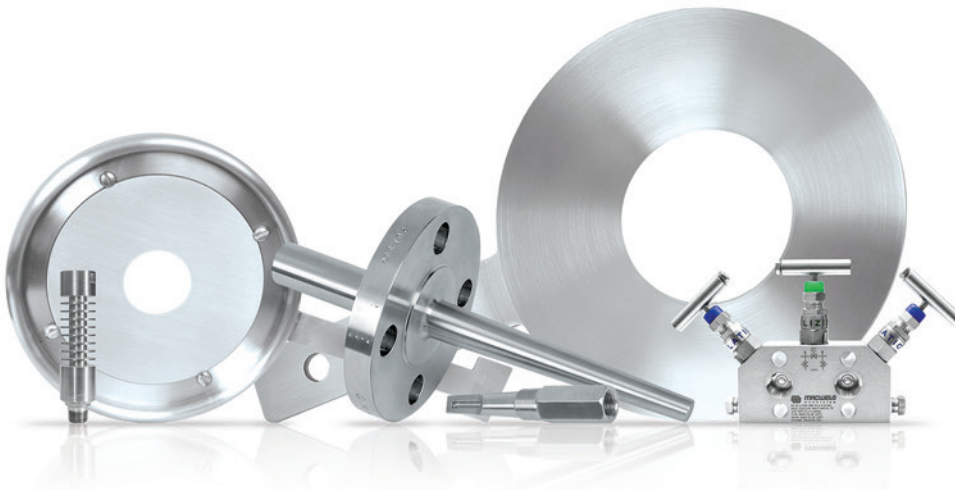


The promise of precision, every time.



www.mac-weld.com

- ▶ Thermowells
- ▶ Orifice Plates & more
- ▶ Bleed & Flush Rings
- ▶ Pressure/Level
- ▶ Manifolds & Valves
- ▶ Software



At Mac-Weld, we promise precision every time. We're proud of our work, and we work closely with our customers. We design and develop products that perform best under the most challenging conditions. We don't crack under pressure. We don't melt under heat. We measure the flow, and we're measured in our response. We stand by our quality, our time, and our price. We're Mac-Weld, and our promise is to be the best.

