Rubinetterie Italiane Velatta SpA
since 1950

>> YOU need the BEST

Perla

Centurion

Diamante

Vulcano

INSTALLATION, USE & MAINTENANCE MANUAL

Year **2020**	Rev. 2

Product Description

- Piston gate valves for slurry detection
- Design with modern, robust, pleasant, and above all functional shapes
- Metal seats (for Vulcano rubber/metal seats)
- Stainless steel screws to prevent corrosion.

Certifications & Standards

Compliance with the following standards:

Directive PED 2014/68/UE
Legislative Decree Nr.26 dated 15 February 2016

Handling

Previously check that all lifting devices are suitable for the weight of the gate valve.
In case of heavy products, use a lifting belt wrapped around the central part of the body.

The products must be handled by properly trained staff; the lifting hooks and/or belt must be used in accordance with the load limits indicated for them and following carefully the manufacturers' instructions.

Never try to lift the gate valve from the control device (one of several actuator types) or by inserting a belt inside the fluid channel after lifting the wedge.
These actions can often result in damages to the gate valve and are potentially dangerous for the handling operator

Storage

In case of long-term storage, it is recommended to store the gate valves and their components in a dry and safe place - preferably in a wooden or cardboard box in order to protect them from damage, dust and direct sunlight, max. temperature: 40°C.

Installation

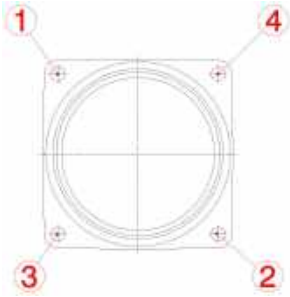
⚠ The product must be installed by skilled staff equipped with appropriate safety equipment (gloves, safety shoes, glasses, etc.)
The plant must be secured, depressurized and discharged from fluids.

CONNECTIONS:

>> By square agri flange (**Agristandard**) or by threaded pipe **ISO228** or **ANSI B1.20.1** (**NPT**), depending on the product purchased.

TO INSTALL THE PRODUCT APPROPRIATELY, PROCEED AS FOLLOWS:

1. Check for clean piping and flanges or threads.
2. The sealing surfaces of the pipe flanges must be clean and undamaged, free from radial scratches, projections or other damages.
3. The inside of the body, sealing surfaces and the wedge of the gate valve must be clean and free from scratches or other damages.
4. The sealing gaskets between the gate valve and the flanges must be clean and free from damage.
5. Check that the distance between the pipe flanges is such that the gate valve can be inserted without damaging the sealing surfaces and/or gaskets; moreover, it is very important that they are not too far apart in order not to create structural tensions to the gate valve that would compromise the tightness or deform the flanges.



6. Insert the gate valve between the flanges, put the nuts on flange of the upstream pipe without tightening them vigorously, align the valve on the flange and tighten the nuts crosswise to obtain even fastening.
7. Repeat the same procedure for the flange downstream.
8. When the gate valves are threaded, remove the metal shavings from the pipe
9. Put an adequate layer of sealant on the pipe
10. Tighten the pipe to the valve paying attention that it doesn't stop against the valve thread, to prevent the valve seat from being deformed and consequently compromising its tightness and/or functioning
11. To join the pipe on the other side, repeat the procedure as indicated in steps 8, 9, 10 paying attention that the gate valve stays still.

