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锴练能源科技(上海)有限公司

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INO-ENERGY
集|合|众|智　求|精|务|实

PIPE FITTINGS 管件

INO-ENERGY

PROFESSIONAL MANUFACTURER OF PRESSURE PIPING SYSTEM

压力管道系统专业制造商

CONTENTS
目录

Brand Definition/品牌释义 03
Enterprise Profile/企业简介 04
Enterprise Qualification/企业资质 05
Product Scope/产品范围 07
Manufacturing Process/工艺流程 09
Production Equipments/生产设备 11
Quality Control/质量控制 13
Butt-Welding Fittings/对焊管件 15
Tolerances of Butt-Welding Fittings/对焊管件公差 43
End Preparation/端部制备 46
Forged Fittings/锻制管件 47
Forged Flanges/锻制法兰 51
Dimensions and Weights Schedule/尺寸和重量表 53
Weights Schedule of Butt-Welding Fittings/对焊管件重量表 54
The General Materials for Pipe Fittings/管件常用材料 58
The General Raw Materials/常用原材料 61

INO-ENERGY

THE MOST RELIABLE PARTNER
最值得信赖的伙伴

Professional Manufacturer of Pressure Piping System

压力管道系统专业制造商

Large-Diameter Welded Carbon Steel Fittings
大口径焊缝碳钢管件

Alloy Steel Fittings
合金管件

Seamless Carbon Steel Fittings
无缝碳钢管件

Flanges
法兰

Forged Fittings
锻制管件

Copper Alloy Fittings
铜合金管件

Nickel Alloy Fittings
镍合金管件

Ferritic/Austenitic Stainless Steel Fittings
铁素体-奥氏体不锈钢管件

Large-Diameter Welded Pipeline Steel Fittings
大口径焊缝管线钢管件

Seamless Stainless Steel Fittings
无缝不锈钢管件

Barred Tees
清管三通

Large-Diameter Welded Stainless Steel Fittings
大口径焊缝不锈钢管件

EN Standard Pipe Fittings
欧标管件

Reducing Elbows
异径弯头

Sour Service Fittings
抗硫管件

180°Returns
180°弯头

Cladded Fittings
复合管件

Galvanized Laterals
镀锌斜三通

Coated Bends
防腐弯管

Coated Fittings
防腐管件

Miter Bends
斜接弯头

Long Tangent Tees
长直段三通

Special Tees
特殊三通

Pipe Prefabrication
管道预制

Pressure Vessels
压力容器

Saddles
鞍座

Brand Definition/品牌释义

Core Philosophy/核心理念

Pool Wisdom, Pursue Refinement.
Improve Quality, Highlight Honesty.
集合众智，求精务实。质量第一，诚信至上。

Management Philosophy/管理理念

Solidarity & Cooperation, Collaboration & Unification.
Professionalism & Dedication, Technology & Management.
团结合作，协同统一。专业专注，科学管理。

Operation Philosophy/经营理念

Forging Ahead, Making Innovation.
Steadying Development, Achieving Win-Win.
开拓进取，科技创新。稳健发展，实现共赢。

Service Philosophy/服务理念

Enterprise keeps abreast with market.
Management integrates with the world.
企业和市场同步，管理与世界接轨。

营业执照
Business License

高新技术企业
Hi-Tech Enterprise

Company Profile /公司简介

INO ENERGY EQUIPMENT CO., LTD Located in Yingkou, Liaoning Province, **INO ENERGY** covers an area of 30000 square meters. Our annual production capacity reaches 5000 tons. We employ more than 180 people and own a team of experienced senior engineers and technical experts.

INO ENERGY is a professional manufacturer of pipe fittings. Our products are widely used in oil, gas, petrochemical, ship-building and power plant industries. Our products can be also used for offshore, FPSO and FLNG applications.

INO ENERGY's products include TEE, CROSS, ELBOW, concentric and eccentric REDUCERs, STUB END, CAP and FLANGE made of carbon steel, alloy steel, stainless steel and nickel base alloy steel. Our products are manufactured with size up to 100" in accordance with ASME, ANSI, MSS, DIN, JIS, etc. We can also produce various non-standard products according to customer's technical requirements. What's more, we also manufacture products suitable for sour service, which meet the requirements of NACE MR0175 and ISO 15156.

INO ENERGY has independent cold forming workshop for stainless steel, hot forming workshop for carbon steel and alloy steel, forging facility and pre-fabricated pipeline spool workshop. The company has a complete set of production equipment. At present, we have about 150 sets of advanced equipment, such as four column hydraulic press(3000T), medium frequency press machine (3000T), elbow cold forming machine (DN800), TEE cold extrusion machine (DN500), medium frequency elbow machine (DN1000, Thk30mm), plate rolling machine(3200mm*55mm). The maximum diameter of seamless pipe fittings can reach DN600、wall thickness ≤ 120mm; the maximum diameter of welded pipe fittings can reach DN2500、wall thickness ≤ 100mm; the maximum diameter of forged pipe fittings can reach DN600.

INO ENERGY's comprehensive quality control plan designed by senior experts and academic consultants in quality and standards field which has been implemented since the establishment of **INO ENERGY**. The company is also equipped with advanced testing equipment to ensure products quality.

INO ENERGY takes "Serve with Heart to Achieve Mutual Benefits" as the corporate culture, HONESTY and INTEGRITY as the code of conduct, and provides customers with the best service 24 * 7 through modern management system!

锴练能源工厂位于辽宁省营口市，占地面积30000平方米，年产能5000吨。公司现有员工180人，拥有资深工程师和专业技术团队。

锴练能源是专业的管道配件生产商。产品广泛运用于海洋石油、天然气、化工、造船和发电等绿色能源领域。

锴练能源的产品涵盖以碳钢、合金钢、不锈钢、镍基合金等材质的三通、四通、弯头、同偏心异径管、翻边短接、管帽和法兰等。产品规格覆盖范围：1/2"- 100"，可满足ASME、ANSI、MSS、DIN和JIS等标准要求，也可按客户技术要求制作各种非标产品。我们同时生产适合酸性环境的产品，符合NACE MR0175和ISO 15156要求。

锴练能源工厂拥有独立的不锈钢冷成型加工车间、碳钢和合金钢热成型加工车间、法兰生产加工车间、管道预制生产车间。公司生产设备齐全，目前拥有3000吨四柱液压机、中频推制机（3000T）、弯头冷成型机(DN800）、三通冷挤压机（DN500）、大型中频弯管机（DN1000, Thk30mm）、卷板机（3200mm*55mm）等先进设备共计约150台 / 套。无缝管件最大口径可到DN600，壁厚≤120mm，有缝管件最大口径可到DN2500，壁厚≤100mm，锻制管件最大直径可至DN600。

锴练能源的全面质量控制体系由特别聘请的质量和标准领域资深专家和学术顾问精心设计，自公司成立以来一直严格按此体系要求执行。公司也配备了先进的检测设备，以确保产品质量。

锴练能源以用心服务，合作共赢为企业文化；以诚信和正直为行为准则；通过现代化的管理模式，全天候为客户提供最优质的服务！

Enterprise Qualification /企业资质

- Quality Management System Certificate (ISO9001：2015)/质量管理体系认证证书（ISO9001：2015）
- Environment Management System Certificate (ISO14001：2004)/ 环境管理体系认证证书（ISO14001：2004）
- Occupation Health Safety Management System Certificate (GB/T28001-2011)/职业健康安全管理体系认证证书（GB/T28001-2011）

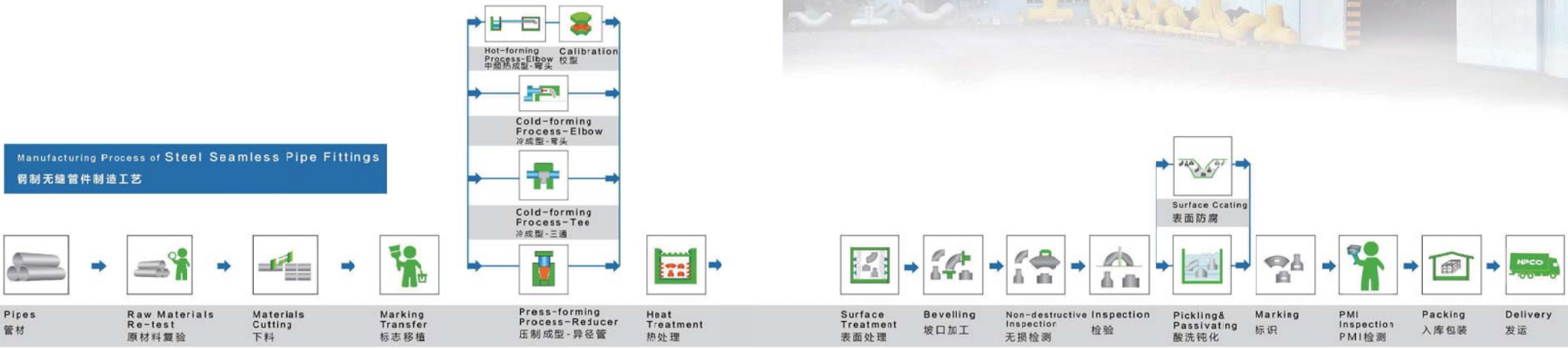
Product Scope /产品范围

Steel Type 材质类型	Product Type 产品类型	Dimension 尺寸	Material 材质	Wall Thickness 壁厚	Manufacture Standard 制造标准
Carbon & Alloy Steel 碳钢和合金钢	Elbow	1/2"-120"	· A234 WPB - WPC · P235GH - P265GH - P265NL1 · A234 WP1 - WP11 - WP12 - WP5 - WP22- WP9 - WP91 · 16Mo3 - 10CrMo9-10 - 13CrMo4-5	SCH10-SCH160	ASME B16.9 MSS SP-75 EN10253-2 As per Technical Drawings
	Tee	1/2"-120"			
	Reducer	1/2"-120"			
	Cap	1/2"-120"			
Line Pipe Steel 管线钢	Elbow	1/2"-120"	· A860 WPHY42-WPHY46-WPHY52 -WPHY60-WPHY65-WPHY70-WPHY80 · L245NB-L290NB-L360NB-415NB -L360QB-L415QB-L450QB-L485QB -L555QB-P355NH-P460QL1	SCH10-SCH160	ASME B16.9 MSS SP-75 EN10253-2 As per Technical Drawings
	Tee	1/2"-120"			
	Reducer	1/2"-120"			
	Cap	1/2"-120"			
Low Temperature Steel 低温钢	Elbow	1/2"-120"	· A420 WPL6	SCH10-SCH160	ASME B16.9 MSS SP-75 EN10253-2 As per Technical Drawings
	Tee	1/2"-120"			
	Reducer	1/2"-120"			
	Cap	1/2"-120"			
Stainless Steel 不锈钢	Elbow	1/2"-76"	· A403 WP304/304L/304H - WP316/316L/316H - WP321/321H · Equivalent grades of EN 10253-3 - EN 10253-4	SCH10-SCH160	ASME B16.9 MSS SP-75 EN10253-4 As per Technical Drawings
	Tee	1/2"-76"			
	Reducer	1/2"-76"			
	Cap	1/2"-76"			
	Lap Joint Stub End	1/2"-48"		SCH5S-SCH80	ASME B16.9 MSS SP-43 EN10253-4
Ferritic/Austenitic Stainless Steel 铁素体-奥氏体不锈钢	Elbow	1/2"-24"	· A815 S31803 - S32750	SCH5S-SCH160S	ASME B16.9 MSS SP-75 EN10253-4
	Tee	1/2"-24"			
	Reducer	1/2"-24"			
	Cap	1/2"-24"			
Nickel Alloy Steel 镍合金钢	Elbow	1/2"-16"	· B366 NO4400 - NO6600 - NO6625	SCH5S-SCH80	ASME B16.9
	Tee	1/2"-16"			
	Reducer	1/2"-16"			
	Cap	1/2"-16"			
Copper Alloy Steel 铜合金钢	Elbow	1"-20"	· B466 UNS C70600 (CuNi 90/10) - UNS C71500 (CuNi 70/30)	2.5mm-8.5mm	ASME B16.9 EEMUA 146
	Tee	1"-20"			
	Reducer	1"-20"			
	Cap	1"-20"			

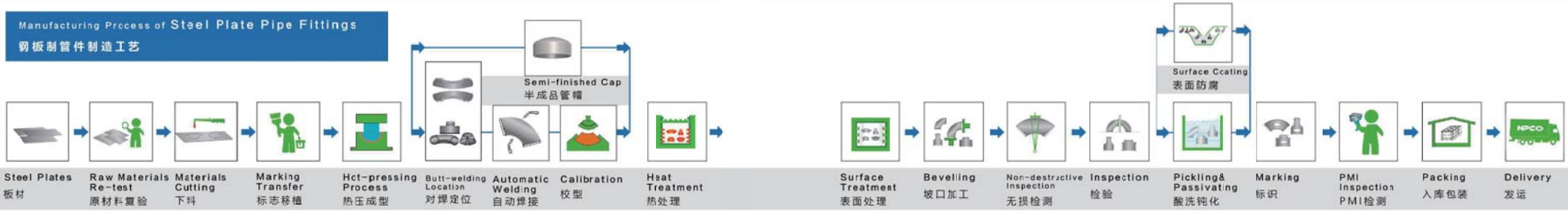
Steel Type 材质类型	Product Type 产品类型	Dimension 尺寸	Material 材质	Wall Thickness 壁厚	Manufacture Standard 制造标准
Forged Steel 锻件	Elbow	1/2"-4"	· A105 · A182 F11 - F22 - F91 - F304L - F316L - F321 - F51 - F53 · A350 LFI - LF2 · A694 F52 - F60 - F65 - F70	3000LB-9000LB	ASME B16.11
	Tee	1/2"-4"			
	Cap	1/2"-4"			
	Coupling	1/2"-4"			
	Union	1/2"-4"			MSS SP-83
	Boss	1/2"-4"			BS3799
	Swaged Nipples	1/2"-4"			MSS SP-95
	Plug	1/2"-4"			ASME B16.11
	Outlets	1/2"-24"			MSS SP-97
	Socket & Threaded Tee	1/2"-4"			ASME B16.11
Flange 法兰	ANSI Slip-On	1/2"-24"	Carbon steel · A515 - A516 - A285 - SS400 - SB400 - SM400A - A18CL7, etc. Forged Carbon Steel · S25C - A105 - A266 - SF440 - A36, Etc. Plate Stainless Steel · SUS304 - SUS304L - SUS316 - SUS316L, Etc. Forged Stainless Steel · A182 F304 - F304L - F316 - F316L - F321 - F347H, Etc. Alloy Steel · A182 F11 - F12 - F22 - F91, Etc. Others · A350 LFI - LF2; A694 F52 - F60 - F65 - F70, Etc.	150#-2500#	ANSI B16.5
	ANSI W/D Neck	1/2"-24"		150#-2500#	
	ANSI S/W	1/2"-24"		150#-2500#	
	ANSI THR'D	1/2"-24"		150#-2500#	
	ANSI Lap Joint	1/2"-24"		150#-2500#	
	ANSI Ring Joint	1/2"-24"		150#-2500#	
	Long W/D Neck	1/2"-24"			
	Orifice Flange	1/2"-24"		300#-2500#	
	MSS Flange	12"-60"		150#-900#	
	API Flange	26"-60"		75#,150#,300#	ANSI B16.47
	API 6B Flange	2-1/16"-21-1/4"		2000#-5000#	
	API 6BX Flange	26-3/4"-30"		2000#-3000#	
	API 6BX Flange	1-13/16"-21-1/9"		5000#-10000#	
	API 6BX Flange	1-13/16"-18-3/4"		15000#	
	API 6BX Flange	1-13/16"-13-5/8"		20000#	EN1092-1
	AWWA Slip-On	4"-120"		Class B&D	
	AWWA Blind	4"-120"		Class E	
	DIN W/D Neck			6 Bar-40 Bar	DIN
	DIN Slip-On			6Bar-40 Bar	
	DIN Blind			6 Bar-40 Bar	
	KS&JIS Flange			2Kg/cm2-21Kg/cm2	
	Spectacle Spacer &Blanks	1"-36"		150LB-900LB	
	Spectacle Flange RF&FF	1/3"-10"		150LB,300LB	

Manufacturing Process /工艺流程图

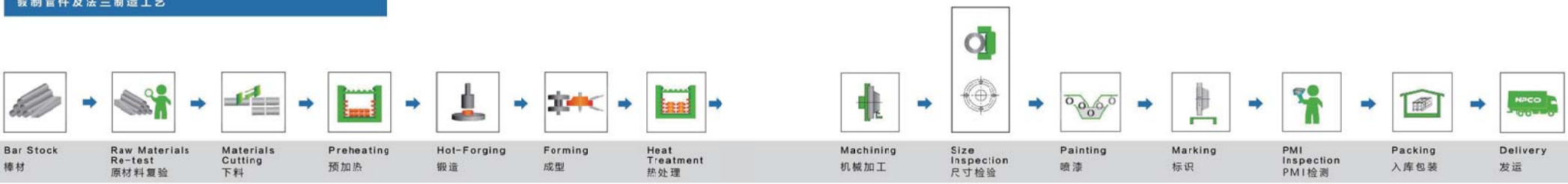
Manufacturing Process of Steel Seamless Pipe Fittings
钢制无缝管件制造工艺



Manufacturing Process of Steel Plate Pipe Fittings
钢板制管件制造工艺



Manufacturing Process of Forged Fittings & Flanges
锻制管件及法兰制造工艺



Production Equipments /生产设备

Since its development until now, the enterprise has already owned the complete production lines of pipe fittings, the advanced production equipments can guarantee the safety and the reliability of products.

企业发展至今，已经拥有了完整的管道配件生产线，先进的生产设备确保产品的安全与可靠。

- 3000T Hydraulic Forming Machines
- 2000T Hydraulic Forming Machines
- 1500 T Cold Forming Machines of Tees
- 500T & 200T Hot Forming Machines of Bends and Elbows
- 800T & 500T Cold Forming Machines of Stainless Steel Elbows
- 500T, 300T, 200T & 100T Hydraulic Forming Machines of Reducers & Caps
- Cutting Machines for Plates, Pipes & Bars
- Automatic Welding Machines
- Heat Treatment Equipments
- Surface Treatment Equipments
- Shot Blasting Ecuipments
- Bevelling Machines
- Flange and Socket Processing Units (numerically-controlled lathes, common lathe, vertical lathe and drilling machines)

- 高压管件成型液压机3000吨
- 大口径管件成型液压机2000吨
- 三通冷成型液压机1500吨
- 弯头、弯管热成型推制机500吨、200吨
- 不锈钢弯头冷成型液压机800吨、500吨
- 异径管、管帽成型液压机500吨、300吨、200吨、100吨
- 自动切割机（板材、管材、棒材）
- 自动焊接设备
- 热处理炉
- 表面处理设备
- 卷板机
- 钢管、弯头、三通坡口机
- 法兰、承插件加工设备（数控车床、普车、立车、钻床）

Hydraulic Forming Machines
液压机

Hydraulic Forming Machines
液压机

Tee Forming Machines
三通机

Elbow Cold Forming Machines
弯头冷成型机

Hot Forming Machines
中频推制机

Automatic Welding Machines of Tees
自动焊接设备 三通

Automatic Welding Machines of Elbows
自动焊接设备 弯头

Rolling Machines
卷板机

Heat Treatment Equipments of Large Size
大型热处理设备

Heat Treatment Equipments of Small Size
小型热处理设备

Surface Treatment Equipments of Large Size
大型表面处理设备

Surface Treatment Equipments of Small Size
小型表面处理设备

Automatic Cutting Machines of Steel Plates
板材自动切割机

Automatic Cutting Machines of Pipes & Bars
管材及棒材自动切割机

Bevelling Machines of Large Size
大型坡口机

Bevelling Machines of Small Size
小型坡口机

Machining Workshops
机加车间

Dies
模具

Dies
模具

Quality Control /质量控制

Since its foundation, the Company has always attached great importance to the improvement of quality system. By continuously learning from the advanced quality management experience at home and abroad, we have further improved the construction of quality inspection team, and have strengthened the construction of quality inspection lab. As a result, all links are put under control, from the pre-sale links such as new product development, design and material purchase, to the in-sale links such as blanking, production, inspection, control, supervision and review. In addition, we have filed the user information of the delivered products, to ensure a good traceability of product quality.

公司自创建以来，始终注重质量系统的完善,在不断学习、借鉴国内外先进的质量管理经验基础上，进一步完善了企业的质量检测团队建设，加强了质量检测实验室建设。使出厂的产品从售前的新产品开发、设计、材料采购，到售中的下料、生产、检测、控制、监督、复核，每一个环节始终处于受控状态，同时还对已交付的产品进行用户档案登记，保证产品质量的可追溯性

Desktop Spectral Analysis
台式光谱分析

Portable Spectral Analysis
便携式光谱分析

Normal-temperature Mechanical Property Test
常温机械性能试验

Impact Test
冲击试验

Hydraulic Test
水压试验

Burst Test
爆破试验

Ferrite Content Testing
铁素体含量检测

Metallographical Microscopic Analysis
金相显微镜分析

Intergranular Corrosion Test
晶间腐蚀实验

UT Inspection
超声波探伤

X-Ray Detection
X射线探伤

Portable MT Inspection
磁粉探伤

PT Inspection
渗透探伤

Leeb Hardness Test
里氏硬度检测

Brinell Hardness Test
布氏硬度检测

Wall Thickness Measurement
测厚仪

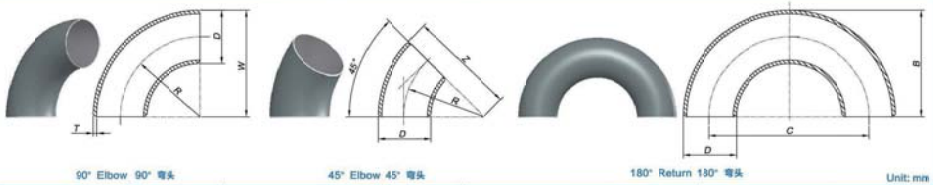
Butt-Welding Fittings /对焊管件

ELBOWS/弯头 ASME B16.9 (1/2" ~ 48") MSS SP-75 (16" ~ 60")

Nominal Size 公称尺寸		Outside Diameter at Bevel 坡口处外径	Center to End 中心至端部			Center to Center 中心至中心		Back to Face 背部至端面	
			90° Elbow 90° 弯头		45° Elbow 45° 弯头	180° Return 180° 弯头			
			A		B	D		K	
NPS (inch)	DN	D (mm)	Long Radius 长半径	Short Radius 短半径	Long Radius 长半径	Long Radius 长半径	Short Radius 短半径	Long Radius 长半径	Short Radius 短半径
½	15	21.3	38	–	15	76	–	48	–
¾	20	26.7	38	–	19	76	–	51	–
1	25	33.4	38	25	22	76	51	56	41
1¼	32	42.2	48	32	25	95	64	70	52
1½	40	48.3	57	38	29	114	76	83	62
2	50	60.3	76	51	35	152	102	106	81
2½	65	73	95	64	44	190	127	132	100
3	80	88.9	114	76	51	229	152	159	121
3½	90	101.6	133	89	57	267	178	184	140
4	100	114.3	152	102	64	305	203	210	159
5	125	141.3	190	127	79	381	254	262	197
6	150	168.3	229	152	95	457	305	313	237
8	200	219.1	305	203	127	610	406	414	313
10	250	273	381	254	159	762	508	518	391
12	300	323.8	457	305	190	914	610	619	467
14	350	355.6	533	356	222	1067	711	711	533
16	400	406.4	610	406	254	1219	813	813	610
18	450	457	686	457	286	1372	914	914	686
20	500	508	762	508	318	1524	1016	1016	762
22	550	559	838	559	343	1676	1118	1118	838
24	600	610	914	610	381	1829	1219	1219	914
26	650	660	991	–	406	–	–	–	–
28	700	711	1067	–	438	–	–	–	–
30	750	762	1143	–	470	–	–	–	–
32	800	813	1219	–	502	–	–	–	–
34	850	864	1295	–	533	–	–	–	–
36	900	914	1372	–	565	–	–	–	–
38	950	965	1448	–	600	–	–	–	–
40	1000	1016	1524	–	632	–	–	–	–
42	1050	1067	1600	–	660	–	–	–	–
44	1100	1118	1676	–	695	–	–	–	–
46	1150	1168	1753	–	727	–	–	–	–
48	1200	1219	1829	–	759	–	–	–	–
50	1250	1270	1905	–	787	–	–	–	–
52	1300	1320.8	1981	–	819	–	–	–	–
54	1350	1371.6	2057	–	851	–	–	–	–
56	1400	1422.4	2134	–	883	–	–	–	–
58	1450	1473.2	2210	–	914	–	–	–	–
60	1500	1524	2286	–	946	–	–	–	–

Note -注 Manufacturing type: Seamless/Welded - 制造型式: 无缝/焊缝

ELBOWS/弯头 EN10253-2/A (1/2" ~ 48")



Nominal Size 公称尺寸		Outside Diameter at Bevel 坡口处外径	Elbows Model 2D 弯头结构 2D			Elbows Model 3D 弯头结构 3D			Elbows Model 5D 弯头结构 5D		
NPS (inch)	DN	D (mm)	R	C	B-W	R	C	B-W-Z	R	C	B-W-Z
½	15	21.3	25	50	36	38	76	49	42.5	85	53
¾	20	26.9	25	50	39	38	76	51	57.5	115	71
1	25	33.7	25	50	42	38	76	56	72.5	145	89
1¼	32	42.4	32	64	53	48	96	69	92.5	185	114
1½	40	48.3	38	76	62	57	114	82	109.5	219	134
2	50	60.3	51	102	81	76	152	106	137.5	275	168
2½	65	76.1	53	127	102	95	190	133	175	350	213
3	80	88.9	76	152	121	114	228	159	207.5	415	252
4	100	114.3	102	203	159	152	304	210	270	540	327
5	125	139.7	127	254	197	190	380	260	330	660	400
6	150	158.3	152	305	237	229	457	313	390	780	474
8	200	219.1	203	406	313	305	610	414	515	1030	624
10	250	273	254	508	391	381	762	518	650	1300	786
12	300	323.9	305	610	467	457	914	619	770	1540	932
14	350	355.6	356	711	533	533	1066	711	850	1700	1028
16	400	406.4	406	813	610	610	1220	813	970	1940	1173
18	450	457	457	914	686	686	1372	914	1122	2244	1350
20	500	508	508	1016	762	762	1524	1016	1245	2490	1500
22	550	559	559	1118	838	838	1676	1118	1398	2796	1677
24	600	610	610	1220	914	914	1828	1219	1525	3050	1830
26	650	660	660	1320	990	990	1980	1320	1650	3300	1980
28	700	711	711	1422	1066	1067	2134	1422	1778	3556	2133
30	750	762	762	1524	1143	1143	2286	1524	1905	3810	2286
32	800	813	813	1626	1220	1219	2438	1626	2033	4066	2439
34	850	864	864	1728	1296	1296	2592	1728	2155	4310	2587
36	900	914	914	1828	1371	1372	2744	1829	2285	4570	2742
40	1000	1016	1016	2032	1524	1524	3048	2032	2540	5080	3048
42	1050	1067	1067	2134	1600	1600	3201	2134	2665	5335	3201
44	1100	1118	1118	2236	1677	1677	3354	2236	2790	5580	3354
46	1150	1166	1166	2332	1749	1752	3504	2336	2915	5830	3504
48	1200	1219	1219	2438	1830	1829	3658	2438	3050	6100	3657

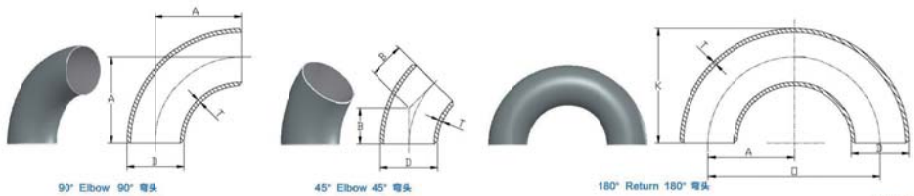
Note -注 Manufacturing type: Seamless/Welded - 制造型式: 无缝/焊缝

ELBOWS/弯头 GB/T 12459 (1/2" ~ 60")

Nominal Size 公称尺寸		Outside Diameter at Bevel 坡口处外径		Center to End 中心至端部			Center to Center 中心至中心		Back to Face 背部至端面			
				90° Elbow 90° 弯头		45° Elbow 45° 弯头	180° Return 180° 弯头					
				A		B	O		K			
NPS (inch)	DN	D (mm) Series I I系列	D (mm) Series II II系列	Long Radius 长半径	Short Radius 短半径	Long Radius 长半径	Leng Radius 长半径	Short Radius 短半径	Long Radius 长半径 Series I I系列	Long Radius 长半径 Series II II系列	Short Radius 短半径 Series I I系列	Short Radius 短半径 Series II II系列
½	15	21.3	18	38	–	16	76	–	48	47	–	–
¾	20	26.9	25	38	–	19	76	–	51	51	–	–
1	25	33.7	32	38	25	22	76	51	56	54	41	41
1¼	32	42.4	38	48	32	25	95	64	70	67	52	51
1½	40	48.3	45	57	38	29	114	76	83	80	62	61
2	50	60.3	57	76	51	35	152	102	106	105	81	79
2½	65	73	76	95	64	44	190	127	132	133	100	102
3	80	88.9	89	114	76	51	229	152	159	159	121	121
3½	90	101.6	–	133	89	57	267	178	184	–	140	–
4	100	114.3	108	152	102	64	305	203	210	206	159	156
5	125	141.3	133	190	127	79	381	254	262	257	197	194
6	150	168.3	159	229	152	95	457	305	313	308	237	232
8	200	219.1	219	305	203	127	610	406	414	414	313	313
10	250	273	273	381	254	159	762	508	518	518	391	391
12	300	323.9	325	457	305	190	914	610	619	620	467	467
14	350	355.6	377	533	356	222	1067	711	711	722	533	544
16	400	406.4	426	610	406	254	1219	813	813	823	610	619
18	450	457	480	686	457	286	1372	914	914	925	686	697
20	500	508	530	762	508	318	1524	1016	1016	1026	762	773
22	550	559	–	838	559	343	1676	1118	1118	–	838	–
24	600	610	630	914	610	381	1829	1219	1219	1229	914	925
26	650	660	–	991	–	406	–	–	–	–	–	–
28	700	711	720	1067	–	438	–	–	–	–	–	–
30	750	762	–	1143	–	470	–	–	–	–	–	–
32	800	813	820	1219	–	502	–	–	–	–	–	–
34	850	864	–	1295	–	533	–	–	–	–	–	–
36	900	914	–	1372	–	565	–	–	–	–	–	–
38	950	965	–	1448	–	600	–	–	–	–	–	–
40	1000	1016	–	1524	–	632	–	–	–	–	–	–
42	1050	1067	–	1600	–	660	–	–	–	–	–	–
44	1100	1118	–	1676	–	695	–	–	–	–	–	–
46	1150	1168	–	1753	–	727	–	–	–	–	–	–
48	1200	1219	–	1829	–	759	–	–	–	–	–	–
52	1300	1321	–	1981	–	821	–	–	–	–	–	–
56	1400	1422	–	2134	–	884	–	–	–	–	–	–
60	1500	1524	–	2286	–	947	–	–	–	–	–	–

Note - 注 Manufacturing type: Seamless/Welded - 制造型式：无缝/焊缝

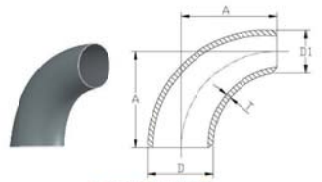
ELBOWS/弯头 SH/T 3408 (1/2" ~ 136")



Nominal Size 公称尺寸		Outside Diameter at Bevel 坡口处外径	Center to End 中心至端部			Center to Center 中心至中心		Back to Face 背部至端面	
			90° Elbow 90° 弯头		45° Elbow 45° 弯头	180° Return 180° 弯头			
			A		B	O		K	
½	15	21.3	38	–	16	76	–	48	–
¼	20	26.7	38	–	19	76	–	51	–
1	25	33.4	38	25	22	76	51	56	41
1¼	32	42.2	48	32	25	95	64	70	52
1½	40	48.3	57	38	29	114	75	83	62
2	50	60.3	76	51	35	152	102	106	81
2½	65	73	95	64	44	190	127	132	102
3	80	88.9	114	76	51	229	152	159	121
4	100	114.3	152	102	64	305	203	210	159
5	125	141.3	190	127	79	381	254	262	197
6	150	168.3	229	152	95	457	305	313	237
8	200	219.1	305	203	127	610	406	414	313
10	250	273	381	254	159	762	508	518	391
12	300	323.8	457	305	190	914	610	619	467
14	350	355.6	533	356	222	1067	711	711	533
16	400	406.4	610	406	254	1219	813	813	610
18	450	457	686	457	286	1372	914	914	686
20	500	508	762	508	318	1524	1016	1016	762
22	550	559	838	559	343	1676	1118	1118	838
24	600	610	914	610	381	1829	1219	1219	914
26	650	660	991	660	406	–	–	–	–
28	700	711	1067	711	438	–	–	–	–
30	750	762	1143	762	470	–	–	–	–
32	800	813	1219	813	502	–	–	–	–
34	850	864	1295	864	533	–	–	–	–
36	900	914	1372	914	565	–	–	–	–
38	950	965	1448	965	600	–	–	–	–
40	1000	1016	1524	1016	632	–	–	–	–
42	1050	1067	1600	1067	660	–	–	–	–
44	1100	1118	1676	1118	695	–	–	–	–
46	1150	1168	1753	1168	727	–	–	–	–
48	1200	1219	1829	1220	759	–	–	–	–
52	1300	1321	1981	1321	821	–	–	–	–
56	1400	1422	2134	1420	883	–	–	–	–
60	1500	1524	2286	1524	947	–	–	–	–
64	1600	1626	2438	1620	1010	–	–	–	–
68	1700	1727	2591	1727	1073	–	–	–	–
72	1800	1829	2743	1829	1137	–	–	–	–
76	1900	1930	2896	1930	1199	–	–	–	–
80	2000	2032	3048	2032	1263	–	–	–	–
88	2200	2235	3353	2235	1389	–	–	–	–
96	2400	2438	3657	2438	1515	–	–	–	–
104	2600	2642	3963	2642	1642	–	–	–	–
112	2800	2845	4268	2845	1768	–	–	–	–
120	3000	3048	4572	3048	1894	–	–	–	–
128	3200	3251	4876	3251	2020	–	–	–	–
136	3400	3454	5182	3454	2146	–	–	–	–

Note - 注 Manufacturing type: Seamless/Welded - 制造型式：无缝/焊缝

REDUCING ELBOWS/异径弯头 ASME B16.9 (2" ~ 24") SH/T 3408 (2" ~ 24")



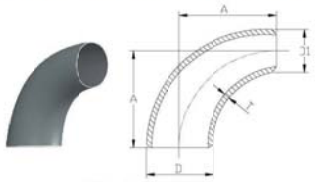
Reducing Elbow 异径弯头

Unit: mm

Nominal Size 公称尺寸		Outside Diameter at Bevel 坡口处外径		Center to End 中心至端部
NPS (inch)	D (mm)	Large End 大端 D	Small End 小端 D1	A
2 x 1½	50 x 40	60.3	48.3	76
2 x 1¼	50 x 32		42.2	
2 x 1	50 x 25		33.4	
2½ x 2	65 x 50	73	60.3	95
2½ x 1½	65 x 40		48.3	
2½ x 1¼	65 x 32		42.2	
3 x 2½	80 x 65	88.9	73	114
3 x 2	80 x 50		60.3	
3 x 1½	80 x 40		48.3	
3½ x 3	90 x 80	101.6	88.9	133
3½ x 2½	90 x 65		73	
3½ x 2	90 x 50		60.3	
4 x 3½	100 x 90	114.3	101.6	152
4 x 3	100 x 80		88.9	
4 x 2½	100 x 65		73	
4 x 2	100 x 50		60.3	
5 x 4	125 x 100	141.3	114.3	190
5 x 3½	125 x 90		101.6	
5 x 3	125 x 80		88.9	
5 x 2½	125 x 65		73	
6 x 5	150 x 125	168.3	141.3	229
6 x 4	150 x 100		114.3	
6 x 3½	150 x 90		101.6	
6 x 3	150 x 80		88.9	
8 x 6	200 x150	219.1	168.3	305
8 x 5	200 x 125		141.3	
8 x 4	200 x 100		114.3	
10 x 8	250 x 200	273	219.1	381
10 x 6	250 x 150		168.3	
10 x 5	250 x 125		141.3	
12 x 10	300 x 250	323.8	273	457
12 x 8	300 x 200		219.1	
12 x 6	300 x 150		168.3	
14 x 12	350 x 300	355.6	323.8	533
14 x 10	350 x 250		273	
14 x 8	350 x 200		219.1	
16 x 14	400 x 350	406.4	355.6	610
16 x 12	400 x 300		323.8	
16 x 10	400 x 250		273	
18 x 16	450 x 400	457	406.4	686
18 x 14	450 x 350		355.6	
18 x 12	450 x 300		323.8	
18 x 10	450 x 250		273	
20 x 18	500 x 450	508	457	762
20 x 16	500 x 400		406.4	
20 x 14	500 x 350		355.6	
20 x 12	500 x 300		323.8	
20 x 10	500 x 250		273	
24 x 22	600 x 550	610	559	914
24 x 20	600 x 500		508	
24 x 18	600 x 450		457	
24 x 16	600 x 400		406.4	
24 x 14	600 x 350		355.6	
24 x 12	600 x 300		323.8	

Note - 注 Manufacturing type: Seamless/Welded - 制造型式: 无缝/焊缝 SH/T 3048 Standard excluces the ORANGE part SH/T 3408标准不包括橙色部分内容

REDUCING ELBOWS/异径弯头 GB/T 12459 (2" ~ 24")



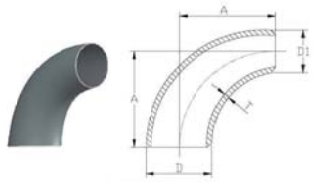
Reducing Elbow 异径弯头

Unit: mm

Nominal Size 公称尺寸		Outside Diameter at Bevel 坡口处外径				Center to End 中心至端部
NPS (inch)	D (mm)	Large End 大端 D		Small End 小端 D1		A
		Series I I系列	Series II II系列	Series I I系列	Series II II系列	
2 x 1½	50 x 40	50.3	57	48.3	45	76
2 x 1¼	50 x 32			42.4	38	
2 x 1	50 x 25			33.7	32	
2½ x 2	65 x 50	73	76	60.3	57	95
2½ x 1½	65 x 40			48.3	45	
2½ x 1¼	65 x 32			42.4	38	
3 x 2½	80 x 65	88.9	89	73	76	114
3 x 2	80 x 50			60.3	57	
3 x 1½	80 x 40			48.3	45	
3½ x 3	90 x 80	101.6	—	88.9	—	133
3½ x 2½	90 x 65			73	—	
3½ x 2	90 x 50			60.3	—	
4 x 3½	100 x 90	114.3	—	101.6	—	152
4 x 3	100 x 80		108	88.9	89	
4 x 2½	100 x 65		108	73	76	
4 x 2	100 x 50		108	60.3	57	
5 x 4	125 x 100	141.3	133	114.3	108	190
5 x 3½	125 x 90		—	101.6	—	
5 x 3	125 x 80		133	88.9	89	
5 x 2½	125 x 65		133	73	76	
6 x 5	150 x 125	168.3	168.3	141.3	133	229
6 x 4	150 x 100		168.3	114.3	108	
6 x 3½	150 x 90		—	101.6	—	
6 x 3	150 x 80		168.3	88.9	89	
8 x 6	200 x 150	219.1	219	168.3	159	305
8 x 5	200 x 125			141.3	133	
8 x 4	200 x 100			114.3	108	
10 x 8	250 x 200	273	273	219.1	219	381
10 x 6	250 x 150			168.3	159	
10 x 5	250 x 125			141.3	133	
12 x 10	300 x 250	323.9	325	273	273	457
12 x 8	300 x 200			219.1	219	
12 x 6	300 x 150			168.3	159	
14 x 12	350 x 300	355.6	377	323.9	325	533
14 x 10	350 x 250			273	273	
14 x 8	350 x 200			219.1	219	
16 x 14	400 x 350	404.6	426	355.6	377	610
16 x 12	400 x 300			323.9	325	
16 x 10	400 x 250			273	273	
18 x 16	450 x 400	457	480	406.4	426	686
18 x 14	450 x 350			355.6	377	
18 x 12	450 x 300			323.9	325	
18 x 10	450 x 250			273	273	
20 x 18	500 x 450	508	530	457	480	762
20 x 16	500 x 400			406.4	426	
20 x 14	500 x 350			355.6	377	
20 x 12	500 x 300			323.9	325	
20 x 10	500 x 250			273	273	
24 x 22	600 x 550	610	—	559	—	914
24 x 20	600 x 500		630	508	530	
24 x 18	600 x 450		630	457	480	
24 x 16	600 x 400		630	406.4	426	
24 x 14	600 x 350		630	355.6	377	
24 x 12	600 x 300		630	323.9	325	

Note - 注 Manufacturing type: Seamless/Welded - 制造型式: 无缝/焊缝

REDUCING ELBOWS/异径弯头 SH/T 3408 (2" ~ 24")



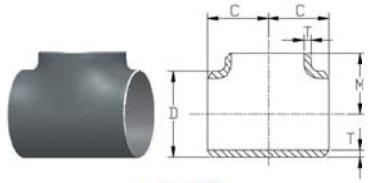
Reducing Elbow 异径弯头

Unit: mm

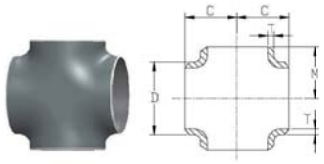
Nominal Size 公称尺寸		Outside Diameter at Bevel 坡口处外径		Center to End 中心至端部
NPS (inch)	D (mm)	Large End 大端 D	Small End 小端 D1	A
2 x 1½	50 x 40	60.3	48.3	76
2 x 1¼	50 x 32		42.2	
2 x 1	50 x 25		33.4	
2½ x 2	65 x 50	73	60.3	95
2½ x 1½	65 x 40		48.3	
2½ x 1¼	65 x 32		42.2	
3 x 2½	80 x 65	88.9	73	114
3 x 2	80 x 50		60.3	
3 x 1½	80 x 40		48.3	
4 x 3	100 x 80	114.3	88.9	152
4 x 2½	100 x 65		73	
4 x 2	100 x 50		60.3	
5 x 4	125 x 100	141.3	114.3	190
5 x 3	125 x 80		88.9	
5 x 2½	125 x 65		73	
6 x 5	150 x 125	168.3	141.3	229
6 x 4	150 x 100		114.3	
6 x 3	150 x 80		88.9	
8 x 6	200 x 150	219.1	168.3	305
8 x 5	200 x 125		141.3	
8 x 4	200 x 100		114.3	
10 x 8	250 x 200	273.1	219.1	381
10 x 6	250 x 150	273.1	168.3	
10 x 5	250 x 125	273.1	141.3	
12 x 10	300 x 250	323.9	273.1	457
12 x 8	300 x 200		219.1	
12 x 6	300 x 150		168.3	
14 x 12	350 x 300	355.6	323.9	533
14 x 10	350 x 250		273.1	
14 x 8	350 x 200		219.1	
16 x 14	400 x 350	405.4	355.6	610
16 x 12	400 x 300		323.9	
16 x 10	400 x 250		273.1	
18 x 16	450 x 400	457	406.4	686
18 x 14	450 x 350		355.6	
18 x 12	450 x 300		323.9	
18 x 10	450 x 250		273.1	
20 x 18	500 x 450	508	457	762
20 x 16	500 x 400		406.4	
20 x 14	500 x 350		355.6	
20 x 12	500 x 300		323.9	
20 x 10	500 x 250		273.1	
24 x 22	600 x 550	610	559	914
24 x 20	600 x 500		508	
24 x 18	600 x 450		457	
24 x 16	600 x 400		406.4	
24 x 14	600 x 350		355.6	
24 x 12	600 x 300		323.9	

Note - 注 Manufacturing type: Seamless/Welded - 制造型式: 无缝/焊缝

Equal Tees/Crosses 等径三通/四通 ASME B16.9 (1/2" ~ 48") MSS SP-75 (16" ~ 60")



Equal Tee 等径三通



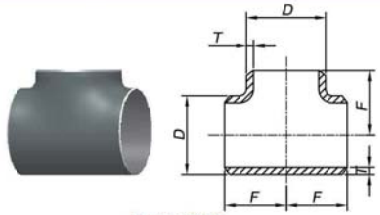
Cross 等径四通

Unit: mm

Nominal Size 公称尺寸		Outside Diameter at Bevel 坡口处外径	Center to End 中心至端部	
NPS (inch)	DN (mm)	D	Run 主管 C	Outlet 出口 M
½	15	21.3	25	25
¾	20	26.7	29	29
1	25	33.4	38	38
1¼	32	42.2	48	48
1½	40	48.3	57	57
2	50	60.3	64	64
2½	65	73	76	76
3	80	88.9	86	86
3½	90	101.6	95	95
4	100	114.3	105	105
5	125	141.3	124	124
6	150	168.3	143	143
8	200	219.1	178	178
10	250	273	216	216
12	300	323.8	254	254
14	350	355.6	279	279
16	400	406.4	305	305
18	450	457	343	343
20	500	508	381	381
22	550	559	419	419
24	600	610	432	432
26	650	660	495	495
28	700	711	521	521
30	750	762	559	559
32	800	813	597	597
34	850	864	635	635
36	900	914	673	673
38	950	965	711	711
40	1000	1016	749	749
42	1050	1067	762	711
44	1100	1118	813	762
46	1150	1168	851	800
48	1200	1219	889	838
50	1250	1270	933	876
52	1300	1320.8	978	908
54	1350	1371.6	1016	946
56	1400	1422.4	1054	978
58	1450	1473.2	1092	1016
60	1500	1524	1118	1054

Note - 注 Manufacturing type: Seamless/Welded - 制造形式：无缝/焊缝

Equal Tees/等径三通 EN10253-2/A (1/2" ~ 48")



Equal Tee 等径三通

Unit: mm

Nominal Size 公称尺寸		Outside Diameter at Bevel 坡口处外径	Center to End 中心至端部
NPS (inch)	DN (mm)	D	F
½	15	21.3	25
¾	20	26.9	29
1	25	33.7	38
1¼	32	42.4	48
1½	40	48.3	57
2	50	60.3	64
2½	65	76.1	76
3	80	88.9	86
3½	90	101.6	95
4	100	114.3	105
5	125	139.7	124
6	150	168.3	143
8	200	219.1	178
10	250	273	216
12	300	323.9	254
14	350	355.6	279
16	400	406.4	305
18	450	457	343
20	500	508	381
22	550	559	419
24	600	610	432
26	650	660	495
28	700	711	521
30	750	762	559
32	800	813	597
34	850	864	635
36	900	914	673
40	1000	1016	749
42	1050	1067	762 a
44	1100	1118	813 a
46	1150	1166	851 a
48	1200	1219	889 a

Note - 注

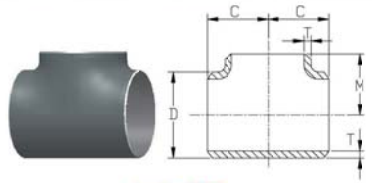
a For these dimensions, the length of the outlet branch is not equal to the length of the run F.

