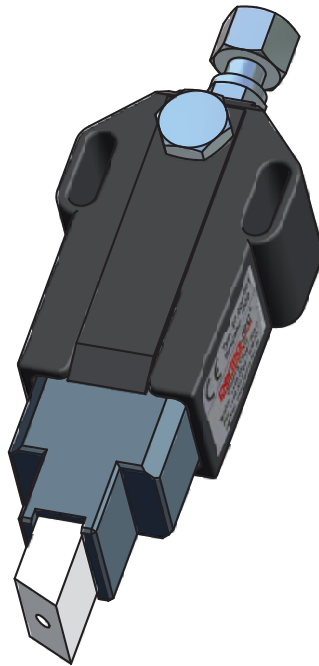


CRANE-WHEEL-LUBRICATION



Translation of the
Original Operating Instructions
perma
CWL- SYSTEM

Operating instructions for CRANE-WHEEL-LUBRICATION System (CWL)

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11 / 02 / 2009

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1 General notes / Safety instructions

General notes

Before mounting the CWL system, ensure that the kit is complete (refer to parts list on page 5) and check for any damage that may have occurred during transport. Read operating instructions carefully and store them in a safe place.

Safety instructions

The perma CWL system should only be used for purposes outlined in the operating instructions (see applications / page 6). And it should only be installed and operated by authorized staff. Installation must be carried out in accordance with national standards (e.g. IEC, VDE).

EC Certificate of Conformity

In accordance with EC directive for machinery 98/37/EC^[1]:

In accordance with EC directive for machinery 2006/42/EC^[2]:

Manufacturer: perma-tec GmbH & Co. KG
Hammelburger Straße 21
97717 Euerdorf, Germany

hereby declares that the product as described in the given statement conforms to the regulations appertaining to the directives referred to above, including any amendments thereto which are in force at the time of the declaration.

Product: Crane-Wheel-Lubrication Applicator Assy

Product name: perma CWL

The following harmonized standards were applied:

EN ISO 12100-1: 2003

EN ISO 12100-2: 2003

Euerdorf, 11 February 2009

perma-tec GmbH & Co. KG

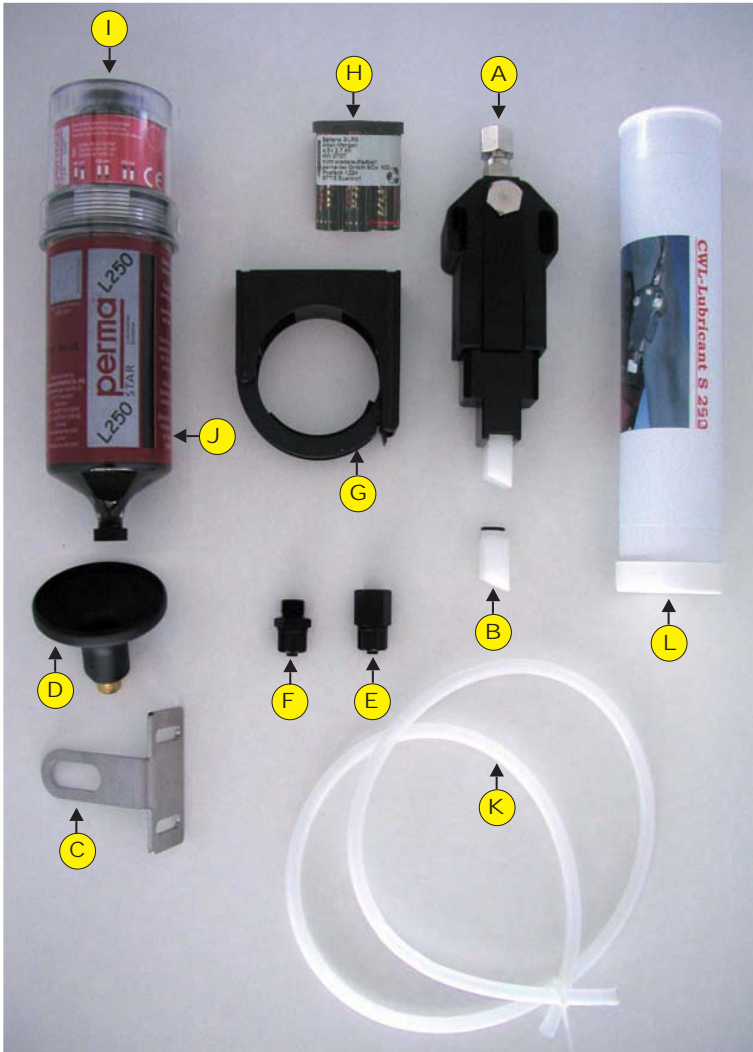
Walter Graf
Managing Director

Egon Eisenbacher, Technical Management
and authorized documentation representative
(see manufacturer address)

This declaration certifies conformity to the directives referred to, but it is not a warranty for qualities. Safety instructions of the operating manual are to be observed.

