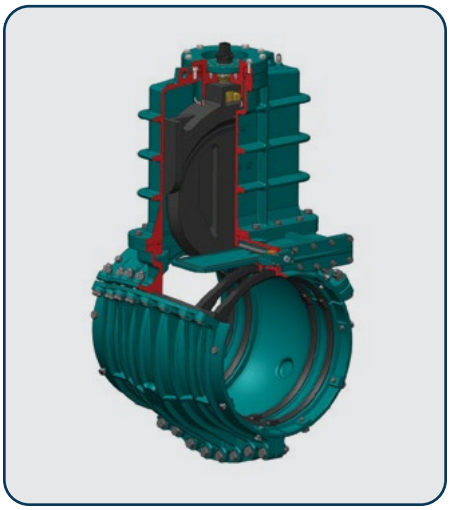
TECHNICAL DATA SHEET.

Introducing The Novus Valve

Novus Valve GEN IV - The nature of the original Novus Valve always relied on the disc to stay above the temporary gate valve. Therefore, the vertical height of the Novus Valve was unavoidably higher, due to its requirement to have enough clearance for the temporary gate valve and the bonnet to be placed above. To reduce the overall height of the Novus Valve, our engineers have developed Novus Valve GEN IV focusing on reducing the height of the fully installed Novus Valve.



Novus VALVE GEN IV - DN375 - 600

Size Range:

DN 375, 400, 450, 475, 500, 600

Allowable Operating Pressure:

1600 kPa, 16 Bar, 250 PSI

Maximum Temperature:

40 °C

Connection Type:

Clamp Type AS4181 – 2019, ISO1127, DIN 32676

Manufacturing QA Managment:

ISO9001, ISO14001, ISO45001

Certifications:

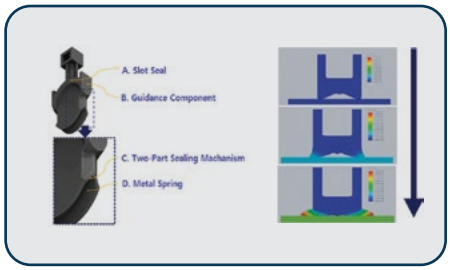
AS 4181 – 2019, AS 2638.2, EN12846, EN1622, WRAS

CHANGES FROM PREVIOUS NOVUS VALVE III

- The **Novus Valve Gen IV** is an innovative product where a resilient seated valve can be installed under pressure. Water isolation is not required at any stages during the installation process.
- However due to the nature of the **Novus valve GEN IV**, the height of the Novus Valve was unavoidably higher than the standard sluice valve due to the specific components of the Novus Valve.
- In situations where the main was buried in shallow cover, the bonnet was installed above ground level, therefore was unable to be left in place as a permanent valve.
- S-Gave Valve IV has undergone development to significantly reduce the height of the overall valve by utilising our patented technology to ensure that the height of the bonnet can be lowered upon completion of install.

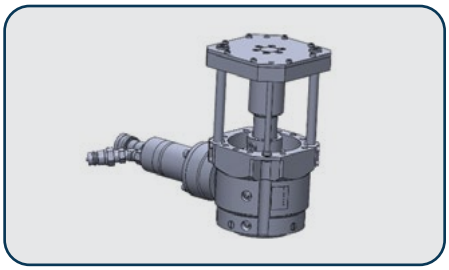
OUR UNIQUE TECHNOLOGY - NOVUS VALVE III.

OUR DISC



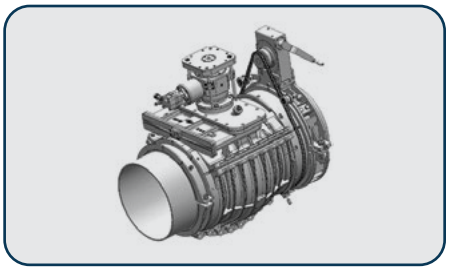
- Our unique disc design enables a **workable** shuts by sealing on various pipe conditions
- On pipes with uneven surfaces
- Pipes with in-situ poured lining.

