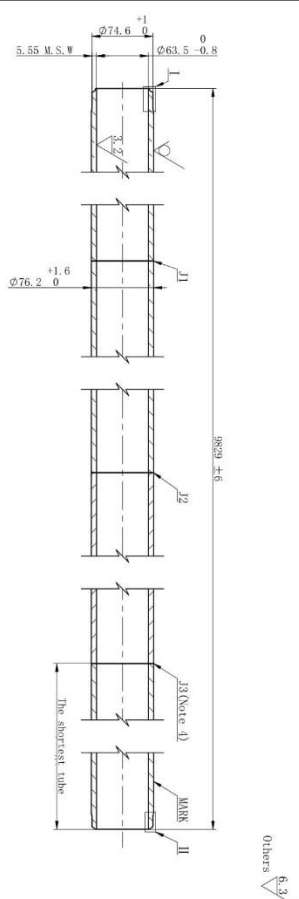
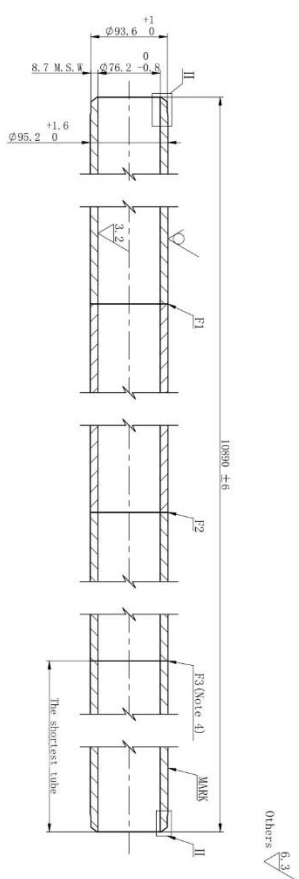


	Material Data Sheet	
Alloy: (W.N.1.4852-G-X40NiCrNb35 25)		
Service: Tube and Static casting		
1. Chemical Analysis As Shown		(%)
Element	Mini-Max	Remarks
C	0.4-0.55	
Mn	10×%S - 1.50	
Si	1.50-2.00	
S	≤0.03	
P	≤0.03	
Cr	24.0-27.0	
Ni	34.0-37.0	
Nb	0.80-1.20	
Cu	≤0.25	
Mo	≤0.50	
Ti	Add	
Pb	≤100ppm	
Sn	≤100ppm	
As	≤100ppm	
V	≤0.10	
Zr	Add	
Zn	≤100ppm	
Al	≤0.05	
W	≤0.30	
2. Mechanical Property at Room Temperature		
Tensile strength : ≥450 MPa		
Yield strength (Rp 0,2): ≥ 240 MPa		
Elongation (5d): ≥8% for tube, ≥6% for static casting		



Item NO.	Description	MATERIAL	QTY	U ⁸ # (#S)	DRW. NO.	REMARK
1/1	Tube 1	NP25-3SMIC	32	222.7	0101A	

11/2	Tube 4	NH25-35MIC	32	109.5	0101D	
Item NO.	Description	MATERIAL	QTY	U ¹ /W (kg)	DRW. NO.	REMARK

General notes

1. Fabrication and inspection should be in accordance with technical document and

ASTM A608.

2. M.S.W=Minimum sound wall.

3. NDE requirements refer to IIP.

4. The number of tube sections ≤ 4 ; the shortest tube should be

5 The outside of completed welds is smooth with a minimum of the number of weld joints. The number of weld joints is tube sections number - 1.

3. The outside of completed weirs is sheathed with a minimum reinforcement of 1 0mm and a maximum of 3 0mm/m² and angle of

response between parent metal and weld metal 150°)

The inner welding root should be grinded until it is flush with the inner hole (space between parent metal and weld metal too).

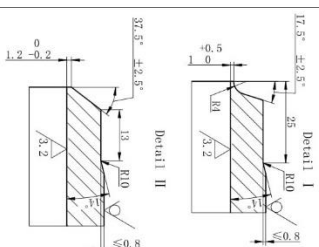
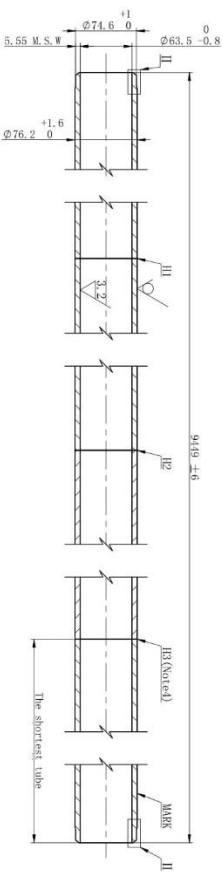
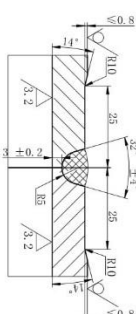
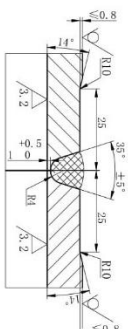
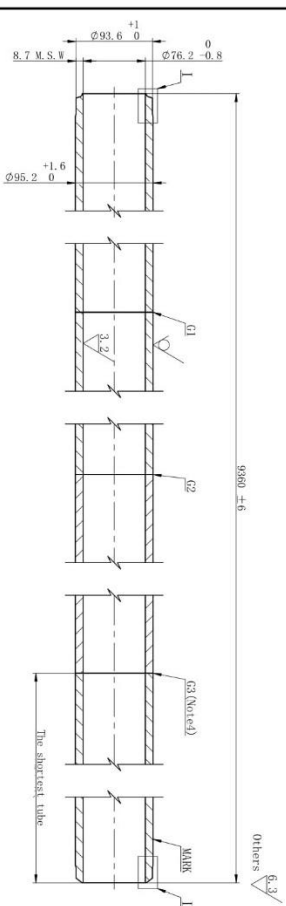
6. Tube bow max 6mm for any 3m, max 10mm overall.