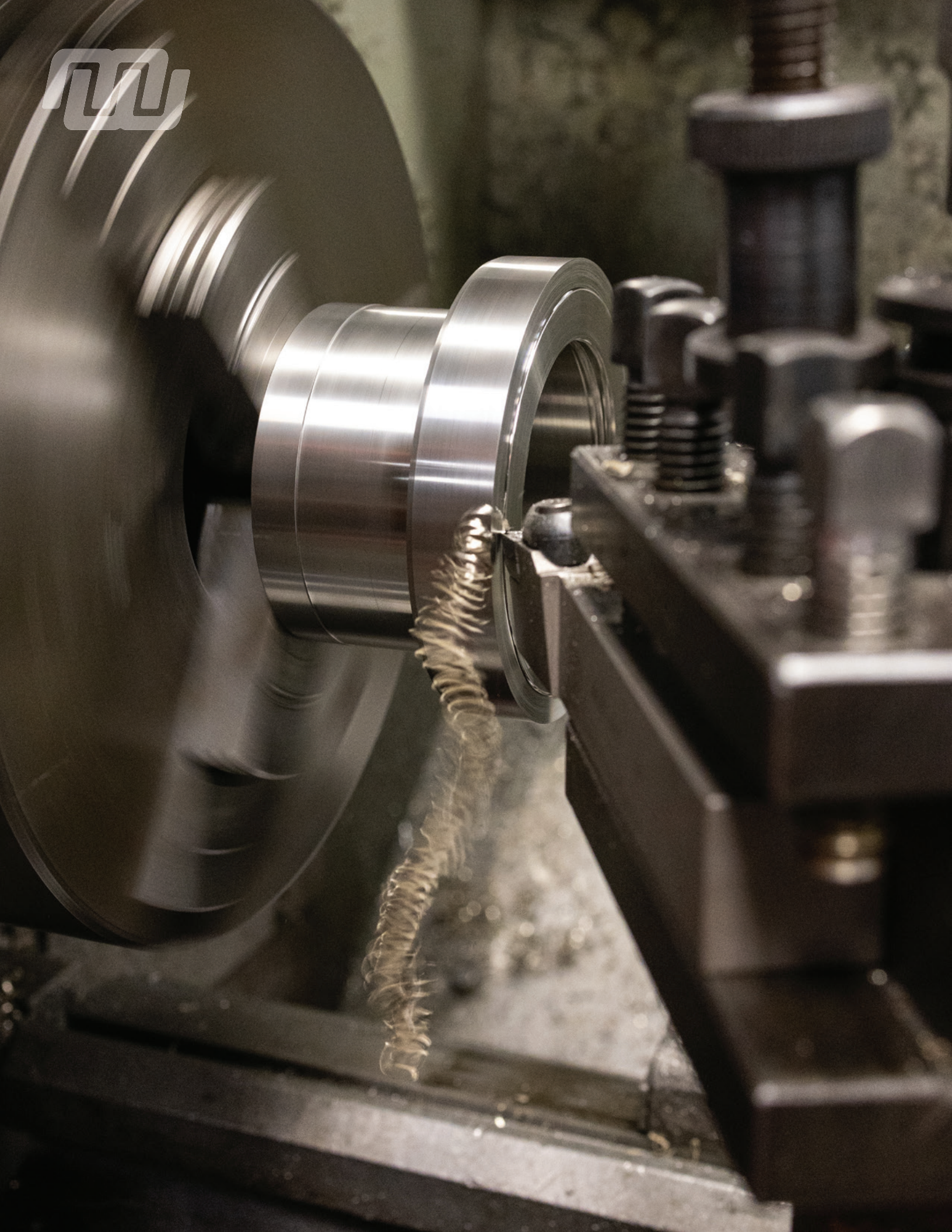


The promise of precision, every time.

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Mac-Weld reserves the right to update and/or change our product line at anytime without written notice. Please contact your Mac-Weld sales representative today at 1-877-622-9353 for more information. Revised December 2024.



Our Story

An industry leader in thermowells and instrumentation hardware with a global client base.

Mac-Weld is one of North America's largest manufacturers of thermowells and instrumentation hardware. With over 45 years of experience, we are a privately owned company and an ISO 9001:2015 QMS-certified manufacturer. Our expertise spans a wide range of materials, from basic carbon steel and stainless steel to more specialized metals such as titanium, chrome molybdenum, hastelloy, and monel. We serve a diverse global client base of over 500 companies, providing both blanket orders and custom specialty welding and machining services to meet the unique, ever-evolving needs of our customers.

Producing more than 150,000 thermowells annually, we cater to a wide variety of industries. Our highly experienced team works closely with clients to deliver high-quality, customized solutions tailored to their specific requirements. We pride ourselves on our commitment to timely delivery, ensuring that all products meet the highest standards while remaining competitively priced. At Mac-Weld, we are dedicated to providing reliable, innovative solutions to our customers around the world.



1980



2016 - Present





Our Philosophy

Built on a tradition of exceeding quality at every step.



The promise of precision

At Mac-Weld, our priority is, and always has been, precision. We specialize in the manufacturing of instrumentation components, and our aim is to achieve a high standard of excellence that is accepted globally. And we do this through timely audits and reviews as per our ISO Standard, as well as allocating the necessary resources in training and technology to continuously maintain and improve the quality standards of our products and services.



Always on time and on budget

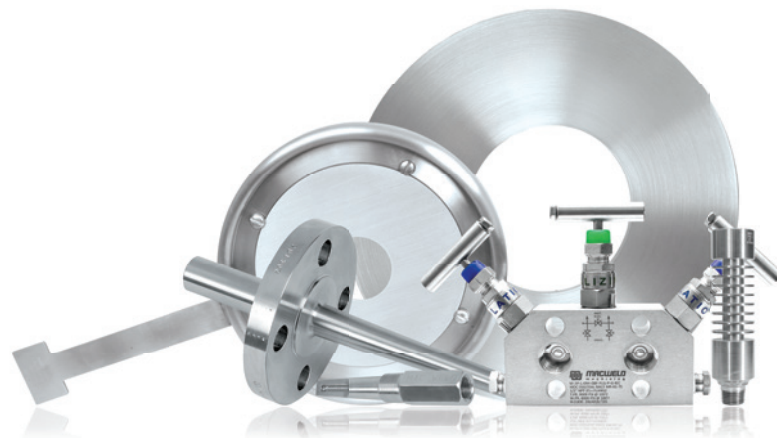
We are known in the industry for our commitment to deliver on time, and we ensure that we stick to that. Over the past few decades, we have established this reliability with our clients, and it's one of the primary differentiators between us and the competition.

