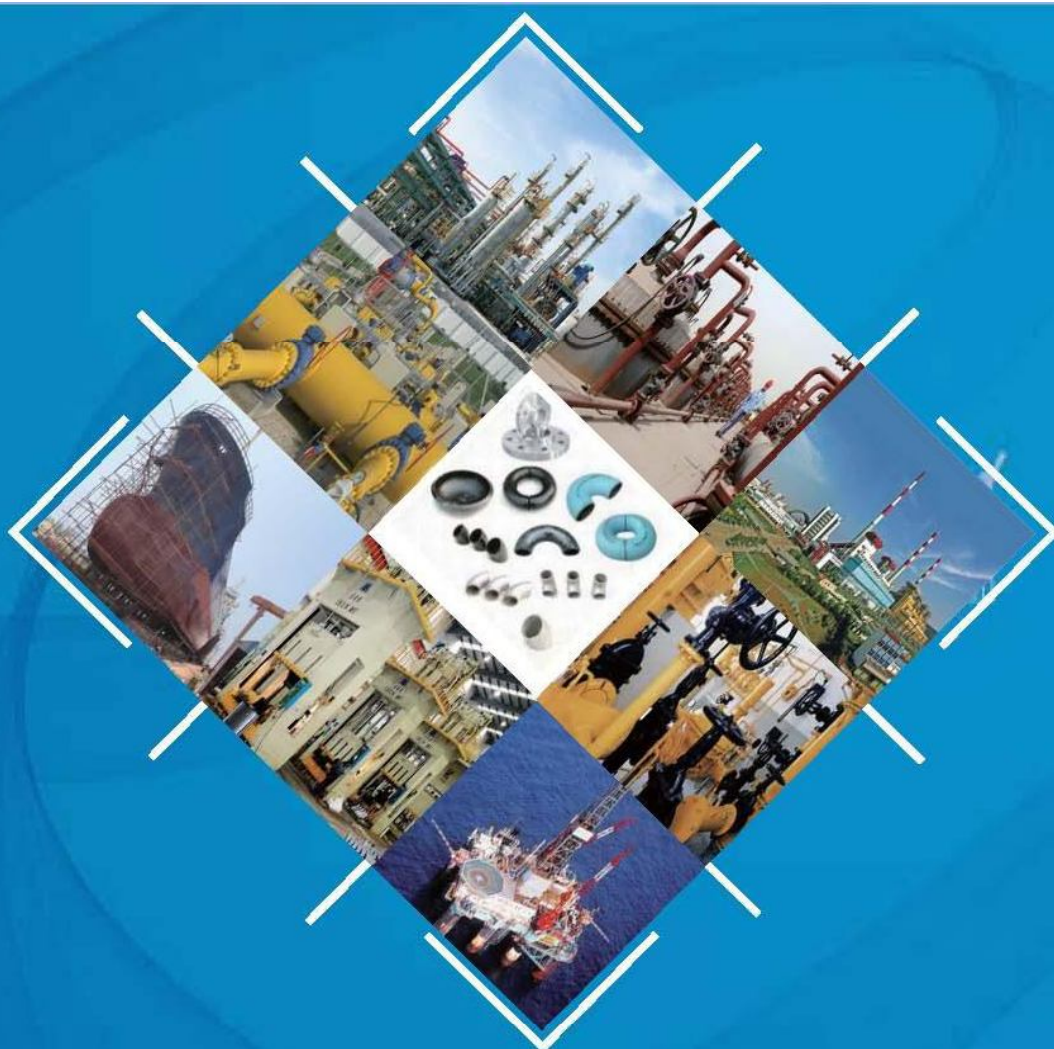




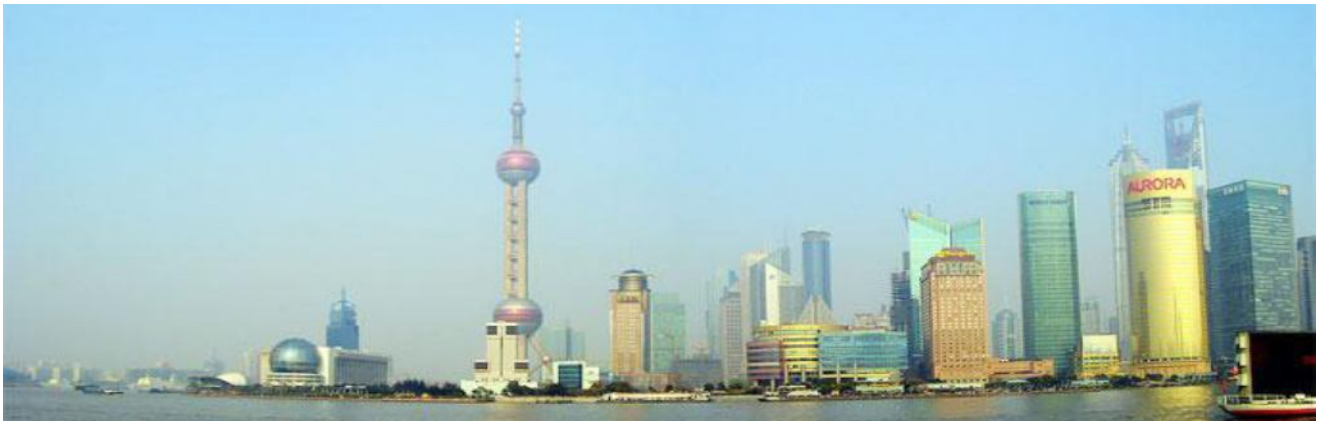
TOBO INTERNATIONAL TRADING (SHANGHAI)CO.,LTD

TOBO PIPELINE EQUIPMENT (SHANGHAI) CO., LTD

诚信专业的工业管道配件服务商



中国 • 上海
CHINA • SHANGHA



TOBO GROUP TOBO International Trading (Shanghai) Co.,Ltd ;TOBO Pipeline Equipments(Shanghai) Co., Ltd).is located in Shanghai,we are one of the biggest manufacturers Pipeline products in China .Our company was established in 1998, the plant covers 55, 000 square meters and a construction area of 6, 800 square meters, existing 160 workers and 15 technicians. Now, it owns a number of advanced pipe production equipments, metal, forging, machining, cold forming, hot extrusion, such as heat treatment process, producing 6, 000 tons of pipe fittings. Company with a variety of detection devices, such as nondestructive testing, chemical analysis, metallographic examination, physical experiments. The technical is very strength, our main products contain fittings(elbow, tee, flanges, cap, reducer, bend) forged socket welding fittings and threaded fittings, pipe (SMLS WELD ERWW , hot-dipped galvanized, electrical galvanized) and the materials of the products contain stainless steel ,duplex-stainless steel alloy steel.

In order to comply with the global modernization services development trends and eliminating the varieties distress of the global enterprise's purchase in the consumables, which especially in TOBO products. We coordinate the pressure pipe manufacturer which with the scale of production, quality control and high cost performance (has passed ISO 9001 quality series attestation, ccs, DNV,PED/97/23/EC,AD2000-WO, special equipment manufacturing license,ASME-SA182,) through a variety of effective assort mechanism to make up the shortage of supply and Post-processing of VAT enterprise, and to supply high quality pipe fittings, because of the superior quality and good service, we have established long term business cooperation with more than 30 countries and areas,which covers Europe, Africa, South America, North America, Middle East, Taiwan and South East Asia and so on.

With many years effort and support from our valuable customers, these products have obtained a big market share in the world. Our business principle is "Superior quality, Competitive price, Timely delivery and Considerate service " Standing to the principle of "Enterprises focus on the core business", we will actively promotes the globalization of business strategy approach, using advanced supply chain management technology to service for clients with higher quality and more competitiveness ' s products. At the same time, we sincerely reply your inquiry, honesty waiting for your visiting and wish to have cooperation with you at the any time. We welcome all the customers to contact us for more information. We assure you, with our technical knowledge and experience, our company will be one of your Stable, Continuate business parters in China!

先进的生产设备 ADVANCED PRODUCTION EQUIPMENT

TOBO
GROUP



科学的检测设备 SCIENTIFIC CHECK-OUT FACILITIES



布氏硬度检测
Brinell hardness test



直接光谱仪 PM spectrometer



超声波探伤 Ultrasonic flaw detector



洛氏硬度检测
Luo's hardness test



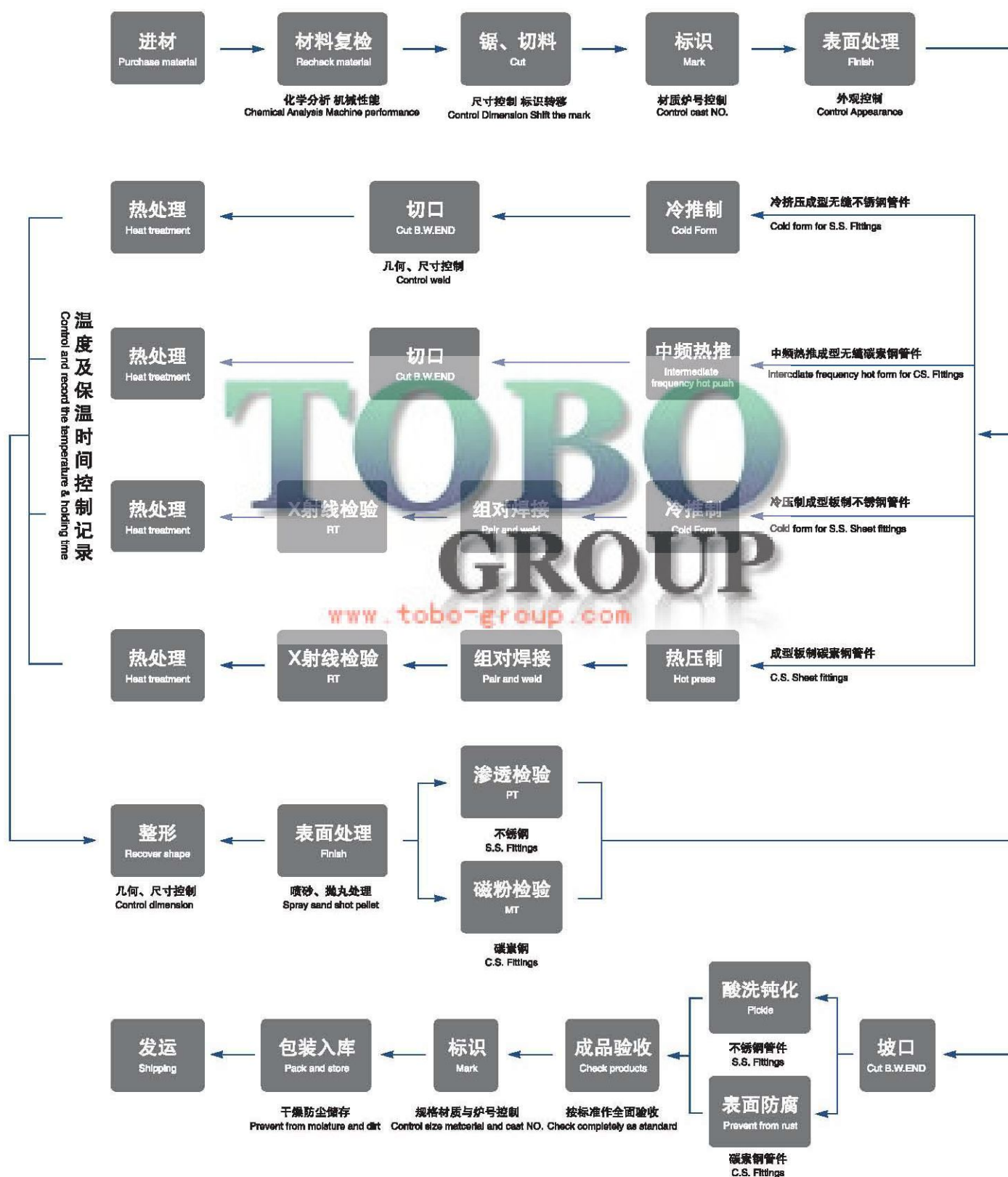
金相显微镜
Metallographic microscope



尺寸检测 Size test

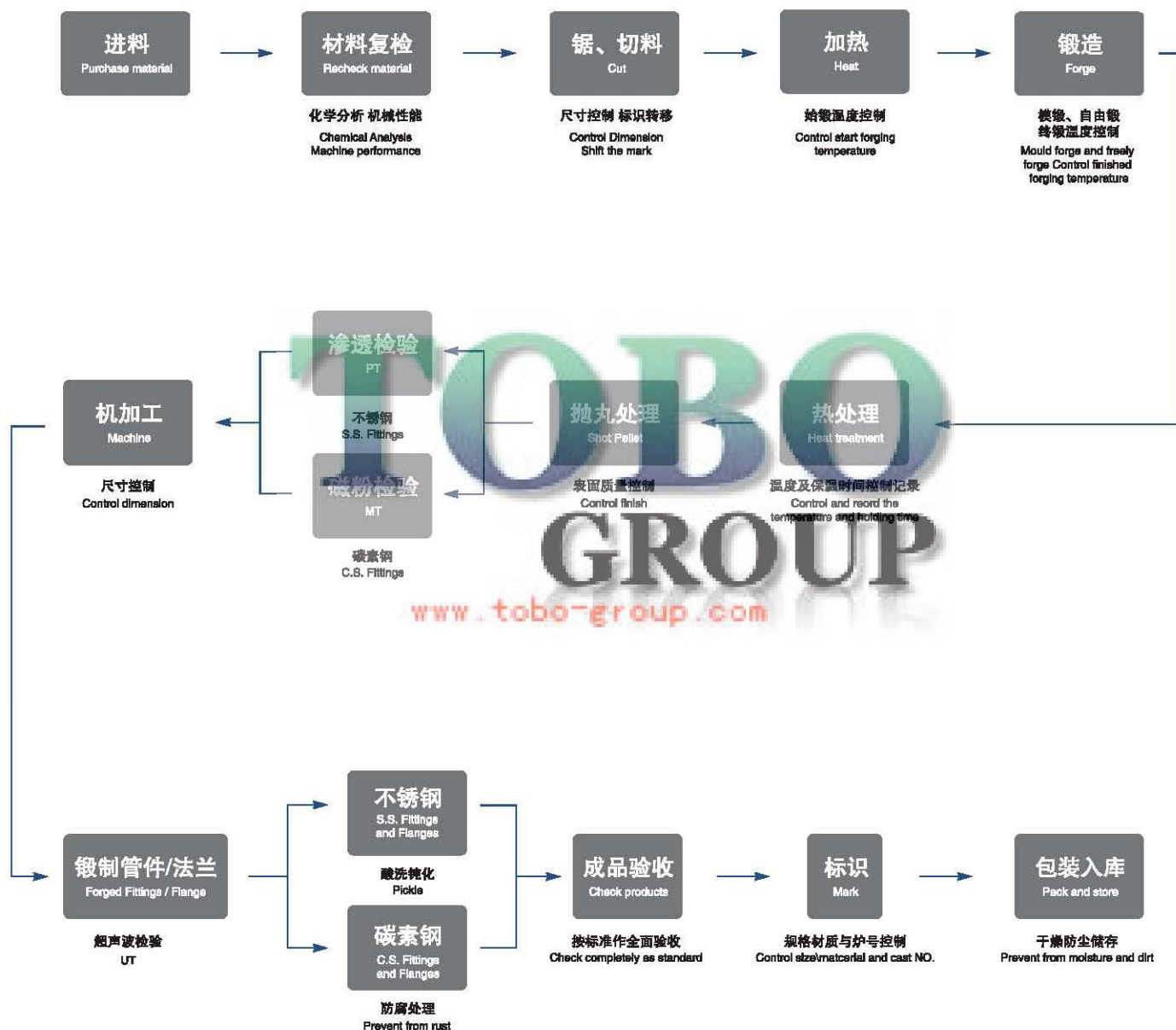
FLOW & QUALITY CONTROL DIAGRAM OF BUTT WELDING FITTINGS

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锻制管件、法兰生产工艺流程及质量控制图

FLOW & QUALITY CONTROL DIAGRAM OF FORGED FITTINGS AND FLANGES



产品一览 PRODUCTS

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对焊管件 BUTT WELDING FITTINGS



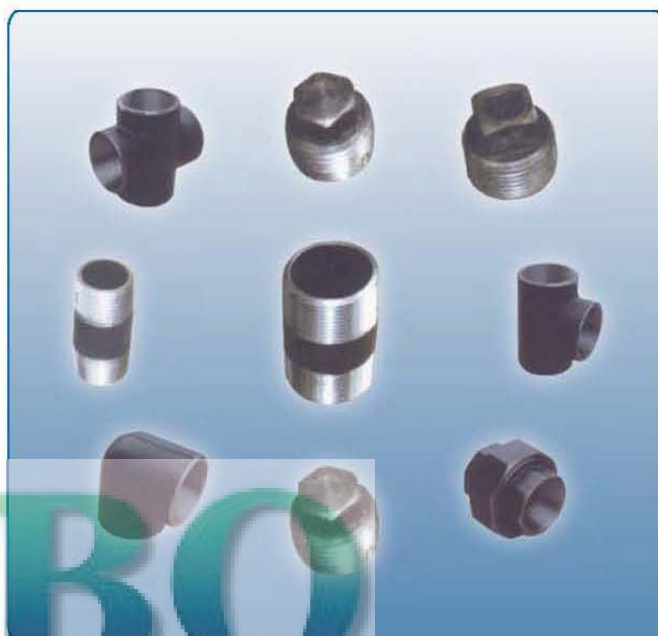
锻制承插焊管件及管座 FORGED SOCKET WELDING FITTINGS AND OUTLETS



仪器仪表类管件 FORGED THREADED FITTINGS



油田类管件 FORGED THREADED FITTINGS



锻造法兰 FORGED FLANGES



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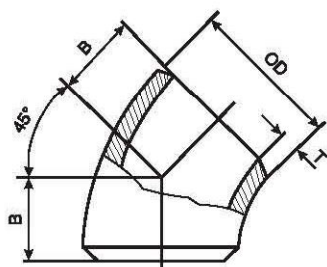
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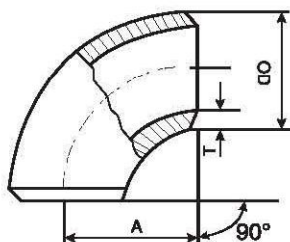
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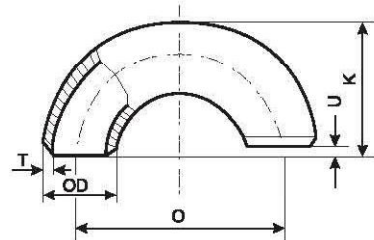
钢制对焊管件 BUTT WELDING FITTINGS



45°弯头
45°Elbow



90°弯头
90°Elbow



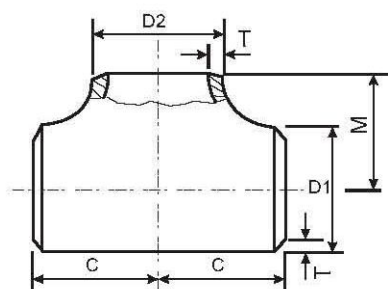
180°弯头
180°Elbow

45°、90°、180°弯头 ELBOW

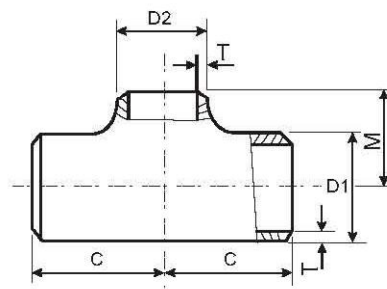
公称通径 Nominal Diameter		端部外径 Outside Diameter at Bevel		中心至端面 Center to End			中心至中心 Center to Center		背面至端面 Back to Faces	
				45°弯头 45°Elbow	90°弯头 90°Elbow		180°弯头 180°Elbow			
				B	A		O		K	
DN	NPS	A 系列 Series A	B 系列 Series B	长半径 Long Radius	长半径 Long Radius	短半径 Short Radius	长半径 Long Radius	短半径 Short Radius	长半径(A系列) Long Radius	短半径(A系列) Short Radius
15	1/2	21.3	18	16	38	—	76	—	48	—
20	3/4	26.9	25	19	38	—	76	—	51	—
25	1	33.7	32	22	38	25	76	51	56	41
32	1.1/4	42.4	38	25	48	32	95	64	70	52
40	1.1/2	48.3	45	29	57	38	114	76	83	62
50	2	60.3	57	35	76	51	152	102	106	81
65	2.1/2	73	76	44	95	64	190	127	132	100
80	3	88.9	89	51	114	76	229	152	159	121
90	3.1/2	101.6	—	57	133	89	267	178	184	140
100	4	114.3	108	64	152	102	305	203	210	159
125	5	139.7	133	79	190	127	381	254	262	197
150	6	168.3	159	95	229	152	457	305	313	237
200	8	219.1	219	127	305	203	610	406	414	313
250	10	273.0	273	159	381	254	762	508	518	391
300	12	323.9	325	190	457	305	914	610	619	467
350	14	355.6	377	222	533	356	1067	711	711	533
400	16	406.4	426	254	610	406	1219	813	813	610
450	18	457.2	478	286	686	457	1372	914	914	686
500	20	508.0	529	318	762	508	1524	1016	1016	762
550	22	559	—	343	838	559	1676	1118	1118	838
600	24	610	630	381	914	610	1829	1219	1219	914
650	26	660	—	406	991	660	1982	1320	—	—
700	28	711	720	438	1067	711	2134	1422	—	—
750	30	762	—	470	1143	762	2286	1524	—	—
800	32	813	820	502	1219	813	2438	1626	—	—
850	34	864	—	533	1295	864	2590	1728	—	—
900	36	914	920	565	1372	914	2744	1828	—	—
950	38	965	—	600	1448	965	2896	1930	—	—
1000	40	1016	1020	632	1524	1016	3048	2032	—	—
1050	42	1067	—	660	1600	1067	3200	2134	—	—
1100	44	1118	1120	695	1676	1118	3352	2236	—	—
1150	46	1168	—	727	1753	1168	3506	2336	—	—
1200	48	1220	1220	759	1829	1220	3658	2440	—	—

