

TECHNICAL DATA SHEET.

Introducing the Novus Valve

Novus Valve GEN III - A pioneering and accredited innovation, offering seamless valve installation at any desired location without disrupting water supply. Designed to be a permanent valve by conforming to all relevant engineering standards and requirements.



DN375 to DN500mm
Novus Valve

Size Range:

375, 400, 450, 500, 600 (Refer GEN IV Spec Sheet)

Allowable Operating Pressure:

1600 kPa, 16 bar, 250 psi

Maximum Temperature:

40 °C

Connection Type:

Clamp Type AS 4181 – 2019, ISO 1127, DIN 32676

Manufacturing and QA Managment:

ISO9001, ISO14001, ISO45001

Certifications:

AS 4181 – 2019, AS 2638.2, EN 12846, EN 1622, WRAS
Approved Material, BS6920



Link to **Live**
Installation Video

ABOUT NOVUS VALVE

The **Novus Valve GEN III** is an innovative product where a resilient seated valve can be installed under pressure. Water isolation is not required at any stage during the process.

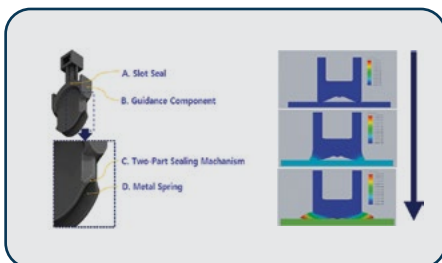
The Novus Valve enables the installations to take place without disruption by utilising a clamp type connection directly to the pipe rather than a flange/flange or socket/socket connection. By utilising our patented technology specific to the generation III, the Novus Valve utilises unique technology and provides workable shut upon installation.

Novus Valve allows installations on the following:

- » Various pipes including variations in Outside Diameter and Inside Diameter
- » Working in confined spaces with encroaching services
- » Our pipe scale cleaner allows cleaning of the inner pipe prior to the seating of the gate.

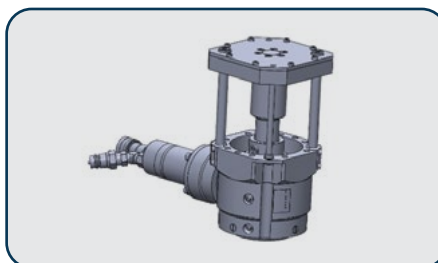
OUR UNIQUE TECHNOLOGY - NOVUS VALVE III

OUR DISC



- » Our unique disc design enables a workable shut upon installation
- » Seals on pipes with uneven surfaces
- » Seals on 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 512mm.
- » Drill - (CE) Conformité Européenne

PRESSURE RATING



- » Our Clamps and Valve underwent multiple trials and design changes to meet stringent pressure criteria.
- » As a result, our fitting has been rated to PN16, (1600 kPa, 16 bar, 250 psi)

NOVUS VALVE COMPONENTS

Novus Valve Cut Away Diagram

Valve Bonnet

Novus Valve bonnet manufactured as per the relevant sluice valve standards. The Novus Valve also passed all functionality tests as per the relevant standards allowing the valve to be classified as a permanent valve.

Temporary Valve

Made with Ductile Iron used to temporarily isolate main pressure above upper clamp.

Temporary Valve Key

Temporary valve key is operated to move the temporary gate horizontally to provide isolation, remove the drill and install the valve under pressure.

Upper Clamp Body

Lower Clamp body

Novus Valve Key

Direction of closure can be selected to be either clockwise or anti clockwise. Designed identical to a standard valve and operated in the same manner.

Valve Stem Nut

Main valve stem nut which controls vertical movement of the disc.

Inner Main Valve Disc (Ductile Iron)

Inner Main valve disc made with Ductile Iron for durability with pressure rating up to PN16 or 1600 kPa.

Main Valve Stem

SS316 Valve Stem used to operate the direction of the disc.

Outer Main Valve Disc (EPDM Rubber)

Triple-layer rubber coating with high elasticity to provide greater isolation.

