

VICTAULIC[®] AGS

ADVANCED GROOVE SYSTEM ^{AGS}[™]

THE STRONGEST AND MOST DEPENDABLE MECHANICAL
PIPE JOINING SYSTEM FOR 14 – 78" | DN350 – DN1950 PIPE



VICTAULIC[®] AGS


ADVANCED GROOVE SYSTEM

The Victaulic Advanced Groove System (AGS) delivers unprecedented assembly speed and reliability, giving contractors the productivity they want and engineers the performance they need.

AGS ADVANTAGES:

The AGS system including coupling, fittings and valve solutions, provides great strength and dependability and serves as an excellent choice over welding, flanging, dismantling joints and C219 bolted sleeve couplings. AGS provides advantages that welded joints can't:

- No flames or fumes
- Superior seismic-shock resistance
- Accommodates for piping system movement
- A union at every joint for easy system maintenance
- Easiest method for accommodating differential settlement
- Fully self-retrained joint, eliminating the need for secondary devices such as harnesses
- Faster, safer and easier installation reduces costs



Visual confirmation of a proper joint — when bolt pads meet on both sides, joint integrity is confirmed.

Coupling locks into place in a wider groove than a traditional Victaulic groove for strength and rigidity.

Only two housings up to 60" and two to four bolts, depending on joint size, provide 360° contact with the groove and allow for easy assembly when compared to flanging and welding.



SPEED, SIMPLICITY, ASSURANCE:

All AGS couplings, whether flexible or rigid, are shipped and installed as a two piece housing design and are secured with either two or four bolts – depending on joint size. The couplings are 1/3 of the weight of a flanged joint, with up to 12x fewer bolts and nuts, allowing for safer, faster and easier installations in the field or fabrication shop.

