

# PIPE FITTING

*Stainless Steel Catalogue*



Elbow  
Flange  
Reducer  
Tee  
Pipe Cap



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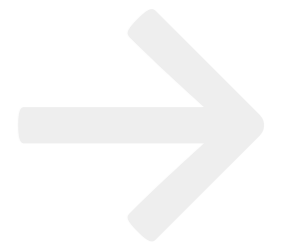
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# WHO WE ARE

CIVMATS CO., LIMITED is a leading manufacturer and exporter of stainless steel materials in China. Our stainless steel materials range from pipe products, flat products (sheet, plate, coils and strips), bar products to wire products. Backed up with extensive industrial experience and knowledge, we have confidence that we can bring greatest value to you, our customers from home and abroad.

## Mission

At CIVMATS, our mission is to offer the best steel solutions and products in such a cost-effective way that each transaction concluded will take us closer to world civilization. As a steel company, we believe materials play a significant role in acceleration of human civilization. Each time new materials are developed, great inventions and disruptions take place. Cities emerge on the land, ships sail on the sea, and planes fly on the sky. None of these constructions can be completed without steel materials, be it carbon steel, stainless steel or super alloys. With this belief, we name our company CIVMATS, which means materials for civilization.

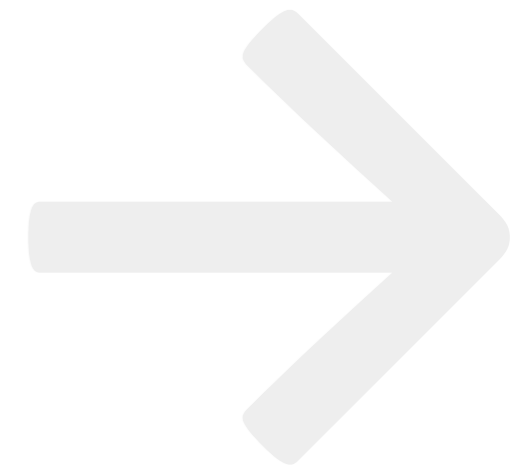
## Vision

Our vision defines our strategy to carry out our mission. We call it a hybrid strategy because it entails two parts : 1) product development and 2)market development. While our company thrives on its initial stainless steel business, we have a considerable amount of old customers demand super alloys like Monel, Inconel, Incoloy, Hastelloy. That's how we increase our production line and pursue product development strategy. We also adopt market development strategy. With the development of new media and new technology, we will make our products and solutions more accessible to new markets.

## Values

The today's business and the tomorrow's business will need our people to think, act and accomplish. Our values are integral to our corporate culture. It is set to help us weigh our business decisions, pursue excellent performance and create value. CIVMATS people are expected to embody "CIVMATS" spirits:

- **Challenger:** Be a challenger and be a leader
- **Integrity:** Be honest and be real
- **Visionary:** Be far-sighted and forward-looking
- **Maker:** Make it happen
- **Accountability:** Adopt an "it is up to me" attitude
- **Teamwork:** Work collaboratively
- **Smartness:** Work hard and work smart







# WHY CHOOSE US

WHY CHOOSE US

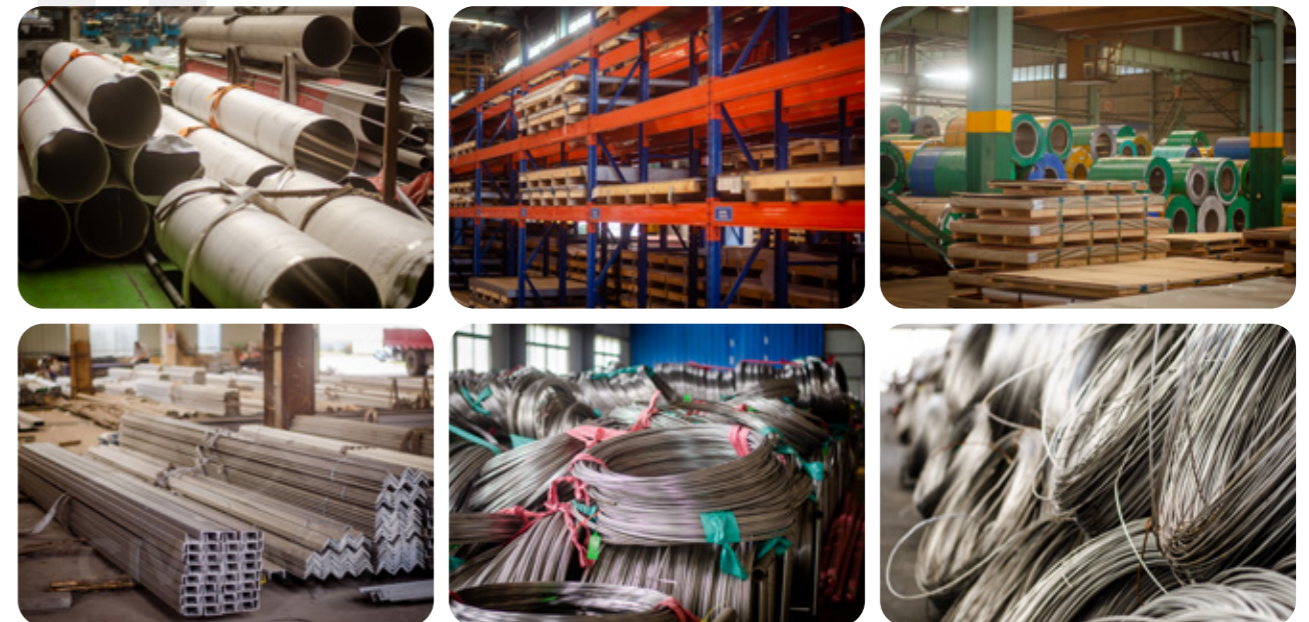
## Choiceable Material

With choiceable material from the very start comes our high quality stainless steel products.



## Huge Stock

CIVMATS have stainless steel inventories for common grades and common sizes to ensure fast response to our customers' demand.



WHY CHOOSE US





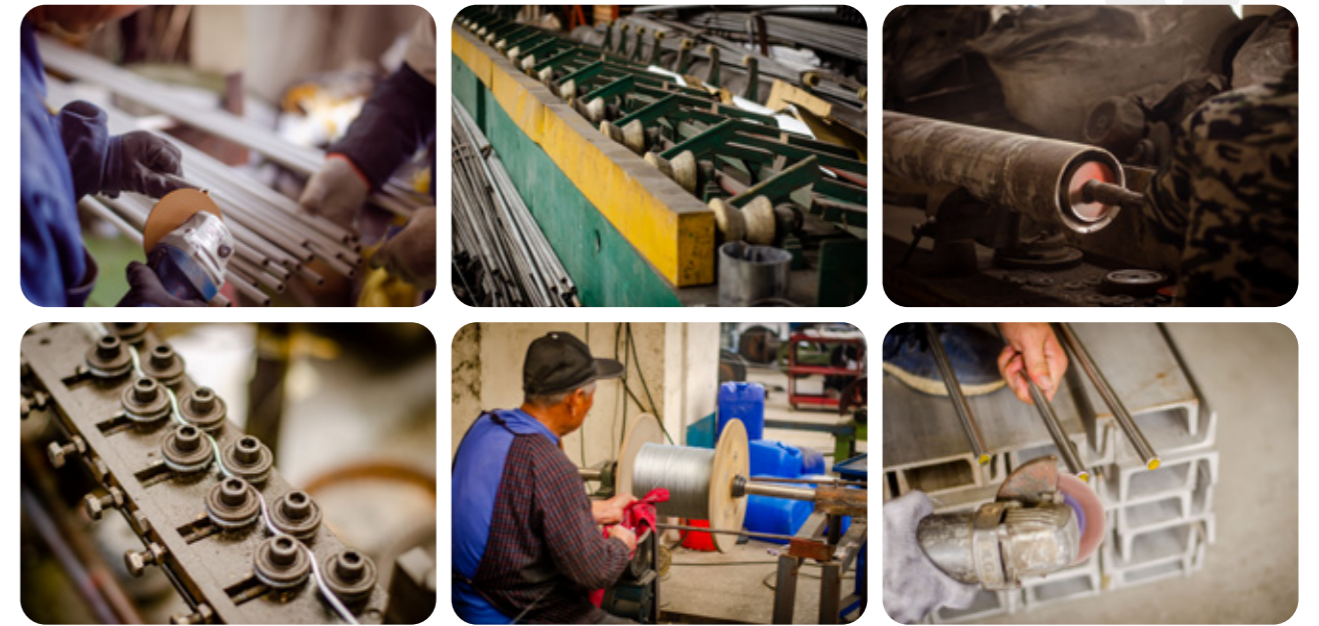
# Process Optimization

We are attentive to every process of steel making: rolling, drawing, annealing, straightening, pickling, etc. to warrantee the quality.



# Strict Quality Control

We will carry out strict quality control for every production from the very start till the end, to ensure the goods to be received will be a great satisfaction to you.



# Elegant Appearance

CIVMATS will do surface treatment as per your requirement. Our stainless steel products possesses elegant appearances after pickling, sand blasting or polishing.



# Sturdy Packaging

At CIVMATS, we choose different packings for diferrent stainless steel products, benchmarked against the highest industrial standard to ensure the goods will be intact when reaching at your hand.





# OUR STORY

From China to International

## CIVMATS & Its Founder

CIVMATS was established in 1989 by its first CEO Dahe He. His initial acquaintance with steel industry was in 1975 when he worked as a technician apprentice in a local steel mill. The mill produced stainless steel bars and wires. Though started from a humble background, Dahe aspired to be the best among his peers. His industriousness, fast-learning abilities and communication skills paid off. Four years later in 1979, he was promoted as the head of the mill, in charge of some 90 workers. He worked there for two more years.

In 1982 introduced by a big account, he left the mill and worked for a state-owned enterprise to chair a new workshop producing stainless steel pipes. There he worked for over six years, during which period, he worked half of his time as a workshop manager and half of his time as a sales manager.

In 1989 when he was on his business trip, he coincidentally visited a stainless steel bar mill which was almost at bankruptcy. He decided to buy it with all his savings, bank loans and government funds. That's how CIVMATS came into being.

## Stainless Steel Production Line

During his tenure, Civmats stainless steel business was developed rapidly yet stably in domestic market, and the market penetration was deep. Dahe wouldn't stop at one mill that only produces stainless steel bars. Through partnership and acquisition, in 2012 Civmats

have established the complete stainless steel product lines including pipes and fittings, sheets and plates, coils and strips, as well as wires. Due to heavy business activities, Dahe established supply chain management to reduce the cost and enhance customer experience. From stainless steel mills to the customers' warehouse, CIVMATS manages the whole process and eliminates all the risks customers have to shoulder. CIVMATS boasts its broad and one-stop stainless steel purchasing experience.

## New CEO

Dahe resigned in 1999 and CIVMATS was succeeded by Laisheng He as its CEO. Under Laisheng's leadership (from 2000 till now), CIVMATS boasts 8 mills national-wide. While domestic business grows mature, CIVMATS turns its attention to international market.

## International Sales Department

In 2016, our international business office in Changzhou was established, designed to cater for a global development. We believe with valuable materials and service, we will win your recognition and trust, which can pave way for a long-term cooperation.

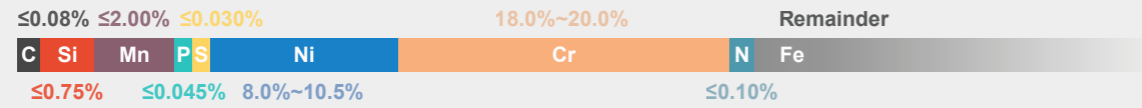
The stainless steel and super alloy materials you buy from CIVMATS are all produced under ISO 9001 system. Each steel product delivered from our factory is a brand warranty. Should you find any unqualified product from here, you are entitled to unconditional compensation.