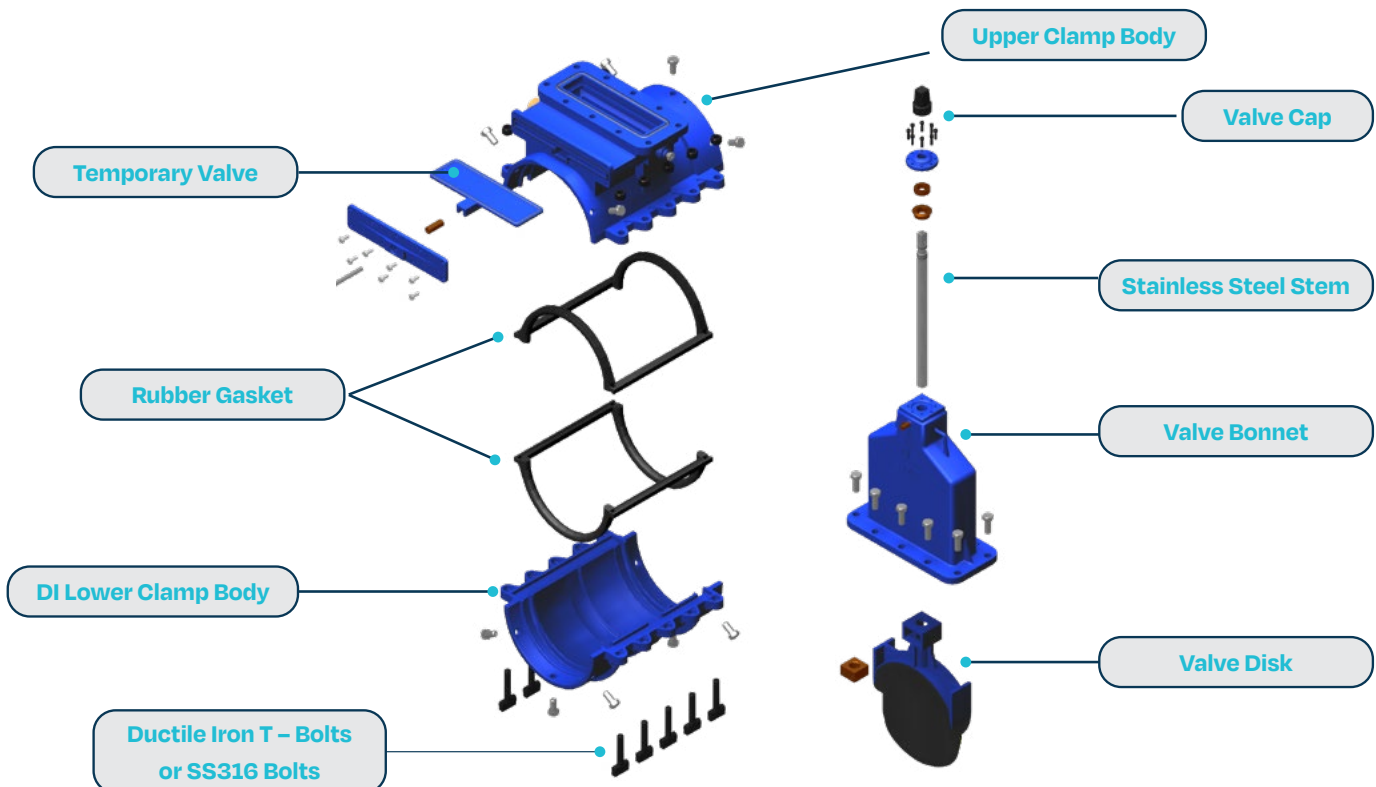
Bolt & Nut

SS316 bolts and nuts for assembly of the valve.

Gasket (EPDM Rubber)

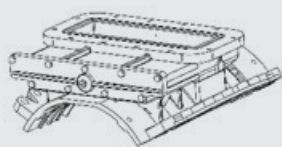
Gaskets come in two components. Made with EPDM rubber, the gaskets are designed to sit within the grooves of the casting to avoid any movement.

Novus Valve Components

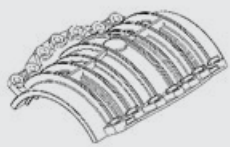


NOVUS VALVE DIMENSIONS (DN375MM TO DN500MM).

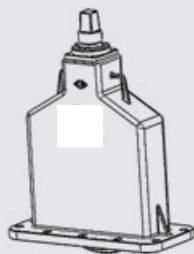
Typical Valve Arrangement For Novus Valve Between Size DN375 To DN500mm.



