

Two-line Systems



Application

- Large systems with dispersed lube points
- Varying lubrication quantities
- Ideal for rigorous conditions (e.g. coldness)

Sample applications:

Large systems using grease up to NLGI 2

Industries

Cement plants, steel mills, power plants, mining, large machines

The advantage of a two-line system is that it supplies an exact metered quantity of lubricant from one pumpstation over large distances.

The metering devices are operated by two main lines, whereby here the lubricant is simultaneously the control medium of the system.

The two-line system can be combined with secondary progressive metering devices, thereby increasing the total number of lubrication points that are served by a two-line metering device.

Capabilities

- Lincoln's high pressure capability allows small diameter tubing to be used, thereby reducing installation and material costs. Additionally, this reduces the amount of grease in the tubing which over a long period of time may deteriorate.
- Visual or electric monitoring of each metering device outlet pair.
- If a bearing clogs or a metering device outlet fails to function, all other outlet pairs will continue to function normally.
- Simple and individual metering of lubricant.

- Problem-free readjustment of metered lubricant output after installation.
- Optimum monitoring and control possibility with a field bus system.
- Easy to extend.

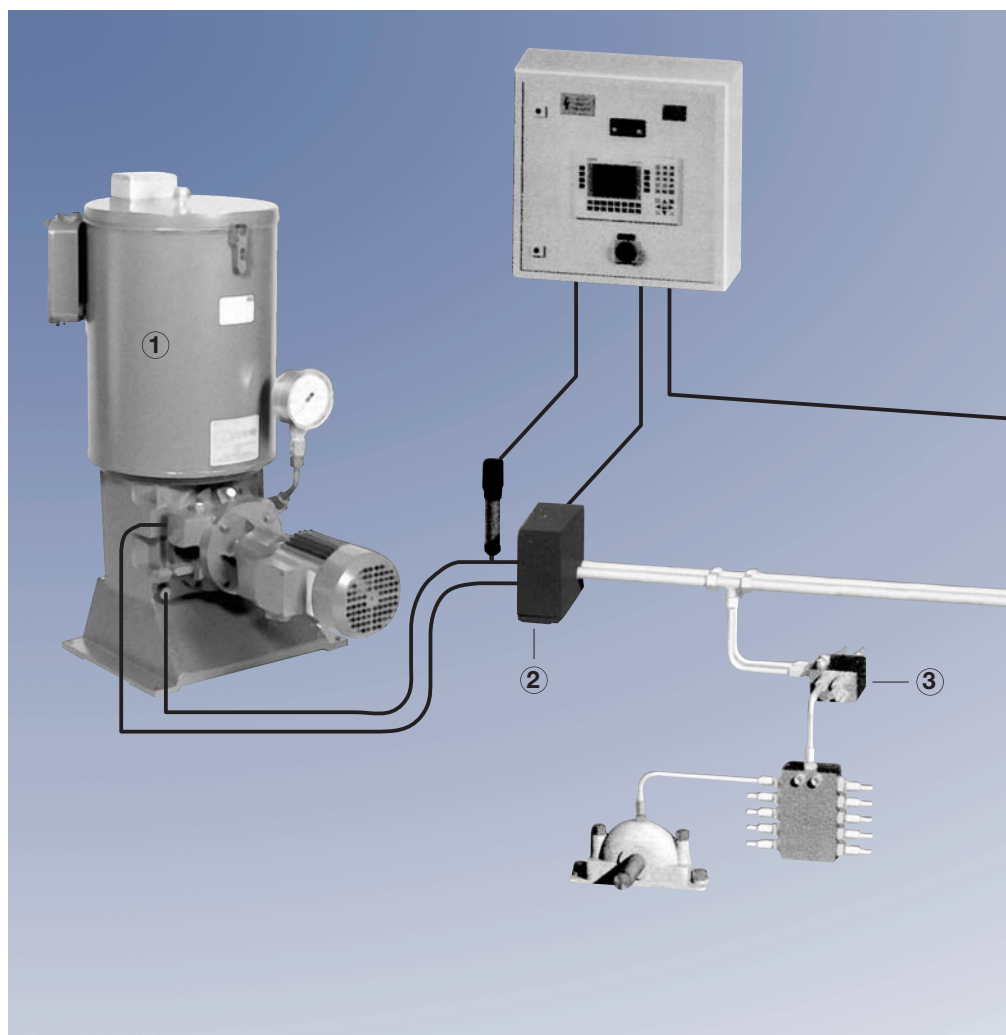
The Self-thinking System

The special components of a Lincoln self-thinking two-line system adjust the system to the optimum required pressure. Conventional two-line systems operate on a fixed pressure difference principle. This means that the change-over process is then initialized when a fixed pressure at the end of the lines has been reached.

Consequently, the system always operates at a maximum pressure.

With the Lincoln self-thinking two-line system, the pressure is constantly monitored and modified accordingly. The system thereby automatically regulates the pressure and can compensate for temperature fluctuations. Manual adjustments of the system, even during installation, are no longer required.