7. Machining tolerances unless otherwise:

ISO 2768-1 m; ISO 2768-2 K

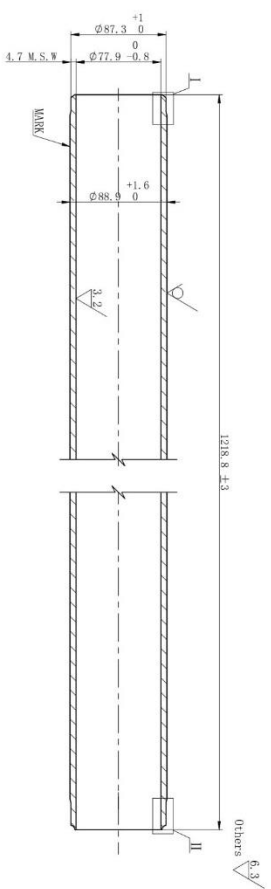
8. Mark:

Process identification: Project No.-Item No.-Heat No. (Marked with marking pen.)

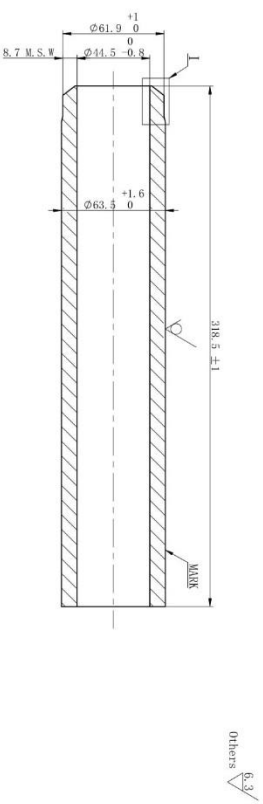


11/1	Tube 3	NI25-35MIC	32	105.3	0101C	
Item NO.	Description	MATERIAL	QTY	U ¹ # (kg)	DRW. NO.	REMARK

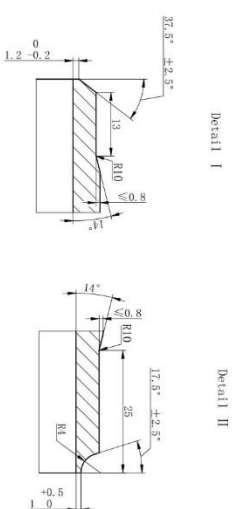
[illegible]



15	Tube 6	NI25-35MIC	32	13.9	0102A	
Item NO.	Description	MATERIAL	QTY	U ¹ # (#8)	DRW. NO.	REMARK



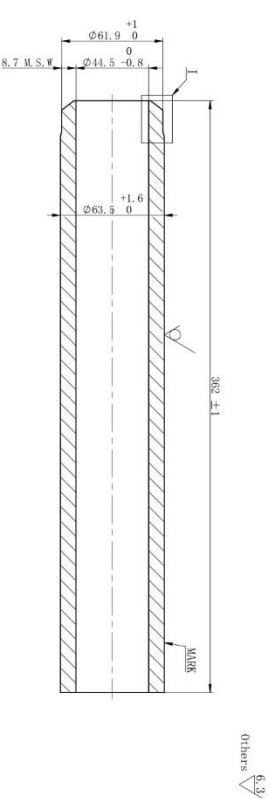
Item NO.	Description	MATERIAL	QTY	U ^W (kg)	DRW. NO.	REMARK
13	Tube 8	MH2-35MC	32	4.0	0102C	



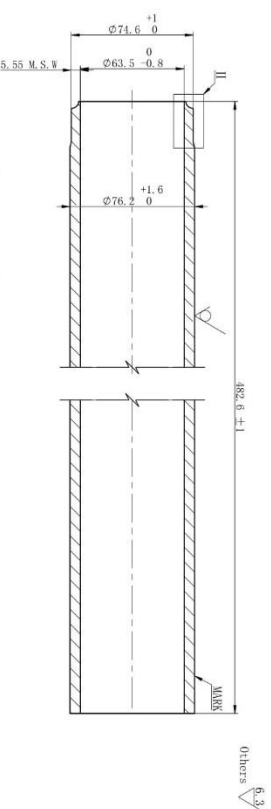
5	Tube 7	NI25-35MTC	32	4.6	0102B	
Item NO.	Description	MATERIAL	QTY	U'W (kg)	DRG. NO.	REMARK

9	Tube 9	NI25-35MTC	32	5.3	0102D	
Item NO.	Description	MATERIAL	QTY	U'W (kg)	DRG. NO.	REMARK

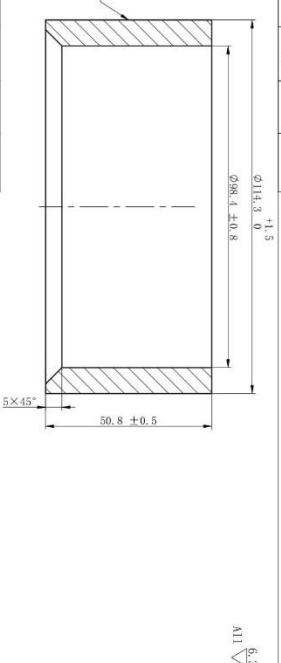
2	Tube 5	NI25-35MTC	32	1.0	0102E	
Item NO.	Description	MATERIAL	QTY	U'W (kg)	DRG. NO.	REMARK



