

**OPERATION MANUAL  
HIGH FREQUENCY POKER VIBRATOR TYPES  
LHF & HS**



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## 1. Preface

This manual has been written to help you operate and maintain the high frequency poker vibrator LHF & HS safely. This manual is intended for dealers and operators of these types of poker vibrators and contains useful instructions for use, maintenance and repair. These instructions need to be respected and followed.

### Guarantee provisions

All damage to parts of the poker vibrator, occurring within 12 months after date of purchase as a consequence of material, production or construction defects, will be replaced by Lievers as soon as possible.

Lievers declines all responsibility for unsafe situations, accidents and damage caused by:

- Ignoring safety and using instructions as described on the machine or the instruction manual.
- Incompetent or incorrect maintenance (f.i. irregular cleaning of the ventilation slots and cleaning with a high pressure cleaner or by a water jet under high pressure)
- Connecting the poker vibrator to the wrong voltage.
- Storing the machine in a damp place.
- Assembling or dismantling of the poker vibrator by unqualified personnel (employees who are unfamiliar with the content of this instruction manual)
- Other use than the prescribed use.
- **Alternations of the machine carried out by other than manufacturer. This also includes assembling of non-original parts.**



### Guarantee certificate

Poker vibrator type LHF - HS nr. \_\_\_\_\_

Date of purchase: \_\_\_\_\_



Mr. C.M. de Wit

	<b>Type LHF 65</b>	CF	5890 N
	Prod. Nr.	Serv.	S1
V 42	Ph 3	Hz 200	Vibr./min. 12000
A 16	kW 0,92	IP 58	Year
<b>LIEVERS HOLLAND</b>			
Gr. Mijdrechtstraat 68 3641RW Mijdrecht			

**Figure 1: example ratingplate LHF**

LHF : the ratingplate can be found on the switch cover  
 HS : the ratingplate can be found on the pistolgrip

## 2. Safety

### Explanation of the used safety symbols



- 1) Read the instruction manual
- 2) Safety glasses, safety helmet and ear protection compulsory.
- 3) Vibration reducing glove with GELFÔM compulsory.
- 4) Safety shoes with extra protection compulsory.
- 5) Before opening remove the plug.
- 6) Dangerous electric voltage
- 7) Be careful.

**Fig. 2: safety symbols**

ENSURE, THAT ALL SYMBOLS ON THE MACHINE, CAN ALWAYS BE CLEARLY READ.

### 2.1 Safety aspects

The following safety aspects apply to the machine:

- Safety symbols are present on the poker vibrators LHF & HS

### 2.2 Safety precautions

- Before operating these machines, make sure to have read this manual carefully. If you have any questions, do not hesitate to contact the supplier.
- Ensure that you are qualified (familiar with the contents of this manual), to operate and carry out light maintenance work to the machine.
- Regular maintenance of the machine improves safe operation.
- On working areas, take notice and follow general and local safety regulations. Before starting your work, make sure that you are informed about all safety regulations and instructions.
- In case the value of acceleration  $> 2,5 \text{ ms}^2$ , then wearing anti vibration gloves is obligated.
- When operating the poker-vibrator wear ear protection, safety glasses, a safety helmet, protective (anti-vibration) gloves and protective clothing.
- Wear safety shoes with extra protection (steel caps and anti-slip soles).
- Be careful when lifting and carrying the poker vibrator. Do not bend forwards when picking up the apparatus, but bend your knees.
- Make sure that the working area is lightened well.
- Do not pull the plug out of the wall socket or extension lead by its lead.

- Check the feeder cable's outercasing and if in use extension lead's outercasing before you connect the machine to the electrical mains. The outercasing may not be damaged. Replace the cable if you cannot read the marks on the outercasing anymore.
- Do not use the machine in an explosion endangered area.
- Check whether the voltage provided by the converter is correct.
- Regularly check the connections of the supply-cable to the switch.
- Ensure that the wall socket and possible connections between the extension leads are protected against dampness.
- Switch off the machine, when the electrical power cuts off. This prevents the machine from starting suddenly when the electrical power comes on again.
- Check the machine's cable-connections before you connect the machine to the electrical mains. The cables must be properly connected.
- After use, place the poker vibrator on a stable and dry surface .
- When the poker vibrator is not being used for longer a period of time, then it must be stored in a dry and clean area.
- When cleaning the poker vibrator, ensure that no water or cleaning detergent gets into the poker vibrator.
- Disconnect the electrical supply to the poker vibrator, before you start to clean or maintain the poker vibrator .

### **2.3 Rest risk**

The manufacturer aimed for the best balance in functionality, safety and operation possibilities of the LHF and HS.

Please take notice of the following rest: for prolonged working with LHF poker vibrators it is obligated to wear anti vibration gloves.

Well instructed operators with a correct working attitude concerning safe operating are well capable of working safely with both LHF and HS poker vibrators.

