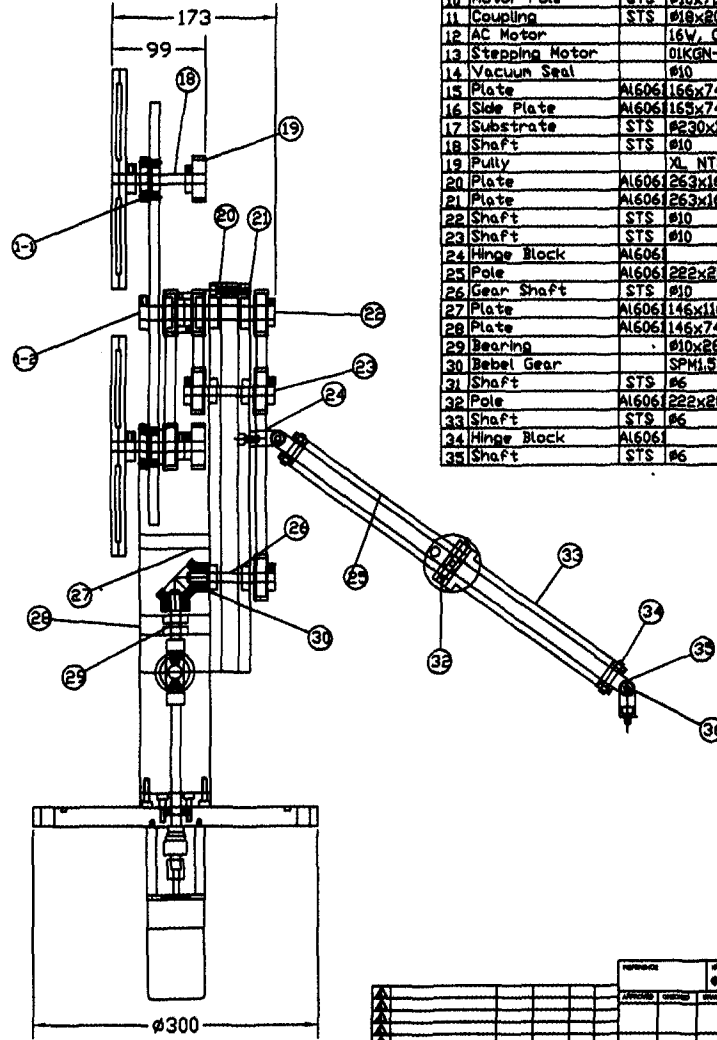
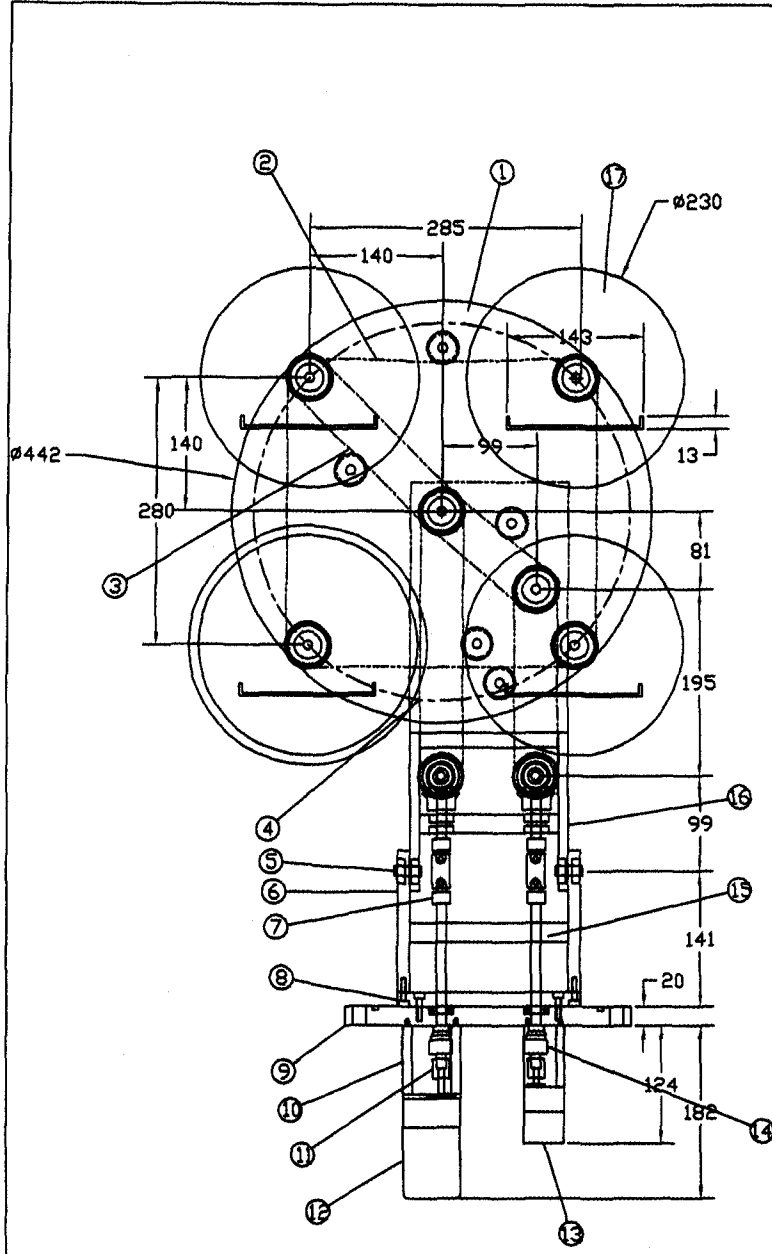


회전지그

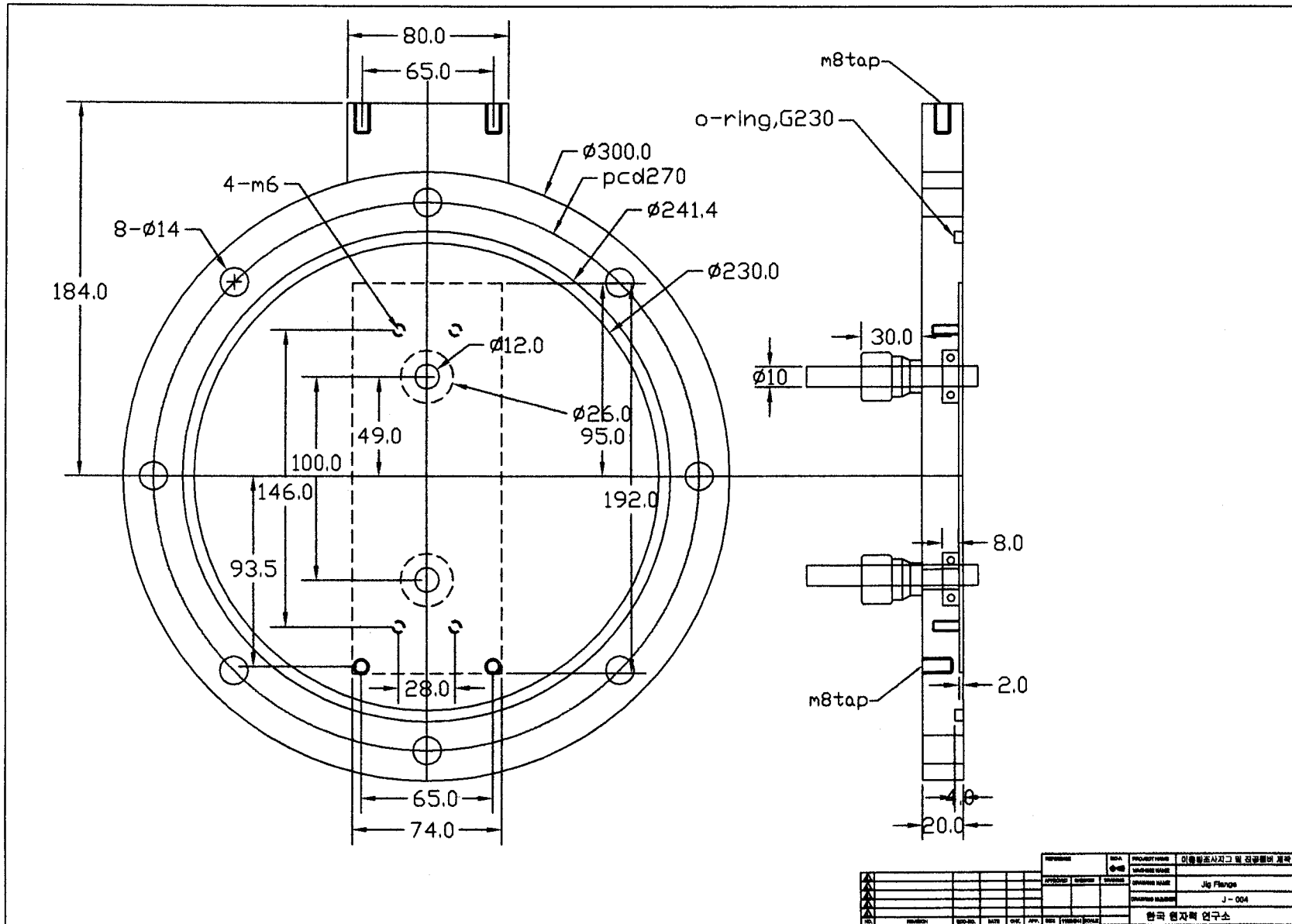
(도번 : J-001 ~ J-021)