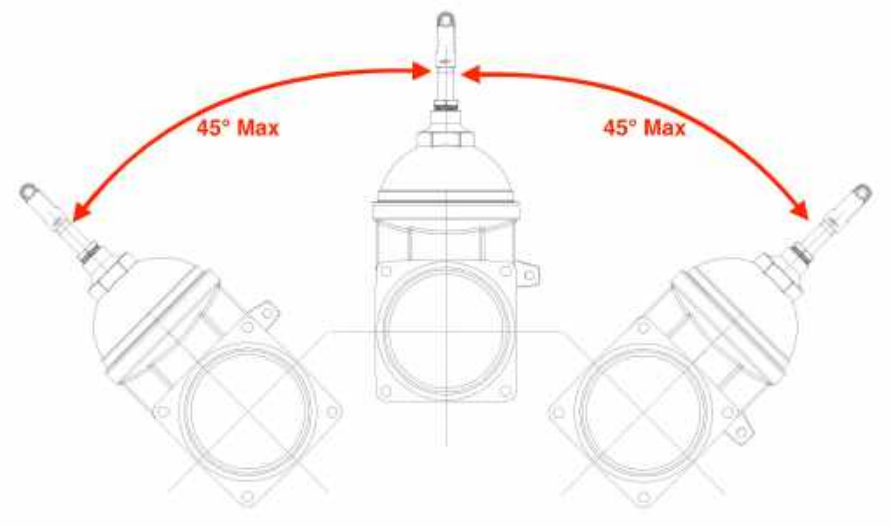
⚠ **IMPORTANT!** both pipes must be securely fastened/clamped in such a way that their weight does not stress or damage the gate valve and to ensure that the latter is not stressed or damaged by any expansion and/or contraction of the pipes due to temperature variations.

After installation, open and close the gate valve without fluid inside the pipe to check for the smooth functioning.

Then, test the system under pressure, progressively increasing the pressure until it reaches its maximum value.

⚠ **WARNING!** It is recommended to pay attention not to exceed the maximum working pressure indicated on the valve (PN) and stated in the technical documents. In case of doubt, please contact the RIV SpA Technical Service.

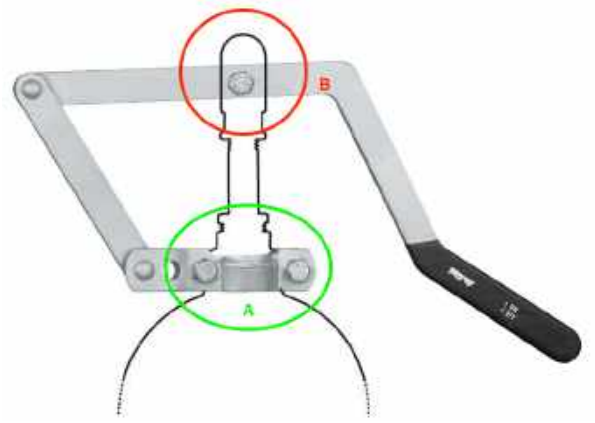
⚠ For smooth operation and clog prevention / reduction, it is recommended to install the gate valves in a vertical position or with a maximum angle of 45°

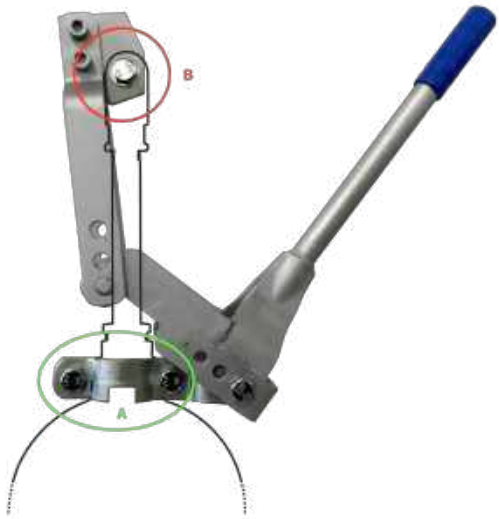


OPERATING LEVER ASSEMBLY:

The gate valves can be opened or closed using **operating levers Riv151 and Riv153**, to be installed following the description below:

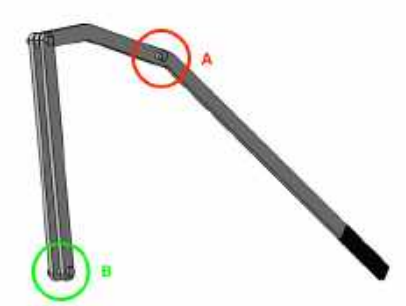
1) Proceed to assembly using the bolts supplied with the lever
2) Fit the **"A"** marked part of the lever at the neck of the gate valve and tighten firmly
3) Fasten the **"B"** marked part to the fork of the gate valve





