

Product brochure  
**INFINITY** resilient seated gate valve



**BELGICAST** RANGE

# RESILIENT SEATED GATE VALVES

## INFINITY

The latest in TALIS's proven range of valves, the INFINITY represents a new generation of resilient seated gate valves [DN40-700]. As well as boasting of the latest technological advances and unique technical features, INFINITY has been 100% designed and manufactured in Europe using high quality materials and the latest manufacturing technologies, to guarantee, to our valuable customers, an extraordinary lifetime, outstanding operability and unique safety features.

### FUNCTIONS

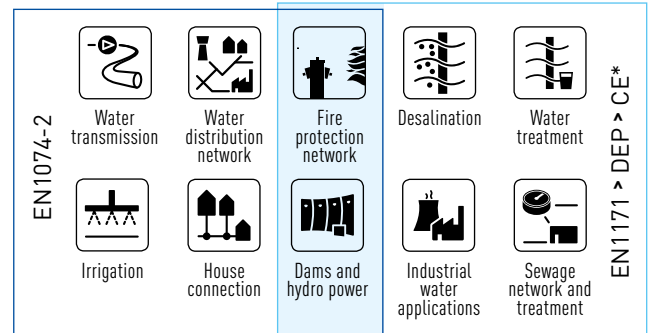
Isolation resilient seated gate valves, with wedge fully encapsulated in elastomer, for ON/OFF duty, and operation by means of handwheel or T-key.



### ADVANTAGES

- Low operating torque:** INFINITY and its new wedge and stem technology ensures smooth functionality with outstanding low torque values.
- Longer service life:** new guiding system for the wedge with male composite sliding skate in order to easily achieve the 2500 cycles endurance test required by European standards.
- Corrosion resistance:** GSK/RAL-GZ coating in standard up to DN300 with epoxy thickness of 250 microns minimum. Threadless bonnet up to DN300 that allows continuous coating. High quality materials.
- Low head loss:** clear way and straight bore design from DN40 up to DN600 in order to allow a free path without restriction of the fluid.
- Bubble tight shut off:** new wedge design with increased thickness of the elastomer at the sealing areas to improve tightness.
- High minimum resistant torque:** Innovative design of the thrust system for minimum strength torque that exceeds current standards.

### APPLICATIONS



\* See page 30 for gate valves which are subjected to CE marking according to the European "Pressure Equipment Directive" 2014/68/EU (PED).

### USES

- On networks, gate valves can be:**
  - Used both as part of new works and renovations.
  - Installed outside, buried in the ground, in valves' room, or in buildings.
- The use of gate valves allows user:**
  - To balance the distribution of water at all points in the mesh network (in open or closed position).
  - To isolate control valves, fire hydrants, air valves, pumps, etc. for their maintenance.
  - To perform maintenance on the network (isolation of part of the network).
  - To stop the flow in the case of failure or pipe incident.
  - To drain water tanks or sections of the water network.

**F4/F5**



PAGE: 10

**TECHNICAL DATA**

**DN range:** 40-300mm  
**PN/PFA:** 16bar

**DESCRIPTION**

Gate valves with flange connection. Available with Standard body length according to EN 558 Series 14 or Series 15. To be operated by means of Handwheel or T-Key.

**F4/F5**



PAGE: 12

**TECHNICAL DATA**

**DN range:** 350-700mm  
**PN/PFA:** 16bar

**DESCRIPTION**

Gate valves with flange connection. Available with Standard body length according to EN 558 Series 14 or Series 15. To be operated by means of Handwheel or T-Key.

**BS**



PAGE: 14

**TECHNICAL DATA**

**DN range:** 50-300mm  
**PN/PFA:** 16bar

**DESCRIPTION**

Gate valves with flange connection. Comply to BS5163 standard with length accordingly to BS EN 558 Series 3. To be operated by means of Handwheel or T-Key.

**GST**



PAGE: 16

**TECHNICAL DATA**

**DN range:** 50-300mm  
**PN/PFA:** 16bar

**DESCRIPTION**

Gate valves with flange connection. Length according to GOST 3706. To be operated by means of Handwheel or T-Key.