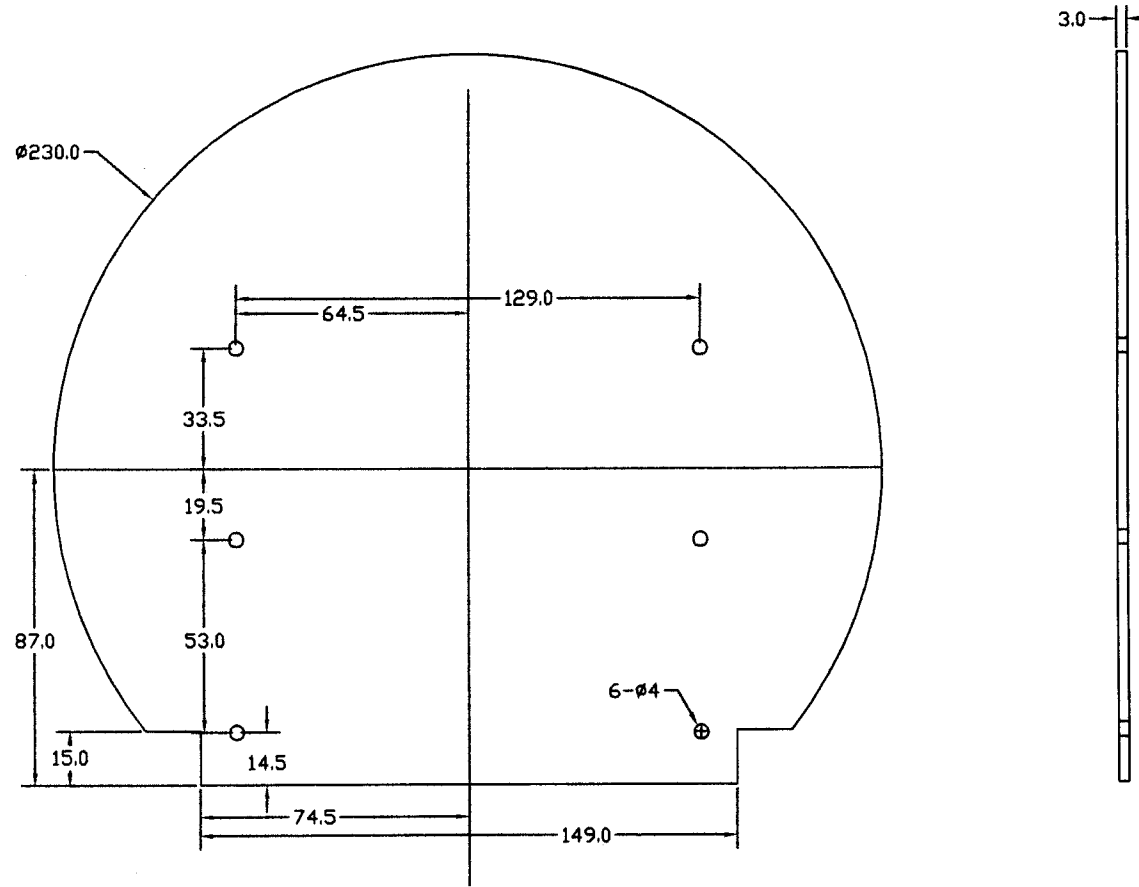


NO.	DESCRIPTION	MATL.	DIMENSIONS	QTY	REMARKS
1	Back Plate	Al6061	$\phi 442 \times 10t$	1	
2	Timing Belt		500XL	1	
3	Timing Belt		210XL	1	
4	Timing Belt		280XL	1	
5	Shaft	STS	$\phi 10$	2	
6	Plate	Al6061	$125 \times 74 \times 13t$	2	
7	Universal Joint		$\phi 10$, 3step, SM Type	2	
8	Base Plate	Al6061	$192 \times 74 \times 15t$	1	
9	Flange	STS	VG800	1	
10	Motor Pole	STS	$\phi 10 \times 72L$	4	
11	Coupling	STS	$\phi 10 \times 80L$	2	
12	AC Motor		16W, Gear Ratio 1/60	1	
13	Stepping Motor		01KGN-AUL/0GN, 1/60	1	
14	Vacuum Seal		$\phi 10$	2	
15	Plate	Al6061	$166 \times 74 \times 20t$	2	
16	Side Plate	Al6061	$165 \times 74 \times 10t$	2	
17	Substrate	STS	$\phi 230 \times 15t$	4	
18	Shaft	STS	$\phi 10$	1	
19	Pully	XL	NT26	0	
20	Plate	Al6061	$263 \times 166 \times 12t$	1	
21	Plate	Al6061	$263 \times 166 \times 12t$	1	
22	Shaft	STS	$\phi 10$	4	
23	Shaft	STS	$\phi 10$	1	
24	Hinge Block	Al6061		2	
25	Pole	Al6061	$222 \times 20 \times 10t$	2	
26	Gear Shaft	STS	$\phi 10$	2	
27	Plate	Al6061	$146 \times 116 \times 15t$	1	
28	Plate	Al6061	$146 \times 74 \times 20t$	1	
29	Bearing		$\phi 10 \times 26 \times 8t$	28	
30	Bevel Gear		SPM1.5SM	4	
31	Shaft	STS	$\phi 6$	1	
32	Pole	Al6061	$222 \times 20 \times 10t$	2	
33	Shaft	STS	$\phi 6$	2	
34	Hinge Block	Al6061		2	
35	Shaft	STS	$\phi 6$	2	

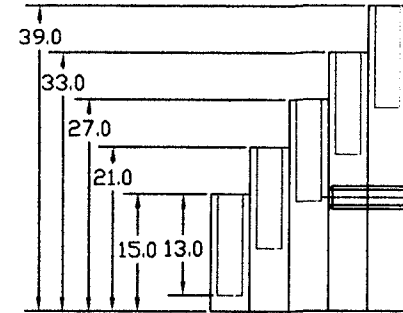
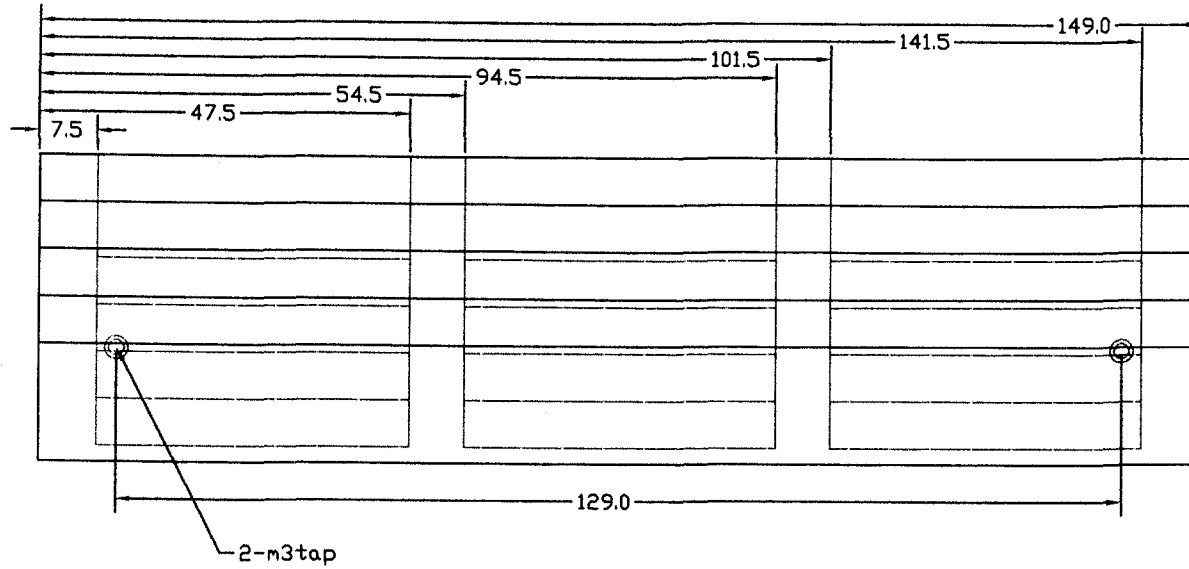
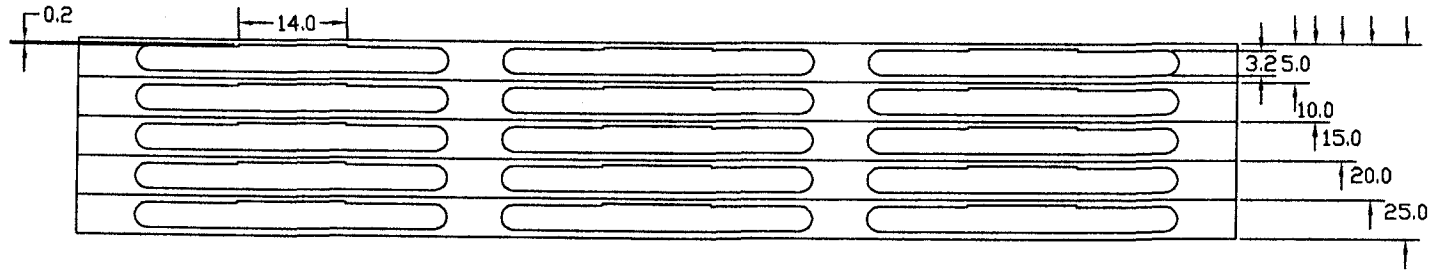
REV.	DATE	BY	CHK.	APP.	REVISION

