



IMPORTANT INFORMATION FOR SAFE USE

- In order to use the product safely, be certain to read and understand the "Installation Manual" before proceeding with any work.
- There are places on these joints that may be sharp so always wear the proper work gloves and appropriately protect hands before performing any work.
- If you have any questions or concerns regarding your installation, please contact a dealer or our headquarters.

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agency

Note

Specifications, dimensions, and other product features in this catalog are subject to improvements and changes. Please confirm product specifications before proceeding with design.



Repair, Reinforce Products

THE VICTAULIC COMPANY OF JAPAN LIMITED

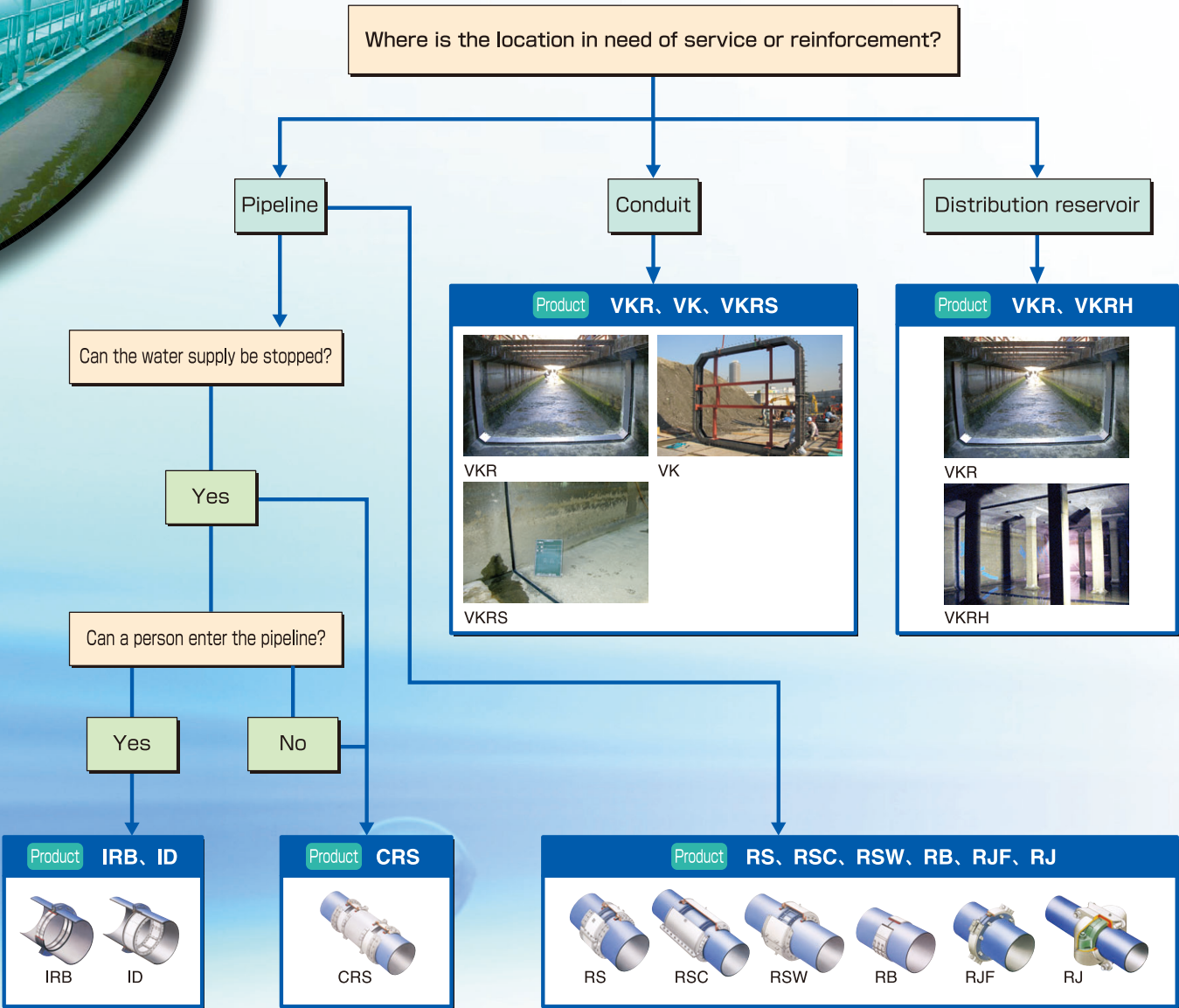


Meeting the needs of the 21st century with advanced technology and products trusted throughout the world, aiming for earthquake-strength, service-ready, and improved piping.

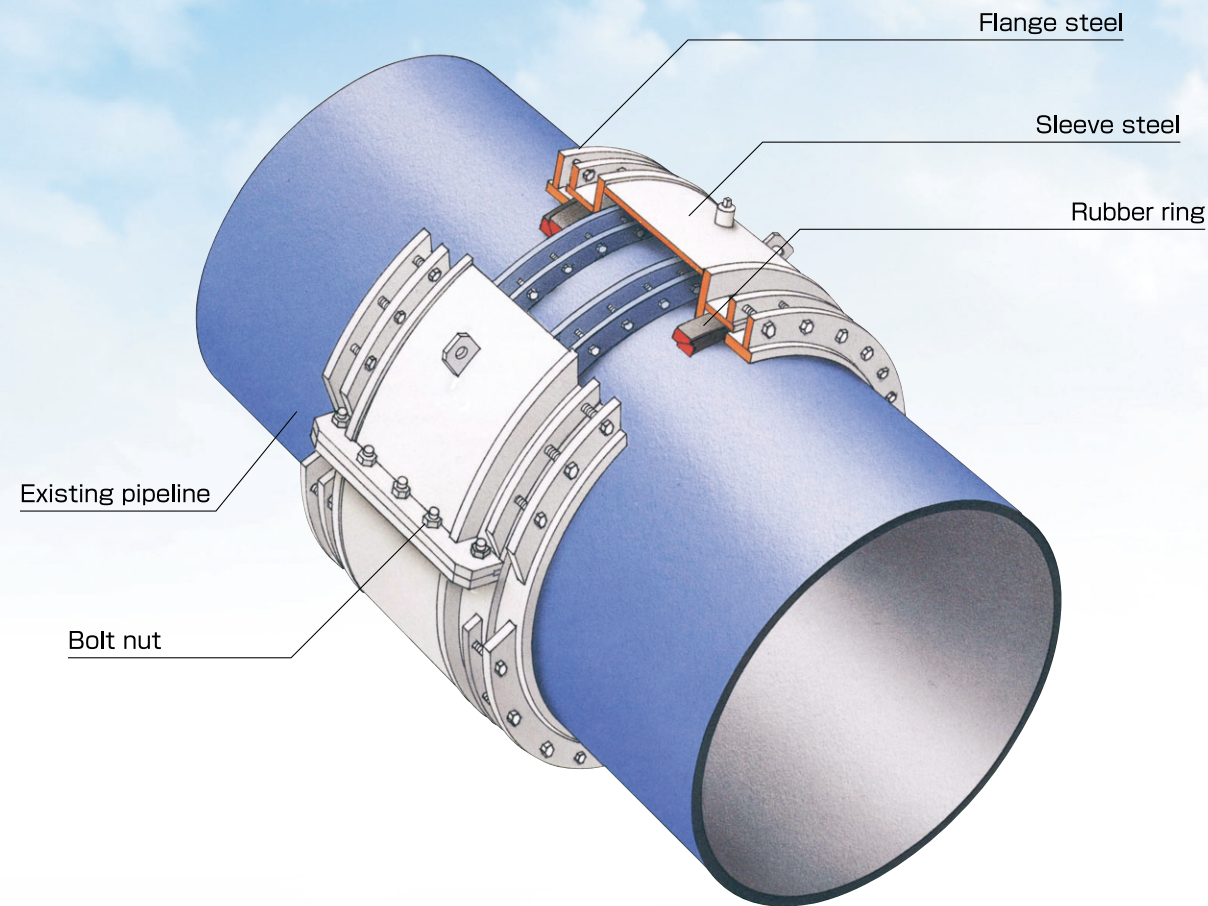
Water is the very source of all life. Our company was established in 1929 as a specialty manufacturer of piping joints with the goal of delivering this important resource to every place it is needed. Since our inception as we have brought to market our specialized joints for all types of pipeline and conduit, we have witness a greater push for earthquake-resistant, service-ready, and improved design of pipeline systems, and have developed a multitude of service joints to meet those growing demands. Currently our products and technology are utilized in a number of ways in public water and sewage systems, industrial water systems, agriculture irrigation systems, civil engineering projects, construction facilities and equipment, machinery, plants, etc., and we are known around the world for our brand name. With five offices and two factories located in Japan, we are contributing to a brighter, richer future.