The applicable values for the length of the outlet branch are respectively : 711 for DN 1050, 762 for DN 1100, 800 for DN 1150 and 838 for DN 1200.

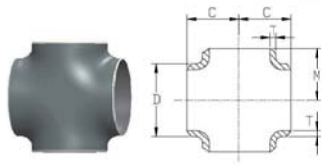
a 对于这些尺寸，出口分支的长度不等于延伸长度F. 出口分支的合适长度分别为： DN 1050 为 711, DN1100 为 762, DN1150 为 800, DN1200 为 838.

Manufacturing type: Seamless/Welded - 制造型式：无缝/焊缝

Equal Tees/Crosses 等径三通/四通 GB/T 12459 (1/2" ~ 60")



Equal Tee 等径三通



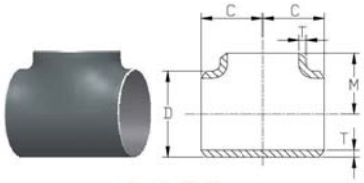
Cross 等径四通

Unit: mm

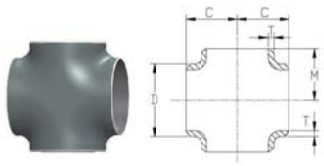
Nominal Size 公称尺寸		Outside Diameter at Bevel 坡口处外径		Center to End 中心至端部	
NPS (inch)	DN (mm)	D		Run 主管 C	Outlet 出口 M
½	15	21.3	18	25	25
¾	20	26.9	25	29	29
1	25	33.7	32	38	38
1¼	32	42.4	38	48	48
1½	40	48.3	45	57	57
2	50	60.3	57	64	64
2½	65	73	76	76	76
3	80	88.9	89	86	86
3½	90	101.6	—	95	95
4	100	114.3	108	105	105
5	125	141.3	133	124	124
6	150	168.3	159	143	143
8	200	219.1	219	178	178
10	250	273	273	216	216
12	300	323.9	325	254	254
14	350	355.6	377	279	279
16	400	406.4	426	305	305
18	450	457	480	343	343
20	500	508	530	381	381
22	550	559	—	419	419
24	600	610	630	432	432
26	650	660	—	495	495
28	700	711	720	521	521
30	750	762	—	559	559
32	800	813	820	597	597
34	850	864	—	635	635
36	900	914	—	673	673
38	950	965	—	711	711
40	1000	1016	—	749	749
42	1050	1067	—	762	711
44	1100	1118	—	813	762
46	1150	1168	—	851	800
48	1200	1219	—	889	838
52	1300	1321	—	978	908
56	1400	1422	—	1054	978
60	1500	1524	—	1118	1054

Note - 注 Manufacturing type: Seamless/Welded - 制造型式：无缝/焊缝

Equal Tees/Crosses 等径三通/四通 SH/T 3408 (1/2" ~ 64")



Equal Tee 等径三通



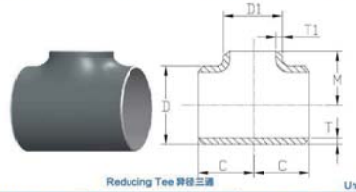
Cross 等径四通

Unit: mm

Nominal Size 公称尺寸		Outside Diameter at Bevel 坡口处外径	Center to End 中心至端部	
NPS (inch)	DN (mm)	D	Run 主管 C	Outlet 出口 M
½	15	21.3	25	25
¾	20	26.7	29	29
1	25	33.4	38	38
1¼	32	42.2	48	48
1½	40	48.3	57	57
2	50	60.3	64	64
2½	65	73	73	73
3	80	88.9	86	86
3½	90	101.6	95	95
4	100	114.3	105	105
5	125	141.3	124	124
6	150	168.3	143	143
8	200	219.1	178	178
10	250	273.1	216	216
12	300	323.9	254	254
14	350	355.6	279	279
16	400	406.4	305	305
18	450	457	343	343
20	500	508	381	381
22	550	559	419	419
24	600	610	432	432
26	650	660	495	495
28	700	711	521	521
30	750	762	559	559
32	800	813	597	597
34	850	864	635	635
36	900	914	673	673
38	950	965	711	711
40	1000	1016	749	749
42	1050	1067	762	711
44	1100	1118	813	762
46	1150	1168	851	800
48	1200	1219	889	838
52	1300	1321	965	914
56	1400	1422	1042	965
60	1500	1524	1118	1016
64	1600	1626	1194	1092

Note - 注 Manufacturing type: Seamless/Welded - 制造型式：无缝/焊缝 The Size of Crosses is up to DN1200 - 等径四通的尺寸最大至DN1200

Reducing Tees/Reducing Crosses 异径三通/异径四通 ASME B16.9 (½" ~ 48") MSS SP-75 (16" ~ 60")



Reducing Tee 异径三通

Unit: mm

Nominal Size 公称尺寸		Outside Diameter at Bevel 坡口处外径		Center to End 中心至端部	
NPS (inch)	DN (mm)	Run 主管 D	Outlet 出口 D1	Run 主管 C	Outlet 出口 M
½ × ½ × ¾	15×15×10	21.3	17.3	25	
½ × ½ × ¼	15×15×8		13.7		
¾ × ¾ × ½	20×20×15	26.7	21.3	29	
¾ × ¾ × ¼	20×20×10		17.3		
1 × 1 × ¾	25×25×20	33.4	26.7	38	
1 × 1 × ½	25×25×15		21.3		
1¼ × 1¼ × 1	32×32×25	42.2	33.4	48	
1¼ × 1¼ × ¾	32×32×20		26.7		
1¼ × 1¼ × ½	32×32×15		21.3		
1½ × 1½ × 1¼	40×40×32	48.3	42.2	57	
1½ × 1½ × 1	40×40×25		33.4		
1½ × 1½ × ¾	40×40×20		26.7		
1½ × 1½ × ½	40×40×15		21.3		
2 × 2 × 1½	50×50×40	60.3	48.3	64	60
2 × 2 × 1¼	50×50×32		42.2		57
2 × 2 × 1	50×50×25		33.4		51
2 × 2 × ¾	50×50×20		26.7		44
2½ × 2½ × 2	65×65×50	73	60.3	76	70
2½ × 2½ × 1½	65×65×40		48.3		67
2½ × 2½ × 1¼	65×65×32		42.2		64
2½ × 2½ × 1	65×65×25		33.4		57
3 × 3 × 2½	80×80×65	88.9	73	86	83
3 × 3 × 2	80×80×50		60.3		76
3 × 3 × 1½	80×80×40		48.3		73
3 × 3 × 1¼	80×80×32		42.2		70
3½ × 3½ × 3	90×90×80	101.6	88.9	95	92
3½ × 3½ × 2½	90×90×65		73		89
3½ × 3½ × 2	90×90×50		60.3		83
3½ × 3½ × 1½	90×90×40		48.3		79
4 × 4 × 3½	100×100×90	114.3	101.6	105	102
4 × 4 × 3	100×100×80		88.9		98
4 × 4 × 2½	100×100×65		73		95
4 × 4 × 2	100×100×50		60.3		89
4 × 4 × 1½	100×100×40		48.3		86
5 × 5 × 4	125×125×100	141.3	114.3	124	1"7
5 × 5 × 3½	125×125×90		101.6		1"4
5 × 5 × 3	125×125×80		88.9		1"1
5 × 5 × 2½	125×125×65		73		108
5 × 5 × 2	125×125×50		60.3		105
6 × 6 × 5	150×150×125	168.3	141.3	143	137
6 × 6 × 4	150×150×100		114.3		130
6 × 6 × 3½	150×150×90		101.6		127
6 × 6 × 3	150×150×80		88.9		124
6 × 6 × 2½	150×150×65		73		121
8 × 8 × 6	200×200×150	219.1	168.3	178	168
8 × 8 × 5	200×200×125		141.3		162
8 × 8 × 4	200×200×100		114.3		156
8 × 8 × 3½	200×200×90		101.6		152
10 × 10 × 8	250×250×200	273	219.1	216	203
10 × 10 × 6	250×250×150		168.3		194
10 × 10 × 5	250×250×125		141.3		191
10 × 10 × 4	250×250×100		114.3		184
12 × 12 × 10	300×300×250	323.8	273	254	241
12 × 12 × 8	300×300×200		219.1		229
12 × 12 × 6	300×300×150		168.3		2"9
12 × 12 × 5	300×300×125		141.3		2"6
14 × 14 × 12	350×350×300	355.6	323.8	279	270
14 × 14 × 10	350×350×250		273		257
14 × 14 × 8	350×350×200		219.1		248
14 × 14 × 6	350×350×150		168.3		238
16 × 16 × 14	400×400×350	406.4	355.6	305	305
16 × 16 × 12	400×400×300		323.8		295
16 × 16 × 10	400×400×250		273		283

Note - 注 Manufacturing type: Seamless/Welded - 制造型式：无缝/焊缝

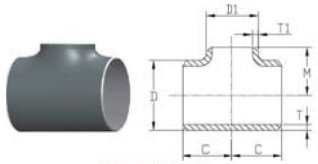
Reducing Cross 异径四通

Unit: mm

Nominal Size 公称尺寸		Outside Diameter at Bevel 坡口处外径		Center to End 中心至端部	
NPS (inch)	DN (mm)	Run 主管 D	Outlet 出口 D1	Run 主管 C	Outlet 出口 M
16 × 16 × 8	400×400×200	406.4	219.1	305	273
16 × 16 × 6	400×400×150		168.3		264
18 × 18 × 16	450×450×400	457	406.4	343	330
18 × 18 × 14	450×450×350		355.6		330
18 × 18 × 12	450×450×300		323.8		321
18 × 18 × 10	450×450×250		273		308
18 × 18 × 8	450×450×200		219.1		298
20 × 20 × 18	500×500×450	508	457	381	368
20 × 20 × 16	500×500×400		406.4		356
20 × 20 × 14	500×500×350		355.6		356
20 × 20 × 12	500×500×300		323.8		346
20 × 20 × 10	500×500×250		273		333
20 × 20 × 8	500×500×200		219.1		324
22 × 22 × 20	550×550×500	559	508	419	406
22 × 22 × 18	550×550×450		457		394
22 × 22 × 16	550×550×400		406.4		381
22 × 22 × 14	550×550×350		355.6		381
22 × 22 × 12	550×550×300		323.8		371
22 × 22 × 10	550×550×250		273		359
24 × 24 × 22	600×600×550	610	559	432	432
24 × 24 × 20	600×600×500		508		432
24 × 24 × 18	600×600×450		457		419
24 × 24 × 16	600×600×400		406.4		406
24 × 24 × 14	600×600×350		355.6		406
24 × 24 × 12	600×600×300		323.8		397
24 × 24 × 10	600×600×250		273		384
26 × 26 × 24	650×650×600	660	610	495	483
26 × 26 × 22	650×650×550		559		470
26 × 26 × 20	650×650×500		508		457
26 × 26 × 18	650×650×450		457		444
26 × 26 × 16	650×650×400		406.4		432
26 × 26 × 14	650×650×350		355.6		432
26 × 26 × 12	650×650×300		323.8		422
28 × 28 × 26	700×700×650	711	660	521	521
28 × 28 × 24	700×700×600		610		508
28 × 28 × 22	700×700×550		559		495
28 × 28 × 20	700×700×500		508		483
28 × 28 × 18	700×700×450		457		470
28 × 28 × 16	700×700×400		406.4		457
28 × 28 × 14	700×700×350		355.6		457
28 × 28 × 12	700×700×300		323.8		448
30 × 30 × 28	750×750×700	762	711	559	546
30 × 30 × 26	750×750×650		660		546
30 × 30 × 24	750×750×600		610		533
30 × 30 × 22	750×750×550		559		521
30 × 30 × 20	750×750×500		508		508
30 × 30 × 18	750×750×450		457		495
30 × 30 × 16	750×750×400		406.4		483
30 × 30 × 14	750×750×350		355.6		483
30 × 30 × 12	750×750×300		323.8		473
30 × 30 × 10	750×750×250		273		460
32 × 32 × 30	800×800×750	813	762	597	584
32 × 32 × 28	800×800×700		711		572
32 × 32 × 26	800×800×650		660		572
32 × 32 × 24	800×800×600		610		559
32 × 32 × 22	800×800×550		559		546
32 × 32 × 20	800×800×500		508		533
32 × 32 × 18	800×800×450		457		521
32 × 32 × 16	800×800×400		406.4		508
32 × 32 × 14	800×800×350		355.6		508
34 × 34 × 32	850×850×800	864	813	635	622
34 × 34 × 30	850×850×750		762		610
34 × 34 × 28	850×850×700		711		597

Note - 注 Manufacturing type: Seamless/Welded - 制造型式：无缝/焊缝

ASME B16.9 (½" ~ 48") MSS SP-75 (16" ~ 60")

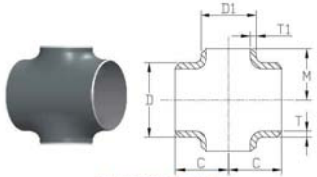


Reducing Tee 异径三通

Unit: mm

Nominal Size 公称尺寸		Outside Diameter at Bevel 坡口处外径		Center to End 中心至端部	
NPS (inch)	DN (mm)	Run 主管 D	Outlet 出口 D1	Run 主管 C	Outlet 出口 M
34 × 34 × 26	850×850×650	864	660	635	597
34 × 34 × 24	850×850×600		610		584
34 × 34 × 22	850×850×550		559		572
34 × 34 × 20	850×850×500		508		559
34 × 34 × 18	850×850×450		457		546
34 × 34 × 16	850×850×400		460.4		533
36 × 36 × 34	900×900×850	914	864	673	660
36 × 36 × 32	900×900×800		813		648
36 × 36 × 30	900×900×750		762		635
36 × 36 × 28	900×900×700		711		622
36 × 36 × 26	900×900×650		660		622
36 × 36 × 24	900×900×600		610		610
36 × 36 × 22	900×900×550		559		597
36 × 36 × 20	900×900×500		508		584
36 × 36 × 18	900×900×450		457		572
36 × 36 × 16	900×900×400		406.4		559
38 × 38 × 36	950×950×900	965	914	711	711
38 × 38 × 34	950×950×850		864		698
38 × 38 × 32	950×950×800		813		686
38 × 38 × 30	950×950×750		762		673
38 × 38 × 28	950×950×700		711		648
38 × 38 × 26	950×950×650		660		648
38 × 38 × 24	950×950×600		610		635
38 × 38 × 22	950×950×550		559		622
38 × 38 × 20	950×950×500		508		610
38 × 38 × 18	950×950×450		457		597
40 × 40 × 38	1000×1000×950	1016	965	749	749
40 × 40 × 36	1000×1000×900		914		737
40 × 40 × 34	1000×1000×850		864		724
40 × 40 × 32	1000×1000×800		813		711
40 × 40 × 30	1000×1000×750		762		698
40 × 40 × 28	1000×1000×700		711		673
40 × 40 × 26	1000×1000×650		660		673
40 × 40 × 24	1000×1000×600		610		660
40 × 40 × 22	1000×1000×550		559		648
40 × 40 × 20	1000×1000×500		508		635
40 × 40 × 18	1000×1000×450		457		622
42 × 42 × 40	1050×1050×1000	1067	1016	762	711
42 × 42 × 38	1050×1050×950		965		711
42 × 42 × 36	1050×1050×900		914		711
42 × 42 × 34	1050×1050×850		864		711
42 × 42 × 32	1050×1050×800		813		711
42 × 42 × 30	1050×1050×750		762		711
42 × 42 × 28	1050×1050×700		711		698
42 × 42 × 26	1050×1050×650		660		698
42 × 42 × 24	1050×1050×600		610		660
42 × 42 × 22	1050×1050×550		559		660
42 × 42 × 20	1050×1050×500		508		660
42 × 42 × 18	1050×1050×450		457		648
42 × 42 × 16	1050×1050×400		406.4		635
44 × 44 × 42	1100×1100×1050	1118	1067	813	762
44 × 44 × 40	1100×1100×1000		1016		749
44 × 44 × 38	1100×1100×950		965		737
44 × 44 × 36	1100×1100×900		914		724
44 × 44 × 34	1100×1100×850		864		724
44 × 44 × 32	1100×1100×800		813		711
44 × 44 × 30	1100×1100×750		762		711
44 × 44 × 28	1100×1100×700		711		698
44 × 44 × 26	1100×1100×650		660		698
44 × 44 × 24	1100×1100×600		610		698
44 × 44 × 22	1100×1100×550		559		686
44 × 44 × 20	1100×1100×500		508		686
46 × 46 × 44	1150×1150×1100	1168	1118	851	800

Note - 注 Manufacturing type: Seamless/Welded - 制造型式：无缝/焊缝



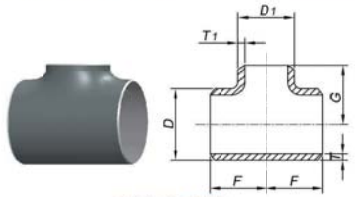
Reducing Cross 异径四通

Unit: mm

Nominal Size 公称尺寸		Outside Diameter at Bevel 坡口处外径		Center to End 中心至端部	
NPS (inch)	DN (mm)	Run 主管 D	Outlet 出口 D1	Run 主管 C	Outlet 出口 M
46 × 46 × 42	1150×1150×1050	1168	1067	851	787
46 × 46 × 40	1150×1150×1000		1016		775
46 × 46 × 38	1150×1150×950		965		762
46 × 46 × 36	1150×1150×900		914		762
46 × 46 × 34	1150×1150×850		864		749
46 × 46 × 32	1150×1150×800		813		749
46 × 46 × 30	1150×1150×750		762		737
46 × 46 × 28	1150×1150×700		711		737
46 × 46 × 26	1150×1150×650		660		737
46 × 46 × 24	1150×1150×600		610		724
46 × 46 × 22	1150×1150×550		559		724
48 × 48 × 46	1200×1200×1150	1219	1168	889	838
48 × 48 × 44	1200×1200×1100		1118		838
48 × 48 × 42	1200×1200×1050		1067		813
48 × 48 × 40	1200×1200×1000		1016		813
48 × 48 × 38	1250×1250×950		965		813
48 × 48 × 36	1200×1200×900		914		787
48 × 48 × 34	1200×1200×850		864		787
48 × 48 × 32	1200×1200×800		813		787
48 × 48 × 30	1200×1200×750		762		762
48 × 48 × 28	1200×1200×700		711		762
48 × 48 × 26	1200×1200×650		660		762
48 × 48 × 24	1200×1200×600		610		737
48 × 48 × 22	1200×1200×550		559		737
48 × 48 × 20	1200×1200×500		508		737
48 × 48 × 18	1200×1200×450		457		724
48 × 48 × 16	1200×1200×400		406.4		711
50 × 50 × 48	1250×1250×1200	1270	1219	933	876
50 × 50 × 42	1250×1250×1050		1067		838
50 × 50 × 36	1250×1250×900		914		826
50 × 50 × 30	1250×1250×750		762		800
50 × 50 × 24	1250×1250×600		610		762
50 × 50 × 20	1250×1250×500		508		762
52 × 52 × 50	1300×1300×1250	1321	1270	978	908
52 × 52 × 48	1300×1300×1200		1219		908
52 × 52 × 42	1300×1300×1050		1067		876
52 × 52 × 36	1300×1300×900		914		864
52 × 52 × 30	1300×1300×750		762		832
52 × 52 × 24	1300×1300×600		610		794
54 × 54 × 52	1350×1350×1300	1372	1321	1016	946
54 × 54 × 48	1350×1350×1200		1219		946
54 × 54 × 42	1350×1350×1050		1067		905
54 × 54 × 36	1350×1350×900		914		889
54 × 54 × 30	1350×1350×750		762		864
54 × 54 × 24	1350×1350×600		610		797
56 × 56 × 54	1400×1400×1350	1422	1372	1054	978
56 × 56 × 48	1400×1400×1200		1219		940
56 × 56 × 42	1400×1400×1050		1067		927
56 × 56 × 36	1400×1400×900		914		902
56 × 56 × 30	1400×1400×750		762		857
56 × 56 × 24	1400×1400×600		610		857
58 × 58 × 56	1450×1450×1400	1473	1422	1092	1016
58 × 58 × 54	1450×1450×1350		1372		1016
58 × 58 × 48	1450×1450×1200		1219		978
58 × 58 × 42	1450×1450×1050		1067		953
58 × 58 × 36	1450×1450×900		914		927
58 × 58 × 30	1450×1450×750		762		889
60 × 60 × 58	1500×1500×1450	1524	1473	1118	1054
60 × 60 × 54	1500×1500×1350		1372		1029
60 × 60 × 48	1500×1500×1200		1219		1016
60 × 60 × 42	1500×1500×1050		1067		991
60 × 60 × 36	1500×1500×900		914		965
60 × 60 × 30	1500×1500×750		762		914

Note - 注 Manufacturing type: Seamless/Welded - 制造型式：无缝/焊缝

Reducing Tees 异径三通 EN10253-2/A (1/2" ~ 48")



Reducing Tee 异径三通

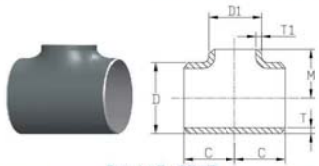
Unit: mm

Nominal Size 公称尺寸		Outside Diameter at Bevel 坡口处外径		Center to End 中心至端部	
NPS (inch)	DN (mm)	Run 主管 D	Outlet 出口 D1	Run 主管 F	Outlet 出口 G
¾ × ½	20 x 15	26.9	21.3	29	29
1 × ½	25 x 15	33.7	21.3	38	38
1 × ¾	25 x 20		26.9		
1¼ × ½	32 x 15	42.4	21.3	48	48
1¼ × ¾	32 x 20		26.9		
1¼ × 1	32 x 25		33.7		
1½ × ½	40 x 15	48.3	21.3	57	57
1½ × ¾	40 x 20		26.9		
1½ × 1	40 x 25		33.7		
1½ × 1¼	40 x 32		42.4		
2 × ¾	50 x 20	60.3	26.9	64	44
2 × 1	50 x 25		33.7		51
2 × 1¼	50 x 32		42.4		57
2 × 1½	50 x 40		48.3		60
2½ × 1	65 x 25	76.1	33.7	76	57
2½ × 1¼	65 x 32		42.4		64
2½ × 1½	65 x 40		48.3		67
2½ × 2	65 x 50		60.3		70
3 × 1¼	80 x 32	88.9	42.4	86	70
3 × 1½	80 x 40		48.4		73
3 × 2	80 x 50		60.3		76
3 × 2½	80 x 65		76.1		83
4 × 1½	100 x 40	114.3	48.3	105	86
4 × 2	100 x 50		60.3		89
4 × 2½	100 x 65		76.1		95
4 × 3	100 x 80		88.9		98
5 × 2	125 x 50	139.7	60.3	124	105
5 × 2½	125 x 65		76.1		108
5 × 3	125 x 80		88.9		111
5 × 4	125 x 100		114.3		117
6 × 2½	150 x 65	168.3	76.1	143	121
6 × 3	150 x 80		88.9		124
6 × 4	150 x 100		114.3		130
6 × 5	150 x 125		139.7		137
8 × 4	200 x 100	219.1	114.3	178	156
8 × 5	200 x 125		139.7		162
8 × 6	200 x 150		168.3		168
10 × 4	250 x 100	273.1	114.3	216	184
10 × 5	250 x 125		139.7		191
10 × 6	250 x 150		168.3		194
10 × 8	250 x 200		219.1		203
12 × 6	300 x 150	323.9	168.1	254	219
12 × 8	300 x 200		219.1		229
12 × 10	300 x 250		273		241
14 × 6	350 x 150	355.6	168.3	279	238
14 × 8	350 x 200		219.1		248
14 × 10	350 x 250		273		257
14 × 12	350 x 300		323.9		270
16 × 6	400 x 150	406.4	168.3	305	264
16 × 8	400 x 200		219.1		273
16 × 10	400 x 250		273		283
16 × 12	400 x 300		323.9		295
16 × 14	400 x 350		355.6		305
18 × 8	450 x 200	457	219.1	343	298
18 × 10	450 x 250		273		308

Nominal Size 公称尺寸		Outside Diameter at Bevel 坡口处外径		Center to End 中心至端部	
NPS (inch)	DN (mm)	Run 主管 D	Outlet 出口 D1	Run 主管 F	Outlet 出口 G
18 × 12	450 x 300	457	323.9	343	321
18 × 14	450 x 350		355.6		330
18 × 16	450 x 400		406.4		330
20 × 10	500 x 250	508	273	381	333
20 × 12	500 x 300		323.9		346
20 × 16	500 x 400		406.4		356
20 × 18	500 x 450		457		368
22 × 10	550 x 250	559	273	419	359
22 × 12	550 x 300		323.9		371
22 × 16	550 x 400		406.4		381
22 × 20	550 x 500		508		406
24 × 10	600 x 250	610	273	432	384
24 × 12	600 x 300		323.9		397
24 × 16	600 x 400		406.4		406
24 × 20	600 x 500		508		432
26 × 12	650 x 300	660	323.9	495	422
26 × 14	650 x 350		355.6		432
26 × 16	650 x 400		406.4		432
26 × 20	650 x 500		508		457
28 × 12	700 x 300	711	323.9	521	448
28 × 16	700 x 400		406.4		457
28 × 20	700 x 500		508		483
28 × 24	700 x 600		610		508
30 × 16	750 x 400	762	406.4	559	483
30 × 20	750 x 500		508		508
30 × 24	750 x 600		610		533
32 × 16	800 x 400	813	406.4	602	508
32 × 20	800 x 500		508		533
32 × 24	800 x 600		610		559
32 × 28	800 x 700		711		572
34 × 16	850 x 400	864	406.4	635	533
34 × 20	850 x 500		508		539
34 × 24	850 x 600		610		559
34 × 28	850 x 700		711		597
36 × 16	900 x 400	914	406.4	673	559
36 × 20	900 x 500		508		584
36 × 24	900 x 600		610		610
36 × 28	900 x 700		711		622
36 × 32	900 x 800		813		648
40 × 24	1000 x 600	1016	610	749	660
40 × 28	1000 x 700		711		673
40 × 32	1000 x 800		813		711
40 × 36	1000 x 900		914		737
42 × 24	1050 x 600	1067	610	762	660
42 × 28	1050 x 700		711		698
42 × 32	1050 x 800		813		711
42 × 36	1050 x 900		914		711
44 × 24	1100 x 600	1118	610	813	698
44 × 28	1100 x 700		711		698
44 × 32	1100 x 800		813		711
44 × 36	1100 x 900		914		724
48 × 28	1200 x 700	1219	711	889	762
48 × 32	1200 x 800		813		787
48 × 36	1200 x 900		914		787
48 × 40	1200 x 1000		1016		813

Note - 注: Manufacturing type: Seamless/Welded - 制造型式: 无缝/焊缝

Reducing Tees/Reducing Crosses 异径三通/异径四通 GB/T 12459 (½" ~ 48")

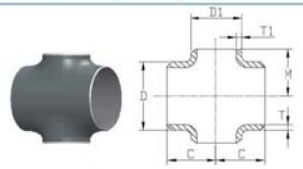


Reducing Tee 异径三通

Unit: mm

Nominal Size 公称尺寸		Outside Diameter at Bevel 坡口处外径			Center to End 中心至端部	
NPS (inch)	DN (mm)	Run 主管 D	Outlet 出口 D1		Run 主管 C	Outlet 出口 M
		Series I I系列	Series II II系列	Series I I系列	Series II II系列	
½ x ½ x ⅜	15 x 15 x 10	21.3	18	172	14	25
½ x ½ x ¾	15 x 15 x 8		—	135	—	
¾ x ¾ x ½	20 x 20 x 15	26.9	25	213	18	29
¾ x ¾ x ⅜	20 x 20 x 10		25	172	14	
1 x 1 x ¾	25 x 25 x 20	33.7	32	269	25	38
1 x 1 x ½	25 x 25 x 15		32	213	18	
1¼ x 1¼ x 1	32 x 32 x 25	42.4	38	337	32	48
1¼ x 1¼ x ¾	32 x 32 x 20		38	269	25	
1¼ x 1¼ x ½	32 x 32 x 15		38	213	18	
1½ x 1½ x 1¼	40 x 40 x 32	48.3	45	424	38	57
1½ x 1½ x 1	40 x 40 x 25		45	337	32	
1½ x 1½ x ¾	40 x 40 x 20		45	269	25	
1½ x 1½ x ½	40 x 40 x 15		45	213	18	
2 x 2 x 1½	50 x 50 x 40	60.3	57	483	45	64 / 60
2 x 2 x 1¼	50 x 50 x 32		57	424	38	57
2 x 2 x 1	50 x 50 x 25		57	337	32	51
2 x 2 x ¾	50 x 50 x 20		57	269	25	44
2½ x 2½ x 2	65 x 65 x 50	73	76	603	57	76 / 70
2½ x 2½ x 1½	65 x 65 x 40		76	483	45	67
2½ x 2½ x 1¼	65 x 65 x 32		76	424	38	64
2½ x 2½ x 1	65 x 65 x 25		76	337	32	57
3 x 3 x 2½	80 x 80 x 65	88.9	89	73	76	86 / 83
3 x 3 x 2	80 x 80 x 50		89	603	57	76
3 x 3 x 1½	80 x 80 x 40		89	483	45	73
3 x 3 x 1¼	80 x 80 x 32		89	424	38	70
3½ x 3½ x 3	90 x 90 x 80	101.6	—	889	—	95 / 92
3½ x 3½ x 2½	90 x 90 x 65		—	73	—	89
3½ x 3½ x 2	90 x 90 x 50		—	603	—	83
3½ x 3½ x 1½	90 x 90 x 40		—	483	—	79
4 x 4 x 3½	100 x 100 x 90	114.3	—	101.6	—	105 / 102
4 x 4 x 3	100 x 100 x 80		108	889	89	98
4 x 4 x 2½	100 x 100 x 65		108	73	76	95
4 x 4 x 2	100 x 100 x 50		108	603	57	89
4 x 4 x 1½	100 x 100 x 40		108	483	45	86
5 x 5 x 4	125 x 125 x 100	141.3	133	114.3	108	124 / 117
5 x 5 x 3½	125 x 125 x 90		—	101.6	—	114
5 x 5 x 3	125 x 125 x 80		133	889	89	111
5 x 5 x 2½	125 x 125 x 65		133	73	76	108
5 x 5 x 2	125 x 125 x 50		133	603	57	105
6 x 6 x 5	150 x 150 x 125	168.3	159	141.3	133	143 / 137
6 x 6 x 4	150 x 150 x 100		159	114.3	108	130
6 x 6 x 3½	150 x 150 x 90		—	101.6	—	127
6 x 6 x 3	150 x 150 x 80		159	889	89	124
6 x 6 x 2½	150 x 150 x 65		159	73	76	121
8 x 8 x 6	200 x 200 x 150	219.1	219	168.3	159	178 / 168
8 x 8 x 5	200 x 200 x 125		219	141.3	133	162
8 x 8 x 4	200 x 200 x 100		219	114.3	108	156
8 x 8 x 3½	200 x 200 x 90		—	101.6	—	152
10 x 10 x 8	250 x 250 x 200	273	273	219.1	219	216 / 203
10 x 10 x 6	250 x 250 x 150		273	168.3	159	194
10 x 10 x 5	250 x 250 x 125		273	141.3	133	191
10 x 10 x 4	250 x 250 x 100		273	114.3	108	184
12 x 12 x 10	300 x 300 x 250	323.9	325	273	273	254 / 241
12 x 12 x 8	300 x 300 x 200		325	219.1	219	229
12 x 12 x 6	300 x 300 x 150		325	168.3	159	219
12 x 12 x 5	300 x 300 x 125		325	141.3	133	216
14 x 14 x 12	350 x 350 x 300	355.6	377	323.9	325	279 / 270
14 x 14 x 10	350 x 350 x 250		377	273	273	257

Note - 注: Manufacturing type: Seamless/Welded - 制造型式: 无缝/焊缝



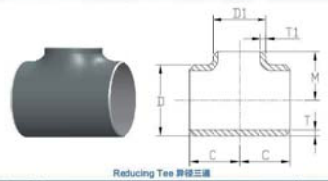
Reducing Cress 异径四通

Unit: mm

Nominal Size 公称尺寸		Outside Diameter at Bevel 坡口处外径			Center to End 中心至端部	
NPS (inch)	DN (mm)	Run 主管 D	Outlet 出口 D1		Run 主管 C	Outlet 出口 M
		Series I I系列	Series II II系列	Series I I系列	Series II II系列	
14 x 14 x 8	350 x 350 x 200	355.6	377	219.1	219	279 / 248
14 x 14 x 6	350 x 350 x 150		377	168.3	159	238
16 x 16 x 14	400 x 400 x 350	406.4	426	355.6	377	305 / 305
16 x 16 x 12	400 x 400 x 300		426	323.9	325	295
16 x 16 x 10	400 x 400 x 250		426	273	273	283
16 x 16 x 8	400 x 400 x 200		426	219.1	219	273
16 x 16 x 6	400 x 400 x 150		426	168.3	159	264
18 x 18 x 16	450 x 450 x 400	457	480	406.4	426	343 / 330
18 x 18 x 14	450 x 450 x 350		480	355.6	377	330
18 x 18 x 12	450 x 450 x 300		480	323.9	325	321
18 x 18 x 10	450 x 450 x 250		480	273	273	308
18 x 18 x 8	450 x 450 x 200		480	219.1	219	298
20 x 20 x 18	500 x 500 x 450	508	530	457	480	381 / 368
20 x 20 x 16	500 x 500 x 400		530	406.4	426	356
20 x 20 x 14	500 x 500 x 350		530	355.6	377	356
20 x 20 x 12	500 x 500 x 300		530	323.9	325	346
20 x 20 x 10	500 x 500 x 250		530	273	273	333
20 x 20 x 8	500 x 500 x 200		530	219.1	219	324
22 x 22 x 20	550 x 550 x 500	559	—	508	—	419 / 406
22 x 22 x 18	550 x 550 x 450		—	457	—	394
22 x 22 x 16	550 x 550 x 400		—	406.4	—	381
22 x 22 x 14	550 x 550 x 350		—	355.6	—	381
22 x 22 x 12	550 x 550 x 300		—	323.9	—	371
22 x 22 x 10	550 x 550 x 250		—	273	—	359
24 x 24 x 22	600 x 600 x 550	610	—	559	—	432 / 432
24 x 24 x 20	600 x 600 x 500		630	508	530	432
24 x 24 x 18	600 x 600 x 450		630	457	480	419
24 x 24 x 16	600 x 600 x 400		630	406.4	426	406
24 x 24 x 14	600 x 600 x 350		630	355.6	377	406
24 x 24 x 12	600 x 600 x 300		630	323.9	325	397
24 x 24 x 10	600 x 600 x 250		630	273	273	384
26 x 26 x 24	650 x 650 x 600	660	—	610	—	495 / 483
26 x 26 x 22	650 x 650 x 550		—	559	—	470
26 x 26 x 20	650 x 650 x 500		—	508	—	457
26 x 26 x 18	650 x 650 x 450		—	457	—	444
26 x 26 x 16	650 x 650 x 400		—	406.4	—	432
26 x 26 x 14	650 x 650 x 350		—	355.6	—	432
26 x 26 x 12	650 x 650 x 300		—	323.9	—	422
28 x 28 x 26	700 x 700 x 650	711	—	660	—	521 / 521
28 x 28 x 24	700 x 700 x 600		720	610	630	508
28 x 28 x 22	700 x 700 x 550		—	559	—	495
28 x 28 x 20	700 x 700 x 500		720	508	530	483
28 x 28 x 18	700 x 700 x 450		720	457	480	470
28 x 28 x 16	700 x 700 x 400		720	406.4	426	457
28 x 28 x 14	700 x 700 x 350		720	355.6	377	457
28 x 28 x 12	700 x 700 x 300		720	323.9	325	448
30 x 30 x 28	750 x 750 x 700	762	—	711	—	559 / 546
30 x 30 x 26	750 x 750 x 650		—	660	—	546
30 x 30 x 24	750 x 750 x 600		—	610	—	533
30 x 30 x 22	750 x 750 x 550		—	559	—	521
30 x 30 x 20	750 x 750 x 500		—	508	—	508
30 x 30 x 18	750 x 750 x 450		—	457	—	495
30 x 30 x 16	750 x 750 x 400		—	406.4	—	483
30 x 30 x 14	750 x 750 x 350		—	355.6	—	483
30 x 30 x 12	750 x 750 x 300		—	323.9	—	473
30 x 30 x 10	750 x 750 x 250		—	273	—	460
32 x 32 x 30	800 x 800 x 750	813	—	762	—	597 / 584
32 x 32 x 28	800 x 800 x 700		820	711	720	572
32 x 32 x 26	800 x 800 x 650		—	660	—	572

Note - 注: Manufacturing type: Seamless/Welded - 制造型式: 无缝/焊缝

GB/T 12459 (½" ~ 48")



