



PIPE JOINING SOLUTIONS IDEALLY SUITED FOR

Large Diameter Piping

 **victaulic®**

Piping. Systems. Solutions.

The fast, easy, and economical system for joining large diameter piping.

About Victaulic

Victaulic Company is the originator and developer of the grooved piping method for rapidly joining building service pipe. Victaulic has been used for many years for HVAC, Mining, Oil Gas and Chemical, Power, Water Transmission and a variety of other piping applications.

Victaulic continues to develop ground breaking products and innovative solutions to the world's most difficult piping challenges. Victaulic pipe joining technology is found on pipe as small as ½"/15mm and as large as 216"/5500mm. Regardless of size or type Victaulic products are known for significantly reducing construction and maintenance schedules for piping projects worldwide.

The Victaulic method for mechanically joining pipe has been used successfully for over 85 years simplifying design, installation, and operation of piping systems. It combines the advantages of fast installation, design integrity and reliable operation. Disassembly is just as fast, facilitating rapid pipe rotation to reduce your downtime.

Victaulic technology for joining large diameter piping includes capabilities for direct grooving or adding an external ring on steel pipe up to 60"/1525mm.

The Victaulic system for joining large diameter pipe and piping components are available from stocking distributors worldwide. Over 500 factory-trained piping specialists provide on-site assistance backed by application and product engineering support as close as your phone.



LARGE DIAMETER



SYSTEM BENEFITS

- › Lower total installed cost
- › Fast, easy bolted connection
- › Meet project deadlines and fasttrack schedules
- › Direct grooved products up to 60"/1525 mm
- › Utilize in-house or contracted labor
- › No flame or fire hazard as with welding
- › Up to 12x fewer bolts than flanged systems
- › Reduced weight and assembly compared to flanges
- › A union at every joint
- › Couplings accommodate expansion/contraction and deflection
- › The system attenuates noise and vibration



VICTAULIC HAS RELIABLY SERVED THESE MARKETS SINCE 1925.

- | | |
|------------------------------|---------------------|
| › Mining | › Building Services |
| › Industrial | › Fire Protection |
| › Power | › Ship Building |
| › Water/Wastewater Treatment | › Biofuels |

VICTAULIC LARGE DIAMETER PIPING SYSTEMS

Applications

Victaulic applications for large diameter systems since 1925.

- › Chilled Water
- › Condenser
- › Water Supply
- › Wastewater
- › Underground/
Buried
- › Slurries and Tailings
- › Water Transmission



A water supply line in use since 1932.



Large Diameter mechanical rooms are joined in a fraction of the time required for flanged and welded systems.



Direct groove systems utilizing AGS are ideal for chilled water systems.



For abrasive services such as this tailings line Victaulic offers an AGS Vic-Ring coupling that requires only four bolts and nuts to join 40"/1000mm pipe

LARGE DIAMETER



Victaulic products are frequently found on buried services such as this water transmission line.



The AGS (Advanced Groove System) includes a line of fittings, valves, and strainers.



Victaulic systems provide flexibility and rigidity where needed in the piping system.



Underground water line circa 1920's London.

Versatile and Reliable

The Victaulic grooved piping system is the most versatile, economical and reliable piping system available. It is up to three times faster to install than welding, easier and more reliable than flanging, resulting in lower total installed cost.

The system is designed for ANSI, ISO, DIN and other black or galvanized steel pipe. Pipe end preparation is fast and easy either in the shop or on the job site with the variety of Victaulic grooving tools available.

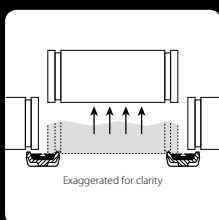
In addition to speed and ease of assembly, the Victaulic system offers varied mechanical benefits to the designer, installer and owner.



The Victaulic Advanced Groove System concept is the strongest and most reliable way to mechanically join large diameter pipe.



FEATURES



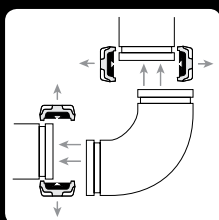
EACH JOINT IS A UNION

Welded systems require specially installed unions while flanged systems have twice the number of bolts of grooved systems.



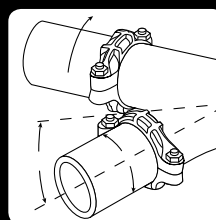
NO FIRE HAZARD

As a fully mechanical, bolted system, Victaulic products present no fire hazard. It is far safer and requires no shielding or fire watch.



EASY SYSTEM OR EQUIPMENT ACCESS

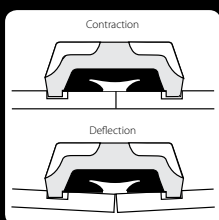
Removal of couplings provides access for cleaning, maintenance, system expansion or changes.



ALIGNMENT EASE

The grooved system allows full rotation of pipe, valves, fittings or couplings before tightening for easy alignment. This compensates for some alignment errors and eliminates the "twoholing" required with flanges. Fitting in tight places is eased.