OUR DRILL



- Our hydraulic drill has undergone development to reduce overall height of the drill.
- When fully extended, the drill is 512**mm.**
- Drill - (CE) Conformité Européenne

PRODUCT DURABILITY

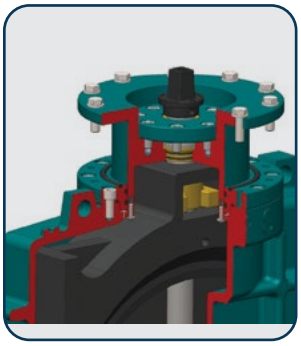
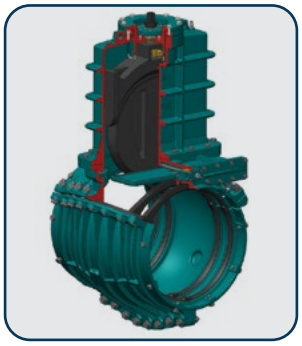
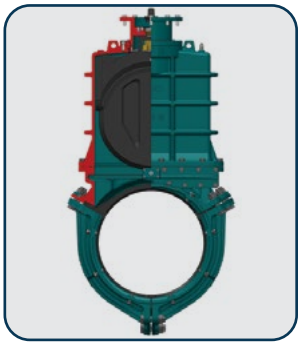


- Our Clamps and Valve underwent multiple trials and design changes to meet **stringent pressure criteria.**
- As a result, out fitting has been rated to PN16, (1600 kPa, 16 Bar, 250 PSI)

NEW TECHNOLOGY SPECIFIC TO NOVUS VALVE IV

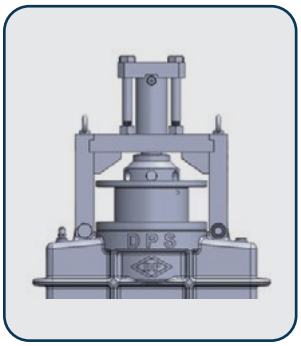
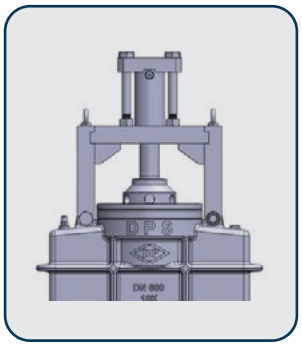
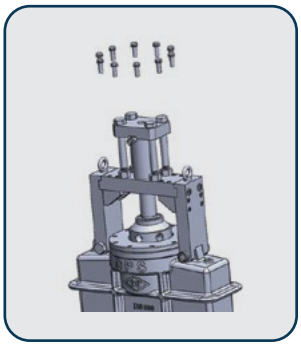
Height of the Novus valve straight after the installation is no different to a GEN III. During this stage, the disc is sitting above the temporary gate valve, allowing the temporary gate valve to operate without obstruction.

Stage 1 - Valve Is In Fully Extended Position

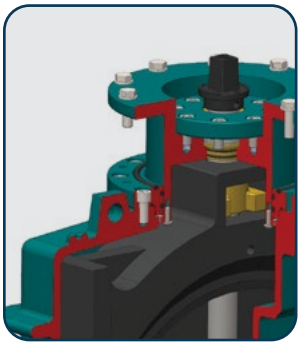
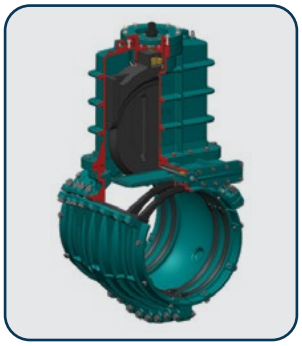
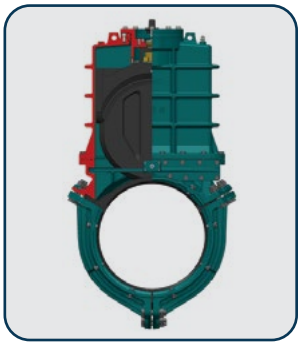
Valve disc is sitting above the temporary gate Valve

STAGE 2 - Hydraulic Press Machine to Compress Valve

Hydraulic Press Machine applies compression to the valve top allowing the valve neck to be compressed reducing the overall height. Using the appropriate bolts, the compressed valve neck is secured.

