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Forged Flanges / Forged Fittings

[www.jiajiforging.com](http://www.jiajiforging.com)

# Leadership Speech

In 2010, we established ZHJIANG JIAJI FORGING INDUSTRY CO.,LTD. in Wenzhou, where is the most active economy in China. We set a goal of the stainless steel flanges and fittings as a life career to do, and struggle for it.

Along with the rapid development of JIAJI, we have better way to carry out. We believe that we keep the original persistent with the practice and scientific development, and expand enterprise.

We have many years experience in the area of flanges and fittings, At the same time, JIJIA has today's success and development. thanks for our all the staff's dedication and loyalty.

We believe that the JIAJI team have full confidence and always committed to do better for the future.

*Anny Fang*

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# About Us

**ZHEJIANG JIAJI FORGING INDUSTRY CO., LTD** is a leading manufacturer specializing in forged flanges, socket weld fittings, and high-pressure pipe components. Established in 2010 and headquartered in Wenzhou, Zhejiang Province — widely recognized as "the Capital of Stainless Steel Flanges in China" — JIAJI FORGING has built a strong reputation for precision engineering and consistent product quality over more than a decade of industry experience.

Our product portfolio encompasses forged flanges (Weld Neck, Slip-On, Blind, Socket Weld, Threaded), butt-welding fittings, socket weld fittings, threaded fittings, and sealing gaskets. Products are manufactured to international standards including ASME, ANSI, DIN, BS, EN, GB, and JB, covering pressure ratings from Class 150LB to 3000LB and sizes from ½" to 80" (DN15–DN2000). We work with a comprehensive range of materials — from austenitic stainless steels (304, 316L, 321, 904L) and duplex steels (2205, 2507) to high-performance nickel alloys (Hastelloy C276, Inconel 625/825, Monel 400) — serving the oil & gas, petrochemical, marine, and industrial processing sectors globally.

Quality is at the core of everything we do. JIAJI FORGING holds **ISO 9001** certification and **PED-AD2000** (European Pressure Equipment Directive) approval. All raw materials carry full mill certifications, dual inspection is performed prior to every shipment, and each product is backed by a **24-month quality warranty**. With over **20 proprietary patents** in flange connection technology and an annual R&D investment of no less than 5% of revenue, we remain at the forefront of product innovation.

In 2025, to better serve our global customers and accelerate international market expansion, JIAJI FORGING established a dedicated **International Trade Department in Shanghai with Tokotech Team**— one of China's premier hubs for global commerce. This team focuses exclusively on overseas markets, providing responsive pre-sales consultation, streamlined order processing, and comprehensive after-sales support in English. With a 24/7 global response mechanism, our Shanghai team ensures that customers across different time zones receive timely, professional, and solution-oriented service.

At JIAJI FORGING, our vision is to become a benchmark in global fluid connection system solutions, advancing industrial safety through innovation. Our mission is simple: to provide every customer with products they can trust and a partnership built to last.



## Hope

JIAJI should become the leading brand of Chinese flanges and fittings in the future;  
JIAJI should become the international brand in the future;



## Company Spirit

Service is the marketing.....  
We have professional equipments and excellent team. We are strict with every detail, with enthusiastic working attitude and sophisticated information to establish and maintain customer's products and services.



# Qualification Certificates



ISO9001:2015 by China Classification



TS



对外贸易经营者备案登记表

PED 2014/68/EU AD 2000 Merkblatt by TUV

# Workshop



The latest CNC machines bring us better quality, output and less cost .



# Quality Control



With kinds of instrument of testing, we strictly guarantee the quality of our products for safety. Quality is regarded as the most important part of company reputation.



# Forged Flanges



## Material

### a. Nickel alloy:

N08800, N08810, N08811, N08028, N08020, N08825, M07718, N09925, N06022, N06059, N06200, N06044, N06030, N06035, N06230, N06625, N06600, N06601, N06690, N06617, N06002, N10276, N04400, N02200, N02201

### b. Duplex steel:

S31254/F44, S30815/F45, S31803/1.4462/F51, S32750/1.4410/F53, S32760/F55, S32205/F60

### c. Stainless steel:

F304, F304L, F304H, F316L, F316Ti, F321, F321H, F317L, F347H, F310, F904L

- Size:

DN15—DN600 / 1/2" -24" / 5K-20K

- Class:

150LB-2500LB

- Pressure:

PN0.6-42MPa

- Standard :

a. ASTM B16.5 ASTM B16.36 ASTM B16.47 A/B ASME B16.48-2010

b. BS EN1092-1:2002 BS454:3.1-1989(R1991)ISO7005-1:1992

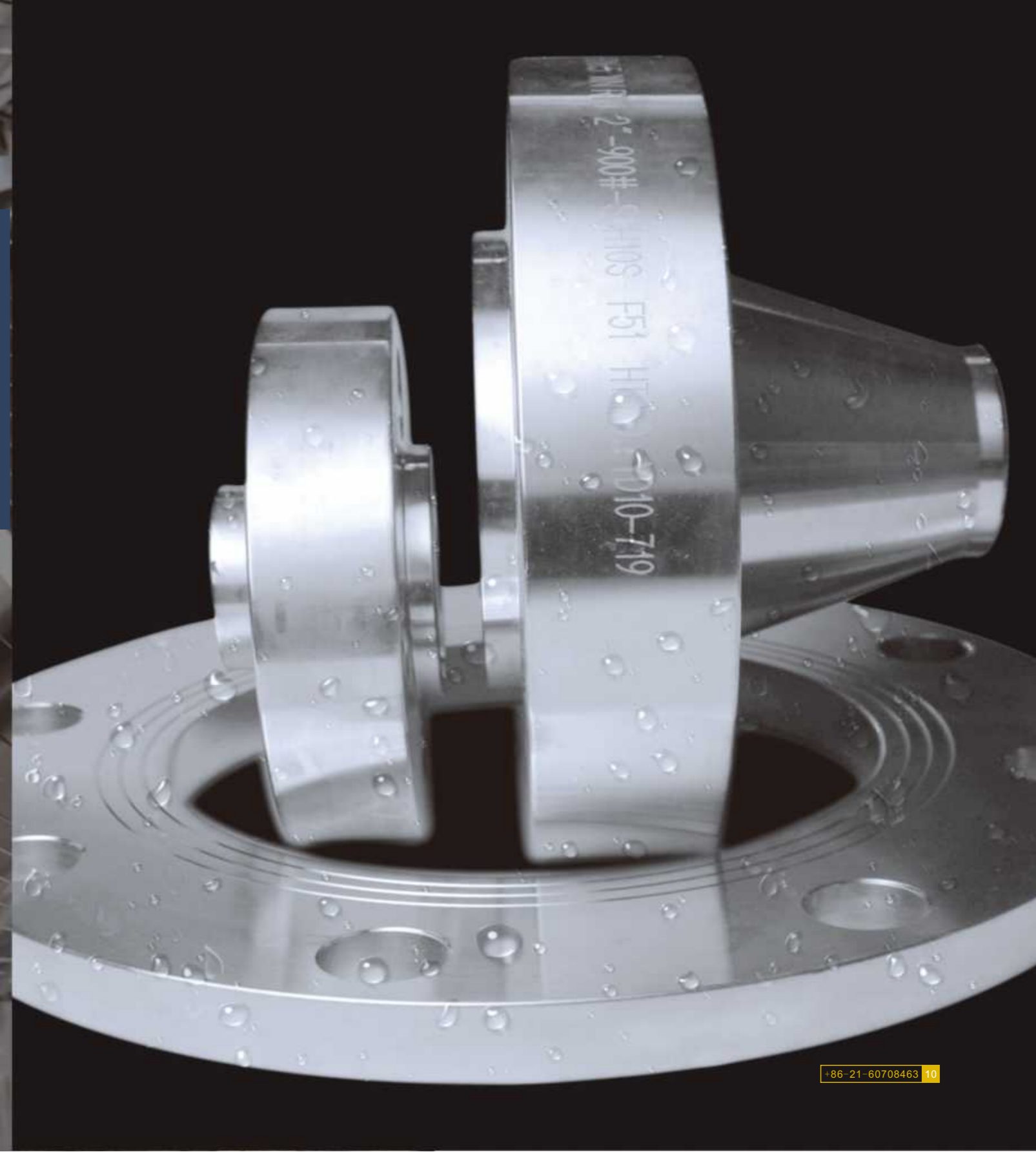
c. DIN2527 DIN2566 DIN 2573 DIN2576 DIN2574 DIN2575 DIN2576 DIN2577 DIN2578 DIN2579

