



AVT™ EZ VALVE®

Install Kit



**Advanced Valve
Technologies**

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AVT EZ VALVE KIT

The AVT EZ Valve Kit enables safe and efficient installation of the award-winning AVT EZ Valve. The innovative EM (end milling) machines are the only ones of their type on the market that mill a 120° slot across the pipe rather than cutting a coupon or removing a section of the pipe. This design allows the valve to be installed at full line pressure enabling faster restoration than alternative solutions, preserving pipe integrity, and allowing installation under full pressure with no need to shut off the water supply.

The AVT EZ Valve Kit provides everything necessary for installation including (non-exhaustive):

1.5" TO 2" / 40MM TO 50MM KIT

- 1 End Milling Machine (1.5" and 2" / 40mm and 50mm – Nano)
- 1 Hydraulic power pack (Petrol)
- 2 End Milling Cutters
- 2 Sets of End Rings (1.5" to 2" / 40mm to 50mm)
- 1 Export Hose & Ball Valve
- 1 Debris Collection Bag
- 1 Tool Kit (selection of hand tools)

3" / 80MM KIT

- 1 End Milling machine (3" / 80mm –Micro)
- 1 Hydraulic power pack (Petrol)
- 1 End Milling Cutter
- 1 Set of Replaceable teeth
- 1 Set of End Rings (3" / 80mm)
- 1 Export Hose & Ball Valve
- 1 Debris Collection Bag
- 1 Tool Kit (selection of hand tools)

4" TO 14" / 100MM TO 350MM KIT

- 1 End Milling Machine (4" to 14" / 100mm to 350mm Capability)
- 1 Hydraulic power pack (Petrol)
- 1 Temporary Flush Valve Assembly (4" to 8" / 100mm to 200mm)
- 1 Temporary Flush Valve Assembly (10" to 12" / 250mm to 350mm)
- 1 End Milling Cutter
- 1 Set of Replaceable teeth
- 2 End Rings of relevant size*
- 1 Drive Chain & Tensioner
- 1 Hand Cranked Gearbox
- 1 Export Hose & Ball Valve
- 1 Debris Collection Bag
- 1 Tool Kit (selection of hand tools)

16" TO 24" / 400MM TO 600MM KIT

- 1 End Milling Machine (16" to 24" / 400mm to 600mm Capability)
- 1 Temporary Flush Valve Assembly
- 1 Hydraulic power pack (Petrol)
- 1 End Milling Cutter
- 1 Set of Replaceable teeth
- 2 End Rings of relevant size**
- 1 Drive Chain & Tensioner
- 1 Hand Cranked Gearbox
- 1 Export Hose & Ball Valve
- 1 Debris Collection Bag
- 1 Tool Kit (selection of hand tools)

*6 End Ring Sets Available (4" to 14" / 100mm to 350mm) | 14" End Rings are a separate additional cost

**4 End Ring Sets Available (16", 18, 20" or 24" / 400mm to 600mm)

With the Kit in hand, there is no need to purchase another kit for subsequent installations on the same size valves, and planning for maintenance is easy. Once the AVT EZ Valve Kit and valves arrive, installation can be undertaken immediately and quickly.

APPLICATIONS:

- Municipal water networks
- Transmission and distribution lines
- Wastewater treatment plants
- Sewer force main
- Refining and petrochemical plants
- Offshore applications
- Commercial buildings / isolation
- High-rise buildings
- Multiple occupancy buildings
- Industrial process piping
- Ground storage tank isolation

FEATURES:

- Everything needed for installation arrives in one box
- Lightweight, compact installation equipment
- Fewer bolts used than other options available
- Tools designed for installation under pressure
- Simple installation instructions
- End Mill machine includes a 'stop' mechanism to prevent over or under rotation

BENEFITS & VALUES:

- No waiting for installation tools
- Faster emergency repairs
- Simplifies maintenance planning/execution
- No guesswork regarding installation methodology
- One excavation required rather than two or three meaning lower cost of install
- Less time in the excavation for operators meaning safer working conditions



INSTALL PROCESS



1

Prepare Insertion Site

Prepare insertion site by lubricating the gasket and contact areas



2

Lubricate Gasket Sets & Channels

Lubricate gasket sets and gasket channels in casting bodies



3

Assemble Ductile Iron Castings

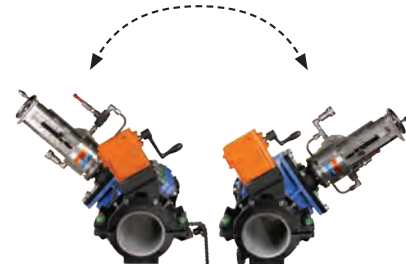
Assemble ductile iron castings with ductile iron fasteners to accept a pressure test and temporarily allow rotation for milling



4

Attach EM Machine

Check integral isolation gate is fully open, fit rotation assembly, attach EM machine and apply pressure tests



5

Mill A Slot Over a 120° Path

Maintaining system line pressure, mill a slot over a 120° path (Note: The slot normally is cut to provide for vertical valve alignment, but the installer can select any position.)