## Main Grades of Stainless Steel Pipe Fitting

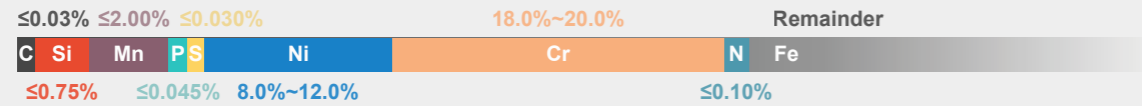
### 304

AISI304, SUS304, S30400, 1.4301



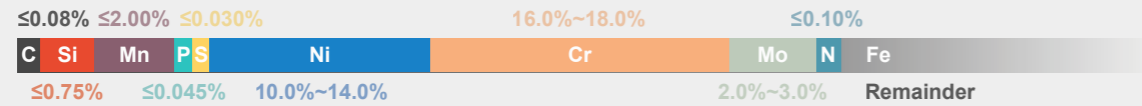
### 304L

AISI304L, SUS304L, S30403, 1.4306



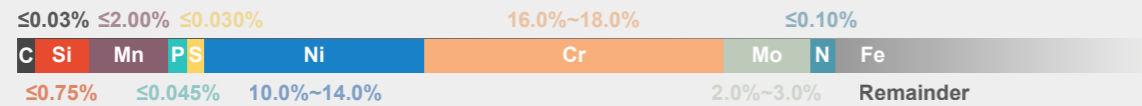
### 316

AISI316, SUS316, S31600, 1.4401



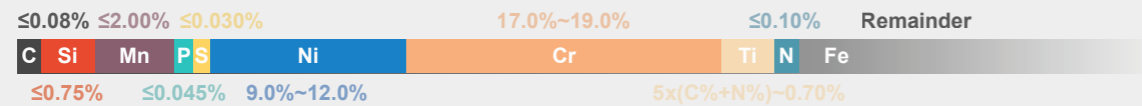
### 316L

AISI316L, SUS316L, S31603, 1.4404



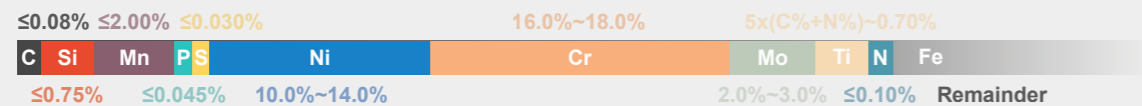
### 321

AISI321, SUS321, S32100, 1.4541



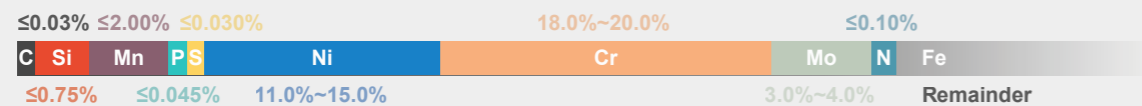
### 316Ti

AISI316Ti, SUS316Ti, S31635, 1.4571



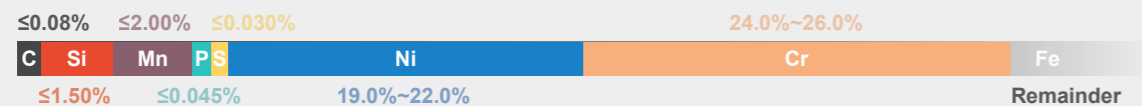
### 317L

AISI317L, SUS317L, S31726, 1.4438



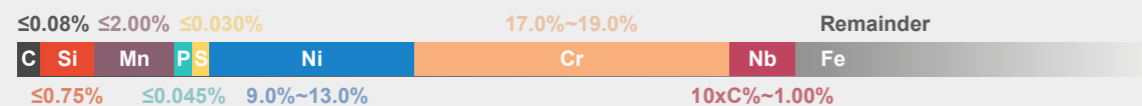
### 310S

AISI310S, SUS310S, S31008, 1.4845



### 347

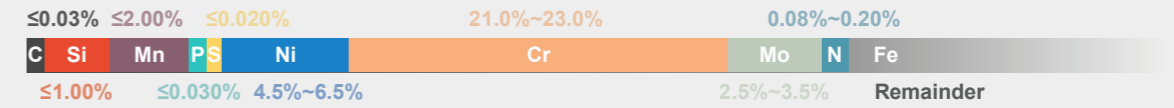
AISI347, SUS347, S34700, 1.4550



## Main Grades of Stainless Steel Pipe Fitting

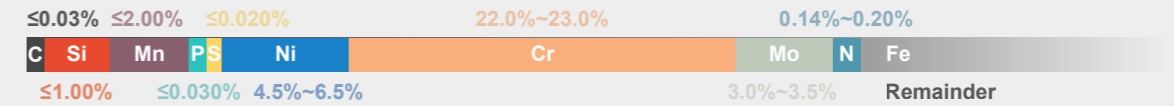
### S31803

F51, SUS329J3L, 1.4462



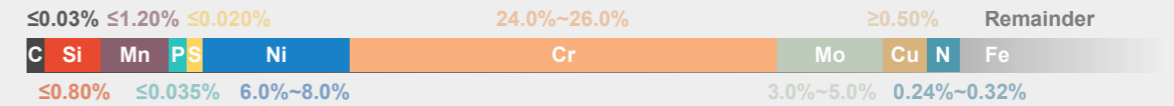
### S32205

2205, SUS329J3L, F51, 1.4462



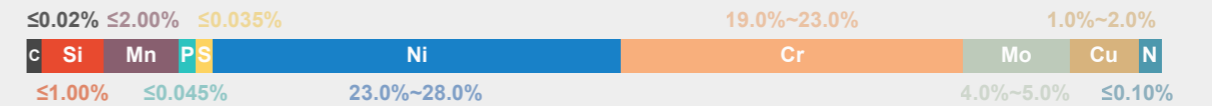
### S32750

2507, NAS74N, F53, 1.4410



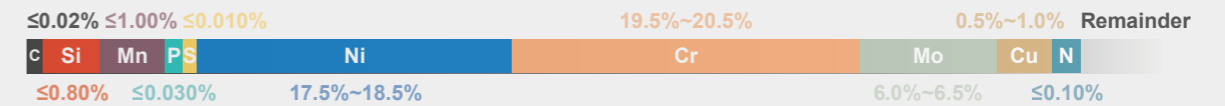
### 904L

AISI904L, SUS904L, N08904, 1.4539



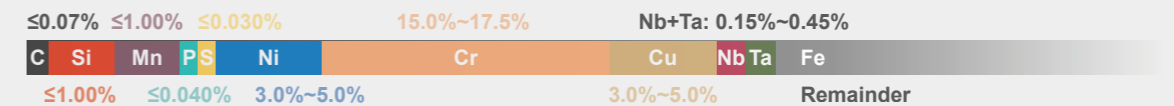
### 254SMo

AISI254SMo, SUS254SMo, S31254, 1.4547



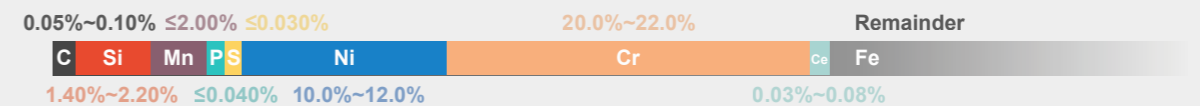
### 17-4PH

AISI630, SUS630, S17400, 1.4542



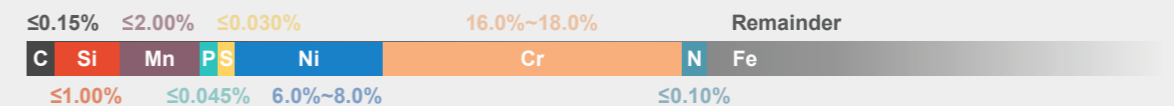
### 253MA

AISI253MA, SUS253MA, S30815, 1.4835



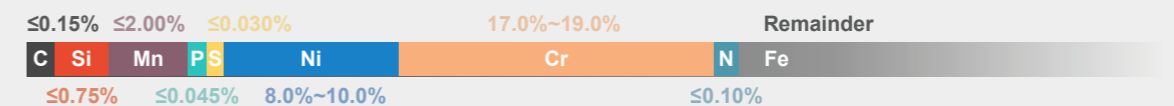
### 301

AISI301, SUS301, S30100, 1.4319



### 302

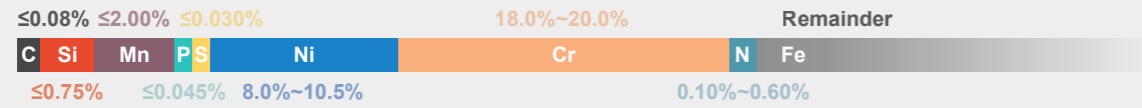
AISI302, SUS302, S30200, 1.4318



## Main Grades of Stainless Steel Pipe Fitting

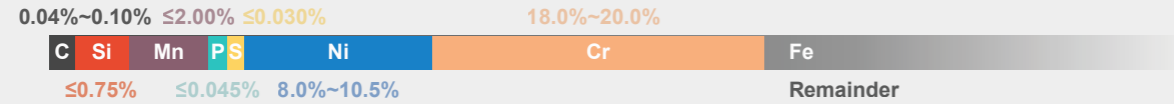
### 304N

AISI304N, SUS304N1, S30451, 1.4315



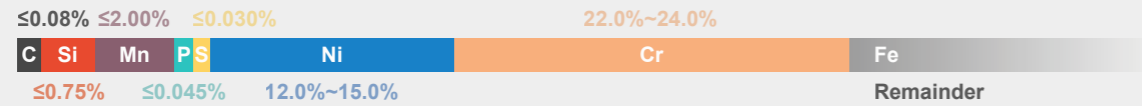
### 304H

AISI304H, SUS304, S30409, 1.4948



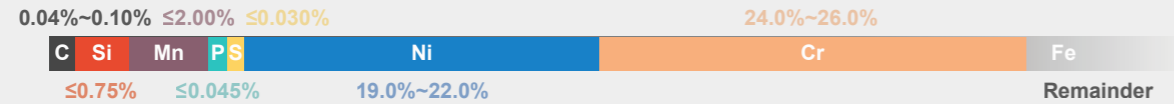
### 309S

AISI309S, SUS309S, S30908, 1.4833



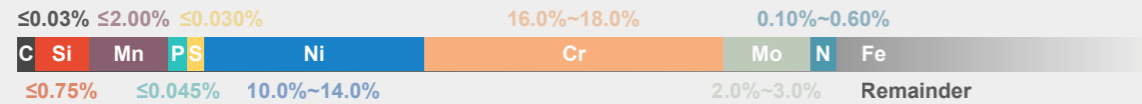
### 310H

AISI310H, SUS310H, S31009, 1.4845



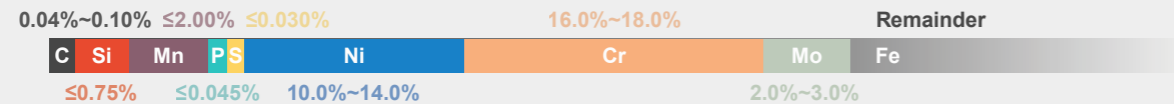
### 316LN

AISI316LN, SUS316LN1, S31653, 1.4429



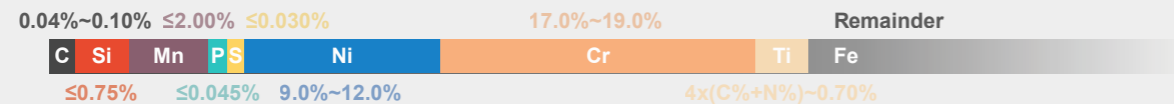
### 316H

AISI316H, SUS316H, S31609, 1.4436



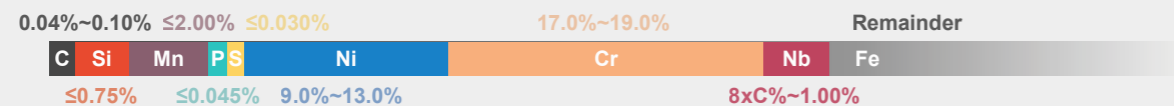
### 321H

AISI321H, SUS321H, S32109, 1.4541



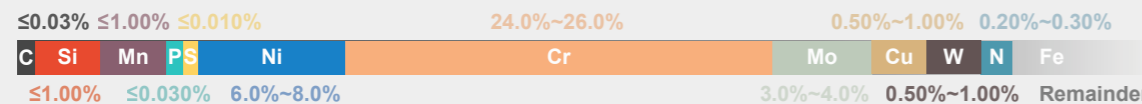
### 347H

AISI347H, SUS347H, S34709, 1.4912



### S32760

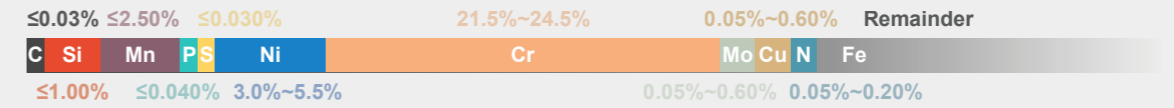
F55, 1.4501



## Main Grades of Stainless Steel Pipe Fitting

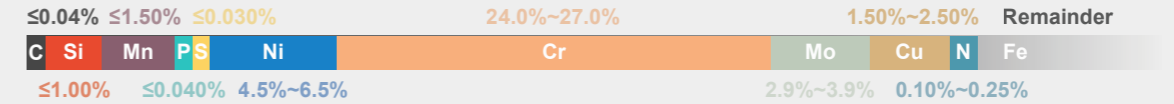
### S32304

2304, DP11, 1.4362



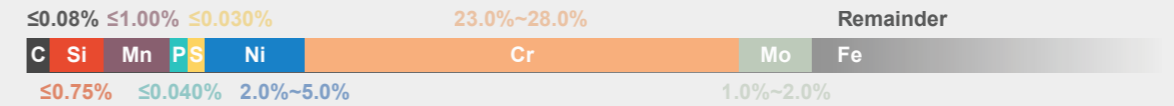
### S32550

255, SUS329J4L, QSA2505, 1.4507



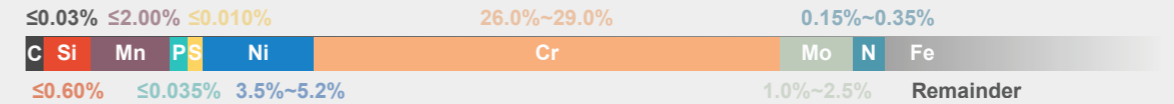
### S32900

329, SUS329J1, 1.4477



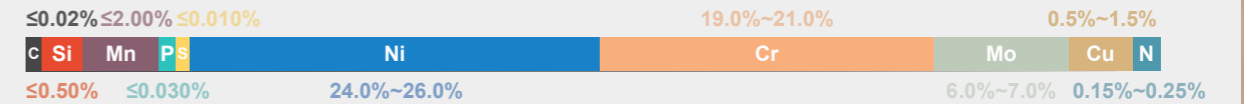
### S32950

F52



### 926

AISI926, SUS926, N08926, 1.4529



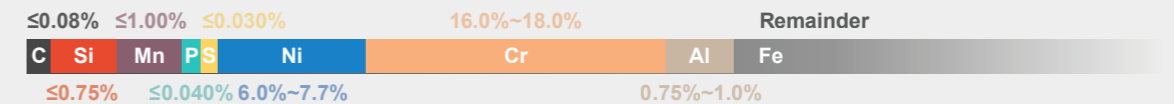
### 654SMo

AISI654SMo, SUS654SMo, S32654, 1.4652



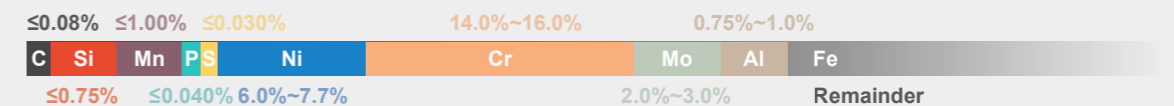
### 17-7PH

AISI631, SUS631, S17700, 1.4568



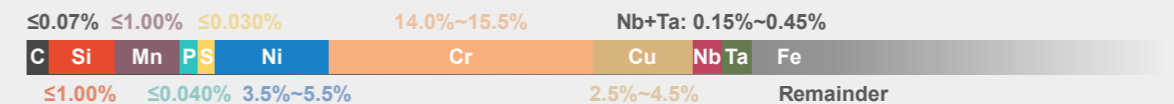
### PH15-7Mo

AISI630, SUS630, S15700, 1.4542



### 15-5PH

S15500



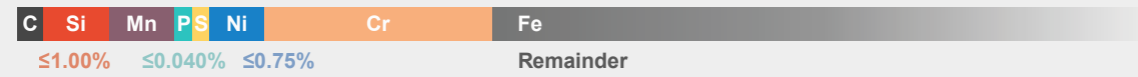


## Main Grades of Stainless Steel Pipe Fitting

### 410

AISI410, SUS410, S41000, 1.4006

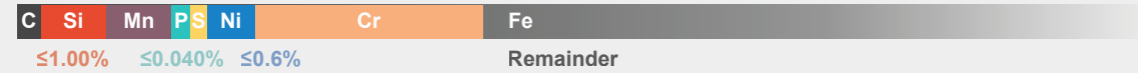
0.08%~0.15% ≤1.00% ≤0.030% 11.5%~13.5%



### 410S

AISI410S, SUS410S, S41008, 1.4000

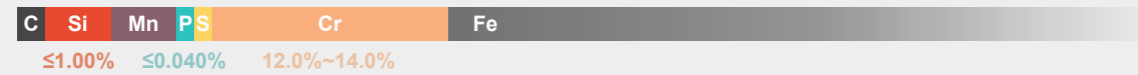
≤0.08% ≤1.00% ≤0.030% 11.5%~13.5%



### 420

AISI420, SUS420J1, SUS420J2, 1.4021, 1.4028, S42000

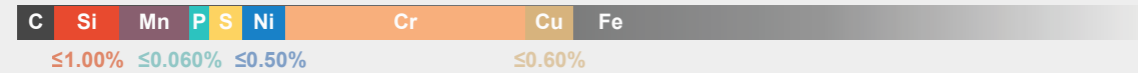
≥0.15% ≤1.00% ≤0.030%



### 420F

AISI420F, SUS420F, S42020, 1.4029

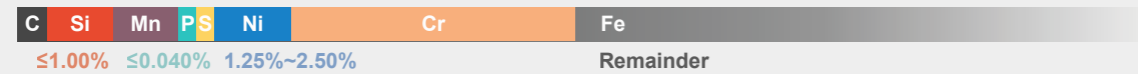
0.30%~0.40% ≤1.50% 0.20%~0.34% 12.5%~14.0%



