

WOI[®]

WELDING OUTLETS, INC.

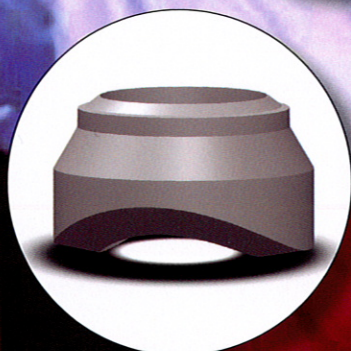
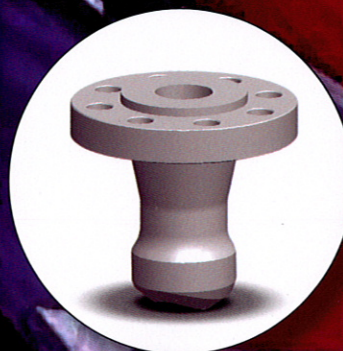
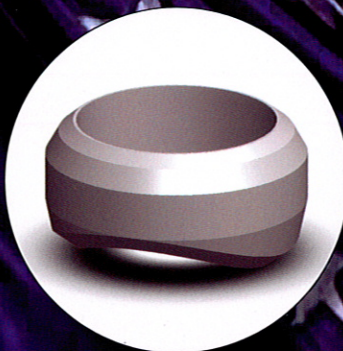
Product Linecard

- Standard, Heavy Wall, & Flanged Branchettes[®]
- Butt Weld Fittings
- Nozzles
- Studding Outlets

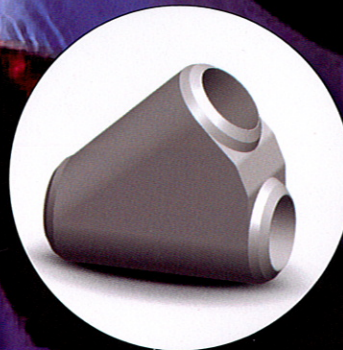
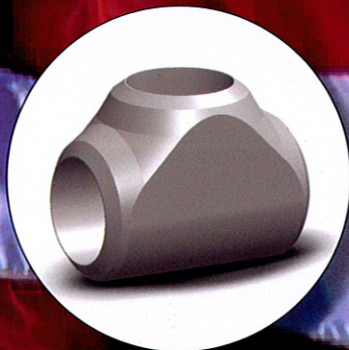
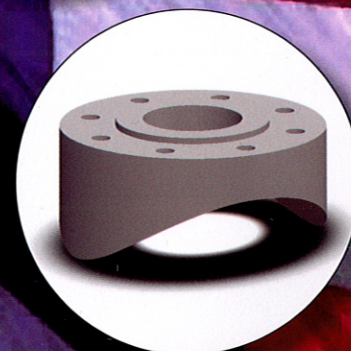
24 Hour
Emergency Service!

1341 Hill Road • Houston, TX 77039 • Toll Free: (888) 610-0777 • Phone: (281) 590-0190 • Fax: (281) 590-1415

www.woihouston.com
Toll Free (888) 610-0777



ISO 9001:2000
PED Certified
Canadian Registered



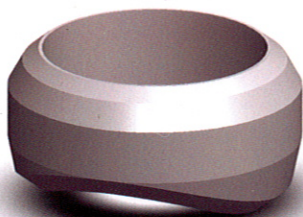
Made in the USA.

Branchette® Family

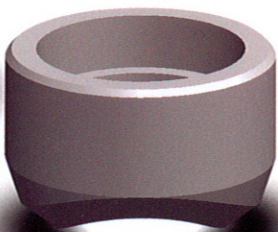
Our standard Branchette® family includes 3000, 6000, 9000, & 10,000 SW and THRD connections along with STD Wt. and XS Wt. BW outlets. They would include all these from a 90° angle off the header piping to the popular 45° layout along with elbow applications and would include any angles in between. We manufacture sizes from 1/2" thru 48".

