



Copperry Copper Nickel Pipe Fittings Co.,Ltd

Coppery Qualifications

中国船级社
CHINA CLASSIFICATION SOCIETY

型式认可证书
CERTIFICATE OF TYPE APPROVAL

证书编号: 2018-090-0001

颁发日期: 2018年7月14日

有效期至: 2021年7月14日

获证单位名称: 上海华捷管业有限公司
Shanghai Huajie Pipe Fitting Co., Ltd.

获证产品名称: 铜管接头
Copper pipe joints

获证标准: GB/T 19001-2008/ISO 9001:2008 标准
获证产品符合 GB/T 19001-2008/ISO 9001:2008 标准的要求

获证范围: 铜管接头 (DN 15-100mm)

发证机关: 中国船级社
发证日期: 2018年7月14日

质量管理体系认证证书

证书编号: 1300179-4

获证单位名称: 上海华捷管业有限公司
Shanghai Huajie Pipe Fitting Co., Ltd.

获证标准: GB/T 19001-2008/ISO 9001:2008 标准

获证范围: 铜管接头及铜合金零件 (DN 15-100mm) 的生产和服务

发证机关: 中国合格评定国家认可委员会
发证日期: 2018年7月14日

获证单位地址: 上海市浦东新区新金桥路7146-7148号

获证单位电话: 021-51234567

获证单位邮编: 201201

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中华人民共和国
特种设备制造许可证
Manufacture License of Special Equipment
People's Republic of China

编号: TS2210M08-2018

单位名称: 上海华捷管业有限公司
制造地址: 上海市浦东新区新金桥路7146-7148号

获证范围: 铜管接头及铜合金零件 (DN 15-100mm) 的生产和服务

发证机关: 国家市场监督管理总局
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CHINA CLASSIFICATION SOCIETY

焊接工艺规程 (WPS)
Welding Procedure Specification

证书编号: SH/T 70600028

颁发日期: 2018年7月14日

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获证范围: 铜管接头 (DN 15-100mm)

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发证日期: 2018年7月14日

ABS

CERTIFICATE OF DESIGN ASSESSMENT

证书编号: 1300179-4

获证单位名称: 上海华捷管业有限公司
Shanghai Huajie Pipe Fitting Co., Ltd.

获证标准: ABS 2015 Edition

获证范围: 铜管接头及铜合金零件 (DN 15-100mm) 的生产和服务

发证机关: ABS
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RECOGNITION FOR BV MODE II SCHEME

证书编号: SH/T 70600028

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Shanghai Huajie Pipe Fitting Co., Ltd.

获证标准: BV 2015 Edition

获证范围: 铜管接头及铜合金零件 (DN 15-100mm) 的生产和服务

发证机关: BV
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DNV-GL

APPROVAL OF MANUFACTURER CERTIFICATE

证书编号: SH/T 70600028

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获证标准: DNV-GL 2015 Edition

获证范围: 铜管接头 (DN 15-100mm)

发证机关: DNV-GL
发证日期: 2018年7月14日

Lloyd's Register

Type Approval Certificate

证书编号: SH/T 70600028

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获证标准: LR 2015 Edition

获证范围: 铜管接头 (DN 15-100mm)

发证机关: Lloyd's Register
发证日期: 2018年7月14日

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FOR CHECK ONLY!

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Why Copper Nickel Alloy?

Copper Nickel alloys (CuNi 90/10 and 70/30) are the preferred choice for seawater piping systems worldwide. Their unique combination of corrosion resistance, biofouling resistance, and mechanical strength makes them ideal for demanding marine and industrial environments.

Key Advantages

- Excellent Seawater Corrosion Resistance**
CuNi alloys form a thin, adherent protective oxide film that provides outstanding resistance to seawater corrosion, even at elevated flow velocities up to 3.5 m/s (90/10) and 4.0 m/s (70/30).
- Natural Anti-Biofouling Properties**
The copper content naturally inhibits the attachment and growth of marine organisms such as barnacles, mussels, and algae, significantly reducing maintenance costs and improving system efficiency.
- High Strength & Ductility**
CuNi alloys offer excellent mechanical properties that are maintained across a wide temperature range from cryogenic to 350 deg.C, with good fatigue resistance in marine environments.
- Superior Weldability**
Both CuNi 90/10 and 70/30 can be readily welded using standard techniques (TIG, MIG) without preheating or post-weld heat treatment, simplifying fabrication and on-site installation.
- Long Service Life & Low Lifecycle Cost**
With proven service life exceeding 30 years in seawater applications, CuNi piping systems deliver significant total cost savings compared to alternative materials despite higher initial cost.

Typical Applications

Industry Sector	Applications
Marine & Shipbuilding	Seawater cooling systems, fire-fighting systems, ballast systems, bilge systems, sanitary systems
Offshore Oil & Gas	Platform seawater lift risers, cooling water systems, fire water deluge systems, subsea pipelines
Desalination Plants	MSF & MED heat exchanger tubes, brine heater tubes, condensers, seawater intake/outfall piping
Power Generation	Condenser tubes, feedwater heaters, cooling water systems in coastal power plants
Chemical & Petrochemical	Heat exchangers, condensers, and piping in corrosive process environments

Mechanical Properties

CuNi 90/10 (C70600 / CW352H / 2.0872)

Property	Min.	Typical	Unit
Tensile Strength	275	300-350	MPa
Yield Strength (0.2%)	105	120-170	MPa
Elongation (A5)	30	35-42	%
Hardness	80	90-110	HB
Density	-	8.90	g/cm ³
Melting Range	-	1100-1145	deg.C
Thermal Conductivity	-	40	W/(m*K)
Modulus of Elasticity	-	135	GPa

CuNi 70/30 (C71500 / CW354H / 2.0882)

Property	Min.	Typical	Unit
Tensile Strength	360	380-450	MPa
Yield Strength (0.2%)	125	140-210	MPa
Elongation (A5)	30	35-45	%
Hardness	100	110-130	HB
Density	-	8.95	g/cm ³
Melting Range	-	1170-1240	deg.C
Thermal Conductivity	-	29	W/(m*K)
Modulus of Elasticity	-	152	GPa

Note: Mechanical properties are for annealed condition per ASTM B466/B467. Actual values may vary depending on product form, size, and heat treatment. All Coppery products are supplied with EN 10204 3.1 Mill Test Certificates.

Manufacturing Process

Copperry employs advanced manufacturing processes to produce high-quality copper nickel pipe fittings, flanges, and pipes that meet or exceed international standards. Our integrated production facility in Shanghai covers the complete manufacturing chain from raw material inspection to final packaging.

1. Raw Material Inspection

All incoming CuNi billets, plates, and tubes undergo rigorous inspection including chemical composition analysis (spectrometry), dimensional checks, and surface quality examination. Materials are verified against purchase specifications before release to production.

2. Hot Forming / Forging

Pipe fittings (elbows, tees, reducers, caps) are manufactured by hot pushing or hot forming from CuNi tubes and plates. Forged fittings (sockets, nipples, couplings, olets) are produced from CuNi bar stock through precision forging and CNC machining.

3. Heat Treatment

Finished products are annealed at controlled temperatures (typically 600-750 deg.C for 90/10, 650-800 deg.C for 70/30) to achieve optimal mechanical properties and stress relief, followed by controlled cooling.

4. Surface Treatment

All products undergo acid pickling and passivation to remove surface oxides and contaminants, creating a clean, corrosion-resistant surface finish suitable for seawater service.

5. Dimensional Inspection

Each product is measured against the applicable standard (DIN, EEMUA, ASME, etc.) using calibrated instruments. Key dimensions including OD, wall thickness, center-to-face, and flange drilling are recorded on the inspection report.

6. Non-Destructive Testing

Products undergo hydrostatic pressure testing per applicable codes. Additional NDT including dye penetrant testing (PT), radiographic testing (RT), and ultrasonic testing (UT) is performed when required by project specifications.

7. Marking & Traceability

Each product is permanently marked with material grade, heat number, size, standard, and manufacturer identification. Full traceability is maintained from raw material certificate to final product shipment.

8. Packaging & Shipping

Products are individually wrapped, placed in plywood cases with protective padding, and clearly labeled for safe transport. Export packing meets international shipping standards for sea freight.

Quality Assurance & Packaging

Classification Society Approvals

Copperry products are manufactured under the following classification society approvals and quality certifications:

Certification	Scope	Certificate No.
ABS (American Bureau of Shipping)	Design Assessment - Pipe Fittings	On file
DNV GL (Det Norske Veritas)	Approval of Manufacturer Certificate	On file
Lloyd's Register (LR)	Type Approval Certificate - Pipe Fittings	On file
CCS (China Classification Society)	Type Approval Certificate	On file
BV (Bureau Veritas)	Approval of Manufacturer	On file
ISO 9001:2015	Quality Management System	On file
Manufacture License	Pressure Pipe Components (PRC)	TS2710M38-2018

Mill Test Certificate (MTC EN 10204 3.1)

Every Copperry product is supplied with a Mill Test Certificate per EN 10204 Type 3.1, issued and validated by an independent inspection body. Each MTC includes: chemical composition analysis, mechanical test results (tensile, yield, elongation, hardness), heat treatment records, dimensional inspection, hydrostatic test results, and full material traceability.

Standard Packaging

- Individual wrapping: Each fitting/flange wrapped in plastic film or woven bags
- Inner packaging: Bubble wrap or foam padding for impact protection
- Outer packaging: Seaworthy plywood cases with steel strapping
- Marking: Each case clearly labeled with product details, weight, and handling instructions
- Fumigation: All wooden packaging is ISPM 15 compliant (heat treated)
- Custom packaging: Available upon request to meet specific project requirements

Annual Production Capacity

Product Category	Annual Capacity
Butt-weld Pipe Fittings (Elbows, Tees, Reducers, Caps)	3,000+ tons
Flanges (WN, SO, Blind, Composite)	2,000+ tons
Forged & Machined Fittings (Sockets, Nipples, Olets)	500+ tons
CuNi Pipes (DIN / EEMUA / ASTM)	2,000+ tons

Reference Standards

Applicable International Standards

Standard	Description
DIN 86019	Copper Nickel Pipes for Shipbuilding
DIN 86029 / 86090	Copper Nickel Pipe Fittings (Elbows, Tees, Reducers)
DIN 86033 / 86036 / 86037	Copper Nickel Flanges (Slip-on, WN, Composite)
DIN 86087 / 86088 / 86089	Copper Nickel Saddles, Tees, Reducers
DIN 86103	Copper Nickel Sockets and Nipples
DIN 2632 / 2633	Solid Welding Neck Flanges PN10 / PN16
DIN 28011	End Caps
EEMUA 144	Copper Alloy Tubes for Seawater Systems
EEMUA 145	Composite Flanges for CuNi Piping
EEMUA 146	Copper Alloy Pipe Fittings
EEMUA 234	A Guide for the Design of CuNi Piping Systems
ASME B16.5	Pipe Flanges (150Lbs, 300Lbs)
ASME B16.9	Factory-Made Wrought Butt-Welding Fittings
ASME B16.11	Forged Fittings, Socket-Welding and Threaded
ASTM B466	CuNi Seamless Pipe and Tube (C70600, C71500)
ASTM B467	CuNi Welded Pipe and Tube
ASTM B171	CuNi Plates, Sheets, and Strips
MSS SP-97	Integrally Reinforced Forged Branch Outlet Fittings
BS 2871	Copper and Copper Alloy Tubes
EN 10204	Types of Inspection Documents (3.1 / 3.2)

Order Process

- 1 Inquiry**
Send your material list, drawings, or specifications to sales@copperry.com
- 2 Quotation**
We provide a detailed quotation within 24-48 hours with pricing, lead time, and technical clarification
- 3 Order Confirmation**
Upon agreement, a Proforma Invoice is issued. Production starts after deposit payment
- 4 Production & QC**
Manufacturing per approved drawings/specs, with in-process inspection and final QC
- 5 Documentation**
MTC 3.1, packing list, inspection report, and all required certificates prepared
- 6 Shipment**
Products packed in seaworthy cases and shipped per agreed Incoterms (FOB/CIF/CFR)

Corrosion Resistance Performance

CuNi 90/10 and 70/30 alloys exhibit outstanding resistance to various forms of corrosion encountered in seawater and marine environments. The following table summarizes the behaviour of these alloys under different corrosion mechanisms.

Behaviour in Seawater, Brine & Marine Atmosphere

Corrosion Type	Behaviour
General Corrosion	Slightly sensitive. Corrosion rate < 25 um/year in flowing seawater. Protective oxide film forms rapidly and stabilizes within weeks.
Pitting Corrosion	Insensitive. Penetration rate < 25/130 um/year. CuNi alloys maintain surface integrity even in stagnant conditions.
Selective Corrosion	Insensitive. Unlike brass and aluminium bronze, CuNi does not suffer dealloying or selective leaching of alloying elements.
Stress Corrosion	Never affected. CuNi alloys are immune to stress corrosion cracking (SCC) in all marine environments.
Biofouling Corrosion	Insensitive. Natural copper ion release inhibits marine organism attachment even at low flow velocities. No special coatings needed.
Erosion-Corrosion	Very slightly sensitive at extreme velocities. Maximum recommended flow: 3.5 m/s (90/10) and 4.0 m/s (70/30). Iron content optimizes resistance to impingement attack.
Galvanic Corrosion	Insensitive in presence of other copper-based metals. Compatible with all copper alloys in seawater systems.

Fire Resistance

CuNi piping systems demonstrate excellent fire resistance. Testing under simulated offshore fire conditions (700 deg.C for 5 minutes with empty piping, followed by 15 minutes with water flow) has confirmed: no rupture of welds or base metal, no brazing failure, no leakage, and no permanent deformation. After fire exposure, CuNi piping can remain in service without replacement - a significant safety advantage over alternative piping materials.

Resistance in Other Environments

CuNi alloys show good resistance in ammoniacal environments. In hydrocarbon service, performance remains satisfactory in the liquid phase. However, in the vapour phase of crude petroleum, care should be taken as the protective film may be compromised. CuNi alloys are also suitable for brackish water, treated cooling water, and low-salinity water applications.

Physical Properties

Typical Physical Properties (Annealed Condition)

Property	Unit	CuNi 90/10	CuNi 70/30
Density (20 deg.C)	kg/m ³	8,900	8,950
Electrical Resistivity (20 deg.C annealed)	μOhm.cm	19	34
Thermal Conductivity (20-200 deg.C)	W/(m.K)	50	30
Coefficient of Thermal Expansion (20-200 deg.C)	x10 ⁻⁶ /K	17	16
Modulus of Elasticity (20 deg.C annealed)	GPa	135	152
Annealing Temperature	deg.C	760-800	780-820
Melting Interval	deg.C	1100-1145	1180-1240
Magnetic Permeability (20 deg.C annealed)	-	1.08-1.80	<1.05

Mechanical Properties vs. Temperature (-200 to +350 deg.C)

Unlike carbon steel, CuNi alloys do not become brittle at low temperatures, making them suitable for cryogenic applications such as LNG carriers. The following table shows typical mechanical properties across the full service temperature range.

CuNi 90/10	-200	-150	-100	-50	0	50	100	150	200	250	300	350
UTS (MPa)	450	390	330	310	300	300	290	280	270	260	250	230
YS (MPa)	150	145	140	130	100	100	100	95	90	85	80	65
Elong. (%)					35	32	28	26	24	23	21	20

CuNi 70/30	-200	-150	-100	-50	0	50	100	150	200	250	300	350
UTS (MPa)	480	420	380	360	350	350	340	320	320	310	300	280
YS (MPa)	110	175	150	140	130	130	130	125	120	115	110	100
Elong. (%)					30	28	24	23	22	20	19	18

ASME Maximum Permissible Stress (Section III)

Temp (deg.C)	20	40	75	100	125	150	175	200	225	250
CuNi 90/10 (MPa)	70	69	67	66	65	63	62	60	58	57
CuNi 70/30 (MPa)	84	83	77	75	74	72	71	70	70	70

Welding Guide for CuNi Alloys

CuNi 90/10 and 70/30 can be readily welded using inert gas shielded arc (TIG/GTAW) processes without major difficulty. No preheating or post-weld heat treatment is required. The following guidelines apply to TIG welding of CuNi tubes and fittings with wall thicknesses from 1.5 to 10 mm.

1. Equipment

The welding set should be equipped with a pre-gas and arc fall (post-gas) system to ensure proper shielding at arc initiation and termination.

2. General Welding Conditions

Use direct current with straight polarity (electrode negative, DCEN). Electrode: thoriated or zirconiated tungsten. Cleanliness is critical - contamination directly affects weld quality and arc stability.

Electrode Diameter (mm)	Welding Current (A)
1.0	25 - 70
1.6	60 - 150
2.0	100 - 200
3.0	200 - 300

Shielding gas: pure argon (99.99%). Torch flow rate: 8-12 l/min. Position the electrode as close as possible to the workpiece for maximum heat concentration.

3. Filler Metal

The filler metal must match the parent metal grade. For CuNi 90/10, use ERcNi (AWS A5.7) or equivalent. For CuNi 70/30, use ERcNi (AWS A5.7) with matching 70/30 composition. Filler rods must be clean and free from grease or oxidation.

4. Joint Preparation

Wall thickness \leq 2 mm: Close square butt joint, no gap, no bevel required. Wall thickness $>$ 2 mm: Single V-butt with 30-40 deg. included angle, 0-1.5 mm root face, zero root gap. For socket-welded joints on couplings: gap = 1.5 mm approx., fillet size = 1/4 of wall thickness minimum. Socket joints are not recommended for pipe diameters exceeding 57 mm OD.

5. Cleaning

This is the most critical step. Welding must only be performed on joints that are perfectly clean and free from grease, oil, marking ink, and oxidation. Clean by mechanical means (stainless steel wire brush, grinding) or chemical means (solvent degreasing). Never use carbon steel brushes.

6. Internal Protection (Back Purging)

To prevent oxidation and discolouration on the inside of the joint, maintain a continuous flow of argon gas on the root side throughout welding. This is essential for achieving a clean, oxide-free internal surface suitable for seawater service.

7. Tacking

Position parts edge-to-edge and apply tack welds using lower current than the main weld. Allow each tack to cool under argon shielding before breaking the arc. Use a minimum of 3 tack welds evenly spaced around the circumference.

Bending Guide & Additional Products

Bending Instructions for CuNi Tubes

CuNi90/10 and 70/30 tubes can be bent using standard tube bending equipment. The following guidelines ensure optimal results:

- **Cold Bending**
Suitable for tubes up to 2 mm wall thickness. Minimum bend radius: 3x OD for tubes up to 50 mm, 4x OD for larger sizes. Tubes should be in the annealed (soft) condition. Use a mandrel for thin-wall tubes to prevent ovality and wrinkling.
- **Hot Bending**
For wall thicknesses > 2 mm or tight radii. Heat uniformly to 800-850 deg.C (dull red). Do not exceed 900 deg.C to avoid grain growth. Cool in still air - do not quench.
- **Annealing After Bending**
For cold bends exceeding 15% strain, stress relief annealing at 600-650 deg.C for 1 hour per 25 mm thickness is recommended to restore ductility and corrosion resistance.
- **Quality Checks**
After bending, inspect for ovality (max 8% of OD), wall thinning (min 87.5% of original thickness per ASME B31.3), and surface cracking. Perform dye penetrant testing on the extrados of tight bends.

Eccentric Reducers

In addition to concentric reducers, Coppery manufactures eccentric reducers in all standard sizes per DIN 86089 and ASME B16.9. Eccentric reducers are used where flat-bottom alignment is needed to maintain pipe gradient, prevent air pockets in horizontal runs, or interface with pumps and equipment. Available in sizes from 1" x 0.5" to 24" x 20", in both 10 Bar and 14 Bar pressure ratings. Dimensions and weights are available upon request.

CuNi Round Bars

Coppery supplies CuNi 90/10 and 70/30 round bars for machined fittings, valve components, and custom fabrication. Available in both metric and imperial sizes:

Standard	Diameter Range	Length	Condition
DIN 17664 / EN 12163	10 - 300 mm	1000 - 6000 mm	Hot rolled / Annealed
ASTM B151 (C70600)	0.5" - 12"	6 - 20 ft	Hot finished / Annealed
ASTM B151 (C71500)	0.5" - 12"	6 - 20 ft	Hot finished / Annealed

US Navy & ASTM Standard Pipes

In addition to European DIN/EEMU standard pipes, Coppery manufactures CuNi seamless and welded pipes to US Navy (MIL-T-16420K) and ASTM (B466/B467) specifications. Available in NPS 1/2" through 36", Schedule 5S through XXS, in both CuNi 90/10 (C70600/UNS C70600) and CuNi 70/30 (C71500/UNS C71500). Hydrostatic test certificates and full dimensional reports provided with all shipments.