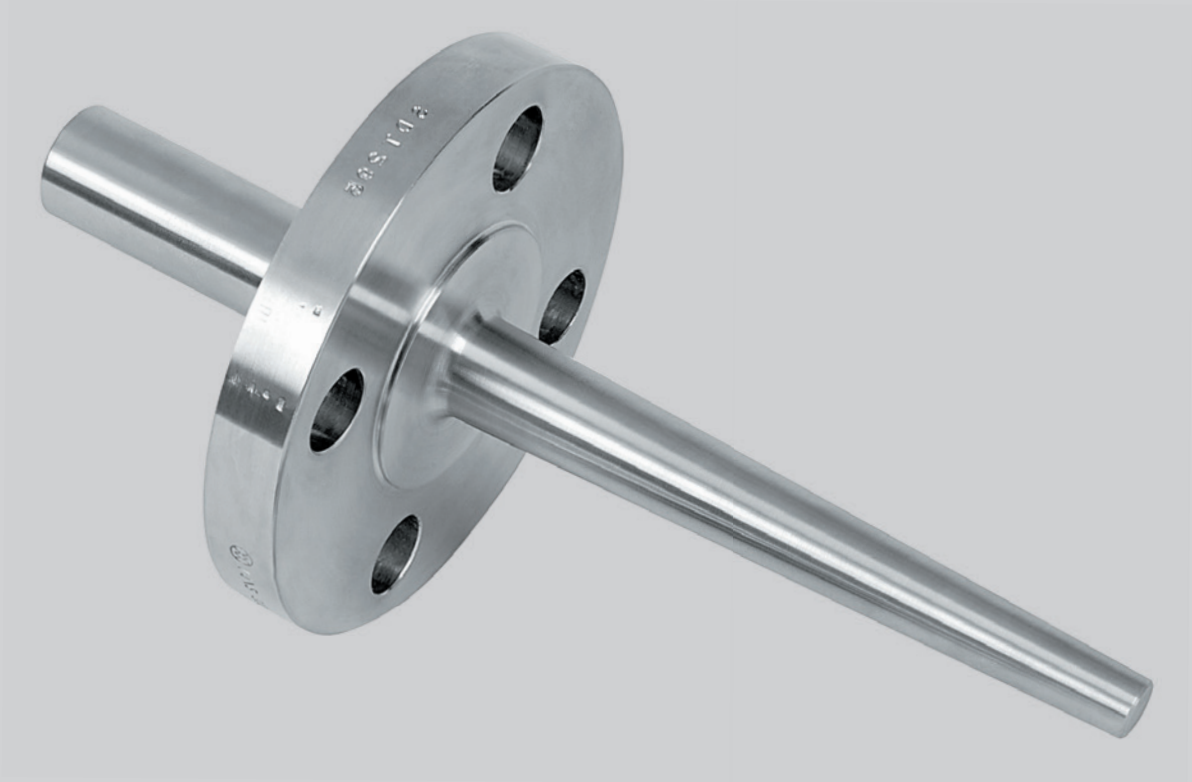
We take pride in our policy of fair and competitive pricing, which sets us apart in the industry. Procurement managers appreciate this consistency, as it offers a refreshing change. No matter where our clients are located, we ensure transparent and dependable pricing worldwide.



Global and growing

To be competitive in today's fast-paced world, we have to ensure quality assurance is a standard. To meet the needs of a global economy, we have to bring together expertise in all areas of business, from the order entry level to machining parts. Our sales and support teams have over 80 years of technical experience. This, combined with our skilled manufacturing personnel, guarantees that our products will meet or exceed all industry standards. Although we are based in North America, we supply our products to a wide variety of industries all around the world.





THERMOWELLS



Flanged Thermowells



Helical Thermowells



Limited Space Thermowells



Threaded Thermowells

Thermowells

Over 45 years experience manufacturing thermowells

As a pioneer and global leader in manufacturing thermowells, we ensure the highest quality and precision in every piece we manufacture. Whether they are custom-made for highly specialized measurements or they are standard configuration, each and every thermowell is built to meet or exceed accepted standards.

Precision | Quality | On-time Delivery

Our thermowells are designed and manufactured 100% in-house and are made to accept standard and custom-made thermometers, thermocouples, bulbs, and RTD's. Mac-Weld flange thermowells are also available in a large variety of sizes and configurations that include, but are not limited to, raised face, flat face, and ring type joint.

