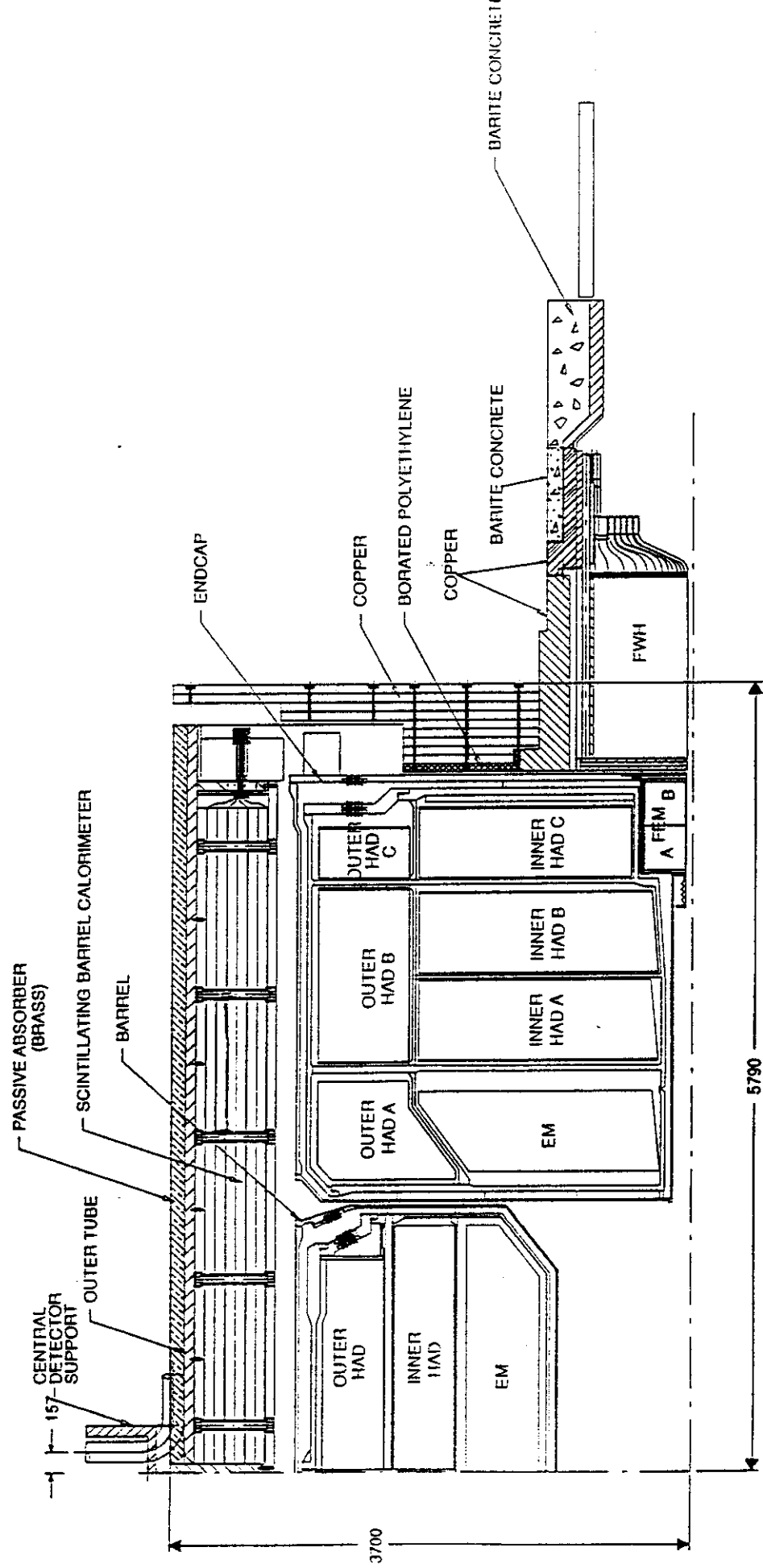
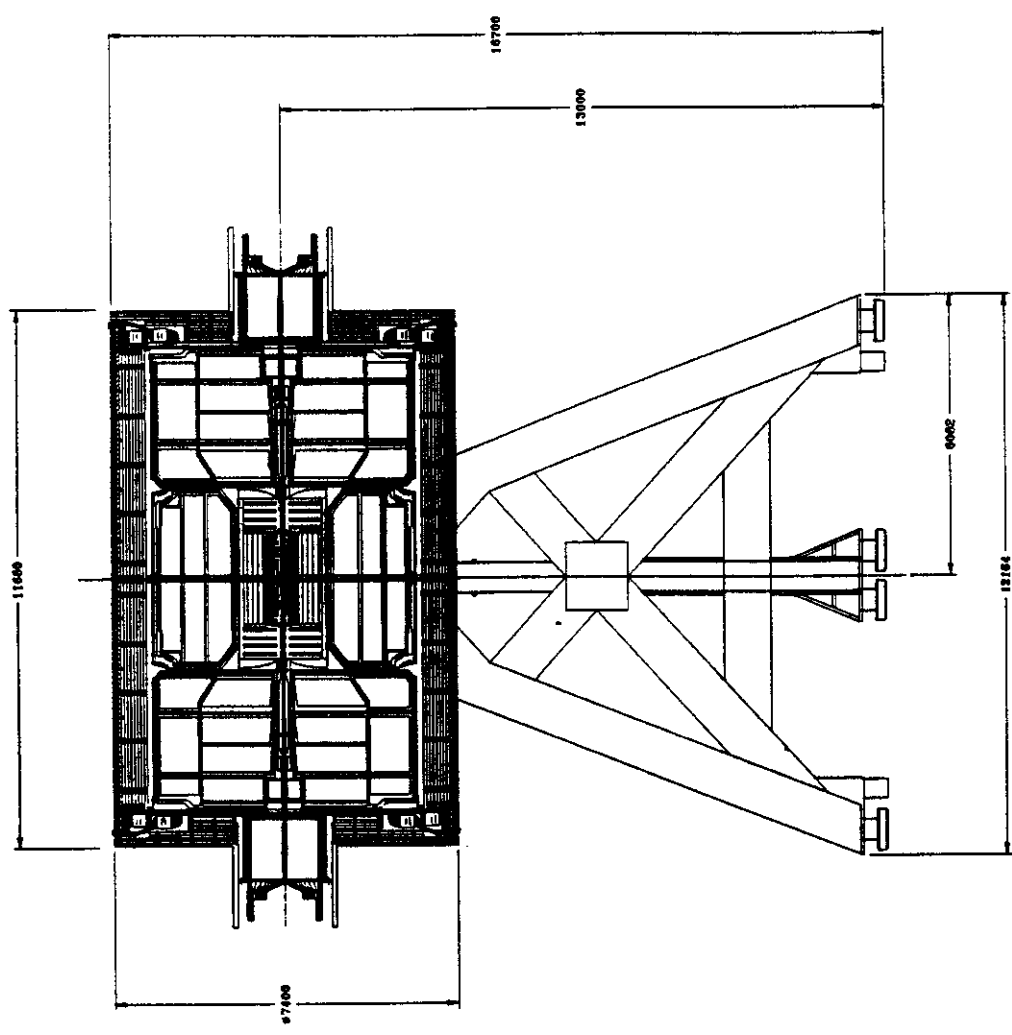


26.5.93 H.L.

Calorimeter Assembly and Installation

Bill Wisniewski





INCHES ARE IN MILLIMETERS
FRACTIONS UNLESS OTHERWISE SPECIFIED
TOLERANCES UNLESS OTHERWISE SPECIFIED

SIZE	UNITS	TOLERANCE
0	INCHES	±0.005
1/16	INCHES	±0.005
1/8	INCHES	±0.005
3/16	INCHES	±0.005
1/4	INCHES	±0.005
5/16	INCHES	±0.005
3/8	INCHES	±0.005
7/16	INCHES	±0.005
1/2	INCHES	±0.005
5/8	INCHES	±0.005
3/4	INCHES	±0.005
7/8	INCHES	±0.005
1	INCHES	±0.005

