

Pneumatic Drive Unit

**Type 6 1055 0010/ 6 1056 0010
6 1057 0010/ 6 1061 0010**

Techn. Doc. No. 351



Illustration can differ from the original

Operation and Maintenance Manual

Repair

Disassembly

Disassembly and re-assembly should be done according to the sectional drawing only.
Observe the safety instructions of the operation and maintenance manual.

Disassembly of lever control valve with oiler:

Detach lever control valve with oiler item 4 from motor housing item 1. Screw out connection pieces item 22. Screw out nipple with screen item 217, and take out pressure spring item 215 and ball item 209. Remove rivet pin item 212, take off valve latch item 211 and pull valve pin item 210 out of the sealing seat. Loosen locking screws item 204 and 205. Screw out adjusting screw item 202 only if necessary.

Disassembly of output/ worm gear:

Screw off worm gear completely from planetary gear.
Loosen locking ring item 49, pull out ball bearing item 48 and worm item 47. Screw off bearing cover item 50 with needle sleeve item 44. Remove worm gear item 46 with needle sleeve.
Press ball bearing item 43 and thrust ball bearing item 41 out of gear housing II item 40.

Disassembly of two-stage planetary gear:

Detach the complete planetary gear from the motor. Pull off coupling item 37. Press both planetary steps completely out of the gear housing I item 25, resp. loosen and pull it out by slight pushing of the front on a wooden pad. Press out ball bearing item 26. If necessary, continue disassembling the gear parts.

Disassembly of two-step planetary gear:

Detach the complete planetary gear from the motor. Pull off coupling item 39. Pull bearing disc item 31 with shaft sealing ring item 32 out of centring seat. Press complete planetary step out of gear housing item 30 and knock out ball bearing item 38. If necessary, continue disassembling double planetary step.

Disassembly of single-level planetary gear:

Detach the complete planetary gear from the motor. Pull off coupling item 39.
Pull bearing disc item 31 with shaft sealing ring item 32 out of centring seat. Press complete planetary step out of gear housing item 30 and knock out ball bearing item 38. If necessary, continue disassembling planetary wheel step.

Disassembly of motor 3 6359 1000

Take intermediate plate item 17 with shaft sealing ring item 18 out of gear connection item 16 and screw gear connection out of motor housing item 1. Pull off exhaust ring item 19 and take out silencer mat item 20. Pull out complete inner parts like rotor item 8, vanes item 9, end plates item 3 and 10 with ball bearings item 4 and 11, spacer rings item 13 and 21 and cylinder bushing item 6. Take vanes out of the rotor slots. Pull the end plates and the spacer rings from the rotor pivot. If necessary, press the grooved ball bearings out of the end plates.

Disassembly of the motor 6 1056 1000

Screw gear connection item 17 from motor housing item 1. Pull off exhaust ring item 18 and take out silencer mat item 19. Pull out complete inner parts like rotor item 9, vanes item 10, end plates items 3 and 11 with ball bearings item 5 and 12, spacer rings item 4 and 14 and cylinder bushing item 7. Take the vanes out of the rotor slots. Pull the end plates and the spacer rings from the rotor pivot. If necessary, press the grooved ball bearings out of the end plates.

Disassembly of the motor 6 1057 1000

Screw gear connection item 16 from motor housing item 1. Pull off exhaust ring item 19 and take out silencer mat item 20. Pull out complete inner parts like rotor item 8, vanes item 9, end plates items 3 and 10 with ball bearings item 4 and 11, spacer rings item 21 and 13 and cylinder bushing item 6. Take the vanes out of the rotor slots. Pull the end plates and the spacer rings from the rotor pivot. If necessary, press the grooved ball bearings out of the end plates.

Begin with the re-assembly after checking, cleaning and replacing of worn or defective parts.

Re-assembly

The re-assembly is performed basically in the opposite order as the disassembly.

Ensure that the motor is precisely aligned. The clearance between the rotor and the end plates should be 0.04 mm in the front and in the back (see figure 2). The chamfers in the spacer rings must point to the middle of the rotor. The cylinder bushing has to be correctly oriented before being inserted. The position of the lever valve can be determined with the help of the adjusting washers.

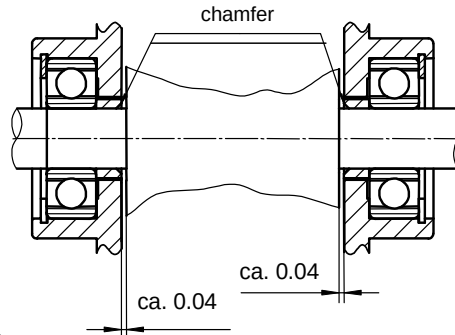
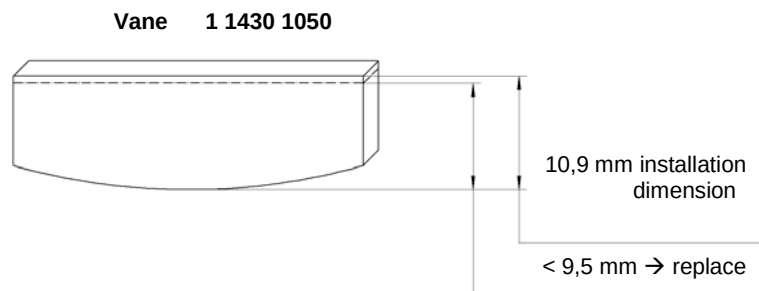


Fig. 2

Parts exposed to wear -especially the vanes- should be regularly changed. They are considered to be worn when the **width is less than 9.5 mm**.



We recommend refilling the grease in the planetary gear and in the worm gear after 300 hours of operation. Use only special gear grease. The roller bearings must be thoroughly cleaned and filled with new bearing grease after approximately 900 hours of operation. In order to avoid excessive heating of the bearing, the space between the inner and outer rings should only be filled with grease until about 1/3 full. The correct amount of grease is very important with respect to achieving good lubrication and minimal heating.

Grease (resin- and acid-free)	Multipurpose grease for roller and slide bearings and for gears	Special grease for worm gears
Designation according to DIN 51502	KL 2k	G 00 h
Consistency class DIN 51818	2	00
Saponification additive	lithium	sodium
Drop point	185°C	145°C
Worked penetration	265 – 295	400 – 410
Temperature range	-25°C to +125°C	-25°C to +100 °C

Spare Parts

Only genuine Spitznas spare parts may be used. There is no warranty for damages and liability is disclaimed, if non-original spare parts and accessories are used.