上述尺寸符合GB/T12459、GB/T13401、ASME B16.9、SH3408、SH3409、HG/T21635、HG/T21631、SY/T05010标准
Above dimensions acc.to GB/T13401、ASME B16.9、SH3408、SH3409、HG/T21635、HG/T21631、SY/T05010

钢制对焊管件 BUTT WELDING FITTINGS



等径三通
Straight Tee



异径三通
Reducing Tee

三通 (等径、异径) TEE (STRAIGHT AND REDUCING)

公称通径 Nominal Diameter		坡口处外径 Outside Diameter				中心 至端面 Center to End	
DN	NPS	D1		D2		C	M
		A 系列 Series A	B 系列 Series B	A 系列 Series A	B 系列 Series B		
15x15x15	1/2x1/2x1/2	21.3	18	21.3	18	25	25
15x15x10	1/2x1/2x3/8	21.3	18	17.3	14	25	25
15x15x8	1/2x1/2x1/4	21.3	18	13.7	10	25	25
20x20x20	3/4x3/4x3/4	26.9	25	26.9	25	29	29
20x20x15	3/4x3/4x1/2	26.9	25	21.3	18	29	29
20x20x10	3/4x3/4x3/8	26.9	25	17.3	14	29	29
25x25x25	1x1x1	33.7	32	33.7	32	38	38
25x25x20	1x1x3/4	33.7	32	26.9	25	38	38
25x25x15	1x1x1/2	33.7	32	21.3	18	38	38
32x32x32	1.1/4x1.1/4x1.1/4	42.4	38	42.4	38	48	48
32x32x25	1.1/4x1.1/4x1	42.4	38	33.7	32	48	48
32x32x20	1.1/4x1.1/4x3/4	42.4	38	26.9	25	48	48
32x32x15	1.1/2x1.1/4x1/2	42.4	38	21.3	18	48	48
40x40x40	1.1/2x1.1/2x1.1/2	48.3	45	48.3	45	57	57
40x40x32	1.1/2x1.1/2x1.1/4	48.3	45	42.4	38	57	57
40x40x25	1.1/2x1.1/2x1	48.3	45	33.7	32	57	57
40x40x20	1.1/2x1.1/2x3/4	48.3	45	26.9	25	57	57
40x40x15	1.1/2x1.1/2x1/2	48.3	45	21.3	18	57	57
50x50x50	2x2x2	60.3	57	60.3	57	64	64
50x50x40	2x2x1.1/2	60.3	57	48.3	45	64	60
50x50x32	2x2x1.1/4	60.3	57	42.4	38	64	57
50x50x25	2x2x1	60.3	57	33.7	32	64	51
50x50x20	2x2x3/4	60.3	57	26.9	25	64	44
65x65x65	2.1/2x2.1/2x2.1/2	73.0	76	73.0	76	76	76
65x65x50	2.1/2x2.1/2x2	73.0	76	60.3	57	76	70
65x65x40	2.1/2x2.1/2x1.1/2	73.0	76	48.3	45	76	67
65x65x32	2.1/2x2.1/2x1.1/4	73.0	76	42.4	38	76	64
65x65x25	2.1/2x2.1/2x1	73.0	76	33.7	32	76	57
80x80x80	3x3x3	88.9	89	88.9	89	86	86
80x80x65	3x3x2.1/2	88.9	89	73.0	76	86	83
80x80x50	3x3x2	88.9	89	60.3	57	86	76
80x80x40	3x3x1.1/2	88.9	89	48.3	45	86	73
80x80x32	3x3x1.1/4	88.9	89	42.4	38	86	70
90x90x90	3.1/2x3.1/2x3.1/2	101.6	—	101.6	—	95	95
90x90x80	3.1/2x3.1/2x3	101.6	—	88.9	89	95	92

公称通径 Nominal Diameter		坡口处外径 Outside Diameter				中心 至端面 Center to End	
DN	NPS	D1		D2		C	M
		A 系列 Series A	B 系列 Series B	A 系列 Series A	B 系列 Series B		
90x90x65	3.1/2x3.1/2x2.1/2	101.6	—	73.0	76	95	89
90x90x50	3.1/2x3.1/2x2	101.6	—	60.3	57	95	83
90x90x40	3.1/2x3.1/2x1.1/2	101.6	—	48.3	45	95	79
100x100x100	4x4x4	114.3	108	114.3	108	105	105
100x100x90	4x4x3.1/2	114.3	108	101.6	—	105	102
100x100x80	4x4x3	114.3	108	88.9	89	105	98
100x100x65	4x4x2.1/2	114.3	108	73.0	76	105	95
100x100x50	4x4x2	114.3	108	60.3	57	105	89
100x100x40	4x4x1.1/2	114.3	108	48.3	45	105	86
125x125x125	5x5x5	141.3	133	141.3	133	124	124
125x125x100	5x5x4	141.3	133	114.3	108	124	117
125x125x90	5x5x3.1/2	141.3	—	101.6	—	124	114
125x125x80	5x5x3	141.3	133	88.9	89	124	111
125x125x65	5x5x2.1/2	141.3	133	73.0	76	124	108
125x125x50	5x5x2	141.3	133	60.3	57	124	105
150x150x150	6x6x6	168.3	159	168.3	159	143	143
150x150x125	6x6x5	168.3	159	141.3	133	143	137
150x150x100	6x6x4	168.3	159	114.3	108	143	130
150x150x90	6x6x3.1/2	168.3	—	101.6	—	143	127
150x150x80	6x6x3	168.3	159	88.9	89	143	124
150x150x65	6x6x2.1/2	168.3	159	73.0	76	143	121
200x200x200	8x8x8	219.1	219	219.1	219	178	178
200x200x150	8x8x6	219.1	219	168.3	159	178	168
200x200x125	8x8x5	219.1	219	141.4	133	178	162
200x200x100	8x8x4	219.1	219	114.3	108	178	156
200x200x90	8x8x3.1/2	219.1	—	101.6	—	178	152
250x250x250	10x10x10	273.0	273	273.0	273	216	216
250x250x200	10x10x8	273.0	273	219.1	219	216	203
250x250x150	10x10x6	273.0	273	168.3	159	216	194
250x250x125	10x10x5	273.0	273	141.3	133	216	191
250x250x100	10x10x4	273.0	273	114.3	108	216	184
300x300x300	12x12x12	323.9	325	323.9	325	254	254
300x300x250	12x12x10	323.9	325	273.0	273	254	241
300x300x200	12x12x8	323.9	325	219.1	219	254	229
300x300x150	12x12x6	323.9	325	168.3	159	254	219

钢制对焊管件 BUTT WELDING FITTINGS

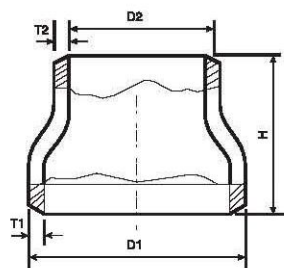
公称通径 Nominal Diameter		坡口处外径 Outside Diameter				中心 至端面 Center to End	
		D1		D2			
DN	NPS	A 系列 Series A	B 系列 Series B	A 系列 Series A	B 系列 Series B	C	M
300x300x125	12x12x5	323.9	325	141.3	133	254	216
350x350x350	14x14x14	355.6	377	355.6	377	279	279
350x350x300	14x14x12	355.6	377	323.9	325	279	270
350x350x250	14x14x10	355.6	377	273.0	273	279	257
350x350x200	14x14x8	355.6	377	219.1	219	279	248
350x350x150	14x14x6	355.6	377	168.3	159	279	238
400x400x400	16x16x16	406.4	426	406.4	426	305	305
400x400x350	16x16x14	406.4	426	355.6	377	305	305
400x400x300	16x16x12	406.4	426	323.9	325	305	295
400x400x250	16x16x10	406.4	426	273.0	273	305	283
400x400x200	16x16x8	406.4	426	219.1	219	305	273
400x400x150	16x16x6	406.4	426	168.3	159	305	264
450x450x450	18x18x18	457	480	457	480	343	343
450x450x400	18x18x16	457	480	406.4	426	343	330
450x450x350	18x18x14	457	480	355.6	377	343	330
450x450x300	18x18x12	457	480	323.9	325	343	321
450x450x250	18x18x10	457	480	273.0	273	343	308
450x450x200	18x18x8	457	480	219.1	219	343	298
500x500x500	20x20x20	508	530	508	530	381	381
500x500x450	20x20x18	508	530	457	480	381	368
500x500x400	20x20x16	508	530	406.4	426	381	356
500x500x350	20x20x14	508	530	355.6	377	381	356
500x500x300	20x20x12	508	530	323.9	325	381	346
500x500x250	20x20x10	508	530	273.0	273	381	333
500x500x200	20x20x8	508	530	219.1	219	381	324
550x550x550	22x22x22	559	—	559	—	419	419
550x550x500	22x22x20	559	—	508	—	419	406
550x550x450	22x22x18	559	—	457	—	419	394
550x550x400	22x22x16	559	—	406.4	—	419	381
550x550x350	22x22x14	559	—	355.6	—	419	381
550x550x300	22x22x12	559	—	323.9	—	419	371
550x550x250	22x22x10	559	—	273.0	—	419	359
600x600x600	24x24x24	610	630	610	630	432	432
600x600x550	24x24x22	610	—	559	—	432	432
600x600x500	24x24x20	610	630	508	530	432	432
600x600x450	24x24x18	610	630	457	480	432	419
600x600x400	24x24x16	610	630	406.4	426	432	406
600x600x350	24x24x14	610	630	355.6	377	432	406
600x600x300	24x24x12	610	630	323.9	325	432	397
600x600x250	24x24x10	610	630	273.0	273	432	384
650x650x650	26x26x26	660	—	660	—	495	495
650x650x600	26x26x24	660	—	610	—	495	483
650x650x550	26x26x22	660	—	559	—	495	470
650x650x500	26x26x20	660	—	508	—	495	457
650x650x450	26x26x18	660	—	457	—	495	444
650x650x400	26x26x16	660	—	406.4	—	495	432
650x650x350	26x26x14	660	—	355.6	—	495	432
650x650x300	26x26x12	660	—	323.9	—	495	422
700x700x700	28x28x28	711	720	711	720	521	521
700x700x650	28x28x26	711	—	660	—	521	521

公称通径 Nominal Diameter		坡口处外径 Outside Diameter				中心 至端面 Center to End	
		D1		D2			
DN	NPS	A 系列 Series A	B 系列 Series B	A 系列 Series A	B 系列 Series B	C	M
700x700x600	28x28x24	711	720	610	630	521	508
700x700x550	28x28x22	711	—	559	—	521	495
700x700x500	28x28x20	711	720	508	529	521	483
700x700x450	28x28x18	711	720	457	478	521	470
700x700x400	28x28x16	711	720	406.4	426	521	457
700x700x350	28x28x14	711	720	355.6	377	521	457
700x700x300	28x28x12	711	720	323.9	325	521	448
750x750x750	30x30x30	762	—	762	—	559	559
750x750x700	30x30x28	762	—	711	—	559	548
750x750x650	30x30x26	762	—	660	—	559	548
750x750x600	30x30x24	762	—	610	—	559	533
750x750x550	30x30x22	762	—	559	—	559	521
750x750x500	30x30x20	762	—	508	—	559	508
750x750x450	30x30x18	762	—	457	—	559	495
750x750x400	30x30x16	762	—	406.4	—	559	483
750x750x350	30x30x14	762	—	355.6	—	559	483
750x750x300	30x30x12	762	—	323.9	—	559	473
750x750x250	30x30x10	762	—	273.0	—	559	460
800x800x800	32x32x32	813	820	813	820	597	597
800x800x750	32x32x30	813	—	762	—	597	584
800x800x700	32x32x28	813	820	711	720	597	572
800x800x650	32x32x26	813	—	660	—	597	572
800x800x600	32x32x24	813	820	610	630	597	559
800x800x550	32x32x22	813	—	559	—	597	548
800x800x500	32x32x20	813	820	508	529	597	533
800x800x450	32x32x18	813	820	457	478	597	521
800x800x400	32x32x16	813	820	406.4	426	597	508
800x800x350	32x32x14	813	820	355.6	377	597	508
850x850x850	34x34x34	864	—	864	—	635	635
850x850x800	34x34x32	864	—	813	—	635	622
850x850x750	34x34x30	864	—	762	—	635	610
850x850x700	34x34x28	864	—	711	—	635	597
850x850x650	34x34x26	864	—	660	—	635	597
850x850x600	34x34x24	864	—	610	—	635	584
850x850x550	34x34x22	864	—	559	—	635	572
850x850x500	34x34x20	864	—	508	—	635	559
850x850x450	34x34x18	864	—	457	—	635	548
850x850x400	34x34x16	864	—	406.4	—	635	533
900x900x900	36x36x36	914	920	914	920	673	673
900x900x850	36x36x34	914	—	864	—	673	660
900x900x800	36x36x32	914	920	813	820	673	648
900x900x750	36x36x30	914	—	762	—	673	635
900x900x700	36x36x28	914	920	711	720	673	622
900x900x650	36x36x26	914	—	660	—	673	622
900x900x600	36x36x24	914	920	610	630	673	610
900x900x550	36x36x22	914	—	559	—	673	597
900x900x500	36x36x20	914	920	508	529	673	584
900x900x450	36x36x18	914	920	457	478	673	572
900x900x400	36x36x16	914	920	406.4	426	673	559

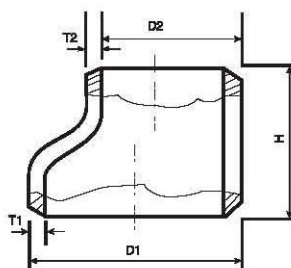
上述尺寸符合GB/T12459、GB/T13401、ASME B16.9、SH3408、SH3409、HG/T21635、HG/T21631、SY/T05010标准

Above dimensions acc.to GB/T13401、ASME B16.9、SH3408、SH3409、HG/T21635、HG/T21631、SY/T05010

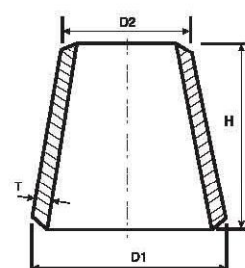
钢制对焊管件 BUTT WELD FITTINGS



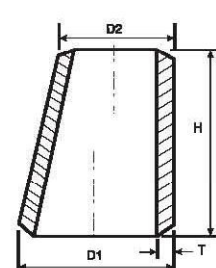
同心异径管
Concentric Reducer



偏心异径管
Eccentric Reducer



同心异径管
Concentric Reducer



偏心异径管
Eccentric Reducer

异径管(同心、偏心) REDUCER (CONCENTRIC AND ECCENTRIC)

公称通径 Nominal Diameter		坡口处外径 Outside Diameter		端面 至端面 End to End
		D1*D2		
DN	NPS	A 系列 Series A	B 系列 Series B	H
20x15	3/4x1/2	26.9x21.3	25x18	38
20x10	3/4x3/8	26.9x17.3	25x14	38
25x20	1x3/4	33.7x26.9	32x25	51
25x15	1x1/2	33.7x21.3	32x18	51
32x25	1.1/4x1	42.4x33.7	38x32	51
32x20	1.1/4x3/4	42.4x26.9	38x25	51
32x15	1.1/4x1/2	42.4x21.3	38x18	51
40x32	1.1/2x1.1/4	48.3x42.4	45x38	64
40x25	1.1/2x1	48.3x33.7	45x32	64
40x20	1.1/2x3/4	48.3x26.9	45x25	64
40x15	1.1/2x1/2	48.3x21.3	45x18	64
50x40	2x1.1/2	60.3x48.3	57x45	76
50x32	2x1.1/4	60.3x42.4	57x38	76
50x25	2x1	60.3x33.7	57x32	76
50x20	2x3/4	60.3x26.9	57x25	76
65x50	2.1/2x2	73.0x60.3	76x57	89
65x40	2.1/2x1.1/2	73.0x48.3	76x45	89
65x32	2.1/2x1.1/4	73.0x42.4	76x38	89
65x25	2.1/2x1	73.0x33.7	76x32	89
80x65	3x2.1/2	88.9x73.0	89x76	89
80x50	3x2	88.9x60.3	89x57	89
80x40	3x1.1/2	88.9x48.3	89x45	89
80x32	3x1.1/4	88.9x42.4	89x38	89
90x80	3.1/2x3	101.6x88.9	—	102
90x65	3.1/2x2.1/2	101.6x73.0	—	102
90x50	3.1/2x2	101.6x60.3	—	102
90x40	3.1/2x1.1/2	101.6x48.3	—	102
90x32	3.1/2x1.1/4	101.6x42.4	—	102

公称通径 Nominal Diameter		坡口处外径 Outside Diameter		端面 至端面 End to End
		D1*D2		
DN	NPS	A 系列 Series A	B 系列 Series B	H
100x90	4x3.1/2	114.3x101.6	—	102
100x80	4x3	114.3x88.9	108x89	102
100x65	4x2.1/2	114.3x73.0	108x76	102
100x50	4x2	114.3x60.3	108x57	102
100x40	4x1.1/2	114.3x48.3	108x45	102
125x100	5x4	141.3x114.3	133x108	127
125x90	5x3.1/2	141.3x101.6	—	127
125x80	5x3	141.3x88.9	133x89	127
125x65	5x2.1/2	141.3x73.0	133x76	127
125x50	5x2	141.3x60.3	133x57	127
150x125	6x5	168.3x141.3	159x133	140
150x100	6x4	168.3x114.3	159x108	140
150x90	6x3.1/2	168.3x101.6	—	140
150x80	6x3	168.3x88.9	159x89	140
150x65	6x2.1/2	168.3x73.0	159x76	140
200x150	8x6	219.1x168.3	219x159	152
200x125	8x5	219.1x141.3	219x133	152
200x100	8x4	219.1x114.3	219x108	152
200x90	8x3.1/2	219.1x101.6	—	152
250x200	10x8	273.0x219.1	273x219	178
250x150	10x6	273.0x168.3	273x159	178
250x125	10x5	273.0x141.3	273x133	178
250x100	10x4	273.0x114.3	273x108	178
300x250	12x10	323.9x273.1	325x273	203
300x200	12x8	323.9x219.1	325x219	203
300x150	12x6	323.9x168.3	325x159	203
300x125	12x5	323.9x141.3	325x133	203
350x300	14x12	355.6x323.9	377x325	330

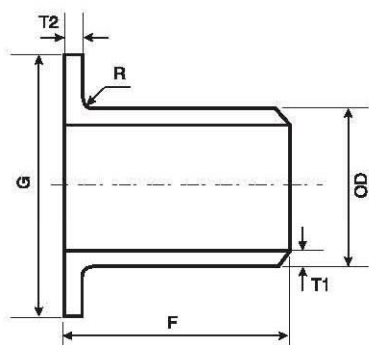
钢制对焊管件 BUTT WELDING FITTINGS

公称通径 Nominal Diameter		坡口处外径 Outside Diameter		端面 至端面 End to End
		D1*D2		
DN	NPS	A 系列 Series A	B 系列 Series B	H
350x250	14x10	355.6x273.0	377x273	330
350x200	14x8	355.6x219.1	377x219	330
350x150	14x6	355.6x168.3	377x159	330
400x350	16x14	406.4x355.6	426x377	356
400x300	16x12	406.4x323.9	426x325	356
400x250	16x10	406.4x273.0	426x273	356
400x200	16x8	406.4x219.1	426x219	356
450x400	18x16	457x406.4	478x426	381
450x350	18x14	457x355.6	478x377	381
450x300	18x12	457x323.9	478x325	381
450x250	18x10	457x273.0	478x273	381
500x450	20x18	508x457	529x478	508
500x400	20x16	508x406.4	529x426	508
500x350	20x14	508x355.6	529x377	508
500x300	20x12	508x323.9	529x325	508
550x500	22x20	559x508	—	508
550x450	22x18	559x457	—	508
550x400	22x16	559x406.4	—	508
550x350	22x14	559x355.6	—	508
600x550	24x22	610x559	—	508
600x500	24x20	610x508	630x529	508
600x450	24x18	610x457	630x478	508
600x400	24x16	610x406.4	630x426	508
650x600	26x24	660x610	—	610
650x550	26x22	660x559	—	610
650x500	26x20	660x508	—	610
650x450	26x18	660x457	—	610
700x650	28x26	711x660	—	610
700x600	28x24	711x610	720x630	610
700x550	28x22	711x559	—	610
700x500	28x20	711x508	720x530	610
750x700	30x28	762x711	—	610
750x650	30x26	762x660	—	610
750x600	30x24	762x610	—	610
750x550	30x22	762x559	—	610
800x750	32x30	813x762	—	610

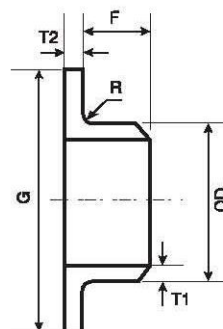
公称通径 Nominal Diameter		坡口处外径 Outside Diameter		端面 至端面 End to End
		D1*D2		
DN	NPS	A 系列 Series A	B 系列 Series B	H
800x700	32x28	813x711	820x720	610
800x650	32x26	813x660	—	610
800x600	32x24	813x610	820x630	610
850x800	34x32	864x813	—	610
850x750	34x30	864x762	—	610
850x700	34x28	864x711	—	610
850x650	34x26	864x660	—	610
900x850	36x34	914x864	—	610
900x800	36x32	914x813	920x820	610
900x750	36x30	914x762	—	610
900x700	36x28	914x711	920x720	610
950x900	38x36	965x914	—	610
950x850	38x34	965x864	—	610
950x800	38x32	965x813	—	610
950x750	38x30	965x762	—	610
1000x950	40x38	1016x965	—	610
1000x900	40x36	1016x914	1020x920	610
1000x850	40x34	1016x864	—	610
1000x800	40x32	1016x813	1020x820	610
1050x1000	42x40	1067x1016	—	610
1050x950	42x38	1067x965	—	610
1050x900	42x36	1067x914	—	610
1050x850	42x34	1067x864	—	610
1100x1050	44x42	1118x1067	—	610
1100x1000	44x40	1118x1016	1120x1020	610
1100x950	44x38	1118x965	—	610
1100x900	44x36	1118x914	1120x920	610
1150x1100	46x44	1168x1118	—	711
1150x1050	46x42	1168x1067	—	711
1150x1000	46x40	1168x1016	—	711
1150x950	46x38	1168x965	—	711
1200x1150	48x46	1220x1168	—	711
1200x1100	48x44	1220x1118	1220x1120	711
1200x1050	48x42	1220x1067	—	711
1200x1000	48x40	1220x1016	1220x1020	711

上述尺寸符合GB/T12459、GB/T13401、ASME B16.9、SH3408、SH3409、HG/T21635、HG/T21631、SY/T05010标准
Above dimensions acc.to GB/T13401、ASME B16.9、SH3408、SH3409、HG/T21635、HG/T21631、SY/T05010

钢制对焊管件 BUTT WELDING FITTINGS



长型
Long Pattern



短型
Short Pattern

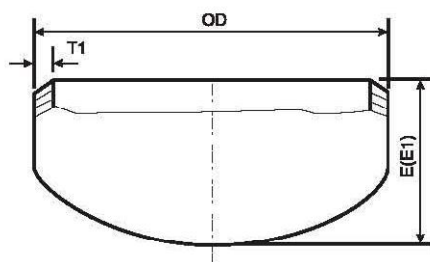
翻边短节 LAP JOINT STUB END

公称通径 Nominal Diameter		短节外径 Outside Diameter	接管长度F Length		搭接外径 Diameter Of Lap Nominal&Maximum	圆角半径 R	
DN	NPS	OD	长型 LP	短型 SP	G	A Max	B Max
15	1/2	21.3	76	51	35	3	0.75
20	3/4	28.7	76	51	43	3	0.75
25	1	33.4	102	51	51	3	0.75
32	1.1/4	42.4	102	51	64	5	0.75
40	1.1/2	48.3	102	51	73	6	0.75
50	2	60.3	152	64	92	8	0.75
65	2.1/2	73.0	152	64	105	8	0.75
80	3	88.9	152	64	127	10	0.75
90	3.1/2	101.6	152	76	140	10	0.75
100	4	114.3	152	76	157	11	0.75
125	5	141.3	203	76	186	11	1.5
150	6	168.3	203	89	216	13	1.5
200	8	219.1	203	102	270	13	1.5
250	10	273.1	254	127	324	13	1.5
300	12	323.9	254	152	381	13	1.5
350	14	355.6	305	152	413	13	1.5
400	16	406.4	305	152	470	13	1.5
450	18	457.2	305	152	533	13	1.5
500	20	508	305	152	584	13	1.5
550	22	559	305	152	641	13	1.5
600	24	610	305	152	692	13	1.5

注：上述尺寸符合MSS SP-43、ASME B16.9标准。

Above dimensions acc. to MSS SP-43、ASME B16.9.