**PN 25**



PAGE: 18

**TECHNICAL DATA**

**DN range:** 50-300mm  
**PN/PFA:** 25bar

**DESCRIPTION**

Gate valves with flange connection. Available with body length according to EN 558 Series 15. To be operated by means of Handwheel or T-Key.

**INFINI-3  
INFINI-4**



PAGE: 20

**TECHNICAL DATA**

**DN range:** 50-300mm  
**PN/PFA:** 16bar

**DESCRIPTION**

Combination of 3 or 4 gate valves with flange connection. Compact designs to use where space is at premium, for example in urban applications. Different combinations of diameters can be available. To be operated by means of Handwheel or T-Key.

**PE ENDS**



PAGE: 22

**TECHNICAL DATA**

**DN range:** 40/50 - 300/315 mm  
**PN/PFA:** 10 or 16bar

**DESCRIPTION**

Gate valves with PE ends for assembly on PE pipes with electrofusion couplings or by butt fusion welding process. Gives continuity to the installation. To be operated by means of Handwheel or T-Key.

**SPIGOT ENDS**



PAGE: 24

**TECHNICAL DATA**

**DN range:** 50-450mm  
**PN/PFA:** 16bar

**DESCRIPTION**

Gate valves with spigot ends for connection with asbestos pipes. To be operated by means of Handwheel or T-Key.

**BLS**



PAGE: 26

**TECHNICAL DATA**

**DN range:** 80-200mm  
**PN/PFA:** 16bar

**DESCRIPTION**

Gate valves for assembly on cast iron pipe with BLS connection system. To be operated by means of Handwheel or T-Key.

**PREPARED FOR ELECTRIC ACTUATOR**



SEE OTHER DEDICATED BROCHURE

**TECHNICAL DATA**

**DN range:** 40-700mm  
**PN/PFA:** 16bar

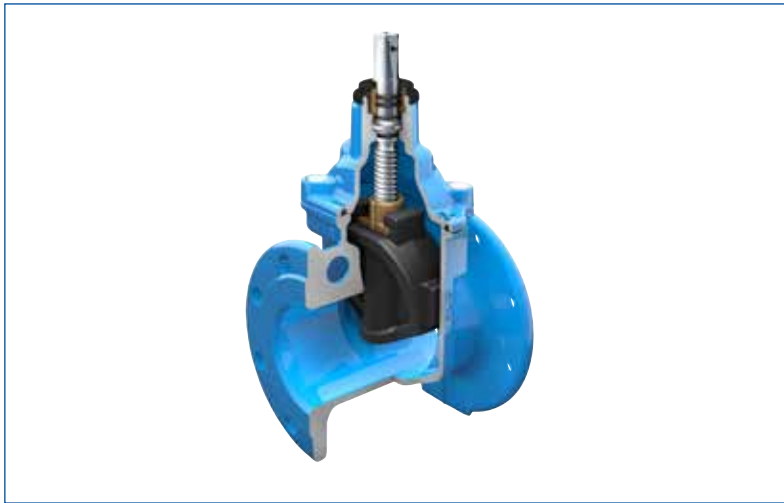
**DESCRIPTION**

Gate valves with flange connection. Available with Standard body length according to EN 558 Series 14 or Series 15. To be operated by means of Electric Actuator.

## CHARACTERISTICS

- └ Made of **high quality materials** according to the relevant standards.
- └ Clear way and **straight bore**, so the flow is optimum with minimum head losses.
- └ **Replaceable packing** under pressure.
- └ **Three independant O-rings** to guarantee the tightness throughout the stem. Two O-rings above the collar and one below (up to DN300).
- └ **Patented\* three locking tab for bayonet system** up to DN300, with clamping ring to avoid self dismantling, leakage and ejection risk.
- └ **Innovative dust guard** made of three O-rings integrated into one single piece that prevent ingress of dirt at the stem level, and ensures full isolation (up to DN300).
- └ Wedge **fully encapsulated** in elastomer for a better resistance to corrosion.
- └ Integral male composite sliding skate as guiding system for **easy operation** under maximum differential pressure.
- └ Body bonnet bolts are protected with hot melt glue.
- └ **Rounded surfaces** of the body ensure a uniform coating and protection of the highest quality.
- └ **Excellent corrosion resistance** thanks to the fully coated bonnet (not threads) and GSK/RAL-GZ coating in standard up to DN300 with epoxy thickness of 250 microns minimum.
- └ Stem in **stainless steel**.
- └ **Maintenance free**.
- └ Designed to be operated by **handwheel or T-key**.
- └ **Approved** by major organizations worldwide for drinking water.
- └ In conformity with **European standards** EN 1074-2 (annex A) and EN 1171 (category 3).
- └ **100% tested** according to EN 12166-1 standard.

