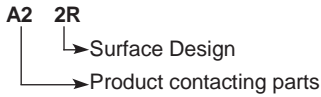


# Material and Design

## Stainless steel

key



**Material:**

- A2** Stainless steel, AISI 304 ( 1.4301) and 304L (1.4307)
- L4** Stainless steel, AISI 316L (1.4404) and 316L (1.4435)

\* „Protection polishing“ is performed in an acid bath with the help of electric current.

\*\* „Electrolytic Polishing“ is similar to protection polishing. The dwell time is longer and special electrodes are adapted.

Closed cavities are not allowed in these two procedures, purge ports must be present.

\*\*\* „ViwateQ® Finish“ is a special finishing treatment for stainless steel. It ensures a save passivation and offers benefits in cleaning and handling, especially combined with fatty foods. The surfaces are uniformly metallic dull.

ViwateQ® Finish does not strike the surface, but goes along the surface and simultaneously removes the higher sharp peaks. This creates a wavy pattern, a kind of lotus effect. Therefore micro-organisms, but also proteins, are directly on the surface and are thus easier to remove. Also for some applications with dry cleaning.

**Surface design:**

- 1** Stainless standard design  
**In- and outside:** All welding seams brush cleaned.  
**Finishing treatment:** Protection polished\*, metal chemically cleaned or chemical pretreated and cleaned by slide grinding.
- 2** Easy to clean design.  
**Inside:** All welding seams continuously welded and brush cleaned.  
**Outside:** Welding seams brush cleaned. Tack and spot weldings possible.  
**Finishing treatment:** Protection polished\*, metal chemically cleaned or chemical pre-treated and cleaned via slide grinding.
- 2R** Easy to clean design for higher requirements with regard to hygiene.  
**Inside:** All welding seams continuously welded, levelled and grounded. Surface roughness Ra 2.5-3.2 µm  
**Outside:** Welding seams brush cleaned. Tack and spot weldings possible.  
**Finishing treatment:** Protection polished\* respectively metal chemically cleaned.
- 2RV** as 2R, but finishing treatment ViwateQ® Finish\*\*\*.

- 3** Easy to clean design for high requirements with regard to cleaning and hygiene in dry or wet areas.  
**Inside:** All welding seams continuously welded, levelled and grounded. Surface roughness Ra < 0.8 µm  
**Outside:** Welding seams continuously welded and brush cleaned.  
**Finishing treatment:** Protection polished\* respectively metal chemically cleaned.
- 3V** as 3, but finishing treatment ViwateQ® Finish\*\*\*.
- 3R** Easy to clean design for very high requirements in regard to cleaning and hygiene in dry or wet areas. **Inside:** All welding seams continuously welded, levelled and grounded. Surface roughness Ra < 0.8 µm  
**Outside:** All welding seams continuously welded, levelled and ground. Surface roughness Ra < 0.8 µm  
**Welding seams** Ra < 1.2 µm  
**Finishing treatment:** metal chemically cleaned.
- 3RV** as 3R, but finishing treatment ViwateQ® Finish\*\*\*.
- 4** Easy to clean design for highest requirements in regard to cleaning and hygiene in dry or wet areas, surface resistant to sterilization.  
**In- and outside:** All welding seams continuously welded, levelled and ground. Surface roughness Ra < 0.6 µm  
**Finishing treatment:** electrolytic polished\*\*.

## Mild steel design

**Material and design ST LA:** Mild steel shot-blasted, degreased, then with epoxy-resin powder RAL 7035 light grey electrostatically coated and stoved.

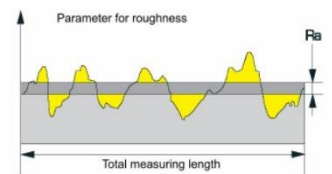
**Material and design ST ZN:** Galvanized mild steel

## Material and design AL

**Aluminium Profiles:** EN AW-6060 T6 and T66 (old designation ALMgSi0,5) cleaned and degreased, corrosion and weather resistant.  
**Aluminium Sheets:** EN AW-5754 H22 and H111 (old designation ALMg3), cleaned and degreased, corrosion and weather resistant.