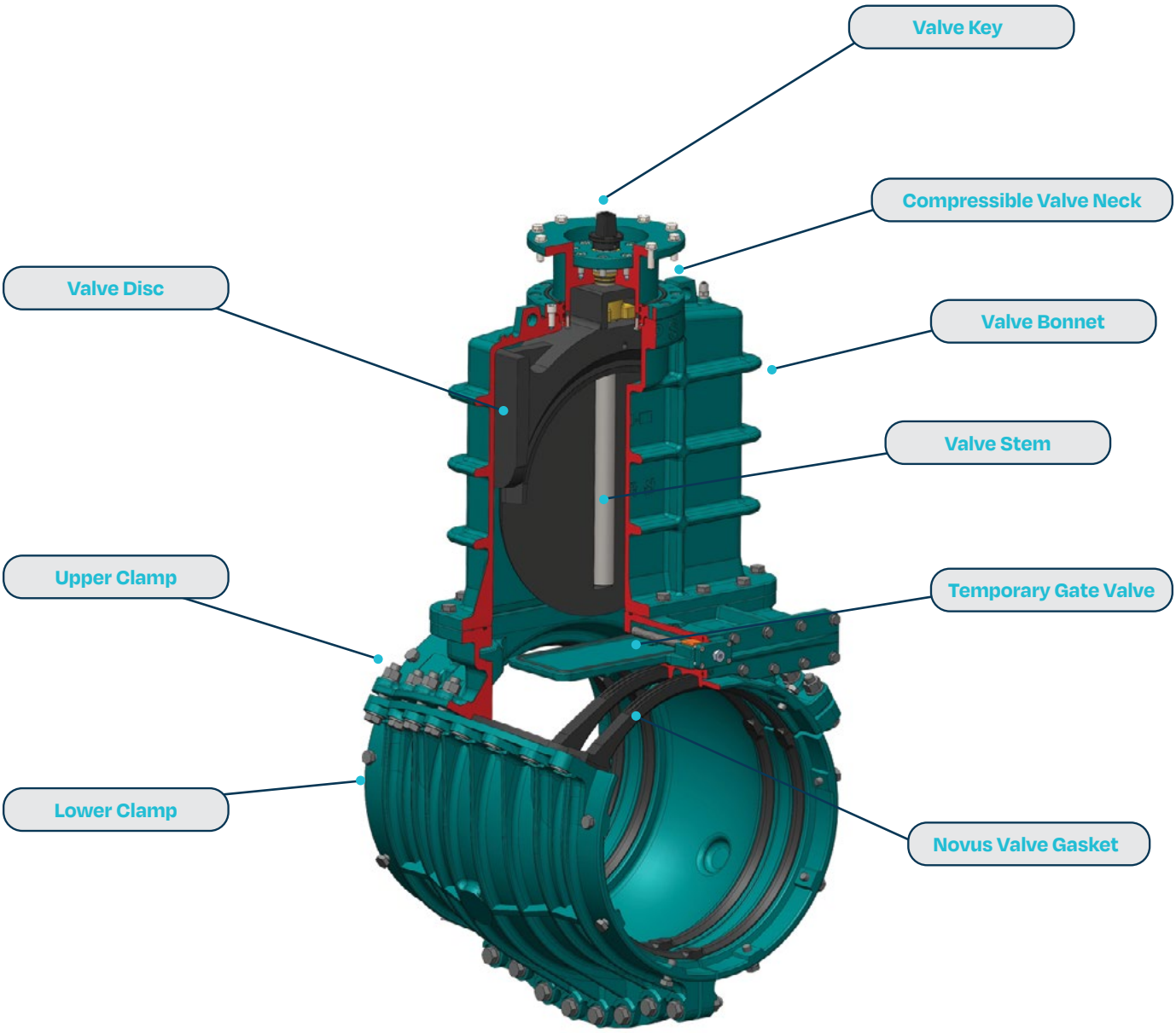
STAGE 3 - Valve is fully Compressed

Disc is sitting below the temporary gate valve. At this stage, the overall height of the Novus Valve is reduced.