SYSTEM APPLICATIONS

Chilled Water



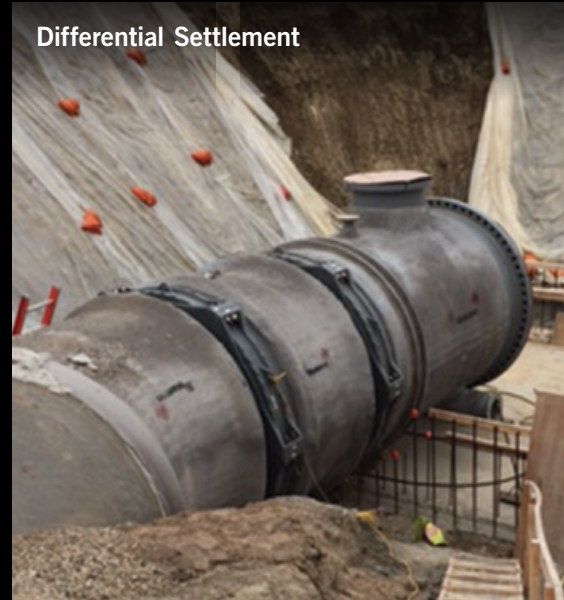
Water Supply



Wastewater



Differential Settlement



Transmission Lines



Feeder Mains



Penstock Lines





INNOVATION AT A GLANCE

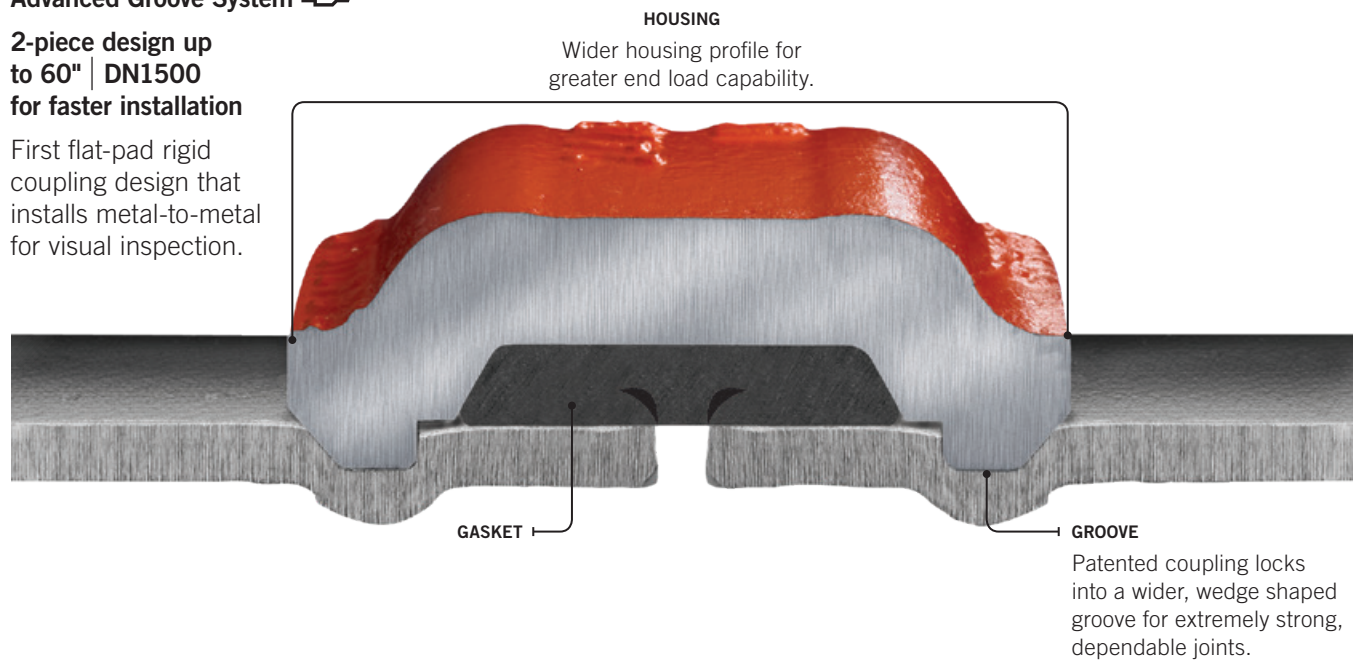
WHAT MAKES THE AGS COUPLING REVOLUTIONARY?

A wider, wedge-shaped groove facilitates proper coupling positioning by decreasing initial installation sensitivity. The unique groove creates a self-aligned joint, allowing for a simple single-person installation.