### Ra – the arithmetic average surface finish

Ra is the official approved and international used parameter for roughness. The arithmetic average surface finish Ra is the calculated average of all discrepancies of a roughness profile from the medial line of the defined reference length. Theoretically the Ra is equivalent to the space between several lines which would be formed if the hills above and the vales below the medial line would be transformed to rectangles.



## Designs

### Support frame design Stainless steel

#### Material and design A2 G1:

Stainless steel, AISI 304 (1.4301) and 304L (1.4307)

All welding seams brush cleaned. Finishing treatment: spray pickling and passivated.

#### Material and design L4 G1:

Stainless steel, AISI 316 (1.4401) and 316Ti (1.4571)

All welding seams brush cleaned. Finishing treatment: spray pickling and passivated.

#### Material and design A2 G3:

Stainless steel, AISI 304 (1.4301) and 304L (1.4307)

Individual parts are pre-grounded on Ra < 1.2 µm.

All welding seams continuously welded and brush cleaned (not levelled).

Finishing treatment: passivated **A2 G3V** as G3, but finishing treatment **VivateQ® Finish\*\*\***.

#### Material and design L4 G3:

Stainless steel, AISI 316L (1.4404) and 316Ti (1.4571)

Individual parts are pre-grounded on Ra < 1.2 µm.

All welding seams continuously welded and brush cleaned (not levelled).

Finishing treatment: passivated **L4 G3V** as G3, but finishing treatment **VivateQ® Finish\*\*\***.

### Rotary valves design

#### Types AL and BL

##### Material and design 1:

Cast iron (GG25 or EN-GJL-250) housing and cover, rotor and rotor blades in carbon steel.

##### Material and design 2:

Housing, cover and rotor blades of stainless steel AISI 316L (1.4404) or 316 (1.4408).

##### Material and design 3 C:

Cast iron (GG25 or EN-GJL-250) housing and cover, interior hard chrome plated, rotor and rotor blades of stainless steel AISI 316L (1.4404).

##### Material and design 3 N:

Cast iron (GG25 or EN-GJL-250) housing and cover, interior and exterior nickel plated, rotor and blades in stainless steel AISI 316L (1.4404).

#### Type AL/BL Dairy

Housing, cover and rotor blades of stainless steel AISI 316L (1.4404) or 316 (1.4408), all product contacting parts grit (Ra < 0.8 µm), round welding seams and edges, housing and cover outside blasted, 8 rotor blades bevelled at 3 sides, with radiussed pockets.

#### Type MZC Standard/Dairy:

Housing, cover and rotor blades of stainless steel AISI 316L (1.4404) or 316 (1.4408), all product contacting parts grit (Ra < 0.8 µm), round welding seams and edges, housing and cover outside blasted, 8 rotor blades bevelled at 3 sides, with radiussed pockets. Rotor with MZC-extracting device for quick cleaning.

#### Type GL

##### Material and design 2

Housing, cover and rotor blades of stainless steel AISI 316L (1.4404) or 316 (1.4408).

##### Material and design 5

rotor blades of stainless steel 316L (1.4404) or 316 (1.4408), housing and cover of aluminum, shaft sealing with stuffing boxes.

##### Material and design 2/5

Housing and rotor blades of stainless steel 316L (1.4404) or 316 (1.4408), cover of aluminum, shaft sealing with stuffing boxes.

### Product feeder-design

#### Material and design A

Rotor in aluminium (EN AC-AISi7Mg) with bevelled blades, cast iron (EN-GJL-200) housing and cover, sleeve bearings.

#### Material and design B

Rotor in stainless steel AISI 304 (1.4301), cast iron (EN-GJL-200) housing and cover, interior chemically nickel coated, sleeve bearings.

### Dosing screw version

Dosing screws with reinforced profile are dynamic very high loaded parts. Therefore outside welding seams are not grinded but brushed, if the surface is 3R or 4.

### Design flange sealing rings drop tube

#### Material and design A2:

Stainless steel 304 (1.4301)

#### Material and design ST ZN:

Mild steel, shot-blasted, galvanized