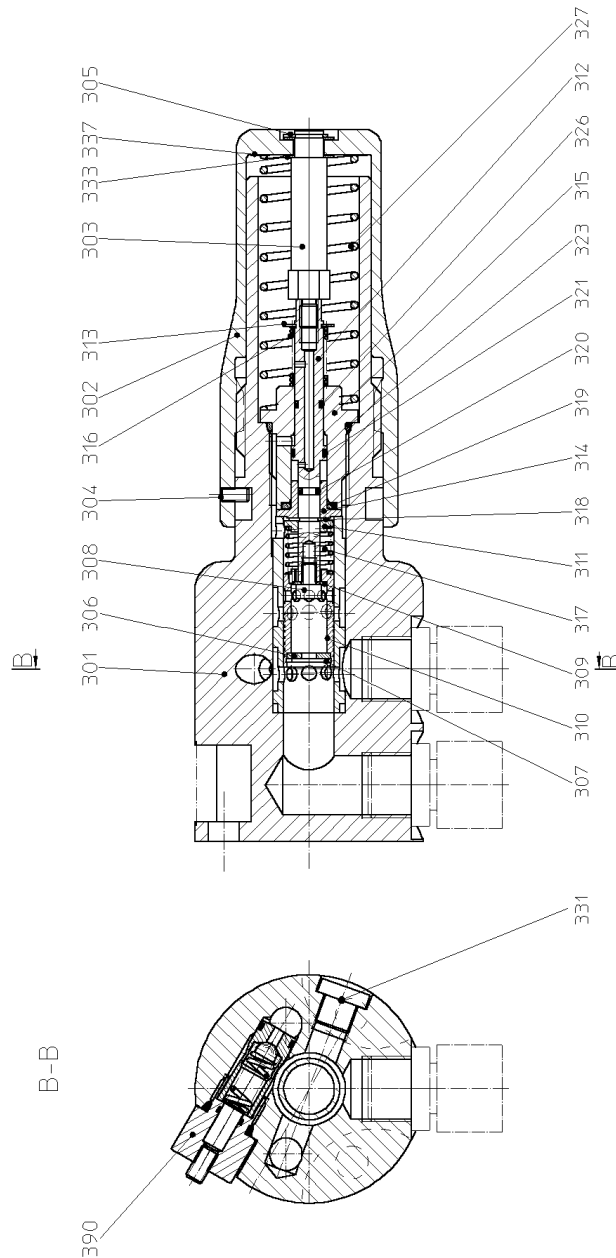
Spare Parts List

Description:

Twist Valve

Part and drawing number:

5 1220 3800



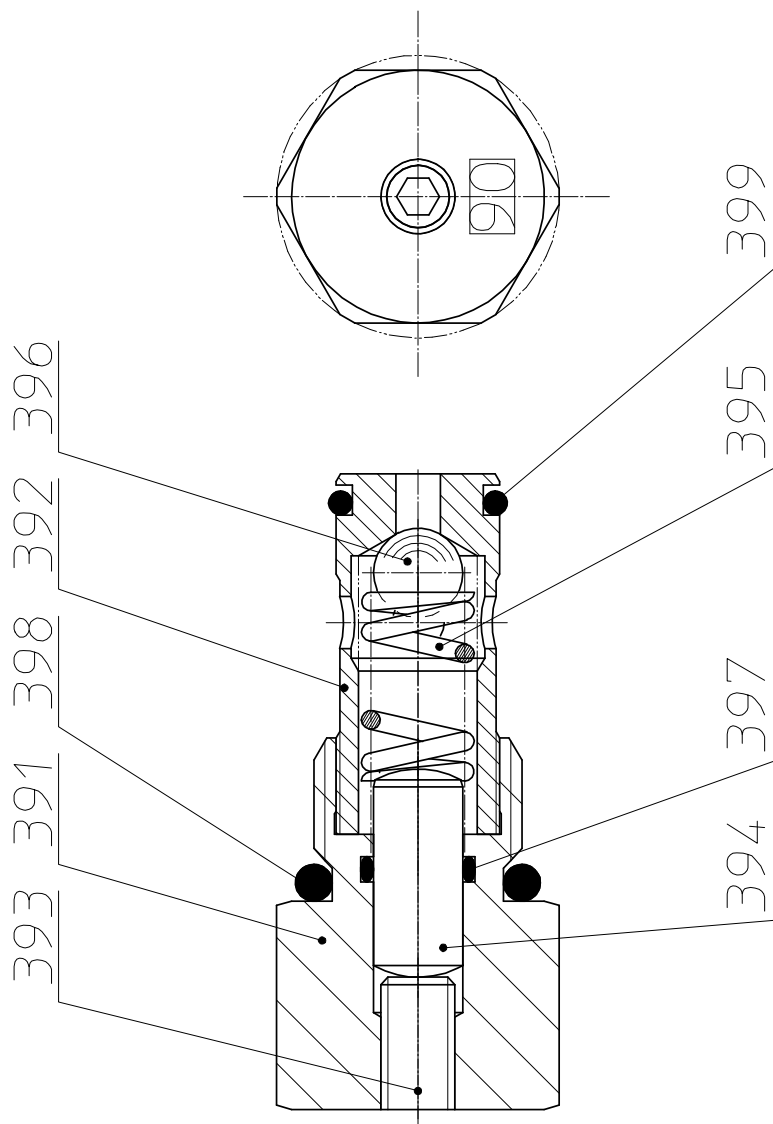
Spare Parts List

Description:

Safety Valve

Part and drawing number:

5 1220 3300



MAINTENANCE OF HYDRAULIC TOOLS

Only proper maintenance can ensure constant performance, reduction in wear and thus, a decrease in operating costs and an increase in service life.

Our hydraulic tools are equipped for an operating pressure of up to 100 bar. Regulator setting for a lower operating pressure is possible.

The tools should not run empty, because this results in heat and higher wear of the output section and the tool holder. The hydraulic oil should be clean. This is ensured by a professional equipment. Clean the connecting parts before connecting the hydraulic hoses. For an economic use of the hydraulic tools the required sizes of pipe, fittings and hoses have to be adjusted.

Proper greasing of the gear and the tool heads is a must. See the operation manual on this.

After finishing the work the tools have to be cleaned and protected against corrosion.

Visible grease nipples are provided for regular lubrication of the gears with a grease gun, or the gearboxes have a long term greasing.

Note the following for grease lubrication: Every 60 hours of operation check striking mechanism, friction bearings and antifriction bearings; if necessary, grease them. Every 300 hours of operation grease the gears and antifriction bearings anew. In the case of impact wrenches, use a grease gun to grease the anvil guide before beginning daily work, or every 6-8 hours.

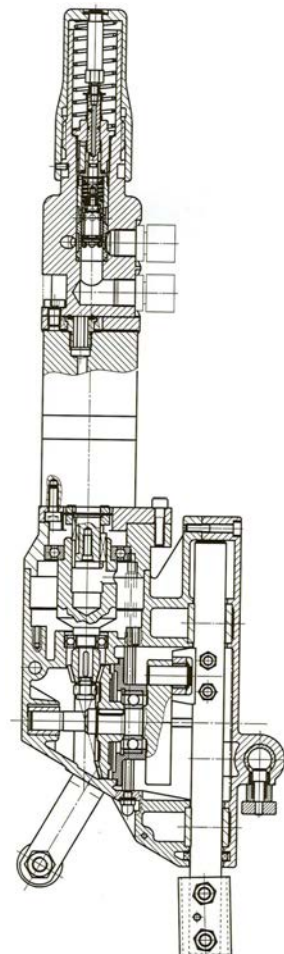
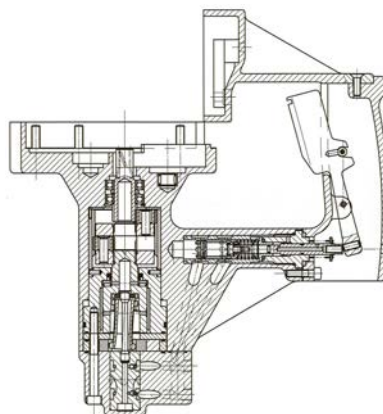
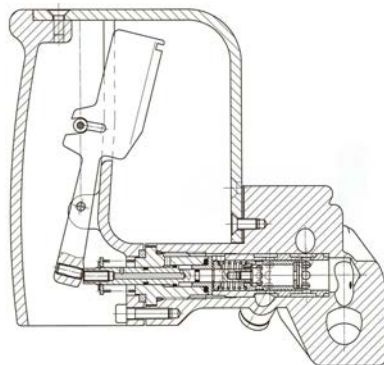
All inner parts of the drive (tool holder must be lubricated before storing for longer periods of time in order to prevent rusting. It is recommended to check the vanes and bearings at regular intervals. Store tools in dry rooms only.

Grease to be used:

In general: SAE 5 W to SAE 10

For impact wrenches without gear only SAE 5 W

For saw chain greasing on chain saws: Machine oil with adhesive additive, viscosity: c ST 49-55' (6,5-7,5 E)/ 50°C



GREASE (free of acids and resins)

Designation in accord. with DIN 51502
Consistency class (DIN 51818)
Saponification type
Dripping point
Worked penetration
Temperature range

Multi-purpose greases for antifriction and friction bearings and gears

K L 2 k
2
Lithium
185 °C
265 to 295
-25°C to + 125°C

Special greases for high-speed miter gears

G 000 h
00
sodium
145°C
400 bis 410
-25°C bis + 100°C

For the operation of the hydraulic motor we recommend high-class hydraulic oil, e. g. HLP 46, depending on the case of operation (temperature).