Pipes-European Standards

10Bar

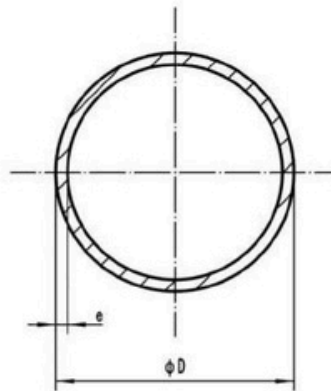
14Bar

16Bar

20Bar

铜镍管

Material: CuNi 90/10
CuNi 70/30



Outside diameter of pipe			DIN 86019				EEMUA 144			
			10 Bar		14 Bar		16 Bar		20 Bar	
ØD			Wall thickness	Theoretical weight	Wall thickness	Theoretical weight	Wall thickness	Theoretical weight	Wall thickness	Theoretical weight
nominal		actual	actual	Kg/m	actual	Kg/m	actual	Kg/m	actual	Kg/m
inch	ND	mm	mm		mm		mm		mm	
0.125		10	1	0.26	1	0.26	1	0.26	1	0.26
0.25		12	1	0.31	1	0.31	1	0.31	1	0.31
0.38	10	16	1	0.42	1	0.42	2	0.79	2	0.79
0.5	15	20	1	0.53	1	0.53	2	1.01	2	1.01
0.75	20	25	1.5	0.99	1.5	0.99	2	1.3	2	1.3
1	25	30	1.5	1.2	1.5	1.2	2.5	1.93	2.5	1.93
1.25	32	38	1.5	1.54	1.5	1.54	2.5	2.5	2.5	2.5
1.5	40	44.5	1.5	1.81	1.5	1.81	2.5	2.95	2.5	2.95
2	50	57	1.5	2.34	1.5	2.34	2.5	3.83	2.5	3.83
2.5	65	76.1	2	4.16	2	4.16	2.5	5.17	2.5	5.17
3	80	88.9	2	4.88	2.5	6.07	2.5	6.07	2.5	6.07
4	100	108	2.5	7.41	2.5	7.41	3	8.85	3	8.85
5	125	133	2.5	9.16	3	10.95	3	10.95	3	10.95
6	150	159	2.5	10.99	3	13.14	3	13.14	3.5	15.29
7	175	193.7	2.5	13.43	3.5	18.7	3	16.07	3.5	18.7
8	200	219.1	3	18.21	3.5	21.19	4	24.17	4.5	27.12
10	250	267	3	22.24	4	29.55	4.5	33.18	5.5	40.39
12	300	323.9	4	35.94	5	44.78	5.5	49.18	7	62.3
14	350	368	4	40.89	5.5	56	6.5	65.99	8	80.89
16	400	419.1	4	46.62	6	69.6	7	81	9	103.64
18	450	457.2	4	50.91	6	76.03	8	100.93	9.5	119.45
20	500	508	4.5	63.63	6.5	91.55	8.5	119.24	11	153.54
24	600	610	5	84.96	8	135.26	10.5	176.79	13	217.97
28	700	711	6	118.8	9	177.45	12	235.58	15	293.22
32	800	813	6	135.99	10	225.53	13.5	303.14	17	380.06
36	900	914	8	203.57	11	278.98	15.5	391.14	19	477.6

Pipes

Chemical Composition

化学成分

各标准铜镍合金 (CuNi90/10) 化学成分比较

All types of standard copper nickel alloys (CuNi 90/10) comparison of chemical composition

	COPPERRY CuNi 90/10	DIN 86019 2.1972	Bs2871 Cn102	EEMUA 144-1987 UNS C7060X	ASTM B466 C70600	GB5234-85 BFe10-1-1
Cu%	rem.	rem.	rem.	rem.	rem.	rem.
Ni%	10.0-11.0	9.0-11.0	10.0-11.0	10.0-11.0	9.0-11.0	9.0-11.0
Fe%	1.5-1.8	1.5-1.8	1.0-2.0	1.5-2.0	1.0-1.8	1.0-1.5
Mn%	max.1.00	0.5-1.0	0.5-1.0	0.5-1.0	max.1.00	0.5-1.0
C%	max.0.05	max. 0.05	max.0.05	max.0.05	max.0.05	max.0.05
Pb%	max.0.02	max.0.01	max.0.01	max.0.01	max.0.02	max.0.02
S%	max.0.02	max.0.005	max.0.05	max.0.02	max.0.02	max.0.01
P%	max.0.02	max.0.02	-	max.0.02	max.0.02	max.0.006
Zn%	max.0.20	max.0.05	-	max.0.20	max.0.50	max.0.30
Other	-	max.0.20	max.0.30	max.0.30	-	max.0.70

各标准铜镍合金 (CuNi70/30) 化学成分比较

All types of standard copper nickel alloys (CuNi 70/30) comparison of chemical composition

	COPPERRY CuNi 70/30	DIN 17664 2.0882	BS 2871 CN 107	MIL-T-16420K ASTM B466 C71500	JIS H 3300 C7150T
Cu%	rem.	rem.	rem.	rem.	rem.
Ni%	30.0-32.0	30.0-32.0	30.0-32.0	29.0-33.0	29.0-33.0
Fe%	0.4-0.7	0.4-1.0	0.4-1.0	0.4-1.0	0.4-1.0
Mn%	0.5-1.0	0.5-1.5	0.5-1.5	max.1.00	0.2-1.0
C%	max.0.05	max.0.05	max.0.06	max.0.05	-
Pb%	max.0.02	max.0.03	max.0.01	max.0.02	max.0.05
S%	max.0.02	max.0.02	max.0.08	max.0.02	-
P%	max.0.02	max.0.02	-	max.0.02	-
Zn%	max.0.20	max.0.50	-	max.0.50	max.0.05
Other	max.0.30	max.0.30	-	-	Cu+Ni+Fe+Mn:min99.5

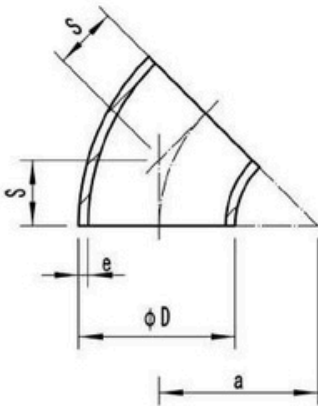
Elbows Short Radius

10Bar

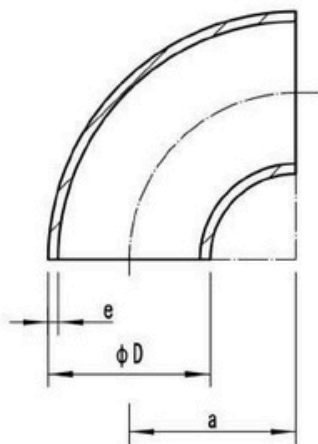
14Bar

短半径弯头

Material: CuNi 90/10
CuNi 70/30



Outside diameter of pipe		DIN 86090							
øD		10Bar				14Bar			
nominal	actual	Wall thickness	Radius		Theoretical weight	Wall thickness	Radius		Theoretical weight
inch	mm	e	a	s	Kg/piece	e	a	s	Kg/piece
1	30	1.5	30	12	0.02	1.5	30	12	0.02
1.25	38	1.5	32.5	14	0.04	1.5	32.5	14	0.04
1.5	44.5	1.5	40	17	0.06	1.5	40	17	0.06
2	57	1.5	52.5	22	0.1	1.5	52.5	22	0.1
2.5	76.1	2	70	29	0.22	2	70	29	0.22
3	88.9	2	82.5	34	0.32	2.5	82.5	34	0.4
4	108	2.5	100	41	0.58	2.5	100	41	0.58
5	133	2.5	125	52	0.9	3	125	52	1.08
6	159	2.5	150	62	1.3	3	150	62	1.56
7	193.7	2.5	180	75	1.9	3.5	180	75	2.66
8	219.1	3	210	87	3	3.5	210	87	3.5
10	267	3	255	106	4.4	4	255	106	5.87
12	323.9	4	305	126	8.6	5	305	126	10.75
14	368	4	352.5	146	11.3	5.5	352.5	146	15.54
16	419.1	4	400	166	16.4	6	400	166	21.87
18	457.2	4	455	188	20.4	6	455	188	30.6
20	508	4.5	505	209	28.1	6.5	505	209	42.15
24	610	5	610	253	40.9	8	610	253	65.45



Outside diameter of pipe		DIN 86090							
øD		10Bar				14Bar			
nominal	actual	Wall thickness	Radius		Theoretical weight	Wall thickness	Radius		Theoretical weight
inch	mm	e	a		Kg/piece	e	a		Kg/piece
1	30	1.5	30	-	0.04	1.5	30	-	0.04
1.25	38	1.5	32.5	-	0.08	1.5	32.5	-	0.08
1.5	44.5	1.5	40	-	0.12	1.5	40	-	0.12
2	57	1.5	52.5	-	0.2	1.5	52.5	-	0.2
2.5	76.1	1.5	70	-	0.44	1.5	70	-	0.44
3	88.9	2	82.5	-	0.64	2.5	82.5	-	0.8
4	108	2.5	100	-	1.16	2.5	100	-	1.16
5	133	2.5	125	-	1.8	3	125	-	2.16
6	159	2.5	150	-	2.6	3	150	-	3.12
7	193.7	2.5	180	-	3.8	3.5	180	-	5.32
8	219.1	3	210	-	6	3.5	210	-	7
10	267	3	255	-	8.8	4	255	-	11.74
12	323.9	4	305	-	17.2	5	305	-	21.5
14	368	4	352.5	-	22.6	5.5	352.5	-	31.08
16	419.1	4	400	-	32.8	6	400	-	43.74
18	457.2	4	455	-	40.8	6	455	-	61.2
20	508	4.5	505	-	56.2	6.5	505	-	84.3
24	610	5	610	-	81.8	8	610	-	130.9

45° Elbows Long Radius

10Bar

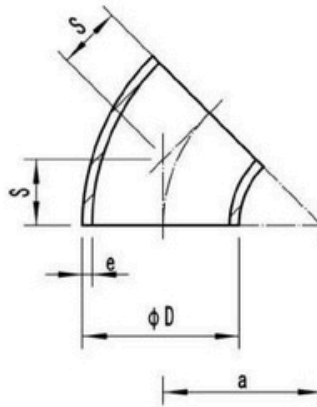
14Bar

16Bar

20Bar

45° 长半径弯头

Material: CuNi 90/10
CuNi 70/30



Outside diameter of pipe		DIN 86090								EEMUA 146							
		10Bar				14Bar				16Bar				20Bar			
ØD		Wall thickness	Radius		Theoretical weight	Wall thickness	Radius		Theoretical weight	Wall thickness	Radius		Theoretical weight	Wall thickness	Radius		Theoretical weight
nominal	actual	e	a	s	Kg/piece	e	a	s	Kg/piece	e	a	s	Kg/piece	e	a	s	Kg/piece
inch	mm	mm	mm	mm		mm	mm	mm		mm	mm	mm		mm	mm	mm	
0.5	20	1	25	10.4	0.01	1	25	10.4	0.01	-	-	-	-	-	-	-	-
0.75	25	1.5	27.5	11.4	0.02	1.5	27.5	11.4	0.02	-	-	-	-	-	-	-	-
1	30	1.5	33.5	14	0.03	1.5	33.5	14	0.03	2.5	38	22	0.06	2.5	38	22	0.06
1.25	38	1.5	45	19	0.05	1.5	45	19	0.05	2.5	48	25	0.09	2.5	48	25	0.09
1.5	44.5	1.5	51	21	0.07	1.5	51	21	0.07	2.5	57	29	0.13	2.5	57	29	0.13
2	57	1.5	72	30	0.13	1.5	72	30	0.13	2.5	76	35	0.23	2.5	76	35	0.23
2.5	76.1	2	95	39	0.3	2	95	39	0.3	2.5	95	44	0.38	2.5	95	44	0.38
3	88.9	2	114.5	47	0.43	2.5	114.5	47	0.54	2.5	114	51	0.54	2.5	114	51	0.54
4	108	2.5	142.5	59	0.82	2.5	142.5	59	0.82	3	152	64	1.05	3	152	64	1.05
5	133	2.5	181	75	1.29	3	181	75	1.55	-	-	-	-	-	-	-	-
6	159	2.5	216	89	1.85	3	216	89	2.22	3	229	95	2.35	3.5	229	95	2.74
7	193.7	2.5	270	112	2.82	3.5	270	112	3.94	-	-	-	-	-	-	-	-
8	219.1	3	305	126	4.33	3.5	305	126	5.04	4	305	127	5.75	4.5	305	127	6.47
10	267	3	378	157	6.55	4	378	157	8.73	4.5	381	159	9.85	5.5	381	159	12.04
12	323.9	4	457	189	12.8	5	457	189	16	5.5	457	190	17.53	7	457	190	22.3
14	368	4	533.5	221	17	5.5	533.5	221	23.37	6.5	533	222	27.46	8	533	222	33.8
16	419.1	4	609.5	252	29.9	6	609.5	252	33.2	7	610	254	38.5	9	610	254	49.5
18	457.2	4	686	284	30.7	6	686	284	46.05	8	686	286	54.1	9.5	686	286	64.25
20	508	4.5	762	316	41.9	6.5	762	316	62.85	8.5	762	318	70.93	11	762	318	91.8
24	610	5	915	379	60.62	8	915	379	97	10.5	914	381	126.42	13	914	381	156.6

Pipe Fittings

90° Elbows Long Radius

10Bar

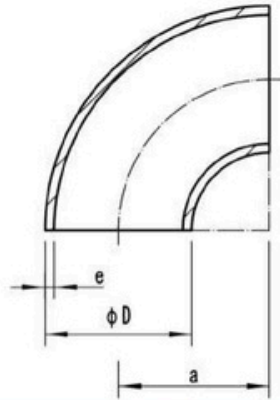
14Bar

16Bar

20Bar

90° 长半径弯头

Material: CuNi 90/10
CuNi 70/30



Outside diameter of pipe		DIN 86090						EEMUA 146					
		10Bar			14Bar			16Bar			20Bar		
∅D		Wall	Radius	Theoretical	Wall	Radius	Theoretical	Wall	Radius	Theoretical	Wall	Radius	Theoretical
		thickness		weight	thickness		weight	thickness		weight	thickness		weight
nominal	actual	e	a	Kg/piece	e	a	Kg/piece	e	a	Kg/piece	e	a	Kg/piece
inch	mm	mm	mm		mm	mm		mm	mm		mm	mm	
0.5	20	1	25	0.02	1	25	0.02	-	-	-	-	-	-
0.75	25	1.5	27.5	0.04	1.5	27.5	0.04	2	31.2	0.076	2	31.2	0.076
1	30	1.5	33.5	0.06	1.5	33.5	0.06	2.5	38	0.12	2.5	38	0.12
1.25	38	1.5	45	0.1	1.5	45	0.1	2.5	48	0.18	2.5	48	0.18
1.5	44.5	1.5	51	0.14	1.5	51	0.14	2.5	57	0.26	2.5	57	0.26
2	57	1.5	72	0.26	1.5	72	0.26	2.5	76	0.46	2.5	76	0.46
2.5	76.1	2	95	0.61	2	95	0.61	2.5	95	0.76	2.5	95	0.76
3	88.9	2	114.5	0.87	2.5	114.5	1.08	2.5	114	1.08	2.5	114	1.08
4	108	2.5	142.5	1.64	2.5	142.5	1.64	3	152	2.1	3	152	2.1
5	133	2.5	181	2.58	3	181	3.1	-	-	-	-	-	-
6	159	2.5	216	3.7	3	216	4.44	3	229	4.7	3.5	229	5.48
7	193.7	2.5	270	5.65	3.5	270	7.88	-	-	-	-	-	-
8	219.1	3	305	8.66	3.5	305	10.08	4	305	11.5	4.5	305	12.94
10	267	3	378	13.1	4	378	17.46	4.5	381	19.7	5.5	381	24.08
12	323.9	4	457	25.61	5	457	32	5.5	457	35.06	7	457	44.6
14	368	4	533.5	34	5.5	533.5	46.74	6.5	533	54.92	8	533	67.6
16	419.1	4	609.5	39.4	6	609.5	66.4	7	610	77	9	610	99
18	457.2	4	686	48.4	6	686	72.63	8	686	108.2	9.5	686	128.5
20	508	4.5	762	75.62	6.5	762	125.7	8.5	762	141.86	11	762	183.6
24	610	5	915	121.24	8	915	194	10.5	914	252.94	13	914	313.3

Pipe Fittings

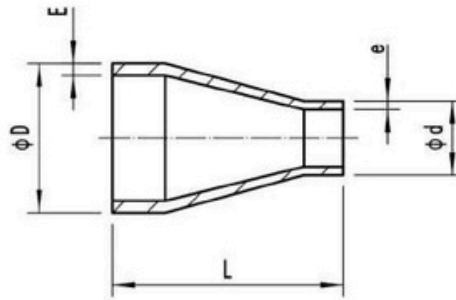
Concentric Reducers

10Bar

14Bar

异径接头

Material: CuNi 90/10
CuNi 70/30



Outside diameter						DIN 86089							
						10Bar			14Bar				
ØD x ød		ØD x ød				Wall thickness		Length	Theoretical weight	Wall thickness		Length	Theoretical weight
nominal inch		actual mm				E	e	L	Kg/piece	E	e	L	Kg/piece
						mm	mm	mm		mm	mm	mm	
0.5	x	0.38	20	x	16	1	1	30	0.01	1	1	30	0.01
0.75	x	0.38	25	x	16	1.5	1	30	0.02	1.5	1	30	0.02
0.75	x	0.5	25	x	20	1.5	1	30	0.03	1.5	1	30	0.03
1	x	0.38	30	x	16	1.5	1	35	0.03	1.5	1	35	0.03
1	x	0.5	30	x	20	1.5	1	35	0.04	1.5	1	35	0.04
1	x	0.75	30	x	25	1.5	1.5	35	0.05	1.5	1.5	35	0.05
1.25	x	0.38	38	x	16	1.5	1	50	0.05	1.5	1	50	0.05
1.25	x	0.5	38	x	20	1.5	1	50	0.06	1.5	1	50	0.06
1.25	x	0.75	38	x	25	1.5	1.5	50	0.07	1.5	1.5	50	0.07
1.25	x	1	38	x	30	1.5	1.5	50	0.08	1.5	1.5	50	0.08
1.5	x	0.5	44.5	x	20	1.5	1	80	0.09	1.5	1	80	0.09
1.5	x	0.75	44.5	x	25	1.5	1.5	80	0.11	1.5	1.5	80	0.11
1.5	x	1	44.5	x	30	1.5	1.5	80	0.12	1.5	1.5	80	0.12
1.5	x	1.25	44.5	x	38	1.5	1.5	80	0.13	1.5	1.5	80	0.13
2	x	0.75	57	x	25	1.5	1.5	80	0.13	1.5	1.5	80	0.13
2	x	1	57	x	30	1.5	1.5	80	0.14	1.5	1.5	80	0.14
2	x	1.25	57	x	38	1.5	1.5	80	0.15	1.5	1.5	80	0.15
2	x	1.5	57	x	44.5	1.5	1.5	80	0.16	1.5	1.5	80	0.16
2.5	x	1	76.1	x	30	2	1.5	90	0.24	2	1.5	90	0.24
2.5	x	1.25	76.1	x	38	2	1.5	90	0.25	2	1.5	90	0.25
2.5	x	1.5	76.1	x	44.5	2	1.5	90	0.26	2	1.5	90	0.26
2.5	x	2	76.1	x	57	2	1.5	90	0.29	2	1.5	90	0.29
3	x	1.25	88.9	x	38	2	1.5	90	0.29	2.5	1.5	90	0.33
3	x	1.5	88.9	x	44.5	2	1.5	90	0.3	2.5	1.5	90	0.35
3	x	2	88.9	x	57	2	1.5	90	0.32	2.5	1.5	90	0.38
3	x	2.5	88.9	x	76	2	2	90	0.4	2.5	2	90	0.48
4	x	1.5	108	x	44.5	2.5	1.5	100	0.46	2.5	1.5	100	0.46
4	x	2	108	x	57	2.5	1.5	100	0.48	2.5	1.5	100	0.48
4	x	2.5	108	x	76.1	2.5	2	100	0.57	2.5	2	100	0.57
4	x	3	108	x	88.9	2.5	2	100	0.61	2.5	2.5	100	0.61
5	x	2	133	x	57	2.5	1.5	140	0.8	3	1.5	140	0.86
5	x	2.5	133	x	76.1	2.5	2	140	0.93	3	2	140	1.06
5	x	3	133	x	88.9	2.5	2	140	0.98	3	2.5	140	1.13
5	x	4	133	x	108	2.5	2.5	140	1.16	3	2.5	140	1.34
6	x	2.5	159	x	76.1	2.5	2	150	1.13	3	2	150	1.35
6	x	3	159	x	88.9	2.5	2	150	1.19	3	2.5	150	1.42
6	x	4	159	x	108	2.5	2.5	150	1.38	3	2.5	150	1.65
6	x	5	159	x	133	2.5	2.5	150	1.51	3	3	150	1.81
7	x	3	193.7	x	88.9	2.5	2	155	1.39	3.5	2.5	155	1.94
7	x	4	193.7	x	108	2.5	2.5	155	1.58	3.5	2.5	155	2.21
7	x	5	193.7	x	133	2.5	2.5	155	1.71	3.5	3	155	2.39
7	x	6	193.7	x	159	2.5	2.5	155	1.86	3.5	3	155	2.6