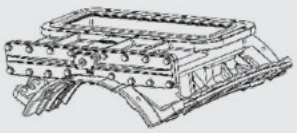
NOVUS VALVE COMPONENTS (GEN IV)

Novus Valve Cut Away Diagram

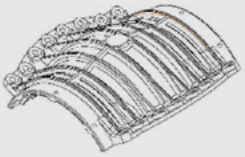


NOVUS VALVE IV DIMENSIONS (DN375MM TO DN600MM)

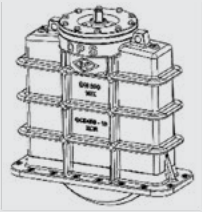
Typical valve arrangement for Novus Valve between size DN80 to DN350mm.



Novus Valve Upper Clamp



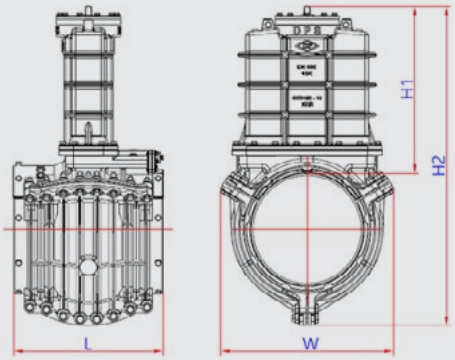
Novus Valve Lower Clamp x 2



Valve Bonnet (Disc)

EPDM Gaskets x 3

SS316 Nuts & Bolts



Novus Valve IV Diagram (DN375 to DN600)

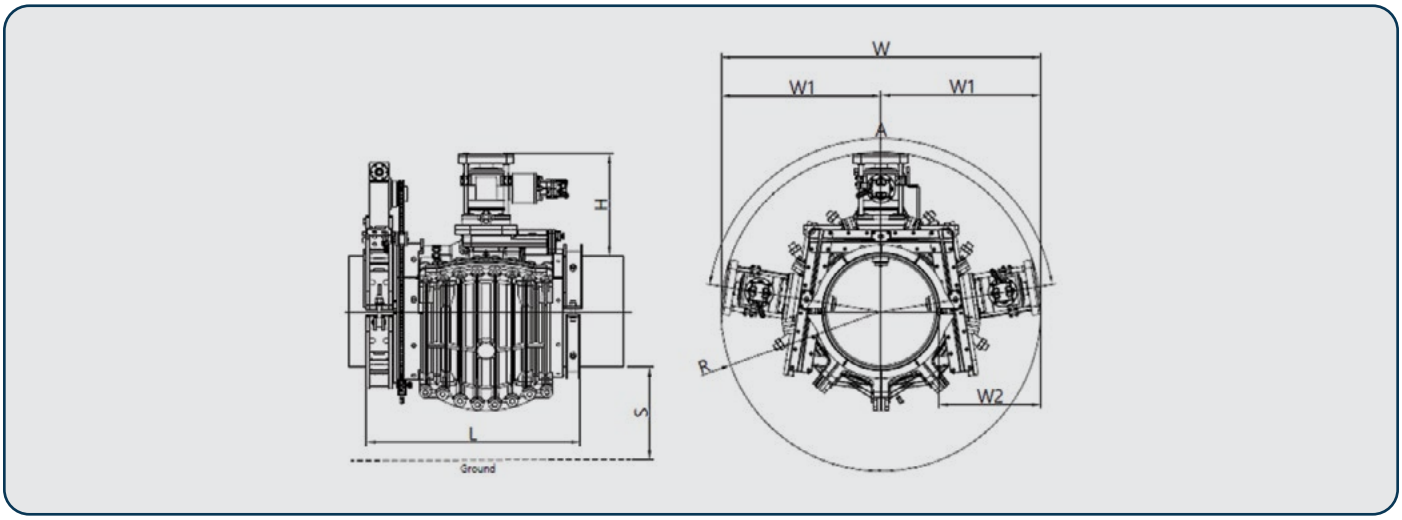
NOVUS VALVE GEN IV CLAMP RANGE (OUTSIDE DIAMETER)