- Mac-Weld thermowells accept standard or custom-made thermometers, thermocouples, bulbs and RTD's
- Helical/Strake thermowells for high velocity applications
- All are manufactured in house, quality checked and tested to code before being shipped
- Mac-Weld custom software, V-MAC, utilized for thermowell wake calculations.
- Sanitary (Tri-Clamps) thermowells available, 8-12 Micro inch R/A finish
- Protection Tubes also available
- Large variety of materials
- CRN approved thermowells
- Various NDT options
- NACE compliant



Material Options: 316 Stainless Steel, 304 Stainless Steel, Carbon Steel, 310 Stainless Steel, 321 Stainless Steel, 347 Stainless Steel, Alloy 20, C-276, Duplex, Alloy 600, Alloy C-276, Alloy 400, Brass, and Titanium (More available upon request).

Industries: All Industries that measures Process Temperature.

For details on our Flanged, Threaded, Helical, Vanstone, Socket-Weld, Limited Space, Tri-Clamp & Weld-in thermowells, please visit www.mac-weld.com/thermowells



Sanitary (Tri-Clamp) Thermowells



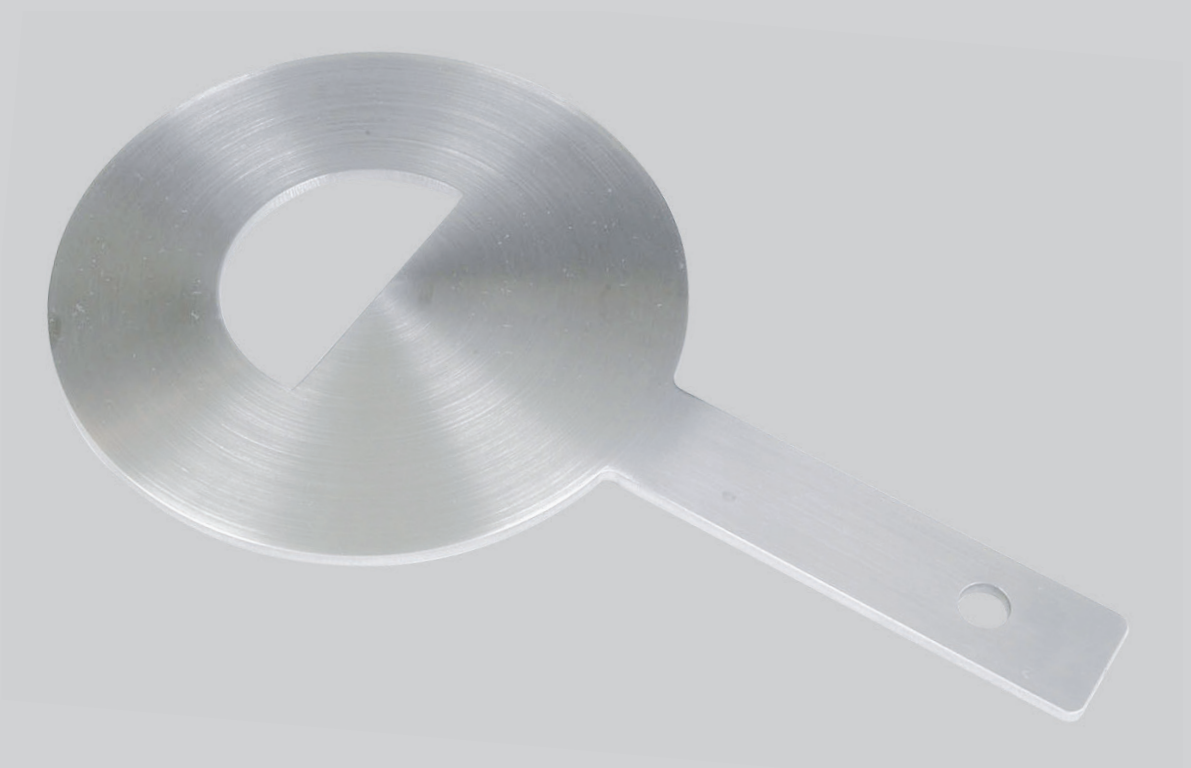
Socket-Weld Thermowells



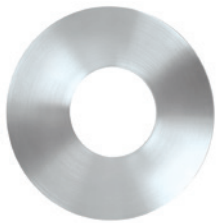
Vanstone Thermowells



Weld-In Thermowells



ORIFICE PLATES AND MORE



Universal Orifice Plates



Paddle Orifice Plates



RTJ Orifice Plates



Flow Meter Grounding Rings

Orifice Plates and More

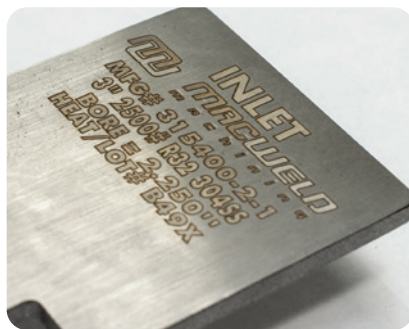
Engineered to meet the highest level of precision and performance