### 3. Technical specifications

LHF/HS	36mm Short	36mm long	50mm Short	50mm long	57mm Short	57mm long	65mm
Voltage	42v/200Hz	42v/200Hz	42v/200Hz	42v/200Hz	42v/200Hz	42v/200Hz	42v/200Hz
Current consumption	4,5	4,5	6,7	9,5	11,5	13,5	16
Vibr/Min	12.000	12.000	12.000	12.000	12.000	12.000	12.000
Compaction diam.	Ø35cm	Ø45cm	Ø55cm	Ø65cm	Ø75cm	Ø85cm	Ø100cm
Sound press Level ISO 6081 at operator's place	70 db(A)	72db(A)	75db(A)	77db(A)	79db(A)	82db(A)	85db(A)
LHF: Value of acceleration in m/s <sup>2</sup> * Comfort exposure (max.) per day	2,5 8hr 32hr	2,53 <sup>2</sup> 7,8hr 31,2hr	2,60 7hr 28hr	2,77 6,5hr 26,1hr	5,25 2,0hr 7,0hr	5,75 1,5hr 6,0hr	4,7 2,3hr 9,1hr
HS: Value of acceleration in m/s <sup>2</sup> *	< 2,5	< 2,5	< 2,5	< 2,5	< 2,5	< 2,5	< 2,5

**Table 1: technical specifications LHF / HS**

\*\* The weighted effective value of acceleration, determined according to ISO 5349

Use of anti-vibration gloves obligated with value > 2,5 m/s<sup>2</sup>.

## 4. Use

### 4.1 Intended use

Poker-vibrators LHF and HS are machines with a vibrating, steel bottle, for compacting concrete.

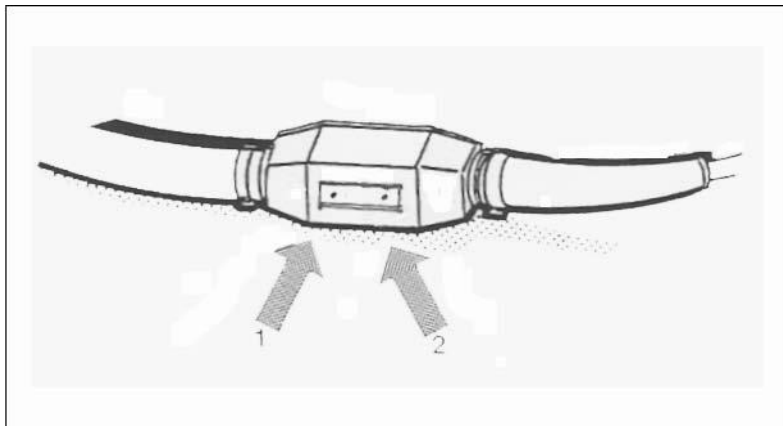
### 4.2 Operation

**CAREFUL: READ THE GENERAL- AND SPECIFIC SAFETY-INSTRUCTIONS BEFORE YOU SWITCH ON THE POKER VIBRATOR.**

**CAREFUL: FIRST SWITCH ON THE FREQUENCY-CONVERTER BEFORE YOU SWITCH ON THE POKER VIBRATOR.**

#### Switching on the poker-vibrator, compacting the concrete and switching off the poker vibrator.

- 1) Ensure that the supplied voltage from the converter corresponds with the poker vibrator's technical data.
- 2) Ensure that the poker vibrator's diameter corresponds with the consistency of the concrete.
- 3) Check that the switch is in the OFF (0) position.
- 4) Put the plug of the supply-cable in the socket of the converter.
- 5) Place the poker-vibrator in the direct vicinity of where you are going to compact concrete.
- 6) Put the switch in the ON (I) position.
- 7) Stick the vibrating pokerhead into the concrete and allow the vibrator to vibrate for 2 seconds in one place in the concrete, before moving it to the next spot. Repeat this procedure every 50 cm (depending on the concrete's consistency).



**Fig. 3: ON/OFF position of the poker vibrator**

**Careful:** Switch off the poker vibrator when the pokerhead is out of the concrete. The built-in electric drive unit needs to be cooled in the concrete and if this is not done the pokerhead can be severely damaged.

Therefore: **Out of the concrete, poker vibrator OUT**



**Fig. 4: Operation procedure during concrete compaction**

#### **When work is done**

Put the switch in the OFF position and pull the supply-cable's plug out of the socket.  
Switch off the converter and pull the plug out of the wall socket.  
After use, place the converter and poker vibrator on a dry and stable surface.  
Clean the poker-vibrator and converter as prescribed in chapter 5 "maintenance".

#### **Application examples**

The distance between two vibration places and the vibration time in one place, depend on the thickness of the concrete layer and the composition of the concrete.  
The following points are for guidance.