DIN2631 DIN2632 DIN2633 DIN2634 DIN2635 DIN2641 DIN2642 and so on

d. JIS B2220:2004

e. GB/T9119-200 GB/T9115.1-2000 GB/T9119-2000 GB/T2506 and so on

f. HG/T20592-2009 HG/T20615-2009 SH3406-1996 and so on



# ASME B16.5

## Material

F304/304L/304H F316/316L/316H  
 F51/2205/S31803  
 F904L/USN8904 F310/F310S  
 INCO400/425600/625800/825

F321/321H 347/347H  
 F53/2507/S32750  
 F44/31254/SMO254 C276



### Blind Flange

RF/FF/T/G/M/FM/RJ  
 1/2"-40"  
 150LB-2500LB  
 ASME B16.5 ASME B16.48  
 ASME B16.47 SERIES A  
 ASME B16.47 SERIES B



### Slip On Flange

RF/FF/T/G/M/FM/RJ  
 1/2"-24"  
 150LB-900LB  
 ASME B16.5



### Weldneck Flange

RF/FF/T/G/M/FM/RJ  
 1/2"-40"  
 150LB-2500LB  
 ASME B16.5 ASME B16.47 SERIES A  
 ASME B16.47 SERIES B



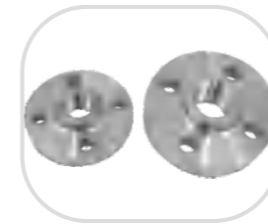
### Lap Joint flange

RF/RJ  
 1/2"-24"  
 150LB-2500LB  
 ASME B16.5



### Socket Welding Flange

RF/FF/T/G/M/FM/RJ  
 1/2"-3"  
 150LB-1500LB  
 ASME B16.5



### Threaded Flange

RF/FF/T/G/M/FM/RJ  
 1/2"-6"  
 150LB-300LB  
 ASME B16.5



### Spectacle Blind Flange

RF/FF/T/G/M/FM/RJ  
 1/2"-24"  
 150LB-2500LB  
 ASME B16.48



### Line Spade and Spacer

RF/FF/T/G/M/FM/RJ  
 1/2"-24"  
 150LB-2500LB  
 ASME B16.48



### Nipoflange

RF/FF/T/G/M/FM/RJ  
 1/2"\*2"-24"\*36"  
 150LB-2500LB  
 ASME B16.48



### Weldoflange

RF/FF/T/G/M/FM/RJ  
 1/2"\*2"-24"\*36"  
 150LB-2500LB  
 ASME B16.48



### Long Weldneck Flange

RF/FF/T/G/M/FM/RJ  
 1/2"-24"  
 150LB-2500LB  
 ASME B16.5

# EN1092-1/DIN

 Material

1.4301 1.4406 1.4541 1.4404 1.4571  
1.4435 1.4550 1.4539 1.4462 1.4410



## Slip On Flange

RF/FF/T/G/M/FM/RJ  
DN15-DN1000  
PN0.6MPa-PN42MPa  
EN1092-1 BS4504 DIN2502



## Weldneck Flange

RF/FF/T/G/M/FM/RJ  
PN0.6MPa-PN42MPa  
EN1092-1 BS4504 DIN2502



## Hubbed Threaded Flange

RF/FF/T/G/M/FM/RJ  
1/2"-3"  
PN0.6MPa-PN42MPa  
EN1092-1 BS4504 DIN2502



## Plate Flange TYPE 01A/B

RF/FF/T/G/M/FM/RJ  
DN15-DN1000  
PN0.6MPa-PN42MPa  
EN1092-1 BS4504 DIN2502



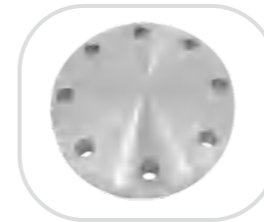
## Welding Neck TYPE 35

RF/RJ  
DN15-DN600  
PN0.6MPa-PN42MPa  
EN1092-1 BS4504 DIN2502



## Weld-on Collar Plate TYPE 32

DN15-DN1000  
PN0.6MPa-PN42MPa  
EN1092-1 BS4504 DIN2502



## Blind Flange

RF/FF/T/G/M/FM/RJ  
DN15-DN1000  
PN0.6MPa-PN42MPa  
EN1092-1 BS4504 DIN2502



## Flanges

RF/FF/T/G/M/FM/RJ  
1/2"-40"&DN15-DN1000  
150LB-2500LB&PN0.6MPa-PN42MPa  
ASME B16.5 ASME B16.48  
ASME B16.47 SERIES A  
ASME B16.47 SERIES B  
EN1092-1 Bs4504 DIN2502

# ASTM/ASME B16.5

## Class150 法兰理论重量/ Flange's Theoretic Weight

公称尺寸		带颈对焊 WN	法兰盖 BL	带颈平焊 SO	螺纹 TH	承插焊 SW	松套法兰 LJ
DN	NPS						
15	1/2	0.497	0.435	0.41	0.422	0.42	0.464
20	3/4	0.738	0.644	0.593	0.609	0.6	0.655
25	1	1.06	0.9	0.817	0.849	0.83	0.89
32	1-1/4	1.3	1.13	0.985	1.02	1.01	1.06
40	1-1/2	1.68	1.5	1.28	1.35	1.32	1.35
50	2	2.54	2.38	2	2.11	2.06	2.1
65	2-1/2	4.23	4.09	3.4	3.54	3.5	3.57
80	3	5.01	4.96	3.87	4.1	4	4
100	4	7.21	7.18	5.43	5.79	-	5.6
125	5	8.87	8.82	6.19	6.74	-	6.36
150	6	10.9	11.5	7.53	8.11	-	7.7
200	8	17.9	20.1	12.4	13.5	-	12.6
250	10	23.9	28.9	16.4	18.2	-	16.5
300	12	37.2	44.1	26.6	28.5	-	27.1
350	14	49	59	35	38.1	-	39.2
400	16	59.7	76.3	44.3	47.5	-	50.1
450	18	68.6	94.4	48.8	54.3	-	55.6
500	20	84.6	124	62.1	67.5	-	70.3
600	24	116	188	87.5	96	-	97.8

## Class 300 法兰理论重量/ Flange's Theoretic Weight

公称尺寸		带颈对焊 WN	法兰盖 BL	带颈平焊 SO	螺纹 TH	承插焊 SW	松套法兰 LJ
DN	NPS						
15	1/2	0.747	0.643	0.645	0.76	0.66	0.702
20	3/4	1.23	1.06	1.07	1.28	1.1	1.16
25	1	1.63	1.42	1.38	1.68	1.43	1.49
32	1-1/4	2.11	1.86	1.74	2.2	1.79	1.85
40	1-1/2	2.92	2.66	2.49	3.21	2.56	2.63
50	2	3.45	3.2	2.89	3.87	3	3.01
65	2-1/2	5.22	4.87	4.33	5.86	4.53	4.47
80	3	7.04	6.88	5.86	8.07	6.16	6.06
100	4	11.5	11.7	9.73	13.1	-	10
125	5	15.3	15.8	12.3	17.1	-	12.6
150	6	19.8	21.4	16	22.5	-	16.3
200	8	29.9	34.3	24	35.5	-	24.5
250	10	43.3	53.9	34.3	53.1	-	38.8
300	12	62.3	106	49.6	78.3	-	55.4
350	14	86.5	109	69.9	104	-	80.7
400	16	108	139	89.2	138	-	104
450	18	132	176	108	170	-	125
500	20	160	223	134	209	-	155
600	24	233	341	202	327	-	233

## Class 600 法兰理论重量/ Flange's Theoretic Weight

公称尺寸		带颈对焊 WN	法兰盖 BL	带颈平焊 SO	螺纹 TH	承插焊 SW	松套法兰 LJ
DN	NPS						
15	1/2	0.872	0.759	0.738	0.819	0.77	0.702
20	3/4	1.41	1.23	1.21	1.36	1.26	1.16
25	1	1.87	1.64	1.56	1.78	1.64	1.49
32	1-1/4	2.58	2.32	2.11	2.45	2.22	2.01
40	1-1/2	3.54	3.26	2.96	3.52	3.1	2.83
50	2	4.42	4.18	3.63	4.36	3.87	3.41
65	2-1/2	6.48	6.14	5.25	6.46	5.62	4.98
80	3	8.72	8.57	7.06	8.82	7.61	6.68
100	4	17.9	17.6	14.8	18	-	14.2
125	5	29.6	29.6	24.4	29.6	-	23.7
150	6	35.4	36.2	28.7	35.7	-	27.9
200	8	54.7	59.5	43.6	56	-	42.5
250	10	88.3	98.7	71.1	91.2	-	75.3
300	12	105	125	84.7	112	-	89.9
350	14	128	153	99.8	136	-	108
400	16	172	214	141	192	-	153
450	18	208	275	174	245	-	188
500	20	258	353	222	307	-	240
600	24	361	535	313	453	-	342