Item NO.	Description	MATERIAL	QTY	U 'W (kg)	DWR. NO.	REMARK
5	Tube 7	NI25-35MIC	32	4.6	0102B	



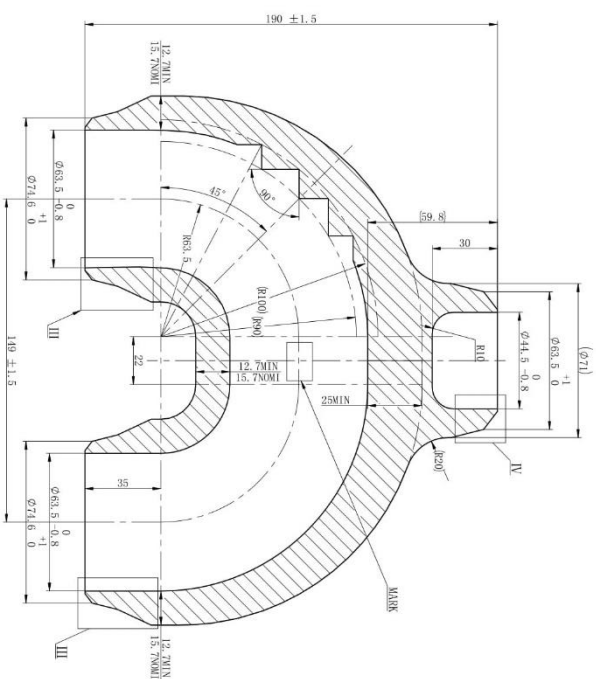
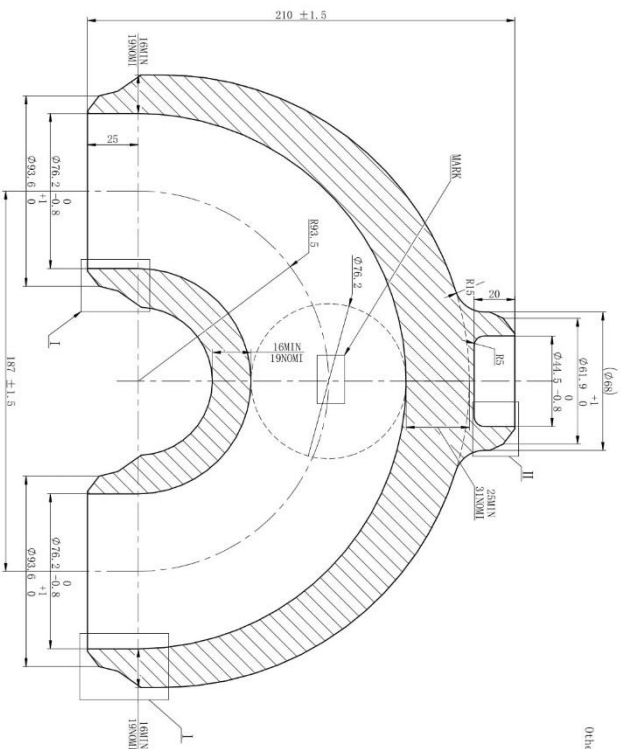
Item No.	Description	MATERIAL	QTY	U ¹ W (kg)	DRW. NO.	REMARK
9	Tube 9	NI25-35M/C	32	5.3	01020	



1. Fabrication and inspection should be in accordance with technical document and ASTM A606.
2. M.S.W=Minimum sound wall.
3. NDE requirements refer to TP .
4. Tube bow max.2mm for any 1m.
5. Matching tolerances unless otherwise:
ISO 2768-1 m ISO 2768-2 K
6. Mark:

Process Identification: Project No.-Item No.-Heat No. (Marked with marking pen).

						Part drawing 2				
						Client			PROJECT NO.	
						P. 0 NO.			DPR. NO.	
R00		First issue for approval								
Rev.	Date	Description	Drawn By	Check By	Approve By	Client Dwg. No.	RTD 00 00 00	Rev. 0	ITPL NO.	



Item NO.	Description	MATERIAL	QTY	U" W (kg)	DRW. NO.	REMARK
4	180° Return bend 1	NI25-35MIC	32	19.3	0103A	

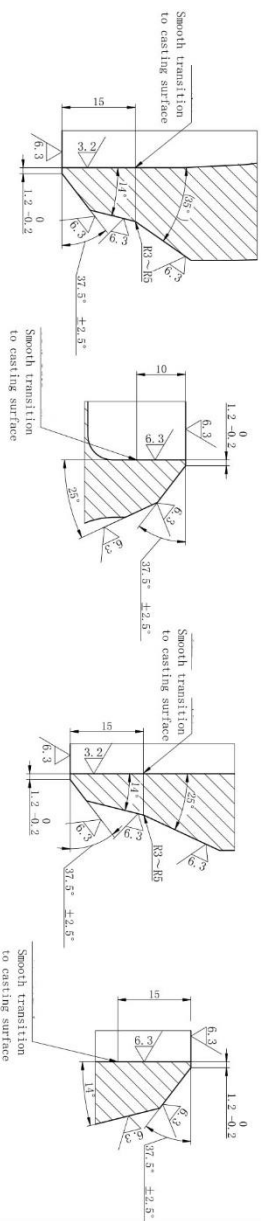
Item NO.	Description	MATERIAL	QTY	U" W (kg)	DRW. NO.	REMARK
12	180° Return bend 3	NI25-35MIC	32	11.1	0103B	

