

**TIANQING** 天庆®  
PIPES & FITTINGS Professional Manufacturer



**浙江天庆管业有限公司**  
Zhejiang Tianqing Pipeline Industry Co., Ltd.



专 注 铸 就 完 美  
Concentration Makes Perfection

## 企业简介 Company Profile

浙江天庆管业有限公司是专业的金属管道制造商，目前主要生产铜管件和不锈钢管件。公司专业生产6到325毫米铜管件和12.7到152.4毫米不锈钢管件。

公司目前拥有一流的弯管设备和挤压设备，弯管设备主要从澳洲进口，由日本YAMASUI和澳洲PONGRASS公司制造。最大弯曲直径达到13英寸（325毫米）。公司还拥有不锈钢内外表面自动抛光设备，抛光质量稳定，可靠，且成本大幅降低，开创了国内机器自动抛光的先河，为拓展国内外市场奠定了良好的基础。

公司目前拥有员工近50人，各种加工设备100多台，年生产能力铜管件500吨，不锈钢管件300吨。公司产品主要应用于给水管道，空调，制冷，食品，医药等行业。产品主要出口到美国，加拿大，澳大利亚，中东，东南亚等国家，以及国内市场。公司坐落于中国浙江绍兴市上虞区，到上海港和宁波港路程基本一样，交通发达，希望国内外客户莅临天庆参观和指导。我们将竭诚为客户提供质量上乘，价格合理的产品。

Zhejiang Tianqing Pipeline Industry Co., Ltd. majors in producing and selling copper and stainless steel pipe fittings.

We have over twenty-year experience of pipe fitting manufacturing qualification. We have the capability to process 6 to 325-millimeter copper pipe fittings and 12.7 to 152.4-millimeter stainless steel ones.

Tianqing owns a set of big-league elbow and extruding equipment. Elbow equipment is mainly imported from Australia, which is manufactured by YAMASUI of Japan and PONGRASS of Australia. The minimum extruding diameter reaches 13 inches (325 millimeters). Tianqing also has internal and external auto polishing equipment for stainless steel fittings, which has stable-quality, low-cost and reliable outcomes that create a great basis for developing international market.

Tianqing keeps exploring and innovating and all products are produced strictly in accordance with the standard of ISO9001:2000. These products are mostly exported to America, Canada, Australia, mid-east, and east south Asia, which are applied in plumbing, air condition refrigeration, food, medicine etc. Tianqing welcomes all clients to come for a visit.



不锈钢理化参数

Physical and Chemical Parameters of Stainless Steel

不锈钢密度 Density of stainless steel:	7.93 - 7.98	g/m <sup>3</sup>
不锈钢熔点 Melting point of stainless steel:	1398	°C
不锈钢热导率 Heat conductance of stainless steel:	24.5	W/(m · K)
不锈钢比热容 Specific heat of stainless steel:	500	J/(m · K)

表1 不锈钢抗拉强度及伸长率  
Table 1 Tensile Strength and Specific Elongation

牌号 (UNS)	抗拉强度 Tensile Strength (MPa)	延伸率 Specific Elongation (%)
0Cr18Ni9 (S304)	≥ 520	≥ 35
0Cr17Ni12Mo2 (S316)	≥ 520	≥ 35
00Cr17Ni14Mo2 (S316L)	≥ 480	≥ 35

表2 不锈钢管材的化学成分

Table 2 Chemical Composition of Stainless Steel Pipeline

	C	Si	Mn	P	S	Ni	Cr	Mo
0Cr18Ni9 (S304)	≤ 0.07	≤ 1.0	≤ 2.0	≤ 0.035	≤ 0.03	8.0 - 11.0	17.0 - 19.0	—
0Cr17Ni12Mo2 (S316)	≤ 0.08	≤ 1.0	≤ 2.0	≤ 0.035	≤ 0.03	10.0 - 14.0	16.0 - 18.0	2.0 - 3.0
00Cr17Ni14Mo2 (S316L)	≤ 0.03	≤ 1.0	≤ 2.0	≤ 0.035	≤ 0.03	12.0 - 15.0	16.0 - 18.0	2.0 - 3.0