Orifice plates are key components for accurate flow measurement of gas, liquid, and steam in various industries. Mac-Weld orifice plates are precision bored from a single piece, ensuring reliable and consistent performance even in demanding conditions.

As primary element differential products, they are used for both flow measurement and flow restriction applications. The orifice plate diameters are manufactured to exact tolerances and verified using a Coordinate Measurement Machine (CMM) for dimensional accuracy.

Mac-Weld offers both custom-designed and standard orifice plates, with all units undergoing thorough inspection and measurement to meet client specifications before shipment, ensuring readiness for installation.

- Orifice plates available with a maximum diameter of 48"
- All products are inspected and stamped before being released from production
- Custom orifice plate manufacturing available
- Plates are checked on-site using our CMM machine
- Surface finished to less than 30 micro-inch tolerance
- Various line sizes and flange ratings available
- Large selection of over 50 materials including 304/L, 316/L, Carbon Steel, Hastelloy & many more
- NACE compliant



Custom Stamping Available



Custom Stamping Available



Orifice Plate with Carrier Ring Set



Spectacle Blinds

Material Options: 316 Stainless Steel, 304 Stainless Steel, Carbon Steel, 310 Stainless Steel, 321 Stainless Steel, 347 Stainless Steel, Alloy 20, C-276, Duplex, Alloy 600, Alloy 625, Alloy 400, Teflon (Over 50 materials available)

Industries: Any industry that requires flow measurement or restriction of flow.

For more information and a complete list of our orifice products, visit www.mac-weld.com today.



ORIFICE PLATES AND MORE



Restriction Orifice Unions



Meter Run Assembly



Vented Paddle Blinds



Multi-Stage Restriction Orifice

Orifice Plates and More

Discover a wide range of orifice assemblies & more in our extensive product line

In addition to our comprehensive range of orifice plates, we offer a variety of other flow control products, including orifice wafer assemblies, multi-stage restriction orifices, and orifice flange unions, among others. These products are designed to reduce overall costs, streamline installation, and minimize maintenance.

Our multi-stage restriction orifice assembly optimizes pressure drop across each stage by using multiple plates within a single unit, simplifying installation and saving time. Similarly, our orifice wafer assembly combines several components into a compact, space-saving design, making it easy to integrate transmitters and valves.

Manufactured on-site with the latest technology, these flow control products ensure high-accuracy flow measurement for a wide range of applications.

- Custom designs available based on clients application requirements
- Multi-Stage restriction orifice assembly can reduce the pressure drop, not achievable with a single plate. Eliminating cavitation and high decibel noise and vibration.
- Restriction orifice unions feature a single piece metal orifice plate that fits perfectly into the union seat, eliminating the need for a gasket.
- Orifice carriers are available in sizes to suite B16.5 flanges
- Large selection of materials including 304/L, 316/L, Carbon Steel, Hastelloy and many more.
- Various NDT options
- NACE compliant

Material Options: 316 Stainless Steel, 304 Stainless Steel, Carbon Steel, 310 Stainless Steel, 321 Stainless Steel, 347 Stainless Steel, Alloy 20, C-276, Duplex, Alloy 600, Alloy 625, Alloy 400, Teflon (More available upon request)

Industries: Any industry that requires flow measurement or restriction of flow.

For more information and a complete list of our orifice products, visit www.mac-weld.com today.