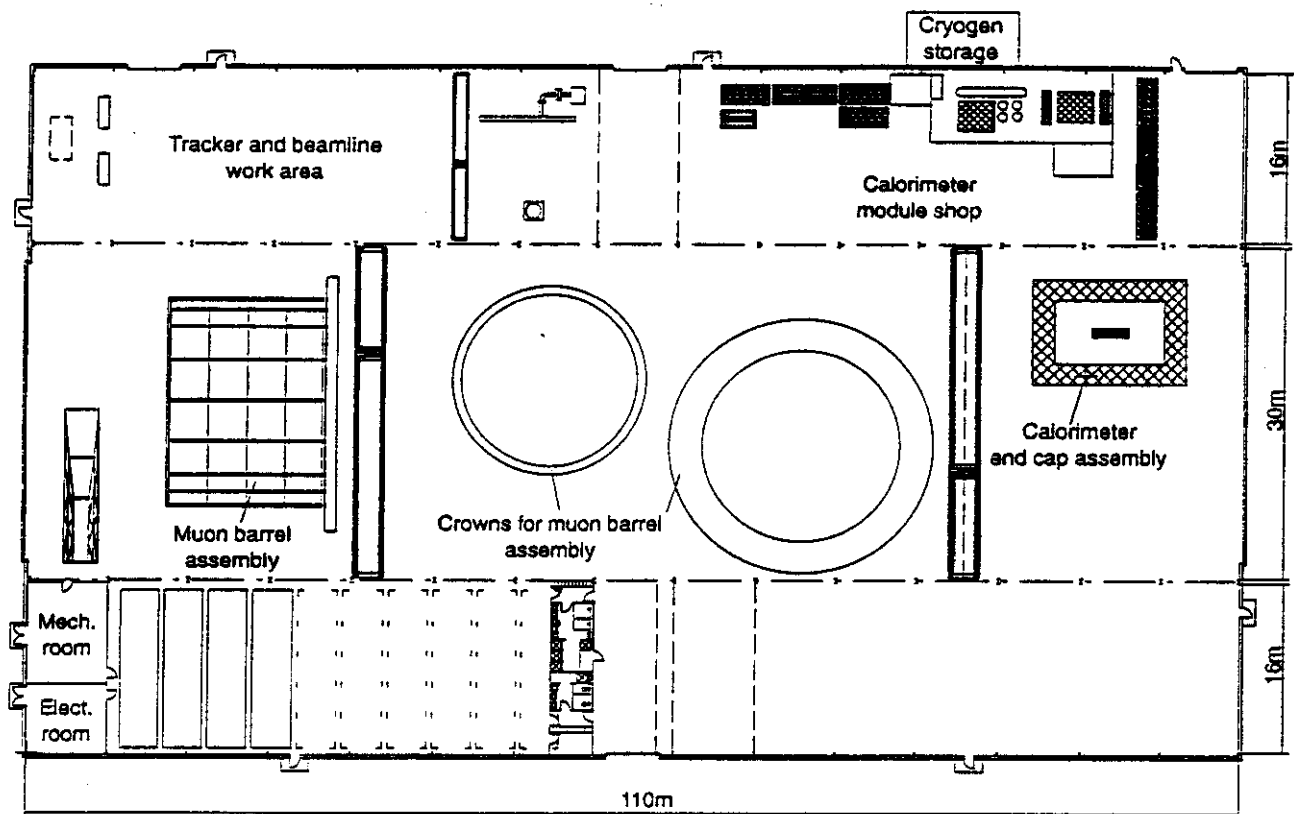
DO NOT SCALE DRAWING



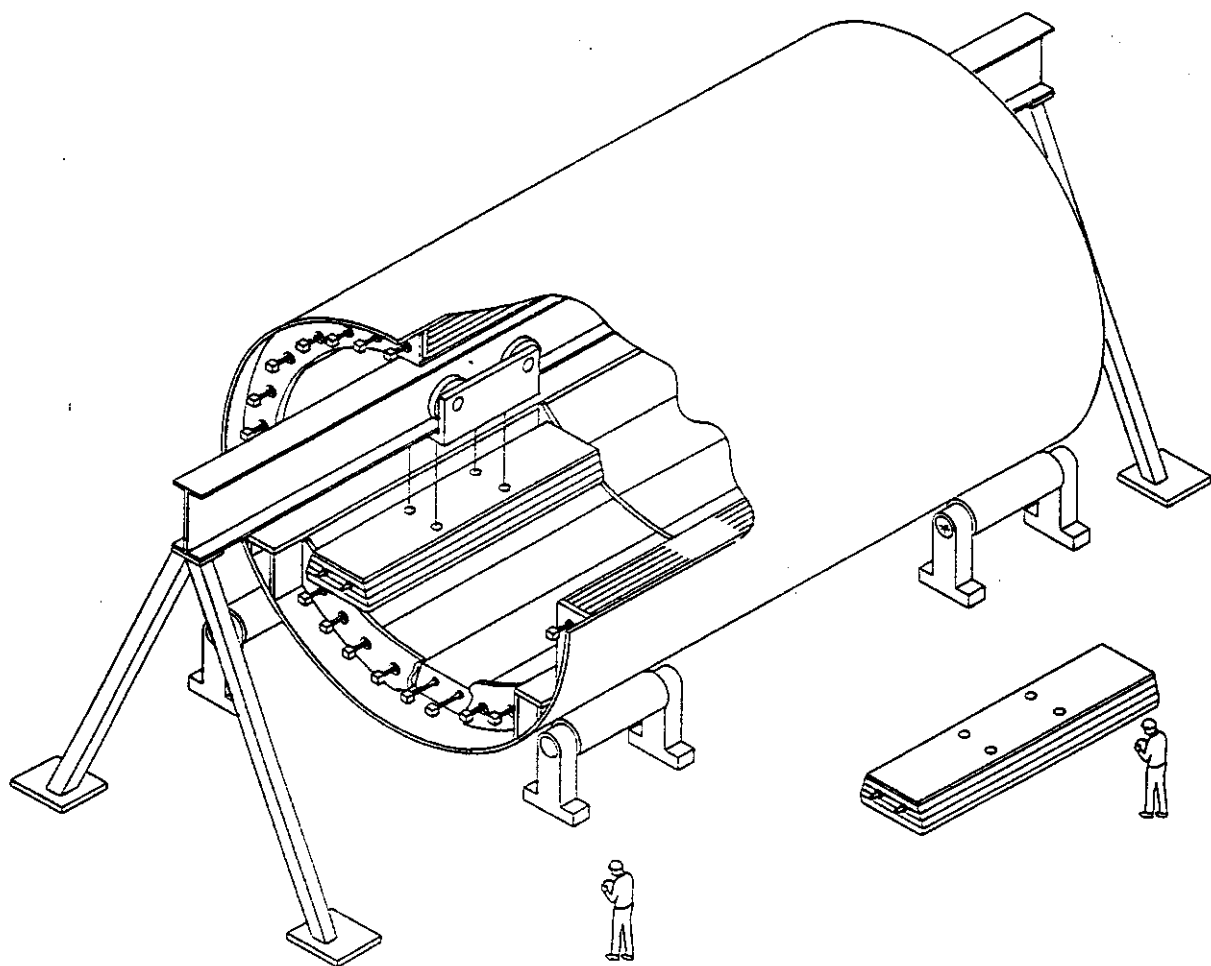
DO NOT REUSE MATERIAL

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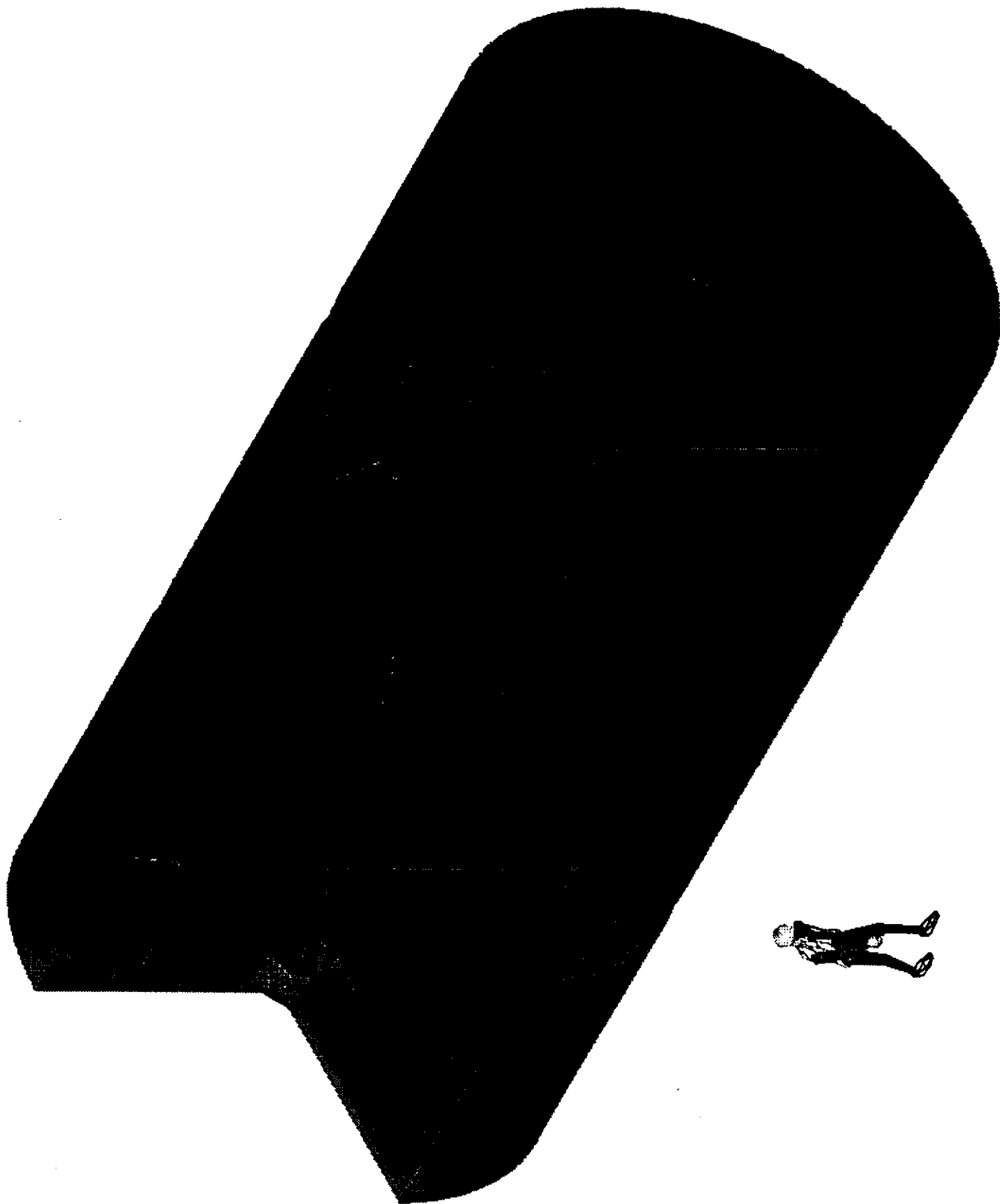
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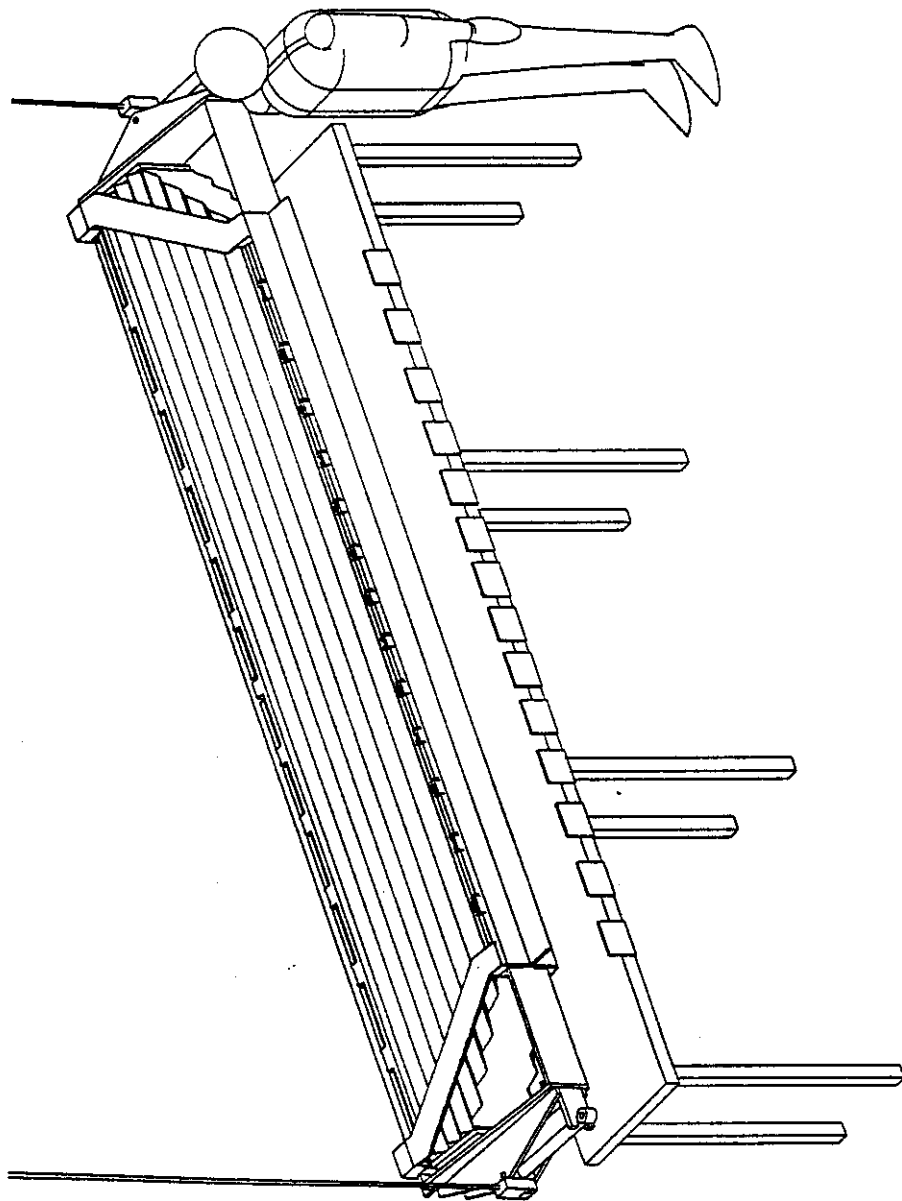


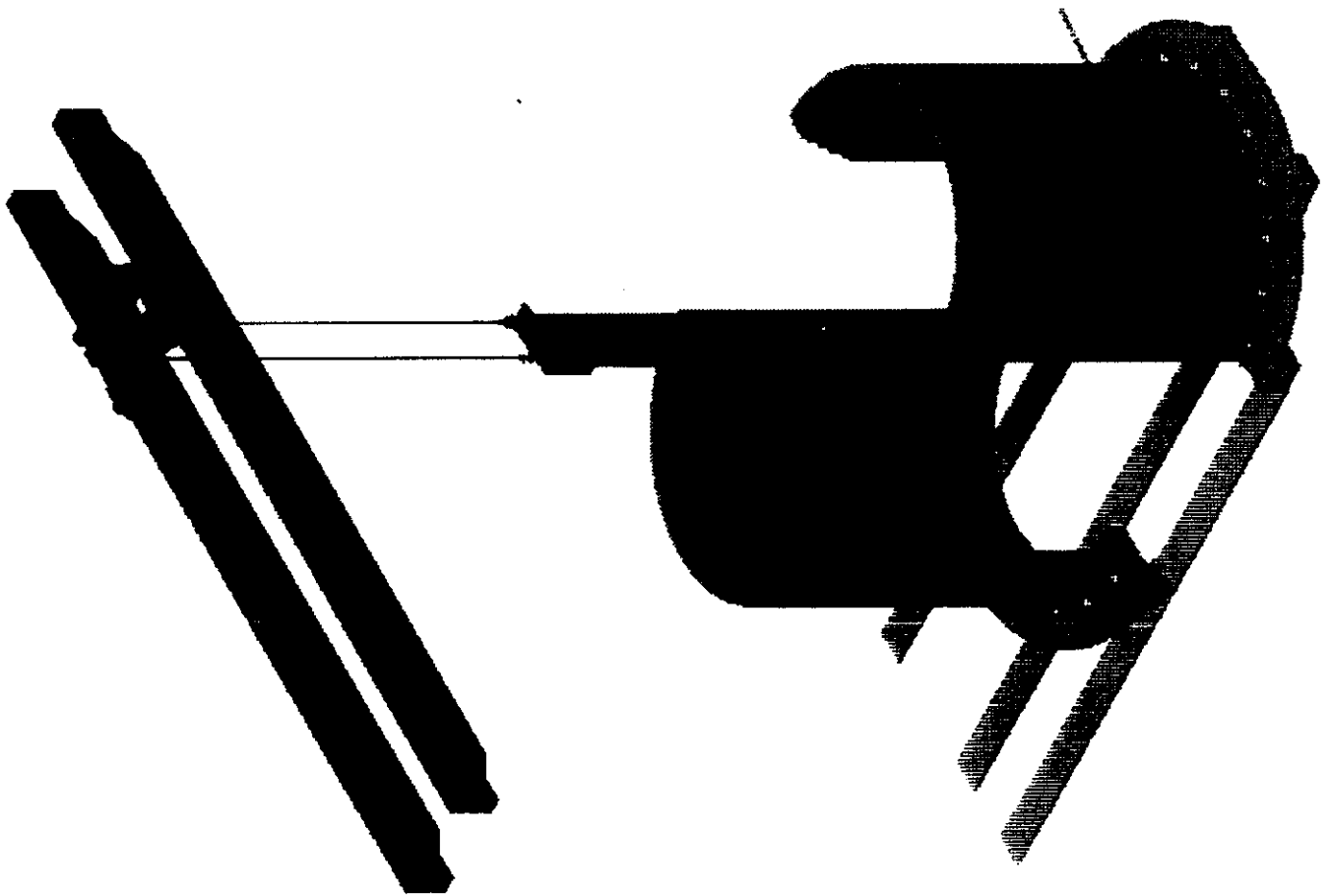
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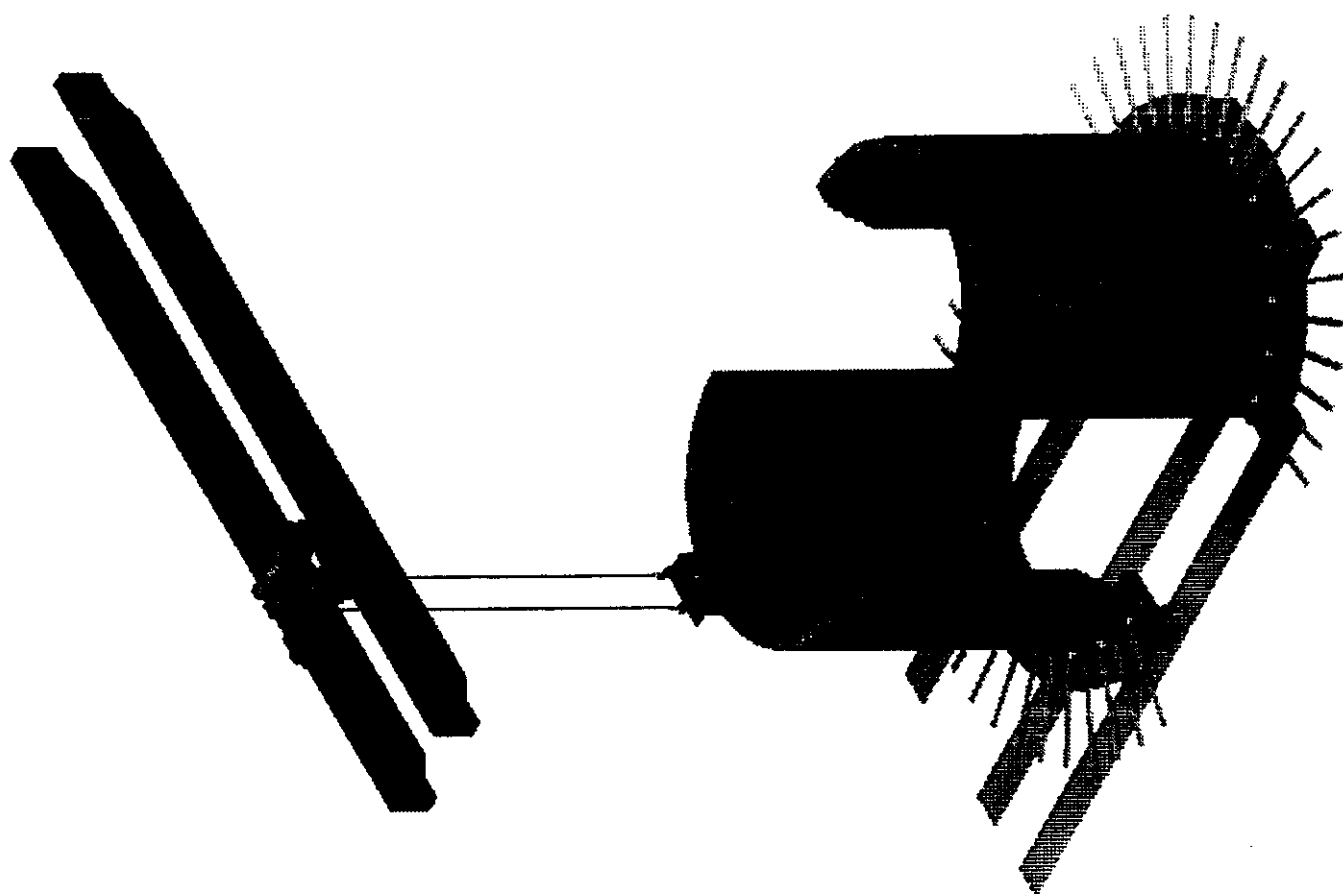