Novus Valve Upper
Clamp



Novus Valve Lower
Clamp



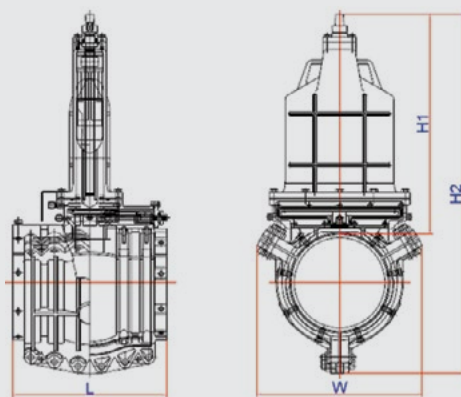
Valve Bonnet
(Disc)



EPDM Gaskets
x 3



SS316 Nuts &
Bolts



Novus Valve Diagram (DN375 to DN500)

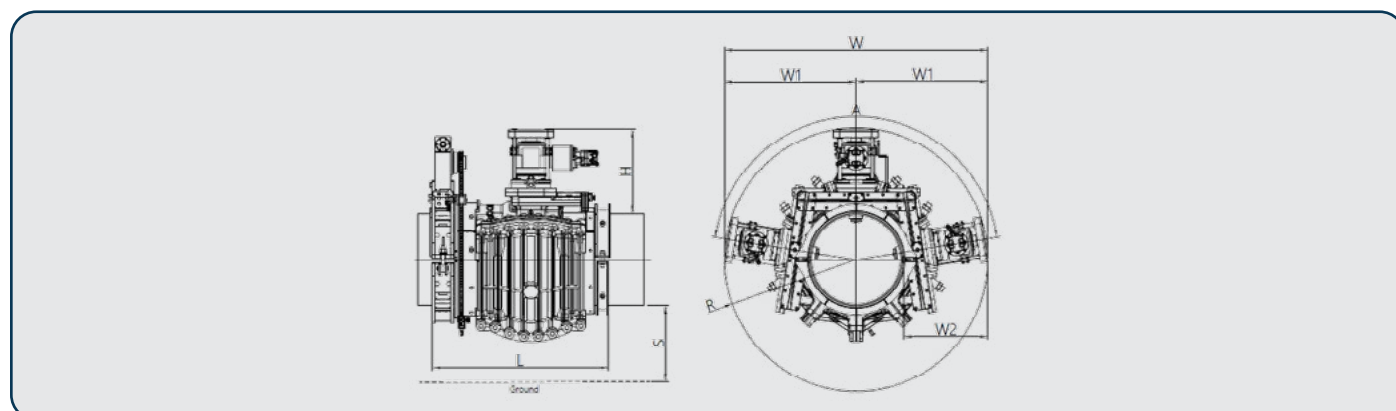
DN (mm)	Typical Turns to Shut	Length (L)	Width (W)	Height (H1)	Total Height (H2)
375	29	680 mm	727 mm	970 mm	1583 mm
400	32	680 mm	727 mm	970 mm	1583 mm
450	36	770 mm	814 mm	1082 mm	1768 mm
500	40	850 mm	898 mm	1221 mm	1982 mm

NOVUS VALVE GEN III CLAMP RANGE (OUTSIDE DIAMETER).

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

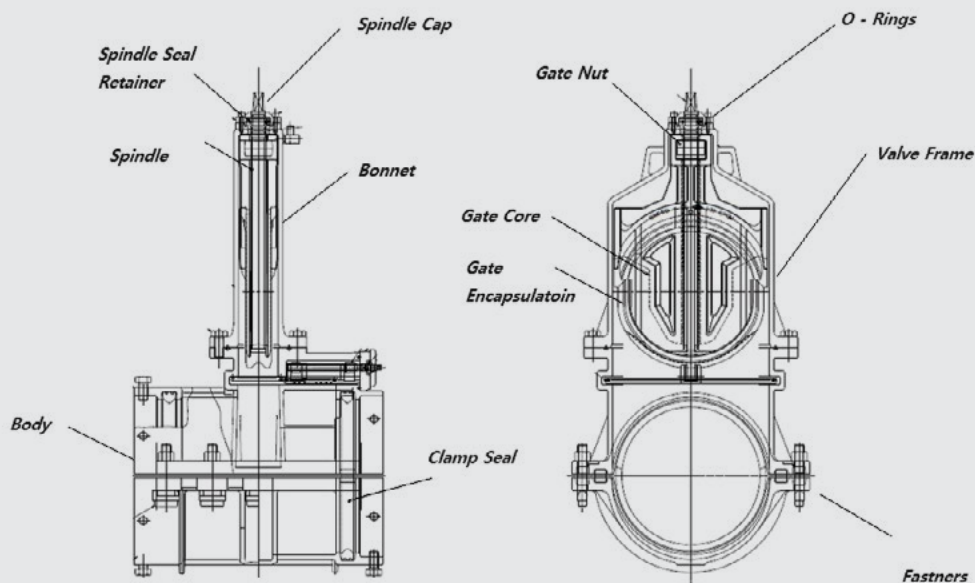
Clamp Codes					
DN	DP (mm)	SP (mm)	PE (mm)	AU ST (mm)	AU OS (mm)
375	X	X	X	425-433	X
400	425-433	402-410	396-404	X	X
450	476-484	453-461	446-454	504-512	512-520
500	528-536	504-512	X	X	X
600	610-635	X	X	TBA	TBA

MINIMUM SPACE REQUIRED FOR NOVUS VALVE.