PROJECT NAME	이온빔소사기구 및 동결형반 광자
MAKER NAME	Jig Unit
DESIGNER NAME	J-001
ENGINEER NAME	한국 원자력 연구소

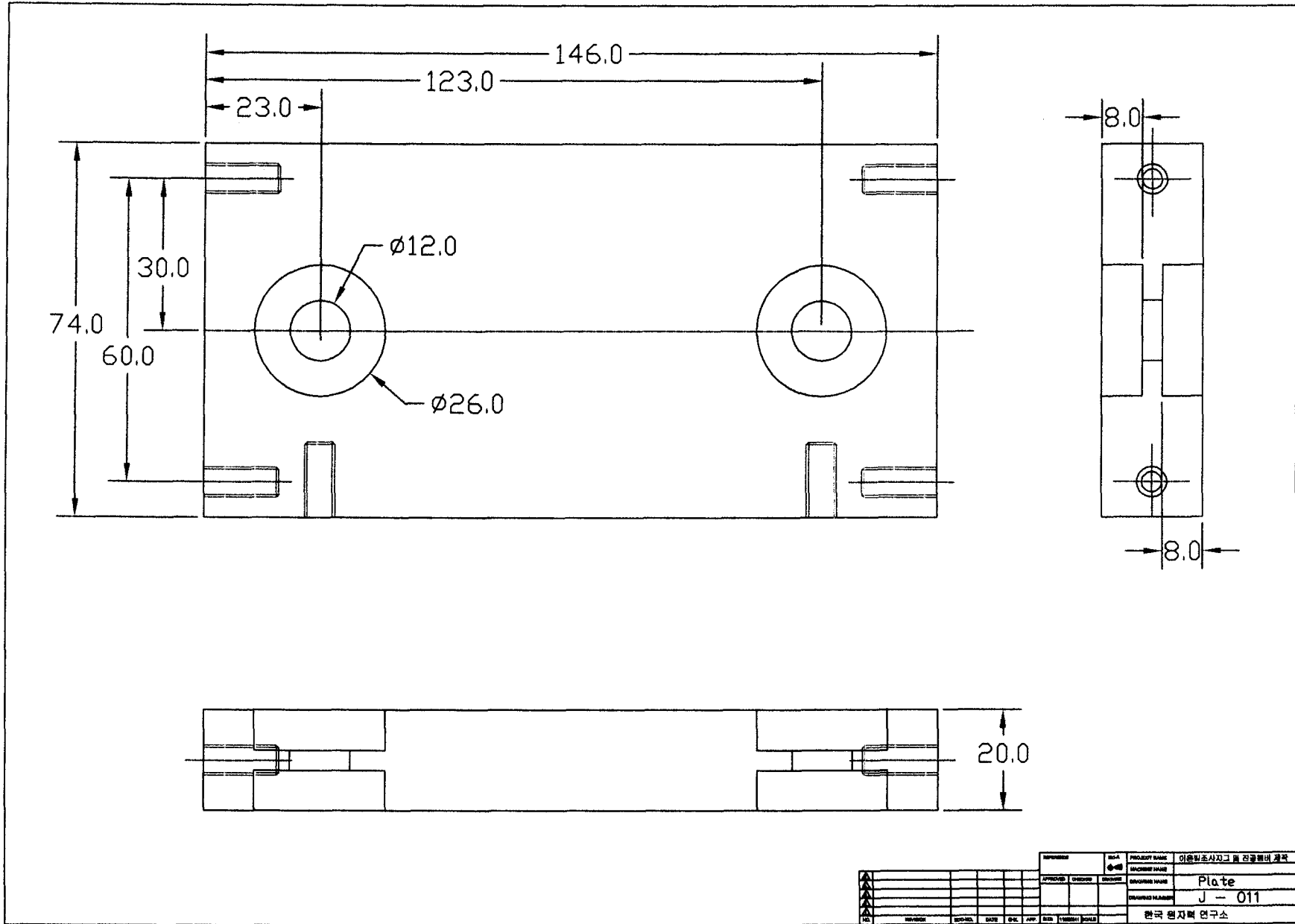


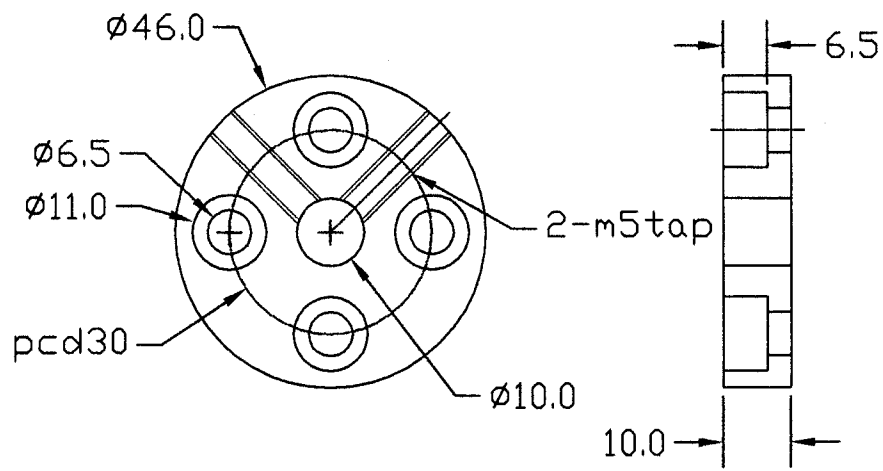
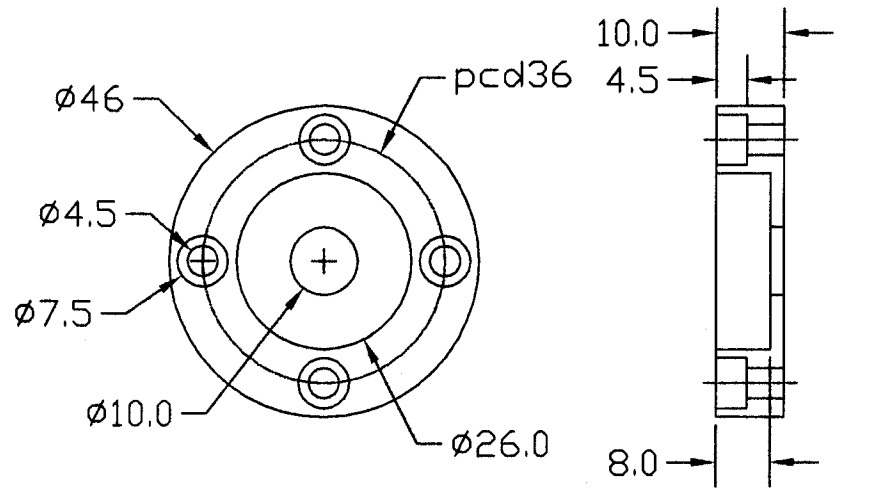


REV.	DESCRIPTION	DATE	BY	CHECKED	DATE	BY	PROJECT NAME	DESIGNER
							이동기발 Holder Bracket	
							J - 008	
							한국 원자력 연구소	