Pipe Fittings

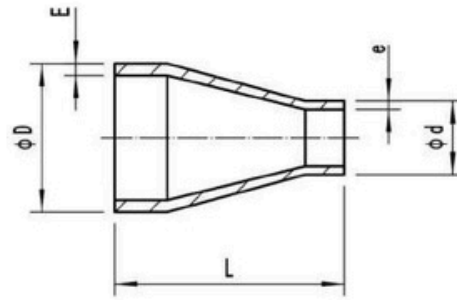
Concentric Reducers

10Bar

14Bar

异径接头

Material: CuNi 90/10
CuNi 70/30



Outside diameter						DIN 86089							
øD x ød		øD x ød				10Bar			14Bar				
						Wall thickness		Length	Theoretical weight	Wall thickness		Length	Theoretical weight
nominal	inch	actual				E	e	L	Kg/piece	E	e	L	Kg/piece
		mm				mm	mm	mm		mm	mm	mm	
8	x	4	219.1	x	108	3	2.5	155	2.47	3.5	2.5	155	2.88
8	x	5	219.1	x	133	3	2.5	155	2.6	3.5	3	155	3.03
8	x	6	219.1	x	159	3	2.5	155	2.74	3.5	3	155	3.2
8	x	7	219.1	x	193.7	3	2.5	155	2.93	3.5	3.5	155	3.42
10	x	5	267	x	133	3	2.5	210	3.3	4	3	210	4.4
10	x	6	267	x	159	3	2.5	210	3.49	4	3	210	4.65
10	x	7	267	x	193.7	3	2.5	210	3.75	4	3.5	210	5
10	x	8	267	x	219.1	3	3	210	4.25	4	3.5	210	5.65
12	x	5	323.9	x	133	4	2.5	210	5.3	5	3	210	6.62
12	x	6	323.9	x	159	4	2.5	210	5.6	5	3	210	7
12	x	7	323.9	x	193.7	4	2.5	210	6.02	5	3.5	210	7.52
12	x	8	323.9	x	219.1	4	3	210	6.3	5	3.5	210	7.9
12	x	10	323.9	x	267	4	3	210	6.88	5	4	210	8.6
14	x	6	368	x	159	4	2.5	300	8.75	5.5	3	300	12.03
14	x	7	368	x	193.7	4	2.5	300	9.34	5.5	3	300	12.84
14	x	8	368	x	219.1	4	3	300	9.76	5.5	3.5	300	13.42
14	x	10	368	x	267	4	3	300	10.57	5.5	4	300	14.53
14	x	12	368	x	323.9	4	4	300	11.53	5.5	5	300	15.85
16	x	7	419.1	x	193.7	4	2.5	325	11.04	6	3.5	325	16.56
16	x	8	419.1	x	219.1	4	3	325	11.5	6	3.5	325	17.25
16	x	10	419.1	x	267	4	3	325	12.38	6	4	325	18.57
16	x	12	419.1	x	323.9	4	4	325	13.42	6	5	325	20.13
16	x	14	419.1	x	368	4	4	325	14.22	6	5.5	325	21.33
18	x	8	457.2	x	219.1	4	3	350	13.14	6	3.5	350	19.7
18	x	10	457.2	x	267	4	3	350	14.08	6	4	350	21.1
18	x	12	457.2	x	323.9	4	4	350	15.2	6	5	350	22.8
18	x	14	457.2	x	368	4	4	350	16.06	6	5.5	350	24.1
18	x	16	457.2	x	419.1	4	4	350	17.07	6	6	350	25.8
20	x	10	508	x	267	4.5	3	375	18.07	6.5	4	375	26.1
20	x	12	508	x	323.9	4.5	4	375	19.42	6.5	5	375	28.05
20	x	14	508	x	368	4.5	4	375	20.47	6.5	5.5	375	29.6
20	x	16	508	x	419.1	4.5	4	375	21.68	6.5	6	375	31.3
20	x	18	508	x	457.2	4.5	4	375	22.57	6.5	6	375	32.6
24	x	14	508	x	368	5	4	400	27.19	8	5.5	400	43.5
24	x	16	610	x	419.1	5	4	400	28.62	8	6	400	45.8
24	x	18	610	x	457.2	5	4	400	29.69	8	6	400	47.5
24	x	20	610	x	508	5	4.5	400	31.12	8	6.5	400	49.8

Pipe Fittings

Equal Tees

10Bar

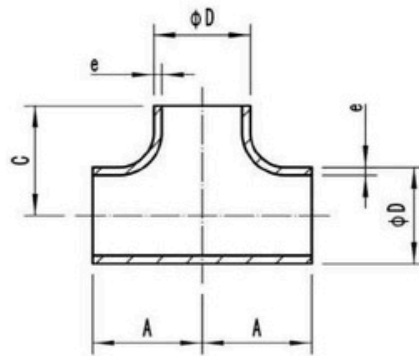
14Bar

16Bar

20Bar

等径三通

Material: CuNi 90/10
CuNi 70/30



Outside diameter of pipe		DIN 86088								EEMUA 146							
		10Bar				14Bar				16Bar				20Bar			
nominal	actual	Wall	A	C	Theoretical	Wall	A	C	Theoretical	Wall	A	C	Theoretical	Wall	A	C	Theoretical
		thickness			weight	thickness			weight	thickness			weight	thickness			weight
		e				e				e				e			
inch	mm	mm	mm	mm	Kg/piece	mm	mm	mm	Kg/piece	mm	mm	mm	Kg/piece	mm	mm	mm	Kg/piece
0.5	20	1	25	25	0.05	1	25	25	0.05	-	-	-	-	-	-	-	-
0.75	25	1.5	29	29	0.07	1.5	29	29	0.07	-	-	-	-	-	-	-	-
1	30	1.5	38	38	0.1	1.5	38	38	0.1	2.5	38	38	0.18	2.5	38	38	0.18
1.25	38	1.5	48	48	0.13	1.5	48	48	0.13	2.5	48	48	0.29	2.5	48	48	0.29
1.5	44.5	1.5	57	57	0.19	1.5	57	57	0.19	2.5	57	57	0.43	2.5	57	57	0.43
2	57	1.5	64	64	0.29	1.5	64	64	0.29	2.5	64	64	0.57	2.5	64	64	0.57
2.5	76.1	2	76	76	0.65	2	76	76	0.65	2.5	76	76	0.88	2.5	76	76	0.88
3	88.9	2	86	86	0.82	2.5	86	86	1.03	2.5	86	86	1.16	2.5	86	86	1.16
4	108	2.5	105	105	1.6	2.5	105	105	1.6	3	105	105	2.09	3	105	105	2.09
5	133	2.5	124	124	2.8	3	124	124	3.36	-	-	-	-	-	-	-	-
6	159	2.5	143	143	4.4	3	143	143	5.28	3	143	143	4.07	3.5	143	143	4.74
7	193.7	2.5	157	157	4.7	3	157	157	6.6	-	-	-	-	-	-	-	-
8	219.1	3	178	178	12.8	3.5	178	178	14.95	4	178	178	17	4.5	178	178	19.1
10	267	3	216	216	16.6	4	216	216	22.1	4.5	216	216	24.9	5.5	216	216	30.4
12	323.9	4	254	254	31.5	5	254	254	39.4	5.5	254	254	43.3	7	254	254	55.1
14	368	4	279	279	39.4	5.5	279	279	54.2	6.5	279	279	64.05	8	279	279	78.8
16	419.1	4	305	305	55.1	6	305	305	82.65	7	305	305	96.4	9	305	305	124
18	457.2	4	343	343	67.65	6	343	343	101.5	8	343	343	135.3	9.5	343	343	160.65
20	508	4.5	381	381	92.8	6.5	381	381	134.1	8.5	381	381	175.3	11	381	381	226.9
24	610	5	432	432	126.6	8	432	432	202.6	10.5	432	432	265.9	13	432	432	329.2

Pipe Fittings

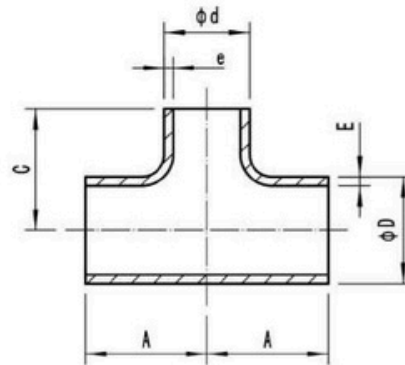
Reducing Tees

10Bar

14Bar

异径三通

Material: CuNi 90/10
CuNi 70/30



Outside diameter of pipe						DIN86088									
						10Bar				14Bar					
øD x ød		øD x ød				Wall		Centre		Theoretical weight	Wall		Centre		Theoretical weight
						thickness		to face			thickness		to face		
nominal		actual				E	e	A	C	Kg/piece	E	e	A	C	Kg/piece
inch		mm				mm	mm	mm	mm		mm	mm	mm	mm	
1.25	x	1	38	x	30	1.5	1.5	48	42	0.1	1.5	1.5	48	42	0.1
1.5	x	1	44.5	x	30	1.5	1.5	57	45	0.21	1.5	1.5	57	45	0.21
1.5	x	1.25	44.5	x	38	1.5	1.5	57	51	0.21	1.5	1.5	57	51	0.21
2	x	1	57	x	30	1.5	1.5	64	51	0.32	1.5	1.5	64	51	0.32
2	x	1.25	57	x	38	1.5	1.5	64	57	0.32	1.5	1.5	64	57	0.32
2	x	1.5	57	x	44.5	1.5	1.5	64	63	0.32	1.5	1.5	64	63	0.32
2.5	x	1	76.1	x	30	2	1.5	76	56	0.65	2	1.5	76	56	0.65
2.5	x	1.25	76.1	x	38	2	1.5	76	62	0.65	2	1.5	76	62	0.65
2.5	x	1.5	76.1	x	44.5	2	1.5	76	71	0.67	2	1.5	76	71	0.67
2.5	x	2	76.1	x	57	2	1.5	76	73	0.67	2	1.5	76	73	0.67
3	x	1.25	88.9	x	38	2	1.5	86	73	0.87	2.5	1.5	86	73	1.08
3	x	1.5	88.9	x	44.5	2	1.5	86	76	0.87	2.5	1.5	86	76	1.08
3	x	2	88.9	x	57	2	1.5	86	80	0.89	2.5	1.5	86	80	1.1
3	x	2.5	88.9	x	76.1	2	2	86	83	0.92	2.5	2	86	83	1.15
4	x	1.5	108	x	44.5	2.5	1.5	105	89	1.6	2.5	1.5	105	89	1.6
4	x	2	108	x	57	2.5	1.5	105	90	1.6	2.5	1.5	105	90	1.6
4	x	2.5	108	x	76.1	2.5	2	105	92	1.65	2.5	2	105	92	1.65
4	x	3	108	x	88.9	2.5	2	105	96	1.65	2.5	2.5	105	96	1.65
5	x	2	133	x	57	2.5	1.5	124	98	3	3	1.5	124	98	3.6
5	x	2.5	133	x	76.1	2.5	2	124	105	3.1	3	2	124	105	3.7
5	x	3	133	x	88.9	2.5	2	124	108	3.25	3	2.5	124	108	3.9
5	x	4	133	x	108	2.5	2.5	124	117	3.3	3	2.5	124	117	3.95
6	x	2.5	159	x	76.1	2.5	2	143	118	4.4	3	2	143	118	5.25
6	x	3	159	x	88.9	2.5	2	143	121	4.5	3	2.5	143	121	5.4
6	x	4	159	x	108	2.5	2.5	143	130	4.6	3	2.5	143	130	5.5
6	x	5	159	x	133	2.5	2.5	143	136	4.6	3	3	143	136	5.5
8	x	4	219.1	x	108	3	2.5	178	156	12.6	3.5	2.5	178	156	14.75
8	x	5	219.1	x	133	3	2.5	178	162	12.7	3.5	3	178	162	14.85
8	x	6	219.1	x	159	3	2.5	178	168	12.8	3.5	3	178	168	14.95

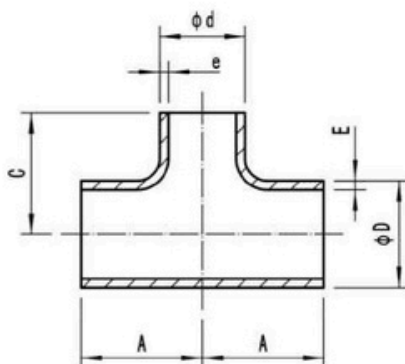
Reducing Tees

10Bar

14Bar

异径三通

Material: CuNi 90/10
CuNi 70/30



Outside diameter of pipe						DIN86088									
						10bar					14bar				
ØD x ød		ØD x ød				Wall		Centre		Theoretical weight	Wall		Centre		Theoretical weight
						thickness		to face			thickness		to face		
nominal inch		actual mm				E	e	A	C	Kg/piece	E	e	A	C	Kg/piece
						mm	mm	mm	mm		mm	mm	mm	mm	
10	x	4	267	x	108	3	2.5	194	209	12.5	4	2.5	194	209	16.7
10	x	5	267	x	133	3	2.5	217	219	13.5	4	3	217	219	18
10	x	6	267	x	159	3	2.5	240	229	14.8	4	3	240	229	19.75
10	x	7	267	x	193.7	3	2.5	267	243	15.2	4	3.5	267	243	20.25
10	x	8	267	x	219.1	3	3	290	259	16.6	4	3.5	290	259	22.1
12	x	5	323.9	x	133	4	2.5	217	247	28.6	5	3	217	247	35.75
12	x	6	323.9	x	159	4	2.5	240	257	30.45	5	3	240	257	38
12	x	7	323.9	x	193.7	4	2.5	267	272	32.6	5	3.5	267	272	40.75
12	x	8	323.9	x	219.1	4	3	290	287	34.6	5	3.5	290	287	43.25
12	x	10	323.9	x	267	4	3	324	317	37.8	5	4	324	317	47.25
14	x	6	368	x	159	4	2.5	240	279	37.4	5.5	3	240	279	51.4
14	x	7	368	x	193.7	4	2.5	267	294	39.85	5.5	3.5	267	294	54.8
14	x	8	368	x	219.1	4	3	290	309	42.1	5.5	3.5	290	309	57.9
14	x	10	368	x	267	4	3	324	339	45.55	5.5	4	324	339	62.65
14	x	12	368	x	323.9	4	4	380	369	52	5.5	5	380	369	71.5
16	x	7	419.1	x	193.7	4	2.5	267	319	49.1	6	3.5	267	319	73.65
16	x	8	419.1	x	219.1	4	3	290	335	52.1	6	3.5	290	335	78.15
16	x	10	419.1	x	267	4	3	324	365	56.4	6	4	324	365	84.6
16	x	12	419.1	x	323.9	4	4	380	395	64.8	6	5	380	395	97.2
16	x	14	419.1	x	368	4	4	407	410	68.9	6	5.5	407	410	103.35
18	x	10	457.2	x	267	4	3	324	383	55.7	6	4	324	383	83.55
18	x	12	457.2	x	323.9	4	4	380	413	64.6	6	5	380	413	96.9
18	x	14	457.2	x	368	4	4	407	428	68.9	6	5.5	407	428	103.35
18	x	16	457.2	x	419.1	4	4	440	453	74.6	6	6	440	453	111.9
20	x	12	508	x	323.9	4.5	4	380	439	72.5	6.5	5	380	439	104.7
20	x	14	508	x	368	4.5	4	407	454	77.4	6.5	5.5	407	454	111.8
20	x	16	508	x	419.1	4.5	4	440	479	83.9	6.5	6	440	479	121.2
20	x	18	508	x	457.2	4.5	4	500	509	94.1	6.5	6	500	509	135.9
24	x	14	610	x	368	5	4	407	505	109.95	8	5.5	407	505	175.9
24	x	16	610	x	419.1	5	4	440	530	117.85	8	6	440	530	188.55
24	x	18	610	x	457.2	5	4	500	555	130.35	8	6	500	555	208.6
24	x	20	610	x	508	5	4.5	540	580	141.85	8	6.5	540	580	226.95

Pipe Fittings

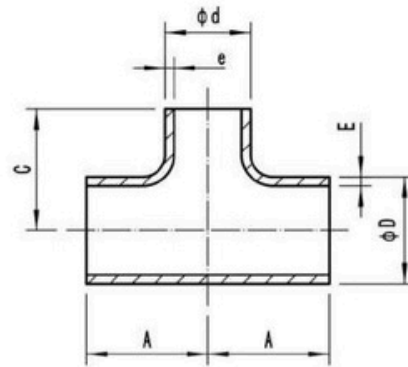
Reducing Tees

16Bar

20Bar

异径三通

Material: CuNi 90/10
CuNi 70/30



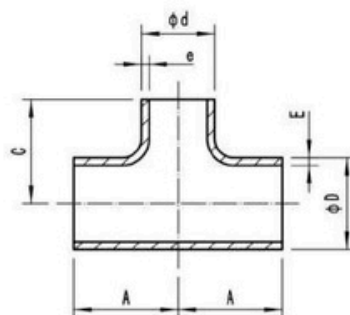
Outside diameter of pipe						EEMUA 146									
						16Bar					20Bar				
ØD x Ød		ØD x Ød				Wall thickness		Centre to face		Theoretical weight Kg/piece	Wall thickness		Centre to face		Theoretical weight Kg/piece
nominal		actual				E	e	A	C		E	e	A	C	
inch		mm				mm	mm	mm	mm		mm	mm	mm	mm	
1	x	0.75	30	x	25	2.5	2	38	38	0.17	2.5	2	38	38	0.17
1.25	x	0.75	38	x	25	2.5	2	48	48	0.28	2.5	2	48	48	0.28
1.25	x	1	38	x	30	2.5	2.5	48	48	0.28	2.5	2.5	48	48	0.28
1.5	x	0.75	44.5	x	25	2.5	2	57	57	0.37	2.5	2	57	57	0.37
1.5	x	1	44.5	x	30	2.5	2.5	57	57	0.4	2.5	2.5	57	57	0.4
1.5	x	1.25	44.5	x	38	2.5	2.5	57	57	0.41	2.5	2.5	57	57	0.41
2	x	1	57	x	30	2.5	2.5	64	51	0.51	2.5	2.5	64	51	0.51
2	x	1.25	57	x	38	2.5	2.5	64	57	0.54	2.5	2.5	64	57	0.54
2	x	1.5	57	x	44.5	2.5	2.5	64	60	0.55	2.5	2.5	64	60	0.55
2.5	x	1.25	76.1	x	38	2.5	2.5	76	64	0.83	2.5	2.5	76	64	0.83
2.5	x	1.5	76.1	x	44.5	2.5	2.5	76	67	0.84	2.5	2.5	76	67	0.84
2.5	x	2	76.1	x	57	2.5	2.5	76	70	0.85	2.5	2.5	76	70	0.85
3	x	1.5	88.9	x	44.5	2.5	2.5	86	73	1.1	2.5	2.5	86	73	1.1
3	x	2	88.9	x	57	2.5	2.5	86	76	1.12	2.5	2.5	86	76	1.12
3	x	2.5	88.9	x	76.1	2.5	2.5	86	83	1.15	2.5	2.5	86	83	1.15
4	x	2	108	x	57	3	2.5	105	89	1.9	3	2.5	105	89	1.9
4	x	2.5	108	x	76.1	3	2.5	105	95	1.92	3	2.5	105	95	1.92
4	x	3	108	x	88.9	3	2.5	105	98	1.95	3	2.5	105	98	1.95
6	x	2.5	159	x	76.1	3	2.5	143	121	3.95	3.5	2.5	143	121	4.6
6	x	3	159	x	88.9	3	2.5	143	124	4	3.5	2.5	143	124	4.65
6	x	4	159	x	108	3	3	143	130	4.05	3.5	3	143	130	4.72
8	x	3	219.1	x	88.9	4	2.5	178	152	16.6	4.5	2.5	178	152	18.7
8	x	4	219.1	x	108	4	3	178	156	16.9	4.5	3	178	156	19
8	x	6	219.1	x	159	4	3	178	168	17	4.5	3.5	178	168	19.1