### 431

AISI431, SUS431, S43100, 1.4057

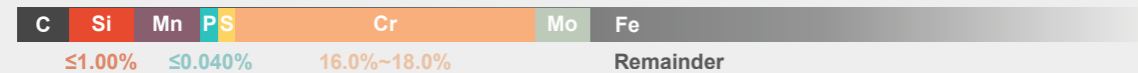
≤0.20% ≤1.00% ≤0.030% 15.0%~17.0%



### 440A

AISI440A, SUS440A, S44002

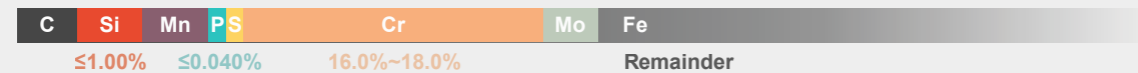
0.60%~0.75% ≤1.00% ≤0.030% ≤0.75%



### 440B

AISI440B, SUS440B, S44003, 1.4112

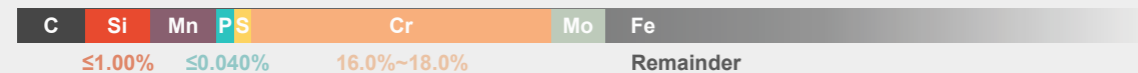
0.75%~0.95% ≤1.00% ≤0.030% ≤0.75%



### 440C

AISI440C, SUS440C, S44004, 1.4125

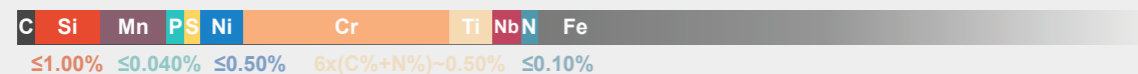
0.95%~1.20% ≤1.00% ≤0.030% ≤0.75%



### 409(L)

AISI409, AISI409L, SUH409, SUH409L, S40900, 1.4512

≤0.03% ≤1.00% ≤0.020% 10.5%~11.7% ≤0.50% Remainder

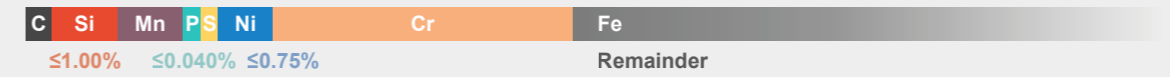


## Main Grades of Stainless Steel Pipe Fitting

### 430

AISI430, SUS430, S43000, 1.4016

≤0.12% ≤1.00% ≤0.030% 16.0%~18.0%



### 434

AISI434, SUS434, S43400, 1.4113

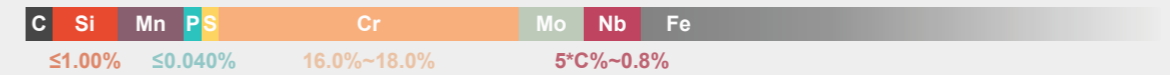
≤0.12% ≤1.00% ≤0.030% 0.75%~1.25%



### 436

AISI436, SUS436, S43600, 1.4536

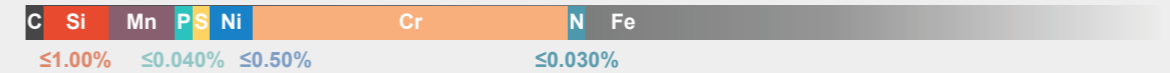
≤0.12% ≤1.00% ≤0.030% 0.75%~1.25% Remainder



### 439

AISI439, SUS430LX, S43035, 1.4510

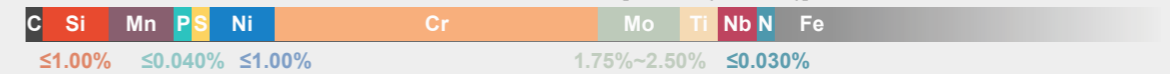
≤0.03% ≤1.00% ≤0.030% 17.0%~19.0% Remainder



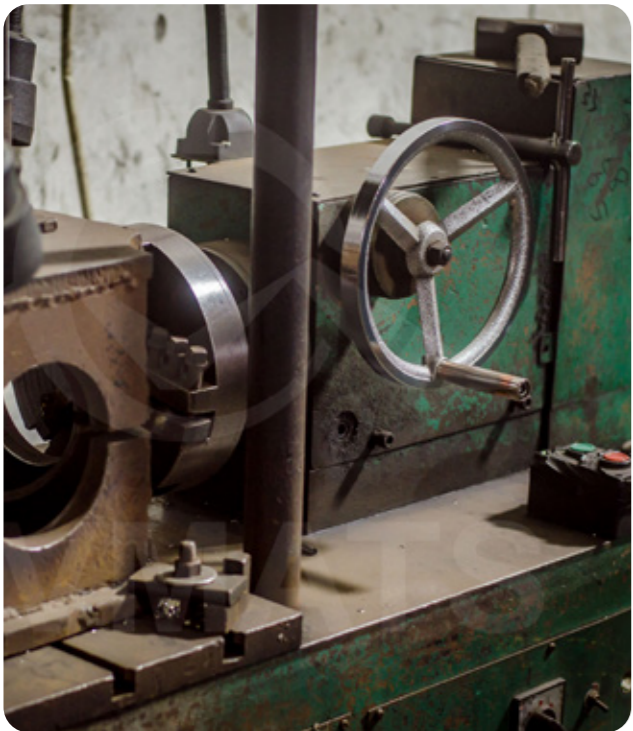
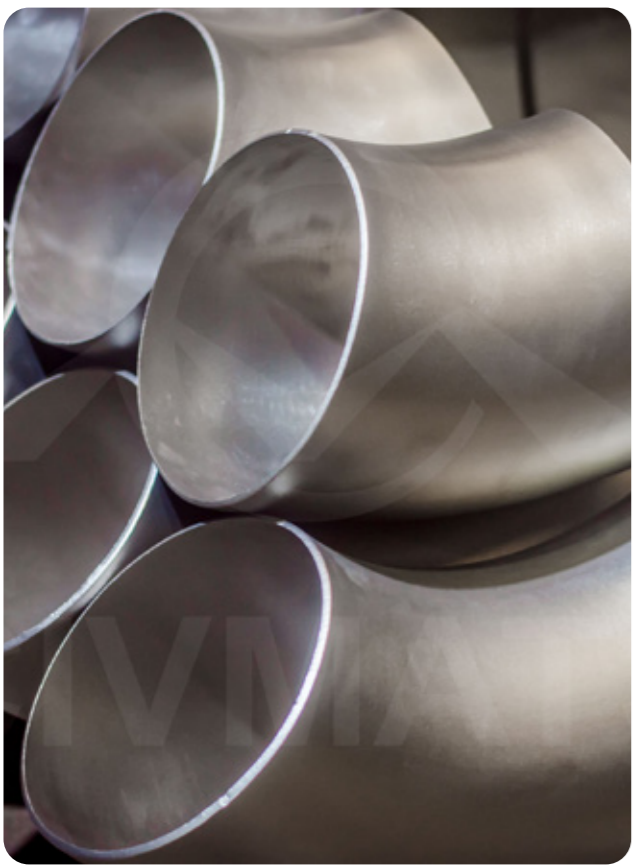
### 444

AISI444, SUS444, S44400, 1.4521

≤0.25% ≤1.00% ≤0.030% 17.5%~19.5% Ti+Nb: [0.20+4x(C%+N%)]~0.80% Remainder







Elbow



# BASIC INFORMATION



## Introduction

As a leading Chinese stainless steel manufacturer & exporter, CIVMATS can supply a wide variety of stainless steel elbows, whether with seams or not. The supply of our stainless steel elbows all come into butt welded ends or connections. We have both long-radius (more popular) and short-radius elbows for your option. The outside are available from DN15 (or 1/2") until DN3000 (or 120"). Grades are customizable when quantity is large, but generally grades are separated into two categories:

Stainless steel: 304(L), 316(L), 304H, 316H, 316Ti, 309, 310S, 321(H), 317(L), 347(H), 254SMO, 904(L);

Duplex Stainless Steel: S31803, S32205 (2205), S32750 (2507), S32760

Our elbows can be made into mirror finish for sanitary stainless steel projects. For industrial projects like chemical engineering, our stainless steel elbows will be delivered into pickled finish, sand blasting finish or sand rolling finish.

## Specifications

- Dimension: OD [ DN15 (NPS 1/2") -DN3000 (NPS 120") ] \*WT [ SCH5S – SCH160, XXS]
- Process: Forging, Cold Pressing, Mandrel Forming
- Finish: Mirror, Pickled, sand blasting and sand rolling
- Hot Selling Products:
  - a. 45° stainless steel elbow
  - b. 90° stainless steel elbow
  - c. 180° stainless steel elbow
- Radius: LR (Long Radius), SR (Short Radius)

## Standards

- ASME/ANSI B16.9 MSS SP43, DIN2605/2616/2615/2617, JIS B 2311/2220, GOST 17375/17376, GB/T12459, GB/T13401, HG/T21635, HG/T21631 or as per drawing

## Features

Anti-corrosion, high strength, durable, designed to connect to two pieces of pipe for a change of flow direction, flexible in the selection of angle degrees, dimensions and grades to match various pipe applications.

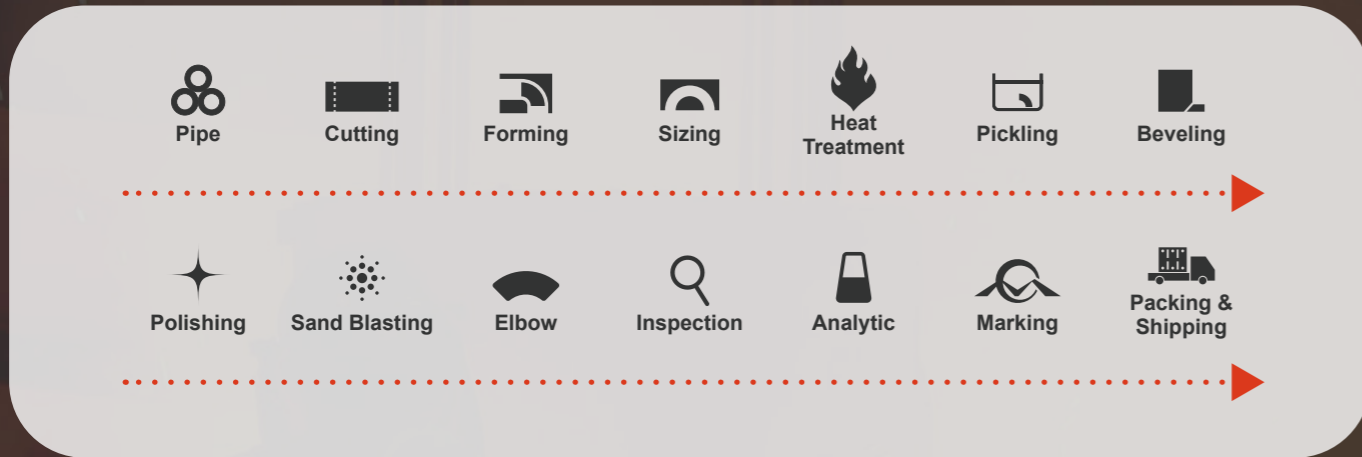
## Applications

Sanitary stainless steel elbows in mirror finish are generally used in food industry, pharmaceutical industry and drinking water projects. For industrial stainless steel elbows, they are commonly seen applied in the fields of petroleum, power, papermaking, chemical engineering, smelting, shipyards, aviation, heat exchanger and the like.