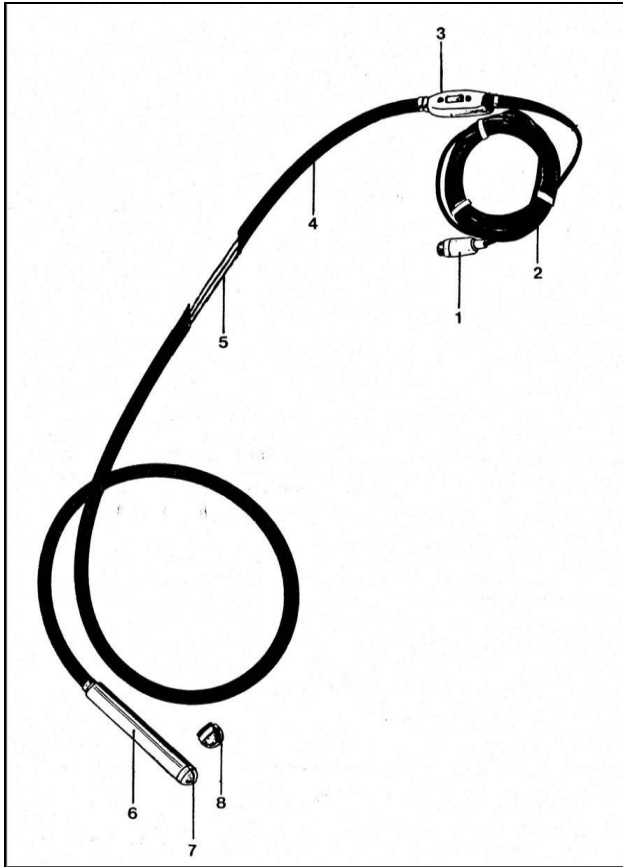
#### **Floors:**

- 1) Stick the poker vibrator slowly into the concrete (vibration time approx. 3 to 4 seconds).
- 2) Pull the poker vibrator slowly out of the concrete and repeat procedure **1** each 50cms.

#### **Walls and columns:**

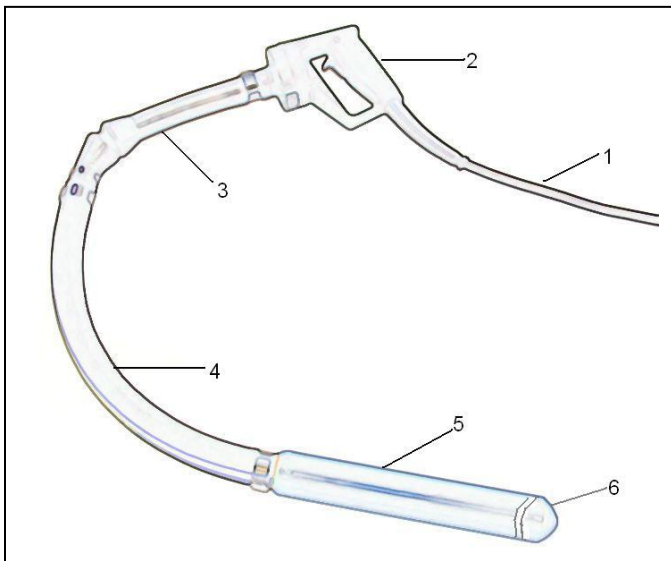
- 3) Pour concrete to approx. 100 cms.
- 4) Lower the poker-vibrator into the formwork.
- 5) Pull the poker vibrator slowly out of the concrete and move it to the next spot.
- 6) Now ready for the following pour of approx. 100 cms. of concrete.





**Fig.5: Overview of the most important components LHF**

1. Plug CEE 42V 200 Hz
2. Supply cable 10M
3. Switch
4. Operating hose
5. Inncable
6. Pokerhead 42V 200Hz
7. Steel tip
8. Rubber tip



**Figur 6: Overview of the most important components HS**

1. Supply cable 20 M
2. Pistol handgrip with switch
3. Vibration damper
4. Operating hose
5. Poker head 42V 200 Hz
6. Steel tip

## 5. Maintenance

### 5.1. Maintenance

Although the poker vibrators type LHF & HS have a few moving parts, regular maintenance promotes a long and trouble-free life.

**WARNING : DO NOT CLEAN THE POKER VIBRATOR WITH A HIGH PRESSURE CLEANER. DISCONNECT THE ELECTRICAL SUPPLY TO THE POKER VIBRATOR BEFORE YOU CARRY OUT ANY MAINTENANCE ACTIVITIES TO THE POKER-VIBRATOR.**

### 5.2. Cleaning and servicing of the poker-vibrator

During concrete compaction the poker vibrator, switch and supply cable will become dirty. Periodical maintenance is vital to the safe and efficient operation of the poker vibrator. It is therefore highly recommended to clean the poker vibrator daily with water.

When storing the poker vibrator make sure that the operation hose has been coiled properly, thus preventing cuts and cracks to the rubber hose.

If the poker-vibrator is to be stored for a long period of time, it should be put on an appropriate stand and left to hang.

**TIP: IN CASE OF FAILURE OR BREAK DOWN OF THE POKER VIBRATOR, WE ADVISE YOU TO SEND THE MACHINE TO AN AUTHORISED SERVICE-STATION OF LIEVERS.**

**WARNING: WE STRONGLY ADVISE YOU NOT TO CARRY OUT REPAIRS TO THE POKER-VIBRATOR BY YOURSELF, WITHOUT BEING INSTRUCTED BY THE MANUFACTURER OR DEALER (READ GUARANTEE-PROVISIONS).**

### 5.3. Changing the tip of the pokerhead

This paragraph exclusively deals with the replacement of the steel- and rubber tip of the pokerhead.