- 不锈钢管广泛应用于石油、化工、医药、食品、给水、机械、航天、建筑、军工、五金、锅炉燃气、水暖管件、船舶、电厂、装饰用管、厨具、散热设备、水处理设备、电镀设备、汽车配套附件、热交换器等行业。它具有很高的耐腐蚀性和耐压强度，可靠耐用、长寿命、低维护成本、管道施工安装简便等优点，并具备多种管道连接方式。同时还具有外表美观、清洁、时尚等优势，有助于提高城市建筑档次。
- 不锈钢管规格尺寸：φ14 ~ φ114mm，壁厚0.6 ~ 3mm。
- 不锈钢输送介质（材料、食品、药物、水、气、油等流体或气体）温度不超过135℃。
- Stainless steel pipeline is widely used for oil, chemical industry, medicine, foods, plumbing, machine, spaceflight, construction, military, hardware, boiler gas, water-supply tube and fittings, ships, power mills, decoration, kitchen tools, ventilation equipment, water treatment equipment, electroplating equipment, automobile fittings, heat-exchanger etc.. It has the property of high resistance to corrosion and resistance to compression with reliable, durable, long-life characteristics and also with the advantages of low maintenance cost and easy installation. It has all kinds of attend modes. In the meanwhile, its specious surface, clean and fashionable moulds contribute to the level of buildings around the modern metropolis.
- Specification of stainless steel pipeline: Diameter φ14 ~ φ114mm, with wall thickness of 0.6 ~ 3mm.
- Mediums transmitting within stainless steel pipeline (like Water, drinking, foods, gas, oil etc..) should be under temperature of less than 135 C.



- 卫生环保：不锈钢管材料本身安全卫生，可保持水质纯净，不含环境污染物（无铅、无聚氯乙烯、无环境荷尔蒙等），对人体健康没有任何影响，能够用于各种水质，除消毒灭菌外，不需要对水质进行控制；无腐蚀和不良渗出物，无异味或浑浊问题；可100%再生，这一优点使不锈钢水管不会造成环境污染，绿色环保，有利于可持续发展。
- 耐腐蚀：它具有很高的耐腐蚀性，能够用于各种水质的输送。
- 耐高温，管道输送的水温可高达135℃，耐高压，最高耐压可达10Mpa以上。
- 流阻小：内壁光滑、系统压力损失小，水流速度快。低流速时水阻仅为碳钢管的2/5。
- 使用寿命长，不锈钢管具有优良的物理性能和化学性能，在水温135℃以下，水压1.6Mpa以下，使用寿命可长达100年之久。
- 防渗透，不锈钢水管分子结构紧密，阻氧性好，可有效防止细菌滋生。
- With its Sanitary property and harmless for environment , stainless steel pipeline maintains good quality of the water, without polluting to human people's health. It can be used for all sorts of waters, no need for extra control of the water. Non-corrupt non-leakage, non-smelt, non-turbid; Full recyclable characteristic makes it to be green pipeline for continuous development.
- Endurable to corruption, applicable to all kinds of waters transportation.
- Endurable to high temperature, it works well under temperature of 135 centigrade. Endurable to high pressure as to be 10MPa or above.
- Low water resistance caused by its smooth inner wall, makes it faster water flow (normally 0.4 times of the carbon steel tubes)
- Stainless steel pipeline has long working life, with excellent chemical and physical properties, as long as more than 100 years (normally environment by less than 1.6MPa, under 135 C).
- Non-infiltration, thanks to its compacted molecular structure, anti-oxidation, leaving no space for bacterial within the pipeline.

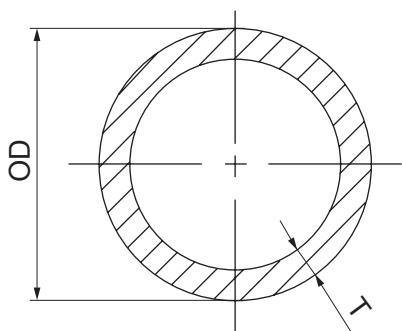
非常高的耐压性能和耐腐蚀性能，使不锈钢在各个行业内都能得到很好的使用，一些重要行业如核工业更是离不开不锈钢的应用。

连接方式多样化，但是安装时对安装人员的技术要求较高；采用焊接连接时焊接处的分子结构恢复要求较高，需要做好防锈工作。

Excellent pressure resistance and inoxidability make stainless steel play an important role in all kinds of industries.