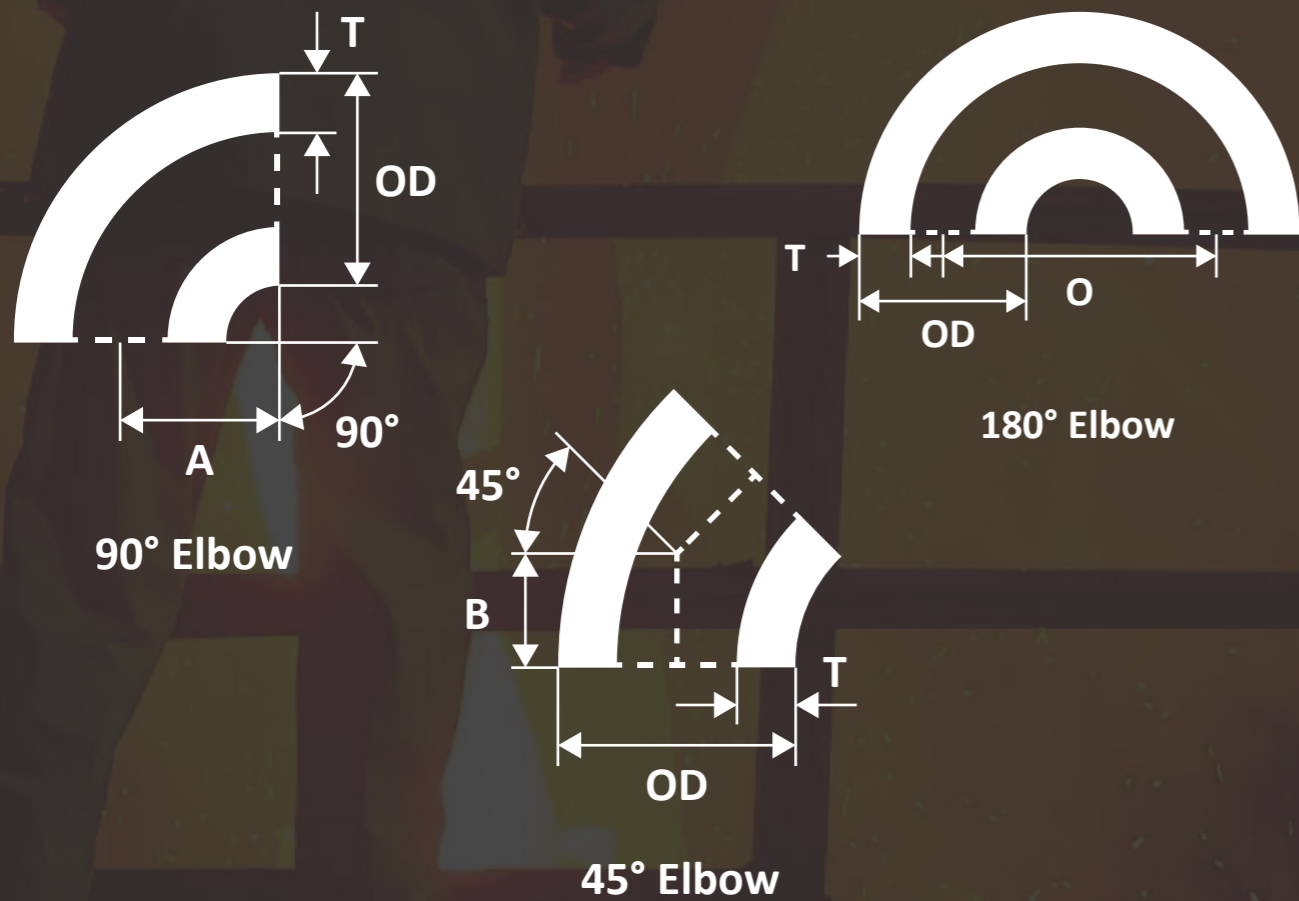




# Manufacturing Process



# Drawing



# Data Sheet

## Dimensions

Nominal Pipe Size(NPS)	Outside Diameter at Bevel, mm(in.)	Center-to-End, mm(in.)	
		Long Radius Elbows	
		90-deg Elbows, A	45-deg Elbows, B
1/2	21.3(0.84)	38(1.50)	16(0.62)
3/4	26.7(1.05)	38(1.50)	19(0.75)
1	33.4(1.32)	38(1.50)	22(0.88)
5/4	42.2(1.66)	48(1.88)	25(1.00)
3/2	48.3(1.90)	57(2.25)	29(1.12)
2	60.3(2.38)	76(3.00)	35(1.38)
5/2	73.0(2.88)	95(3.75)	44(1.75)
3	88.9(3.50)	114(4.50)	51(2.00)
7/2	101.6(4.00)	133(5.25)	57(2.25)
4	114.3(4.50)	152(6.00)	64(2.50)
5	141.3(5.56)	190(7.50)	79(3.12)
6	168.3(6.62)	229(9.00)	95(3.75)
8	219.1(8.62)	305(12.00)	127(5.00)
10	273.0(10.75)	381(15.00)	159(6.25)
12	323.8(12.75)	457(18.00)	190(7.50)
14	355.6(14.00)	533(21.00)	222(8.75)
16	406.4(16.00)	610(24.00)	254(10.00)



18	457.0(18.00)	686(27.00)	286(11.25)
20	508.0(20.00)	762(30.00)	318(12.50)
22	559.0(22.00)	838(33.00)	343(13.50)
24	610.0(24.00)	914(36.00)	381(15.00)
26	660.0(26.00)	991(39.00)	406(16.00)
28	711.0(28.00)	1067(42.00)	438(17.25)
30	762.0(30.00)	1143(45.00)	470(18.50)
32	813.0(32.00)	1219(48.00)	502(19.75)
34	864.0(34.00)	1295(51.00)	533(21.00)
36	914.0(36.00)	1372(54.00)	565(22.25)
38	965.0(38.00)	1448(57.00)	600(23.62)
40	1016.0(40.00)	1524(W60.00)	632(24.88)
42	1067.0(42.00)	1600(63.00)	660(26.00)
44	1118.0(44.00)	1676(66.00)	695(27.38)
46	1168.0(46.00)	1753(69.00)	727(28.62)
48	1219.0(48.00)	1829(72.00)	759(29.88)

**Short Radius Elbows**

Nominal Pipe Size(NPS)	Outside Diameter at Bevel, mm(in.)	Center-to-End, A, mm(in.)
1	33.4(1.32)	25(1.00)
5/4	42.2(1.66)	32(1.25)
3/2	48.3(1.90)	38(1.50)
2	60.3(2.38)	51(2.00)



5/2	73.0(2.88)	64(2.50)
3	88.9(3.50)	76(3.00)
7/2	101.6(4.00)	89(3.50)
4	114.3(4.50)	102(4.00)
5	141.3(5.56)	127(5.00)
6	168.3(6.62)	152(6.00)
8	219.1(8.62)	203(8.00)
10	273.0(10.75)	254(10.00)
12	323.8(12.75)	305(12.00)
14	355.6(14.00)	356(14.00)
16	406.4(16.00)	406(16.00)
18	457.0(18.00)	457(18.00)
20	508.0(20.00)	508(20.00)
22	559.0(22.00)	559(22.00)
24	610.0(24.00)	610(24.00)

**Delivery State**

Delivery State Choice	Surface Condition
	PiWckled
Annealed	Polished
	Sand Blasted

**Note:**

1. If you require different deliver state than the above listed, kindly confirm with us.
2. In case of any enquiry or order, please kindly let us know any extra requirement not indicated here.



## Package



**Wooden case**



**Plastic Bag**

To pack stainless steel elbows in an appropriate way is the last stage yet the most important step of executing the order. By Default, for sanitary stainless steel elbows, or small industrial stainless steel elbows, CIVMATS will protect them so well with wooden case. For larger industrial stainless steel elbows, CIVMATS will choose woven plastic bags and wooden pallets reinforced by steel belts for protection.

## Logistics



**By sea**



**By air**

At CIVMATS, we will choose whatever transportation preferred by our customers. It's all up to you and we follow. The most common transportation for overseas orders are by sea, by train, by air, or by the combination of the above mentioned modes. Ultimately, it depends on the price term (FOB, CFR, CIF, DDU, DDP etc.), the lead time, and the budget.

## FAQ

### **Do you have threaded elbows for connection?**

Nope, our pipe fittings including stainless steel elbows are all butt welded. In case of a big project which contains a small quantity of threaded elbows, we can help with outsourcing so that one-stop purchasing is available for you.

### **Is your stainless steel elbows seamless or welded?**

We have both seamless stainless steel elbows and welded stainless steel elbows for your option, so it is necessary to highlight your demand. In most cases, we quote welded stainless steel elbows as first choice if not specified in product description. For heavy wall thickness elbows, we always quote seamless type. There is no better one, but only suitable one.

### **Can you produce non-standard stainless steel elbows?**

Yes, customization is possible with drawings, whether in terms of grades or dimensions.

### **Can you produce as per European standard?**

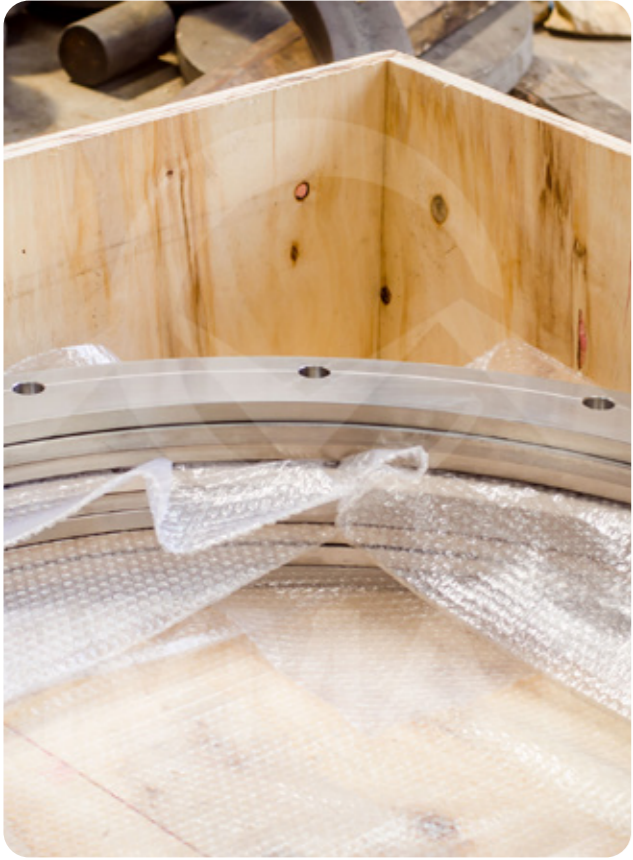
Yes, we can produce as per DIN2605 / 2616 / 2615 / 2617.

### **Can you speed up delivery time, like a week?**

Usually, we need a month for shipment. To speed up, we can shorten the delivery time to 2 weeks. 1 week is unlikely unless there is stock. Please manage your time wisely and try to avoid urgent orders.







Flange

Flange



# BASIC INFORMATION



## Introduction

As a leading Chinese stainless steel manufacturer & exporter, CIVMATS can supply various types of stainless steel flanges. What's more, we can customize stainless steel flanges as per your specific project demands. Our manufacturing process is forging. We have SO flanges, WN flanges, PL Flanges, SW flanges, BL flanges, LJ flanges, TH flanges & spectacle flanges for your option. The outside are available from DN15 (or 1/2") until DN3000 (or 120"). Grades are customizable when quantity is large, but generally grades are separated into two categories:

Stainless steel: 304(L), 316(L), 304H, 316H, 316Ti, 309, 310S, 321(H), 317(L), 347(H), 254SMO, 904(L);

Duplex Stainless Steel: S31803, S32205 (2205), S32750 (2507), S32760

Our flanges can be applied to chemical engineering, building industry, water supply, drainage system, petroleum industry, light and heavy industries, refrigeration, sanitation, plumbing, fire protection, electric power engineering, aerospace, shipbuilding and other projects.

Stainless steel flange size ranges from DN15 to DN3000, and pressure from CL 150# until CL 9000#, or PN10 to PN160. At Civmats, customized stainless steel flanges are also available as per the drawings supplied.

## Standards

ASME/ANSI B16.5, ASTM A182, ANSI 16.47; DIN2527, DIN2543, DIN2566, DIN2572, DIN2573, DIN2576, DIN2632, DIN2633, DIN2636, DIN2637, DIN2638, DIN2635, DIN2642; BS4504, BS4506; JIS B2220; EN 1092-1:2001; GOST 12820-80; GB/T9112, GB/T9113, HG/T12459-2009, HG/T20592

## Specifications

- Dimension: DN15 (1/2") ~ DN3000 (120")
- Pressure Rating: Class 150 ~ 9000, PN10 ~ 160
- Process: Forging (Mainly), Casting, Cutting & Rolling
- Grades: 304(L), 316(L), 304H, 316H, 316Ti, 309, 310S, 321(H), 317(L), 347(H), 254SMO, 904(L); S31803, S32205 (2205), S32750 (2507), S32760
- Hot Selling Products: SO Flange, WN Flange, PL Flange, SW Flange, BL Flange, LJ Flange, TH Flange
- \*Customized size needs to be confirmed with us

## Features

Designed to join pipe sections together with other fluid control components, with different sealing faces, such as typical RF (Raised Face), FF (Flat Face), M(Male Face), FM (Female Face), T (Tongue Face), G (Groove Face), RTJ (Ring-Type Joint), corrosion resistant, of high strength, durable, high temperature resistant, widely applied into chemical and marine industries.

## Applications

Petroleum, chemical industry, natural gas, power, shipyard, paper making, bioengineering, pharmacy, construction, sewage system, etc.