钢制对焊管件 BUTT WELDING FITTINGS



管帽 CAP

公称通径 Nominal Diameter		端部外径 Outside Diameter at Bevel		背面至端面的距离 Back to End		
DN	NPS	A 系列 Series A	B 系列 Series B	E	长度E时极限厚度T	E1
15	1/2	21.3	18	25	4.57	25
20	3/4	26.9	25	25	3.81	25
25	1	33.7	32	38	4.57	38
32	1.1/4	42.4	38	38	4.83	38
40	1.1/2	48.3	45	38	5.08	38
50	2	60.3	57	38	5.59	44
65	2.1/2	73.0	76	38	7.11	51
80	3	88.9	89	51	7.62	64
90	3.1/2	101.6	—	64	8.13	76
100	4	114.3	108	64	8.64	76
125	5	139.7	133	76	9.65	89
150	6	168.3	159	89	10.92	102
200	8	219.1	219	102	12.70	127
250	10	273.0	273	127	12.70	152
300	12	323.9	325	152	12.70	178
350	14	355.6	377	165	12.70	191
400	16	406.4	426	178	12.70	203
450	18	457.2	478	203	12.70	229
500	20	508.0	529	229	12.70	254
550	22	559	—	254	12.70	254
600	24	610	630	267	12.70	305
650	26	660	—	267	—	—
700	28	711	720	267	—	—
750	30	762	—	267	—	—
800	32	813	820	267	—	—
850	34	864	—	267	—	—
900	36	914	920	267	—	—
950	38	965	—	305	—	—
1000	40	1016	1020	305	—	—
1050	42	1067	—	305	—	—
1100	44	1118	1120	343	—	—
1150	46	1168	—	343	—	—
1200	48	1220	1220	343	—	—

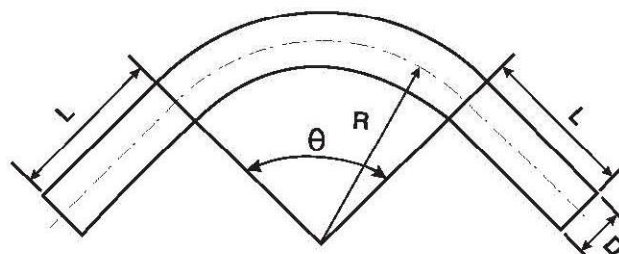
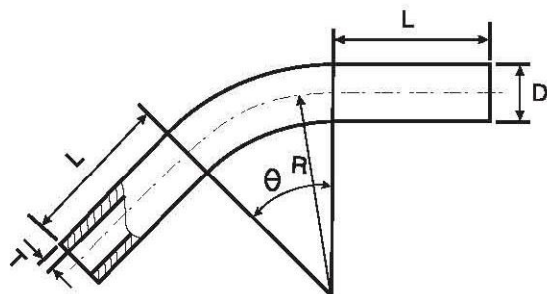
注：高度E适用于T不超过括号内数值时，否则应采用E1高度。

When T is less the dimension in parentheses, the height E is available. Otherwise E1 is available.

上述尺寸符合GB/T12459、GB/T13401、ASME B16.9、SH3408、SH3409、HG/T21635、HG/T21631、SY/T05010标准

Above dimensions acc.to GB/T13401、ASME B16.9、SH3408、SH3409、HG/T21635、HG/T21631、SY/T05010

钢制对焊管件 BUTT WELDING FITTINGS



弯管 BEND

项 目 Item	内 容 Description
标准 Standard	按DL/T515<<电站弯管>>、SY5257<<钢制弯管>>执行，或按客户提出的标准或技术要求执行。 According to DL/T515 《power station Bend》，SY 5257 《steel Bend》，or customer's technical drawings
材料 Material	碳钢、合金钢、不锈钢。 Carbon steel, alloy steel, stainless steel
弯曲半径R Bend Radius R	$R \leq 6000\text{mm}$ ，且 $R \geq 3D$ (用R等于3D、4D、5D、6D、7D、8D、9D、10D来表示弯曲半径，D为管子外径) $R \geq 3D$ (R=3D、4D、5D、6D、7D、8D、9D、10D) D:outside diameter
弯曲角度θ Bend Angle θ	常用为15°、30°、45°、60°、90°、135°和180°，也可按客户提出的角度弯制。 Normally 15°、30°、45°、60°、90°、135°、180° or at customer's option
直段长度L Length of Straight L	弯管两端直段长度一般在300mm-1500mm左右，也可按客户要求定制长度。 Normally between 300mm and 1500mm in length of straight, It is at customer's option
外径D Outside Diameter D	$D \leq 220\text{mm}$
壁厚T Wall Thickness T	$T \leq 20\text{mm}$
端部破口 End Bevel	按对焊管件焊端破口结构型式执行 According to welding bevel of butt welding fitting
重量 Weight	重量(Kg)= $\frac{0.0433(D-T)TR\theta}{100000}$ +L(双端直管段重量) Weight/kg $\frac{0.0433(D-T)TR\theta}{100000}$ +L (Weight of Double Sides Straight Length)

锻制管件 FORGED FITTINGS

管螺纹 (PIPE THREAD)

螺纹管件为采用锥管螺纹连接型式的管件，仅用于英制管，不能用于公制管。 本公司生产的螺纹管件符合美国ANSI B16.11和GB/T14626标准，在工程管道中常用的管螺纹有三种：

Threaded fittings are taper threaded connecting pipe fittings which are suitable for BSP (British Standard Pipe) pipe fittings, instead of metric pipe fittings. These threaded fittings are provided by Longnai company and conform to the American ANSI B16.11 Standard and the GB/T14626 Standard, in which three kinds of common pipe threads are used in pipeline engineering.

1 ISO7/1是国际通用螺纹密封管螺纹，牙型角55°，锥度1:16。

内螺纹有平行(Rp)和锥形(Rc)两种，外螺纹只有锥形R，常用为Rp-R，如图a所示，用于公用工程较多，而Rc-R使用较不普遍。

Tooth profile angle is 55°, taper is 1:16. Internal thread type: Rp, Rc, outer thread: R Rp-R is used widely in construction Engineering, But Rc-R is not used widely. Shown as drawing a.

2 ISO228是国际通用的非螺纹密封管螺纹，牙型角55°。

内、外螺纹均为平行，如图b所示。

ISO228 is nonthread sealed pipe thread. Internal and outer thread is parallel. The tooth profile angle is 55° shown as drawing b.

3 ANSI B1.20.1是美国螺纹密封管螺纹，牙型角60° (NPT)，锥度1:16。

内、外螺纹均为锥形，是高温高压管道中常用的管螺纹，AMSE B16.11，如图b所示。螺纹管件采用NPT螺纹。NPT与ISO7/1(俗称BSP)，虽然牙型角不同，但1/2和3/4两档的螺距相同，可以相互连接。

ANSI B1.20.1 is thread sealed pipe thread. The tooth profile angle is 60° (NPT). Taper is 1:16 internal and outer thread is taper it is used widely in high pressure and temperature fittings. Shown as drawing c. The profile angle is different for NPT and ISO7/1. But the thread interval is same for thread 1/2 & 3/4. They can assembly.



锥管螺纹基本尺寸 DIMENSION OF TAPER PIPE THREAD

螺纹尺寸 Dimension of Thread	ISO7/1				牙角型 Tooth Profile Angle	NPT				牙角型 Tooth Profile Angle
	每英寸牙数 Number of Turns per inch	螺距 Thread Interval (mm)	基准长度 Basic Length (mm)	装配余量 Assembly Margin (mm)		每英寸牙数 Number of Turns per inch	螺距 Thread Interval (mm)	手旋合长度 Length of Width Done by Hand (mm)	扳动拧紧长度 Width Tool (mm)	
1/8	28	0.907	4	2.5	55°	27	0.9408	4.1	2.8	60°
1/4	19	1.337	6	3.7		18	1.4112	5.8	4.2	
3/8	19	1.337	6.4	3.7		18	1.4112	6.1	4.2	
1/2	14	1.814	8.2	5		14	1.814	8.1	5.4	
3/4	14	1.814	9.5	5		14	1.814	8.6	5.4	
1	11	2.309	10.4	6.4		11.1/2	2.2088	10.2	6.6	
1.1/4	11	2.309	12.7	6.4		11.1/2	2.2088	10.7	6.6	
1.1/2	11	2.309	12.7	6.4		11.1/2	2.2088	10.7	6.6	
2	11	2.309	15.9	7.5		11.1/2	2.2088	11.1	6.6	
2.1/2	11	2.309	17.5	9.2		8	3.175	17.3	6.4	
3	11	2.309	20.6	9.2		8	3.175	19.5	6.4	
4	11	2.309	25.4	10.4		8	3.175	21.4	6.4	
6	11	2.309	28.6	11.5		8	3.175	24.3	6.4	



(a) Rp/R ISO F/1

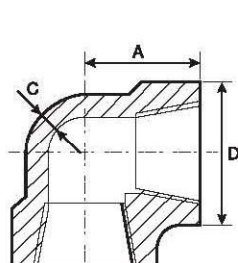


(b) G ISO 228

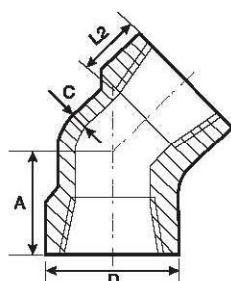


(c) NPT

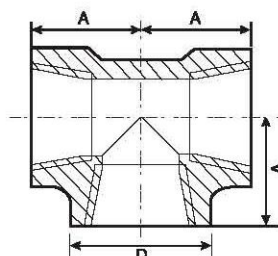
锻制管件 FORGED FITTINGS



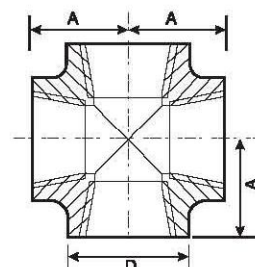
90°弯头
90°Elbow



45°弯头
45°Elbow



三通
Tee



四通
Cross

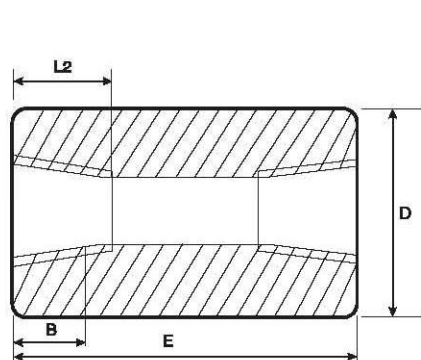
螺纹弯头、三通、四通 THREADED ELBOW TEE CROSS

公称通径 Nominal Diameter		中心至端面 Center to End						外径 Outside Diameter			壁厚 Wall Thickness			螺纹长度 Length of Thread	
		A						D			Cmin				
		弯头、三通、四通 Elbow、Tee、Cross			45°弯头 45°Elbow										
DN	NPS	2000LB	3000LB	6000LB	2000LB	3000LB	6000LB	2000LB	3000LB	6000LB	2000LB	3000LB	6000LB	NPT	RC
		Sch80	Sch160	XXS	Sch80	Sch160	XXS	Sch80	Sch160	XXS	Sch80	Sch160	XXS		
6	1/8	21	21	25	17	17	19	22	22	25	3.0	3.0	6.5	6.5	6.5
8	1/4	21	25	29	17	19	22	22	25	33	3.0	3.5	6.5	8.0	10.0
10	3/8	25	29	33	19	22	25	25	33	38	3.0	3.5	7.0	9.0	10.5
15	1/2	29	33	38	22	25	29	33	38	46	3.0	4.0	8.0	11.0	13.5
20	3/4	33	38	44	25	29	33	38	46	56	3.0	4.5	8.5	12.5	14.0
25	1	38	44	51	29	33	35	46	56	62	3.5	5.0	10.0	14.5	17.5
32	1.1/4	44	51	60	33	35	43	56	62	75	4.0	5.5	10.5	17.0	18.0
40	1.1/2	51	60	64	35	43	44	62	75	84	4.0	5.5	11.0	18.0	18.5
50	2	60	64	83	43	45	52	75	84	102	4.5	7.0	12.0	19.0	19.0
65	2.1/2	76	83	95	52	52	64	92	102	121	5.5	7.5	15.5	23.5	29.0
80	3	86	96	106	64	64	79	110	121	146	6.0	9.0	16.5	26.0	30.5
100	4	106	114	114	79	79	79	146	152	152	6.5	11.0	18.5	27.5	33.0

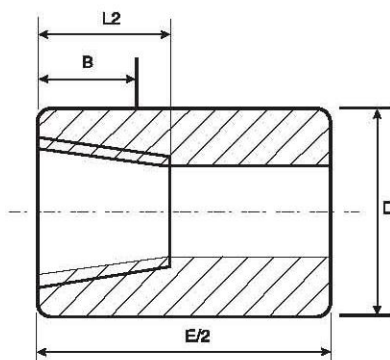
上述尺寸符合GB/T14626、ANSI B16.11、BS3799标准。

Above dimensions acc.to the standard of GB/T14626、ANSI B16.11、BS3799.

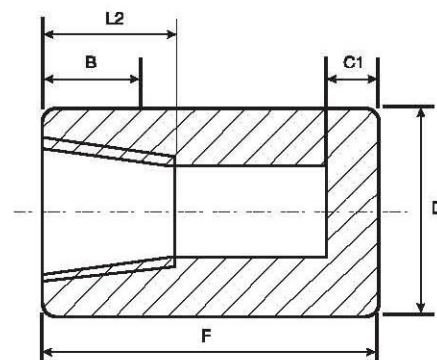
锻制管件 FORGED FITTINGS



双接口管箍
Coupling



单接口管箍
Half-Coupling



管帽
Cap

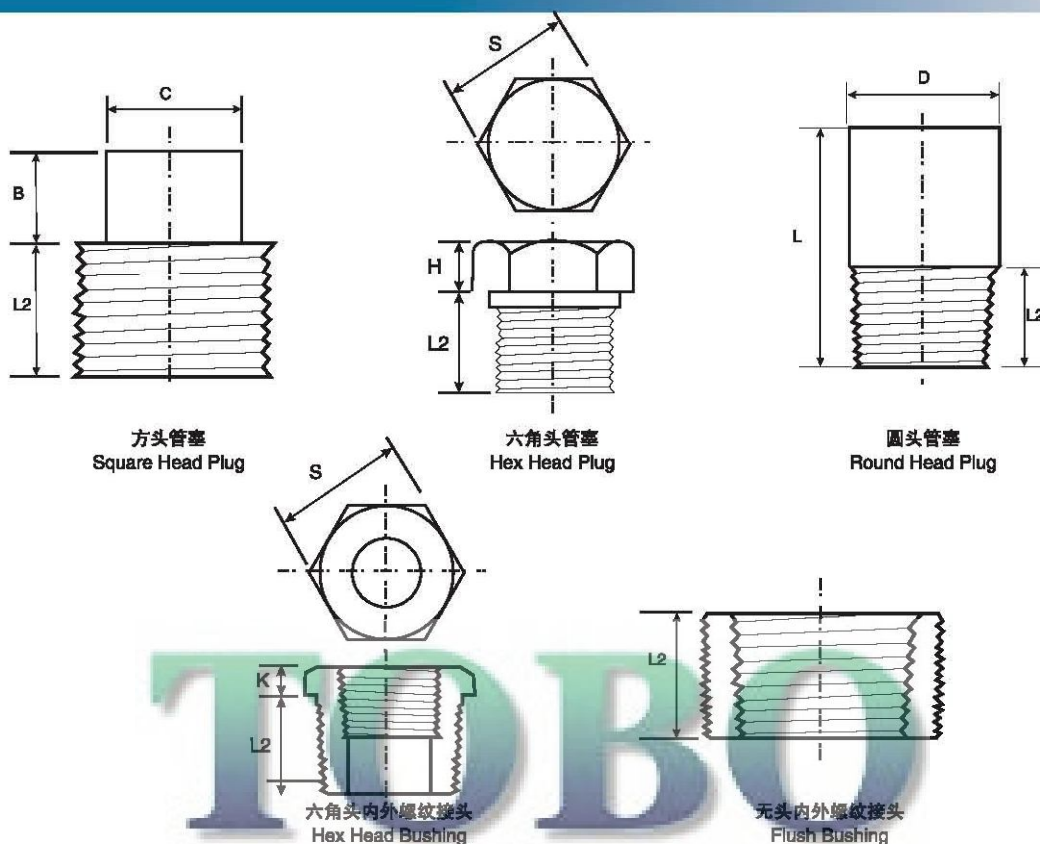
螺纹管箍、管帽 THREADED COUPLING AND CAP

公称通径 Nominal Diameter		管箍、管帽长度 End to End				外径 Outside Diameter		管帽顶厚 End Wall Thickness		螺纹长度 Length of Thread	
		E	F	D	Cmin	B	L2	3000LB	6000LB	B	L2
DN	NPS	Sch160	XXS	Sch160	XXS	Sch160	XXS	Sch160	XXS	B	L2
6	1/8	32	32	19	—	18	22	5.0	—	6.5	6.5
8	1/4	35	35	25	27	19	25	5.0	6.5	8.0	10.0
10	3/8	38	38	25	27	22	32	5.0	6.5	9.0	10.5
15	1/2	48	48	32	33	29	38	6.5	8.0	11.0	13.5
20	3/4	51	51	37	38	35	44	6.5	8.0	12.5	14.0
25	1	60	60	41	43	44	57	9.5	11.0	14.5	17.5
32	1.1/4	67	67	44	46	57	64	9.5	11.0	17.0	18.0
40	1.1/2	79	79	44	48	64	76	11.0	12.5	18.0	18.5
50	2	86	86	48	51	76	92	12.5	16.0	19.0	19.0
65	2.1/2	92	92	60	64	92	108	16.0	19.0	23.5	29.0
80	3	108	108	65	68	108	127	19.0	22.0	26.0	30.5
100	4	121	121	68	75	140	159	22.0	28.5	27.5	33.0

上述尺寸符合GB/T14626、ANSI B16.11、BS3799标准。

Above dimensions acc.to the standard of GB/T14626、ANSI B16.11、BS3799.

锻制管件 FORGED FITTINGS



螺纹管塞 (堵头) THREADED PLUG

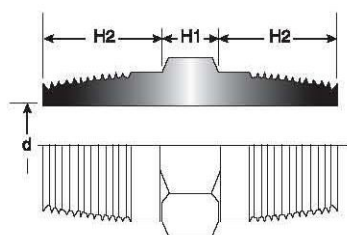
www.tobo-group.com

公称通径 Nominal Diameter		螺纹长度 Length of Thread	方头管塞 Square Head Plug		圆头管塞 Round Head Plug		六角头管塞和接头 Hex Head Plug and Bushing		
			方头高度 Height of Square	平面宽度 Width Of Flats	圆头直径 Diameter of Round Head	全长 Length	平面宽度 Width Of Flats	六角头高度 Hex Height	
DN	NPS	L2min	Bmin	Cmin	D	Lmin	S	Kmin	Hmin
6	1/8	9.5	6	7.0	10	35	11.0	—	6
8	1/4	11.0	6	9.5	13	41	16.0	3	6
10	3/8	12.5	8	11.0	17	41	17.5	4	8
15	1/2	14.5	10	14.5	21	44	22.0	5	8
20	3/4	16.0	11	16.0	27	44	27.0	6	10
25	1	19.0	13	20.5	33	51	35.0	6	10
32	1.1/4	20.5	14	24.5	43	51	44.5	7	14
40	1.1/2	20.5	16	28.5	48	51	51.0	8	16
50	2	22.0	17	33.5	60	64	63.5	9	17
65	2.1/2	27.0	19	38.0	73	70	76.0	10	19
80	3	28.5	21	43.0	89	70	89.0	10	21
100	4	32	25	63.5	114	76	117.5	13	25

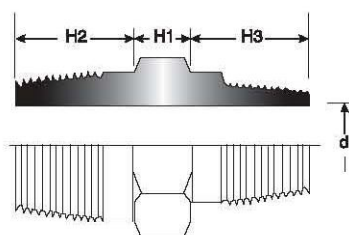
上述尺寸符合GB/T 14626、ASME B16.11、BS3799标准

Above dimensions acc.to GB/T14626、ANSI B16.11、BS3799.