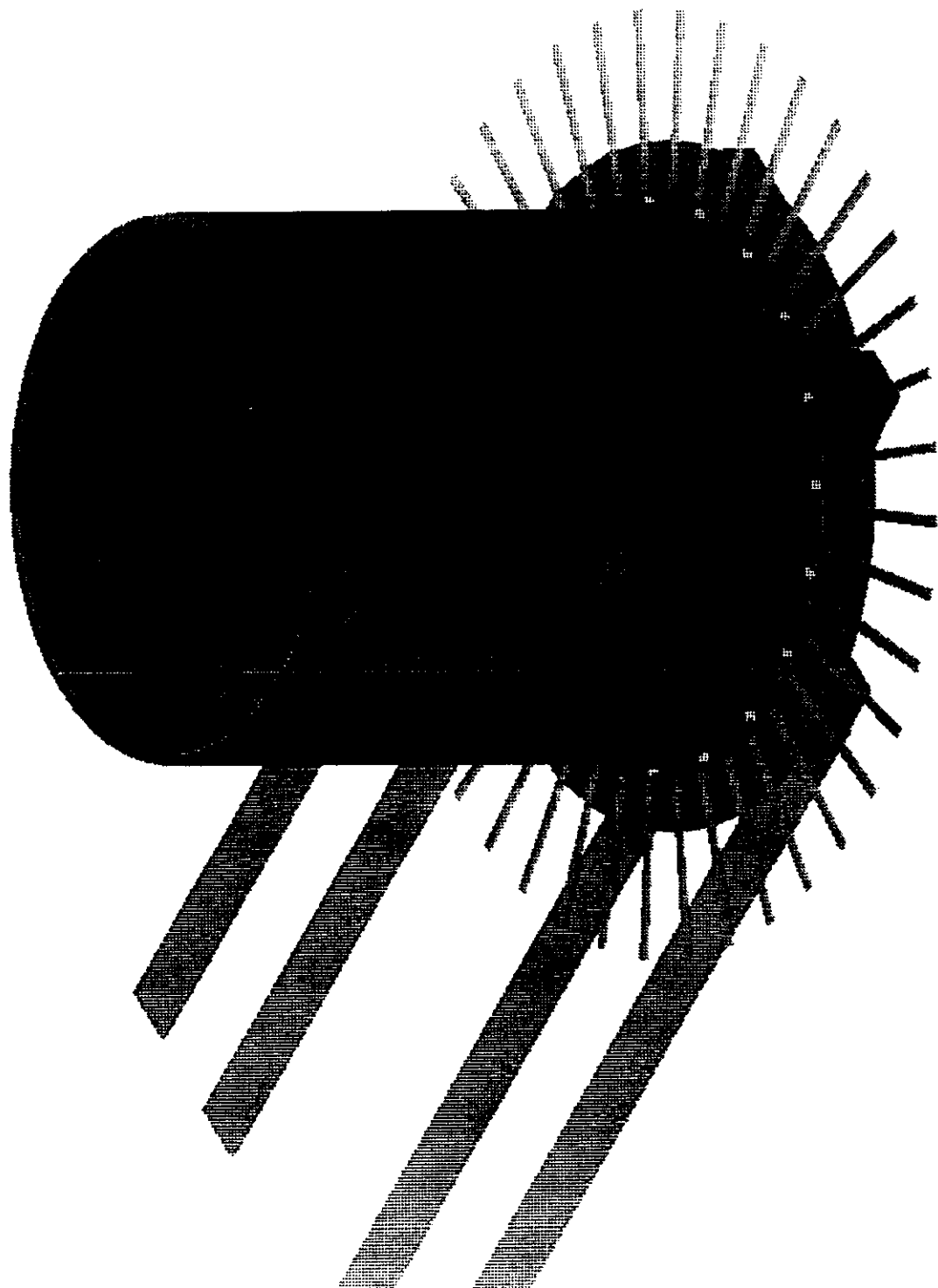
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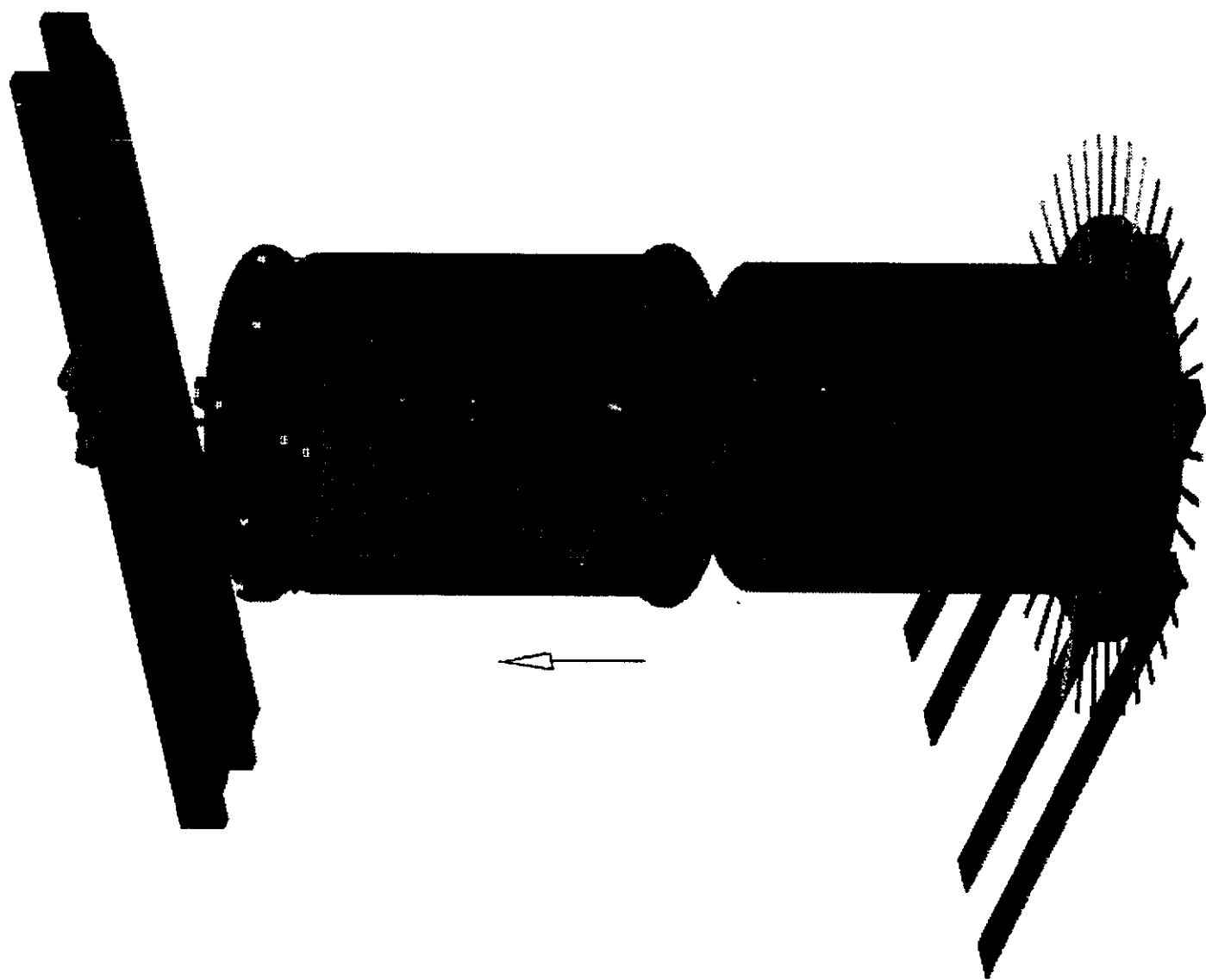