- 1) Lock the rear part of the pokerhead in a vice.
- 2) File away the welding point where the rear part joints the front part .Loosen the screw thread by tapping on the tip of the pokerhead with a hammer.
- 3) Unscrew the tip by means of a hook spanner (available from the producer).
- 4) By locking the pokerhead in the vice vertically, you prevent the lubricating oil from running out of the pokerhead.
- 5) Before the new tip is installed, the screw thread of the tip needs to be winded with at least 8 windings of teflon tape.
- 6) Now tighten the tip by means of the hook spanner and secure it by providing the tip with a welding point of approx. 5 mm. diameter.

**CAREFUL: REFILL OIL IF DURING THE ABOVE DESCRIBED PROCEDURE OIL HAS RUN OUT OF THE POKERHEAD. IF THIS SPECIAL OIL IS NOT AVAILABLE, PLEASE CONTACT YOUR DEALER OR LIEVERS (Ø36MM-15 cc/ Ø50MM-20cc/Ø57-25cc/Ø65MM-30cc).**

## 6. Trouble shooting, repairs

The table below shows the most occurring problems, causes and solutions:

PROBLEM	CAUSE	SOLUTION
connected and activated poker vibrator does not get into the required number of revolutions or does not start.	The electrical motor is overloaded due to insufficient current supply.	Ensure that the supply cable is properly connected to the required voltage and converter. Check the plug connections for faults. If applicable, check the length of the extension cable. Use an extension cable of max. 25 m. with a cross section of 3x4mm <sup>2</sup> .
The pokerhead overheats.	Insufficient cooling of the poker-vibrator in the concrete, or worn out bearings.	Ensure that the pokerhead is completely immersed in the concrete.(for the whole length of the pokerhead). Take the poker-vibrator / converter for inspection to the nearest Lievers service-station.
The activated poker-vibrator trips out regularly. (Thermal relay -optional-)	Defect converter or wrong type of converter (voltage) or too many pokers connected to 1 converter.	Check the voltage provided by the converter (read the operation manual of the converter).

**Table 2: most occurring problems, causes and solutions**

**NOTE: FAULTS THAT FREQUENTLY OCCUR ARE: BREAK IN THE SUPPLY CABLE, INCORRECT PLUG CONNECTIONS AND INSUFFICIENT MAINTENANCE.**

### Repairs

**TIP: WHEN ORDERING PARTS, FILL IN THE ORDER FORM ACCURATELY. LIEVERS B.V. DECLINES ALL RESPONSIBILITY FOR THE SUPPLY OF INCORRECT SPARES DUE TO INCOMPLETE OR UNCLEAR REQUESTS.**

When ordering parts please state the following information:

- Type of poker-vibrator.
- Year of construction.
- Order number plus description of the part.
- The required quantity.
- The dispatch address and dispatch mode.

**Contact details Lievers Holland:**

PO Box 103

3640 AC Mijdrecht

Tel: +31 (0)297-231900

Fax: +31 (0)297-231909

E-mail: [info@lieversholland.nl](mailto:info@lieversholland.nl)

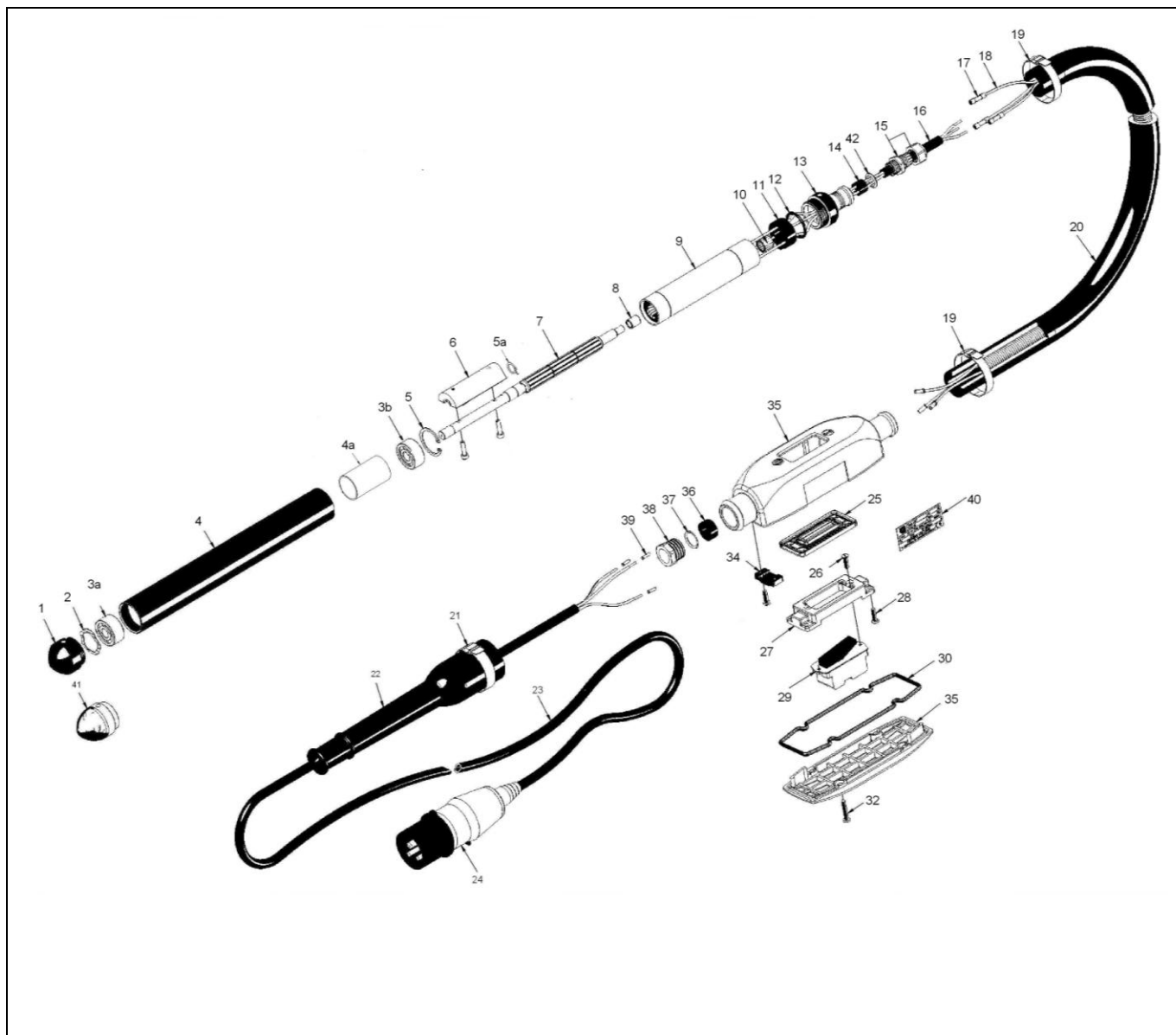
Internet: [www.lieversholland.com](http://www.lieversholland.com)