# HG/T 20592

## HG/T 20592 Pn10

Size	板式平焊 PL	带颈平焊 SO	带颈对焊 WN	承插焊 SW	螺纹 Th	松套 PJ	法兰盖 BL
DN15	0.7	0.5	1	0.5	0.5	0.5	1
DN20	1	1	1	1	1	1	1
DN25	1	1.5	1	1.5	1.5	1	1.5
DN32	2	2	2	2	2	2	2
DN40	2	2	2	2	2	2	2.5
DN50	2.5	2.5	2.5	2.5	2.5	2.5	3
DN65	3	3	3	-	3	3	3.5
DN80	3.5	4	4	-	4	3.5	4.5
DN100	4.5	4.5	4.5	-	4.5	4.5	5.5
DN125	5.5	6.5	6.5	-	6.5	5.5	8
DN150	7	7.5	7.5	-	7.5	7	10.5
DN200	9.5	10.5	11.5	-	-	9	16.5
DN250	12	13	15.5	-	-	11.5	24
DN300	13.5	15	18	-	-	13	31
DN350	20.5	23.5	24.5	-	-	19.5	39.5
DN400	27.5	29	29.5	-	-	26.5	49.5
DN450	33.5	33.5	34	-	-	32.5	63
DN500	40	40.5	39.5	-	-	39	75.5
DN600	54.5	56	56	-	-	52.5	124

## HG/T 20592 Pn16

Size	板式平焊 PL	带颈平焊 SO	带颈对焊 WN	承插焊 SW	螺纹 Th	松套 PJ	法兰盖 BL
DN15	0.7	0.5	1	0.5	0.5	0.5	1
DN20	1	1	1	1	1	1	1
DN25	1	1.5	1	1.5	1.5	1	1.5
DN32	2	2	2	2	2	2	2
DN40	2	2	2	2	2	2	2.5
DN50	2.5	2.5	2.5	2.5	2.5	2.5	3
DN65	3	3	3	-	3	3	3.5
DN80	3.5	4	4	-	4	3.5	4.5
DN100	4.5	4.5	4.5	-	4.5	4.5	5.5
DN125	5.5	6.5	6.5	-	6.5	5.5	8
DN150	7	7.5	7.5	-	7.5	7	10.5
DN200	9.5	10	11	-	-	9.5	16.5
DN250	14	14	16.5	-	-	14	25
DN300	19	18	22	-	-	18.5	35
DN350	28	28.5	32	-	-	27.5	48
DN400	36	36.5	40	-	-	35	63.5
DN450	46	49.5	54.5	-	-	45	96.5
DN500	64	68.5	74	-	-	65	133
DN600	96	107.5	116.5	-	-	94	226.5

## HG/T 20592 Pn25

Size	板式平焊 PL	带颈平焊 SO	带颈对焊 WN	承插焊 SW	螺纹 Th	松套 PJ	法兰盖 BL
DN15	0.7	0.5	1	0.5	0.5	0.5	1
DN20	1	1	1	1	1	1	1
DN25	1	1.5	1	1.5	1.5	1	1.5
DN32	2	2	2	2	2	2	2
DN40	2	2	2	2	2	2	2.5
DN50	2.5	3	3	3	3	2.5	3
DN65	3.5	4	4	-	4	3.5	4.5
DN80	4.5	4.5	5	-	4.5	4	5.5
DN100	6	6.5	6.5	-	6.5	6	7.5
DN125	8	8.5	9	-	8.5	8	11
DN150	10.5	11	11.5	-	11	10	14.5
DN200	14.5	15	17	-	-	14	22.5
DN250	20	21	24	-	-	19.5	33.5
DN300	26.5	28	31.5	-	-	26	46.5
DN350	42	46.5	48	-	-	41	68
DN400	55	59.5	63	-	-	54	89.5
DN450	64.5	71.5	75.5	-	-	63	120
DN500	84	89.5	96.5	-	-	82	150
DN600	127.5	139.5	138.6	-	-	124.5	244.5

## HG/T 20592 Pn40

Size	板式平焊 PL	带颈平焊 SO	带颈对焊 WN	承插焊 SW	螺纹 Th	松套 PJ	法兰盖 BL
DN15	0.7	0.5	1	0.5	0.5	0.5	1
DN20	1	1	1	1	1	1	1
DN25	1	1.5	1	1.5	1.5	1	1.5
DN32	2	2	2	2	2	2	2
DN40	2	2	2	2	2	2	2.5
DN50	2.5	3	3	3	3	2.5	3
DN65	3.5	4	4	-	4	3.5	4.5
DN80	4.5	4.5	5	-	4.5	4	5.5
DN100	6	6.5	6.5	-	6.5	6	7.5
DN125	8	8.5	9	-	8.5	8	11
DN150	10.5	11	11.5	-	11	10	14.5
DN200	18	18.5	21	-	-	17.5	29
DN250	29.5	28.5	34	-	-	28.5	44.5
DN300	41.5	41.5	47.5	-	-	40.5	64
DN350	62	60	69	-	-	60.8	89.5
DN400	89.5	83.5	98	-	-	88	127
DN450	91.5	87.5	105.1	-	-	90	154
DN500	120.5	107.5	130.5	-	-	118	188
DN600	189.5	176	211.5	-	-	186	331

EN1092-1 Pn10

Size	板式平焊 PL	松套法兰 LJ	法兰盖 BL	带颈对焊 WN
DN10	0.604	0.591	0.722	0.678
DN15	0.67	0.654	0.813	0.768
DN20	0.936	0.909	1.14	1.09
DN25	1.11	1.08	1.38	1.3
DN32	1.82	1.77	2.03	1.91
DN40	2.08	2.02	2.35	2.15
DN50	2.73	2.52	2.88	2.53
DN65	3.16	3.05	3.51	3.03
DN80	3.6	3.48	4.61	3.92
DN100	4.39	4.2	5.65	4.62
DN125	5.41	5.21	8.13	6.3
DN150	7.14	6.89	10.5	7.81
DN200	9.27	8.87	16.5	11.6
DN250	11.8	11.2	24.1	15.8
DN300	13.6	12.8	30.8	18.3
DN350	21.8	20.9	39.6	25.3
DN400	27.5	26.4	49.4	30.6
DN450	33.6	32.2	63	35.1
DN500	40.2	38.5	75.2	40.5
DN600	54.5	52.2	124	52.9

EN1092-1 PN25

Size	板式平焊 PL	松套法兰 LP	法兰盖 BL	带颈对焊 WN
DN10	0.604	0.591	0.722	0.678
DN15	0.67	0.654	0.813	0.768
DN20	0.936	0.909	1.14	1.09
DN25	1.11	1.08	1.38	1.3
DN32	1.82	1.77	2.03	1.91
DN40	2.08	2.02	2.35	2.15
DN50	2.73	2.52	2.88	2.53
DN65	3.16	3.05	3.51	3.03
DN80	3.6	3.48	4.61	3.92
DN100	6.07	5.9	7.6	6.5
DN125	8.2	8	11	8.9
DN150	10.3	10	14.6	11.7
DN200	14.3	13.8	22.5	17.1
DN250	20.1	19.4	33.5	24.3
DN300	26.6	25.5	46.3	31.8
DN350	41.8	40.5	68.1	48.8
DN400	57.6	56.1	89.7	63.3
DN450	69.8	67.8	130	76
DN500	87	84.6	159	97
DN600	127	124	278	121

EN1092-1 Pn16

Size	板式平焊 PL	松套法兰 LP	法兰盖 BL	带颈对焊 WN
DN10	0.604	0.591	0.722	0.678
DN15	0.67	0.654	0.813	0.768
DN20	0.936	0.909	1.14	1.09
DN25	1.11	1.08	1.38	1.3
DN32	1.82	1.77	2.03	1.91
DN40	2.08	2.02	2.35	2.15
DN50	2.73	2.52	2.88	2.53
DN65	3.16	3.05	3.51	3.03
DN80	3.6	3.48	4.61	3.92
DN100	4.39	4.2	5.65	4.62
DN125	5.41	5.21	8.13	6.3
DN150	7.14	6.89	10.5	7.81
DN200	9.73	9.31	16.2	11.5
DN250	14.2	13.5	25	16.7
DN300	19	18	35.1	22.1
DN350	28.2	27	48	32.8
DN400	35.9	34.6	63.5	41.1
DN450	46.1	44.6	96.6	48.5
DN500	64	62	133	63.4
DN600	102	98.8	226	94

EN1092-1 Pn40

Size	板式平焊 PL	松套法兰 LP	法兰盖 BL	带颈对焊 WN
DN10	0.604	0.591	0.722	0.678
DN15	0.67	0.654	0.813	0.768
DN20	0.936	0.909	1.14	1.09
DN25	1.11	1.08	1.38	1.3
DN32	1.82	1.77	2.03	1.91
DN40	2.08	2.02	2.35	2.15
DN50	2.73	2.65	3.2	2.85
DN65	3.48	3.36	4.29	3.68
DN80	4.32	4.18	5.54	4.78
DN100	6.07	5.87	7.6	6.46
DN125	8.19	7.95	10.8	8.86
DN150	10.3	9.97	14.6	11.7
DN200	17.9	17.4	28.8	21
DN250	29.3	28.4	44.4	34.2
DN300	45.1	43.6	64.2	47.6
DN350	66.7	64.9	89.5	69.3
DN400	97.1	95.1	127	98
DN450	-	-	154	105
DN500	-	-	188	130
DN600	-	-	331	209