锻制管件 FORGED FITTINGS



同径六角双丝头
Straight Hexagonal Nipple



异径六角双丝头
Reducing Hexagonal Nipple

六角双丝头 HEXAGONAL NIPPLE

公称通径 Nominal Diameter		尺寸 Size			
DN	NPS	d	H1	H2	H3
6	1/8	4.1	6	10	—
8	1/4	7.1	8	14	—
10	3/8	8.9	8	14	—
10 x 8	3/8 x 1/4	7.1	8	14	14
15	1/2	11.9	9	19	—
15 x 10	1/2 x 3/8	8.9	9	19	14
15 x 8	1/2 x 1/4	7.1	9	19	14
20	3/4	16.0	10	19	—
20 x 15	3/4 x 1/2	11.9	10	19	19
20 x 10	3/4 x 3/8	8.9	10	19	14
20 x 8	3/4 x 1/4	7.1	10	19	14
25	1	20.1	11	24	—
25 x 20	1 x 3/4	16.0	11	24	19
25 x 15	1 x 1/2	11.9	11	24	19
25 x 10	1 x 3/8	8.9	11	24	14
32	1.1/4	27.9	12	24	—
32 x 25	1.1/4 x 1	20.1	12	24	24
32 x 20	1.1/4 x 3/4	16.0	12	24	19

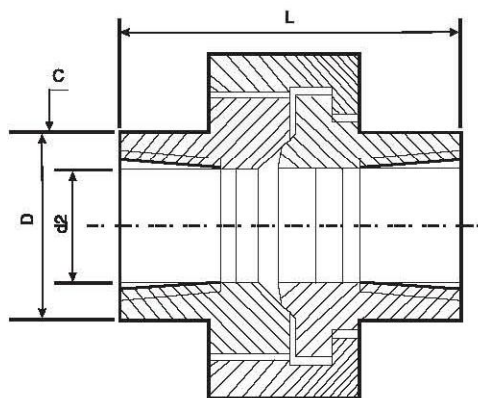
公称通径 Nominal Diameter		尺寸 Size			
DN	NPS	d	H1	H2	H3
32 x 15	1.1/4 x 1/2	11.9	12	24	19
40	1.1/2	32.0	14	25	—
40 x 32	1.1/2 x 1.1/4	27.9	14	25	24
40 x 25	1.1/2 x 1	20.1	14	25	24
40 x 20	1.1/2 x 3/4	16.0	14	25	19
50	2	39.9	16	26	—
50 x 40	2 x 1.1/2	32.0	16	26	25
50 x 32	2 x 1.1/4	27.9	16	26	24
50 x 25	2 x 1	20.1	16	26	24
65	2.1/2	55.1	18	38	—
65 x 50	2.1/2 x 2	39.9	18	38	26
65 x 40	2.1/2 x 1.1/2	32.0	18	38	25
65 x 32	2.1/2 x 1.1/4	27.9	18	38	24
80	3	65.0	20	40	—
80 x 65	3 x 2.1/2	55.1	20	40	38
80 x 50	3 x 2	39.9	20	40	26
80 x 40	3 x 1.1/2	32.0	20	40	25

说明:

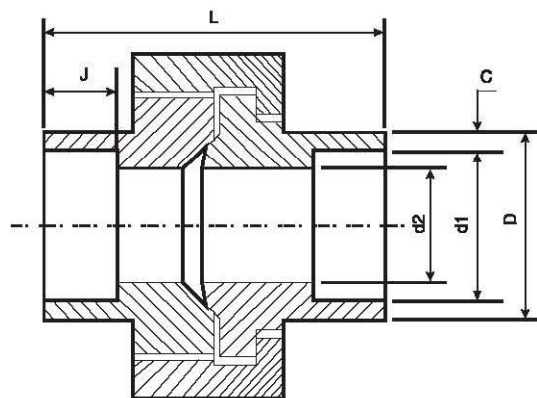
螺纹型式为GB/T 12716(ANSI/ASME B1.20.1)中的60°圆锥管螺纹NPT;也可采用其它型式的螺纹制造,请在订货时注明。

The standards and codes of the fittings is conical threaded NPT angle 60° of GB/T 12716(ANSI/ASME B1.20.1), and if requiring other types of thread, please indicate them in the purchased order.

锻制管件系列 FORGED FITTINGS



螺纹活接头
Threaded Union



承插活接头
Socket Union

活接头（螺纹、承插） UNION (Threaded and Socket)

公称通径 Nominal Diameter		外径 Outside Diameter		壁厚 Wall Thickness		承插孔径 Socket Bore	流通孔径 Water way Bore	承插孔深度 Depth of Socket	公称装配长度 Length Assem Nominal
		Dmin		Cmin		d1	d2	J	L
DN	NPS	承插焊 Socket	螺纹 Threaded	承插焊 Socket	螺纹 Threaded	承插焊 Socket	承插焊、螺纹 Socket & Threaded	承插焊 Socket	承插焊、螺纹 Socket & Threaded
6	1/8	21.8	14.7	3.2	2.5	10.65	6.43	10	41.4
8	1/4	21.8	19.0	3.3	3.1	14.10	9.45	10	41.4
10	3/8	25.9	22.9	3.5	3.2	17.55	13.51	10	46.0
15	1/2	31.2	27.7	4.1	3.8	21.70	17.07	10	49.0
20	3/4	37.1	33.5	4.3	4.0	27.05	21.39	13	56.9
25	1	45.5	41.4	5.0	4.6	33.80	27.74	13	62.0
32	1.1/4	54.9	50.5	5.3	4.9	42.55	35.36	13	71.1
40	1.1/2	61.5	57.2	5.6	5.1	48.65	41.20	13	76.5
50	2	75.2	70.1	6.1	5.6	61.10	52.12	16	86.1
65	2.1/2	91.7	85.3	7.7	7.1	73.80	64.31	16	102.4
80	3	109.2	102.4	8.4	7.7	89.80	77.27	16	109.0

上述尺寸符合MSS SP-83、BS3799标准。Above dimensions acc.to MSS SP-83、BS3799.

锻制管件系列 FORGED FITTINGS



承插管件(SOCKET WELDING FITTINGS)

承插焊管件源于美国 ANSI B16.11, 仅用于英制管, 但由于其施工简单方便, 产品安全可靠, 标准化程度高, 为此国内使用日益广泛, 并逐渐扩展到公制管领域, 本公司生产英制及公制两个系列的承插焊管件。除承插口尺寸按本页下表有所区别外, 其余均相同。

Socket welding fittings are derived from American ANSI B16.11, only suitable for BSP pipe fittings. However, due to their simple installation, simple and safe operation, reliable performances and high quality, they enjoy a great popularity among customers at home and abroad and have gradually expanded to the field of metric pipe fittings. Longnai specializes in producing and processing two series of socket welding fittings, namely BSP and metric socket welding fittings. Except for socket size difference (see the following table), these fittings are of the same kind.

本公司生产的承插焊管件符合下列标准:

Our company manufacture socket welding fitting as following standard:

英制管系列 British series	公制管系列 Metric series
ANSI B16.11 BS3799 JIS B2316 GB/T14383(A系列) 中石化 SH3410 化工部 HG21634	GB/T14383(B系列) 化工部 HG21634(公制系列)

国内公制管一般不采用壁厚等级, 而注明具体壁厚, 为此, 用户在订购公制承插管件, 应注明具体外径及壁厚尺寸。

It doesn't say schedule but thickness for metric pipe. So you shall tell the OD and thickness when order.

例如(For example):

SH3410 弯头(elbow) 1" Sch80(或3000LB) 20# (用于英制管 British series)

HG21634 弯头(elbow) ϕ 45x4 20# (用于公制管 Metric series)

本公司生产的承插焊管件材料有碳钢、合金钢、不锈钢, 供用户选用。

We manufacture the socket welding fittings in carbon steel, Alloy steel and stainless steel for user customer.

承插焊管件压力等级与管子壁厚管表号 Pressure Rate and Schedule		
压力等级 Rate	管子壁厚管表号 Schedule	
3000LB	Sch80	XS
6000LB	Sch160	—
9000LB	—	XXS

小口径管壁厚 Thickness of small diameter pipe mm				
DN	NPS	管子壁厚管表号 Schedule		
mm	In	Sch80	Sch160	XXS
6	1/8	2.41	3.15	4.83
8	1/4	3.02	3.60	6.05
10	3/8	3.20	4.01	6.40

承插口尺寸表 SOCKET WELDING END DIMENSION

公称通径 Nominal Diameter		Jmin	ANSI B16.11 SH3410 GB/T 14383 (A系列) JIS B2316									GB/T14383 (B系列) HG21634 (公制)			
			钢管外径 Outside Diameter of Pipe	插口直径 Bmin Diameter of Fancet	插口孔柱 Dmin 14383			插口壁厚 C min			钢管外径 Outside diameter of pipe	插口直径 Bmin Diameter of Fancet	插口孔柱 D		
					3000LB	6000LB	9000LB	3000LB	6000LB	9000LB			3000LB	6000LB	
DN	NPS				Sch80	Sch160	XXS	Sch80	Sch160	XXS			Sch80	Sch160	
6	1/8	10	10.3	10.7	6.1	3.2	—	3.2	3.5	—	10	10.4	5	4	
8	1/4	10	13.9	14.1	8.5	5.6	—	3.3	4.0	—	12	12.4	6	5	
10	3/8	10	17.1	17.5	11.8	8.4	—	3.5	4.4	—	14	14.4	8	6	
15	1/2	10	21.3	21.8	15	11.0	5.6	4.1	5.2	8.2	18	18.5	11	19	
20	3/4	13	26.9	27.4	20.2	14.8	10.3	4.3	6.1	8.6	25	25.5	17	14	
25	1	13	33.7	34.2	25.9	19.9	14.5	5.0	7.0	10.0	32	32.5	23	20	
(32)	1.1/4	13	42.4	42.9	34.3	28.7	22	5.3	7.0	10.6	38	38.5	28	26	
40	1.1/2	13	48.3	48.3	40.1	33.2	27.2	5.6	7.8	11.2	45	45.5	35	31	
50	2	16	60.3	61.1	51.7	42.1	37.4	6.1	9.5	12.2	57	57.8	46	40	
(65)	2.1/2	16	71.6(73)	71.6(73.8)	61.2	56.1	—	7.7	12.5	—	76	76.8	62	56	
80	3	16	88.9	89.8	76.4	66.9	—	8.3	13.8	—	89	89.9	73	67	
100	4	19	114.3	115.5	100.7	—	—	9.4	—	—	108	109.2	91	—	

说明:

1、承插焊管件一般用于英制管, 但当用户注明时, 本公司亦可生产用于公制管的承插焊管件, 其承口尺寸按上表右列尺寸。

2、公制承插口壁厚尺寸Cmin值按英制管插口相应数值。

3、公制承插口尺寸D, 可根据具体壁厚调整, 为此用户订购公制承插管件时, 可注明管子壁厚尺寸, 代替压力等级。

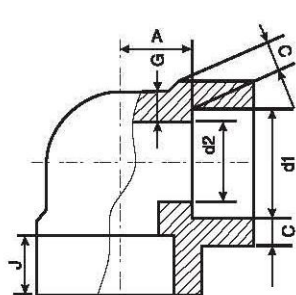
Note:

1、Socket welded fitting is used in British system. But we can make according to Metric system if noted by customer. The dimension of socket end is according to the right column.

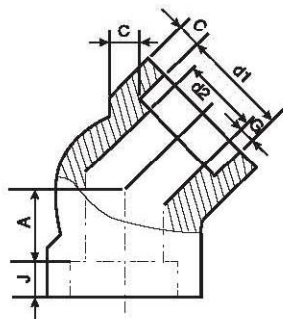
2、The dimension of socket end is according to the related pipe dimension in British system.

3、D is according to wall thickness. So note the wall thickness but not pressure when you order metric socket welded fitting.

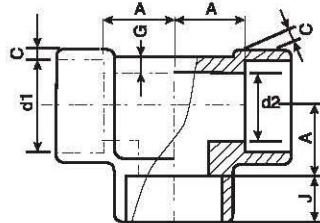
锻制管件 FORGED FITTINGS



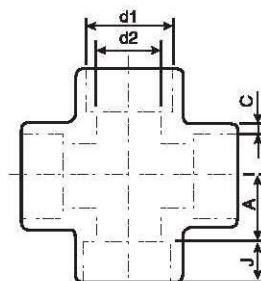
90°弯头
90°Elbow



45°弯头
45°Elbow



三通
Tee



四通
Cross

承插焊弯头、三通、四通 SOCKET WELDING ELBOW, TEE, CROSS

公称通径 Nominal Diameter		承插孔深度 Depth of Socket	承插孔直径 Dimension of Socket	壁厚 Wall Thickness		中心至承插孔底 Center to Bottom of Socket						
				Cmin			90°弯头、三通、四通 90°Elbow, Tee, Cross			45°弯头 45°Elbow		
DN	NPS	Jmin	d1	3000LB Sch80	6000LB Sch160	9000LB XXS	3000LB Sch80	6000LB Sch160	9000LB XXS	3000LB Sch80	6000LB Sch160	9000LB XXS
6	1/8	10	10.7	3.2	3.5	—	11	11	—	8	8	—
8	1/4	10	14.1	3.3	4.0	—	11	15	—	8	8	—
10	3/8	10	17.5	3.5	4.4	—	13	15	—	8	12	—
15	1/2	10	21.8	4.1	5.2	8.2	16	19	25	11	13	16
20	3/4	13	27.4	4.3	6.1	8.6	19	22	28	13	14	18
25	1	13	34.2	5.0	7.0	10.0	22	27	32	14	18	22
32	1.1/4	13	42.9	5.3	7.0	10.6	27	32	35	18	21	22
40	1.1/2	13	48.3	5.6	7.8	11.2	32	38	38	21	25	25
50	2	16	61.1	6.1	9.5	12.2	38	41	41	25	29	29
65	2.1/2	16	76.9(73.8)	7.7	12.5	—	41	57	—	29	32	—
80	3	16	89.8	8.3	13.8	—	57	64	—	32	35	—
100	4	19	115.5	9.4	—	—	66	—	—	42	—	—

说明:

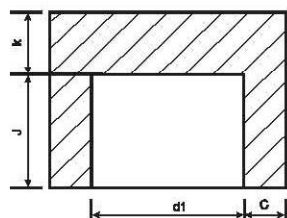
承插壁厚外圆平均值不低于所列值, 最小值仅限于局部区域。

Average of socket wall thickness around periphery shall be no less than listed values. The minimum values are permitted in localized areas.

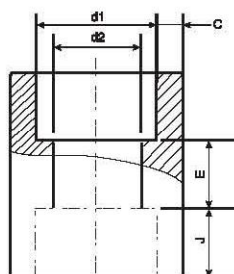
上述尺寸符合ASME B16.11、GB/T14383、SH3410、HG/T21634、JIS B2316、BS3799标准。

Above dimensions acc. to ASME B16.11、GB/T14383、SH3410、HG/T21634、JIS B2316、BS3799.

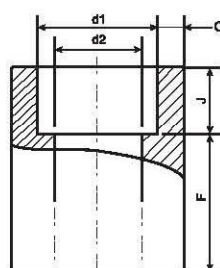
锻制管件 FORGED FITTINGS



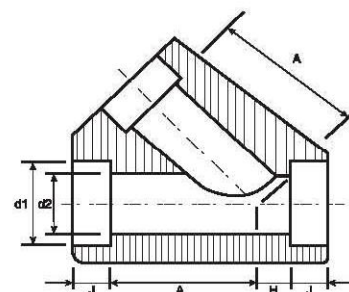
管帽
Cap



双承口管箍
Coupling



单承口管箍
Half-Coupling



45°斜三通
Lateral

承插焊管帽、管箍、斜三通 SOCKET WELDING CAP, COUPLING, LATERAL

公称通径 Nominal Diameter		承插孔深度 Depth of Socket	承插孔直径 Dimension of Socket	壁厚 Wall Thickness			管帽顶厚 End Wall Thickness			中间长度 The length of midst		中心至承插孔底 Center to Bottom of Socket			
				Cmin			Kmin			双承口管箍 Coupling	单承口管箍 Half-Coupling	45°斜三通 Lateral			
DN	NPS	Jmin	d1	3000LB Sch80	6000LB Sch160	9000LB XXS	3000LB Sch80	6000LB Sch160	9000LB XXS	E	F	3000LB Sch80	6000LB Sch160	3000LB Sch80	6000LB Sch160
6	1/8	10	10.7	3.2	3.5	—	5.0	6.5	—	6	16	—	—	—	—
8	1/4	10	14.1	3.3	4.0	—	5.0	6.5	—	6	16	32	—	8	—
10	3/8	10	17.5	3.5	4.4	—	5.0	6.5	—	6	17.5	37	—	8	—
15	1/2	10	21.5	4.1	5.2	8.2	6.5	8.0	11.0	10	23.5	41	51	11	13
20	3/4	13	27.4	4.3	6.1	8.6	6.5	8.0	12.5	10	23.5	51	60	13	14
25	1	13	34.2	5.0	7.0	10.0	9.5	11.0	14.0	13	29	60	71	14	18
32	1.1/4	13	42.9	5.3	7.0	10.6	9.5	11.0	14.0	13	30	71	81	18	21
40	1.1/2	13	48.3	5.6	7.8	11.2	11.0	12.5	16.0	13	32	81	98	21	25
50	2	16	61.1	6.1	9.5	12.2	12.5	16.0	19.0	19	41	98	120	25	29
65	2.1/2	16	76.9(73.8)	7.7	12.5	—	16.0	19.0	—	19	42.5	—	—	—	—
80	3	16	89.8	8.3	13.8	—	19.0	22.0	—	19	44.5	—	—	—	—
100	4	19	115.5	9.4	—	—	22.0	28.5	—	19	47.5	—	—	—	—

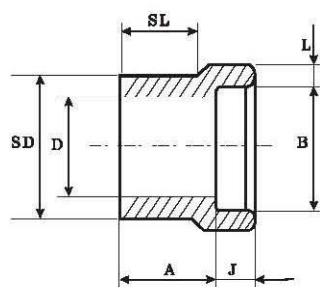
说明:

承插壁厚外围平均值不低于所列值，最小值仅限于局部区域。

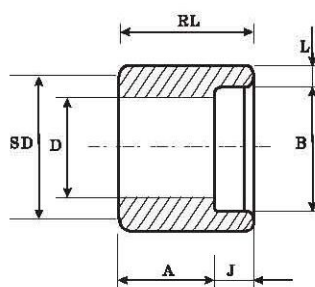
Average of socket wall thickness around periphery shall be no less than listed values. The minimum values are permitted in localized areas.

上述尺寸符合ASME B16.11、GB/T14383、SH3410、HG/T21634、JIS B2316、BS3799标准。

Above dimensions acc. to ASME B16.11、GB/T14383、SH3410、HG/T21634、JIS B2316、BS3799.



(1)



(2)

变径承插接头 REDUCING SOCKET INSERTS (1, 2)

公称通径 Nominal Diameter		类型 Type		SD	A		Cmin		SL		RL		插口 直径 Diameter of faucet	插口 深度 The deepness of faucet	孔径 Diameter of Hole (D)	
DN	NPS	3000LB Sch80	6000LB Sch160		3000LB Sch80	6000LB Sch160	3000LB Sch80	6000LB Sch160	3000LB Sch80	6000LB Sch160	3000LB Sch80	6000LB Sch160	B	J	3000LB Sch80	6000LB Sch160
10x8	3/8x1/4	1	1	17.1	19	21	3.8	4.6	14	16	—	—	14.2	10	9.0	6.5
15x10	1/2x3/8	1	1	21.3	21	23	4.0	5.0	16	16	—	—	17.7	10	12.5	9.0
15x8	1/2x1/4	2	1	21.3	21	21	3.8	4.6	16	16	—	—	14.2	10	9.0	6.0
20x15	3/4x1/2	1	1	26.7	22	25	4.7	6.0	17	19	—	—	21.8	10	16.0	11.5
20x10	3/4x3/8	2	1	26.7	16	22	4.0	5.0	—	19	21	—	17.7	10	12.5	9.0
20x8	3/4x1/4	2	2	26.7	18	22	3.8	4.6	—	—	21	32	14.2	10	9.0	6.5
25x20	1x3/4	1	1	33.4	24	28	4.9	7.0	19	21	—	—	27.2	13	21.0	15.5
25x15	1x1/2	2	2	33.4	16	28	4.7	6.0	—	21	28	—	21.8	10	16.0	11.5
25x10	1x3/8	2	2	33.4	18	22	4.0	5.0	—	—	28	33	17.7	10	12.5	9.0
25x8	1x1/4	2	2	33.4	19	24	3.8	4.6	—	—	28	33	14.2	10	9.0	6.0
32x25	1.1/4x1	1	1	42.4	25	30	5.7	7.9	21	22	—	—	33.9	13	26.5	20.5
32x20	1.1/4x3/4	2	2	42.4	18	21	4.9	7.0	—	—	32	35	27.2	13	21.0	15.5
32x15	1.1/4x1/2	2	2	42.4	19	22	4.7	6.0	—	—	32	35	21.8	10	16.0	11.5
32x10	1.1/4x3/8	2	2	42.4	21	24	4.0	5.0	—	—	32	35	17.7	10	12.5	9.0
32x8	1.1/4x1/4	2	2	42.4	22	25	3.8	4.6	—	—	32	35	14.2	10	9.0	6.0
40x32	1.1/2x1.1/4	1	1	48.3	28	35	6.1	7.9	22	25	—	—	42.7	13	35.0	29.5
40x25	1.1/2x1	2	1	48.3	18	29	5.7	7.9	—	25	33	—	33.9	13	26.5	20.5
40x20	1.1/2x3/4	2	2	48.3	19	25	4.9	7.0	—	—	33	40	27.2	13	21.0	15.5
40x15	1.1/2x1/2	2	2	48.3	21	27	4.7	6.0	—	—	33	40	21.8	10	16.0	11.5
40x10	1.1/2x3/8	2	2	48.3	22	28	4.0	5.0	—	—	33	40	17.7	10	12.5	9.0
50x40	2x1.1/2	1	1	60.3	32	47	6.4	8.9	25	40	—	—	48.8	13	41.0	34.0
50x32	2x1.1/4	2	2	60.3	21	24	6.1	7.9	—	—	38	41	42.7	13	35.0	29.5
50x25	2x1	2	2	60.3	22	25	5.7	7.9	—	—	38	41	33.9	13	26.5	21.0
50x20	2x3/4	2	2	60.3	24	27	4.9	7.0	—	—	38	41	27.2	13	21.0	15.5
50x15	2x1/2	2	2	60.3	25	28	4.7	6.0	—	—	38	41	21.8	10	16.0	11.5

上述尺寸符合MSS SP-97标准。

Above dimensions acc. to MSS SP-97.