## **7.Dismantling, disposal**

National and local regulations concerning dismantling and disposal of materials need to be obeyed.



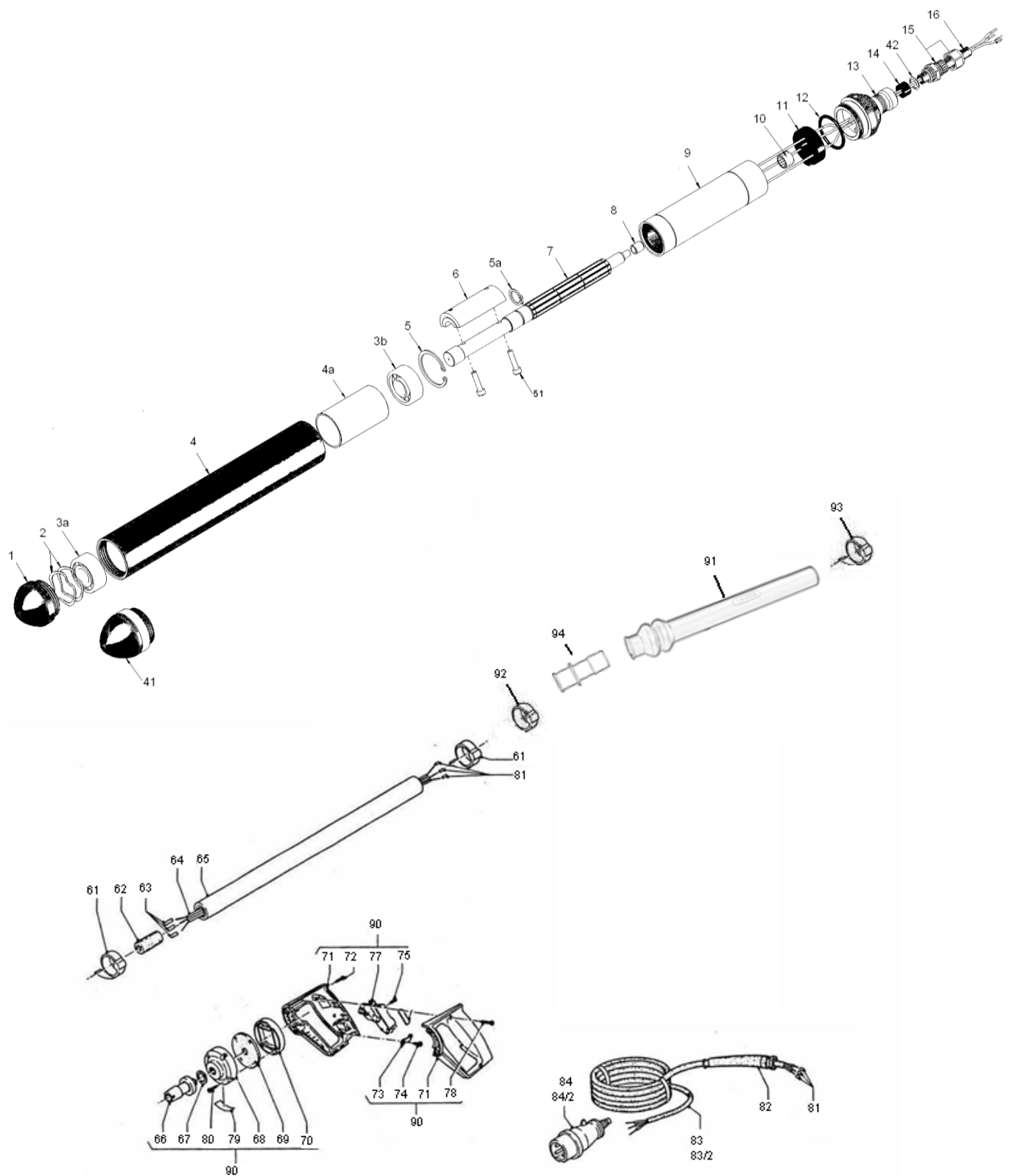
**8. Part lists**



**Fig. 7: Exploded view LHF**

LHF	Ø 36	Ø 50	Ø 57	Ø 65		
Pos.	Number	Number	Number	Number	Quantity	Description
1	1300360011	1300500011	1300570011	1300650011	1	Steel tip
2	1300360020N	1300500020K	n.a.	n.a.	1	Spring soucer
2	n.a.	n.a.	1300570020N	1300650020N	2	Spring soucer
3a	1300360030	1300500030	1300570030	1300650030	1	Bearing
3b	1300360030	1300500030	1300570070	1300650070	1	Bearing
4	1300360040N	1300500040N	1300570040N	1300650040N	1	Motorhousing
4a	n.a.	n.a.	1300570050	1300650050	1	Spacer
5	1300360070N	1300500070N	1300570070N	1300650070N	1	Retaining ring
5a	n.a.	n.a.	1300570080	1300650080	1	Retaining ring on rotor
6	1300360060REX	1300500060REX	1300570060REX	1300650060REX	1	Eccentric
7	1300360090RE	1300500090RE	1300570090RE	1300650090RE	1	Rotor
8	1300360100	1300500100	1300570100	1300650100	1	Bearing bushing
9	1300360111N	1300500111N	1300570111N	1300650111N	1	Stator 42V
10	1300360120	1300500120	1300500120	1300570120	1	Needle bearing
11	1300360130N	1300500130N	1300570130N	1300650130N	1	Intermediate ring
12	1300360125N	1300500125N	1300570125N	1300650125N	1	O-ring
13	1300360140N	1300500140N	1300570140N	1300650140N	1	Trumpet
14	1300360150N	1300000150N	1300000150N	1300000150N	1	Rubber ring - cablebuckle
15	0435	0431	0431	0431	1	Cable buckle (steel)
16	1300360170N	13000000170N	1300000170N	1300000170N	1	Rubber protection sleeve
17	1300017	1300017	1300017	1300017	3	Cable connector
