GA INDUSTRIES
A VAG-Group Brand

Figure 517-US Plug Valve

American Iron and Steel Compliant

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A VAG-Group Brand

A Century of Experience

GA valves are known for long term reliability in the most demanding water and wastewater applications. Whether a simple check valve or a complex automatic control valve, each GA valve is built on over 100 years of design, manufacturing and application experience to ensure its dependability and superior performance.

Outstanding Technical Support

From the factory to the field, GA provides responsive and knowledgeable technical assistance and support. GA application engineers, and our team of trained and experienced sales representatives, work closely with designers to select the right valve from our broad product range to ensure the valve meets the system requirements. GA Industries is committed to serving our customers in all phases of the project.

Superior Quality

All GA valves are designed in accordance with AWWA and other industry standards and precision manufactured from the highest grade materials. Every valve is tested to ensure it meets our high standards and the latest industry requirements so you can be sure it will operate as expected from the minute it is put in service.

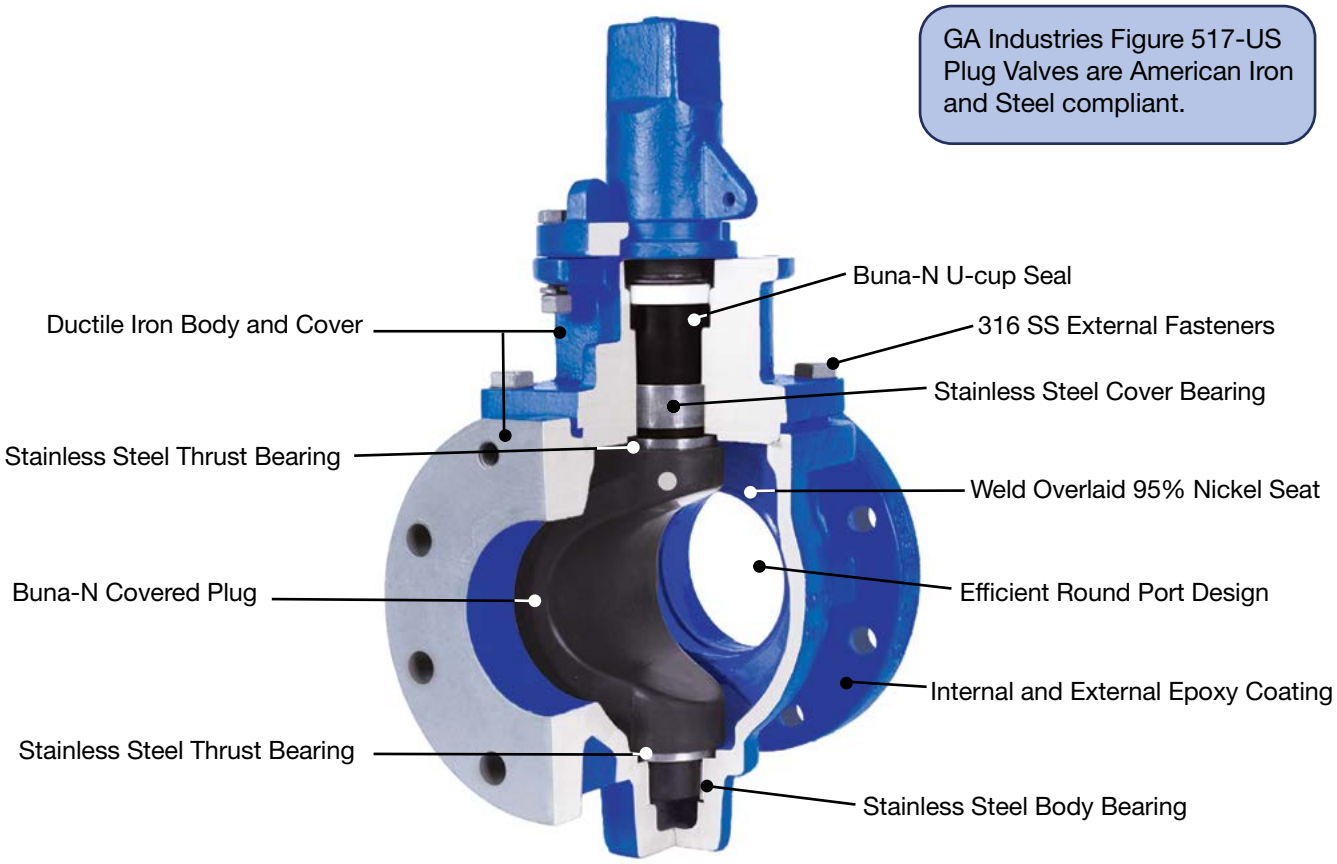
Comprehensive Product Range

We are continuously expanding and improving our product line to meet the ever-changing needs of the waterworks industry. From off-the-shelf standard butterfly and plug valves to sophisticated, highly engineered pump control, check and surge control valves, GA Industries offers one of the broadest ranges of valves specifically suited to the demanding needs of municipal waterworks. Please see the back cover for a complete listing of our product offering.

3” – 24” Figure 517-US Eccentric Plug Valve

Representing the highest design, materials, and manufacturing standards, the Figure 517-US Plug Valve is not only AIS Compliant but also meets the most demanding service requirements. This GA Industries valve is uniquely designed to lessen the environmental impact of pumping, and save energy costs.

GA Industries Figure 517-US Plug Valves are American Iron and Steel compliant.