Detail I

Detail II

Detail III

Detail IV



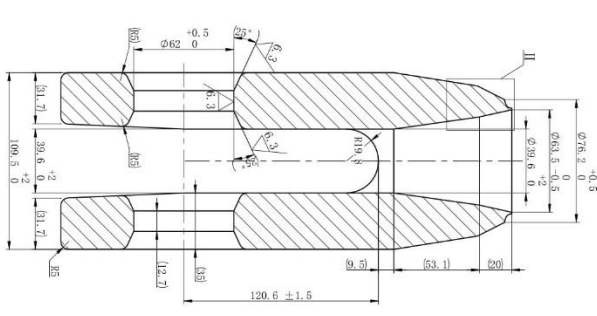
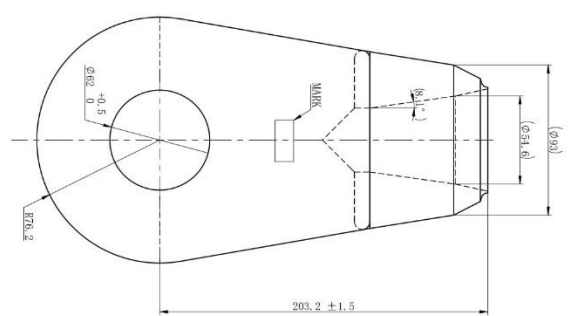
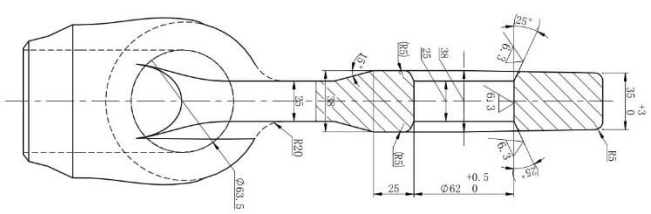
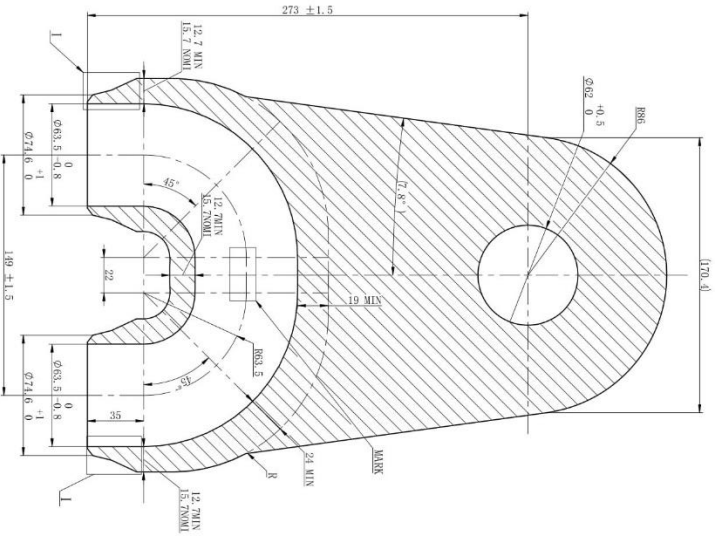
- General notes
- 1.The manufacturing and inspection shall conform to technical document and ASTM A351.
 - 2.NDE requirement refer to ITP.
 - 3.Machining tolerances unless otherwise: ISO 2768-1 m, ISO 2768-2 K.
 - 4.Mark: Project No.-Item No.-Heat No.-Series No.(by low stress stamp)
 - 5.Allow to keep the process pouring gate platform height ≤5mm

Rev.	Date	Description	Drawn By	Check By	Approve By	Client	PROJECT. NO.	DRW. NO.	ITPM. NO.
R00		First Issue For approval				P. O NO.			
						RT01 00 00 00			
						Rev. 0			

Part drawing 3

Others

Others

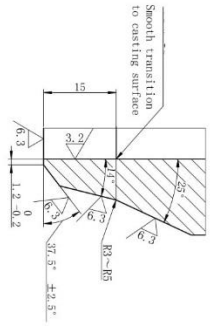


Item NO.	7	180° Return bend 2	NI25-35MIC	32	19.3	0101A	
Description			MATERIAL	QTY	U''# (kg)	DRW. NO.	REMARK

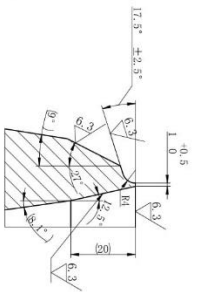
Item NO.	8	Tube support	NI25-35MIC	32	15.9	0104B	
Description			MATERIAL	QTY	U''# (kg)	DRW. NO.	REMARK

General notes
1.The manufacturing and inspection shall conform to technical document and ASTM A351.
2.NDE requirement refer to TTP
3.Machining tolerances unless otherwise: ISO 2768-1 m, ISO 2768-2 K.
Casting tolerances as per ISO 8062-DCTG 10
4.Mark: Project No.-Item No.-Series No.(by low stress stamp)
5.Allow to keep the process pouring gate platform height ≤5mm

