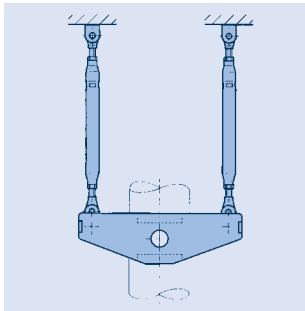


Dynamic clamps

Type 34

Dynamic stresses frequently arise in the direction of the pipe axis (e.g. from shock impacts or other forms of excitation). To absorb these loads the special dynamic clamp type 34 was developed.

In vertically and horizontally running pipe systems, special clamps are being increasingly used for the defined determination of the pipe system positioning and also for the absorption of dynamic stresses in the direction of the pipe axis. The loads thereby occurring must be distributed via a form-fitting connection to the piping (trunnions). For this purpose LISEGA has developed the dynamic clamp type 34.

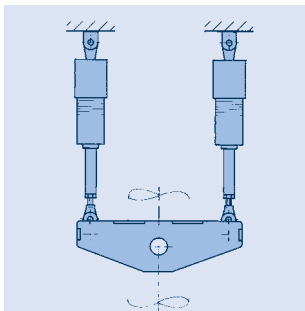


Type 34 as axial stop with spacer



Type 34

The basis of this design was the long time successful box-frame clamp type 46/48. The load distribution in dynamic clamp type 34 is effected by the use of reinforced cross-beams with weld-on brackets type 35 for connection to the dynamic main products type 30, 32, 39.



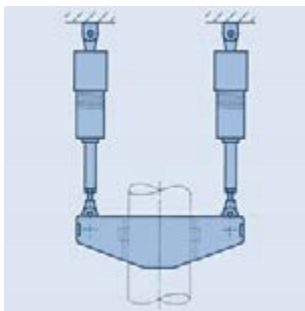
Type 34 with snubbers type 30 and trunnions

Design

For the design of the dynamic clamps type 34 the following parameters are required:

- load (dynamic, static)
- pipe system temperature
- insulation thickness
- span width of the connections
- connection size and alignment of weld-on brackets type 35
- trunnion sizes
- trunnion tolerances
- position (horizontal/vertical)
- main components connected (type 30, 39, 32)
- twist restraint/recess dimensions if required
- spacer if required

Due to the wide range of possible combinations and design parameters, dynamic clamps type 34 are designed individually on request.



Type 34 with rotated trunnion hole and snubber type 30



Type 34 with snubbers and position-securing devices

Securing positions

Position-securing measures ensure that the clamp cannot angle around the pipe (with the trunnion as pivot). The position-securing device is not dynamically stressed. It is either a recess in the trunnion socket-hole or additional plates.



Type 34 with recesses



Type 34 with additional plates



Horizontal axial stop with rigid struts type 39 and pipe clamp type 34



Pipe system secured with snubber type 30 on dynamic clamps type 36