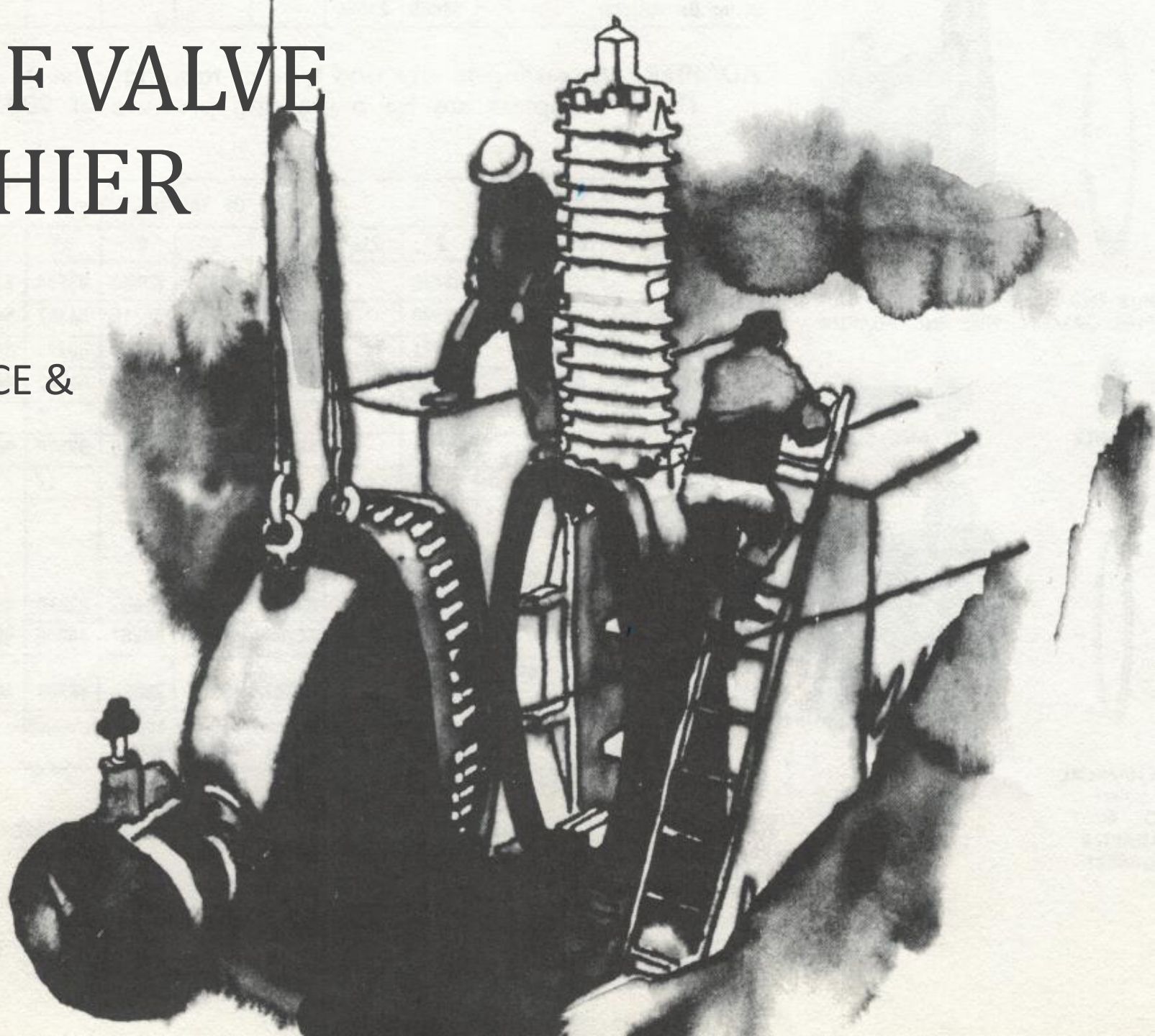
THE HISTORY OF VALVE INSERTION & THIER FUTURE