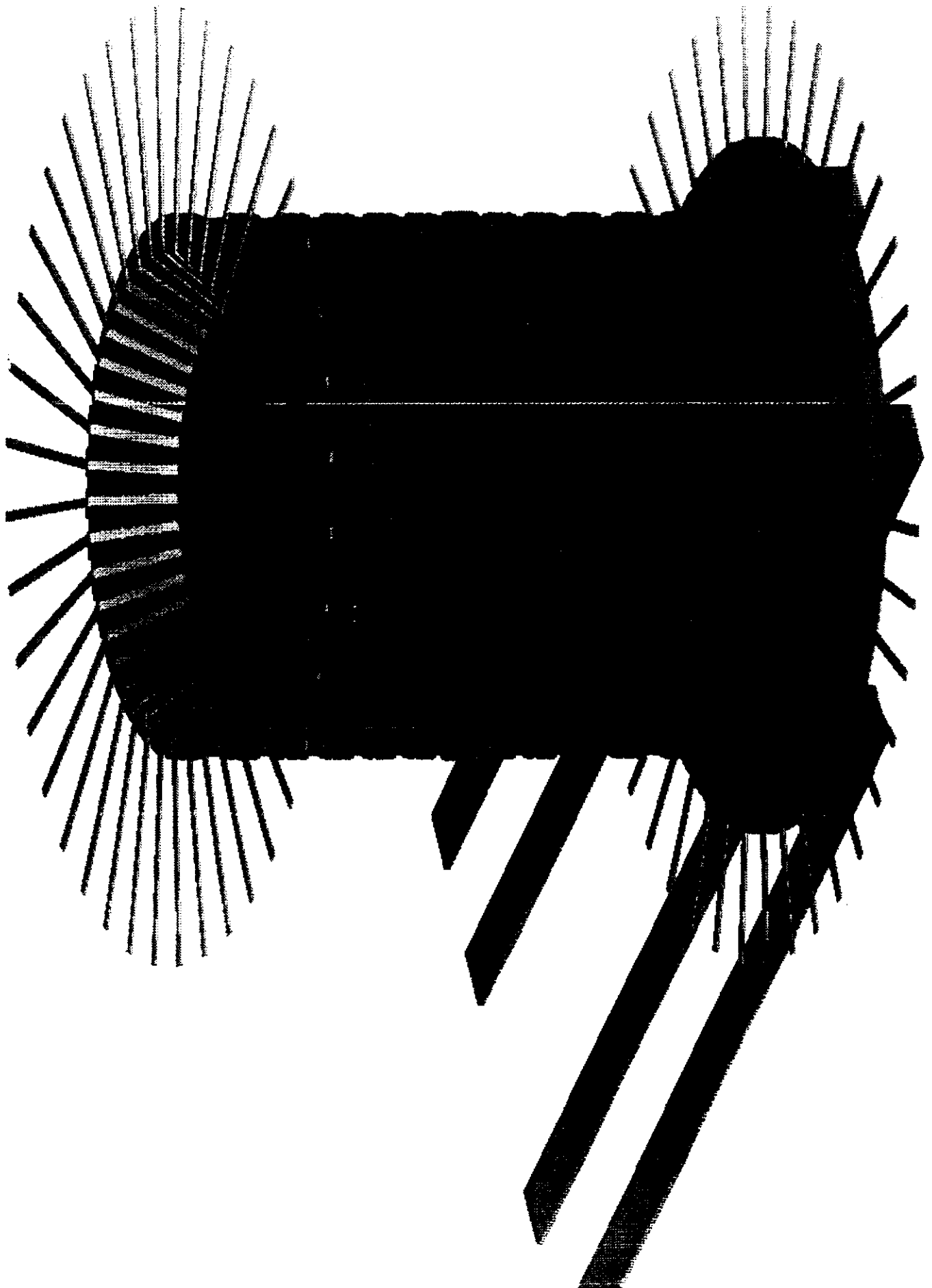


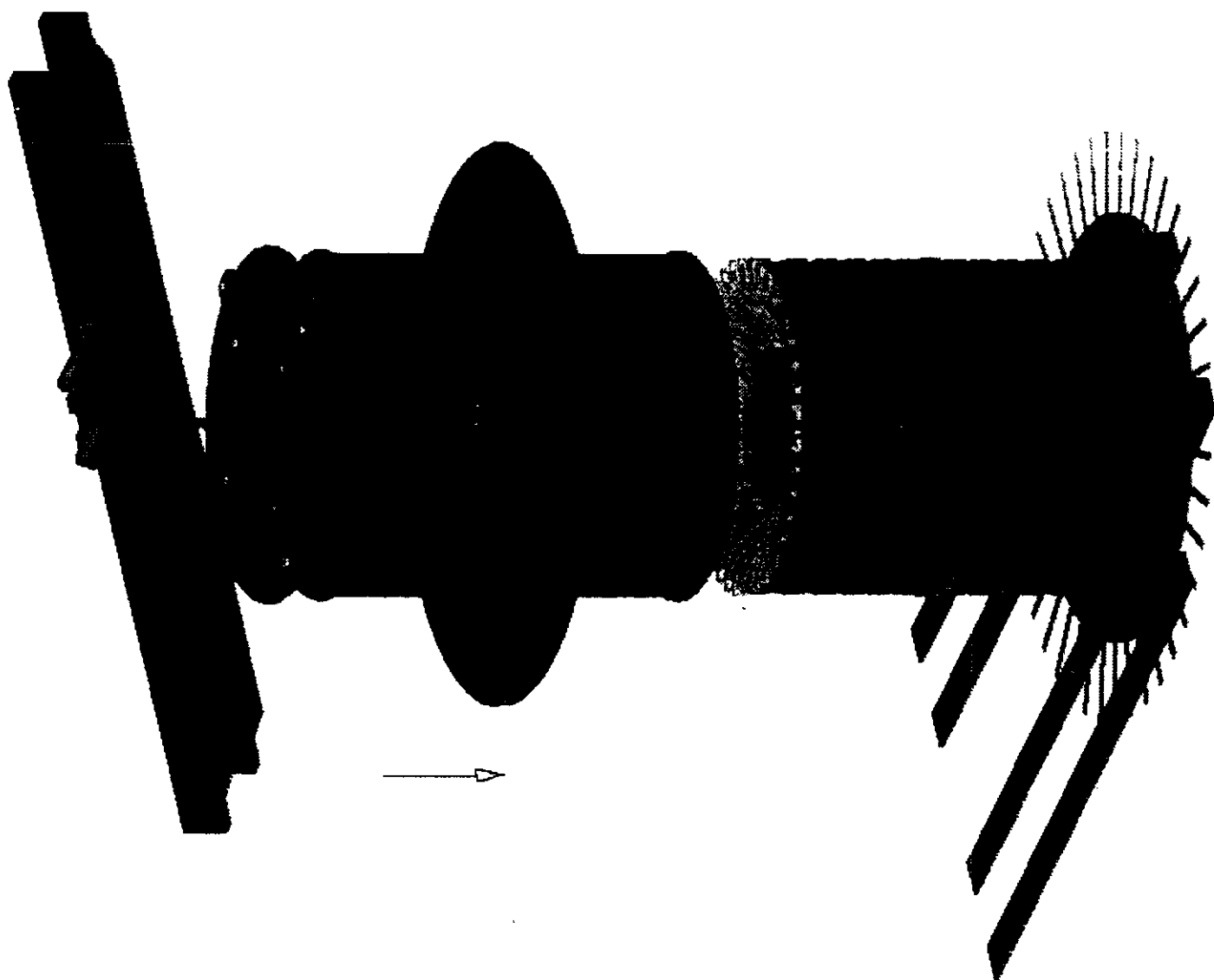


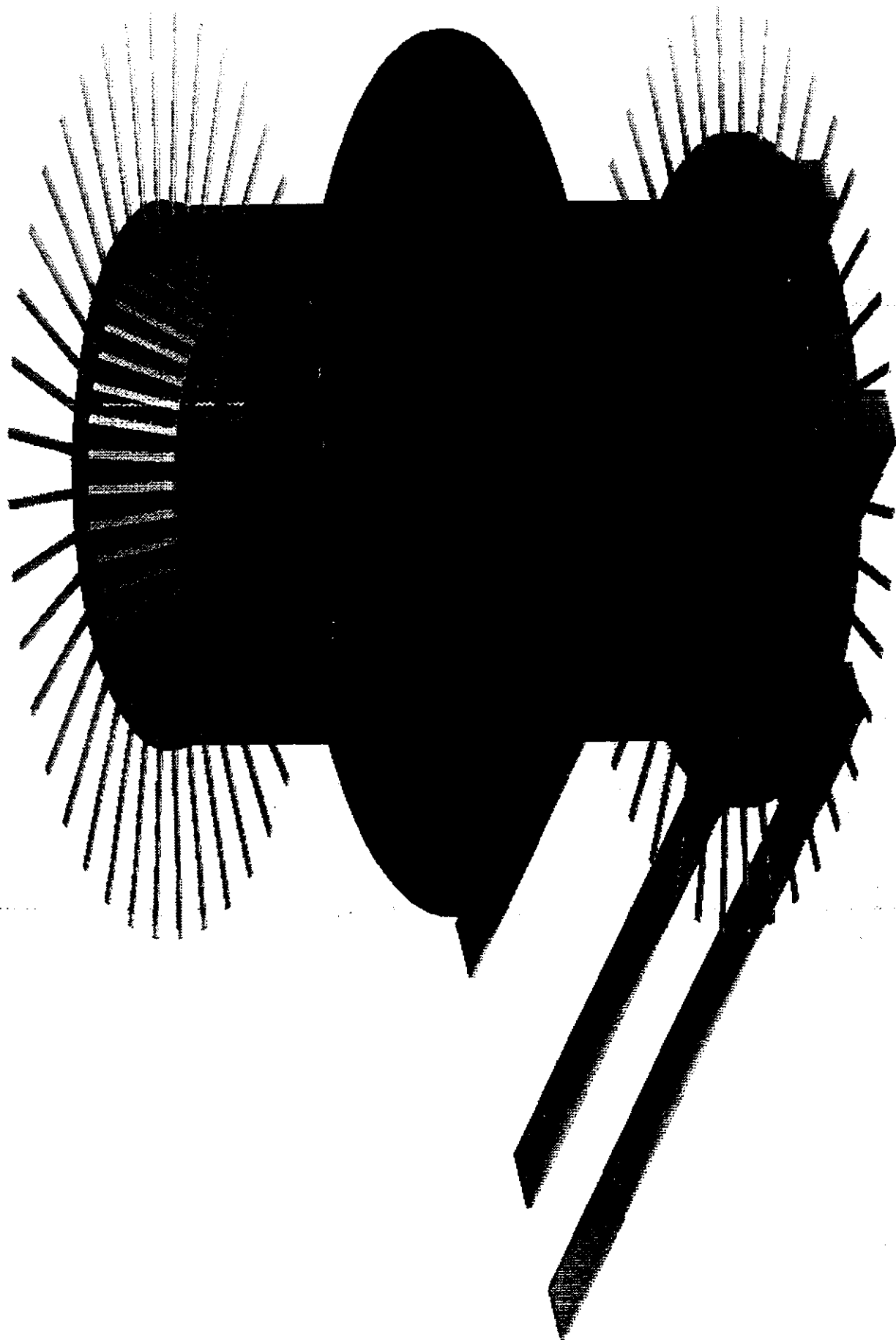


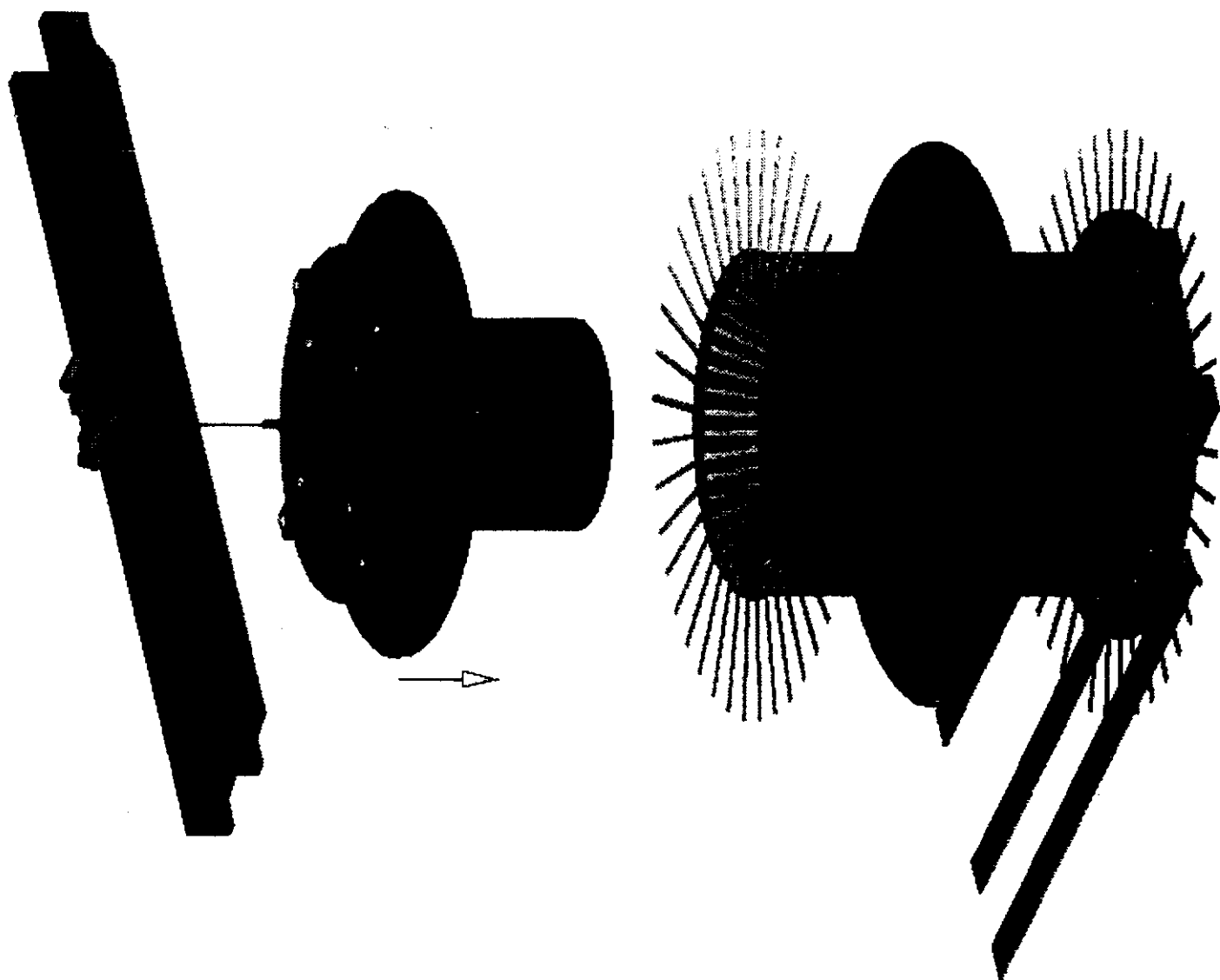


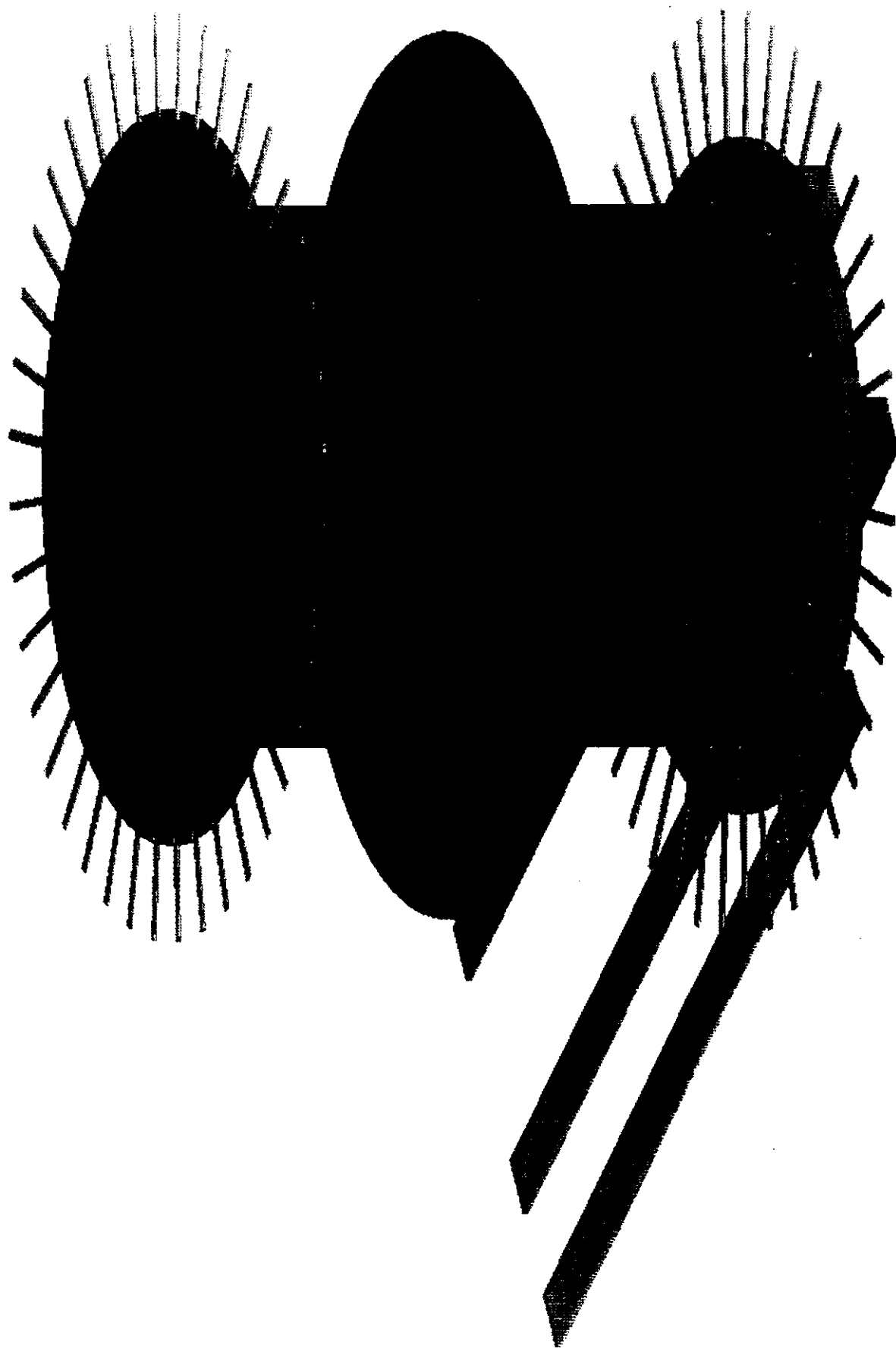


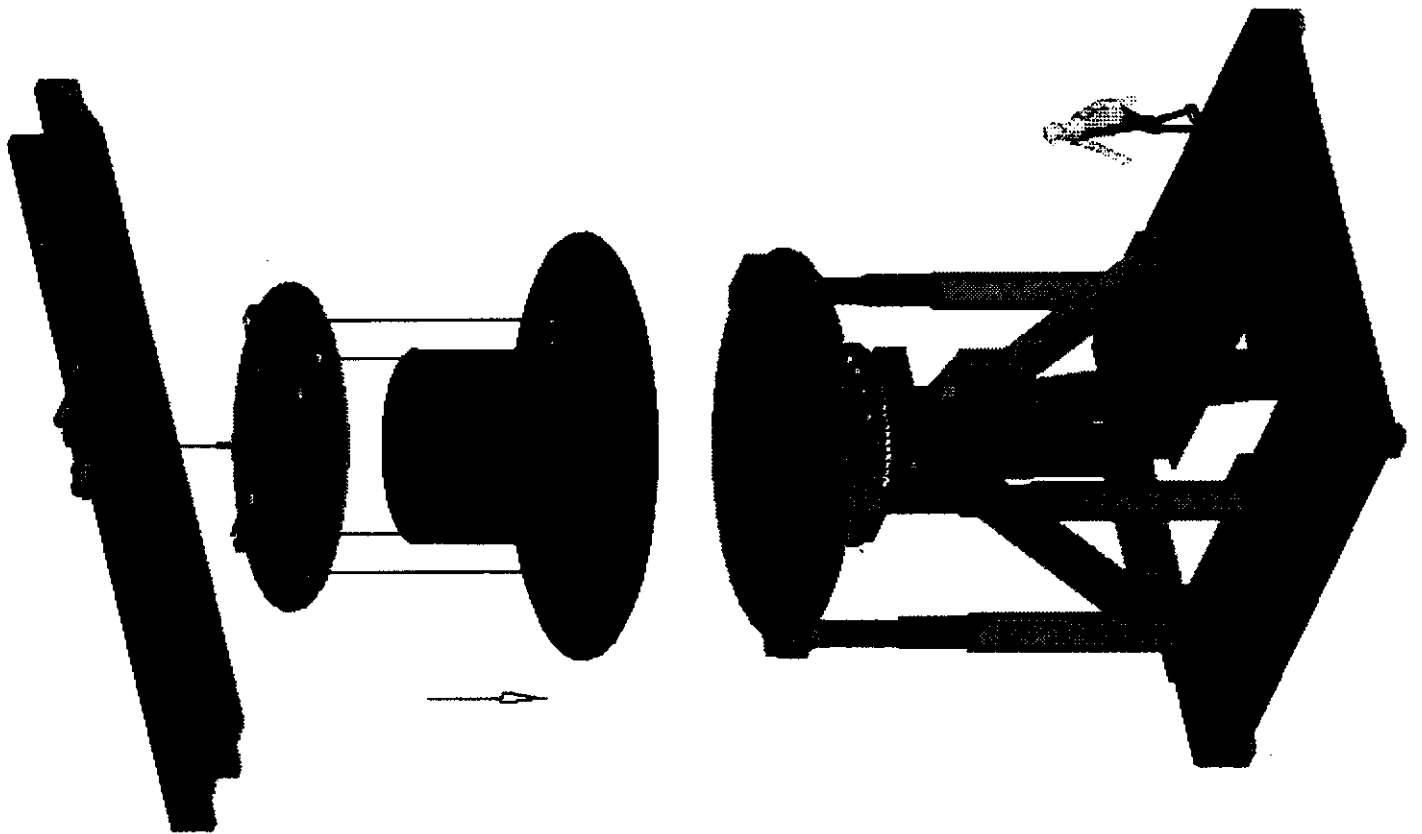