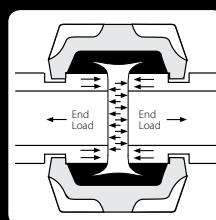
Request publication 26.03



FLEXIBILITY

The Victaulic system is unique in the ability to accommodate expansion/contraction/deflection. Elimination or reduction of special vibration accessories, expansion loops and settlement allowance are among the inherent benefits of the grooved system.

Request publication 26.01



SELF-RESTRAINED JOINT

The full engagement of the housing keys into grooves around the full pipe circumference provides significant pressure restraint and end load capabilities to withstand pipe movement from varied internal and external sources.

Request publication 26.05



ELIMINATES RE-COATING AND RE-LINING

Since Victaulic couplings do not require heat to join the piping system no damage is done to either coatings or linings during the assembly process. Eliminating the costly step of re-lining and re-coating the pipe dramatically reduces project completion times.



ELIMINATES CONFINED SPACE ENTRY

Because Victaulic couplings are assembled on the outside of the pipe the need to re-coat, re-line or weld the inside of the pipe is eliminated. This creates a safer working environment and increases productivity.

Versus Flanged/Welded Systems

VICTAULIC GROOVED



VICTAULIC GROOVED LARGE DIAMETER **VIC**

- › Grooved piping can pass through wall sleeves
- › Special design considerations eliminated
- › Compression type couplings not required
- › No side space needed for bolts; No two-holing required
- › 1/3 the weight of flanged systems
- › Number of bolts greatly reduced
- › No radiographic inspection required

FLANGED



FLANGED LARGE DIAMETER **FLG**

- › Require special design considerations
- › Flanging must be made-on loose or have coupling adapter added to pass through a wall sleeve
- › Side space needed for bolts; Two-holing required
- › Heavier, more costly to install
- › More bolts, longer installation time

WELDED

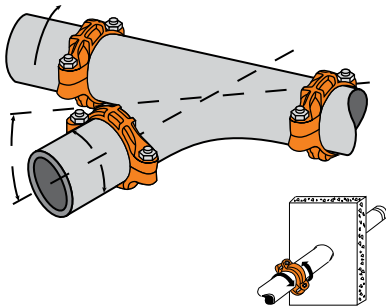


WELDED LARGE DIAMETER

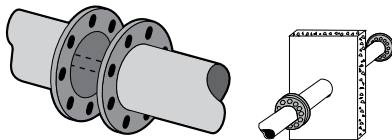
- › Emits harmful noxious fumes
- › Over 10x longer to install than grooved
- › Requires skilled welder and welding equipment
- › No visual method for ensuring joint integrity



Victaulic systems rotate for alignment and can pass through wall sleeves



Flanged must be "two holed" and must be made-on loose or have coupling adapters added to pass through a wall sleeve



SAVES SPACE...

LIGHTER...

FEWER BOLTS.

Nominal Size	Width		Outside Diameter		Weight		Number of Bolts	
	inches mm	inches mm	inches mm	inches mm	lbs. kg	lbs. kg		
24 600	4.50 114	10.4 264	32.3 821	32.0 813	107 48.5	260 117.9	2	20
28 700	5.68 144	10.5 267	37.2 945	36.0 914	220 99.8	400 181.4	4	24
32 800	5.68 144	10.8 274	41.7 1060	42.5 1080	242 109.8	560 254.0	4	28
36 900	5.68 144	11.0 279	45.7 1161	46.0 1168	268 121.6	640 290.3	4	32
42 1050	6.50 165	11.5 292	52.5 1334	53.0 1346	360 163.3	830 376.5	4	36
48 1200	6.50 165	12.1 307	58.5 1485	59.5 1511	425 192.8	980 444.5	4	44
54 1375	10.00 254	12.7 323	65.2 1655	66.3 1684	648 293.9	1400 635.0	4	44
60 1525	10.00 254	13.2 335	72.1 1832	73.0 1854	720 326.6	1750 793.8	4	48

VIC

FLG

VIC

FLG

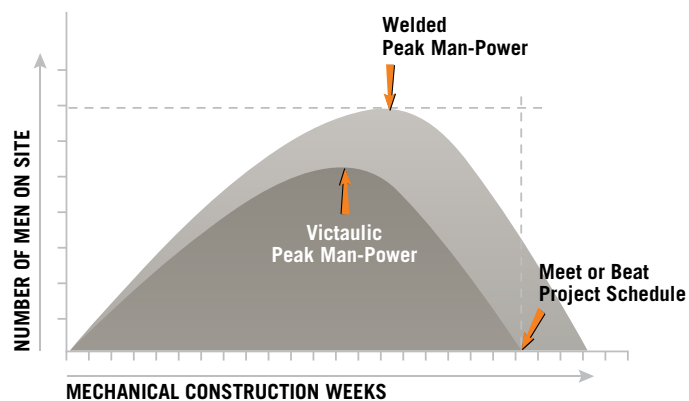
VIC

FLG

VIC

FLG

Victaulic systems can reduce direct and indirect installed costs by 50% or more when compared to other joining methods.