There are various attended modes for stainless steel fittings, but it has high technical requirements in installation for installation personnels.

Rust prevention should be done when welding.



不锈钢管的规格尺寸图

Spec and Size of Stainless Steel Tube

表3 不锈钢管外形尺寸参数及允许偏差

Table 3 Spec and Size of Stainless Steel Tube and Allowed Tolerance

单位(Unit):mm

公称通径 Diameter Nominal DN	不锈钢管外径 Outside Diameter DW	外径允许偏差 Tolerance of DW	壁厚 Wall Thickness T	壁厚允许偏差 Tolerance of Wall Thickness	理论重量 Theoretical Weight kg/m
15	12.7	± 0.13	1.6	+ 0.00 - 0.10	0.477
20	19.0				0.734
25	25.4				0.986
32	31.8	± 0.25			1.243
40	38.1				1.495
50	50.8				2.005
65	63.5	± 0.38			2.514
80	76.2				3.023
100	101.6				4.041
125	127.0	± 0.76			5.060
150	152.4		6.078		

注：平均外径是指在管材任意截（断）面上测得的最大外径和最小外径的平均值。

Notes: Average DW means the average of maximum and minimum outside diameter at any cross section of tube.

表4 澳洲标准 AS 1528 不锈钢管规格（适用于对接焊方式的不锈钢管材）  
Table 4 Australian Standard AS 1528 Specification of Stainless Steel Tube

单位(Unit):mm

公称直径 DN Diameter Nominal	外径及允许偏差 OD Outside Diameter and Tolerance	壁厚及允许偏差 T Wall Thickness and Tolerance
15	12.70 ± 0.13	1.60 ± 0.16
20	19.05 ± 0.13	1.60 ± 0.16
25	25.40 ± 0.13	1.60 ± 0.16
32	31.80 ± 0.13	1.60 ± 0.16
40	38.10 ± 0.25	1.60 ± 0.16
50	50.80 ± 0.25	1.60 ± 0.16
65	63.50 ± 0.25	1.60 ± 0.16
80	76.20 ± 0.25	1.60 ± 0.16
100	101.60 ± 0.38	1.60 ± 0.16