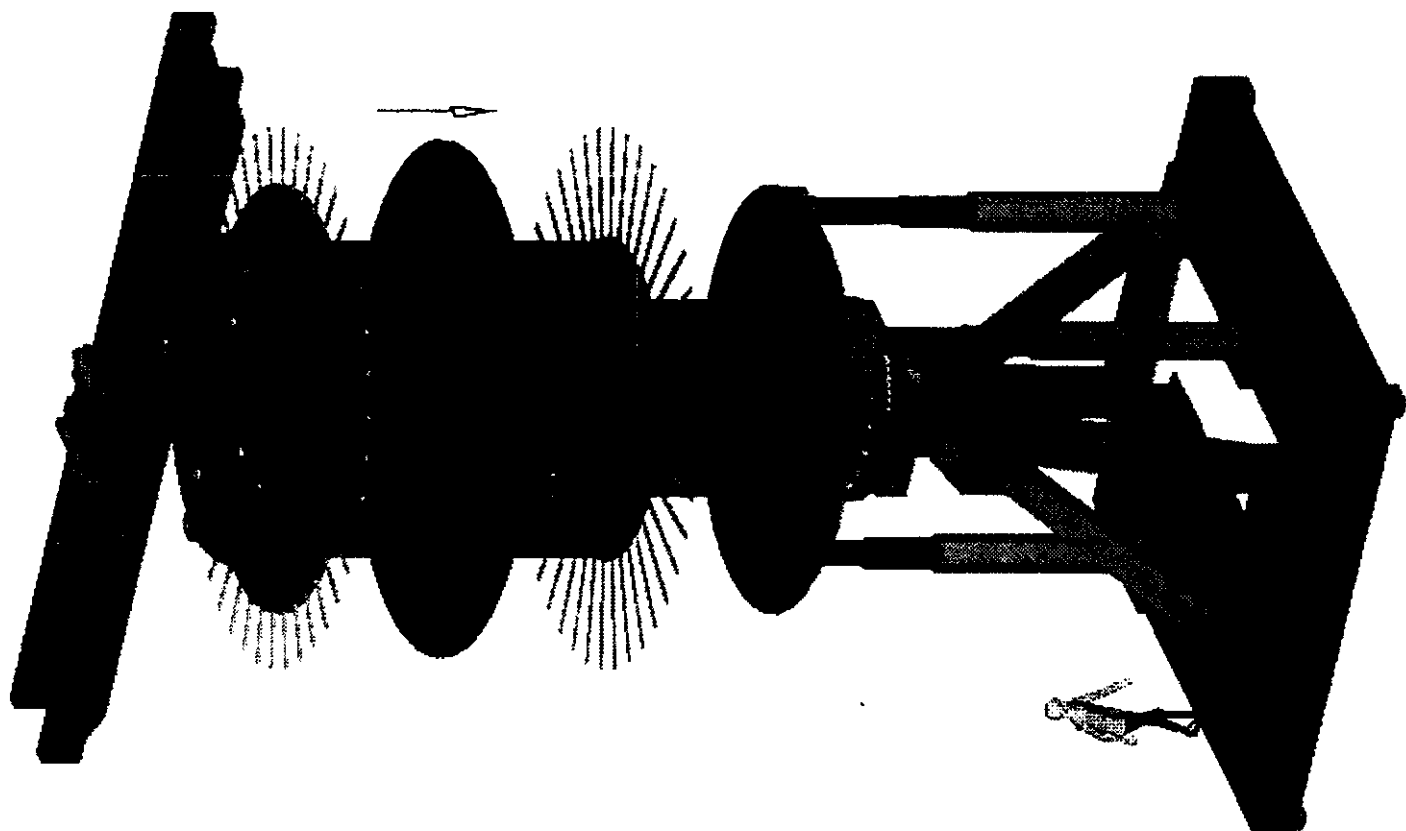


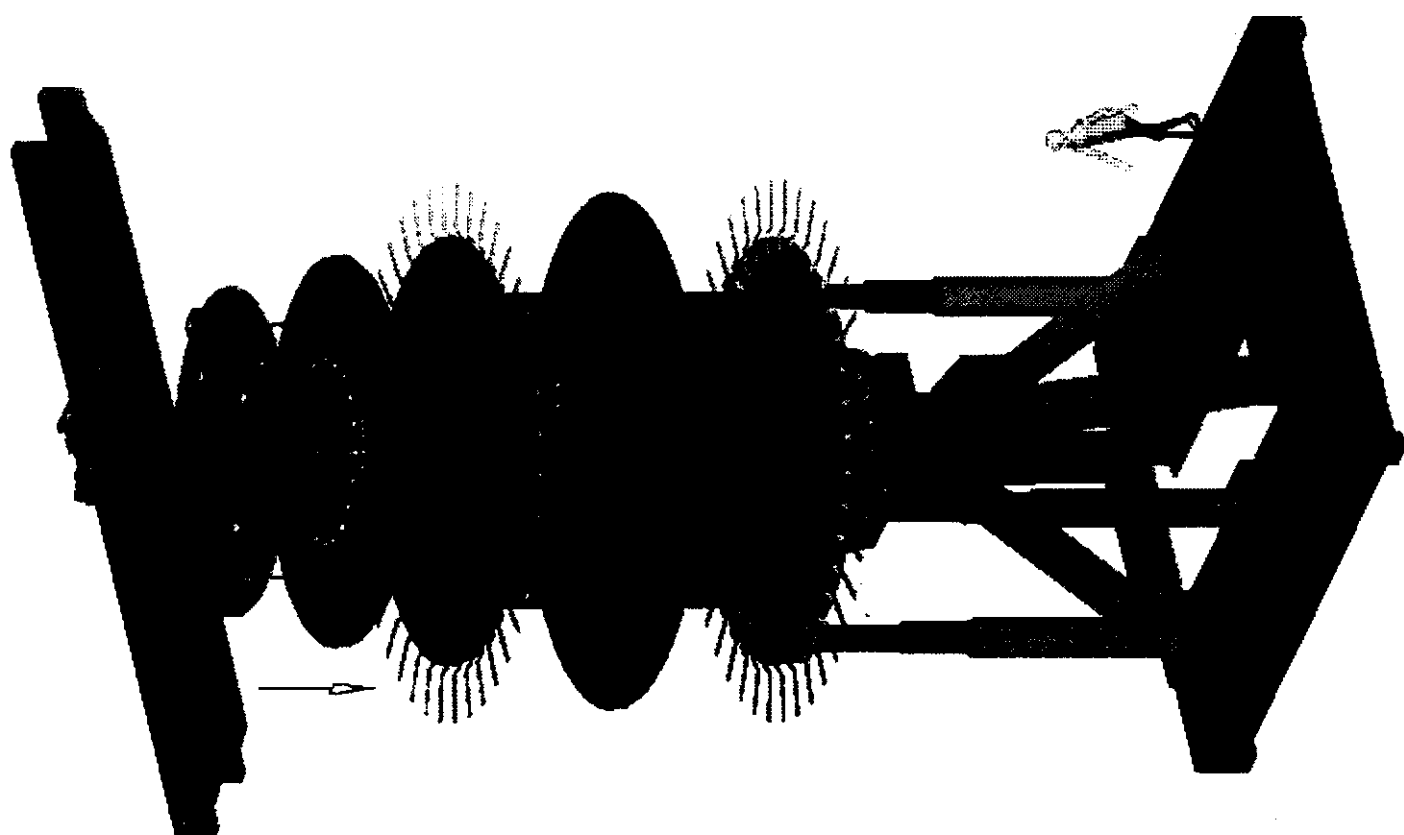


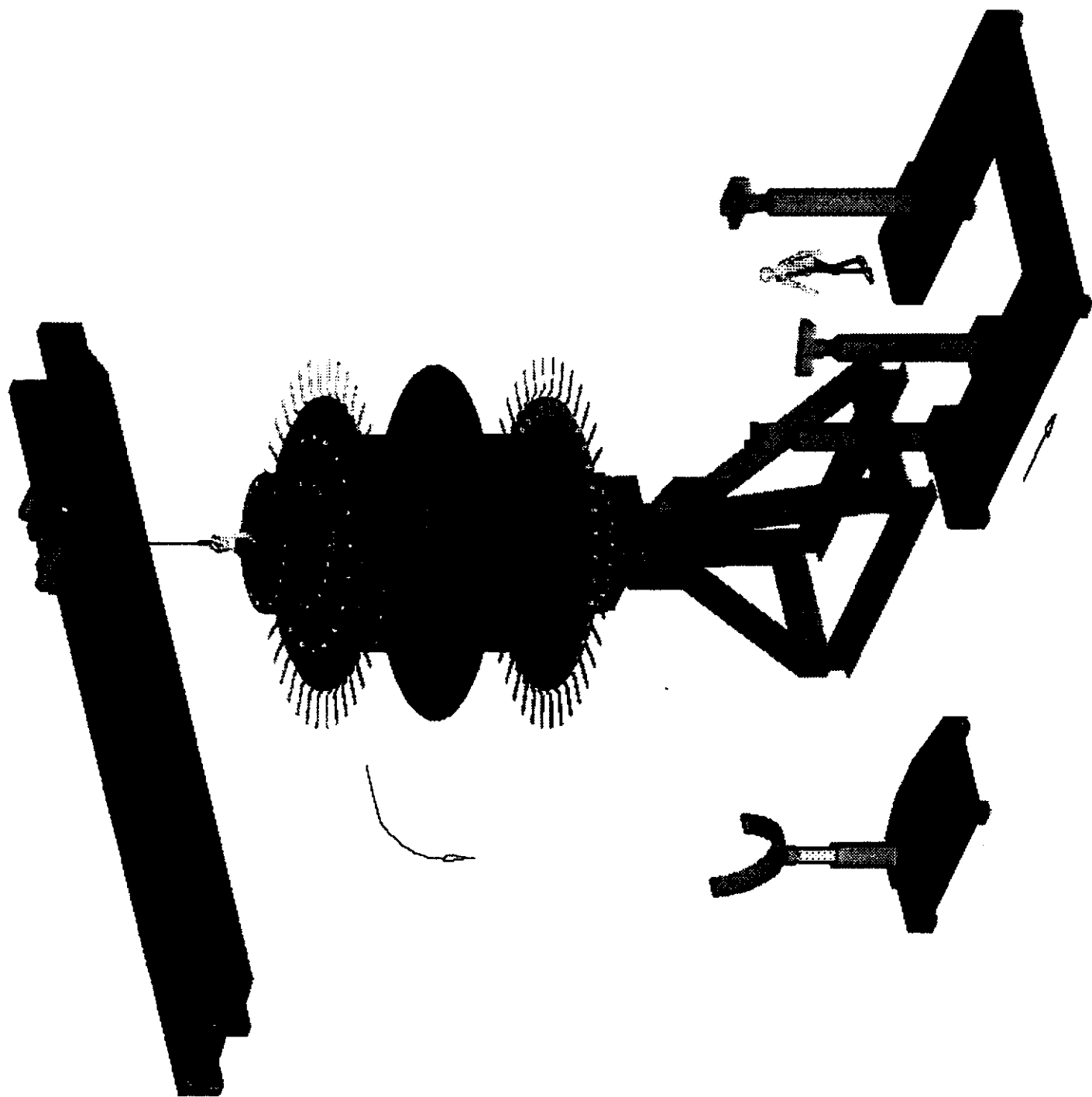


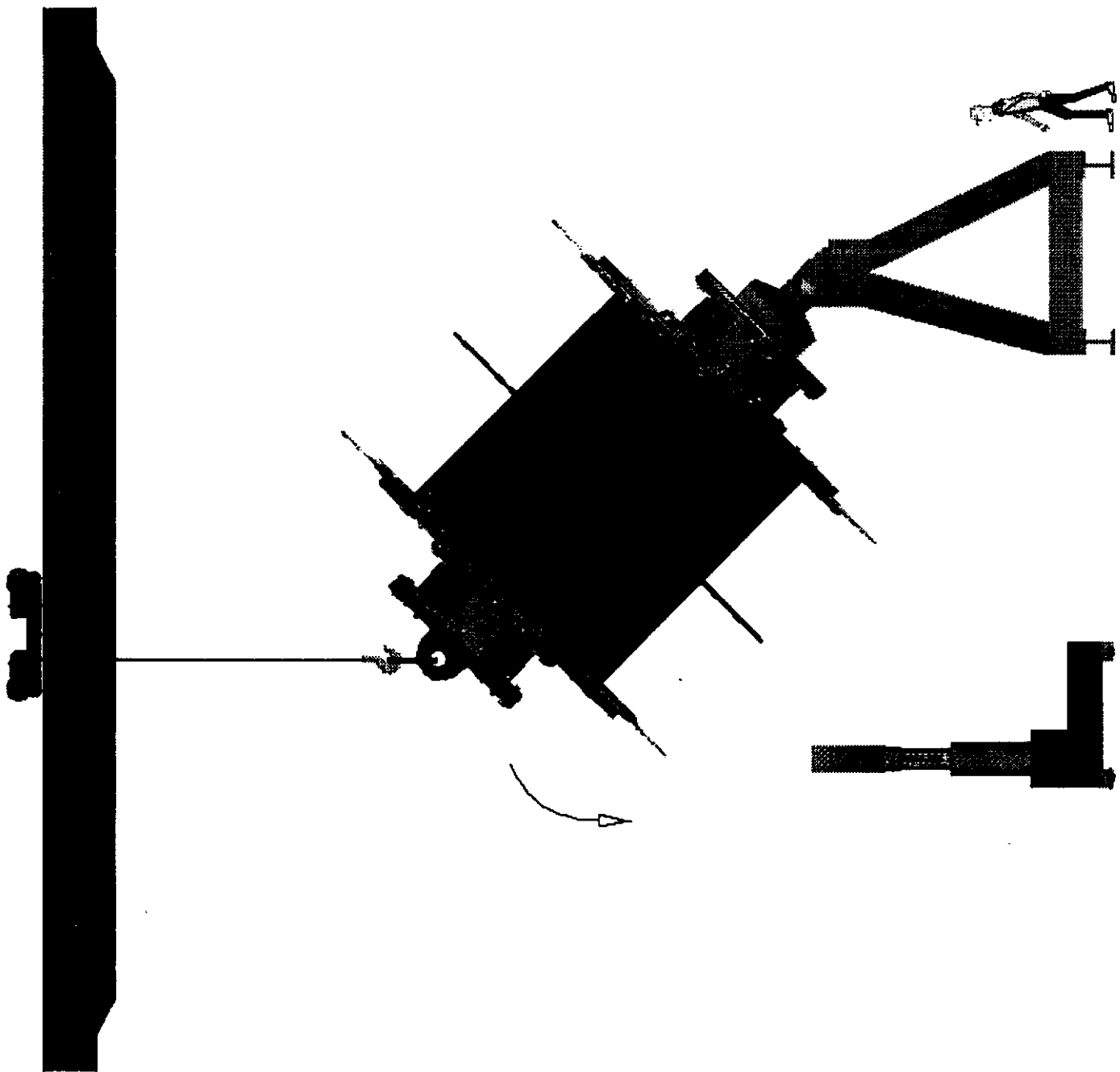


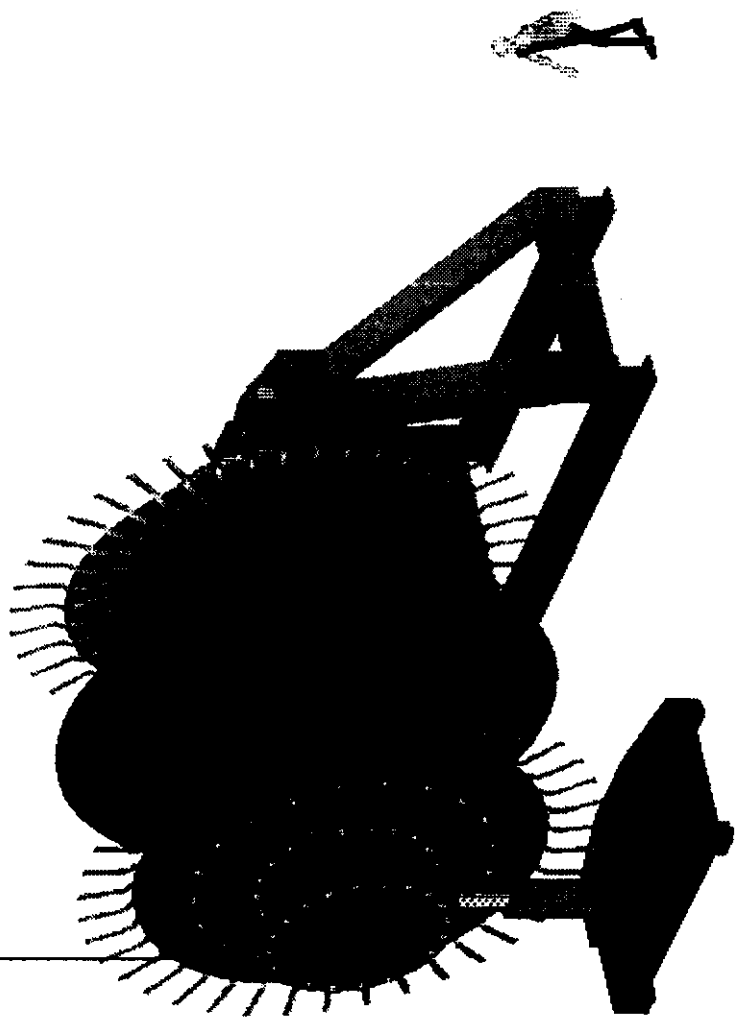
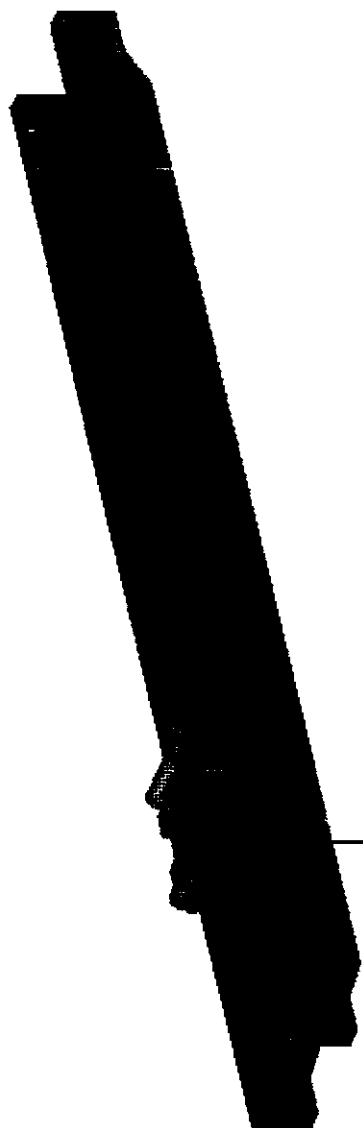