Body Style

3” – 12” Round Port, Ductile Iron Body, 175PSI
14” – 24” Round Port, Ductile Iron Body, 150PSI
ANSI B16.1 Class 125 Flanged or Mechanical Joint.

Flow Efficient Round Port Design

Round port design thru 24” provides superior flow characteristics, prevents clogging, and reduces energy costs.

Rugged and Corrosion Resistant

Epoxy coated, high strength ductile iron body and welded nickel seat creates long-term corrosion resistance, lengthening the life of the valve.

Self Adjusting Packing

Self-adjusting u-cup packing reduces maintenance and eliminates over-tightening.

Bi-Directional Shutoff

Bi-directional shutoff up to the full rated pressure provides installation versatility, with the ability to install the valve in either direction.

Long Term Tight Seating

Buna-N covered plug and state-of-the-art CNC machining process ensure accurate plug-to-seat alignment for true eccentric action, reduced wear, and tight shutoff up the full pressure rating.

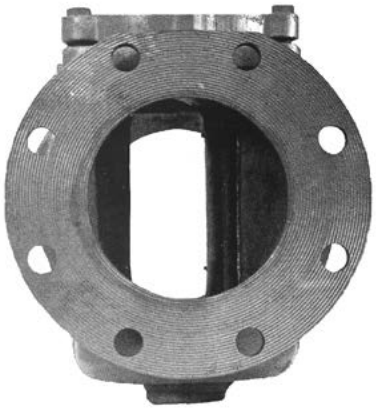
Tested and Certified

GA Industries plug valves have undergone proof of design testing to ensure long term dependability and every valve is rigorously tested before it leaves the factory.

Rectangular or Round?

Cv and Solids Passage Comparison

The Figure 517-US Plug Valve minimizes energy consumption with a higher Cv value – and lower headloss – than rectangular port designs. The round port also provides a larger area for solid object passage, which leads to increased efficiency and reduced pumping cost.



Rectangular Port Plug Valve

Round Port Plug Valve

Compare and Decide

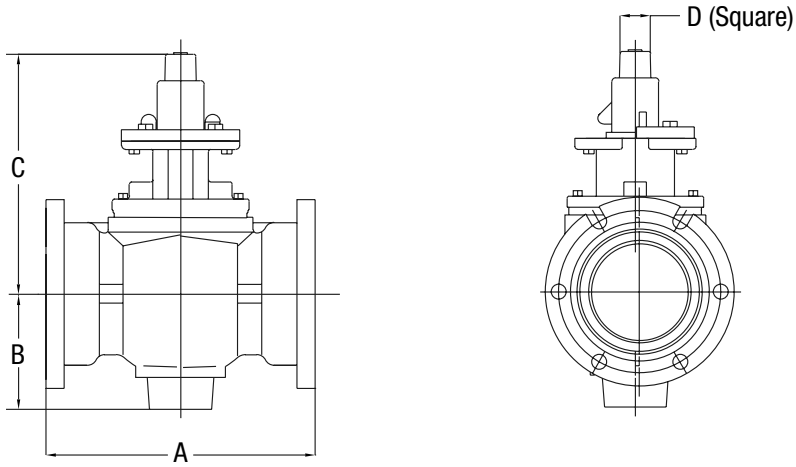
Cv (GPM necessary to cause one psi pressure drop)			Maximum Object Passage Size	
Valve Size	GA Round Port Plug Valve	Typical Rectangular Port Plug Valve	GA Round Port Plug Valve	Typical Rectangular Port Plug Valve
3”	**569**	330	**2-27/32”**	–
4”	**982**	560	**3-5/8”**	2”
6”	**1997**	1180	**5-11/16”**	3-3/8”
8”	**3371**	2030	**7-5/16”**	4-1/4”
10”	**4870**	3130	**9-3/8”**	5-1/8”
12”	**7643**	4140	**10-5/8”**	6-1/4”
14”	**8220**	5500	**11-5/8”**	7-1/4”
16”	**11300**	7300	**14-1/2”**	8-1/4”
18”	**12400**	9600	**15-7/16”**	9-1/2”
20”	**17500**	13000	**17-1/16”**	11-7/8”
24”	**19500**	17500	**18-5/8”**	14-3/16”