锻制管件 FORGED FITTINGS

支管台(管座)

OUTLET (MSS SP97、GB19326、Q/FG11-16)

支管台是国外近年来应用较多的，用于支管连接的补强型管件，代替传统使用的异径三通、补强板、加强管段等支管连接型式，具有安全可靠、造价低、施工简单、改善介质流动、系列标准化、设计选用方便等突出优点，尤其在高压、高温、大口径、厚壁管道中使用日益广泛，取代了传统的支管连接方法。支管台本体采用优质锻件，用材与管道材料相同，本公司提供碳钢、合金钢、不锈钢等多种材质方便用户选用。

支管台与主管均采用焊接，支管台与支管或其他管（如短管、丝堵等）、仪表、阀门的连接有对焊、承插焊、螺纹等多种型式。

Outlet is used widely abroad in recent years, It is used to connect the reinforced fitting. It can replace the reducing tee, reinforce plate and reinforced pipe. It is used widely more and more in high pressure high temperature large diameter and thick wall pipe. As it is reliability, cheap, simple, good for flow, seriation, standardization and choose easily. It takes place of traditional connecting ways. The body of outlets is made in excellent Forgings. The material is same as pipe's. Our company can make outlet from carbon steel, Alloy steel and stainless steel.

Outlet is welded to the main pipe. And is connected to the branch or other fittings such as nipple thread plug, Instrument and valve by Butt-welding, Socket-welding and thread.

支管台形式有标准型、短管型、斜接型、弯头型，详见下表：

The type of outlet is standard, Nipolet, Latrolet and Elbolet. Detail as following list:

型式 Type	连接型式 (支管台与支管) Connected type		
	承插焊 GB19326 Socket welded	管螺纹 GB19326 Pipe thread	对焊 GB19326 Butt-welding
标准型 Standard	SOL (MSS SP-97、Q/FG11 标准)	TOL (MSS SP-97、Q/FG12 标准)	WOL (MSS SP-97、Q/FG13 标准)
短管型 Nipolet	SNL (Q/FG14 标准)	TNL (Q/FG14、SHB-PO1)	WNL (Q/FG14 标准)
斜接型 (45°) Latrolet	SEL (Q/FG15 标准)	TLL (Q/FG15、SHB-PO1)	WLL (Q/FG15 标准)
弯头型 (1.5D) Elbolet		TEL (Q/FG16、SHB-PO1)	WEL (Q/FG16 标准)

样本所示均为适用于英制管的支管台产品系列，本公司也可生产适用于公制管的支管台产品（管螺纹型除外），用户在定货时应说明下列项目：

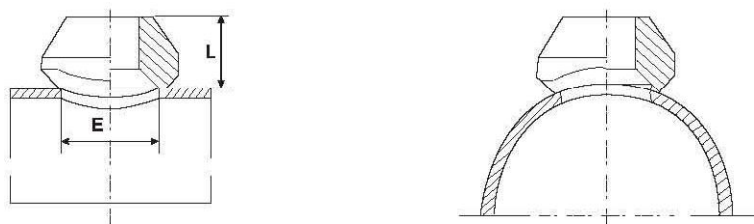
- ▶ 型式代号（支管台及连接型式）；
- ▶ 支管及支管公称尺寸（如为公制管应注明外径尺寸）
- ▶ 支管及支管壁厚等级（如为公制管应注明壁厚尺寸）
- ▶ 管螺纹代号（仅指螺纹型）
- ▶ 高度（仅指短管支管台）



We only note the British outlet in the catalogue. But we also can make Metric outlet except threaded type. Following items shall be specified when purchase:

- ▶ Type;
- ▶ Nominal dimension of main and branch pipe. If it's metric, specify the out diameter;
- ▶ Schedule of main and branch pipe. If it's metric, specify the wall thickness;
- ▶ Thread code only for threadolet;
- ▶ Height only for Nipolet.

锻制管件 FORGED FITTINGS



对焊支管台 WELDOLET

执行标准: MSS SP97、GB19326、Q/FG13

公称通径 Nominal Diameter		适用主管公称通径 □ Nominal Diameter of Suited Main Pipe ≥		L			E		
DN	NPS	mm	in	STD	XS	XXS	STD	XS	XXS
6	1/8	20	3/4	15.9	—	—	15.9	—	—
8	1/4	20	3/4	15.9	—	—	15.9	—	—
10	3/8	25	1	19.1	—	—	19.1	—	—
15	1/2	32	1.1/4	19.1	19.1	28.6	23.8	23.8	14.3
20	3/4	40	1.1/2	22.2	22.2	31.8	30.2	30.2	19.1
25	1	40	1.1/2	27.0	27.0	38.1	36.5	36.5	25.4
32	1.1/4	65	2.1/2	31.8	31.8	44.5	44.5	44.5	33.3
40	1.1/2	65	2.1/2	33.3	33.3	50.8	50.8	50.8	38.1
50	2	80	3	38.1	38.1	57.2	65.1	65.1	42.9
65	2.1/2	100	4	41.3	41.3	61.9	76.2	76.2	54.0
80	3	125	5	44.5	44.5	73.0	93.7	93.7	77.0
90	3.1/2	150	6	47.0	47.0	—	101.6	101.6	—
100	4	150	6	50.8	50.8	84.1	120.7	120.7	98.4
125	5	200	8	57.2	57.2	93.7	141.3	141.3	122.2
150	6	200	8	60.3	77.8	104.8	169.9	169.9	146.1
200	8	250	10	69.9	98.4	—	220.7	220.7	—
250	10	300	12	77.8	93.7	—	274.6	265.1	—
300	12	350	14	85.7	103.2	—	325.4	317.5	—
350	14	400	16	88.9	100.0	—	357.2	350.9	—
400	16	450	18	93.7	106.4	—	408.0	403.2	—
450	18	500	20	96.8	111.1	—	458.8	455.6	—
500	20	600	24	101.6	119.1	—	508.8	509.6	—
600	24	650	26	115.9	139.7	—	614.4	614.4	—

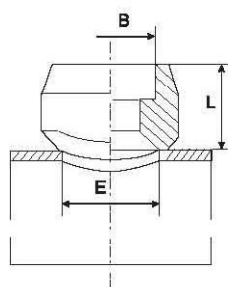
说明:

- 1、表列“适用主管公称通径”为一般用途，如需用于更小的主管尺寸，应与制造厂协商。
- 2、表列 E 值适用于国际通用系列的钢管尺寸（英制管），如需用于国内沿用系列钢管（公制管），E 值将有所调整，但 L 值不变。
- 3、上表所列对焊支管台有 STD、XS、XXS 三种等级，选用较为复杂，为此，用户选用时，必须将主管及支管的公称通径及壁厚等级注明，本公司可根据上述参数确定符合用户需要的支管台等级及有关结构尺寸，如用于公制管，用户应注明主管及支管的外径和壁厚尺寸。
- 4、定货时必须注明主管及支管尺寸、压力等级及材料牌号。如：WOL 14"x4" Sch40xSTD 16Mn（用于英制管）
WOL 377x108 12x8 16Mn（用于公制管）

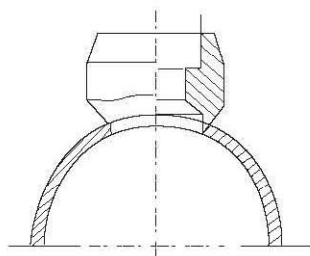
Note:

- 1、Normal diameter of suited main pipe as list is for ordinary use. If used to smaller main pipe, discuss it with manufacturer.
- 2、E is for international pipe. If used to metric pipe, E will be changed, But L is constant.
- 3、Three grades-STD、XS、XXS for weldolet. It's complicated to choose. So you shall specify DN dimension you need. If used for metric pipe. Specify OD and thickness.
- 4、Specify dimension of main and branch pipe. grade and material. For example: WOL 14"x4" Sch40xSTD 16Mn (British series)
WOL 377x108 12x8 16Mn (Metric series)

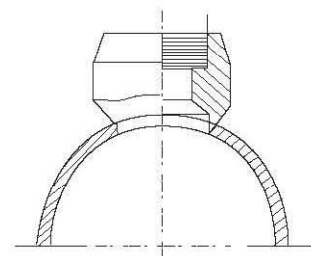
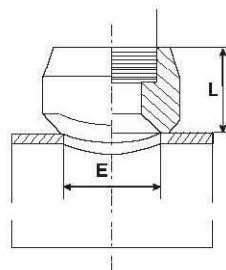
锻制管件 FORGED FITTINGS



SOL



TOL



承插焊支管台 SOCKOLET

执行标准: MSS SP97、GB19326、Q/FG11

支管公称通径 Nominal Diameter of Branch		适用主管公称通径 Nominal Diameter of Suited Main Pipe 不小于 ≥		L		E	
DN (mm)	NPS (in)	mm	in	3000LB	6000LB	3000LB	6000LB
6	1/8	20	3/4	19.1	—	15.9	—
8	1/4	20	3/4	19.1	—	15.9	—
10	3/8	25	1	20.6	—	19.1	—
15	1/2	32	1.1/4	25.4	31.8	23.8	19.1
20	3/4	40	1.1/2	27.0	36.5	30.2	25.4
25	1	50	2	33.3	39.7	36.5	33.3
32	1.1/4	65	2.1/2	33.3	41.3	44.5	38.1
40	1.1/2	65	2.1/2	34.9	42.9	50.8	49.2
50	2	80	3	38.1	52.4	65.1	69.9
65	2.1/2	100	4	39.7	—	76.2	—
80	3	125	5	44.5	—	93.7	—
100	4	150	6	47.6	—	120.7	—

说明:

- 承插口尺寸 B 根据支管尺寸 (英制管或公制管) 的规定。
- 表列“适用主管公称通径”为一般用途, 如需用于更小的主管尺寸应与制造厂协商。
- 按下表选用支管台的压力等级, 如用于公制管, 用户应注明支管壁厚尺寸。

压力等级 Pressure Grade	适用支管壁厚等级 Suitable shedule of branch
3000LB	Sch40、Sch80、STD、XS
6000LB	Sch160 XXS

- 表列 E 值适用于国际通用系列的钢管尺寸 (英制管), 如需国内沿用系列钢管 (公制管), E 值将有所调整, 但 L 值不变。
- 定货时必须说明主管及支管公称尺寸、压力等级及材料牌号 (如用于公制管, 应注明主管及主管外径尺寸和壁厚)。

螺纹支管台 THREDOLET

执行标准: MSS SP97、GB19326、Q/FG12

支管公称通径 Nominal Diameter of Branch		适用主管公称通径 Nominal Diameter of Suited Main Pipe 不小于 ≥		L		E	
DN (mm)	NPS (in)	mm	in	3000LB	6000LB	3000LB	6000LB
6	1/8	20	3/4	19.1	—	15.9	—
8	1/4	20	3/4	19.1	—	15.9	—
10	3/8	25	1	20.6	—	19.1	—
15	1/2	32	1.1/4	25.4	31.8	23.8	19.1
20	3/4	40	1.1/2	27.0	36.5	30.2	25.4
25	1	50	2	33.3	39.7	36.5	33.3
32	1.1/4	65	2.1/2	33.3	41.3	44.5	38.1
40	1.1/2	65	2.1/2	34.9	42.9	50.8	49.2
50	2	80	3	38.1	52.4	65.1	69.9
65	2.1/2	100	4	46.0	—	76.2	—
80	3	125	5	50.8	—	93.7	—
100	4	150	6	57.2	—	120.7	—

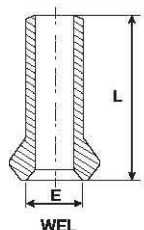
说明:

- 锥管螺纹可按 ANSI B1.20.1 NPT 或 ISO7/1 Rp 或 Rc 锥管螺纹, 尺寸同支管公称通径 (in), 用户需注明锥管螺纹代号。
- 表列“适用主管公称通径”为一般用途, 如需用于更小的主管尺寸应与制造厂协商。
- 按下表选用支管台的压力等级:

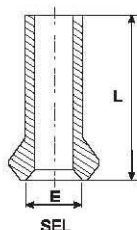
压力等级 Pressure Grade	适用支管壁厚等级 Suitable shedule of branch
3000LB	Sch40、Sch80、STD、XS
6000LB	Sch160 XXS

- 螺纹支管台仅适用于国际通用系列的钢管 (英制管)。
- 定货时必须注明主管及支管公称尺寸、压力等级、材料牌号、螺纹代号。

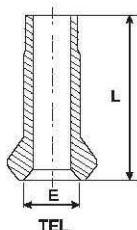
锻制管件 FORGED FITTINGS



WEL



SEL



TEL

短管支管台 NIPOLET

执行标准: MSS SP97、GB19326、Q/FG14

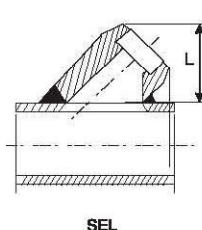
支管公称通径 Nominal Diameter of Branch		适用主管公称通径 Nominal Diameter of Suited Main Pipe 不小于 ≥		E		L
DN (mm)	NPS (in)	mm	in	3000LB	6000LB	
15	1/2	32	1.1/4	23.8	14.3	100 150
20	3/4	40	1.1/2	30.2	19.1	
25	1	50	2	36.5	25.4	
32	1.1/4	65	2.1/2	44.5	33.3	
40	1.1/2	65	2.1/2	50.8	38.1	
50	2	80	3	65.1	49.2	

说明:

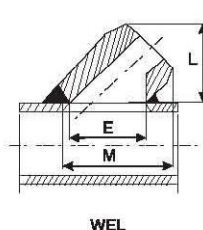
- 短管支管台长度 L 应在订货时说明。
Specify the length of Nipolet when order
- 短管支管台上端的型式有:
Type of Nipolet top end
SNL 平端 Flat end 用于承插焊 For socket weld
WNL 坡口端 Beveled 用于对焊 For butt weld
TNL 锥管螺纹 (外) NPT 或 Rc (订货时应予说明 Specify when order)
- 按下表选用支管台的压力等级 (用于英制管):
To choose the pressure grade to the following list (British series)

压力等级 Pressure Grade	适用支管壁厚等级 Suitable shedule of branch
3000LB	Sch40、Sch80、STD、XS
6000LB	Sch160 XXS

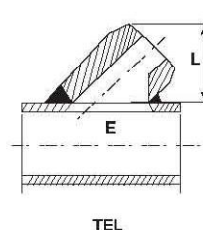
- 表列 E 值适用于国际通用系列的钢管尺寸 (英制管), 如需用于国内沿用系列钢管 (公制管), E 值将有所调整, 但 L 值不变。
E is for international pipe. If used to metric pipe, E will be changed, But L is constant.
- 订货时必须注明主管及支管公称尺寸、压力等级、长度及材料牌号 (如用于公制管, 应注明主管及支管外径和壁厚尺寸)。
Specify nominal dimension of main and branch pipe, Pressure grade and material. If used for metric pipe, Specify the outer diameter and wall thickness of main and branch pipe:
SNL 10"x1.1/2" 3000LB L100 304 (用于英制管 British series)
TNL 159x25 8x3 L150 20 (用于公制管 Metric series)



SEL



WEL



TEL

斜接支管台 LATIOLET

执行标准: MSS SP97、GB19326、Q/FG15

支管公称通径 Nominal Diameter of Branch		适用主管公称通径 Nominal Diameter of Suited Main Pipe 不小于 ≥		L	E	M
DN (mm)	NPS (in)	mm	in	3000LB		
8	1/4	32	1.1/4	40	37	59
10	3/8	32	1.1/4	40	37	59
15	1/2	32	1.1/4	40	37	59
20	3/4	40	1.1/2	46	44	70
25	1	50	2	54	54	83
32	1.1/4	65	2.1/2	64	67	97
40	1.1/2	80	3	70	78	108
50	2	100	4	86	100	137

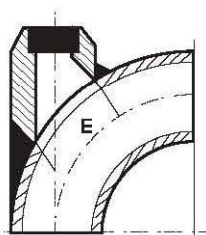
说明:

- 斜接支管台上端型式有三种选用时应注明:
Three type of latiolet top end. Specify when choose.
WLL 对焊 butt weld
SLL 承插口 Socket weld
TLL 锥管螺纹 (内) NPT 或 Rc (订货时应予说明 Specify when order)
- 3000Lb 级斜接支管台适用于下列支管壁厚等级 (用于英制管)
Latiolet which pressure grade is 3000LB is suitable to following list (British series)

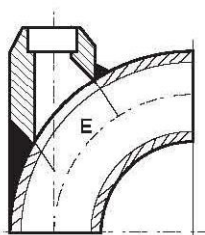
压力等级 Pressure Grade	适用支管壁厚等级 Suitable shedule of branch
3000LB	Sch40、Sch80、STD、XS

- 订货时必须说明主管及支管公称尺寸、压力等级、材料牌号, 如用于公制管, 应注明主管及支管外径和壁厚尺寸。
Specify nominal dimension of main and branch pipe, Pressure grade, material. If used to metric pipe specify the outer diameter and wall thickness of main branch pipe.
SLL 4"x1/2" 3000LB 20 (用于英制管 British series)
WLL 108x18 3000LB 20 (用于公制管 Metric series)

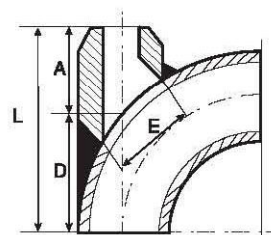
锻制管件 FORGED FITTINGS



TEL



CEL



WEL

弯头支管台 Elbolet

执行标准: MSS SP97、GB19326、Q/FG16

支管公称通径 Nominal Diameter of Branch		适用主管公称通径 □ Nominal Diameter of Suited Main Pipe 不小于 ≥		E	A	L
DN (mm)	NPS (in)	mm	in	3000LB		
8	1/4	32	1.1/4	38	40	A+D
10	3/8	32	1.1/4	38	40	
15	1/2	32	1.1/4	38	40	
20	3/4	40	1.1/2	44	48	
25	1	50	2	57	57	
32	1.1/4	65	2.1/2	73	64	
40	1.1/2	80	3	79	88	
50	2	100	4	108	83	

说明:

1、尺寸 D 适于 ANSI B16.9 的长半径 90°弯头

2、弯头支管台的上端型式有三种, 选用时应注明: WEL—对焊 SEL—承插口 TEL 锥管螺纹—(内)NPT 或 Rc、Rp

3、3000LB 级弯头支管台适用于下列支管壁厚等级:

压力等级 Pressure Grade	适用支管壁厚等级 Suitable shedule of branch
3000LB	Sch40、Sch80、STD、XS

4、订货时应注明弯头及支管公称尺寸、压力等级、材料编号, 如用于公制管, 应注明主管及支管外径和壁厚尺寸。

TEL 4"x1.1/2" 3000LB 20 (用于英制管)

SEL 108x18 6x3 20 (用于公制管)

Note:

1、Size D is suitable to 90 Degree LR elbow according to ANSI B16.9.

2、Three type of elbolet top end, specify when choose:WEL—对焊 SEL—承插口 TEL 锥管螺纹—(内)NPT 或 Rc、Rp

3、Elbolet which pressure grade is 3000LB is suitable to the following branch schedule:Sch40、Sch80、STD、XS.