# Forged Fittings



## Material

### a. Nickel alloy:

N08800, N08810, N08811, N08028, N08020, N08825, M07718, N09925, N06022, N06059, N06200, N06044, N06030, N06035, N06230, N06625, N06600, N06601, N06690, N06617, N06002, N10276, N04400, N02200, N02201

### b. Duplex steel:

S31254/F44, S30815/F45, S31803/1.4462/F51, S32750/1.4410/F53, S32760/F55, S32205/F60

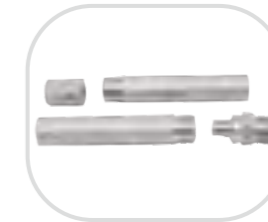
### c. Stainless steel:

F304, F304L, F304H, F316L, F316Ti, F321, F321H, F317L, F347H, F310, F904L



### Weldolets

BW  
1/2"-24"  
SCH10S-SCHXXS  
MSS-SP-97 ASTM B16.11



### Nipple

BW/TH/PE  
1/2"-4"  
3000#-9000#  
ASTM B16.11



### Sockolets

BW  
1/2"-24"  
SCH10S-SCHXXS  
MSS-SP-97 ASTM B16.11



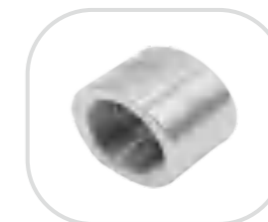
### Swaged Nipple

BW/TH/PE CON & ECC  
1/2"-4"  
3000#-9000#  
ASTM B16.11



### CAP

SW/TH  
1/2"-4"  
3000#-9000#  
ASTM B16.11



### Coupling/Half Coupling

SW/TH  
1/2"-4"  
3000#-9000#  
ASTM B16.11



### Union

SW/TH  
1/2"-4"  
3000#-9000#  
ASTM B16.11



### Hex Head Plug

SW/TH  
1/2"-4"  
3000#-9000#  
ASTM B16.11

 Material

F304/304L F316/316L  
 F51/2205/S31803  
 F53/2507/S32750  
 F904L/USN8904



**Elbow 90 & 45**

SW/TH  
 1/2"-4"  
 3000#-9000#  
 ASTM B16.11



**TEE**

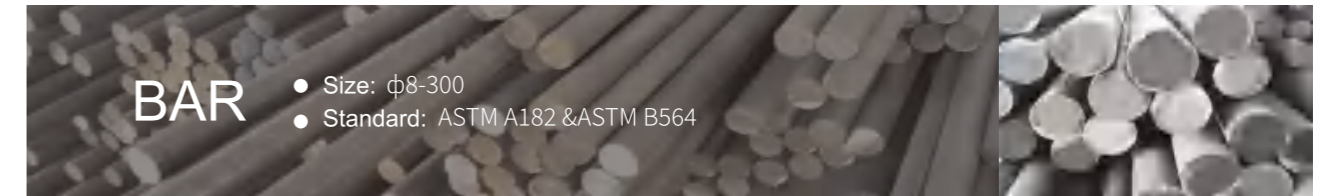
SW/TH  
 1/2"-4"  
 3000#-9000#  
 ASTM B16.11



**Forged Fittings**

SW/TH/BW/PE  
 1/2"-4"  
 3000#-9000#  
 ASTM B16.11 MSS-SP-97

## Other Products



**BAR**

- Size:  $\phi$ 8-300
- Standard: ASTM A182 & ASTM B564

  
**Material**

**a. Nickel alloy:**

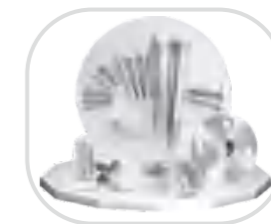
N08800, N08810, N08811, N08028, N08020, N08825,  
 M07718, N09925, N06022, N06059, N06200, N06044, N06030,  
 N06035, N06230, N06625,  
 N06600, N06601, N06690, N06617, N06002, N10276, N04400, N02200,  
 N02201

**b. Duplex steel:**

S31254/F44, S30815/F45, S31803/1.4462/F51, S32750/1.4410/F53,  
 S32760/F55, S32205/F60

**c. Stainless steel:**

F304, F304L, F304H, F316L, F316Ti, F321, F321H, F317L, F347H,  
 F310, F904L



# Tolerances

## 1. General

For the purpose of determining conformance with this Standard, the convention for fixing significant digits where limits, maximum or minimum values, are specified shall be rounded as defined in ASTM Practice E 29. This requires that an observed or calculated value shall be rounded to the nearest unit in the last right-hand digit used for expressing the limit. The listing of decimal tolerances does not imply a particular method of measurement.

## 2. Center-to-Contact Surfaces and Center-to-End Tolerances

Required tolerances for various flanges and flanged fitting elements are as follows.

### (a) Center-to-Contact Surfaces Other Than Ring Joint

Size	Tolerance
NPS ≤ 10	±1.0mm(±0.03 in.)
NPS ≥ 12	±1.5mm(±0.06 in.)

### (b) Center-to-End (Ring Joint)

Size	Tolerance
NPS ≤ 10	±1.0mm(±0.03 in.)
NPS ≥ 12	±1.5mm(±0.06 in.)

### (c) Contact Surface-to-Contact Surface Other Than Ring Joint

Size	Tolerance
NPS ≤ 10	±2.0mm(±0.06 in.)
NPS ≥ 12	±3.0mm(±0.12 in.)

### (d) End- to-End (Ring Joint)

Size	Tolerance
NPS ≤ 10	±2.0mm(±0.06 in.)
NPS ≥ 12	±3.5mm(±0.12 in.)

## 3. Facings

Tolerances that apply to both flange and flanged fitting facings are as follows.

- (a) Inside and outside diameter of large and small tongue and groove and female, ±0.5mm(±0.02 in.).
- (b) Outside diameter, 2.0mm(0.06 in.) raised face, ±1.0mm(±0.03 in.).

(c) Outside diameter 7.0 mm(0.25 in.) raised face, ±0.5mm(±0.02in.).

(d) Ring joint groove tolerances are shown in Table 5 (Table II-5 of Mandatory Appendix II) Tolerances that apply to flanges are as follows.

(e) Perpendicularity of the face with the bore

Size	Tolerance
NPS ≤ 5	1 deg
NPS ≥ 6	0.5 deg

## 4. Flange Thickness

Required tolerances for flange thickness are as follows.

Size	Tolerance
NPS ≤ 18	±3.0, -0.0 mm(+0.12, -0.00 in.)
NPS ≥ 20	±5.0, -0.0 mm(+0.19, -0.00 in.)

The plus tolerance is applicable to bolting bearing surfaces whether as-forged, as-cast, spot-faced, or back-faced (see para .6.6).

## 5. Welding End Flange Ends and Hubs

5.1 Outside Diameter, Required tolerances for the nominal outside diameter dimension A of Figs. 7 and 8 (Figs, II-7 and II-8 of Mandatory Appendix II) of welding ends of welding neck flanges are as follows.

Size	Tolerance
NPS ≤ 5	±2.0, -1.0 mm(+0.09, -0.03 in.)
NPS ≥ 6	±4.0, -1.0 mm(+0.16, -0.03 in.)

5.2 Inside Diameter. Required tolerances for the nominal inside diameter of welding ends of welding neck flanges and smaller bore of socket welding flanges (dimension B in the referenced figures) are as follows.

(a) For Figs. 7 and 8 (Figs, II-7 and II-8 of Mandatory Appendix II) and Fig 4, the tolerances are

Size	Tolerance
NPS ≤ 10	±1.0 mm(±0.03 in.)
12 ≤ NPS ≤ 18	±1.5 mm(±0.06 in.)
NPS ≥ 20	+3.0, -1.5 mm(+0.12, -0.06 in.)

(b) For Fig 9 (Fig II-9 of Mandatory Appendix II), the tolerances are

Size	Tolerance
NPS ≤ 10	+0.0, -1.0 mm(+0.0, -0.03 in.)
NPS ≥ 12	+0.0, -1.5 mm(+0.0, -0.06 in.)

5.3 Backing Ring Contact Surface . Required tolerances for the bore of the backing ring contact surface of welding neck flanges, dimension C of Figs. 9 and 10 (Figs II-9 and II-10 of Mandatory Appendix II) are as follows

Size	Tolerance
$2 \leq \text{NPS} \leq 24$	+0.23, -0.0 mm(+0.01, -0.0 in.)

5.4 Hub Thickness. Despite the tolerances specified for dimensions A and B, the thick-ness of the hub at the welding end shall not be less than 87½% of the nominal thickness of the pipe, having an under-tolerance of 12.5% for the pipe wall thickness to which the flange is to be attached or the minimum wall thickness as specified by the purchaser.