(\* List of the countries on request.



## APPROVALS

- └ DVGW, NF, ACS, KIWA, OVGW, WRAS, VdS, ...

## OPTIONS/VARIANTS

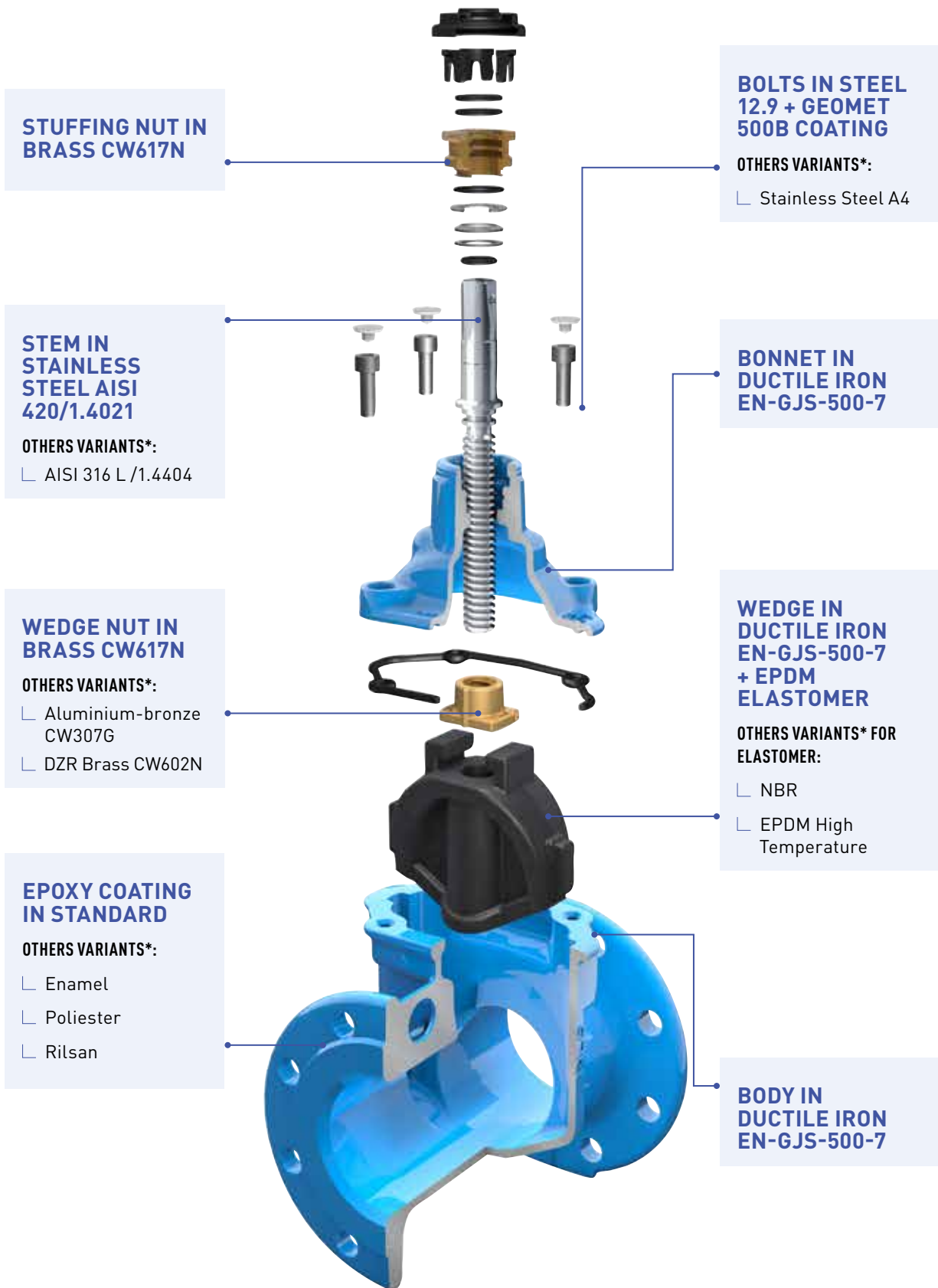
- └ Epoxy 300 microns mini, others,...
- └ Full enamel coating.
- └ Electric actuator, Pneumatic/ Hydraulic cylinder, others ...
- └ Visual mechanical position indicator with optional electrical limit switch.
- └ Configuration for sea water, sewage water and hot water.
- └ Valve complying to BS5163 type B.
- └ Wedge fully encapsulated in NBR or hot potable water approved EPDM (up to 70°C).
- └ Bolts in stainless steel A4.
- └ Accessories (handwheel, captop, stem extension, others ...).