Reducing Tee 异径三通 Unit: mm

Nominal Size 公称尺寸 NPS (inch)	Nominal Size 公称尺寸 DN (mm)	Outside Diameter at Bevel 坡口处外径 Run 主管 D Series I I系列	Run 主管 D Series II II系列	Outlet 出口 D1 Series I I系列	Outlet 出口 D1 Series II II系列	Center to End 中心至端部 Run 主管 C	Center to End 中心至端部 Outlet 出口 M
32 x 32 x 24	800 x 800 x 600	813	820	610	630	597	559
32 x 32 x 22	800 x 800 x 550		—	559	—		546
32 x 32 x 20	800 x 800 x 500		820	508	530		533
32 x 32 x 18	800 x 800 x 450		820	457	480		521
32 x 32 x 16	800 x 800 x 400		820	406.4	426		508
32 x 32 x 14	800 x 800 x 350		820	355.6	377		508
34 x 34 x 32	850 x 850 x 800	864	—	813	—	635	622
34 x 34 x 30	850 x 850 x 750		—	762	—		610
34 x 34 x 28	850 x 850 x 700		—	711	—		597
34 x 34 x 26	850 x 850 x 650		—	660	—		597
34 x 34 x 24	850 x 850 x 600		—	610	—		584
34 x 34 x 22	850 x 850 x 550		—	559	—		572
34 x 34 x 20	850 x 850 x 500		—	508	—		559
34 x 34 x 18	850 x 850 x 450		—	457	—		546
34 x 34 x 16	850 x 850 x 400		—	406.4	—		533
36 x 36 x 34	900 x 900 x 850	914	—	864	—	673	660
36 x 36 x 32	900 x 900 x 800		—	813	—		648
36 x 36 x 30	900 x 900 x 750		—	762	—		635
36 x 36 x 28	900 x 900 x 700		—	711	—		622
36 x 36 x 26	900 x 900 x 650		—	660	—		622
36 x 36 x 24	900 x 900 x 600		—	610	—		610
36 x 36 x 22	900 x 900 x 550		—	559	—		597
36 x 36 x 20	900 x 900 x 500		—	508	—		584
36 x 36 x 18	900 x 900 x 450		—	457	—		572
36 x 36 x 16	900 x 900 x 400		—	406.4	—		559
38 x 38 x 36	950 x 950 x 900	965	—	914	—	711	711
38 x 38 x 34	950 x 950 x 850		—	864	—		698
38 x 38 x 32	950 x 950 x 800		—	813	—		686
38 x 38 x 30	950 x 950 x 750		—	762	—		673
38 x 38 x 28	950 x 950 x 700		—	711	—		648
38 x 38 x 26	950 x 950 x 650		—	660	—		648
38 x 38 x 24	950 x 950 x 600		—	610	—		635
38 x 38 x 22	950 x 950 x 550		—	559	—		622
38 x 38 x 20	950 x 950 x 500		—	508	—		610
38 x 38 x 18	950 x 950 x 450		—	457	—		597
40 x 40 x 38	1000 x 1000 x 950	1016	—	965	—	749	749
40 x 40 x 36	1000 x 1000 x 900		—	914	—		737
40 x 40 x 34	1000 x 1000 x 850		—	864	—		724
40 x 40 x 32	1000 x 1000 x 800		—	813	—		711
40 x 40 x 30	1000 x 1000 x 750		—	762	—		698
40 x 40 x 28	1000 x 1000 x 700		—	711	—		673
40 x 40 x 26	1000 x 1000 x 650		—	660	—		673
40 x 40 x 24	1000 x 1000 x 600		—	610	—		660
40 x 40 x 22	1000 x 1000 x 550		—	559	—		648
40 x 40 x 20	1000 x 1000 x 500		—	508	—		635
40 x 40 x 18	1000 x 1000 x 450		—	457	—		622
42 x 42 x 40	1050 x 1050 x 1000	1067	—	1016	—	762	711
42 x 42 x 38	1050 x 1050 x 950		—	965	—		711
42 x 42 x 36	1050 x 1050 x 900		—	914	—		711
42 x 42 x 34	1050 x 1050 x 850		—	864	—		711
42 x 42 x 32	1050 x 1050 x 800		—	813	—		711
42 x 42 x 30	1050 x 1050 x 750		—	762	—		711
42 x 42 x 28	1050 x 1050 x 700		—	711	—		698
42 x 42 x 26	1050 x 1050 x 650		—	660	—		698
42 x 42 x 24	1050 x 1050 x 600		—	610	—		660
42 x 42 x 22	1050 x 1050 x 550		—	559	—		660
42 x 42 x 20	1050 x 1050 x 500		—	508	—		660
42 x 42 x 18	1050 x 1050 x 450		—	457	—		648

Note - 注 Manufacturing type: Seamless/Welded - 制造型式: 无缝/焊缝

Reducing Cross 异径四通 Unit: mm

Nominal Size 公称尺寸 NPS (inch)	Nominal Size 公称尺寸 DN (mm)	Outside Diameter at Bevel 坡口处外径 Run 主管 D Series I I系列	Run 主管 D Series II II系列	Outlet 出口 D1 Series I I系列	Outlet 出口 D1 Series II II系列	Center to End 中心至端部 Run 主管 C	Center to End 中心至端部 Outlet 出口 M
42 x 42 x 16	1050 x 1050 x 400	1067	—	406.4	—	762	635
44 x 44 x 42	1100 x 1100 x 1050	1118	—	1067	—	813	762
44 x 44 x 40	1100 x 1100 x 1000		—	1016	—		749
44 x 44 x 38	1100 x 1100 x 950		—	965	—		737
44 x 44 x 36	1100 x 1100 x 900		—	914	—		724
44 x 44 x 34	1100 x 1100 x 850		—	864	—		724
44 x 44 x 32	1100 x 1100 x 800		—	813	—		711
44 x 44 x 30	1100 x 1100 x 750		—	762	—		711
44 x 44 x 28	1100 x 1100 x 700		—	711	—		698
44 x 44 x 26	1100 x 1100 x 650		—	660	—		698
44 x 44 x 24	1100 x 1100 x 600		—	610	—		698
44 x 44 x 22	1100 x 1100 x 550		—	559	—		686
44 x 44 x 20	1100 x 1100 x 500		—	508	—		686
46 x 46 x 44	1150 x 1150 x 1100	1168	—	1118	—	851	800
46 x 46 x 42	1150 x 1150 x 1050		—	1067	—		787
46 x 46 x 40	1150 x 1150 x 1000		—	1016	—		775
46 x 46 x 38	1150 x 1150 x 950		—	965	—		762
46 x 46 x 36	1150 x 1150 x 900		—	914	—		762
46 x 46 x 34	1150 x 1150 x 850		—	864	—		749
46 x 46 x 32	1150 x 1150 x 800		—	813	—		749
46 x 46 x 30	1150 x 1150 x 750		—	762	—		737
46 x 46 x 28	1150 x 1150 x 700		—	711	—		737
46 x 46 x 26	1150 x 1150 x 650		—	660	—		737
46 x 46 x 24	1150 x 1150 x 600		—	610	—		724
46 x 46 x 22	1150 x 1150 x 550		—	559	—		724
48 x 48 x 46	1200 x 1200 x 1150	1219	—	1168	—	889	838
48 x 48 x 44	1200 x 1200 x 1100		—	1118	—		838
48 x 48 x 42	1200 x 1200 x 1050		—	1067	—		813
48 x 48 x 40	1200 x 1200 x 1000		—	1016	—		813
48 x 48 x 38	1200 x 1200 x 950		—	965	—		813
48 x 48 x 36	1200 x 1200 x 900		—	914	—		787
48 x 48 x 34	1200 x 1200 x 850		—	864	—		787
48 x 48 x 32	1200 x 1200 x 800		—	813	—		787
48 x 48 x 30	1200 x 1200 x 750		—	762	—		762
48 x 48 x 28	1200 x 1200 x 700		—	711	—		762
48 x 48 x 26	1200 x 1200 x 650		—	660	—		762
48 x 48 x 24	1200 x 1200 x 600		—	610	—		737
48 x 48 x 22	1200 x 1200 x 550		—	559	—		737
52 x 52 x 48	1300 x 1300 x 1200	1321	—	1219	—	978	908
52 x 52 x 44	1300 x 1300 x 1100		—	1118	—		892
52 x 52 x 42	1300 x 1300 x 1050		—	1067	—		876
52 x 52 x 40	1300 x 1300 x 1000		—	1016	—		870
52 x 52 x 36	1300 x 1300 x 900		—	914	—		864
52 x 52 x 30	1300 x 1300 x 750		—	762	—		832
52 x 52 x 24	1300 x 1300 x 600		—	610	—		794
56 x 56 x 52	1400 x 1400 x 1300	1524	—	1321	—	1054	959
56 x 56 x 48	1400 x 1400 x 1200		—	1219	—		940
56 x 56 x 44	1400 x 1400 x 1100		—	1118	—		934
56 x 56 x 42	1400 x 1400 x 1050		—	1067	—		927
56 x 56 x 36	1400 x 1400 x 900		—	914	—		902
56 x 56 x 30	1400 x 1400 x 750		—	762	—		857
56 x 56 x 24	1400 x 1400 x 600		—	610	—		857
60 x 60 x 56	1500 x 1500 x 1400		—	1422	—	1118	1041
60 x 60 x 52	1500 x 1500 x 1300		—	1321	—		1022
60 x 60 x 48	1500 x 1500 x 1200		—	1219	—		1016
60 x 60 x 42	1500 x 1500 x 1050		—	1067	—		991
60 x 60 x 36	1500 x 1500 x 900		—	914	—		965
60 x 60 x 30	1500 x 1500 x 750		—	762	—		914

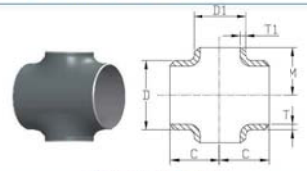
Note - 注 Manufacturing type: Seamless/Welded - 制造型式: 无缝/焊缝

Reducing Tees/Reducing Crosses 异径三通/异径四通 SH/T 3408 (¾" ~ 64")

Reducing Tee 异径三通 Unit: mm

Nominal Size 公称尺寸 NPS (inch)	Nominal Size 公称尺寸 DN (mm)	Outside Diameter at Bevel 坡口处外径 Run 主管 D	Outside Diameter at Bevel 坡口处外径 Outlet 出口 D1	Center to End 中心至端部 Run 主管 C	Center to End 中心至端部 Outlet 出口 M
¾ × ¾ × ½	20 x 20 x 15	26.7	21.3	29	
1 × 1 × ¾	25 x 25 x 20	33.4	26.7	38	
1 × 1 × ½	25 x 25 x 15		21.3		
1¼ × 1¼ × 1	32 x 32 x 25	42.2	33.4	48	
1¼ × 1¼ × ¾	32 x 32 x 20		26.7		
1¼ × 1¼ × ½	32 x 32 x 15		21.3		
1½ × 1½ × 1¼	40 x 40 x 32	48.3	42.2	57	
1½ × 1½ × 1	40 x 40 x 25		33.4		
1½ × 1½ × ¾	40 x 40 x 20		26.7		
1½ × 1½ × ½	40 x 40 x 15		21.3		
2 × 2 × 1½	50 x 50 x 40	60.3	48.3	64	60
2 × 2 × 1¼	50 x 50 x 32		42.2		57
2 × 2 × 1	50 x 50 x 25		33.4		51
2 × 2 × ¾	50 x 50 x 20		26.7		44
2½ × 2½ × 2	65 x 65 x 50	73	60.3	73	70
2½ × 2½ × 1½	65 x 65 x 40		48.3		67
2½ × 2½ × 1¼	65 x 65 x 32		42.2		64
2½ × 2½ × 1	65 x 65 x 25		33.4		57
3 × 3 × 2½	80 x 80 x 65	88.9	73	86	83
3 × 3 × 2	80 x 80 x 50		60.3		73
3 × 3 × 1½	80 x 80 x 40		48.3		73
3 × 3 × 1¼	80 x 80 x 32		42.2		70
4 × 4 × 3	100 x 100 x 80	114.3	88.9	105	98
4 × 4 × 2½	100 x 100 x 65		73		95
4 × 4 × 2	100 x 100 x 50		60.3		89
4 × 4 × 1½	100 x 100 x 40		48.3		86
5 × 5 × 4	125 x 125 x 100	141.3	114.3	124	117
5 × 5 × 3	125 x 125 x 80		88.9		111
5 × 5 × 2½	125 x 125 x 65		73		108
5 × 5 × 2	125 x 125 x 50		60.3		105
6 × 6 × 5	150 x 150 x 125	168.3	141.3	143	137
6 × 6 × 4	150 x 150 x 100		114.3		130
6 × 6 × 3	150 x 150 x 80		88.9		124
6 × 6 × 2½	150 x 150 x 65		73		121
8 × 8 × 6	200 x 200 x 150	219.1	168.3	178	168
8 × 8 × 5	200 x 200 x 125		141.3		162
8 × 8 × 4	200 x 200 x 100		114.3		155
10 × 10 × 8	250 x 250 x 200	273	219.1	216	203
10 × 10 × 6	250 x 250 x 150		168.3		194
10 × 10 × 5	250 x 250 x 125		141.3		191
10 × 10 × 4	250 x 250 x 100		114.3		184
12 × 12 × 10	300 x 300 x 250	323.8	273	254	241
12 × 12 × 8	300 x 300 x 200		219.1		229
12 × 12 × 6	300 x 300 x 150		168.3		219
12 × 12 × 5	300 x 300 x 125		141.3		216
14 × 14 × 12	350 x 350 x 300	355.6	323.8	279	270
14 × 14 × 10	350 x 350 x 250		273		257
14 × 14 × 8	350 x 350 x 200		219.1		248
14 × 14 × 6	350 x 350 x 150		168.3		238
16 × 16 × 14	400 x 400 x 350	406.4	355.6	305	305
16 × 16 × 12	400 x 400 x 300		323.8		295
16 × 16 × 10	400 x 400 x 250		273		283

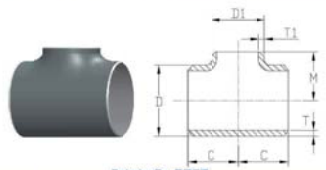
Note - 注 Manufacturing type: Seamless/Welded - 制造型式: 无缝/焊缝
The Size of Crosses is up to DN1200 - 等径四通的尺寸最大至DN1200



Reducing Cross 异径四通 Unit: mm

Nominal Size 公称尺寸 NPS (inch)	Nominal Size 公称尺寸 DN (mm)	Outside Diameter at Bevel 坡口处外径 Run 主管 D	Outside Diameter at Bevel 坡口处外径 Outlet 出口 D1	Center to End 中心至端部 Run 主管 C	Center to End 中心至端部 Outlet 出口 M
16 × 16 × 8	400 x 400 x 200	406.4	219.1	305	273
16 × 16 × 6	400 x 400 x 150		168.3		264
18 × 18 × 16	450 x 450 x 400	457	406.4	343	330
18 × 18 × 14	450 x 450 x 350		355.6		330
18 × 18 × 12	450 x 450 x 300		323.8		321
18 × 18 × 10	450 x 450 x 250		273		308
18 × 18 × 8	450 x 450 x 200		219.1		298
20 × 20 × 18	500 x 500 x 450	508	457	381	368
20 × 20 × 16	500 x 500 x 400		406.4		356
20 × 20 × 14	500 x 500 x 350		355.6		356
20 × 20 × 12	500 x 500 x 300		323.8		346
20 × 20 × 10	500 x 500 x 250		273		333
20 × 20 × 8	500 x 500 x 200		219.1		324
22 × 22 × 20	550 x 550 x 500	559	508	419	406
22 × 22 × 18	550 x 550 x 450		457		394
22 × 22 × 16	550 x 550 x 400		406.4		381
22 × 22 × 14	550 x 550 x 350		355.6		381
22 × 22 × 12	550 x 550 x 300		323.8		371
22 × 22 × 10	550 x 550 x 250		273		359
24 × 24 × 22	600 x 600 x 550	610	559	432	432
24 × 24 × 20	600 x 600 x 500		508		432
24 × 24 × 18	600 x 600 x 450		457		419
24 × 24 × 16	600 x 600 x 400		406.4		406
24 × 24 × 14	600 x 600 x 350		355.6		406
24 × 24 × 12	600 x 600 x 300		323.8		397
24 × 24 × 10	600 x 600 x 250		273		384
26 × 26 × 24	650 x 650 x 600	660	610	495	483
26 × 26 × 22	650 x 650 x 550		559		470
26 × 26 × 20	650 x 650 x 500		508		457
26 × 26 × 18	650 x 650 x 450		457		444
26 × 26 × 16	650 x 650 x 400		406.4		432
26 × 26 × 14	650 x 650 x 350		355.6		432
26 × 26 × 12	650 x 650 x 300		323.8		422
28 × 28 × 26	700 x 700 x 650	711	660	521	521
28 × 28 × 24	700 x 700 x 600		610		508
28 × 28 × 22	700 x 700 x 550		559		495
28 × 28 × 20	700 x 700 x 500		508		483
28 × 28 × 18	700 x 700 x 450		457		470
28 × 28 × 16	700 x 700 x 400		406.4		457
28 × 28 × 14	700 x 700 x 350		355.6		457
28 × 28 × 12	700 x 700 x 300		323.8		448
30 × 30 × 28	750 x 750 x 700	762	711	559	546
30 × 30 × 26	750 x 750 x 650		660		546
30 × 30 × 24	750 x 750 x 600		610		533
30 × 30 × 22	750 x 750 x 550		559		521
30 × 30 × 20	750 x 750 x 500		508		508
30 × 30 × 18	750 x 750 x 450		457		495
30 × 30 × 16	750 x 750 x 400		406.4		483
30 × 30 × 14	750 x 750 x 350		355.6		483
30 × 30 × 12	750 x 750 x 300		323.8		473
30 × 30 × 10	750 x 750 x 250		273		460
32 × 32 × 30	800 x 800 x 750	813	762	597	584

Note - 注 Manufacturing type: Seamless/Welded - 制造型式: 无缝/焊缝
The Size of Crosses is up to DN1200 - 等径四通的尺寸最大至DN1200



Reducing Tee 异径三通 Unit: mm

Nominal Size 公称尺寸 NPS (inch)	DN (mm)	Outside Diameter at Bevel 坡口处外径 Run 主管 D	Outside Diameter at Bevel 坡口处外径 Outlet 出口 D1	Center to End 中心至端部 Run 主管 C	Center to End 中心至端部 Outlet 出口 M
32 × 32 × 28	800 x 800 x 700	813	711	597	572
32 × 32 × 26	800 x 800 x 650		660		572
32 × 32 × 24	800 x 800 x 600		610		559
32 × 32 × 22	800 x 800 x 550		559		546
32 × 32 × 20	800 x 800 x 500		508		533
32 × 32 × 18	800 x 800 x 450		457		521
32 × 32 × 16	800 x 800 x 400		406.4		508
32 × 32 × 14	800 x 800 x 350		355.5		508
34 × 34 × 32	850 x 850 x 800	864	813	635	622
34 × 34 × 30	850 x 850 x 750		762		610
34 × 34 × 28	850 x 850 x 700		711		597
34 × 34 × 26	850 x 850 x 650		660		597
34 × 34 × 24	850 x 850 x 600		610		584
34 × 34 × 22	850 x 850 x 550		559		572
34 × 34 × 20	850 x 850 x 500		508		559
34 × 34 × 18	850 x 850 x 450		457		546
34 × 34 × 16	850 x 850 x 400		406.4		533
36 × 36 × 34	900 x 900 x 850	914	864	673	660
36 × 36 × 32	900 x 900 x 800		813		648
36 × 36 × 30	900 x 900 x 750		762		635
36 × 36 × 28	900 x 900 x 700		711		622
36 × 36 × 26	900 x 900 x 650		660		622
36 × 36 × 24	900 x 900 x 600		610		610
36 × 36 × 22	900 x 900 x 550		559		597
36 × 36 × 20	900 x 900 x 500		508		584
36 × 36 × 18	900 x 900 x 450		457		572
36 × 36 × 16	900 x 900 x 400		406.4		559
38 × 38 × 36	950 x 950 x 900	965	914	711	711
38 × 38 × 34	950 x 950 x 850		864		698
38 × 38 × 32	950 x 950 x 800		813		686
38 × 38 × 30	950 x 950 x 750		762		673
38 × 38 × 28	950 x 950 x 700		711		648
38 × 38 × 26	950 x 950 x 650		660		648
38 × 38 × 24	950 x 950 x 600		610		635
38 × 38 × 22	950 x 950 x 550		559		622
38 × 38 × 20	950 x 950 x 500		508		610
38 × 38 × 18	950 x 950 x 450		457		597
40 × 40 × 38	1000 x 1000 x 950	1016	965	749	749
40 × 40 × 36	1000 x 1000 x 900		914		737
40 × 40 × 34	1000 x 1000 x 850		864		724
40 × 40 × 32	1000 x 1000 x 800		813		711
40 × 40 × 30	1000 x 1000 x 750		762		698
40 × 40 × 28	1000 x 1000 x 700		711		673
40 × 40 × 26	1000 x 1000 x 650		660		673
40 × 40 × 24	1000 x 1000 x 600		610		660
40 × 40 × 22	1000 x 1000 x 550		559		648
40 × 40 × 20	1000 x 1000 x 500		508		635
40 × 40 × 18	1000 x 1000 x 450		457		622
42 × 42 × 40	1050 x 1050 x 1000	1067	1016	762	711
42 × 42 × 38	1050 x 1050 x 950		960		711
42 × 42 × 36	1050 x 1050 x 900		914		711
42 × 42 × 34	1050 x 1050 x 850		864		711

Note - 注 Manufacturing type: Seamless/Welded - 制造型式：无缝/焊缝
The Size of Crosses is up to DN1200 - 等径四通的尺寸最大至DN1200

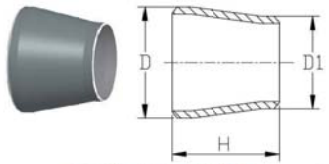
Reducing Cross 异径四通 Unit: mm

Nominal Size 公称尺寸 NPS (inch)	DN (mm)	Outside Diameter at Bevel 坡口处外径 Run 主管 D	Outside Diameter at Bevel 坡口处外径 Outlet 出口 D1	Center to End 中心至端部 Run 主管 C	Center to End 中心至端部 Outlet 出口 M
42 × 42 × 32	1050 x 1050 x 800	1067	813	762	711
42 × 42 × 30	1050 x 1050 x 750		762		711
42 × 42 × 28	1050 x 1050 x 700		711		698
42 × 42 × 26	1050 x 1050 x 650		660		698
42 × 42 × 24	1050 x 1050 x 600		610		660
42 × 42 × 22	1050 x 1050 x 550		559		660
42 × 42 × 20	1050 x 1050 x 500		508		660
42 × 42 × 18	1050 x 1050 x 450		457		648
42 × 42 × 16	1050 x 1050 x 400		406		635
44 × 44 × 40	1100 x 1100 x 1000	1118	1016	813	749
44 × 44 × 38	1100 x 1100 x 950		965		737
44 × 44 × 36	1100 x 1100 x 900		914		724
44 × 44 × 34	1100 x 1100 x 850		864		724
44 × 44 × 32	1100 x 1100 x 800		813		711
44 × 44 × 30	1100 x 1100 x 750		762		711
44 × 44 × 28	1100 x 1100 x 700		711		698
44 × 44 × 26	1100 x 1100 x 650		660		698
44 × 44 × 24	1100 x 1100 x 600		610		698
44 × 44 × 22	1100 x 1100 x 550		559		686
44 × 44 × 20	1100 x 1100 x 500		508		686
46 × 46 × 44	1150 x 1150 x 1100	1168	1118	851	800
46 × 46 × 42	1150 x 1150 x 1050		1067		787
46 × 46 × 40	1150 x 1150 x 1000		1016		775
46 × 46 × 38	1150 x 1150 x 950		965		762
46 × 46 × 36	1150 x 1150 x 900		914		762
46 × 46 × 34	1150 x 1150 x 850		864		749
46 × 46 × 32	1150 x 1150 x 800		813		749
46 × 46 × 30	1150 x 1150 x 750		762		737
46 × 46 × 28	1150 x 1150 x 700		711		737
46 × 46 × 26	1150 x 1150 x 650		660		737
46 × 46 × 24	1150 x 1150 x 600		610		724
46 × 46 × 22	1150 x 1150 x 550		559		724
48 × 48 × 32	1200 x 1200 x 800	1219	813	889	787
48 × 48 × 30	1200 x 1200 x 750		762		762
48 × 48 × 28	1200 x 1200 x 700		711		762
48 × 48 × 26	1200 x 1200 x 650		660		762
48 × 48 × 24	1200 x 1200 x 600		610		737
48 × 48 × 22	1200 x 1200 x 550		559		737
52 × 52 × 48	1300 x 1300 x 1200	1321	1219	965	864
52 × 52 × 44	1300 x 1300 x 1100		1118		813
52 × 52 × 40	1300 x 1300 x 1000		1016		762
56 × 56 × 52	1400 x 1400 x 1300	1420	1321	1041	914
56 × 56 × 48	1400 x 1400 x 1200		1219		864
56 × 56 × 44	1400 x 1400 x 1100		1118		813
60 × 60 × 56	1500 x 1500 x 1400	1524	1420	1118	965
60 × 60 × 52	1500 x 1500 x 1300		1321		914
60 × 60 × 48	1500 x 1500 x 1200		1219		864
64 × 64 × 60	1600 x 1600 x 1500	1626	1524	1194	1067
64 × 64 × 56	1600 x 1600 x 1400		1420		1016
64 × 64 × 52	1600 x 1600 x 1300		1321		965
64 × 64 × 48	1600 x 1600 x 1200		1219		914

Note - 注 Manufacturing type: Seamless/Welded - 制造型式：无缝/焊缝
The Size of Crosses is up to DN1200 - 等径四通的尺寸最大至DN1200

Concentric Reducers/Eccentric Reducers 同心异径管/偏心异径管

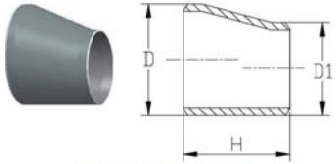
ASME B16.9 (¾" ~ 48") MSS SP-75 (16" ~ 60")



Concentric Reducer 同心异径管 Unit: mm

Nominal Size 公称尺寸 NPS (inch)	DN (mm)	Outside Diameter at Bevel 坡口处外径 Large End 大端 D	Outside Diameter at Bevel 坡口处外径 Smal End 小端 D1	End to End 端面至端面 H
¾ × ½	20 x 15	26.7	21.3	38
¾ × ⅜	20 x 10		17.3	
1 × ¾	25 x 20	33.4	26.7	51
1 × ½	25 x 15		21.3	
1¼ × 1	32 x 25	42.2	33.4	51
1¼ × ¾	32 x 20		26.7	
1¼ × ½	32 x 15		21.3	
1½ × 1¼	40 x 32	48.3	42.2	64
1½ × 1	40 x 25		33.4	
1½ × ¾	40 x 20		26.7	
1½ × ½	40 x 15		21.3	
2 × 1½	50 x 40	60.3	48.3	76
2 × 1¼	50 x 32		42.2	
2 × 1	50 x 25		33.4	
2 × ¾	50 x 20		26.7	
2½ × 2	65 x 50	73	60.3	89
2½ × 1½	65 x 40		48.3	
2½ × 1¼	65 x 32		42.2	
2½ × 1	65 x 25		33.4	
3 × 2½	80 x 65	88.9	73	89
3 × 2	80 x 50		60.3	
3 × 1½	80 x 40		48.3	
3 × 1¼	80 x 32		42.2	
3½ × 3	90 x 80	101.6	88.9	102
3½ × 2½	90 x 65		73	
3½ × 2	90 x 50		60.3	
3½ × 1½	90 x 40		48.3	
3½ × 1¼	90 x 32		42.2	
4 × 3½	100 x 90	114.3	101.6	102
4 × 3	100 x 80		88.9	
4 × 2½	100 x 65		73	
4 × 2	100 x 50		60.3	
4 × 1½	100 x 40		48.3	
5 × 4	125 x 100	141.3	114.3	127
5 × 3½	125 x 90		101.6	
5 × 3	125 x 80		88.9	
5 × 2½	125 x 65		73	
5 × 2	125 x 50		60.3	
6 × 5	150 x 125	168.3	141.3	140
6 × 4	150 x 100		114.3	
6 × 3½	150 x 90		101.6	
6 × 3	150 x 80		88.9	
6 × 2½	150 x 65		73	
8 × 6	200 x 150	219.1	168.3	152
8 × 5	200 x 125		141.3	
8 × 4	200 x 100		114.3	
8 × 3½	200 x 90		101.6	
10 × 8	250 x 200	273	219.1	178
10 × 6	250 x 150		168.3	
10 × 5	250 x 125		141.3	
10 × 4	250 x 100		114.3	
12 × 10	300 x 250	323.8	273	203

Note - 注 Manufacturing type: Seamless/Welded - 制造型式：无缝/焊缝
ASME B16.9 standard excludes the ORANGE part; MSS SP-75 standard includes the ORANGE part.
ASME B16.9 标准不包括橙色部分内容; MSS SP-75 标准包括橙色部分内容.

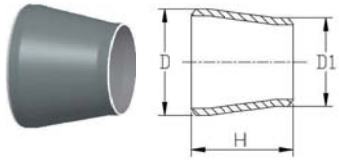


Eccentric Reducer 偏心异径管 Unit: mm

Nominal Size 公称尺寸 NPS (inch)	DN (mm)	Outside Diameter at Bevel 坡口处外径 Large End 大端 D	Outside Diameter at Bevel 坡口处外径 Smal End 小端 D1	End to End 端面至端面 H
12 × 8	300 x 200	323.8	219.1	203
12 × 6	300 x 150		168.3	
12 × 5	300 x 125		141.3	
14 × 12	350 x 300	355.6	323.8	330
14 × 10	350 x 250		273	
14 × 8	350 x 200		219.1	
14 × 6	350 x 150		168.3	
16 × 14	400 x 350	406.4	355.6	356
16 × 12	400 x 300		323.8	
16 × 10	400 x 250		273	
16 × 8	400 x 200		219.1	
18 × 16	450 x 400	457	406.4	381
18 × 14	450 x 350		355.6	
18 × 12	450 x 300		323.8	
18 × 10	450 x 250		273	
20 × 18	500 x 450	508	457	508
20 × 16	500 x 400		406.4	
20 × 14	500 x 350		355.6	
20 × 12	500 x 300		323.8	
22 × 20	550 x 500	559	508	508
22 × 18	550 x 450		457	
22 × 16	550 x 400		406.4	
22 × 14	550 x 350		355.4	
24 × 22	600 x 550	610	559	508
24 × 20	600 x 500		508	
24 × 18	600 x 450		457	
24 × 16	600 x 400		406.4	
26 × 24	650 x 600	660	610	610
26 × 22	650 x 550		559	
26 × 20	650 x 500		508	
26 × 18	650 x 450		457	
28 × 26	700 x 650	711	660	610
28 × 24	700 x 600		610	
28 × 22	700 x 550		559	
28 × 20	700 x 500		508	
28 × 18	700 x 450		457	
30 × 28	750 x 700	762	711	610
30 × 26	750 x 650		660	
30 × 24	750 x 600		610	
30 × 22	750 x 550		559	
30 × 20	750 x 500		508	
32 × 30	800 x 750	813	762	610
32 × 28	800 x 700		711	
32 × 26	800 x 650		660	
32 × 24	800 x 600		610	
34 × 32	850 x 800	864	813	610
34 × 30	850 x 750		762	
34 × 28	850 x 700		711	
34 × 26	850 x 650		660	
34 × 24	850 x 600		610	
36 × 34	900 x 850	914	864	610
36 × 32	900 x 800		813	

Note - 注 Manufacturing type: Seamless/Welded - 制造型式：无缝/焊缝
ASME B16.9 standard excludes the ORANGE part; MSS SP-75 standard includes the ORANGE part.
ASME B16.9 标准不包括橙色部分内容; MSS SP-75 标准包括橙色部分内容.

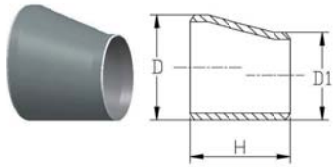
ASME B16.9 (¼" ~ 48") MSS SP-75 (16" ~ 60")



Concentric Reducer 同心异径管 Unit: mm

Nominal Size 公称尺寸 NPS (inch)	DN (mm)	Outside Diameter at Bevel 坡口处外径 Large End 大端 D	Smal End 小端 D1	End to End 端面至端面 H
36 × 30	900 × 750	914	762	610
36 × 28	900 × 700		711	
36 × 26	900 × 650		660	
36 × 24	900 × 600		610	
38 × 36	950 × 900	965	914	610
38 × 34	950 × 850		864	
38 × 32	950 × 800		813	
38 × 30	950 × 750		762	
38 × 28	950 × 700		711	
38 × 26	950 × 650		660	
38 × 24	950 × 600		610	
38 × 22	950 × 550		559	
38 × 20	950 × 500		508	
40 × 38	1000 × 950	1016	965	610
40 × 36	1000 × 900		914	
40 × 34	1000 × 850		864	
40 × 32	1000 × 800		813	
40 × 30	1000 × 750		762	
40 × 28	1000 × 700		711	
40 × 26	1000 × 650		660	
40 × 24	1000 × 600		610	
40 × 22	1000 × 550		559	
40 × 20	1000 × 500		508	
42 × 40	1050 × 1000	1067	1016	610
42 × 38	1050 × 950		965	
42 × 36	1050 × 900		914	
42 × 34	1050 × 850		864	
42 × 32	1050 × 800		813	
42 × 30	1050 × 750		762	
42 × 28	1050 × 700		711	
42 × 26	1050 × 650		660	
42 × 24	1050 × 600		610	
42 × 22	1050 × 550		559	
44 × 42	1100 × 1050	1118	1067	610
44 × 40	1100 × 1000		1016	
44 × 38	1100 × 950		965	
44 × 36	1100 × 900		914	
44 × 34	1100 × 850		864	
44 × 32	1100 × 800		813	
44 × 30	1100 × 750		762	
44 × 28	1100 × 700		711	
44 × 26	1100 × 650		660	
44 × 24	1100 × 600		610	
44 × 22	1100 × 550		559	
46 × 44	1150 × 1100	1168	1118	711
46 × 42	1150 × 1050		1067	
46 × 40	1150 × 1000		1016	
46 × 38	1150 × 950		965	
46 × 36	1150 × 900		914	
46 × 34	1150 × 850		864	
46 × 32	1150 × 800		813	
46 × 30	1150 × 750		762	

Note - 注: Manufacturing type: Seamless/Welded - 制造型式: 无缝/焊缝
ASME B16.9 standard excludes the ORANGE part; MSS SP-75 standard includes the ORANGE part.
ASME B16.9标准不包括橙色部分内容; MSS SP-75 标准包括橙色部分内容.

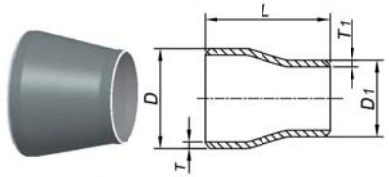


Eccentric Reducer 偏心异径管 Unit: mm

Nominal Size 公称尺寸 NPS (inch)	DN (mm)	Outside Diameter at Bevel 坡口处外径 Large End 大端 D	Smal End 小端 D1	End to End 端面至端面 H
46 × 28	1150 × 700	1168	711	711
46 × 26	1150 × 650		660	
46 × 24	1150 × 600		610	
48 × 46	1200 × 1150	1219	1168	711
48 × 44	1200 × 1100		1118	
48 × 42	1200 × 1050		1067	
48 × 40	1200 × 1000		1016	
48 × 38	1200 × 950		965	
48 × 36	1200 × 900		914	
48 × 34	1200 × 850		864	
48 × 32	1200 × 800		813	
48 × 30	1200 × 750		762	
48 × 28	1200 × 700		711	
48 × 26	1200 × 650		660	
48 × 24	1200 × 600		610	
50 × 48	1250 × 1200	1270	1219	711
50 × 42	1250 × 1050		1067	
50 × 36	1250 × 900		914	
50 × 30	1250 × 750		762	
50 × 24	1250 × 600		610	
50 × 20	1250 × 500		508	
52 × 50	1300 × 1250	1321	1270	711
52 × 48	1300 × 1200		1219	
52 × 42	1300 × 1050		1067	
52 × 36	1300 × 900		914	
52 × 30	1300 × 750		762	
52 × 24	1300 × 600		610	
54 × 52	1350 × 1300	1372	1321	711
54 × 48	1350 × 1200		1219	
54 × 42	1350 × 1050		1067	
54 × 36	1350 × 900		914	
54 × 30	1350 × 750		762	
54 × 24	1350 × 600		610	
56 × 54	1400 × 1350	1422	1372	711
56 × 48	1400 × 1200		1219	
56 × 42	1400 × 1050		1067	
56 × 36	1400 × 900		914	
56 × 30	1400 × 750		762	
56 × 24	1400 × 600		610	
58 × 56	1450 × 1400	1473	1422	711
58 × 54	1450 × 1350		1372	
58 × 48	1450 × 1200		1219	
58 × 42	1450 × 1050		1067	
58 × 36	1450 × 900		914	
58 × 30	1450 × 750		762	
60 × 58	1500 × 1450	1524	1473	711
60 × 54	1500 × 1350		1372	
60 × 48	1500 × 1200		1219	
60 × 42	1500 × 1050		1067	
60 × 36	1500 × 900		914	
60 × 30	1500 × 750		762	

Note - 注: Manufacturing type: Seamless/Welded - 制造型式: 无缝/焊缝
ASME B16.9 standard excludes the ORANGE part; MSS SP-75 standard includes the ORANGE part.
ASME B16.9标准不包括橙色部分内容; MSS SP-75 标准包括橙色部分内容.

