

CEMENT INDUSTRY

CRUSHERS

MULTI-LINE, PROGRESSIVE

- + GYRATORY
- + CONE
- + LOW SPEED SIZERS
- + FEEDER BREAKERS
- + ????????



CEMENT INDUSTRY

GRINDING PRODUCTS

OIL RE-CIRCULATION, SPRAY, DUAL LINE

- + BALL MILLS
- + SAG AND AG MILLS
- + ROD MILLS
- + LIME PREPARATION PLANT
- + ???????



CEMENT INDUSTRY

FLOTATION

DUAL LINE, PROGRESSIVE

+ FLOTATION CELLS

+ SMART CELL FLOTATION

+ ETC, ETC, ETC



CEMENT INDUSTRY

CLARIFIERS AND THICKENERS

MULTI-LINE, LUBESITE

- + SLURRY MIXERS AND AGITATORS
- + FEED DILUTION SYSTEMS
- + TRACTION THICKENERS
- + SWING LIFT THICKENERS
- + LIME SLAKERS
- + FEED DILUTION SYSTEMS
- + ETC, ETC, ETC

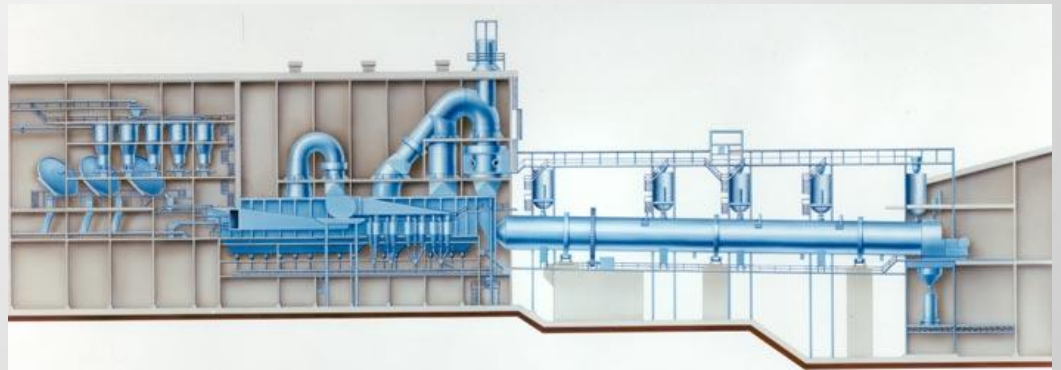


CEMENT INDUSTRY

PYRO PROCESSING

OIL RE-CIRCULATION, SPRAY, MULTI-LINE, DUAL LINE

- + KILNS
- + DRYERS
- + COOLERS
- + LEPOL GRATE SYSTEMS

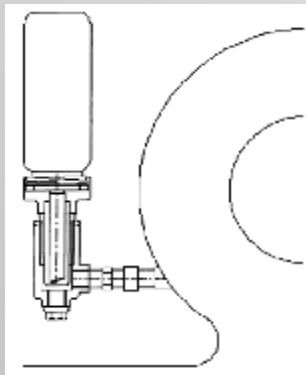


CEMENT INDUSTRY

PUMPS

AIR-OIL, LUBESITE, CONSTANT LEVEL OILERS

- + CENTRIFUGAL
- + SLURRY
- + POSITIVE DISPLACEMENT
- + FILTRATE
- + ETC



CEMENT INDUSTRY

MATERIALS HANDLING

- + APRON FEEDERS
- + CONVEYORS
- + CHAIN FEEDERS
- + ROLLER SCREENS
- + STACKERS & RECLAIMERS
- + DUMP TRUCKS



System description

T-Mon Spraying System



PURPOSE OF THE SPRAYING LUBRICATION SYSTEM

With the spraying lubrication systems the lubricant is applied selectively and in metered quantities onto surfaces (e.g. teeth flanks) in order to ensure reliable lubrication.