We can help with any special applications throughout the world!

Butt-Weld Branchette®



Socket-Weld Branchette®



Threaded Branchette®



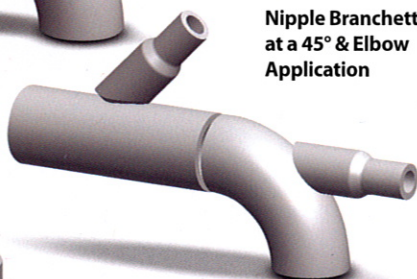
Nipple Branchette®



Branchette® at a 45° & Elbow Application



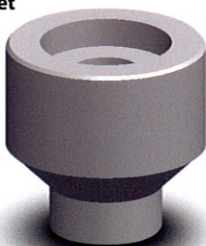
Nipple Branchette® at a 45° & Elbow Application



Weld Boss



Couplet

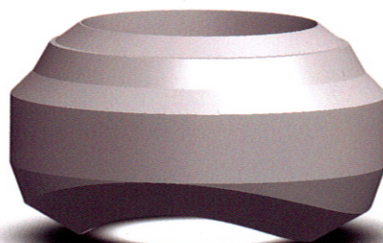


Heavy Wall & Flanged Branchettes®

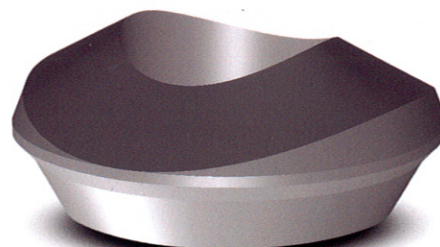
The "Heavy Wall" Branchette® is used when STD Wt. or XS Wt. design will not support the pressures and/or temperatures being applied. WOI can design and manufacture heavy wall Branchettes® for header piping thru 6" nominal walls and outlets thru 24".

The SEAMLESS one-piece construction "Flanged" Branchette® replaces an outlet, pipe nipple, and flange. The SEAMLESS construction provides greater strength through daily service. We supply from 1/2" thru 2" nominal sizes.

Heavy Wall Butt-Weld Branchette®



Heavy Wall Butt-Weld Branchette®



Flanged Branchette®
1/2" thru 2" (150# thru 2500#)



Flanged Branchette® - 90°, 45° and Elbow Application

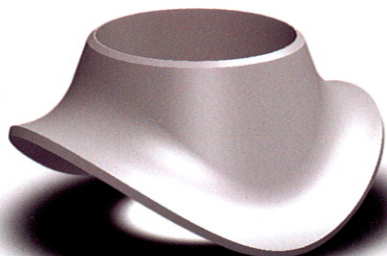


Insert Branchettes®

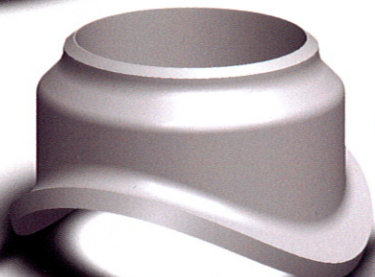
Extreme applications – pressure, temperature, cyclic conditions, safety relief valves, load moments, or critical flow characteristics. All these call for the "Insert" application. We supply these in BW, THRD, SW, and FLGD configurations. We manufacture these in the standard 90° fit as well as a 45° application. The most popular and effective design is the standard "Insert Branchette"® which will offer reduced cost as well as better delivery time for over 90% of your requirements thru 24" outlets.

We also offer a "sweep" configuration when the application does not allow any exceptions.

