



PIPE&FITTING

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PART 1 TUBE&PIPE

1.1 材料元素成份

钢种	元素含量百分比% (Max)							
	C	Mn	S	Si	P	Cr	Ni	Mo
304	0.080	2.0	0.030	0.75	0.040	18.00~20.00	8.00~11.00	
SUS304L	0.035	2.0	0.030	0.75	0.040	18.00~20.00	9.00~11.00	
TP316L	0.035	2.0	0.030	0.75	0.040	16.00~18.00	10.00~15.00	2.00~3.00

1.2 生产公差要求

外径范围	公差			
	外径	内径	壁厚	长度
30mm 未満	±0.3mm	-	±0.2mm	±5mm
30mm 以上	±1%mm	-	±10%mm	±5mm

1.3 工艺过程

工艺项目	镜面抛光
机械螺旋抛光	YES
脱脂去油	YES
酸洗钝化	YES
热水循环清洗	YES
两端封帽	YES
单层包装	YES

1.4 粗糙度 (Ra 值)、油脂含量、耐压

管道等级	Ra (ID 内孔均值)、μm	油脂、mg/ft ²	耐压
MPBA	Ra0.6μm(24uinch)	<0.1 mg/ft ²	详见规格表
BA	Ra0.4μm(16uinch)	<0.1 mg/ft ²	详见规格表
EP	Ra0.2μm(8uinch)	<0.1 mg/ft ²	详见规格表
AP	Ra2.5μm(100uinch)	<0.1 mg/ft ²	详见规格表



PART 2 FITTING

2.1、产品等级与类别

产品等级	TEE	ELBOW	REDUCE
BA（MPBA）	YES	YES	YES
EP	YES	YES	YES
AP	YES	YES	YES

2.2、等级与材料、粗糙度

产品等级	材料			粗糙度
BA（MPBA）	304	TP316L	SU304L	Ra0.4μm(16uinch)
EP	304	TP316L	SU304L	Ra0.2μm(8uinch)
AP	304	TP316L	SU304L	Ra2.5μm(100uinch)

2.3、元素成份表

钢种	元素含量百分比%（Max）							
	C	Mn	S	Si	P	Cr	Ni	Mo
304	0.080	2.0	0.030	0.75	0.040	18.00~20.00	8.00~11.00	
316L	0.035	2.0	0.030	0.75	0.040	16.00~18.00	10.00~15.00	2.00~3.00
SUS304L	0.035	2.0	0.030	0.75	0.040	18.00-20.00	9.00~11.00	

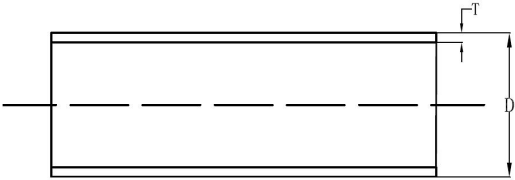
2.4、工艺过程

工艺项目	镜面抛光
机械螺旋抛光	YES
脱脂去油	YES
酸洗钝化	YES
热水循环清洗	YES
单层包装	YES

2.5、等级与粗糙度（Ra 值）、油脂含量

管道等级	Ra（内孔均值）、μm	油脂、mg/ft²	耐压
MPBA	Ra0.6μm(24uinch)	<0.1 mg/ft²	详见规格表
BA	Ra0.4μm(16uinch)	<0.1 mg/ft²	详见规格表
EP	Ra0.2μm(8uinch)	<0.1 mg/ft²	详见规格表
AP	Ra2.5μm(100uinch)	<0.1 mg/ft²	详见规格表