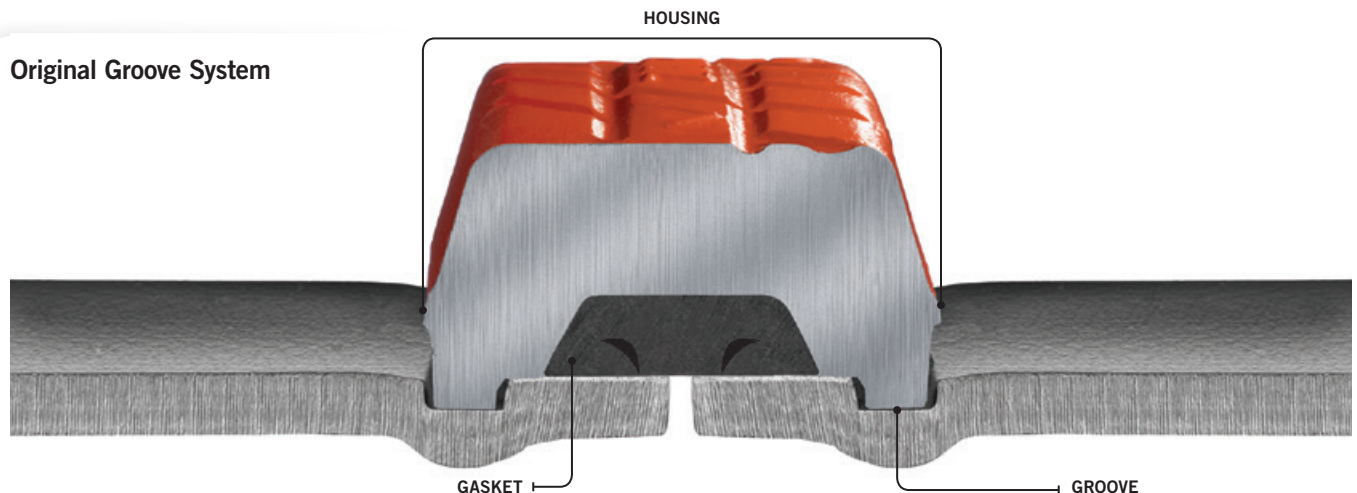
Advanced Groove System **AGS**™

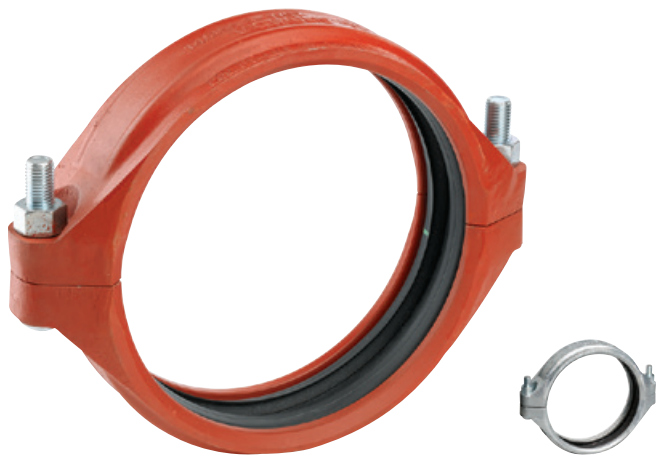
2-piece design up to 60" | DN1500 for faster installation

First flat-pad rigid coupling design that installs metal-to-metal for visual inspection.



Original Groove System





AGS Rigid Coupling

STYLE W07

[Download publication 20.02](#) for complete information

- First flat pad, metal-to-metal, rigid coupling to be offered in this size range
- Sizes from 14–50" | DN350–DN1250
- Pressures up to 350 psi | 2413 kPa | 24 bar
- For larger sizes contact [Victaulic](#)

Certifications/Listings:



[Download publication 10.01](#) for complete information



AGS Flexible Coupling

STYLE W77

[Download publication 20.03](#) for complete information

- Unique wedge shaped key profile increases allowable pipe end separation
- Sizes from 14–78" | DN350–DN1950
- Pressures up to 350 psi | 2413 kPa | 24 bar
- For larger sizes contact [Victaulic](#)

Certifications/Listings:



[Download publication 10.01](#) for complete information

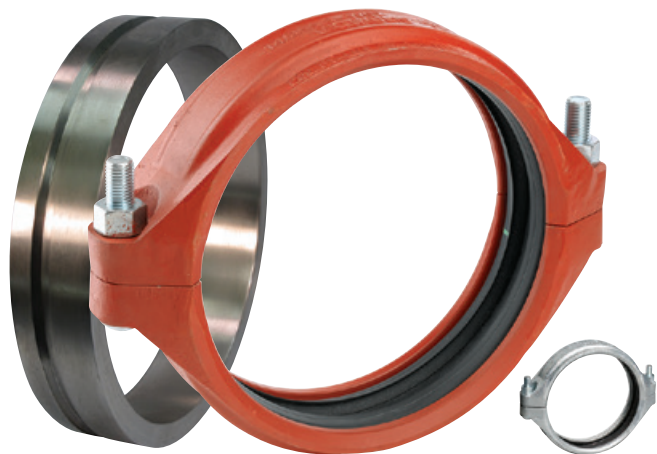


AGS Stainless Steel Rigid Coupling

STYLE W89

[Download publication 20.15](#) for complete information

- Wedge shaped coupling housing keys fully engage the AGS grooves to provide a rigid joint
- Sizes from 14–24" | DN350–DN600
- Pressures up to 300 psi | 2068 kPa | 21 bar



AGS *Vic-Ring* Rigid Coupling System

STYLE W07

[Download publication 16.11](#) for complete information

- Coupling installs on the supplied ring to maintain full pipe wall thickness on abrasive systems
- Sizes from 14–50" | DN350–DN1250
- Pressures up to 350 psi | 2413 kPa | 24 bar
- Regional availability, contact [Victaulic](#) for details



AGS *Vic-Ring* Flexible Coupling System

STYLE W77

[Download publication 16.12](#) for complete information

- Coupling installs on the supplied ring to maintain full pipe wall thickness on abrasive systems
- Sizes from 14–78" | DN350–DN1950
- Pressures up to 350 psi | 2413 kPa | 24 bar
- Regional availability, contact [Victaulic](#) for details



AGS *Vic-Flange* Adapter

STYLE W741

[Download publication 20.04](#) for complete information

- Designed for directly incorporating flanged components with ANSI Class 125-150 bolt hole patterns
- Sizes from 14–24" | DN350–DN600
- Pressures up to 300 psi | 2068 kPa | 21 bar



AGS Fittings

[Download publication 20.05](#) for complete information

- Sizes from 14–60" | DN350–DN1500
- Pressures up to 350 psi | 2413 kPa | 24 bar

AGS Stainless Steel Fittings

[Download publication 17.05](#) for complete information

- Sizes from 14–24" | DN350–DN600
- Fitting pressure ratings are equivalent to the Victaulic AGS coupling used to install them

