

OIL-AIR LUBRICATION SYSTEM FOR ROLLING MILLS

APPLICATION

The lubrication pump for rolling mills with an oil-air system is used for permanent, regular lubrication and cooling of bearings with an oil-air mixture. The change-over valve OVS4 mixes the oil with the pressure air flow into a mixture, which is distributed by the pipeline to the individual lubricated points. The oil-air mixture lubricates the lubricated points and cools them at the same time and makes overpressure in the lubricated points to prevent impurities from entering from the surrounding environment.

DESCRIPTION

The basic parts of the oil-air lubrication system for lubricating rolling mills are lubrication pumps (e.g. Z2, UCD), automatic control device and an oil-air base plate.

The main parts of the base oil-air plate are change-over valves OVS4, two-line dosing devices DDA-P-Zn 04-2.5, hand stopcock RUK, one-way valves and interconnecting pipe unions. The device creates a compact unit, which can be easily disconnected, disassembled and replaced with a reserve device in case of a failure. It is to be attached using four screws through holes Ø 10 mm in the base plate. The pressure oil source for this device is a two-line lubrication pump, preferably with a hydraulic change-over valve whose outlets are to be interconnected using pipelines, hydraulic hoses with a hand stopcock RUK. Two two-line dosing devices DDA-P-Zn 04-2.5 are connected in series to the hand stopcock. Outlets from the two-line dosing devices are interconnected with one-way valves, which are connected to the change-over valves OVS4. The one-way valves serve to prevent the pressure air from entering from the change-over valve into the two-line dosing devices and possibly into the whole lubricating circuit.

The pressure air is lead into the first change-over valve using a pipe or a flexible hose connected to the neck of the pipe union with the connecting thread M26x1.5. The air flows through this change-over valve and the interconnecting union into the second change-over valve.

OPERATION

The pressure air flowing into the output hole of the change-over valve OVS4 breaks the delivered oil away from the oil inlet and makes the oil-air mixture in the widened part of the output hole. The quantity of the delivered air is adjusted using an adjusting screw. After the required air quantity is adjusted, the adjusting screw is to be locked by a safety nut.

SERVICE AND MAINTENANCE

The lubrication pump does not require any special maintenance. Repairs on the lubrication pump must be carried out only when the pressure air supply is disconnected.

The operator or a responsible person designated by the user must carry out a visual inspection of the outside of the lubrication pump every time the device is put into operation, primarily inspection of connections of the hydraulic and pneumatic circuit.

TECHNICAL DATA

Maximum oil pressure	100 bar
Air pressure	10 bar
Lubricant	oil 20 to 400 mm ² /sec.
Oil-air mixture dose	adjustable 0 to 18 m ³ /hour
Inlet and outlet union (neck) – air	M26x1.5
Inlet and outlet union (neck) – oil	M16x1.5
The outlet oil pipe union (neck) + air	M16x1.5
Temperature of the working environment	-25 to 80°C
Weight	21.8 kg