TUBE SIZE

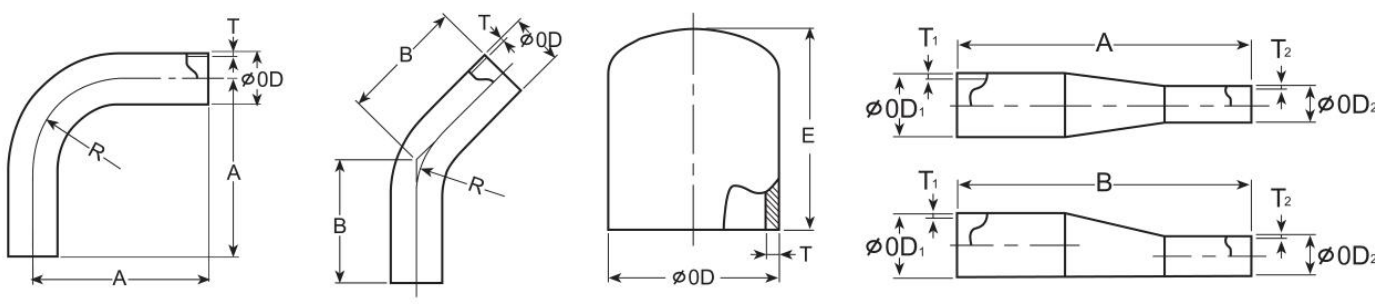


SIZE	D (mm)	T: mm										
		0.5	0.89	1.0	1.24	1.65	2.11	2.77	3.05	3.5	4.0	4.5
		Pressure:kgf/mm2			Safety Factor:2.0		Seamless Stainless Steel Tube					
1/8	3.18	470										
1/4	6.35	191	400	471	657	1109	2030					
3/8	9.53		236	272	361	543	815	1423				
1/2	12.7		167	192	249	360	510	793				
5/8	15.88		129	148	190	269	371	549	639			
3/4	19.05			120	153	215	292	420	482			
1	25.4				111	153	204	286	317			
1-1/4	31.8					119	157	216	243	289		
1-1/2	38.1					97	128	174	195	230		
2	50.8					71	93	125	137	164		
2-1/2	63.5					56	73	98	107	127		
3	76.2						60	80	88	104		
4	101.6						44	59	64	76	88	100
5	127.0							47	51	60	69	78
6	152.4							39	42	49	57	65

尺寸公差：见 PART 1

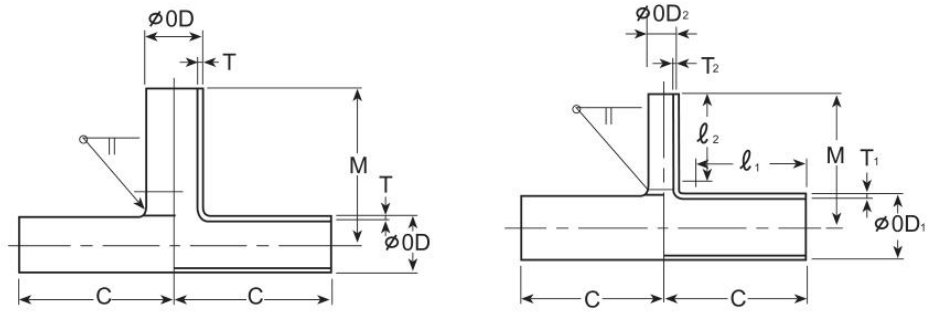
Fitting

Elbow、Cap、Reduce



SIZE	90 度弯头		45 度弯头		管帽	大小头		
OD	R	A	R	B	E	OD2	A	B
1/4	20	49.0	20.0	38.0	12.7	1/8"	70.0	70.0
3/8	23	52.0	23.0	39.0	12.7	1/4"	70.0	70.0
1/2	25	54.0	25.0	40.0	12.7	3/8", 1/4"	75.0	75.0
5/8	28	64.0	28.0	48.0	12.7	1/2", 3/8", 1/4", 8A	90.0	90.0
3/4	30	66.0	30.0	49.0	19.1	5/8"~1/4", 10A, 8A	100.0	100.0
1	33	69.0	33.0	50.0	25.4	3/4"~1/4", 15A~8A	105.0	105.0
1-1/4	47.6	84.0	47.6	56.0	38.1	1"~1/4", 20A~8A	120.0	120.0
1-1/2	57.2	104.0	57.2	70.0	38.1	1-1/4"~1/4", 25A~8A	125.0	125.0
2	76.2	123.0	76.2	78.0	38.1	1-1/2"~1/4", 40A~8A	130.0	130.0
2-1/2	95.3	147.0	95.3	91.0	38.1	2"~1/4", 50A~8A	140.0	140.0
3	95.3	147.0	95.3	91.0	38.1	2-1/2"~1/4", 50A~8A	165.0	165.0
4	133.4	185.0	133.4	107.0	63.5	3"~1/4", 80A~8A	175.0	175.0
5	190.5	250.0	190.5	140.0	-	4"~1/4", 100A~8A	230.0	230.0
6	228.6	290.0	228.6	155.0	-	5"~1/4", 125A~8A	250.0	250.0

