

## Accessories

In addition to the spacer plates (GN 2370 and GN 7247.2) available for compensating or positioning in the third plane, there are two other accessory parts that enable simple and universal fastening of the multiple-joint hinges.

- Plates (Stainless steel) with threaded studs (GN 2376 and GN 7247.6).
- Plates (Stainless steel) with tapped holes (GN 2372 and GN 7247.4).

Using the different plates can eliminate the need for other parts during mounting. For example, bolts, nuts or even washers as well as any threaded holes in the surrounding construction can be eliminated in this way.

If necessary, the plates also be welded to the housing, allowing the hinges to be removed and reinstalled as often as necessary for maintenance or repairs. If the plates are installed inside the housing, the exterior surfaces remain free of visible parts. This is ideal for applications with special design standards or when simple cleaning is required. Installed on the inside or outside, the plates also protect against vandalism because there are no accessible fastening screws.

## Special versions

In the case of special requirements, it may be that none of the standard hinges will serve as desired, such as when the kinematics leads to collisions or additional options are required. To still offer a solution for such cases, it is possible to develop hinges with changes to the following specifications, given a sufficient minimum order:

- **Other opening angle:** Based on the seven joints, it is fundamentally possible to realize opening angles from 0 to 180°. Depending on the application, an angle of up to 270° is possible. For large opening angles, a simple design check via CAD is recommended in advance. This allows collisions to be identified early and corrected.
- **Other fixing angle piece or fastening flange:** Depending on the needs, different fastening geometries can be provided. The position and quantity of fastening holes can be changed as needed. Only the connection to the hinge itself must remain identical if a standard hinge is to be used.
- **Other max. wall thicknesses:** If the listed nominal wall thicknesses of the housing, doors, flaps and hatches are not sufficient, the hinges can be modified to permit larger or smaller wall thicknesses with the given opening angle. However, this will alter the movement kinematics slightly.
- **Other lifting motions:** The opening and closing kinematics of a hinge can be changed as desired. For example, a hinge could first perform a lifting motion and then a pivoting motion or vice versa. Collisions with the housing or other nearby parts can be avoided in this way.
- **Other materials:** The multiple-joint hinges can be made of other materials, such as galvanized steel, stainless steel or aluminum to meet special requirements such as low weight, high corrosion resistance or higher load capacity.
- **Other surfaces and colors:** Multiple-joint hinges can be delivered with a variety of surface finishes, such as paint or a plastic coating. Various colors can be applied to the aluminum hinges by anodizing. The stainless steel variants can be blasted, brushed or polished, if desired.
- **With latching:** Multiple-joint hinges can be fitted with latching elements, such as indexing plungers or spring plungers, depending on the application. This allows the hinges to be latched at any positions within the opening angle or to be briefly stopped until a specific force is applied. For example, hatches or flaps can be secured in open position until a maintenance or repair measure is finished.
- **With pneumatic spring connection:** Flaps and hatches are often combined with pneumatic springs that make them easier to open or hold them in a defined end position. To reduce the number of attachments, pneumatic springs can be attached to one of the fixing angle pieces of the hinge itself (generally on one side).
- **With reinforced design:** When installed in doors, multiple-joint hinges in stainless steel can only accept relatively low loads due to their small cross-section. Larger loads can be achieved, if necessary, with a reinforced design consisting of a multi-layered arm geometry (e.g. two or three layers).