General Applications

GA Industries Figure 517-US eccentric plug valves control the flow of fluids such as raw sewage, sludge, and sewage gas. Common applications include sewage force mains, digestors, sewage collection systems, wastewater effluent, sludge collector systems, clarifiers, water treatment plants, and wastewater treatment plants.

State-of-the-art CNC machining processes ensure accurate plug-to-seat alignment on every valve. This allows superior, energy saving, round port eccentric plug valves with reduced plug wear and bi-directional tight shut-off up to the full pressure rating of the valve.

3”-8” Mechanical Joint with 2” Square Operating Nut

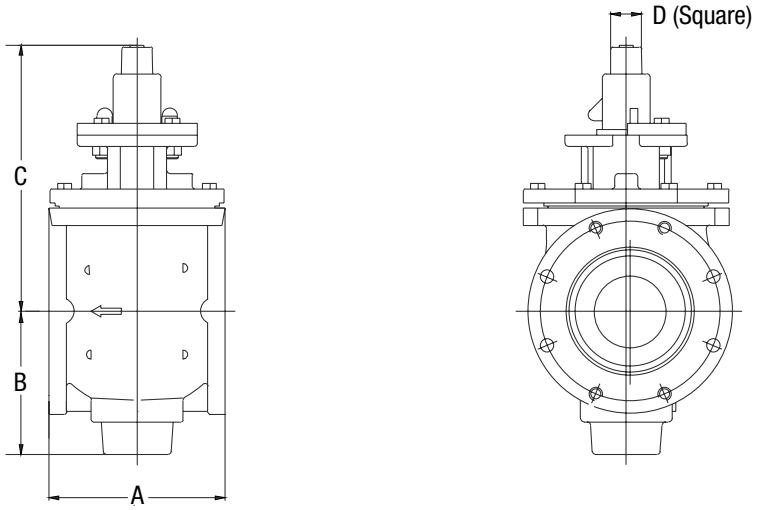


Dimensions (inches)

Size	A	B	C	D	Weight (lbs.)
3”	11-1/2	4-3/4	11-3/4	2	70
4”	14-1/4	6	12-7/8	2	135
6”	15-3/4	7	14-1/4	2	140
8”	17-3/8	9-1/2	17-1/4	2	250

Note: 1. Mechanical joint ends per ANSI A21.11/AWWA C111.
2. Dimensions and weights are approximate, request certified drawings if critical

