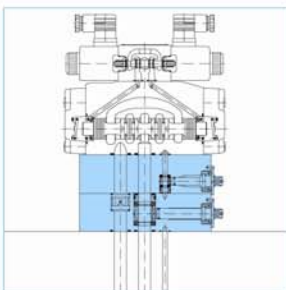
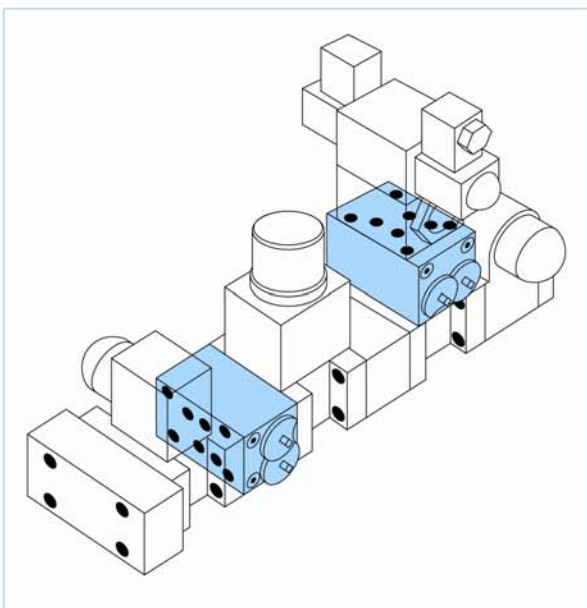


# Ball valve-combinations

## Sandwich plates · Technical information

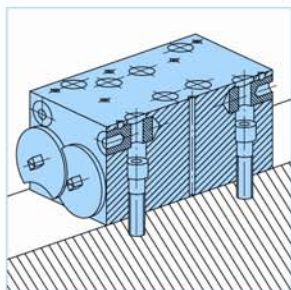


**Shut-off plates and sandwich elements for interconnected systems**



**Operation setting:**

Sandwich plate with the solenoid valve mounted on top



**Repair setting:**

Passages inside the sandwich plate shut-off; plate remains bolted to the hydraulic control block. Solenoid valve removed.

**The previous situation:**

The large number of control elements means large systems susceptible to malfunctions. If, for example, a solenoid valve at the central hydraulic system for an aluminium rolling mill failed, the controlled component would have to be operated manually or production would have to be suspended to change the valve.

This replacement makes it necessary to depressurize the system, to prop up external loads which cylinders are supporting and to drain the fluid from the riser lines to the cylinder. Once the solenoid valve has been changed, the lines will have to be refilled and bled.

**Our solution for the problem:**

With the use of our sandwich-plate, which is bolted separately to the control block, all the channels through the plate can be blocked and the directional-control valve can be replaced without having to depressurize or drain lines and without affecting the other control units on the same block. All channels are open during normal operation. The operating handle can be removed to prevent unauthorized actuation.

**Advantages:**

- full bore design causes no pressure drop
- significant reduction in hydraulic system downtime
- no need to drain fluid, bleed air or refill the system
- simplified start-up and maintenance due to the ease of changing flushing plates and directional valves
- pressure can be maintained in cylinders so that the supported loads do not need to be shored up
- standard mounting and porting patterns allow retrofit without rework
- proprietary design increases safety by utilizing separate mechanically isolated bolts for mounting the sandwich-plate and directional valve; removing the directional valve cannot accidentally loosen the sandwich-plate

**Applications:**

For liquid media as per the compatibility table in the technical data appendix

**On request:**

Limit switch, proximity switch, locking devices; also available in other materials and combinations