## 6 Length Through Hub on Welding Neck Flanges

The required tolerance for the length through hubs on welding neck flanges are as follows.

Size	Tolerance
$\text{NPS} \leq 4$	$\pm 1.5 \text{ mm} (\pm 0.06 \text{ in.})$
$5 \leq \text{NPS} \leq 10$	+1.5, -3.0 mm(+0.06, -0.12 in.)
$\text{NPS} \geq 12$	+3.0, -5.0mm(+0.12, -0.18 in.)

## 7 Flanges Bore Diameter

7.1 Lapped and Slip-On Flange Bores. The required tolerances for lapped and slip-on flange bore diameters are as follows.

Size	Tolerance
$\text{NPS} \leq 10$	+1.0, -0.0 mm(+0.03, -0.0 in.)
$\text{NPS} \geq 12$	+1.5, -0.0mm(+0.06, -0.0 in.)

7.2 Counterbores, Threaded Flanges. The required tolerances for threaded flange counterbores are as follows.

Size	Tolerance
$\text{NPS} \leq 10$	+1.0, -0.0 mm(+0.03, -0.0 in.)
$\text{NPS} \geq 12$	+1.5, -0.0 mm(+0.06, -0.0 in.)

7.3 Counterbores, Socket Welding Flanges. The required tolerances for socket end counterbores is as follows.

Size	Tolerance
$3/2 \leq \text{NPS} \leq 3$	$\pm 0.25 \text{ mm} (\pm 0.010 \text{ in.})$

## 8 Drilling and Facing

8.1 Bolt Circle Diameter. The required tolerances for all bolt circle diameters is as follows.

$$\pm 1.5 \text{ mm} (\pm 0.06 \text{ in.})$$

8.2 Bolt Hole to Bolt Hole. The required tolerances for the center-to-cen-ter of adjacent bolt holes is as follows.

$$\pm 0.8 \text{ mm} (\pm 0.03 \text{ in.})$$

8.3 Bolt Circle Concentricity. The required tolerances for concentricity between the flange bolt circle diameter and machined facing diameters are as follows.

Size	Tolerance
$\text{NPS} \leq 2\frac{1}{2}$	0.8mm(0.03 in.)
$\text{NPS} \geq 3$	1.5 mm(0.06 in.)



Table 22-tolerances

Dimension	Flange Type	Size	Tolerance/mm								
Outside diameter of neck A	11,21,34	≤ DN 125 > DN 125 ≤ DN 1200 > DN 1200	+3.0 0 +4.5 0 +6.0 0								
	35,36,37	≤ DN 150 > DN 150 ≤ DN 100	± 0.75% <sup>a</sup> , min±0.3mm ± 1% <sup>a</sup> , max±3.0mm +0.5 0								
Bore diameter B1,B2,B3	01,02,04,12,32	> DN 100 ≤ DN 400 > DN 400 ≤ DN 600 > DN 600	+1.0 0 +1.5 0 +3.0 0								
Wall thickness S <sup>c</sup>	11,34 <sup>b</sup>	≤ DN 100 > DN 100 ≤ DN 400 > DN 400	<table border="0"> <tr> <td>machined neck (both faces)</td> <td>neck one face machined or unmachined</td> </tr> <tr> <td>± 1.0 0</td> <td>± 2.0 0</td> </tr> <tr> <td>± 1.5 0</td> <td>± 2.5 0</td> </tr> <tr> <td>± 2.0 0</td> <td>± 3.5 0</td> </tr> </table>	machined neck (both faces)	neck one face machined or unmachined	± 1.0 0	± 2.0 0	± 1.5 0	± 2.5 0	± 2.0 0	± 3.5 0
	machined neck (both faces)	neck one face machined or unmachined									
	± 1.0 0	± 2.0 0									
± 1.5 0	± 2.5 0										
± 2.0 0	± 3.5 0										
35	S ≤ 8 S > 8	+15% -10% +15% -5%									
36,37	≤ DN 600 > DN 600	-12.5% <sup>a</sup> +15% -0.5mm <sup>a</sup> +15%									
Bevelled wall thickness Sp	35,36,37	S ≤ 6 S > 6	+1.0 0 +2.0 0								
Outside diameter D	21	≤ DN 250 > DN 250 ≤ DN 500 > DN 500 ≤ DN 800 > DN 800 ≤ DN 1200 > DN 1200 ≤ DN 1600 > DN 1600 ≤ DN 2000	± 4.0 ± 5.0 ± 6.0 ± 7.0 ± 8.0 ± 10.0								
	All other types	≤ DN 150 > DN 150 ≤ DN 500 > DN 500 ≤ DN 1200 > DN 1200 ≤ DN 1800 > DN 1800	± 2.0 ± 3.0 ± 5.0 ± 7.0 ± 10.0								

EN 1092-1:2007(E) Table 22(continued)

Dimension	Flange Type	Size	Tolerance/mm
Length through hub H <sub>1</sub> ,H <sub>2</sub> ,H <sub>3</sub> ,H <sub>4</sub> ,H <sub>5</sub>	11,12,13,34,35,36,37	≤ DN 80	± 1.5
		> DN 80 ≤ DN 250 > DN 250	± 2.0 ± 3.0
Neck diameter N <sub>1</sub> ,N <sub>2</sub> ,N <sub>3</sub>	11,21,34	≤ DN 50	0 -2.0
		> DN 50 ≤ DN 150 > DN 150 ≤ DN 300 > DN 300 ≤ DN 600 > DN 600 ≤ DN 4000	0 -4.0 0 -6.0 0 -8.0 0 -10.0
	12,13	≤ DN 50	+1.0 0
		> DN 50 ≤ DN 150 > DN 150 ≤ DN 300 > DN 300 ≤ DN 600 > DN 600 ≤ DN 1200 > DN 1200 ≤ DN 1800 > DN 1800	+2.0 0 +4.0 0 +8.0 0 +12.0 0 +16.0 0 +20.0 0
Collar thickness F	35(machined on both faces)	≤ 18 mm thickness > 18mm ≤ 50 mm thickness	± 1.0mm ± 1.5mm
	36(machined on front faces only or un-machined)	≤ 18 mm thickness	± 10%
	37(un-machined)	≤ 5 mm thickness	± 0.20mm
Flang thickness C <sub>1</sub> ,C <sub>2</sub> ,C <sub>3</sub> ,C <sub>4</sub>	All types(machined on both faces)	≤ 18 mm thickness > 18mm ≤ 50 mm thickness > 50 mm thickness	+1.0 -1.3 ± 1.5 ± 2.0
	All types(machined on front face only type 02 and 04 (un-machined))	≤ 18 mm thickness > 18mm ≤ 50 mm thickness > 50 mm thickness	+2.0 -1.3 +4.0 -1.5 +7.0 -2.0
Collar thickness F	32,34		
Facing diameter d <sub>1</sub>	All types	≤ DN 250 > DN 250	+2.0 -1.0 +3.0 -1.0

Table 22(concluded)

Dimension	Flange Type	Size	Tolerance mm
Facing height f <sub>1</sub>	All types(facing type B, D,F and G)	≤DN 32 2mm	0 -1
		>DN 32 to DN 250 3mm	0 -2
		>DN 250 to DN 500 4mm	0 -3
		>DN 500 5mm	0 -4
Facing height f <sub>2</sub>	All types(facing types C, E and G)	All DN	+0.5 0
Facing height f <sub>3</sub>	All types(facing types D, and F)	All DN	+0.5 0
	All types(facing type H)	All DN	+0.2 0
Facing height f <sub>4</sub>	All types(facing type H)	All DN	+0.5 0
Facing W X Y Z	All types	All DN	+0.5 0
			0 -0.5
			+0.5 0
			0 -0.5
Diameter of bolt circle K	All types	Bolt sizes M10 to M24 Bolt sizes M27 to M45	±1.0 ±1.5
Centre-to-centre of adjacent bolt holes	All types	Bolt sizes M10 to M24 Bolt sizes M27 to M45	±1.0 ±1.5
Eccentricity of machined facing diameters	All types	≤DN 65 >DN 65	1.0 2.0
Parallelism between bolting bearing surfaces and flange jointing faces	All types(machined bearing surfaces)	All DN	1°
	All types(un-machined bearing surfaces)		2°

a.Tolerance in % from the outside diameter or respectively from the wall thickness.

b.Bore tolerance not applicable.