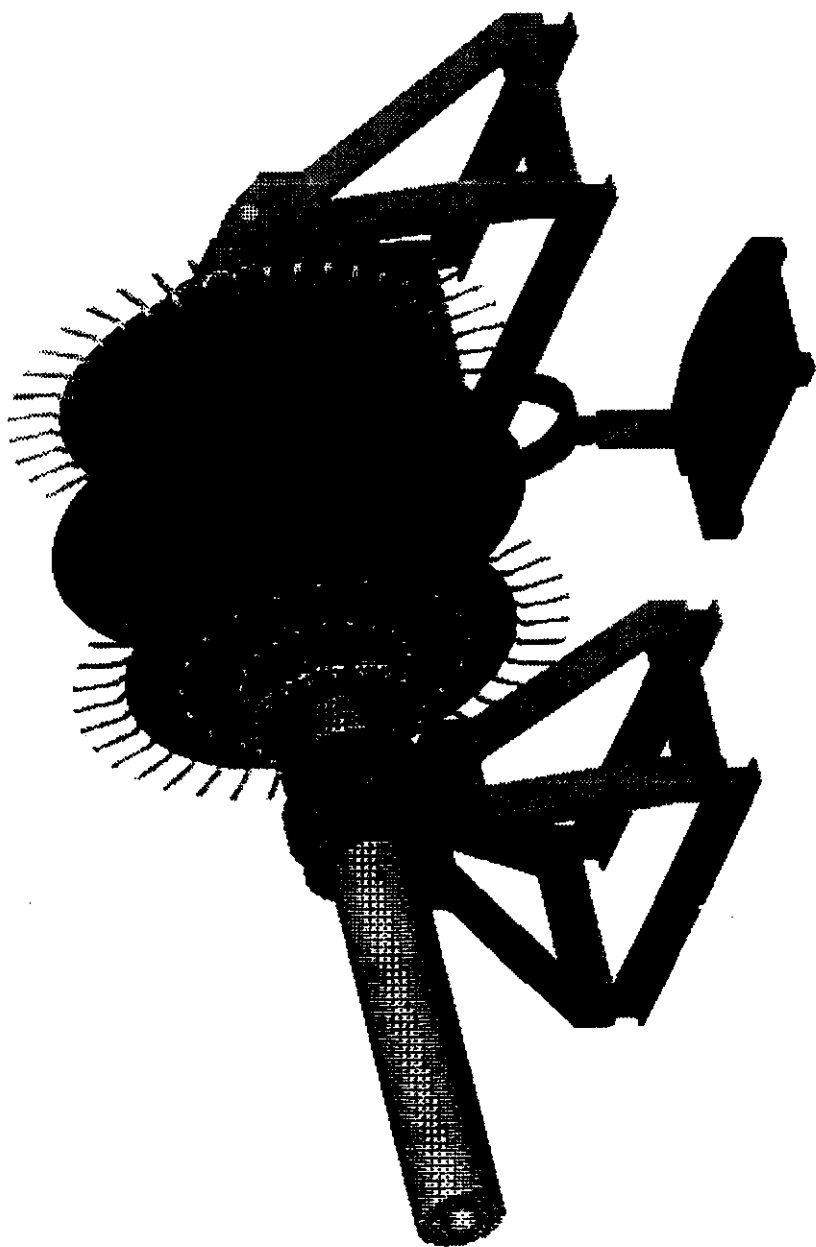
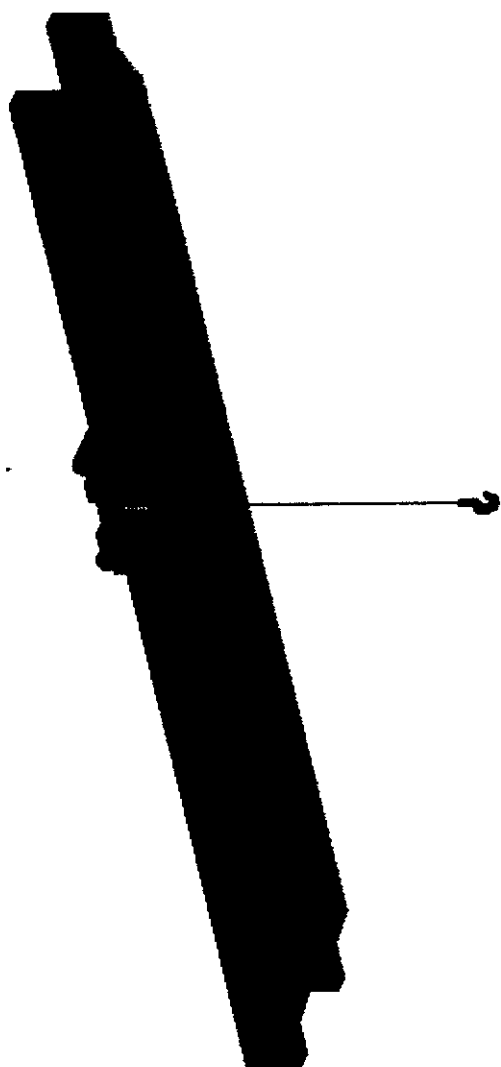