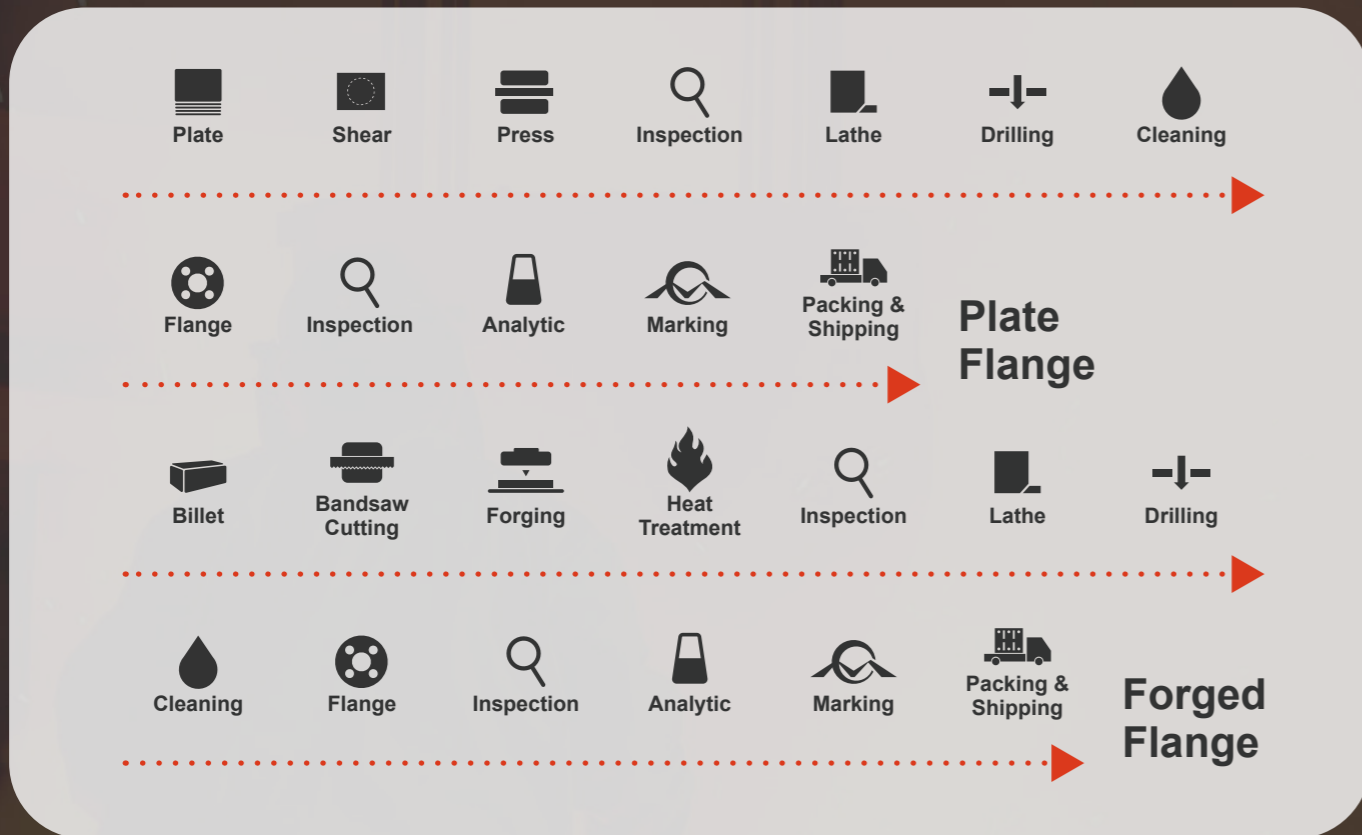


# Data Sheet

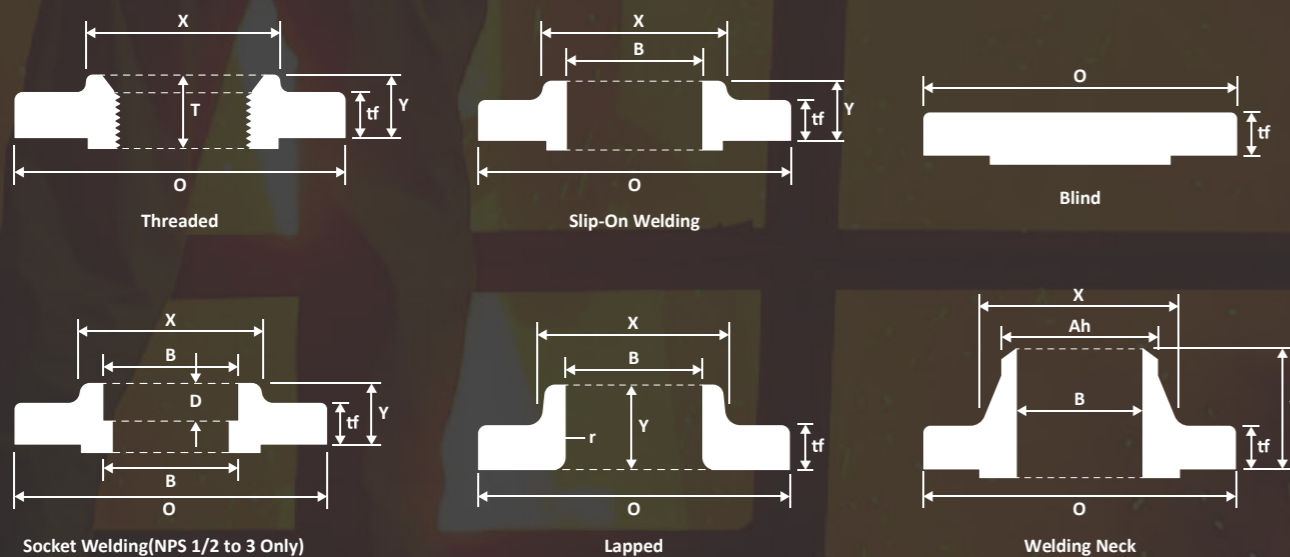
## Dimensions

Nominal Pipe Size, NPS	Outside Diameter of Flange, O	Minimum Thickness of Flange, tf	Minimum Thickness Lap Joint, tf	Diameter of Hub, X	Hub Diameter Beginning of Chamfer Welding Neck, Ah	Nominal Pipe Size, NPS			Outside Diameter of Flange, O			Corner Bore Radius of Lapped Flange and Pipe, r	Depth of Socket, D	
						Threaded/ Slip-on/ Socket Welding, Y	Lapped, Y	Welding Neck, Y	Minimum Thread Length Threaded, T	Minimum Slip-on/ Socket Welding, B	Minimum Lapped, B			Welding Neck/ Socket Welding, B
1/2	90	9.6	11.2	30	21.3	14	16	46	16	22.2	22.9	15.8	3	10
3/4	100	11.2	12.7	38	26.7	14	16	51	16	27.7	28.2	20.9	3	11
1	110	12.7	14.3	49	33.4	16	17	54	17	34.5	34.9	26.6	3	13
5/4	115	14.3	15.9	59	42.2	19	21	56	21	43.2	43.7	35.1	5	14
3/2	125	15.9	17.5	65	48.3	21	22	60	22	49.5	50.0	40.9	6	16
2	150	17.5	19.1	78	60.3	24	25	62	25	61.9	62.5	52.5	8	17
5/2	180	20.7	22.3	90	73.0	27	29	68	29	74.6	75.4	62.7	8	19
3	190	22.3	23.9	108	88.9	29	30	68	30	90.7	91.4	77.9	10	21
7/2	215	22.3	23.9	122	101.6	30	32	70	32	103.4	104.1	90.1	10	...
4	230	22.3	23.9	135	114.3	32	33	75	33	116.1	116.8	102.3	11	...
5	255	22.3	23.9	164	141.3	35	36	87	36	143.8	144.4	128.2	11	...
6	280	23.9	25.4	192	168.3	38	40	87	40	170.7	171.4	154.1	13	...
8	345	27.0	28.6	246	219.1	43	44	100	44	221.5	222.2	202.7	13	...
10	405	28.6	30.2	305	273.0	48	49	100	49	276.2	277.4	254.6	13	...
12	485	30.2	31.8	365	323.8	54	56	113	56	327.0	328.2	304.8	13	...
14	535	33.4	35.0	400	355.6	56	79	125	57	359.2	360.2	...	13	...
16	595	35.0	36.6	457	406.4	62	87	125	64	410.5	411.2	...	13	...
18	635	38.1	39.7	505	457.0	67	97	138	68	461.8	462.3	...	13	...
20	700	41.3	42.9	559	508.0	71	103	143	73	513.1	514.4	...	13	...
24	815	46.1	47.7	663	610.0	81	111	151	83	616.0	616.0	...	13	...

# Manufacturing Process



# Drawing



# Package



Wooden case



Plastic Bag

At CIVMATS, we pack stainless steel flanges according to international standard seaworthy packing. By Default, CIVMATS will choose wooden pallets or wooden cases as per flange sizes. In such a manner, we ensure the flanges will be intact at destination after even long journey on the sea.

# Logistics



By sea



By air

At CIVMATS, we will choose whatever transportation preferred by our customers. It's all up to you and we follow. The most common transportation for overseas orders are by sea, by train, by air, or by the combination of the above mentioned modes. Ultimately, it depends on the price term (FOB, CFR, CIF, DDU, DDP etc.), the lead time, and the budget.

# FAQ

**Do you have 904L stainless steel flange?**

Yes, grade 904L is one of our stock materials.

**Is your stainless steel flanges forged or casted?**

Our stainless steel flanges are forged mainly. For certain requirements, we also have plate cut flanges.

**Can you produce non-standard stainless steel flanges?**

Yes, customization is possible with drawings, whether in terms of grades or dimensions.

**Can you produce as per European standard?**

Yes, we can produce as per EN 1092, for example, or as per your requirement.

**Do you have MOQ?**

Nope, small quantity is also acceptable.

**Can you speed up delivery time, like a week?**

Usually, we need a month for shipment. To speed up, we can shorten the delivery time to 2 weeks. 1 week is unlikely unless there is stock. Please manage your time wisely and try to avoid urgent orders.





Reducer

Reducer



# BASIC INFORMATION



## Introduction

At CIVMATS, you can always find the desired stainless steel reducer to match your specific demands. Meanwhile, for standard size stainless steel reducers, they are readily in stock, matchable to the same-size stainless steel pipes and fittings for a whole project. One stop purchase can save you time and cost at CIVMATS. With accumulated industry experience, we can also provide valuable suggestions to your project upon consultation for free. The most common grades (in stock) are 304 & 316L, but we have in our production range the following grades:

Stainless steel: 304(L), 304H, 316(L), 316H, 316Ti, 309, 310S, 321(H), 317(L), 347(H), 254SMO, 904(L);

Duplex Stainless Steel: S31803, S32205 (2205), S32750 (2507), S32760

Our stainless steel reducers can be applied to chemical engineering, building industry, water supply, drainage system, petroleum industry, light and heavy industries, refrigeration, sanitation, plumbing, fire protection, electric power engineering, aerospace, shipbuilding and related projects.

Stainless steel centric reducers are commonly seen used for air flow or vertical liquid flow. In comparison, stainless steel eccentric reducer are applied to the situation where air and liquids are flowing together. In comparison, stainless steel concentric reducers are more common and widely used.

Our stainless steel reducer size can range from DN15 to DN3000, and thickness from SCH5S to XXS (referring to ASTM B36.10/B36.19). At Civmats, customized stainless steel reducers are also available as per your specific needs.

## Specifications

- Outer Diameter: DN15 (1/2") ~ DN3000 (120")

- Wall Thickness: SCH5/5S ~ XXS
- \*Custom size is available upon consultation
- Process: With Seam (Welded) or Without Seam (Seamless)
- Grades: 304(L), 316(L), 304H, 316H, 316Ti, 309, 310S, 321(H), 317(L), 347(H), 254SMO, 904(L); S31803, S32205 (2205), S32750 (2507), S32760
- Connection Method: Butt Welded
- Hot Selling Products: Stainless Steel Centric Reducer, Stainless Steel Eccentric Reducer

## Standards

ASME/ANSI B16.9, ASTM A403, ASTM A815, GB/T12459, GB/T13401, HG/T21635, HG/T21631, SY5010, SH3408, SH3409, JIS B2311/2312/2313, MSS SP-43; DIN2615, DIN2616, DIN2617; JIS B2313, JIS B2220, GOST 17375, GOST 17375;

## Features

Designed to join piping systems for a change in inner diameters of two adjacent stainless steel pipes. Stainless steel reducers, due to good corrosion resistance and heat resistance, are always found assembled in the power plants and chemical industries. With stainless-steel reducers, the piping system becomes compact, safe, durable, and free from any type of leakage.

## Applications

Petroleum, chemical industry, natural gas, power, shipyard, paper making, bioengineering, pharmacy, construction, sewage system, etc.



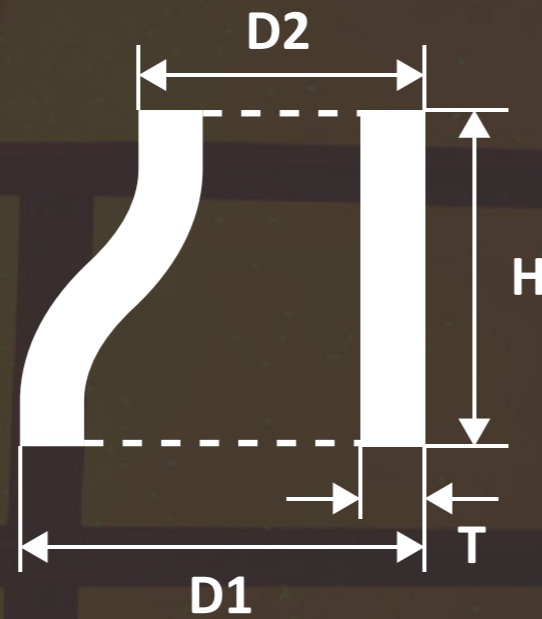
# Manufacturing Process



# Drawing



Concentric Reducers



Eccentric Reducers

# Data Sheet

## Dimensions

Nominal Pipe Size (NPS)	Outside Diameter at Bevel, mm (in.)		End-to-End, H, mm (in.)	Nominal Pipe Size (NPS)	Outside Diameter at Bevel, mm (in.)		End-to-End, H, mm (in.)
	Large End	Small End			Large End	Small End	
3/4×1/2	26.7(1.05)	21.3(0.84)	38(1.50)	20×18	508(20.00)	457.0(18.00)	508(20.00)
3/4×3/8	26.7(1.05)	17.3(0.68)	38(1.50)	20×16	508(20.00)	406.4(16.00)	508(20.00)
1×3/4	33.4(1.32)	26.7(1.05)	51(2.00)	20×14	508(20.00)	355.6(14.00)	508(20.00)
1×1/2	33.4(1.32)	21.3(0.84)	51(2.00)	20×12	508(20.00)	323.8(12.75)	508(20.00)
5/4×1	42.2(1.66)	33.4(1.32)	51(2.00)	22×20	559(22.00)	508.0(20.00)	508(20.00)
5/4×3/4	42.2(1.66)	26.7(1.05)	51(2.00)	22×18	559(22.00)	457.0(18.00)	508(20.00)
5/4×1/2	42.2(1.66)	21.3(0.84)	51(2.00)	22×16	559(22.00)	406.4(16.00)	508(20.00)
3/2×5/4	48.3(1.90)	42.2(1.66)	64(2.50)	22×14	559(22.00)	355.4(14.00)	508(20.00)
3/2×1	48.3(1.90)	33.4(1.32)	64(2.50)	24×22	610(24.00)	559.0(22.00)	508(20.00)
3/2×3/4	48.3(1.90)	26.7(1.05)	64(2.50)	24×20	610(24.00)	508.0(20.00)	508(20.00)
3/2×1/2	48.3(1.90)	21.3(0.84)	64(2.50)	24×18	610(24.00)	457.0(18.00)	508(20.00)
2×3/2	60.3(2.38)	48.3(1.90)	76(3.00)	24×16	610(24.00)	406.4(16.00)	508(20.00)
2×5/4	60.3(2.38)	42.2(1.66)	76(3.00)	26×24	660(26.00)	610.0(24.00)	610(24.00)
2×1	60.3(2.38)	33.4(1.32)	76(3.00)	26×22	660(26.00)	559.0(22.00)	610(24.00)
2×3/4	60.3(2.38)	26.7(1.05)	76(3.00)	26×20	660(26.00)	508.0(20.00)	610(24.00)
5/2×2	73.0(2.88)	60.3(2.38)	89(3.50)	26×18	660(26.00)	457.0(18.00)	610(24.00)
5/2×3/2	73.0(2.88)	48.3(1.90)	89(3.50)	28×26	711(28.00)	660.0(26.00)	610(24.00)
5/2×5/4	73.0(2.88)	42.2(1.66)	89(3.50)	28×24	711(28.00)	610.0(24.00)	610(24.00)
5/2×1	73.0(2.88)	33.4(1.32)	89(3.50)	28×20	711(28.00)	508.0(20.00)	610(24.00)
3×5/2	88.9(3.50)	73.0(2.88)	89(3.50)	28×18	711(28.00)	457.0(18.00)	610(24.00)
3×2	88.9(3.50)	60.3(2.38)	89(3.50)	30×28	762(30.00)	711.0(28.00)	610(24.00)