3”-8” Flanged with 2” Square Operating Nut

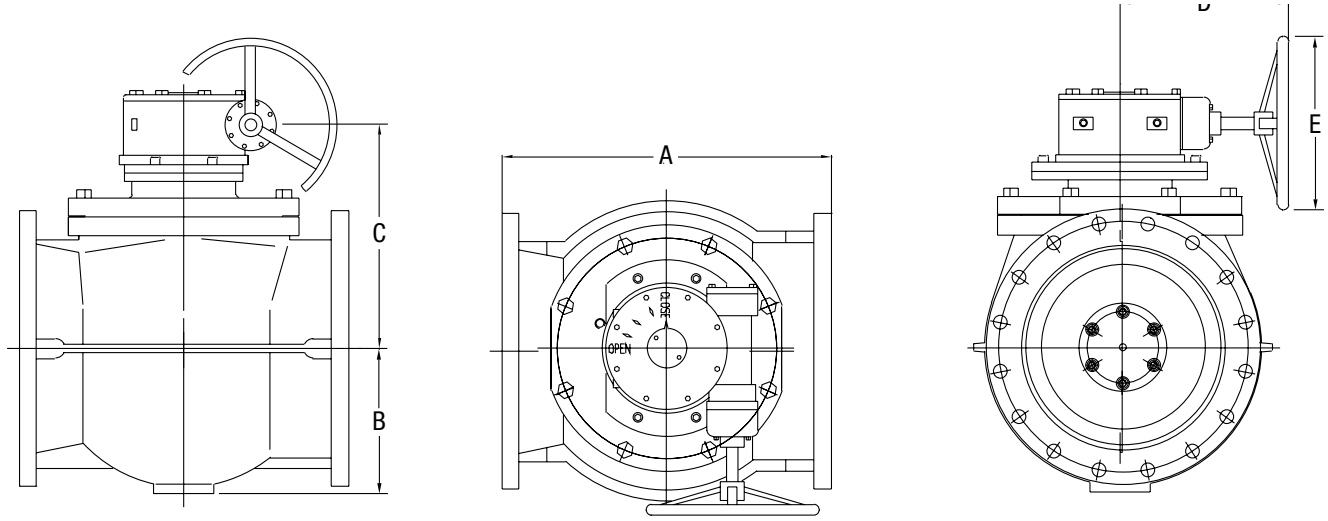


Dimensions (inches)

Size	A	B	C	D	Weight (lbs.)
3”	8	4-3/4	11-3/4	2	60
4”	9	6	12-7/8	2	90
6”	10-1/2	7	14-1/4	2	125
8”	11-1/2	9-1/2	17-1/4	2	245

Note: 1. Flanged ends per ANSI B16.1 Class 125.
2. Dimensions and weights are approximate, request certified drawings if critical.

3”– 24” Flanged with Handwheel Worm Gear Actuator



Flanged End Valve Dimensions (inches)

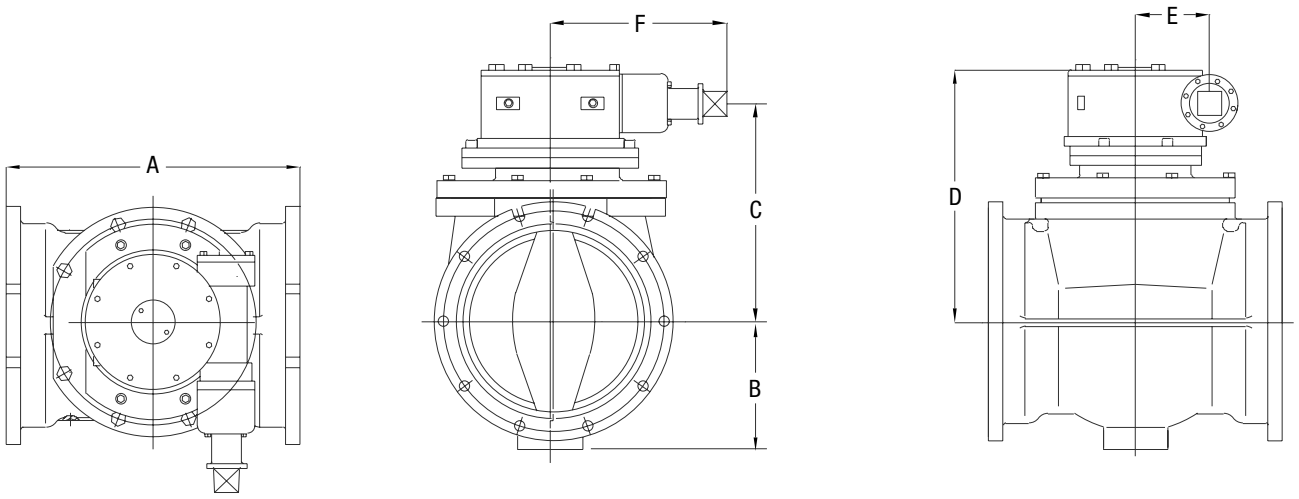
Size	A	B	C	D	E (Dia)	Weight (lbs.)
3”	8	4-3/4	8-1/4	9	12	75
4”	9	6	9	9	12	115
6”	10-1/2	7	10-3/8	9	12	150
8”	11-1/2	9-1/2	13-3/4	10-3/4	12	310
10”	13	11	15	10-3/4	12	375
12”	14	11	16-1/2	10-3/4	12	515
14”	17	11	17-3/4	15-1/4	20	845
16”	17-3/4	13	19-3/4	15-1/4	20	1,010
18”	30	16-1/2	19-3/4	15-1/4	20	1,325
20”	36	16-1/2	21	19-3/4	20	2,175
24”	42	18	21	19-3/4	20	2,310