For other types of levers:

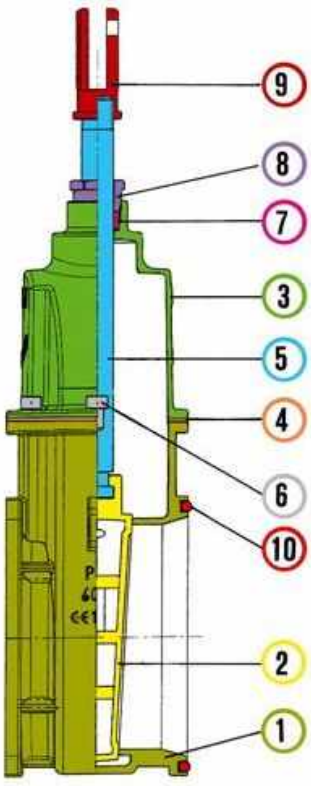
1) Fasten the **"A"** marked part of the lever to the fork of the gate valve
2) Fix the **"B"** marked part of the lever on the pre-drilled valve body nosepiece (Ø 11mm)



WARNING! For all types of lever involved in rotating movements, it is recommended to screw the bolts "softly" and tighten them until a considerable reduction of backlash is obtained, making sure that the self-locking ring of the nut is always fastened.
Overtightening nuts and bolts could compromise the correct operation of the levers.

HOW TO INSTALL A JACK (HYDRAULIC OR PNEUMATIC TYPE) ON A MANUAL GATE VALVE

A. Remove fork 9
B. Remove stuffing box 8
C. Unscrew Allen screws 6
D. Open the gate valve and release the wedge from the bayonet coupling
E. Pull out the stem 5
F. Remove tow 7 (non-necessary component as the Riv jacks are already equipped with a special O-Ring seal)
G. Check that the jack rod is coming out completely
H. Screw the jack to the cap top until it stops and tighten the locknut
I. Insert the wedge on the jack rod using the bayonet coupling
J. Insert the shaped gasket 4 located between the gate body and the cap top and check its integrity
K. Re-assemble the gate valve and tighten the head-securing screws crosswise.



✓ To re-assemble the gate valve with a single-acting hydraulic jack RIV166, use two fully threaded M8 screws, at least 35mm long, tightening them at both ends. They are necessary to compress the jack and to bring the cap top 3 closer to the gate valve body 1.
Then apply the 4 allen screws supplied and tighten them crosswise. Finally remove the two long screws and fit the two Allen screws.

✓ In case of hydraulic spring jack RIV167, before assembling the jack head to the body, it is necessary to check that the jack spring is not under tension.
If it is under tension, unscrew spring-tensioning rod "S" positioned above the jack until the spring returns to the stand-by position and then re-assemble the gate valve as shown at item "K". After assembly, screw the spring tensioner again until it reaches at least 80% of its max. stroke.

Maintenance

RIV SpA shall not be held responsible for any damage to persons and/or property due to maintenance tasks performed incorrectly or using non-original parts.
Any modification to the product is expressly forbidden unless previously agreed and approved by RIV SpA Quality Service or Technical Service; in any case, this will result in the immediate forfeiture of warranty.

⚠ All maintenance works must be carried out by skilled staff using the appropriate safety equipment (gloves, safety shoes, glasses, etc.).
The plant must be secured, depressurized and discharged from fluids.
The operating fluid must be disposed of in compliance with any provisions of law.
If necessary, flush the pipeline to ensure that it does not contain any potentially harmful fluid residues and/or vapours.

MAINTENANCE FOR ALL GATE VALVE MODELS

>> Internal cleaning and wedge replacement

DISASSEMBLY:

A. Depressurize and empty the plant in the pipe section where the gate valve is installed
B. In case of gate valve equipped with a hydraulic or pneumatic jack, depressurize and disconnect the hoses from the jack
C. Uninstall the gate valve from the machinery
D. Unscrew the Allen screws that hold the cap in place and remove it, disengage the wedge by pulling it out of the bayonet coupling
E. Wash and remove residues

ASSEMBLY:

F. If wedge replacement is scheduled, get a new wedge and fasten it to the operating rod by the bayonet coupling
G. To avoid any annoying leaks, it is recommended to replace the old shaped gasket placed between the gate body and the head
H. Re-assemble the gate valve, being careful to tighten the screws crosswise securing the head
I. Assemble the gate valve on the machinery by following the instructions in the previous chapter "Installation"

⚠ After any maintenance task, the gate valve must be tested as after the first installation before it is operational again.