3×3/2	88.9(3.50)	48.3(1.90)	89(3.50)	30×26	762(30.00)	660.0(26.00)	610(24.00)
3×5/4	88.9(3.50)	42.2(1.66)	89(3.50)	30×24	762(30.00)	610.0(24.00)	610(24.00)
7/2×3	101.6(4.00)	88.9(3.50)	102(4.00)	30×20	762(30.00)	508.0(20.00)	610(24.00)
7/2×5/2	101.6(4.00)	73.0(2.88)	102(4.00)	32×30	813(32.00)	762.0(30.00)	610(24.00)
7/2×2	101.6(4.00)	60.3(2.38)	102(4.00)	32×28	813(32.00)	711.0(28.00)	610(24.00)
7/2×3/2	101.6(4.00)	48.3(1.90)	102(4.00)	32×26	813(32.00)	660.0(26.00)	610(24.00)
7/2×5/4	101.6(4.00)	42.2(1.66)	102(4.00)	32×24	813(32.00)	610.0(24.00)	610(24.00)
4×7/2	114.3(4.50)	101.6(4.00)	102(4.00)	34×32	864(34.00)	813.0(32.00)	610(24.00)
4×3	114.3(4.50)	88.9(3.50)	102(4.00)	34×30	864(34.00)	762.0(30.00)	610(24.00)
4×5/2	114.3(4.50)	73.0(2.88)	102(4.00)	34×26	864(34.00)	660.0(26.00)	610(24.00)
4×2	114.3(4.50)	60.3(2.38)	102(4.00)	34×24	864(34.00)	610.0(24.00)	610(24.00)
4×3/2	114.3(4.50)	48.3(1.90)	102(4.00)	36×34	914(36.00)	864(34.00)	610(24.00)
5×4	141.3(5.56)	114.3(4.50)	127(5.00)	36×32	914(36.00)	813(32.00)	610(24.00)
5×7/2	141.3(5.56)	101.6(4.00)	127(5.00)	36×30	914(36.00)	762(30.00)	610(24.00)
5×3	141.3(5.56)	88.9(3.50)	127(5.00)	36×26	914(36.00)	660(26.00)	610(24.00)
5×5/2	141.3(5.56)	73.0(2.88)	127(5.00)	36×24	914(36.00)	610(24.00)	610(24.00)
5×2	141.3(5.56)	60.3(2.38)	127(5.00)	38×36	965(38.00)	914(36.00)	610(24.00)
6×5	168.3(6.62)	141.3(5.56)	140(5.50)	38×34	965(38.00)	864(34.00)	610(24.00)
6×4	168.3(6.62)	114.3(4.50)	140(5.50)	38×32	965(38.00)	813(32.00)	610(24.00)
6×7/2	168.3(6.62)	101.6(4.00)	140(5.50)	38×30	965(38.00)	762(30.00)	610(24.00)
6×3	168.3(6.62)	88.9(3.50)	140(5.50)	38×28	965(38.00)	711(28.00)	610(24.00)
6×5/2	168.3(6.62)	73.0(2.88)	140(5.50)	38×26	965(38.00)	660(26.00)	610(24.00)
8×6	219.1(8.62)	168.3(6.62)	152(6.00)	40×38	1016(40.00)	965(38.00)	610(24.00)
8×5	219.1(8.62)	141.3(5.56)	152(6.00)	40×36	1016(40.00)	914(36.00)	610(24.00)
8×4	219.1(8.62)	114.3(4.50)	152(6.00)	40×34	1016(40.00)	864(34.00)	610(24.00)
8×7/2	219.1(8.62)	101.6(4.00)	152(6.00)	40×32	1016(40.00)	813(32.00)	610(24.00)
10×8	273.0(10.75)	219.1(8.62)	178(7.00)	40×30	1016(40.00)	762(30.00)	610(24.00)
10×6	273.0(10.75)	168.3(6.62)	178(7.00)	42×40	1067(42.00)	1016(40.00)	610(24.00)



10×5	273.0(10.75)	141.3(5.56)	178(7.00)	42×38	1067(42.00)	965(38.00)	610(24.00)
10×4	273.0(10.75)	114.3(4.50)	178(7.00)	42×36	1067(42.00)	914(36.00)	610(24.00)
12×10	323.8(12.75)	273.0(10.75)	203(8.00)	42×34	1067(42.00)	864(34.00)	610(24.00)
12×8	323.8(12.75)	219.1(8.62)	203(8.00)	42×32	1067(42.00)	813(32.00)	610(24.00)
12×6	323.8(12.75)	168.3(6.62)	203(8.00)	42×30	1067(42.00)	762(30.00)	610(24.00)
12×5	323.8(12.75)	141.3(5.56)	203(8.00)	44×42	1118(44.00)	1067(42.00)	610(24.00)
14×12	355.6(14.00)	323.8(12.75)	330(13.00)	44×40	1118(44.00)	1016(40.00)	610(24.00)
14×10	355.6(14.00)	273.0(10.75)	330(13.00)	44×38	1118(44.00)	965(38.00)	610(24.00)
14×8	355.6(14.00)	219.1(8.62)	330(13.00)	44×36	1118(44.00)	914(36.00)	610(24.00)
14×6	355.6(14.00)	168.3(6.62)	330(13.00)	46×44	1168(46.00)	1118(44.00)	711(28.00)
16×14	406.4(16.00)	355.6(14.00)	356(14.00)	46×42	1168(46.00)	1067(42.00)	711(28.00)
16×12	406.4(16.00)	323.8(12.75)	356(14.00)	46×40	1168(46.00)	1016(40.00)	711(28.00)
16×10	406.4(16.00)	273.0(10.75)	356(14.00)	46×38	1168(46.00)	965(38.00)	711(28.00)
16×8	406.4(16.00)	219.1(8.62)	356(14.00)	48×46	1219(48.00)	1168(46.00)	711(28.00)
18×16	457(18.00)	406.4(16.00)	381(15.00)	48×44	1219(48.00)	1118(44.00)	711(28.00)
18×14	457(18.00)	355.6(14.00)	381(15.00)	48×42	1219(48.00)	1067(42.00)	711(28.00)
18×12	457(18.00)	323.8(12.75)	381(15.00)	48×40	1219(48.00)	1016(40.00)	711(28.00)
18×10	457(18.00)	273.0(10.75)	381(15.00)				

## Delivery State

Delivery State Choice	Surface Condition
	Pickled
Annealed	Polished
	Sand Blasted

Note:  
 1. If you require different deliver state than the above listed, kindly confirm with us.  
 2. In case of any enquiry or order, please kindly let us know any extra requirement not indicated here.



## Package



**Wooden case**



**Plastic Bag**

At CIVMATS, our stainless steel reducers are packed with international standard seaworthy packing. By Default, CIVMATS will choose wooden pallets or wooden cases as per ss reducer sizes. With this, we ensure the reducers will be intact at destination even after long sea journey.

## Logistics



**By sea**



**By air**

At CIVMATS, the most common transportation for overseas orders is by sea. Other transportation methods, such as by train, by air, or by the combination of the above mentioned modes, are also available as per your choice. Ultimately, we will follow your demands.

## FAQ

**Can you produce stainless steel reducers as per our drawing?**

Yes, customization is available upon your consultation.

**Can you do polishing inside and outside on stainless steel reducer?**

Yes, we can produce sanitary reducers as per your demand.

**Can you produce non-standard stainless steel reducers?**

Yes, customization is possible with drawings, whether in terms of grades or dimensions.

**Can you produce as per European standard?**

Yes, we can produce as per European standard, American Standard and GB standard.

**Do you have MOQ?**

Nope, small quantity is also acceptable.

**Can you speed up delivery time, like a week?**

Usually, we need a month for shipment. To speed up, we can shorten the delivery time to 2 weeks. 1 week is unlikely unless there is stock. Please manage your time wisely and try to avoid urgent orders.





Tee



# BASIC INFORMATION



## Introduction

At CIVMATS, we have common grades 304 & 316L stainless steel tees in regular stock, while we can also customize stainless steel tees as per your specific demands. Grades and/or sizes are both customizable to cater for your varied stainless steel piping projects. Here at CIVMATS, you can rest assured your demand will be met fruitfully as we have accumulated extensive experience in supporting projects from all over the world and gain recognition from our clients old and new.

While we have the most common grades 304 and 316L in stock, we want you to know we can also customize the following grades as per your demands:

Stainless steel: 304(L), 304H, 316(L), 316H, 316Ti, 309, 310S, 321(H), 317(L), 347(H), 254SMO, 904(L);

Duplex Stainless Steel: S31803, S32205 (2205), S32750 (2507), S32760

Our stainless steel tees can be applied to chemical engineering, building industry, water supply, drainage system, petroleum industry, light and heavy industries, refrigeration, sanitation, plumbing, fire protection, electric power engineering, aerospace, shipbuilding and related projects.

Stainless steel straight tees are the most common pipe fitting in connection of three equal-diameter stainless steel pipes. Stainless steel reducing tees can be used to combine and connect pipes of different sizes in one piping system. They all have from the main flow two outlets at 90 degrees, the difference lies in the backflow. Stainless steel reducing tees have the branch outlet of a smaller diameter than those of the two main outlets, while the stainless steel straight tees are of the same diameters for all the three flow outlets.

## Specifications

- Outer Diameter: DN15 (1/2") ~ DN3000 (120")
- Wall Thickness: SCH5/5S ~ XXS
- \*Custom size is available upon consultation
- Process: With Seam (Welded) or Without Seam (Seamless)
- Grades: 304(L), 316(L), 304H, 316H, 316Ti, 309, 310S, 321(H), 317(L), 347(H), 254SMO, 904(L); S31803, S32205 (2205), S32750 (2507), S32760
- Connection Method: Butt Welded
- Hot Selling Products: Stainless Steel Straight Tees, Stainless Steel Reducing Tees

## Standards

ASME/ANSI B16.9, ASTM A403, ASTM A815, GB/T12459, GB/T13401, HG/T21635, HG/T21631, SY5010, SH3408, SH3409, JIS B2311/2312/2313, MSS SP-43; DIN2615, DIN2616, DIN2617; JIS B2313, JIS B2220, GOST 17375, GOST 17375;

## Features

Designed for connection of branch pipe on the main flow of the pipe system. Stainless steel tees can be used to change the direction of the flow. Due to good corrosion resistance and heat resistance, stainless steel tees are always found assembled in the power plants and chemical industries.

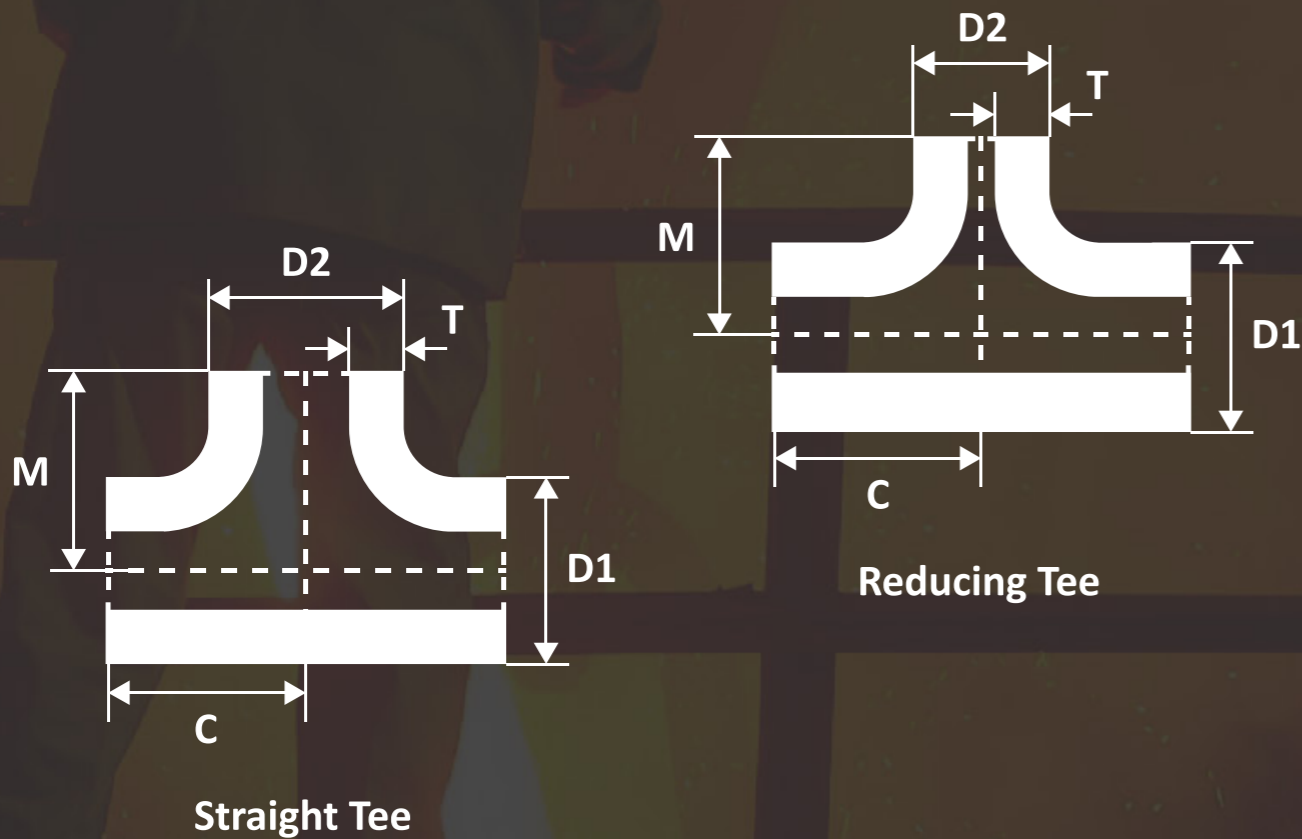
## Applications

Petroleum, chemical industry, natural gas, power, hydraulic engineering (water-saving irrigation, water supply and drainage), construction, pharmacy and nuclear energy, etc.