INDEX

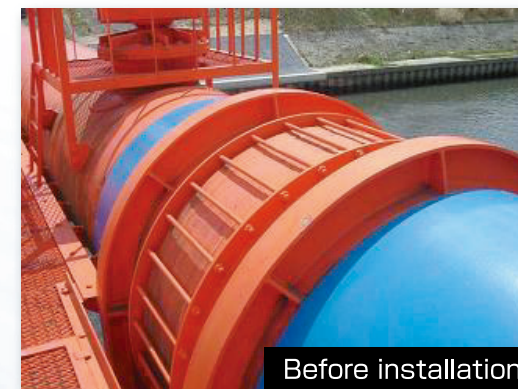
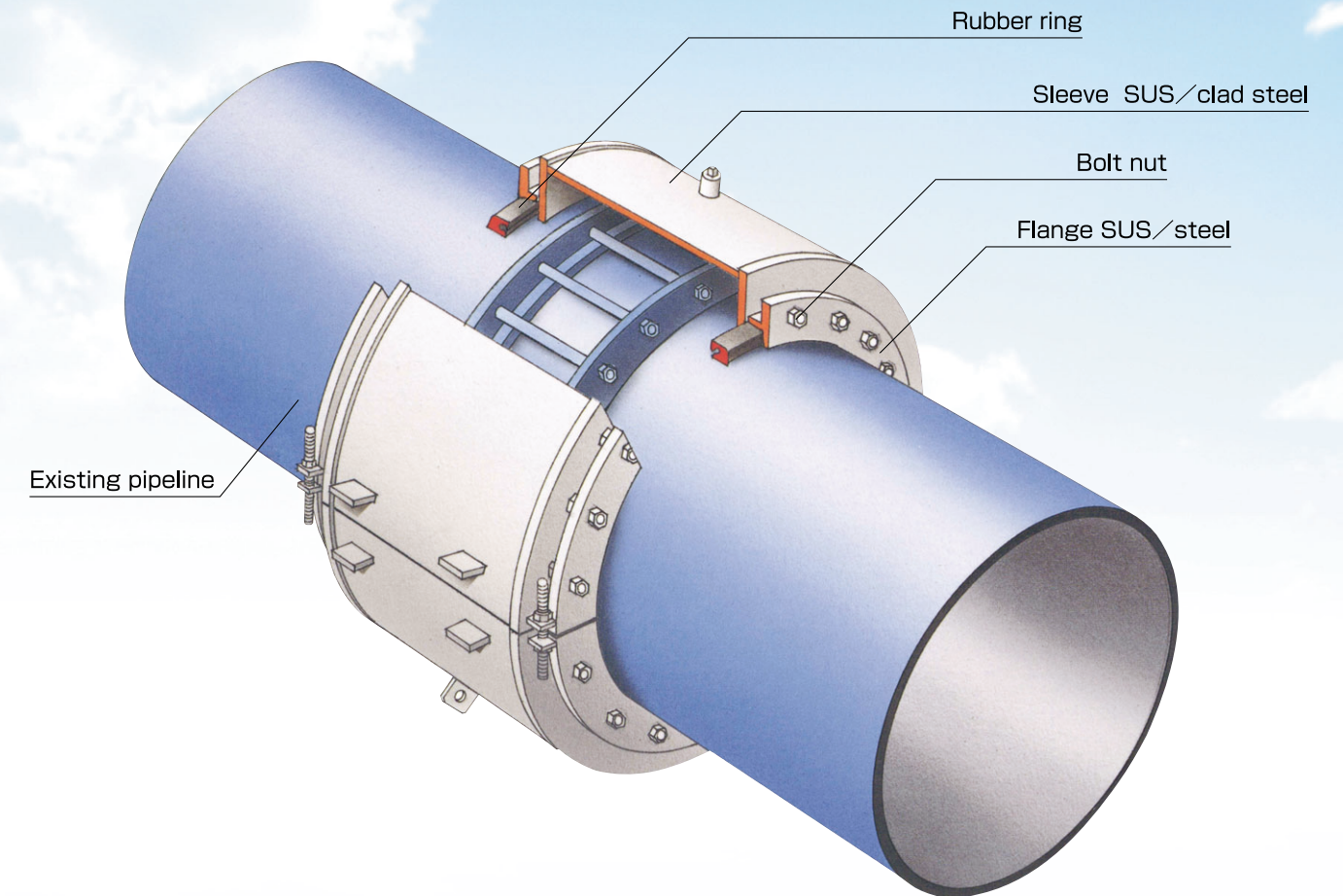
■ Earthquake-Resistant, Reinforced Flexible Joint	Model: RS	3
■ Earthquake-Resistant, Reinforced Flexible Joint	Model: RSW	4
■ Flange Reinforcing Joint	Model: RJF	5
■ External Reinforcing Band	Model: RB	6
■ Earthquake-Reinforced Flexible Joint	Model: RSC	7
■ Closer Universal Joint	Model: CRS	8
■ Internal Reinforcing Band	Model: IRB	9
■ Internal Reinforcing Joint	Model: ID	10
■ Square Service Joints	Model: VKR	11
■ Earthquake-Resistant Flexible Expansion Joints	Model: VKRH2	13



Earthquake-Resistant, Reinforced Flexible Joint Model: RS



Earthquake-Resistant, Reinforced Flexible Joint Model: RSW



Features

Depending on the pipeline mounting, it can be divided into halves, thirds or quarters and joined with bolts around the outside periphery of the pipeline. Gaskets are used in the joint. The complete watertight seal around the entire periphery of the pipeline is created by a watertight construction that completely seals the wedge-type rubber to the sleeve stuffing box with a flange and bolt mechanism, and even if the pipeline undergoes some deformation, the hermetic seal is maintained. Because the sealing method completely covers over each joint and expansion joint, creating a seal to prevent water seepage, it is fairly large. However, even after assembly, it absorbs all expansion, bending, and twisting, making it the ideal choice for use as an earthquake-resistant, reinforced pipeline for aqueduct systems.