EOCP
Environmental Operators Certification Program

2020 CONFERENCE & TRADE SHOW.



PACIFIC FLOW CONTROL LTD
TAPS | INSERTS | STOPS

Valve Inserts

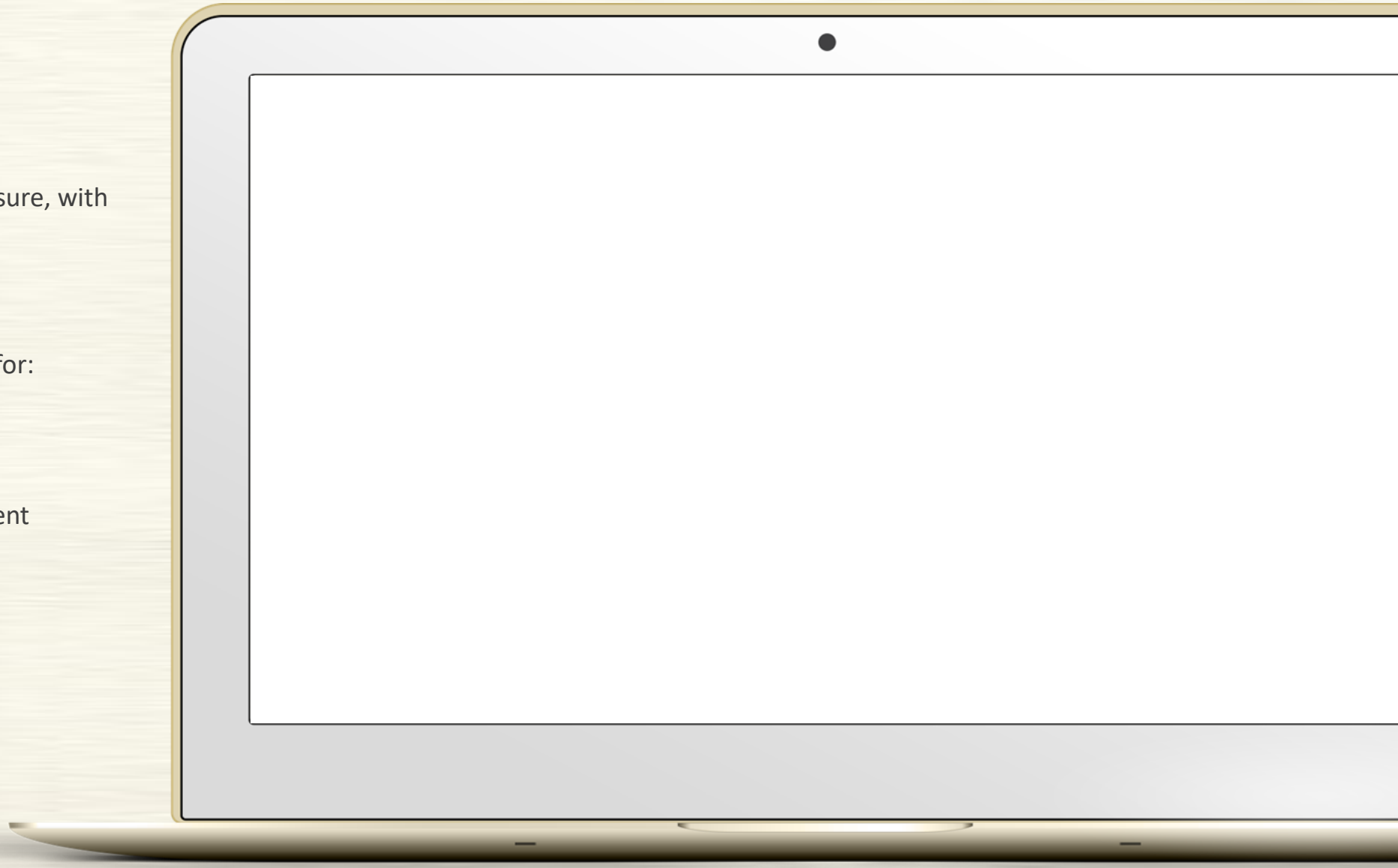
What is a Valve Insert?

Placement of a valve in-line, under pressure, with no interruption of service.