6

Retract The Milling Head

Retract the milling head, close the integral isolation gate. Replace the EM Machine with the resilient wedge bonnet, remove the rotation assembly and tighten casting fasteners to specified torque values



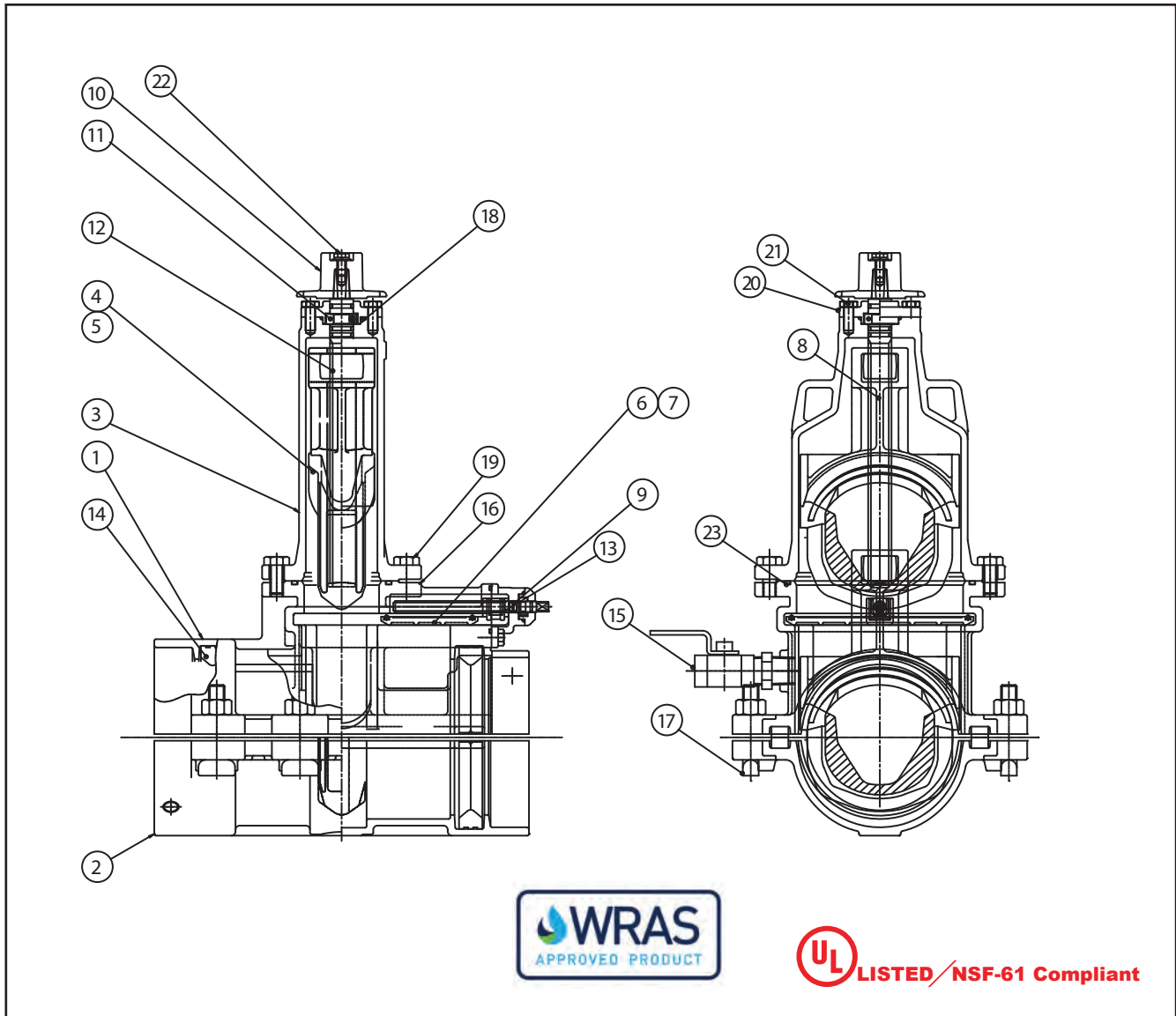
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Open and Operate

Open the integral isolation gate and operate the AVT EZ Valve. For line stop applications, replace the valve bonnet with a blind flange using the integral isolation gate