c. Preparation of ends see Annex A

常用特种合金钢材料牌号对照表 Equivalent Alloy Grade & Standard Comparison

常用名称 Designaiong	中国 GB	美国 UNS	德国 SEW VDIUV	英国 BS	法国 AFNOR
Incoloy 800	Ns111	No8800	W.Nr.1.4876 X10NiCrAlTi3220	Na15	Z8NC32.21
Incoloy 800H	NS112	NO8810	W.Nr.1.4958 X5NiCrAlTi31-20	NA15(H)	
Incoloy 825	NS142	NO8825	W.Nr.2.4858 NiCr21Mo	NA16	NC21FeDu
Inconel 600	NS312	NO6600	W.Nr.2.4816 NiCr15Fe	NA14	NC15Fe
Inconel 625	NS336	NO6625	W.Nr.2.4856 NiCr22Mo9Nb	NA21	NC22DNb
Monel 400		NO4400	W.Nr.2.4360 NiCu30Fe	NA12	NU30
Hastelloy B-2	NS322	N10665	W.Nr.2.4617 NiMo28		NiMo28
Hastelloy C-22 Hastelloy C276		N06022 N10276	W.Nr.2.4602 W.Nr.2.4819 NiMo16Cr15W		
254SMO/F44		S31254	W.Nr.1.4547		
904L	00Cr20Ni25Mo4.5Cu	N08904	W.Nr.1.4539		
17-4PH	05Cr17Ni4CuNb	S17400	W.Nr.1.4542		
17-7PH	07Cr17Ni7AL	S17700	W.Nr.1.4568		

双相不锈钢材料化学成分 Chemical Composition

钢号/Steel Grade	C ≤	Mn ≤	Si ≤	S ≤	P ≤	Cr	Ni	Mo	Cu ≤	N
S32750/00Cr25Ni7Mo4N	0.03	1.20	0.80	0.02	0.035	24.0/26.0	6.0/8.0	3.0/5.0	0.50	0.24/0.32
S31803/S32205/00Cr22Ni5Mo3N	0.03	2.00	1.00	0.02	0.030	22.0/23.0	4.5/6.5	3.00/3.50	/	0.14/0.20
S31500(3RE60)/00Cr18Ni5Mo3Si2	0.03	1.2/2.0	1.4/2.00	0.03	0.030	18.0/19.0	4.25/5.25	2.50/3.00	/	0.05/0.10

Table T1-wall Thickness for Type 11

A	PN2.5		Pn6		Pn10		Pn16		Pn25		Pn40		Pn63		Pn100		
	S	Sp	S	Sp	S	Sp	S	Sp	S	Sp	S	Sp	S	Sp	S	Sp	
17.2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
21.3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3.2	2	
26.9	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.6	2.3	3.2	2.3	
33.7	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	3.6	2.6	
42.4	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.9	2.6	3.6	2.9	
48.3	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.9	2.9	3.6	3.2	
60.3	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	4	3.2	4	3.6	
76.1	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	4	3.6	4	4	
88.9	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	4.5	4	5	5	
114.3	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	4.5	4.5	5.6	5.6	
139.7	4	4	4	4	4	4	4	4	4	4	4	4	5.6	5.6	6.3	6.3	
168.3	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	6.3	6.3	8	8	
219.1	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	7.1	7.1	8.8	8.8	
273	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	7.1	7.1	7.1	7.1	8.8	8.8	10	10
323.9	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	8	8	8	8	11	10	12.5	12.5
355.6	7.1	7.1	7.1	7.1	7.1	7.1	7.1	8	8	8	8	8.8	8.8	12.5	10	14.2	14.2
406.4	7.1	7.1	7.1	7.1	7.1	7.1	8	8	8.8	8.8	11	11	14.2	11	16	16	
457	7.1	7.1	7.1	7.1	7.1	7.1	8	8	8.8	8.8	12.5	12.5					
508	7.1	7.1	7.1	7.1	7.1	7.1	8	8	10	10	14.2	14.2					
610	7.1	7.1	7.1	7.1	8	7.1	10	8.8	11	11	16	16					
711	7.1	7.1	8	7.1	8.8	8	10	8.8	14.2	12.5							
813	7.1	7.1	8	7.1	8.8	8	12.5	10	16	14.2							
914	7.1	7.1	8	7.1	12.5	10	12.5	10	17.5	16							
1016	7.1	7.1	8	7.1	12.5	10	12.5	10	20	17.5							
1219	8	7.1	8.8	8	12.5	11	14.2	12.5									
1422	8	7.1	8.8	8	14.2	12.5	16	14.2									
1626	8.8	8	10	9	16	14.2	17.5	16									
1829	10	10	11	10	17.5	16	20	17.5									
2032	11	10	12.5	11	17.5	16	22	20									
2235	11	10	14	12.5	20	18											
2438	11	10	15	14.2	22.2	20											
2620	11	10	16	14.2	25	22.2											
2820	11	10	17	16	25	22.2											
3020	11	10	20	16	32	24											
3220	11	10	20	16													
3420	11	10	22	17.5													
3620	11	10	22	17.5													
3820	11	10															
4020	11	10															

GB/T12459、GB/T13401 外径和壁厚表 Outside Diameter & Wall Thickness

公称通径 Nominal Diameter	外径 Outside Diaeter D	壁厚 Mominal Wall Thickness T														
		DN	A	B	Sch.5S	Sch.10S	Sch.20S	LG	Sch.20	Sch.30	Std.	Sch.40	Sch.60	XS	Sch.80	Sch.100
15	21.3	18	1.6	2.1	2.6	-	-	-	-	2.9	-	-	3.6	-	-	
20	26.9	25	1.6	2.1	2.6	-	-	-	-	2.9	-	-	4.0	-	-	
25	33.7	32	1.6	2.8	3.2	-	-	-	-	3.2	-	-	4.5	-	-	
32	42.4	38	1.6	2.8	3.2	-	-	-	-	3.6	-	-	5.0	-	-	
40	48.3	45	1.6	2.8	3.2	-	-	-	-	3.6	-	-	5.0	-	-	
50	60.3	57	1.6	2.8	3.6	-	3.2	-	-	4.0	-	-	5.6	-	-	
65	76.1(3)	76	2.0	3.0	3.6	-	4.5	-	-	5.0	-	-	7.1	-	-	
80	88.9	89	2.0	3.0	4.0	-	4.5	-	-	5.6	-	-	8.0	-	-	
90	101.6	-	2.0	3.0	4.0	-	4.5	-	-	5.6	-	-	8.0	-	-	
100	114.3	108	2.0	3.0	4.0	-	5.0	-	-	5.9	-	-	8.8	-	11.0	
125	139.7	133	2.9	3.4	5.0	-	5.0	-	-	6.3	-	-	10.0	-	12.5	
150	168.3	159	2.9	3.4	5.0	-	5.6	-	-	7.1	-	-	11.0	-	14.2	
200	219.1	219	2.9	4.0	6.3	-	6.3	7.1	-	8.0	10.0	-	12.5	16.0	17.5	
250	273.0	273	3.6	4.0	6.3	-	6.3	8.0	-	8.8	12.5	-	16.0	17.5	22.2	
300	323.9	325	4.0	4.5	6.3	-	6.3	8.8	-	10.0	14.2	-	17.5	22.2	25.0	
350	355.6	377	4.0	5.0	-	8.0	8.0	10.0	10.0	11.0	16.0	13.0	20.0	25.8	28.0	
400	406.4	426	4.0	5.0	-	8.0	8.0	10.0	10.0	12.5	17.5	13.0	22.2	28.0	30.0	
450	457.2	478	4.0	5.0	-	8.0	8.0	11.0	10.0	14.2	20.00	13.0	25.0	30.0	36.0	
500	508.0	529	5.0	5.6	-	8.0	10.0	12.5	10.0	16.0	20.00	13.0	28.0	32.0	40.0	
550	559	-	5.0	5.6	-	8.0	-	-	10.0	-	-	13.0	30.0	-	16.0	
600	610	630	5.6	6.3	-	8.0	-	-	10.0	17.5	-	13.0	32.0	-	-	
650	660	-	-	-	-	8.0	-	-	10.0	-	-	13.0	-	-	-	
700	711	720	-	-	-	8.0	-	-	10.0	-	-	13.0	-	-	-	
750	762	-	-	-	-	8.0	-	-	10.0	-	-	13.0	-	-	-	
800	813	820	-	-	-	8.0	-	-	10.0	-	-	13.0	-	-	-	
850	864	-	-	-	-	8.0	-	-	10.0	-	-	13.0	-	-	-	
900	914	920	-	-	-	8.0	-	-	10.0	-	-	13.0	-	-	-	
950	965	-	-	-	-	8.0	-	-	10.0	-	-	13.0	-	-	-	
1000	1016	1020	-	-	-	8.0	-	-	10.0	-	-	13.0	-	-	-	
1050	1067	-	-	-	-	8.0	-	-	10.0	-	-	13.0	-	-	-	
1100	1118	1120	-	-	-	8.0	-	-	10.0	-	-	13.0	-	-	-	
1150	1168	-	-	-	-	8.0	-	-	10.0	-	-	13.0	-	-	-	
1200	1220	1220	-	-	-	8.0	-	-	10.0	-	-	13.0	-	-	-	