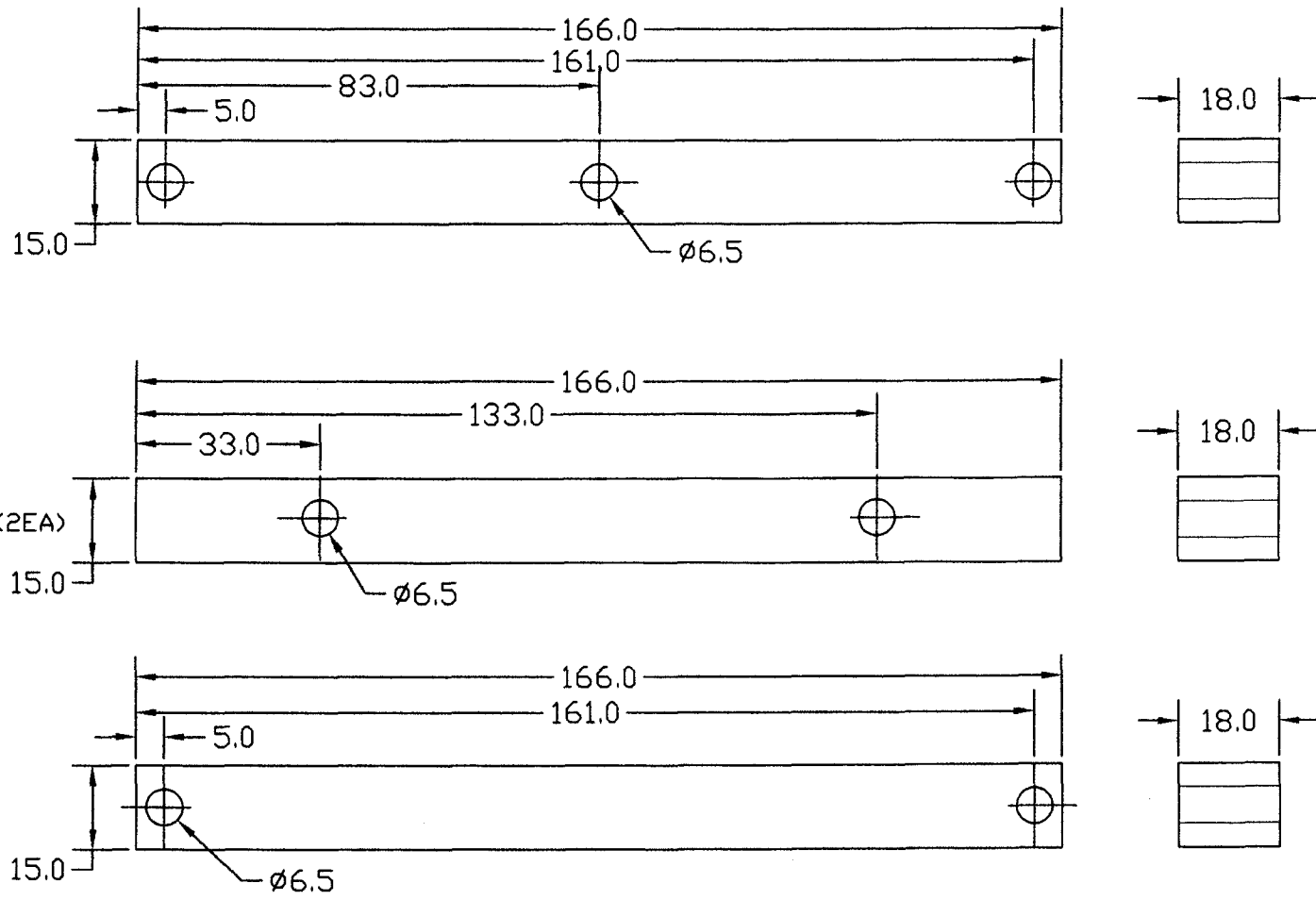


REVISION				NO.		PROJECT NAME		이원일조사지그 및 진공할터 제작	
DRAWN				CHECKED		DRAWN		DRAWING NAME	
								이동기보 Holder	
								DRAWING NUMBER	
								J - 007	
								한국전자력 연구소	

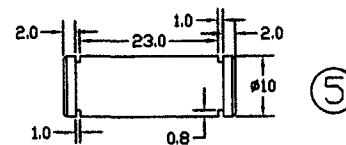
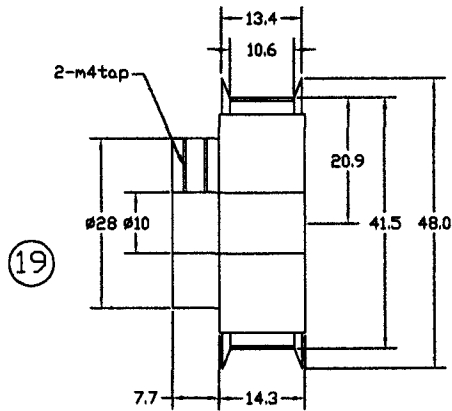
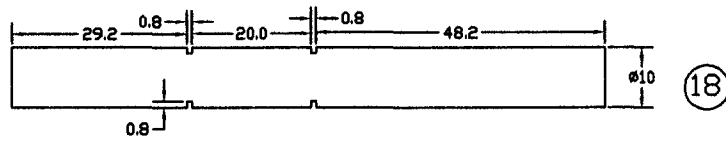




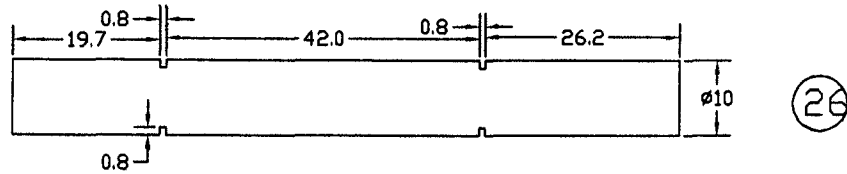
REVISION		NO.	PROJECT NAME	이원형중사직공임공정개발공역
▲		1	DRAWN	SHAFT HOLDER
▲		2	CHECKED	SHAFT HOLDER
▲		3	DATE	J - 014
▲		4	DESIGNER	한국전자기술연구소
▲		5	DATE	
▲		6	DATE	
▲		7	DATE	
▲		8	DATE	
▲		9	DATE	
▲		10	DATE	



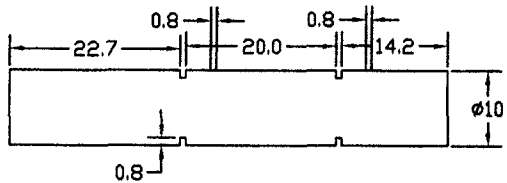
PROJECT NAME	이온분광사자그 및 관입형의 설계
DRAWER NAME	Plate 지지대
DRAWER NUMBER	J - 015
한국 원자력 연구소	



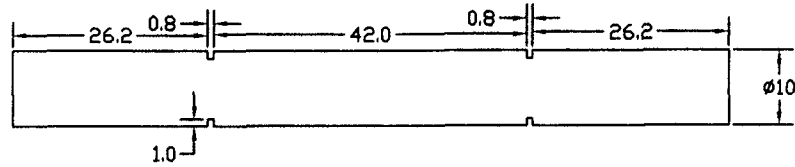
REVISION	REASON	DATE	CHK.	APP.	DESIGN (FORMER/WORKS)	NO.	PROJ. NAME	ISS. NAME	ISS. NAME	ISS. NAME
							이동복공사연구실 연구용품명세서			
									Pully & Shaft	
									J-016	
									한국전자책 연구소	



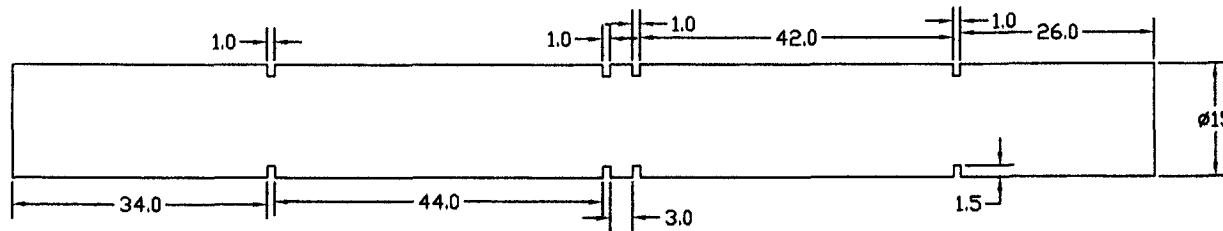
(26)



(29)

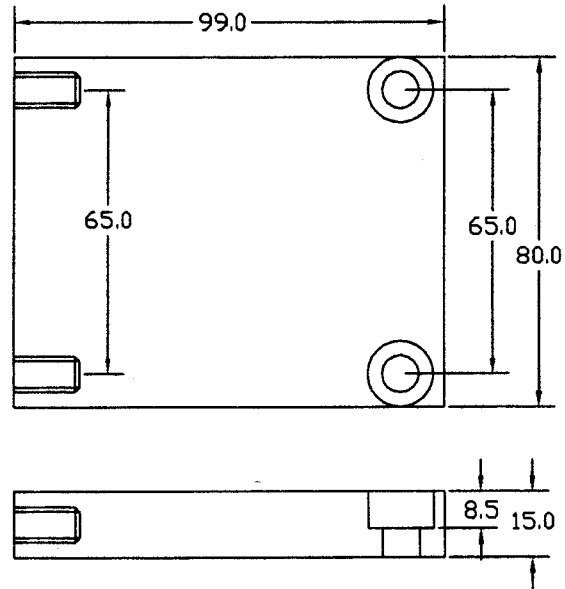
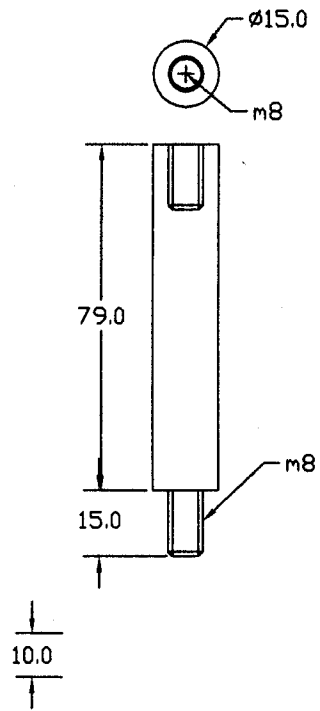


(23)