⚠ To ensure a long service life of the gate valve, it is recommended to wash the inner part of the gate valve regularly after use. This task is essential if the machinery or slurry tanker is not to be used for a long period in order to prevent the solidification of the fluid inside which could block the opening of the gate valve or damage it in case of forced opening by automatic operation.
If the gate valve is not used during the winter period, check that there is no stagnation of liquid inside it, which could freeze and cause it to break.

Limitations of use

The products are designed for use in slurry tanker and biogas plant applications.
The fluids transported must be compatible with the metallic and non-metallic materials used in the gate valve.
Any use with potentially clogging or aggressive fluids must be previously evaluated and approved by RIV Spa Quality Service or Technical Service.

Control devices

Riv151 Lever with opening stop

Riv153 Lever with opening stop – Perla series

Riv160 Double-acting pneumatic jack in brass **with PPS system**

Riv161 Double-acting pneumatic jack in brass **with PPS system** and position sensors

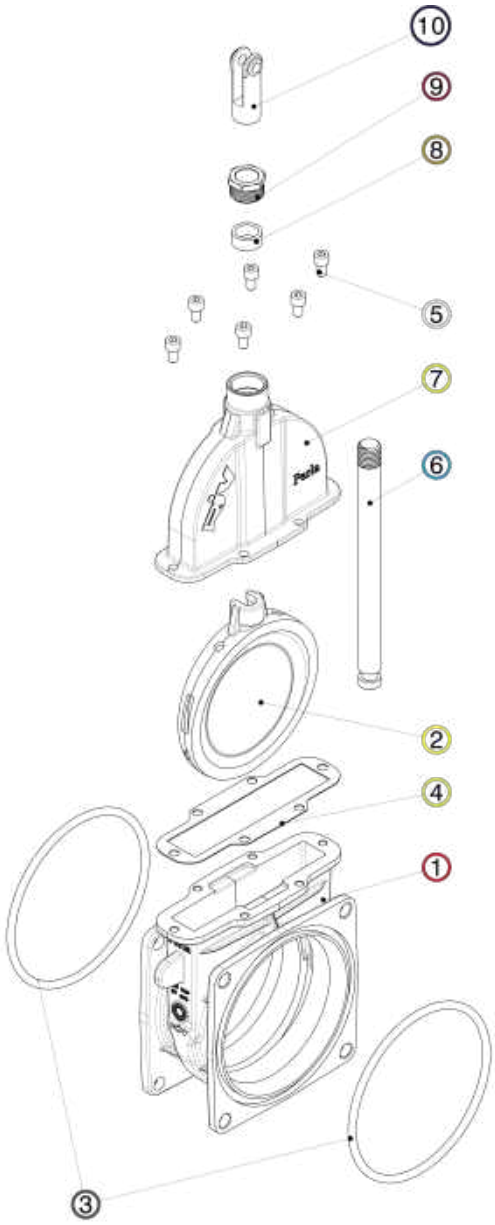
Riv163 Double-acting hydraulic jack Zinc-plated