## TECHNICAL DATA

- └ **Nominal Diameter (DN):** DN40 to DN700.
- └ **Body length to EN558:** Series 14: short body (F4). Series 15: long body (F5). Series 3: BS.
- └ **Closing direction:** Clockwise closing (CC). Anticlockwise closing (ACC).
- └ **Nominal Pressure (PN/PFA/PS):** PN16, PN25.
- └ **Flange Drilling:** PN10, PN16 or PN25 according to EN 1092-2.
- └ **Medium Temperature (EN1074-2):**
  - Epoxy coating: -10 to 50°C
  - Enamel coating: -10 to 50°C (up to 70°C under request, in the case of EN1171).
- └ **Water tightness:** Rate A according to EN 12266-1.
- └ **Maximum Velocity:**

PN/PFA/PS	EN1074-2
10 bar	3 m/s
16 bar	4 m/s
25 bar	5 m/s

## MATERIAL GUIDANCE



(\*) :These informations are only dedicated to show the different types of material for our Infinity gate valves. Variants solution can't be chosen individually, but are part of non dissociable offer on our products. For more details about our product offer, please contact us.

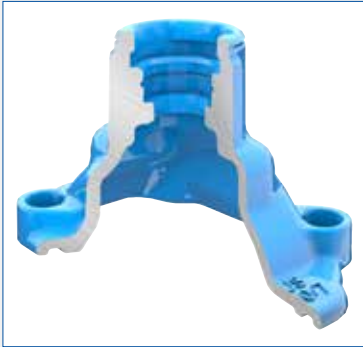
## TECHNICAL ADVANTAGES



FOR ENAMELED VERSION, THE VALVE INTEGRATES AN EDGE PROTECTION (1) PLACED ALL AROUND BETWEEN THE BODY AND THE BONNET.



## TECHNICAL ADVANTAGES



**01:** Due to our PATENTED\* three locking tab bayonet system, The INFINITY gate valve has no threads, enabling a **continuous coating** and therefore avoiding corrosion problems.

Moreover, it is easy to remove the stuffing nut, with the valve under pressure and fully open, in order to change the O-ring.

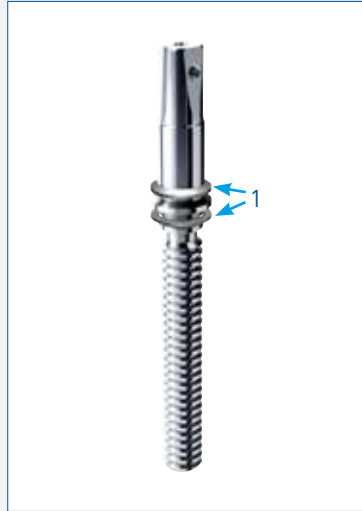
\* List of the countries on request.



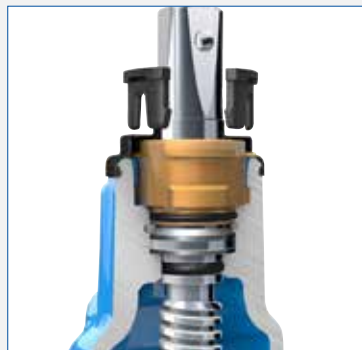
**02:** Free wedge nut, **reduces the stem bending forces** and at the same time enables it to be easily replaced.