Reducing Tees

16Bar 20Bar

异径三通

Material: CuNi 90/10
CuNi 70/30



Outside diameter of pipe						EEMUA 146									
						16Bar					20Bar				
ØD x Ød		ØD x Ød				Wall thickness		Centre to face		Theoretical weight Kg/piece	Wall thickness		Centre to face		Theoretical weight Kg/piece
nominal		actual				E	e	A	C		E	e	A	C	
inch		mm				mm	mm	mm	mm		mm	mm	mm	mm	
10	x	4	267	x	108	4.5	3	216	184	21.6	5.5	3	216	184	26.4
10	x	6	267	x	159	4.5	3	216	194	21.75	5.5	3.5	216	194	26.6
10	x	8	267	x	219.1	4.5	4	216	203	21.9	5.5	4.5	216	203	26.75
12	x	6	323.9	x	159	5.5	3	254	219	38.5	7	3.5	254	219	49
12	x	8	323.9	x	219.1	5.5	4	254	229	39.6	7	4.5	254	229	50.4
12	x	10	323.9	x	267	5.5	4.5	254	241	40.7	7	5.5	254	241	51.8
14	x	8	368	x	219.1	6.5	4	279	248	58.8	8	4.5	279	248	72.35
14	x	10	368	x	267	6.5	4.5	279	257	59.7	8	5.5	279	257	73.5
14	x	12	368	x	323.9	6.5	5.5	279	270	61.5	8	7	279	270	75.7
16	x	10	419.1	x	267	7	4.5	305	283	89.6	9	5.5	305	283	115.2
16	x	12	419.1	x	323.9	7	5.5	305	295	91.4	9	7	305	295	117.5
16	x	14	419.1	x	368	7	6.5	305	305	93.5	9	8	305	305	120.2
18	x	12	457.2	x	323.9	8	5.5	343	321	126.3	9.5	7	343	321	150
18	x	14	457.2	x	368	8	6.5	343	330	128.3	9.5	8	343	330	152.35
18	x	16	457.2	x	419.1	8	7	343	330	129.9	9.5	9	343	330	154.25
20	x	14	508	x	368	8.5	6.5	381	356	162	11	8	381	356	209.65
20	x	16	508	x	419.1	8.5	7	381	356	164.2	11	9	381	356	212.5
20	x	18	508	x	457.2	8.5	8	381	368	168.3	11	9.5	381	368	217.8
24	x	16	610	x	419.1	10.5	7	432	406	248.3	13	9	432	406	307.4
24	x	18	610	x	457.2	10.5	8	432	419	251.7	13	9.5	432	419	311.6
24	x	20	610	x	508	10.5	8.5	432	432	255.3	13	11	432	432	316.1
28	x	18	711	x	457.2	12	8	521	470	394.6	15	9.5	521	470	493.25
28	x	20	711	x	508	12	8.5	521	483	398.2	15	11	521	483	497.75
28	x	24	711	x	610	12	10.5	521	508	409.9	15	13	521	508	512.4
32	x	20	813	x	508	13.5	8.5	597	533	495	17	11	597	533	623.3
32	x	24	813	x	610	13.5	10.5	597	559	506.8	17	13	597	559	638.2
32	x	28	813	x	711	13.5	12	597	572	518.8	17	15	597	572	653.3
36	x	24	914	x	610	15.5	10.5	673	610	723.6	19	13	673	610	887
36	x	28	914	x	711	15.5	12	673	622	735.4	19	15	673	622	901.45
36	x	32	914	x	813	15.5	13.5	673	648	754.4	19	17	673	648	924.75

Pipe Fittings

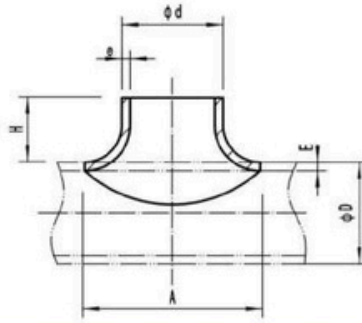
Saddles With Equal Or Reduced Branch

10Bar

14Bar

马鞍

Material: CuNi 90/10
CuNi 70/30



Outside diameter of pipe						DIN 86087									
$\phi D \times \phi d$		$\phi D \times \phi d$				10Bar				Theoretical weight	14Bar				Theoretical weight
						Wall thickness		Centre to face			Wall thickness		Centre to face		
nominal	actual	E	e	H	A	E	e	H	A	Kg/piece	E	e	H	A	Kg/piece
inch	mm	mm	mm	mm	mm	mm	mm	mm	mm		mm	mm	mm	mm	
0.5	x	0.5	20	x	20	1	1	20	32	0.05	1	1	20	32	0.05
0.75	x	0.5	25	x	20	1.5	1	20	40	0.05	1.5	1	20	40	0.05
0.75	x	0.75	25	x	25	1.5	1.5	22	40	0.06	1.5	1.5	22	40	0.06
1	x	0.75	30	x	25	1.5	1.5	22	40	0.06	1.5	1.5	22	40	0.06
1	x	1	30	x	30	1.5	1.5	30	50	0.1	1.5	1.5	30	50	0.1
1.25	x	1	38	x	30	1.5	1.5	30	50	0.1	1.5	1.5	30	50	0.1
1.25	x	1.25	38	x	38	1.5	1.5	35	64	0.11	1.5	1.5	35	64	0.11
1.5	x	1.25	44.5	x	38	1.5	1.5	35	64	0.14	1.5	1.5	35	64	0.14
1.5	x	1.5	44.5	x	44.5	1.5	1.5	35	74	0.15	1.5	1.5	35	74	0.15
2	x	1.25	57	x	38	1.5	1.5	35	64	0.15	1.5	1.5	35	64	0.15
2	x	1.5	57	x	44.5	1.5	1.5	35	74	0.17	1.5	1.5	35	74	0.17
2	x	2	57	x	57	1.5	1.5	40	97	0.25	1.5	1.5	40	97	0.25
2.5	x	1.25	76.1	x	38	2	1.5	35	64	0.3	2	1.5	35	64	0.3
2.5	x	1.5	76.1	x	44.5	2	1.5	35	74	0.34	2	1.5	35	74	0.34
2.5	x	2	76.1	x	57	2	1.5	40	97	0.48	2	1.5	40	97	0.48
2.5	x	2.5	76.1	x	76.1	2	2	50	126	0.52	2	2	50	126	0.52
3	x	1.25	88.9	x	38	2	1.5	35	64	0.36	2	1.5	35	64	0.36
3	x	1.5	88.9	x	44.5	2	1.5	35	74	0.44	2	1.5	35	74	0.44
3	x	2	88.9	x	57	2	1.5	40	97	0.5	2	1.5	40	97	0.5
3	x	2.5	88.9	x	76.1	2	2	50	126	0.56	2	2	50	126	0.56
3	x	3	88.9	x	88.9	2	2	55	149	0.76	2.5	2.5	55	149	0.95
3	x	1.25	88.9	x	38	2.5	1.5	35	64	0.45	2.5	1.5	35	64	0.45
3	x	1.5	88.9	x	44.5	2.5	1.5	35	74	0.55	2.5	1.5	35	74	0.55
3	x	2	88.9	x	57	2.5	1.5	40	97	0.62	2.5	1.5	40	97	0.62
3	x	2.5	88.9	x	76.1	2.5	2	50	126	0.7	2.5	2	50	126	0.7
4	x	1.5	108	x	44.5	2.5	1.5	35	74	0.32	2.5	1.5	35	74	0.32
4	x	2	108	x	57	2.5	1.5	40	97	0.4	2.5	1.5	40	97	0.4
4	x	2.5	108	x	76.1	2.5	2	50	126	0.65	2.5	2	50	126	0.65
4	x	3	108	x	88.9	2.5	2	55	149	0.79	2.5	2	55	149	0.79
4	x	4	108	x	108	2.5	2.5	75	188	1.3	2.5	2.5	75	188	1.3
5	x	2	133	x	57	2.5	1.5	40	97	0.4	3	1.5	40	97	0.48
5	x	2.5	133	x	76.1	2.5	2	50	126	0.8	3	2	50	126	0.96
5	x	3	133	x	88.9	2.5	2	55	149	1	3	2.5	55	149	1.2
5	x	4	133	x	108	2.5	2.5	75	188	1.2	3	2.5	75	188	1.44
5	x	5	133	x	133	2.5	2.5	85	233	1.7	3	3	85	233	2.04
6	x	2.5	159	x	76.1	2.5	2	50	126	0.65	3	2	50	126	0.78
6	x	3	159	x	88.9	2.5	2	55	149	1	3	2.5	55	149	1.2
6	x	4	159	x	108	2.5	2.5	75	188	1.2	3	2.5	75	188	1.44
6	x	5	159	x	133	2.5	2.5	85	233	2	3	3	85	233	2.4
6	x	6	159	x	159	2.5	2.5	95	279	2.6	3	3	95	279	3.12
7	x	2.5	193.7	x	76.1	2.5	2	50	126	0.95	3.5	2.5	50	126	1.33
7	x	3	193.7	x	88.9	2.5	2	55	149	1.3	3.5	2.5	55	149	1.82
7	x	4	193.7	x	108	2.5	2.5	75	188	1.4	3.5	2.5	75	188	1.96
7	x	5	193.7	x	133	2.5	2.5	85	233	1.9	3.5	3	85	233	2.66
7	x	6	193.7	x	159	2.5	2.5	95	279	2.5	3.5	3	95	279	3.5
7	x	7	193.7	x	193.7	2.5	2.5	110	334	3.2	3.5	3.5	110	334	4.48

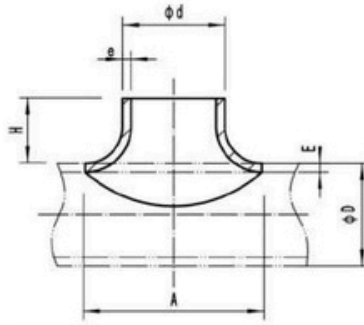
Saddles With Equal Or Reduced Branch

10Bar

14Bar

马鞍

Material: CuNi 90/10
CuNi 70/30



Outside diameter of pipe						DIN 86087									
ØD x ød		ØD x ød				10Bar			14Bar						
						Wall thickness		Centre to face		Theoretical weight	Wall thickness		Centre to face		Theoretical weight
nominal	actual	E	e	H	A	Kg/piece	E	e	H	A	Kg/piece				
inch	mm	mm	mm	mm	mm		mm	mm	mm	mm		mm			
8	x	3	219.1	x	88.9	3	2	55	149	1.3	3.5	2.5	55	149	1.52
8	x	4	219.1	x	108	3	2.5	75	188	1.8	3.5	2.5	75	188	2.1
8	x	5	219.1	x	133	3	2.5	85	233	2.7	3.5	3	85	233	3.15
8	x	6	219.1	x	159	3	2.5	95	279	3.8	3.5	3	95	279	4.43
8	x	7	219.1	x	193.7	3	2.5	110	334	4.5	3.5	3.5	110	334	5.25
8	x	8	219.1	x	219.1	3	3	125	379	5.7	3.5	3.5	125	379	6.65
10	x	4	267	x	108	3	2.5	75	188	1.8	4	2.5	75	188	2.4
10	x	5	267	x	133	3	2.5	85	233	2.3	4	3	85	233	3.06
10	x	6	267	x	159	3	2.5	95	279	3.7	4	3	95	279	4.93
10	x	7	267	x	193.7	3	2.5	110	334	4.7	4	3.5	110	334	6.27
10	x	8	267	x	219.1	3	3	125	379	6.1	4	3.5	125	379	8.13
10	x	10	267	x	267	3	3	155	447	8.7	4	4	155	447	11.6
12	x	5	323.9	x	133	4	2.5	85	233	2.6	5	3	85	233	3.25
12	x	6	323.9	x	159	4	2.5	95	279	3.8	5	3	95	279	4.75
12	x	7	323.9	x	193.7	4	2.5	110	334	4.9	5	3.5	110	334	6.2
12	x	8	323.9	x	219.1	4	3	125	379	7.7	5	3.5	125	379	9.6
12	x	10	323.9	x	267	4	3	155	447	10	5	4	155	447	12.5
12	x	12	323.9	x	323.9	4	4	185	560	13	5	5	185	560	16.25
14	x	6	368	x	159	4	2.5	95	279	3.85	5.5	3	95	279	5.3
14	x	7	368	x	193.7	4	2.5	110	334	4.2	5.5	3.5	110	334	5.8
14	x	8	368	x	219.1	4	3	125	379	4.35	5.5	3.5	125	379	6
14	x	10	368	x	267	4	3	155	447	7.3	5.5	4	155	447	10
14	x	12	368	x	323.9	4	4	185	560	9.45	5.5	5	185	560	13
14	x	14	368	x	368	4	4	200	613	12.35	5.5	5.5	200	613	17
16	x	8	419.1	x	219.1	4	3	125	379	4.35	6	3.5	125	379	6.5
16	x	10	419.1	x	267	4	3	155	447	6.65	6	4	155	447	10
16	x	12	419.1	x	323.9	4	4	185	560	9.35	6	5	185	560	14
16	x	14	419.1	x	368	4	4	200	613	12	6	5.5	200	613	18
16	x	16	419.1	x	419.1	4	4	225	680	17.35	6	6	225	680	26
18	x	10	457.2	x	267	4	3	155	447	6.3	6	4	155	447	9.45
18	x	12	457.2	x	323.9	4	4	185	560	8	6	5	185	560	12
18	x	14	457.2	x	368	4	4	200	613	9.7	6	5.5	200	613	14.6
18	x	16	457.2	x	419.1	4	4	225	680	14.85	6	6	225	680	22.3
18	x	18	457.2	x	457.2	4	4	250	800	21.7	6	6	250	800	32.6
20	x	12	508	x	323.9	4.5	4	185	560	9	6.5	5	185	560	13
20	x	14	508	x	368	4.5	4	200	613	10.8	6.5	5.5	200	613	15.6
20	x	16	508	x	419.1	4.5	4	225	680	16.8	6.5	6	225	680	24.3
20	x	18	508	x	457.2	4.5	4	250	800	22.8	6.5	6	250	800	32.95
20	x	20	508	x	508	4.5	4.5	275	880	28.8	6.5	6.5	275	880	41.6
24	x	14	610	x	368	5	4	200	613	11.1	8	5.5	200	613	17.77
24	x	16	610	x	419.1	5	4	225	680	17.25	8	6	225	680	27.55
24	x	18	610	x	457.2	5	4	250	800	22.8	8	6	250	800	36.45
24	x	20	610	x	508	5	4.5	275	880	26.7	8	6.5	275	880	42.65
24	x	24	610	x	610	5	5	300	1020	47.2	8	8	300	1020	75.5

Pipe Fittings

End Caps

10Bar

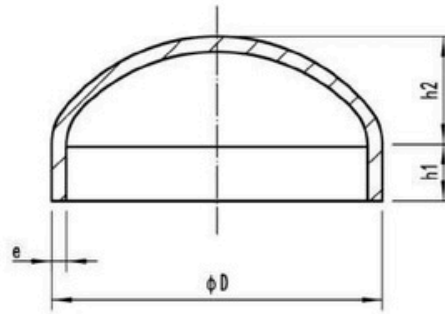
14Bar

16Bar

20Bar

管帽

Material: CuNi 90/10
CuNi 70/30



Outside diameter of pipe		DIN 28011								EEMUA 146					
		10Bar				14Bar				16Bar			20Bar		
ØD		Wall thickness	Heigh		Theoretical weight	Wall thickness	Heigh		Theoretical weight	Wall thickness	Heigh	Theoretical weight	Wall thickness	Heigh	Theoretical weight
nominal	actual	e	h1	h2	Kg/piece	e	h1	h2	Kg/piece	e	h1 + h2	Kg/piece	e	h1 + h2	Kg/piece
inch	mm	mm	mm	mm		mm	mm	mm		mm	mm		mm	mm	
1	30	1.5	14	5	0.07	1.5	14	5	0.07	-	-	-	-	-	-
1.25	38	1.5	14	6.5	0.1	1.5	14	6.5	0.1	-	-	-	-	-	-
1.5	44.5	1.5	14	8	0.12	1.5	14	8	0.12	2.5	19.6	0.13	2.5	19.6	0.13
2	57	1.5	18	10	0.18	1.5	18	10	0.18	2.5	22	0.19	2.5	22	0.19
2.5	76.1	2	18	14	0.31	2	18	14	0.31	2.5	25.7	0.31	2.5	25.7	0.31
3	88.9	2	20	16	0.39	2.5	20	16	0.53	2.5	28.2	0.4	2.5	28.2	0.4
4	108	2.5	20	20	0.75	2.5	20	20	0.75	3	31.7	0.75	3	31.7	0.75
5	133	2.5	20	24	0.95	3	20	24	1.2	-	-	-	-	-	-
6	159	2.5	20	29	1.35	3	20	29	1.6	3	41	1.5	3.5	44	1.75
7	193.7	2.5	20	36	1.95	3.5	20	36	2.4	-	-	-	-	-	-
8	219.1	3	20	41	2.6	3.5	20	41	3.1	4	55	2.75	4.5	60	3.1
10	267	3	20	50	3.85	4	20	50	4.85	4.5	69	4.9	5.5	69	5.96
12	323.9	4	20	61	6.6	5	20	61	8.2	5.5	80	9.17	7	85	11.68
14	368	4	20	69	8.8	5.5	20	69	12.6	6.5	93	14.05	8	103	17.3
16	419.1	4	20	79	12.2	6	25	79	17.4	7	102	18.6	9	112	23.9
18	457.2	4	20	87	12.55	6	25	87	17.9	8	119	22.75	9.5	119	27
20	508	4.5	20	96	18.8	6.5	25	96	26.35	8.5	129	31.7	11	139	41
24	610	5	20	115	26.7	8	35	115	49.6	10.5	148	55.16	13	163	68.3

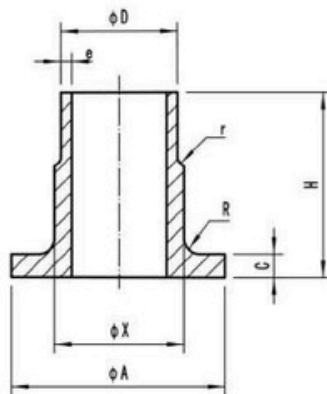
Composite Weld Neck Flanges–Inner Flange

10Bar

14Bar

颈圈

Material: CuNi 90/10
CuNi 70/30



Outside diameter of pipe		DIN 86037													
		10Bar							16Bar						
nominal	actual	Wall	øA	H	C	øX	R	Theo.	Wall	øA	H	C	øX	R	Theo.
		thickness						weight	thickness						weight
inch	mm	e	mm	mm	mm	mm	mm	Kg/piece	e	mm	mm	mm	mm	mm	Kg/piece
		mm							mm						
0.75	25	1.5	58	40	5	27	3	0.17	1.5	58	40	5	27	3	0.17
1	30	1.5	68	40	5	32	4	0.24	1.5	68	40	5	32	4	0.24
1.25	38	1.5	78	40	5	40	4	0.26	1.5	78	40	5	40	4	0.26
1.5	44.5	1.5	88	45	6	46.5	4	0.42	1.5	88	45	6	46.5	4	0.42
2	57	1.5	102	45	6	59	5	0.53	1.5	102	45	6	59	5	0.53
2.5	76.1	2	122	45	6	78	5	0.64	2	122	45	6	78	5	0.64
3	88.9	2	138	50	7	91	5	0.86	2.5	138	50	7	91	5	0.9
4	108	2.5	158	50	7	110	5	1.1	2.5	158	50	7	110	5	1.1
5	133	2.5	188	50	7	135.5	5	1.5	3	188	50	7	135.5	5	1.55
6	159	2.5	212	50	9	161.5	5	2	3	212	50	9	161.5	5	2.1
7	193.7	2.5	242	50	9	197	5	2.3	3.5	242	50	9	197	5	2.55
8	219.1	3	268	50	9	222	5	2.7	3.5	268	50	9	222	5	2.9
10	267	3	320	50	9	270	5	3.4	4	320	50	9	270	5	3.8
12	323.9	4	370	50	11	327	7	4.6	5	370	50	11	327	7	5.4
14	368	4	430	50	11	371	7	6.2	5.5	430	50	11	371	7	6.95
16	419.1	4	482	50	12	422	7	7.5	6	482	50	12	422	7	8.65
18	457.2	4	530	50	12	460	7	9	6	530	50	12	460	7	10.15
20	508	4.5	585	50	12	511	7	10.65	6.5	585	50	12	511	7	11.9
24	610	5	685	60	14	613	9	14.9	8	685	60	14	613	9	17.65