DN (mm)	Typical No. of Turns	Length (L)	Width (W)	Height (H1)	Total Height (H2)	Total Weight (kg)
375	62	680	727	746	1362	990kg
400	62	680	727	746	1362	990kg
450	70	770	814	811	1498	1080kg
500	70	850	898	877	1641	1275kg
600	79	850	978	948	1808	1684kg

Novus Valve GEN IV clamps developed to suit various pipes with variance in outside diameter.

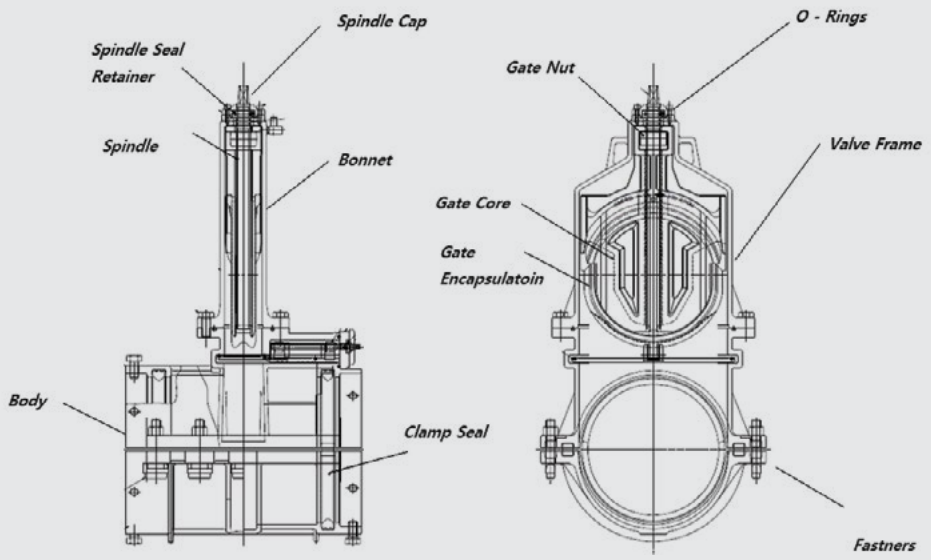
Clamp Codes					
DN	DP (mm)	SP (mm)	PE (mm)	AU ST (mm)	AU OS (mm)
375	X	X	X	425-433	X
400	425-433	402-410	396-404	X	X
450	476-484	453-461	446-454	504-512	512-520
500	528-536	504-512	X	X	X
600	610-635	X	X	TBA	TBA

MINIMUM SPACE REQUIRED FOR NOVUS VALVE



DN	W	W1	W2	L	S (min)	H
375mm	1580	790	575	980	300	575
400mm	1580	790	575	980		575
450mm	1630	815	575	11070		575
500mm	1680	840	570	1150		575
600mm	1800	900	585	1180		575