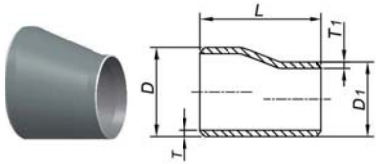
Concentric Reducers/Eccentric Reducers 同心异径管/偏心异径管 EN10253-2/A (¼" ~ 48")



Concentric Reducer 同心异径管 Unit: mm

Nominal Size 公称尺寸 NPS (inch)	DN (mm)	Outside Diameter at Bevel 坡口处外径 Large End 大端 D	Smal End 小端 D1	End to End 端面至端面 L
¾ × ½	20 × 15	26.9	21.3	38
1 × ¾	25 × 20	33.7	26.9	51
1 × ½	25 × 15		21.3	
1¼ × 1	32 × 25	42.4	33.7	51
1¼ × ¾	32 × 20		26.9	
1¼ × ½	32 × 15		21.3	
1½ × 1¼	40 × 32	48.3	42.4	64
1½ × 1	40 × 25		33.7	
1½ × ¾	40 × 20		26.9	
2 × 1½	50 × 40	60.3	48.3	76
2 × 1¼	50 × 32		42.4	
2 × 1	50 × 25		33.7	
2 × ¾	50 × 20		26.9	
2½ × 2	65 × 50	76.1	60.3	89
2½ × 1½	65 × 40		48.3	
2½ × 1¼	65 × 32		42.4	
2½ × 1	65 × 25		33.7	
3 × 2½	80 × 65	88.9	76.1	89
3 × 2	80 × 50		60.3	
3 × 1½	80 × 40		48.3	
3 × 1¼	80 × 32		42.4	
4 × 3	100 × 80	114.3	88.9	102
4 × 2½	100 × 65		76.1	
4 × 2	100 × 50		60.3	
4 × 1½	100 × 40		48.3	
5 × 4	125 × 100	139.7	114.3	127
5 × 3	125 × 80		88.9	
5 × 2½	125 × 65		76.1	
5 × 2	125 × 50		60.3	
6 × 5	150 × 125	168.3	139.7	140
6 × 4	150 × 100		114.3	
6 × 3	150 × 80		88.9	
6 × 2½	150 × 65		76.1	
8 × 6	200 × 150	219.1	168.3	152
8 × 5	200 × 125		139.7	
8 × 4	200 × 100		114.3	
8 × 3	200 × 80		88.9	
10 × 8	250 × 200	273	219.1	178
10 × 6	250 × 150		168.3	
10 × 5	250 × 125		139.7	
10 × 4	250 × 100		114.3	
12 × 10	300 × 250	323.9	273	203

Note - 注: Manufacturing type:Seamless/Welded - 制造型式: 无缝/焊缝

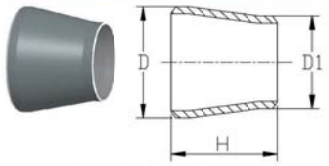


Eccentric Reducer 偏心异径管 Unit: mm

Nominal Size 公称尺寸 NPS (inch)	DN (mm)	Outside Diameter at Bevel 坡口处外径 Large End 大端 D	Smal End 小端 D1	End to End 端面至端面 L
12 × 8	300 × 200	323.9	219.1	203
12 × 6	300 × 150		168.3	
12 × 5	300 × 125		139.7	
14 × 12	350 × 300	355.6	323.9	330
14 × 10	350 × 250		273	
14 × 8	350 × 200		219.1	
14 × 6	350 × 150		168.3	
16 × 14	400 × 350	406.4	355.6	356
16 × 12	400 × 300		323.9	
16 × 10	400 × 250		273	
16 × 8	400 × 200		219.1	
18 × 16	450 × 400	457	406.4	381
18 × 14	450 × 350		355.6	
18 × 12	450 × 300		323.9	
18 × 10	450 × 250		273	
20 × 18	500 × 450	508	457	508
20 × 16	500 × 400		406.4	
20 × 14	500 × 350		355.6	
20 × 12	500 × 300		323.9	
22 × 20	550 × 500	559	508	508
22 × 18	550 × 450		457	
22 × 16	550 × 400		406.4	
22 × 14	550 × 350		355.6	
24 × 22	600 × 550	610	559	508
24 × 20	600 × 500		508	
24 × 18	600 × 450		457	
24 × 16	600 × 400		406.4	
28 × 24	700 × 600	711	610	610
28 × 20	700 × 500		508	
28 × 18	700 × 450		457	
32 × 28	800 × 700	813	711	610
32 × 24	800 × 600		610	
32 × 22	800 × 550		559	
32 × 20	800 × 500		508	
36 × 32	900 × 800	914	813	610
36 × 28	900 × 700		711	
36 × 24	900 × 600		610	
40 × 36	1000 × 900	1016	914	610
40 × 32	1000 × 800		813	
40 × 28	1000 × 700		711	
48 × 40	1200 × 1000	1219	1016	711
48 × 36	1200 × 900		914	
48 × 32	1200 × 800		813	

Note - 注: Manufacturing type: Seamless/Welded - 制造型式: 无缝/焊缝

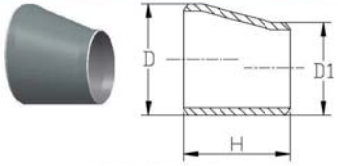
Concentric Reducers/Eccentric Reducers 同心异径管/偏心异径管 GB/T 12459 (¾" ~ 60")



Concentric Reducer 同心异径管 Unit: mm

Nominal Size 公称尺寸 NPS (inch)	DN (mm)	Outside Diameter at Bevel 坡口处外径 Large End 大端 D Series I I系列	Large End 大端 D Series II II系列	Smal End 小端 D1 Series I I系列	Smal End 小端 D1 Series II II系列	End to End 端面至端面 H
¾ x ½	20 x 15	26.9	25	21.3	18	38
¾ x ¾	20 x 10			17.2	14	
1 x ¾	25 x 20	33.7	32	26.9	25	51
1 x ½	25 x 15			21.3	18	
1¼ x 1	32 x 25	42.4	38	33.7	32	51
1¼ x ¾	32 x 20			26.9	25	
1¼ x ½	32 x 15			21.3	18	
1½ x 1¼	40 x 32	48.3	45	42.4	38	64
1½ x 1	40 x 25			33.7	32	
1½ x ¾	40 x 20			26.9	25	
1½ x ½	40 x 15			21.3	18	
2 x 1½	50 x 40	60.3	57	48.3	45	76
2 x 1¼	50 x 32			42.4	38	
2 x 1	50 x 25			33.7	32	
2 x ¾	50 x 20			26.9	25	
2½ x 2	65 x 50	73	76	60.3	57	89
2½ x 1½	65 x 40			48.3	45	
2½ x 1¼	65 x 32			42.4	38	
2½ x 1	65 x 25			33.7	32	
3 x 2½	80 x 65	88.9	89	73	76	89
3 x 2	80 x 50			60.3	57	
3 x 1½	80 x 40			48.3	45	
3 x 1¼	80 x 32			42.4	38	
3½ x 3	90 x 80	101.6	—	88.9	—	102
3½ x 2½	90 x 65			73	—	
3½ x 2	90 x 50			60.3	—	
3½ x 1½	90 x 40			48.3	—	
3½ x 1¼	90 x 32			42.4	—	
4 x 3½	100 x 90	114.3	—	101.6	—	102
4 x 3	100 x 80		108	88.9	89	
4 x 2½	100 x 65		108	73	76	
4 x 2	100 x 50		108	60.3	57	
4 x 1½	100 x 40		108	48.3	45	
5 x 4	125 x 100	141.3	133	114.3	108	127
5 x 3½	125 x 90		—	101.6	—	
5 x 3	125 x 80		133	88.9	89	
5 x 2½	125 x 65		133	73	76	
5 x 2	125 x 50		133	60.3	57	
6 x 5	150 x 125	168.3	159	141.3	133	140
6 x 4	150 x 100			114.3	108	

Note - 注: Manufacturing type: Seamless/Welded - 制造型式: 无缝/焊缝

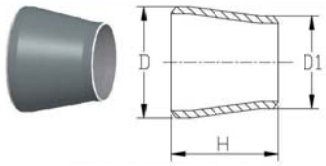


Eccentric Reducer 偏心异径管 Unit: mm

Nominal Size 公称尺寸 NPS (inch)	DN (mm)	Outside Diameter at Bevel 坡口处外径 Large End 大端 D Series I I系列	Large End 大端 D Series II II系列	Smal End 小端 D1 Series I I系列	Smal End 小端 D1 Series II II系列	End to End 端面至端面 H
6 x 3½	150 x 90	168.3	—	101.6	—	140
6 x 3	150 x 80		159	88.9	89	
6 x 2½	150 x 65		159	73	76	
8 x 6	200 x 150	219.1	219	168.3	159	152
8 x 5	200 x 125		219	141.3	133	
8 x 4	200 x 100		219	114.3	108	
8 x 3½	200 x 90		—	101.6	—	
10 x 8	250 x 200	273	273	219.1	219	178
10 x 6	250 x 150			168.3	159	
10 x 5	250 x 125			141.3	133	
10 x 4	250 x 100			114.3	108	
12 x 10	300 x 250	323.9	325	273	273	203
12 x 8	300 x 200			219.1	219	
12 x 6	300 x 150			168.3	159	
12 x 5	300 x 125			141.3	133	
14 x 12	350 x 300	355.6	377	323.9	325	330
14 x 10	350 x 250			273	273	
14 x 8	350 x 200			219.1	219	
14 x 6	350 x 150			168.3	159	
16 x 14	400 x 350	406.4	426	355.6	377	356
16 x 12	400 x 300			323.9	325	
16 x 10	400 x 250			273	273	
16 x 8	400 x 200			219.1	219	
18 x 16	450 x 400	457	480	406.4	426	381
18 x 14	450 x 350			355.6	377	
18 x 12	450 x 300			323.9	325	
18 x 10	450 x 250			273	273	
20 x 18	500 x 450	508	530	457	480	508
20 x 16	500 x 400			406.4	426	
20 x 14	500 x 350			355.6	377	
20 x 12	500 x 300			323.9	325	
22 x 20	550 x 500	559	—	508	—	508
22 x 18	550 x 450			457	—	
22 x 16	550 x 400			406.4	—	
22 x 14	550 x 350			355.6	—	
24 x 22	600 x 550	610	—	559	—	508
24 x 20	600 x 500		630	508	530	
24 x 18	600 x 450		630	457	480	
24 x 16	600 x 400		630	406.4	426	
26 x 24	650 x 600	660	—	610	—	610

Note - 注: Manufacturing type: Seamless/Welded - 制造型式: 无缝/焊缝

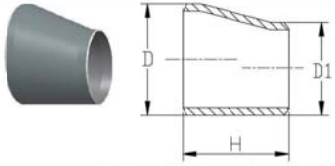
GB/T 12459 (¾" ~ 60")



Concentric Reducer 同心异径管 Unit: mm

Nominal Size 公称尺寸 NPS (inch)	DN (mm)	Outside Diameter at Bevel 坡口处外径 Large End 大端 D Series I I系列	Large End 大端 D Series II II系列	Smal End 小端 D1 Series I I系列	Smal End 小端 D1 Series II II系列	End to End 端面至端面 H
26 x 22	650 x 550	660	—	559	—	610
26 x 20	650 x 500			508	—	
26 x 18	650 x 450			457	—	
28 x 26	700 x 650	711	—	660	—	610
28 x 24	700 x 600		720	610	630	
28 x 22	700 x 550		—	559	—	
28 x 20	700 x 500		720	508	530	
30 x 28	750 x 700	762	—	711	—	610
30 x 26	750 x 650			660	—	
30 x 24	750 x 600			610	—	
30 x 22	750 x 550			559	—	
32 x 30	800 x 750	813	—	762	—	610
32 x 28	800 x 700		820	711	720	
32 x 26	800 x 650		—	660	—	
32 x 24	800 x 600		820	610	630	
34 x 32	850 x 800	864	—	813	—	610
34 x 30	850 x 750			762	—	
34 x 28	850 x 700			711	—	
34 x 26	850 x 650			660	—	
36 x 34	900 x 850	914	—	864	—	610
36 x 32	900 x 800			813	—	
36 x 30	900 x 750			762	—	
36 x 28	900 x 700			711	—	
36 x 26	900 x 650			660	—	
38 x 36	950 x 900	965	—	914	—	610
38 x 34	950 x 850			864	—	
38 x 32	950 x 800			813	—	
38 x 30	950 x 750			762	—	
38 x 28	950 x 700			711	—	
38 x 26	950 x 650			660	—	
40 x 38	1000 x 950	1016	—	965	—	610
40 x 36	1000 x 900			914	—	
40 x 34	1000 x 850			864	—	
40 x 32	1000 x 800			813	—	
40 x 30	1000 x 750			762	—	
42 x 40	1050 x 1000	1067	—	1016	—	610
42 x 38	1050 x 950			965	—	

Note - 注: Manufacturing type: Seamless/Welded - 制造型式: 无缝/焊缝

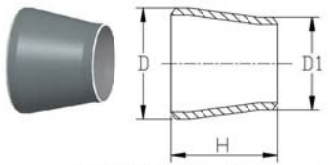


Eccentric Reducer 偏心异径管 Unit: mm

Nominal Size 公称尺寸 NPS (inch)	DN (mm)	Outside Diameter at Bevel 坡口处外径 Large End 大端 D Series I I系列	Large End 大端 D Series II II系列	Smal End 小端 D1 Series I I系列	Smal End 小端 D1 Series II II系列	End to End 端面至端面 H
42 x 36	1050 x 900	1067	—	914	—	610
42 x 34	1050 x 850			864	—	
42 x 32	1050 x 800			813	—	
42 x 30	1050 x 750			762	—	
44 x 42	1100 x 1050	1118	—	1067	—	610
44 x 40	1100 x 1000			1016	—	
44 x 38	1100 x 950			965	—	
44 x 36	1100 x 900			914	—	
46 x 44	1150 x 1100	1168	—	1118	—	711
46 x 42	1150 x 1050			1067	—	
46 x 40	1150 x 1000			1016	—	
46 x 38	1150 x 950			965	—	
48 x 46	1200 x 1150	1219	—	1168	—	711
48 x 44	1200 x 1100			1118	—	
48 x 42	1200 x 1050			1067	—	
48 x 40	1200 x 1000			1016	—	
52 x 48	1300 x 1200	1321	—	1219	—	711
52 x 44	1300 x 1100			1118	—	
52 x 42	1300 x 1050			1067	—	
52 x 40	1300 x 1000			1016	—	
52 x 36	1300 x 900			914	—	
52 x 30	1300 x 750			762	—	
52 x 24	1300 x 600			610	—	
56 x 52	1400 x 1300	1422	—	1321	—	711
56 x 48	1400 x 1200			1219	—	
56 x 44	1400 x 1100			1118	—	
56 x 42	1400 x 1050			1067	—	
56 x 40	1400 x 1000			1016	—	
56 x 36	1400 x 900			914	—	
56 x 30	1400 x 750			762	—	
56 x 24	1400 x 600			610	—	
60 x 56	1500 x 1400	1524	—	1422	—	711
60 x 52	1500 x 1300			1321	—	
60 x 48	1500 x 1200			1219	—	
60 x 44	1500 x 1100			1118	—	
60 x 42	1500 x 1050			1067	—	
60 x 40	1500 x 1000			1016	—	
60 x 36	1500 x 900			914	—	
60 x 30	1500 x 750			762	—	

Note - 注: Manufacturing type: Seamless/Welded - 制造型式: 无缝/焊缝

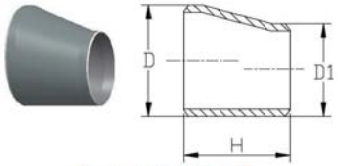
Concentric Reducers/Eccentric Reducers 同心异径管/偏心异径管 SH/T 3408 (¾" ~ 136")



Concentric Reducer 同心异径管 Unit: mm

Nominal Size 公称尺寸		Outside Diameter at Bevel 坡口处外径		End to End 端面至端面
NPS (inch)	DN (mm)	Large End 大端 D	Smal End 小端 D1	H
¾ x ½	20 x 15	26.7	21.3	38
1 x ¾	25 x 20	33.4	26.7	51
1 x ½	25 x 15		21.3	
1¼ x 1	32 x 25	42.2	33.4	51
1¼ x ¾	32 x 20		26.7	
1¼ x ½	32 x 15		21.3	
1½ x 1¼	40 x 32	48.3	42.2	64
1½ x 1	40 x 25		33.4	
1½ x ¾	40 x 20		26.7	
1½ x ½	40 x 15		21.3	
2 x 1½	50 x 40	60.3	48.3	76
2 x 1¼	50 x 32		42.2	
2 x 1	50 x 25		33.4	
2 x ¾	50 x 20		26.7	
2½ x 2	65 x 50	73	60.3	89
2½ x 1½	65 x 40		48.3	
2½ x 1¼	65 x 32		42.2	
2½ x 1	65 x 25		33.4	
3 x 2½	80 x 65	88.9	73	89
3 x 2	80 x 50		60.3	
3 x 1½	80 x 40		48.3	
3 x 1¼	80 x 32		42.2	
4 x 3	100 x 80	114.3	88.9	102
4 x 2½	100 x 65		73	
4 x 2	100 x 50		60.3	
4 x 1½	100 x 40		48.3	
5 x 4	125 x 100	141.3	114.3	127
5 x 3	125 x 80		88.9	
5 x 2½	125 x 65		73	
5 x 2	125 x 50		60.3	
6 x 5	150 x 125	168.3	141.3	140
6 x 4	150 x 100		114.3	
6 x 3	150 x 80		88.9	
6 x 2½	150 x 65		73	
8 x 6	200 x 150	219.1	168.3	152
8 x 5	200 x 125		141.3	
8 x 4	200 x 100		114.3	
10 x 8	250 x 200	273.1	219.1	178
10 x 6	250 x 150		168.3	
10 x 5	250 x 125		141.3	
10 x 4	250 x 100		114.3	
12 x 10	300 x 250	323.9	273.1	203

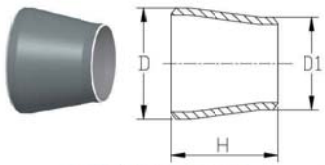
Note - 注 Manufacturing type Seamless/Welded - 制造型式 无缝/焊缝



Eccentric Reducer 偏心异径管 Unit: mm

Nominal Size 公称尺寸		Outside Diameter at Bevel 坡口处外径		End to End 端面至端面
NPS (inch)	DN (mm)	Large End 大端 D	Smal End 小端 D1	H
12 × 8	300 x 200	323.9	219.1	203
12 × 6	300 x 150		168.3	
12 × 5	300 x 125		141.3	
14 × 12	350 x 300	355.6	323.9	330
14 × 10	350 x 250		273.1	
14 × 8	350 x 200		219.1	
14 × 6	350 x 150		168.3	
16 × 14	400 x 350	406.4	355.6	356
16 × 12	400 x 300		323.9	
16 × 10	400 x 250		273.1	
16 × 8	400 x 200		219.1	
18 × 16	450 x 400	457	406.4	381
18 × 14	450 x 350		355.6	
18 × 12	450 x 300		323.9	
18 × 10	450 x 250		273.1	
20 × 18	500 x 450	508	457	508
20 × 16	500 x 400		406.4	
20 × 14	500 x 350		355.6	
20 × 12	500 x 300		323.9	
22 × 20	550 x 500	559	508	508
22 × 18	550 x 450		457	
22 × 16	550 x 400		406.4	
22 × 14	550 x 350		355.6	
24 × 22	600 x 550	610	559	508
24 × 20	600 x 500		508	
24 × 18	600 x 450		457	
24 × 16	600 x 400		406.4	
26 × 24	650 x 600	660	610	610
26 × 22	650 x 550		559	
26 × 20	650 x 500		508	
26 × 18	650 x 450		457	
28 × 26	700 x 650	711	660	610
28 × 24	700 x 600		610	
28 × 22	700 x 550		559	
28 × 20	700 x 500		508	
28 × 18	700 x 450		457	
30 × 28	750 x 700	762	711	610
30 × 26	750 x 650		660	
30 × 24	750 x 600		610	
30 × 22	750 x 550		559	
30 × 20	750 x 500		508	
32 × 30	800 x 750	813	762	610

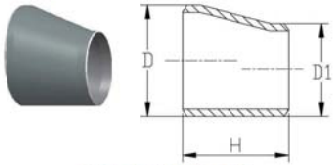
Note - 注 Manufacturing type: Seamless/Welded - 制造型式: 无缝/焊缝



Concentric Reducer 同心异径管 Unit: mm

Nominal Size 公称尺寸		Outside Diameter at Bevel 坡口处外径		End to End 端面至端面
NPS (inch)	DN (mm)	Large End 大端 D	Smal End 小端 D1	H
12 × 28	800 x 700	813	711	610
12 × 26	800 x 650		660	
12 × 24	800 x 600		610	
14 × 32	850 x 800	864	813	610
14 × 30	850 x 750		762	
14 × 28	850 x 700		711	
14 × 26	850 x 650		660	
14 × 24	850 x 600		610	
16 × 34	900 x 850	914	864	610
16 × 32	900 x 800		813	
16 × 30	900 x 750		762	
16 × 28	900 x 700		711	
16 × 26	900 x 650		660	
16 × 24	900 x 600		610	
18 × 36	950 x 900	965	914	610
18 × 34	950 x 850		864	
18 × 32	950 x 800		813	
18 × 30	950 x 750		762	
18 × 28	950 x 700		711	
18 × 26	950 x 650		660	
40 × 38	1000 x 950	1016	965	610
40 × 36	1000 x 900		914	
40 × 34	1000 x 850		864	
40 × 32	1000 x 800		813	
40 × 30	1000 x 750		762	
40 × 28	1000 x 700		711	
42 × 40	1050 x 1000	1067	1016	610
42 × 38	1050 x 950		965	
42 × 36	1050 x 900		914	
42 × 34	1050 x 850		864	
42 × 32	1050 x 800		813	
42 × 30	1050 x 750		762	
44 × 40	1100 x 1000	1118	1016	610
44 × 38	1100 x 950		965	
44 × 36	1100 x 900		914	
44 × 34	1100 x 850		864	
44 × 32	1100 x 800		813	
46 × 44	1150 x 1100	1168	1118	711
46 × 42	1150 x 1050		1067	
46 × 40	1150 x 1000		1016	
46 × 38	1150 x 950		965	
48 × 44	1200 x 1100	1219	1118	711

Note - 注 Manufacturing type: Seamless/Welded - 制造型式: 无缝/焊缝

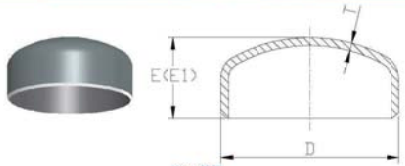


Eccentric Reducer 偏心异径管 Unit: mm

Nominal Size 公称尺寸		Outsice Diameter at Bevel 坡口处外径		End to End 端面至端面
NPS (inch)	DN (mm)	Large End 大端 D	Smal End 小端 D1	H
48 × 40	1200 x 1000	1219	1016	711
48 × 38	1200 x 950		965	
48 × 36	1200 x 900		914	
52 × 48	1300 x 1200	1321	1219	711
52 × 44	1300 x 1100		1118	
52 × 40	1300 x 1000		1016	
56 × 52	1400 x 1300	1420	1321	711
56 × 48	1400 x 1200		1219	
56 × 44	1400 x 1100		1118	
60 × 56	1500 x 1400	1524	1420	711
60 × 52	1500 x 1300		1321	
60 × 48	1500 x 1200		1219	
64 × 60	1600 x 1500	1626	1524	1219
64 × 56	1600 x 1400		1422	
64 × 52	1600 x 1300		1321	
72 × 68	1800 x 1700	1829	1727	1219
72 × 64	1800 x 1600		1626	
72 × 60	1800 x 1500		1524	
80 × 75	2000 x 1900	2032	1930	1219
80 × 72	2000 x 1800		1829	
80 × 68	2000 x 1700		1727	
88 × 80	2200 x 2000	2235	2032	1626
88 × 75	2200 x 1900		1930	
88 × 72	2200 x 1800		1829	
96 × 88	2400 x 2200	2438	2235	2032
96 × 80	2400 x 2000		2032	
96 × 75	2400 x 1900		1930	
104 × 96	2600 x 2400	2642	2438	2438
104 × 88	2600 x 2200		2235	
104 × 80	2600 x 2000		2032	
112 × 104	2800 x 2600	2845	2642	2438
112 × 96	2800 x 2400		2438	
112 × 88	2800 x 2200		2235	
120 × 112	3000 x 2800	3048	2845	2438
120 × 104	3000 x 2600		2642	
120 × 96	3000 x 2400		2438	
128 × 120	3200 x 3000	3251	3048	2438
128 × 112	3200 x 2800		2845	
128 × 104	3200 x 2600		2642	
136 × 128	3400 x 3200	3454	3251	2438
136 × 120	3400 x 3000		3048	
136 × 112	3400 x 2800		2845	

Note - 注 Manufacturing type: Seamless/Welded - 制造型式: 无缝/焊缝

Caps/管帽 ASME B16.9 (½" ~ 48")



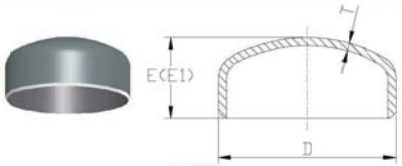
Cap 管帽

Unit: mm

Nominal Size 公称尺寸		Outside Diameter at Bevel 坡口处外径	Length 长度 [Note (1)]	Limiting Wall Thickness for Length E 长度E时极限壁厚	Length 长度 [Note (2)]
NPS (inch)	DN (mm)	D	E	T	E1
½	15	21.3	25	4.57	25
¾	20	26.7	25	3.81	25
1	25	33.4	38	4.57	38
1¼	32	42.2	38	4.83	38
1½	40	48.3	38	5.08	38
2	50	60.3	38	5.59	44
2½	65	73	38	7.11	51
3	80	88.9	51	7.62	64
3½	90	101.6	64	8.13	76
4	100	114.3	64	8.64	76
5	125	141.3	76	9.65	89
6	150	168.3	89	10.92	102
8	200	219.1	102	12.7	127
10	250	273	127	12.7	152
12	300	323.8	152	12.7	178
14	350	355.6	165	12.7	191
16	400	406.4	178	12.7	203
18	450	457	203	12.7	229
20	500	508	229	12.7	254
22	550	559	254	12.7	254
24	600	610	267	12.7	305
26	650	660	267	—	—
28	700	711	267	—	—
30	750	762	267	—	—
32	800	813	267	—	—
34	850	864	267	—	—
36	900	914	267	—	—
38	950	965	305	—	—
40	1000	1016	305	—	—
42	1050	1067	305	—	—
44	1100	1118	343	—	—
46	1150	1168	343	—	—
48	1200	1219	343	—	—

Note - 注
Manufacturing type: Seamless - 制造型式：无缝
(1) Length E applies for thickness not exceeding that given in column "Limiting Wall Thickness for Length, E."
长度E适用于厚度不超过"长度E时极限壁厚"栏中所列之值的场合。
(2) For NPS 24 and smaller, Length E1 applies for thickness greater than that given in column "Limiting Wall Thickness for Length, E"
For NPS 26 and larger, length E1 shall be by agreement between the manufacturer and puchaser.
对于NPS 24及以下的管帽，长度E1适用于厚度大于"极限壁厚"栏中所列之值的场合。
对于NPS 26及以上的管帽，长度E1应由制造厂和买卖双方协商。

Caps/管帽 MSS SP-75 (16" ~ 60")



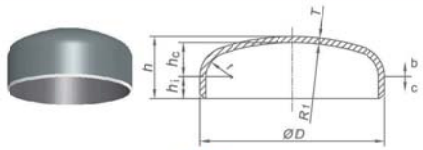
Cap 管帽

Unit: mm

Nominal Size 公称尺寸		Outside Diameter at Bevel 坡口处外径	Length 长度 [Note (1)]	Length 长度 [Note (1)]
NPS (inch)	DN (mm)	D	E	E1
16	400	406.4	178	203
18	450	457	203	229
20	500	508	229	254
22	550	559	254	279
24	600	610	267	304.8
26	650	660	267	304.8
28	700	711	267	304.8
30	750	762	267	304.8
32	800	813	267	304.8
34	850	864	267	304.8
36	900	914	267	304.8
38	950	965	305	342.9
40	1000	1016	305	342.9
42	1050	1067	305	342.9
44	1100	1118	343	381
46	1150	1168	343	381
48	1200	1219	343	381
50	1250	1270	368.3	406.4
52	1300	1321	368.3	406.4
54	1350	1372	406.4	444.5
56	1400	1422	406.4	444.5
58	1450	1473	419.1	457.2
60	1500	1524	419.1	457.2

Note - 注
Manufacturing type: Seamless - 制造型式：无缝
(1) For T greater than 1.0 inch (25.4mm), caps may be furnished to length "E1", at option of manufacturer.
对于T大于1.0 inch (25.4mm)，可按长度E1供货，由制造商选择。

Caps/管帽 EN10253-2/A (½" ~ 48")



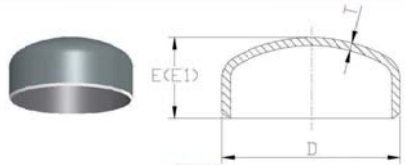
Cap 管帽

Unit: mm

Nominal Size 公称尺寸		Outside Diameter at Bevel 坡口处外径	Length 长度
NPS (inch)	DN (mm)	D	h (h1+hc)
½	15	21.3	25
¾	20	26.9	25
1	25	33.7	25
1¼	32	42.4	38
1½	40	48.3	38
2	50	60.3	38
2½	65	76.1	38
3	80	88.9	51
4	100	114.3	64
5	125	139.7	76
6	150	168.3	89
8	200	219.1	102
10	250	273.1	127
12	300	323.9	152
14	350	355.6	165
16	400	406.4	178
18	450	457	203
20	500	508	229
22	550	559	254
24	600	610	267
26	650	660	267
28	700	711	267 for T ≤ 25
			290
30	750	762	267 for T ≤ 20
			310
32	800	813	267 for T ≤ 17.5
			330
34	850	864	267 for T ≤ 14
			350
36	900	914	267 for T ≤ 10
			370
40	1000	1016	305 for T ≤ 14.2
			420
42	1050	1067	305 for T ≤ 13
			405
44	1100	1118	343 for T ≤ 12
			390
46	1150	1168	343 for T ≤ 11
			375
48	1200	1219	343 for T ≤ 10
			360

Note - 注 Manufacturing type: Seamless - 制造型式：无缝。

Caps/管帽 GB/T 12459 (½" ~ 60")



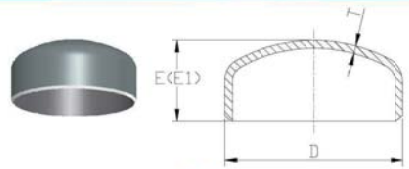
Cap 管帽

Unit: mm

Nominal Size 公称尺寸		Outside Diameter at Bevel 坡口处外径		Length 长度 [Note (1)]	Limiting Wall Thickness for Length E 长度E时极限壁厚	Length 长度 [Note (2)]
		D				
NPS (inch)	DN (mm)	Series I I 系列	Series II II 系列	E	T	E1
½	15	21.3	18	25	4.57	25
¾	20	26.9	25	25	3.81	25
1	25	33.7	32	38	4.57	38
1¼	32	42.4	38	38	4.83	38
1½	40	48.3	45	38	5.08	38
2	50	60.3	57	38	5.59	44
2½	65	73	76	38	7.11	51
3	80	88.9	89	51	7.62	64
3½	90	101.6	—	64	8.13	76
4	100	114.3	108	64	8.64	76
5	125	141.3	133	76	9.65	89
6	150	168.3	159	89	10.92	102
8	200	219.1	219	102	12.7	127
10	250	273	273	127	12.7	152
12	300	323.9	325	152	12.7	178
14	350	355.6	377	165	12.7	191
16	400	406.4	426	178	12.7	203
18	450	457	480	203	12.7	229
20	500	508	530	229	12.7	254
22	550	559	—	254	12.7	254
24	600	610	630	267	12.7	305
26	650	660	—	267	—	—
28	700	711	720	267	—	—
30	750	762	—	267	—	—
32	800	813	820	267	—	—
34	850	864	—	267	—	—
36	900	914	—	267	—	—
38	950	965	—	305	—	—
40	1000	1016	—	305	—	—
42	1050	1067	—	305	—	—
44	1100	1118	—	343	—	—
46	1150	1168	—	343	—	—
48	1200	1219	—	343	—	—
52	1300	1321	—	368	—	—
56	1400	1422	—	406	—	—
60	1500	1524	—	419	—	—

Note - 注
Manufacturing type: Seamless - 制造型式：无缝
(1) Length E applies for thickness not exceeding that given in column "Limiting Wall Thickness for Length, E."
长度E适用于厚度不超过"长度E时极限壁厚"栏中所列之值的场合。
(2) For NPS 24 and smaller, Length E1 applies for thickness greater than that given in column "Limiting Wall Thickness for Length, E"
For NPS 26 and larger, length E1 shall be by agreement between the manufacturer and purchaser.
对于NPS 24及以下的管帽，长度E1适用于厚度大于"极限壁厚"栏中所列之值的场合。
对于NPS 26及以上的管帽，长度E1应由制造厂和买卖双方协商。

Caps/管帽 SH/T 3408 (½" ~ 136")



Cap 管帽

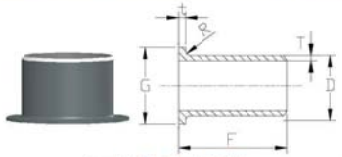
Unit: mm

Nominal Size 公称尺寸		Outside Diameter at Bevel 坡口处外径	Length 长度 (Note (1))	Limiting Wall Thickness for Length E 长度E时极限壁厚	Length 长度 (Note (2))
NPS (inch)	DN (mm)	D	E	T	E1
½	15	21.3	25	4	25
¾	20	26.7	25	4	25
1	25	33.4	38	4.5	38
1¼	32	42.2	38	5	38
1½	40	48.3	38	5	38
2	50	60.3	38	5.5	44
2½	65	73	38	7	51
3	80	88.9	51	7.5	64
4	100	114.3	64	8.5	76
5	125	141.3	76	9.5	89
6	150	168.3	89	11	102
8	200	219.1	102	12.5	127
10	250	273	127	12.5	152
12	300	323.8	152	12.5	178
14	350	355.6	165	12.5	191
16	400	406.4	178	12.5	203
18	450	457	203	12.5	229
20	500	508	229	12.5	254
22	550	559	254	12.5	254
24	600	610	267	12.5	305
26	650	660	267	—	—
28	700	711	267	—	—
30	750	762	267	—	—
32	800	813	267	—	—
34	850	864	267	—	—
36	900	914	267	—	—
38	950	965	305	—	—
40	1000	1016	305	—	—
42	1050	1067	305	—	—
44	1100	1118	343	—	—
46	1150	1168	343	—	—
48	1200	1219	343	—	—
52	1300	1321	355	—	—
56	1400	1422	381	—	—
60	1500	1524	406	—	—
64	1600	1626	432	—	—
72	1800	1829	482	—	—
80	2000	2032	533	—	—
88	2200	2235	599	—	—
96	2400	2438	650	—	—
104	2600	2642	701	—	—
112	2800	2845	751	—	—
120	3000	3048	802	—	—
128	3200	3251	853	—	—
136	3400	3454	904	—	—

*Note：注
Manufacturing type: Seamless - 制造型式：无缝
(1) For NPS 24 and smaller, Length E applies for thickness not exceeding that given in colume "Limiting Wall Thickness for Length, E", if the thickness T is greater than that given in colume "Limiting Wall Thickness for Length, E", E1 shall be used.
对于NPS 24及以下的管帽，长度E适用于壁厚不超过"长度E时极限壁厚"栏中所列之值的情况。如果壁厚大于极限壁厚时，长度E1应被采用。
(2) For NPS 26 and larger, Length E1 shall be by agreement between the manufacturer and purchaser.
对于NPS 26及以上的管帽，长度E1应由制造厂和采购商方协商。

Lap Joint Stub End/翻边短节

ASME B16.9 (½" ~ 24") GB/T 12459 (½" ~ 24")



Lap Joint Stub End 翻边短节

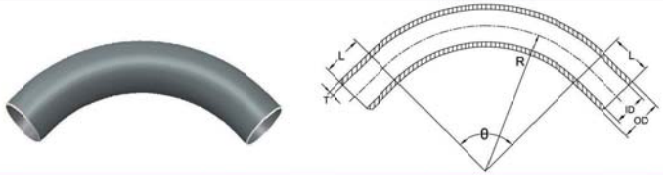
Unit: mm

Nominal Size 公称尺寸		Outside Diameter of Barrel 筒部外径		Long Pattern Length 长型长度	Short Pattern Length 短型长度	Radius of Fillet 圆角半径	Diameter of Lap 搭接边直径
NPS (inch)	DN (mm)	D Max.	D Min.	F	F	R	G
½	15	22.8	20.5	76	51	3	35
¾	20	28.1	25.9	76	51	3	43
1	25	35	32.6	102	51	3	51
1¼	32	43.6	41.4	102	51	5	64
1½	40	49.9	47.5	102	51	6	73
2	50	62.4	59.5	152	64	8	92
2½	65	75.3	72.2	152	64	8	105
3	80	91.3	88.1	152	64	10	127
3½	90	104	100.8	152	76	10	140
4	100	116.7	113.5	152	76	11	157
5	125	144.3	140.5	203	76	11	186
6	150	171.3	167.5	203	89	13	216
8	200	222.1	218.3	203	102	13	270
10	250	277.2	272.3	254	127	13	324
12	300	328.0	323.1	254	152	13	381
14	350	359.9	354.8	305	152	13	413
16	400	411	405.6	305	152	13	470
18	450	462	456.0	305	152	13	533
20	500	514	507.0	305	152	13	584
22	550	565	558.0	305	152	13	641
24	600	616	609.0	305	152	13	692

Note：注 Manufacturing type: Seamless - 制造型式：无缝

Hot Induction Bends 感应加热弯管

ASME B16.49
ISO 15590-1/EN 14870-1
SY/T 5257



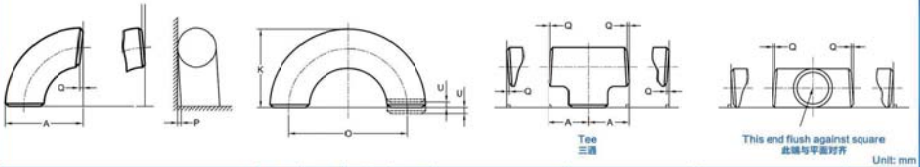
The hot induction bends can be made according to the standards and non-standard that meet the technical requirements of the clients.
感应加热弯管可以根据标准及非标准生产以满足客户的技术要求.

Bend Technical Parameters/弯管技术参数.

Bend Radius/弯曲半径 R	Typical 3D, 4D, 5D, 6D, 7D, 8D, 9D, 10D etc. 典型的 3D, 4D, 5D, 6D, 7D, 8D, 9D, 10D 等等.	
Bend Angle/弯曲角度 θ	Typical 15°, 30°, 45°, 60°, 90° etc. 典型的 15°, 30°, 45°, 60°, 90°等等.	
Tangent Length/直管段 L	Recommended D ≤ 508mm, L > 250mm (e.g.: 300mm, 350mm); D > 508mm, L > 500mm (e.g.: 750mm, 1000mm). 建议当D ≤ 508mm, L > 250mm (例如: 300mm, 350mm); 当D > 508mm, L > 500mm (例如: 750mm, 1000mm).	
Outside Diameter/外径 OD	As per specified by the clients. 根据客户要求.	
Wall Thickness/壁厚 T	Typical Std, Sch10, Sch20, Sch30, Sch40, Sch60, Sch80 etc. 典型的 Std, Sch10, Sch20, Sch30, Sch40, Sch60, Sch80等等.	
Bevel End Type/坡口形式	As per ASME B16.25. 根据 ASME B16.25.	
Materials/材质	API 5L PSL1 & PLS2, alloy steel and stainless steel. API 5L PSL1 & PLS2, 合金钢 和 不锈钢.	
Bend Tolerances Requirements/弯管公差要求		
Bend Radius/弯曲半径	±1%R	
Bend Angle/弯曲角度	±0.5°	
Bend Plane/弯管平面度	±1°	
End Squareness/端面垂直度	D ≤ 914, ±2.4mm; D > 914, ±3mm	
Linear Dimensions/线性尺寸	D ≤ 610, ±5mm; D > 610, ±6mm	
Wall Thickness/壁厚	Tmin ≥ 90% of the nominal mating wall thickness or specified minimum wall thickness. 最小壁厚 ≥ 90%的公称壁厚 或者 规定的最小壁厚.	
Ovality/圆度	(Dmax-Dmin) ≤ 3% of the nominal mating pipe outside diameter within the bend; (Dmax-Dmin) ≤ 1% at the welding end. 满足弯管处(Dmax-Dmin) ≤ 所匹配的管子外径的3%; 焊接端部处(Dmax-Dmin)≤ 所匹配的管子外径的1%.	
Outside Diameter/外径	≤ 1% of the nominal mating pipe outside diameter. ≤ 所匹配的管子外径的1%.	
Inside Diameter/内径 ID	Welding Ends 坡口处	D ≤ 914, ±2.5mm; D > 914, ±3mm
	Body 主体	> 97% of the minimum specified matching pipe internal diameter at any location in the bend. 弯管内任何位置的内径尺寸 > 规定的最小内径尺寸的97%.

Tolerances of Butt-Welding Fittings/对焊管件公差

Tolerances for ASME B16.9 公差符合 ASME B16.9

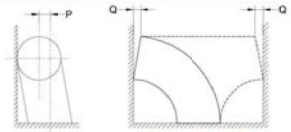


Unit: mm

All Fittings (1) 所有管件						45° 90° Elbows & Tees 45° 90° 弯头三通	3D Elbows 3D弯头	Reducers & Stub Ends 异径管和翻边短节	Caps 管帽	180° Returns 180° 弯头			Stub Ends 翻边短节						Angularity 角度公差	
NPS (inch)	DN (mm)	Outside Diameter at Bevel 坡口处外径	Outside Diameter at Bevel 坡口处外径 (2) & (3)	Inside Diameter at End 端面内径 (4)	Wall Thickness 壁厚	Center to End Dimensions 中心至端面尺寸	Center to End Dimensions 中心至端面尺寸	Overall Length 总长	Overall Length 总长	Center to Center Dimension 中心至中心尺寸	Back to Face Dimension 背部至端面尺寸	Alignment of End 端面管边	Outside Diameter of Lap 翻边外径	Fillet Radius of Lap 翻边圆角半径	Lap Thickness 翻边厚度	NPS (inch)	DN (mm)	Outside Diameter at Bevel 坡口处外径	Off Angle 偏离角	Off Plane 偏离平面
			D		T	A,B,C,M	A,B	F, H	E	O	K	U	G	R	T				Q	P
½ ~ 2½	15-65	21.3-73	+1.6,-0.8	±0.8	Not Less Than 87.5% of Nominal Thickness 不小于公称壁厚的 87.5%	±2	±3	±2	±3	±6	±6	±1	+0,-1	+0,-1	+1.6,-0	½ ~ 4	15-100	21.3-114.3	1	2
3 ~ 3½	80-90	88.9-101.6	±1.6	±1.6		±2	±3	±2	±3	±6	±6	±1	+0,-1	+0,-1	+1.6,-0	5 ~ 8	125-200	141.3-219.1	2	4
4	100	114.3	±1.6	±1.6		±2	±3	±2	±3	±6	±6	±1	+0,-1	+0,-2	+1.6,-0	10 ~ 12	250-300	273-323.8	3	5
5~8	125-200	141.3-219.1	+2.4,-1.6	±1.6		±2	±3	±2	±5	±6	±6	±1	+0,-1	+0,-2	+1.6,-0	14 ~ 16	350-400	355.6-406.4	3	6
10 ~ 18	250-450	273.0-457	+4.0,-3.2	±3.2		±2	±3	±2	±5	±10	±6	±2	+0,-2	+0,-2	+3.2,-0	18 ~ 24	450-600	457-610	4	10
20 ~ 24	500-600	508-610	+6.4,-4.8	±4.8		±2	±3	±2	±5	±10	±6	±2	+0,-2	+0,-2	+3.2,-0	26 ~ 30	650-750	660-762	5	10
26 ~ 30	650-750	660-762	+6.4,-4.8	±4.8		±3	±5	±5	±10	--	--	--	--	--	--	32 ~ 42	800-1050	813-1067	5	13
32 ~ 48	800-1200	813-1219	+6.4,-4.8	±4.8		±5	±5	±5	±10	--	--	--	--	--	--	44 ~ 48	1100-1200	1118-1219	5	19

Note - 注
(1) The inside diameter and the nominal wall thickness at ends are to be specified by the client.
端面内径和公称壁厚由客户指定。
(2) Out-of-round is the sum of absoluate vilues of plus and minus tolerances.
圆度为正偏差和负偏差绝对值之和。
(3) This tolerance may not apply in localized areas of formed fittings where increased wall thickness is required to meet design requirements of B16.9.
在成型管件的局部，当需要增加壁厚以满足B16.9的设计要求时，该公差不可以使用。
(4) Unless otherwise specified by the client, these tolerances apply to the nominal inside diameter, which equals the difference between the nominal outside diameter and twice the nominal wall thickness.
除非客户另有要求，这些公差适用于公称内径等于公称外径减两倍公称壁厚的差值。

Tolerances for MSS SP-75 公差符合 MSS SP-75

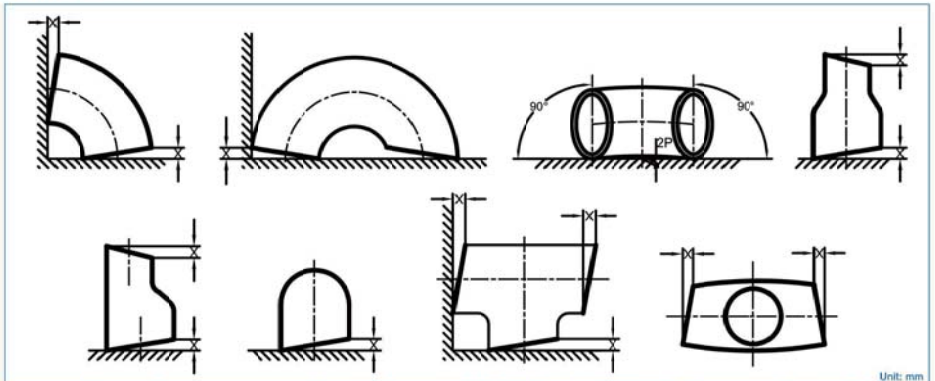


Unit: mm

NPS (inch)	DN (mm)	Outside Diameter at Bevel 坡口处外径	Inside Diameter at End 端面内径 (1)	Minimum Wall Thickness 最小壁厚 (3)	Out-of-Rounness 圆度 (2) At Ends of Fittings 管件端面 Ebows 弯头	Out-of-Rounness 圆度 (2) At Ends of Fittings 管件端面 Other 其他	Out-of-Rounness 圆度 (2) Through-out Body of Elbows 弯头整体 (4)	90°, 60°, 45° & 30° Elbows & Tees Center-to-End Dimension 90°, 60°, 45° & 30° 弯头和三通中心至端面尺寸 1½R & Tee 1½R 和三通	90°, 60°, 45° & 30° Elbows & Tees Center-to-End Dimension 90°, 60°, 45° & 30° 弯头和三通中心至端面尺寸 3R	Reducers Overall Length 异径管总长	Caps Overall Length 管帽总长	Angularity Off Argle 角偏移	Elbows Off Plane 弯头平面偏移	Eccentric & Concentric Reducers Off Plane 偏心和同心异径管平面偏移
								A, B, C, M		H	E	Q	P	P
16 ~ 24	406.4 - 610		±0.09	Nominal 公称 -0.01	0.19	0.12	2.5%	±0.09	±0.12	±0.09	±0.25	0.09	0.25	2.5% OD
26 ~ 36	660 - 914		±0.09		(5)	0.12	2.5%	±0.12	±0.25	±0.19	±0.38	0.09	0.50	2.5% OD
38 ~ 48	965 - 1219		±0.12		(5)	0.12	2.5%	±0.19	±0.38	±0.38	±0.38	0.12	0.75	2.5% OD
50 ~ 60	1270 - 1524		±0.25		(5)	0.19	2.5%	±0.25	±0.38	±0.38	±0.38	0.19	0.75	2.5% OD