1. Directive 98/37/EC is valid until and including the 28th of December 2009.
2. Directive 2006/42/EC is valid as of 29 December 2009.

2 Content of the CWL kit (illustration)



3 Parts list and re-order parts

The CWL kit is available in two versions:

- CWL kit with 400 g grease cartridge (page 4 part L)
Part no. 27 006 381
- CWL kit without 400 g grease cartridge
Part no. 27 006 300

Content of CWL kit / order # 27 006 381

Part	Name	Qty
A	CWL Applicator Assy - Emission sound pressure level < 70 dB(A)	1
B	CWL Applicator insert-replacement	1
C	Bracket (stainless steel)	1
D	STAR Support Flange G1/4a x G1/4i (brass/plastic)	1
E	Tube Connection f. perma G1/4i f. tube 8/6 mm (alu/plastic)	1
F	Tube Connection G1/4a f. tube 8/6 mm (alu/plastic)	1
G	Clip (plastic)	1
H	STAR VARIO Battery	1
I	STAR VARIO Drive	1
J	STAR LC L250 with S250	1
K	Nylon tube up to +80 °C aØ 8 mm x iØ 6 mm, 1 m	1
L	400 g cartridge with S250	1

New or replacement orders:

The following parts can be ordered from perma-tec:

Part	Name
27 006 381	CWL mounting set with 400 g cartridge
27 006 300	CWL mounting set without cartridge
27 006 002	CWL Applicator insert-replacement
162 250 387	STAR LC L250 with S250
21 000 000	STAR VARIO Battery

4 Application

The CWL system is used in all types of industries to lubricate wheel flanges on cranes.

Wheel flanges and rails of overhead cranes are subjected to high wear from friction, especially in dirty environments like the steel industry.

Friction is usually caused by an unfavorable relation of track and wheel base.

The one-sided load during lifting and driving causes a one-sided wear of the wheel flanges.

5 Advantages

- Reduces wear on wheel flanges.
- Reduces maintenance costs by increasing the service life of wheel flanges.
- Reduces the amount of lubricant used.
- Reduces crane down-time, caused by unscheduled maintenance, resulting in longer operating times.
- Quick and easy installation.
- Quick and easy LC-unit exchange without tools.
- No external power supply required.

6 Function

perma STAR VARIO pushes the special grease into the CWL Assy and to the applicator. The spring-loaded applicator applies the grease to the flange of the wheel.



Nylon tube
 Tube Connection G1/4a
 Tube Connection f. perma G1/4i
 Bracket (stainless steel)
 STAR Support Flange G1/4a x G1/4i
 LC unit
 STAR VARIO drive

Illustration 1+2: Installation example



CWL-Applicator Assy
 CWL Applicator Assy

When the first wheel of the crane turns, the grease is transported from the greased wheel flange to the side of the rail and from there to all wheels that follow (normally it is sufficient to lubricate the drive wheel only).

Such systematic lubrication reduces wear and damage of wheel flanges.

7 Installation instructions

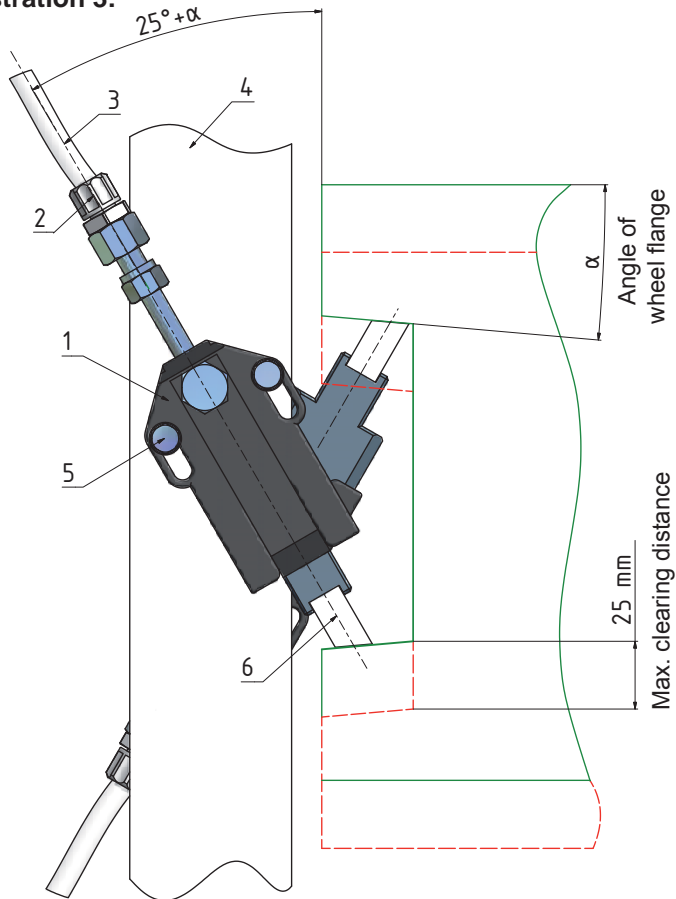
Assemble all parts of the CWL system according to the pictures shown on page 10 and 11.