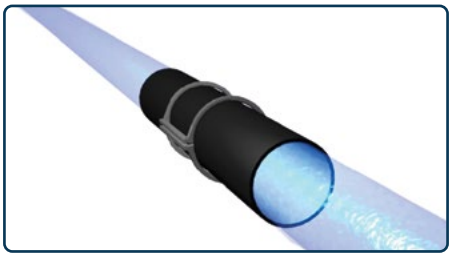
NOVUS VALVE COMPONENT MATERIALS



NOVUS-VALVE COMPONENT MATERIAL LIST

Component	Basic Material	Novus-Valve		
		Material	Standard	Grade
Body	Ductile Iron	Ductile Iron	ISO1083	JS/400/15
Bonnet	Ductile Iron	Ductile Iron	ISO1083	JS/400/15
Spindle seal retainer	Copper Alloy	Copper Alloy	AS/NZS 2638.2	CAC703*
Gate core	Ductile Iron	Ductile Iron	ISO1083	JS/400/15
Valve frame	Ductile Iron	Ductile Iron	ISO1083	JS/400/15
Gate Encapsulation	Synthetic Rubber	Synthetic Rubber	AS1646	EPDM
Gate nut	Copper Alloy	Copper Alloy	AS/NZS 2638.2	CAC703*
Spindle	Stainless Steel	Stainless Steel	ASTM A 276	431
Spindle cap	Ductile Iron	Ductile Iron	ISO1083	JS/400/15
O-rings	Synthetic Rubber	Synthetic Rubber	ISO4658	NBR
Fasteners	Stainless Steel	Stainless Steel	ASTM A 276	316
Clamp seal	Synthetic Rubber	Synthetic Rubber	AS1646	EPDM

NOVUS VALVE INSTALLATION PROCESS.



STEP 1

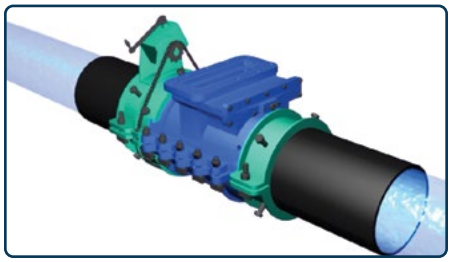
PREPARATION OF PIPE

Pipe is to be cleaned free of any sharp objects. Frictionless tape and lubricants re applied onto the pipe. Then the gaskets are placed on top of the prepared pipe.

STEP 2

PLACEMENT OF THE CLAMP

Both upper clamps and the lower clamps are placed on the pipe. Using the correct fasteners, both upper clamp and lower clamps are installed



STEP 3

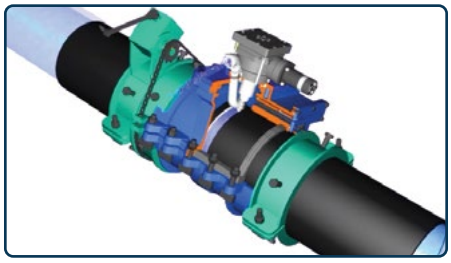
INSTALLATION OF END RINGS

End rings are installed on both side against the clamp. End rings are installed temporarily during installation to allow the valve / to rotate to correct angle during the cutting process

STEP 4

PLACEMENT OF THE DRILL

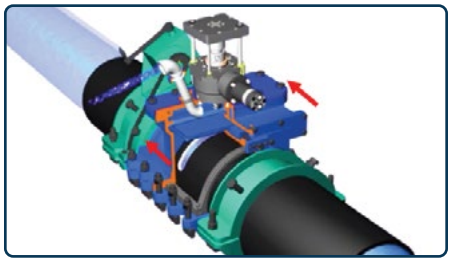
Drill is placed onto the upper clamp of the Novus Valve. With the drill and the upper clamp attached, pressure testing is completed to ensure that the fitting is installed correctly, and no leakages are observed.



STEP 5

CUTTING THE PIPE

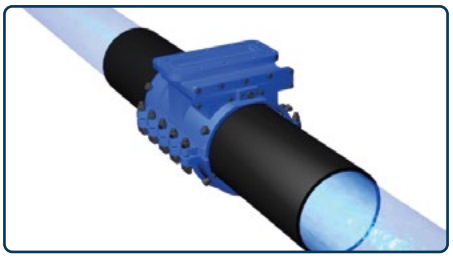
Using the correct end mill, drill is lowered, and rotated allowing the pipe to be cut. End rings are used to ensure that correct angle for the cut has been achieved.