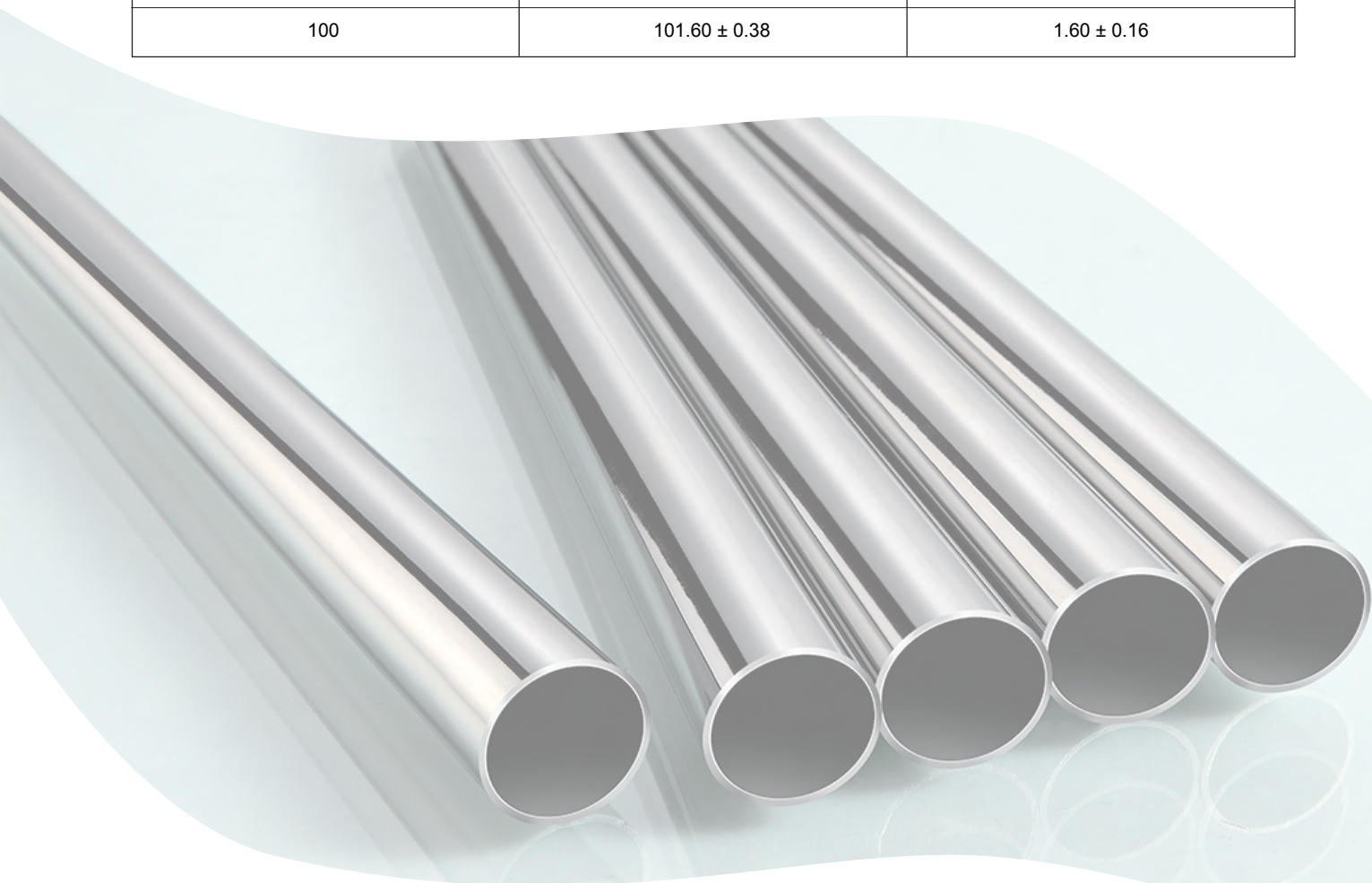


表5 美国标准A269、A270不锈钢管规格

Table 5 American Standard Specification of Stainless Steel Tube

## ASTM A269 通用管材 (General Pipeline)

单位(Unit):mm

公称直径 OD Outside Diameter	外径及允许偏差 PV Tolerance of OD	壁厚及允许偏差 PV Wall Thickness Tolerance
≤ 12.7	± 0.13	± 15%
≤ 38.1	± 0.13	± 10%
≤ 88.9	± 0.25	± 10%
≤ 139.7	± 0.38	± 10%
≤ 203.2	± 0.76	± 10%
≤ 304.8	± 1.01	± 10%
≤ 355.6	± 1.27	± 10%

## ASTM A270 食品卫生级管材 (Sanitary Pipeline)

单位(Unit):mm

公称直径 OD Outside Diameter	外径及允许偏差 PV Tolerance of OD	壁厚及允许偏差 PV Wall Thickness Tolerance
≤ 25.4	± 0.13	± 12.5%
≤ 50.8	± 0.20	± 12.5%
≤ 76.2	± 0.25	± 12.5%
≤ 101.6	± 0.38	± 12.5%
≤ 139.7	± 0.38	± 12.5%
≤ 203.2	± 0.76	± 12.5%
≤ 304.8	± 1.27	± 12.5%