4、Specify nominal dimension of main and branch pipe, pressure grade, material and thread code:

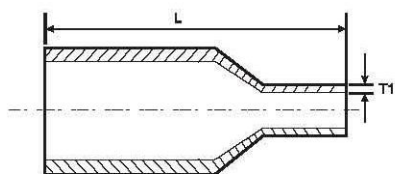
TEL 4"x1.1/2" 3000LB 20 (For British series)

SEL 108x18 6x3 20 (For Metric series)

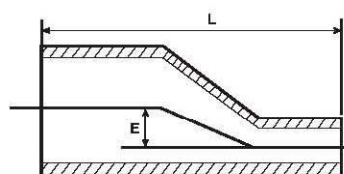
配用弯头尺寸 Mating Elbow Dimension

弯头 公称通径	mm	32	40	50	65	80	100	150	200	250	300
	in	1.1/4	1.1/2	2	2.1/2	3	4	6	8	10	12
size	D	50	54	72	93	108	144	218	290	362	434

锻制管件 FORGED FITTINGS



同心异径短节
Concentric Swaged Nipple



偏心异径短节
Eccentric Swaged Nipple

异径短节 SWAGE NIPPLE

公称通径 Nominal Diameter		L	E
DN	NPS		
10x8	3/8x1/4	64	1.7
15x8	1/2x1/4	70	1.9
15x10	1/2x3/8	70	1.05
20x8	3/4x1/4	76	6.5
20x10	3/4x3/8	76	4.8
20x15	3/4x1/2	76	2.7
25x8	1x1/4	89	10.2
25x10	1x3/8	89	8.6
25x15	1x1/2	89	6.5
25x20	1x3/4	89	3.0
32x8	1.1/4x1/4	102	14.2
32x10	1.1/4x3/8	102	12.5
32x15	1.1/4x1/2	102	10.4
32x20	1.1/4x3/4	102	7.7
32x25	1.1/4x1	102	3.9
40x8	1.1/2x1/4	114	17.3
40x10	1.1/2x3/8	114	15.6
40x15	1.1/2x1/2	114	13.5
40x20	1.1/2x3/4	114	12.6
40x25	1.1/2x1	114	6.9
40x32	1.1/2x1.1/4	114	3.0
50x8	2x1/4	165	23.3
50x10	2x3/8	165	21.6
50x15	2x1/2	165	19.5
50x20	2x3/4	165	16.8

公称通径 Nominal Diameter		L	E
DN	NPS		
50x25	2x1	165	13.0
50x32	2x1.1/4	165	9.1
50x40	2x2.1/2	165	6.0
65x15	2.1/2x1/2	178	25.1
65x20	2.1/2x3/4	178	23.2
65x25	2.1/2x1	178	19.4
65x32	2.1/2x1.1/4	178	15.5
65x40	2.1/2x1.1/2	178	12.4
65x50	2.1/2x12	178	6.4
80x15	3x1/2	203	33.8
80x20	3x3/4	203	31.1
80x25	3x1	203	27.3
80x32	3x1.1/4	203	23.4
80x40	3x1.1/2	203	20.3
80x50	3x2	203	14.3
80x65	3x2.1/2	203	7.9
100x15	4x1/2	229	46.5
100x20	4x3/4	229	43.8
100x25	4x1	229	40.0
100x32	4x1.1/4	229	36.1
100x40	4x1.1/2	229	33.0
100x50	4x2	229	27.0
100x65	4x2.1/2	229	20.6
100x80	4x3	229	12.7

说明:

- 1、选用时，应予注明，对锥管螺纹还应注明 NPT 或 R。
- 2、异型短节大端及小端型式分别有平端、坡口端、锥管外螺纹端三种，大、小端的各种组合共计有九种配合可能，如下表示：

型式 Type	大端 Large End	小端 Small End	代号 Code
A	平 Plain	平	BEP
B		坡口	LEP/SEB
C		螺纹	LEP/SET
D	口 Bevel	平	LEB/SEP
E		坡口	BEB
F		螺纹	LEB/SET
G	螺 纹 Thread	平	LET/SEP
H		坡口	LET/SEB
I		螺纹	BET

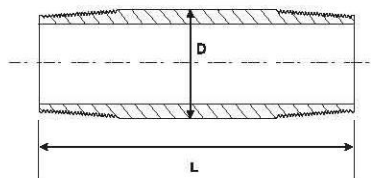
- 3、异径短节壁厚一般为 Sch80(3000LB)、Sch160(6000LB)，平端、坡口端或管螺纹端。

Note:

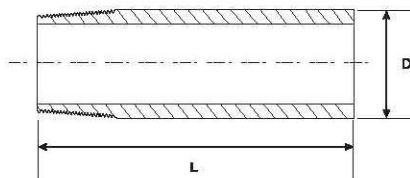
- 1、Specify NPT or R when order.
- 2、The end type for swage nipple is Plain, Bevel and NPT. As listed. There are nine kind mating type.
- 3、The wall thickness for swage nipple is Sch80(3000LB) and Sch160(6000LB), Plain, Bevel or Thread.

上述尺寸符合 MSS SP95、BS3799 标准。Above dimensions acc.to MSS SP95、BS3799.

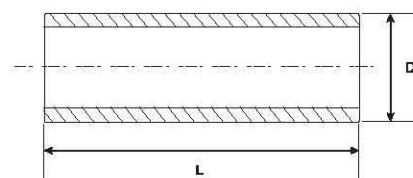
锻制管件 FORGED FITTINGS



A 两端管螺纹
Both end thread



B 一端管螺纹一端平
One end thread and one end plain



C 两端平
Both end plain

短节 NIPPLE

国际通用系列钢管（英制管）British Pipe

公称通径 Nominal Diameter		外径 Outside Diameter	Sch40 STD Sch80 XS	Sch160 XXS	L
DN	NPS	D			
8	1/4	13.5	O		60 90 120 150 180
10	3/8	17.2	O		
15	1/2	21.3	O	O	
20	3/4	26.7	O	O	
25	1	33.4	O	O	
32	1.1/4	42.2	O	O	
40	1.1/2	48.3	O	O	
50	2	60.3	O	O	

国内沿用系列钢管（公制管）Metric Pipe

公称通径 Nominal Diameter	外径 Outside Diameter	厚度 Thickness	长度 Length
DN	D		
10	14	2-5	100 150 200
15	18		
20	25		
25	32		
32	38		
40	45		
50	57		

说明:

1、短管（英制管）有 A、B、C 三种型式，短管（公制管）仅有 C 型。

2、订货示例：A(NPT) 1/2" Sch80 L150 304 不锈钢（英制管）， $\phi 18 \times 2$ L100 20 钢（公制管）

Note:

1、The type of nipple is A、B、C for British Pipe and only type C for Metric nipple.

2、Example: A(NPT) 1/2" Sch80 L150 304 S.S(British Pipe), $\phi 18 \times 2$ L100 20# (Metric Pipe)

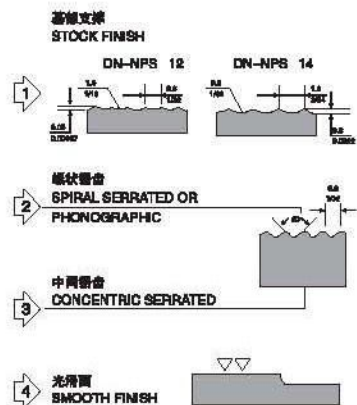
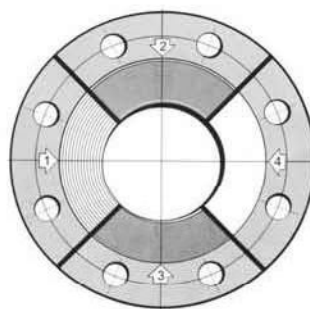
锻造法兰 FORGED FLANGE

TOBO
GROUP

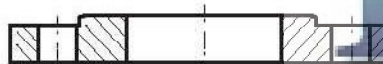
法兰剖面图 FLANGE CUT PLANE



密封面参数 PARAMETER OF SEALED COVER



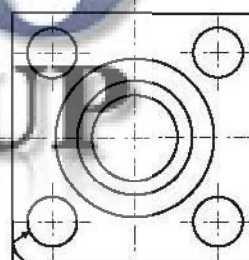
法兰结构图 FLANGE STRUCTURE



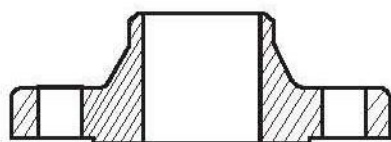
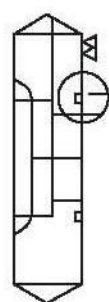
板式平焊法兰(PL)
Plate-type Flat Welding Flange



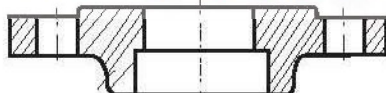
带颈平焊法兰(SO)
Slip-on Neck Flange



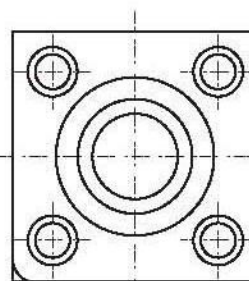
高压方法兰 凸
High-pressure Square Flange Convex



对焊法兰(WN)
Weld Neck Flange



承插焊法兰(SW)
Socket Welding Flange



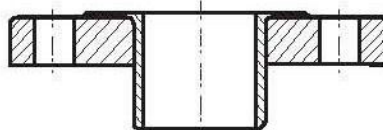
高压方法兰 凹
High-pressure Square Flange Concave



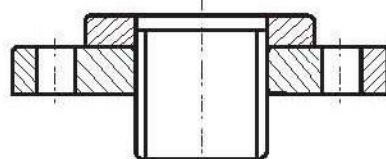
螺纹法兰(TH)
Threaded Flange



法兰盖(BL)
Blind Flange



对焊环松套法兰(PJ/SE)
Butt Welding Ring Loose Flange



平焊环松套法兰(PJ/PR)
Flat Welding Ring Loose Flange

注：由于法兰的制造标准及规格较多，本公司在此不提供详细规格参数，用户如需要可另提供，非标法兰可按用户图纸加工制造。

锻造法兰 FORGED FLANGE

美标系列 AMERICAN STANDARD SERIES

标准号 Standard Code	通径范围 Diameter Range	压力等级 Pressure Grade
ANSI B16.5(88)	1/2"~24"	Class 150、300、600、900、1500、2500
ANSI B16.47(90)	26"~60"	Class 150、300、600、900
ASME B16.5(96)	1/2"~24"	Class 150、300、600、900、1500、2500
ISO7005-1(92)	1/2"~24"	PN2.0 5.0 11.0 15.0 26.0 42.0
BS4504-3.1(89)	1/2"~24"	Class 150、300、600、900、1500、2500
JPI 7S-15-93	1/2"~24"	Class 150、300、600、900、1500、2500
NF E29-203	1/2"~24"	PN2.0 5.0 11.0 15.0 26.0 42.0
API605-81	26"~60"	Class 150、300、600
ASME B16.36(96)	1"~24"	Class 300、400、600、900、1500、2500

德标系列 GERMAN STANDARD SERIES

标准号 Standard Code	通径范围 Diameter Range	压力等级 Pressure Grade
DIN 2630 WN	DN1200~DN4000	1 Bar
DIN 2631 WN	DN10~DN3600	6 Bar
DIN 2632WN	DN200~DN3000	10 Bar
DIN 2633WN	DN10~DN2000	16 Bar
DIN 2634WN	DN200~DN1000	25 Bar
DIN 2635WN	DN10~DN500	40 Bar
DIN 2636WN	DN10~DN400	64 Bar
DIN 2637WN	DN10~DN350	100 Bar
DIN 2638WN	DN10~DN300	160 Bar
DIN 2573PL	DN10~DN500	6 Bar
DIN 2576PL	DN10~DN500	10 Bar
DIN 2527BL	DN10~DN500	6 10 16 25 40 Bar
DIN 2501WN	DN15~DN500	10 16 25 40 63 100 160 250 320 400 Bar
DIN 2566TH	DN15~DN150	10 16 Bar
DIN 2655PL	DN15~DN500	0.25 0.6 1.0 1.6 2.5 4.0 Bar
DIN 2656PL	DN15~DN500	0.25 0.6 1.0 1.6 2.5 4.0 Bar

锻造法兰 FORGED FLANGE

日标系列 JAPANESE STANDARD SERIES

标准号 Standard Code	通径范围 Diameter Range	压力等级 Pressure Grade
JIS B 2220 PL	DN10~DN400	5K
JIS B 2220 SO	DN450~DN1000	5K
JIS B 2220 PL	DN10~DN225	10K
JIS B 2220 SO	DN250~DN1000	10K
JIS B 2220 SO	DN10~DN1200	16K 20K 30K
JIS B 2220 WN	DN15~DN400	30K

国标系列 NATIONAL STANDARD SERIES

标准号 Standard Code	通径范围 Diameter Range	压力等级 Pressure Grade
GB/T 9112-9113.4-2000	DN10~DN2000	PN 0.25 0.6 1.0 2.5 4.0 6.3 10.0 16.0 Mpa
JB/T 74-86.2-94	DN10~DN1600	PN 0.25 0.6 1.0 2.5 4.0 6.3 10.0 16.0 20.0 Mpa
HG 20592-20626-97	DN10~DN2000	PN 0.25 0.6 1.0 2.0 2.5 4.0 5.0 6.3 10.0 11.0 15.0 16.0 25.0 26.0 42.0 Mpa
SH 3406-96	DN10~DN1500	PN 1.0 2.0 5.0 6.8 10.0 15.0 25.0 42.0 Mpa
GB/T 17241.1-17241.7	DN10~DN4000	PN 0.25 0.6 1.0 1.6 2.0 2.5 4.0 5.0 Mpa
GB/T 15530.1-15530.8	DN10~DN1800	PN 0.6 1.0 1.6 2.0 2.5 4.0 5.0 Mpa

电力部系列 POWER MINISTRY STANDARD SERIES

标准号 Standard Code	通径范围 Diameter Range	压力等级 Pressure Grade
D-GD86-0510-0537	DN15~DN2000	PN 0.25 0.6 1.0 1.6 2.5 4.0 6.4 10.0 Mpa
DG0511-0541	DN15~DN1000	PN 0.25 0.6 1.0 1.6 2.5 4.0 6.4 10.0 20.0 32.0 Mpa

压力容器系列 PRESSURE VESSEL STANDARD SERIES

标准号 Standard Code	通径范围 Diameter Range	压力等级 Pressure Grade
JB/T 4701-2000(甲型)	DN300~DN2000	PN 0.25 0.6 1.0 1.6 10.0 Mpa
JB/T 4702-2000(乙型)	DN300~DN3000	PN 0.25 0.6 1.0 1.6 2.5 4.0 Mpa
JB/T 4703-2000(长颈)	DN300~DN2000	PN 0.6 1.0 1.6 2.5 4.0 6.4 Mpa

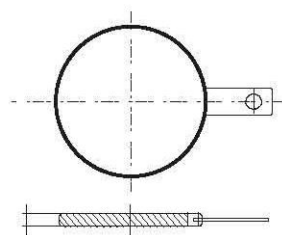
船用系列 SHIPPING STANDARD SERIES

标准号 Standard Code	通径范围 Diameter Range	压力等级 Pressure Grade
GB573-581-76	DN20~DN500	PN 0.6 1.0 1.6 2.5 4.0 6.4 Mpa
GB2506-2507-89	DN10~DN2000	PN 0.25 0.6 1.0 1.6 2.5 Mpa
GB4450-84	DN20~DN500	PN 0.6 1.0 1.6 Mpa
GB10746-10749-89	DN10~DN600	PN 0.6 1.0 1.6 2.5 4.0 6.4 Mpa

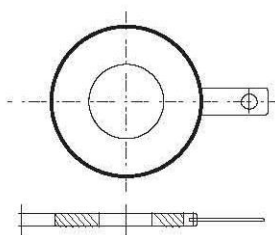
锻造法兰 FORGED FLANGE

钢号 Steel No.	标准 Standard	化学成分(%)Chemical Composition										公称厚度 mm	热处理状态	机械性能 Mechanical Properties			硬度 HB	
		C	Si	Mn	Mo	Cr	V	Ti	P	S	Ni			Cu	抗拉强度 Σb/MPa	屈服点 Σs/MPa		延伸率 δ5 (%)
20	JB4726-2000	0.17-0.23	0.17-0.37	0.60-1.00	-	≤0.2	-	-	0.030	0.020	0.25	0.25	≤200	N	390-540	215	24	106-159
35	JB4726-2000	0.32-0.38	0.17-0.37	0.50-0.80	-	≤0.2	-	-	0.030	0.020	0.25	0.25	≤100	N	510-670	265	18	136-200
16Mn	JB4726-2000	0.13-0.19	0.20-0.60	1.20-1.60	-	≤0.3	-	-	0.030	0.020	0.25	0.25	≤300	N,N+T	450-600	275	20	121-178
1Cr5Mo	JB4726-2000	≤0.1	≤0.5	≤0.6	0.45-0.65	4.00-6.00	-	-	0.030	0.020	0.50	0.25	≤500	N+T, Q+T	590-760	290	18	174-229
15CrMo	JB4726-2000	0.12-0.18	0.10-0.60	0.30-0.80	0.45-0.65	0.80-1.25	-	-	0.030	0.020	0.30	0.25	≤300	N+T, Q+T	440-610	275	20	118-180
35CrMo	JB4726-2000	0.32-0.38	0.17-0.37	0.40-0.70	0.15-0.25	0.80-1.10	-	-	0.030	0.020	0.30	0.25	≤300	Q+T	620-790	440	15	185-235
12Cr1MoV	JB4726-2000	0.09-0.15	0.17-0.37	0.40-0.70	0.25-0.35	0.90-1.20	0.15-0.30	-	0.030	0.020	0.30	0.25	≤300	N+T, Q+T	440-610	255	19	118-180
0Cr18Ni9 (304)	JB4726-2000	≤0.0	≤1.0	≤2.0	-	17.00-19.00	-	-	0.035	0.030	8.00-11.00	-	≤100	S	520	205	35	139-187
00Cr19Ni10 (304L)	JB4726-2000	≤0.0	≤1.0	≤2.0	-	18.00-20.00	-	-	0.035	0.030	8.00-12.00	-	≤100	S	480	175	35	128-187
0Cr17Ni12Mo2 (316)	JB4726-2000	≤0.0	≤1.0	≤2.0	2.00-3.00	16.00-18.00	-	-	0.035	0.030	10.00-14.00	-	≤100	S	520	205	35	139-187
00Cr17Ni14Mo2 (316L)	JB4726-2000	≤0.0	≤1.0	≤2.0	2.00-3.00	16.00-18.00	-	-	0.035	0.030	12.00-15.00	-	≤100	S	480	175	35	128-187
1Cr18Ni9Ti 321	JB4726-2000	≤0.1	≤1.0	≤2.0	-	17.00-19.00	-	5(C%-0.02) -0.80	0.035	0.030	8.00-11.00	-	≤100	S	520	205	35	139-187
0Cr18Ni10Ti	JB4726-2000	≤0.0	≤1.0	≤2.0	-	17.00-19.00	-	≥5 x %	0.035	0.030	9.00-12.00	-	≤100	S	520	205	35	139-187
0Cr18Ni12Mo2Ti 316Ti	JB4726-2000	≤0.0	≤1.0	≤2.0	1.80-2.50	16.00-19.00	-	≥5 x C% -0.70	0.035	0.030	11.00-14.00	-	≤100	S	520	205	35	139-187

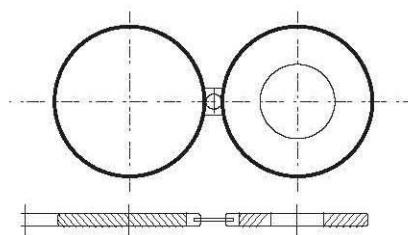
锻造法兰 FORGED FLANGE



插板
Paddle Blind



插环
Paddle Space



八字盲板
Figure 8 Blind

插板、插环、八字盲板 Blind, Figure 8 Blind

插板、插环、八字盲板的厚度(美国体系管法兰用) Blind, Figure 8 Blind (For Pipe Flange of American System) mm

公称通径 Nominal Diameter		150LB	300LB	600LB	900LB	1500LB	2500LB
DN	NPS	2.0MPa	5.0MPa	10.0MPa	15.0MPa	25.0MPa	42.0MPa
15	1/2	3	6	6	6	6	10
20	3/4	3	6	6	6	10	10
25	1	3	6	6	6	10	10
32	1.1/4	6	6	10	10	10	13
40	1.1/2	6	6	10	10	13	16
50	2	6	10	10	13	13	16
65	2.1/2	6	10	13	13	16	19
80	3	6	10	13	16	19	22
90	3.1/2	10	13	16	19	22	28
100	4	10	13	16	19	22	28
125	5	10	16	19	22	28	35
150	6	13	16	22	25	35	41
200	8	13	22	28	35	41	54
250	10	16	25	35	41	51	67
300	12	19	28	41	48	60	79
350	14	19	32	44	54	67	—
400	16	22	38	51	60	76	—
450	18	25	41	54	67	86	—
500	20	28	44	64	73	95	—
600	24	32	51	73	89	111	—

公称通径 Nominal Diameter		0.6MPa	1.0MPa	1.6MPa	2.5MPa	4.0MPa
DN						
15		8	8	8	8	8
20		8	8	8	8	8
25		8	8	8	8	9/8
32		8	8	8	8	10/8
40		8	8	8	9/8	10/8
50		8	8	9/8	10/8	12/10
65		8	8	10/8	11/9	13/11
80		8	8	10/8	12/10	14/12
100		10/8	8	12/10	14/12	16/14
125		11/9	9/8	13/11	16/14	19/17
150		12/10	10/8	15/13	17/15	21/19
200		14/12	12/10	17/15	21/19	27/25
250		17/15	13/11	20/18	25/23	32/30
300		19/17	15/13	23/21	29/27	37/35
350		21/19	17/15	26/24	33/31	42/40
400		23/21	18/16	29/27	36/34	48/46
450		25/23	20/18	32/30	39/37	50/48
500		28/26	22/20	35/33	43/41	54/52
600		32/30	25/23	41/39	51/49	65/62

说明:

- 1、本系列产品符合API590要求,用于符合下列要求的突面法兰: ANSI B16.5、SH3406、ISO7005-1、GB9112-9124、HG20615(美洲体系)。
- 2、盲板、插环及八字盲板厚度均已包括腐蚀裕量:
碳钢、低合金钢、低温钢裕量为1.3mm;
不锈钢裕量为0mm
- 3、本系列产品适用于平垫片,如用于其它型式垫片(如八角垫等)应与制造厂协商,并调整厚度。
- 4、也可按HG21547-93要求生产。

说明:

- 1、本系列产品符合HG21547-93要求,用于符合下列要求的突面法兰: GB9113-9122、HG20592(欧洲体系)、ISO7005-1、DIN、JB管法兰。
- 2、盲板、插环及八字盲板厚度均已包括腐蚀裕量:
碳钢、低合金钢、低温钢裕量为2.0mm;
不锈钢裕量为0mm。
上述表中有分子/分母P者,分子为碳钢,低合金钢厚度,分母为不锈钢厚度。
- 3、本系列产品适用于平垫片,如用于其它型式垫片(如八角垫等)应与制造厂协商,并调整厚度。

绝缘法兰 INSULATING JOINT

TOBO
GROUP

绝缘法兰 INSULATING FLANGE

绝缘法兰是对同时具有埋地钢管道要求的密封性能和电法腐蚀防护工程所要求的电绝缘性能的管道法兰接头的统称。它包括一对钢质法兰、两法兰间的绝缘密封件、法兰紧固件和紧固件绝缘零件以及与两片法兰已分剖相焊的一对钢质短管。

绝缘法兰与绝缘接头是我公司多年来为石油、化工等行业生产的产品，它结构简单，使用安全，性能可靠，得到用户广泛好评。绝缘法兰产品已形成系列，当有特殊情况时，可依据用户需求另行设计制造。

Insulating flange is a generic term of pipe flange joints with requirements in sealing performance of buried steel pipes and electrical insulation properties of electro-corrosion pipes. It include a pair of steel flanges, an insulating and sealing article between two flanges, a flange fastener, insulating parts of fastener and a short steel pipe between two flanges with each end welded.