Applications

- Can be used with a variety of openings and pipeline types.
- Allows for repair of water leakage from the breakage of flange joint neck, etc.
- The properties of type of expansion joint such as dresser, bellows, mechanical, or telescoping actually outperform their specifications, preventing any dangerous conditions. It is ideal for use in repairing water leaks and for earthquake-resistant purposes.

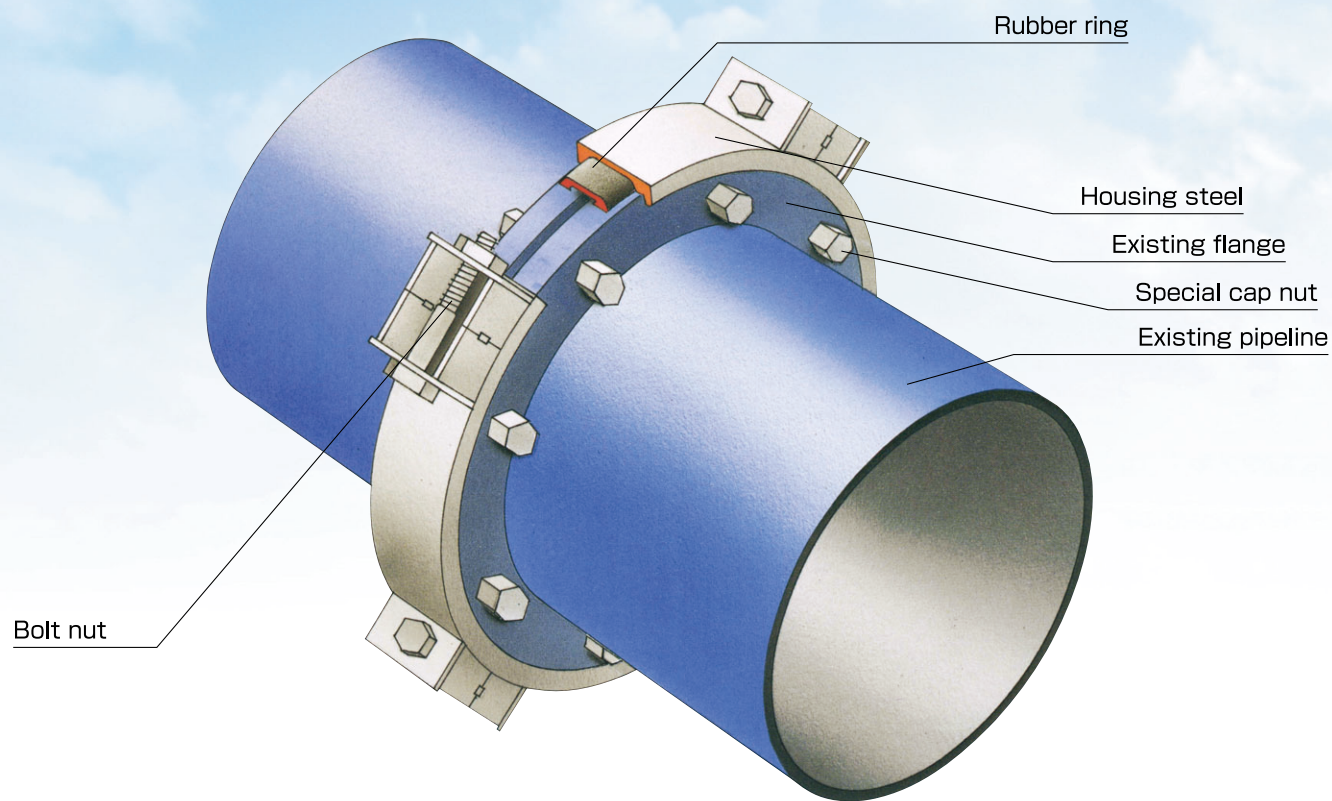
Features

This earthquake resistant, reinforced joint uses an automatic-sealing rubber ring in the closer joint. Since the two mating parts are welded, it can be installed in small spaces. After reinforcement, any expansion, twisting and axial movement is absorbed, allowing for superior performance over a long period of time.

Applications

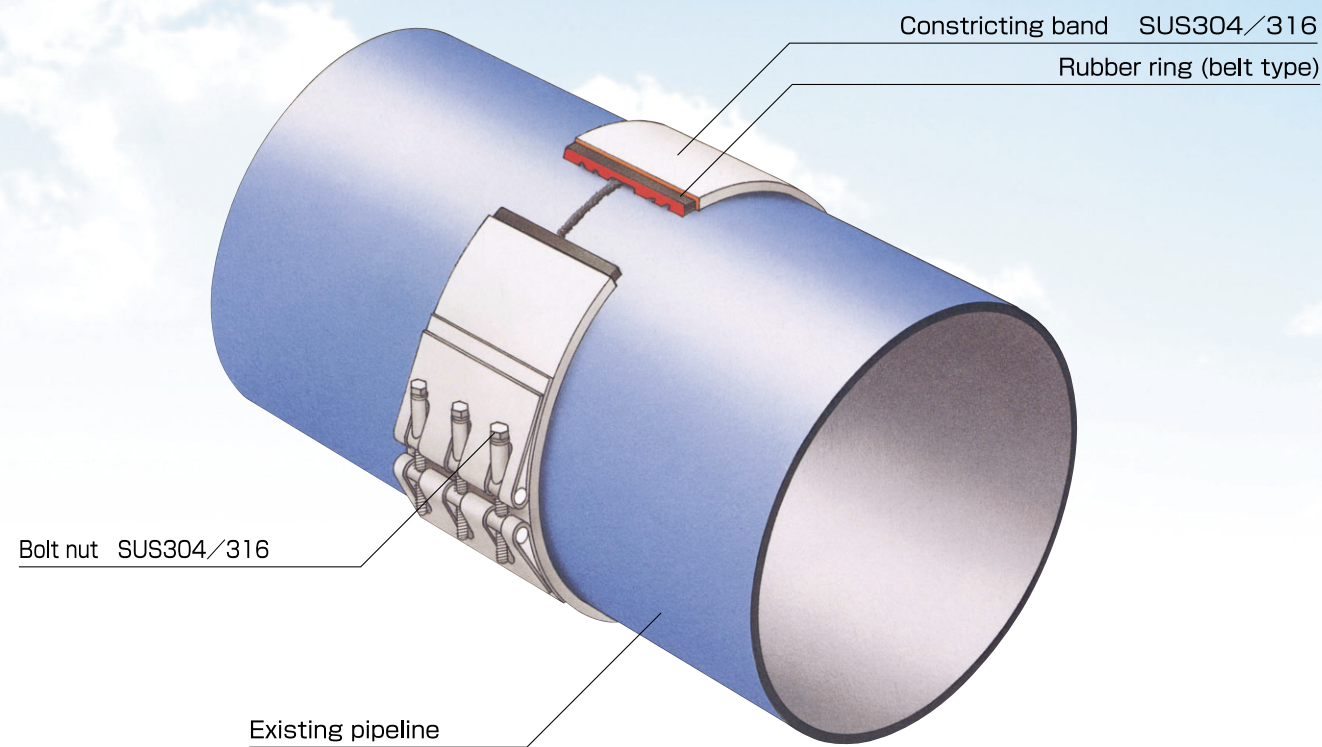
- Can be used with a variety of pipeline types.
- Can be used with a variety of expansion joint such as dresser, bellows, mechanical, and telescoping to repair water leakage and for reinforcement to improve earthquake resistance.
- Available in many sizes.