18	0015	0015	n.a.	n.a.	21m	Innercable 2,5 mm2
18	n.a.	n.a.	0016	0016	21 m	Innercable 4 mm2
19	13000210	n.a.	n.a.	n.a.	2	Hose clamp small V202
19	n.a.	13000211	13000211	13000211	2	Hose clamp wide V206
20	1300012	1300013	1300013	1300013	5m	Rubber hose (p/mtr)
21	13000212	13000212	13000212	13000212	1	Hose clamp small V245
22	1300041	1300041	1300041	1300041	1	Cable sleeve
23	0005	0005	n.a.	n.a.	10m	Cable 3x2.5mm <sup>2</sup> (p/mtr)
23	n.a.	n.a.	0007	0007	10m	Cable 3x4mm <sup>2</sup> (p/mtr)
24	0037	0037	0037	0037	1	CEE-plug 42V/200Hz
25	1300025	1300025	1300025	1300025	1	Protecting cover
26	1300026	1300026	1300026	1300026	2	Screw
27	1300027	1300027	1300027	1300027	1	Alu-support
28	1300028	1300028	1300028	1300028	4	Drive screw
29	1300029	1300029	1300029	1300029	1	Switch
30	1300032	1300032	1300032	1300032	1	Seal
32	1300030	1300030	1300030	1300030	4	Drive screw
34	1300033	1300033	1300033	1300033	1	Cable saddle clamp
35	1300360230	1300023	1300023	1300023	1	Switch + cover
36	1300034	1300034	1300034	1300034	1	Seal
37	1300035	1300035	1300035	1300035	1	Pressure ring
38	1300036	1300036	1300036	1300036	1	Pressure buckle
39	0318	0318	1300081	1300081	9	Conductor sleeve
40	1300500240	1300500240	1300500240	1300500240	1	Rating plate
41	1300360012	1300500012	1300570012	1300650012	1	Rubber tip
42	1300360155N	1300000155N	1300000155N	1300000155N	1	Steel pressure ring cablebuckle
	130036037GEEL	1300037GEEL	1300037GEEL	1300037GEEL	1	Switch complete
	1300360500	1300500500	1300570500	1300650500	1	Oil (Ø36mm- 15cc/Ø50mm-20cc/ Ø57mm-25cc/Ø65mm-30cc)
	1300019	1300019	1300019	1300019	1	Cablebuffer