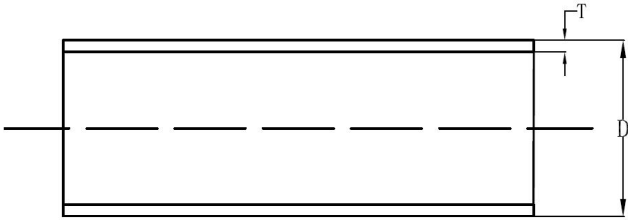
Tee、R-Tee



SIZE	等径三通	变径三通		
OD	C=M	OD2	C	M
1/4	35.0	—	—	—
3/8	37.0	1/4"	37.0	37.0
1/2	39.0	3/8", 1/4"	39.0	39.0
5/8	49.0	1/2", 3/8", 1/4"	47.0	44.0
3/4	52.0	1/2", 3/8", 1/4", 8A	47.0	44.0
		5/8", 10A	52.0	52.0
1	55.0	1/2", 3/8", 1/4", 8A	47.0	47.0
		3/4", 5/8", 15A, 10A	55.0	55.0
1-1/4	59.0	1/2", 3/8", 1/4", 8A	47.0	50.0
		1", 3/4", 5/8", 20A, 15A, 10A	59.0	59.0
1-1/2	74.0	1/2", 3/8", 1/4", 8A	57.0	54.0
		1-1/4", 1", 3/4", 5/8", 25A, 20A, 15A, 10A	68.0	62.0
2	77.0	1/2", 3/8", 1/4", 8A	57.0	57.0
		1-1/4", 1", 3/4", 5/8", 25A, 20A, 15A, 10A	68.0	65.0
		1-1/2", 40A, 32A	77.0	77.0

SIZE	等径三通	变径三通		
OD	C=M	OD2	C	M
2-1/2	90.0	1/2" , 3/8" , 1/4", 8A	61.0	63.0
		1-1/4", 1", 3/4", 5/8", 25A, 20A, 15A, 10A	72.0	71.0
		2", 1-1/2", 50A, 40A, 32A	90.0	83.0
3	97.0	1/2" , 3/8" , 1/4", 8A	61.0	71.0
		1-1/4", 1", 3/4", 5/8", 25A, 20A, 15A, 10A	72.0	79.0
		2", 1-1/2", 50A, 40A, 32A	90.0	90.0
		2-1/2", 65A	97.0	97.0
4	110.0	1/2" , 3/8" , 1/4", 8A	61.0	87.0
		1-1/4", 1", 3/4", 5/8", 25A, 20A, 15A, 10A	72.0	95.0
		2", 1-1/2", 50A, 40A, 32A	90.0	105.0
		3", 2-1/2", 80A, 65A	110.0	110.0
5	140.0	1/2" , 3/8" , 1/4", 8A	70.0	100.0
		1-1/4", 1", 3/4", 5/8", 25A, 20A, 15A, 10A	90.0	110.0
		2", 1-1/2", 50A, 40A, 32A	110.0	120.0
		4", 3", 2-1/2", 100A, 80A, 65A	140.0	140.0
6	160.0	1/2" , 3/8" , 1/4", 8A	80.0	115.0
		1-1/4", 1", 3/4", 5/8", 25A, 20A, 15A, 10A	100.0	125.0
		2", 1-1/2", 50A, 40A, 32A	120.0	135.0
		4", 3", 2-1/2", 100A, 80A, 65A	140.0	145.0
		5", 125A	160.0	160.0