Sch.5S、10S、20S用于不锈钢管件。

Sch.5S、10S、20S Applies for stainless steel fittings

JIS B2311、B2312、B2313 外径和壁厚表 Outside Diameter & Wall Thickness

公称通径 Nominal Diameter	NPS	外径 Outside Diaeter		壁厚 Mominal Wall Thickness T																
		D	SGP	Sch.5S	Sch.10S	Sch.10	Sch.20S	Sch.30	Sch.40S	Std.	Sch.40	Sch.60	Sch.80S	XS	Sch.80	Sch.100	Sch.120	Sch.140	Sch.160	XXS
15	1/2	21.7	2.8	1.7	2.1	-	2.5	-	2.8	2.8	2.8	-	3.7	3.7	3.7	-	-	-	4.8	7.5
20	3/4	27.2	2.8	1.7	2.1	-	2.5	-	2.9	2.9	2.9	-	3.9	3.9	3.9	-	-	-	5.6	7.8
25	1	34.0	3.2	1.7	2.8	-	3.0	-	3.4	3.4	3.4	-	4.5	4.5	4.5	-	-	-	6.4	9.1
32	1 1/4	42.7	3.5	1.7	2.8	-	3.0	-	3.6	3.6	3.6	-	4.9	4.9	4.9	-	-	-	6.4	9.7
40	1 1/2	48.6	3.5	1.7	2.8	-	3.0	-	3.7	3.7	3.7	-	5.1	5.1	5.1	-	-	-	7.1	10.2
50	2	60.5	3.8	1.7	2.8	-	3.5	-	3.9	3.9	3.9	-	5.5	5.5	5.5	-	-	-	8.7	11.1
65	2 1/2	76.3	4.2	2.1	3.0	-	3.5	-	5.2	5.2	5.2	-	7.0	7.0	7.0	-	-	-	9.5	14.0
80	3	89.1	4.2	2.1	3.0	-	4.0	-	5.5	5.5	5.5	-	7.6	7.6	7.6	-	-	-	11.1	15.2
90	3 1/2	101.6	4.2	2.1	3.0	-	4.0	-	5.7	5.7	5.7	-	8.1	8.1	8.1	-	-	-	-	-
100	4	114.3	4.5	2.1	3.0	-	4.0	-	6.0	6.0	6.0	-	8.6	8.6	8.6	-	11.1	-	13.5	17.1
125	5	139.8	4.5	2.8	3.4	-	5.0	-	6.6	6.6	6.6	-	9.5	9.5	9.5	-	12.7	-	15.9	19.0
150	6	165.2	5.0	2.8	3.4	-	5.0	-	7.1	7.1	7.1	-	11.0	11.0	11.0	-	14.3	-	18.2	21.9
200	8	216.3	5.8	2.8	4.0	-	6.5	7.0	8.2	8.2	8.2	10.3	12.7	12.7	12.7	15.1	18.2	20.6	23.0	22.2
250	10	267.4	6.6	3.4	4.0	-	6.5	7.8	9.3	9.3	9.3	12.7	12.7	12.7	15.1	18.3	21.4	25.4	28.6	25.4
300	12	318.5	6.9	4.0	4.5	-	6.5	8.4	9.5	9.5	10.3	14.3	12.7	12.7	17.4	21.4	25.4	28.6	33.3	25.4
350	14	355.6	7.9	4.0	5.0	6.4	8.0	9.5	9.5	9.5	11.1	15.1	-	12.7	19.0	23.8	27.8	31.8	35.7	-
400	16	406.4	7.9	4.5	5.0	6.4	8.0	9.5	9.5	9.5	12.1	16.7	-	12.7	21.4	26.2	30.9	36.5	40.5	-
450	18	457.2	7.9	4.5	5.0	6.4	8.0	11.1	9.5	9.5	14.3	19.0	-	12.7	23.8	29.4	34.9	39.7	45.2	-
500	20	508.0	7.9	5.0	5.5	6.4	9.5	12.7	9.5	9.5	15.1	20.6	-	12.7	26.2	32.5	38.1	44.4	50.0	-
550	22	558.6	-	5.0	5.5	6.4	9.5	12.7	9.5	9.5	15.9	22.2	-	12.7	28.6	34.9	41.3	47.6	54.0	-
600	24	609.6	-	5.5	6.5	6.4	9.5	14.3	9.5	9.5	17.5	24.6	-	12.7	31.0	38.9	46.0	52.4	59.5	-
650	26	660.4	-	5.5	8.0	7.9	12.7	-	-	9.5	-	-	-	12.7	34.0	-	-	-	-	-
700	28	711.2	-	5.5	8.0	7.9	12.7	15.9	-	9.5	17.5	-	-	12.7	-	-	-	-	-	-
750	30	762.0	-	6.5	8.0	7.9	12.7	15.9	9.5	9.5	17.5	-	-	12.7	-	-	-	-	-	-
800	32	812.8	-	-	8.0	7.9	12.7	15.9	-	9.5	17.5	-	-	12.7	-	-	-	-	-	-
850	34	863.6	-	-	8.0	7.9	12.7	15.9	-	9.5	17.5	-	-	12.7	-	-	-	-	-	-
900	36	914.4	-	-	8.0	7.9	12.7	15.9	-	9.5	19.1	-	-	12.7	-	-	-	-	-	-
950	38	965.2	-	-	-	-	-	-	-	9.5	-	-	-	12.7	-	-	-	-	-	-
1000	40	1016.0	-	-	9.5	-	14.3	-	-	9.5	26.2	-	-	12.7	-	-	-	-	-	-
1050	42	1066.8	-	-	-	-	-	-	-	9.5	-	-	-	12.7	-	-	-	-	-	-
1100	44	1117.6	-	-	-	-	-	-	-	9.5	-	-	-	12.7	-	-	-	-	-	-
1150	46	1168.4	-	-	-	-	-	-	-	9.5	-	-	-	12.7	-	-	-	-	-	-
1200	48	1219.2	-	-	-	-	-	-	-	9.5	-	-	-	12.7	-	-	-	-	-	-

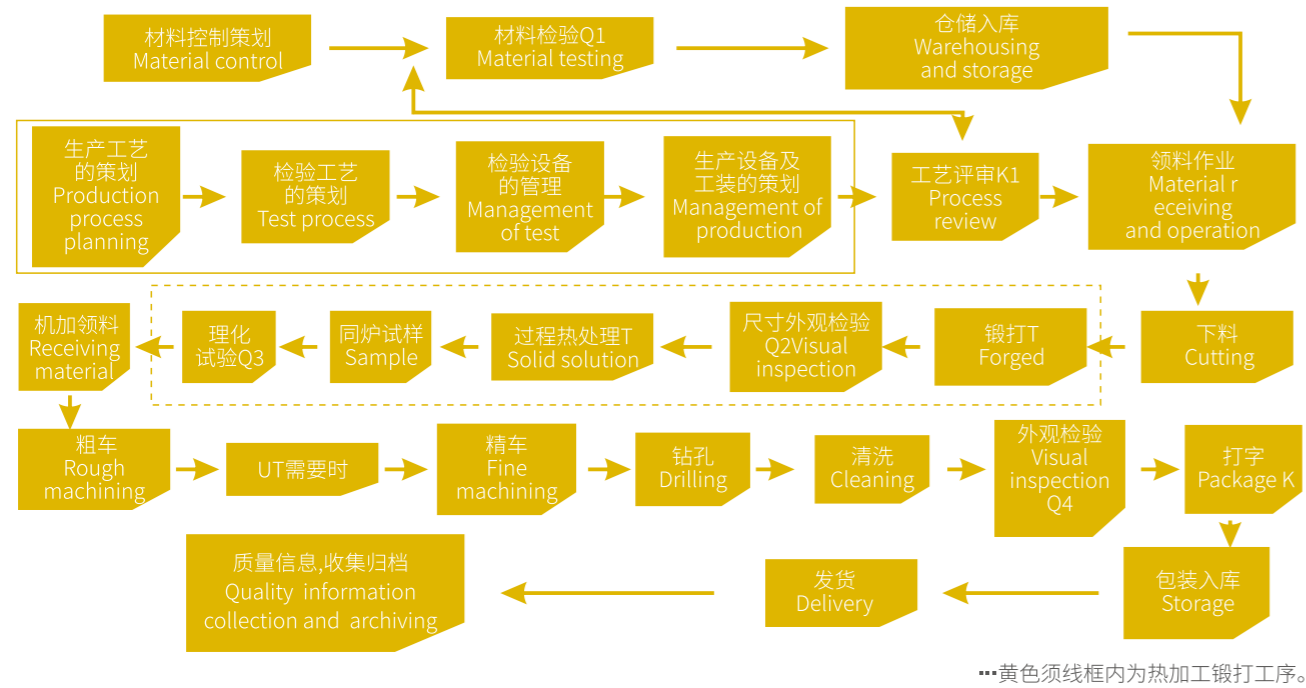
Sch.5S、10S、20S用于不锈钢管件。 Sch.5S、10S、20S Applies for stainless steel fittings