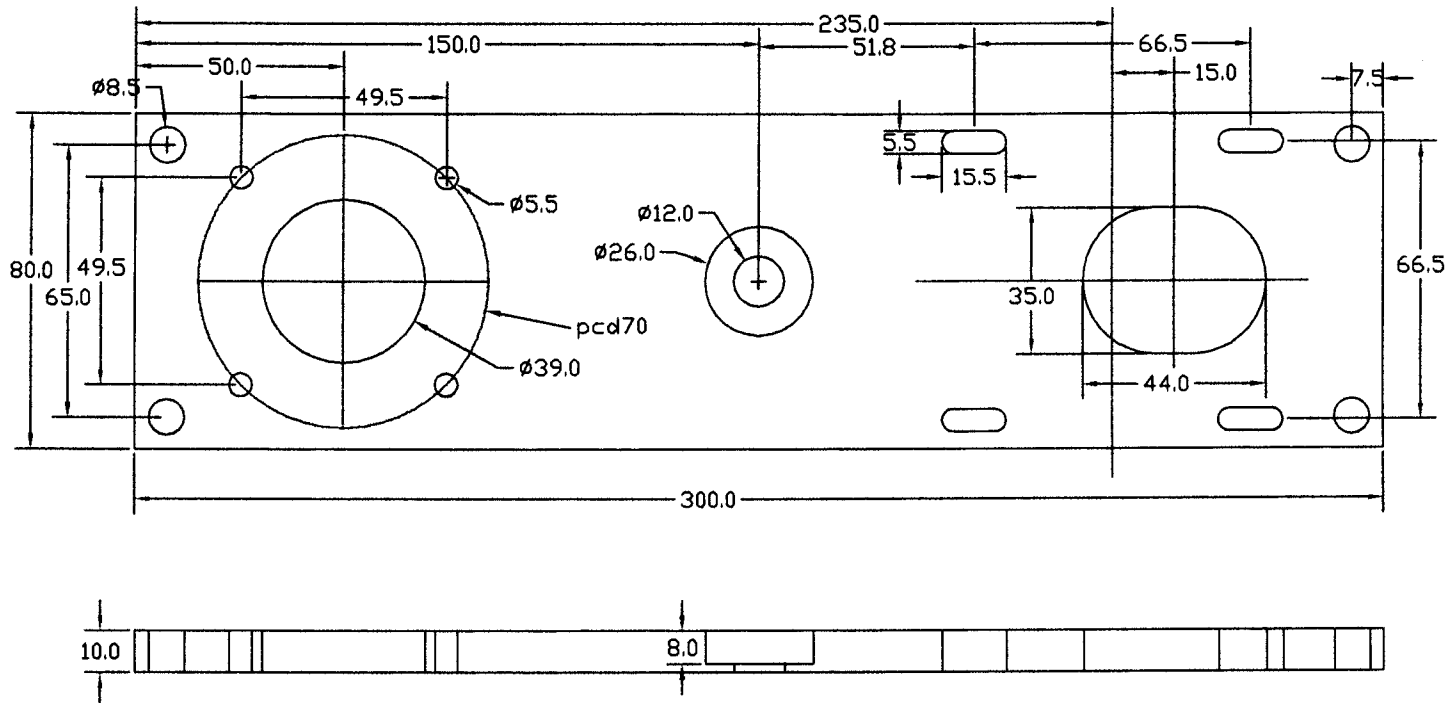


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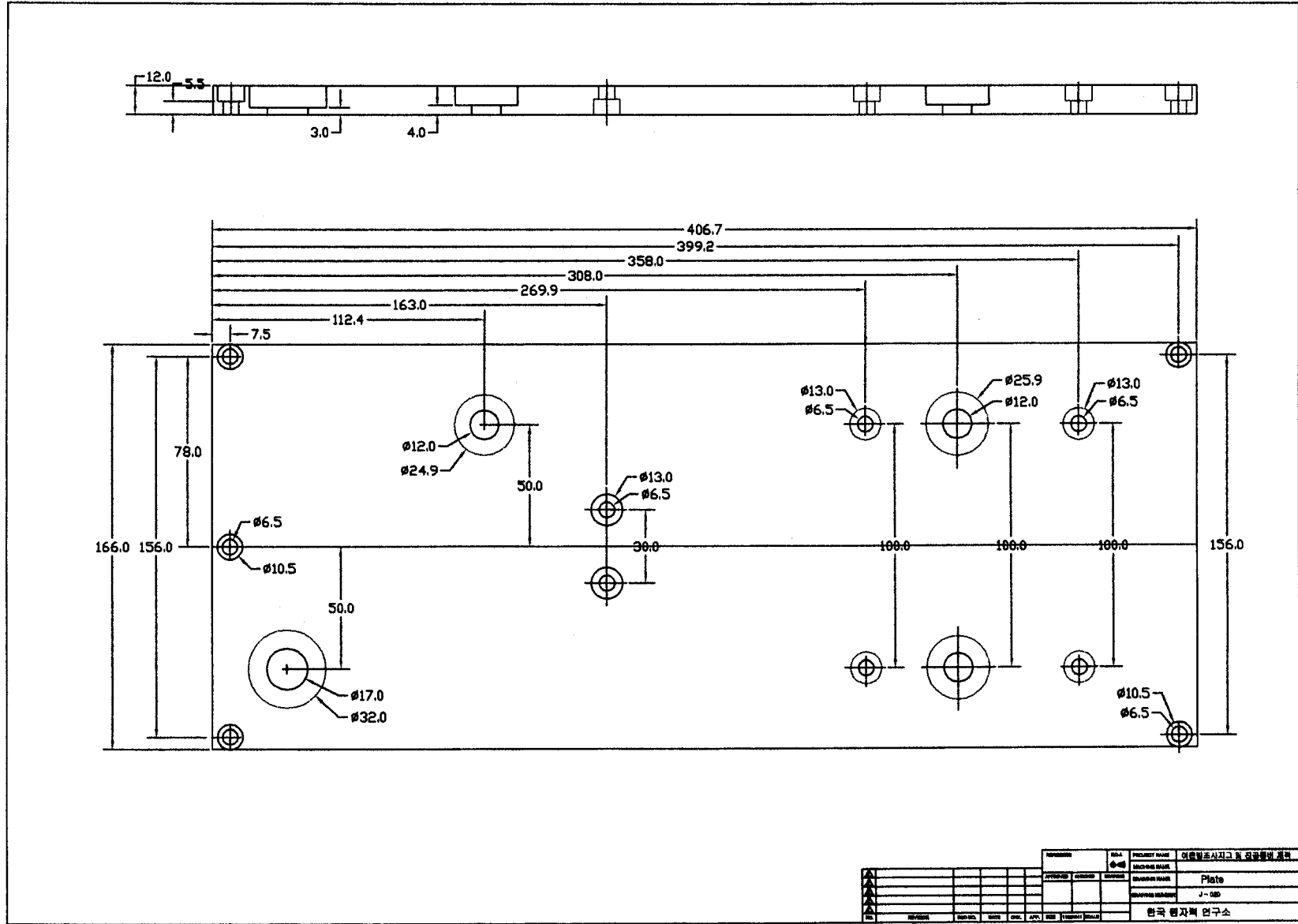
PROJECT NAME	이동영프사자크 및 리얼타임 제어
DESIGNER NAME	
CHECKER NAME	
DRAWING NAME	Shaft
DRAWING NUMBER	J-017
한국철자학연구소	

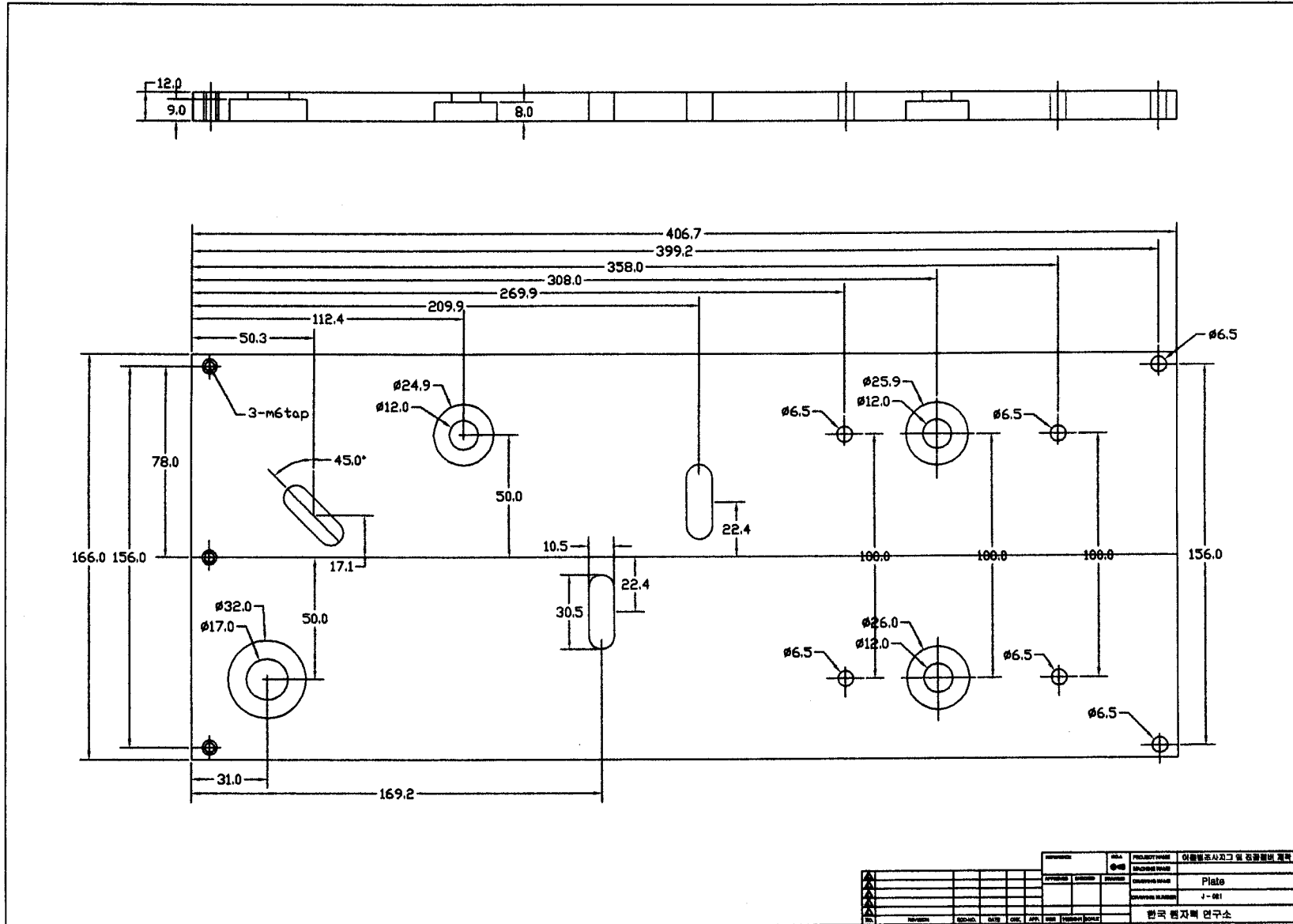


APPROVED		DATE		BY		FOR		PROJECT NAME	
▲								01 總務部	02 設備部
▲								Motor Bracket	
▲								J-018	
▲								敬興 株式会社	