PIPE SIZE

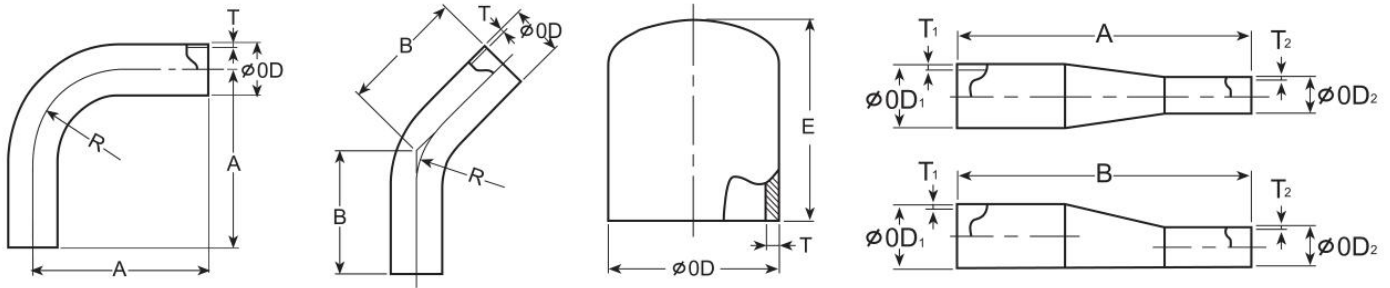


SIZE	D (mm)	T: mm									
		1.2	1.65	2.11	2.5	2.8	3	3.4	4	4.5	5
		Pressure:kgf/mm2 Safety Factor:2.0 Seamless Stainless Steel Pipe									
8A	13.8	216	322	451							
10A	17.3	165	242	331							
15A	21.7		184	247	307	356					
20A	27.2		142	188	231	266	290				
25A	34.0		110	145	177	202	220				
32A	42.7		86	112	136	155	168				
40A	48.6		75	97	117	133	144	167			
50A	60.5		59	77	92	104	113	130			
65A	76.3			60	72	81	87	100	120		
80A	89.1			51	61	69	74	85	101		
100A	114.3			40	47	53	57	65	77	88	98
125A	139.8					43	46	52	62	71	79
150A	165.2					36	39	44	52	59	66
200A	216.3					27	29	33	39	45	50

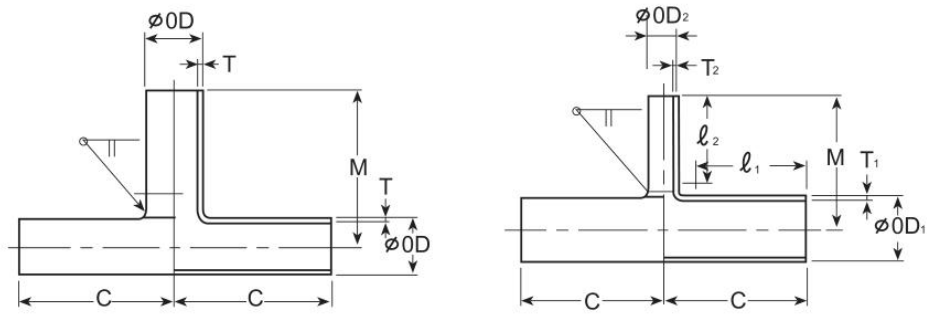
尺寸公差：见 PART 1

Fitting

Elbow、Cap、Reduce



SIZE	90 度弯头		45 度弯头		管帽	大小头		
OD	R	A	R	B	E	OD2	A	B
8A	25.4	55.0	25.4	40.0	12.7	1/2", 3/8", 1/4"	80.0	85.0
10A	25.4	62.0	25.4	47.0	19.1	1/2", 3/8", 1/4", 8A	90.0	90.0
15A	38.1	75.0	38.1	52.0	25.4	3/4"~1/4", 10A~8A	100.0	100.0
20A	38.1	75.0	38.1	52.0	25.4	1"~1/4", 15A~8A	105.0	105.0
25A	38.1	75.0	38.1	52.0	38.1	1-1/4"~1/4", 20A~8A	120.0	120.0
32A	47.6	94.0	47.6	66.0	38.1	1-1/2"~1/4", 25A~8A	125.0	125.0
40A	57.2	104.0	57.2	70.0	38.1	1-1/2"~1/4", 32A~8A	130.0	130.0
50A	76.2	123.0	76.2	78.0	38.1	2"~1/4", 40A~8A	140.0	140.0
65A	95.3	147.0	95.3	91.0	38.1	3"~1/4", 50A~8A	165.0	165.0
80A	114.3	166.0	114.3	99.0	50.8	3"~1/4", 65A~8A	170.0	170.0
100A	152.4	204.0	152.4	115.0	63.5	4"~1/4", 80A~8A	180.0	180.0
125A	190.5	250.0	190.5	145.0	76.2	5"~1/4", 100A~8A	250.0	250.0
150A	228.6	290.0	228.6	155.0	88.9	6"~1/4", 125A~8A	260.0	260.0
200A	304.8	375.0	304.8	195.0	101.6	6"~1/4", 150A~8A	280.0	280.0