Applications

Valve inserts are most commonly used for:

- Installation of additional shutoffs
- Replacement of defective valves
- Used as a line stop where a permanent valve is desired. For example:
  - Line relocation
  - Dead ending (abandoning)
  - Temporary bypass
  - Instrument installation
  - Material testing
  - Leak repair



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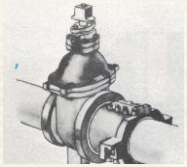
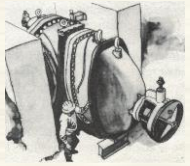
THE HISTORY

Valve Insert Conception by Product





AP Smith / US Pipe
1905 – 1990'ish

Mueller – H-800
1957 - 1990'ish

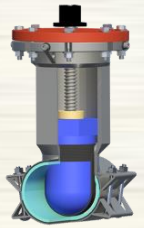
Romac - QuikValve
1991 - Present

AVT – EZValve
2010 – Present

Mueller Valve Insert
Coming 2021

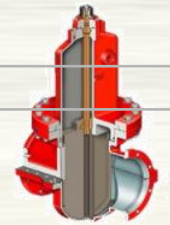
1900 1905 1910 1915 1920 1925 1930 1935 1940 1945 1950 1955 **1960** 1965 1970 1975 1980 1985 1990 1995 2000 2005 2010 2015 2020

1900



Hydra-Stop
1995 - Present

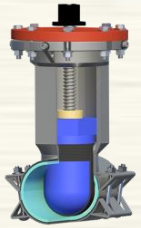
2000



Team – Insert Valve
2003 - Present

Pipe Cut Out & Seat Configuration

Hydra Stop Valve

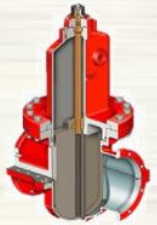


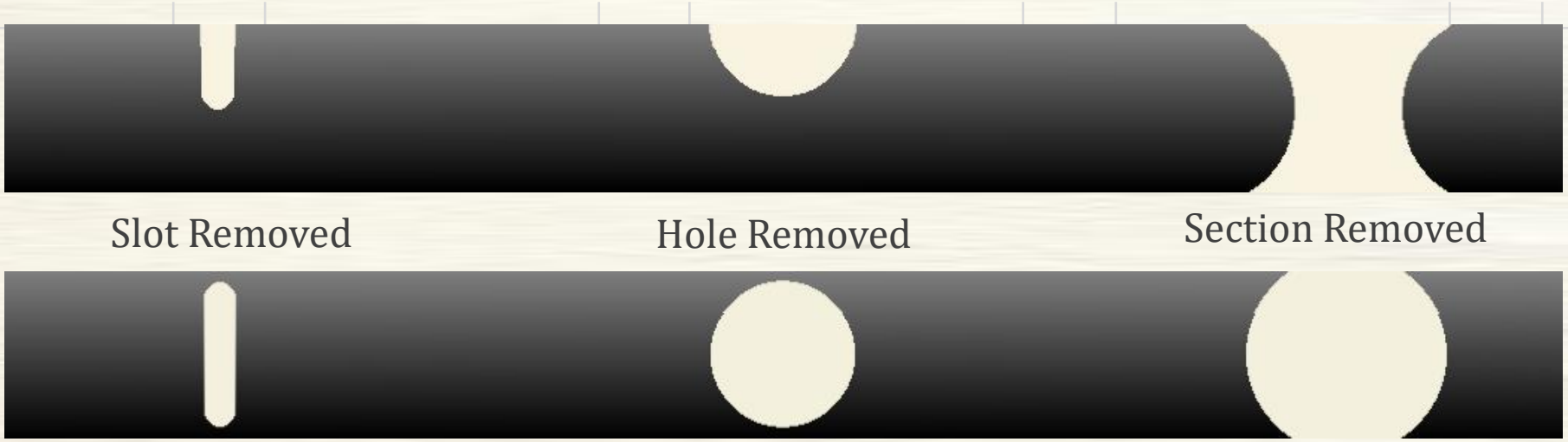
Mueller H-2361

AVT EZ Valve

Romac QuikValve

Team Valve





Slot Removed

Hole Removed

Section Removed

AVT EZ Valve

Step 1:

Prepare Insertion Site

Step 2:

Assemble Ductile Iron Castings with Integrated Isolation Valve

Step 3:

Attach Milling Tool and Mill 120^{o} Insertion Slot

Step 4:

Close Isolation Valve, Replace Milling Tool with valve Bonnet. Open Isolation Valve and EZ Valve is Now Operational

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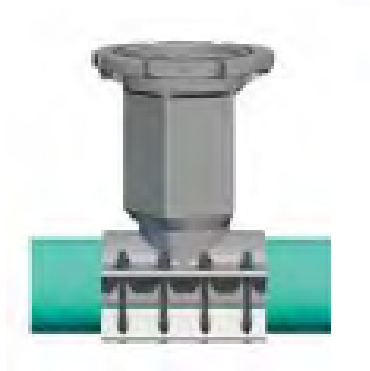
Hydra-Stop