Flange Reinforcing Joint Model: RJF



Flange Reinforcing Joint Model: RJF

External Reinforcing Band Model: RB



External Reinforcing Band Model: RB



Features

Since an automatic-sealing rubber ring is used in the mating part, the product is very long lasting and economic.

Applications

- Used to reinforce against water leakage at the flange packing part.



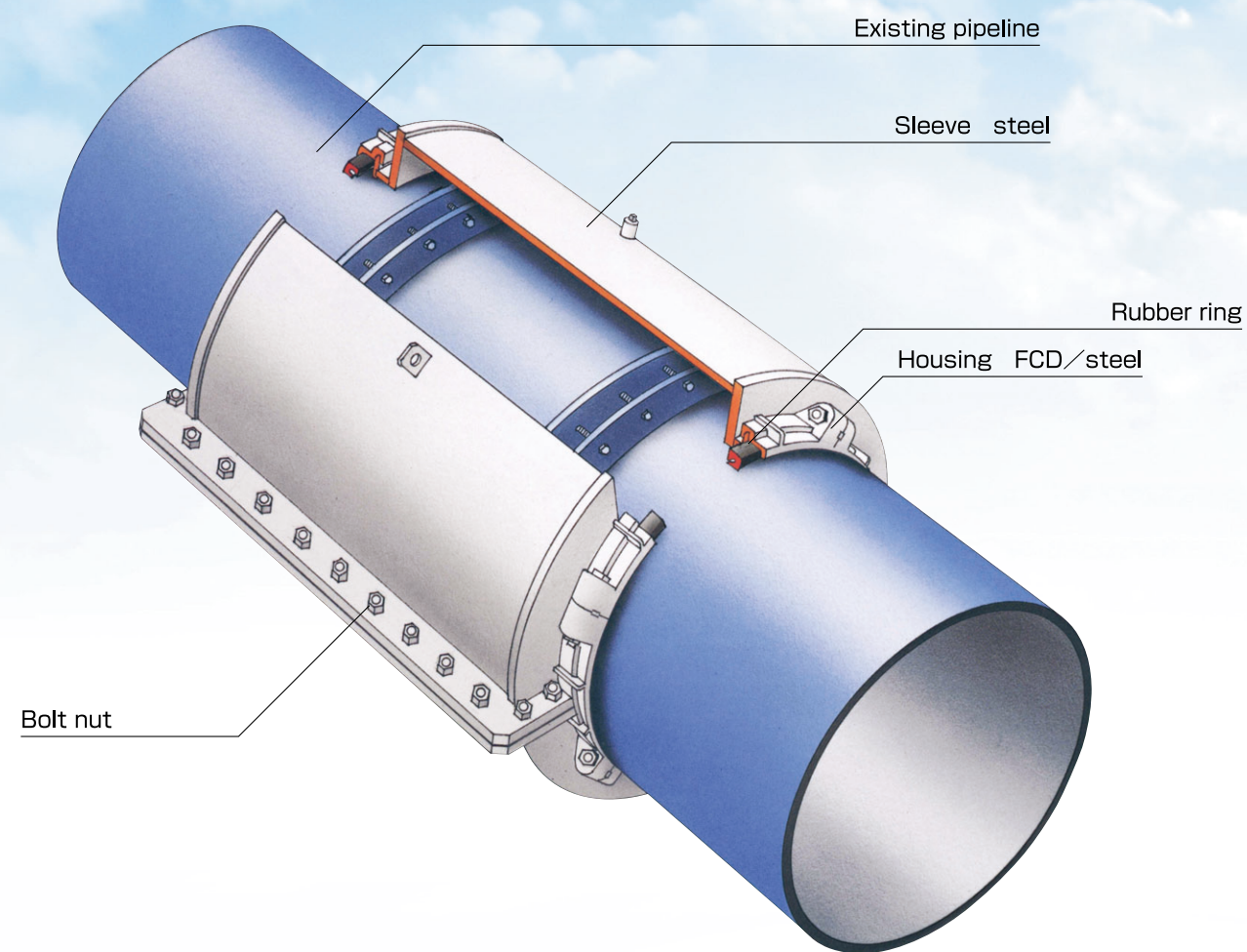
Features

Since an automatic-seal type is used for the rubber ring, the durability is much greater compared to flat packing and wedge packing. The constricting metal band (housing) is made to provide superior strength, and sealing performance is more than sufficient to meet internal pressure. Its compact design makes this band ideal for installation in narrow places.