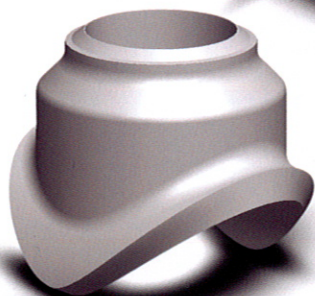
Sweep Insert Branchette®



Butt-Weld Insert Branchette®



Butt-Weld Insert Branchette®



Flanged Insert Branchette®



Butt-Weld Insert Branchette® in Pipe



45° Insert Lateral Branchette® in Pipe

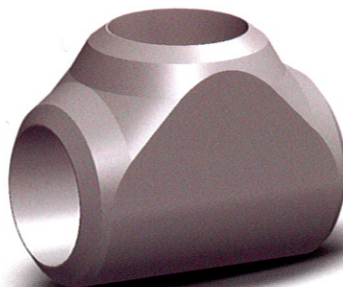


Butt Weld Fittings

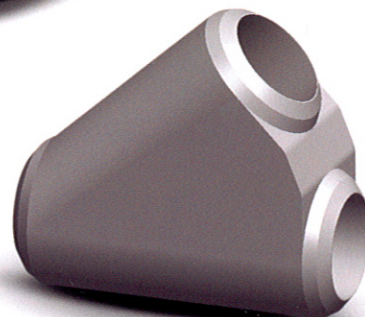
Some of our engineered products include SEAMLESS flow tees, target tees, laterals, crosses, wyes, BW caps, and even hemispherical heads for piping above S/80. While we offer these through 18" outlets to standard B16.9 dimensions, we can also supply specified dimensions that your client may request.

The key - they must be SEAMLESS!

Butt-Weld Tee



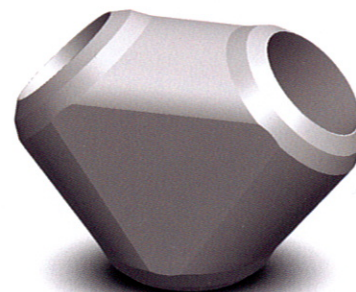
Butt-Weld Lateral



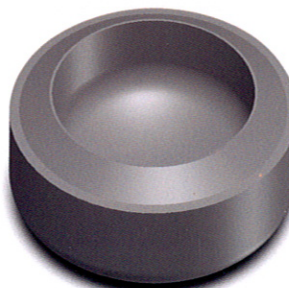
Butt-Weld Cross



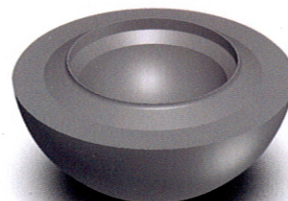
Butt-Weld Wye



Butt-Weld Cap



Hemispherical Cap



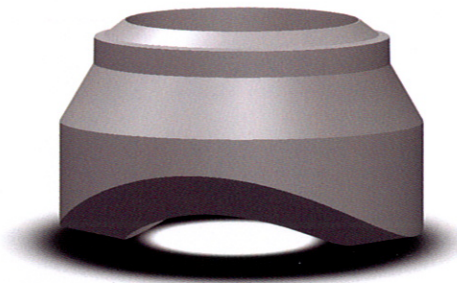
Nozzles

We manufacture a variety of nozzle types for different purposes. In many cases, we supply drawings and/or calculations to submit for approval prior to manufacture. We also offer them with flanged ends.