AGS Fittings



No. W10
90° Elbow*



No. W11
45° Elbow*



No. W12
22½° Elbow



No. W13
11¼° Elbow



No. W100
90° 1½ D Long
Radius Elbow



No. W110
45° 1½ D Long
Radius Elbow



No. W20
Tee*



No. W35
Cross



No. W33
True Wye



No. W25
Reducing Tee*



No. W30
45° Lateral



No. W30-R
45° Reducing
Lateral



No. W42
Adapter Nipple
(AGS Groove ×
Bevel)*



No. W43
Adapter Nipple
(AGS Groove ×
AGS Groove)*



No. W49
Adapter Nipple
(AGS Groove ×
OGS Groove)*



No. W60
Cap*



No. W50
Concentric
Reducer*



No. W51
Eccentric
Reducer*



No. W45R
Flanged
Adapter Nipple*



* Indicates Stainless Steel option available, download [publication 17.05](#) for more information.



AGS Expansion Joint

STYLE W155

[Download publication 20.12](#) for complete information

- Combination of Style W77 couplings and short pipe nipples, joined in tandem, to provide increased expansion
- Sizes from 14–24" | DN350–DN600



AGS Vic™-300 Butterfly Valve

SERIES W761

[Download publication 20.06](#) for complete information

- Offers an easily-installed option to cumbersome, multi-bolt wafer or lug-type flanged valves
- Sizes from 14–24" | DN350–DN600
- Pressures up to 300 psi | 2068 kPa | 21 bar

Certifications/Listings:



[Download publication 10.01](#) for complete information



AGS Butterfly Valve

SERIES W709

[Download publication 20.07](#) for complete information

- Offers an easily-installed option to cumbersome, multi-bolt wafer or lug-type flanged valves
- Sizes from 26–48" | DN650–DN1200
- Pressures up to 150 psi | 1034 kPa | 10 bar

Certifications/Listings:



[Download publication 10.01](#) for complete information



AWWA C504 AGS Butterfly Valve

SERIES W719

Contact Victaulic for publication

- Valve design, materials and testing conform to the requirements of AWWA C504
- Half the weight of a flanged valve
- Sizes from 14–72" | DN350–DN1800
- Pressure classes conforming to AWWA Class 250B from 14–48" | DN350–DN1200 and 150B for 48" | DN1200 and above



AGS *Vic-Check* Double Disc Valve

SERIES W715

[Download publication 20.08](#) for complete information

- Utilizes a spring-assisted, double disc design that achieves drop tight sealing
- Can be installed in both horizontal or vertical flow up positions
- Sizes from 14–24" | DN350–DN600
- Pressures up to 230 psi | 1586 kPa | 16 bar

Certifications/Listings:



[Download publication 10.01](#) for complete information



AGS Triple Service Valve Assemblies

[Download publication 20.18](#) for complete information

- Provides shut-off and throttling with positive mechanical memory
- Comprised of a Series W761 AGS butterfly valve and a Series W715 *Vic-Check* valve
- Sizes from 14–24" | DN350–DN600
- Pressures up to 232 psi | 1600 kPa | 16 bar



Certifications/Listings:



[Download publication 10.01](#) for complete information

AGS Suction Diffuser

SERIES W731-D

[Download publication 20.20](#) for complete information

- Allows building up at a 90° angle from the pump saving valuable space in the mechanical room while still protecting the pump against cavitation
- Flanges may be machined to match most global (ANSI, DIN, GB, JIS, and AS-E) flange bolt hole patterns within the diffuser pressure rating
- Sizes from 14–24" | DN350–DN600
- Pressures up to 300 psi | 2068 kPa | 21 bar



AGS Vic-Strainer Tee Type

SERIES W730

[Download publication 20.11](#) for complete information

- Lighter than flanged Y-type strainers and provides straight-through flow for lower pressure drop
- Sizes from 14–24" | DN350–DN600
- Pressures up to 300 psi | 2068 kPa | 21 bar



Certifications/Listings:



[Download publication 10.01](#) for complete information

AGS Vic-Strainer Wye Type

SERIES W732

[Download publication 20.19](#) for complete information

- Provides straight-through flow for lower pressure drop
- Sizes from 14–18" | DN350–DN450
- Pressures up to 300 psi | 2068 kPa | 21 bar