The insulating flanges and joints are specially designed and produced for petroleum, chemical and other industries related by us. With their simple structures, safe operations and reliable performance, they have always enjoyed a great popularity among all customers. These insulating flanges have already matured, and in case of any special requirements, they may be customized upon all customers' demands.



一、产品用途

绝缘法兰主要应用于燃气输配管线和燃气调压、计量、存储等设备之间，其主要作用是将燃气输配管线的各段间、设备与管线间相互绝缘隔离，保护其不受化学腐蚀，延长管线和设备使用寿命。

产品符合SY/T0516-1997《绝缘法兰设计技术规定》标准。

Usage

Insulating flanges are mainly applied to gas transmission pipelines, gas regulators, gauges, storages, etc., with their main functions to separate and insulate different segments of gas transmission pipes, devices and lines, protect them from any chemical corrosion and prolong their service life. Follow the standard SY/T0516-1997 "The technic of design for insulating flange".

二、分类

本产品按其绝缘密封件结构的不同分为比压密封型绝缘法兰（简称I型绝缘法兰）和自紧密封型绝缘法兰（简称II型绝缘法兰）两种。I型绝缘法兰适用压力等级PN \leq 2.5MPa。

Category

These products may be classified into two groups by the insulating sealing parts, which are specific-pressure sealed insulating flanges (for short, I-type insulating flanges) and self-tightening seal insulating flanges (for short, II-type insulating flanges). Scope of application of the I-type insulating flanges: nominal pressure (PN) \leq 2.5MPa.

三、特点

- 1、具有埋地管道电法腐蚀防护工程所要求的电绝缘性能。
- 2、能在管输介质要求的温度、压力下长期可靠的工作，有足够的强度和密封性能。
- 3、结构合理，组装、拆卸、更换零件方便。

Features

- 1、With electrical insulation properties of electro-corrosion pipes;
- 2、With durable and reliable performance at a designed temperature and pressure for pipeline mediums, sufficient strength and good air-proof ability;
- 3、With rational structure, easy assembly/disassembly and replacement.

四、主要技术参数

- 1、适用介质：天然气、城市煤气、液化石油气、轻质油等。
- 2、介质温度：-10° +60°C。
- 3、环境温度：-20° +80°C。
- 4、绝缘电阻： \geq 500K
- 5、击穿电压： \geq 8KV。
- 6、压力范围：PN0.6MPa、PN1.0MPa、PN1.6MPa、PN2.5MPa
- 7、产品规格：DN50 DN1200

Mainly Specification

- 1、Suitable for natural gas, city gas, LPG and gently oil.
- 2、Medium Temperature: -10° +60°C.
- 3、Ambient Temperature: -20° +80°C.
- 4、Insulating Resistance: \geq 500K
- 5、Breakdown Voltage: \geq 8KV
- 6、Pressure Range: PN0.6MPa、PN1.0MPa、PN1.6MPa、PN2.5MPa.
- 7、Specs: DN50 DN1200

绝缘接头 INSULATING JOINT

TOBO
GROUP

绝缘接头

绝缘接头是燃气输配和石油管线系统中不可缺少的重要管道附件，主要应用于燃气输配系统和燃气调压站，其作用是将燃气输配管线的各段间、燃气调压站与输配管线间相互绝缘隔离，保护其不受电化学腐蚀，延长使用寿命，还可直接埋地使用。本公司的整体式绝缘接头是在同国外产品进行对比、分析、研究的基础上着重针对我国燃气输配管线中经常出现的泄漏问题进行设计的。

The insulating joint is the key component in natural gas distribution & oil transmission, which is mainly applied in gas reducing station in gas distribution field. The main function is to realize insulation among gas pipelines and between gas station and pipelines in order to avoid the corruption from electricity and chemical reaction and thus to extend the life of use. The product is designed specifically for the leakage problem frequently existed in gas transmission line.



设计依据和技术、性能水平

- 1、中华人民共和国国家标准 GB150-1998《钢制压力容器》;
- 2、根据 GB50251-94《输气管道工程设计规范》对管道进行强度计算;
- 3、保留国外产品优良特性;
- 4、利用“冗余”设计原理进行密封结构设计，密封性能更为可靠;
- 5、采用特殊结构措施，提高其抗弯曲载荷的能力;
- 6、工作参数:
 - ◇ 适用介质：城市煤气、天然气、液化石油气及其它非腐蚀性介质;
 - ◇ 压力等级：PN25、PN40、PN64
 - ◇ 环境温度：-20°C~+60°C
 - ◇ 绝缘电阻：≥100M
 - ◇ 击穿电压：≥8KV/50HZ
 - ◇ 工作温度：-10°C~+50°C

它的电性能指标与国外产品完全一致，而我公司对于产品内部控制的某些指标大大高于以上数值。

Features

- 1、Design according to national standard is GB150-1998 "steel pressure vessel";
- 2、Make the strength calculation according to national standard GB50251-94 "gas pipeline construction design code";
- 3、The same excellent characteristics as European level;
- 4、Redundant sealing structure design leading to a more reliable function;
- 5、Special structure to increase the anti-bending strength;
- 6、Specification:
 - ◇ Suitable for city gas, natural gas, LPG, other non-corrosive gas
 - ◇ Pressure class: PN25, PN40, PN65
 - ◇ Ambient temperature: -20°C~+60°C
 - ◇ Insulation resistance: ≥100M
 - ◇ Maximum voltage: ≥8KV/50HZ
 - ◇ Working temperature: -10°C~+50°C

The real electrical resistance performance of the products is even better than the above statistics.

产品结构和工作原理

整体式绝缘接头由下面各零件组成：上、下导管、套筒、绝缘件、密封件、绝缘涂层。在绝缘接头的上、下导管对接端面间，夹有绝缘件和密封件，形成具有绝缘性能的双密封结构。套筒采用坡口焊接或与上导管直接焊接两种形式，将绝缘件和上、下管牢固封裹在里面，形成“密封容器”，从而既保证了良好的绝缘效果，又大大提高了绝缘接头的承压能力。

Structure

The product is composed by the following parts upper and lower pipe, glove pipe, insulating part, sealing part, insulating painting. Between the upper and lower pipes, there are insulating part and sealing part thus to form the double sealing structure. The glove pipe adopts slope welding or direct welding in order to realize a sealing "space".

绝缘接头 INSULATING JOINT

型号说明 MODEL EXPANATION

DN XX X -XX

压力等级 (PN64、PN40、PN25)
PRESSURE CLASS (PN64、PN40、PN25)

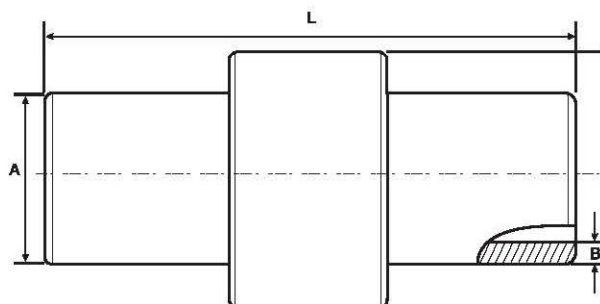
英制管缺省，公制管用B表示
INCH,BFOR METRIC

公称通径
DIAMETER

DN400B-64代表公称通径为DN400，压力等级为6.4Mpa的整体式绝缘接头，采用公制管。

For example: DN400B-64 represents the insulating joint of DN400 and 6.4Mpa press class .

外型尺寸 DIMENSIONS



绝缘接头(PN25) INSULATING JOINT

单位(Unit):mm

型号Type	规格 Specification	A	B	L	钢管材质 Steel pipe material
DN25-25	DN25	34	4	250	钢管(Steel Pipe) 20 GB/T8163
DN25B-25		32	4	250	
DN40-25	DN40	48	4	300	
DN50-25		60	4	350	
DN50B-25	DN50	57	4	350	
DN65-25		76	5	350	
DN80-25	DN80	89	5	400	
DN100-25	DN100	114	5	400	
DN100B-25		108	5	400	
DN125-25	DN125	140	6	500	
DN125B-25		133	6	500	
DN150-25	DN150	168	7	500	
DN150B-25		159	7	500	
DN200-25	DN200	219	7	500	
DN250-25	DN250	273	8	800	
DN300-25	DN300	325	8	800	
DN350-25	DN350	356	8	900	
DN350B-25		377	8	900	
DN400-25	DN400	406	8	900	钢管(Steel Pipe) 16MnR GB6654
DN400B-25		426	8	900	
DN450-25	DN450	457	8	900	
DN450B-25		480	8	900	
DN500-25	DN500	508	10	900	
DN500B-25		530	10	900	
DN600-25	DN600	610	10	1000	
DN600B-25		630	10	1000	
DN700-25	DN700	711	10	1200	
DN700B-25		720	10	1200	
DN800-25	DN800	813	12	1300	
DN800B-25		820	12	1300	

绝缘接头 INSULATING JOINT

绝缘接头(PN40) INSULATING JOINT

单位(Unit):mm

型号 Type	规格 Specification	A	B	L	钢管材质 Steel pipe material
DN25-40	DN25	34	4	250	钢管(Steel Pipe) 20 GB/T8163
DN25B-40		32	4	250	
DN40-40	DN40	48	4	300	
DN50-40	DN50	60	4	350	
DN50B-40		57	4	350	
DN65-40	DN65	76	5	350	
DN80-40	DN80	89	5	400	
DN100-40	DN100	114	5	400	
DN100B-40		108	5	400	
DN125-40	DN125	140	6	500	
DN125B-40		133	6	500	
DN150-40	DN150	168	7	500	
DN150B-40		159	7	500	
DN200-40	DN200	219	7	500	
DN250-40	DN250	273	8	800	
DN300-40	DN300	325	10	800	钢板(Steel Plate) 16MnR
DN350-40	DN350	356	12	900	
DN350B-40		377	12	900	
DN400-40	DN400	406	10	900	
DN400B-40		426	10	900	
DN450-40	DN450	457	10	900	
DN450B-40		480	10	900	
DN500-40	DN500	508	12	900	
DN500B-40		530	12	900	
DN600-40	DN600	610	14	1000	
DN600B-40		630	14	1000	
DN700-40	DN700	711	14	1200	
DN700B-40		720	14	1200	
DN800-40	DN800	813	16	1300	
DN800B-40		820	16	1300	

绝缘接头(PN64) INSULATING JOINT

单位(Unit):mm

型号 Type	规格 Specification	A	B	L	钢管材质 Steel pipe material
DN25-64	DN25	34	4	250	钢管(Steel Pipe) 20 GB/T8163
DN25B-64		32	4	250	
DN40-64	DN40	48	4	300	
DN50-64	DN50	60	4	350	
DN50B-64		57	4	350	
DN65-64	DN65	76	5	350	
DN80-64	DN80	89	5	400	
DN100-64	DN100	114	5	500	
DN100B-64		108	5	500	
DN125-64	DN125	140	6	600	
DN125B-64		133	6	600	
DN150-64	DN150	168	7	600	钢管(Steel Pipe) 16Mn GB/T6479
DN150B-64		159	7	600	
DN200-64	DN200	219	8	600	
DN250-64	DN250	273	10	800	
DN300-64	DN300	325	12	800	
DN350-64	DN350	356	8.8	1000	L450*1(X65) GB/T9711
DN400-64	DN400	406	10	1000	
DN450-64	DN450	457	11	1000	
DN500-64	DN500	508	12.5	1200	
DN600-64	DN600	610	16	1200	
DN700-64	DN700	711	17.5	1300	
DN800-64	DN800	813	20	1300	

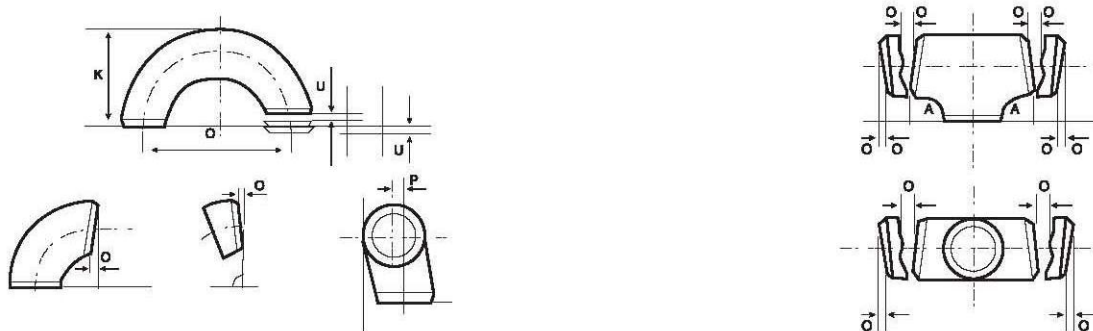
注: 钢管需由用户提供 Note: The steel pipe shall be provided by the customer

管件公差 TOLERANCE OF FITTINGS

对焊管件尺寸公差 TOLERANCE OF BUTT WELDING FITTINGS

公称直径 Nominal Diameter		坡口处外径 O.D.For Bevel End	端部内径 I.D.For End	壁厚 Wall Thickness	90°、45°弯头 Elbow		三通 Tee		异径管 Reducer	管帽 Cap	180°弯头 Elbow												
DN	NPS				A	B	C	M	H	E	O	K	不平度										
15~65	1/2~2.1/2	+1.6 -0.8	±0.8	-12.5%	±1.6	±1.6	±1.6	±1.6	±1.6	±3.2	±6.4	±6.4	±0.8										
80~100	3~4	±1.6	±1.6																				
125~200	5~8	+2.4 -1.6																					
250~450	10~18	+4.0 -3.2	±3.2		±2.4	±2.4	±2.4	±2.4	±2.4	±6.4	±9.6												
500~600	20~24	+6.4 -4.8	±4.8																				
650~750	26~30																						
800~1200	32~48																						
1250~1500	50~60	+9.6 -6.4	±6.4		±9.6	±9.6	±9.6	±9.6	±9.6														
1550~1750	62~70	+12.7 -9.6	±9.6																				
1800~2000	72~80	+16 -12	±12																				

对焊管件形位公差 ANGULARITY TOLERANCE OF BUTT WELDING FITTINGS



公称通径 Nominal Diameter		DN	15~100	125~200	250~300	350~400	450~600	650~700	800~1050	1100~1200	1300~1500
		NPS	1/2~4	5~8	10~12	14~16	18~24	26~30	32~42	44~48	52~60
倾斜角度差 Angularity tolerance	角度偏移 Off Angle	Q	1	2	3	3	4	5	5	5	6.4
	角度平移 Off Plain	P	2	4	5	6	10	10	13	19	20

注：极限公差在不同标准中可能会略有差异。

Limiting tolerances can be slightly difference between the different standards and codes.

管件公差 TOLERANCE OF FITTINGS

承插焊管件尺寸的极限公差 TOLERANCES FOR SOCKET WELDING FITTINGS

公称直径 Nominal Diameter		所有管件 All Fittings		45°、90°弯头、三通、四通、斜三通 Elbow, Tee, Cross, Lateral	双承口管箍 Coupling	单承口管箍、异径接头 Half-coupling Reducing Inserts	活接头(承插与螺纹) Union (Socket and Thread)
		承插孔径 Socket Bore	流通孔径 Water Way Bore	中心至承插孔底 Center To Bottom of Socket	结构长度 Laying Lengths	结构长度 Laying Lengths	公称装配长度 Length Assem Nominal
DN	NPS	d1	d2	A、H	E	F	L
6~8	1/8~1/4			± 0.8	± 1.5	± 0.8	± 1.5
10~20	3/8~3/4	$+0.3$ 0	± 0.4	± 1.5	± 3.0	± 1.5	± 1.5
25~50	1~2			± 2.0	± 4.0	± 2.0	± 1.5
65~100	2.1/2~4	$+0.4$ 0	± 0.8	± 2.5	± 5.0	± 2.5	± 1.5

螺纹管件尺寸的极限公差 TOLERANCES FOR THREADED FITTINGS

公称直径 Nominal Diameter		45°、90°弯头、三通、四通 Elbow, Tee, Cross	双接口管箍、管帽 Coupling, Cap	单接口管箍、半管接头 Half-Coupling, Boss
		中心至端面 Center to End	端面至端面 End to End	端面至端面 End to End
DN	NPS	A	E、F	E/2
6~8	1/8~1/4	± 0.7	± 0.7	± 0.4
10~20	3/8~3/4	± 1.5	± 1.5	± 0.8
25~50	1~2	± 2.0	± 2.0	± 1.0
65~100	2.1/2~4	± 2.5	± 2.5	± 1.3

支管台尺寸的极限公差 TOLERANCES FOR O'LETS

支管台尺寸 Outlet Size	极限偏差 Tolerances	
	DN ≤ 50 (2")	DN ≥ 65 (2.1/2")
外径 O.D	± 1.6	
长度 The length	± 1.6	
承口内径 I.D	± 0.3	± 0.4
内径 I.D	± 0.4	± 0.8
承口深度 The depth of socket end	± 0.5	
圆弧半径 Radius	± 0.5	

注：极限公差在不同标准中可能会略有差异。

Limiting tolerances can be slightly difference between the different standards and codes.

钢管外径与壁厚表 OUTSIDE DIAMETER AND WALL THICKNESS

外径和壁厚表(GB/T 12459、GB/T 13401) OUTSIDE DIAMETER AND WALL THICKNESS

公称通径 Nominal Diameter	外径 Outside Diameter		公称壁厚 T Nominal Wall Thickness															
	DN	A	B	SCH5s	SCH10s	SCH20s	LG	SCH20	SCH30	STD	SCH40	SCH60	XS	SCH80	SCH100	SCH120	SCH140	SCH160
15	21.3	18	1.6	2.1	2.6	—	—	—	—	2.9	—	—	3.6	—	—	—	4.5	—
20	26.9	25	1.6	2.1	2.6	—	—	—	—	2.9	—	—	4.0	—	—	—	5.6	—
25	33.7	32	1.6	2.8	3.2	—	—	—	—	3.2	—	—	4.5	—	—	—	6.3	—
32	42.4	38	1.6	2.8	3.2	—	—	—	—	3.6	—	—	5.0	—	—	—	6.3	—
40	48.3	45	1.6	2.8	3.2	—	—	—	—	3.6	—	—	5.0	—	—	—	7.1	—
50	60.3	57	1.6	2.8	3.6	—	3.2	—	—	4.0	—	—	5.6	—	—	—	8.8	—
65	76.1(73)	76	2.0	3.0	3.6	—	4.5	—	—	5.0	—	—	7.1	—	—	—	10.0	—
80	88.9	89	2.0	3.0	4.0	—	4.5	—	—	5.6	—	—	8.0	—	—	—	11.0	—
90	101.6	—	2.0	3.0	4.0	—	4.5	—	—	5.6	—	—	8.0	—	—	—	12.5	—
100	114.3	108	2.0	3.0	4.0	—	5.0	—	—	5.9	—	—	8.8	—	11.0	—	14.2	—
125	139.7	133	2.9	3.4	5.0	—	5.0	—	—	6.3	—	—	10.0	—	12.5	—	16.0	—
150	168.3	159	2.9	3.4	5.0	—	5.6	—	—	7.1	—	—	11.0	—	14.2	—	17.5	—
200	219.1	219	2.9	4.0	6.3	—	6.3	7.1	—	8.0	10.0	—	12.5	16.0	17.5	20.0	22.2	—
250	273.0	273	3.6	4.0	6.3	—	6.3	8.0	—	8.8	12.5	—	16.0	17.5	22.2	25.0	28.0	—
300	323.9	325	4.0	4.5	6.3	—	6.3	8.8	—	10.0	14.2	—	17.5	22.2	25.0	28.0	32.0	—
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	32.0	36.0	—
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	36.0	40.0	—
450	457.2	478	4.0	5.0	—	8.0	8.0	11.0	10.0	14.2	20.0	13.0	25.0	30.0	36.0	40.0	45.0	—
500	508.0	529	5.0	5.6	—	8.0	10.0	12.5	10.0	16.0	20.0	13.0	28.0	32.0	40.0	45.0	50.0	—
550	559	—	5.0	5.6	—	8.0	—	—	10.0	—	—	13.0	30.0	—	—	—	—	—
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	—	—	—	—	—	—

SCH5s、10s、20s用于不锈钢管件 SCH5s、10s、20s applies for stainless steel fittings.