Applications

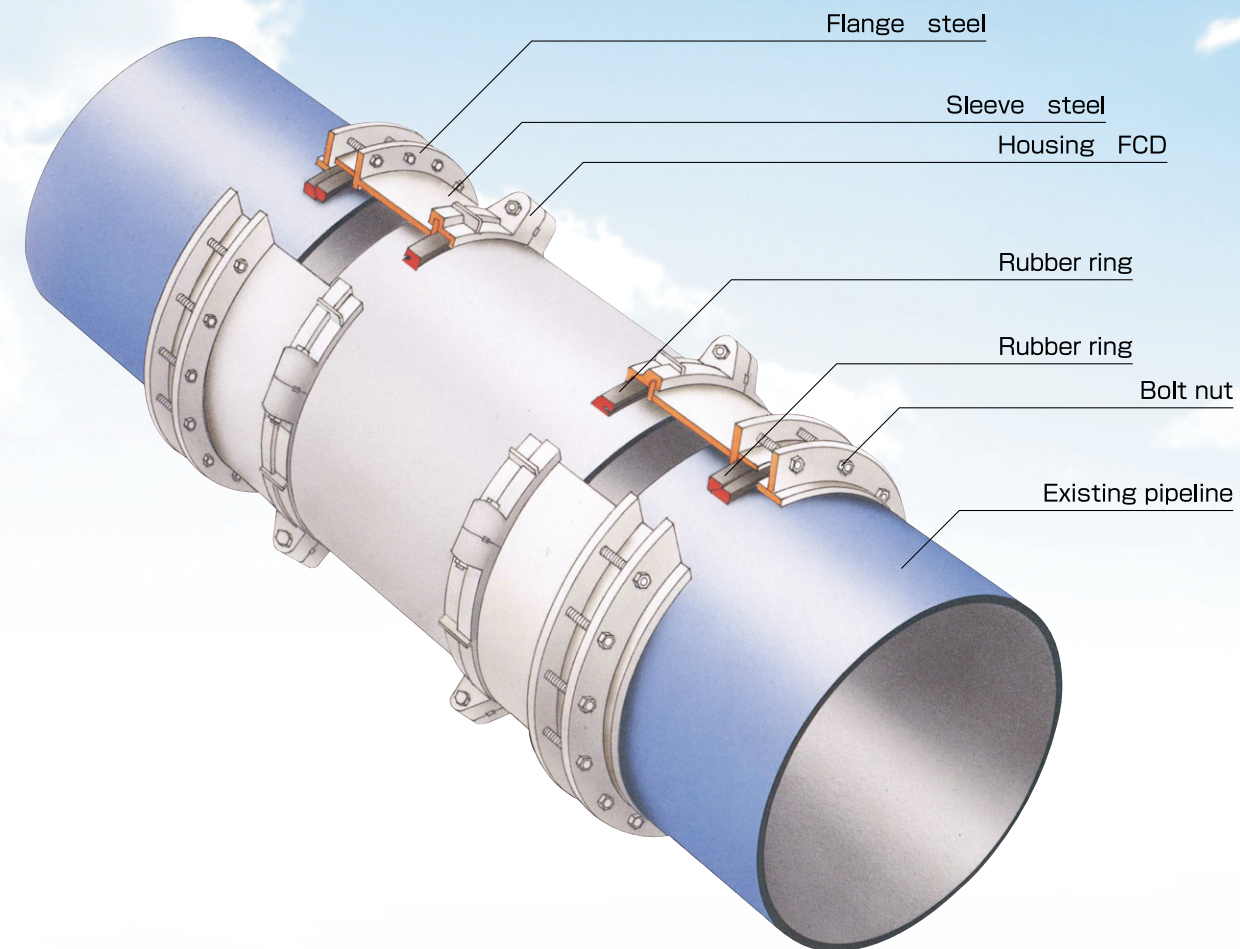
- Good for bead cracking at welded joints of pipeline.
- Use for fissures in pipeline.
- Can be used for corrosion or holes in the pipeline.
- Use when the pipeline is accidentally punctured.
- Good for reinforcement of pipeline that has no protrusions on the exterior periphery.

Earthquake-Reinforced Flexible Joint Model: RSC



Earthquake-Reinforced Flexible Joint Model: RSC

Closer Universal Joint Model: CRS



Closer Universal Joint Model: CRS



Before installation



After installation

Features

Earthquake-reinforced joint with automatic sealing rubber ring on the closer joint. After reinforcement, this pipeline can absorb compression, axial and twisting movements, while retaining superior product performance over a long period of time.

Applications

- Applications available for a variety of pipeline openings.
- Can be used with a variety of flexible expansion joint such as dresser, bellows, mechanical, and telescoping to repair water leakage and for reinforcement to improve earthquake-resistance.



Before installation



After installation

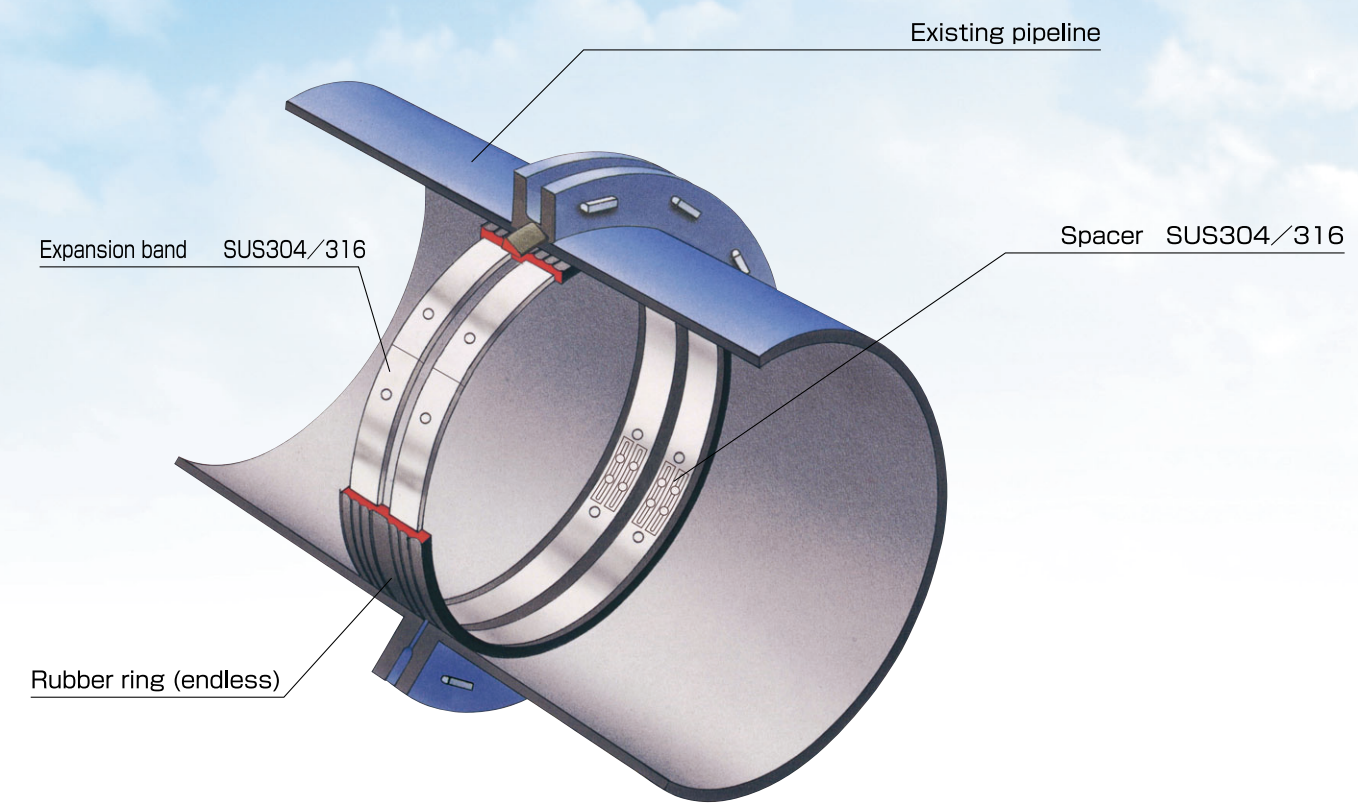
Features

Ideal for application for improving earthquake-resistance and to address settling of the ground. Joints can be installed to earthquake-resistant structures and existing non-flexible pipeline without welding. The Repair Sleeve Joint and Closer Joint, when mounted together, have a strong track record for their construction. Fittings to pipeline use a sleeve joint configuration, while closer joint configuration is used for applications requiring flexible expansion and contraction. Bending, compression and axial movement is absorbed for superior performance over a long period of time.