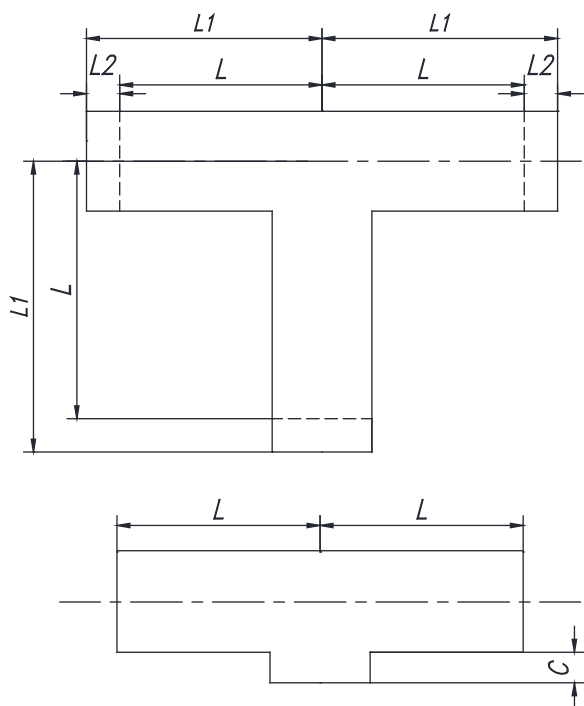


图1  
Figure 1

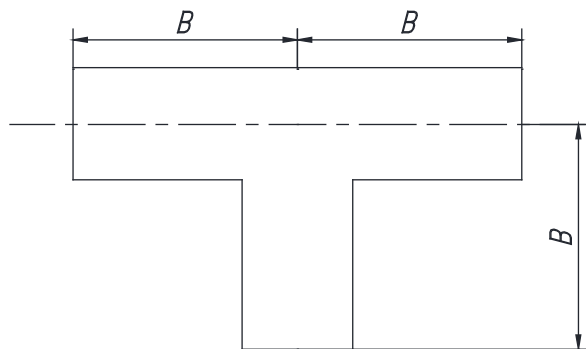


表6 澳洲标准正三通尺寸表

Table 6 Dimensions of Equal Tee in AS1528.3

单位(Unit):mm

公称尺寸 OD Nominal Size	尺寸 (见图1) Dimensions(See Figure 1)				
	L	L1	L2	B	C
12.7	19.1	49.1	30.0	-	3.0
19.1	28.6	58.6	30.0	-	3.0
25.4	38.1	68.1	30.0	51.0	3.0
31.8	47.7	77.7	30.0	60.0	3.0
38.1	57.0	87.0	30.0	70.0	3.0
50.8	76.2	106.2	30.0	88.0	3.0
63.5	95.0	125.0	30.0	122.0	3.0
76.2	114.2	144.2	30.0	140.0	3.0
101.6	152.4	182.4	30.0	179.0	3.0
127.0	190.5	230.5	40.0	230.0	3.0
152.4	228.5	268.5	40.0	270.0 / 225.0	3.0