Step 1:

Install the Valve Body

Step 2:

Cut Coupon Out of Pipe

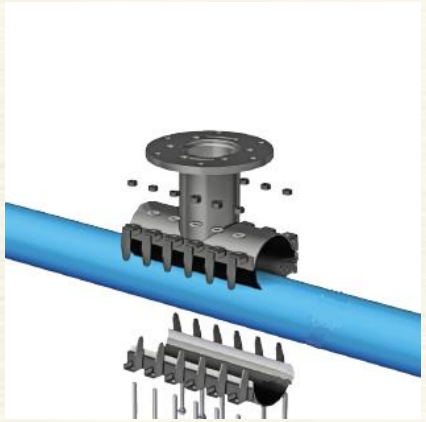
Step 3:

Install Valve Cartridge

Step 4:

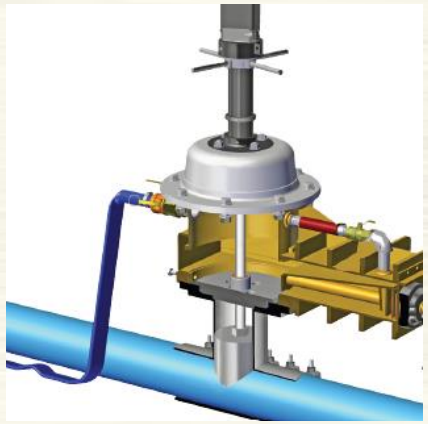
Valve is Now Operational

Romac QuikValve



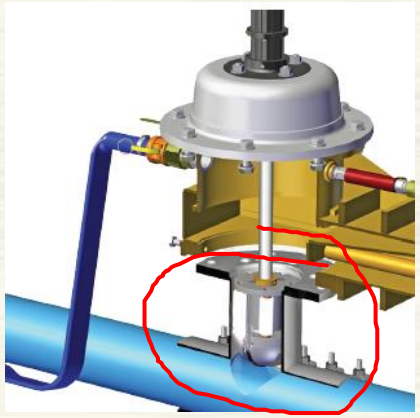
Step 1:

Install the QuikValve Sleeve



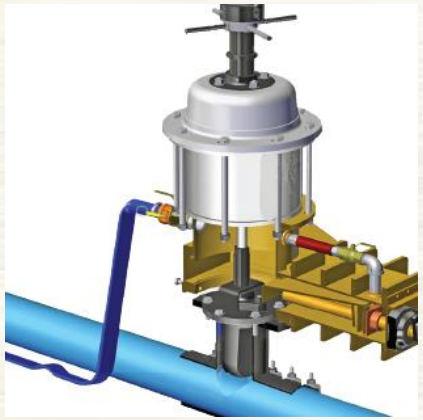
Step 2:

Drill the Pipe Wall and Remove Coupon



Step 3:

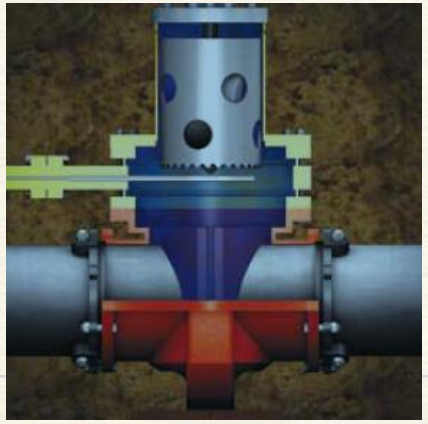
Ream the Pipe



Step 4:

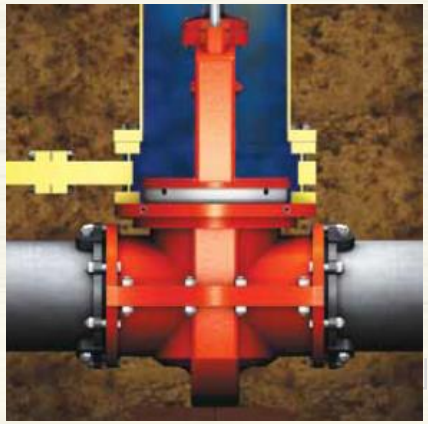
Insert the Valve

TEAM InsertValve



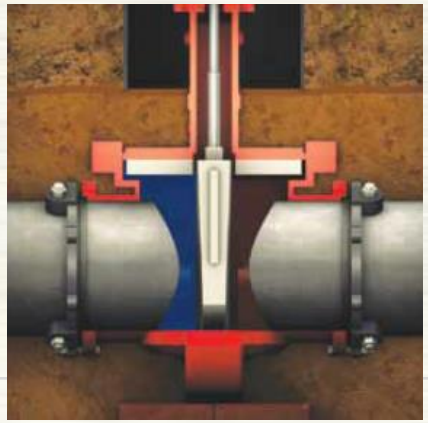
Step 1:

Tapping Machine Removes Complete Section of Pipe



Step 2:

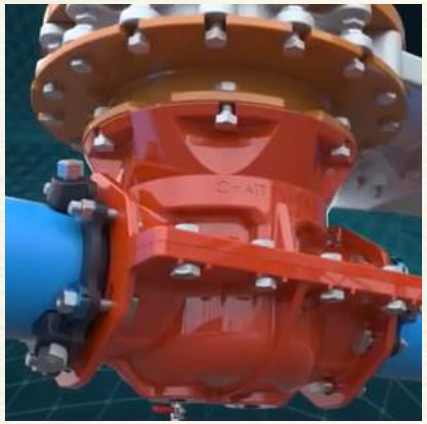
Insert Bonnet into the Valve Body



Step 3:

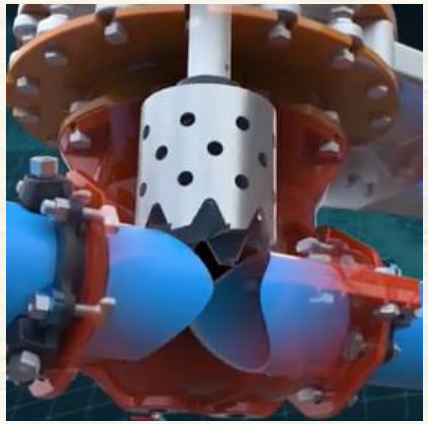
Valve is Now Operational

Mueller H-2361



Step 1:

Install Sleeve

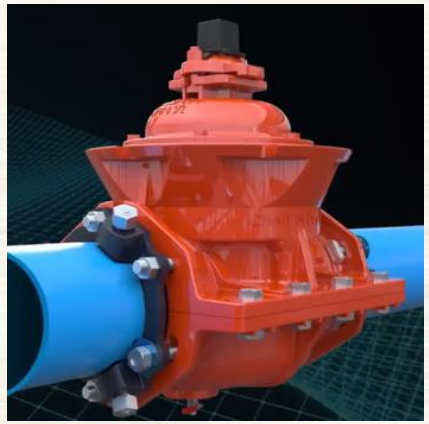


Step 2:

Tapping Machine Removes Complete Section of Pipe

Step 3:

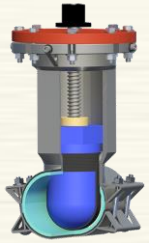
Insert Valve into the Valve Body

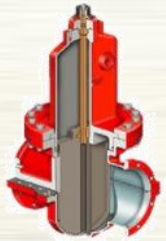


Step 4:

Valve is Now Operational

Key Features





Key Features	Romac QuikValve & InsertaValve	Hydra-Stop	AVT EZ Valve	Team Valve Insert	Mueller H-2361
Size Range	4-12" (100-300mm)	4-24" (100-600mm)	4-24"	4-12"	4-12" in 2021
Pressure Rating	150PSI	250PSI (150PSI for 20 & 24")	250PSI	250PSI	350PSI
Body	Fusion Epoxy Coated A36 Steel	304 SST (D for 20" & 24")	Epoxy Coated DI	Epoxy Coated DI	Epoxy Coated DI
Restraint Mechanism	Clamp (Similar to tapping sleeve)	Clamp (Similar to tapping sleeve)	Clamp w/ Centering Pins	Mechanical Joint	Mechanical Joint
Stem	Manganese or NDZ Bronze	304 SST	304 SST	Bronze	Bronze - ASTM B138
Hardware	Alloy or 304SST	304 SST	304 SST	Alloy or 304SST	316 SST
Cost	Most Affordable	Mid Range - 4" -12"	Mid Range - 4" - 12"	Mid Range - 4" - 12"	Most Expensive
Warranty	1 Year	1 Year	1 Year	1 Year	10 Year
Notes:	Reamer process	Must know pipe ID prior to ordering gate cartridge	Milled slot (Not tapped)		Only valve that guarantees seal.
	Geared valve for inserts > 8"	Not available in 18"			

What does the future of Valve Insertion look like?