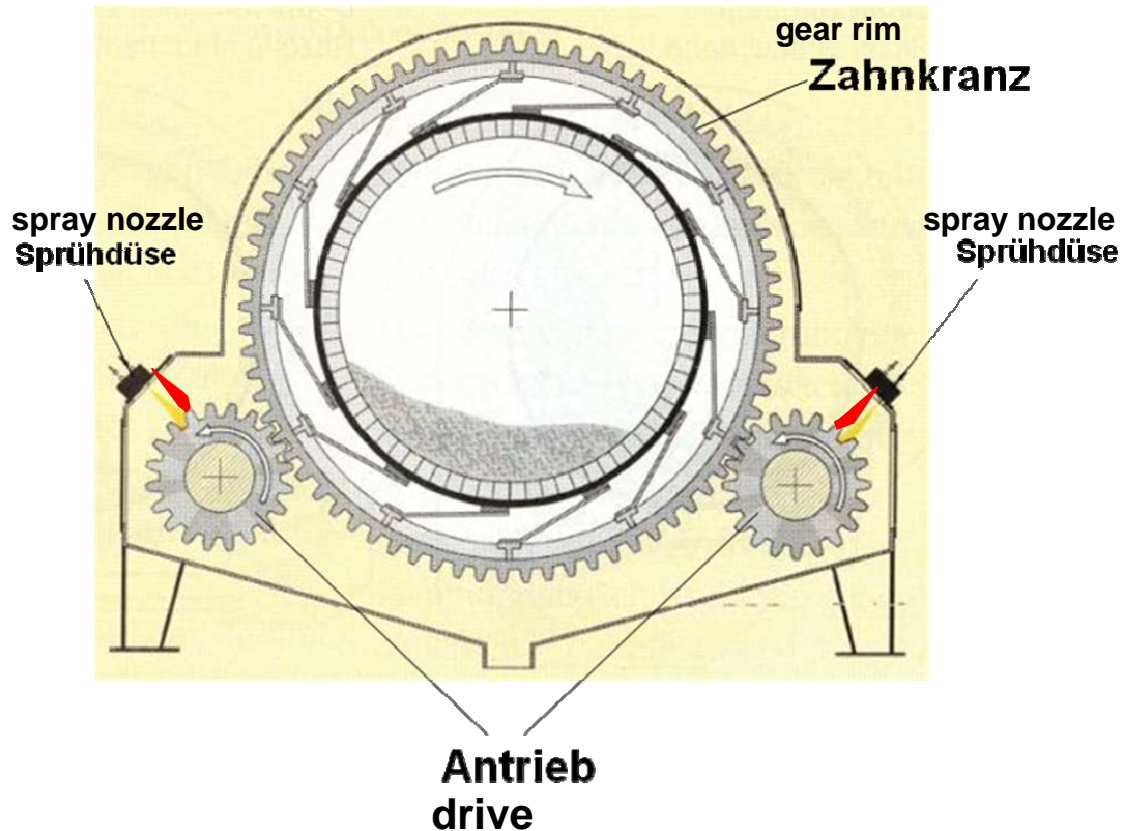


Fig. 2: cross-section through a cement mill with 2 drive pinions

The frequency of lubrication is based on defined intervals in most cases, in particular alternating intervals during the running-in phase and continuous operation phases, for heavy-duty gearing. The mechanical construction of the spraying lubrication system and the freely programmable electrical control satisfy these requirements. We refer to these as "pulse lubrication systems".

The continuous spraying-on of a quantity of lubricant suited to the operating conditions would be ideal in particular for heavy-duty gearing drives. However, this is not possible because of the mechanical sequence in the spraying lubrication systems. Furthermore, the constantly flowing compressed air, which distributes the lubricant through spray nozzles onto the teeth flanks, considerably increases operating costs.

Accordingly pulse lubrication systems have proved successful for years without the need to consider any compromise.



FUNCTIONING OF THE SPRAYING LUBRICATION SYSTEMS

The individual components in the spraying lubrication systems described already are explained in the following with the aid of three examples as a cohesive system.

Simple systems for spraying lubrication with a nozzle

The “simple” system consists only of components absolutely necessary for the system to function. This shows an intentionally inexpensive alternative. To make it easier to understand, the function is presented in a diagram, with electrical feed pump (Fig. 13) and pneumatic feed pump (Fig. 14).