Orifice Flange Union Assembly



Integral Orifice Assembly



Orifice Wafer Assembly



BLEED AND FLUSH RINGS



Bleed Rings



Flush Rings



Bleed Rings Assemblies



Flush Rings Assemblies

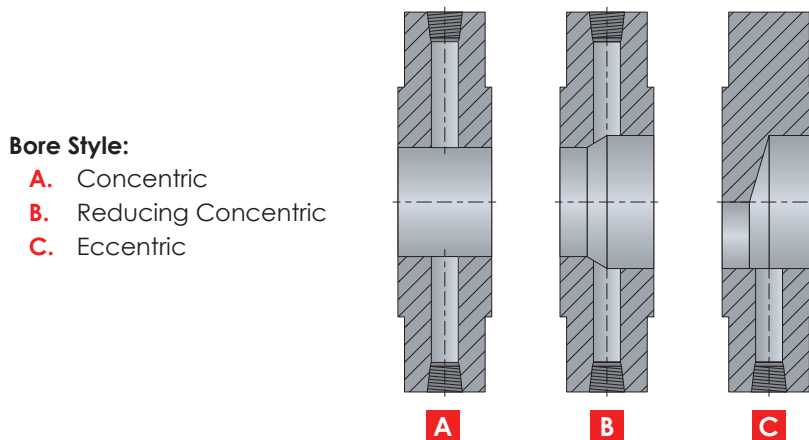
Bleed Rings and Flush Rings

Designed to help clean or flush the process line safely

Mac-Weld flush rings provide the flexibility of two different ANSI flange sizes or ratings on opposite sides. With a thickness of approximately 2 inches, they allow for tapping on both the top and bottom. Available in materials such as 316/L, 304/L, or A105 carbon steel, all Mac-Weld bleed and flush rings are rigorously quality-checked and tested to code before shipping. Mac-Weld bleed rings, which are 1-1/2 inches thick, are placed between two flanges for top-bottom measurement or drainage, also enabling top and bottom tapping.

Our bleed and flush ring assemblies come in various configurations and materials, designed to accept standard transmitters, valves, and more. Manufactured, assembled, and tested in our factory, they are shipped directly to the site, offering significant time and cost savings.

- Manufactured 100% in house
- SW eliminate threaded connections
- Mac-Weld bleed and flush ring assemblies are available in a variety of configurations and materials
- All bleed & flush rings are quality checked and tested to code, prior to being shipped.
- Allows for on site calibration, venting, & purging
- Valve options available upon request for bleed and flush ring assemblies
- Our engineered and manufactured-in-house design can be adapted and modified for your specific application
- Two different ANSI flange sizes or ratings on opposite sides of the flush rings.
- Manufactured in accordance with ASME, ASTM and ANSI standards
- CRN approval available upon request



Material Options: 316/L, 304/L or A105 Carbon Steel

Industries: Oil & Gas, Petrochemical, Chemical etc.

For more information and a complete list of our bleed & flush rings, visit www.mac-weld.com today.



PRESSURE / LEVEL



Single Level Chamber



Twin Level Chamber with Float



Seal Pots



Gauge Siphons

Pressure / Level

Designed for external process level measurement

Mac-Weld specializes in designing and manufacturing high-quality chambers that adhere to ASME B31.3 or B31.1 standards, offering customers the option to purchase either a complete bolt-on instrument solution or a chamber for use with existing instrumentation. Our chambers feature various process connections, with optional drain and vent configurations to suit different needs. We use only certified, traceable materials, and all chambers are constructed with full penetration welds following ASME procedures. Each chamber undergoes hydro-testing upon completion, with a full range of NDT and customer inspection options available.

Additionally, Mac-Weld's engineered finned gauge siphons provide a reliable condensate barrier between live steam and pressure instrumentation. The low coefficient of heat conduction of standard materials ensures a predictable temperature for the pressure instruments. For cost-effective solutions, our hex gauge siphon offers a compact, rigid mount, made from solid bar for easy installation and longer gauge life.

We also manufacture spool pieces and pipe spools tailored to meet specific client requirements. Available in a wide range of flange sizes and pressure ratings, these pre-fabricated spools help reduce installation time and costs while maintaining the highest quality standards.

- Standardized or custom design to fit existing vessels
- Allows external mounting of process instrumentation
- Designed to ASME B31.3 (ASME B31.1 available upon request)
- Used worldwide by major industries
- Ideal for critical area and general purpose applications
- Variety of process connections, and optional drain and vent connections
- Dual chambers supplied for redundancy
- More than 30 years of experience in designing and manufacturing chambers in accordance with international codes



Spool Pieces

Material Options: 316/L, 304/L & A105 Carbon Steel

Industries: Oil, Petrochemical, Chemical and others for Process Level Measurement.