[illegible]

Spare Part List

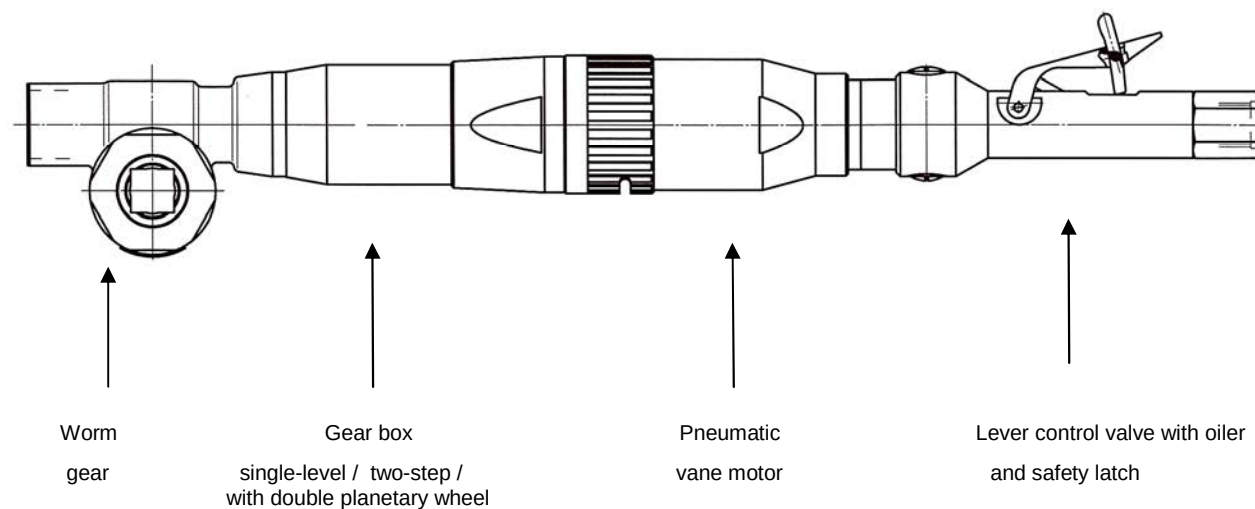
Description:

Pneumatic Drive Unit

Part and drawing number:

**6 1055 0010 6 1056 0010
6 1057 0010 6 1061 0010**

Drive unit : ASSEMBLY / ASSEMBLY GROUPS



Assembly groups :

3
OUTPUT UNIT

2
GEARBOX

1
MOTOR

4
**LEVER CONTROL VALVE
WITH OILER**

Spare Part List					
Description:			Part and drawing number:		
Pneumatic Motor			3 6359 1000		
Item	Qty.	Description	Part and drawing no.		Remarks
1	1	Motor housing	3 6359 1010		
3	1	End plate	3 6341 1110	*	
4	1	Grooved ball bearing	9 1001 0090	*	
5	1	Snap ring	9 1703 0050		
6	1	Cylinder bushing	1 1430 1020	*	
7	2	Spiral pin	9 1642 0080		
8	1	Rotor	3 6349 1030		
9	4	Vane	1 1430 1050	*	
10	1	End plate	5 1202 1100	*	
11	1	Grooved ball bearing	9 1003 0020	*	
12	1	Snap ring	9 1703 0070		
13	1	Spacer ring	5 1202 1080		
14	1	O-ring	9 1901 2070	*	
15	1	O-ring	9 1901 2430	*	
16	1	Gearbox connection	3 6339 1190		
17	1	Intermediate plate	3 6339 4140		
18	1	Shaft seal	9 1905 0030	*	
19	1	Exhaust ring	3 6339 1180		
20	1	Silencer mat	3 6339 1770		
21	1	Spacer ring	3 6341 1080		
22	1	Connection	3 6359 1230		
23	2	Adjusting washer (if needed)	9 3331 0170		
	2	Adjusting washer (if needed)	9 3331 0180		
	2	Adjusting washer (if needed)	9 3331 0190		
		* Wear parts to be stored in case of continuous use			

