

## PRODUCT DATA SHEET

# Ramén Ball Sector Valve type KS-1



**Ramén Valves**

We know the flow

DN 40-300 | Wafer | PN 40 | Stainless steel | PTFE Seat



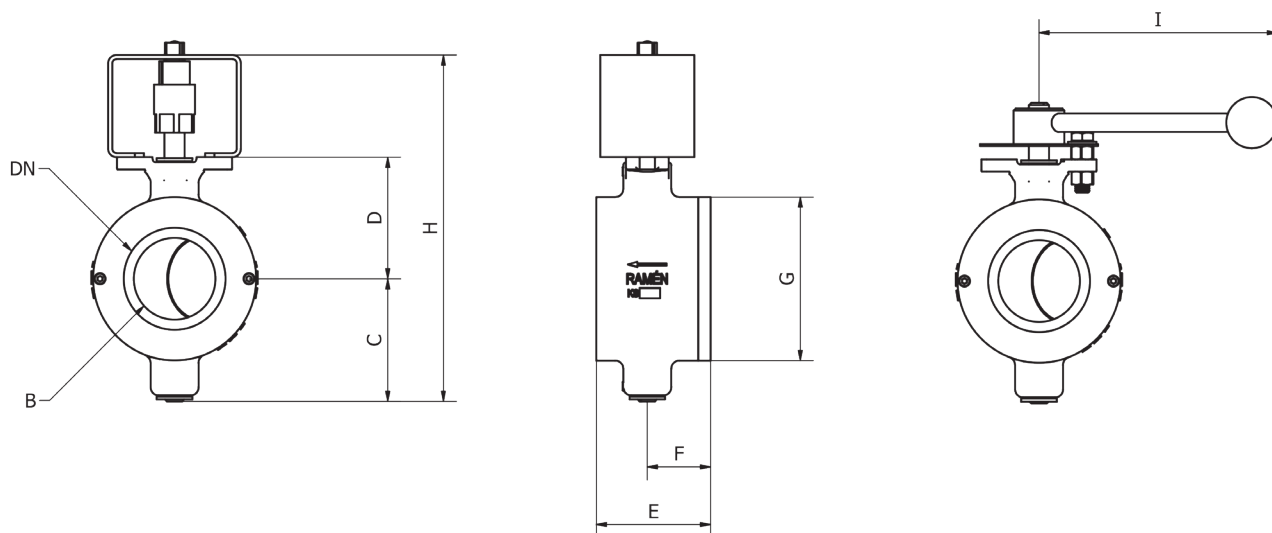
The Ramén Ball Sector Valve in material configuration 1 is a stainless steel, soft seated control valve with a carbon/graphite reinforced PTFE seat with Viton® (FKM) o-ring seals and a media protected shaft bearing of modified PTFE, Rulon®.

KS-1 is used in industrial applications for clean and non-abrasive liquid or gas at moderate pressure, pressure drop and temperature.

### Typical applications

- Clean and non-abrasive liquids
- Clean water, oil and non-abrasive suspensions
- Gases and vapors
- Nitrogen (N<sub>2</sub>), oxygen (O<sub>2</sub>), natural gas, air etc.