For details on our level chambers, seal pots, gauge siphons and spool pieces please visit www.mac-weld.com



VALVES



Needle Valves



Manifold Valves

Manifolds & Valves

High pressure valves available in a large variety of options and configurations

Mac-Weld high-pressure instrument needle valves are widely used across industries for throttling, regulating, and isolating gaseous and aggressive non-viscous liquids, ensuring reliable performance. Mac-Weld Gauge Root Valves provide multifunctional capabilities to isolate, calibrate, and vent gauges, pressure switches, and static instruments.

Our 2, 3, and 5 valve manifolds feature high-quality needle valves that can operate at pressures up to 6,000 psig, with standard PTFE packing. The Mac-Weld Instrument Needle and Gauge Valves are designed to handle pressures up to 6,000 psig, using PTFE gland packing placed below the stem threads, preventing contact between the system process and the stem threads. This ensures optimal function and long-lasting performance in demanding applications.

- Standard seat diameter – 5mm CV: 0.4.
- Maximum standard pressure up to 6000 psig @ 100°F (414 bar @ 38°C)
- Stainless steel pin prevents loosening of the gland body during operation
- Gland is externally adjustable
- Backseat stop spindle prevents blowout
- Non-rotating trim enables the spindle to self center with the orifice for bubble tight shut-off
- Dust cap prevents ingress of contaminants

Valves

- Instrument Needle Valves
- Gauge Root Valves
- 2-Valve Manifolds (GV)
- 3-Valve Manifolds
- 3-Valve "T" Type Manifolds
- 3-Valve In-Line Block & Bleed Manifolds
- 5-Valve Manifolds
- 5-Valve Wafer Manifolds
- 5-Valve Bar Type Manifolds
- 5-Valve "T" Type Manifolds
- Low Profile Instrument Manifolds
- Flange x Flange Manifolds
- Double Block and Bleeds

Material Options: 316/L, 304/L or A105 Carbon Steel

Industries: Oil & Gas, Petrochemical, Chemical and others.

For details on our Needle Valves and Manifold Valves, please visit www.mac-weld.com



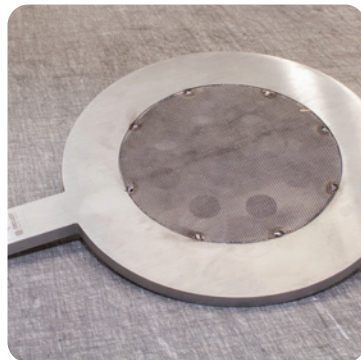
SPECIALTY PRODUCTS



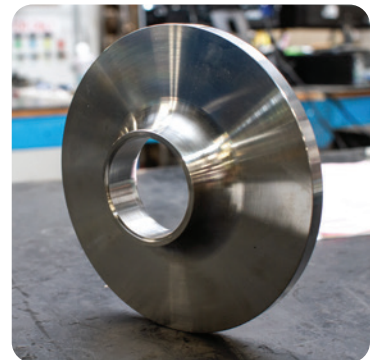
Lens Ring Pipe Wells



Custom Cooling Cylinder



Muffing Orifice Plate



Flow Nozzle

Specialty Products & Accessories

Custom products designed to meet your requirements

Custom Fabrication

Mac-Weld is a full-service machine and welding facility with a team of skilled experts in both manufacturing and design. We have been working with companies all over the world, providing custom manufacturing solutions for a large variety of projects.

Our team will work with you to make sure your project stays on schedule and within budget while maintaining the quality and precision we are known for in the industry.

- Stilling Wells
- Orifice Flange Sets
- Spacers
- Meter Runs
- Spools
- Multi Point Pipewell
- Pipe Wells
- Injection Quills (Sample Quill)
- Test Plugs

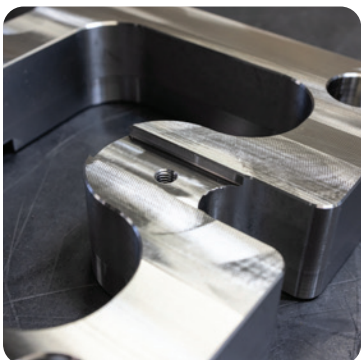


Accessories and Options

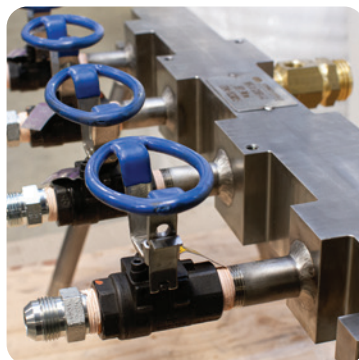
As a primary producer of thermowells and orifice plates, along with other various instrumentation hardware, we also have the ability to supply various accessories if needed. We can also use your own components to build a finished assembly that's ready to ship directly to the installer.