Flanges

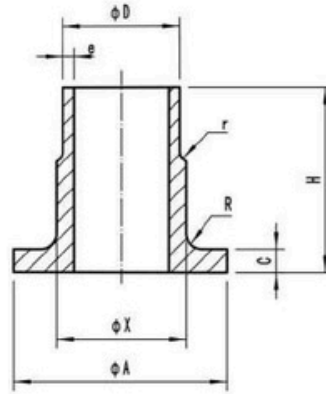
Composite Weld Neck Flanges–Short Inner Flange

16Bar

20Bar

颈圈

Material: CuNi 90/10
CuNi 70/30



Outside diameter of pipe		EEMUA 145													
		16Bar							20Bar						
nominal	actual	Wall	øA	H	C	øX	R	Theo.	Wall	øA	H	C	øX	R	Theo.
		thickness						weight	thickness						weight
inch	mm	e	mm	mm	mm	mm	mm	Kg/piece	e	mm	mm	mm	mm	mm	Kg/piece
		mm							mm						
0.5	16	2	40	35	4	18	2	0.07	2	40	35	4	18	2	0.07
0.75	25	2	50	40	5	27	3	0.16	2	50	40	5	27	3	0.16
1	30	2.5	60	40	5	32	4	0.2	2.5	60	40	5	32	4	0.2
1.25	38	2.5	70	40	5	40	4	0.25	2.5	70	40	5	40	4	0.25
1.5	44.5	2.5	80	45	6	46.5	4	0.42	2.5	80	45	6	46.5	4	0.42
2	57	2.5	99	45	6	59	5	0.5	2.5	99	45	6	59	5	0.5
2.5	76.1	2.5	120	45	6	78	5	0.67	2.5	120	45	6	78	5	0.67
3	88.9	2.5	130	50	7	91	5	0.86	2.5	130	50	7	91	5	0.86
4	108	3	158	50	7	110	5	1.18	3	158	50	7	110	5	1.2
6	159	3	212	50	9	161.5	5	2.2	3.5	212	50	9	161.5	5	2.2
8	219.1	4	270	50	9	222	5	3.2	4.5	270	50	9	222	5	3.3
10	267	4.5	320	50	9	270	5	3.9	5.5	320	50	9	270	5	4.2
12	323.9	5.5	370	50	11	327	7	6.5	7	370	50	11	327	7	6.8
14	368	6.5	430	50	11	371	7	7.45	8	430	50	11	371	7	8.2
16	419.1	7	482	50	12	422	7	9.2	9	482	50	12	422	7	10.35
18	457.2	8	530	50	12	460	7	11.45	9.5	530	50	12	460	7	12.4
20	508	8.5	585	50	12	511	7	13.4	11	585	50	12	511	7	15.1
24	610	10.5	685	60	14	613	9	20.75	13	685	60	14	613	9	23.25
28	711	12	800	60	19	719	9	33.35	15	800	60	19	719	9	36.8
32	813	13.5	905	60	20.5	821	9	42.25	17	905	60	20.5	821	9	46.85
36	914	15.5	1000	60	22	922	9	49.35	19	1000	60	22	922	9	54.55

Flanges

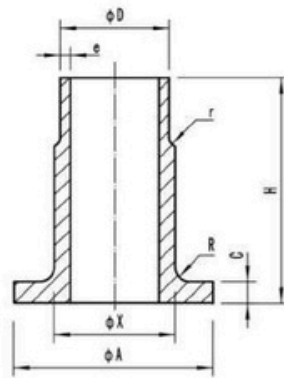
Composite Weld Neck Flanges—Long Inner Flange

16Bar

20Bar

加高颈圈

Material: CuNi 90/10
CuNi 70/30



Outside diameter of pipe		EEMUA 145													
		16Bar							20Bar						
øD		Wall thickness e	øA	H	C	øX	R	Theo.	Wall thickness e	øA	H	C	øX	R	Theo.
nominal	actual							weight							weight
inch	mm	mm	mm	mm	mm	mm	mm	Kg/piece	mm	mm	mm	mm	mm	mm	Kg/piece
0.5	16	2	40	51	4	18	2	0.09	2	40	51	4	18	2	0.09
0.75	25	2	50	51	5	27	3	0.19	2	50	51	5	27	3	0.19
1	30	2.5	60	51	5	32	4	0.23	2.5	60	51	5	32	4	0.23
1.25	38	2.5	70	51	5	40	4	0.29	2.5	70	51	5	40	4	0.29
1.5	44.5	2.5	80	51	6	46.5	4	0.44	2.5	80	51	6	46.5	4	0.44
2	57	2.5	99	64	6	59	5	0.61	2.5	99	64	6	59	5	0.61
2.5	76.1	2.5	120	64	6	78	5	0.8	2.5	120	64	6	78	5	0.8
3	88.9	2.5	130	64	7	91	5	0.97	2.5	130	64	7	91	5	0.97
4	108	3	158	76	7	110	5	1.5	3	158	76	7	110	5	1.5
6	159	3	212	89	9	161.5	5	2.9	3.5	212	89	9	161.5	5	2.9
8	219.1	4	270	102	9	222	5	5.1	4.5	270	102	9	222	5	5.2
10	267	4.5	320	127	9	270	5	8.9	5.5	320	127	9	270	5	9.8
12	323.9	5.5	370	152	11	327	7	13.8	7	370	152	11	327	7	15.4
14	368	6.5	430	152	11	371	7	16.6	8	430	152	11	371	7	19
16	419.1	7	482	152	12	422	7	20.25	9	482	152	12	422	7	23.95
18	457.2	8	530	152	12	460	7	23.6	9.5	530	152	12	460	7	26.4
20	508	8.5	585	152	12	511	7	28.65	11	585	152	12	511	7	33.85
24	610	10.5	685	152	14	613	9	39.25	13	685	152	14	613	9	45.5
28	711	12	800	190	19	719	9	75.3	15	800	190	19	719	9	86.2
32	813	13.5	905	190	20.5	827	9	94.6	17	905	190	20.5	821	9	100.15
36	914	15.5	1000	190	22	922	9	115.55	19	1000	190	22	922	9	131.95

Flanges

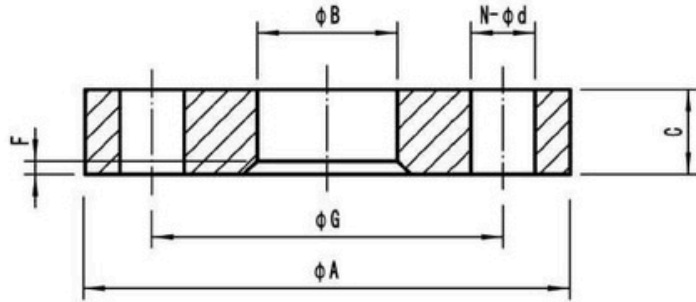
Composite Weld Neck Flanges-Outer Flange

Pn10

150Lbs

钢法兰

Material: Carbon Steel A105



Outside diameter of pipe		DIN 86037								EEMUA 145							
		Pn10								150Lbs							
ØD	ØA	C	ØB	F	Drilling			Theo. weight	ØA	C	ØB	F	Drilling			Theo. weight	
					ØG	N	Ød						ØG	N	Ød		
nominal	actual																
inch	mm	mm	mm	mm	mm	bolt holes	mm	Kg/piece	mm	mm	mm	mm	mm	bolt holes	mm	Kg/piece	
0.5	16	-	-	-	-	-	-	-	89	14	19	2	60.3	4	15.9	0.6	
0.75	25	105	14	28	3	75	4	14	0.8	98	14	28	3	69.8	4	15.9	0.8
1	30	115	16	33	4	85	4	14	1.1	108	14	33	3	79.4	4	15.9	0.9
1.25	38	140	16	42	4	100	4	18	1.65	117	14	41	3	88.9	4	15.9	1.1
1.5	44.5	150	16	50	4	110	4	18	1.85	127	14	48	3	98.4	4	15.9	1.2
2	57	165	16	62	5	125	4	18	2.2	152	18	62	3	120.6	4	19	2.1
2.5	76.1	185	16	81	5	145	4	18	2.65	178	18	81	3	139.7	4	19	2.6
3	88.9	200	18	94	5	160	8	18	3.3	190	19	94	3	152.4	4	19	2.9
4	108	220	18	113	5	180	8	18	3.65	229	24	113	3	190.5	8	19	5.9
5	133	250	18	138	5	210	8	18	4.55	-	-	-	-	-	-	-	-
6	159	285	18	164	5	240	8	22	5.6	279	27	164	4	241.3	8	22.2	8.4
7	193.7	315	22	200	5	270	8	22	7.5	-	-	-	-	-	-	-	-
8	219.1	340	20	225	5	295	8	22	7.45	343	31	225	5	298.4	8	22.2	12.35
10	267	395	22	273	5	350	12	22	10.3	406	38	273	5	362	12	25.4	19.7
12	323.9	445	24	331	7	400	12	22	12	483	41	330	7	431.8	12	25.4	32.2
14	368	505	24	375	7	460	16	22	16	533	45	374	7	476.2	12	28.6	38.2
16	419.1	565	26	426	7	515	16	26	20	597	51	426	7	539.8	16	28.6	52.15
18	457.2	615	28	465	7	565	20	26	25	635	52	465	7	577.8	16	31.8	54.05
20	508	670	30	517	7	620	20	26	31	698	58	517	7	635	20	31.8	73.2
24	610	780	32	618	9	725	20	30	40	813	71	618	9	749.3	20	34.9	114.25

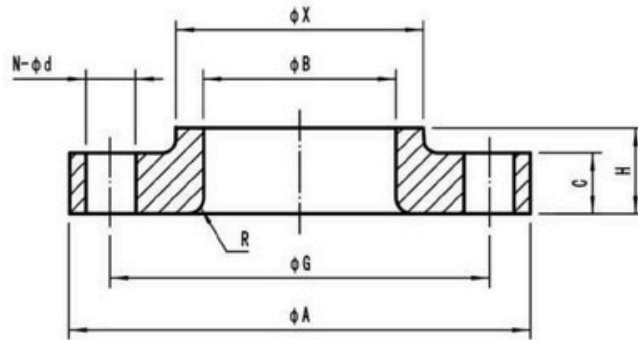
Flanges

Composite Weld Neck Flanges-Outer Flange

150Lbs

钢法兰

Material: Carbon Steel A105



Outside diameter of pipe		ANSI B16.5									
		150Lbs									
nominal inch	actual mm	ϕA mm	H mm	C mm	ϕX mm	ϕB mm	R mm	Drilling			Theo. weight
								ϕG mm	N bolt holes	ϕd mm	Kg/piece
0.5	20	90	15.9	11.1	30.2	22	3.2	60.3	4	15.9	0.8
0.75	25	100	15.9	12.7	38.1	28	3.2	69.8	4	15.9	0.9
1	30	110	17.5	14.3	49.2	33	3.2	79.4	4	15.9	1
1.25	38	115	20.6	15.9	58.8	41	4.8	88.9	4	15.9	1.3
1.5	44.5	125	22.2	17.5	65.1	48	6.4	98.4	4	15.9	1.4
2	57	150	25.4	19	77.8	62	7.9	120.6	4	19	2.3
2.5	76.1	180	28.6	22.2	90.5	81	7.9	139.7	4	19	3.2
3	88.9	190	30.2	23.8	107.9	94	9.5	152.4	4	19	3.6
4	108	230	33.3	23.8	134.9	113	11.1	190.5	8	19	5.9
5	133	255	36.5	23.8	163.5	138	11.1	215.9	8	22.2	6.8
6	159	280	39.7	25.4	192.1	164	12.7	241.3	8	22.2	8.6
8	219.1	345	44.4	28.6	246.1	225	12.7	298.4	8	22.2	13.6
10	267	405	49.2	30.2	304.8	273	12.7	361.9	12	25.4	19.5
12	323.9	485	55.6	31.7	365.1	330	12.7	431.8	12	25.4	29
14	368	535	79.4	34.9	400	374	12.7	476.2	12	28.6	45
16	419.1	595	87.3	36.5	457.2	426	12.7	539.7	16	28.6	58
18	457.2	635	96.8	39.7	504.8	465	12.7	577.8	16	31.7	66
20	508	700	103.2	42.9	558.8	517	12.7	635	20	31.7	84
24	610	815	111.1	47.6	663.6	618	12.7	749.3	20	34.9	118

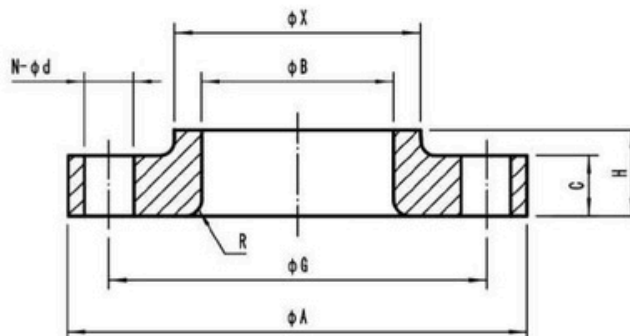
Flanges

Composite Weld Neck Flanges-Outer Flange

300Lbs

钢法兰

Material: Carbon Steel A105



Outside diameter of pipe		ANSI B16.5									
		300Lbs									
nominal inch	actual mm	øA mm	H mm	C mm	øX mm	øB mm	R mm	Drilling			Theo. weight Kg/piece
								øG mm	N bolt holes	ød mm	
0.5	20	95	22.2	14.3	38.1	22	3.2	66.7	4	15.9	1.2
0.75	25	115	25.4	15.9	47.6	28	3.2	82.5	4	19	1.3
1	30	125	27	17.5	54	33	3.2	88.9	4	19	1.4
1.25	38	135	27	19	63.5	41	4.8	98.4	4	19	1.8
1.5	44.5	155	30.2	20.6	69.8	48	6.4	114.3	4	22.2	2.7
2	57	165	33.3	22.2	84.1	62	7.9	127	8	19	3.2
2.5	76.1	190	38.1	25.4	100	81	7.9	149.2	8	22.2	4.5
3	88.9	210	42.9	28.6	117.5	94	9.5	168.3	8	22.2	5.9
4	108	255	47.6	31.7	146	113	11.1	200	8	22.2	10
5	133	280	50.8	34.9	177.8	138	11.1	234.9	8	22.2	12.7
6	159	320	52.4	36.5	206.4	164	12.7	269.9	12	22.2	17.7
8	219.1	380	61.9	41.3	260.3	225	12.7	330.2	12	25.4	26.3
10	267	445	95.2	47.6	320.7	273	12.7	387.3	16	28.6	41
12	323.9	520	101.6	50.8	374.6	330	12.7	450.8	16	31.7	63
14	368	585	111.1	54	425.4	374	12.7	514.3	20	31.7	86
16	419.1	650	120.6	57.1	482.6	426	12.7	571.5	16	34.9	109
18	457.2	710	130.2	60.3	533.4	465	12.7	628.6	24	34.9	138
20	508	775	139.7	63.5	587.4	517	12.7	685.8	24	34.9	170
24	610	915	152.4	69.8	701.7	618	12.7	812.8	24	41.3	241

Flanges

Composite Slip On Flanges

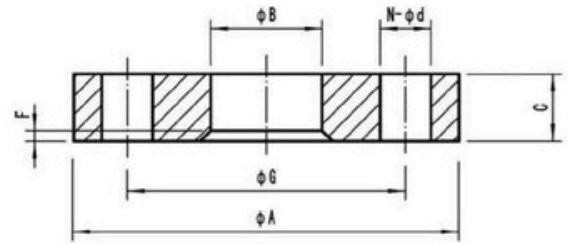
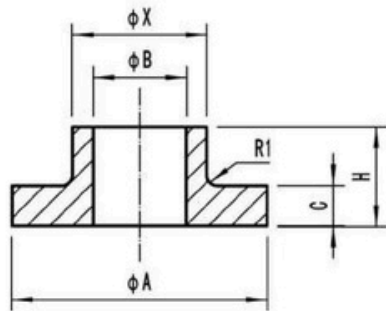
10Bar

16Bar

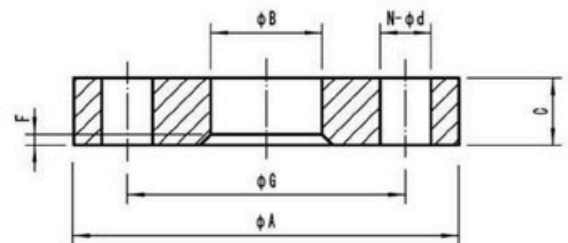
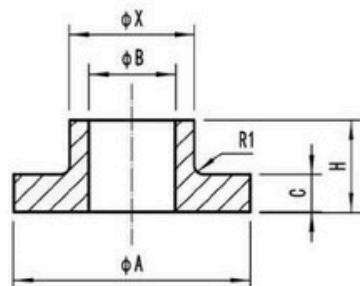
20Bar

组合滑动法兰

Material: CuNi 90/10
CuNi 70/30



Outside diameter of pipe		DIN 86036							PN 10							
		10Bar							10Bar							
		Inner Flange							Outer Flange							
nominal	actual	ϕA	H	C	ϕX	ϕB	R1	Theo. weight	ϕA	C	ϕB	F	Drilling			Theo. weight
inch	mm												ϕG	N	ϕd	
0.5	20	45	22	6	31	20.2	2	0.13	95	14	32	2	65	4	14	0.65
0.75	25	58	22	6	37	25.2	2	0.19	105	14	38	2	75	4	14	0.75
1	30	68	24	6	44	30.2	2	0.28	115	16	45	2	85	4	14	1.01
1.25	38	78	24	6	54	38.25	2	0.37	140	16	55	2	100	4	18	1.5
1.5	44.5	88	24	6	60	44.75	2	0.43	150	16	62	2	110	4	18	1.71
2	57	102	24	6	73	57.3	2	0.54	165	16	75	2	125	4	18	2
2.5	76.1	122	24	6	90	76.3	2	0.65	185	16	92	2	145	4	18	2.41
3	88.9	138	26	6	106	89.4	2	0.89	200	18	108	2	160	4	18	3
4	108	158	26	6	126	108.4	2	1.1	220	18	128	2	180	8	18	3.26



Outside diameter of pipe		EEMUA 145							EEMUA 145-Class 150 Lbs							
		16Bar&20Bar							Outer Flange							
		Inner Flange							Outer Flange							
nominal	actual	ϕA	H	C	ϕX	ϕB	R1	Theo. weight	ϕA	C	ϕB	F	Drilling			Theo. weight
inch	mm												ϕG	N	ϕd	
0.5	16	40	16	5	21	16.07	1	0.06	89	14	23	3	60.3	4	15.9	0.75
0.75	25	53	16	5	31	25.08	1	0.1	98	14	33	3	69.8	4	15.9	0.8
1	30	60	18	5	36	30.08	1	0.14	108	14	38	3	79.4	4	15.9	0.95
1.25	38	70	18	5	45	38.1	1	0.2	117	14	47	3	88.9	4	15.9	1.1
1.5	44.5	80	19	5	51	44.6	1	0.3	127	14	53	3	98.4	4	15.9	1.15
2	57	99	19	6	67	57.23	1	0.4	152	18	69	3	120.6	4	19	2.1
2.5	76.1	120	19	6	87	76.33	1	0.5	178	18	89	3	139.7	4	19	2.6
3	88.9	130	21	7	100	89.18	1	0.7	190	19	103	3	152.4	4	19	2.9
4	108	158	23	7	120	108.38	1	0.9	229	24	123	3	190.5	4	19	5.9