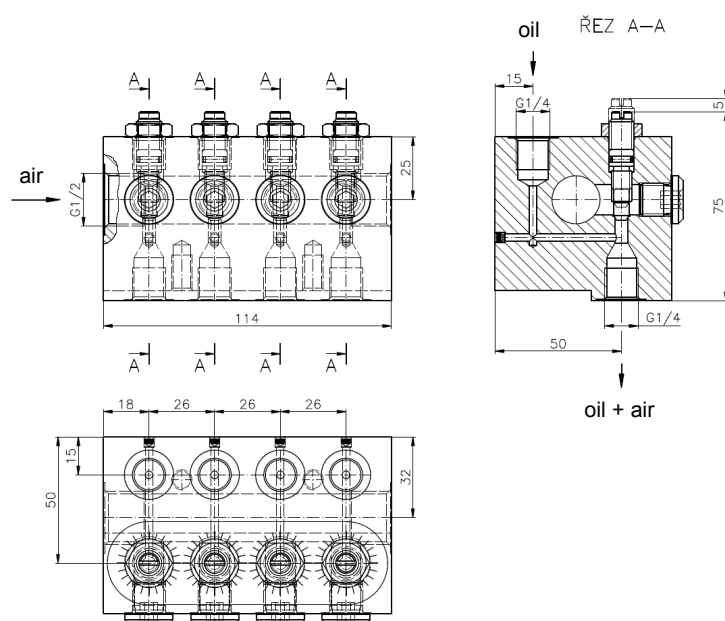


Fig. 1 Mixing device OVS4

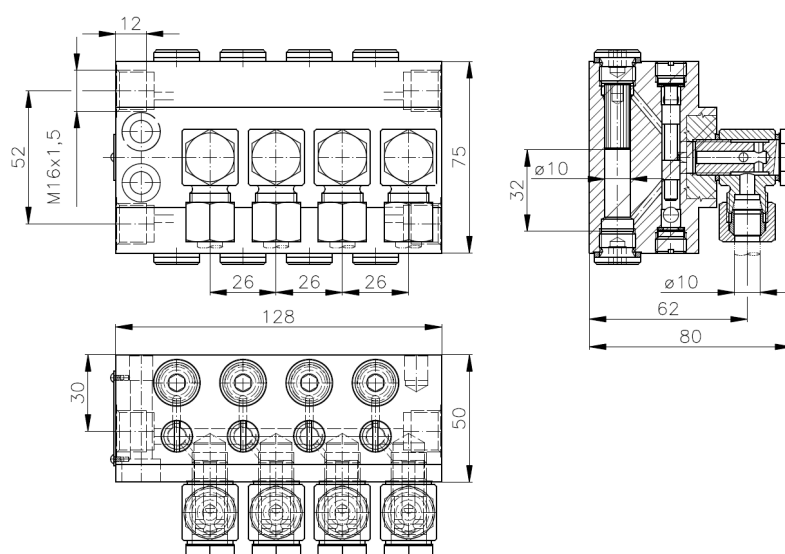
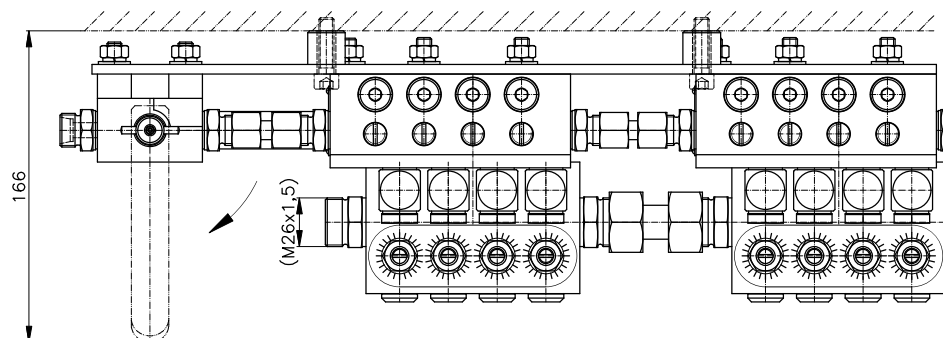
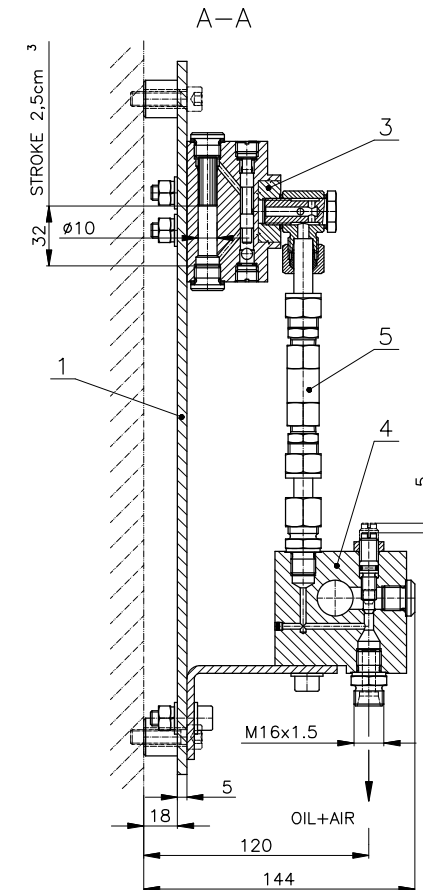
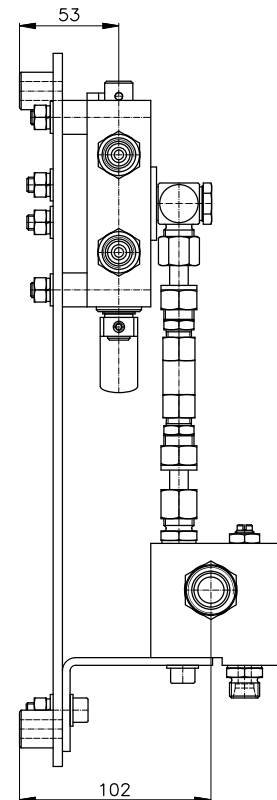
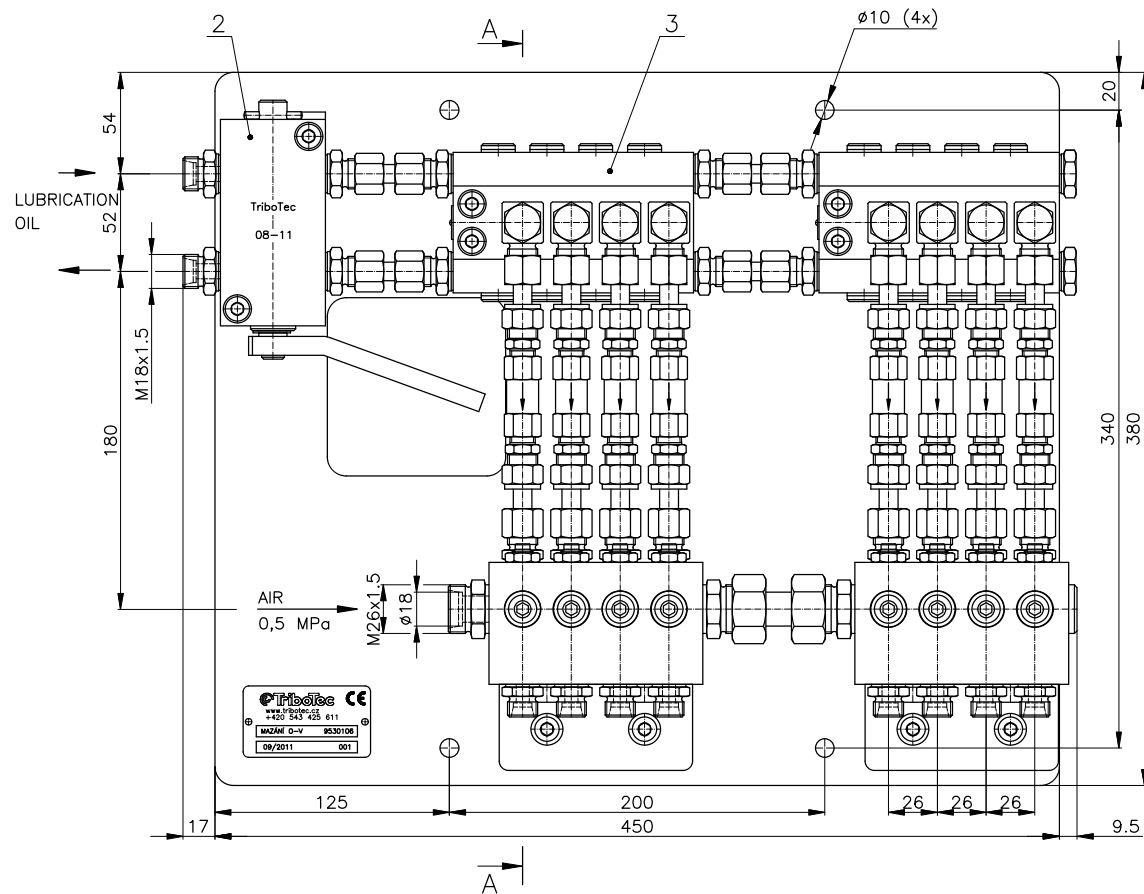


Fig. 2 Two-line dosing device DDA-P-Zn 04-2.5



Pos	Name
1	Base plate
2	Manual stopcock RUK
3	Two-line dosing device DDA-P-Zn 04-2,5
4	Change-over valve OVS 4
5	One-way valve

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Type	ROLLING MILL LUBRICATION	
Code	9 35 0106	