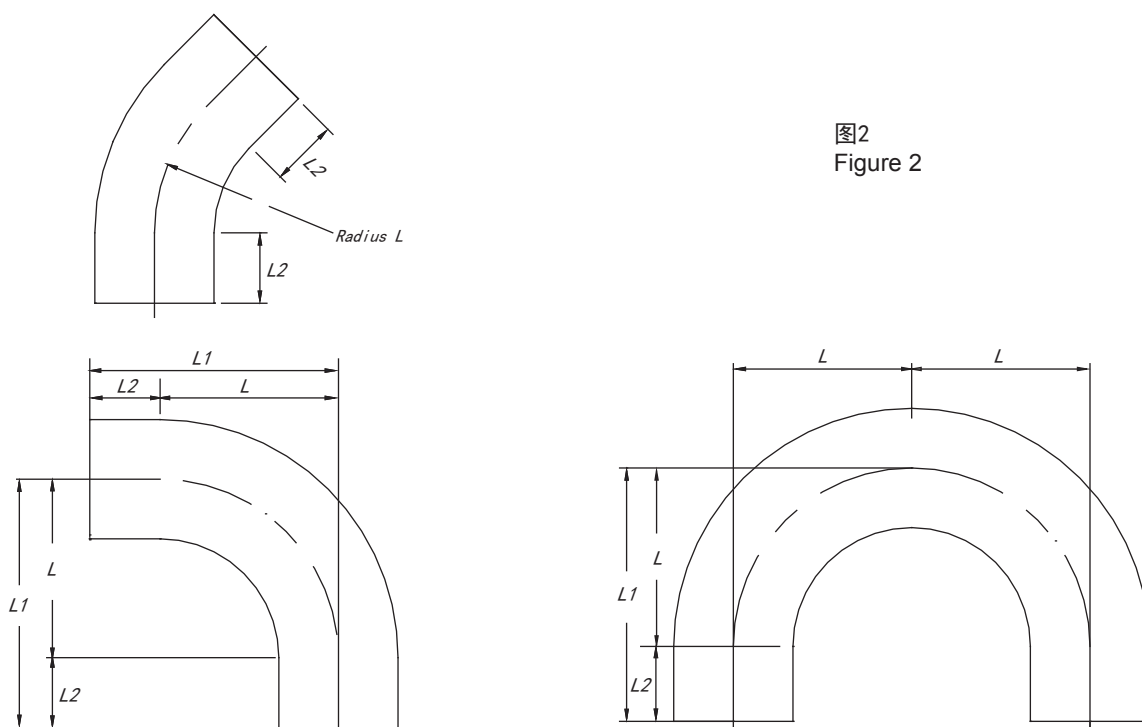


图2  
Figure 2

表7 澳洲标准45°，90°，180°弯头尺寸表

Table 7 Dimensions of 45° 90° and 180° Tube Bends in AS1528.3

单位(Unit):mm

公称尺寸 OD Nominal Size	尺寸 (见图1) Dimensions(See Figure 1)			
	L	L1	L2	Wall Thickness
12.7	19.1	12.7	12.7	12.7
19.1	28.6	19.1	19.1	19.1
25.4	38.1	25.4	25.4	25.4
31.8	47.7	31.8	31.8	31.8
38.1	57.0	38.1	38.1	38.1
50.8	50.8	50.8	50.8	50.8
63.5	63.5	63.5	63.5	63.5
76.2	76.2	76.2	76.2	76.2
101.6	101.6	101.6	101.6	101.6
127.0	127.0	127.0	127.0	127.0
152.4	152.4	152.4	152.4	152.4

### G101 正三通 Equal Tee

15	20	25	32	40	50	65	80	100	125
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150									
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### G102 异径三通 Reducer Tee

25*20	32*20	32*25	40*20	40*25	40*32	50*25	50*32	50*40	65*40
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65*50	80*50	80*65	100*50	100*65	100*80				
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G101 Equal Tee



G102 Reducer Tee

### G201 45度弯头 45° Elbow

15	18	20	25	32	40	50	65	80	100
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125	150								
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### G302 90度长半径弯头 90° Long Radius Elbow

15	18	20	25	32	40	50	65	80	100
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125	150								
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### G401 180度弯头 180° Elbow

15	18	20	25	32	40	50	65	80	100
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125	150								
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G201 45° Elbow



G302 90° Long Radius Elbow



G401 180° Elbow



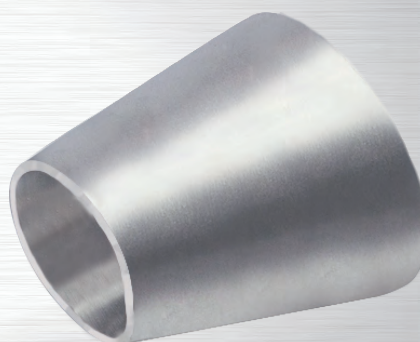
G501 异径接头 Concentric Reducing End Connector									
20*15	25*15	25*20	32*20	32*25	40*20	40*25	40*32	50*20	50*25
50*32	50*40	65*40	65*50	80*40	80*50	80*65	100*50	100*65	100*80
125*80	125*100	150*125							

G509 偏心异径接头 Eccentric Reducing End Connector									
20*15	25*15	25*20	32*20	32*25	40*20	40*25	40*32	50*20	50*25
50*32	50*40	65*40	65*50	80*40					
125*80	125*100	150*125							



G501 Concentric Reducing End Connector



G509 Eccentric Reducing End Connector



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