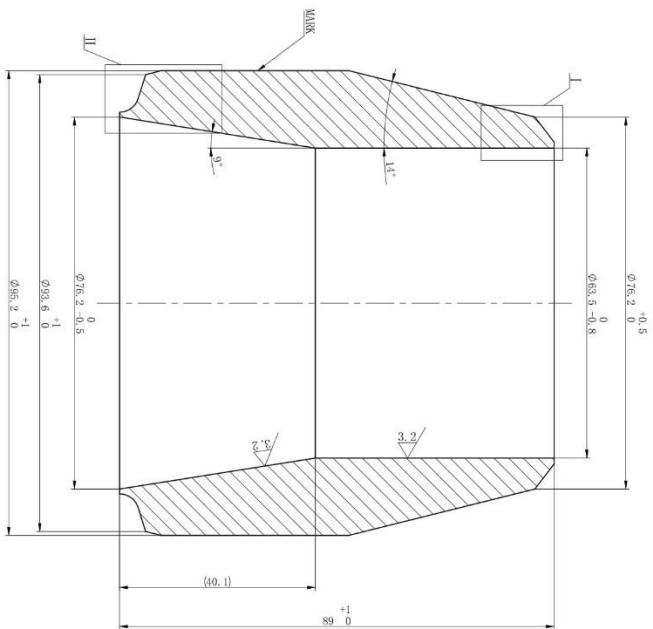
Detail I



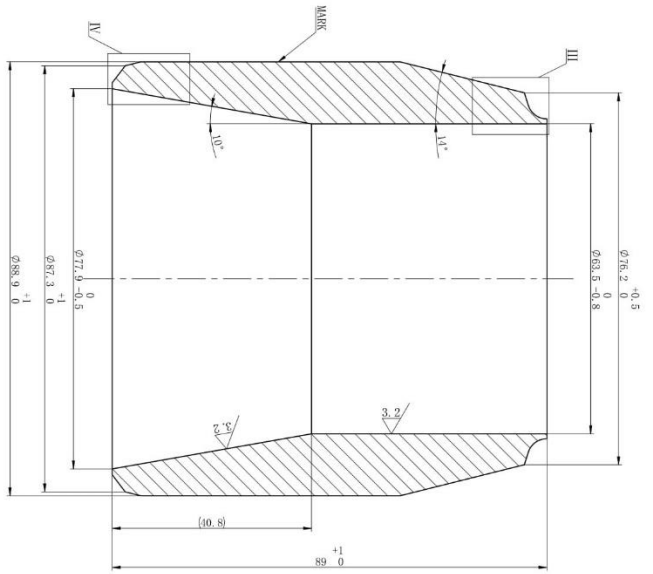
Detail II



Rev.	Date	Description	Drawn By	Check By	Approve By
000		First issue for approval			
Client					
P.O NO.					
Client Dwg. No.	RT01 00 00 00	Rev. 0	PROJ.L.L. NO.	DRW. NO.	Part drawing 4
			ITSM. NO.		



Item NO.	Reducer 1	MATERIAL	QTY	U*W (kg)	DWG. NO.	REMARK
6	Reducer 1	NP25-35MIC	32	2.0	0105A	



Item NO.	Reducer 2	MATERIAL	QTY	U*W (kg)	DWG. NO.	REMARK
14	Reducer 2	NP25-35MIC	32	1.6	0105B	

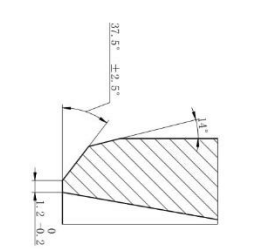
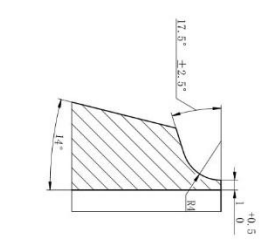
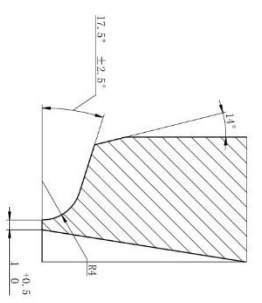
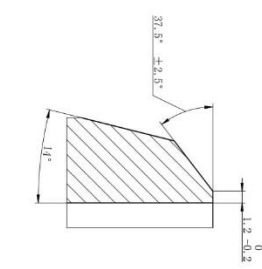
Detail I

Detail II

Detail III

Detail IV

Notes
1. Fabrication and inspection should be in accordance with technical document and ASTM A608.
2. NDE requirements refer to TTP.
3. Machining tolerances unless otherwise:
ISO 2768-1 m, ISO 2768-2 K

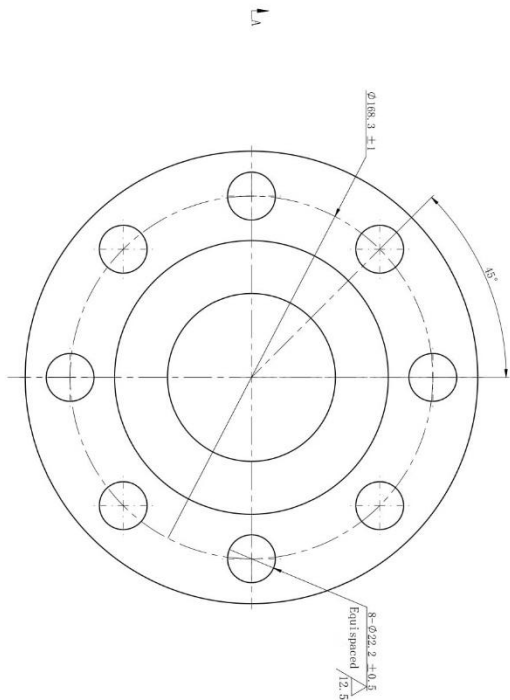
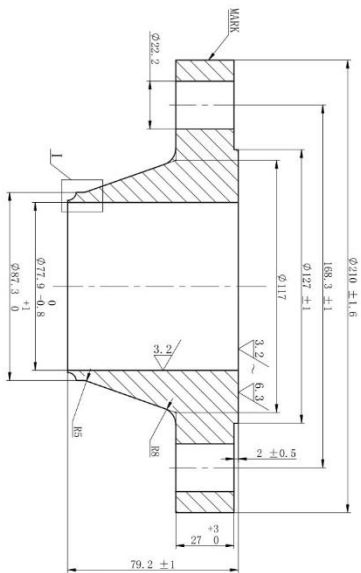