DESIGNER	DATE	REV.	PROJ. NAME	이동통신사기그림 완성본의 출력
CHECKER			DESIGNER	Motor Bracket
			DRAWING NO.	J - 019
			한국전자력 연구소	



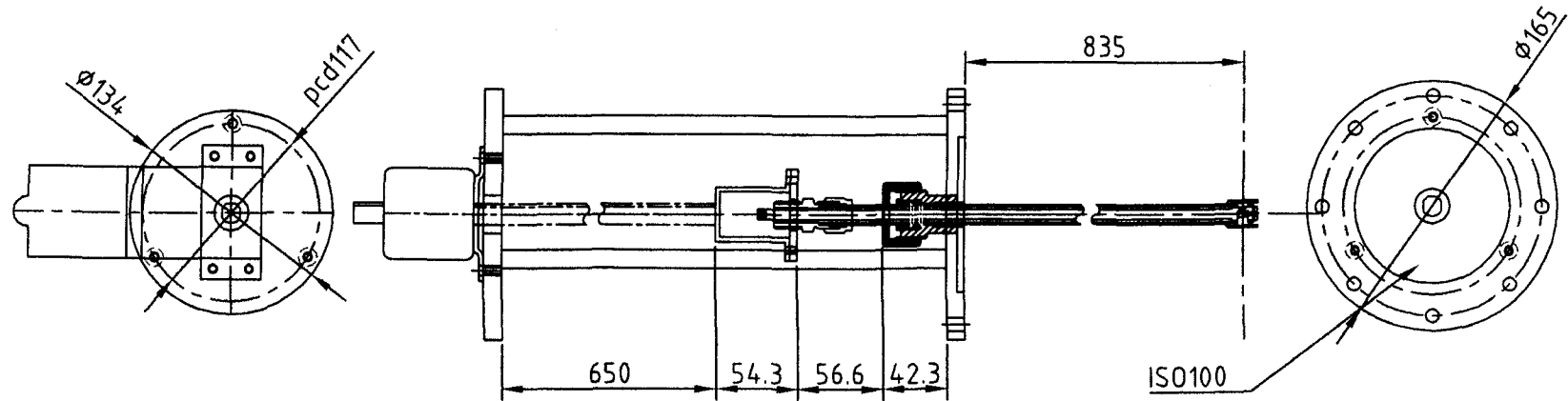


REVISED		DATE	CHK	APP	DES	DESIGNER	DATE	PROJECT NAME	이동통신사이드 워킹플레이트 제작
▲								DESCRIPTION	Plate
▲								REVISION NUMBER	J-001
▲								DESIGNER NAME	한국전자기술연구소

Faraday Cage 제작 도면

(도번 : F-001 ~ F-006)

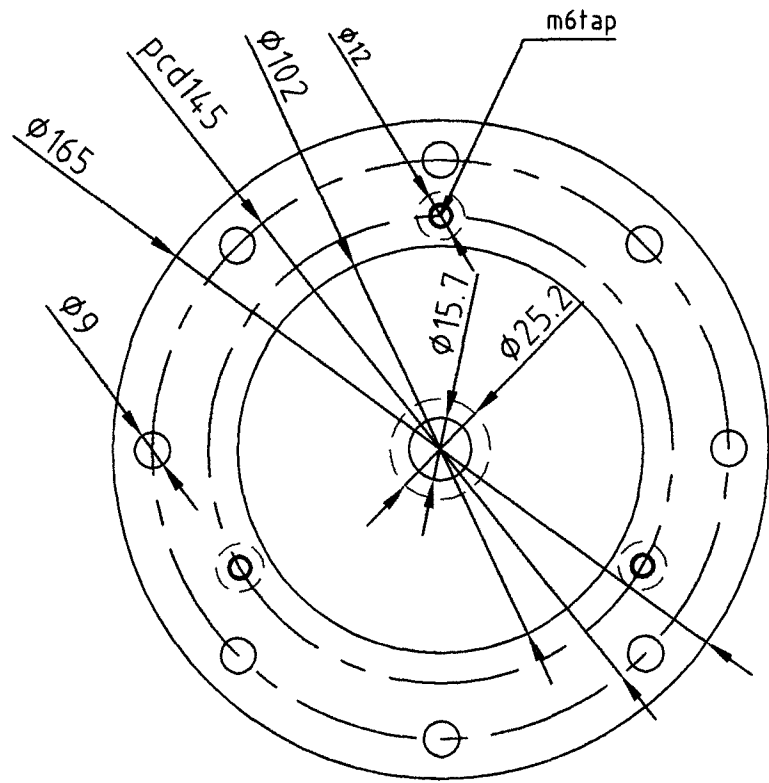
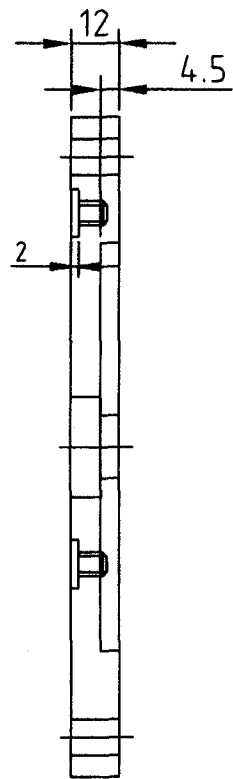
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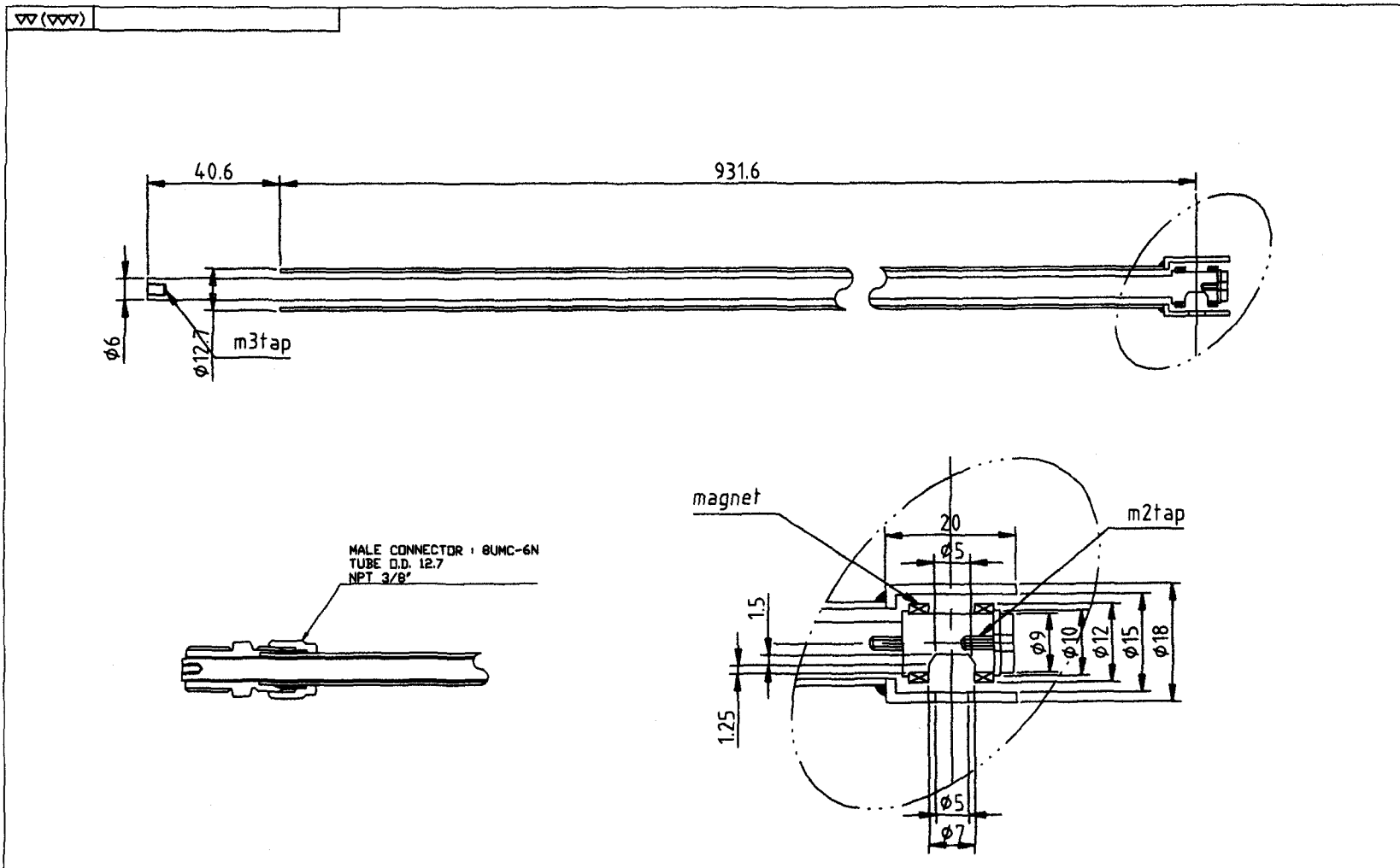
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					PROJECT				
					DWG	DESIGN	CHK.BY	APP.BY	TITLE
					ACAD				Faraday Cage
					DATE				DWG NO. F - 001
					SCALE	NON	Projection		DAE KI Hi-Tech
NO.	DESCRIPTION	MAT'L	Q'TY	REMARK	NOTE				
					1.ADJUST TOLERANCE: 2.CHAMFERING CO.5 3.ALL WELDS TO BE INTERNAL FULL PENETRATION VACUUM WELD. 4.SURFACE ELECTRIC POLISHING AND SANDBLAST 5.LEAK TEST :1X10 ⁻⁹ mbar.l/ sec				