Applications

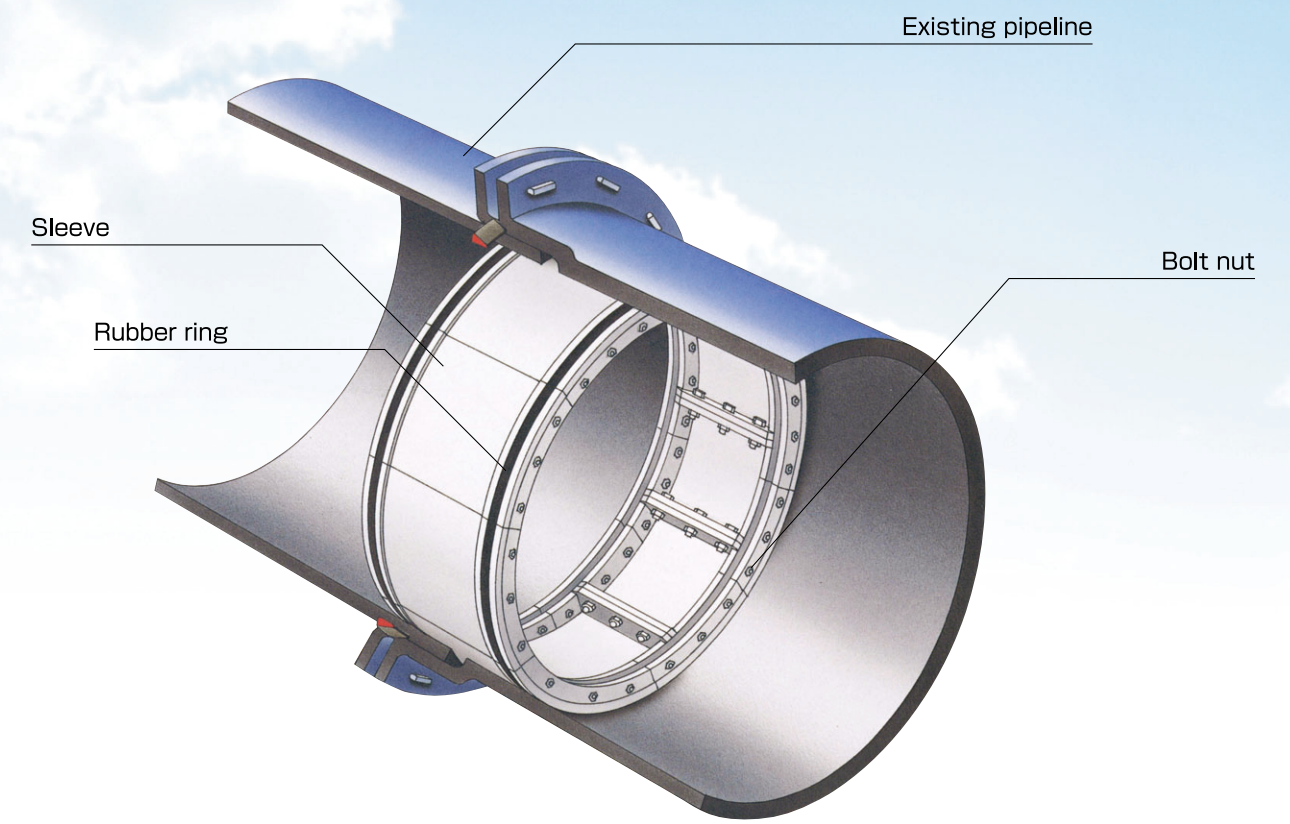
- Axial movement against pipeline and piping may be present because of settling in the ground or settling of construction. When ground continues to settle, it may become necessary to insert flexible expansion joint into the system. If it is possible to cut and remove part of the piping and weld flexible expansion joint to it, there is no problem. When this is not possible either because of constraints in the service schedule or other reasons, you can use our products to get the job done right, quickly and easily.

Internal Reinforcing Band Model: IRB



Internal Reinforcing Band Model: IRB

Internal Reinforcing Joint Model: ID



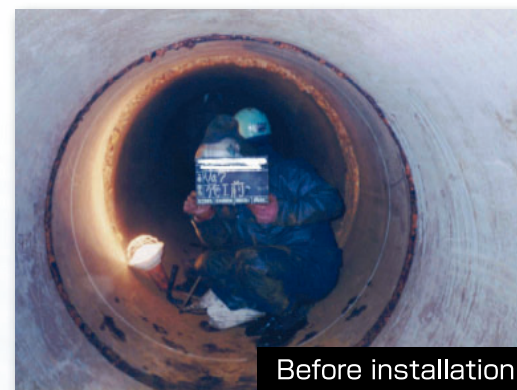
Internal Reinforcing Joint Model: ID



Before installation



After installation



Before installation



After installation

Features

Inside the pipeline with chamfered surface, leakage from inside the piping can be completely eliminated. Fitting is simple, and because of the ultra-thin construction, the flow of fluid in the piping is hardly affected.

Applications

- The flanged, mechanical mating parts and parts subject to corrosion are reinforced to prevent leakage and withstand earthquakes.

Width	Internal water pressure	External water pressure	Bend angle	Expansion/Contraction tolerance	Axial movement tolerance	Note
300mm	1.0Mpa	0.05Mpa	2.5°	±20mm	20mm	If the reinforcing band is used, external water pressure can be up to 0.1 MPa.
400mm	1.0Mpa	0.05Mpa	5°	±30mm	30mm	
600mm	1.0Mpa	0.1Mpa	5°	±100mm	100mm	
800mm	1.0Mpa	0.1Mpa	5°	±100mm	100mm	

※The figures shown above are properties for our standard products. For information regarding products that exceed the above conditions in compression, axial movement, and performance, please contact our office.

Features

The joint is designed so it can be transported inside the pipeline and installed. In order to improve the ease of assembly, the sleeve and flange are separate parts, and designed to be lightweight. Construction is done easily, using a gasket to join separate parts and tightened with bolts. The seal around the periphery is maintained by tightening the wedge rubber ring to the sleeve stuffing box by a flange and bolt. The fully assembled Model ID maintains superior performance by absorbing expansion, bending and twisting like Model:RS.

Applications

- This joint is ideal for reinforcing and repairing from the inside areas where water leakage occurs at various earthquake resistant and expansion joints and in other conditions that may be potentially dangerous. Therefore, it is important to use when the aqueduct can be emptied, and a person can work inside.

Square Service Joints Model: VKR

Applications

- Repair water leakage or penetration of masonry joints.
- Repair deterioration of watertight plating.
- Repair gaps (clearance) caused by movement of earth's crust.
- Repair gaps (unevenness) caused by movements of earth's core.
- Repair off center joint (bending) caused by movement of earth's core.
- All repairs of open ditch and underground aqueduct systems possible.
- Partial repair and maintenance due to deterioration.

Features

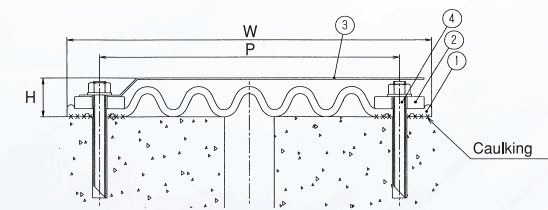
- Compact with no protrusions.
- Easy to work with and allows for fast installation.
- Allows for expansion and contraction, and can absorb bending.
- Rubber material has excellent climate and ozone resistant properties among other superior physical properties. We use an ethylene propylene composite polymer and chloroprene composite polymer.
- Products have superior durability.