**03:** The more compact new cap, reduces the water retention areas in order **to reduce the risk of bacterial growth**.



**04:** Stem and collar made in one piece in stainless steel for **better resistance to axial load and to withstand higher operating torques**. Washers with PTFE coating (1) placed above and under the collar allow to reduce friction torque and protect coating inside the Bonnet.



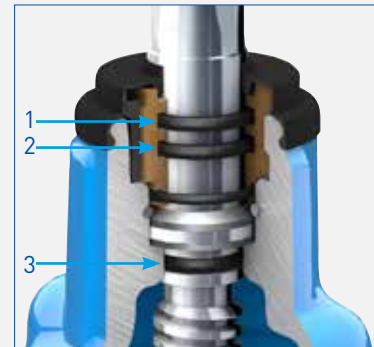
**05:** The three locking tabs for bayonet system as well as clamping ring prevent self-dismantling, caused mainly by over-torques and vibrations, to avoid risk of leakage and also **prevent incidents and ensures the safety of all personnel on site**.



**06:** Dust guard integrating three O-ring shape, **prohibiting the introduction of foreign bodies** at the stem.



**07: Male guiding system with composite sliding skate (1)** reduces the wear of the wedge against the body, allowing a smooth functionality and a longer life time of the valve. Furthermore, the increased thickness of the elastomer at the sealing areas improves product resilience to the usual small impurities encountered in networks.



**08: Triple seal at the operating stem** to ensure tightness with the test of time (2500 cycles).



**09:** Our **new male composite sliding skate technology** minimizes the wedge friction against the body ensuring a low operating torque even under high differential pressure and preventing damage or corrosion generated by the friction.

## COATING

### OPTIMUM PROTECTION

The INFINITY resilient seated gate valve has been designed with even more rounded surfaces and more ergonomic shapes that allow more uniform coating and ensure protection of the highest quality.

The epoxy powder used by BELGICAST is approved for use with potable water by the most prestigious institutions worldwide.

Our new state-of-the-art coating line installed in BELGICAST, based on an innovative process with fluidized bath and dipping robot, ensures an excellent adhesion, as well as controlled thicknesses and perfect continuity of the coating without porosity.



#### └ GSK/RAL-GZ coating in standard with a minimum epoxy thickness of 250 microns\*

BELGICAST painting facilities are approved by the **GSK Quality Assurance Association** for Heavy-Duty Corrosion Protection of Valves and Fittings with Powder Coating.

INFINITY resilient seated gate valves are awarded by the **RAL-GZ 662 Quality Mark (Gütezeichen)** delivered by the GSK Quality Assurance Association. Obtaining this quality mark requires a quality-assurance in accordance with the current regulations, as well as strenuous additional requirements in order to ensure the highest level of quality and performance of the coating:

- Minimum coating thickness of 250 microns,
- Use of powder GSK approved,
- Coating line GSK approved,
- Regular monitoring of the process and its parameters,
- Product approval with the coating,
- Regular coating test (coating thickness, freedom from porosity, impact resistance, wetting, tensile adhesive strength,...),
- Two audits per year carried out by a third party body.



#### └ Permanent protection with enamel

Optionally, BELGICAST can manufacture gate valves completely enamelled. Vitreous enamel is highly resistant to corrosion, abrasion, sunlight and sedimentation due to its low porosity and smooth surface. The enamel is vitrified at 720° C and forms a perfect and permanent bond at the foundry.

BELGICAST's extensive experience in the manufacture of gate valves, together with modern enamel equipment, allows production of the highest quality.



### TEMPERATURES

Depending on the applied anticorrosive coating, the INFINITY gate valve is suitable for the following continuous operating temperatures:

- └ Epoxy powder protection: -10 °C to 50°C.
- └ Enamel protection: -10 °C to 50°C (70°C under request).



\* GSK/RAL-GZ coating in standard up to DN300, bigger sizes upon request.





### VALVE TESTING ACCORDING TO EN 12266-1 - EN 1074

#### Testing pressures

- Shell tightness: 25 bar at room temperature.
- Seat tightness: 17.6 bar at room temperature.

#### Minimum test duration (in seconds)

Nominal diameter DN	Shell	Seat
Up to DN50 included	15	15
From DN65 up to DN150 included	60	60
From DN200 up to DN300 included	120	120
DN350 and above	300	120

#### Maximum allowable seat leakage

The criterion for seat leakage of BELGICAST resilient seated gate valves is Rate A: no visually detectable leakage for the duration of the test ("zero drops").