Rev.	Date	Description	Drawn By	Check By	Approve By	Client	PRODUCT. NO.
R00		First Issue For approval				P. O NO.	DWG. NO.
						RT01 00 00 00	TTBL. NO.

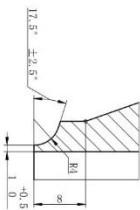
Part drawing 5

A-A
1 : 1.5

B-B
Others



Detail I

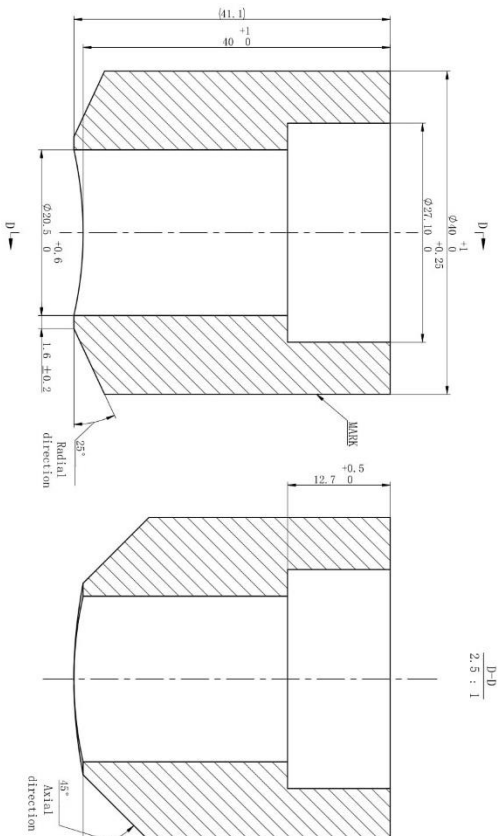


General notes
1.Fabrication and inspection should be in accordance with ASTM A182 and ASME B16.5
2 NDE requirement refer to ITP
3.Machining tolerances unless otherwise: ISO 2768-1 m, ISO 2768-2 K

Item NO.	Description	MATERIAL	QTY	U" W (kg)	DRW NO.	REMARK
17	Flange	ASTM A182 F321	32	7.2	0106A	

B-B
All

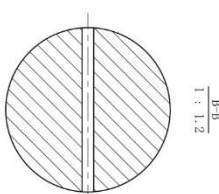
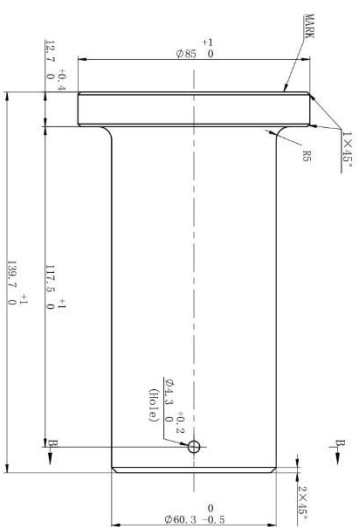
D-D
2.5 : 1



General notes
1.Fabrication and inspection should be in accordance with technical document and ASTM A182
2 NDE requirement refer to ITP
3.Machining tolerances unless otherwise: ISO 2768-1 m, ISO 2768-2 K

Item NO.	Description	MATERIAL	QTY	U" W (kg)	DRW NO.	REMARK
16	Half coupling	ASTM A182 F321	32	0.2	0106B	

Rev.	Date	Description	Drawn By	Check By	Approve By
R00		First Issue for approval			
Client					
P.O NO.					
Client Dwg. No.					
PROJECT. NO.					
DRW. NO.					
ITPM. NO.					



General notes

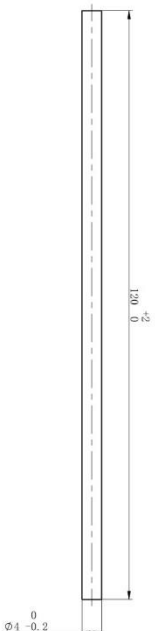
1. The manufacturing and inspection shall conform to technical document and ASTM A351.

2. NDE requirement refer to ITP.

3. Machining tolerances unless otherwise: ISO 2768-1 m, ISO 2768-2 K

Casting tolerances as per ISO 8062-DC10.