SIZE	等径三通	变径三通		
OD	C=M	OD2	C	M
8A	42.0	1/2", 3/8", 1/4"	42.0	42.0
10A	49.0	1/2" , 3/8", 1/4", 8A	47.0	44.0
15A	59.0	1/2" , 3/8", 1/4", 8A	47.0	44.0
		3/4", 5/8", 10A	52.0	52.0
20A	65.0	1/2" , 3/8", 1/4", 8A	47.0	47.0
		1", 3/4", 5/8", 15A, 10A	55.0	55.0
25A	68.0	1/2" , 3/8", 1/4", 8A	47.0	50.0
		1-1/4", 1", 3/4", 5/8", 20A, 15A, 10A	59.0	59.0
32A	88.0	1/2" , 3/8", 1/4", 8A	57.0	54.0
		1-1/4", 1", 3/4", 5/8", 20A, 15A, 10A	68.0	62.0
40A	95.0	1/2" , 3/8", 1/4", 8A	57.0	57.0
		1-1/4", 1", 3/4", 5/8", 25A, 20A, 15A, 10A	68.0	65.0
		1-1/2", , 32A	77.0	77.0
50A	102.0	1/2" , 3/8", 1/4", 8A	57.0	63.0
		1-1/4", 1", 3/4", 5/8", 25A, 20A, 15A, 10A	68.0	71.0
		2", 1-1/2", 40A, 32A	83.0	83.0

SIZE	等径三通	变径三通		
OD	C=M	OD2	C	M
65A	121.0	1/2" , 3/8" , 1/4", 8A	61.0	71.0
		1-1/4", 1", 3/4", 5/8", 25A, 20A, 15A, 10A	72.0	79.0
		2", 1-1/2", 50A, 40A, 32A	88.0	90.0
		2-1/2",	97.0	97.0
80A	130.0	1/2" , 3/8" , 1/4", 8A	61.0	77.0
		1-1/4", 1", 3/4", 5/8", 25A, 20A, 15A, 10A	72.0	85.0
		2", 1-1/2", 50A, 40A, 32A	88.0	96.0
		3", 2-1/2", 65A	103.0	103.0
100A	145.0	1/2" , 3/8" , 1/4", 8A	61.0	90.0
		1-1/4", 1", 3/4", 5/8", 25A, 20A, 15A, 10A	72.0	98.0
		2", 1-1/2", 50A, 40A, 32A	88.0	109.0
		4", 3", 2-1/2", 80A, 65A	116.0	116.0
125A	160.0	1/2" , 3/8" , 1/4", 8A	80.0	110.0
		1-1/4", 1", 3/4", 5/8", 25A, 20A, 15A, 10A	100.0	120.0
		2", 1-1/2", 50A, 40A, 32A	120.0	130.0
		4", 3", 2-1/2", 100A, 80A, 65A	140.0	140.0
		5"	160.0	160.0

SIZE	等径三通	变径三通		
OD	C=M	OD2	C	M
150A	170.0	1/2" , 3/8" , 1/4", 8A	90.0	130.0
		1-1/4", 1", 3/4", 5/8", 25A, 20A, 15A, 10A	110.0	140.0
		2", 1-1/2", 50A, 40A, 32A	130.0	150.0
		4", 3", 2-1/2", 100A, 80A, 65A	150.0	106.0
		5", 125A	170.0	170.0
200A	190.0	1/2" , 3/8" , 1/4", 8A	100.0	150.0
		1-1/4", 1", 3/4", 5/8", 25A, 20A, 15A, 10A	120.0	160.0
		2", 1-1/2", 50A, 40A, 32A	140.0	170.0
		4", 3", 2-1/2", 100A, 80A, 65A	160.0	180.0
		6", 5", 150A, 125A	180.0	190.0