| Technical information                     |                   |                                                                                                                                                                                                                                                                                        |               |
|-------------------------------------------|-------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|
| Design                                    |                   | Flangeless, wafer type (size DN 300 flanged)                                                                                                                                                                                                                                           |               |
| Nominal sizes                             |                   | DN 40 - DN 300                                                                                                                                                                                                                                                                         | 1½"-12"       |
| Material                                  | Body              | EN 1.4409, AISI 316L                                                                                                                                                                                                                                                                   |               |
|                                           | Shafts            | EN 1.4460, AISI 329                                                                                                                                                                                                                                                                    |               |
|                                           | Ball Sector       | EN 1.4409, AISI 316L                                                                                                                                                                                                                                                                   |               |
|                                           | Seat              | PTFE (Carbon/graphite reinforced)                                                                                                                                                                                                                                                      |               |
|                                           | Seat holding ring | EN 1.4409, AISI 316L                                                                                                                                                                                                                                                                   |               |
|                                           | O-rings           | FKM                                                                                                                                                                                                                                                                                    |               |
|                                           | Bearing           | Rulon®                                                                                                                                                                                                                                                                                 |               |
| Nominal pressure                          | DN 40 - DN 50     | PN 40 (for flange PN 10/40 and ANSI 150/300/600)                                                                                                                                                                                                                                       |               |
|                                           | DN 80 - DN 100    | PN 25 (for flange PN 10/25 and ANSI 150/300)                                                                                                                                                                                                                                           |               |
|                                           | DN 150 - DN 250   | PN 16 (for flange PN 10/16 and ANSI 150)                                                                                                                                                                                                                                               |               |
|                                           | DN 300            | PN 16 (Flanged PN 16 or ANSI 150)                                                                                                                                                                                                                                                      |               |
| Operating temperature                     |                   | -40°C - 170°C.                                                                                                                                                                                                                                                                         | -40°F - 338°F |
| Seat leakage class according to EN60534-4 |                   | VI                                                                                                                                                                                                                                                                                     |               |
| Shell test according to EN12266-1         |                   | No leakage detectable                                                                                                                                                                                                                                                                  |               |
| Characteristic                            |                   | Equal percentage                                                                                                                                                                                                                                                                       |               |
| Rangeability                              |                   | Up to 300:1                                                                                                                                                                                                                                                                            |               |
| Options                                   | O-rings           | EPDM, Nitril, Kalrez®, Viton GLT, EPDM 90, FDA approval, Perlast®                                                                                                                                                                                                                      |               |
|                                           | Alloy steels      | 904L, 304, 316L, 254 SMO, Hastelloy, Duplex, Super Duplex, Titanium                                                                                                                                                                                                                    |               |
|                                           | Seat              | White PTFE, PEEK                                                                                                                                                                                                                                                                       |               |
| Certificates and approvals                |                   | CE marked acc. to PED 2014/68/EU, Category II, Module D1.<br>ATEX according to directive 2014/34/EU.<br>Fugitive emission standards acc. to ISO 15848-1 and VDI 2440 (TA-luft).<br>Fulfills EC declaration 2023/2006 and 1935/2004 for articles intended to come in contact with food. |               |



| Dimensions                                             |                                    |                                    |                                     |                                     |                                     |                                     |                     |                     |
|--------------------------------------------------------|------------------------------------|------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|---------------------|---------------------|
| DN                                                     | 40                                 | 50                                 | 80                                  | 100                                 | 150                                 | 200                                 | 250                 | 300                 |
| B Bore [mm]                                            | 25<br>32                           | 40                                 | 64                                  | 80                                  | 120                                 | 150                                 | 195                 | 250                 |
| C [mm]                                                 | 95                                 | 95                                 | 107                                 | 118                                 | 167                                 | 188                                 | 233                 | 310                 |
| D [mm]                                                 | 95                                 | 95                                 | 107                                 | 118                                 | 167                                 | 188                                 | 233                 | 310                 |
| E [mm]                                                 | 71                                 | 71                                 | 95                                  | 112                                 | 170                                 | 210                                 | 270                 | 368                 |
| F [mm]                                                 | 38                                 | 38                                 | 55                                  | 62                                  | 95                                  | 120                                 | 150                 | 198                 |
| G [mm]                                                 | 94                                 | 94                                 | 140                                 | 160                                 | 220                                 | 274                                 | 330                 | 460                 |
| H [mm]                                                 | 250                                | 250                                | 315                                 | 337                                 | 454                                 | 503                                 | 561                 | 710                 |
| I [mm]                                                 | 160                                | 160                                | 290                                 | 290                                 | 370                                 | 370                                 | N.A. <sup>(1)</sup> | N.A. <sup>(1)</sup> |
| Weight [kg]                                            | 4                                  | 4                                  | 8                                   | 12                                  | 25                                  | 38                                  | 67                  | 170                 |
| Top mounting flange acc. to EN-ISO 5211 <sup>(2)</sup> | D14 or <sup>(3)</sup> D17 F05 & 07 | D14 or <sup>(3)</sup> D17 F05 & 07 | D17 or <sup>(3)</sup> D22 F07 & F10 | D17 or <sup>(3)</sup> D22 F07 & F10 | D22 or <sup>(3)</sup> D27 F10 & F12 | D22 or <sup>(3)</sup> D27 F10 & F12 | D27 F10 & F12       | D36 F14             |