EZ VALVE SPECIFICATION

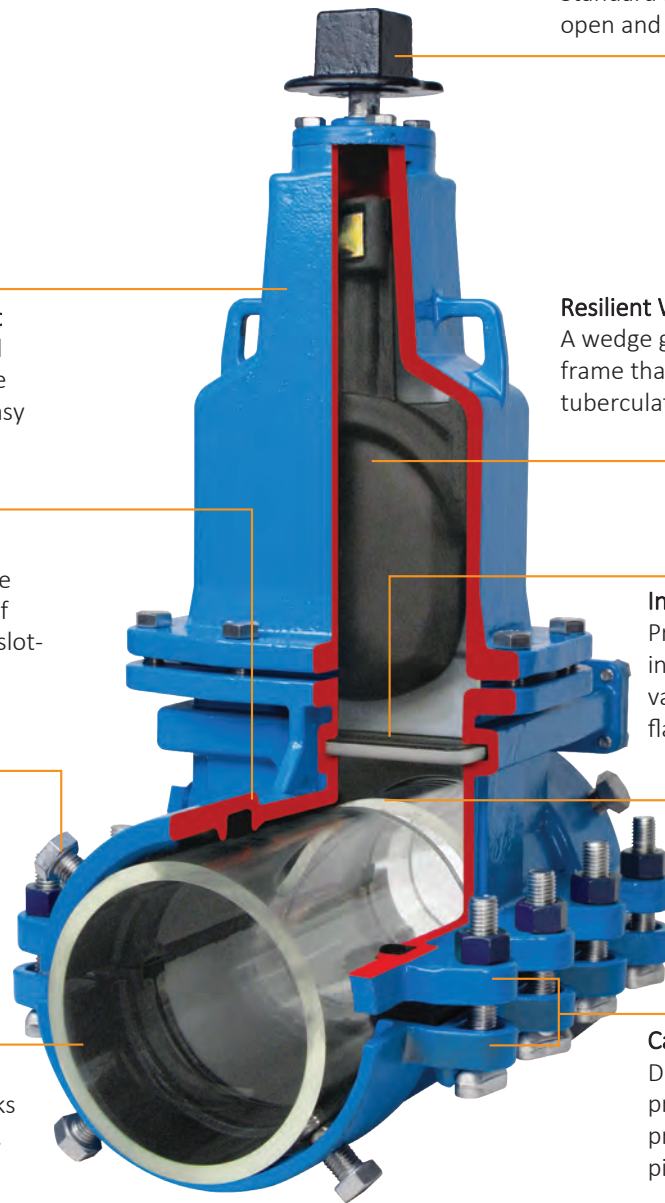
For illustration purposes only, some differences may occur dependent upon size.



| Item No | Description | Material |
|---------|-------------------------|-----------------|
| 1 | Upper Half of Body | DUCTILE IRON |
| 2 | Bottom Half of Body | DUCTILE IRON |
| 3 | Bonnet Body | DUCTILE IRON |
| 4 | Gate | DUCTILE IRON |
| 5 | Gate Rubber | EPDM |
| 6 | Isolation Gate | DUCTILE IRON |
| 7 | Isolation Gate Rubber | EPDM |
| 8 | Stem (Feed Screw) | STAINLESS STEEL |
| 9 | Isolation Gate Stem | STAINLESS STEEL |
| 10 | Wrench Nut | DUCTILE IRON |
| 11 | Set Collar | BRONZE |
| 12 | Stem Nut | BRONZE |
| 13 | Isolation Gate Stem Nut | BRONZE |
| 14 | Gasket | EPDM |
| 15 | Chip Flushing Port | N/A |
| 16 | EM Cutting Port | N/A |
| 17 | Fasteners & Nuts | DUCTILE IRON |
| 18 | O-Rings | BUNA-N |
| 19 | Bonnet Bolts | STAINLESS STEEL |
| 20 | Packing Gland | DUCTILE IRON |
| 21 | Packing Gland | STAINLESS STEEL |
| 22 | Bolt for Wrench Nut | STAINLESS STEEL |
| 23 | Bonnet O-Ring | EPDM |

CUT AWAY VALVE WITH KEY

For illustration purposes only, some differences may occur dependent upon size.



Wrench Nut

Standard number of turns to open and close valve

Removable Valve Bonnet

Resilient wedge gate and actuation mechanism are contained for fast and easy installation or removal

Resilient Wedge

A wedge gate over a ductile iron frame that effectively seals even tuberculated host pipe

Gasket & Channel

Maintain system pressure while allowing rotation of casting assembly during slot-milling

Integrated isolation valve

Provides “under pressure” installation or removal of valve bonnets or blind flanges

Restraining Bolts

Stainless steel components secure casting assembly and provide final positioning on pipe

Insertion Slot

One narrow slot over a 120° path maintains pipe integrity and creates resilient wedge access

Pipeline Compatibility

The EZ Valve design works with most metallic pipes, AC and PVC materials

Castings

Ductile iron castings are precision machined to fit project specifications and pipe material

Warranty: A One Year warranty covers parts and labor for Equipment and Valves (Excluding Perishable Tooling and O-Rings) barring misuse or lack of routine maintenance.

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Advanced Valve Technologies (AVT) is part of ClockSpring|NRI, the high-performance critical infrastructure solutions company. AVT's advanced solutions are based on simple designs that minimize risk to the environment and reduce costly downtime. Our primary focus is on disruptions in water service that cost providers money and leave end users without service.

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