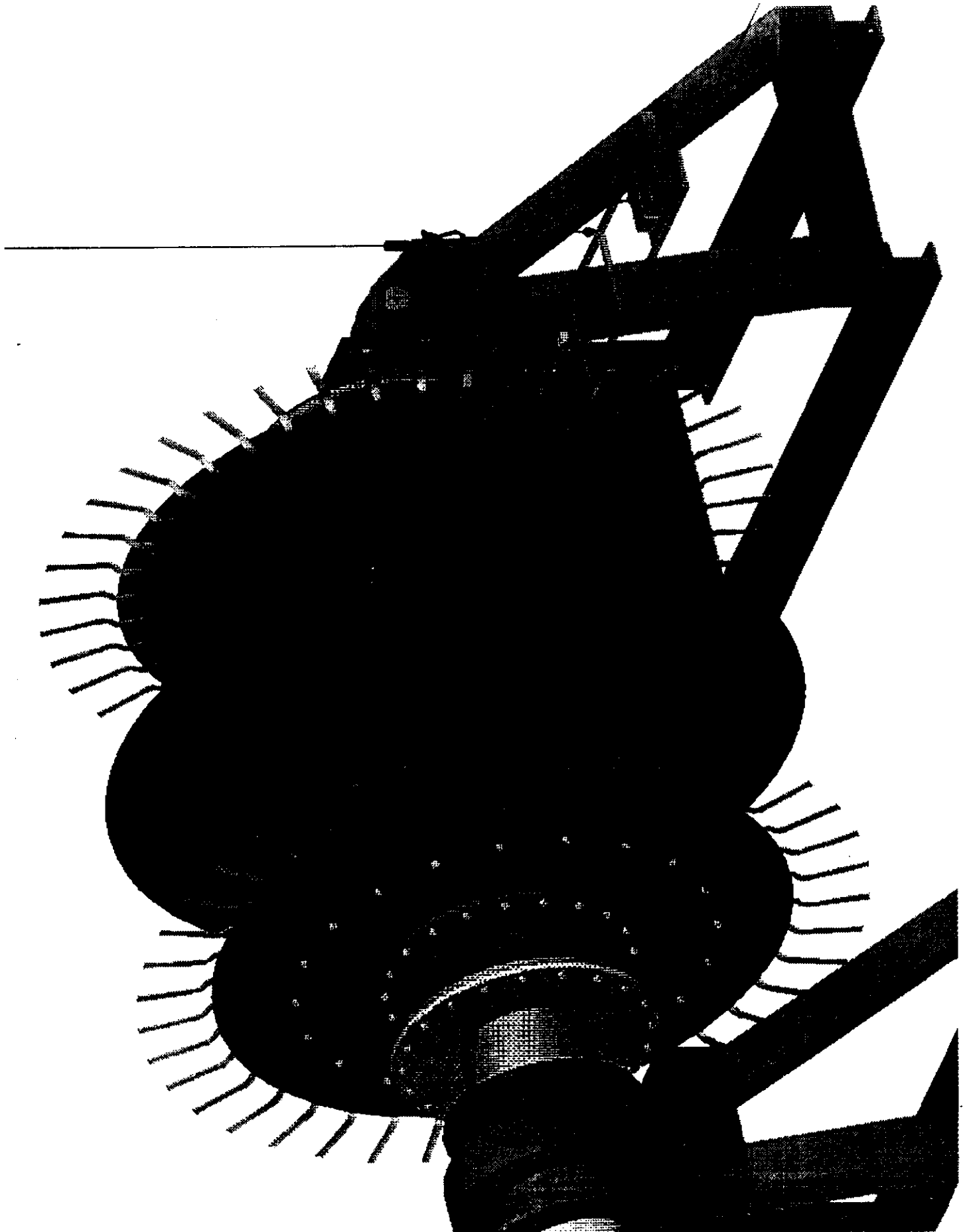


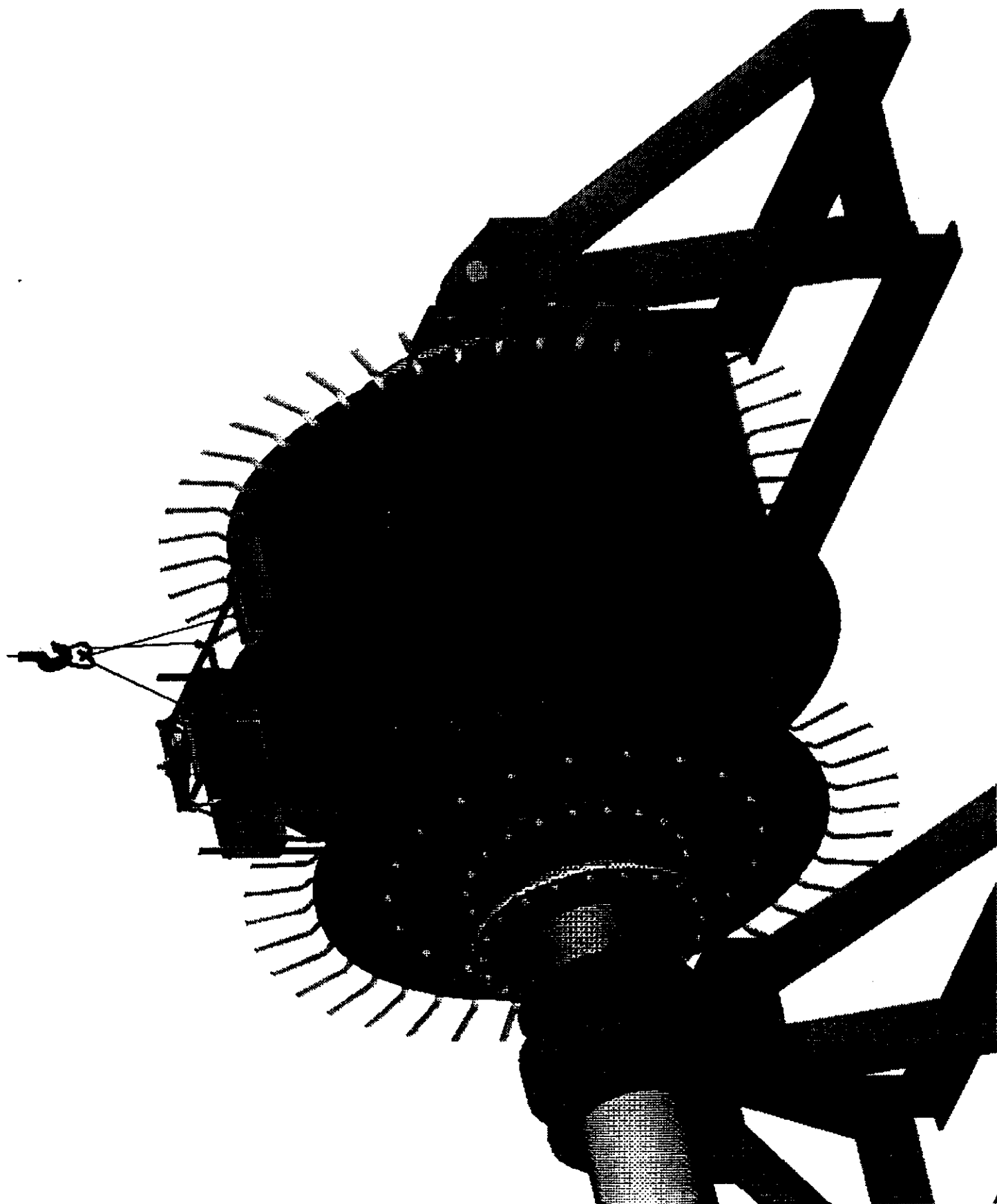


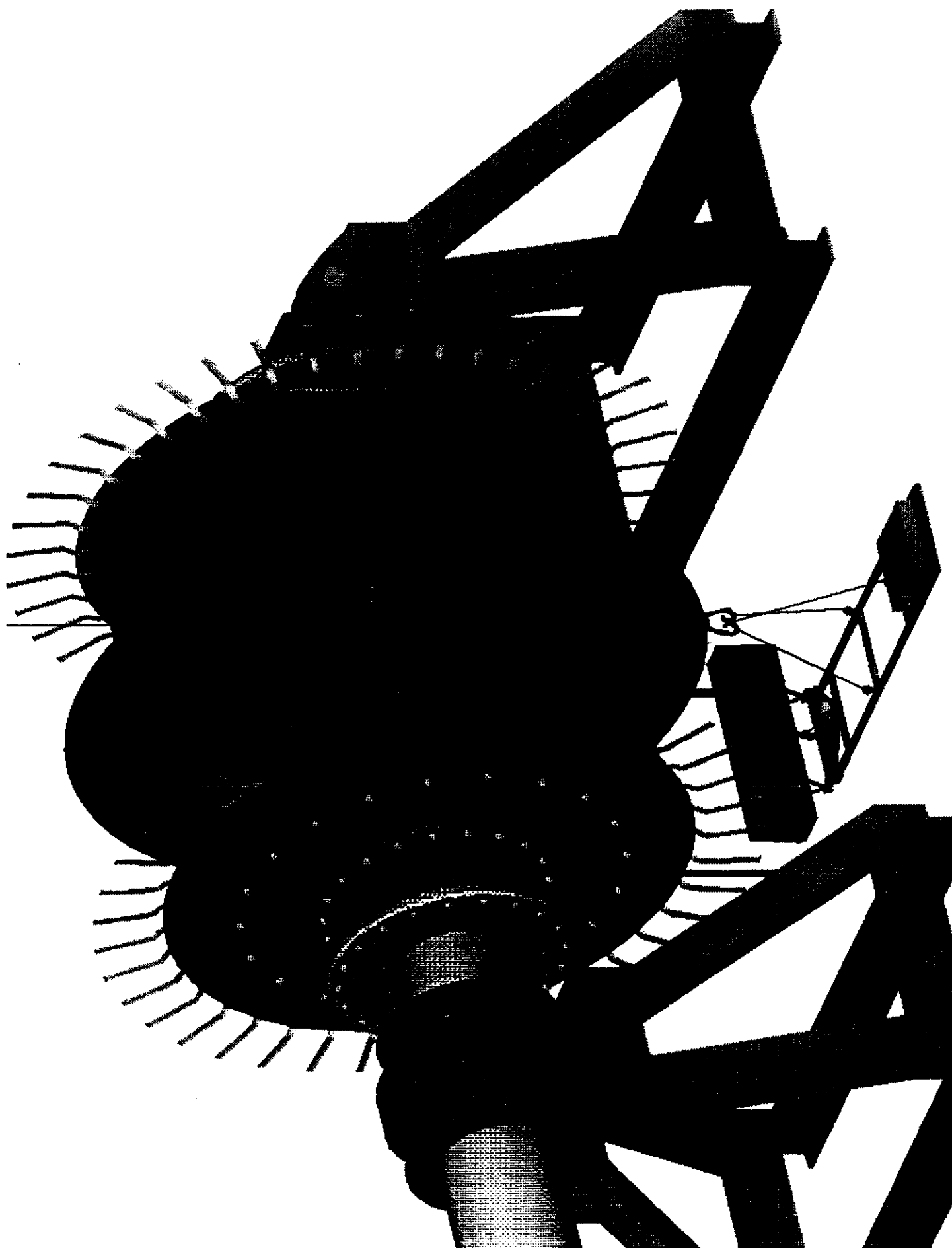


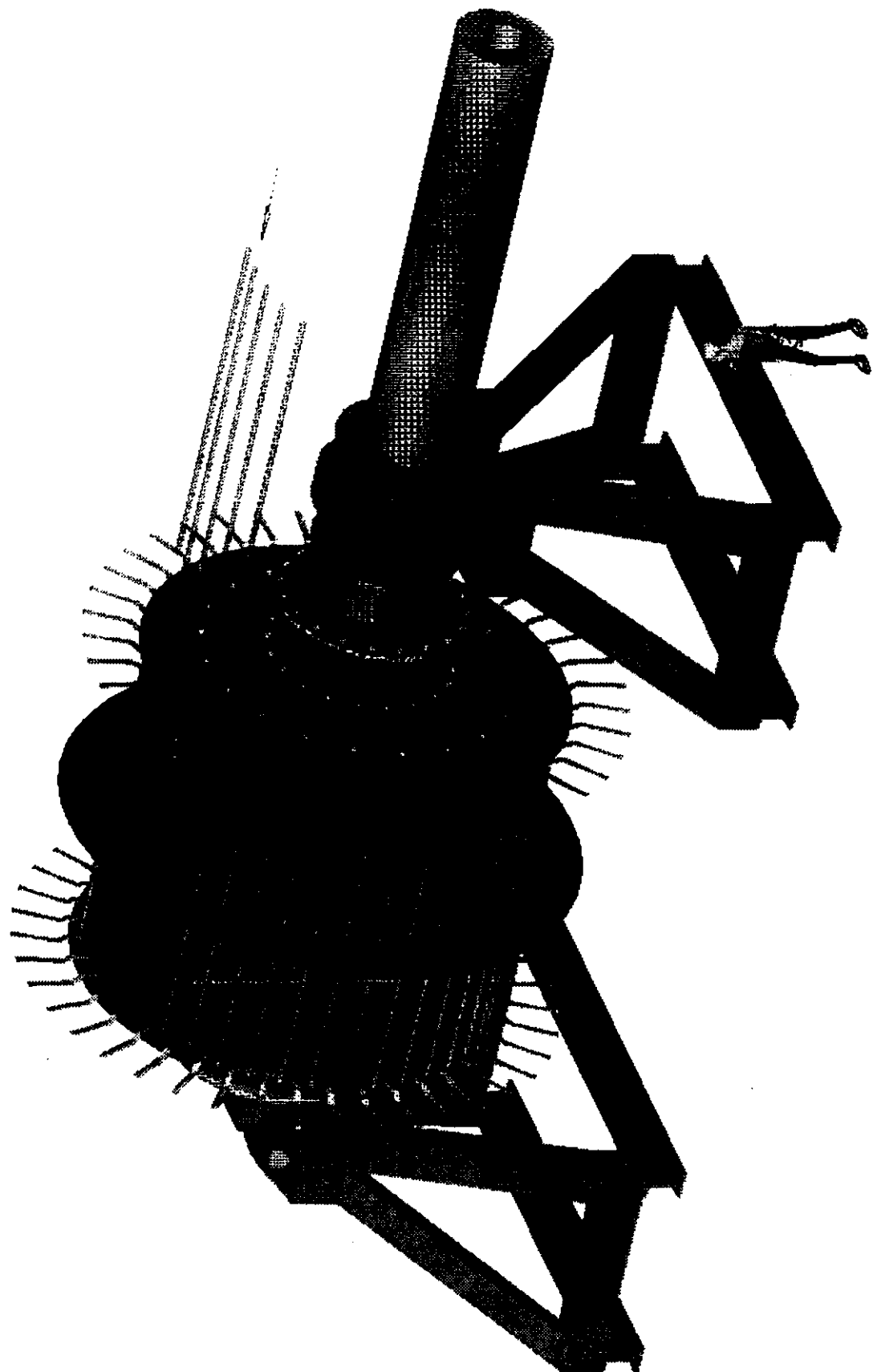


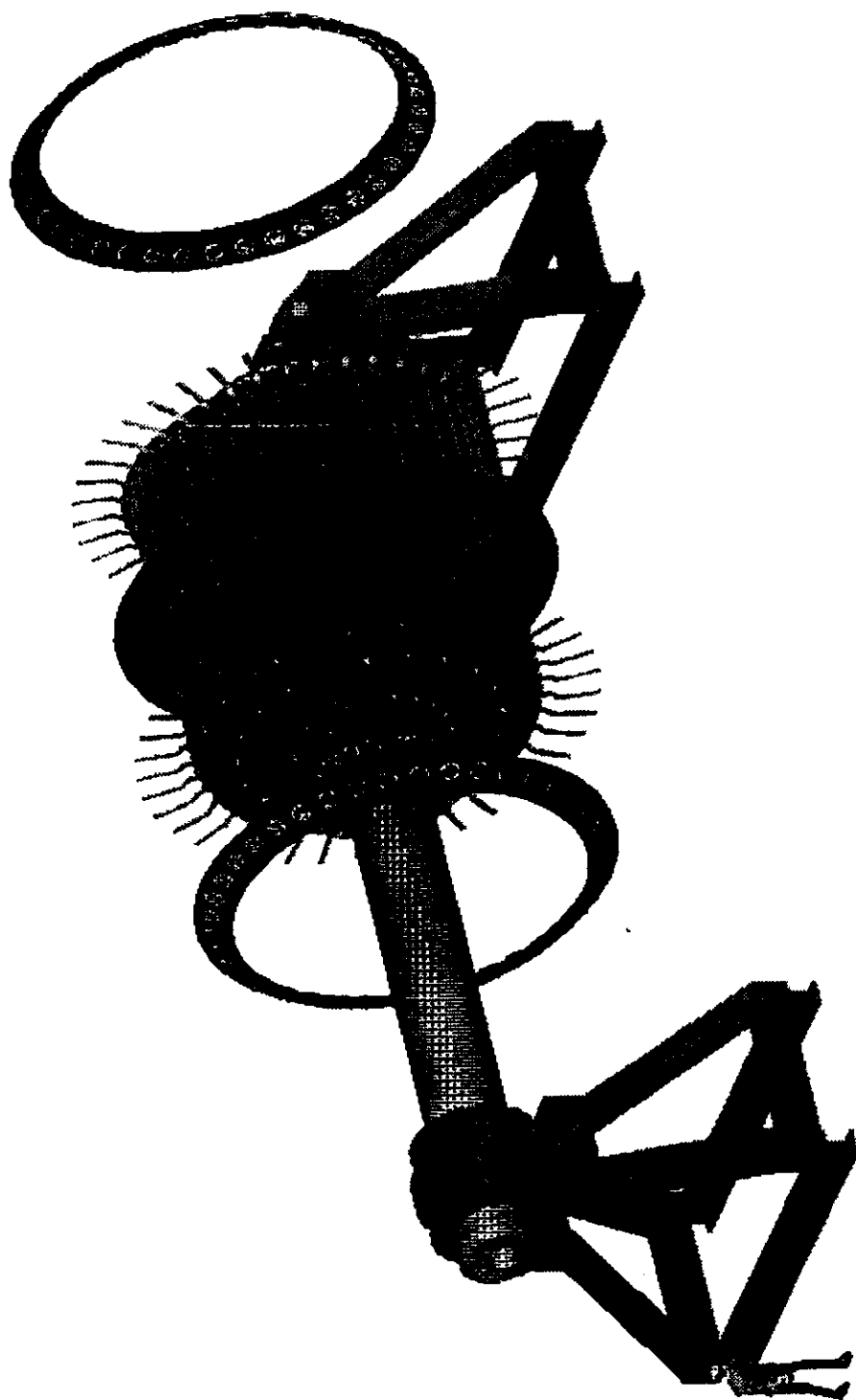


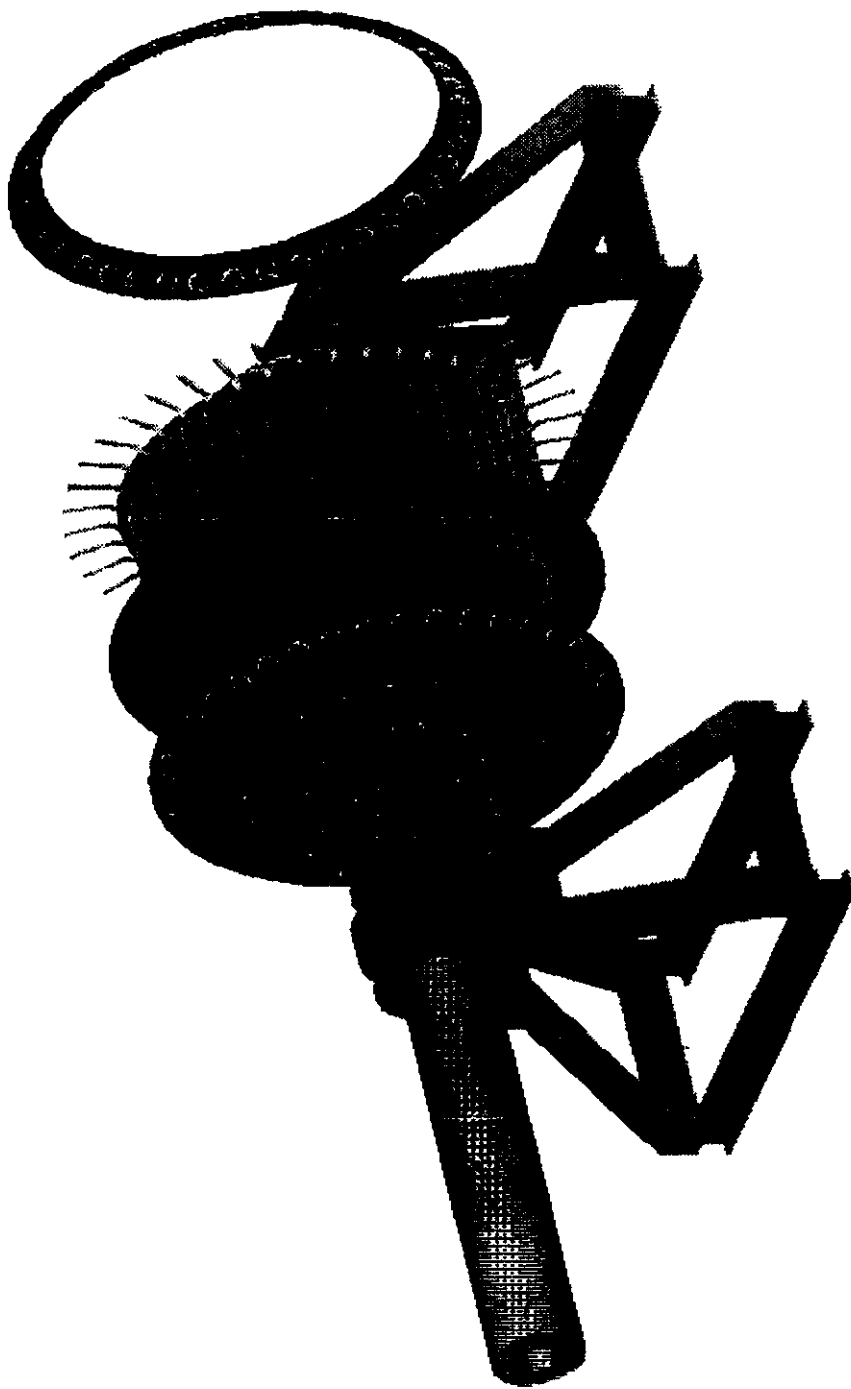