Since only the effective required pressure is generated during each lubrication cycle, the pump and other system components have a longer service life, the system always operates in its



Schematic Two-line System

A further advantage is the direct display of all important parameters on the controller.

This enables full monitoring of the system and the pump.

Function of a Two-Line System

In the first half-cycle, the lubricant is pumped into the main line (A) and the main line (B) is connected to the relief line. The lubricant, which is also the control medium for the system, is supplied to the metering devices. The pistons of the metering devices are moved into their adjusted end positions, thus dispensing an exact metered quantity of grease. Once all metering devices have dispensed their lubricant to the consumption point, the system is hydraulically

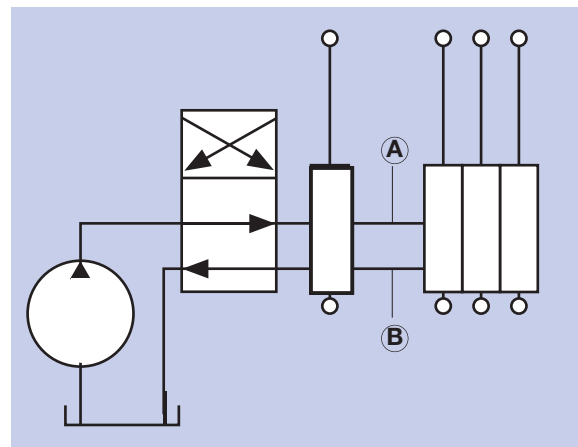
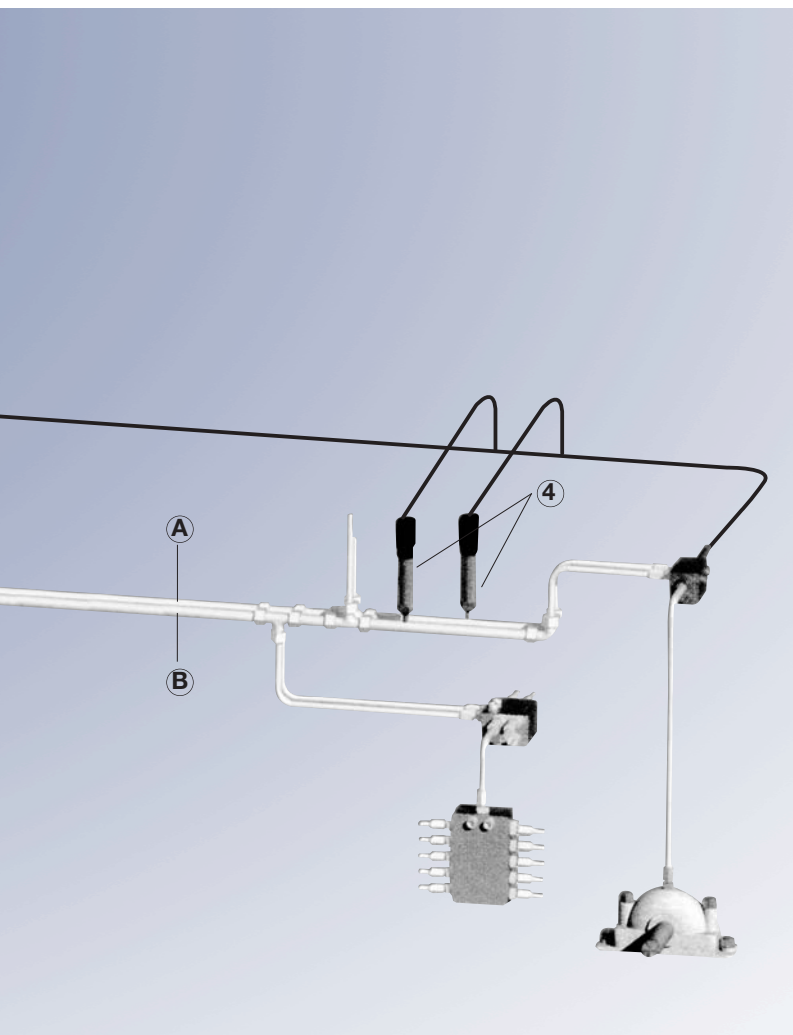
closed which causes the pressure in main line (A) to rise, and is measured by the pressure transducer. The control unit turns the pump off and signals the change-over valve to relieve main line (A).

At this point half of the lubrication points in the system have been lubricated. In the second half-cycle, main line (B) is pressurized and the cycle continues as before.

Common Components

pumps with reservoir: for drums:	HJ2 manual pumps, ZPU01/02, ZPU08/14/24 electric pumps PowerMaster pneumatic pumps*, Lubrigun pneumatic pumps
metering devices:	VSG, VSL, VSKH, VSKV
change-over valves:	DU1 pressure change-over valve EM-U2 electric change-over valve MP2 pneumatic change-over valve MHY1 hydraulic change-over valve

**Not covered in this catalogue – ask your Lincoln representative for details.*



Schematic Two-line System

Legende

- ① Pump
- ② Change-over valve
- ③ Metering devices
- ④ Pressure transducer
- Ⓐ, Ⓑ Main line