Riv166 Single-acting hydraulic jack Zinc-plated

Riv167 Single-acting hydraulic ram spring jack Zinc-plated

Components List

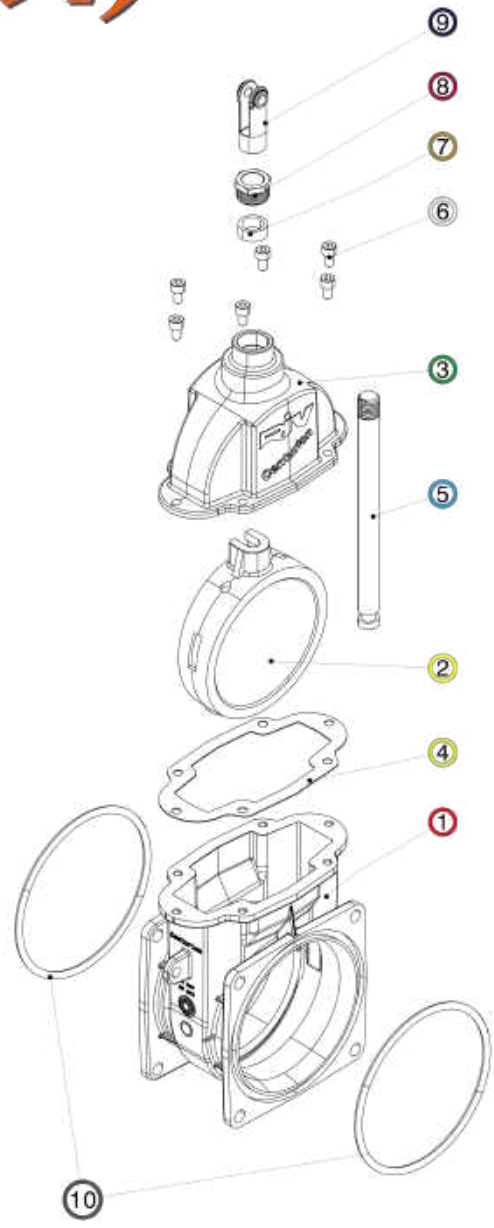
Perla



Item	Pos.	Size	Riv Code	Description	Material	
Riv 9800	1	4"	CODF31091016	Corpo Riv 10 Body Riv 10 Gehäuse Riv 10	Ottone Brass Messing	CB754S
		5"	CODF31091018			
		6"	CODF31091919			
		8"	CODF31091020			
Riv 9804	1	4"	COFM31291016	Corpo Riv 40 Body Riv 40 Gehäuse Riv 40	Ottone Brass Messing	CB754S
		5"	COFM31291018			
		6"	COFM31291019			
Riv 9807	1	4"	CODM31291016	Corpo Riv 60 Body Riv 60 Gehäuse Riv 60	Ottone Brass Messing	CB754S
		5"	CODM31291018			
		6"	CODM31291019			
Riv 9815	2	4"	CNSS30071016	Cuneo Wedge Keil	Ottone Brass Messing	CB754S
		5"	CNSS31091018			
		6"	CNSS31091019			
		8"	CNSS31091020			
Riv 9858	3	4"-5"-6"	GUOR7805B007	O-Ring	NBR	
		8"	GUOR7805B008			
Riv 9834	4	4"	GUSS680D0016	Guarnizione Gasket Dichtung	Fibra Fibre Faser	
		5"	GUSS680D0018			
		6"	GUSS680D0019			
		8"	GUSS680D0020			
Riv 9851	5	4"-5"-6"-8"	BUBR531K0067	Vite Screw Schraube	Acciaio inox Stainless Steel Nirostahl	AISI 304
Riv 9829	6	4"	STSS30040016	Asta Stem Hubstange	Ottone Brass Messing	CW614N
		5"	STSS30040018			
		6"	STSS30040019			
		8"	STSS30040020			
Riv 9822	7	4"	STSS30040016	Testata Cap Oberteil	Ottone Brass Messing	CB754S
		5"	STSS30040018			
		6"	STSS30040019			
		8"	STSS30040020			
Riv 9840	8	4"-5"-6"	SPSS7E0HF000	Stoppa Tow packing Stopfbuchsdichtung	Fibra Fibre Faser	
		8"	SPSS7E0HF002			
Riv 9844	9	4"-5"-6"	PSSS30171000	Premistoppa Stuffing-Box Stopfbuchsmutter	Ottone Brass Messing	CW614N
		8"	PSSS31191001			
Riv 9854	10	4"-5"-6"-8"	OMSS30171000	Forcella Fork Gabelkopf	Ottone Brass Messing	CW617N