<sup>(1)</sup> Gear boxes available on request

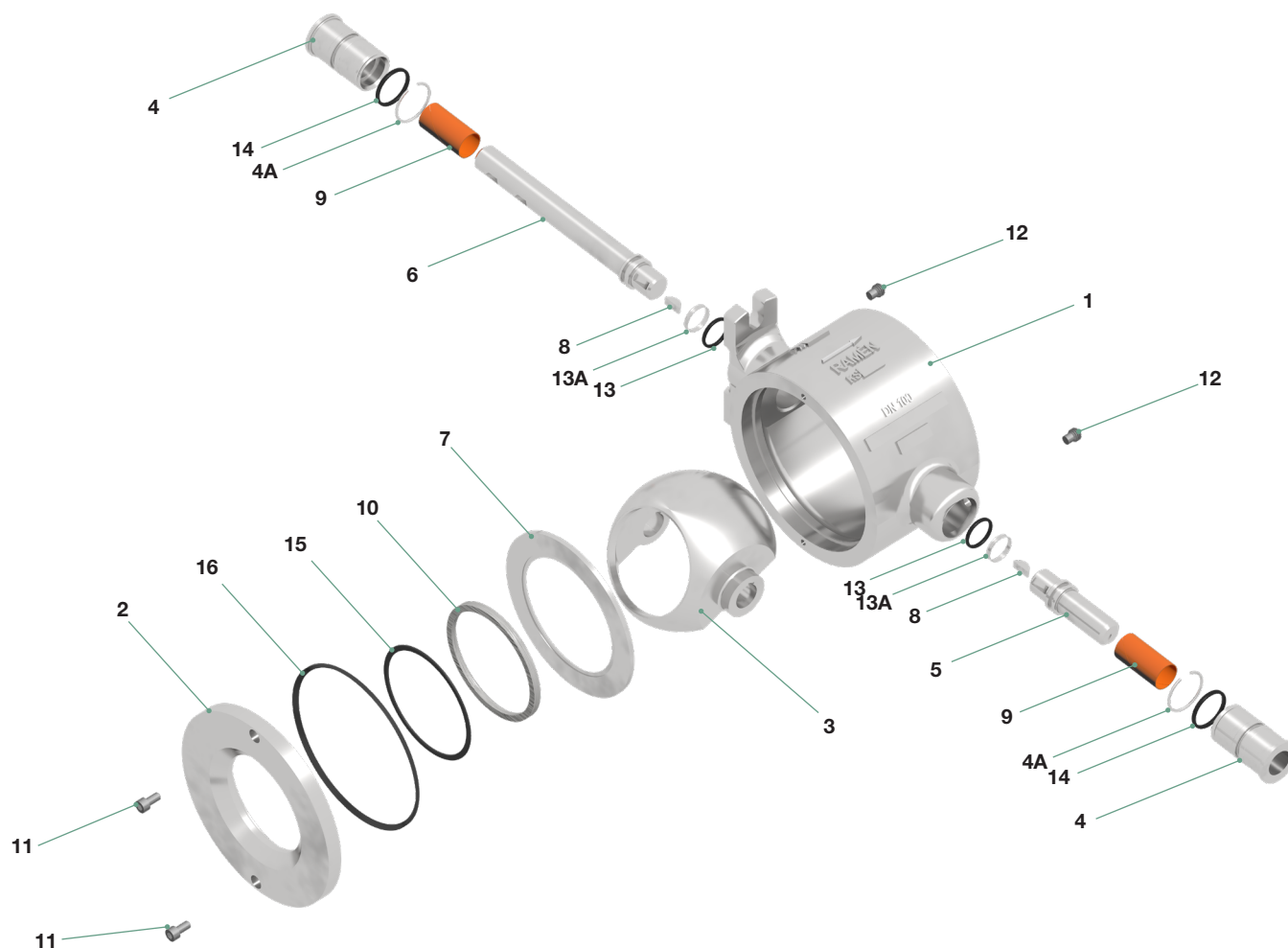
<sup>(2)</sup> D refers to diagonal square size & F refers to hole pattern.