Note - 注
(1) The inside diameter at end shall be determined by circumferential measurement, and the tolerance refers to variations from nominal I.D. calculation by (OD nom - 2t nom).
端面内径应通过圆周测量确定，其公差是公称内径和公称外径减2倍的公称壁厚的差值。
(2) Out-of-roundness tolerances shall be the difference between the maximum and minimum diameters measured on any radial cross-section.
圆度公差应为在任何径向横截面上测量的最大与最小直径的差值。
(3) -0.01 in. except that isolated non-continuous reductions are permitted in accordance with Section 13.2 of MSS SP-75. Excess thickness whether on inside or outside is to be treated in accordance with sketches given in Figure 3 of MSS SP-75.
-0.01 in.，但是，按MSS SP-75 13.2节允许孤立的非连续减薄情况除外。无论内侧或外侧的多余厚度，都应按MSS SP-75图3的示意图处理。
(4) When elbows are intended for field segmenting, out-of-roundness toerance may be furnished to 1% by agreement between the manufacturer and the client. It is recognized that extra thickress, if any may be on the I.D.
当弯头显要供现场区段用时，经制造商和客户协商，圆度公差应按1%供货。公认的，若有任何超厚，将在内径上。
(5) Out-of-roundness tolerances at ends shall be 1% of diameter for NPS 26 and larger.
对NPS 26及更大，端面圆度公差应为直径的1%。
Outside diameter may be tapered at angle up to 30° beyond weld bevel.
外径可以在焊缝坡口以外倾斜30°角以内。

Tolerances for EN10253-2
公差符合 EN10253-2

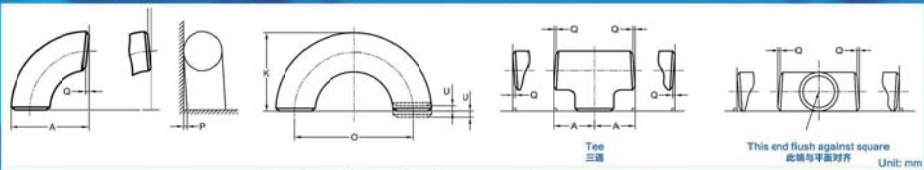


Unit: mm

Outside Diameter at Bevel 坡口处外径	Wall Thickness 壁厚	Wall Thickness Toerance at End 端面壁厚公差		Inside Diameter at End 端面内径	Outside Diameter at Bevel 坡口处外径	60° Elbows, Tees & Reducers Dimension 90° 弯头, 三通 和 异径管尺寸	90°, 180° Elbows Dimension 90°, 180° 弯头尺寸	180° Elbows Center-to-Center Dimension 180° 弯头中心至中心尺寸	Caps Overall Length 管帽总长	Tolerances on the form of fittings 管件的形状公差	Elbows Off Plane 弯头平面偏移
D	T	Minus (1)	Plus	ID-ID1	D	F-G-L-W	B-Z	C	h	X	P
≤ 610	≤ 4	-12.5%	+20%	(2), (3), (4)	≤ 114.3	±2	±7	±7	±4	≤ 1% of outside diameter at the point measured or 1mm, whichever is the greater. ≤ 测量点处外径的1%, 或 1mm (二者之中取最大值)	2
	> 4				114.3< D ≤219.1	±2	±7	±7	±7		4
> 610	Seamless 无缝	-12.5%	+20%		219.1<D≤ 406.4	±3	±7	±10	±7		6
	Welded 焊缝 ≤ 10	-0.35mm	+20%		406.4< D ≤762	±3	±10	±10	±7		7
	Welded 焊缝 > 10	-0.5mm			762 < D	±5	±12	±10	±10		9

Note - 注
(1) The minus tolerances apply also for the body of the fittings.
负公差也应用于管件本体。
(2) ±1% or ±0.5mm, whichever is the greater, but maximum ±5nm.
±1% 或 ±0.5mm (取两者最大者，但最大为±5mm.
(3) in order to guarantee the regular flow of the fluid through the fitting, the internal diameter in any section of the fitting (not applicable to caps) shall be above 80 % (for tees 70 %) of the internal diameter ID at the welding ends. Special tolerances may be agreed when pigging shall be applied.
为了确保通过管件内部的液体具有稳定的流速，管件任何截面(不适用于管帽)的内径必须大于其焊接端内径的80% (对于三通, 应为70%). 当采用清管时, 应协商特殊公差.
(4) Tolerances for ovality 不圆度公差:
At the welding ends 在焊接端:
- D ≤ 273 included in the diameter tolerance 包含在径公差;
- 273 < D ≤ 610 2%
- D > 610 1%
On the body for elbows 在弯头本体: 4%

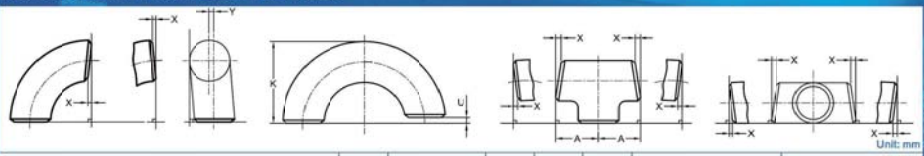
Tolerances for GB/T 12459 公差符合 GB/T 12459



All Fittings (1) 所有管件						45° 90° Elbows & Tees 45° 90° 弯头,三通	30 Elbows 3D弯头	Reducers & Stub Ends 异径管和翻边短节		Caps 管帽	180° Returns 180° 弯头		Stub Ends 翻边短节						Angularity 角度公差		
NPS (inch)	DN (mm)	Outside Diameter at Bevel 坡口处外径	Outside Diameter at Bevel 坡口处外径 (2) & (3)	Inside Diameter at End 端面内径 (2)&(4)	Wall Thickness 壁厚	Center to End Dimensions 中心至端面尺寸	Center to End Dimensions 中心至端面尺寸	Overall Length 总长	Overall Length 总长	Center to Center Dimension 中心至中心尺寸	Back to Face Dimension 背部至端面尺寸	Outside Diameter of Lap 翻边外径	Fillet Radius of Lap 翻边圆角半径	Lap Thickness 翻边厚度	NPS (inch)	DN (mm)	Outside Diameter at Bevel 坡口处外径	Off Angle 偏离角	Off Plane 偏离平面	180° Returns alignment of End 180° 弯头端面错边
			D		T	A,B,C,M	A,B	F, H	E	O	K	G	R	T				Q	P	U
½ ~ 2½	15-65	21.3-73	+1.6,-0.8	±0.8	Not Less Than 87.5% of Nominal Thickness 不小于公称壁厚的 87.5%	±2	±3	±2	±3	±6	±5	+0,-1	+0,-1	+1.6, 0	½ ~ 4	15-100	21.3-114.3	1	2	1
3 ~ 3½	80-90	88.9-101.6	±1.6	±1.6		±2	±3	±2	±3	±6	±5	+0,-1	+0,-1	+1.6, 0	5 ~ 8	125-200	141.3-219.1	2	4	1
4	100	114.3	±1.6	±1.6		±2	±3	±2	±3	±6	±5	+0,-1	+0,-2	+1.6, 0	10 ~ 12	250-300	273-323.8	3	5	2
5~8	125-200	141.3-219.1	+2.4,-1.6	±1.6		±2	±3	±2	±6	±6	±5	+0,-1	+0,-2	+1.6, 0	14 ~ 16	350-400	355.6-406.4	3	6	2
10 ~ 18	250-450	273.0-457	+4.0,-3.2	±3.2		±2	±3	±2	±6	±10	±5	+0,-2	+0,-2	+3.2, 0	18 ~ 24	450-600	457-610	4	10	2
20 ~ 24	500-600	508-610	+6.4,-4.8	±4.8		±2	±3	±2	±6	±10	±5	+0,-2	+0,-2	+3.2, 0	26 ~ 30	650-750	660-762	5	10	...
26 ~ 30	650-750	660-762	+6.4,-4.8	±4.8		±3	±5	±5	±10	--	--	--	--	--	32 ~ 42	800-1050	813-1067	5	13	...
32 ~ 48	800-1200	813-1219	+6.4,-4.8	±4.8		±5	±5	±5	±10	--	--	--	--	--	44 ~ 48	1100-1200	1118-1219	5	19	...
52 ~ 60	1300-1500	1321-1524	+6.4,-4.8	±4.8		±6.4	±10	±10	±10	--	--	--	--	--	52 ~ 60	1300-1500	1321-1524	5	19	...

Note - 注:
(1) The inside diameter and the nominal wall thickness at ends are to be specified by the client.
端部内径和公称壁厚由客户指定。
(2) Out-of-round is the sum of absolute values of plus and minus tolerances.
圆度为正偏差和负偏差绝对值之和。
(3) This tolerance may not apply in localized areas of formed fittings where increased wall thickness is required to meet design requirements of B16.9.
在成型管件的局部区域，需要更厚壁厚以满足B16.9的设计要求时，该公差不可以使用。
(4) Unless otherwise specified by the client, these tolerances apply to the nominal inside diameter, which equalt the difference between the nominal outside diameter and twice the nominal wall thickness.
除非客户另有要求，这些公差适用于公称内径等于公称外径减两倍公称壁厚的差值。

Tolerances for SH/T 3408 公差符合 SH/T 3408

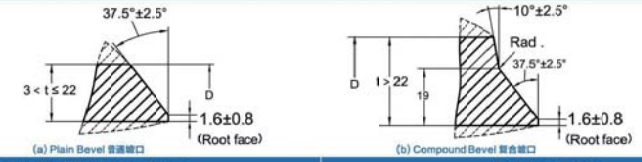


All Fittings 所有管件							45° 90° Elbows 45° 90° 弯头	180° Returns 180° 弯头		Reducers 异径管	Tees & Crosses 三通和四通	Caps 管帽					Geometric Tolerance 形位公差		
NPS (inch)	DN (mm)	Outside Diameter at Bevel 坡口处外径	Outside Diameter at Bevel 坡口处外径	Inside Diameter at End 端面内径	Wall Thickness 壁厚	Outer Circumference at End 端部外周长	Center to End Dimensions 中心至端面尺寸	Center to Center Dimension 中心至中心尺寸	Back to Face Dimension 背部至端面尺寸	Overall Length 总长	Center to End Dimensions 中心至端面尺寸	Overall Length 总长	NPS (inch)	DN (mm)	Outside Diameter at Bevel 坡口处外径	Elbows, Reducers, Tees, Crosses 弯头, 异径管, 三通, 四通	45° 90° Elbows, Tees, Crosses 45° 90° 弯头, 三通, 四通	180° Returns 180° 弯头
			D		T		A, B	O	K	H	C, M	E, E1	½ ~ 4	15-100	21.3-114.3	X	Y	U
½ ~ 2½	15-65	21.3-73	±0.8	±0.8	Not Less Than 87.5% of Nominal Thickness 不小于公称壁厚的 87.5%	...	±1.6	±6.4	±6.4	±1.6	±0.8	±3.2	5 ~ 8	125-200	141.3-219.1	±0.8	±1.6	±1.6
3 ~ 4	80-100	88.9-114.3	+1.6,-0.8	±1.6		...	±1.6	±6.4	±6.4	±1.6	±0.8	±3.2	10 ~ 12	250-300	273-323.8	±2.4	±4.8	±2.4
5~8	125-200	141.3-219.1	+2.4,-1.6	±1.6		...	±1.6	±6.4	±6.4	±1.6	±0.8	±6.4	14 ~ 16	350-400	355.6-406.4	±2.4	±6.4	±2.4
10 ~ 18	250-450	273.0-457	+4.0,-3.2	±3.2		±0.5%πD	±2.4	±10	±6.4	±2.4	±0.8	±6.4	18 ~ 24	450-600	457-610	±3.2	±9.5	±2.4
20 ~ 24	500-600	508-610	+6.4,-4.8	±4.8		±0.5%πD	±2.4	±10	±6.4	±2.4	±0.8	±6.4	26 ~ 30	650-750	660-762	±4.8	±9.5	...
26 ~ 30	650-750	660-762	+6.4,-4.8	±4.8		±0.5%πD	±3.2	...	...	±4.8	±3.2	±9.5	32 ~ 40	800-1000	813-1016	±4.8	±12.5	...
32 ~ 48	800-1200	813-1219	+6.4,-4.8	±4.8		±0.5%πD	±4.8	...	...	±4.8	±4.8	±9.5	44 ~ 48	1100-1200	1118-1219	±4.8	±19.0	...
52 ~ 60	1300-1500	1321-1524	+6.4,-4.8	±4.8		±0.5%πD	±9.5	...	...	±5.4	±6.4	±9.5	52 ~ 60	1300-1500	1321-1524	±6.4	±19.0	...
64 ~ 68	1600-1700	1626-1727	+8.8,-6.4	±6.4		±0.5%πD	±12.5			±9.5	±9.5	±9.5	64 ~ 68	1600-1700	1626-1727	±9.5	±19.0	...
72 ~ 136	1800-3400	1829-3454	+11.0,-8.4	±8.4		±0.5%πD	±16.0	...	...	±9.5	±9.5	±9.5	72 ~ 136	1800-3400	1829-3454	±9.5	±19.0	...

Note - 注
(1) Unless otherwise specified by the contract, these tolerances of the outside diameter at bevel and wall thickness should be guaranteed in high priority.
除非合同对端面内径有特殊要求，应优先保证端部外径和壁厚的极限偏差。
(2) Out-of-round is the sum of absolute values of plus and minus tolerances.
圆度为正偏差和负偏差绝对值之和。

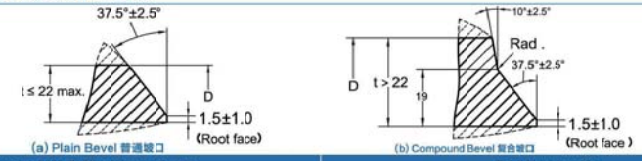
End Preparation/端部制备

ASME B16.25



Nominal Wall Thickness: t mm 公称壁厚: t mm	End Preparation 端部制备
t < 3	Cut square or slightly chamfer 切成直角或轻微倒角
3 < t ≤ 22	Plain Bevel as in sketch (a) above 普通坡口, 如图 (a) 所示
t > 22	Compound Bevel as in sketch (b) above 复合坡口, 如图 (b) 所示

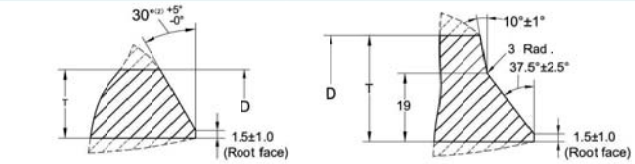
ASME B16.9 SH/T 3408 & GB/T 12459



Nominal Wall Thickness: t mm 公称壁厚: t mm	End Preparation 端部制备
t < 3	Cut square or slightly chamfer, at client's option 切成直角或轻微倒角, 由客户任选
x < t ≤ 22	Plain Bevel as in sketch (a) above 普通坡口, 如图 (a) 所示
t > 22	Compound Bevel as in sketch (b) above 复合坡口, 如图 (b) 所示

Note 注: (1) ASME B16.9 & SH/T 3408: x = 5 for carbon steel and ferritic alloy steel; x = 3 for austenitic alloy steel.
ASME B16.9 和 SH/T 3408标准: 对于碳素钢和铁素体合金钢 x = 5; 对于奥氏体合金钢 x = 3.
GB/T 12459: x = 3

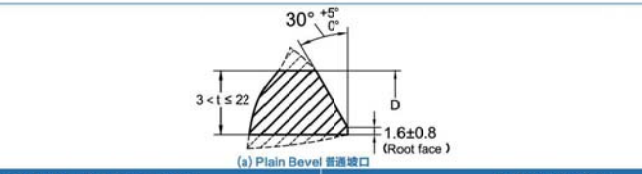
MSS SP-75



Nominal Wall Thickness: t mm 公称壁厚: t mm	End Preparation 端部制备
t ≤ 19	Plain Bevel as in sketch (a) above 普通坡口, 如图 (a) 所示
t > 19	Compound Bevel as in sketch (b) above 复合坡口, 如图 (b) 所示

Note 注: (1) NPS ≤ 24, Fittings may be furnished with 37.5°±2.5° bevel at option of the client.
NPS ≤ 24和更小管件可按37.5°±2.5°的坡口供货, 由客户选择.

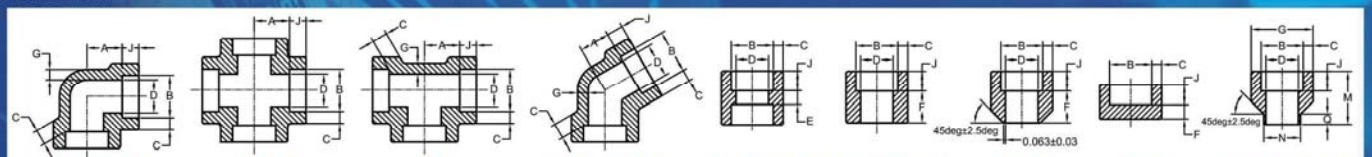
EN 10253-2



Nominal Wall Thickness: t mm 公称壁厚: t mm	End Preparation 端部制备
t < 3	Cut square or slightly chamfer 切成直角或轻微倒角
3 < t ≤ 22	Bevel end as in sketch (a) above 坡口端, 如图 (a) 所示
t > 22	The type of bevel shall be agreed 坡口形式应协商

Forged Fittings/锻制管件

ASME B16.11



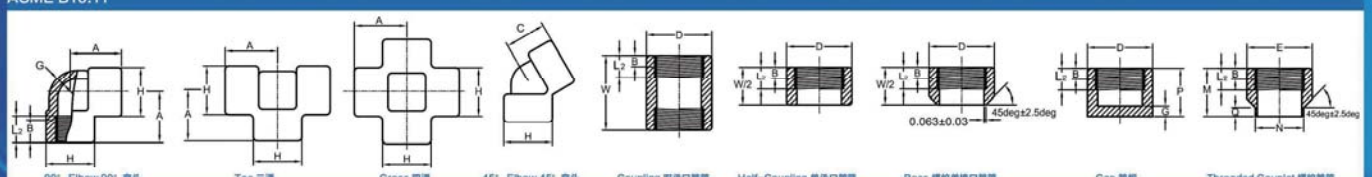
90° Elbow 90° 弯头 | Cross 四通 | Tee 三通 | 45° Elbow 45° 弯头 | Coupling 双承口管箍 | Half-Coupling 单承口管箍 | Boss 支管台 | Cap 管帽 | Socket Couplet 承插支管台

Socket Welding Fittings 承插焊管件

Nominal Size 公称尺寸			All Types 所有类型																										Coupling 双接口管箍		Half-Coupling 单接口管箍		Cap 管帽		Socket Couplet 承插支管台							
			Socket Bore Diameter 承插口直径		Bore Diameter of Fittings 管件孔径						Socket Welding Thickness 承插口壁厚 (1)						Body Wall 本体壁厚 (1)			Socket Depth 承插口深度(1)	Center to Bottom of Socket 中心至承插孔底									Laying Length 结构长度		Laying Length 结构长度		End Wall Thickness 端壁厚度		Outside Diameter 外径			End to End 端部至端部		Weld Ring Length 焊环长度	
			B		D						D						G			J	A								E	Tol 公差	F	Tol 公差	K		G		Tol 公差	M	Tol 公差	Q	Tol 公差
					3000		6000		9000		3000		6000		9000		3000	6000	9000		3000	6000	9000	3000	6000	9000	Tol 公差							3000	6000						
NPS (inch)	DN	OD	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Avg.	Min.	Avg.	Min.	Avg.	Min.	Min.	Min.	Min.	Min.							±		±		±	Min.	Min.	Min.				±				3000/6000	±
1/8	6	10.3	11.2	10.8	7.6	6.1	4.8	3.2	—	—	3.18	3.18	3.96	3.43	—	—	2.41	3.15	—	9.5	11.0	11.0	—	8.0	8.0	—	1.0	6.5	1.5	16.0	1.5	4.8	6.4	—	—	—	±1.5/-0.0	—	—	—	—	—
1/4	8	13.7	14.6	14.2	10.0	8.5	7.1	5.6	—	—	3.78	3.30	4.60	4.01	—	—	3.02	3.68	—	9.5	11.0	13.5	—	8.0	8.0	—	1.0	6.5	1.5	16.0	1.5	4.8	6.4	—	23.8	25.4	±1.5/-0.0	30.2	±0.8/-0.0	9.5	0.8
3/8	10	17.1	18.0	17.6	13.3	11.8	9.9	8.4	—	—	4.01	3.50	5.03	4.37	—	—	3.20	4.01	—	9.5	13.5	15.5	—	8.0	11.0	—	1.5	6.5	3.0	17.5	3.0	4.8	6.4	—	27.0	31.8	±1.5/-0.0	30.2	±0.8/-0.0	9.5	0.8
1/2	15	21.3	22.2	21.8	16.6	15.0	12.5	11.0	7.2	5.6	4.67	4.09	5.97	5.18	9.35	8.18	3.73	4.78	7.47	9.5	15.5	19.0	25.5	11.0	12.5	15.5	1.5	9.5	3.0	22.5	3.0	6.4	7.9	11.2	33.4	38.1	±1.5/-0.0	33.4	±0.8/-0.0	9.5	0.8
3/4	20	26.7	27.6	27.2	21.7	20.2	16.3	14.8	11.8	10.3	4.90	4.27	6.96	6.04	9.78	8.56	3.91	5.56	7.82	12.5	19.0	22.5	28.5	13.0	14.0	19.0	1.5	9.5	3.0	24.0	3.0	6.4	7.9	12.7	38.1	44.5	±1.5/-0.0	34.9	±0.8/-0.0	9.5	0.8
1	25	33.4	34.3	33.9	27.4	25.9	21.5	19.9	16.0	14.4	5.69	4.98	7.92	6.93	11.38	9.96	4.55	6.35	9.09	12.5	22.5	27.0	32.0	14.0	17.5	20.5	2.0	12.5	4.0	28.5	4.0	9.6	11.2	14.2	46.1	57.2	±1.5/-0.0	47.6	±0.8/-0.0	9.5	0.8
1¼	32	42.2	43.1	42.7	35.8	34.3	30.2	28.7	23.5	22.0	6.07	5.28	7.92	6.93	12.14	10.6	4.85	6.35	9.70	12.5	27.0	32.0	35.0	17.5	20.5	22.5	2.0	12.5	4.0	30.0	4.0	9.6	11.2	14.2	55.6	63.5	±1.5/-0.0	47.6	±0.8/-0.0	9.5	0.8
1½	40	48.3	49.2	48.8	41.6	40.1	34.7	33.2	28.7	27.2	6.35	5.54	8.92	7.80	12.70	11.1	5.08	7.14	10.15	12.5	32.0	38.0	38.0	20.5	25.5	25.5	2.0	12.5	4.0	32.0	4.0	11.2	12.7	15.7	63.5	76.2	±1.5/-0.0	50.8	±0.8/-0.0	9.5	0.8
2	50	60.3	61.7	61.2	53.3	51.7	43.6	42.1	38.9	37.4	6.93	6.04	10.92	9.50	13.8	12.1	5.54	8.74	11.07	16.0	38.0	41.0	54.0	25.5	28.5	28.5	2.0	19.0	4.0	41.0	4.0	12.7	15.7	19.0	79.4	92.1	±1.5/-0.0	57.2	±1.5/-0.0	9.5	0.8
2½	65	73	74.4	73.9	64.2	61.2	—	—	—	—	8.76	7.67	—	—	—	—	7.01	—	—	16.0	41.0	—	—	28.5	—	—	2.5	19.0	5.0	41.0	5.0	15.7	19.0	—	92.1	108.0	±1.5/-0.0	63.5	±1.5/-0.0	9.5	0.8
3	80	88.9	90.3	89.8	79.4	76.4	—	—	—	—	9.52	8.30	—	—	—	—	7.62	—	—	16.0	57.0	—	—	32.0	—	—	2.5	19.0	5.0	44.5	5.0	19.0	22.4	—	111.1	127.0	±1.5/-0.0	69.9	±1.5/-0.0	9.5	0.8
4	100	114.3	116	115	104	101	—	—	—	—	10.7	9.35	—	—	—	—	8.56	—	—	19.0	66.5	—	—	41.0	—	—	2.5	19.0	5.0	48.0	5.0	22.4	28.4	—	141.3	158.8	±1.5/-0.0	76.2	±1.5/-0.0	9.5	0.8

Note：注 (1) Average of socket wall thickness around periphery shall not be less than listed values. The minimum values are permitted in localized areas.
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.

ASME B16.11



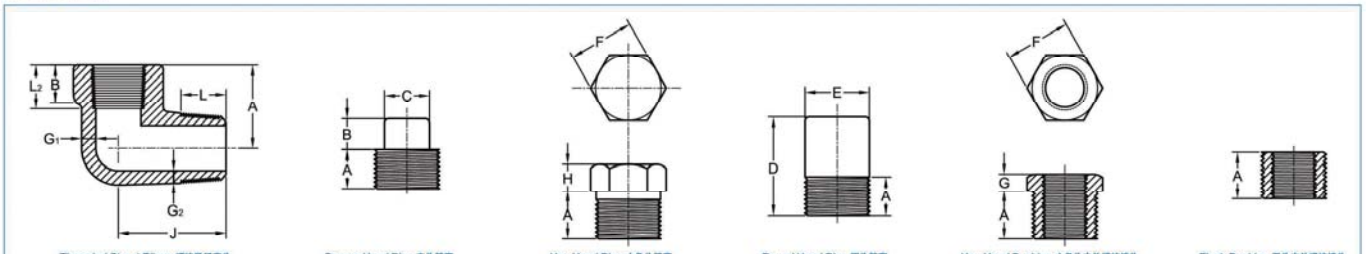
90° Elbow 90° 弯头 | Tee 三通 | Cross 四通 | 45° Elbow 45° 弯头 | Coupling 双承口管箍 | Half-Coupling 单承口管箍 | Boss 螺纹单接口管箍 | Cap 管帽 | Threaded Couplet 螺纹管箍

Threaded Fittings 螺纹管件

Nominal Size 公称尺寸			Threaded Elbow, Tee and Cross 螺纹弯头, 三通和四通												All Types 所有类型				Coupling 双接口管箍	Cap 管帽												
			Center to End 中心至端部			Center to End 中心至端部			Outside Diameter of Band 套箍外径			Minimum Wall Thickness 最小壁厚			Outside Diameter 外径		Minimum Length of Thread 最小螺纹长度		End to End 端部至端部	End to End 端部至端部		Minimum End Wall Thickness 最小端壁厚度		Outside Diameter 外径			End to End 端部至端部		Weld Ring Length 焊环长度		Weld Ring Diameter 焊环直径	
			A			C			H			G			D				W	P		G		E		Tol.公差	M	Tol.公差	Q	Tol.公差	N	Tol.公差
NPS (inch)	DN	OD	2000	3000	6000	2000	3000	6000	2000	3000	6000	2000	3000	6000	3000	6000	8	L2	3000/6000	3000	6000	3000	6000	3000	6000	±	3000/6000	±	3000/6000	±	3000/6000	±
1/8	6	10.3	21	21	25	17	17	19	22	22	25	3.18	3.18	6.35	16	22	6.4	6.7	32	19	22	4.8	6.4	—	—	—	—	—	—	—	—	—
1/4	8	13.7	21	25	28	17	19	22	22	25	33	3.18	3.3	6.6	19	25	8.1	10.2	35	25	27	4.8	6.4	23.8	25.4	±1.5/-0.0	30.2	±0.8/-0.0	9.5	0.8	17.5	±1.5/-0.0
3/8	10	17.1	25	28	33	19	22	25	25	33	38	3.18	3.51	6.98	22	32	9.1	10.4	48	32	27	4.8	6.4	27	31.8	±1.5/-0.0	30.2	±0.8/-0.0	9.5	0.8	20.7	±1.5/-0.0
1/2	15	21.3	28	33	38	22	25	28	33	38	46	3.18	4.09	8.15	28	38	10.9	13.6	48	32	33	6.4	7.9	33.4	38.1	±1.5/-0.0	33.4	±0.8/-0.0	9.5	0.8	23.8	±1.5/-0.0
3/4	20	26.7	33	38	44	25	28	33	38	46	56	3.18	4.32	8.53	35	44	12.7	13.9	51	37	38	6.4	7.9	38.1	44.5	±1.5/-0.0	34.9	±0.8/-0.0	9.5	0.8	27	±1.5/-0.0
1	25	33.4	38	44	51	28	33	35	46	56	62	3.68	4.98	9.93	44	57	14.7	17.3	60	41	43	9.7	11.2	46.1	57.2	±1.5/-0.0	42.9	±0.8/-0.0	9.5	0.8	33.4	±1.5/-0.0
1¼	32	42.2	44	51	60	33	35	43	56	62	75	3.89	5.28	10.59	57	64	17	18	67	44	46	9.7	11.2	55.6	63.5	±1.5/-0.0	47.6	±0.8/-0.0	9.5	0.8	42.9	±1.5/-0.0
1½	40	48.3	51	60	64	35	43	44	62	75	84	4.01	5.56	11.07	64	76	17.8	18.4	79	44	48	11.2	12.7	63.5	76.2	±1.5/-0.0	50.8	±0.8/-0.0	9.5	0.8	49.2	±1.5/-0.0
2	50	60.3	60	64	83	43	44	52	75	84	102	4.27	7.14	12.09	76	92	19	19.2	86	48	51	12.7	15.7	79.4	79.4	±1.5/-0.0	57.2	±1.5/-0.0	9.5	0.8	61.9	±1.5/-0.0
2½	65	73	76	83	95	52	52	64	92	102	121	5.61	7.63	15.29	92	108	23.6	28.9	92	60	64	15.7	19	92.1	92.1	±1.5/-0.0	63.5	±1.5/-0.0	9.5	0.8	73	±1.5/-0.0
3	80	88.9	86	95	106	64	64	79	109	121	146	5.99	8.84	16.64	108	127	25.9	30.5	108	65	68	19	22.4	111.1	111.1	±1.5/-0.0	69.9	±1.5/-0.0	9.5	0.8	114.3	±1.5/-0.0
4	100	114.3	106	114	114	79	79	79	146	152	152	6.55	11.18	18.67	140	159	27.7	33	121	68	75	22.4	28.4	141.3	141.3	±1.5/-0.0	76.2	±1.5/-0.0	9.5	0.8	114.3	±1.5/-0.0

Note－注 (1) Average of socket wall thickness around periphery shall not be less than listed values. The minimum values are permitted in localized areas.
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.

ASME B16.11

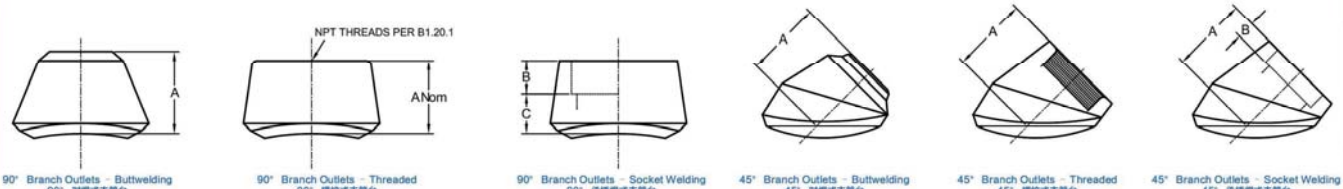


Threaded Street Elbow 螺纹异径弯头 | Square Head Plug 方头管塞 | Hex Head Plug 六角头管塞 | Round Head Plug 圆头管塞 | Hex Head Bushing 六角头内外螺纹接头 | Flush Bushing 无头内外螺纹接头

Threaded Fittings 螺纹管件

Nominal Size 公称尺寸			Threaded Street Elbow 螺纹异径弯头															Plug & Bushing Length 管塞和补芯长度	Square Head Plug 方头管塞			Round Head Plug 圆头管塞		Hex Plug & Bushing 六角头管塞和螺纹接头		
			Center to Female End 中心至内螺纹端		Center to Male End 中心至外螺纹端		Outside Diameter of Band 套箍外径		Minimum Wall Thickness 最小壁厚				Minimum Length Internal Thread 最小内螺纹长度		Minimum Length Male Thread 最小外螺纹长度				Square Height 方头高度	Width Flats 最小方头边距	Nominal Head Diameter 圆头公称直径	Length 长度	Nominal Width Flats 公称对边距离	Hex Height 六角头高 Bushing 螺纹接头	Hex Height 六角头高 Plug 管塞
			A		J		H		G1		G2		B	L2	L	A	B	C	E	D	F	G	H
NPS (inch)	DN	OD	3000	6000	3000	6000	3000	6000	3000	6000	3000	6000				Min.	Min.	Min.		Min.		Min.	Min.
1/8	6	10.3	19	22	25	32	19	25	3.18	5.08	2.74	4.22	6.4	6.7	10	10	6	7.15	10	35	11.11	—	6
1/4	8	13.7	22	25	32	38	25	32	3.3	5.66	3.22	5.28	8.1	10.2	11	11	6	9.55	14	41	15.88	3	6
3/8	10	17.1	25	28	38	41	32	38	3.51	6.98	3.5	5.59	9.1	10.4	13	13	8	11.11	18	41	17.46	4	8
1/2	15	21.3	28	35	41	48	38	44	4.09	8.15	4.16	6.53	10.9	13.6	14	14	10	14.29	21	44	22.23	5	8
3/4	20	26.7	35	44	48	57	44	51	4.32	8.53	4.88	6.86	12.7	13.9	16	16	11	15.88	27	44	26.99	6	10
1	25	33.4	44	51	57	66	51	62	4.98	9.93	5.56	7.95	14.7	17.3	19	19	13	20.64	33	51	34.93	6	10
1¼	32	42.2	51	54	66	71	62	70	5.28	10.59	5.56	8.48	17	18	21	21	14	23.81	43	51	44.45	7	14
1½	40	48.3	54	64	71	84	70	84	5.56	11.07	6.25	8.89	17.8	18.4	21	21	16	28.58	48	51	50.8	8	16
2	50	60.3	64	83	84	105	84	102	7.14	12.09	7.64	9.7	19	19.2	22	22	18	33.27	60	64	63.5	9	18
2½	65	73														27	19	38.1	73	70	76.2	10	19
3	80	88.9														28	21	42.86	89	70	88.9	10	21
4	100	114.3														32	25	63.5	114	76	117.48	13	25

MSS SP-97

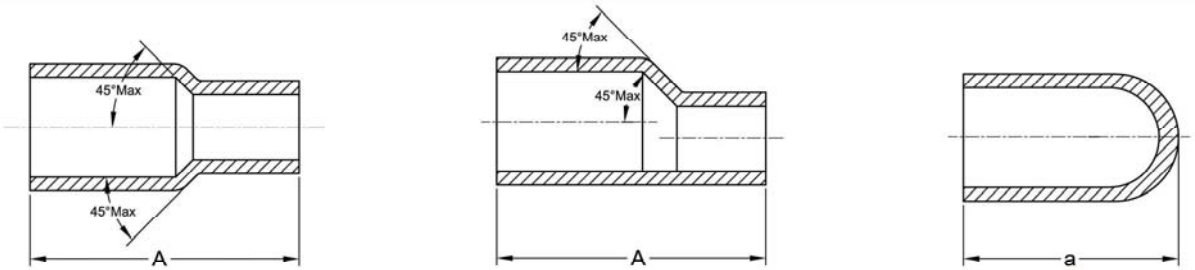


90° Branch Outlets – Buttwelding 90° 对焊式支管台 | 90° Branch Outlets – Threaded 90° 螺纹式支管台 | 90° Branch Outlets – Socket Welding 90° 承插焊式支管台 | 45° Branch Outlets – Buttwelding 45° 对焊式支管台 | 45° Branch Outlets – Threaded 45° 螺纹式支管台 | 45° Branch Outlets – Socket Welding 45° 承插焊式支管台

Nominal Size 公称尺寸			90° Branch Outlets – Buttwelding 90° 对焊式支管台							90° Branch Outlets – Threaded 90° 螺纹式支管台			90° Branch Outlets – Socket Welding 90° 承插焊式支管台			45° Branch Outlets – Buttwelding 45° 对焊式支管台		45° Branch Outlets – Threaded 45° 螺纹式支管台				Socket Couplet 承插支管台				
			Face of Fitting to Crotch 管件面部至分支处 A						Tol. 公差	Face of Fitting to Crotch 管件面部至分支处 A		Tol. 公差	B Min.(1)	C Max.		Top of Fitting to Run Pipe 管件前部至运行管道处 A		Top of Fitting to Run Pipe 管件前部至运行管道处 A				B Min.(1)	Top of Fitting to Run Pipe 管件前部至运行管道处 A			
			Standard 标准		Extra Strong 超强		Schedule 160 细目160			Class 3000	Class 6000			Class 3000	Class 6000	Standard / Extra Strong 标准/超强		Class 3000		Class 6000			Class 3000		Class 6000	
NPS (inch)	DN	OD	Reducing 缩小的	Full 完整的	Reducing 缩小的	Full 完整的	Reducing 缩小的	Full 完整的								A Min.	A Max.	A Min.	A Max.	A Min.	A Max.		A Min.	A Max.	A Min.	A Max.
1/8	6	10.3	15.7	–	15.7	–	–	–	±0.8	19	–	±0.8	9.5	11	–	–	–	–	–	–	–	–	–	–	–	–
1/4	8	13.7	15.7	–	15.7	–	–	–		19	–		9.5	11	–	38.1	42.9	38.1	42.9	38.9	47.6	9.5	38.1	42.9	38.9	47.6
3/8	10	17.1	19.1	–	19.1	–	–	–		20.6	–		9.5	13	–	38.1	42.9	38.1	42.9	38.9	47.6	9.5	38.1	42.9	38.9	47.6
1/2	15	21.3	19.1	19.1	19.1	19.1	28.4	28.4		25.4	31.8		9.5	16	24	38.1	42.9	38.1	44.5	46	55.6	9.5	38.1	44.5	46	55.6
3/4	20	26.7	22.4	22.4	22.4	22.4	31.8	31.8		26.9	36.6		12.5	16	26	44.5	50.8	46	50.8	54	63.5	12.5	46	50.8	54	63.5
1	25	33.4	26.9	26.9	26.9	26.9	38.1	38.1	±1.6	33.3	39.6	±1.6	12.5	23	29	54	65.1	54	63.5	61.1	73	12.5	54	63.5	61.1	73
1¼	32	42.2	31.8	31.8	31.8	31.8	44.4	44.4		33.3	41.1		12.5	23	31	54	65.1	61.1	76.2	65.1	77.8	12.5	61.1	76.2	65.1	77.8
1½	40	48.3	33.3	33.3	33.3	33.3	50.8	50.8		35	42.3		12.5	24	32	63.5	69.9	63.5	76.2	78.6	85.7	12.5	63.5	76.2	78.6	85.7
2	50	60.3	38.1	38.1	38.1	38.1	55.4	55.4		38.1	52.3		16	24	37	73	88.9	76.2	84.1	78.6	104.8	16	76.2	84.1	78.6	104.8
2½	65	73	41.1	41.1	41.1	41.1	62	62		46	–		16	26	–											
3	80	88.9	44.4	44.4	44.4	44.4	73.2	73.2		50.8	–		16	31	–											
3½	90	101.6	47.8	50.8	47.8	50.8	–	–		–	–		–	–	–											
4	100	114.3	50.8	50.8	50.8	50.8	84.1	84.1		57.2	–		19	31	–											
5	125	141.3	57.2	57.2	57.2	57.2	93.7	93.7	±3.2																	
6	150	168.3	60.4	60.4	77.7	77.7	104.6	104.6																		
8	200	219.1	69.8	69.8	98.6	98.6	–	–																		
10	250	273	77.7	77.7	93.7	88.9	–	–																		
12	300	323.8	85.9	85.9	103.1	100.1	–	–																		
14	350	355.6	88.9	88.9	100.1	104.6	–	–	±4.8																	
16	400	406.4	93.7	93.7	106.2	112.8	–	–																		
18	450	457	96.8	103.1	111.2	119.1	–	–																		
20	500	508	101.6	117.3	119.1	127	–	–																		
24	600	610	115.8	136.6	139.7	139.7	–	–																		

Note - 注
(1) "B" Minimum Socket Depths per ASME B16.11
符合ASME B16.11的 "B"最小插口深度.