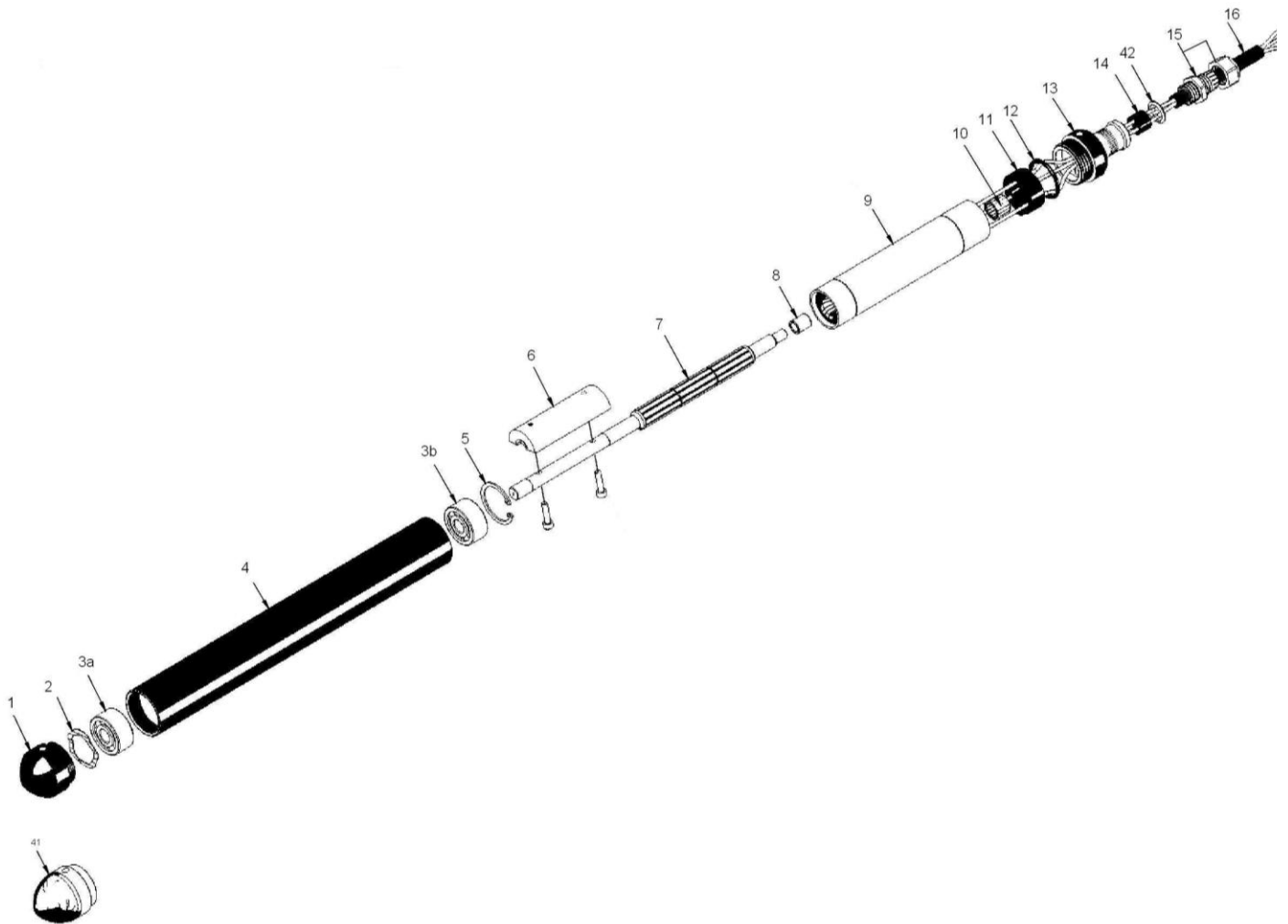
Table 3: Partlist LHF



**Fig. 8: Exploded view HS**



HS	Ø 36	Ø 50	Ø 57	Ø 65		
Pos.	Number	Number	Number	Number	Quantity	Description
1	1300360011	1300500011	1300570011	1300650011	1	Steel tip
2	1300360020N	1300500020K			1	Spring soucer
2			1300570020N	1300650020N	2	Spring soucer
3a	1300360030	1300500030	1300570030	1300650030	1	Bearing
3b	1300360030	1300500030	1300570070	1300650070	1	Bearing
4	1300360040N	1300500040N	1300570040N	1300650040N	1	Motorhousing
4a	n.a.	n.a.	1300570050	1300650050	1	Spacer
5	1300360070N	1300500070N	1300570070N	1300650070N	1	Retaining ring
5a	n.a.	n.a.	1300570080	1300650080	1	Retaining ring on rotor
6	1300360060REX	1300500060REX	1300570060REX	1300650060REX	1	Eccentric
7	1300360090RE	1300500090RE	1300570090RE	1300650090RE	1	Rotor
8	1300360100	1300500100	1300570100	1300570100	1	Bearing bushing
9	1300360111N	1300500111N	1300570111N	1300650111N	1	Stator 42V
10	1300360120	1300500120	1300500120	1300570120	1	Needle bearing
11	1300360130N	1300500130N	1300570130N	1300650130N	1	Intermediate ring
12	1300360125N	1300500125N	1300570125N	1300650125N	1	O-ring
13	1300360140N	1300500140N	1300570140N	1300650140N	1	Trumpet
14	1300360150N	1300000150N	1300000150N	1300000150N	1	Rubber ring - cablebuckle
15	0435	0431	0431	0431	1	Cable buckle (steel)
16	1300360170N	13000000170N	1300000170N	1300000170N	1	Rubber protection sleeve
41	1300360012	1300500012	1300570012	13000650012	1	Rubber tip
42	1300360155N	1300000155N	1300000155N	1300000155N	1	Steel pressure ring cablebuckle
61	13000210	n.a.	n.a.	n.a.	2	Hose clamp V202
61	n.a.	13000211	13000211	13000211	2	Hose clamp V206
62	1300019	1300019	1300019	1300019	1	Cablebuffer
63	1300017	1300017	1300017	1300017	3	Cable connector
64	0015	0015	0016	0016	3 mtr	Innerkabel
65	1300012	1300013	1300013	1300013	0,55	Rubber hose
66	1300360660	1300066	1300066	1300066	1	Hose pilar
67	1300067	1300067	1300067	1300067	1	Ring
68	1300068	1300068	1300068	1300068	1	Flange
69	1300069	1300069	1300069	1300069	1	Gasket
70	1300070	1300070	1300070	1300070	1	Intermediate flange
71	1300071	1300071	1300071	1300071	1	Pistol grip
72	1300072	1300072	1300072	1300072	4	Drive screw
73	1300073	1300073	1300073	1300073	1	Cable saddle clamp
74	1300074	1300074	1300074	1300074	2	Drive screw
75	1300075	1300075	1300075	1300075	6	Screw
77	1300077	1300077	1300077	1300077	1	Switch
78	1300078	1300078	1300078	1300078	2	Drive screw
79	1300360240	1300500240	1300570240	1300650240	1	Rating plate
80	1300080	1300080	1300080	1300080	4	Drive screw
81	0318	0318	1300081	1300081	9	Wire sleeve
82	1300082	1300082	1300082	1300082	1	Cable sleeve
