SPINDLE GREASE LUBRICATOR PUMP
TYPE SC

For continuous lubrication of slipper pads at universal couplings.
The SPINDLE GREASE LUBRICATOR PUMP of Schwartz

The best solution for lubrication problems with universal joint drive spindles

Slipper bearings in coupling heads of universal joint drive spindles need an extremely effective lubrication performed in relatively small intervals due to the high loads they are opposed to. This particular tribology problem was the motive for Schwartz to develop the grease distributing SPINDLE GREASE LUBRICATOR PUMP Type SC.

The Lubricator is mounted onto the universal joint spindle (see photo). Grease carrying tubes connect the outlets of the lubricator pump with the coupling heads and slipper pads.

The lubricator follows the principle of a gear pump and thus allowing grease supply at very high pressure (see also illustration next side). Depending on size and point of installation, rollside or motorside, the lubricators feed between 40 gr and 250 gr of grease per hour and press it with pressures up to 100 bar between the contacting surfaces of slipper bearings and coupling heads.

Advantages of the SPINDLE GREASE LUBRICATOR PUMP

- Slipper bearings of bronze or engineering plastics are lubricated as effectively as coupling heads or spade end couplings with smallest quantities in shortest intervals and with relatively high pressure. This high pressure lubrication leads to essential prolongation of the service life of slippers. It is the reason for reduced wear in the steel parts of the coupling. This results in considerable cost savings.

- The design of the lubricator demands its concentric fixation onto the spindle. The lubricator has no grease container which need to be refilled. Therefore contrary to other known grease distributing systems the lubricator avoids imbalance which can be the reason for rather high repair costs.

- The conceptional design of the lubricator as an integrated element of the drive spindle effects the start and determines the duration of its action. Once the spindles begin to rotate the lubricators automatically feed grease to the slippers. This makes the lubricator independent from the human factor.

- The lubricator is subject to very little wear provided it is correctly fastened onto the drive spindle. Different possibilities exist for each situation.

The STP lubricator is the grease supply and distribution system of greatest reliability for universal joint drive spindles. It has proven its efficiency around the world.

If you like to get more detailed prospectus and references, please write and demand the technical questionnaire enabling us to work out the most suitable proposal.
The design of the lubricator:
(see sketch no.2, part A)

A **geared inner ring of steel** (1) is rigidly fastened around the **spindle** (2) with which it rotates. An **outer ring of cast iron** (3) glides on the shoulders of the inner ring; by means of a holding device, the outer ring is prohibited from rotating. Onto each flank of the geared part of the inner ring a **shoulder-ring** (4) in steel is bolted.

Two **housings in cast iron** (5) are fastened on the circumference of the outer ring being 180° apart from each other. In these housings, **gear wheels of LAMIGAMID** (6) mounted in roller bearings are combing with the geared inner ring.

The bottom gear wheel acts as a support for the outer ring and guarantees a uniform distribution of grease between all teeth of the inner ring. The top gear wheel effects the pumping pressure by which the grease is pressed through the leading tube.

All gear teeth of the inner ring are channelled in their crown part. Through these channels runs the grease. As many pairs of teeth as there are lubricant outlets to the slippers or to the coupling head do not have these grease channels. At the bottom of each such pair of teeth, having no grease channel, a bore is drilled (7) with the leading drill tube which is connected via a **valve of no return** (8).

The pairs of teeth together with the shoulder rings form pressure chambers. The rotating spindle with the inner ring is forwarding these pressure chambers to the top gear wheel where the actual pumping action is effected. By means of the consecutive rotations the top gear wheel presses the grease through the bores, the check valves and the tubes to the slippers and coupling heads.

Next to the above described type of STP lubricator two further special designs exist. One type having an outer ring made in aluminium is especially designed for drive spindles with rotations of over 400 RPM. Its design is to a large extent equal to the second special type (**sketch no.2, part B**) having additional **angled wear rings in bronze** (9).
15 different sizes for spindle diameters from 160 mm to 730 mm have been designed for horizontal mill stands.

For further information please contact our local representative or directly:

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