MSS SP-95



Concentric Swaged Nipple 同心异径短节

Unit:mm

NPS (inch)	Outside Diameter 外径 Large End 大端	Outside Diameter 外径 Small End 小端	End to End 端部至端部 A
¼ x ⅛	13.7	10.3	57
⅜ x ¼	17.1	13.7	64
⅜ x ⅛	17.1	10.3	64
½ x ⅜	21.3	17.1	70
½ x ¼	21.3	13.7	70
½ x ⅛	21.3	10.3	70
¾ x ½	26.7	21.3	76
¾ x ⅜	26.7	17.1	76
¾ x ¼	26.7	13.7	76
¾ x ⅛	26.7	10.3	76
1 x ¾	33.4	26.7	89
1 x ½	33.4	21.3	89
1 x ⅜	33.4	17.1	89
1 x ¼	33.4	13.7	89
1 x ⅛	33.4	10.3	89
1¼ x 1	42.2	33.4	102
1¼ x ¾	42.2	26.7	102
1¼ x ½	42.2	21.3	102
1¼ x ⅜	42.2	17.1	102
1¼ x ¼	42.2	13.7	102
1¼ x ⅛	42.2	10.3	102
1½ x 1¼	48.3	42.2	114
1½ x 1	48.3	33.4	114
1½ x ¾	48.3	26.7	114
1½ x ½	48.3	21.3	114
1½ x ⅜	48.3	17.1	114
1½ x ¼	48.3	13.7	114
1½ x ⅛	48.3	10.3	114
2 x 1½	60.3	48.3	165
2 x 1¼	60.3	42.2	165
2 x 1	60.3	33.4	165
2 x ¾	60.3	26.7	165

Unit:mm

NPS (inch)	Outside Diameter 外径 Large End 大端	Outside Diameter 外径 Small End 小端	End to End 端部至端部 A
2 x ½	60.3	21.3	165
2 x ⅜	60.3	17.1	165
2 x ¼	60.3	13.7	165
2 x ⅛	60.3	10.3	165
2½ x 2	73	60.3	178
2½ x 1½	73	48.3	178
2½ x 1¼	73	42.2	178
2½ x 1	73	33.4	178
2½ x ¾	73	26.7	178
2½ x ½	73	21.3	178
2½ x ⅜	73	17.1	178
2½ x ¼	73	13.7	178
2½ x ⅛	73	10.3	178
3 x 2½	88.9	73	203
3 x 2	88.9	60.3	203
3 x 1½	88.9	48.3	203
3 x 1¼	88.9	42.2	203
3 x 1	88.9	33.4	203
3 x ¾	88.9	26.7	203
3 x ½	88.9	21.3	203
3 x ⅜	88.9	17.1	203
3 x ¼	88.9	13.7	203
3 x ⅛	88.9	10.3	203
3½ x 3	101.6	88.9	203
3½ x 2½	101.6	73	203
3½ x 2	101.6	60.3	203
3½ x 1½	101.6	48.3	203
3½ x 1¼	101.6	42.2	203
3½ x 1	101.6	33.4	203
3½ x ¾	101.6	26.7	203
3½ x ½	101.6	21.3	203
3½ x ⅜	101.6	17.1	203

Unit:mm

NPS (inch)	Outside Diameter 外径 Large End 大端	Outside Diameter 外径 Small End 小端	End to End 端部至端部 A
3½ x ¼	101.6	13.7	203
3½ x ⅛	101.6	10.3	203
4 x 3½	114.3	101.6	229
4 x 3	114.3	88.9	229
4 x 2½	114.3	73	229
4 x 2	114.3	60.3	229
4 x 1½	114.3	48.3	229
4 x 1¼	114.3	42.2	229
4 x 1	114.3	33.4	229
4 x ¾	114.3	26.7	229
4 x ½	114.3	21.3	229
4 x ¼	114.3	17.1	229
4 x ⅛	114.3	13.7	229
5 x 4	141.3	114.3	279
5 x 3½	141.3	101.6	279
5 x 3	141.3	88.9	279
5 x 2½	141.3	73	279
5 x 2	141.3	60.3	279
5 x 1½	141.3	48.3	279
5 x 1¼	141.3	42.2	279
5 x 1	141.3	33.4	279
5 x ¾	141.3	26.7	279
5 x ½	141.3	21.3	279
5 x ⅜	141.3	17.1	279
5 x ¼	141.3	13.7	279
6 x 5	168.3	141.3	305
6 x 4	168.3	114.3	305
6 x 3½	168.3	101.6	305
6 x 3	168.3	88.9	305
6 x 2½	168.3	73	305
6 x 2	168.3	60.3	305
6 x 1½	168.3	48.3	305

Eccentric Swaged Nipple 偏心异径短节

Unit:mm

NPS (inch)	Outside Diameter 外径 Large End 大端	Outside Diameter 外径 Small End 小端	End to End 端部至端部 A
6 x 1¼	168.3	42.2	305
6 x 1	168.3	33.4	305
6 x ¾	168.3	26.7	305
6 x ½	168.3	21.3	305
8 x 6	219.1	168.3	330
8 x 5	219.1	141.3	330
8 x 4	219.1	114.3	330
8 x 3½	219.1	101.6	330
8 x 3	219.1	88.9	330
8 x 2½	219.1	73	330
8 x 2	219.1	60.3	330
8 x 1½	219.1	48.3	330
8 x 1¼	219.1	42.2	330
8 x 1	219.1	33.4	330
10 x 8	273	219.1	381
10 x 6	273	168.3	381
10 x 5	273	141.3	381
10 x 4	273	114.3	381
10 x 3½	273	101.6	381
10 x 3	273	88.9	381
10 x 2½	273	73	381
10 x 2	273	60.3	381
12 x 10	323.8	273	406
12 x 8	323.8	219.1	406
12 x 6	323.8	168.3	406
12 x 5	323.8	141.3	406
12 x 4	323.8	114.3	406
12 x 3½	323.8	101.6	406
12 x 3	323.8	88.9	406
12 x 2½	323.8	73	406
12 x 2	323.8	60.3	406

Bull Plug 大圆头管塞

Unit:mm

NPS (inch)	Outside Diameter 外径	End to End 端部至端部 A
⅛	10.3	51
¼	13.7	51
⅜	17.1	57
½	21.3	64
¾	26.7	70
1	33.4	76
1¼	42.2	83
1½	48.3	89
2	60.3	102

Unit:mm

NPS (inch)	Outside Diameter 外径	End to End 端部至端部 A
2½	73	127
3	88.9	152
3½	101.6	165
4	114.3	178
5	141.3	216
6	168.3	254
8	219.1	279
10	273	330
12	323.8	356

Tolerances 公差

Unit:mm

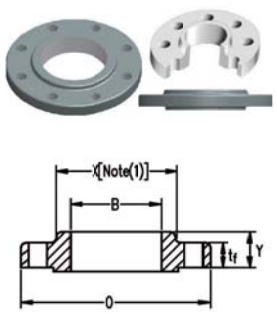
NPS (inch)	Outside Diameter at End 端部外径 Overall Length 总长度	Square Cut Ends 直角切断端部	Other End Connections 其它端部联接	Fitting Wall Thickness 管件壁厚 (1)	Inside Diameter and Outside Diameter Swage-Down Angles (degrees) 内外径最大型锻角
¼ ~ ⅛	± 1.6	+ 0.4 - 0.8	± 0.8	Not less than 87.5% Nominal Wall Thickness 不小于公称壁厚的87.5%	45° Maximum 最大45°
½ ~ 1½	± 1.6	+ 0.4 - 0.8	+1.6 - 0.8		
2 ~ 2½	± 3.2	± 0.8	+ 1.6 - 0.8		
3 ~ 4	± 3.2	± 0.8	± 1.6		
5 ~ 6	± 4.8	- 2.4 - 1.6	+ 2.4 - 1.6		
8 ~ 12	± 6.4	+ 4.0 - 3.2	+ 4.0 - 3.2		

Note - 注
(1) Prior to threading or grooving.
套丝或刻槽前(之前).

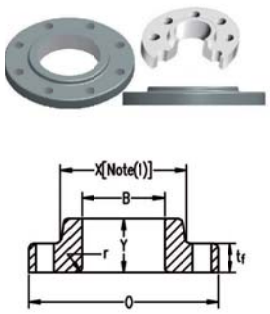
Forged Flanges/锻制法兰

ASME B16.5

Welding Neck Flange (WN)
锥颈对焊法兰



Slip-On Welding Flange (SO)
滑套角焊法兰

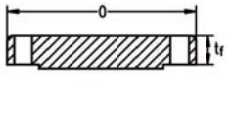


Lap Joint Flange (LAPJ)
活套式法兰

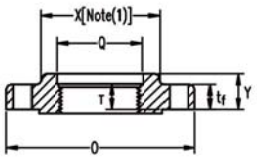
Unit: kg

Nominal Size 公称尺寸		Pipe Outside Diameter 管道外径	CLASS 150 LB Flange Weights 150磅法兰理论重量						CLASS 300 LB Flange Weights 300磅法兰理论重量						CLASS 400 LB Flange Weights 400磅法兰理论重量					
			FLANGE TYPE 法兰类型						FLANGE TYPE 法兰类型						FLANGE TYPE 法兰类型					
NPS (inch)	DN	(mm)	WN 锥颈对焊法兰	SO 滑套角焊法兰	LAP J 活套式法兰	BL 盲板	TH 螺纹式法兰	SW 承插焊法兰	WN 锥颈对焊法兰	SO 滑套角焊法兰	LAP J 活套式法兰	BL 盲板	TH 螺纹式法兰	SW 承插焊法兰	WN 锥颈对焊法兰	SO 滑套角焊法兰	LAP J 活套式法兰	BL 盲板	TH 螺纹式法兰	SW 承插焊法兰
½	15	21.3	0.48	0.39	0.38	0.42	0.39	0.42	0.75	0.64	0.62	0.64	0.64	0.66	0.87	0.74	0.72	0.76	0.74	—
¾	20	26.7	0.71	0.56	0.55	0.61	0.56	0.59	1.26	1.12	1.1	1.11	1.12	1.15	1.45	1.27	1.25	1.28	1.27	—
1	25	33.4	1.01	0.78	0.76	0.86	0.78	0.81	1.52	1.36	1.33	1.39	1.36	1.4	1.76	1.52	1.5	1.6	1.52	—
1¼	32	42.2	1.33	1.03	1.01	1.17	1.03	1.07	2.03	1.68	1.65	1.79	1.68	1.75	2.49	2.03	2	2.23	2.03	—
1½	40	48.3	1.72	1.32	1.3	1.53	1.32	1.36	2.89	2.49	2.44	2.66	2.49	2.55	3.49	2.96	2.92	3.25	2.96	—
2	50	60.3	2.58	2.06	2.03	2.42	2.06	2.1	3.4	2.87	2.83	3.18	2.87	2.93	4.36	3.62	3.55	4.15	3.62	—
2½	65	73	4.11	3.28	3.25	3.94	3.28	3.33	5.17	4.32	4.25	4.85	4.32	4.4	6.43	5.28	5.23	6.13	5.28	—
3	80	88.9	4.92	3.85	3.81	4.93	3.85	3.9	6.93	5.85	5.78	6.81	5.85	5.92	8.53	7	6.95	8.44	7	—
3½	90	101.6	6.08	4.81	4.76	6.17	4.81	—	8.67	7.34	7.27	8.71	7.34	—	10.7	8.84	8.78	11	8.84	—
4	100	114.3	6.84	5.3	5.25	7	5.3	—	11.2	9.61	9.55	11.5	9.61	—	12.8	11.1	10.9	13.7	11.1	—
5	125	141.3	8.56	6.07	6.02	8.63	6.07	—	15.1	12.3	12.2	15.6	12.3	—	16.9	13.9	13.7	18.5	13.9	—
6	150	168.3	10.6	7.45	7.4	11.3	7.45	—	19.1	15.6	15.5	20.9	15.6	—	22	16.3	16	25.5	18.3	—
8	200	219.1	17.6	12.1	12.1	19.6	12.1	—	29.9	24.2	24.1	34.3	24.2	—	34.7	28.6	28.3	42.6	28.6	—
10	250	273.1	24	16.5	16.4	28.8	16.5	—	42.7	34.1	34.4	53.3	34.1	—	48.5	39.2	38.8	64.5	39.2	—
12	300	323.9	36.5	26.2	26.1	43.2	26.2	—	61.8	49.8	50.4	78.8	49.8	—	69.6	57	56.6	94.3	57	—
14	350	355.6	48.4	34.6	34.5	58.1	34.6	—	85.8	69.9	70.9	105	69.9	—	95.5	79.1	78.6	124	79.1	—
16	400	406.4	60.6	44.8	44.6	76	44.8	—	106	88.1	89.5	137	88.1	—	118	101	100	162	101	—
18	450	457	68.3	48.9	48.7	93.7	48.9	—	131	109	111	175	109	—	145	123	122	205	123	—
20	500	508	84.5	61.9	61.6	122	61.9	—	158	134	137	221	134	—	173	146	145	254	146	—
24	600	610	115	86.9	86.6	185	86.9	—	230	201	204	339	201	—	249	219	217	386	219	—

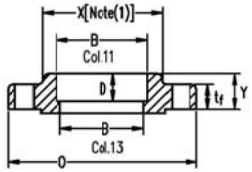
Note - 注
(1) The corresponding technical parameters for each type confirm to ASME B16.5.
法兰每种类型的相关技术参数符合ASME B16.5.



Blind Flange (BL)
盲板法兰



Threaded Flange (TH)
螺纹式法兰



Socket Welding Flange (SW) (NPS ½ to 3)
承插焊法兰

Unit: kg

CLASS 600 LB Flange Weight 600磅法兰理论重量						CLASS 900 LB Flange Weights 900磅法兰理论重量						CLASS 1500 LB Flange Weight 1500磅法兰理论重量						CLASS 2500 LB Flange Weights 2500磅法兰理论重量					
FLANGE TYPE 法兰类型						FLANGE TYPE 法兰类型						FLANGE TYPE 法兰类型						FLANGE TYPE 法兰类型					
WN 锥颈对焊法兰	SO 滑套角焊法兰	LAP J 活套式法兰	BL 盲板	TH 螺纹式法兰	SW 承插焊法兰	WN 锥颈对焊法兰	SO 滑套角焊法兰	LAP J 活套式法兰	BL 盲板	TH 螺纹式法兰	SW 承插焊法兰	WN 锥颈对焊法兰	SO 滑套角焊法兰	LAP J 活套式法兰	BL 盲板	TH 螺纹式法兰	SW 承插焊法兰	WN 锥颈对焊法兰	SO 滑套角焊法兰	LAP J 活套式法兰	BL 盲板	TH 螺纹式法兰	SW 承插焊法兰
0.87	0.74	0.72	0.76	0.74	0.76	1.87	1.74	1.71	1.77	1.74	—	1.87	1.74	1.71	1.77	1.74	1.8	3.12	—	2.92	2.99	2.95	—
1.45	1.27	1.25	1.28	1.27	1.29	2.56	2.34	2.3	2.42	2.34	—	2.56	2.34	2.3	2.42	2.34	2.41	3.7	—	3.4	3.5	3.44	—
1.76	1.52	1.5	1.6	1.52	1.55	3.74	3.44	3.4	3.57	3.44	—	3.74	3.44	3.4	3.57	3.44	3.55	5.24	—	4.77	4.96	4.82	—
2.49	2.03	2	2.23	2.03	2.06	4.33	3.91	3.85	4.15	3.91	—	4.33	3.91	3.85	4.15	3.91	4.02	7.74	—	7.08	7.35	7.14	—
3.49	2.96	2.92	3.25	2.96	3	5.94	5.36	5.28	5.75	5.36	—	5.94	5.36	5.28	5.75	5.36	5.45	10.9	—	9.93	10.4	10	—
4.36	3.62	3.55	4.15	3.62	3.67	10.8	9.85	9.78	10.1	9.85	—	10.8	9.85	9.78	10.1	9.85	10.2	16.2	—	14.7	15.6	14.8	—
6.43	5.28	5.23	6.13	5.28	5.35	15	13.7	13.6	14	13.7	—	15	13.7	13.6	14	13.7	13.9	23.7	—	21.3	22.6	21.5	—
8.53	7	6.95	8.44	7	7.06	13.7	11.6	11.3	13.1	11.6	—	19.9	—	17.8	19.1	—	—	36.2	—	32.3	34.8	—	—
10.7	8.84	8.78	11	8.84	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
17.4	14.5	14.4	17.3	14.5	—	22.5	19.7	19.2	26.9	19.7	—	29.9	—	27.5	29.9	—	—	55.3	—	52.5	53.9	—	—
29.2	24.4	24.3	29.4	24.4	—	37.4	31.9	31.2	36.5	31.9	—	55.4	—	51.5	58.4	—	—	92.5	—	82.6	90.8	—	—
34.9	28.7	28.5	36.1	28.7	—	47.7	41.1	40.5	47.4	41.1	—	68.4	—	62	71.8	—	—	143	—	127	141	—	—
53.9	43.4	43.1	58.9	43.4	—	81.3	70.7	71.5	82.5	70.7	—	117	—	105	122	—	—	215	—	186	214	—	—
86.5	70.3	70.5	97.5	70.3	—	119	101	104	122	101	—	194	—	179	210	—	—	406	—	352	411	—	—
103	84.2	86.1	124	84.2	—	157	133	139	173	133	—	288	—	269	316	—	—	572	—	501	592	—	—
122	98.7	100	151	98.7	—	180	153	161	206	153	—	380	—	365	420	—	—	—	—	—	—	—	—
170	142	145	214	142	—	217	185	194	259	185	—	485	—	459	558	—	—	—	—	—	—	—	—
204	173	177	272	173	—	292	258	267	367	258	—	644	—	598	760	—	—	—	—	—	—	—	—
254	220	225	349	220	—	362	317	334	463	317	—	775	—	712	965	—	—	—	—	—	—	—	—
358	312	318	533	312	—	665	606	618	876	606	—	1232	—	1090	1558	—	—	—	—	—	—	—	—

Note - 注
(1) The corresponding technical parameters for each type confirm to ASME B16.5.
法兰每种类型的相关技术参数符合ASME B16.5.

Dimensions and Weights Schedule 尺寸和重量表

Nominal Size 公称尺寸 NPS (inch)	DN	Outside Diameter 外径 D (mm)	ASME B36.10M SCH 5	SCH 10	SCH 20	SCH 30	STD	SCH 40	SCH 60	XS	SCH 80	SCH 100	SCH 120	SCH 140	SCH 160	XXS	ASME B36.19M SCH 5S	SCH 10S	SCH 40S /STD	SCH 80S
⅛	6	10.3	—	1.24 / 0.28	—	1.45 / 0.32	1.73 / 0.37	1.73 / 0.37	—	2.41 / 0.47	2.41 / 0.47	—	—	—	—	—	—	1.24 / 0.28	1.73 / 0.37	2.41 / 0.47
¼	8	13.7	—	1.65 / 0.49	—	1.85 / 0.54	2.24 / 0.63	2.24 / 0.63	—	3.02 / 0.80	3.02 / 0.80	—	—	—	—	—	—	1.65 / 0.49	2.24 / 0.63	3.02 / 0.80
⅜	10	17.1	—	1.65 / 0.63	—	1.85 / 0.70	2.31 / 0.84	2.31 / 0.84	—	3.20 / 1.10	3.20 / 1.10	—	—	—	—	—	—	1.65 / 0.63	2.31 / 0.84	3.20 / 1.10
½	15	21.3	1.65 / 0.80	2.11 / 1.00	—	2.41 / 1.12	2.77 / 1.27	2.77 / 1.27	—	3.73 / 1.62	3.73 / 1.62	—	—	—	4.78 / 1.95	7.47 / 2.55	1.65 / 0.80	2.11 / 1.00	2.77 / 1.27	3.73 / 1.62
¾	20	26.7	1.65 / 1.03	2.11 / 1.28	—	2.41 / 1.44	2.87 / 1.69	2.87 / 1.69	—	3.91 / 2.20	3.91 / 2.20	—	—	—	5.56 / 2.90	7.82 / 3.64	1.65 / 1.02	2.11 / 1.28	2.87 / 1.69	3.91 / 2.20
1	25	33.4	1.65 / 1.29	2.77 / 2.09	—	2.90 / 2.18	3.38 / 2.50	3.38 / 2.50	—	4.55 / 3.24	4.55 / 3.24	—	—	—	6.35 / 4.24	9.09 / 5.45	1.65 / 1.29	2.77 / 2.09	3.38 / 2.50	4.55 / 3.24
1¼	32	42.2	1.65 / 1.65	2.77 / 2.69	—	2.97 / 2.87	3.56 / 3.39	3.56 / 3.39	—	4.85 / 4.47	4.85 / 4.47	—	—	—	6.35 / 5.61	9.70 / 7.77	1.65 / 1.65	2.77 / 2.69	3.56 / 3.39	4.85 / 4.47
1½	40	48.3	1.65 / 1.90	2.77 / 3.11	—	3.18 / 3.53	3.68 / 4.05	3.68 / 4.05	—	5.08 / 5.41	5.08 / 5.41	—	—	—	7.14 / 7.25	10.15 / 9.55	1.65 / 1.90	2.77 / 3.11	3.68 / 4.05	5.08 / 5.41
2	50	60.3	1.65 / 2.39	2.77 / 3.93	—	3.18 / 4.48	3.91 / 5.44	3.91 / 5.44	—	5.54 / 7.48	5.54 / 7.48	—	—	—	8.74 / 11.11	11.07 / 13.44	1.65 / 2.39	2.77 / 3.93	3.91 / 5.44	5.54 / 7.48
2½	65	73	2.11 / 3.69	3.05 / 5.26	—	4.78 / 8.04	5.16 / 8.63	5.16 / 8.63	—	7.01 / 11.41	7.01 / 11.41	—	—	—	9.53 / 14.92	14.02 / 20.39	2.11 / 3.69	3.05 / 5.26	5.16 / 8.63	7.01 / 11.41
3	80	88.9	2.11 / 4.52	3.05 / 6.46	—	4.78 / 9.92	5.49 / 11.29	5.49 / 11.29	—	7.62 / 15.27	7.62 / 15.27	—	—	—	11.13 / 21.35	15.24 / 27.68	2.11 / 4.52	3.05 / 6.46	5.49 / 11.29	7.62 / 15.27
3½	90	101.6	2.11 / 5.18	3.05 / 7.41	—	4.78 / 11.41	5.74 / 13.57	5.74 / 13.57	—	8.08 / 18.64	8.08 / 18.64	—	—	—	—	—	2.11 / 5.18	3.05 / 7.41	5.74 / 13.57	8.08 / 18.64
4	100	114.3	2.11 / 5.84	3.05 / 8.37	—	4.78 / 12.91	6.02 / 16.08	6.02 / 16.08	—	8.56 / 22.32	8.56 / 22.32	—	11.13 / 28.32	—	13.49 / 33.54	17.12 / 41.03	2.11 / 5.84	3.05 / 8.37	6.02 / 16.08	8.56 / 22.32
5	125	141.3	2.77 / 9.46	3.40 / 11.56	—	—	6.55 / 21.77	6.55 / 21.77	—	9.53 / 30.97	9.53 / 30.97	—	12.70 / 40.28	—	15.88 / 49.12	19.05 / 57.43	2.77 / 9.46	3.40 / 11.56	6.55 / 21.77	9.53 / 30.97
6	150	168.3	2.77 / 11.31	3.40 / 13.83	—	—	7.11 / 28.26	7.11 / 28.26	—	10.97 / 42.56	10.97 / 42.56	—	14.27 / 54.21	—	18.26 / 67.57	21.95 / 79.22	2.77 / 11.31	3.40 / 13.83	7.11 / 28.26	10.97 / 42.55
8	200	219.1	2.77 / 14.78	3.76 / 19.97	6.35 / 33.32	7.04 / 36.82	8.18 / 42.55	8.18 / 42.55	10.31 / 53.09	12.70 / 64.54	12.70 / 64.64	15.09 / 75.92	18.26 / 90.44	20.62 / 100.93	23.01 / 111.27	22.23 / 107.93	2.77 / 14.78	3.76 / 19.97	8.18 / 42.55	12.70 / 64.64
10	250	273	3.40 / 22.61	4.19 / 27.78	6.35 / 41.76	7.80 / 51.01	9.27 / 60.29	9.27 / 60.29	12.70 / 81.53	12.70 / 81.53	15.09 / 95.98	18.26 / 114.71	21.44 / 133.01	25.40 / 155.10	28.58 / 172.27	25.40 / 155.10	3.40 / 22.61	4.19 / 27.78	9.27 / 60.29	12.70 / 81.53
12	300	323.8	3.96 / 31.24	4.57 / 35.98	6.35 / 49.71	8.38 / 65.19	9.53 / 73.86	10.31 / 79.71	14.27 / 106.93	12.70 / 97.44	17.48 / 132.05	21.44 / 159.87	25.40 / 186.92	28.58 / 208.08	33.32 / 238.69	25.40 / 186.92	3.96 / 31.24	4.57 / 35.98	9.53 / 73.86	12.70 / 97.44
14	350	355.6	3.96 / 34.34	6.35 / 54.69	7.92 / 67.91	9.53 / 81.33	9.53 / 81.33	11.13 / 94.55	15.09 / 126.72	12.70 / 107.40	19.05 / 158.11	23.83 / 194.98	27.79 / 224.66	31.75 / 253.58	35.71 / 281.72	—	3.96 / 34.34	4.78 / 41.36	9.53 / 81.33	12.70 / 107.40
16	400	406.4	4.19 / 41.56	6.35 / 62.65	7.92 / 77.83	9.53 / 93.27	9.53 / 93.27	12.70 / 123.31	16.66 / 160.13	12.70 / 123.31	21.44 / 203.54	26.19 / 245.57	30.96 / 286.66	36.53 / 333.21	40.49 / 365.38	—	4.19 / 41.56	4.78 / 47.34	9.53 / 93.27	12.70 / 123.31
18	450	457	4.19 / 46.79	6.35 / 70.57	7.92 / 87.71	11.13 / 122.38	9.53 / 105.17	14.27 / 155.81	19.05 / 205.75	12.70 / 139.16	23.83 / 254.57	29.36 / 309.64	34.93 / 363.58	39.67 / 408.28	45.24 / 459.39	—	4.19 / 46.79	4.78 / 53.31	9.53 / 105.17	12.70 / 139.16
20	500	508	4.78 / 59.32	6.35 / 78.56	9.53 / 117.15	12.70 / 155.13	9.53 / 117.15	15.09 / 183.43	20.62 / 247.84	12.70 / 155.13	26.19 / 311.19	32.54 / 381.55	38.10 / 441.52	44.45 / 508.15	50.01 / 564.85	—	4.78 / 59.32	5.54 / 68.65	9.53 / 117.15	12.70 / 155.13
22	550	559	4.78 / 65.33	6.35 / 86.55	9.53 / 129.14	12.70 / 171.10	9.53 / 129.14	—	22.23 / 294.27	12.70 / 171.10	28.58 / 373.85	34.93 / 451.45	41.28 / 527.05	47.63 / 600.67	53.98 / 672.30	—	4.78 / 65.33	5.54 / 75.62	—	—
24	600	610	5.54 / 82.58	6.35 / 94.53	9.53 / 141.12	14.27 / 209.65	9.53 / 141.12	17.48 / 255.43	24.61 / 355.28	12.70 / 187.07	30.96 / 442.11	38.89 / 547.74	46.02 / 640.07	52.37 / 720.19	59.54 / 808.27	—	5.54 / 82.58	6.35 / 94.53	9.53 / 141.12	12.70 / 180.70
26	650	660	—	7.92 / 127.36	12.70 / 202.74	—	9.53 / 152.88	—	—	12.70 / 202.74	—	—	—	—	—	—	—	—	—	—
28	700	711	—	7.92 / 137.32	12.70 / 218.71	15.88 / 272.23	9.53 / 164.86	—	—	12.70 / 218.71	—	—	—	—	—	—	—	—	—	—
30	750	762	6.35 / 118.34	7.92 / 147.29	12.70 / 234.68	15.88 / 292.20	9.53 / 176.85	—	—	12.70 / 234.68	—	—	—	—	—	—	6.35 / 118.34	7.92 / 147.29	—	—
32	800	813	—	7.92 / 157.25	12.70 / 250.65	15.88 / 312.17	9.53 / 188.83	17.48 / 342.94	—	12.70 / 250.65	—	—	—	—	—	—	—	—	—	—
34	850	864	—	7.92 / 167.21	12.70 / 266.63	15.88 / 332.14	9.53 / 200.82	17.48 / 364.92	—	12.70 / 266.63	—	—	—	—	—	—	—	—	—	—
36	900	914	—	7.92 / 176.97	12.70 / 282.29	15.88 / 351.73	9.53 / 212.57	19.05 / 420.45	—	12.70 / 282.29	—	—	—	—	—	—	—	—	—	—
38	950	965	—	—	—	—	9.53 / 224.56	—	—	12.70 / 298.26	—	—	—	—	—	—	—	—	—	—
40	1000	1016	—	—	—	—	9.53 / 236.54	—	—	12.70 / 314.23	—	—	—	—	—	—	—	—	—	—
42	1050	1067	—	—	—	—	9.53 / 248.53	—	—	12.70 / 330.21	—	—	—	—	—	—	—	—	—	—
44	1100	1118	—	—	—	—	9.53 / 260.52	—	—	12.70 / 346.18	—	—	—	—	—	—	—	—	—	—
46	1150	1168	—	—	—	—	9.53 / 272.27	—	—	12.70 / 361.84	—	—	—	—	—	—	—	—	—	—
48	1200	1219	—	—	—	—	9.53 / 284.25	—	—	12.70 / 377.81	—	—	—	—	—	—	—	—	—	—

Note : 注
Wall Thickness (mm)
Weight (kg/m)

Weights Schedule of Butt-Welding Fittings 对焊管件重量表

Weights Schedule for 90° LR Elbows 90° 长半径弯头重量表

NPS (inch)	DN	D (mm)	SCH 5 THK (mm)	SCH 5 KGS	SCH 10 THK (mm)	SCH 10 KGS	SCH 20 THK (mm)	SCH 20 KGS	SCH 30 THK (mm)	SCH 30 KGS	STD THK (mm)	STD KGS	SCH 40 THK (mm)	SCH 40 KGS	SCH 60 THK (mm)	SCH 60 KGS	XS THK (mm)	XS KGS	SCH 80 THK (mm)	SCH 80 KGS	SCH 100 THK (mm)	SCH 100 KGS	SCH 120 THK (mm)	SCH 120 KGS	SCH 140 THK (mm)	SCH 140 KGS	SCH 160 THK (mm)	SCH 160 KGS	XXS THK (mm)	XXS KGS	SCH 5S THK (mm)	SCH 5S KGS	SCH 10S THK (mm)	SCH 10S KGS	SCH 40S/STD THK (mm)	SCH 40S/STD KGS	SCH 80S/XS THK (mm)	SCH 80S/XS KGS
½	15	21.3	1.65	0.05	2.11	0.06			2.41	0.07	2.77	0.08	2.77	0.08			3.73	0.10	3.73	0.10							4.78	0.15	7.47	0.17	1.65	0.05	2.11	0.06	2.77	0.08	3.73	0.10
¾	20	26.7	1.65	0.06	2.11	0.07					2.87	0.11	2.87	0.11			3.91	0.14	3.91	0.14							5.56	0.17	7.82	0.2	1.65	0.06	2.11	0.08	2.87	0.10	3.91	0.13
1	25	33.4	1.65	0.08	2.77	0.13			2.90	0.13	3.38	0.16	3.38	0.16			4.55	0.20	4.55	0.20							6.35	0.27	9.09	0.34	1.65	0.08	2.77	0.13	3.38	0.15	4.55	0.20
1¼	32	42.2	1.65	0.12	2.77	0.20			2.97	0.22	3.56	0.26	3.56	0.26			4.85	0.35	4.85	0.35							6.35	0.44	9.70	0.61	1.65	0.12	2.77	0.21	3.56	0.26	4.85	0.34
1½	40	48.3	1.65	0.17	2.77	0.28			3.18	0.32	3.68	0.37	3.68	0.37			5.08	0.50	5.08	0.50							7.14	0.68	10.15	0.9	1.65	0.17	2.77	0.28	3.68	0.36	5.08	0.49
2	50	60.3	1.65	0.28	2.77	0.47			3.18	0.53	3.91	0.66	3.91	0.66			5.54	0.90	5.54	0.90							8.74	1.33	11.07	1.68	1.65	0.28	2.77	0.48	3.91	0.65	5.54	0.91
2½	65	73	2.11	0.55	3.05	0.79			4.78	1.20	5.16	1.29	5.16	1.29			7.01	1.79	7.01	1.79							9.53	2.34	14.02	3.2	2.11	0.55	3.05	0.80	5.16	1.29	7.01	1.73
3	80	88.9	2.11	0.81	3.05	1.16			4.78	1.77	5.49	2.04	5.49	2.04			7.62	2.74	7.62	2.74							11.13	3.83	15.24	5.17	2.11	0.81	3.05	1.17	5.49	2.02	7.62	2.77
3½	90	101.6	2.11	1.08	3.05	1.55			4.78	2.38	5.74	2.92	5.74	2.92			8.08	3.96	8.08	3.96											2.11	1.08	3.05	1.57	5.74	2.83	8.08	3.95
4	100	114.3	2.11	1.39	3.05	2.00			4.78	3.08	6.02	3.84	6.02	3.84			8.56	5.36	8.56	5.36			11.13	7			13.49	8	17.12	10	2.11	1.39	3.05	2.03	6.02	3.83	8.56	5.40
5	125	141.3	2.77	2.82	3.40	3.46					6.55	6.48	6.55	6.48			9.53	9.13	9.53	9.13			12.70	12			15.88	15	19.05	17	2.77	2.82	3.40	3.50	6.55	6.49	9.53	9.37
6	150	168.3	2.77	4.06	3.40	4.96					7.11	10	7.11	10			10.97	15	10.97	15			14.27	19			18.26	24	21.95	28	2.77	4.06	3.40	5.04	7.11	10	10.97	16
8	200	219.1	2.77	7.07	3.76	10	6.35	16	7.04	18	8.18	20	8.18	20	10.31	25	12.70	31	12.70	31	15.09	36	18.26	43	20.62	48	23.01	53	22.23	52	2.77	7.07	3.76	10	8.18	21	12.70	31
10	250	273	3.40	14	4.19	17	6.35	25	7.80	31	9.27	36	9.27	36	12.70	49	12.70	49	15.09	57	18.26	69	21.44	80	25.40	93	28.58	103	25.40	93	3.40	14	4.19	17	9.27	37	12.70	49
12	300	323.8	3.96	23	4.57	26	6.35	36	8.38	47	9.53	53	10.31	57	14.27	78	12.70	70	17.48	95	21.44	115	25.40	134	28.58	149	33.32	171	25.40	134	3.96	23	4.57	26	9.53	54	12.70	71
14	350	355.6	3.96	29	6.35	46	7.92	57	9.53	68	9.53	68	11.13	79	15.09	106	12.70	90	19.05	132	23.83	163	27.79	188	31.75	212	35.71	236			3.96	29	4.78	35	9.53	69	12.70	91
16	400	406.4	4.19	40	6.35	60	7.92	75	9.53	89	9.53	89	12.70	118	16.66	153	12.70	118	21.44	195	26.19	235	30.96	274	36.53	319	40.49	350			4.19	40	4.78	46	9.53	91	12.70	120
18	450	457	4.19	50	6.35	76	7.92	94	11.13	132	9.53	113	14.27	168	19.05	221	12.70	150	23.83	274	29.36	333	34.93	391	39.67	440	45.24	495			4.19	51	4.78	58	9.53	115	12.70	152
20	500	508	4.78	71	6.35	94	9.53	140	12.70	186	9.53	140	15.09	219	20.62	296	12.70	185	26.19	372	32.54	456	38.10	528	44.45	608	50.01	675			4.78	72	5.54	83	9.53	142	12.70	188
22	550	559	4.78	86	6.35	114	9.53	170	12.70	225	9.53	170			22.23	387	12.70	225	28.58	492	34.93	594	41.28	693	47.63	790	53.98	884			4.78	87	5.54	101				
24	600	610	5.54	119	6.35	136	9.53	202	14.27	301	9.53	202	17.48	367	24.61	510	12.70	268	30.96	634	38.89	786	46.02	918	52.37	1,033	59.54	1,159			5.54	120	6.35	138	9.53	205	12.70	272
26	650	660			7.92	198	12.70	315			9.53	238					12.70	315																				
28	700	711			7.92	230	12.70	366	15.88	456	9.53	276					12.70	366																				
30	750	762	6.35	212	7.92	264	12.70	421	15.88	524	9.53	317					12.70	421													6.35	215	7.92	268				
32	800	813			7.92	301	12.70	479	15.88	597	9.53	361	17.48	656			12.70	479																				
34	850	864			7.92	340	12.70	542	15.88	675	9.53	408	17.48	742			12.70	542																				
36	900	914			7.92	381	12.70	608	15.88	757	9.53	458	19.05	905			12.70	608																				
38	950	965									9.53	510					12.70	678																				
40	1000	1016									9.53	566					12.70	752																				
42	1050	1067									9.53	624					12.70	829																				
44	1100	1118									9.53	685					12.70	910																				
46	1150	1168									9.53	749					12.70	995																				
48	1200	1219									9.53	816					12.70	1,084																				

Weights Schedule for Tees 三通重量表

Nominal Size 公称尺寸		Outside Diameter 外径	SCH 5		SCH 10		SCH 20		SCH 30		STD		SCH 40		SCH 60		XS		SCH 80		SCH 100		SCH 120		SCH 140		SCH 160		XXS		SCH 5S		SCH 10S		SCH 40S/STD		SCH 80S/XS	
NPS (inch)	DN	D (mm)	THK (mm)	KGS	THK (mm)	KGS	THK (mm)	KGS	THK (mm)	KGS	THK (mm)	KGS	THK (mm)	KGS	THK (mm)	KGS	THK (mm)	KGS	THK (mm)	KGS	THK (mm)	KGS	THK (mm)	KGS	THK (mm)	KGS	THK (mm)	KGS	THK (mm)	KGS	THK (mm)	KGS	THK (mm)	KGS	THK (mm)	KGS	THK (mm)	KGS
½	15	21.3	1.65	0.05	2.11	0.07			2.41	0.07	2.77	0.08	2.77	0.08			3.73	0.11	3.73	0.11							4.78	0.12	7.47	0.17	1.65	0.05	2.11	0.07	2.77	0.09	3.73	0.11
¾	20	26.7	1.65	0.08	2.11	0.10					2.87	0.12	2.87	0.12			3.91	0.17	3.91	0.16							5.56	0.21	7.82	0.26	1.65	0.08	2.11	0.10	2.87	0.13	3.91	0.16
1	25	33.4	1.65	0.13	2.77	0.20			2.9	0.21	3.38	0.24	3.38	0.24			4.55	0.32	4.55	0.32							6.35	0.41	9.09	0.53	1.65	0.13	2.77	0.20	3.38	0.25	4.55	0.32
1¼	32	42.2	1.65	0.20	2.77	0.33			2.97	0.35	3.56	0.42	3.56	0.42			4.85	0.56	4.85	0.56							6.35	0.69	9.70	0.95	1.65	0.21	2.77	0.33	3.56	0.44	4.85	0.56
1½	40	48.3	1.65	0.28	2.77	0.46			3.18	0.52	3.68	0.59	3.68	0.59			5.08	0.81	5.08	0.81							7.14	1.07	10.15	1.40	1.65	0.28	2.77	0.46	3.68	0.62	5.08	0.81
2	50	60.3	1.65	0.39	2.77	0.63			3.18	0.72	3.91	0.88	3.91	0.88			5.54	1.20	5.54	1.20							8.74	1.78	11.07	2.16	1.65	0.39	2.77	0.63	3.91	0.89	5.54	1.23
2½	65	73	2.11	0.71	3.05	1.00			4.78	1.54	5.16	1.65	5.16	1.65			7.01	2.28	7.01	2.28							9.53	2.86	14.02	3.92	2.11	0.72	3.05	1.00	5.16	1.77	7.01	2.22
3	80	88.9	2.11	0.97	3.05	1.38			4.78	2.12	5.49	2.41	5.49	2.41			7.62	3.25	7.62	3.25							11.13	4.55	15.24	5.90	2.11	0.98	3.05	1.38	5.49	2.45	7.62	3.31
3½	90	101.6	2.11	1.21	3.05	1.74			4.78	2.67	5.74	3.18	5.74	3.18			8.08	4.36	8.08	4.36											2.11	1.23	3.05	1.74	5.74	3.23	8.08	4.43
4	100	114.3	2.11	1.51	3.05	2.15			4.78	3.33	6.02	4.14	6.02	4.14			8.56	5.70	8.56	5.77			11.13	7.70			13.49	8.50	17.12	11	2.11	1.53	3.05	2.15	6.02	4.18	8.56	5.84
5	125	141.3	2.77	2.85	3.40	3.48					6.55	6.56	6.55	6.56			9.53	9.20	9.53	9.20			12.70	12			15.88	15	19.05	17	2.77	2.89	3.40	3.48	6.55	6.60	9.53	9.47
6	150	168.3	2.77	3.90	3.40	5.30					7.11	9.75	7.11	9.75			10.97	15	10.97	15			14.27	19			18.26	23	21.95	27	2.77	3.96	3.40	5.38	7.11	9.72	10.97	15
8	200	219.1	2.77	6.27	3.76	10.40	6.35	14	7.04	16	8.18	18	8.18	18	10.31	23	12.7	27	12.7	27	15.09	32	18.26	38	20.62	43	23.01	47	22.23	46	2.77	6.37	3.76	10.56	8.18	18	12.70	28
10	250	273	3.40	12	4.19	14	6.35	21	7.8	26	9.27	31	9.27	31	12.70	42	12.7	42	15.09	49	18.26	59	21.44	68	25.40	79	28.58	88	25.40	79	3.40	12	4.19	14	9.27	31	12.70	42
12	300	323.8	3.96	19	4.57	22	6.35	30	8.38	39	9.53	44	10.31	48	14.27	65	12.7	58	17.48	79	21.44	96	25.40	112	28.58	125	33.32	143	25.40	112	3.96	19	4.57	22	9.53	45	12.70	59
14	350	355.6	3.96	34	6.35	47	7.92	56	9.53	64	9.53	64	11.13	73	15.09	94	12.7	81	19.05	114	23.83	138	27.79	158	31.75	177	35.71	195			3.96	34	4.78	39	9.53	65	12.70	83
16	400	406.4	4.19	43	6.35	58	7.92	69	9.53	80	9.53	80	12.7	101	16.66	127	12.7	101	21.44	158	26.19	187	30.96	216	36.53	249	40.49	271			4.19	44	4.78	48	9.53	81	12.70	103
18	450	457	4.19	55	6.35	74	7.92	88	11.13	115	9.53	101	14.27	142	19.05	181	12.7	128	23.83	220	29.36	263	34.93	306	39.67	342	45.24	382			4.19	56	4.78	61	9.53	103	12.70	130
20	500	508	4.78	74	6.35	91	9.53	125	12.7	159	9.53	125	15.09	184	20.62	241	12.7	159	26.19	297	32.54	359	38.10	411	44.45	470	50.01	520			4.78	76	5.54	84	9.53	127	12.70	161
22	550	559	4.78	90	6.35	111	9.53	152	12.7	193	9.53	152			22.23	312	12.7	193	28.58	390	34.93	465	41.28	538	47.63	609	53.98	679			4.78	92	5.54	102				
24	600	610	5.54	111	6.35	123	9.53	169	14.27	236	9.53	169	17.48	281	24.61	379	12.7	214	30.96	465	38.89	569	46.02	659	52.37	738	59.54	825			5.54	113	6.35	125	9.53	171	12.70	217
26	650	660			7.92	184	12.7	270			9.53	213					12.7	270																				
28	700	711			7.92	207	12.7	305	15.88	369	9.53	240					12.7	305																				
30	750	762	6.35	201	7.92	238	12.7	351	15.88	425	9.53	277					12.7	351													6.35	204	7.92	242				
32	800	813			7.92	272	12.7	401	15.88	485	9.53	316	17.48	528			12.7	401																				
34	850	864			7.92	308	12.7	453	15.88	550	9.53	357	17.48	598			12.7	453																				
36	900	914			7.92	345	12.7	509	15.88	617	9.53	401	19.05	724			12.7	509																				
38	950	965									9.53	447					12.7	569																				
40	1000	1016									9.53	497					12.7	631																				
42	1050	1067									9.53	511					12.7	649																				
44	1100	1118									9.53	575					12.7	732																				
46	1150	1168									9.53	631					12.7	802																				
48	1200	1219									9.53	689					12.7	876																				