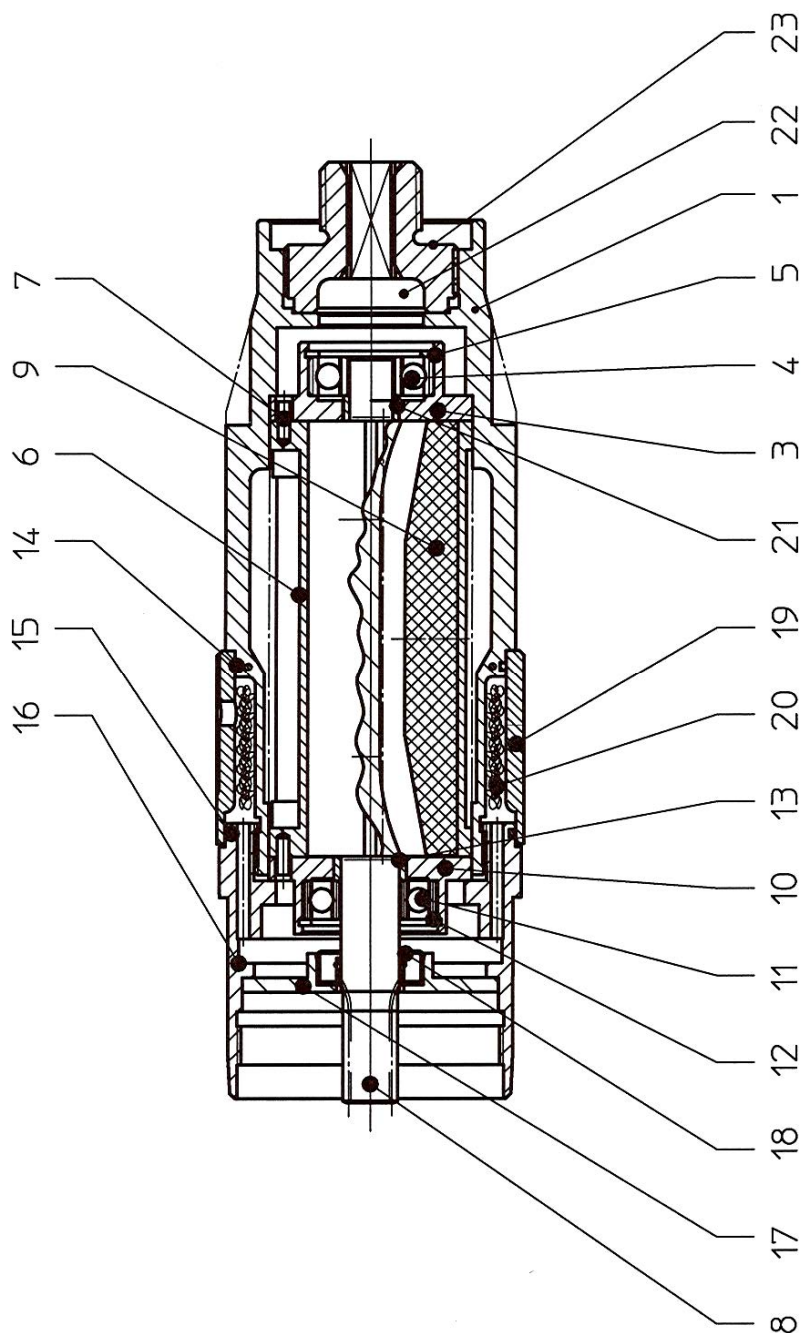
Spare Part List

Description:

Pneumatic Motor

Part and drawing number:

3 6359 1000



[illegible]

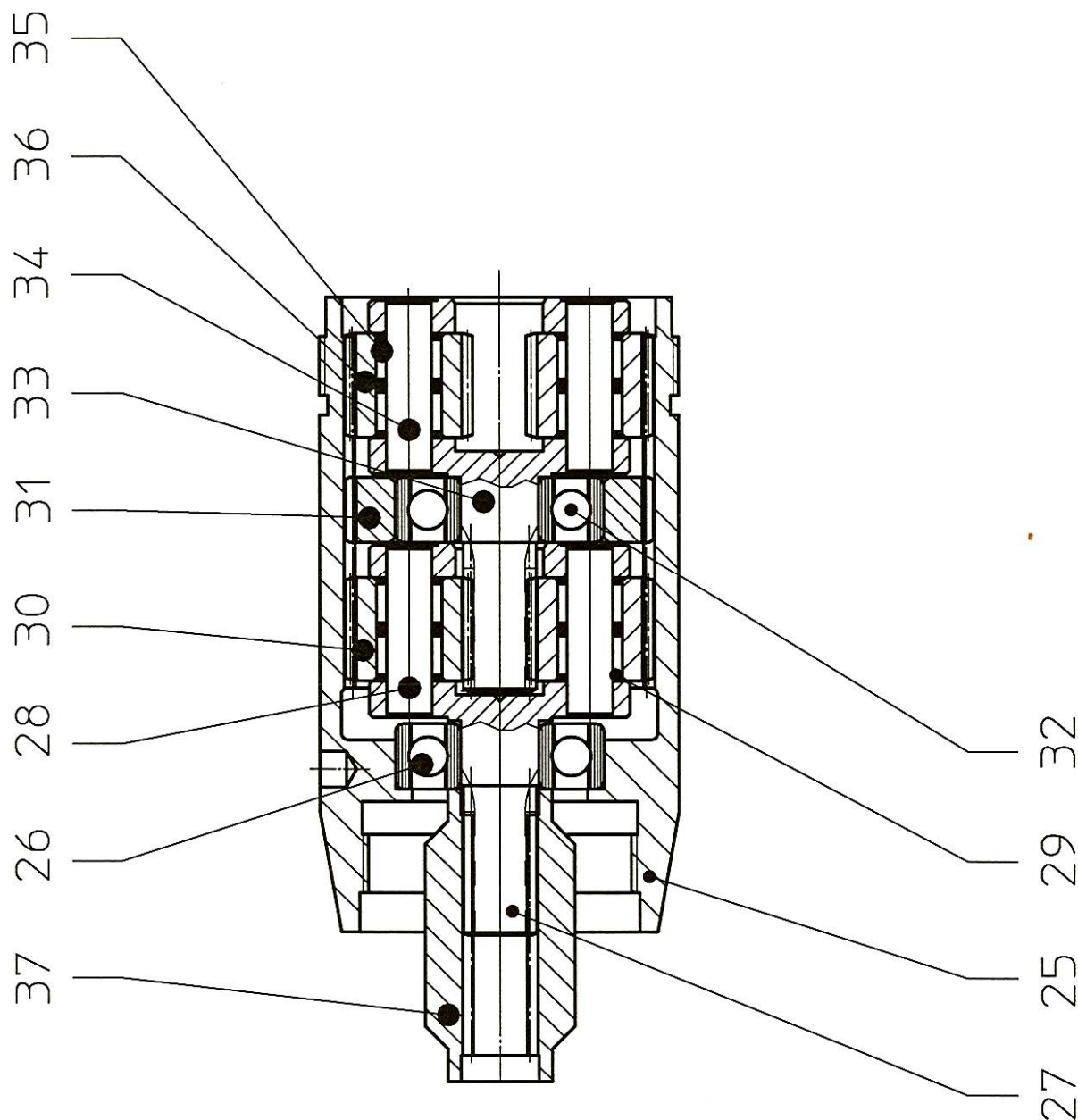
Spare Part List

Description:

Double Gearbox

Part and drawing number::

3 6339 4000



Spare Part List					
Description:			Part and drawing number:		
Output Unit, assy.			3 6339 7000		
Item	Qty.	Description	Part and drawing no.		Remarks
40	1	Gear 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	*	
	1	Worm wheel set	3 6339 4940		Item 46+47
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		
	1	Adjusting washer (if needed)	9 3331 0430		
	1	Adjusting washer (if needed)	9 3331 0440		
		Use for repair and parts assembly:			
		Grease Lithium saponified Renolith H 442 NLGI- Class 2	9 9902 0110		
		* Wear parts to be stored in case of continuous use			