▽▽ (▽▽▽)



					PROJECT				
					DWG	DESIGN	CHK.BY	APP.BY	TITLE
					ACAD				Faraday Cage(Flange)
					DATE				DWG NO. F - 002
					SCALE	NON	Projection		DAE KI HI-Tech
NO.	DESCRIPTION	MAT'L	Q'TY	REMARK	NOTE 1.ADJUST TOLERANCE: 2.CHAMFERING C0.5 3.ALL WELDS TO BE INTERNAL FULL PENETRATION VACUUM WELD. 4.SURFACE ELECTRIC POLISHING AND SANDBLAST 5.LEAK TEST :1X10 ⁻⁹ mbar.l/ sec				

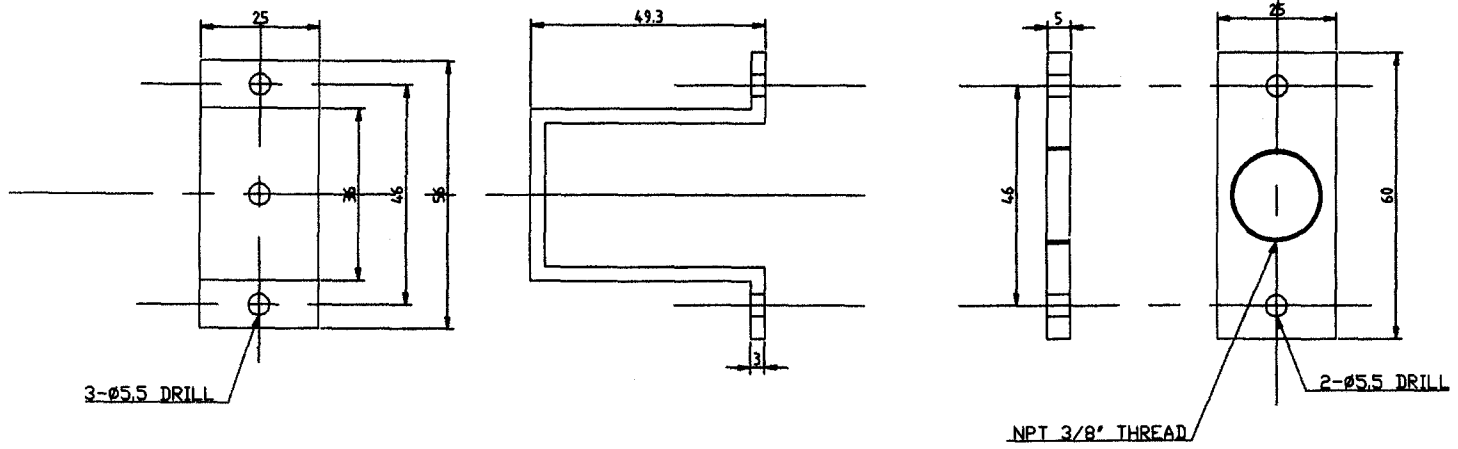


MALE CONNECTOR : 8UMC-6N
TUBE O.D. 12.7
NPT 3/8"

					PROJECT				
					DWG	DESIGN	CHK.BY	APP.BY	TITLE
					ACAD				Sensor
					DATE				DWG NO. F - 003
NO.	DESCRIPTION	MAT'L	Q'TY	REMARK	SCALE	NON	Projection		DAE KI Hi-Tech

NOTE
 1. ADJUST TOLERANCE:
 2. CHAMFERING C0.5
 3. ALL WELDS TO BE INTERNAL FULL PENETRATION VACUUM WELD.
 4. SURFACE ELECTRIC POLISHING AND SANDBLAST
 5. LEAK TEST : 1×10^{-3} mbar.l./sec

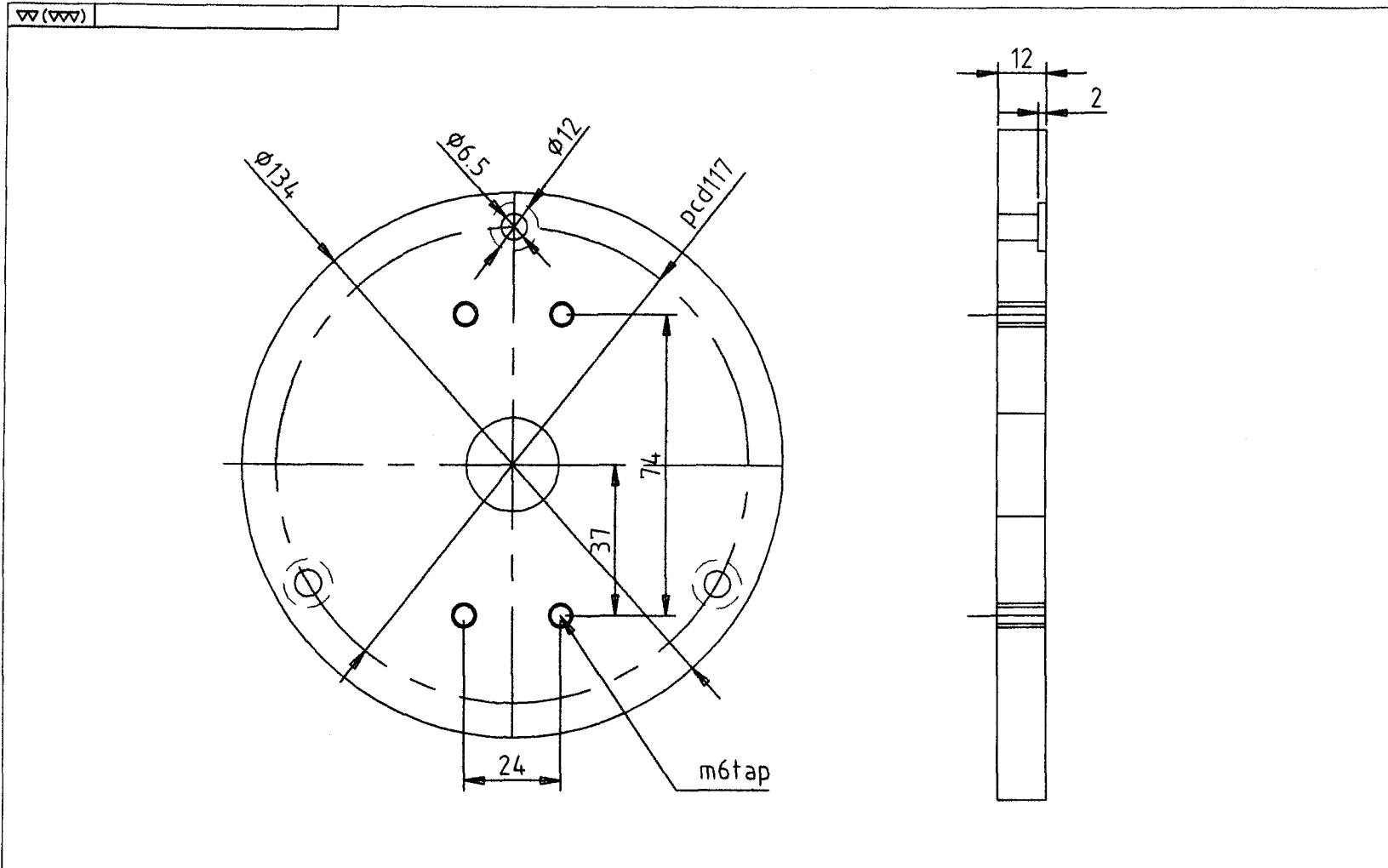
▽▽(▽▽▽)



-147-

					PROJECT				
					DWG	DESIGN	CHK.BY	APP.BY	TITLE
					ACAD				Bracket
					DATE				DWG NO. F - 004
NO.	DESCRIPTION	MAT'L	Q'TY	REMARK	SCALE	NON	Projection		DAE KI HI-Tech