# Manufacturing Process



# Drawing



# Data Sheet

## Dimensions

Nominal Pipe Size (NPS)	Outside Diameter at Bevel, mm (in.)		Center-to-End, mm (in.)	
	Run	Outlet	Run, C	Outlet, M
1/2×1/2×3/8	21.3(0.84)	17.3(0.68)	25(1.00)	25(1.00)
1/2×1/2×1/4	21.3(0.84)	13.7(0.54)	25(1.00)	25(1.00)
3/4×3/4×1/2	26.7(1.05)	21.3(0.84)	29(1.12)	29(1.12)
3/4×3/4×3/8	26.7(1.05)	17.3(0.68)	29(1.12)	29(1.12)
1×1×3/4	33.4(1.32)	26.7(1.05)	38(1.50)	38(1.50)
1×1×1/2	33.4(1.32)	21.3(0.84)	38(1.50)	38(1.50)
5/4×5/4×1	42.2(1.66)	33.4(1.32)	48(1.88)	48(1.88)
5/4×5/4×3/4	42.2(1.66)	26.7(1.05)	48(1.88)	48(1.88)
5/4×5/4×1/2	42.2(1.66)	21.3(0.84)	48(1.88)	48(1.88)
3/2×3/2×5/4	48.3(1.90)	42.2(1.66)	57(2.25)	57(2.25)
3/2×3/2×1	48.3(1.90)	33.4(1.32)	57(2.25)	57(2.25)
3/2×3/2×3/4	48.3(1.90)	26.7(1.05)	57(2.25)	57(2.25)
3/2×3/2×1/2	48.3(1.90)	21.3(0.84)	57(2.25)	57(2.25)
2×2×3/2	60.3(2.38)	48.3(1.90)	64(2.50)	60(2.38)
2×2×5/4	60.3(2.38)	42.2(1.66)	64(2.50)	57(2.25)
2×2×1	60.3(2.38)	33.4(1.32)	64(2.50)	51(2.00)
2×2×3/4	60.3(2.38)	26.7(1.05)	64(2.50)	44(1.75)
5/2×5/2×2	73.0(2.88)	60.3(2.38)	76(3.00)	70(2.75)
5/2×5/2×3/2	73.0(2.88)	48.3(1.90)	76(3.00)	67(2.62)
5/2×5/2×5/4	73.0(2.88)	42.2(1.66)	76(3.00)	64(2.50)
5/2×5/2×1	73.0(2.88)	33.4(1.32)	76(3.00)	57(2.25)
3×3×5/2	88.9(3.50)	73.0(2.88)	86(3.38)	83(3.25)



3×3×2	88.9(3.50)	60.3(2.38)	86(3.38)	76(3.00)
3×3×3/2	88.9(3.50)	48.3(1.90)	86(3.38)	73(2.88)
3×3×5/4	88.9(3.50)	42.2(1.66)	86(3.38)	70(2.75)
7/2×7/2×3	101.6(4.00)	88.9(3.50)	95(3.75)	92(3.62)
7/2×7/2×5/2	101.6(4.00)	73.0(2.88)	95(3.75)	89(3.50)
7/2×7/2×2	101.6(4.00)	60.3(2.38)	95(3.75)	83(3.25)
7/2×7/2×3/2	101.6(4.00)	48.3(1.90)	95(3.75)	79(3.12)
4×4×7/2	114.3(4.50)	101.6(4.00)	105(4.12)	102(4.00)
4×4×3	114.3(4.50)	88.9(3.50)	105(4.12)	98(3.88)
4×4×5/2	114.3(4.50)	73.0(2.88)	105(4.12)	95(3.75)
4×4×2	114.3(4.50)	60.3(2.38)	105(4.12)	89(3.50)
4×4×3/2	114.3(4.50)	48.3(1.90)	105(4.12)	86(3.38)
5×5×4	141.3(5.56)	114.3(4.50)	124(4.88)	117(4.62)
5×5×7/2	141.3(5.56)	101.6(4.00)	124(4.88)	114(4.50)
5×5×3	141.3(5.56)	88.9(3.50)	124(4.88)	111(4.38)
5×5×5/2	141.3(5.56)	73.0(2.88)	124(4.88)	108(4.25)
5×5×2	141.3(5.56)	60.3(2.38)	124(4.88)	105(4.12)
6×6×5	168.3(6.62)	141.3(5.56)	143(5.62)	137(5.38)
6×6×4	168.3(6.62)	114.3(4.50)	143(5.62)	130(5.12)
6×6×7/2	168.3(6.62)	101.6(4.00)	143(5.62)	127(5.00)
6×6×3	168.3(6.62)	88.9(3.50)	143(5.62)	124(4.88)
6×6×5/2	168.3(6.62)	73.0(2.88)	143(5.62)	121(4.75)
8×8×6	219.1(8.62)	168.3(6.62)	178(7.00)	168(6.62)
8×8×5	219.1(8.62)	141.3(5.56)	178(7.00)	162(6.38)
8×8×4	219.1(8.62)	114.3(4.50)	178(7.00)	156(6.12)
8×8×7/2	219.1(8.62)	101.6(4.00)	178(7.00)	152(6.00)
10×10×8	273.0(10.75)	219.1(8.62)	216(8.50)	203(8.00)
10×10×6	273.0(10.75)	168.3(6.62)	216(8.50)	194(7.62)
10×10×5	273.0(10.75)	141.3(5.56)	216(8.50)	191(7.50)



10×10×4	273.0(10.75)	114.3(4.50)	216(8.50)	184(7.25)
12×12×10	323.8(12.75)	273.0(10.75)	254(10.00)	241(9.50)
12×12×8	323.8(12.75)	219.1(8.62)	254(10.00)	229(9.00)
12×12×6	323.8(12.75)	168.3(6.62)	254(10.00)	219(8.62)
12×12×5	323.8(12.75)	141.3(5.56)	254(10.00)	216(8.50)
14×14×12	355.6(14.00)	323.8(12.75)	279(11.00)	270(10.62)
14×14×10	355.6(14.00)	273.0(10.75)	279(11.00)	257(10.12)
14×14×8	355.6(14.00)	219.1(8.62)	279(11.00)	248(9.75)
14×14×6	355.6(14.00)	168.3(6.62)	279(11.00)	238(9.38)
16×16×14	406.4(16.00)	355.6(14.00)	305(12.00)	305(12.00)
16×16×12	406.4(16.00)	323.8(12.75)	305(12.00)	295(11.62)
16×16×10	406.4(16.00)	273.0(10.75)	305(12.00)	283(11.12)
16×16×8	406.4(16.00)	219.1(8.62)	305(12.00)	273(10.75)
16×16×6	406.4(16.00)	168.3(6.62)	305(12.00)	264(10.38)
18×18×16	457(18.00)	406.4(16.00)	343(13.50)	330(13.00)
18×18×14	457(18.00)	355.6(14.00)	343(13.50)	330(13.00)
18×18×12	457(18.00)	323.8(12.75)	343(13.50)	321(12.62)
18×18×10	457(18.00)	273.0(10.75)	343(13.50)	308(12.12)
18×18×8	457(18.00)	219.1(8.62)	343(13.50)	298(11.75)
20×20×18	508(20.00)	457.0(18.00)	381(15.00)	368(14.50)
20×20×16	508(20.00)	406.4(16.00)	381(15.00)	356(14.00)
20×20×14	508(20.00)	355.6(14.00)	381(15.00)	356(14.00)
20×20×12	508(20.00)	323.8(12.75)	381(15.00)	346(13.62)
20×20×10	508(20.00)	273.0(10.75)	381(15.00)	333(13.12)
20×20×8	508(20.00)	219.1(8.62)	381(15.00)	324(12.75)
22×22×20	559(22.00)	508.0(20.00)	419(16.50)	406(16.00)
22×22×18	559(22.00)	457.0(18.00)	419(16.50)	394(15.50)
22×22×16	559(22.00)	406.4(16.00)	419(16.50)	381(15.00)
22×22×14	559(22.00)	355.6(14.00)	419(16.50)	381(15.00)



22×22×12	559(22.00)	323.8(12.75)	419(16.50)	371(14.62)
22×22×10	559(22.00)	273.0(10.75)	419(16.50)	359(14.12)
24×24×22	610(24.00)	559.0(22.00)	432(17.00)	432(17.00)
24×24×20	610(24.00)	508.0(20.00)	432(17.00)	432(17.00)
24×24×18	610(24.00)	457.0(18.00)	432(17.00)	419(16.50)
24×24×16	610(24.00)	406.4(16.00)	432(17.00)	406(16.00)
24×24×14	610(24.00)	355.6(14.00)	432(17.00)	406(16.00)
24×24×12	610(24.00)	323.8(12.75)	432(17.00)	397(15.62)
24×24×10	610(24.00)	273.0(10.75)	432(17.00)	384(15.12)
26×26×24	660(26.00)	610.0(24.00)	495(19.50)	483(19.00)
26×26×22	660(26.00)	559.0(22.00)	495(19.50)	470(18.50)
26×26×20	660(26.00)	508.0(20.00)	495(19.50)	457(18.00)
26×26×18	660(26.00)	457.0(18.00)	495(19.50)	444(17.50)
26×26×16	660(26.00)	406.4(16.00)	495(19.50)	432(17.00)
26×26×14	660(26.00)	355.6(14.00)	495(19.50)	432(17.00)
26×26×12	660(26.00)	323.8(12.75)	495(19.50)	422(16.62)
28×28×26	711(28.00)	660.0(26.00)	521(20.50)	521(20.50)
28×28×24	711(28.00)	610.0(24.00)	521(20.50)	508(20.00)
28×28×22	711(28.00)	559.0(22.00)	521(20.50)	495(19.50)
28×28×20	711(28.00)	508.0(20.00)	521(20.50)	483(19.00)
28×28×18	711(28.00)	457.0(18.00)	521(20.50)	470(18.50)
28×28×16	711(28.00)	406.4(16.00)	521(20.50)	457(18.00)
28×28×14	711(28.00)	355.6(14.00)	521(20.50)	457(18.00)
28×28×12	711(28.00)	323.8(12.75)	521(20.50)	448(17.62)
30×30×28	762(30.00)	711.0(28.00)	559(22.00)	546(21.50)
30×30×26	762(30.00)	660.0(26.00)	559(22.00)	546(21.50)
30×30×24	762(30.00)	610.0(24.00)	559(22.00)	533(21.00)
30×30×22	762(30.00)	559.0(22.00)	559(22.00)	521(20.50)
30×30×20	762(30.00)	508.0(20.00)	559(22.00)	508(20.00)



30×30×18	762(30.00)	457.0(18.00)	559(22.00)	495(19.50)
30×30×16	762(30.00)	406.4(16.00)	559(22.00)	483(19.00)
30×30×14	762(30.00)	355.6(14.00)	559(22.00)	483(19.00)
30×30×12	762(30.00)	323.8(12.75)	559(22.00)	473(18.62)
30×30×10	762(30.00)	273.0(10.75)	559(22.00)	460(18.12)
32×32×30	813(32.00)	762.0(30.00)	597(23.50)	584(23.00)
32×32×28	813(32.00)	711.0(28.00)	597(23.50)	572(22.5)
32×32×26	813(32.00)	660.0(26.00)	597(23.50)	572(22.50)
32×32×24	813(32.00)	610.0(24.00)	597(23.50)	559(22.00)
32×32×22	813(32.00)	559.0(22.00)	597(23.50)	546(21.50)
32×32×20	813(32.00)	508.0(20.00)	597(23.50)	533(21.00)
32×32×18	813(32.00)	457.0(18.00)	597(23.50)	521(20.50)
32×32×16	813(32.00)	406.4(16.00)	597(23.50)	508(20.00)
32×32×14	813(32.00)	355.6(14.00)	597(23.50)	508(20.00)
34×34×32	864(34.00)	813.0(32.00)	635(25.00)	622(24.50)
34×34×30	864(34.00)	762.0(30.00)	635(25.00)	610(24.00)
34×34×28	864(34.00)	711.0(28.00)	635(25.00)	597(23.50)
34×34×26	864(34.00)	660.0(26.00)	635(25.00)	597(23.50)
34×34×24	864(34.00)	610.0(24.00)	635(25.00)	584(23.00)
34×34×22	864(34.00)	559.0(22.00)	635(25.00)	572(22.50)
34×34×20	864(34.00)	508.0(20.00)	635(25.00)	559(22.00)
34×34×18	864(34.00)	457.0(18.00)	635(25.00)	546(21.50)
34×34×16	864(34.00)	406.4(16.00)	635(25.00)	533(21.00)
36×36×34	914(36.00)	864.0(34.00)	673(26.50)	660(26.00)
36×36×32	914(36.00)	813.0(32.00)	673(26.50)	648(25.50)
36×36×30	914(36.00)	762.0(30.00)	673(26.50)	635(25.00)
36×36×28	914(36.00)	711.0(28.00)	673(26.50)	622(24.50)
36×36×26	914(36.00)	660.0(26.00)	673(26.50)	622(24.50)
36×36×24	914(36.00)	610.0(24.00)	673(26.50)	610(24.00)





36×36×22	914(36.00)	559.0(22.00)	673(26.50)	597(23.50)
36×36×20	914(36.00)	508.0(20.00)	673(26.50)	584(23.00)
36×36×18	914(36.00)	457.0(18.00)	673(26.50)	572(22.50)
36×36×16	914(36.00)	406.4(16.00)	673(26.50)	559(22.00)
38×38×36	965(38.00)	914.0(36.00)	711(28.00)	711(28.00)
38×38×34	965(38.00)	864.0(34.00)	711(28.00)	698(27.50)
38×38×32	965(38.00)	813.0(32.00)	711(28.00)	686(27.00)
38×38×30	965(38.00)	762.0(30.00)	711(28.00)	673(26.50)
38×38×28	965(38.00)	711.0(28.00)	711(28.00)	648(25.50)
38×38×26	965(38.00)	660.0(26.00)	711(28.00)	648(25.50)
38×38×24	965(38.00)	610.0(24.00)	711(28.00)	635(25.00)
38×38×22	965(38.00)	559.0(22.00)	711(28.00)	622(24.50)
38×38×20	965(38.00)	508.0(20.00)	711(28.00)	610(24.00)
38×38×18	965(38.00)	457.0(18.00)	711(28.00)	597(23.50)
40×40×38	1016(40.00)	965.0(38.00)	749(29.50)	749(29.50)
40×40×36	1016(40.00)	914.0(36.00)	749(29.50)	737(29.00)
40×40×34	1016(40.00)	864.0(34.00)	749(29.50)	724(28.50)
40×40×32	1016(40.00)	813.0(32.00)	749(29.50)	711(28.00)
40×40×30	1016(40.00)	762.0(30.00)	749(29.50)	698(27.50)
40×40×28	1016(40.00)	711.0(28.00)	749(29.50)	673(26.50)
40×40×26	1016(40.00)	660.0(26.00)	749(29.50)	673(26.50)
40×40×24	1016(40.00)	610.0(24.00)	749(29.50)	660(26.00)
40×40×22	1016(40.00)	559.0(22.00)	749(29.50)	648(25.50)
40×40×20	1016(40.00)	508.0(20.00)	749(29.50)	635(25.00)
40×40×18	1016(40.00)	457.0(18.00)	749(29.50)	622(24.50)
42×42×40	1067(42.00)	1016.0(40.00)	762(30.00)	711(28.00)
42×42×38	1067(42.00)	965.0(38.00)	762(30.00)	711(28.00)
42×42×36	1067(42.00)	914.0(36.00)	762(30.00)	711(28.00)
42×42×34	1067(42.00)	864.0(34.00)	762(30.00)	711(28.00)