Weights Schedule for Reducers 异径管重量表

Nominal Size 公称尺寸		Outside Diameter 外径	SCH 5		SCH 10		SCH 20		SCH 30		STD		SCH 40		SCH 60		XS		SCH 80		SCH 100		SCH 120		SCH 140		SCH 160		XXS		SCH 5S		SCH 10S		SCH 40S/STD		SCH 80S/XS	
NPS (inch)	DN	D (mm)	THK (mm)	KGS	THK (mm)	KGS	THK (mm)	KGS	THK (mm)	KGS	THK (mm)	KGS	THK (mm)	KGS	THK (mm)	KGS	THK (mm)	KGS	THK (mm)	KGS	THK (mm)	KGS	THK (mm)	KGS	THK (mm)	KGS	THK (mm)	KGS	THK (mm)	KGS	THK (mm)	KGS	THK (mm)	KGS	THK (mm)	KGS	THK (mm)	KGS
½	15	21.3	1.65	0.02	2.11	0.03			2.41	0.03	2.77	0.05	2.77	0.05			3.73	0.06	3.73	0.06							4.78	0.10	7.47	0.11	1.65	0.03	2.11	0.03	2.77	0.05	3.73	0.06
¾	20	26.7	1.65	0.03	2.11	0.04					2.87	0.06	2.87	0.06			3.91	0.07	3.91	0.07							5.56	0.10	7.82	0.12	1.65	0.04	2.11	0.04	2.87	0.06	3.91	0.07
1	25	33.4	1.65	0.06	2.77	0.10			2.90	0.10	3.38	0.11	3.38	0.11			4.55	0.15	4.55	0.15							6.35	0.19	9.09	0.24	1.65	0.06	2.77	0.10	3.38	0.12	4.55	0.15
1¼	32	42.2	1.65	0.08	2.77	0.12			2.97	0.13	3.56	0.15	3.56	0.15			4.85	0.20	4.85	0.20							6.35	0.25	9.70	0.34	1.65	0.08	2.77	0.12	3.56	0.16	4.85	0.20
1½	40	48.3	1.65	0.11	2.77	0.19			3.18	0.21	3.68	0.24	3.68	0.24			5.08	0.32	5.08	0.32							7.14	0.43	10.15	0.56	1.65	0.12	2.77	0.19	3.68	0.25	5.08	0.33
2	50	60.3	1.65	0.16	2.77	0.27			3.18	0.30	3.91	0.37	3.91	0.37			5.54	0.51	5.54	0.51							8.74	0.75	11.07	0.90	1.65	0.17	2.77	0.27	3.91	0.37	5.54	0.51
2½	65	73	2.11	0.30	3.05	0.43			4.78	0.65	5.16	0.70	5.16	0.70			7.01	0.92	7.01	0.92							9.53	1.19	14.02	1.62	2.11	0.30	3.05	0.43	5.16	0.71	7.01	0.93
3	80	88.9	2.11	0.37	3.05	0.52			4.78	0.80	5.49	0.91	5.49	0.91			7.62	1.23	7.62	1.23							11.13	1.71	15.24	2.20	2.11	0.37	3.05	0.53	5.49	0.92	7.62	1.24
3½	90	101.6	2.11	0.49	3.05	0.71			4.78	1.09	5.74	1.29	5.74	1.29			8.08	1.77	8.08	1.77											2.11	0.50	3.05	0.72	5.74	1.31	8.08	1.80
4	100	114.3	2.11	0.56	3.05	0.80			4.78	1.24	6.02	1.54	6.02	1.54			8.56	2.14	8.56	2.14			11.13	2.71			13.49	3.21	17.12	3.91	2.11	0.57	3.05	0.82	6.02	1.57	8.56	2.17
5	125	141.3	2.77	1.08	3.40	1.32					6.55	2.49	6.55	2.49			9.53	3.53	9.53	3.53			12.70	4.58			15.88	5.57	19.05	6.49	2.77	1.10	3.40	1.34	6.55	2.52	9.53	3.58
6	150	168.3	2.77	1.45	3.40	1.78					7.11	3.63	7.11	3.63			10.97	5.45	10.97	5.45			14.27	6.92			18.26	8.61	21.95	10	2.77	1.48	3.40	1.80	7.11	3.68	10.97	5.53
8	200	219.1	2.77	1.98	3.76	2.68	6.35	4.46	7.04	4.93	8.18	5.69	8.18	5.69	10.31	7.09	12.70	8.62	12.70	8.62	15.09	10	18.26	12	20.62	13	23.01	15	22.23	14	2.77	2.01	3.76	2.72	8.18	5.77	12.70	8.75
10	250	273	3.40	3.62	4.19	4.45	6.35	6.68	7.80	8.16	9.27	10	9.27	10	12.70	13	12.70	13	15.09	15	18.26	18	21.44	21	25.40	25	28.58	27	25.40	25	3.40	3.68	4.19	4.52	9.27	10	12.70	13
12	300	323.8	3.96	5.84	4.57	6.72	6.35	9.29	8.38	12	9.53	14	10.31	15	14.27	20	12.70	18	17.48	25	21.44	30	25.40	35	28.58	39	33.32	44	25.40	35	3.96	5.93	4.57	6.83	9.53	14	12.70	18
14	350	355.6	3.96	11	6.35	17	7.92	21	9.53	26	9.53	26	11.13	30	15.09	40	12.70	34	19.05	50	23.83	61	27.79	71	31.75	80	35.71	88			3.96	11	4.78	13	9.53	26	12.70	34
16	400	406.4	4.19	14	6.35	21	7.92	26	9.53	31	9.53	31	12.70	41	16.66	53	12.70	41	21.44	68	26.19	82	30.96	95	36.53	110	40.49	121			4.19	14	4.78	16	9.53	32	12.70	42
18	450	457	4.19	17	6.35	25	7.92	32	11.13	44	9.53	38	14.27	56	19.05	74	12.70	50	23.83	91	29.36	111	34.93	130	39.67	146	45.24	164			4.19	17	4.78	19	9.53	38	12.70	51
20	500	508	4.78	29	6.35	38	9.53	56	12.70	75	9.53	56	15.09	88	20.62	119	12.70	75	26.19	150	32.54	183	38.10	212	44.45	244	50.01	271			4.78	29	5.54	34	9.53	57	12.70	76
22	550	559	4.78	32	6.35	42	9.53	63	12.70	83	9.53	63			22.23	142	12.70	83	28.58	181	34.93	218	41.28	255	47.63	290	53.98	324			4.78	32	5.54	37				
24	600	610	5.54	40	6.35	46	9.53	69	14.27	102	9.53	69	17.48	124	24.61	173	12.70	91	30.96	215	38.89	266	46.02	310	52.37	349	59.54	392			5.54	41	6.35	47	9.53	70	12.70	92
26	650	660			7.92	75	12.70	119			9.53	90					12.70	119																				
28	700	711			7.92	81	12.70	129	15.88	160	9.53	97					12.70	129																				
30	750	762	6.35	70	7.92	87	12.70	138	15.88	172	9.53	104					12.70	138													6.35	71	7.92	88				
32	800	813			7.92	93	12.70	148	15.88	184	9.53	112	17.48	206			12.70	148																				
34	850	864			7.92	99	12.70	158	15.88	197	9.53	119	17.48	219			12.70	158																				
36	900	914			7.92	105	12.70	167	15.88	209	9.53	126	19.05	253			12.70	167																				
38	950	965									9.53	133					12.70	177																				
40	1000	1016									9.53	141					12.70	187																				
42	1050	1067									9.53	148					12.70	197																				
44	1100	1118									9.53	155					12.70	206																				
46	1150	1168									9.53	189					12.70	252																				
48	1200	1219									9.53	198					12.70	263																				

Weights Schedule for Caps 管帽重量表

Nominal Size 公称尺寸		Outside Diameter 外径	SCH 40		SCH 60		XS		SCH 80		SCH 100		SCH 120		SCH 140		SCH 160		XXS		SCH 5S		SCH 10S		SCH 40S/STD		SCH 80S/XS	
NPS (inch)	DN	D (mm)	THK (mm)	KGS	THK (mm)	KGS	THK (mm)	KGS	THK (mm)	KGS	THK (mm)	KGS	THK (mm)	KGS	THK (mm)	KGS	THK (mm)	KGS	THK (mm)	KGS	THK (mm)	KGS	THK (mm)	KGS	THK (mm)	KGS	THK (mm)	KGS
½	15	21.3	2.77	0.04			3.73	0.05	3.73	0.05							4.78	0.06	7.47	0.10	1.65	0.02	2.11	0.03	2.77	0.04	3.73	0.05
¾	20	26.7	2.87	0.05			3.91	0.07	3.91	0.06							5.56	0.09	7.82	0.13	1.65	0.03	2.11	0.04	2.87	0.05	3.91	0.07
1	25	33.4	3.38	0.11			4.55	0.15	4.55	0.14							6.35	0.20	9.09	0.29	1.65	0.05	2.77	0.09	3.38	0.11	4.55	0.15
1¼	32	42.2	3.56	0.14			4.85	0.20	4.85	0.19							6.35	0.25	9.70	0.38	1.65	0.07	2.77	0.11	3.56	0.14	4.85	0.20
1½	40	48.3	3.68	0.17			5.08	0.24	5.08	0.23							7.14	0.33	10.15	0.47	1.65	0.08	2.77	0.13	3.68	0.17	5.08	0.24
2	50	60.3	3.91	0.24			5.54	0.33	5.54	0.33							8.74	0.59	11.07	0.74	1.65	0.10	2.77	0.17	3.91	0.24	5.54	0.33
2½	65	73	5.16	0.42			7.01	0.57	7.01	0.53							9.53	0.90	14.02	1.33	2.11	0.16	3.05	0.24	5.16	0.40	7.01	0.54
3	80	88.9	5.49	0.67			7.62	0.92	7.62	0.92							11.13	1.60	15.24	2.20	2.11	0.26	3.05	0.37	5.49	0.67	7.62	0.93
3½	90	101.6	5.74	0.82			8.08	1.37	8.08	1.37											2.11	0.36	3.05	0.52	5.74	0.99	8.08	1.39
4	100	114.3	6.02	1.17			8.56	1.68	8.56	1.68			11.13	2.49			13.49	3.01	17.12	3.82	2.11	0.42	3.05	0.61	6.02	1.20	8.56	1.70
5	125	141.3	6.55	1.90			9.53	2.73	9.53	2.77			12.70	4.15			15.88	5.19	19.05	6.23	2.77	0.82	3.40	1.00	6.55	1.94	9.53	2.82
6	150	168.3	7.11	2.83			10.97	4.38	10.97	4.48			14.27	6.43			18.26	8.23	21.95	9.89	2.77	1.15	3.40	1.41	7.11	2.95	10.97	4.54
8	200	219.1	8.18	5.10	10.31	6.55	12.7	7.91	12.7	8.07	15.09	11	18.26	13	20.62	15	23.01	17	22.23	16	2.77	1.79	3.76	2.43	8.18	5.28	12.70	8.19
10	250	273	9.27	8.90	12.70	13	12.7	13	15.09	17	18.26	20	21.44	24	25.40	28	28.58	32	25.40	28	3.40	3.40	4.19	4.20	9.27	9.28	12.70	13
12	300	323.8	10.31	14	14.27	22	12.7	18	17.48	27	21.44	33	25.40	39	28.58	44	33.32	52	25.40	39	3.96	5.61	4.57	6.47	9.53	14	12.70	18
14	350	355.6	11.13	19	15.09	28	12.7	21	19.05	35	23.83	44	27.79	51	31.75	58	35.71	66			3.96	6.72	4.78	8.11	9.53	16	12.70	22
16	400	406.4	12.7	27	16.66	38	12.7	27	21.44	49	26.19	60	30.96	71	36.53	84	40.49	93			4.19	8.95	4.78	10	9.53	20	12.70	27
18	450	457	14.27	41	19.05	55	12.7	34	23.83	69	29.36	85	34.93	101	39.67	115	45.24	131			4.19	11	4.78	13	9.53	26	12.70	35
20	500	508	15.09	54	20.62	74	12.7	43	26.19	94	32.54	116	38.10	136	44.45	159	50.01	179			4.78	16	5.54	19	9.53	32	12.70	43
22	550	559			22.23	91	12.7	52	28.58	116	34.93	142	41.28	168	47.63	194	53.98	220			4.78	20	5.54	23				
24	600	610	17.48	90	24.61	127	12.7	60	30.96	160	38.89	201	46.02	238	52.37	270	59.54	307			5.54	27	6.35	31	9.53	46	12.70	61
26	650	660					12.7	67																				
28	700	711					12.7	75																				
30	750	762					12.7	83													6.35	42	7.92	52				
32	800	813	17.48	135			12.7	91																				
34	850	864	17.48	147			12.7	100																				
36	900	914	19.05	175			12.7	109																				
38	950	965					12.7	126																				
40	1000	1016					12.7	137																				
42	1050	1067					12.7	147																				
44	1100	1118					12.7	167																				
46	1150	1168					12.7	179																				
48	1200	1219					12.7	191																				

The General Materials for Pipe Fittings 管件常用材料

ASTM STANDARD 美国标准

Type 类型	Steel Type 钢种	Standard 标准	Material Grade 钢级	Chemical Composition %, max 化学成份													Mechanical Properties 力学性能					
				C	Si	Mn	P	S	Cr	Ni	Cu	Mo	V	Ti	Nb	Others	Y.S Re Min Mpa	T.S Rm Min Mpa	E.L A Min %	HB –	AKV ℃	AKV J
Butt-Wekding Fittings 对焊管件	Carbon Steel 碳钢	ASTM A234/A234M	WPB	0.30	≥0.10	0.29-1.06	0.050	0.058	0.40	0.40	0.40	0.15	0.08	-	-	-	240	415	22/14	197	-	-
			WPC	0.35	≥0.10	0.29-1.06	0.050	0.058	0.40	0.40	0.40	0.15	0.08	-	-	-	275	485	22/14	197	-	-
	Low Temperature Steel 低温钢	ASTM A420/A420M	WPL6	0.30	0.15-0.40	0.50-1.35	0.035	0.040	0.30	0.40	0.40	0.12	0.08	-	0.02	-	240	415-655	22/12	-	-45	17.6
	Alloy Steel 合金钢	ASTM A234/A234M	WP1	0.28	0.10-0.50	0.30-0.90	0.045	0.045	-	-	-	0.44-0.65	-	-	-	-	205	380-550	22/14	197	-	-
			WP12 CL1/CL2	0.05-0.20	0.60	0.30-0.80	0.045	0.045	0.80-1.25	-	-	0.44-0.65	-	-	-	-	220	415	22/14	197	-	-
			WP11 CL1	0.05-0.15	0.50-1.00	0.30-0.60	0.030	0.030	1.00-1.50	-	-	0.44-0.65	-	-	-	-	205	415	22/14	197	-	-
			WP11 CL2	0.05-0.20	0.50-1.00	0.30-0.80	0.040	0.040	1.00-1.50	-	-	0.44-0.65	-	-	-	-	275	485	22/14	197	-	-
			WP22 CL1/CL3	0.05-0.15	0.50	0.30-0.60	0.040	0.040	1.90-2.60	-	-	0.87-1.13	-	-	-	-	205	415	22/14	197	-	-
			WP5	0.15	0.50	0.30-0.60	0.040	0.030	4.00-6.00	-	-	0.44-0.65	-	-	-	-	205	415	22/14	217	-	-
			WP9	0.15	1.00	0.30-0.60	0.030	0.030	8.00-10.00	-	-	0.90-1.10	-	-	-	-	205	415	22/14	217	-	-
			WP91	0.08-0.12	0.20-0.50	0.30-0.60	0.020	0.010	8.00-9.50	0.40	-	0.85-1.05	0.18-0.25	0.01		N:0.03-0.07	415	630	20/13	248		
	Stainless Steel 不锈钢	ASTM A403/A403M	WP304	0.08	1.00	2.00	0.045	0.030	18.00-20.00	8.00-11.00	-	-	-	-	-	-	205	515	28/20	-	-	-
			WP304L	0.03	1.00	2.00	0.045	0.030	18.00-20.00	8.00-12.00	-	-	-	-	-	-	205	515	28/20	-	-	-
			WP304H	0.04-0.10	1.00	2.00	0.045	0.030	18.00-20.00	8.00-11.00	-	-	-	-	-	-	205	515	28/20	-	-	-
			WP316	0.08	1.00	2.00	0.045	0.030	16.00-18.00	10.00-14.00	-	2.00-3.00	-	-	-	-	205	515	28/20	-	-	-
			WP316L	0.03	1.00	2.00	0.045	0.030	16.00-18.00	10.00-14.00	-	2.00-3.00	-	-	-	-	205	515	28/20	-	-	-
			WP316H	0.04-0.10	1.00	2.00	0.045	0.030	16.00-18.00	10.00-14.00	-	2.00-3.00	-	-	-	-	205	515	28/20	-	-	-
			WP321	0.08	1.00	2.00	0.045	0.030	17.00-19.00	9.00-12.00	-	-	-	-	-	-	205	515	28/20	-	-	-
			WP321H	0.04-0.10	1.00	2.00	0.045	0.030	17.00-19.00	9.00-12.00	-	-	-	-	-	-	205	515	28/20	-	-	-
			WP347	0.08	1.00	2.00	0.045	0.030	17.00-19.00	9.00-12.00	-	-	-	-	-	-	205	515	28/20	-	-	-
			WP347H	0.04-0.10	1.00	2.00	0.045	0.030	17.00-19.00	9.00-12.00	-	-	-	-	-	-	205	515	28/20	-	-	-
			WP904L	0.02	1.00	2.00	0.045	0.035	19.00-23.00	23.00-28.00	1.00-2.00	4.00-5.00	-	-	-	N:0.10	220	490	28/20	-	-	-
	Duplex Steel 双相钢	ASTM A815/A815M	WPS 31803	0.03	1.00	2.00	0.030	0.020	21.00-23.00	4.50-6.50	-	2.50-3.50	-	-	-	N:0.08-0.20	450	620	20	290	-	-
			WPS 32750	0.03	0.80	1.20	0.035	0.020	24.00-26.00	6.00-8.00	0.50	3.00-5.00	-	-	-	N:0.24-0.32	550	800-965	15	310	-	-
	Line Pipe Steel 管线钢	ASTM A860/A860M	WPHY42	0.20	0.15-0.40	1.00-1.45	0.030	0.010	0.30	0.50	0.35	0.25	0.10	0.05	0.04	Alt:0.06	290	415	25	235	-46	40
			WPHY46	0.20	0.15-0.40	1.00-1.45	0.030	0.010	0.30	0.50	0.35	0.25	0.10	0.05	0.04	Alt:0.06	315	435	25	235	-46	40
			WPHY52	0.20	0.15-0.40	1.00-1.45	0.030	0.010	0.30	0.50	0.35	0.25	0.10	0.05	0.04	Alt:0.06	360	455	25	235	-46	40
			WPHY60	0.20	0.15-0.40	1.00-1.45	0.030	0.010	0.30	0.50	0.35	0.25	0.10	0.05	0.04	Alt:0.06	415	515	20	235	-46	40
			WPHY65	0.20	0.15-0.40	1.00-1.45	0.030	0.010	0.30	0.50	0.35	0.25	0.10	0.05	0.04	Alt:0.06	450	530	20	235	-46	40
			WPHY70	0.20	0.15-0.40	1.00-1.45	0.030	0.010	0.30	0.50	0.35	0.25	0.10	0.05	0.04	Alt:0.06	485	550	20	235	-46	40
		MSS SP-75	WPHY42	0.30	0.50	1.60	0.035	0.035	0.25	0.50	0.50	0.25	0.13	0.05	0.10	B:0.001	290	414	25	-	-	-
			WPHY46	0.30	0.50	1.60	0.035	0.035	0.25	0.50	0.50	0.25	0.13	0.05	0.10	B:0.001	317	434	25	-	-	-
			WPHY52	0.30	0.50	1.60	0.035	0.035	0.25	0.50	0.50	0.25	0.13	0.05	0.10	B:0.001	359	455	25	-	-	-
			WPHY56	0.30	0.50	1.60	0.035	0.035	0.25	0.50	0.50	0.25	0.13	0.05	0.10	B:0.001	386	490	20	-	-	-
			WPHY60	0.30	0.50	1.60	0.035	0.035	0.25	0.50	0.50	0.25	0.13	0.05	0.10	B:0.001	414	517	20	-	-	-
			WPHY65	0.30	0.50	1.60	0.035	0.035	0.25	0.50	0.50	0.25	0.13	0.05	0.10	B:0.001	448	531	20	-	-	-
			WPHY70	0.30	0.50	1.60	0.035	0.035	0.25	0.50	0.50	0.25	0.13	0.05	0.10	B:0.001	483	565	18	-	-	-
			WPHY80	0.30	0.50	1.60	0.035	0.035	0.25	0.50	0.50	0.25	0.13	0.05	0.10	B:0.001	552	621	16	-	-	-
	Nickel Alloy Steel 镍基合金	ASTM B366	UNS N04400	0.30	0.50	2.00	-	0.024	-	≥63.0	28.0-34.0	-	-	-	-	Fe:2.50	170	480	35	-	-	-
			UNS N06600	0.15	0.50	1.00	-	0.015	14.00-17.00	≥72.0	0.50	-	-	-	-	Fe:6.00-10.00	170	515	35	-	-	-
			UNS N06625	0.10	0.50	0.50	0.015	0.015	20.00-23.00	≥58.0	-	8.00-10.00	-	0.40	3.15-4.15	Fe:5.00; Al:0.40	276	690	30	-	-	-
			UNS N08800	0.10	1.00	1.50	-	0.015	19.00-23.00	30.00-35.00	0.75	-	-	0.15-0.60	-	Fe:≥39.50; Al:0.15-0.60	170	450	30	-	-	-
			UNS N08810	0.05-0.10	1.00	1.50	-	0.015	19.00-23.00	30.00-35.00	0.75	-	-	0.15-0.60	-	Fe:≥39.50; Al:0.15-0.60	170	450	30	-	-	-
			UNS N08825	0.05	0.50	1.00	-	0.030	19.50-23.50	38.00-46.00	1.50-3.00	2.50-3.50	-	0.60-1.20	-	Fe:≥22.00; Al:0.20	240	586	30	-	-	-
	Copper Alloy Steel 铜合金	ASTM B466	UNS C70600	-	-	1.00	-	-	-	9.00-11.00	≥99.50	-	-	-	-	Fe:1.00-1.80; Zn:1.00 Pb:0.05	90	260	-	45	-	-
			UNS C71500	-	-	1.00	-	-	-	29.00-33.00	≥99.50	-	-	-	-	Fe:0.40-1.00; Zn:1.00 Pb:0.05	125	360	-	51	-	-

ASTM STANDARD 美国标准

Type 类型	Steel Type 钢种	Standard 标准	Material Grade 钢级	Chemical Composition %, max 化学成份													Mechanical Properties 力学性能					
				C	Si	Mn	P	S	Cr	Ni	Cu	Mo	V	Ti	Nb	Others	Y.S Re	T.S Rm	E.L A	HB	AKV	
																	Min Mpa	Min Mpa	Min %	–	℃	J
Forged Fittings & Flanges 锻制管件和法兰	Carbon Steel 碳钢	ASTM A105/A105M	A105	0.35	0.10-0.35	0.60-1.05	0.035	0.040	0.30	0.40	0.40	0.12	0.08	-	-	-	250	485	22	197	-	-
	Low Temperature Steel 低温钢	ASTM A350/A350M	LF2 CL1/CL2	0.30	0.15-0.30	0.60-1.35	0.035	0.040	0.30	0.40	0.40	0.12	0.08	-	0.02	-	250	485-655	22	197	-46	20/16
	Alloy Steel 合金钢	ASTM A182/A182M	F11 CL1	0.05-0.15	0.50-1.00	0.30-0.60	0.030	0.030	1.00-1.50	-	-	0.44-0.65	-	-	-	-	205	415	20	121-174	-	-
			F11 CL2	0.10-0.20	0.50-1.00	0.30-0.80	0.040	0.040	1.00-1.50	-	-	0.44-0.65	-	-	-	-	275	485	20	143-207	-	-
			F11 CL3	0.10-0.20	0.50-1.00	0.30-0.80	0.040	0.040	1.00-1.50	-	-	0.44-0.65	-	-	-	-	310	515	20	156-207	-	-
			F12 CL1	0.05-0.15	0.50	0.30-0.60	0.045	0.045	0.80-1.25	-	-	0.44-0.65	-	-	-	-	220	415	20	121-174	-	-
			F12 CL2	0.10-0.20	0.10-0.60	0.30-0.80	0.040	0.040	0.80-1.25	-	-	0.44-0.65	-	-	-	-	275	485	20	143-207	-	-
			F22 CL1/CL3	0.05-0.15	0.50	0.30-0.60	0.040	0.040	2.00-2.50	-	-	0.87-1.13	-	-	-	-	205/310	415/515	20	156-207	-	-
			F5	0.15	0.50	0.30-0.60	0.030	0.030	4.00-6.00	0.50	-	0.44-0.65	-	-	-	-	275	485	20	143-217	-	-
			F9	0.15	0.50-1.00	0.30-0.60	0.030	0.030	8.00-10.00	-	-	0.90-1.10	-	-	-	-	380	585	20	179-217	-	-
			F91 TYPE1	0.08-0.12	0.20-0.50	0.30-0.60	0.020	0.010	8.00-9.50	0.40	-	0.85-1.05	0.18-0.25	0.01	0.06-0.10	N:0.030-0.07	415	620	20	190-248	-	-
			F91 TYPE2	0.08-0.12	0.20-0.40	0.30-0.50	0.020	0.005	8.00-9.50	0.06-0.10	-	0.85-1.05	0.18-0.25	0.01	0.06-0.10	N:0.035-0.07	415	620	20	190-248	-	-
	Stainless Steel 不锈钢	ASTM A182/A182M	F304	0.08	1.00	2.00	0.045	0.030	18.00-20.00	8.00-11.00	-	-	-	-	-	N:0.10	205	515	30	-	-	-
			F304L	0.03	1.00	2.00	0.045	0.030	18.00-20.00	8.00-13.00	-	-	-	-	-	N:0.10	170	485	30	-	-	-
			F304H	0.04-0.10	1.00	2.00	0.045	0.030	18.00-20.00	8.00-11.00	-	-	-	-	-	-	205	515	30	-	-	-
			F316	0.08	1.00	2.00	0.045	0.030	16.00-18.00	10.00-14.00	-	2.00-3.00	-	-	-	N:0.10	205	515	30	-	-	-
			F316L	0.03	1.00	2.00	0.045	0.030	16.00-18.00	10.00-15.00	-	2.00-3.00	-	-	-	N:0.10	170	485	30	-	-	-
			F316H	0.04-0.10	1.00	2.00	0.045	0.030	16.00-18.00	10.00-14.00	-	2.00-3.00	-	-	-	-	205	515	30	-	-	-
			F321	0.08	1.00	2.00	0.045	0.030	17.00-19.00	9.00-12.00				5C-0.7	-		205	515	30			
	Duplex Steel 双相钢	ASTM A182/A182M	F51	0.03	1.00	2.00	0.030	0.020	21.00-23.00	4.50-6.50	-	2.50-3.50	-	-	-	N:0.08-0.20	450	620	25	-	-	-
			F53	0.03	0.80	1.20	0.035	0.020	24.00-26.00	6.00-8.00	0.50	3.00-5.00	-	-	-	N:0.24-0.32	525	785	30	310	-	-
	Line Pipe Steel 管线钢	ASTM A694/A694M	F42	0.26	0.15-0.40	1.60	0.025	0.025	-	-	-	-	-	-	-	-	290	415	20	-	-	-
			F46	0.26	0.15-0.40	1.60	0.025	0.025	-	-	-	-	-	-	-	-	315	415	20	-	-	-
			F52	0.26	0.15-0.40	1.60	0.025	0.025	-	-	-	-	-	-	-	-	360	455	20	-	-	-
			F56	0.26	0.15-0.40	1.60	0.025	0.025	-	-	-	-	-	-	-	-	385	470	20	-	-	-
			F60	0.26	0.15-0.40	1.60	0.025	0.025	-	-	-	-	-	-	-	-	415	415/515	20	-	-	-
			F65	0.26	0.15-0.40	1.60	0.025	0.025	-	-	-	-	-	-	-	-	450	530	20	-	-	-
			F70	0.26	0.15-0.40	1.60	0.025	0.025	-	-	-	-	-	-	-	-	485	565	18	-	-	-
	Nickel Alloy Steel 镍基合金	ASTM B564/B564M	UNS N04400	0.30	0.50	2.00	-	0.024	-	≥63.00	28.0-34.0	-	-	-	-	Fe:2.50	172	483	35	-	-	-
			UNS N06600	0.15	0.50	1.00	-	0.015	14.00-17.00	≥72.00	0.50	-	-	-	-	Fe:6.00-10.00	241	552	30	-	-	-
			UNS N06625	0.10	0.50	0.50	0.015	0.015	20.00-23.00	≥58.00	-	8.00-10.00	-	0.40	3.15-4.15	Fe:5.00; Al:0.40	345	758	25	-	-	-
			UNS N08800	0.10	1.00	1.50	-	0.015	19.00-23.00	30.00-35.00	0.75	-	-	0.15-0.60	-	Fe≥39.50; Al:0.15-0.60	207	517	30	-	-	-
			UNS N08810	0.05-0.10	1.00	1.50	-	0.015	19.00-23.00	30.00-35.00	0.75	-	-	0.15-0.60	-	Fe≥39.50; Al:0.15-0.60	172	448	30	-	-	-
			UNS N08825	0.05	0.50	1.00	-	0.030	19.50-23.50	38.00-46.00	1.50-3.00	2.50-3.50	-	0.60-1.20	-	Fe≥22.00; Al:0.20	241	586	30	-	-	-
	Copper Alloy Steel 铜合金	ASTM B151/B151M	UNS C70600	-	-	1.00	-	-	-	9.00-11.00	≥99.50	-	-	-	-	Fe:1.00-1.80; Zn:1.00 Pb:0.05	105	260	30	-	-	-
			UNS C71500	-	-	1.00	-	-	-	29.00-33.00	≥99.50	-	-	-	-	Fe:0.40-1.00; Zn:1.00 Pb:0.05	125	360	30	-	-	-

EN STANDARD 欧盟标准

Type 类型	Standard 标准	Material Grade 钢级		Chemical Composition %, max 化学成份																Mechanical Properties 力学性能					
		Steel Name 名称	Steel No. 编号	C	Si	Mn	P	S	Cr	Ni	Cu	Mo	V	Ti	Nb	Al tot	N	CE	Others	Y.S Re	T.S Rm	E.L A	HB	AKV	
																				Min Mpa	Min Mpa	Min %	–	℃	J
Forged Fittings & Flanges 锻制管件和法兰	EN10253-2	P235GH	1.0345	0.16	0.35	1.20	0.025	0.020	0.30	0.30	0.30	0.08	0.02	0.04	0.01	≥0.02	-	-	-	235	360-500	25/23	-	0	40/27
	EN10253-2	P265GH	1.0425	0.20	0.40	1.40	0.025	0.020	0.30	0.30	0.30	0.08	0.02	0.04	0.01	≥0.02	-	-	-	265	410-570	23/21	-	0	40/27
	EN10253-2	16Mo3	1.5415	0.12-0.20	0.35	0.40-0.90	0.025	0.020	0.30	0.30	0.30	0.25-0.35	-	-	-	0.04	-	-	-	280	450-600	22/20	-	20	40/27
	EN10253-2	10CrMo5-5	1.7338	0.15	0.50-1.00	0.30-0.60	0.025	0.020	1.00-1.50	0.30	0.30	0.45-0.65	-	-	-	0.04	-	-	-	275	410-560	22/20	-	20	40/27
	EN10253-2	13CrMo4-5	1.7335	0.10-0.17	0.35	0.40-0.70	0.025	0.020	0.70-1.15	0.30	0.30	0.40-0.60	-	-	-	0.04	-	-	-	290	440-590	22/20	-	20	40/27
	EN10253-2	10CrMo9-10	1.7380	0.08-0.14	0.50	0.30-0.70	0.025	0.020	2.00-2.50	0.30	0.30	0.90-1.10	-	-	-	0.04	-	-	-	280	480-630	22/20	-	20	40/27
	EN10253-2	P355N	1.0562	0.20	0.50	0.90-1.70	0.025	0.020	0.30	0.50	0.30	0.08	0.10	0.04	0.05	≥0.02	0.02	-	Nb+Ti+V≤0.12	355	490-650	22/20	-	-20	40/27
	EN10253-2	P355NH	1.0565	0.20	0.50	0.90-1.70	0.025	0.020	0.30	0.50	0.30	0.08	0.10	0.04	0.05	≥0.02	0.02	-	Nb+Ti+V≤0.12	355	490-650	22/20	-	-20	40/27
	EN10253-2	P355NL1	1.0566	0.18	0.50	0.90-1.70	0.025	0.020	0.30	0.50	0.30	0.08	0.10	0.04	0.05	≥0.02	0.02	-	Nb+Ti+V≤0.12	355	490-650	22/20	-	-40	40/27
	EN10253-2	L290NB	1.0484	0.17	0.40	1.20	0.025	0.020	0.30	0.30	0.25	0.10	0.05	0.04	0.05	0.015-0.06	0.012	0.42	-	290-440	415	23/21	-	0	60/40
	EN10253-2	L360NB	1.0582	0.20	0.45	1.60	0.025	0.020	0.30	0.30	0.25	0.10	0.15	0.04	0.05	0.015-0.06	0.012	0.45	Nb+Ti+V≤0.15	360-510	460	22/20	-	0	60/40
	EN10253-2	L360QB	1.8948	0.16	0.45	1.40	0.025	0.020	0.30	0.30	0.25	0.10	0.05	0.04	0.05	0.015-0.06	0.012	0.42	-	360-510	460	22/20	-	0	60/40
	EN10253-2	L415NB	1.8972	0.21	0.45	1.60	0.025	0.020	0.30	0.30	0.25	0.10	0.15	0.04	0.05	0.015-0.06	0.012	-	Nb+Ti+V≤0.15	415-565	520	20/18	-	0	60/40
	EN10253-2	L415QB	1.8947	0.16	0.45	1.60	0.025	0.020	0.30	0.30	0.25	0.10	0.08	0.04	0.05	0.015-0.06	0.012	0.43	Nb+Ti+V≤0.15	415-565	520	20/18	-	0	60/40
	EN10253-2	L450QB	1.8952	0.16	0.45	1.60	0.025	0.020	0.30	0.30	0.25	0.10	0.09	0.06	0.05	0.015-0.06	0.012	0.45	Nb+Ti+V≤0.15	450-570	535	20/18	-	0	60/40
	EN10253-4	X5CrNi18-10	1.4301	0.07	1.00	2.00	0.045	0.015	17.00-19.50	8.00-10.50	-	-	-	-	-	-	0.11	-	-	195	500-700	40/35	200	20	100/60
	EN10253-4	X2CrNi18-9	1.4307	0.03	1.00	2.00	0.045	0.015	17.50-19.50	8.00-10.00	-	-	-	-	-	-	0.11	-	-	180	470-670	40/35	200	20	100/60
	EN10253-4	X5CrNiMo17-12-2	1.4401	0.07	1.00	2.00	0.045	0.015	16.50-18.50	10.00-13.00	-	-	-	-	-	-	0.11	-	-	205	510-710	40/35	200	20	100/60
	EN10253-4	X2CrNiMo17-12-2	1.4404	0.03	1.00	2.00	0.045	0.015	16.50-18.50	10.00-13.00	-	2.00-2.50	-	-	-	-	0.11	-	-	190	490-690	40/30	200	20	100/60
	EN10253-4	X6CrNiTi18-10	1.4541	0.08	1.00	2.00	0.045	0.015	17.00-19.00	9.00-12.00	-	-	-	5C-0.70	-	-	-	-	-	200	500-730	35/30	210	20	100/60
	EN10253-4	X6CrNiMoTi17-12-2	1.4571	0.08	1.00	2.00	0.045	0.015	16.50-18.50	10.50-13.50	-	2.00-2.50	-	5C-0.70	-	-	-	-	-	210	500-730	35/30	210	20	100/60
	EN10253-4	X2CrNiMoN22-5-3	1.4462	0.03	1.00	2.00	0.035	0.015	21.00-23.00	4.50-6.50	-	2.50-3.50	-	-	-	-	0.10-0.22	-	-	450	700-920	25/20	290	20	120/90
	EN10253-4	X2CrNiMoN25-7-4	1.4410	0.03	1.00	2.00	0.035	0.015	24.00-26.00	6.00-8.00	-	3.00-4.50	-	-	-	-	0.20-0.35	-	-	550	800-1000	20/20	310	20	100/100
	EN10253-4	X1NiCrMoCu25-20-5	1.4539	0.02	0.70	2.00	0.030	0.010	19.00-21.00	24.00-26.00	1.20-2.00	4.00-5.00	-	-	-	-	0.15	-	-	220	520-720	35/30	220	20	120/90

The General Raw Materials 常用原材料

ASTM/ISO STANDARD 美国/国际标准

Type 类型	Standard 标准	Material Grade 钢级	Chemical Composition %, max 化学成份													Mechanical Properties 力学性能					
			C	Si	Mn	P	S	Cr	Ni	Cu	Mo	V	Ti	Nb	Others	Y.S Re	T.S Rm	E.L A	HB	AKV	
																Min Mpa	Min Mpa	Min %	-	℃	J
PIPES 管材	ASTM A106/A106M	B	0.30	≥0.10	0.29-1.06	0.035	0.035	0.40	0.40	0.40	0.15	0.08	-	-	-	240	415	30/22	-	-	-
		C	0.35	≥0.10	0.29-1.06	0.035	0.035	0.40	0.40	0.40	0.15	0.08	-	-	-	275	485	30/22	-	-	-
	ASTM A333/A333M	Gr.6	0.30	≥0.10	0.29-1.06	0.025	0.025	0.30	0.40	0.40	0.12	0.08	-	0.02	-	240	415	30/22	-	-45	17.6
	ASTM A335/A335M	P1	0.10-0.20	0.10-0.50	0.30-0.80	0.025	0.025	-	-	-	0.44-0.65	-	-	-	-	205	380	30/22	-	-	-
		P11	0.05-0.15	0.50-1.00	0.30-0.60	0.025	0.025	1.00-1.50	-	-	0.44-0.65	-	-	-	-	205	415	30/22	-	-	-
		P12	0.05-0.15	0.50	0.30-0.61	0.025	0.025	0.80-1.25	-	-	0.44-0.65	-	-	-	-	220	415	30/22	-	-	-
		P22	0.05-0.15	0.50	0.30-0.60	0.025	0.025	1.90-2.60	-	-	0.87-1.13	-	-	-	-	205	415	30/22	-	-	-
		P5	0.15	0.50	0.30-0.60	0.025	0.025	4.00-6.00	-	-	0.45-0.65	-	-	-	-	205	415	30/22	-	-	-
		P9	0.15	0.25-1.00	0.30-0.60	0.025	0.025	8.00-10.00	-	-	0.90-1.10	-	-	-	-	205	415	30/22	-	-	-
		P91	0.08-0.12	0.20-0.50	0.30-0.60	0.020	0.010	8.00-9.50	0.40	-	0.85-1.05	0.18-0.25	0.01	0.06-0.10	N:0.10; Al:0.02; Zr:0.01	415	585	20	-	-	-
	ASTM A312/A312M	TP304	0.08	1.00	2.00	0.045	0.030	18.00-20.00	8.00-11.00	-	-	-	-	-	-	205	515	35	-	-	-
		TP304L	0.035	1.00	2.00	0.045	0.030	18.00-20.00	8.00-13.00	-	-	-	-	-	-	170	485	35	-	-	-
		TP304H	0.04-0.10	1.00	2.00	0.045	0.030	18.00-20.00	8.00-11.00	-	-	-	-	-	-	205	515	35	-	-	-
		TP316	0.08	1.00	2.00	0.045	0.030	16.00-18.00	10.00-14.00	-	2.00-3.00	-	-	-	-	205	515	35	-	-	-
		TP316L	0.035	1.00	2.00	0.045	0.030	16.00-18.00	10.00-14.00	-	2.00-3.00	-	-	-	-	170	485	35	-	-	-
		TP316H	0.04-0.10	1.00	2.00	0.045	0.030	16.00-18.00	11.00-14.00	-	2.00-3.00	-	-	-	-	205	515	35	-	-	-
		TP316Ti	0.08	0.75	2.00	0.045	0.030	16.00-18.00	10.00-14.00	-	2.00-3.00	-	5x(C+N)-0.70	-	N:0.10	205	515	35	-	-	-
		TP321	0.08	1.00	2.00	0.045	0.030	17.00-19.00	9.00-12.00	-	-	-	5x(C+N)-0.70	-	N:0.10	205	515	35	-	-	-
		TP321H	0.04-0.10	1.00	2.00	0.045	0.030	17.00-19.00	9.00-12.00	-	-	-	4x(C+N)-0.70	-	N:0.10	205	515	35	-	-	-
		TP347	0.08	1.00	2.00	0.045	0.030	17.00-19.00	9.00-13.00	-	-	-	-	10xC-1.00	-	205	515	35	-	-	-
		TP347H	0.04-0.10	1.00	2.00	0.045	0.030	17.00-19.00	9.00-13.00	-	-	-	-	8xC-1.00	-	205	515	35	-	-	-
		TP904L	0.02	1.00	2.00	0.040	0.030	19.00-23.00	23.00-28.00	1.00-2.00	4.00-5.00	-	-	-	N:0.10	295	600	40	-	-	-
	ASTM A790/A790M	S31803	0.03	1.00	2.00	0.030	0.020	21.00-23.00	4.50-6.50	-	2.50-3.50	-	-	-	N:0.08-0.20	450	620	25	290	-	-
		S32750	0.03	0.80	1.20	0.035	0.020	24.00-26.00	6.00-8.00	0.50	3.00-5.00	-	-	-	N:0.24-0.32	550	800	15	300	-	-
	API 5L/ISO 3183 PSL1	L245/B	0.28	-	1.20	0.030	0.030	0.50	0.50	0.50	0.15	-	-	-	Nb+V≤0.06;Nb+V+Ti≤0.15;B≤0.001	245	415	-	-	-	-
		L290/X42	0.28	-	1.30	0.030	0.030	0.50	0.50	0.50	0.15	-	-	-	Nb+V+Ti≤0.15;B≤0.001	290	415	-	-	-	-
		L320/X46	0.28	-	1.40	0.030	0.030	0.50	0.50	0.50	0.15	-	-	-	Nb+V+Ti≤0.15;B≤0.001	320	435	-	-	-	-
		L360/X52	0.28	-	1.40	0.030	0.030	0.50	0.50	0.50	0.15	-	-	-	Nb+V+Ti≤0.15;B≤0.001	360	460	-	-	-	-
		L390/X56	0.28	-	1.40	0.030	0.030	0.50	0.50	0.50	0.15	-	-	-	Nb+V+Ti≤0.15;B≤0.001	390	490	-	-	-	-
		L415/X60	0.28	-	1.40	0.030	0.030	0.50	0.50	0.50	0.15	-	-	-	Nb+V+Ti≤0.15;B≤0.001	415	520	-	-	-	-
		L450/X65	0.28	-	1.40	0.030	0.030	0.50	0.50	0.50	0.15	-	-	-	Nb+V+Ti≤0.15;B≤0.001	450	535	-	-	-	-
		L485/X70	0.28	-	1.40	0.030	0.030	0.50	0.50	0.50	0.15	-	-	-	Nb+V+Ti≤0.15;B≤0.001	485	570	-	-	-	-
	API 5L/ISO 3183 PSL2	L290Q/X42Q	0.18	0.45	1.40	0.025	0.015	0.30	0.30	0.50	0.15	0.05	0.04	0.05	B≤0.001	290-495	415-655	-	-	-	-
		L320Q/X46Q	0.18	0.45	1.40	0.025	0.015	0.30	0.30	0.50	0.15	0.05	0.04	0.05	B≤0.001	320-525	435-655	-	-	-	-
		L360Q/X52Q	0.18	0.45	1.50	0.025	0.015	0.30	0.30	0.50	0.15	0.05	0.04	0.05	B≤0.001	360-530	460-760	-	-	-	-
		L390Q/X56Q	0.18	0.45	1.50	0.025	0.015	0.30	0.30	0.50	0.15	0.07	0.04	0.05	Nb+V+Ti≤0.15;B≤0.001	390-545	490-760	-	-	-	-
		L415Q/X60Q	0.18	0.45	1.70	0.025	0.015	0.50	0.50	0.50	0.50	-	-	-	Nb+V+Ti≤0.15;B≤0.001	415-565	520-760	-	-	-	-
		L450Q/X65Q	0.18	0.45	1.70	0.025	0.015	0.50	0.50	0.50	0.50	-	-	-	Nb+V+Ti≤0.15;B≤0.001	450-600	535-760	-	-	-	-
		L485Q/X70Q	0.18	0.45	1.80	0.025	0.015	0.50	0.50	0.50	0.50	-	-	-	Nb+V+Ti≤0.15;B≤0.001	485-635	570-760	-	-	-	-
		L555Q/X80Q	0.18	0.45	1.90	0.025	0.015	0.50	1.00	0.50	0.50	-	-	-	Nb+V+Ti≤0.15;B≤0.004	555-705	625-825	-	-	-	-
	ASTM B165	UNS N04400	0.30	0.50	2.00	-	0.024	-	≥63.00	28.00-34.00	-	-	-	-	Fe:2.50	170	480	35	-	-	-
	ASTM B165	UNS N06600	0.15	0.50	1.00	-	0.015	14.00-17.00	≥72.00	0.50	-	-	-	-	Fe:6.00-10.00	170	515	35	-	-	-
	ASTM B444	UNS N06625	0.10	0.50	0.50	0.015	0.015	20.00-23.00	≥58.00	-	8.00-10.00	-	0.40	3.15-4.15	Fe:5.00; Al:0.40	276	690	30	-	-	-
	ASTM B407	UNS N08800	0.10	1.00	1.50	-	0.015	19.00-23.00	30.00-35.00	0.75	-	-	0.15-0.60	-	Fe≥39.50; Al:0.15-0.60	170	450	30	-	-	-
	ASTM B407	UNS N08810	0.05-0.10	1.00	1.50	-	0.015	19.00-23.00	30.00-35.00	0.75	-	-	0.15-0.60	-	Fe≥39.50; Al:0.15-0.60	170	450	30	-	-	-
	ASTM B423	UNS N08825	0.05	0.50	1.00	-	0.030	19.50-23.50	38.00-46.00	1.50-3.00	2.50-3.50	-	0.60-1.20	-	Fe≥22.00; Al:0.20	240	586	30	-	-	-
	ASTM B466	UNS C70600	-	-	1.00	-	-	-	9.00-11.00	≥99.50	-	-	-	-	Fe:1.00-1.80; Zn:1.00Pb:0.05	90	260	-	421	-	-
		UNS C71500	-	-	1.00	-	-	-	29.00-33.00	≥99.50	-	-	-	-	Fe:0.40-1.00; Zn:1.00Pb:0.05	125	360	-	496	-	-