Note: 1. Flanges are faced and drilled per ANSI B16.1. 1 Class 125.
2. Dimensions and weights are approximate, request certified drawings if critical.
3. Temperature Rating: Maximum 180°F (82°C)

Standard Materials

Body	Ductile Iron (Welded Nickel Seat), ASTM A536 Grade 65-45-12, Epoxy Coated
Plug/Stem	Ductile Iron/Synthetic Rubber Coated, ASTM A536 Grade 65-45-12/Buna-N
Cover	Ductile Iron, ASTM A536 Grade 65-45-12 Epoxy Coated
Cover Bearing	Permanently Lubricated 316 Stainless Steel
Body Bearing	Permanently Lubricated 316 Stainless Steel
Cover O-Ring	Buna-N
Cover Bolt	316 Stainless Steel
Grit Excluder	Buna-N
Thrust Bearing	316 Stainless Steel
Retaining Ring	Steel, Zinc Plated
U-Cup Seal	Buna-N
Key	Carbon Steel

3”– 24” Mechanical Joint with Buried Service Worm Gear Actuator



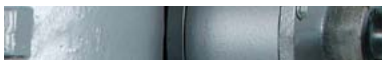
Mechanical Joint End Valve Dimensions (inches)

Size	A	B	C	D	E	F	Weight (lbs.)
3”	11-1/2	4-3/4	8-1/4	10-1/4	2-1/2	8-1/2	88
4”	14-1/4	6	9	11-1/4	3	8-3/4	123
6”	15-3/4	7	10-3/8	12-5/8	3	8-3/4	165
8”	17-3/8	9-1/2	13-3/4	17-1/2	4-3/4	10-5/8	305
10”	19-3/8	11	15	18-3/4	4-3/4	10-5/8	425
12”	19-1/4	11	16-1/2	20-1/4	4-3/4	16-1/4	505
14”	20-3/4	11	17-3/4	21-1/2	6	16-1/4	830
16”	25	13	19-3/4	23-1/2	6	16-1/4	1,180
18”	38	16-1/2	19-3/4	23-1/2	6	16-1/4	1,460
20”	44	16-1/2	21	25-1/2	6	16-1/4	2,100
24”	48	18	21	25-1/2	6	16-1/4	2,225

Note: 1. Flanges are faced and drilled per ANSI B16.1. 1 Class 125.
2. Dimensions and weights are approximate, request certified drawings if critical.
3. Temperature Rating: Maximum 180°F (82°C)

Standard Materials

Body	Ductile Iron (Welded Nickel Seat), ASTM A536 Grade 65-45-12, Epoxy Coated
Plug/Stem	Ductile Iron/Synthetic Rubber Coated, ASTM A536 Grade 65-4 12/Buna-N
Cover	Ductile Iron, ASTM A536 Grade 65-45-12 Epoxy Coated
Cover Bearing	Permanently Lubricated 316 Stainless Steel
Body Bearing	Permanently Lubricated 316 Stainless Steel
Cover O-Ring	Buna-N
Cover Bolt	316 Stainless Steel
Grit Excluder	Buna-N
Thrust Bearing	316 Stainless Steel
Retaining Ring	Steel, Zinc Plated
U-Cup Seal	Buna-N
Key	Carbon Steel



Specification

Figure 517-US Eccentric Plug Valves

Non-Lubricated Plug Valves
Sizes 3” Thru 24”

DESIGN

A. Plug valves shall be of the quarter-turn, non-lubricated eccentric type and shall be designed, manufactured and tested in conformance with the latest revision of AWWA Standard C517.

B. Valves through 12” size shall be rated for 175 PSI and 14” to 24” shall be rated for 150 PSI working pressure. Plug valves shall seat tightly in both directions at rated pressure and be capable of operation after long periods of inactivity.