<sup>(3)</sup> Optional

| Technical specifications                                |                    |        |        |        |         |         |         |          |
|---------------------------------------------------------|--------------------|--------|--------|--------|---------|---------|---------|----------|
| DN                                                      | 40                 | 50     | 80     | 100    | 150     | 200     | 250     | 300      |
| Kvs [m <sup>3</sup> /h]                                 | 34<br>64           | 94     | 255    | 390    | 810     | 1365    | 2220    | 3840     |
| Cv [gpm]                                                | 40<br>75           | 110    | 300    | 460    | 950     | 1600    | 2600    | 4500     |
| Actuator torque [Nm] Recommended <sup>(1)</sup><br>Max. | 30-90              | 30-90  | 80-200 | 80-200 | 160-400 | 160-400 | 250-600 | 700-1200 |
|                                                         | 100                | 100    | 200    | 200    | 400     | 400     | 700     | 2000     |
| Rotation angle                                          | 30°-90°<br>20°-90° | 0°-90° | 0°-90° | 0°-90° | 0°-90°  | 0°-90°  | 0°-90°  | 0°-90°   |

<sup>(1)</sup> The lower value of the torque range can be used for on-off applications for clean media at normal temperatures. The higher value of the torque range shall be used for pneumatic actuators with positioner when high control accuracy is needed or for dirty/sticky media. Indicated torques values include safety factor, on valve's break away torque, which is at least x2.

## Exploded view DN 40-250



### Parts list DN 40-250

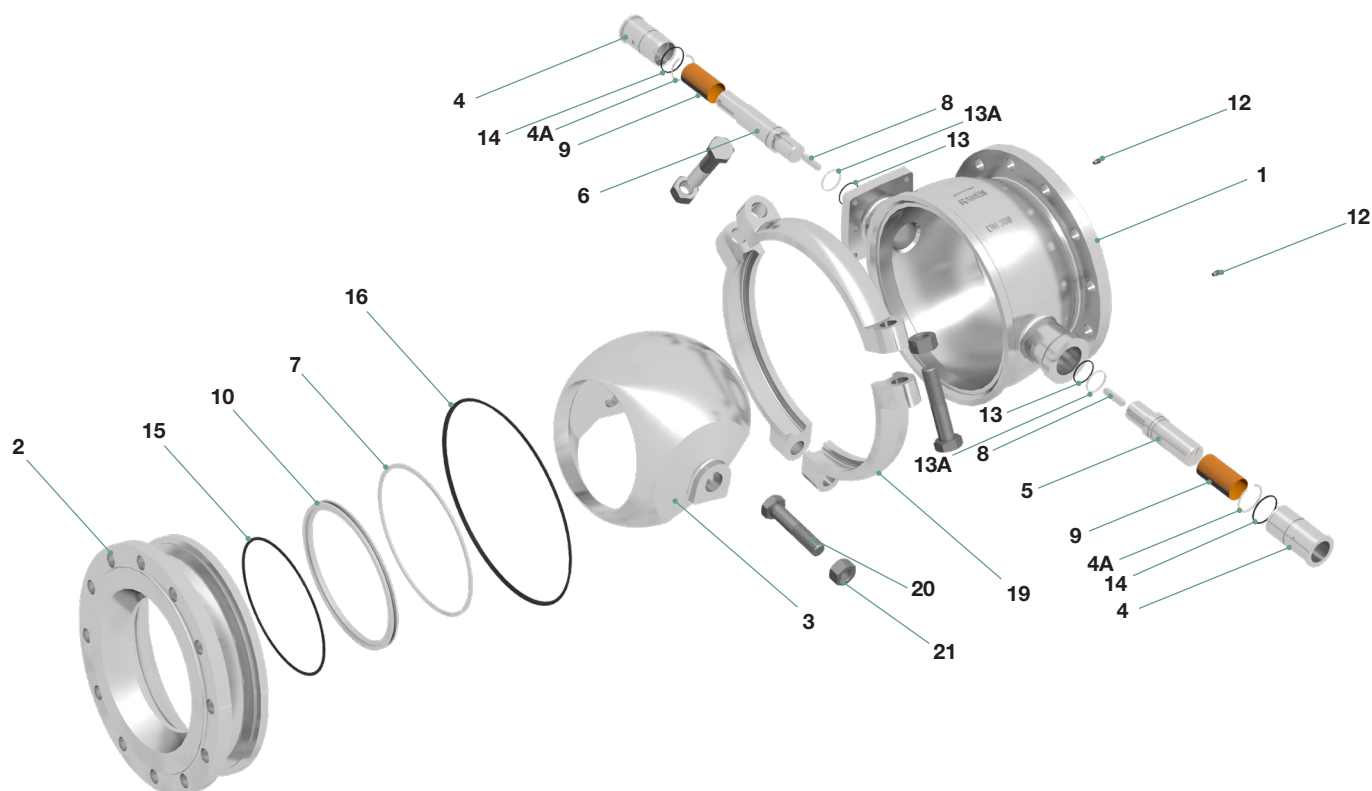
| Part | QTY | Name              | Material              |
|------|-----|-------------------|-----------------------|
| 1    | 1   | Body              | EN 1.4409 (AISI 316L) |
| 2    | 1   | Seat holding ring | EN 1.4409 (AISI 316L) |
| 3    | 1   | Ball sector       | EN 1.4409 (AISI 316L) |
| 4    | 2   | Bearing sleeve    | EN 1.4460 (AISI 329)  |
| 4A   | 2   | Safety ring       | EN 1.4409 (AISI 316L) |
| 5    | 1   | Shaft (trunnion)  | EN 1.4460 (AISI 329)  |
| 6    | 1   | Shaft             | EN 1.4460 (AISI 329)  |
| 7    | 1   | Seat support ring | EN 1.4409 (AISI 316L) |
| 8    | 2   | Woodruff key      | EN 1.4460 (AISI 329)  |
| 9    | 2   | Bearing           | Rulon®                |
| 10   | 1   | Seat ring         | PTFE                  |
| 11   | 2   | Screw             | EN 1.4409 (AISI 316L) |
| 12   | 2   | Grub screw        | EN 1.4409 (AISI 316L) |
| 13   | 2   | O-ring            | FKM                   |
| 13A  | 2   | Sliding ring      | PTFE                  |
| 14   | 2   | O-ring            | FKM                   |
| 15   | 1   | O-ring            | FKM                   |
| 16   | 1   | O-ring            | FKM                   |