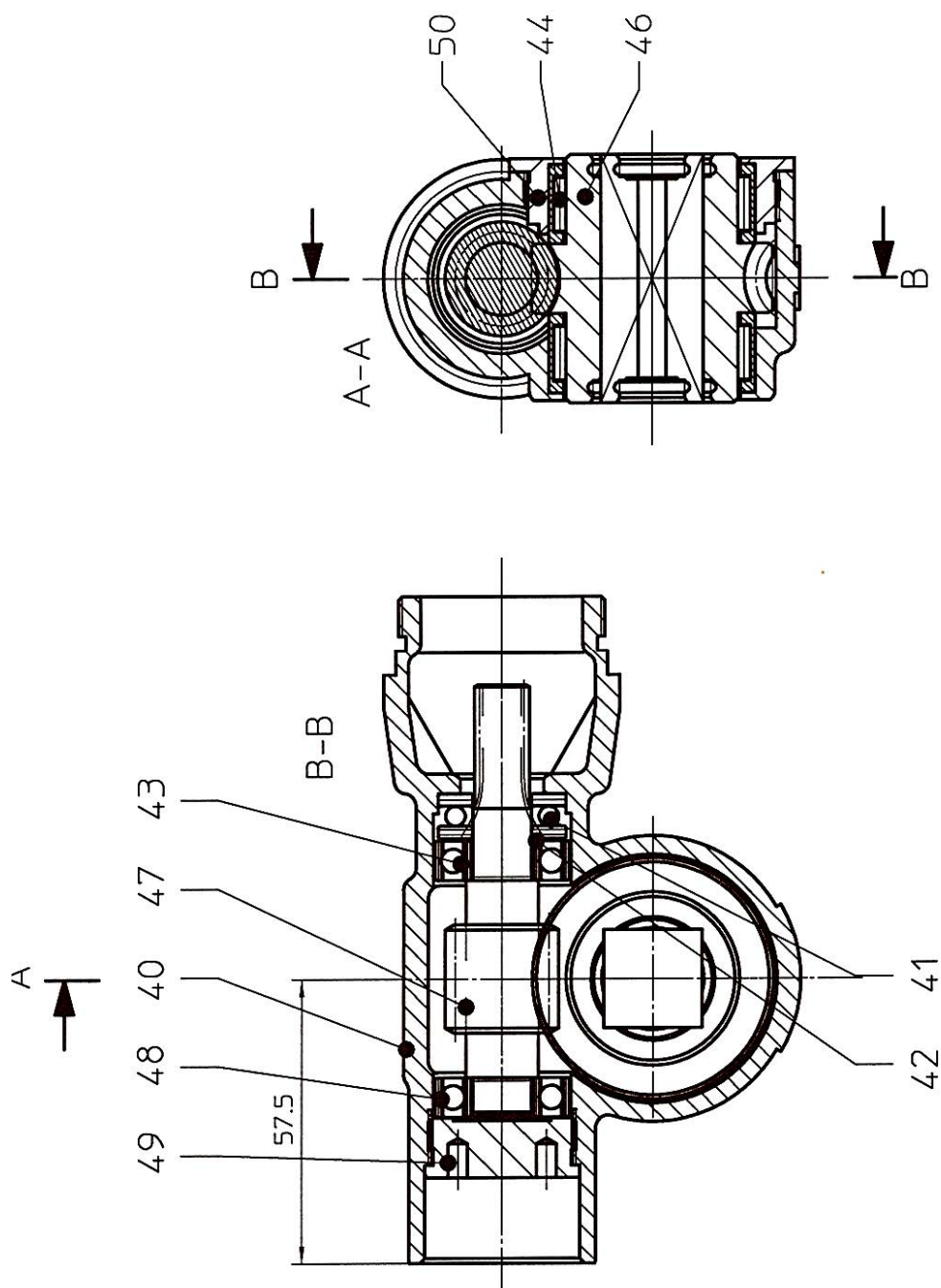
Spare Part List

Description:

Output Unit, assy.

Part and drawing number.

3 6339 7000



Spare Part List					
Description:			Part and drawing number:		
Lever Throttle with oiler and latch			9 2007 0110		
Item	Qty.	Description	Part and drawing no.		Remarks
201	1	Valve housing, assy.	1 1480 3910		with item 202
202	1	Adjusting screw	9 1151 9010		
203	1	Gasket	9 1903 0260	*	
204	1	Locking screw	9 1150 9070		
205	1	Gasket	9 1903 0340	*	
206	1	Locking screw	9 1150 9030		
209	1	Plastic ball	9 1018 0150	*	
210	1	Valve pin	9 1637 2120		
211	1	Valve catch, assy.	1 5060 3930		
212	1	Rivet pin	9 1611 0030		
213	2	Washer	9 3302 0150		
215	1	Pressure spring	9 1803 0240		
216	1	O-ring	9 1901 3230	*	
217	1	Nipple, assy.	9 2205 1220		
		* Wear parts to be stored in case of continuous use			