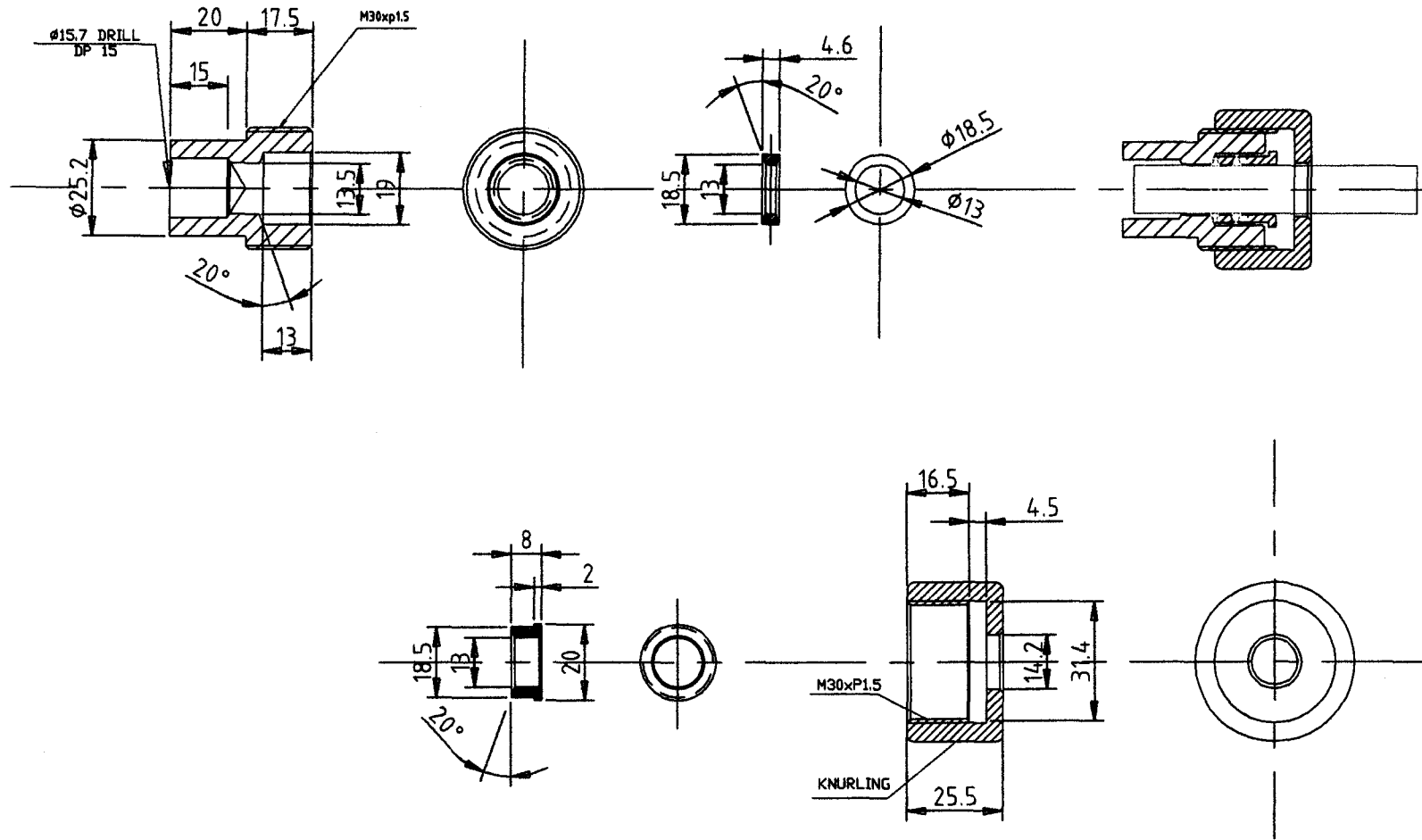
NOTE
 1. ADJUST TOLERANCE:
 2. CHAMFERING CO.5
 3. ALL WELDS TO BE INTERNAL FULL PENETRATION VACUUM WELD.
 4. SURFACE ELECTRIC POLISHING AND SANDBLAST
 5. LEAK TEST :1X10⁻⁶ mbar.l/sec



					PROJECT				
					DWG	DESIGN	CHK.BY	APP.BY	TITLE
					ACAD				Motor Holder
					DATE				DWG NO. F - 005
NO.	DESCRIPTION	MAT'L	Q'TY	REMARK	SCALE	NON	Projection		DAE KI Hi-Tech

NOTE
 1.AJUST TOLERANCE:
 2.CHAMFERING CO.5
 3.ALL WELDS TO BE INTERNAL FULL PENETRATION VACUUM WELD.
 4.SURFACE ELECTRIC POLISHING AND SANDBLAST
 5.LEAK TEST :1X10⁻⁸ mbar.l/sec

▽ (VV)



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					PROJECT				
					DWG	DESIGN	CHK. BY	APP. BY	TITLE
					ACAD				Ultra Torr Fitting(1/2")
					DATE				DWG NO. F - 006
NO.	DESCRIPTION	MAT'L	Q'TY	REMARK	SCALE	NON	Projection		DAE KI Hi-Tech

NOTE
 1. ADJUST TOLERANCE:
 2. CHAMFERING C0.5
 3. ALL WELDS TO BE INTERNAL FULL PENETRATION VACUUM WELD.
 4. SURFACE ELECTRIC POLISHING AND SANDBLAST
 5. LEAK TEST : 1×10^{-8} mbar.l/sec

서 지 정 보 양 식

수행기관보고서번호		위탁기관보고서번호		표준보고서번호		INIS 주제코드	
KAERI/RR-2386/2003							
제목 / 부제		내구성향상 이용기날 양산기술개발					
연구책임자 및 부서명		이재형 한국원자력연구소 양성자기반공학 기술개발 사업단					
연구자 및 부서명		박재원, 이재상, 손창원, 김보영, 이찬영 한국원자력연구소 양성자기반공학 기술개발 사업단					
출판지	대전	발행기관	한국원자력연구소	발행년	2003.8.15		
페이지	167 p.	도표	있음(○), 없음()	크기	21.0×29.7cm		
참고사항							
공개여부	공개(○), 비공개()		보고서종류				
비밀여부	대외비 (), __ 급비밀						
연구위탁기관	과학기술부		계약 번호				
초록 (15-20줄내외)		<p>모발 및 애건의 체모 등을 절단하는 이용기는 크게 날, 모터, 날 지지 스프링 및 몸체로 구분할 수 있는데 이 중 가장 중요한 것은 날 부분으로 날의 내구성은 이용기의 수명을 결정하는 가장 중요한 원인이 되고 있다. 날은 주로 스테인레스 강으로 제작되며 극심한 마모 환경에서 사용되지 않는다. 기초연구를 통해 질소이온을 주입하면 날의 표면이 강화되어 사용수명이 크게 향상된다는 결과에 착안 본 과제에서 선행 연구 결과 확립된 공정조건을 양산 공정으로 연결키 위해 장치 및 공정을 개발하였다.</p> <p>크게 두 분류로 나누어 연구를 수행하였다. 첫째로 선행연구 결과 얻은 공정조건을 양산 공정으로 연계하기 위해 이온원, 가속관, 및 진공용기/조사지그로 구성되는 월 3000개 이온주입 이용기 날 생산을 목표로 한 장치 제작이며, 둘째로 제작된 장치로 최적 이온 주입 공정 개발이다.</p> <p>연구개발결과 선행연구시 개발된 내구성보다 더 향상된 이온주입 이용기날을 월 10000개 이상의 안정적으로 생산할 수 있는 장치가 개발 되었다.</p>					
주제명키워드 (10단어내외)		이온주입, 표면처리, 이용기날, 표면경화, 표면분석					

BIBLIOGRAPHIC INFORMATION SHEET

Performing Org. Report No.		Sponsoring Org. Report No.		Standard Report No.		INIS Subject Code	
KAERI/RR-2374/2003							
Title / Subtitle		Development of mass production technology for enhancing wearability of hair clippers blades					
Project Manager and Department		Jae-Hyung Lee, Korea Atomic Energy Research Institute Proton Engineering Frontier Project					
Researcher and Department		Jae-Won Park, Jae-Sang Lee, Chang-Won Son Korea Atomic Energy Research Institute, Proton Engineering Frontier Project					
Publication Place	Daejeon	Publisher	KAERI		Publication Date	2003	
Page	167 p.	Ill. & Tab.	Yes(○), No ()		Size	21.0×29.7cm	
Note							
Open	Open(○), Closed()			Report Type			
Classified	Restricted(), ___Class Document						
Sponsoring Org.	Ministry of Science of Technology			Contract No.			
Abstract (15-20 Lines)		<p>A hair clipper that uses for cutting hairs and pet furs comprises mainly of cutting blades, motor, and body. The most important part among these is the cutting blade, because it often determines the life time of the hair clipper. The material of cutting blade is the stainless steel such as SS440A or SS420 and it is not subjected to the severe abrasive condition. On the bases of the previous studies that showed the enhanced wear resistance upon implanting N ions into the surface of the blade, a facility for mass production of the N ion implanted hair cutting blade has been developed and a process qualification has been performed and established in this project</p> <p>This project was performed mainly in two research areas. Firstly, an equipment including ion source system, accelerator system, vacuum work chamber, and hair cutter loading jig set was developed. The capacity of the equipment was aimed at producing 3000 ion implanted hair clippers blades. Secondly, process qualifications with the developed equipment was preformed.</p> <p>The ersults showed that the high quality ion implanted hair clippers blades of more than 10000/month could be produced with the ion implanter developed in this project.</p>					
Subject Keywords (About 10 words)		Ion implantation, surface treatment, hair clippers blades, surface hardening, surface analysis					