83	0005	0005	n.a.	n.a.	20m	Cable 3x2,5 mmq
83/2	n.a.	n.a.	0007	0007	20m	Cable 3x4 mmq
84	0037	0037	0037	0037	1	CEE-plug 42v/200Hz
84/2	0038	0038	0038	0038	1	CEE-plug 115/250v
90	1300090	1300090	1300090	1300090	1	Switch complete
91	1300085	1300085	1300085	1300085	1	Vibration damper
92	13000212	13000212	13000212	13000212	1	Hose clamp
93	13000211	13000211	13000211	13000211	1	Hose clamp
94	1300062	1300063	1300063	1300063	1	Tule
	1300360500	1300500500	1300570500	1300650500	1	Oil (Ø36mm- 15cc/Ø50mm-20cc/ Ø57mm-25cc/Ø65mm-35cc)



*Fig 9: exploded view pokerhead LHF/ HS Short execution*

**Table 5: partlist pokerhead LHF/HS trifles SHORT execution**

LHF / HS	Ø 36 short	Ø 50 short	Ø 57 short		
Pos.	Number	Number	Number	Quantity	Description
1	1300360011	1300500011	1300570011	1	Steel tip
2	1300360020N	1300500020K	n.a.	1	Spring soucer
2	n.a.	n.a.	1300570020N	2	Spring soucer
3a	1300360030K	1300500030K	1300570070K	1	Bearing
3b	1300360030K	1300500030K	1300570070K	1	Bearing
4	1300360040K	13005000040KN	1300570040K	1	Motorhousing
5	1300360070N	1300500070N	1300570070N	1	Retaining ring
6	1300360060KREX	1300500060KREX	1300570060KREX	1	Eccentric
7	1300360090REK	1300500090REK	1300570090REK	1	Rotor
8	1300360100	1300500100	1300570100	1	Bearing bushing
9	1300360111K	1300500111KN	1300570111KN	1	Stator 42V
10	1300360120	1300500120	1300500120	1	Needle bearing
11	1300360130N	1300500130N	1300570130N	1	Intermediate ring
12	1300360125N	1300500125N	1300570125N	1	O-ring
13	1300360140N	1300500140N	1300570140N	1	Trumpet
14	1300360150N	1300000150N	1300000150N	1	Rubber ring - cablebuckle
15	0435	0431	0431	1	Cable buckle (steel)
16	1300360170N	13000000170N	1300000170N	1	Rubber protection sleeve
41	1300360012	1300500012	1300570012	1	Rubber tip
42	1300360155N	1300000155N	1300000155N	1	Steel pressure ring cablebuckle

## 9. Declaration of conformity

### EC-DECLARATION OF AGREEMENT FOR MACHINERY

(Directive 2006/42/EC, Annex II, under A)

Supplier: Bouwmachinefabriek Lievers B.V.

Address: Groot Mijdrechtstraat 68, 3641 RW Mijdrecht

Hereby declares that

#### **The poker vibrators LHF en HS:**

1) comply with the regulations for the Machine directive (Directive 2006/42/EC) , EMC-Directive (Directive 2004/108/EC), Directive 2002/44/EC and Directive 2002/49/EC

2) comply with the following harmonised standards: NEN-EN-60204-1 (2006), NEN-EN 12649, EN 60034-5 (2001), EN 50144-1 , EN 60034-1.

Mijdrecht, 1 June2010

Supplier: Bouwmachinefabriek Lievers B.V.

Address: Groot Mijdrechtstraat 68, 3641 RW Mijdrecht



Name: Mr. C.M. de Wit

position: Managing director