ASTM/ISO STANDARD 美国/国际标准

Type 类型	Standard 标准	Material Grade 钢级	Chemical Composition %, max 化学成份													Mechanical Properties 力学性能					
			C	Si	Mn	P	S	Cr	Ni	Cu	Mo	V	Ti	Nb	Others	Y.S Re	T.S Rm	E.L A	HB	AKV	
																Min Mpa	Min Mpa	Min %	-	℃	J
PLATES 板材	ASTM A285/A285M	Gr.C	0.28	-	0.98	0.025	0.025	-	-	-	-	-	-	-	-	205	380-515	27	-	-	-
	ASTM A516/A516M (12.5mm~50mm)	Gr.60	0.23	0.13-0.45	0.79-1.30	0.025	0.025	-	-	-	-	-	-	-	-	220	415-550	25	-	-	-
		Gr.65	0.26	0.13-0.45	0.79-1.30	0.025	0.025	-	-	-	-	-	-	-	-	240	450-585	23	-	-	-
		Gr.70	0.28	0.13-0.45	0.79-1.30	0.025	0.025	-	-	-	-	-	-	-	-	260	485-620	21	-	-	-
	ASTM A387/A387M	Gr.11 CL1	0.04-0.17	0.44-0.86	0.35-0.73	0.025	0.025	0.94-1.56	-	-	0.40-0.70	-	-	-	-	240	415-585	22	-	-	-
		Gr.12 CL1	0.04-0.17	0.13-0.45	0.35-0.73	0.025	0.025	0.74-1.21	-	-	0.40-0.65	-	-	-	-	230	380-550	22	-	-	-
		Gr.22 CL1	0.04-0.15	0.50	0.25-0.66	0.025	0.025	1.88-2.62	-	-	0.85-1.15	-	-	-	-	205	415-585	18	-	-	-
		Gr.5 CL1	0.15	0.55	0.25-0.66	0.025	0.025	3.90-6.10	-	-	0.40-0.70	-	-	-	-	205	415-585	18	-	-	-
		Gr.9 CL1	0.15	1.05	0.25-0.66	0.025	0.025	7.90-10.10	-	-	0.85-1.15	-	-	-	-	205	415-585	18	-	-	-
		Gr.91 CL2	0.06-0.15	0.18-0.56	0.25-0.66	0.025	0.012	7.90-9.60	-	-	0.80-1.10	-	-	-	-	415	585-760	18	-	-	-
	ASTM A240/A240M	304	0.07	0.75	2.00	0.045	0.030	17.50-19.50	8.00-10.50	-	-	-	-	-	N:0.10	205	515	40	201	-	-
		304L	0.03	0.75	2.00	0.045	0.030	17.50-19.50	8.00-12.50	-	-	-	-	-	N:0.10	170	485	40	201	-	-
		304H	0.04-0.10	0.75	2.00	0.045	0.030	18.00-20.00	8.00-10.50	-	-	-	-	-	-	205	515	40	201	-	-
		316	0.08	0.75	2.00	0.045	0.030	16.00-18.00	10.00-14.00	-	2.00-3.00	-	-	-	N:0.10	205	515	40	217	-	-
		316L	0.03	0.75	2.00	0.045	0.030	16.00-18.00	10.00-14.00	-	2.00-3.00	-	-	-	N:0.10	170	485	40	217	-	-
		316H	0.04-0.10	0.75	2.00	0.045	0.030	16.00-18.00	10.00-14.00	-	2.00-3.00	-	-	-	-	205	515	40	217	-	-
		316Ti	0.08	0.75	2.00	0.045	0.030	16.00-18.00	10.00-14.00	-	2.00-3.00	-	5x(C+N)-0.70	-	N:0.10	205	515	40	217	-	-
		321	0.08	0.75	2.00	0.045	0.030	17.00-19.00	9.00-12.00	-	-	-	5x(C+N)-0.70	-	-	205	515	40	217	-	-
		321H	0.04-0.10	0.75	2.00	0.045	0.030	17.00-19.00	9.00-12.00	-	-	-	-	-	-	205	515	40	217	-	-
		347	0.08	0.75	2.00	0.045	0.030	17.00-19.00	9.00-13.00	-	-	-	4x(C+N)-0.70	10xC-1.00	-	205	515	40	201	-	-
		347H	0.04-0.10	0.75	2.00	0.045	0.030	17.00-19.00	9.00-13.00	-	-	-	-	8xC-1.00	-	205	515	40	201	-	-
		904L	0.02	1.00	2.00	0.045	0.035	19.00-23.00	23.00-28.00	1.00-2.00	-	-	-	-	N:0.10	220	490	35	-	-	-
		2205	0.03	1.00	2.00	0.030	0.020	21.00-23.00	4.50-6.50	-	4.00-5.00	-	-	-	N:0.08-0.20	450	620	25	293	-	-
		2507	0.03	1.00	1.20	0.035	0.020	24.00-26.00	-	0.50	2.50-3.50	-	-	-	N:0.24-0.32	550	795	15	310	-	-
	ASTM A515/A515M (≤25mm)	60	0.24	0.13-0.45	0.98	0.025	0.025	-	-	-	-	-	-	-	-	220	415-550	25	-	-	-
		65	0.28	0.13-0.45	0.98	0.025	0.025	-	-	-	-	-	-	-	-	240	450-585	23	-	-	-
		70	0.31	0.13-0.45	1.30	0.025	0.025	-	-	-	-	-	-	-	-	260	485-620	21	-	-	-
	ASTM B127	UNS N04400	0.30	0.50	2.00	-	0.024	-	≥63.00	28.00-34.00	-	-	-	-	Fe:2.50	195	485	35	-	-	-
	ASTM B168	UNS N06600	0.15	0.50	1.00	-	0.015	14.00-17.00	≥72.00	0.50	-	-	-	-	Fe:6.00-10.00	240	550	30	-	-	-
	ASTM B443	UNS N06625	0.10	0.50	0.50	0.015	0.015	20.00-23.00	≥58.00	-	8.00-10.00	-	0.40	3.15-4.15	Fe:5.00; Al:0.40; Co:0.10	379	758	30	-	-	-
	ASTM B409	UNS N08800	0.10	1.00	1.50	-	0.015	19.00-23.00	30.00-35.00	0.75	-	-	0.15-0.60	-	Fe≥39.50; Al:0.15-0.60	205	520	30	-	-	-
	ASTM B409	UNS N08810	0.05-0.10	1.00	1.50	-	0.015	19.00-23.00	30.00-35.00	0.75	-	-	0.15-0.60	-	Fe≥39.50; Al:0.15-0.60	170	450	30	-	-	-
	ASTM B424	UNS N08825	0.05	0.50	1.00	-	0.030	19.50-23.50	38.00-46.00	1.50-3.00	2.50-3.50	-	0.60-1.20	-	Fe≥22.00; Al:0.20	240	586	30	-	-	-
	ASTM B171/B171M	UNS C70600	-	-	1.00	-	-	-	9.00-11.00	≥99.50	-	-	-	-	Fe:1.00-1.80; Zn:1.00Pb:0.05	105	275	30	-	-	-
		UNS C71500	-	-	1.00	-	-	-	29.00-33.00	≥99.50	-	-	-	-	Fe:0.40-1.00; Zn:1.00Pb:0.05	140	345	30	-	-	-
BARS 棒材	ASTM A696/A696M	UNS C71500	0.32	0.15-0.35	1.04	0.035	0.045	-	-	-	-	-	-	-	-	275	485	18	-	-	-
	ASTM A739/A739M	Gr.B11	0.05-0.20	0.50-0.80	0.40-0.65	0.035	0.040	1.00-1.50	-	-	0.45-0.65	-	-	-	-	310	483-655	18	-	-	-
		Gr.B22	0.05-0.15	≤0.50	0.30-0.60	0.035	0.040	2.00-2.50	-	-	0.90-1.10	-	-	-	-	310	517-655	18	-	-	-
	ASTM A479/A479M	304	0.08	1.00	2.00	0.045	0.030	18.00-20.00	8.00-10.50	-	-	-	-	-	-	205	515	30	-	-	-
		304L	0.03	1.00	2.00	0.045	0.030	18.00-20.00	8.00-12.00	-	-	-	-	-	-	170	485	30	-	-	-
		304H	0.04-0.10	1.00	2.00	0.045	0.030	18.00-20.00	8.00-10.50	-	-	-	-	-	-	205	515	30	-	-	-
		316	0.08	1.00	2.00	0.045	0.030	16.00-18.00	10.00-14.00	-	2.00-3.00	-	-	-	-	205	515	30	-	-	-
		316L	0.03	1.00	2.00	0.045	0.030	16.00-18.00	10.00-14.00	-	2.00-3.00	-	-	-	-	170	485	30	-	-	-
		316H	0.04-0.10	1.00	2.00	0.045	0.030	16.00-18.00	10.00-14.00	-	2.00-3.00	-	-	-	-	205	515	30	-	-	-
		316Ti	0.08	1.00	2.00	0.045	0.030	16.00-18.00	10.00-14.00	-	2.00-3.00	-	5x(C+N)-0.70	-	N:0.10	205	515	30	-	-	-
		321	0.08	1.00	2.00	0.045	0.030	17.00-19.00	9.00-12.00	-	-	-	5x(C+N)-0.70	-	-	205	515	30	-	-	-
		321H	0.04-0.10	1.00	2.00	0.045	0.030	17.00-19.00	9.00-12.00	-	-	-	4x(C+N)-0.70	-	-	205	515	30	-	-	-
		347	0.08	1.00	2.00	0.045	0.030	17.00-19.00	9.00-12.00	-	-	-	-	10xC-1.10	-	205	515	30	-	-	-
		347H	0.04-0.10	1.00	2.00	0.045	0.030	17.00-19.00	9.00-12.00	-	-	-	-	8xC-1.10	-	205	515	30	-	-	-
		904L	0.02	1.00	2.00	0.045	0.035	19.00-23.00	23.00-28.00	1.00-2.00	4.00-5.00	-	-	-	N:0.10	220	490	35	-	-	-
		S31803	0.03	1.00	2.00	0.030	0.020	21.00-23.00	4.50-6.50	-	2.50-3.50	-	-	-	N:0.08-0.20	450	620	25	290	-	-
		S32750	0.03	0.80	1.20	0.035	0.020	24.00-26.00	6.00-8.00	0.50	3.00-5.00	-	-	-	N:0.24-0.32	550	800	15	310	-	-
	ASTM B164	UNS N04400	0.30	0.50	2.00	-	0.024	-	≥63.00	28.00-34.00	-	-	-	-	Fe:2.50	195	485	35	-	-	-
	ASTM B166	UNS N06600	0.15	0.50	1.00	-	0.015	14.00-17.00	≥72.00	0.50	-	-	-	-	Fe:6.00-10.00	240	550	30	-	-	-
	ASTM B446	UNS N06625	0.10	0.50	0.50	0.015	0.015	20.00-23.00	≥58.00	-	8.00-10.00	-	0.40	3.15-4.15	Fe:5.00; Al:0.40; Co:0.10	60	120	30	-	-	-
	ASTM B408	UNS N08800	0.10	1.00	1.50	-	0.015	19.00-23.00	30.00-35.00	0.75	-	-	0.15-0.60	-	Fe≥39.50; Al:0.15-0.60	240	550	25	-	-	-
		UNS N08810	0.05-0.10	1.00	1.50	-	0.015	19.00-23.00	30.00-35.00	0.75	-	-	0.15-0.60	-	Fe≥39.50; Al:0.15-0.60	170	450	30	-	-	-
	ASTM B424	UNS N08825	0.05	0.50	1.00	-	0.030	19.50-23.50	38.00-46.00	1.50-3.00	2.50-3.50	-	0.60-1.20	-	Fe≥22.00; Al:0.20	241	586	30	-	-	-
	ASTM B151/B151M	UNS C70600	-	-	1.00	-	-	-	9.00-11.00	≥99.50	-	-	-	-	Fe:1.00-1.80; Zn:1.00Pb:0.05	103	262	30	-	-	-
		UNS C71500	-	-	1.00	-	-	-	29.00-33.00	≥99.50	-	-	-	-	Fe:0.40-1.00; Zn:1.00Pb:0.05	103	310	30	-	-	-

EN STANDARD 欧盟标准

Type 类型	Standard 标准	Material Grade 钢级		Chemical Composition %, max 化学成份															Mechanical Properties 力学性能					
		Steel Name 名称	Steel No. 编号	C	Si	Mn	P	S	Cr	Ni	Cu	Mo	V	Ti	Nb	Al tot	N	Others	Y.S Re	T.S Rm	E.L A	HB	AKV	
																			Min Mpa	Min Mpa	Min %	-	℃	J
PIPES 管材	EN10216-2	P235GH	1.0345	0.16	0.35	1.20	0.025	0.020	0.30	0.30	0.30	0.08	0.02	0.04	0.01	≥0.02	-	Cr+Cu+Mo+Ni≤0.70	235	360-500	25/23	-	0	40/27
		P265GH	1.0425	0.20	0.40	1.40	0.025	0.020	0.30	0.30	0.30	0.08	0.02	0.04	0.01	≥0.02	-	Cr+Cu+Mo+Ni≤0.70	265	410-570	23/21	-	0	40/27
		16Mo3	1.5415	0.12-0.20	0.35	0.40-0.90	0.025	0.020	0.30	0.30	0.30	0.25-0.35	-	-	-	0.04	-	-	280	450-600	22/20	-	20	40/27
		10CrMo5-5	1.7338	0.15	0.50-1.00	0.30-0.60	0.025	0.020	1.00-1.50	0.30	0.30	0.45-0.65	-	-	-	0.04	-	-	275	410-560	22/20	-	20	40/27
		13CrMo4-5	1.7335	0.10-0.17	0.35	0.40-0.70	0.025	0.020	0.70-1.15	0.30	0.30	0.40-0.60	-	-	-	0.04	-	-	290	440-590	22/20	-	20	40/27
		10CrMo9-10	1.7380	0.08-0.14	0.50	0.30-0.70	0.025	0.020	2.00-2.50	0.30	0.30	0.90-1.10	-	-	-	0.04	-	-	280	480-630	22/20	-	20	40/27
	EN10216-3	P355N	1.0562	0.20	0.50	0.90-1.70	0.025	0.020	0.30	0.50	0.30	0.08	0.10	0.04	0.05	≥0.02	0.02	Nb+Ti+V≤0.12	355	490-650	22/20	-	-20	40/27
		P355NH	1.0565	0.20	0.50	0.90-1.70	0.025	0.020	0.30	0.50	0.30	0.08	0.10	0.04	0.05	≥0.02	0.02	Nb+Ti+V≤0.12	355	490-650	22/20	-	-20	40/27
		P355NL1	1.0566	0.18	0.50	0.90-1.70	0.025	0.020	0.30	0.50	0.30	0.08	0.10	0.04	0.05	≥0.02	0.02	Nb+Ti+V≤0.12	355	490-650	22/20	-	-20	40/27
		P355NL2	1.1106	0.18	0.50	0.90-1.70	0.025	0.015	0.30	0.50	0.30	0.08	0.10	0.04	0.05	≥0.02	0.02	Nb+Ti+V≤0.12	355	490-650	22/20	-	-20	40/27
		P460NH	1.8935	0.20	0.60	1.00-1.70	0.025	0.020	0.30	0.80	0.70	0.10	0.20	0.04	0.05	≥0.02	0.02	Nb+Ti+V≤0.22	460	560-730	19/17	-	-20	40/27
	EN10216-5	X5CrNi18-10	1.4301	0.07	1.00	2.00	0.045	0.015	17.00-19.50	8.00-10.50	-	-	-	-	-	-	0.11	-	195	500-700	40/35	200	20	100/60
		X2CrNi18-9	1.4307	0.03	1.00	2.00	0.045	0.015	17.50-19.50	8.00-10.00	-	-	-	-	-	-	0.11	-	180	470-670	40/35	200	20	100/60
		X5CrNiMo17-12-2	1.4401	0.07	1.00	2.00	0.040	0.015	16.50-18.50	10.00-13.00	-	-	-	-	-	-	0.11	-	205	510-710	40/35	200	20	100/60
		X2CrNiMo17-12-2	1.4404	0.03	1.00	2.00	0.040	0.015	16.50-18.50	10.00-13.00	-	2.00-2.50	-	-	-	-	0.11	-	190	490-690	40/30	200	20	100/60
		X6CrNiTi18-10	1.4541	0.08	1.00	2.00	0.040	0.015	17.00-19.00	9.00-12.00	-	-	-	5C-0.70	-	-	-	-	200	500-730	35/30	210	20	100/60
		X6CrNiMoTi17-12-2	1.4571	0.08	1.00	2.00	0.040	0.015	16.50-18.50	10.50-13.50	-	2.00-2.50	-	5C-0.70	-	-	-	-	210	500-730	35/30	210	20	100/60
		X2CrNiMoN22-5-3	1.4462	0.03	1.00	2.00	0.035	0.015	21.00-23.00	4.50-6.50	-	2.50-3.50	-	-	-	-	0.10-0.22	-	450	700-920	25/20	290	20	120/90
		X2CrNiMoN25-7-4	1.4410	0.03	1.00	2.00	0.035	0.015	24.00-26.00	6.00-8.00	-	3.00-4.50	-	-	-	-	0.20-0.35	-	550	800-1000	20/20	310	20	100/100
		X1NiCrMoCu25-20-5	1.4539	0.02	0.70	2.00	0.030	0.010	19.00-21.00	24.00-26.00	1.20-2.00	4.00-5.00	-	-	-	-	0.15	-	220	520-720	35/30	220	20	120/90
PLATES 板材	EN10028-2	P235GH	1.0345	0.16	0.35	0.60-1.20	0.025	0.010	0.30	0.30	0.30	0.08	0.02	0.03	0.01	≥0.02	-	Cr+Cu+Mo+Ni≤0.70	235	360-480	24	-	-20	27
		P265GH	1.0425	0.20	0.40	0.80-1.40	0.025	0.010	0.30	0.30	0.30	0.08	0.02	0.03	0.01	≥0.02	-	Cr+Cu+Mo+Ni≤0.70	265	410-530	22	-	-20	27
		16Mo3	1.5415	0.12-0.20	0.35	0.40-0.90	0.025	0.010	0.30	0.30	0.30	0.25-0.35	-	-	-	-	-	-	275	440-590	22	-	20	31
		13CrMo4-5	1.7335	0.08-0.18	0.35	0.40-1.00	0.025	0.010	0.70-1.15	-	0.30	0.40-0.60	-	-	-	-	-	-	300	450-600	19	-	20	31
		10CrMo9-10	1.738	0.08-0.14	0.50	0.40-0.80	0.020	0.010	2.00-2.50	-	0.30	0.90-1.10	-	-	-	-	-	-	310	480-630	18	-	20	31
	EN10028-3	P355N	1.0562	0.18	0.50	1.10-1.70	0.025	0.010	0.30	0.50	0.30	0.08	0.10	0.03	0.05	≥0.02	0.012	Nb+Ti+V≤0.12	355	490-630	22	-	-20	45/30
		P355NH	1.0565	0.18	0.50	1.10-1.70	0.025	0.010	0.30	0.50	0.30	0.08	0.10	0.03	0.05	≥0.02	0.012	Nb+Ti+V≤0.12	355	490-630	22	-	-20	45/30
		P355NL1	1.0566	0.18	0.50	1.10-1.70	0.025	0.008	0.30	0.50	0.30	0.08	0.10	0.03	0.05	≥0.02	0.012	Nb+Ti+V≤0.12	355	490-630	21	-	-40	40/27
		P355NL2	1.1106	0.18	0.50	1.10-1.70	0.020	0.005	0.30	0.50	0.30	0.08	0.10	0.03	0.05	≥0.02	0.012	Nb+Ti+V≤0.12	355	490-630	21	-	-50	42/27
		P460NH	1.8935	0.20	0.60	1.10-1.70	0.025	0.020	0.30	0.80	0.70	0.10	0.20	0.03	0.05	≥0.02	0.02	Nb+Ti+V≤0.22	460	570-730	17	-	-20	45/30
	EN10028-6	P460QL1	1.8872	0.18	0.50	1.70	0.020	0.008	0.50	1.00	0.30	0.50	0.08	0.03	0.05	-	0.015	B:0.005; Zr:0.05	460	550-720	19	-	-40	27
	EN10028-7	X5CrNi18-10	1.4301	0.07	1.00	2.00	0.045	0.015	17.50-19.50	8.00-10.50	-	-	-	-	-	-	0.10	-	210	520-720	45	-	20	100/60
		X2CrNi18-9	1.4307	0.03	1.00	2.00	0.045	0.015	17.50-19.50	8.00-10.50	-	-	-	-	-	-	0.10	-	200	520-700	45	-	20	100/60
		X5CrNiMo17-12-2	1.4401	0.07	1.00	2.00	0.045	0.015	16.50-18.50	10.00-13.00	-	2.00-2.50	-	-	-	-	0.10	-	220	530-680	40	-	20	100/60
		X2CrNiMo17-12-2	1.4404	0.03	1.00	2.00	0.045	0.015	16.50-18.50	10.00-13.00	-	2.00-2.50	-	-	-	-	0.10	-	220	530-680	40	-	20	100/60
		X6CrNiTi18-10	1.4541	0.08	1.00	2.00	0.045	0.015	17.00-19.00	9.00-12.00	-	-	-	5C-0.70	-	-	-	-	200	520-720	40	-	20	100/60
		X6CrNiMoTi17-12-2	1.4571	0.08	1.00	2.00	0.045	0.015	16.50-18.50	10.50-13.50	-	2.00-2.50	-	5C-0.70	-	-	-	-	220	540-690	40	-	20	100/60
		X2CrNiMoN22-5-3	1.4462	0.03	1.00	2.00	0.035	0.015	21.00-23.00	4.50-6.50	-	2.50-3.50	-	-	-	-	0.10-0.22	-	445	700-950	25	-	20	100/40
		X2CrNiMoN25-7-4	1.4410	0.03	1.00	2.00	0.035	0.015	24.00-26.00	6.00-8.00	-	3.00-4.50	-	-	-	-	0.24-0.35	-	515	750-1000	20	-	20	90/40
		X1NiCrMoCu25-20-5	1.4539	0.02	0.70	2.00	0.030	0.010	19.00-21.00	24.00-26.00	1.20-2.00	4.00-5.00	-	-	-	-	0.15	-	220	530-730	35	-	20	100/60

NATIONAL STANDARD 国家标准

Type 类型	Standard 标准	Material Grade 钢级		Chemical Composition %, max 化学成份													Mechanical Properties 力学性能					
				C	Si	Mn	P	S	Cr	Ni	Cu	Mo	V	Ti	Nb	Others	Y.S Re	T.S Rm	E.L A	HB	AKV	
																	Min Mpa	Min Mpa	Min %	-	℃	J
PIPES 管材	GB/T 8163	20		0.17-0.23	0.17-0.37	0.35-0.65	0.030	0.030	0.25	0.30	0.20	-	-	-	-	-	245	415-530	20	-	-	-
	GB/T 9948	20		0.17-0.23	0.17-0.37	0.35-0.65	0.025	0.015	0.25	0.25	0.20	0.15	-	-	-	-	245	410-550	24/22	-	20	40/27
	GB/T 5310	20G		0.17-0.23	0.17-0.37	0.35-0.65	0.025	0.015	0.25	0.25	0.20	0.15	0.08	-	-	Alt≤0.015	245	410-550	24/22	120-160	20	40/27
	GB/T 8163	Q345B		0.20	0.50	1.70	0.035	0.035	0.30	0.50	0.20	0.10	-	-	-	N:0.12	345	470-630	20	-	20	34
		Q345C		0.20	0.50	1.70	0.030	0.030	0.30	0.50	0.20	0.10	0.15	0.20	0.07	N:0.12; Alt≥0.020	345	470-630	21	-	0	34
		Q345D		0.18	0.50	1.70	0.030	0.025	0.30	0.50	0.20	0.10	0.15	0.20	0.07	N:0.12; Alt≥0.020	345	470-630	21	-	-20	34
		Q345E		0.18	0.50	1.70	0.025	0.020	0.30	0.50	0.20	0.10	0.15	0.20	0.07	N:0.12; Alt≥0.020	345	470-630	21	-	-40	27
	GB/T 9948	12CrMo		0.08-0.15	0.17-0.37	0.40-0.70	0.025	0.015	0.40-0.70	0.30	0.20	0.40-0.55	-	-	-	-	205	410-560	21/19	156	20	40/27
		15CrMo		0.12-0.18	0.17-0.37	0.40-0.70	0.025	0.015	0.80-1.10	0.30	0.20	0.40-0.55	-	-	-	-	295	440-640	21/19	170	20	40/27
		12Cr1Mo		0.08-0.15	0.50-1.00	0.30-0.60	0.025	0.015	1.00-1.50	0.30	0.20	0.45-0.65	-	-	-	-	205	415-560	22/20	163	20	40/27
		12Cr1MoV		0.08-0.15	0.17-0.37	0.40-0.70	0.025	0.010	0.90-1.20	0.30	0.20	0.25-0.35	0.15-0.30	-	-	-	255	470-640	21/19	179	20	40/27
	GB/T 5310	12CrMoG		0.08-0.15	0.17-0.37	0.40-0.70	0.025	0.015	0.40-0.70	0.30	0.20	0.40-0.55	0.08	-	-	-	205	410-560	21/19	125-170	20	40/27
		15CrMoG		0.12-0.18	0.17-0.37	0.40-0.70	0.025	0.015	0.80-1.10	0.30	0.20	0.40-0.55	0.08	-	-	-	295	440-640	21/19	125-170	20	40/27
		12Cr2MoG		0.08-0.15	0.50	0.40-0.60	0.025	0.015	2.00-2.50	0.30	0.20	0.90-1.13	0.08	-	-	-	280	450-600	22/20	125-180	20	40/27
		12Cr1MoVG		0.08-0.15	0.17-0.37	0.40-0.70	0.025	0.010	0.90-1.20	0.30	0.20	0.25-0.35	0.15-0.30	-	-	-	255	470-640	21/19	135-195	20	40/27
	GB/T 14976	S30408	06Cr19Ni10	0.08	1.00	2.00	0.035	0.030	18.00-20.00	8.00-11.00	-	-	-	-	-	-	205	520	35	-	-	-
		S30403	022Cr19Ni10	0.03	1.00	2.00	0.035	0.030	18.00-20.00	8.00-12.00	-	-	-	-	-	-	175	480	35	-	-	-
	GB/T 13296	S30409	07Cr19Ni10	0.03	1.00	2.00	0.035	0.030	18.00-20.00	8.00-11.00	-	-	-	-	-	-	205	520	35	187	-	-
	GB/T 14976	S31608	06Cr17Ni12Mo2	0.08	1.00	2.00	0.035	0.030	16.00-18.00	10.00-14.00	-	2.00-3.00	-	-	-	-	205	520	35	-	-	-
		S31603	022Cr17Ni12Mo2	0.03	1.00	2.00	0.035	0.030	16.00-18.00	10.00-14.00	-	2.00-3.00	-	-	-	-	175	480	35	-	-	-
		S31609	07Cr17Ni12Mo2	0.04-0.10	1.00	2.00	0.035	0.030	16.00-18.00	10.00-14.00	-	2.00-3.00	-	-	-	-	205	515	35	-	-	-
		S31668	06Cr17Ni12Mo2Ti	0.08	1.00	2.00	0.035	0.030	16.00-18.00	10.00-14.00	-	2.00-3.00	-	-	-	-	205	530	35	-	-	-
		S32168	06Cr18Ni11Ti	0.08	1.00	2.00	0.035	0.030	17.00-19.00	9.00-12.00	-	-	-	5C-0.70	-	-	205	520	35	-	-	-
		S32169	07Cr19Ni11Ti	0.04-0.10	0.75	2.00	0.030	0.030	17.00-20.00	9.00-13.00	-	-	-	4C-0.60	-	-	205	520	35	-	-	-
		S34778	06Cr18Ni11Nb	0.08	1.00	2.00	0.035	0.030	17.00-19.00	9.00-12.00	-	-	-	-	10C-1.10	-	205	520	35	-	-	-
		S34779	07Cr18Ni11Nb	0.04-0.10	1.00	2.00	0.035	0.030	17.00-19.00	9.00-12.00	-	-	-	-	8C-1.10	-	205	520	35	-	-	-
	GB/T 13296	S39042	015Cr21Ni26Mo5Cu2	0.02	1.00	2.00	0.030	0.020	19.00-21.00	24.00-26.00	1.20-2.00	4.00-5.00	-	-	-	N:0.10	220	490	35	187	-	-
	GB/T 21833	S22253	022Cr22Ni5Mo3N	0.03	1.00	2.00	0.030	0.020	24.00-26.00	5.50-6.50	-	1.20-2.00	-	-	-	N:0.14-0.20	450	620	25	290	-	-
		S25073	022Cr25Ni7Mo4N	0.03	0.80	1.20	0.035	0.020	24.00-26.00	6.00-8.00	0.50	3.00-5.00	-	-	-	N:0.24-0.32	550	800	15	300	-	-
PLATES 板材	GB/T 3274	Q235B		0.20	0.35	1.40	0.045	0.045	-	-	-	-	-	-	-	-	235	370-500	26	-	20	27
	GB/T 713	Q245R		0.20	0.35	0.50-1.10	0.025	0.010	0.30	0.30	0.30	0.08	0.05	0.03	-	Cu+Ni+Cr+Mo≤0.70;Alt≥0.020	245	400-520	25	-	0	34
	GB/T 713	Q345R		0.20	0.55	1.20-1.70	0.025	0.010	0.30	0.30	0.30	0.08	0.05	0.03	-	Cu+Ni+Cr+Mo≤0.70;Alt≥0.020	345	510-640	21	-	0	41
		15CrMoR		0.08-0.18	0.15-0.40	0.40-0.70	0.025	0.010	0.80-1.20	0.30	0.30	0.45-0.60	-	-	-	-	295	450-590	19	-	20	47
		12Cr2Mo1R		0.08-0.15	0.50	0.30-0.60	0.020	0.010	2.00-2.50	0.30	0.20	0.90-1.10	-	-	-	-	310	520-680	19	-	20	47
		12Cr1MoVR		0.08-0.15	0.15-0.40	0.40-0.70	0.025	0.010	0.90-1.20	0.30	0.30	0.25-0.35	-	-	-	-	245	440-590	19	-	20	47
		12Cr2Mo1VR		0.11-0.15	0.10	0.30-0.60	0.010	0.005	2.00-2.50	0.25	0.20	0.90-1.10	0.25-0.35	0.03	-	B≤0.002; Ca≤0.015	415	590-760	-	-	-20	50
	GB/T 1591	Q355B		0.24	0.55	1.60	0.030	0.030	0.30	0.30	0.40	-	-	-	-	N:0.012	355	470-630	22/20	-	20	34/27
		Q355D		0.20	0.55	1.60	0.025	0.025	0.30	0.30	0.40	-	-	-	-	-	355	470-630	22/20	-	-20	34/27
	GB/T 3531	16MnDR		0.20	0.15-0.50	1.20-1.60	0.020	0.010	-	0.40	-	-	-	-	-	Alt≥0.020	315	490-620	21	-	-40	47

Type 类型	Standard 标准	Material Grade 钢级		Chemical Composition %, max 化学成份													Mechanical Properties 力学性能					
				C	Si	Mn	P	S	Cr	Ni	Cu	Mo	V	Ti	Nb	Others	Y.S Re	T.S Rm	E.L A	HB	AKV	
																	Min Mpa	Min Mpa	Min %	-	℃	J
PLATES 板材	GB/T 4237	S30408	06Cr19Ni10	0.07	0.75	2.00	0.045	0.030	17.50-19.50	8.00-10.50	-	-	-	-	-	N:0.10	205	515	40	201	-	-
		S30403	022Cr19Ni10	0.03	0.75	2.00	0.045	0.030	17.50-19.50	8.00-12.00	-	-	-	-	-	N:0.10	180	485	40	201	-	-
		S30409	07Cr19Ni10	0.04-0.10	0.75	2.00	0.045	0.030	18.00-20.00	8.00-10.50	-	-	-	-	-	-	205	515	40	201	-	-
		S31608	06Cr17Ni12Mo2	0.08	0.75	2.00	0.045	0.030	16.00-18.00	10.00-14.00	-	2.00-3.00	-	-	-	N:0.10	205	515	40	217	-	-
		S31603	022Cr17Ni12Mo2	0.03	0.75	2.00	0.045	0.030	16.00-18.00	10.00-14.00	-	2.00-3.00	-	-	-	N:0.10	180	485	40	217	-	-
		S31609	07Cr17Ni12Mo2	0.04-0.10	0.75	2.00	0.045	0.030	16.00-18.00	10.00-14.00	-	2.00-3.00	-	-	-	-	205	515	40	217	-	-
		S31668	06Cr17Ni12Mo2Ti	0.08	0.75	2.00	0.045	0.030	16.00-18.00	10.00-14.00	-	2.00-3.00	-	≥5C	-	-	205	515	40	217	-	-
		S32168	06Cr18Ni11Ti	0.08	0.75	2.00	0.045	0.030	17.00-19.00	9.00-12.00	-	-	-	≥5C	-	N:0.10	205	515	40	217	-	-
		S32169	07Cr19Ni11Ti	0.04-0.10	0.75	2.00	0.045	0.030	17.00-19.00	9.00-12.00	-	-	-	4x(C+N)-0.70	-	-	205	515	40	217	-	-
		S34778	06Cr18Ni11Nb	0.08	0.75	2.00	0.045	0.030	17.00-19.00	9.00-13.00	-	-	-	-	10xC-1.00	-	205	515	40	201	-	-
		S34779	07Cr18Ni11Nb	0.04-0.10	0.75	2.00	0.045	0.030	17.00-19.00	9.00-13.00	-	-	-	-	8xC-1.00	-	205	515	40	201	-	-
		S31782	015Cr21Ni26Mo5Cu2	0.02	1.00	2.00	0.045	0.035	19.00-23.00	23.00-28.00	1.00-2.00	4.00-5.00	-	-	-	N:0.10	220	490	35	187	-	-
	GB/T 4237	S22253	022Cr22Ni5Mo3N	0.03	1.00	2.00-3.00	0.040	0.020	20.50-23.50	1.00-2.00	0.50	0.10-1.00	-	-	-	N:0.15-0.27	450	655	30	293	-	-
		S25073	022Cr25Ni7Mo4N	0.03	0.80	1.20	0.035	0.020	24.00-26.00	6.00-8.00	0.50	3.00-5.00	-	-	-	N:0.24-0.32	550	795	15	310	-	-
BARS 棒材	GB/T 699	20		0.17-0.23	0.17-0.37	0.35-0.65	0.035	0.035	0.25	0.30	0.25	-	-	-	-	-	245	410	25	156	-	-
	NB/T 47008 (JB/T 4726)	20		0.17-0.23	0.15-0.40	0.60-1.00	0.030	0.020	0.25	0.25	0.25	-	-	-	-	-	235	410-560	24	110-160	0	31
		16Mn		0.13-0.20	0.20-0.60	1.20-1.60	0.030	0.020	0.30	0.30	0.25	-	-	-	-	-	305	480-630	20	128-180	0	34
		35CrMo		0.32-0.38	0.15-0.40	0.40-0.70	0.025	0.015	0.80-1.10	0.30	0.25	0.15-0.25	-	-	-	-	440	620-790	15	-	0	41
	GB/T 3077	35CrMo		0.32-0.40	0.17-0.37	0.40-0.70	0.030	0.030	0.80-1.10	0.30	0.30	0.15-0.25	-	-	-	-	835	980	12	229	-	63
		42CrMo		0.38-0.45	0.17-0.37	0.50-0.80	0.030	0.030	0.90-1.20	0.30	0.30	0.15-0.25	-	-	-	-	930	1080	12	229	-	63
	NB/T 47008 (JB/T 4726)	15CrMo		0.12-0.18	0.10-0.60	0.30-0.80	0.025	0.015	0.80-1.25	0.30	0.25	0.45-0.65	-	-	-	-	280	480-640	20	-	20	47
		12Cr1MoV		0.09-0.15	0.15-0.40	0.40-0.70	0.025	0.015	0.90-1.20	0.30	0.25	0.25-0.35	0.15-0.30	-	-	-	280	470-630	20	-	20	47
		12Cr2Mo1		0.15	0.50	0.30-0.60	0.020	0.012	2.00-2.50	0.30	0.25	0.90-1.10	-	-	-	-	310	510-680	18	-	20	47
		1Cr5Mo		0.15	0.50	0.60	0.025	0.015	4.00-6.00	0.50	0.25	0.45-0.65	-	-	-	-	390	590-760	18	-	20	47
	NB/T47010 (JB/T4728)	S30408	06Cr19Ni10	0.08	1.00	2.00	0.035	0.015	18.00-20.00	8.00-11.00	-	-	-	-	-	-	220	520	35	139-192	-	-
		S30403	022Cr19Ni10	0.03	1.00	2.00	0.035	0.015	18.00-20.00	8.00-12.00	-	-	-	-	-	-	210	480	35	128-187	-	-
		S30409	07Cr19Ni10	0.04-0.10	1.00	2.00	0.035	0.015	18.00-20.00	8.00-11.00	-	-	-	-	-	-	220	520	35	180	-	-
		S31608	06Cr17Ni12Mo2	0.08	1.00	2.00	0.035	0.015	16.00-18.00	10.00-14.00	-	2.00-3.00	-	-	-	-	220	520	35	139-187	-	-
		S31603	022Cr17Ni12Mo2	0.03	1.00	2.00	0.035	0.015	16.00-18.00	10.00-14.00	-	2.00-3.00	-	-	-	-	210	480	35	128-187	-	-
		S31609	07Cr17Ni12Mo2	0.04-0.10	1.00	2.00	0.035	0.015	16.00-18.00	10.00-14.00	-	2.00-3.00	-	-	-	-	220	520	35	139-187	-	-
		S31668	06Cr17Ni12Mo2Ti	0.08	1.00	2.00	0.035	0.015	16.00-18.00	10.00-14.00	-	2.00-3.00	-	5xC-0.70	-	-	210	520	35	139-187	-	-
		S32168	06Cr18Ni11Ti	0.08	1.00	2.00	0.035	0.015	17.00-19.00	9.00-12.00	-	-	-	5xC-0.70	-	-	205	520	35	139-187	-	-
		S32169	07Cr19Ni11Ti	0.04-0.10	0.75	2.00	0.035	0.015	17.00-19.00	9.00-13.00	-	-	-	4xC-0.70	-	-	205	520	40	187	-	-
		S34778	06Cr18Ni11Nb	0.08	0.75	2.00	0.035	0.015	17.00-19.00	9.00-12.00	-	-	-	10xC-1.10	-	-	205	520	40	201	-	-
		S34779	07Cr18Ni11Nb	0.04-0.10	1.00	2.00	0.035	0.015	17.00-19.00	9.00-12.00	-	-	-	8xC-1.10	-	-	205	520	35	187	-	-
		S39042	015Cr21Ni26Mo5Cu2	0.02	1.00	2.00	0.030	0.010	19.00-21.00	24.00-26.00	1.20-2.00	4.00-5.00	-	-	-	N:0.10	220	490	35	-	-	-
	NB/T47010 (JB/T4728)	S22253	022Cr22Ni5Mo3N	0.03	1.00	2.00	0.030	0.015	21.00-23.00	4.50-6.50	-	2.50-3.50	-	-	-	N:0.08-0.20	450	620	25	-	-	-
		S25073	022Cr25Ni7Mo4N	0.03	1.00	2.00	0.030	0.015	24.00-26.00	6.00-8.00	0.50	3.00-3.50	-	-	-	N:0.24-0.32	550	800	25	-	-	-

Notes