Performance

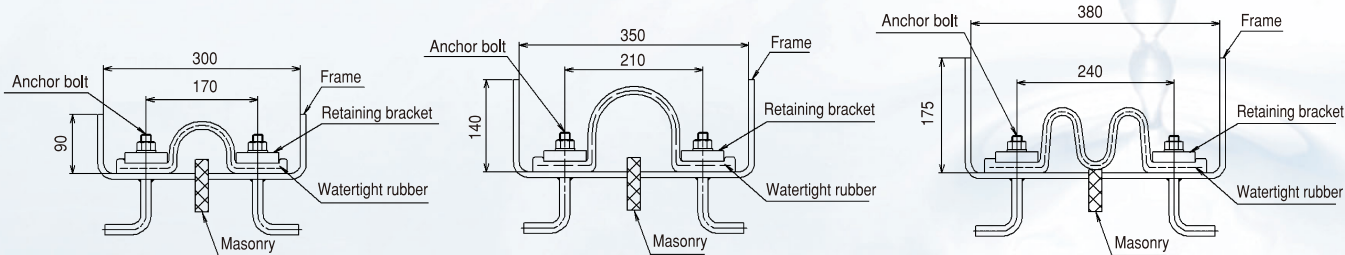
Model	Width W (mm)	Height H (mm)	Mounting width P (mm)	Expansion/Contraction tolerance (mm)	Shear tolerance (mm)	Pressure resistance (Mpa)
VKR-30	300	40	215	30	30	0.05
VKR-100	365	30	300	100	100	0.05
VKR-200	470	35	400	200	200	0.05
VKR-300	565	40	470	300	300	0.1

※Note: The figures shown above are properties for our standard products.
For information regarding products with greater physical properties than the above, please contact our office.

Construction



No.	Part name	Material
④	Embedded bolt	SUS304
③	Adjuster plate	SUS304
②	Mounting jig	SUS304
①	Watertight rubber	CR/EPDM



VK-50

VK-100

VK-200

Product	Size	Width (mm)	Mounting width (mm)	Height (mm)	Weight (kg/m)	Tolerance in position change (mm)		Internal/external water pressure (Mpa)
						Expansion	Shear	
VK-50		300	170	90	50	50	50	0.15
VK-100		350	210	140	60	100	100	0.15
VK-200		380	240	175	65	200	200	0.15

Figure 1. Clearance

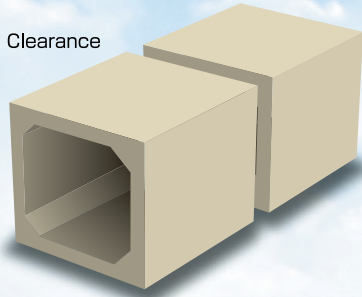


Figure 2. Unevenness

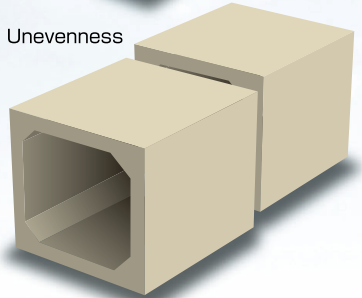
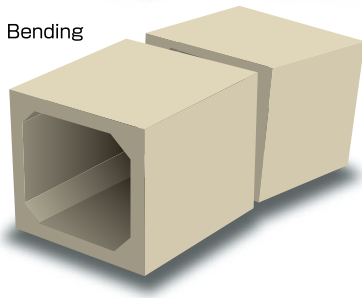


Figure 3. Bending



Work Procedure

Installation Workflow

- 1 Obtain blueprint of work area
- 2 On-site study
 - 1) Determine if there is any water leakage and amount of water penetration.
 - 2) Check actual water level.
 - 3) Determine width of gap or distance off of flush in masonry.
 - 4) Check for cracks and fissures in structure where work will be performed.
 - 5) Check if structure is level, and determine strength.
 - 6) Confirm dimensions of various parts of structure.
- 3 Discussion
 - 1) Determined projected displacement of structure.
 - 2) Determine specifications of joint.
 - 3) Determine timing and schedule of Installation
 - 4) Produce fabrication drawings.
 - 5) Estimate Installation budget
 - 6) Obtain approvals.

Clean inside of conduit ※Example of installation procedure

On-site study

Determine conditions of current work and installation dimensions of product

Select product

Discuss and determine required properties and construction method

Clean mounting area and from smoothing to mark-off.

Mount anchor

Install rubber part

Clean-up

Example of Application

Before Installation



After Installation



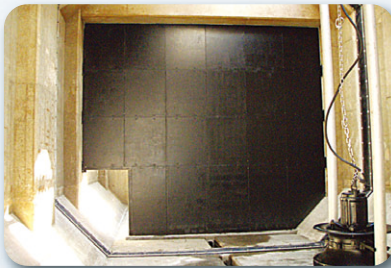
Note

- ※The smallest size applications available are 1m by 1m.
- ※The customer is responsible for the removal of dirt, debris and sediment in the bottom of the aqueduct.
- ※Please contact us for further information on any areas that may be of special concern.

Example of an Installation



Ditch



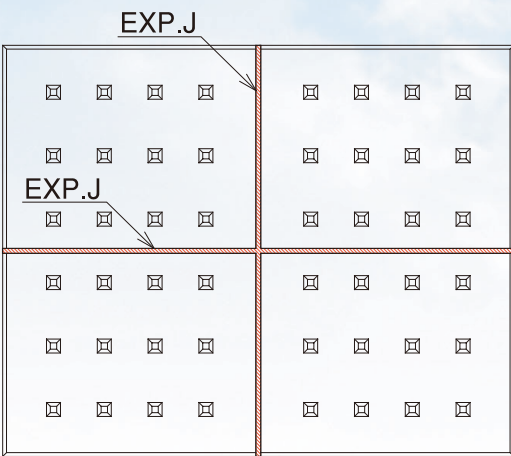
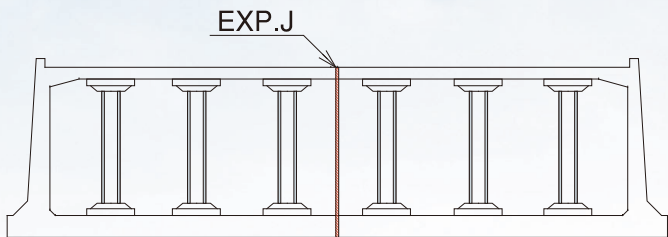
Aeration tank