STEP 6

TEMPORARY GATE VALVE

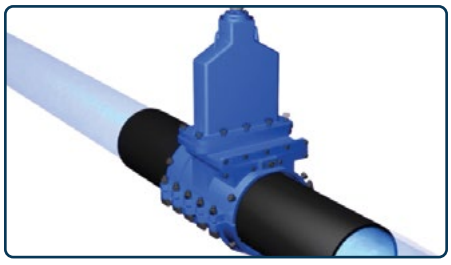
Temporary gate valve is operated to isolate main pressure from the upper clamp to the drill. Once the temporary gate valve is fully closed, the drill can be removed.



STEP 7

Removal of the Drill

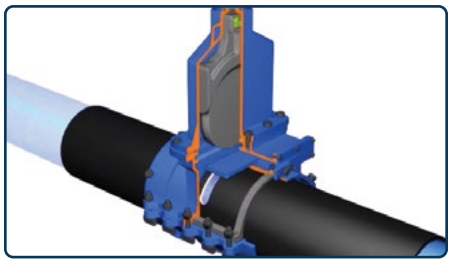
With temporary gate valve isolating the main pressure, the drill can be removed safely without the operator being exposed to any risk.



STEP 8

PLACEMENT OF THE BONNET

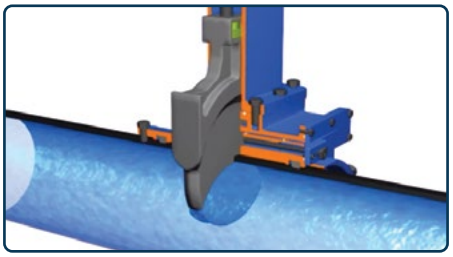
All temporary fitting including end rings are removed. The valve bonnets are then placed on top of the upper clamp.



STEP 9

TEMPORARY GATE VALVE

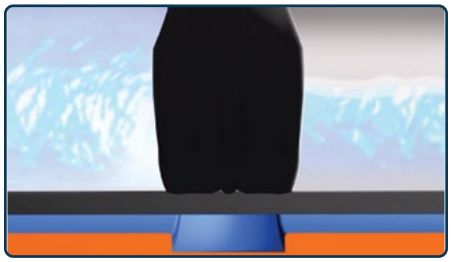
Temporary Gate valve is opened so that the disc can be lowered into the incision made on the pipe. All component of the valve is now exposed to main pressure at this stage



STEP 10

OPERATION OF THE VALVE

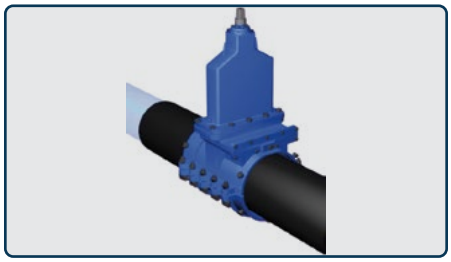
Novus Valve is operated, allowing the disc to be lowered into the main



STEP 11

ISOLATION OF WATER

As the valve is lowered, and compressed onto the inner surface of the pipe, water isolation can be achieved.



STEP 12

COMPLETED INSTALLATION

Novus Valve is fully functional and can be operated at any time.

OUR ACCREDITATION, CERTIFICATES, STANDARD CONFORMANCE.

AUSTRALIA

WSAA

Water Services Association of Australia

AS4020

Testing of Products for Use in Contact with Drinking Water

AS2638.2

Gate valves for water works purposes

AS4181

Repair and off-take clamps for water industry purposes

THE UNITED KINGDOM

WRAS

Water Regulations Approval Scheme

REGULATION 31

Completed Report by DWI approved consultancy

THE REPUBLIC OF KOREA

Korean Standard KS Conformance

K Water

Korean Water Association

Water Standard Conformance Verification

Drinking Water Product

AQUANOVUS
Innovative Aqua Engineering

Link to Live Installation Video

FOR ANY QUERIES

Please contact:

Jason Taylor

jason@aquanovus.net

+44 7931 603606