Components List

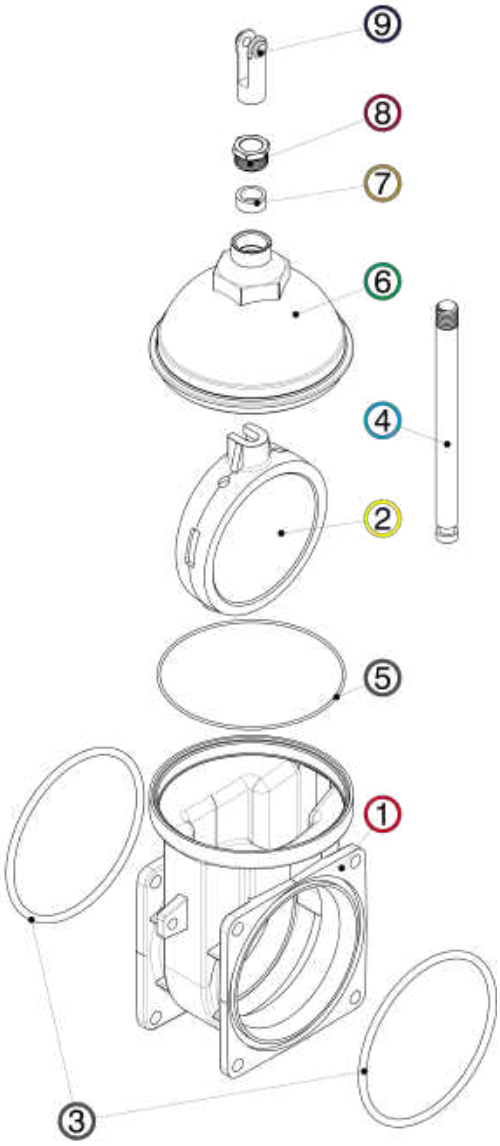
Centurion



Item	Pos.	Size	Riv Code	Description	Material	
	1	6"	CODP31091019	Corpo Riv 30 Body Riv 30 Gehäuse Riv 30	Ottone Brass Messing	CB754S
Riv 9825	2	6"	TESP31091019	Cuneo Wedge Keil	Ottone Brass Messing	CB754S
Riv 9825	3	6"	TESP31091019	Testata Cap Oberteil	Ottone Brass Messing	CB754S
Riv 9837	4	6"	GUSSP680D019	Guarnizione Gasket Dichtung	Fibra Fibre Faser	
Riv 9829	5	6"	STSS30040019	Asta Stem Hubstange	Ottone Brass Messing	CW614N
Riv 9851	6	6"	BUBR531K0067	Vite Screw Schraube	Acciaio inox Stainless Steel Nirostahl	AISI 304
Riv 9840	7	6"	SPSS7E0HF000	Stoppa Tow packing Stopfbuchsdichtung	Fibra Fibre Faser	
Riv 9844	8	6"	PSSS30171000	Premistoppa Stuffing-Box Stopfbuchsmutter	Ottone Brass Messing	CW614N
Riv 9854	9	6"	OMSS30171000	Forcella Fork Gabelkopf	Ottone Brass Messing	CW617N
Riv 9858	10	6"	GUOR7805B007	O-Ring	NBR	

Components List

Diamante



Item	Pos.	Size	Riv Code	Description	Material	
	1	6"	COGC31091019	Corpo Riv 20 Body Riv 20 Gehäuse Riv 20	Ottone Brass Messing	CB754S
Riv 9816	2	6"	059816000019	Cuneo Wedge Keil	Ottone Brass Messing	CB754S
Riv 9858	3	6"	GUOR7805B007	O-Ring	NBR	
Riv 9829	4	6"	STSS30040019	Asta Stem Hubstange	Ottone Brass Messing	CW614N
Riv 9835	5	6"	GUOR7805B032	O-Ring	NBR	
Riv 9823	6	6"	VICF31691019	Testata Cap Oberteil	Ottone Brass Messing	CB754S
Riv 9840	7	6"	SPSS7E0HF000	Stoppa Tow packing Stopfbuchsdichtung	Fibra Fibre Faser	
Riv 9844	8	6"	PSSS30171000	Premistoppa Stuffing-Box Stopfbuchsmutter	Ottone Brass Messing	CW614N
Riv 9854	9	6"	OMSS30171000	Forcella Fork Gabelkopf	Ottone Brass Messing	CW617N