### Standard spare part kit

| Part           | Name          |
|----------------|---------------|
| 9              | Shaft bearing |
| 10             | Seat ring     |
| 13A            | Sliding ring  |
| 13, 14, 15, 16 | O-rings       |

All materials acc. to standard configuration. Please contact Ramén Valves for order specific materials.

## Exploded view DN 300



### Parts list DN 300

| Part | QTY | Name              | Material              |
|------|-----|-------------------|-----------------------|
| 1    | 1   | Body              | EN 1.4409 (AISI 316L) |
| 2    | 1   | Seat holding ring | EN 1.4409 (AISI 316L) |
| 3    | 1   | Ball sector       | EN 1.4409 (AISI 316L) |
| 4    | 2   | Bearing sleeve    | EN 1.4460 (AISI 329)  |
| 4A   | 2   | Safety ring       | EN 1.4409 (AISI 316L) |
| 5    | 1   | Shaft             | EN 1.4460 (AISI 329)  |
| 6    | 1   | Shaft             | EN 1.4460 (AISI 329)  |
| 7    | 1   | Seat support ring | EN 1.4409 (AISI 316L) |
| 8    | 2   | Key               | EN 1.4460 (AISI 329)  |
| 9    | 2   | Bearing           | Rulon®                |
| 10   | 1   | Seat ring         | PTFE                  |
| 12   | 2   | Grub screw        | EN 1.4409 (AISI 316L) |
| 13   | 2   | O-ring            | FKM                   |
| 13A  | 2   | Sliding ring      | PTFE                  |
| 14   | 2   | O-ring            | FKM                   |
| 15   | 1   | O-ring            | FKM                   |
| 16   | 1   | O-ring            | FKM                   |
| 19   | 1   | Clamp ring        | EN-GJS-400            |
| 20   | 3   | Screw             | C.St. Zn.Pl.          |
| 21   | 3   | Nut               | Stainless steel       |

### Standard spare part kit

| Part           | Name          |
|----------------|---------------|
| 9              | Shaft bearing |
| 10             | Seat ring     |
| 13A            | Sliding ring  |
| 13, 14, 15, 16 | O-rings       |

All materials acc. to standard configuration. Please contact Ramén Valves for order specific materials.