#### Quality control

- 100% of BELGICAST resilient seated gate valves are tested according to EN 12266-1, DIN 3230, or as per customer requirements.
- According to EN 1074 (2,500 cycles endurance resistance).

## MATERIALS & DIMENSIONS

### F4/F5 - DN40/300 - PN10/16

(According to EN1074-2 (annex A) and EN1171 (category 3))



Item	Description	N°	Material	Standard
1	Body	1	EN-GJS-500-7 <sup>2)</sup>	EN 1563
2	Bonnet	1	EN-GJS-500-7 <sup>2)</sup>	EN 1563
3	Wedge	1	EN-GJS-500-7	EN 1563
4	Wedge coating	1	EPDM <sup>1)</sup>	EN 681-1
5	Stem	1	1.4021	EN 10088
6	Wedge lock nut	1	Copper alloy CW617N	EN 12165
7	Body-bonnet gasket	1	EPDM <sup>1)</sup>	EN 681-1
8	Lower stem washer	1	Steel+PTFE	-
9	O-ring (stem)	1	EPDM <sup>1)</sup>	EN 681-1
10	Stuffing nut (bayonet)	1	Copper alloy CW617N	EN 12165
11	O-ring (stuffing nut)	2	NBR	ASTM D2000
12	O-ring (stuffing nut/bonnet)	1	NBR	ASTM D2000
13	Body bonnet bolting	acc/DN	Steel 12.9 Geomet coated	EN 10213-2 / DIN 912
14	Dust guard	1	EPDM	EN 681-1
15	Handwheel	1	Stamped steel <sup>3)</sup>	EN 10130
16	Handwheel washer	1	1.4301	EN 10088 / DIN 9021
17	Handwheel bolt	1	1.4301	EN 10088 / DIN 933
18	Square cap	1	EN-GJS-500-7 <sup>3)</sup>	EN 1563
19	Square cap bolt	1	Steel 8.8 Geomet coated	EN 10213-2 / DIN 912
20	Square cap plug	1	Lupolen	-
21	Wedge sliding skate <sup>4)</sup>	2	Composite	-
22	Locking tabs	3	Composite	-
23	Clamping ring	1	1.4301	EN 10088
24	Upper inclined stem washer	1	Steel+PTFE	-

1) or NBR, depending on the approval and on the application. 2) GSK blue epoxy coating (Ral 5015) 3) black epoxy coating.  
4) DN40/50 without wedge sliding skates.

DN	øD (mm)	EN 1092-2 PN10			EN 1092-2 PN16			EN 558 (DIN 3202)		H (mm)	h (mm)	ød (mm)	øD1 (mm)	No. of turns for closing	Weight (kg)	
		øK (mm)	øG (mm)	n°xd	øK (mm)	øG (mm)	n°xd	S14 (mm)	S15 (mm)						S14	S15
40	150	110	84	4x19	110	84	4x19	140	240	179	75	-	150	11,5	6,7	7,3
50	165	125	99	4x19	125	99	4x19	150	250	202	83	-	150	14	8,3	8,8
65	185	145	118	4x19	145	118	4x19	170	270	242	93	20	150	15	12,3	13
80	200	160	132	8x19	160	132	8x19	180	280	265	100	20	200	18	13,7	14,9
100	220	180	156	8x19	180	156	8x19	190	300	290	110	20	200	21,5	16,4	17,9
125	250	210	184	8x19	210	184	8x19	200	325	345	125	25	300	27	22,5	25,2
150	285	240	211	8x23	240	211	8x23	210	350	378	143	25	300	32	28,2	31,6
200	340	295	266	8x23	295	266	12x23	230	400	465	170	30	400	41,5	46,9	54,2
250	400	350	319	12x23	355	319	12x28	250	450	554	200	30	400	43	69,5	78,8
300	455	400	370	12x23	410	370	12x28	270	500	635	228	30	500	51	96,5	114,5

On request : lateral intakes option only for DN80, DN100 and DN150 S15.

The technical data and performance may be modified without prior notice depending on the technical advances.

F4/F5 - DN40/300 - PN10/16