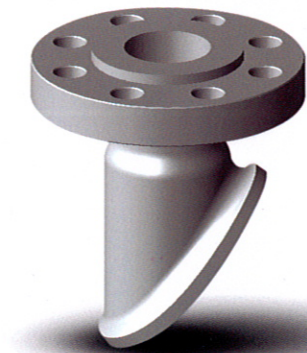
Butt-Weld Nozzle



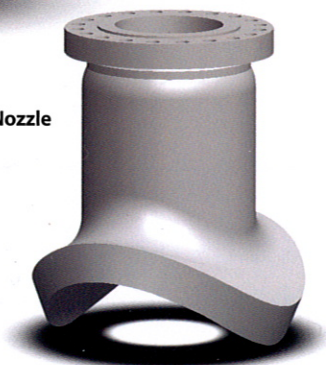
Butt-Weld Nozzle with Compound Bevels



Hillside Flanged Insert Nozzle



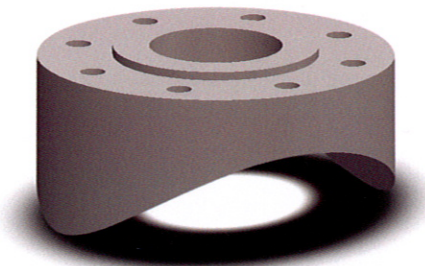
Insert Flanged Nozzle



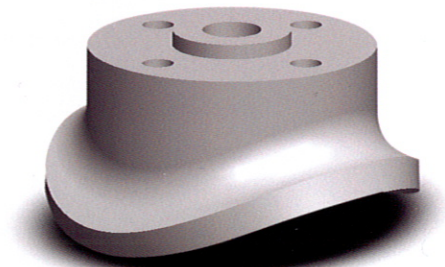
Studding Outlets

Studding Outlets are commonly used by vessel fabricators. The locations can vary from a 90° fit to a tangential offset location to various positions off heads. Call us today @ 1-800-610-0777 for your requirements from 2" thru 18" in any grade.

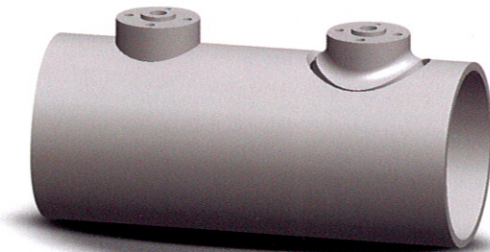
Raised Face Studding Outlet



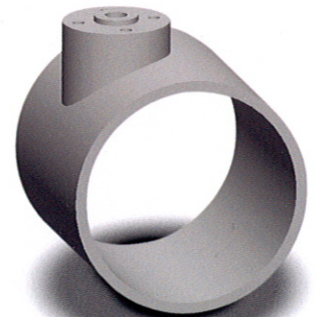
Insert Studding Outlet



Typical fit for "Sit On" or "Insert" type Studding Outlets



Tangential Studding Outlet



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Technical Information

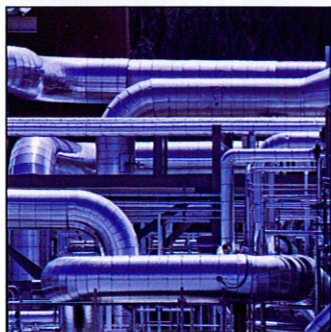
Basic Design Specifications

- B1.20.1: Pipe Threads
- B16.5: Pipe Flanges & Flanged Fittings
- B16.9: Butt weld Fittings
- B16.11: Socket-Weld & Threaded Fittings
- B16.25: Butt weld End Preparations
- NACE MR0175: Sulfide Stress Cracking Resistant Metallic Materials for Oilfield Equipment
- NACE MR0103: Materials Resistant to Sulfide Stress Cracking in Corrosive Petroleum Refining Environments
- MSS SP-75: High Test Butt Weld Fittings
- MSS SP-79: Socket Weld Reducer Inserts
- MSS SP-97: Branch Outlets – Socket Weld, Threaded, & Butt weld
- PFI ES-16: Bosses & Plugs for Radiographic Inspection of Pipe Welds

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Toll Free (888) 610-0777

Typical Industries Served

- B31.1: Power Piping
- B31.3: Process Piping
- B31.4: Pipeline Transportation
- B31.8: Gas Transmission
- B31.9: Building Services Piping (HVAC)
- B31.11: Slurry Transportation Piping Systems
- ASME Sec. VIII, Div. 1 - Boiler & Pressure Vessel



Material Specifications Chart

24 Hour
Emergency
Service!

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Product Linecard: Branchettes®, Fittings, Nozzles, & Outlets