System 1:

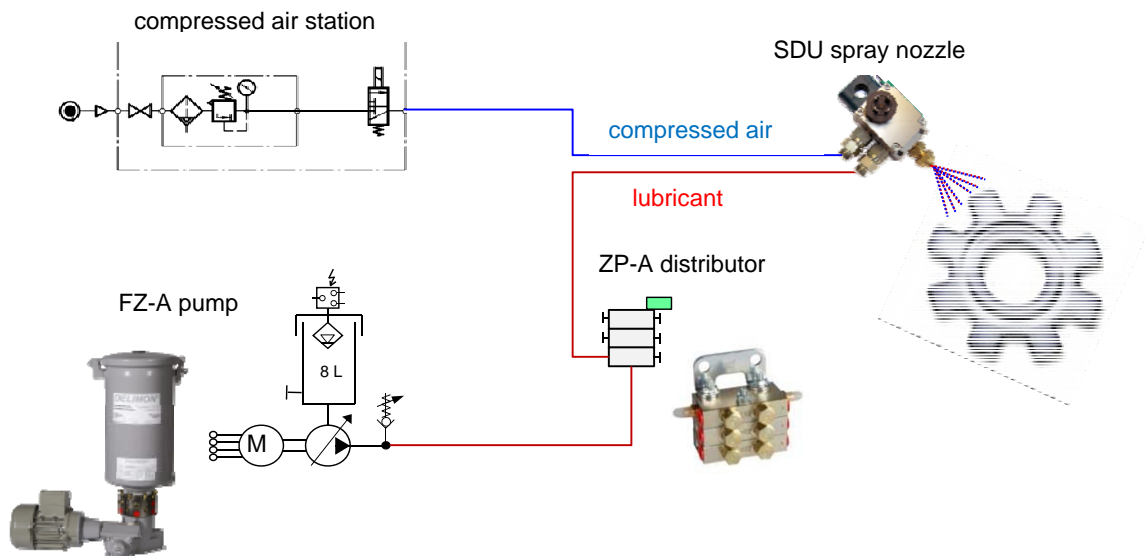


Fig. 13: Simple system with electrical pump

System 2:

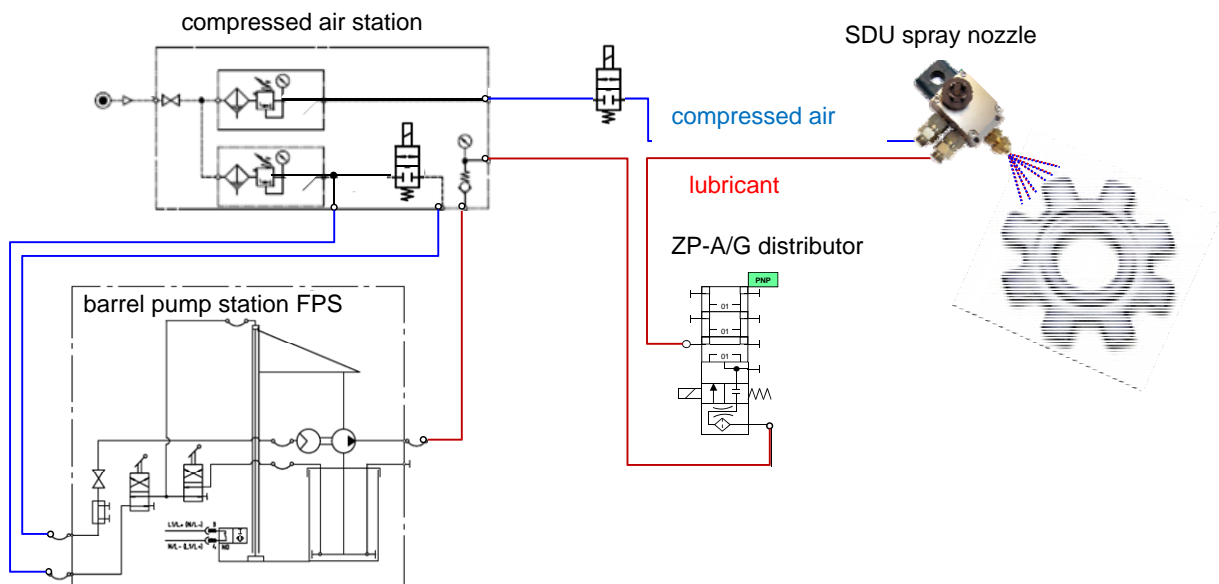


Fig. 14: Simple system with pneumatic pump