42×42×32	1067(42.00)	813.0(32.00)	762(30.00)	711(28.00)
42×42×30	1067(42.00)	762.0(30.00)	762(30.00)	711(28.00)
42×42×28	1067(42.00)	711.0(28.00)	762(30.00)	698(27.50)
42×42×26	1067(42.00)	660.0(26.00)	762(30.00)	698(27.50)
42×42×24	1067(42.00)	610.0(24.00)	762(30.00)	660(26.00)
42×42×22	1067(42.00)	559.0(22.00)	762(30.00)	660(26.00)
42×42×20	1067(42.00)	508.0(20.00)	762(30.00)	660(26.00)
42×42×18	1067(42.00)	457.0(18.00)	762(30.00)	648(25.50)
42×42×16	1067(42.00)	406.4(16.00)	762(30.00)	635(25.00)
44×44×42	1118(44.00)	1067.0(42.00)	813(32.00)	762(30.00)
44×44×40	1118(44.00)	1016.0(40.00)	813(32.00)	749(29.50)
44×44×38	1118(44.00)	965.0(38.00)	813(32.00)	737(29.00)
44×44×36	1118(44.00)	914.0(36.00)	813(32.00)	724(28.50)
44×44×34	1118(44.00)	864.0(34.00)	813(32.00)	724(28.50)
44×44×32	1118(44.00)	813.0(32.00)	813(32.00)	711(28.00)
44×44×30	1118(44.00)	762.0(30.00)	813(32.00)	711(28.00)
44×44×28	1118(44.00)	711.0(28.00)	813(32.00)	698(27.50)
44×44×26	1118(44.00)	660.0(26.00)	813(32.00)	698(27.50)
44×44×24	1118(44.00)	610.0(24.00)	813(32.00)	698(27.50)
44×44×22	1118(44.00)	559.0(22.00)	813(32.00)	686(27.00)
44×44×20	1118(44.00)	508.0(20.00)	813(32.00)	686(27.00)
46×46×44	1168(46.00)	1118.0(44.00)	851(33.50)	800(31.50)
46×46×42	1168(46.00)	1067.0(42.00)	851(33.50)	787(31.00)
46×46×40	1168(46.00)	1016.0(40.00)	851(33.50)	775(30.50)
46×46×38	1168(46.00)	965.0(38.00)	851(33.50)	762(30.00)
46×46×36	1168(46.00)	914.0(36.00)	851(33.50)	762(30.00)
46×46×34	1168(46.00)	864.0(34.00)	851(33.50)	749(29.50)
46×46×32	1168(46.00)	813.0(32.00)	851(33.50)	749(29.50)
46×46×30	1168(46.00)	762.0(30.00)	851(33.50)	737(29.00)



46×46×28	1168(46.00)	711.0(28.00)	851(33.50)	737(29.00)
46×46×26	1168(46.00)	660.0(26.00)	851(33.50)	737(29.00)
46×46×24	1168(46.00)	610.0(24.00)	851(33.50)	724(28.50)
46×46×22	1168(46.00)	559.0(22.00)	851(33.50)	724(28.50)
48×48×46	1219(48.00)	1168.0(46.00)	889(35.00)	838(33.00)
48×48×44	1219(48.00)	1118.0(44.00)	889(35.00)	838(33.00)
48×48×42	1219(48.00)	1067.0(42.00)	889(35.00)	813(32.00)
48×48×40	1219(48.00)	1016.0(40.00)	889(35.00)	813(32.00)
48×48×38	1219(48.00)	965.0(38.00)	889(35.00)	813(32.00)
48×48×36	1219(48.00)	914.0(36.00)	889(35.00)	787(31.00)
48×48×34	1219(48.00)	864.0(34.00)	889(35.00)	787(31.00)
48×48×32	1219(48.00)	813.0(32.00)	889(35.00)	787(31.00)
48×48×30	1219(48.00)	762.0(30.00)	889(35.00)	762(30.00)
48×48×28	1219(48.00)	711.0(28.00)	889(35.00)	762(30.00)
48×48×26	1219(48.00)	660.0(26.00)	889(35.00)	762(30.00)
48×48×24	1219(48.00)	610.0(24.00)	889(35.00)	737(29.00)
48×48×22	1219(48.00)	559.0(22.00)	889(35.00)	737(29.00)

## Delivery State

Delivery State Choice	Surface Condition
	Pickled
Annealed	Polished
	Sand Blasted

Note:

1. If you require different deliver state than the above listed, kindly confirm with us.
2. In case of any enquiry or order, please kindly let us know any extra requirement not indicated here.

## Package



Wooden  
case



Plastic  
Bag

At CIVMATS, our stainless steel tees are packed with international standard seaworthy packing. By Default, CIVMATS will choose wooden pallets or plywood cases as per stainless steel tee sizes. With this, we ensure the SS tees will be intact at destination even after long sea journey.

## Logistics



By sea



By air

At CIVMATS, the most common transportation for overseas orders is by sea. Other transportation methods, such as by train, by air, or by the combination of the above mentioned modes, are also available as per your choice. Ultimately, we will follow your demands.

## FAQ

**Can you produce stainless steel tees as per our drawing?**

Yes, customization as per drawing is available upon consultation.

**Can you supply sanitary stainless steel tees?**

Yes, we can, mirror polished inside and outside with plain ends. For industrial applications, they are beveled ends.

**Can you produce duplex stainless steel tees?**

Yes, we can produce duplex stainless steel tees as per ASTM A815.

**Do you have MOQ?**

Nope, small quantity is also acceptable.

**Can you speed up delivery time, like a week?**

Usually, we need a month for shipment. To speed up, we can shorten the delivery time to 2 weeks. 1 week is unlikely unless there is stock. Please manage your time wisely and try to avoid urgent orders.





Pipe Cap



# BASIC INFORMATION



## Introduction

At CIVMATS, we can produce stainless steel caps in different finishes, such as polished, sand blasted, sand rolling, and pickled finish as per your specific needs. Polishing can be done on both the inside and outside of stainless steel caps. Among large-diameter stainless steel caps, we have stainless steel torispherical head as the most popular item. Both stainless steel caps and stainless steel vessel heads can be customized, in terms of finishes, grades and dimensions.

Our monthly production capacity is 500 tons. We regularly stock 304 and 316L stainless steel caps and vessel heads, but we can also customize the following grades as per your demands:

Stainless steel: 304(L), 304H, 316(L), 316H, 316Ti, 309, 310S, 321(H), 317(L), 347(H), 254SMO, 904(L);

Duplex Stainless Steel: S31803, S32205 (2205), S32750 (2507), S32760

Our stainless steel caps and vessel heads can be applied to chemical engineering, military industry, pharmaceutical industry, electric power engineering, water supply engineering, ship building industry and the related.

Stainless steel butt welded caps, due to their excellent corrosion resistance, are widely used in all kinds of fields. Civmats mainly produces 300 series & duplex stainless steel butt welded caps, but customization for non-standard stainless steel butt welded caps are also available given the detailed technical information.

## Applications

Petroleum, chemical industry, power, hydraulic engineering (water-saving irrigation, water supply and drainage), military, pharmacy, shipyards, etc.

## Specifications

- Outer Diameter: DN15 (1/2") ~ DN3000 (120")
- Wall Thickness: SCH5/5S ~ XXS
- \*Custom size is available upon consultation
- Process: With Seam (Welded) or Without Seam (Seamless)
- Grades: 304(L), 316(L), 304H, 316H, 316Ti, 309, 310S, 321(H), 317(L), 347(H), 254SMO, 904(L); S31803, S32205 (2205), S32750 (2507), S32760
- Connection Method: Butt Welded
- Hot Selling Products: Stainless Steel Butt-Welded Caps, Stainless Steel Vessel Heads

## Standards

ASME/ANSI B16.9, ASTM A403, ASTM A815, GB/T12459, GB/T13401, HG/T21635, HG/T21631, SY5010, SH3408, SH3409, JIS B2311/2312/2313, MSS SP-43; DIN2615, DIN2616, DIN2617; JIS B2313, JIS B2220, GOST 17375, GOST 17375; GB/T25198-2010

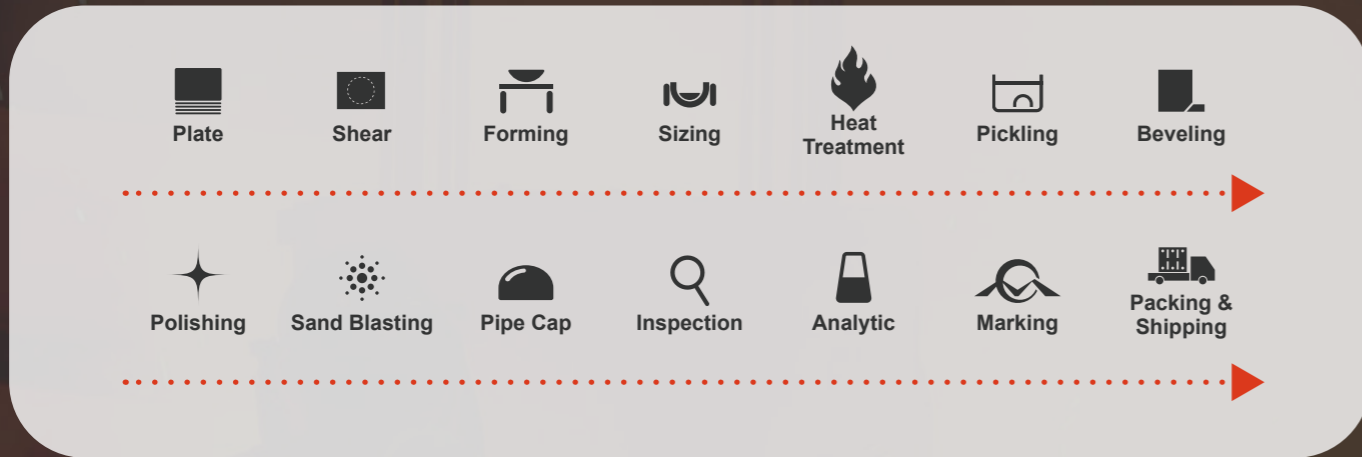
## Features

Stainless steel caps and stainless steel vessel heads are designed for covering stainless steel tubes, stainless steel pipes or/and stainless steel equipment. They feature good corrosion resistance and heat resistance and are widely used for industrial purposes.





# Manufacturing Process



# Drawing



# Data Sheet

## Dimensions

Nominal Pipe Size (NPS)	Outside Diameter at Bevel, mm (in.)	Length, E, mm (in.)	Limiting Wall Thickness for Length, E, mm (in.)	Length, E1, mm (in.)
1/2	21.3(0.84)	25(1.00)	4.57(0.18)	25(1.00)
3/4	26.7(1.05)	25(1.00)	3.81(0.15)	25(1.00)
1	33.4(1.32)	38(1.50)	4.57(0.18)	38(1.50)
5/4	42.2(1.66)	38(1.50)	4.83(0.19)	38(1.50)
3/2	48.3(1.90)	38(1.50)	5.08(0.20)	38(1.50)
2	60.3(2.38)	38(1.50)	W5.59(0.22)	44(1.75)
5/2	73.0(2.88)	38(1.50)	7.11(0.28)	51(2.00)
3	88.9(3.50)	51(2.00)	7.62(0.30)	64(2.50)
7/2	101.6(4.00)	64(2.50)	8.13(0.32)	76(3.00)
4	114.3(4.50)	64(2.50)	8.64(0.34)	76(3.00)
5	141.3(5.56)	76(3.00)	9.65(0.38)	89(3.50)
6	168.3(6.62)	89(3.50)	10.92(0.43)	102(4.00)
8	219.1(8.62)	102(4.00)	12.70(0.50)	127(5.00)
10	273.0(10.75)	127(5.00)	12.70(0.50)	152(6.00)
12	323.8(12.75)	152(6.00)	12.70(0.50)	178(7.00)
14	355.6(14.00)	165(6.50)	12.70(0.50)	191(7.50)
16	406.4(16.00)	178(7.00)	12.70(0.50)	203(8.00)
18	457.0(18.00)	203(8.00)	12.70(0.50)	229(9.00)
20	508.0(20.00)	229(9.00)	12.70(0.50)	254(10.00)
22	559.0(22.00)	254(10.00)	12.70(0.50)	254(10.00)

24	610.0(24.00)	267(10.50)	12.70(0.50)	305(12.00)
26	660.0(26.00)	267(10.50)	...	...
28	711.0(28.00)	267(10.50)	...	...
30	762.0(30.00)	267(10.50)	...	...
32	813.0(32.00)	267(10.50)	...	...
34	864.0(34.00)	267(10.50)	...	...
36	914.0(36.00)	267(10.50)	...	...
38	965.0(38.00)	305(12.00)	...	...
40	1016.0(40.00)	305(12.00)	...	...
42	1067.0(42.00)	305(12.00)	...	...
44	1118.0(44.00)	343(13.50)	...	...
46	1168.0(46.00)	343(13.50)	...	...
48	1219.0(48.00)	343(13.50)	...	...

Note:

1. Length E applies for thickness not exceeding that given in column "Limiting Wall Thickness for Length, E."
2. Length E1 applies for thickness greater than that given in column "Limiting Wall Thickness for Length, E" for NPS 24 and smaller. For NPS 26 and sublarger, length E1 shall be by agreement between the manufacturer and purchaser.

## Delivery State

Delivery State Choice	Surface Condition
	Pickled
Annealed	Polished
	Sand Blasted

Note:

1. If you require different deliver state than the above listed, kindly confirm with us.
2. In case of any enquiry or order, please kindly let us know any extra requirement not indicated here.

## Package



Wooden  
case



Plastic  
Bag

At CIVMATS, our stainless steel caps and stainless steel vessel heads are packed with international standard seaworthy packing. By Default, CIVMATS will choose wooden pallets or plywood cases as per stainless steel cap and vessel head sizes. With this, we ensure the SS caps and vessel heads will be intact at destination even after long sea journey.

## Logistics



By sea



By air

At CIVMATS, the most popular transportation mode for overseas orders is sea transportation. Other transportation methods, such as by train, by air, or by the combination of the above mentioned modes, are also available as per your choice. Ultimately, we will follow your demands.

## FAQ

### Can you produce stainless steel vessel heads as per our drawing?

Yes, customization as per drawing is available upon consultation.

### Can you supply sanitary stainless steel caps?

Yes, we can, mirror polished inside and outside with plain ends. For industrial applications, they are beveled ends.

### Can you produce non-standard stainless steel vessel heads?

Yes, customization is possible with drawings, whether in terms of grades or dimensions.

### Can you produce duplex stainless steel caps?

Yes, we can produce duplex stainless steel tees as per ASTM A815.

### Do you have MOQ?

Nope, small quantity is also acceptable.

### Can you speed up delivery time, like a week?

Usually, we need a month for shipment. To speed up, we can shorten the delivery time to 2 weeks. 1 week is unlikely unless there is stock. Please manage your time wisely and try to avoid urgent orders.





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