ASME/ANSI B36.10M、B36.19M 外径和壁厚表 Outside Diameter & Wall Thickness

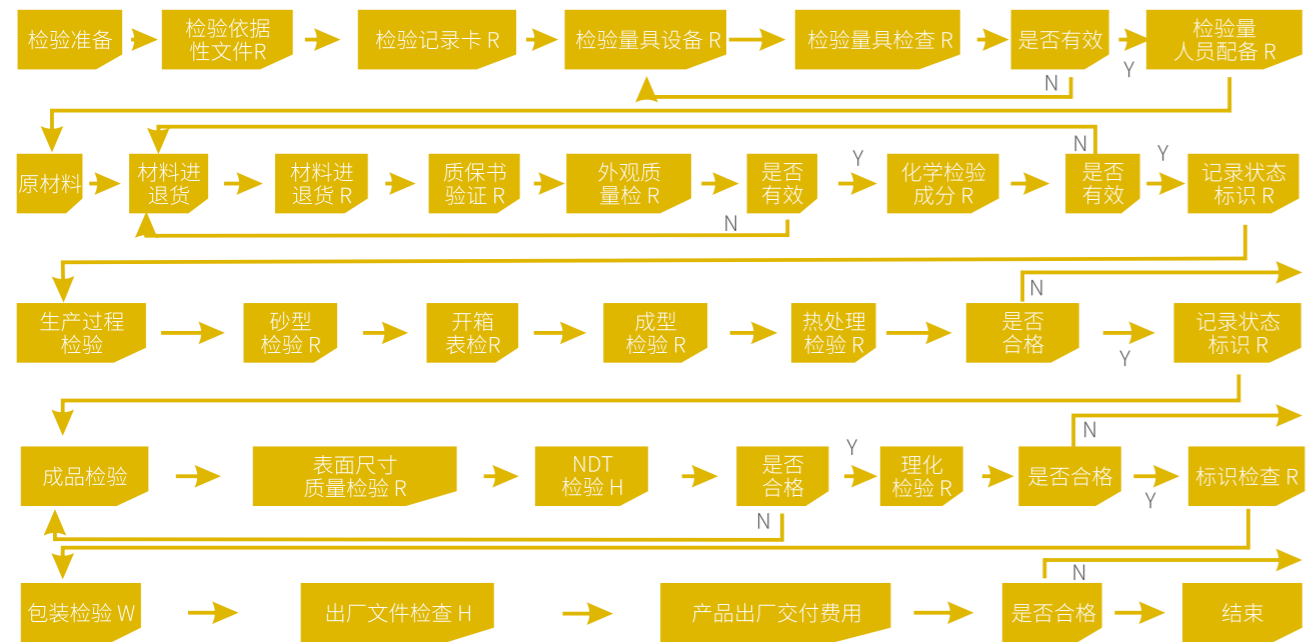
公称通径 Nominal Diameter	NPS	外径 Outside Diaeter		壁厚 Mominal Wall Thickness T																
		D	SGP	Sch.5S	Sch.10S	Sch.10	Sch.20	Sch.30	Sch.40S	Std.	Sch.40	Sch.60	Sch.80S	XS	Sch.80	Sch.100	Sch.120	Sch.140	Sch.160	
6	1/8	10.3	-	1.24	-	-	-	1.73	1.73	1.73	-	2.41	2.41	2.41	-	-	-	-	-	-
8	1/4	13.7	-	1.65	-	-	-	2.24	2.24	2.24	-	3.02	3.02	3.02	-	-	-	-	-	-
10	3/8	17.1	-	1.65	-	-	-	2.31	2.31	2.31	-	2.20	2.20	2.20	-	-	-	-	-	-
15	1/2	21.3	1.65	2.11	-	-	-	2.77	2.77	2.77	-	3.73	3.73	3.73	-	-	-	-	-	4.78
20	3/4	26.7	1.65	2.11	-	-	-	2.87	2.87	2.87	-	3.91	3.91	3.91	-	-	-	-	-	5.56
25	1	33.4	1.65	2.77	-	-	-	3.38	3.38	3.38	-	4.55	4.55	4.55	-	-	-	-	-	6.35
32	1 1/4	42.2	1.65	2.77	-	-	-	3.56	3.56	3.56	-	4.85	4.85	4.85	-	-	-	-	-	6.35
40	1 1/2	48.3	1.65	2.77	-	-	-	3.68	3.68	3.68	-	5.08	5.08	5.08	-	-	-	-	-	7.14
50	2	60.3	1.65	2.77	-	-	-	3.91	3.91	3.91	-	5.54	5.54	5.54	-	-	-	-	-	8.74
65	2 1/2	73.0	2.11	3.05	-	-	-	5.16	5.16	5.16	-	7.01	7.01	7.01	-	-	-	-	-	9.53
80	3	88.9	2.11	3.05	-	-	-	5.49	5.49	5.49	-	7.62	7.62	7.62	-	-	-	-	-	11.13
90	3 1/2	101.6	2.11	3.05	-	-	-	5.74	5.74	5.74	-	8.08	8.08	8.08	-	-	-	-	-	-
100	4	114.3	2.11	3.05	-	-	-	6.02	6.02	6.02	-	8.56	8.56	8.56	-	11.13	-	-	-	13.49
125	5	141.3	2.77	3.40	-	-	-	6.55	6.55	6.55	-	9.53	9.53	9.53	-	12.70	-	-	-	15.88
150	6	168.3	2.77	3.40	-	-	-	7.11	7.11	7.11	-	10.97	10.97	10.97	-	14.27	-	-	-	18.26
200	8	219.1	2.77	3.76	-	6.35	7.04	8.18	8.18	8.18	10.31	12.70	12.70	12.70	15.59	18.26	20.62	23.01	-	-
250	10	273.1	3.40	4.19	-	6.35	7.80	9.27	9.27	9.27	12.70	12.70	12.70	15.09	18.26	21.44	25.40	28.58	-	-
300	12	323.9	3.96	4.57	-	6.35	8.38	9.53	9.53	10.31	14.27	12.70	12.70	17.48	21.44	25.40	28.58	33.32	-	-
350	14	355.6	3.96	4.78	6.35	7.92	9.53	-	9.53	11.13	15.09	-	12.70	19.05	23.83	27.79	31.75	35.71	-	-
400	16	406.4	4.19	4.78	6.35	7.92	9.53	-	9.53	12.70	16.66	-	12.70	21.44	26.19	30.96	36.53	40.29	-	-
450	18	457.2	4.19	4.78	6.35	7.92	11.13	-	9.53	14.27	19.05	-	12.70	23.83	29.36	34.93	39.67	45.24	-	-
500	20	508	4.78	5.54	6.35	9.53	12.70	-	9.53	15.09	20.62	-	12.70	26.19	32.54	38.10	44.45	50.01	-	-
550	22	559	4.78	5.54	6.35	9.53	12.70	-	9.53	-	22.23	-	12.70	28.58	34.93	41.28	47.63	53.98	-	-
600	24	610	5.54	6.35	6.35	9.53	14.27	-	9.53	17.48	24.61	-	12.70	30.96	38.89	46.02	52.37	59.54	-	-
650	26	660	-	-	7.92	12.70	-	-	9.53	-	-	-	12.70	-	-	-	-	-	-	-
700	28	711	-	-	7.92	12.70	15.88	-	9.53	-	-	-	12.70	-	-	-	-	-	-	-
750	30	762	6.35	7.92	7.92	12.70	15.88	-	9.53	-	-	-	12.70	-	-	-	-	-	-	-
800	32	813	-	-	7.92	12.70	15.88	-	9.53	17.48	-	-	12.70	-	-	-	-	-	-	-
850	34	864	-	-	7.92	12.70	15.88	-	9.53	17.48	-	-	12.70	-	-	-	-	-	-	-
900	36	914	-	-	7.92	12.70	15.88	-	9.53	19.05	-	-	12.70	-	-	-	-	-	-	-
950	38	965	-	-	-	-	-	-	9.53	-	-	-	12.70	-	-	-	-	-	-	-
1000	40	1016	-	-	-	-	-	-	9.53	-	-	-	12.70	-	-	-	-	-	-	-
1050	42	1067	-	-	-	-	-	-	9.53	-	-	-	12.70	-	-	-	-	-	-	-
1100	44	1118	-	-	-	-	-	-	9.53	-	-	-	12.70	-	-	-	-	-	-	-
1150	46	1168	-	-	-	-	-	-	9.53	-	-	-	12.70	-	-	-	-	-	-	-
1200	48	1219	-	-	-	-	-	-	9.53	-	-	-	12.70	-	-	-	-	-	-	-

Sch.5S、10S、20S用于不锈钢管件。 Sch.5S、10S、20S Applies for stainless steel fittings

## 锻制法兰和锻件工艺流程图 Process of Forged Flanges & Fittings Manufacturing



## 检验流程图和质量控制点 Process of Inspection & QC



注:W-检查点R-审查点H-停止点N-不合格Y-合格