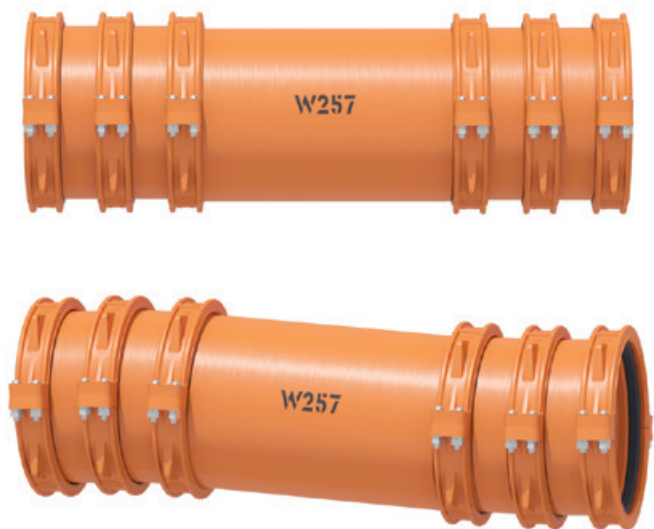


Expansion Barrel

STYLE W256

[Download publication 09.16](#) for complete information

- For piping systems from 24–42" | DN600–DN1050
- Provides up to 42" | 1067 mm of in-line movement
- Pressures up to 300 psi | 2068 kPa | 21 bar
- Designed for water and/or slurry services
- Regional availability, contact [Victaulic](#) for details
- For larger sizes contact [Victaulic](#)



Dynamic Movement Joint

STYLE W257

[Download publication 20.16](#) for complete information

- M11 compliant assembly built to accommodate up to 4" | 102 mm of dynamic movement including differential settlement, seismic and thermal movement
- Sizes from 14–78" | DN350–DN1950
- Working pressure is equal to the Style W77 coupling on equivalent wall thickness pipe

Grooving Tools

For more on these tools, see [publication 24.01](#).



CASE STUDY

OSISKO MALARTIC MINE

On May 31, 2011, Osisko Mining Corporation, a leader in exploration and mining in Quebec, inaugurated the Canadian Malartic gold mine, a large-scale open pit mine located in Malartic, Abitibi. Construction began in late 2009 and it became Osisko's first mine to go into production. Osisko estimates it will extract more than 9 million ounces of gold through 2027.



PROJECT

Type of Facility:

Gold Mine

Victaulic Solutions:

Speed of installation

Ease of installation

Reliability

Owner:

Osisko Mining Corporation

Contractor:

Blais Industries

Construction Promec

Moreau Industries

Engineer/Consultant:

BBA Engineering



A major component of this new project was the need to reliably join large diameter piping systems up to 54" | DN1350. The Victaulic Advanced Groove System (AGS) was selected as the ideal application to meet the demanding requirements on this job for its strength and ease of installation. Victaulic AGS couplings, comprised of two housings, provided fast and easy installation while allowing for visual inspection of proper joint assembly. For **process water and chemical applications**, AGS couplings were installed directly on AGS roll grooved pipe. For **demanding abrasive slurry systems**, AGS couplings were installed with Vic-Rings on rubber lined pipe allowing the ability to maintain full pipe wall thickness.

A wide variety of Victaulic products were also utilized in the plant for process air, water and chemical services. Of note, Victaulic valves were used on all applicable services up to 24" | DN600 along with QuickVic™ Installation-Ready™ rigid and flexible couplings and IMI TA balancing valves on smaller diameter piping lines under 10" | DN250. In addition, a full range of Victaulic FireLock™ products comprised the fire protection system installed to protect the mine.

SPECIFICATIONS

Services:	Pipe Materials:	Pipe Size Range:
Process Water, Slurry, Chemical	Carbon Steel, Rubber Lined	14–54" DN350–DN1350
Process Plant Services	Carbon Steel	2–24" DN50–DN600
Fire Protection	Carbon Steel	1–6" DN25–DN150



U.S./World Headquarters

4901 Kesslersville Road
Easton, PA 18040 USA

◀ victauliclocations.com

EMEA

Prijkelstraat 36
9810 Nazareth, Belgium

Asia Pacific

Unit 808, Building B
Hongwell International Plaza
No.1602 West Zhongshan Road
Shanghai, China 200235



PB-285 3894 REV I 02/2018

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