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since 1950

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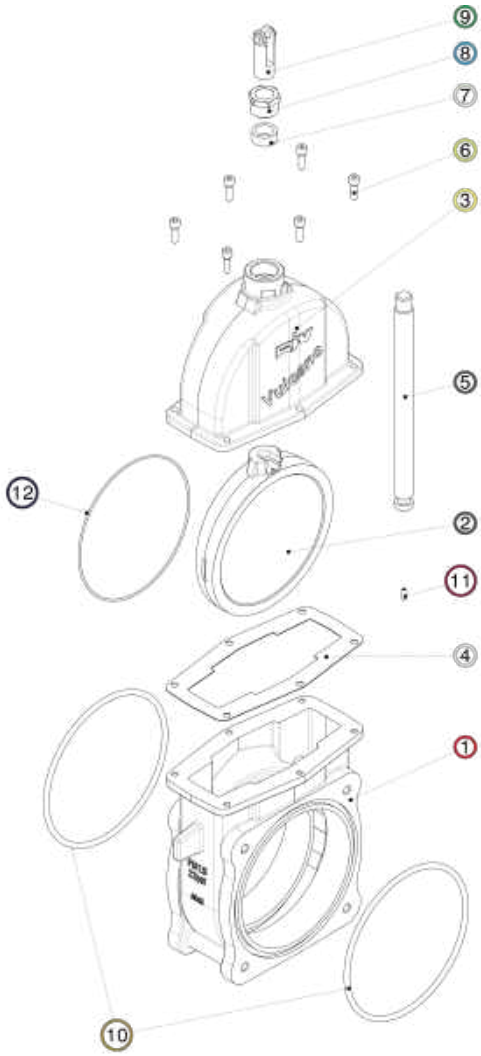
Components List

Vulcano



Item	Pos.	Size	Riv Code	Description	Material	
	1	8"	CODF21091020	Corpo Body Gehäuse	Ghisa Cast iron Gusseisen	EN JGL250
	2	8"	GUOR8005B001	O-Ring	NBR	
Riv 9819	3	8"	059819000020	Cuneo Wedge Keil	Ottone Brass Messing	CB754S
	4	8"	BUCE581K0019	Vite Screw Schraube	Acciaio inox Stainless Steel Nirostahl	AISI 304
Riv 9858	5	8"	GUOR7805B008	O-Ring	NBR	
Riv 9839	6	8"	GUSSGH80D020	Guarnizione Gasket Dichtung	Fibra Fibre Faser	
Riv 9852	7	8"	BUBR531K0071	Vite Screw Schraube	Acciaio inox Stainless Steel Nirostahl	AISI 304
Riv 9829	8	8"	STSS30040020	Asta Stem Hubstange	Ottone Brass Messing	CW614N
Riv 9826	9	8"	TEDF21091020	Testata Cap Oberteil	Ghisa Cast iron Gusseisen	EN JGL250
Riv 9840	10	8"	SPSS7E0HF002	Stoppa Tow packing Stopfbuchsdichtung	Fibra Fibre Faser	
Riv 9844	11	8"	PSSS31191001	Premistoppa Stuffing-Box Stopfbuchsmutter	Ottone Brass Messing	CW614N
Riv 9854	12	8"	OMSS30171000	Forcella Fork Gabelkopf	Ottone Brass Messing	CW617N

Special prescriptions

Disposal

⚠ At the end of the gate valve service life, it is recommended to dispose of it at specialised material recycling facilities, scrupulously complying with the law in force in the country of installation.
Any operating fluid or oils contained in the valve must be disposed of in compliance with any provisions of law.

The same disposal policy applies to all parts replaced during the usual maintenance cycle of the valve.

✓ RIV SpA is not responsible for the improper disposal of materials and fluids by the user, installer or maintainer.

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