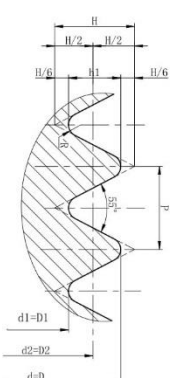
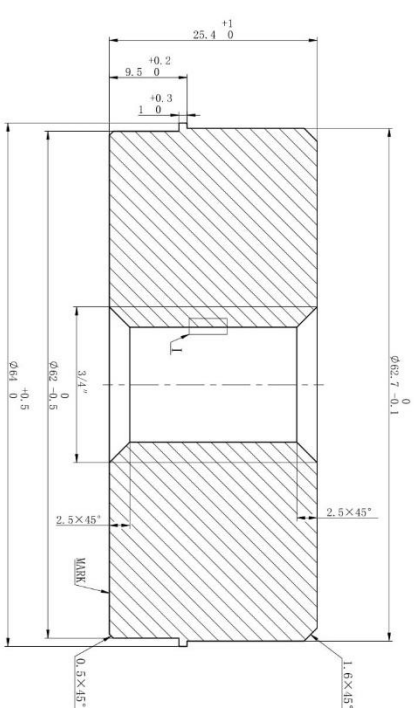
Item NO.	Description	MATERIAL	QTY	U TM (kg)	DRW. NO.	REMARK
18-1	Pin	M125-35MTC	32	3.5	0107A	



General notes

1. The manufacturing and inspection shall conform to technical document and ASTM B166.
2. NDE requirement refer to ITP.
3. Machining tolerances unless otherwise: ISO 2768-1 m, ISO 2768-2 K

18-2	Specify pin	ASTM B166 N06601	32	0.0	0107B	
	Description	MATERIAL	QTY	U ¹ W (sq)	DRW. NO.	REMARK



3/4"	19.651	2.510	17.424	15.798	1.627	0.349	10
NOMINAL SIZE	Basic Major Diameter, d-B	Thread Pitch, P	Basic Pitch Diameter, d ₂ =d ₂	Basic Pitch Diameter, d ₂ =d ₂	Height of Thread, h ₁	Radius, r	Threads in z

General notes

1. The manufacturing and inspection shall conform to technical document and ASTM A351.

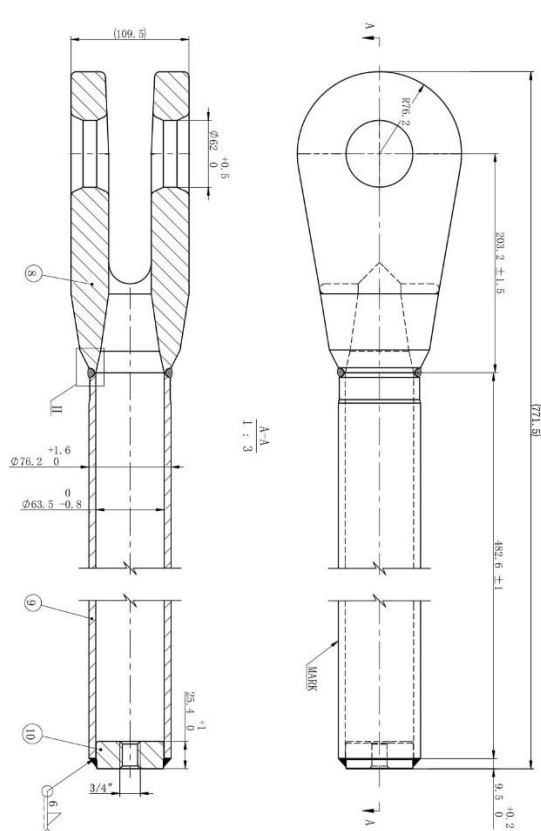
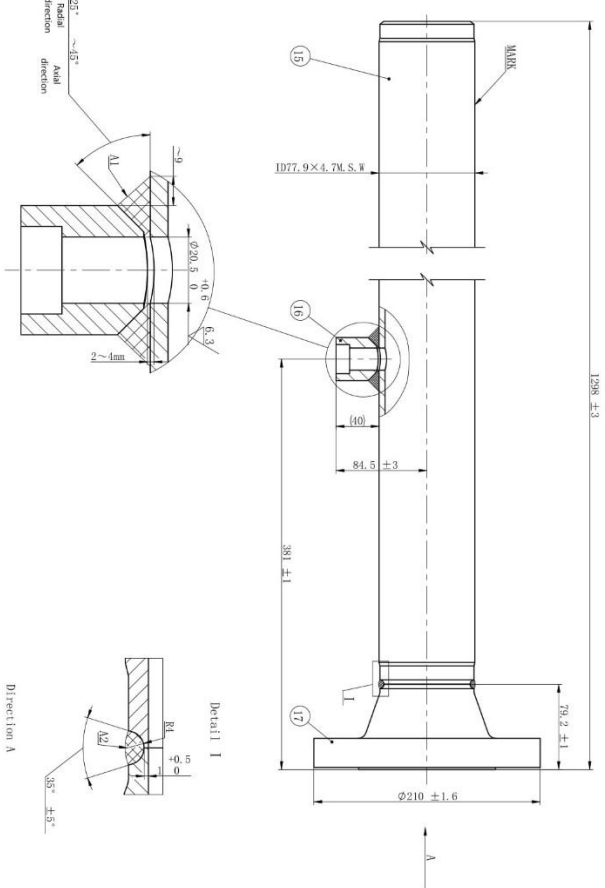
2. NDE requirement refer to ITP.

3. Matching tolerances unless otherwise: ISO 2768-1 m, ISO 2768-2 K.

Casting tolerances as per ISO 8052- DCTG-10.

ITEM NO.	DESCRIPTION	MATERIAL	QTY	U'W (kg)	DRW. NO.	REMARK
10	Tao	NI25-35MIC	32	0.6	0107C	

R00			First issue for approval					
Rev.	Date		Description	Drawn By	Check By	Approve By		
Part drawing T								
Client								
P.O NO.				PROJECT. NO.				
				DRAW. NO.				
Client Desc. No.	KT01-00-00-00	Rev. 0		TITLE NO.				