Flanges

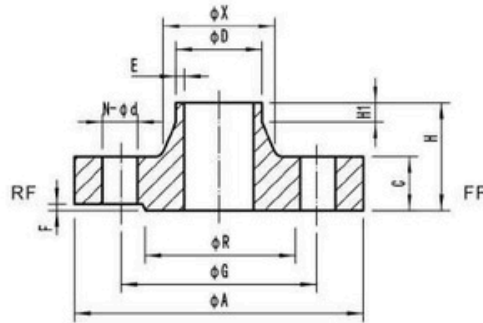
Solid Welding Neck Flanges

Pn10

Pn16

高颈法兰

Material: CuNi 90/10
CuNi 70/30



Outside diameter of pipe		DIN 2632												
		Pn10												
ØD	nominal inch	actual mm	ØA mm	H mm	C mm	ØX mm	ØR mm	F mm	E mm	Y mm	Drilling			Theo. weight Kg/piece
											ØG mm	N bolt holes	Ød mm	

ND ½ TO 7 Welding Neck Flange as per DIN2633, NP 16 are be used

8	219.1	340	62	24	235	268	3			16	295	8	22	12.84
10	267	395	68	26	285	320	3			16	350	12	22	16.7
12	323.9	445	68	26	344	370	4	To be specified by purchaser		16	400	12	22	19.77
14	368	505	68	26	385	430	4		16	460	16	22	26.81	
16	419.1	565	72	26	440	482	4		16	515	16	26	32.49	
20	508	670	75	28	542	585	4		16	620	20	26	43.28	
24	610	780	80	28	642	685	5		18	725	20	30	50.67	

Outside diameter of pipe		DIN 2633												
		Pn16												
ØD	nominal inch	actual mm	ØA mm	H mm	C mm	ØX mm	ØR mm	F mm	E mm	Y mm	Drilling			Theo. weight Kg/piece
											ØG mm	N bolt holes	Ød mm	

0.5	20	95	35	14	30	45	2			6	65	4	14	0.74
0.75	25	105	38	16	38	58	2			6	75	4	14	1.08
1	30	115	38	16	42	68	2	To be specified by purchaser		6	85	4	14	1.3
1.25	38	140	40	16	52	78	2		6	100	4	18	1.92	
1.5	44.5	150	42	16	60	88	3		7	110	4	18	2.11	
2	57	165	45	18	72	102	3		8	125	4	18	2.88	
2.5	76.1	185	45	18	90	122	3		10	145	4	18	3.48	
3	88.9	200	50	20	105	138	3		10	160	8	18	4.2	
4	108	220	52	20	125	158	3		12	180	8	18	5.25	
5	133	250	55	22	150	188	3		12	210	8	18	7.15	
6	159	285	55	22	175	212	3		12	240	8	22	8.8	
7	193.7	315	60	24	210	242	3		12	270	8	22	11.19	
8	219.1	340	62	24	235	268	3	16	295	12	22	12.5		
10	267	405	70	26	285	320	3	16	355	12	26	17.72		
12	323.9	460	78	28	344	378	4	16	410	12	26	25		
14	368	520	82	30	390	438	4	16	470	16	26	35.45		
16	419.1	580	85	32	445	490	4	16	525	16	30	45.21		
20	508	715	90	34	548	610	4	16	650	20	33	69.3		
24	610	840	95	36	652	725	5	18	770	20	36	85.65		

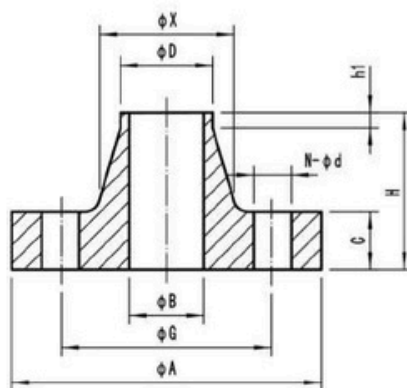
Flanges

Solid Welding Neck Flanges

16Bar

高颈法兰

Material: CuNi 90/10
CuNi 70/30



Outside diameter of pipe		EEMUA 145										
		16Bar										
ϕD		ϕA	H	C	ϕX	ϕB	h1	Drilling			Theo.	
								ϕG	N	ϕd	weight	
nominal	actual	mm	mm	mm	mm	mm	mm	mm	mm	bolt holes	mm	Kg/piece
inch	mm											
0.5	16	89	48	14	23	12	8	60.3	4	15.9	0.74	
0.75	25	98	52	16	32	21	7	69.8	4	15.9	1.04	
1	30	108	56	16	42	25	8	79.4	4	15.9	1.36	
1.25	38	117	57	17	51	33.03	8	88.9	4	15.9	1.7	
1.5	44.5	127	62	20	61	39.53	7	98.4	4	15.9	2.38	
2	57	152	64	25	73	52.16	9	120.6	4	19	3.93	
2.5	76.1	178	70	27	91	71.23	8	139.7	4	19	5.62	
3	88.9	190	70	27	105	84.08	8	152.4	4	19	6.27	
4	108	229	76	27	135	102.13	8	190.5	8	19	9.53	
6	159	279	89	27	192	153.75	8	241.3	8	22.2	13.65	
8	219.1	343	98	31	246	211.1	8	298.4	8	22.2	21.19	
10	267	406	98	31	305	257.97	8	362	12	25.4	29.52	
12	323.9	483	98	35	365	312.83	8	431.8	12	25.4	44.77	
14	368	533	99	41	400	354.22	8	476.2	12	28.6	57.27	
16	419.1	597	106	43	457	404.17	8	539.8	16	28.6	74.4	
18	457.2	635	113	45	505	441.5	8	577.8	16	31.8	88.16	
20	508	698	118	45	559	490.5	8	635	20	31.8	106.2	
24	610	813	137	49	664	589.5	8	749.3	20	34.9	153.15	
28	711	927	145	72	748	687.5	8	864	28	34.9	255.28	
32	813	1060	160	72	876	786.5	8	978	28	41.1	291.45	
36	914	1168	175	72	984	883.5	8	1086	32	41.1	356.45	

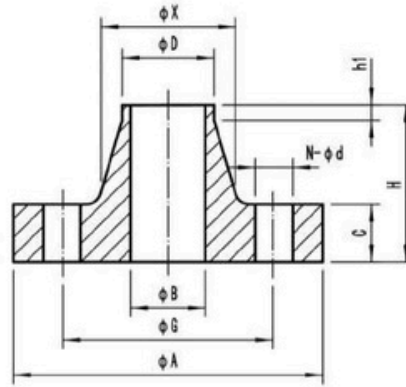
Flanges

Solid Welding Neck Flanges

20Bar

高颈法兰

Material: CuNi 90/10
CuNi 70/30



Outside diameter of pipe		EEMUA 145									
		20Bar									
ϕD		ϕA	H	C	ϕX	ϕB	h1	Drilling			Theo. weight
nominal	actual							ϕG	N	ϕd	
inch	mm	mm	mm	mm	mm	mm	mm	mm	bolt holes	mm	Kg/piece
0.5	16	89	48	14	23	12	8	60.3	4	15.9	0.74
0.75	25	98	52	16	32	21	7	69.8	4	15.9	1.04
1	30	108	56	16	42	25	8	79.4	4	15.9	1.36
1.25	38	117	57	17	51	33.03	8	88.9	4	15.9	1.7
1.5	44.5	127	62	20	61	39.53	7	98.4	4	15.9	2.38
2	57	152	64	25	73	52.16	9	120.6	4	19	3.93
2.5	76.1	178	70	27	91	71.23	8	139.7	4	19	5.62
3	88.9	190	70	27	105	84.08	8	152.4	4	19	6.27
4	108	229	76	27	135	102.13	8	190.5	8	19	9.53
6	159	279	89	27	192	152.38	8	241.3	8	22.2	13.99
8	219.1	343	98	31	246	210.1	8	298.4	8	22.2	21.57
10	267	406	98	31	305	255.93	8	362	12	25.4	30.47
12	323.9	483	98	35	365	309.74	8	431.8	12	25.4	46.56
14	368	533	99	41	400	351	8	476.2	12	28.6	59.49
16	419.1	597	106	43	457	399.84	8	539.8	16	28.6	78.03
18	457.2	635	113	45	505	438.5	8	577.8	16	31.8	91.08
20	508	698	118	45	559	486.5	8	635	20	31.8	110.65
24	610	813	137	49	664	584.5	8	749.3	20	34.9	160.79
28	711	927	145	72	748	681.5	8	864	28	34.9	249.09
32	813	1060	160	72	876	779.5	8	978	28	41.1	303.95
36	914	1168	175	72	984	876.5	8	1086	32	41.1	371.8

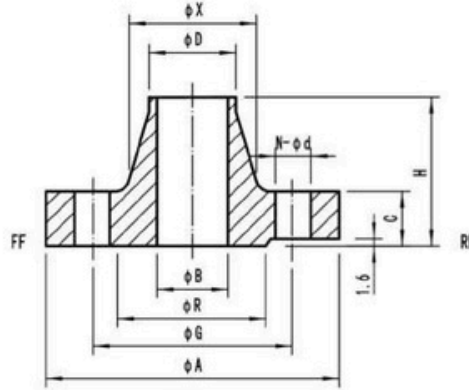
Flanges

Solid Welding Neck Flanges

150Lbs

高颈法兰

Material: CuNi 90/10
CuNi 70/30



Outside diameter of pipe		ANSI B16.5								
		150Lbs								
$\emptyset D$		$\emptyset A$	H	C	$\emptyset X$	$\emptyset R$	Drilling			Theo.
							$\emptyset G$	N	$\emptyset d$	weight
nominal	actual	mm	mm	mm	mm	mm	mm	bolt holes	mm	Kg/piece
inch	mm									
0.5	20	90	47.6	11.1	30.2	34.9	60.3	4	15.9	0.68
0.75	25	100	52.4	12.7	38.1	42.9	69.8	4	15.9	0.91
1	30	110	55.6	14.3	49.2	50.8	79.4	4	15.9	1.25
1.25	38	115	57.1	15.9	58.7	63.5	88.9	4	15.9	1.58
1.5	44.5	125	61.9	17.5	65.1	73	98.4	4	15.9	2.05
2	57	150	63.5	19.1	77.8	92.1	120.6	4	19	3.05
2.5	76.1	180	69.8	22.2	90.5	104.8	139.7	4	19	5.1
3	88.9	190	69.8	23.8	107.9	127	152.4	4	19	5.2
4	108	230	76.2	23.8	134.9	157.2	190.5	8	19	7.9
5	133	255	88.9	23.8	163.5	185.7	215.9	8	22.2	10.1
6	159	280	88.9	25.4	192.1	215.9	241.3	8	22.2	12.2
8	219.1	345	101.6	28.6	246.1	269.9	298.4	8	22.2	20
10	267	405	101.6	30.2	304.8	323.8	361.9	12	25.4	27
12	323.9	485	114.3	31.8	365.1	381	431.8	12	25.4	42
14	368	535	127	34.9	400	425.1	476.2	12	28.6	53
16	419.1	595	127	36.5	457.2	482.6	539.7	16	28.6	66
18	457.2	635	139.7	39.7	504.8	533.4	577.8	16	31.7	72
20	508	700	144.5	42.9	558.8	584.2	635	20	31.7	87
24	610	815	152.4	47.6	663.6	692.1	749.3	20	34.9	134

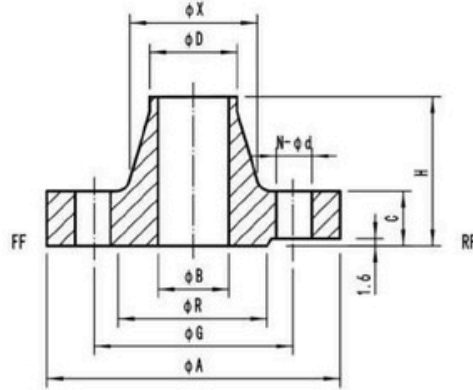
Flanges

Solid Welding Neck Flanges

300Lbs

高颈法兰

Material: CuNi 90/10
CuNi 70/30



Outside diameter of pipe		ANSI B16.5								
		300Lbs								
ϕD		ϕA	H	C	ϕX	ϕR	Drilling			Theo.
							ϕG	N	ϕd	weight
nominal	actual	mm	mm	mm	mm	mm	mm	bolt holes	mm	Kg/piece
inch	mm									
0.5	20	95	52.4	14.3	38.1	34.9	66.7	4	15.9	1.72
0.75	25	115	57.1	15.9	47.6	42.9	82.5	4	19	2.06
1	30	125	61.9	17.5	54	50.8	88.9	4	19	2.29
1.25	38	135	65.1	19	63.5	63.5	98.4	4	19	2.86
1.5	44.5	155	68.3	20.6	69.8	73	114.3	4	22.2	4.01
2	57	165	69.8	22.2	84.1	92.1	127	8	19	4.58
2.5	76.1	190	76.2	25.4	100	104.8	149.2	8	22.2	5.73
3	88.9	210	79.4	28.6	117.5	127	168.3	8	22.2	8.02
4	108	255	85.7	31.8	146.1	157.2	200	8	22.2	12.6
5	133	280	98.4	34.9	177.8	185.7	234.9	8	22.2	17.9
6	159	320	98.4	36.5	206.4	215.9	269.9	12	22.2	21.76
8	219.1	380	111.1	41.3	260.4	269.9	330.2	12	25.4	34.35
10	267	445	117.5	47.6	320.7	323.8	387.3	16	28.6	46.95
12	323.9	520	130.2	50.8	374.6	381	450.8	16	31.7	70.99
14	368	585	142.9	54	425.4	425.1	514.3	20	31.7	96.18
16	419.1	650	146.1	57.2	482.6	482.6	571.5	20	34.9	127.1
18	457.2	710	158.7	60.3	533.3	533.4	628.6	24	34.9	158.01
20	508	775	161.9	63.5	587.4	584.2	685.8	24	34.9	195.8
24	610	915	168.3	69.8	701.7	692.1	812.8	24	41.3	283

Flanges

Solid Slip On Flanges

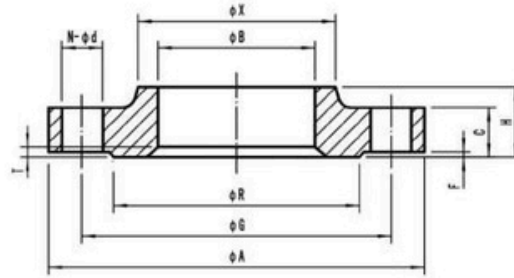
Pn10

16Bar

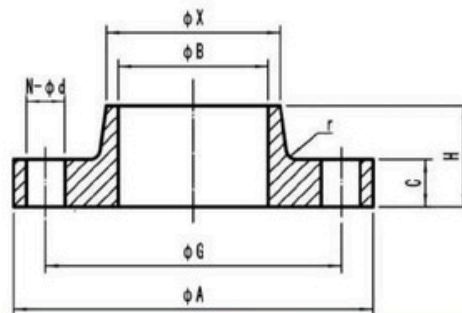
20Bar

滑动法兰

Material: CuNi 90/10
CuNi 70/30



Outside diameter of pipe		DIN 86033												
		Pn10												
ØD		ØA	H	C	ØX	ØR	ØB	F	T	Drilling			Theo. weight	
nominal inch	actual mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	ØG	N bolt holes	Ød	Kg/piece
0.375	16	90	18	12	26	40	16.2	2	Not Applicable		60	4	14	0.52
0.5	20	95	18	12	30	45	20.2	2			65	4	14	0.57
0.75	25	105	18	12	35	58	25.2	2			75	4	14	0.71
1	30	115	18	12	40	68	30.2	2			85	4	14	0.86
1.25	38	140	20	14	49	78	38.25	2			100	4	18	1.47
1.5	44.5	150	20	14	56	88	44.75	3			110	4	18	1.6
2	57	165	22	16	69	102	57.3	3			125	4	18	2.2
2.5	76.1	185	22	16	88	122	76.3	3			145	4	18	2.66
3	88.9	200	24	18	101	138	89.4	3			160	8	18	3.32
4	108	220	28	20	120	158	108.4	5			180	8	18	4.31
5	133	250	28	20	146	188	133.65	5	7	210	8	18	5.37	
6	159	285	30	22	172	212	159.65	5	7	240	8	23	6.37	
7	193.7	315	32	22	209	242	195	5	7	270	8	23	7.22	
8	219.1	340	32	24	234	268	220	5	7	295	8	23	9.12	
10	267	395	34	26	284	320	268.2	6	7	350	12	23	12.1	
12	323.9	445	36	26	343	370	325.35	6	7	400	12	23	13.7	
14	368	505	38	28	389	430	369.35	6	7	460	16	23	19.3	
16	419.1	565	40	28	442	482	420.5	6	7	515	16	27	23.2	
18	457.2	615	42	28	482	530	458.5	6	7	565	20	27	27.9	
20	508	670	47	31	535	585	509.5	7	8	620	20	27	35	
24	610	780	49	31	640	685	612	8	8	725	20	30	42.9	



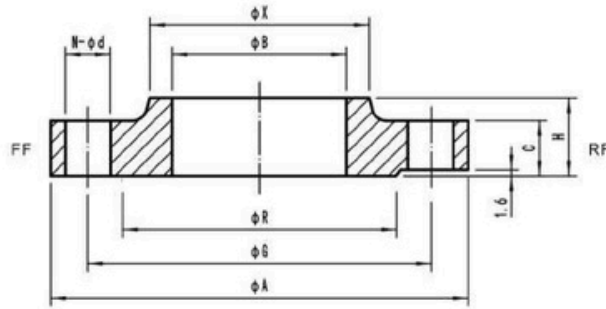
Outside diameter of pipe		EEMUA 145										
		16&20Bar										
ØD		ØA	H	C	ØX	ØR	r	Drilling			Theo. weight	
nominal inch	actual mm	mm	mm	mm	mm	mm	mm	mm	mm	N bolt holes	Ød	Kg/piece
0.5	16	89	20	14	23	16.07	4	60.3	4	4	15.9	1.15
0.75	25	98	24	16	32	25.08	4	69.8	4	4	15.9	1.2
1	30	108	24	16	47	30.08	4	79.4	4	4	15.9	1.3
1.25	38	117	26	17	51	38.1	6	88.9	4	4	15.9	1.7
1.5	44.5	127	26	20	61	44.6	6	98.4	4	4	15.9	1.8
2	57	152	28	25	73	57.23	6	120.6	4	4	19	2.9
2.5	76.1	178	32	27	91	76.33	6	139.7	4	4	19	4.3
3	88.9	190	34	27	105	89.18	6	152.4	4	4	19	4.4
4	108	229	40	27	135	108.38	8	190.5	8	4	19	7.3

Solid Slip On Flanges

150Lbs

滑动法兰

Material: CuNi 90/10
CuNi 70/30



Outside diameter of pipe		ANSI B16.5									
		150Lbs									
nominal	actual	φA	H	C	φX	φR	φB	Drilling			Theo. weight
								φG	N	φd	
inch	mm	mm	mm	mm	mm	mm	mm	mm	bolt holes	mm	Kg/piece
0.5	20	90	15.9	11.1	30.2	34.9	20.2	60.3	4	15.9	0.9
0.75	25	100	15.9	12.7	38.1	42.9	25.2	69.8	4	15.9	1.1
1	30	110	17.5	14.3	49.2	50.8	30.2	79.4	4	15.9	1.2
1.25	38	115	20.6	15.9	58.7	63.5	38.3	88.9	4	15.9	1.5
1.5	44.5	125	22.2	17.5	65.1	73	44.8	98.4	4	15.9	1.6
2	57	150	25.4	19.1	77.8	92.1	57.4	120.6	4	19	2.7
2.5	76.1	180	28.6	22.2	90.5	104.8	76.5	139.7	4	19	4.1
3	88.9	190	30.2	23.8	107.9	127	89.4	152.4	4	19	4.1
4	108	230	33.3	23.8	134.9	157.2	108.5	190.5	8	19	7
5	133	255	36.5	23.8	163.5	185.7	133.8	215.9	8	22.2	8
6	159	280	39.7	25.4	192.1	215.9	159.8	241.3	8	22.2	9.9
8	219.1	345	44.4	28.6	246.1	269.9	220.3	298.4	8	22.2	15.7
10	267	405	49.2	30.2	304.8	323.8	268.4	361.9	12	25.4	22.8
12	323.9	485	55.6	31.8	365.1	381	325.4	431.8	12	25.4	33.9
14	368	535	57.1	34.9	400	425.1	369.5	476.2	12	28.6	45
16	419.1	595	63.5	36.5	457.2	482.6	420.5	539.7	16	28.6	49
18	457.2	635	68.3	39.7	504.8	533.4	458.7	577.8	16	31.7	63
20	508	700	73	42.9	558.8	584.2	509.5	635	20	31.7	81.5
24	610	815	82.5	47.6	663.6	692.1	611.5	749.3	20	34.9	105.55