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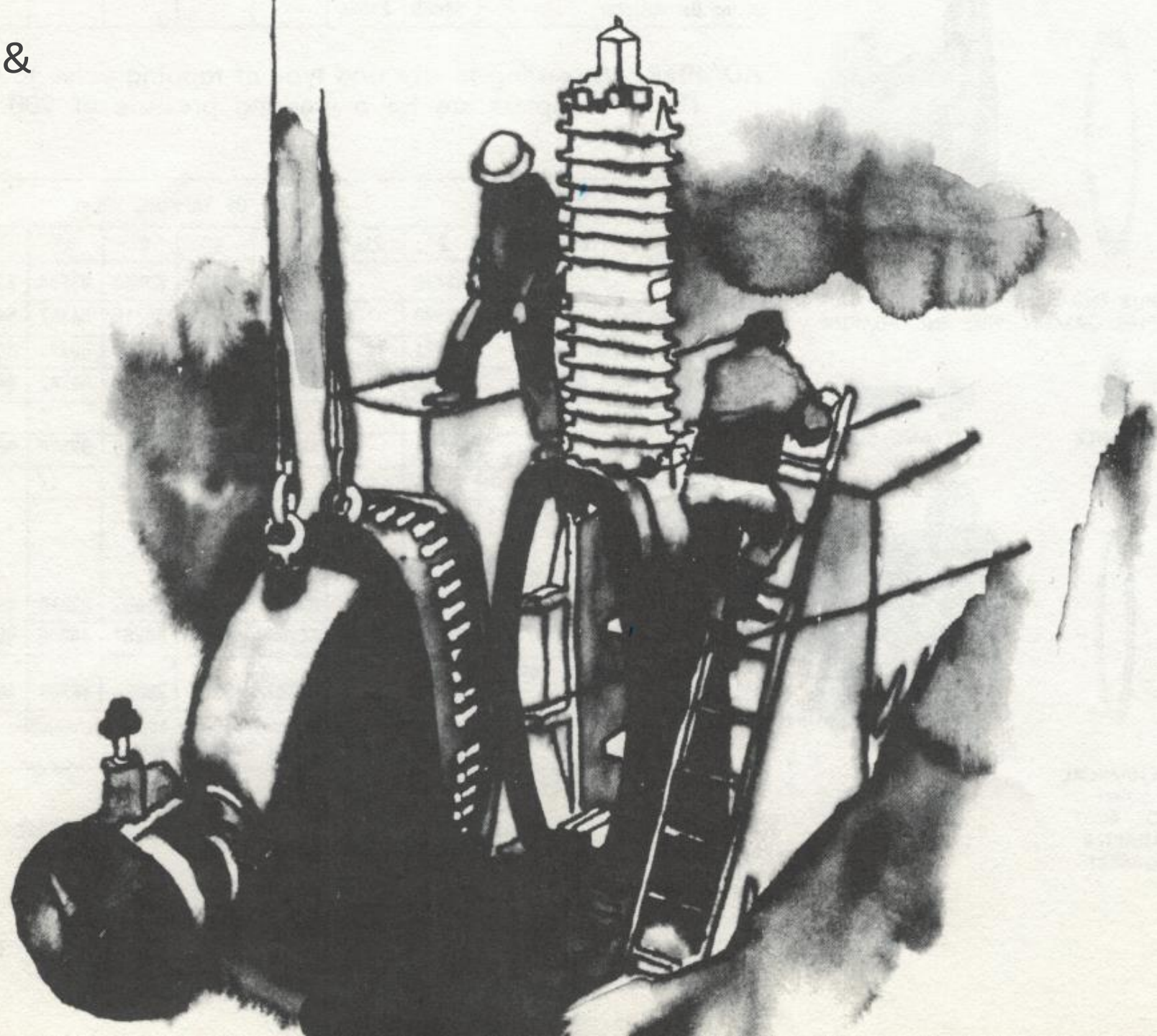
THE END



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