

## Swivel joints

Pipelines, which are rigid structures, can be rendered movable by using EMCO swivel joints. This is necessary where the use of a hose is unacceptable. The pipelines lose none of their characteristics for carrying fluids, in fact they gain the advantage of 360° rotation in all planes. EMCO swivel joints are used where easy handling, operational safety and low-wear characteristics are required.

The rotation function is achieved by means of one or two integrated ball tracks-comparable to ball-bearing. The ball track is hardened and precision ground, with the exception of the aluminium version.

Sealing is achieved by means of a product specific seal, which is pressed against the axial sealing surface by its prestress or spring. The sealing surfaces of carbon steel versions are plated with stainless steel and precision finished. Sealing systems according to TA Luft (regulation for air protection) are available.



Deep hardened ball tracks for highest loading capabilities

The load capacity of the joint is determined by the combination of internal pressure, bending moment and weight. Therefore, only we can determine the permissible load in each individual case. In any case, this load will be above the permissible load for the weld end.

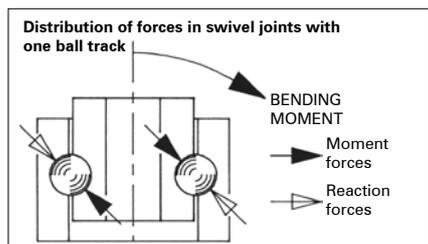
Regular external visual inspection will usually suffice as far as maintenance of the EMCO swivel joints is concerned. Each unit is accompanied by instructions describing maintenance and relubrication if necessary.



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## Dimensions and technical data



### Basic configuration

EMCO WHEATON swivel joints can also be supplied in the configurations shown below. The indicated style numbering is used internationally (international style).

### Basic types

#### Swivel joints for medium duty

Swivel joints made of aluminium. The ball tracks are unhardened. Because of this only a moderate load is permissible. Main area of use: EMCO loading arms for road and rail tankers and EMCO floating suction systems.

#### Swivel joints for heavy duty

Swivel joints for one or two hardened and polished ball tracks. Sealing surfaces plated with stainless steel. The swivel joints are internally flanged, making the seals easier accessible.

Basic forms D2000 sandwich design (flangeable) and D1010.

Main area of use: articulated pipelines of all kinds.

#### Swivel joints for heavy duty with encapsulated ball track

Variants of basic forms D2000 and D1010. The ball tracks are encapsulated so that the liquid cannot get into the ball tracks in the event of a leak. Leak control ports allow the leakage to escape for visible indication.

Main area of use: articulated pipelines of all types, especially for media that would destroy the ball tracks in the event of a leak.

#### Swivel joints for heavy duty with heating jackets

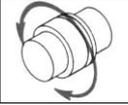
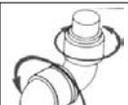
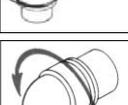
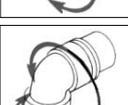
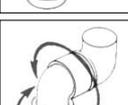
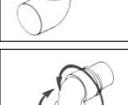
Variants of basic form D2000. The heating jacket can be heated with water, steam or oil.

Main area of use: piping of products that lose their fluidity at ambient temperatures.

#### Swivel joints for heavy duty special applications

Further development of basic forms D2000 and D1010. Swivel joints for solving very special problems (lined swivel joints, safety swivel joints, etc.)

Main area of use: Piping of products to which normal metals are not resistant, piping of highly dangerous products, piping of cryogenic products.

Style	Description
 Style 20 straight swivel joint	360° rotation around one axis
Style	Description
 Style 40 sing swivel joint with two elbows	360° rotation around one axis
Style	Description
 Style 50 double swivel joint with one elbow at one side and straight at the other side	360° rotation around two perpendicular axes
Style	Description
 Style 10 triple swivel joint straight on both sides	360° rotation around three perpendicular axes
Style	Description
 Style 30 single swivel joint with elbow at one side	360° rotation around one axis
Style	Description
 Style 60 double swivel joint straight on both sides	360° rotation around two perpendicular axes
Style	Description
 Style 70 double swivel joint with two elbows	360° rotation around two perpendicular axes
Style	Description
 Style 80 triple swivel joint with one elbow at one side and straight on the other sides	360° rotation around three perpendicular axes

### To assure that your inquiry or order will be handled correctly we require the following data:

- quantity
- type
- diameter
- material of product carrying parts
- material of seals (if not specified differently Buna-N will be supplied)
- connection (e.g. DIN 2633 flange)
- product
- product temperature (min and max)
- operating pressure in bar
- international style
- special operating conditions

SMAILE-PLUSS SIA. LV1007. Riga. 79A Slokas str. Latvia +37129214098

## Fluid Transfer Division

# EMCO WHEATON

A Gardner Denver Product

EMCO WHEATON GmbH

Emcostraße 2-4 · 35274 Kirchhain · Germany

Phone +49 6422 84-0 · Fax +49 6422 5100

www.emcowheaton.com · sales-de@emcowheaton.com

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