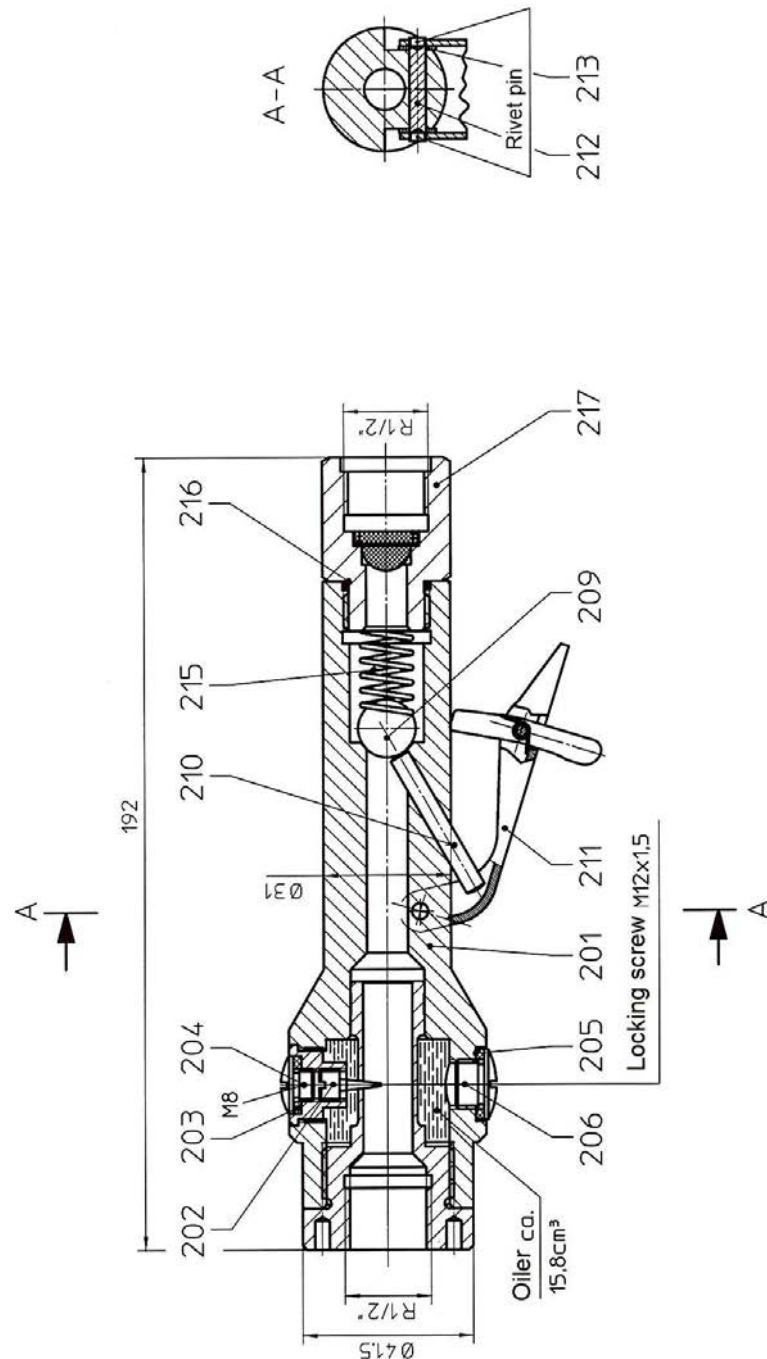
Spare Part List

Description:

Part and drawing number:

Lever Throttle with oiler and latch

9 2007 0110



Spare Part List					
Description:				Part and drawing number:	
Pneumatic Motor				6 1056 1000	
Pos.	Stck.	Benennung	Sach- u. Zeichnungsnr.		Bemerkung
1	1	Motor housing	3 6359 1010		
3	1	End plate	3 6341 1110	*	
4	1	Spacer ring	3 6341 1080		
5	1	Grooved ball bearing	9 1001 0090	*	
6	1	Snap ring	9 1703 0050		
7	1	Cylinder bushing	1 1430 1020	*	
8	2	Spiral pin	9 1642 0080		
9	1	Rotor	3 6348 1030		
10	4	Vane	1 1430 1050	*	
11	1	End plate	5 1202 1100	*	
12	1	Grooved ball bearing	9 1003 0020	*	
13	1	Snap ring	9 1703 0070		
14	1	Spacer ring	5 1202 1080		
15	1	O-ring	9 1901 2070	*	
16	1	O-ring	9 1901 2430	*	
17	1	Gearbox connection	3 6339 1190		
18	1	Exhaust ring	3 6339 1180		
19	1	Silencer mat	3 6339 1770		
20	1	Connection	3 6359 1230		
21	2	Adjusting washer (if needed)	9 3331 0170		
	2	Adjusting washer (if needed)	9 3331 0180		
	2	Adjusting washer (if needed)	9 3331 0190		
		* Wear parts to be stored in case of continuous use			

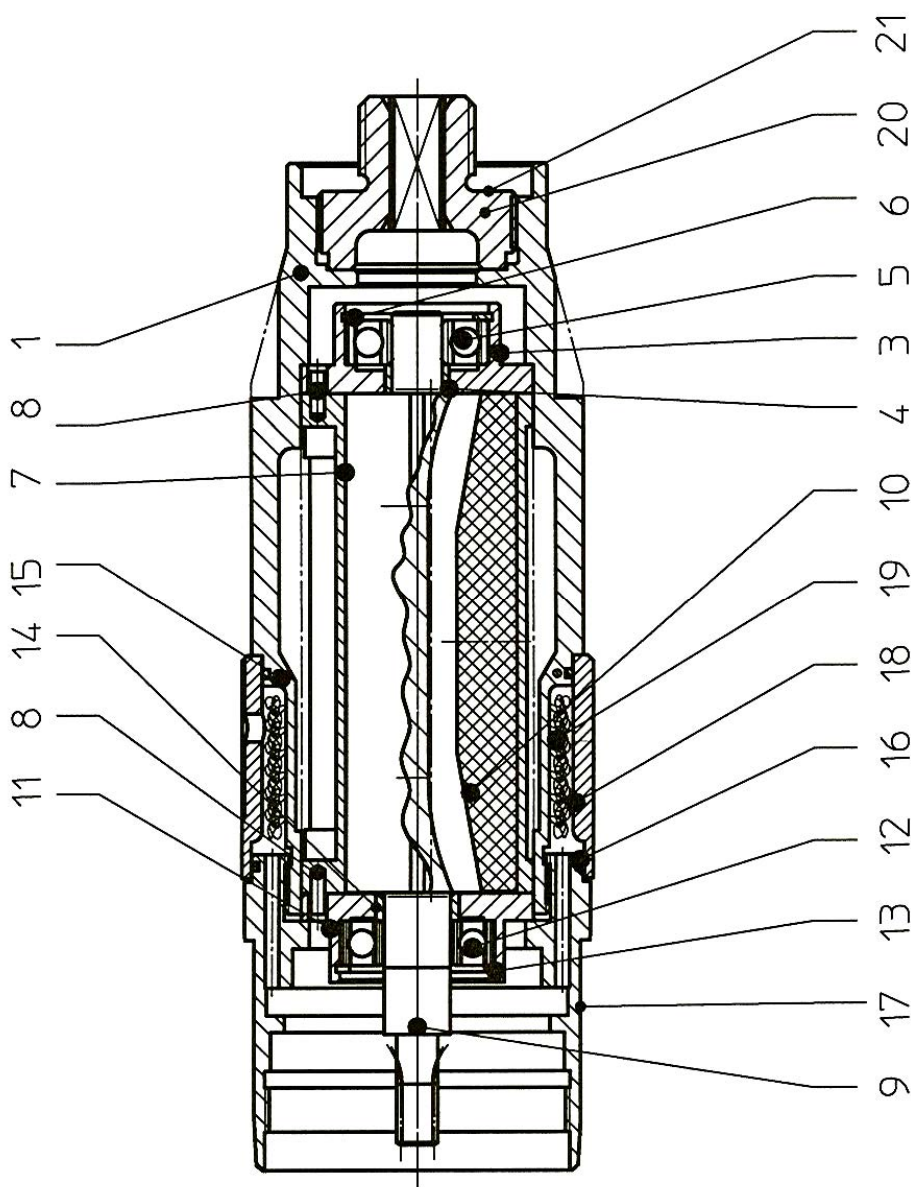
Spare Part List

Description:

Pneumatic Motor

Part and drawing number:

6 1056 1000



[illegible]