- The CWL system can be mounted on the side or above the axle of the drive wheel using either a flat or L-shaped steel bar.
- When installing the CWL Applicator Assy, please consider that the axial bearing clearance of the wheel can be compensated by the spring tension of the CWL Applicator Assy. By mounting the CWL system at an angle below $25^\circ + \text{flange angle } \alpha$ (see drawing on page 10), a maximum clearing distance of 25 mm can be achieved.
- After installation, check the correct position of the CWL Applicator Assy. Adjustments are possible with the oblong holes of the CWL system.
- Before you turn perma STAR VARIO on for the first time, pre-lubricate the nylon tube with grease S250 using a commercially available grease gun and the enclosed grease cartridge (400 g volume).
- When you exchange the LC unit of perma STAR VARIO, check the position of the CWL Applicator Assy and the applicator insert. If the applicator insert shows signs of excessive wear, exchange it with the replacement applicator that is enclosed in the kit.

Clearing distances of more than 25 mm may be achieved with a special CWL plate. Please contact your perma distributor for more information.

8 Installation drawing of CWL Assy

Illustration 3:

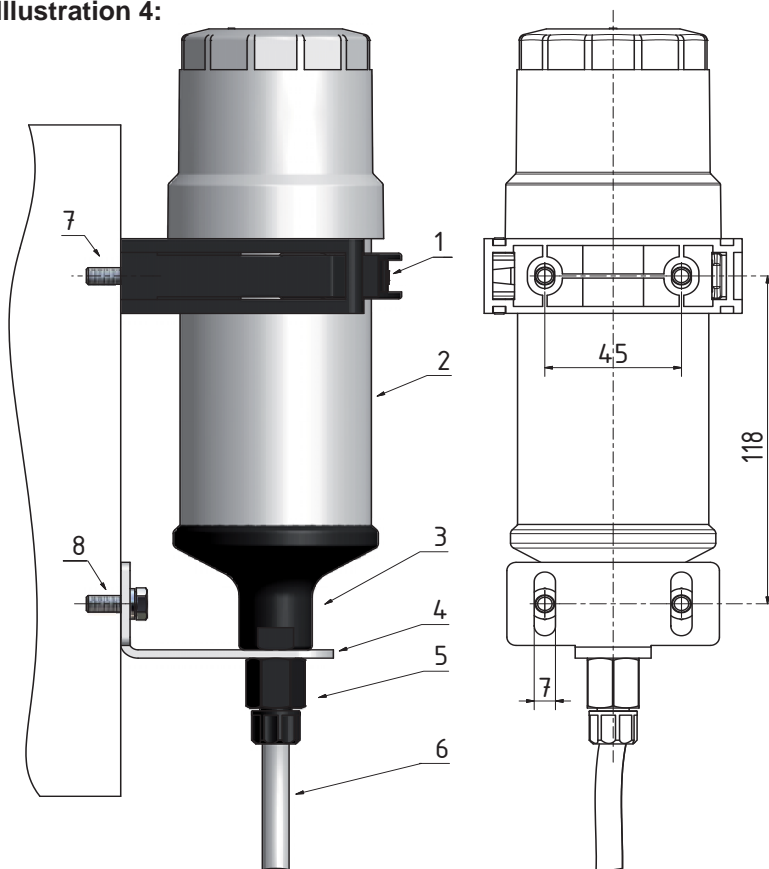


#	Qty.	Name
1	1	CWL Applicator Assy
2	1	Tube Connection G1/4a f. tube 8/6 mm (alu/plastic)
3	1	Nylon tube up to +80 °C aØ 8 mm x iØ 6 mm
4	1	Mounting plate (e.g. flat steel bar) *
5	1	Hexagon head screw M6x45 with disc *
6	1	CWL Applicator insert

* Not included in kit

9 Assembly drawing of perma STAR VARIO 250

Illustration 4:



#	Qty.	Name
1	1	Clip (plastic)
2	1	perma STAR VARIO with LC unit 250cc - S250
3	1	STAR Support Flange G1/4a x G1/4i (brass/plastic)
4	1	Bracket (stainless steel)
5	1	Tube Connection f. perma G1/4i f. tube 8/6 mm (alu/plastic)
6	1	Nylon tube up to +80 °C aØ 8 mm x iØ 6 mm, 1 m
7	2	Hexagon head screw M6x25 with disc *
8	2	Hexagon head screw M6x16 with disc *

* Not included in kit

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