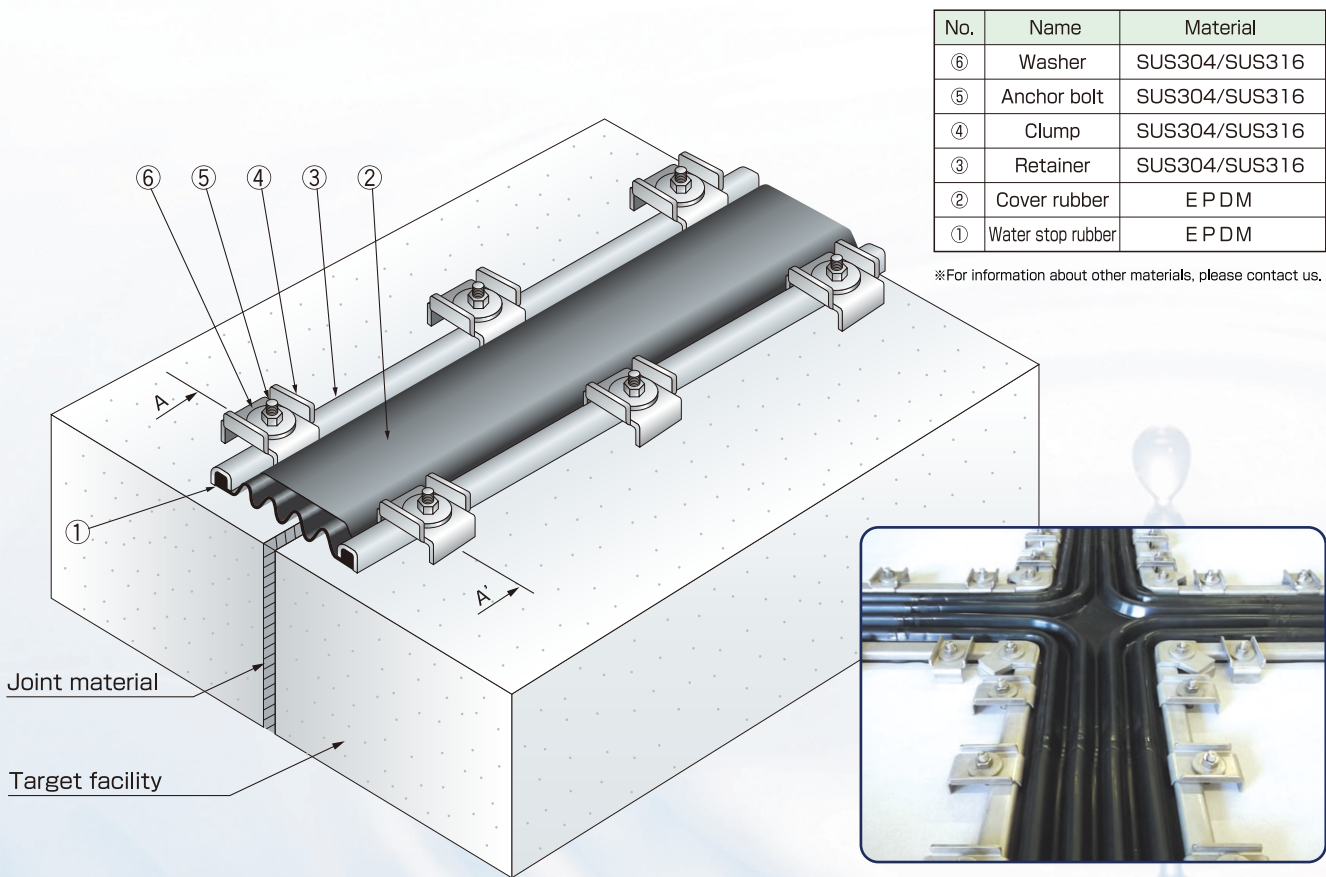
Piping gallery

Applications

- Earthquake-resistant, reinforced masonry water supply systems (service and settling-panel type reservoirs, etc.)
- Earthquake-resistant, reinforced masonry sewage systems (aqueduct, etc.)
- Earthquake-resistant, reinforced masonry public ditch systems
- Other earthquake-resistant systems



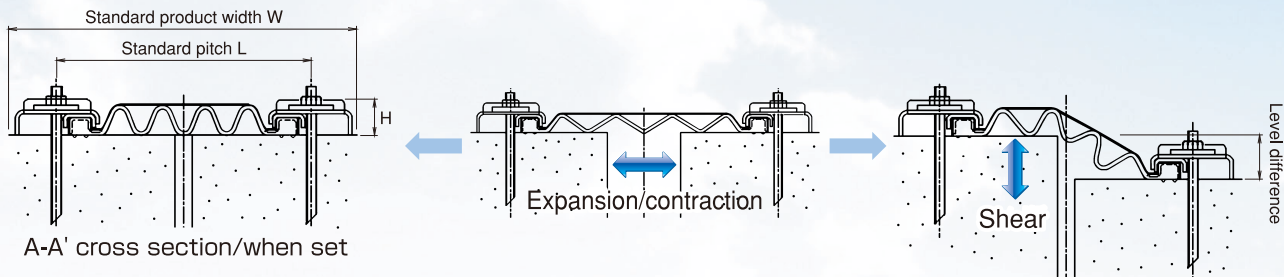
Construction



Performance

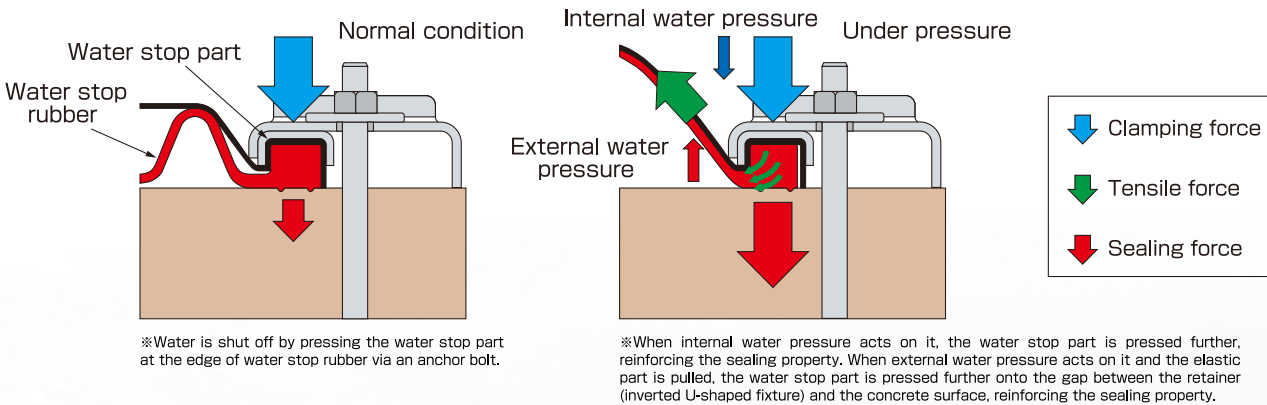
Product name	Internal pressure resistance (MPa)	External pressure resistance (MPa)	Extension performance (mm)	Level difference performance (mm)	Size (mm)		
					Standard product width W	Standard pitch L	Height H
VKRH2-100	0.1	0.1	100	150	376	287	41

※The above table shows the standard performance.
For further information on the extension or level difference offsetting performance or pressure resistance, please contact us.



Features

- As the self-sealing mechanism was adopted, when internal or external water pressure acts on it, it will reinforce sealing strength.



※Even if the clamping force of the water stop rubber weakens through long-term use, sealing force can be boosted by harnessing water pressure with this mechanism.
 ・It is unnecessary to puncture water stop rubber, and so it is possible to shorten a construction period.
 ・This satisfies the water quality criteria of the Ministry of Health, Labour and Welfare.
 ・This product can be used also for T-shaped and cross-shaped joints.
 ・Regarding special joint shapes, etc., please consult with us.

Work Procedure