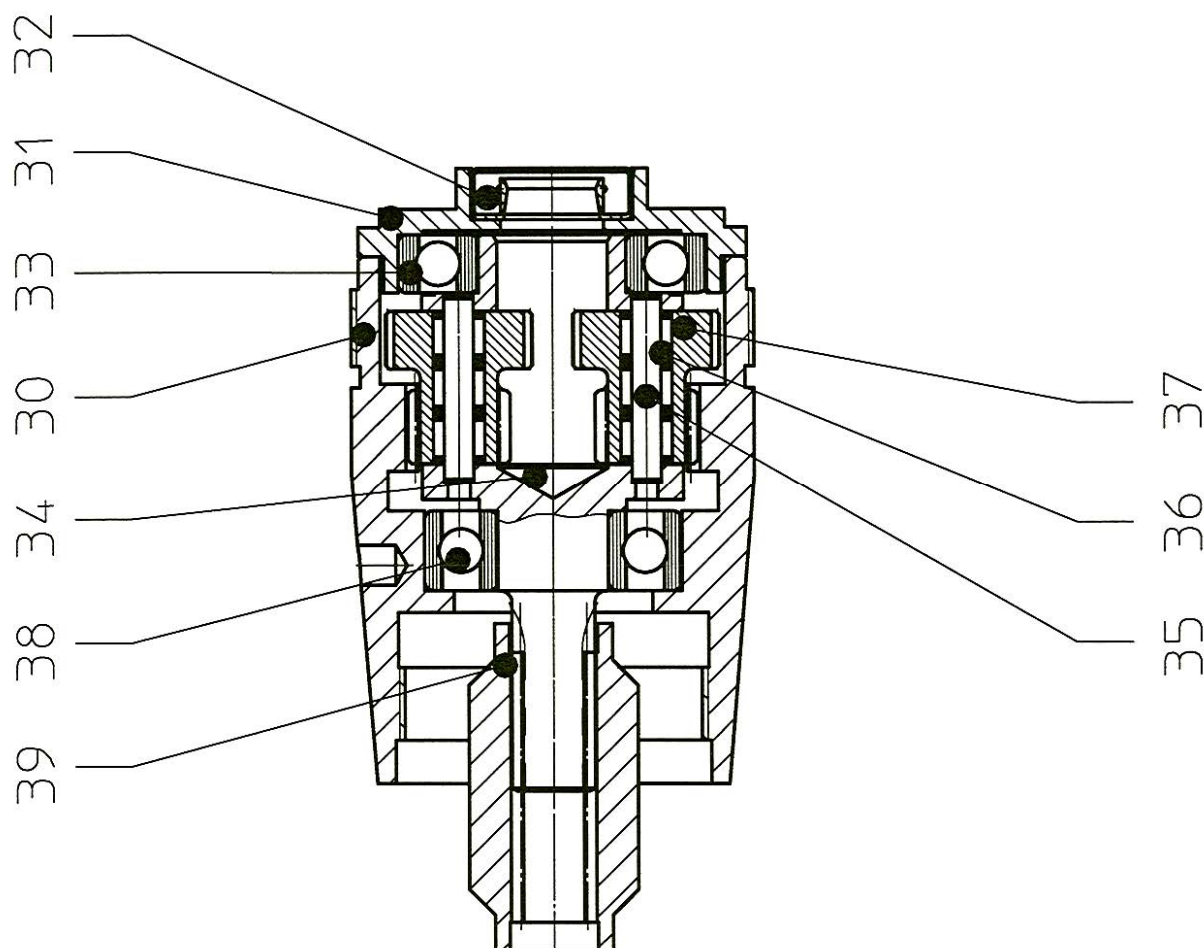
Spare Part List

Description::

Double Gearbox

Part and drawing number:

6 1016 4000



Spare Part List					
Description:				Part and drawing number:	
Output Unit, assy.				6 1017 7000	
Item	Qty.	Description	Part and drawing no.		Remarks
40	1	Gearbox housing II	6 1017 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	*	
	1	Worm wheel set	3 6339 4940		Item 46+47
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		
	1	Adjusting washer (if needed)	9 3331 0430		
	1	Adjusting washer (if needed)	9 3331 0440		
		Use for repair and parts assembly:			
		Grease Lithium saponified Renolith H 442 NLGI- Class 2	9 9902 0110		
		* Wear parts to be stored in case of continuous use			

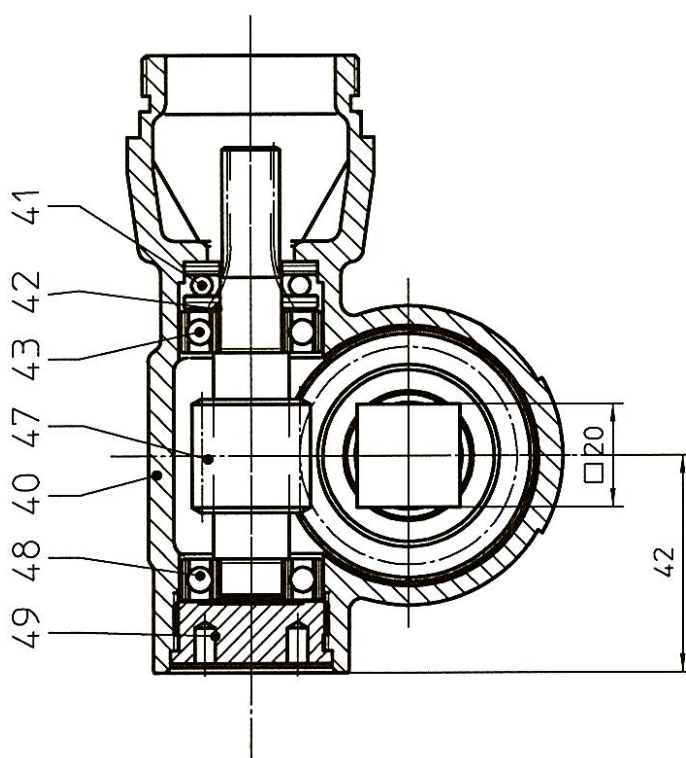
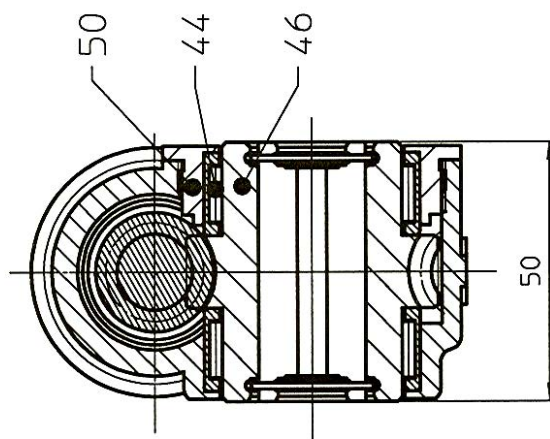
Spare Part List

Description:

Output Unit, assy.