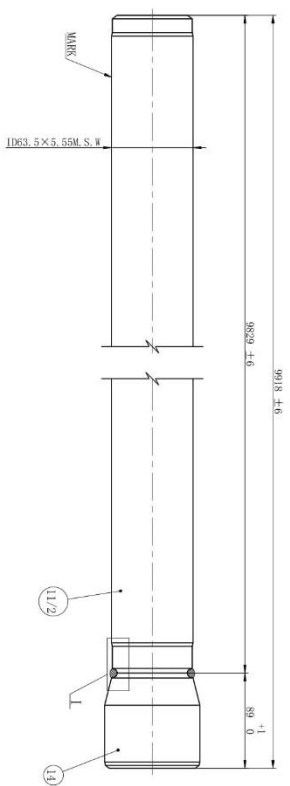
Item No.	Description	MATERIAL	QTY	U'W (kg)	DRW. NO.	REMARK
17	Flange	ASTM A182 F321	1	7.2	0106A	
16	Half coupling	ASTM A182 F321	1	0.2	0106B	
15	Tube 6	NP25-35MIC	1	13.9	0102A	

Item No.	Description	MATERIAL	QTY	U'W (kg)	DRW. NO./SD. NO.	REMARK
10	Tap	NP25-35MIC	1	0.6	0107C	
9	Tube 9	NP25-35MIC	1	5.3	0102D	
8	Tube support	NP25-35MIC	1	15.9	0104B	

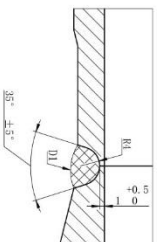
Item No.	Description	MATERIAL	QTY	U'W (kg)	DRW. NO.	REMARK
B	Tube support component	Assembly	32	22	01B	

General notes
1. The manufacturing and inspection shall conform to technical document.
For dimensions not individually tolerated refer to ISO 13920 B/B/75000.3 - 2007 B).
2. NDE requirement refer to TP.
3. The outside of completed welds is smooth with a minimum reinforcement of 1.0mm and a maximum of 3.0mm/min, angle of repose between parent metal and weld metal 150°).
The inner welding root should be grinded until it is flush with the inner hole.
If there is no grinding condition, the inner surface should not sag.
and the maximum convex height should be ≤1.5mm.

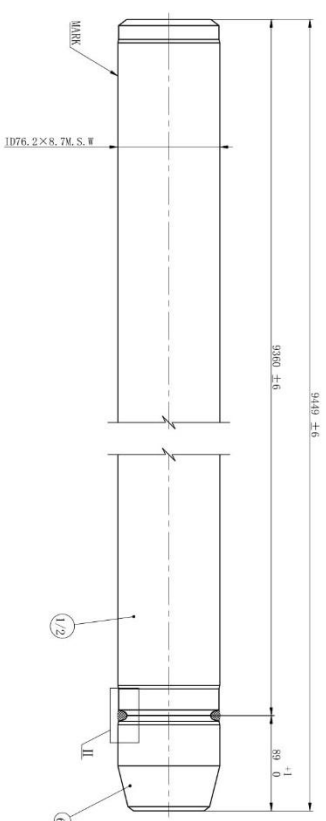
Client	PROJECT. NO.	Drawn By	Check By	Approve By
P. O. NO.	DRW. NO.			
Client Des. No.	RT01 00 00 00	Rev. 0	ITPL. NO.	



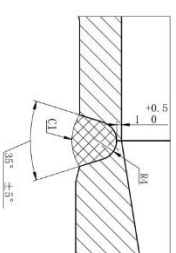
Detail 1



14	Reducer 2	M25-35M/C	1	1.6	0.05B	
11/2	Tube 4	M25-35M/C	1	109.5	0.01D	
Item No.	Description	MATERIAL	QTY	U ^W (kg)	DRG. NO., SER. NO.	REMARK
C	Reducer component 1	Assembly	32	111	Q2A	
Item No.	Description	MATERIAL	QTY	U ^W (kg)	DRG. NO., SER. NO.	REMARK



Detail II



6	Reducer 1	MR25-35MTC	1	2.0	0.05A	
1/2	Tube 2	MR25-35MTC	1	191.3	0.01B	
Item No.	Description	MATERIAL	QTY	U ^W (kg)	DRW. NO./SD. NO.	REMARK
D	Reducer component 2	Assembly	32	198.3	Q2B	
Item No.	Description	MATERIAL	QTY	U ^W (kg)	DRW. NO./SD. NO.	REMARK

General notes

1. The manufacturing and inspection shall conform to technical document

For dimensions not individually toleranced refer to ISO 13920 B(B/T5000.3-2007 B).

2.NDE requirement refer to ITP

3. The outside of completed welds is smooth with a minimum reinforcement of 1.0mm and

a maximum of 3.0mm(min. angle of repose between parent metal and weld metal 150°).

The inner welding root should be grinded until it is flush with the inner hole.

If there is no grinding condition, the inner surface should not sag, and the maximum allowable height should be ≤ 1 mm.

R00		First issue for approval			
Rev.	Date	Description	Drawn By	Check By	Approved By
Component drawing 2					
Client					
P. O NO.		PROJECT. NO.			
		DRAW. NO.			
Client Dwg. No.	E701 00 00 00	Rev. 0	LITEL NO.		