IDENTIFICATION SYMBOL	UNS#	BAR	FORGINGS	WELD FITTINGS	PIPE	PLATE	ASME WELD
Austenitic Stainless							
304	S30400	A276/479	A182	A403WP	A312	A240	P8
304H	S30409	A276/479	A182	A403WP	A312	A240	P8
304L	S30403	A276/479	A182	A403WP	A312	A240	P8
316	S31600	A276/479	A182	A403WP	A312	A240	P8
316H	S31609	A276/479	A182	A403WP	A312	A240	P8
316L	S31603	A276/479	A182	A403WP	A312	A240	P8
317L	S31703	A276/479	A182	A403WP	A312	A240	P8
321	S32100	A276/479	A182	A403WP	A312	A240	P8
321H	S32109	A276/479	A182	A403WP	A312	A240	P8
347	S32700	A276/479	A182	A403WP	A312	A240	P8
347H	S34709	A276/479	A182	A403WP	A312	A240	P8
F44 (254SMO)	S31254	A276/479	A182	A403WP	A312	A240	P8
Ferritic-Austenitic Stainless							
F51 (DUPLEX)	S31803	A276/479	A182	A182/A815WP	A790	A240	P10H
F53 (SUPER DUPLEX)	S32750	A479	A182	A182/A815WP	A790	A240	P10H
F55 (ZERON 100)	S32760	A276	A182	A182/A815WP	A790	A240	S-10H
F60	S32205	A276	A182	A182/A815WP	A790	A240	S-10H
F61 FERR: 255	S32550	A276/479	A182	A182/A815WP	A790	A240	10H
Low Alloy Steels							
F5	K41545	A182	A182	A234	A335	A387	P5B
F9	K90941	A182	A182	A234	A335	A387	P5B
F91	K90901	A182	A182	A234	A335	A387	P5B
F11 Class 1	K11597	A182	A182	A234	A335	A387	P4
F11 Class 2 & 3	K11572	A182	A182	A234	A335	A387	P4
F22 Class 1 & 3	K21590	A182	A182	A234	A335	A387	P5A
Carbon-Steel	-	A105/A695	A105	A234	A335	A516	P1
Low-Temperature Steel	-	A350-LF2 CL1	A350-LF2 CL1	A420WPL6	A333GR6	-	P1
High Strength Transmission Service	-	-	A649F42- F70	A860/SP-75	A381/AP1-5L	-	S-1
Nickel Alloys							
Nickel- 200	N02200	B160	B564	B366WPN	B161	B162	P41
Nickel- 400	N04400	B164	B564	B366WPNC	B165	B127	P42
Nickel- 600	N06600	B166	B564	B366WPNC1	B167/B516	B168	P43
Alloy- 625	N06625	B466	B564	B366WPNCMC	B444	B443	P43
Alloys-800H	N08810	B408	B564	B366WPNCIO	B407	B409	P45
Alloy- 800 HT	N08811	B408	B564	B366WPNCII	B407	B409	P45
Alloy- 825	N08825	B425	B564	B366WPNCMC	B423	B424	P45
Corrosive High Temp. Service							
A20	N08020	B473	B462	B366WP20CB	B729	B463	P45
6 Moly- AL6XN	N08367	B691	B462	B366WP6XN	B690	B688/A240	P45
C276	N10276	B574	B564/B462	B366WPHC276	B619/B622	B575	P44
HAST - B3	N10675	B335	B564/B462	B366WPHB-2	B619/B622	B333	P44
HAST - C22	N06022	B574	B564/B462	B366WPHC22	B619/B622	B575	P44
Titanium							
Grade 2	R50400	B348	B381 F2	B363WPT1	B338	B265	P51
Grade 7	RR52400	B348	B381 F7	B363WPT7	B338	B265	P51
Copper-Nickel	-	Reference MIL-C & MIL-F Standards					-
70-30 (MIL-STD)	C71500						P34
90-10 (MIL-STD)	C770600	-	-	-	-	-	P34
Cr-Mo Alloy Steel							
4130	G41300	A29/A322	A711	A322	A519	A829	-



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