Part and drawing number:

6 1017 7000



Spare Part List					
Description:			Part and drawing number:		
Pneumatic Motor			6 1057 1000		
Item	Qty.	Description	Part and drawing no.		Remarks
1	1	Motor housing	3 6359 1010		
3	1	End plate	3 6341 1110	*	
4	1	Grooved ball bearing	9 1001 0090	*	
5	1	Snap ring	9 1703 0050		
6	1	Cylinder bushing	1 1430 1020	*	
7	2	Spiral pin	9 1642 0080		
8	1	Rotor	3 6349 1030		
9	4	Vane	1 1430 1050	*	
10	1	End plate	5 1202 1100	*	
11	1	Grooved ball bearing	9 1003 0020	*	
12	1	Snap ring	9 1703 0070		
13	1	Spacer ring	5 1202 1080		
14	1	O-ring	9 1901 2070	*	
15	1	O-ring	9 1901 2430	*	
16	1	Gearbox connection	3 6339 1190		
19	1	Exhaust ring	3 6339 1180		
20	1	Silencer mat	3 6339 1770		
21	1	Spacer ring	3 6341 1080		
22	1	Connection	3 6359 1230		
23	2	Adjusting washer (if needed)	9 3331 0170		
	2	Adjusting washer (if needed)	9 3331 0180		
	2	Adjusting washer (if needed)	9 3331 0190		
		* Wear parts to be stored in case of continuous use			

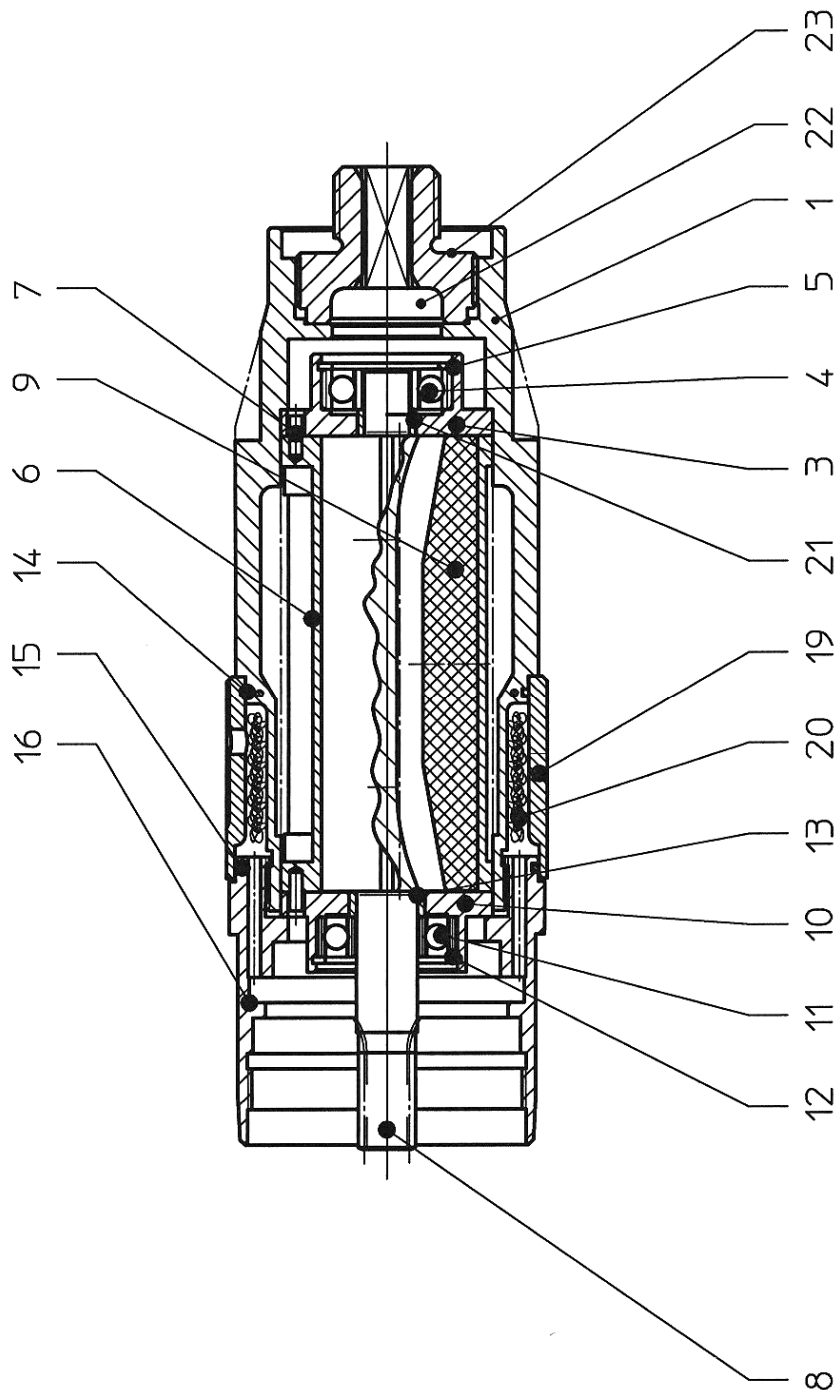
Spare Part List

Description:

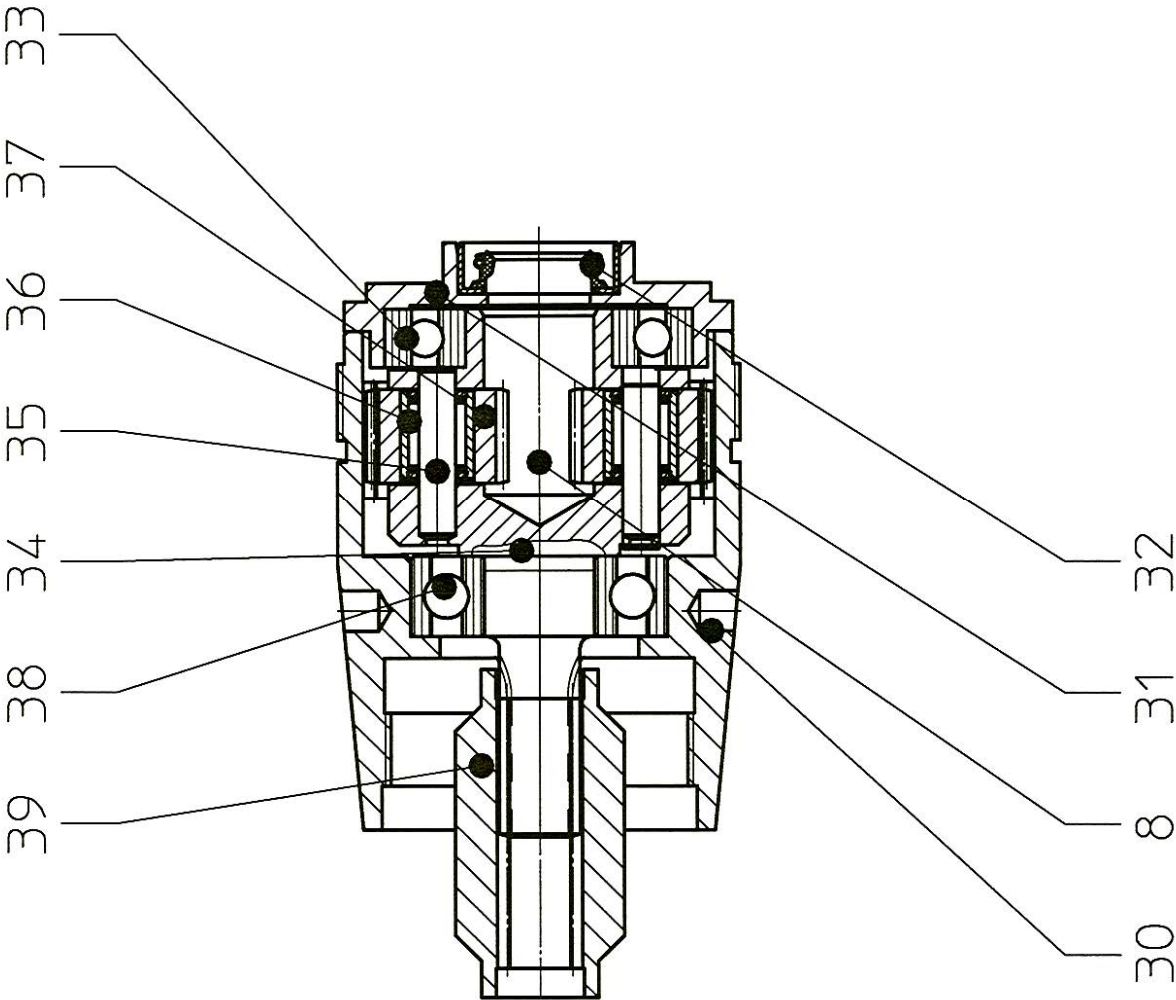
Pneumatic Motor

Sach- und Zeichnungsnummer:

6 1057 1000



[illegible]

Spare Part List	
Description:	Part and drawing number:
Gearbox	6 1017 4000
	

Spare Part List					
Description:			Part and drawing number:		
Output Unit, assy.			6 1021 7000		
Item	Qty.	Description	Part and drawing no.		Remarks
40	1	Gearbox housing II	6 1017 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	*	
	1	Worm wheel set	3 6349 4940		item 46+47
46	1	Worm wheel	3 6349 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		
	1	Adjusting washer (if needed)	9 3331 0430		
	1	Adjusting washer (if needed)	9 3331 0440		
		Use for repair and parts assembly:			
		Grease Lithium saponified Renolith H 442 NLGI- Class 2	9 9902 0110		
		* Wear parts to be stored in case of continuous use			

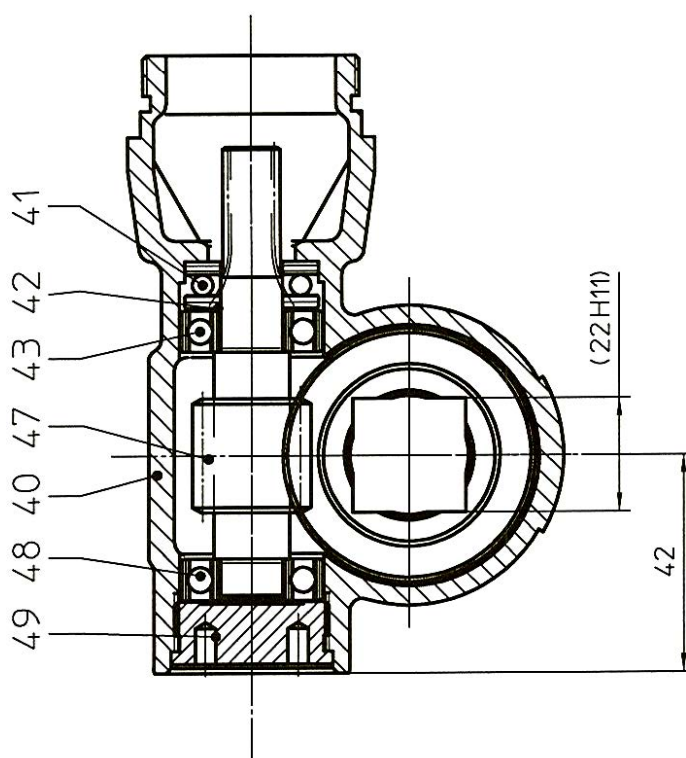
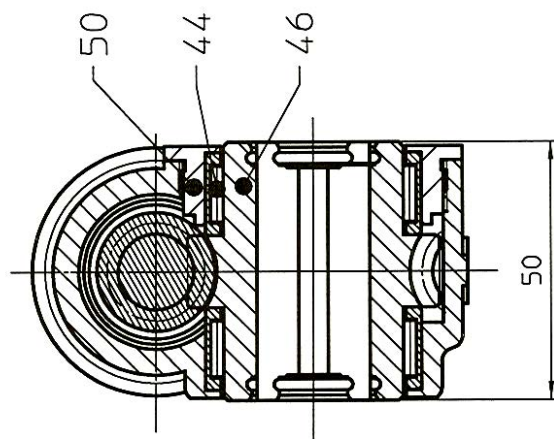
Spare Part List

Description:

Output Unit, assy.

Part and drawing number:

6 1021 7000



Note:

Sketch:



22 Harbor Avenue, Norwalk, CT 06850
Tel: 203-853-9522 • Toll-free: 800-700-5919 Fax: 203-853-9921
Email: info@csunitec.com
www.csunitec.com