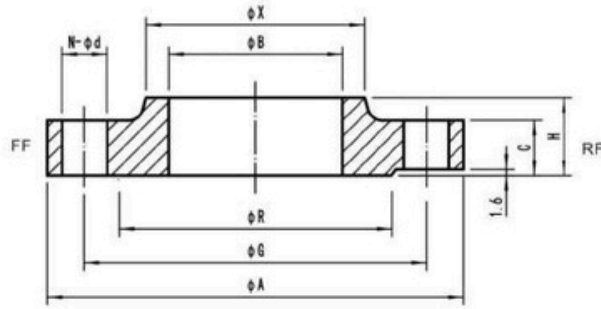
Flanges

Solid Slip On Flanges

300Lbs

滑动法兰

Material: CuNi 90/10
CuNi 70/30



Outside diameter of pipe		ANSI B16.5									
		300Lbs									
nominal inch	actual mm	ϕA mm	H mm	C mm	ϕX mm	ϕR mm	ϕB mm	Drilling			Theo. weight Kg/piece
								ϕG mm	N bolt holes	ϕd mm	
0.5	20	95	22.2	14.3	38.1	34.9	20.2	66.7	4	15.9	0.9
0.75	25	115	25.4	15.9	47.6	42.9	25.2	82.5	4	19	1.4
1	30	125	27	17.5	54	50.8	30.2	88.9	4	19	1.7
1.25	38	135	27	19	63.5	63.5	38.3	98.4	4	19	2
1.5	44.5	155	30.2	20.6	69.8	73	44.8	114.3	4	22.2	3
2	57	165	33.3	22.2	84.1	92.1	57.4	127	8	19	3.4
2.5	76.1	190	38.1	25.4	100	104.8	76.5	149.2	8	22.2	5.1
3	88.9	210	42.9	28.6	117.5	127	89.4	168.3	8	22.2	6.8
4	108	255	47.6	31.8	146	157.2	108.5	200	8	22.2	11.3
5	133	280	50.8	34.9	177.8	185.7	133.8	234.9	8	22.2	14.2
6	159	320	52.4	36.5	206.4	215.9	159.8	269.9	12	22.2	18.3
8	219.1	380	61.9	41.3	260.3	269.9	220.3	330.2	12	25.4	28.2
10	267	445	66.7	47.6	320.7	323.8	268.4	387.3	16	28.6	39.5
12	323.9	520	73	50.8	374.6	381	325.4	450.8	16	31.7	57.7
14	368	585	76.2	54	425.4	425.1	369.5	514.3	20	31.7	80.6
16	419.1	650	82.5	57.2	482.6	482.6	420.5	571.5	20	34.9	102.1
18	457.2	710	88.9	60.3	533.4	533.4	458.7	628.5	24	34.9	125.2
20	508	775	95.2	63.5	587.4	584.2	509.5	685.8	24	34.9	154.7
24	610	915	106.4	69.8	701.7	692.1	611.5	812.8	24	41.3	240.65

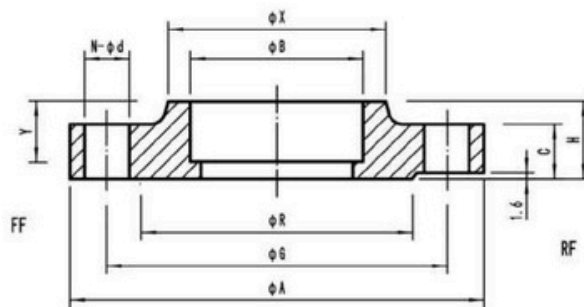
Flanges

Solid Socket Welding Flanges

150Lbs 300Lbs

承插焊法兰

Material: CuNi 90/10
CuNi 70/30



Outside diameter of pipe		ANSI B16.5										
		150Lbs										
ØD		ØA	H	C	ØX	ØR	ØB	Y	Drilling			Theo. weight
nominal	actual								ØG	N	Ød	
inch	mm	mm	mm	mm	mm	mm	mm	mm	mm	bolt holes	mm	Kg/piece
0.5	20	90	15.9	11.1	30.2	34.9	20.2	9.5	60.3	4	15.9	0.8
0.75	25	100	15.9	12.7	38.1	42.9	25.2	11.1	69.8	4	15.9	1.1
1	30	110	17.5	14.3	49.2	50.8	30.2	12.7	79.4	4	15.9	1.2
1.25	38	115	20.6	15.9	58.7	63.5	38.3	14.3	88.9	4	15.9	1.5
1.5	44.5	125	22.2	17.5	65.1	73	44.8	15.9	98.4	4	15.9	1.6
2	57	150	25.5	19.1	77.8	92.1	57.4	17.5	120.6	4	19	2.7
2.5	76.1	180	28.6	22.2	90.5	104.8	76.5	19	139.7	4	19	4.1
3	88.9	190	30.2	23.8	107.9	127	89.4	20.6	152.4	4	19	4.1
4	108	230	33.3	23.8	134.9	157.2	108.5	23.8	190.5	8	19	7

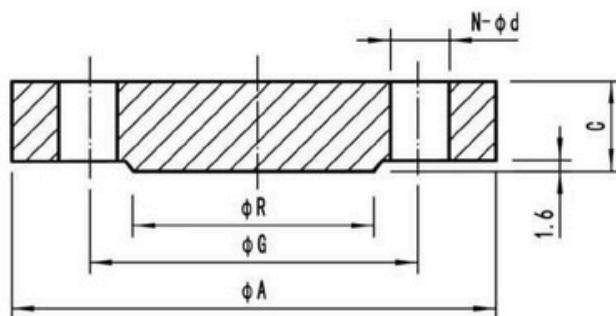
Outside diameter of pipe		ANSI B16.5										
		300Lbs										
ØD		ØA	H	C	ØX	ØR	ØB	Y	Drilling			Theo. weight
nominal	actual								ØG	N	Ød	
inch	mm	mm	mm	mm	mm	mm	mm	mm	mm	bolt holes	mm	Kg/piece
0.5	20	95	22.2	14.3	38.1	34.9	20.2	9.5	66.7	4	15.9	0.9
0.75	25	115	25.4	15.9	47.6	42.9	25.2	11.1	82.5	4	19	1.4
1	30	125	27	17.5	54	50.8	30.2	12.7	88.9	4	19	1.7
1.25	38	135	27	19	63.5	63.5	38.3	14.3	98.4	4	19	2
1.5	44.5	155	30.2	20.6	69.8	73	44.8	15.9	114.3	4	22.2	3
2	57	165	33.3	22.2	84.1	92.1	57.4	17.5	127	8	19	3.4
2.5	76.1	190	38.1	25.4	100	104.8	76.5	19	149.2	8	22.2	5.1
3	88.9	210	42.9	28.6	117.5	127	89.4	20.6	168.3	8	22.2	6.8
4	108	255	47.6	31.8	146	157.2	108.5	23.8	200	8	22.2	11.3

Solid Blind Flanges

Pn10 150Lbs

盲板法兰

Material: CuNi 90/10
CuNi 70/30



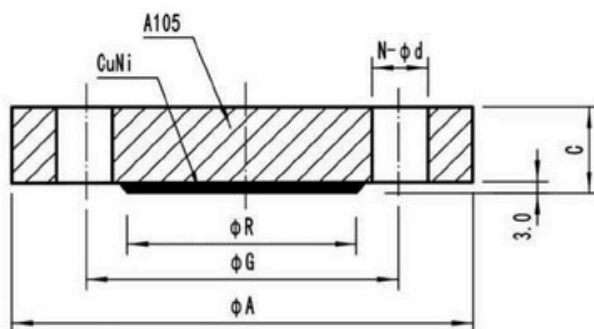
Outside diameter of pipe		ISO Np10								ANSI B16.5							
										150Lbs							
ØD		ØA	C	ØR	E	Drilling			Theo. weight	ØA	C	ØR	Drilling			Theo. weight	
nominal	actual					ØG	N	Ød					ØG	N	Ød		ØG
inch	mm	mm	mm	mm	mm	mm	bolt holes	mm	Kg/piece	mm	mm	mm	mm	bolt holes	mm	Kg/piece	
0.5	20	95	14	46	2	65	4	14	0.8	90	11.1	34.9	60.3	4	15.9	0.9	
0.75	25	105	16	56	2	75	4	14	1.15	100	12.7	42.9	69.8	4	15.9	1.05	
1	30	115	16	65	2	85	4	14	1.4	110	14.3	50.8	79.4	4	15.9	1.15	
1.25	38	140	18	76	2	100	4	18	2.05	115	15.9	63.5	88.9	4	15.9	1.5	
1.5	44.5	150	18	84	3	110	4	18	2.4	125	17.5	73	98.4	4	15.9	1.6	
2	57	165	20	99	3	125	4	18	3.25	150	19.1	92.1	120.6	4	19	2.05	
2.5	76.1	185	20	118	3	145	4	18	4.15	180	22.2	104.8	139.7	4	19	3.65	
3	88.9	200	20	132	3	160	8	18	5.75	190	23.8	127	152.4	4	19	4.55	
4	108	220	22	156	3	180	8	18	7.05	230	23.8	157.2	190.5	8	19	9.1	
5	133	250	22	184	3	210	8	18	10.1	255	23.8	185.7	215.9	8	22.2	10.25	
6	159	285	24	211	3	240	8	22	13	280	25.4	215.9	241.3	8	22.2	13.7	
7	193.7	315	24	242	3	270	8	22	17.55	-	-	-	-	-	-	-	
8	219.1	340	24	266	3	295	8	22	20.4	345	28.6	269.9	298.4	8	22.2	22.8	
10	267	395	26	319	3	350	12	22	29.65	405	30.2	323.8	361.9	12	25.4	36.45	
12	323.9	445	26	370	4	400	12	22	37.6	485	31.8	381	431.8	12	25.4	57	
14	368	505	26	429	4	460	16	22	52.45	535	34.9	425.1	476.2	12	28.6	67.25	
16	419.1	565	28	480	4	515	16	26	68.4	595	36.5	482.6	539.7	16	28.6	87.8	
18	457.2	615	28	530	4	565	20	26	80.95	635	39.7	533.4	577.8	16	31.7	108.3	
20	508	670	30	582	4	620	20	26	103.75	700	42.9	584.2	635	20	31.7	140.25	
24	610	780	34	682	5	725	20	30	149.35	815	47.6	692.1	749.3	20	34.9	212.05	

Flanges

Composite Blind Flanges

Pn10 150Lbs

组合盲板法兰



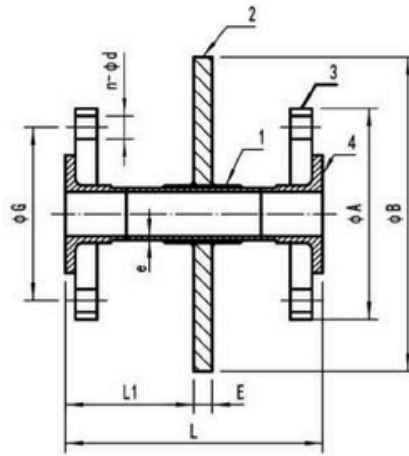
Outside diameter of pipe		ISO NP 10							ANSI B16.5						
		150Lbs							150Lbs						
ØD		ØA	C	ØR	Drilling			Theo. weight	ØA	C	ØR	Drilling			Theo. weight
nominal	actual				ØG	N	Ød					ØG	N	Ød	
inch	mm	mm	mm	mm	mm	bolt holes	mm	Kg/piece	mm	mm	mm	mm	bolt holes	mm	Kg/piece
0.5	20	95	14	46	65	4	14	0.78	90	12.5	34.9	60.3	4	15.9	0.8
0.75	25	105	16	56	75	4	14	1.15	100	14.1	42.9	69.8	4	15.9	0.9
1	30	115	16	65	85	4	14	1.4	110	15.7	50.8	79.4	4	15.9	1
1.25	38	140	18	76	100	4	18	2	115	17.3	63.5	88.9	4	15.9	1.3
1.5	44.5	150	18	84	110	4	18	2.35	125	18.9	73	98.4	4	15.9	1.4
2	57	165	20	99	125	4	18	3.2	150	20.5	92.1	120.6	4	19	1.8
2.5	76.1	185	20	118	145	4	18	4.15	180	23.6	104.8	139.7	4	19	3.2
3	88.9	200	20	132	160	8	18	5.7	190	25.2	127	152.4	4	19	4
4	108	220	22	156	180	8	18	7.05	230	25.2	157.2	190.5	8	19	8
5	133	250	22	184	210	8	18	10.05	255	25.2	185.7	215.9	8	22.2	9
6	159	285	24	211	240	8	22	13	280	26.8	215.9	241.3	8	22.2	12
7	193.7	315	24	242	270	8	22	18	-	-	-	-	-	-	-
8	219.1	340	24	266	295	8	22	20.8	345	30	269.9	298.4	8	22.2	20
10	267	395	26	319	350	12	22	29.65	405	31.6	323.8	361.9	12	25.4	32
12	323.9	445	26	370	400	12	22	38.7	485	33.2	381	431.8	12	25.4	50
14	368	505	26	429	460	16	22	53.55	535	36.3	425.1	476.2	12	28.6	59
16	419.1	565	28	480	515	16	26	69.45	595	37.9	482.6	539.7	16	28.6	77
18	457.2	615	28	530	565	20	26	82.4	635	41.1	533.4	577.8	16	31.7	95
20	508	670	30	582	620	20	26	104.7	700	44.3	584.2	635	20	31.7	123
24	610	780	34	682	725	20	30	149.75	815	49	692.1	749.3	20	34.9	186

Flanges

Bulkhead Pieces type A

通舱件

Material:
Item1 Item4: CuNi 90/10
Item2 Item3: Carbon Steel A105

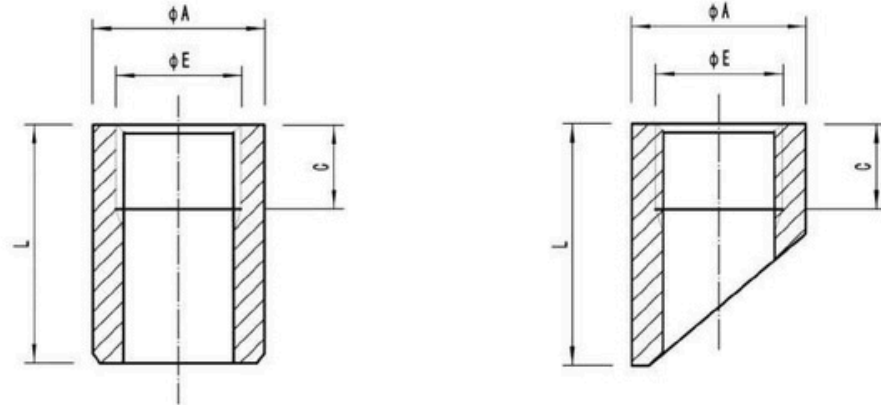


Outside diameter of pipe		PN	E	φB	L1	φA	L	e	Drilling			Theo. weight
nominal	actual								φG	N	φd	
inch	mm	mm	mm	mm	mm	mm	mm	mm	mm	bolt holes	mm	Kg/piece
0.75	25	16	14	150	100	105	200	2	75	4	14	4.1
1	30	16	14	160	100	115	200	2	85	4	14	5.1
1.25	38	16	14	185	110	140	220	2	100	4	18	7.1
1.5	44.5	16	14	205	110	150	220	2	110	4	18	8.5
2	57	16	14	220	115	165	230	2	125	4	18	10
2.5	76.1	16	14	240	120	185	240	3	145	4	18	12.5
3	88.9	16	14	255	130	200	260	2.5	160	8	18	15.1
4	108	16	14	275	130	220	260	3	180	8	18	17.6
5	133	16	16	305	130	250	260	3.5	210	8	18	22.7
6	159	16	16	340	135	285	270	3.5	240	8	22	29.1
7	193.7	16	16	370	140	315	280	4	270	8	22	36.3
8	219.1	10	16	395	140	340	280	4	295	8	22	38.7
10	267	10	16	460	150	395	300	5	350	12	22	53.6
12	323.9	10	20	525	160	445	320	5	400	12	22	71.6
14	368	10	20	585	170	505	340	6	460	16	22	91.6
16	419.1	10	20	645	180	565	360	8	515	16	26	120.4

Flanges

内螺纹接头

Material: CuNi 90/10
CuNi 70/30



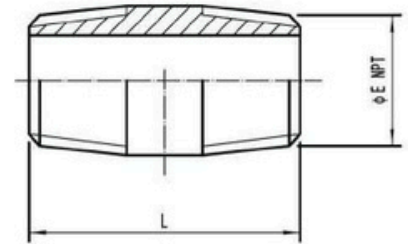
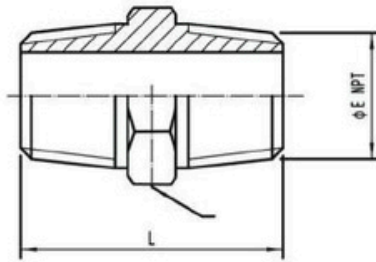
ØD Thread (NPT)	DIN 86103								
	FORM B				ØD Thread (NPT)	FORM C			
	ØA	C	L	Theoretical weight		ØA	C	L	Theoretical weight
	mm	mm	mm	Kg/piece		mm	mm	mm	Kg/piece
R 1/4"	20	12	20	0.03		-	-	-	-
R 3/8"	25	12	20	0.05	-	-	-	-	-
R 1/2"	30	14	23	0.08	R 1/2"	30	14	50	0.14
R 1/2"	30	14	50	0.17	-	-	-	-	-
R 1/2"	30	14	75	0.25	-	-	-	-	-
R 1/2"	30	14	100	0.34	-	-	-	-	-
R 1/2"	30	14	125	0.44	-	-	-	-	-
R 3/4"	38	16	25	0.14	R 3/4"	38	16	60	0.24
R 3/4"	38	16	50	0.28	-	-	-	-	-
R 3/4"	38	16	75	0.42	-	-	-	-	-
R 3/4"	38	16	100	0.56	-	-	-	-	-
R 3/4"	38	16	125	0.7	-	-	-	-	-
R 1"	45	18	28	0.19	R 1"	45	18	70	0.35
R 1"	45	18	50	0.35	-	-	-	-	-
R 1"	45	18	75	0.52	-	-	-	-	-
R 1"	45	18	100	0.7	-	-	-	-	-
R 1"	45	18	125	0.88	-	-	-	-	-
R 1 1/4"	55	20	30	0.29	R 1 1/4"	55	20	80	0.63
R 1 1/2"	60	22	32	0.37	R 1 1/2"	62	22	100	0.92
R 2"	75	23	40	0.68	R 2"	75	23	111	1.25

Nipple

3000#

双外螺纹接头

Material: CuNi 90/10
CuNi 70/30



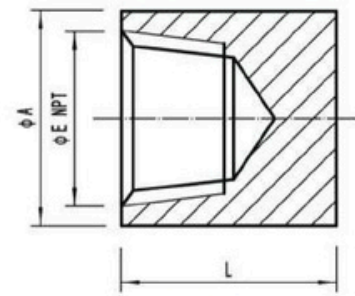
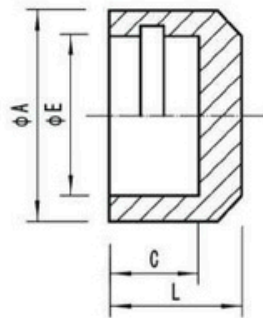
Outside diameter of pipe		Hexagonal Nipple				Pipe Nipple		
		øE	L	C.A/f	Theoretical weight	øE	L	Theoretical weight
nominal	actual	Thread	mm	mm	Kg/piece	Thread	mm	Kg/piece
inch	mm	(NPT)				(NPT)		
0.25	12	1/4"	42	17	0.05	1/4"	42	0.04
0.38	16	3/8"	47	22	0.11	3/8"	47	0.1
0.5	20	1/2"	48	24	0.13	1/2"	48	0.12
0.75	25	3/4"	52	30	0.2	3/4"	52	0.19
1	30	1"	60	36	0.29	1"	60	0.28
1.25	38	1" 1/4	72	46	0.36	1" 1/4	72	0.35
1.5	44.5	1" 1/2	74	50	0.43	1" 1/2	74	0.42
2	57	2"	78	65	0.59	2"	78	0.58