Methods for Joining Large Diameter Pipe

The Direct Grooved Method

The concept of rolling a groove into pipe without removing metal was developed by Victaulic in 1955. The concept was first used for light-wall pipe which did not have sufficient wall thicknesses to permit cut grooving. Technological developments now permit roll grooving of standard weight steel pipe, up to 60"/1525mm.



Style W07 Rigid Coupling



Style W77 Flexible Coupling



DIRECT GROOVED PIPE PREPARATION

Piping from 14–60"/350–1525mm can now be direct roll grooved to receive AGS (Advanced Groove System) large diameter couplings. This capability brings the speed and ease of bolted mechanical assembly to large diameter pipe assembly.

Roll grooving removes no metal, cold forming a groove by the action of an upper male roll displacing the pipe wall as the pipe is rotated by a lower female drive roll forming the groove.

Victaulic shop roll groovers can roll groove up to ½"/13mm wall thickness carbon steel pipe.



LARGE DIAMETER PIPE ROLL GROOVING TOOL

The Victaulic Large Diameter Roll Groover is a fully motorized, automated shop tool for continuous production grooving. It is supplied in several variations to accommodate the needs of roll grooving pipe above 14"/350mm.

The VE436 is a fully automated shop tool for roll grooving pipe in the following sizes: 22–24"/550–600mm and 30–36"/750–900mm up to maximum wall thickness of ½"/13mm. These rolls are standard supply with this tool. Other roll sets can be provided upon request.

The VE-460 is our most versatile tool; capable of grooving ½"/13mm wall pipe up to 60"/1525mm. This heavy duty tool is capable of production grooving over the entire range of large diameter products.



The AGS Vic-Ring Method

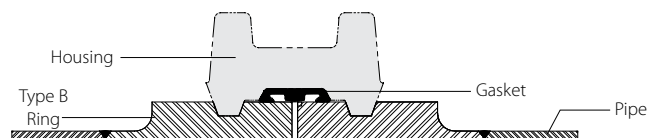
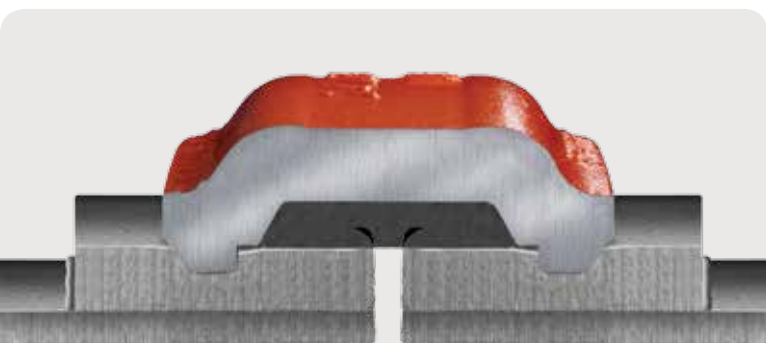
Victaulic offers the AGS (Advanced Groove System) Vic-Ring piping method for joining large diameter pipe which does not lend itself to direct grooving. The adaptation of pipe with Vic-Ring adapters and the selection of a suitable Victaulic coupling can present individual considerations which are best handled by Victaulic engineers, who are experienced in these applications. Contact Victaulic for assistance.



**Style W07 Rigid Coupling
with AGS Ring**

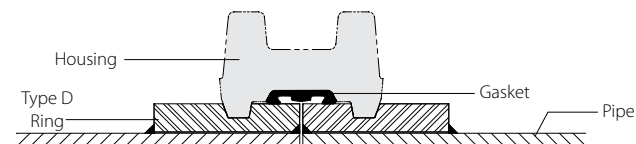


**Style W77 Flexible Coupling
with AGS Ring**



TYPE B RING CONFIGURATION

A short grooved nipple, butt welded to the pipe end. The nipples may be cut from standard pipe and joined using standard AGS rigid or flexible couplings.



TYPE D RING CONFIGURATION

A heavy duty collar typically for large diameter pipe—30"/750mm and up—providing special pipe end reinforcement and rigidity. Standard Style W07 rigid or Style W77 flexible couplings may be used with Type "D" ring configurations.



Piping. Systems. Solutions.

Victaulic invented the grooved end system for pipe joining in 1925. More than 85 years later, Victaulic continues to lead the industry with pipe joining innovations and solutions around the world. With offices and manufacturing facilities in Europe, Asia, the US and Canada, and a worldwide network of sales and service representatives, Victaulic works closely with engineers, contractors and owners to design and install mechanical piping systems that lower costs, improve productivity, reduce risk and provide for total system expansion.



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- Download product submittals and literature
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