



1.

(6.0 g-U/cc) U-Mo

가

U-Mo

Al

Al

가

U-Mo tube 가

U-Mo

10 mm,

1 mm

10 mm,

1 mm

U-Mo

[1].

Cu

U-Mo

U-Mo

Cu

2.

Cu

1

가

[2].

2

(Mandrel)

가

2

가

3

2-1.

Cu 가 R.P, B.P, D.P 가  $10^2$  torr  
 가 3 kHz  
 가 300 10 kW  
 20 kW 가  
 1 Ar 가 ( 99.9%) . Ar 가 Cu  
 . High-Low  
 10

2-2.

servo motor  
 Ar 가 가 2  
 step ( - )

3.

3-1.

Cu 가 1 13.5mm,  
 2mm 가  
 1.

		Cu-01	Cu-02	Cu-03	Cu-04
		= 13.7 mm t = 2 mm	= 10.0 mm t = 2 mm	= 10.0 mm t = 1.5 mm	= 10.0 mm t = 1.0 mm
	( )	1330	1334	1359	-
	가 ( )	1190	1192	1191	1198
	1( )	1071	1069	1099	1045
	2( )	731	743	790	753
	(kgf)	4.5	4	4.5	3.5
	(lpm)	1.0	0.8	0.8	0.6
	(mm)	1	1	1	1
	(sec)	2	2	2	2
	(mm/min)	25	25	25	25
가	1 가 (lpm)	20	20	20	20
	2 가 (lpm)	0	10	0	0

3-2.

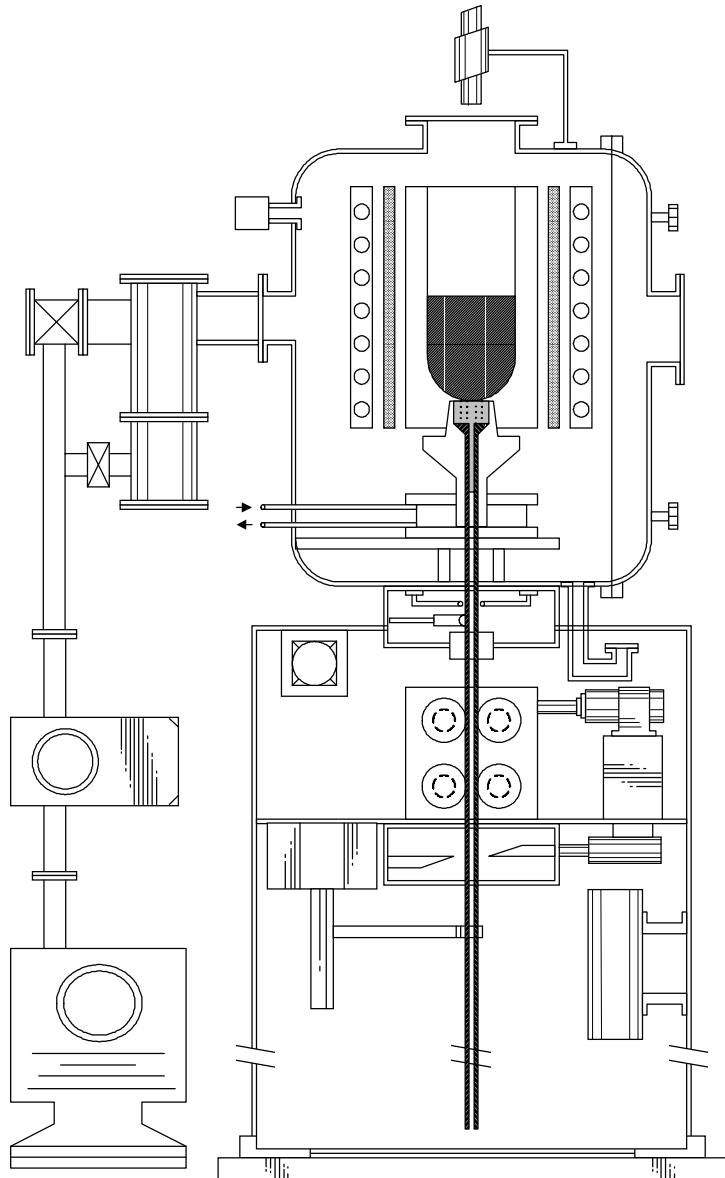
1190 ~1198 가 , 1 가  
 가  
 4 Cu  
 10mm  
 . Cu-02, Cu-03, Cu-4 - 가 2.1~2.3mm,  
 1.6~1.8mm, 1.1~1.3mm 가 .

4.

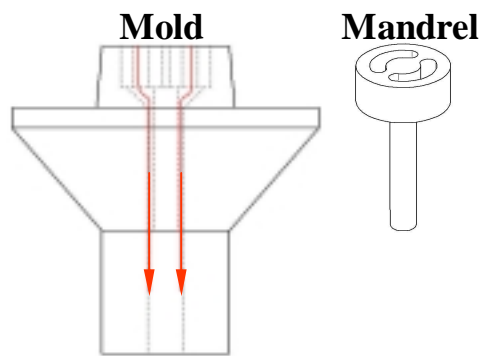
Al U-Mo 가  
 U-Mo  
 Cu 10mm, 1.1m  
 가  
 U-Mo  
 가 Al U-Mo

[1] “ ” 2000

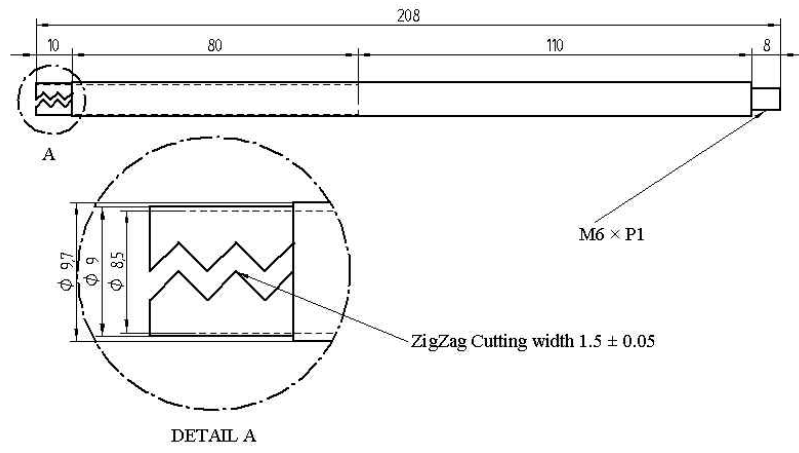
[2] J.M. Rodriguez, A. Esteva, S. Meza “A note on the control of the solidification front in the continuous casting of copper tubes” Journal of materials Processing Technology 96 (1999) 42-47



1.



2.



3.



4.

Cu