End Cap

3000#

管帽

Material: CuNi 90/10
CuNi 70/30



Outside diameter of pipe		Socket Welding or Capillary End				EEMUA146			
		øA	L	C	Theoretical weight	Female Threaded			Theoretical weight
nominal	actual	mm	mm	mm	Kg/piece	øE	A	L	Kg/piece
inch	mm					Thread	mm	mm	
0.38	16	23	14	10	0.04	-	-	-	-
0.5	20	27	14.5	10	0.05	1/2"	29	32	0.17
0.75	25	32	15	13	0.07	3/4"	35	37	0.3
1	30	37	16	13	0.08	1"	44	38	0.55
1.25	38	45	20	13	0.13	1" 1/4	57	41	0.95
1.5	44.5	52	20.5	13	0.19	1" 1/2	64	41	1.1

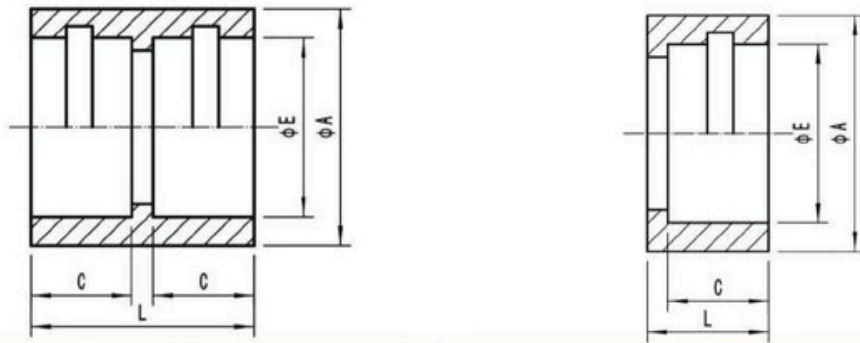
Forged and Machined Fittings

Coupling Socket Welding Or Capillart Ends

3000#

承插管箍

Material: CuNi 90/10
CuNi 70/30



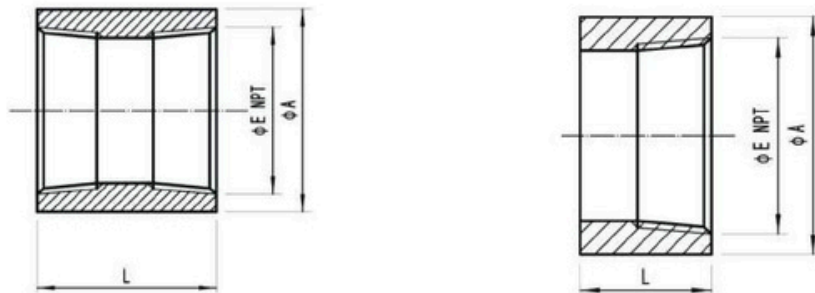
Outside diameter of pipe		Straight Coupling					Half Coupling				
		ϕA	L	ϕE	C	Theoretical weight	ϕA	L	ϕE	C	Theoretical weight
nominal	actual	mm	mm	mm	mm	Kg/piece	mm	mm	mm	mm	Kg/piece
inch	mm										
0.38	16	23	23	16.1	10	0.04	23	13	16.1	10	0.02
0.5	20	27	23	20.1	10	0.06	27	13	20.1	10	0.03
0.75	25	32	30	25.1	13	0.08	32	17	25.1	13	0.04
1	30	37	30	30.1	13	0.1	37	17	30.1	13	0.05
1.25	38	45	30	38.1	13	0.12	45	17	38.1	13	0.06
1.5	44.5	52	31	44.6	13	0.17	52	18	44.6	13	0.08
2	57	64	38	57.3	16	0.22	64	22	57.3	16	0.11

Coupling Threaded

3000#

螺纹管箍

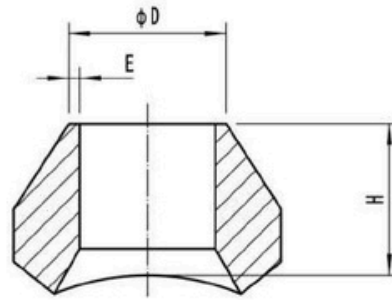
Material: CuNi 90/10
CuNi 70/30



Outside diameter of pipe		Straight Coupling				Half Coupling			
		ϕA	L	ϕE	Theoretical weight	ϕA	L	ϕE	Theoretical weight
nominal	actual	mm	mm	Thread	Kg/piece	mm	mm	Thread	Kg/piece
inch	mm			(NPT)				(NPT)	
0.5	16	29	48	1/2"	0.16	29	24	1/2"	0.08
0.75	25	35	51	3/4"	0.28	35	25.5	3/4"	0.14
1	30	44	60	1"	0.38	44	30	1"	0.19
1.25	38	57	67	1" 1/4	0.58	57	33.5	1" 1/4	0.29
1.5	44.5	64	79	1" 1/2	0.78	64	39.5	1" 1/2	0.39
2	57	76	86	2"	1.42	76	43	2"	0.71

对焊支管座

Material: CuNi 90/10
CuNi 70/30

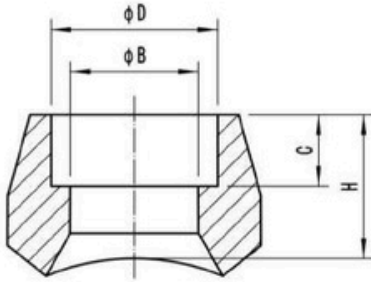


Outside diameter of branch pipe		Outside diameter of header		EEMUA146			Theoretical weight
ØD		ØN		E		H	Kg/piece
nominal inch	actual mm	nominal inch	actual mm	16 Bar mm	20 Bar mm	mm	
0.5	16	0.5 to 1.5	16 to 44.5	2	2	19.05	0.07
0.5	16	2 to 24	57 to 610	2	2	17.5	0.07
0.75	25	0.75 to 1.5	25 to 44.5	2	2	22.2	0.11
0.75	25	2 to 24	57 to 610	2	2	20.6	0.11
1	30	1 to 1.5	30 to 44.5	2.5	2.5	27	0.18
1	30	2 to 24	57 to 610	2.5	2.5	22.2	0.18
1.25	38	1.25 to 1.5	38 to 44.5	2.5	2.5	30.2	0.32
1.25	38	2 to 24	57 to 610	2.5	2.5	25.4	0.32
1.5	44.5	1.5	44.5	2.5	2.5	33.3	0.36
1.5	44.5	2 to 24	57 to 610	2.5	2.5	28.6	0.36
2	57	2 to 2.5	57 to 76.1	2.5	2.5	38.1	0.68
2	57	3 to 24	88.9 to 610	2.5	2.5	33.3	0.68
2.5	76.1	3 to 4	76.1 to 108	2.5	2.5	47.6	1.4
2.5	76.1	6 to 24	159 to 610	2.5	2.5	44.5	1.4
3	88.9	3 to 4	88.9 to 108	2.5	2.5	47.6	1.7
3	88.9	6 to 24	159 to 610	2.5	2.5	44.5	1.7
4	108	4	108	3	3	46.8	3
4	108	6	159	3	3	52.4	3
4	108	8 to 24	219.1 to 610	3	3	49.2	6.4
6	159	6 to 24	159 to 610	3	3.5	60.3	6.4
8	219.1	8 to 24	219.1 to 610	4	4.5	69.9	12.7
10	267	10 to 24	267 to 610	4.5	5.5	77.8	17.7
12	323.9	12 to 24	323.9 to 610	5.5	7	85.7	29.5
14	368	14 to 24	368 to 610	6.5	8	88.90	31.8
16	419.1	16 to 24	419.1 to 610	7	9	93.7	41.7
18	457.2	18 to 24	457.2 to 610	8	9.5	96.8	53.2
20	508	20 to 24	508 to 610	8.5	11	115.9	68.3
24	610	24	610	10.5	13	115.9	91.2

Forged and Machined Fittings

承插焊支管座

Material: CuNi 90/10
CuNi 70/30

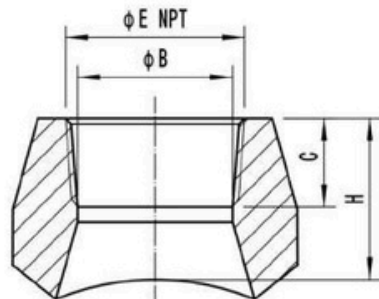


Outside diameter of branch pipe		Outside diameter of header		EEMUA146			
ØD		ØN		ØB	H	C	Theoretical weight
nominal	actual	nominal	actual				Kg/piece
inch	mm	inch	mm	mm	mm	mm	
0.5	16	0.75 to 1.5	25 to 44.5	12	25.4	10	0.1
0.5	16	2 to 36	57 to 914	12	23.8	10	0.1
0.75	25	1 to 1.5	30 to 44.5	21	26.9	13	0.13
0.75	25	2 to 36	57 to 914	21	25.4	13	0.13
1	30	1.25 to 1.5	38 to 44.5	25	33.3	13	0.22
1	30	2 to 36	57 to 914	25	28.6	13	0.22
1.25	38	2 to 36	57 to 914	33	33.3	13	0.35
1.25	38	2 to 36	57 to 914	33	33.3	13	0.35
1.5	44.5	2 to 36	57 to 914	39.5	30.2	13	0.5
1.5	44.5	2 to 36	57 to 914	39.5	30.2	13	0.5
2	57	2.5 to 36	76.1 to 914	52	38.1	16	0.9
2	57	2.5 to 36	76.1 to 914	52	38.1	16	0.9

Threadolet

螺纹支管座

Material: CuNi 90/10
CuNi 70/30

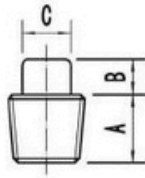


Outside diameter of branch pipe		Outside diameter of header		EEMUA146			
ØD		ØN		ØB	H	C	Theoretical weight
nominal	actual	nominal	actual				Kg/piece
inch	(NPT)	inch	mm	mm	mm	mm	
1/2"	1/2"	3/4" to 1" 1/2	25 to 44.5	11.74	25.4	13.5	0.1
1/2"	1/2"	2" to 36"	57 to 914	11.74	23.8	13.5	0.1
3/4"	3/4"	1" to 1" 1/2	30 to 44.5	15.58	26.9	14	0.13
3/4"	3/4"	2" to 36"	57 to 914	15.58	25.4	14	0.13
1"	1"	1" 1/4 to 1" 1/2	38 to 44.5	20.7	33.3	17.5	0.22
1"	1"	2" to 36"	57 to 914	20.7	28.6	17.5	0.22
1" 1/4	1" 1/4	2" to 36"	57 to 914	29.5	33.3	18	0.35
1" 1/4	1" 1/4	2" to 36"	57 to 914	29.5	33.3	18	0.35
1" 1/2	1" 1/2	2" to 36"	57 to 914	34.02	30.2	18.5	0.5
1" 1/2	1" 1/2	2" to 36"	57 to 914	34.02	30.2	18.5	0.5
2"	2"	2" 1/2 to 36"	76.1 to 914	42.82	38.1	19	0.9
2"	2"	2" 1/2 to 36"	76.1 to 914	42.82	38.1	19	0.9

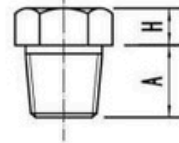
Plug & Bushing

堵头、补芯

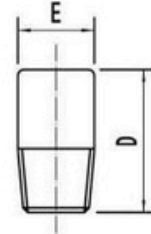
Material: CuNi 90/10
CuNi 70/30



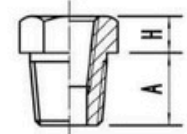
Square Head Plug



Hex Head Plug



Round Head Plug



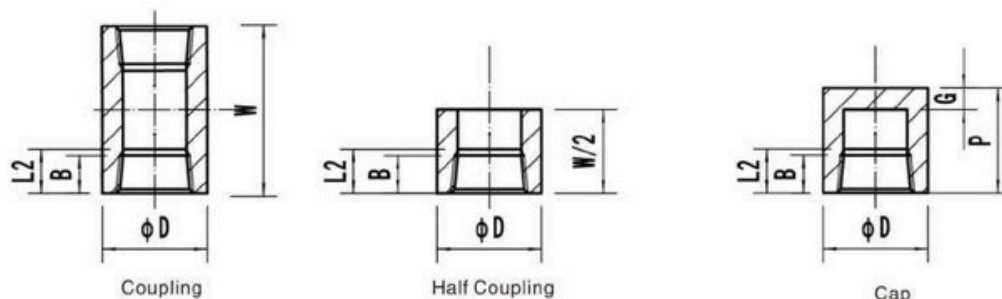
Bushing

DN	ANSI B16.11								
	nominal	A	B	C	E	D	F	G	H
	inch	mm	mm	mm	mm	mm	mm	mm	mm
6	1/8	10	6	7	10	35	11	-	6
8	1/4	11	6	10	14	41	16	3	6
10	3/8	13	8	11	18	41	18	4	8
15	1/2	14	10	14	21	44	22	5	8
20	3/4	16	11	16	27	44	27	6	10
25	1	19	13	21	33	51	36	6	10
32	1 1/4	21	14	24	43	51	46	7	14
40	1 1/2	21	16	28	48	51	50	8	16
50	2	22	18	32	60	64	65	9	18
65	2 1/2	27	19	36	73	70	75	10	19
80	3	28	21	41	89	70	90	10	21
100	4	32	25	65	114	76	115	13	25

Threaded Coupling & Cap

螺纹管箍、管帽

Material: CuNi 90/10
CuNi 70/30

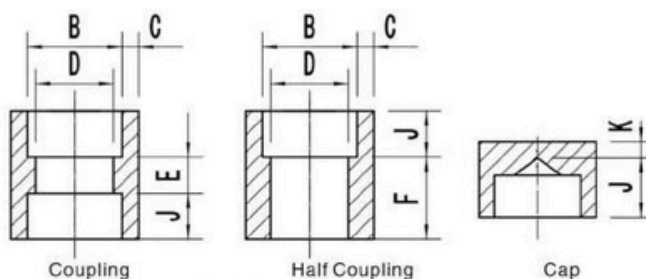


DN	ANSI B16.11									
	nominal	W mm	P mm		D mm		G mm		B mm	L2 mm
			inch	3000&6000	3000	6000	3000	6000		
6	1/8	32	19	-	16	22	4.8	-	6.4	6.7
8	1/4	35	25	27	19	25	4.8	6.4	8.1	10.2
10	3/8	38	25	27	22	32	4.8	6.4	9.1	10.4
15	1/2	48	32	33	28	38	6.4	7.9	10.9	13.6
20	3/4	51	37	38	35	44	6.4	7.9	12.7	13.9
25	1	60	41	43	44	57	9.6	11.2	14.7	17.3
32	1 1/4	67	44	46	57	64	9.6	11.2	17	18
40	1 1/2	79	44	48	64	76	11.2	12.7	17.8	18.4
50	2	86	48	51	76	92	12.7	15.7	19	19.2
65	2 1/2	92	60	64	92	108	15.7	19	23.6	28.9
80	3	108	65	68	108	127	19	22.4	25.9	30.5
100	4	121	68	75	140	159	22.4	28.4	27.7	33

Socket Welding Coupling & Cap

承插管箍、管帽

Material: CuNi 90/10
CuNi 70/30



DN	ANSI B16.11									
	nominal	B mm	C		D mm	E mm	F mm	K mm	J mm	
			Avg mm	Min mm						
inch	mm	mm	mm	mm	mm	mm	mm	mm		
6	1/8	10.8	3.18	3.18	6.9	6.5	16.0	4.8	9.5	
8	1/4	14.2	3.78	3.30	9.3	6.5	16.0	4.8	9.5	
10	3/8	17.6	4.01	3.50	12.6	6.5	17.5	4.8	9.5	
15	1/2	21.8	4.67	4.09	15.8	9.5	22.5	6.4	9.5	
20	3/4	27.2	4.90	4.27	21	9.5	24.0	6.4	12.5	
25	1	33.9	5.69	4.98	26.7	12.5	28.5	9.6	12.5	
32	1 1/4	42.7	6.07	5.28	35.1	12.5	30.0	9.6	12.5	
40	1 1/2	48.8	6.35	5.54	40.9	12.5	32.0	11.2	12.5	
50	2	61.2	6.93	6.04	52.5	19.0	41.0	12.7	16.0	
65	2 1/2	73.9	8.76	7.67	62.7	19.0	43.0	15.7	16.0	
80	3	89.8	8.52	8.30	78	19.0	44.5	19.0	16.0	
100	4	115.2	10.69	9.35	102.3	19.0	48.0	22.4	19.0	

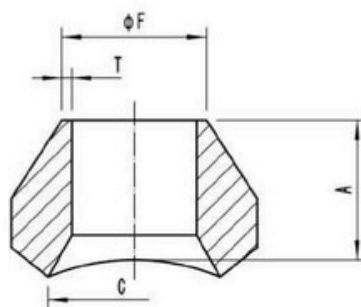
Forged and Machined Fittings

Butt Welding End Branch Outlet

3000#

对焊管座

Material: CuNi 90/10
CuNi 70/30



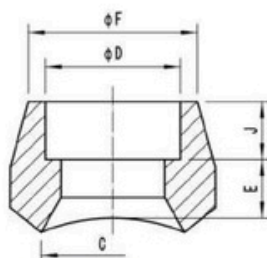
MSS SP-97									
REDUCING WAY					STRAIGHT WAY				
Outlet Pipe(In)	A	C	F	T	Outlet Pipe(In)	A	C	F	T
3000Lb(XS)	mm	mm	mm	mm	3000Lb	mm	mm	mm	mm
1/8	16	13.7	10.3	-	-	-	-	-	-
1/4	16	13.7	13.7	2.24	1/4	16	11.5	13.7	2.24
3/8	19	17.1	17.1	2.31	3/8	19	14.5	17.1	2.31
1/2	19	21.3	21.3	2.77	1/2	19	16.5	21.3	2.77
3/4	22	26.7	26.7	2.87	3/4	22	21.5	26.7	2.87
1	27	33.4	33.4	3.38	1	27	27.2	33.4	3.38
1 1/4	32	42.2	42.2	3.56	1 1/4	32	36	42.2	3.56
1 1/2	33	48.3	48.3	3.68	1 1/2	33	42	48.3	3.68
2	38	60.3	60.3	3.91	2	38	53	60.3	3.91
2 1/2	41	73	73	5.16	2 1/2	41	65	73	5.16
3	44	88.9	88.9	5.49	3	44	80	88.9	5.49
3 1/2	48	101.6	101.6	-	3 1/2	-	-	-	-
4	51	114.3	114.3	6.02	4	51	104	114.3	6.02

Socket Welding End Branch Outlet

3000#

承插焊管座

Material: CuNi 90/10
CuNi 70/30



MSS SP-97											
REDUCING WAY						STRAIGHT WAY					
Outlet Pipe(In)	C	D	F	J	E	Outlet Pipe(In)	C	D	F	J	E
3000Lb(XS)	mm	mm	mm	mm	mm	3000Lb	mm	mm	mm	mm	mm
1/8	13.7	10.8	22	9.7	10.4	-	-	-	-	-	-
1/4	13.7	14.2	22	9.7	10.4	1/4	11.5	14.2	22	9.7	10.4
3/8	19.1	17.6	25.9	9.7	12.7	3/8	14.5	17.6	25.9	9.7	12.7
1/2	21.3	21.8	31.4	9.7	16	1/2	16.5	21.8	31.4	9.7	16
3/4	26.7	27.2	37.1	12.7	16	3/4	21.5	27.2	37.1	12.7	16
1	33.4	33.9	45.5	12.7	22.4	1	27.2	33.9	45.5	12.7	22.4
1 1/4	42.2	42.7	57	12.7	22.4	1 1/4	36	42.7	57	12.7	22.4
1 1/2	48.3	48.8	64	12.7	23.9	1 1/2	42	48.8	64	12.7	23.9
2	60.3	61.2	76	15.8	23.9	2	53	61.2	76	15.8	23.9
2 1/2	73.2	73.9	92	15.8	25.4	2 1/2	65	73.9	92	15.8	25.4
3	88.9	89.8	109.2	15.8	30.2	3	80	89.8	109.2	15.8	30.2
4	114.3	115.2	140	19.1	30.2	4	104	115.2	140	19.1	30.2

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