DN	W	W1	W2	L	S (min.)	H
375mm	1580mm	790mm	575mm	980mm	400mm	575mm
400mm	1580mm	815mm	575mm	1070mm		575mm
450mm	1680mm	840mm	570mm	1150mm		575mm
500mm	1680mm	840mm	570mm	1150mm		575mm

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

TECHNICAL DATA SHEET

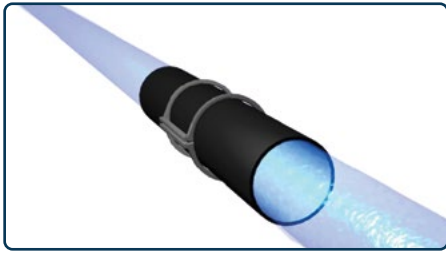
Novus Valve: Number of Turns for Disc Engagement (EU)

Standard Novus Valve Specification (EU - GENIII)

Reference Pipe Standard & Travel Distance

DN	Outside Diameter (mm)	Inside Diameter (mm)	Number of Turns (± 1.5 Turns)	Travel per Turn (1 Turn)
80	89	80	7	18mm
100	114	100	9	18mm
125	139	125	11	18mm
150	165	150	13	18mm
200	216	200	17	18mm
250	267	250	21	16mm
300	318	300	25	15mm
350	378	350	29	16mm
400	428	400	32	16mm
450	479	450	36	16mm
500	531	500	40	16mm

NOVUS VALVE INSTALLATION PROCESS.



STEP 1

PREPARATION OF PIPE

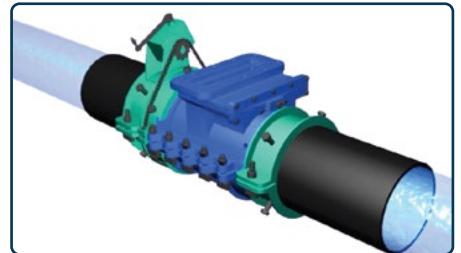
Pipe is to be cleaned free of any sharp objects. Low friction tape and lubricants are applied to the pipe. The gaskets are placed on top of the tape.



STEP 2

PLACEMENT OF THE CLAMP

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



STEP 3

INSTALLATION OF END RINGS

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



STEP 4

PLACEMENT OF THE DRILL

The 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

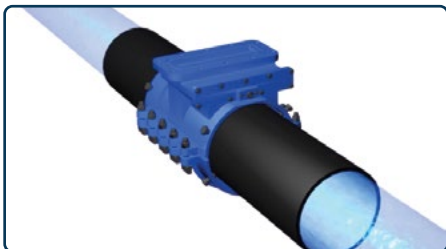
Using the correct end mill, the drill is lowered, and rotated allowing the pipe to be cut. End rings are used to ensure that correct angle for the cut has been achieved.



STEP 6

TEMPORARY GATE VALVE

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



STEP 7

Removal of the Drill

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



STEP 8

PLACEMENT OF THE BONNET

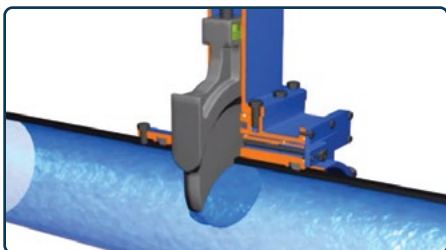
All temporary fitting including end rings are removed. The valve bonnet is placed on top of the upper clamp.



STEP 9

TEMPORARY GATE VALVE

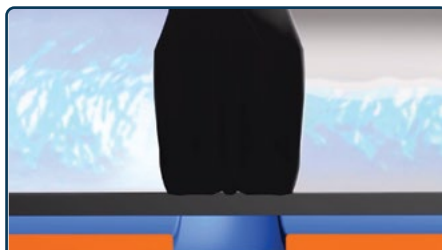
The temporary gate valve is opened so that the disc can be lowered into the incision made on the pipe. All components of the valve are now exposed to mains pressure.



STEP 10

OPERATION OF THE VALVE

The 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

The 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

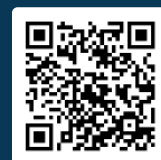


Water Standard
Conformance
Verification



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