- Brass Plug & Chain
- Stainless Plug & Chain
- Teflon Coating
- Stellite Overlay
- Kynar Coating
- Nace MR0175
- Tantalum Sheath (Flanged Only)
- Post Weld Heat Treatment
- UT bore concentricity
- CofC (Certificate of compliance)
- COO (Certificate of origin)
- Traceability Index
- ITP (Inspection Test Plan)
- Stamping
- SS tags
- Electro polish
- Pickling & Passivation

Talk to your Mac-Weld sales representative today for more information on how we can help make your next project a success.



Custom Fixture



Manifold Assembly



Custom Orifice Plate



Stellite Coating

Our History

1980

Mac-Weld opens a small machine and welding shop in Sarnia, Ontario.

1985

We invest in our first CNC lathe to increase production output for our growing thermowell department.



1995

We move into our brand new manufacturing facility across the street, adding more than 20,000 sq. ft. to our operation.



2000

Our first expansion adds over 3,000 sq. ft. of manufacturing and inventory space



2006

To keep up with demand we upgrade the shop to include a state of the art robotic welding system



2016

Mac-Weld rebrands with a new logo website and marketing materials.



2019

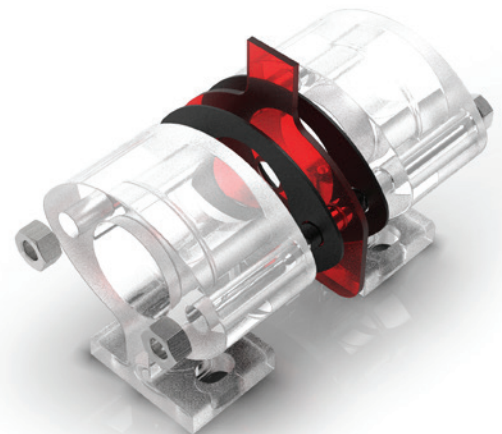
Our latest expansion adds an addition 12,000 sq. ft. to our shop and main office

2024

Over the past couple of years we have upgraded and added over a dozen machines, including 2 robots, for increasing our manufacturing capacities.



Recognized globally for our quality, service and the ability to deliver!



Services & Certification

Products built to meet today's standards and requirements

With over 45 years in the industry, we have access to a variety of services and testing to help our clients.

Mac-Weld was approved for certificate of authorization as fittings manufacturer by TSSA auditor on February 3, 2020. We are authorized for fabrication of welded and non-welded fittings of fabrication.

Services & Testing

■ CRN Certification

The CRN identifies that the design has been accepted and registered for use in a specific province or territory.

■ Dye Penetrant Testing

Dye testing is used to check surface defects in welded metal surfaces.

■ Internal/External Hydrostatic Testing

This is used to evaluate and test the integrity of manufacturer components while under pressure.

■ Phased Array Ultrasonic Testing (PAUT)

PAUT is used for nondestructive testing of products to check for cracks or flaws in component quality

■ X-Ray Inspection

Radiographic testing is used to detect a range of contaminants and product defects.

■ Velocity Calculations (V-Mac by Mac-Weld)

Software designed to ensure thermowells meet the ASME PTC 19.3 TW 2016 code, able to run calculations for flanged, threaded, socket-weld, weld-in, and vanstone thermowells.

■ Positive Material Identification (PMI)

PMI is the analysis of a material, usually a metallic alloy to establish composition of each element's percentage.

■ O2 Cleaning

Oxygen Cleaning is a method that helps remove contaminants from various components intended for use with gas or liquid systems.

■ Material Test Report (MTR)

MTRs provide a certified record of a material's physical and chemical properties used for traceability.

Certification



TSSA
Certified

We are now certified for fabrication, assembly and repair of Welded & Non-Welded category A,B,C,D,E,F and H type fittings in accordance with CSA Standard B51 Boiler, Pressure Vessel and Pressure Piping Code, ASME B31.1 Power Piping and ASME B31.3 Process Piping.



ISO Certified
QMS

As an ISO certified QMS business, our products are manufacturing using the highest quality control systems. This gives our customers the satisfaction and consistency required for such specific pieces. The ISO 9001 framework results in less waste, reduced costs and higher quality.



MACWELD
m a c h i n i n g

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✉ sales@mac-weld.com