钢管外径与壁厚表 OUTSIDE DIAMETER AND WALL THICKNESS

外径和壁厚表(SH3408、SH3409) OUTSIDE DIAMETER AND WALL THICKNESS

公称通径 Nominal Diameter	外径 Outside Diameter	公称壁厚 T Nominal Wall Thickness														
DN	D	SCH5s	SCH10s	SCH20s	SCH40s	SCH80s	SCH20	SCH30	SCH40	SCH60	SCH80	SCH100	SCH120	SCH140	SCH160	XXS
10	17	1.2	1.6	2.0	2.5	3.2	—	—	2.5	—	3.5	—	—	—	—	—
15	22	1.6	2.0	2.5	3.0	4.0	—	—	3.0	—	4.0	—	—	—	5.0	7.5
20	27	1.6	2.0	2.5	3.0	4.0	—	—	3.0	—	4.0	—	—	—	5.5	8.0
25	34	1.6	2.8	3.0	3.5	4.5	—	—	3.5	—	4.5	—	—	—	6.5	9.0
32	42	1.6	2.8	3.0	3.5	5.0	—	—	3.5	—	5.0	—	—	—	6.5	10.0
40	48	1.6	2.8	3.0	4.0	5.0	—	—	4.0	—	5.0	—	—	—	7.0	10.0
50	60	1.6	2.8	3.5	4.0	5.5	3.5	—	4.0	5.0	5.5	—	7.0	—	8.5	11.0
65	76	2.0	3.0	3.5	5.0	7.0	4.5	—	5.0	6.0	7.0	—	8.0	—	9.5	14.0
80	89	2.0	3.0	4.0	5.5	7.5	4.5	—	5.5	6.5	7.5	—	9.0	—	11.0	15.0
100	114	2.0	3.0	4.0	6.0	8.5	5.0	—	6.0	7.0	8.5	—	11.0	—	14.0	17.0
125	140	2.8	3.5	5.0	6.5	9.5	5.0	—	6.5	8.0	9.5	—	13.0	—	16.0	19.0
150	168	2.8	3.5	5.0	7.0	11.0	5.5	6.5	7.0	9.5	11.0	—	14.0	—	18.0	22.0
200	219	2.8	4.0	6.5	8.0	13.0	6.5	7.0	8.0	10.0	13.0	15.0	18.0	20.0	24.0	23.0
250	273	3.5	4.0	6.5	9.5	15.0	6.5	8.0	9.5	13.0	15.0	18.0	22.0	25.0	28.0	25.0
300	325	4.0	4.5	6.5	9.5	17.0	6.5	8.5	10.0	14.0	17.0	22.0	25.0	28.0	34.0	28.0
350	356	4.0	5.0	—	—	—	8.0	9.5	11.0	15.0	19.0	24.0	28.0	32.0	36.0	—
400	406	4.5	5.0	—	—	—	8.0	9.5	13.0	17.0	22.0	26.0	32.0	36.0	40.0	—
450	457	—	—	—	—	—	8.0	11.0	14.0	19.0	24.0	30.0	35.0	40.0	45.0	—
500	508	—	—	—	—	—	9.5	13.0	15.0	20.0	26.0	32.0	38.0	45.0	50.0	—
550	559	—	—	—	—	—	9.5	13.0	17.0	22.0	28.0	35.0	42.0	48.0	54.0	—
600	610	—	—	—	—	—	9.5	14.0	18.0	25.0	32.0	38.0	45.0	52.0	60.0	—
650	660	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
700	711	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
750	762	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
800	813	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
850	864	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
900	914	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
950	965	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1000	1016	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1050	1067	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1100	1118	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1150	1168	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1200	1220	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

• 壁厚表后带S者仅适用于奥氏体不锈钢管件。

• 此表是SH3408标准中无缝管件的公称壁厚；SH3408标准中钢板制管件的壁厚直接用毫米给出。

• Schedule with the suffix "s" only applies for Austenitic stain-less steel.

• This list applies for the nominal schedule of seamless steel fittings for SH3408 standard; the schedule of wrought steel fittings for SH3408 standard uses the millimeter system.

钢管外径与壁厚表

OUTSIDE DIAMETER AND WALL THICKNESS

公称通径 Nominal Pipe Size		外径 Outside Diameter	公称壁厚 T Nominal Wall Thickness																
DN	NPS	D	SCH5s	SCH10s	SCH10	SCH20	SCH30	SCH40s	STD	SCH40	SCH60	SCH80s	XS	SCH80	SCH100	SCH120	SCH140	SCH160	XXS
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	—	3.20	3.20	3.20	—	—	—	—	—
15	1/2	21.3	1.65	2.11	—	—	—	2.77	2.77	2.77	—	3.73	3.73	3.73	—	—	—	4.78	7.47
20	3/4	26.7	1.65	2.11	—	—	—	2.87	2.87	2.87	—	3.91	3.91	3.91	—	—	—	5.56	7.82
25	1	33.4	1.65	2.77	—	—	—	3.38	3.38	3.38	—	4.55	4.55	4.55	—	—	—	6.35	9.09
32	1 1/4	42.2	1.65	2.77	—	—	—	3.56	3.56	3.56	—	4.85	4.85	4.85	—	—	—	6.35	9.70
40	1 1/2	48.3	1.65	2.77	—	—	—	3.68	3.68	3.68	—	5.08	5.08	5.08	—	—	—	7.14	10.15
50	2	60.3	1.65	2.77	—	—	—	3.91	3.91	3.91	—	5.54	5.54	5.54	—	—	—	8.74	11.07
65	2 1/2	73.0	2.11	3.05	—	—	—	5.16	5.16	5.16	—	7.01	7.01	7.01	—	—	—	9.53	14.02
80	3	88.9	2.11	3.05	—	—	—	5.49	5.49	5.49	—	7.62	7.62	7.62	—	—	—	11.13	15.24
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	17.12
125	5	141.3	2.77	3.40	—	—	—	6.55	6.55	6.55	—	9.53	9.53	9.53	—	12.70	—	15.88	19.05
150	6	168.3	2.77	3.40	—	—	—	7.11	7.11	7.11	—	10.97	10.97	10.97	—	14.27	—	18.26	21.95
200	8	219.1	2.77	3.76	—	6.35	7.04	8.18	8.18	10.31	12.70	12.70	12.70	12.70	15.09	18.26	20.62	23.01	22.23
250	10	273.1	3.40	4.19	—	6.35	7.80	9.27	9.27	12.70	12.70	12.70	12.70	15.09	18.26	21.44	25.40	28.58	25.40
300	12	323.9	3.96	4.57	—	6.35	8.38	9.53	9.53	14.27	12.70	12.70	12.70	17.48	21.44	25.40	28.58	33.32	25.40
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	40.49	—
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	—
—	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	—
—	26	660	—	—	7.92	12.70	—	—	9.53	—	—	—	12.70	—	—	—	—	—	—
700	28	711	—	—	7.92	12.70	15.88	—	9.53	—	—	—	12.70	—	—	—	—	—	—
—	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	—	—	—	—	—	—
—	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	—	—	—	—	—	—
—	38	965	—	—	—	—	—	—	9.53	—	—	—	12.70	—	—	—	—	—	—
1000	40	1016	—	—	—	—	—	—	9.53	—	—	—	12.70	—	—	—	—	—	—
—	42	1067	—	—	—	—	—	—	9.53	—	—	—	12.70	—	—	—	—	—	—
1100	44	1118	—	—	—	—	—	—	9.53	—	—	—	12.70	—	—	—	—	—	—
—	46	1168	—	—	—	—	—	—	9.53	—	—	—	12.70	—	—	—	—	—	—
1200	48	1219	—	—	—	—	—	—	9.53	—	—	—	12.70	—	—	—	—	—	—

SCH5s、10s、40s、80s用于不锈钢管。 SCH15s、10s、40s、80s applies for stainless steel fittings.

钢管外径与壁厚表 OUTSIDE DIAMETER AND WALL THICKNESS



外径和壁厚表 (JIS B2311、B2312、B2313) OUTSIDE DIAMETER AND WALL THICKNESS

公称通径 Nominal Diameter		外径 Outside Diameter	公称壁厚 T Nominal Wall Thickness																	
DN	NPS	D	SGP	SCH5s	SCH10s	SCH10	SCH20	SCH30	SCH40s	STD	SCH40	SCH60	SCH80s	XS	SCH80	SCH100	SCH120	SCH140	SCH160	XXS
15	1/2	21.7	2.8	1.65	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	1.65	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	1.65	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	1.65	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	1.65	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	1.65	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	12.7	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	558.8	—	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	—	—	—	—	—	—

SCH5s、10s、20s用于不锈钢管件。 SCH5s、10s、20s applies for stainless steel fittings.

钢管外径与壁厚表 OUTSIDE DIAMETER AND WALL THICKNESS



外径和壁厚表 (SY/T 0510 A类) OUTSIDE DIAMETER AND WALL THICKNESS

公称通径 Nominal Diameter	外径 Outside Diameter		壁厚等级 T Wall Thickness																	
	D		SCH5s	SCH10s	SCH20	SCH30	SCH40	SCH40s	SCH80	SCH80s	SCH100	SCH120	SCH140	SCH160						
DN	I	II	I	II	I	II	I	II	I	II	I	II	I	II						
15	21.3	22	1.65	1.65	2.11	2.11	2.77	2.80	3.71	4.0	3.73	4.0	—	—	4.78	5.0				
20	26.9	27	1.65	1.65	2.11	2.11	2.87	3.0	3.91	4.0	3.91	4.0	—	—	5.56	5.5				
25	33.7	34	1.65	1.65	2.77	2.80	3.38	3.50	4.55	4.5	4.55	4.5	—	—	6.35	6.5				
(32)	42.4	42	1.65	1.65	2.77	2.80	3.56	3.50	4.85	5.0	4.85	5.0	—	—	6.35	6.5				
40	48.3	48	1.65	1.65	2.77	2.80	3.68	3.50	5.08	5.0	5.08	5.0	—	—	7.14	7.0				
50	60.3	60	1.65	1.65	2.77	2.80	3.91	4.0	5.54	5.5	5.54	5.5	—	7.0	8.74	8.5				
(65)	76.1	76	2.11	2.11	3.05	3.05	5.16	5.2	7.01	7.0	7.01	7.0	—	8.0	9.52	9.5				
80	88.9	89	2.11	2.11	3.05	3.05	5.49	5.5	7.62	7.5	7.62	7.5	—	9.0	11.1	11.0				
90	110.6	102	2.11	2.11	3.05	3.05	5.74	5.7	8.08	—	8.08	—	—	—	—	—				
100	114.3	114	2.11	2.11	3.05	3.05	6.02	6.0	8.56	8.5	8.56	8.5	—	11.1	13.49	14.0				
(125)	139.7	140	2.77	2.77	3.40	3.40	6.05	6.5	9.53	9.5	9.53	9.5	—	12.7	15.88	16.0				
150	168.3	168	2.77	2.77	3.40	3.40	7.11	7	11.0	11.0	11.0	10.97	—	14.3	18.26	18.0				
200	219.1	219	2.77	2.77	3.40	3.40	8.18	8	12.7	13.0	12.7	13.0	20.62	20.0	23.01	24.0				
250	273.0	273	3.40	3.40	3.76	3.76	9.27	9.3	15.1	15.0	12.7	15.0	25.40	25.0	28.52	28.0				
300	323.9	324	3.96	3.96	4.57	4.57	9.52	10	17.5	17.0	12.7	17.0	28.58	28.0	33.32	34.0				
350	355.6	351	3.96	—	4.78	—	7.92	8.0	19.1	19.0	12.7	—	31.75	32.0	35.71	36.0				
400	406.4	402	4.19	—	4.78	—	7.92	8.0	21.4	22.0	12.7	—	36.52	36.0	40.49	40.0				
450	457.0	450	4.19	—	4.78	—	7.92	8.0	23.8	24.0	12.7	—	39.47	40.0	45.24	45.0				
500	508.0	500	4.70	—	5.54	—	9.52	10.0	26.2	26.0	12.7	—	44.45	45.0	50.01	50.0				
550	559	559	4.78	—	5.54	—	9.52	10.0	28.58	28.0	12.7	—	47.62	48.0	53.98	54.0				
600	610	610	5.54	—	6.35	—	9.52	10.0	30.96	32.0	12.7	—	52.37	52.0	59.54	60.0				

管标号数字后带S者仅适用于奥氏体不锈钢管。Schedule with the suffix "s" only applies for Austenitic stainless steel fittings.

钢管外径与壁厚表 OUTSIDE DIAMETER AND WALL THICKNESS

外径和壁厚表(SY/T 0510 B类) OUTSIDE DIAMETER AND WALL THICKNESS

公称通径 Nominal Diameter	外径 Outside Diameter	公称壁厚 T Nominal Wall Thickness						
		公称压力 MPa Nominal Pressure						
		1.0	1.6	2.5	4.0	6.4	10.0	16.0
DN	D							
15	18	3	3	3	3	3	—	—
20	25	3	3	3	3	3	—	—
25	32	3.5	3.5	3.5	3.5	3.5	4.5	6.5
32	38	3.5	3.5	3.5	3.5	3.5	4.5	7
40	45	3.5	3.5	3.5	3.5	3.5	4.5	7
50	57	3.5	3.5	3.5	3.5	3.5	5	7
65	76	4	4	4	4	4.5	6	8
80	89	4	4	4	4	5	7	9
100	108	4	4	4	4	6	8	10
125	133	4	4	4	4	7	10	12
150	159	4.5	4.5	4.5	4.5	8	12	14
200	219	6	6	6	7	10	14	18
250	273	8	8	8	8	11	16	24
300	325	8	8	8	9	12	18	28
350	377	9	9	9	9	15	22	30
400	426	9	9	9	11	16	24	34
450	478	9	9	10	12	18	26	38
500	529	9	9	11	14	20	28	40
600	630	9	9	12	15	22	—	—

本表所列壁厚均按许用应力 $[\sigma]=131\text{MPa}$ 、介质的腐蚀裕度取1.5mm算出。

The schedule indicated in above list is worked out under the condition of allowable stress $[\sigma]$ equal to 131 MPa and the corrosion allowance equal to 1.5mm.

各国常用材料对照表

THE STANDARD CONTRAST
TABLE FOR MATERIAL

TOBO
GROUP

各国对焊管件、板、管材料标准对照表

The Standard Contrast Table For Butt-welding Fitting, Steel plate And Pipe material

材料 Material	美国ASTM/ASME标准 American Standard			德国DIN或欧盟EN标准 German or European Union Standard			中国GB/HG标准 Chinese Standard		日本JIS标准 Japanese Standard		
	对焊管件 Butt-welding fitting	板 Steel plate	管 Steel pipe	对焊管件 Butt-welding fitting	板 Steel plate	管 Steel pipe	板 Steel plate	管 Steel pipe	对焊管件 Butt-welding fitting	板 Steel plate	管 Steel pipe
低碳钢 Mild steel	A234WPB	A283GrC A285GrC A516-60	A53GrB A106GrB	St 37.0 St 35.8I St 35.8III	RS137-2 H II H II	St 37.0 St 35.8I St 35.8III	Q235A Q235B 20R 20g	20 20G	PG370 PT410	SS400 SM400B SB410	STPG370 STPT410
1Cr-1/2Mo	A234WP12	A387Gr12	A335P12	13CrMo44 1.7335	DIN 17155 13CrMo44	DIN 17175 13CrMo44	GB6654 15CrMoR	GB5310 15CrMo	PA22	SCMV2	STPA22
11/4Cr-1/2Mo-BI	A234WP11	A387Gr11	A335P11	—	—	—	GB150 14Cr1MoR	—	PA23	SCMV3	STPA23
21/4Cr-1Mo	A234WP22	A387Gr22	A335P22	10CrMo910 1.7380	DIN17155 10CrMo910	DIN17175 10CrMo910	—	GB5310 12Cr2MoG	PA24	SCMV4	STPA24
5Cr-1/2Mo	A234WP5	A387Gr5	A335P5	—	—	—	—	GB6497 1Cr5Mo	PA25	SCMV6	STPA25
-46°C C-Mn钢	A420WPL6	A516Gr60 A516Gr70	A333Gr6	TSTE285 (1.0488) TSTE355 (1.0586)	DIN17102 TSTE285 TSTE355	DIN17179 TSTE285 TSTE355	GB3531 16MnDR (-40°C)	GB150 09MnD	PL380	SLA325A	STPL380
-401°C 3.5Ni钢	A420WPL3	A203GrD	A333Gr3	10Ni14 (1.5637)	DIN17280 10Ni14	DIN17173 10Ni14	—	—	PL450	SL3N255	STPL450
18-8不锈钢 Stainless steel 18-8L超低碳	A403WP304 A403WP304L	A240-304 A240-304L	A312TP304 A312TP304L	X5CrNi1810 (1.4301) X2CrNi1911 (1.4306)	DIN17440 1.4301 1.4306	DIN17458 (无缝Seamless) DIN17457 (焊管Weld) 1.4301 1.4306	GB4237 304 304L	GB14976 (无缝Seamless) HG20537 (焊管Weld) 304 304L	SUS304 SUS304L	JISG4304 SUS304 SUS304L	JISG3459 SUS304TP SUS304LTP
18-12Mo不锈钢 Stainless steel 18-12MoL超低碳	A403WP316 A430WP316L	A240-316 A240-316L	A312TP316 A312TP316L	X5CrNiMo 17122(1.4401) X2CrNiMo 17132(1.4404) X6CrNiMoTi 1.4571	DIN17440 1.4401 1.4404 1.4571	DIN17458 (无缝Seamless) DIN17457 (焊管Weld) 1.4401 1.4404 1.4571	GB4237 316 316L 316Ti	GB14976 (无缝Seamless) HG20537 (焊管Weld) 316 316L 316Ti	SUS316 SUS316L	SUS316 SUS316L	SUS316TP SUS316LTP
双相钢 Duplex Stainless steel	A815 S31803 (2205)	A240 S31803 (2205)	A790 S31803 (2205)	VdTv418 X2CrNiMoN 225(1.4462)			—	—	SUS329 J1	SUS329 J1	SUS329 J1TP
904L	(B366) (N08904)	B625 N08904	B677(S) B673(W) N08904	VdTv421 X2NiCrMoCu 25.205(1.4539)			—	—	—	SUS317 J5L	—
Monel 400	B366 N04400	B127 N04400	B165 N04400	同右	DIN17750 NiCu30Fe (2.4360)	DIN17751 NiCu30Fe (2.4360)	JB4741 NCu30	JB4742 NCu30	—	JISH4551 NCuP	JISH4552 NCuT
Incolloy800HT 800	B366 N08811 N08800	B409 N08811 N08800	B407 N08811 N08800	同右	EN10028-7 1.4959 1.4876	DIN17459 1.4959 1.4876	—	—	—	—	—
Inconel1825	B366 N08825	B424 N08825	B423 N08825	同右	DIN17750 2.4858	DIN17751 2.4858	—	—	—	—	—
C-276	B366 N10276	B575 N10276	B622 N10276	同右	DIN17750 2.4819	DIN17751 2.4819	—	—	—	—	—

各国常用材料对照表

THE STANDARD CONTRAST
TABLE FOR MATERIAL

TOBO
GROUP

各国锻制管件、法兰、棒材料标准对照表

The Standard Contrast Table For Forged Fitting, Flange And Bar material

材料 Material	美国ASTM/ASME标准 American Standard		德国DIN或欧重EN标准 German or European		中国GB/HG标准 Chinese Standard		日本JIS标准 Japanese Standard	
	锻制管件、法兰 Forging fitting flange	棒 Bar	锻件 Forging	棒 Bar	锻件 Forging	棒 Bar	锻件 Forging	棒 Bar
低碳钢 Mild steel	A105 (A181)	A675-70 A36	EN10025/S235JRG2 (RSt37-2) (1.0038) DIN17243/C22.8		JB4726 20/16Mn	GB699/20 GB1591/Q345B	JISG3202 SFVC2A JISG4051 S25C	JIS G3101 SS400 JIS G3103 SM400B
1Cr-1/2Mo	A182F12	A739B12	DIN17243 13CrMo44 (1.7335)		JB4726 15CrMo	—	JIS G3203 SFVA F12	—
1 1/4Cr-1/2Mo-Si	A182F11	A739B11	—		JB4726 14Cr1Mo	—	SFVA F11A	—
2 1/4Cr-1Mo	A182F22	A739B22	DIN17243 10CrMo910 (1.7380)		JB4726 12Cr2Mo1	—	SFVA F22B	—
5Cr-1/2Mo	A182F5	—	DIN2528 12CrMo195 (1.7362)		—	—	SFVA F5B	—
-46°C C-Mn钢	A350LF2	—	DIN17103 TSTE355 (1.0566)	DIN17102 TSTE355 (1.0566)	JB4727 16MnD	—	JIS G3205 SFL2	—
-101°C 3.5Ni钢	A350LF3	—	DIN17280 10Ni14(1.5637)		—	—	JIS G3205 SFL3	—
18-8不锈钢 Stainless steel 18-8L超低碳	A182F304 A182F304L	A479-304 A479-304L	DIN17440 1.4301 1.4304		JB4728 304 304L	GB1220 304 304L	JIS G3214 F304 F304L	JIS G4303 SUS304 SUS304L
18-12Mo不锈钢 Stainless steel 18-12MoL超低碳	A182F316 A182F316L	A479-316 A479-316L	DIN17440 1.4401 1.4571 316Ti		316 316L 316Ti	GB1220 316 316L 316Ti	JIS G3214 F316 F316L	JIS G4303 SUS316 SUS316L
18-8Ti	A182F321	A479-321	DIN17440 1.4541		JB4728 0Cr18Ni10Ti	GB1220 0Cr18Ni10Ti	JIS G3214 F321	JIS G4303 SUS321
双相钢 Duplex Stainless steel	A182F51	—	VdT 418 X2CrNiMoN225 (1.4462)		—	—	—	SUS329J1
904L	B N08904	B649 N08904	VdT 421 X2NiCrMoCu25205 (1.4539)		—	—	—	SUS317J5L
Monel 400	B564 N04400	B164 N04400	DIN17743 NiCu30Fe (2.4380)		JB472/NCu30	—	—	—
Incolloy800HT 800	B564 N08811 N08800	B408 N08811 N08800	DIN17460 1.4959 1.4876	—	—	—	—	—
Inconel1825	(B564) N08825	B425 N08825	DIN17754 2.4858	DIN17752 2.4858	—	—	—	—
C-276	B564 N10276	B574 N10276	DIN17754 2.4819		—	—	—	—

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Petrochemical Industry



陆上油田
Oil Field Inland



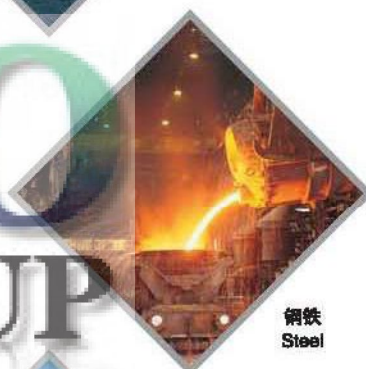
海上油田
Oil Field In Ocean



电厂
Electric Power



钢铁
Steel



造船
Shipbuilding



城建工程
City Building



石油天然气
Gas Oil

- 石油化工、石油天然气、海上油田、陆上油田、电力、纺织化纤、造船、食品、医药、造纸、化肥、建筑、城市煤气、环保、污水处理等
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