C. Flanged end valves shall meet the AWWA C517 face to face with flanges that are faced and drilled and have the minimum thickness required by ANSI B16.1 Class 125 Mechanical joint end valves shall conform to ANSI/AWWA C111/A21.11.

D. The nominal size, pressure rating, year of manufacture and manufacturer’s name or mark shall be cast onto the valve body or be on a permanently attached nameplate.

CONSTRUCTION

A. Valve body and cover shall be ASTM A536 Grade 65-45-12 ductile iron for superior strength with a corrosion and wear resistant 95% pure nickel seat weld overlaid onto the body. Sprayed, plated or removable seats are not acceptable.

B. Plug valves through 24” shall have a round port for improved flow characteristics, lower headloss and reduced pumping cost and have the following minimum full open flow coefficients (Cv):

Size	Cv	Size	Cv	Size	Cv	Size	Cv
3”	569	8”	3371	14”	8220	20”	17500
4”	982	10”	4870	16”	11300	24”	19500
6”	1997	12”	7643	18”	12400		

C. The valve shall have an ASTM A536 Grade 65-45-12 ductile iron plug with molded and vulcanized Buna-N rubber coating per ASTM D429.

D. The plug shaft shall be fitted with permanently lubricated 316 stainless steel upper and lower shaft bearings, upper and lower thrust bearings and grit seals to minimize the entry of grit into the bearing area.

E. Shaft packing shall be self-adjusting, wear compensating U-cup design and be replaceable without valve disassembly.

F. Valve shall be internally and externally factory coated with 6-8 mil DFT of NSF-61 certified 2-part polyamide epoxy for corrosion protection.

ACTUATION

A. Unless otherwise specified or shown on the plans, above ground or exposed manually actuated valves 6” and smaller shall be lever operated and larger valves shall be supplied with a gear operator and handwheel. Buried valves shall be supplied with a sealed and grease packed gear operator with a 2” square operating nut.

B. Manual actuators shall mount on a pre-drilled ISO 5211/MSS SP-101 mounting pad to minimize the need for brackets and adaptors.

MANUFACTURER

A. Valves shall be GA Industries Figure 517-US Eccentric Plug Valves as manufactured by VAG USA, LLC, Mars, PA USA.

Your partner for AIS Compliance

Most GA valve products comply with the provisions of this federal legislation, and we are ready to provide any information you need for “hassle-free” submittals.

Consolidated Appropriations Act of 2014

Water Infrastructure Finance and Innovation Act of 2014 (WIFIA)

Section 746 Division A of Title VII of the Consolidated Appropriations Act of 2017

Water and Environmental Program (WEP) of the USDA Rural Utilities Service (RUS)

AIS Compliant Valves for Water and Wastewater

- Butterfly Valves
  - Series 800 AWWA C504 Butterfly Valve
- Eccentric Plug Valves
  - 3” to 24” ECO-Centric® Round Port
  - 24” to 48” Rectangular Port
- Engineered Check Valves
  - Air-Cushioned Swing Check
  - Oil Controlled Closing Swing Check
  - Tilting Disc Check
- Check Valves
  - Lever & Weight or Spring Swing Check
  - Silent Check
- Pilot Operated Control Valves
  - Pressure Reducing
  - Pressure Sustaining
  - Emergency Cut-in
  - Altitude
  - Solenoid Control
- Pump Control Valves
  - AWWA C507 Ball Valves
  - CHECKtronic® – Motor Actuated
  - Electric Check – Piston Actuated
  - Rotovalve® Cone Valve
- Surge Relief Valves
  - Differential Piston Actuated for Water
  - Spring Loaded for Wastewater or Sewage
- Air Valves
  - Air Release for Water & Sewage
  - Air and Vacuum for Water & Sewage
  - Combination for Water & Sewage
  - Vacuum Breaking Valves for Water & Sewage

GA Industries is a brand of the VAG Group, a renowned manufacturer of water control valves with headquarters in Mannheim, Germany, and an international organization of specialists that includes:

- **Engineering & technical design**
- **Production**
- **Fabrication**
- **Sales & distribution**
- **Installation & start-up**
- **Aftermarket service**

GA INDUSTRIES
A VAG-Group Brand

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