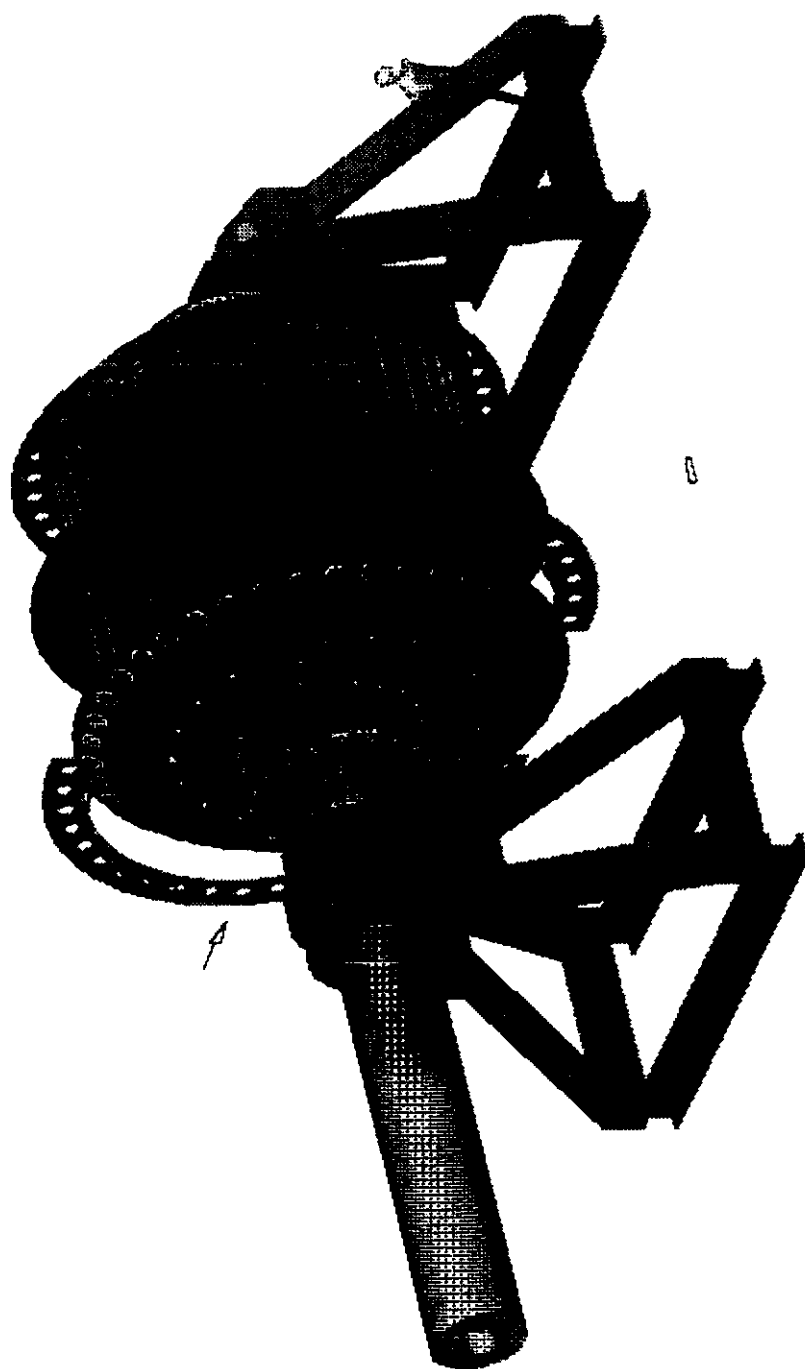


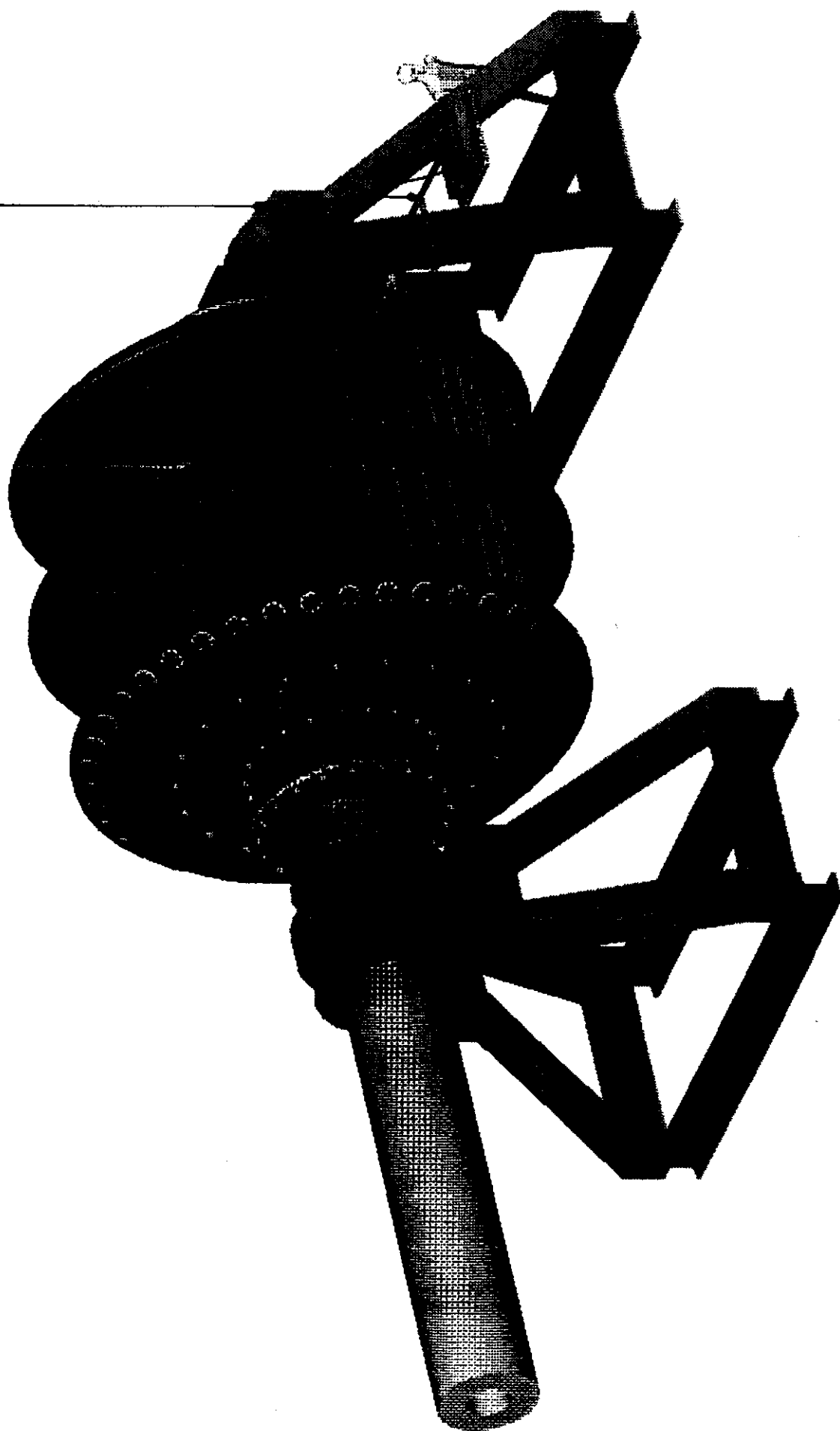




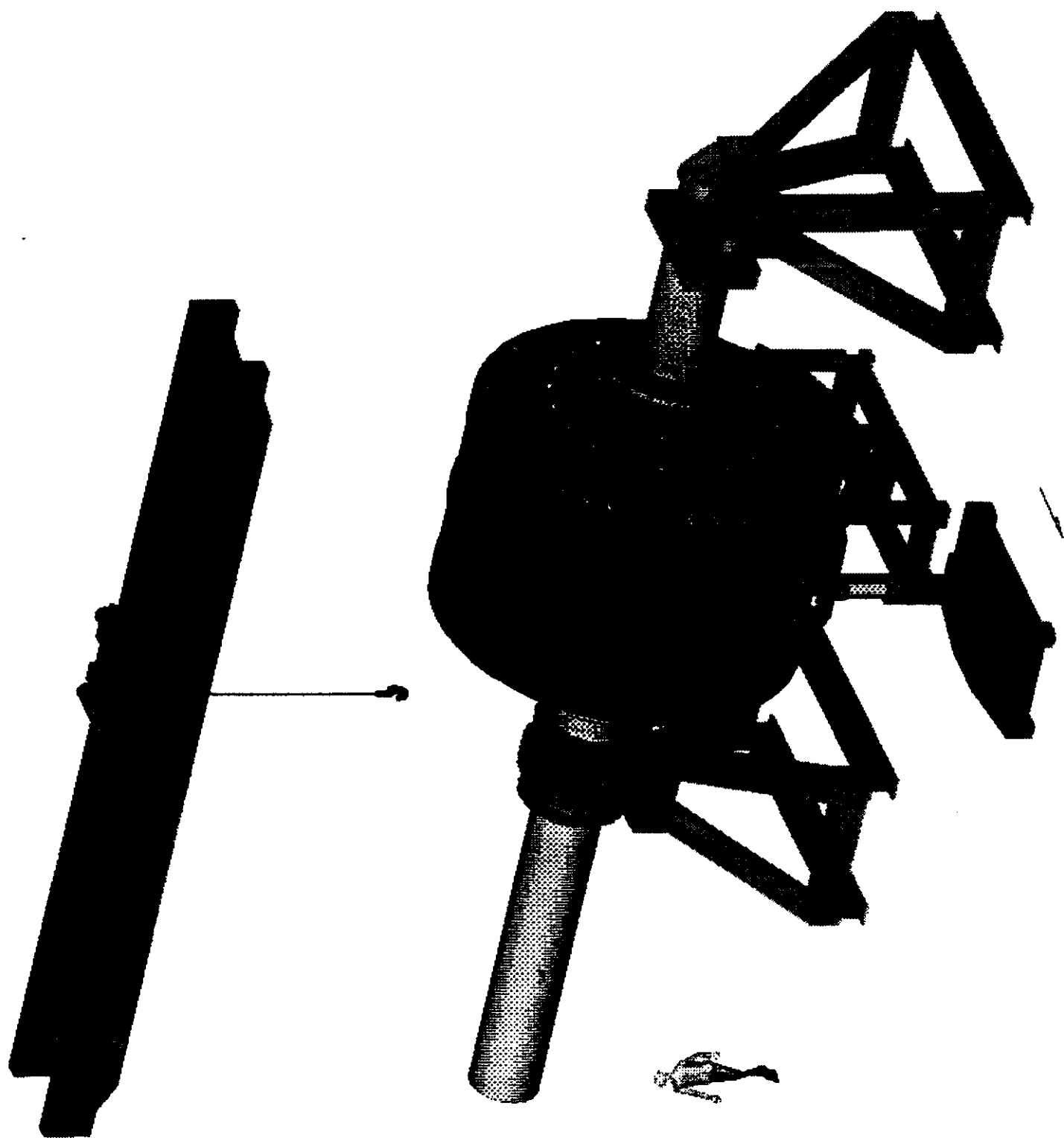


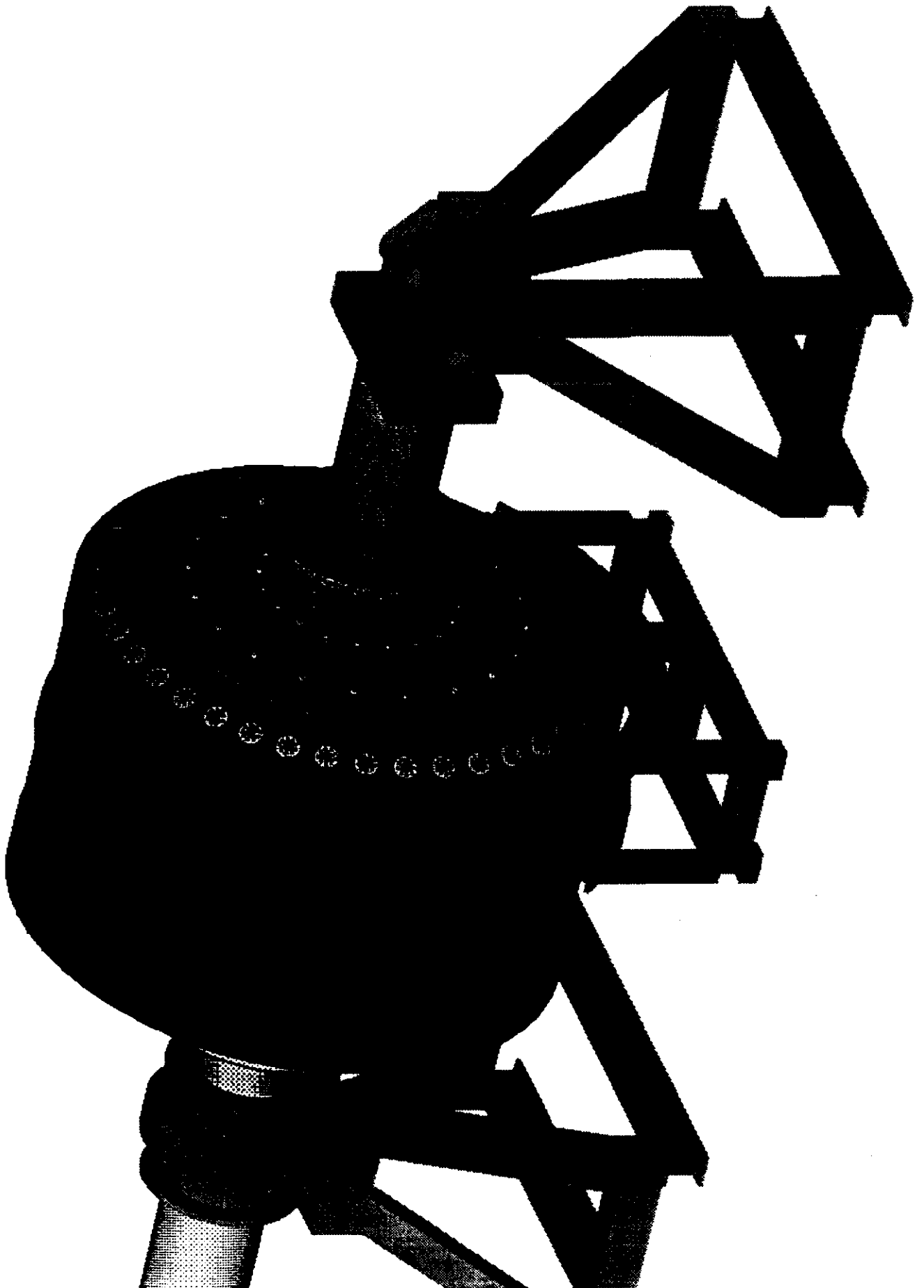


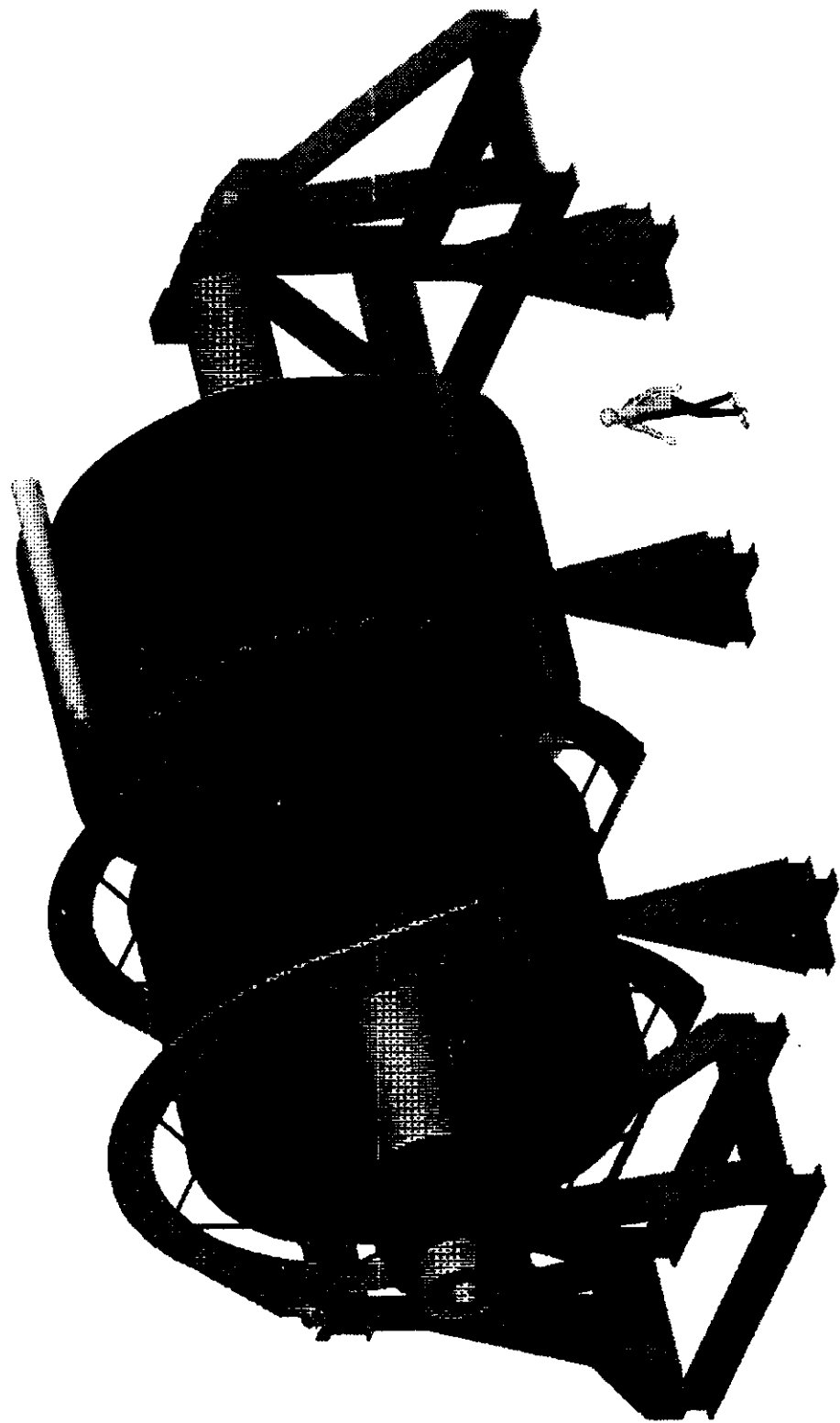


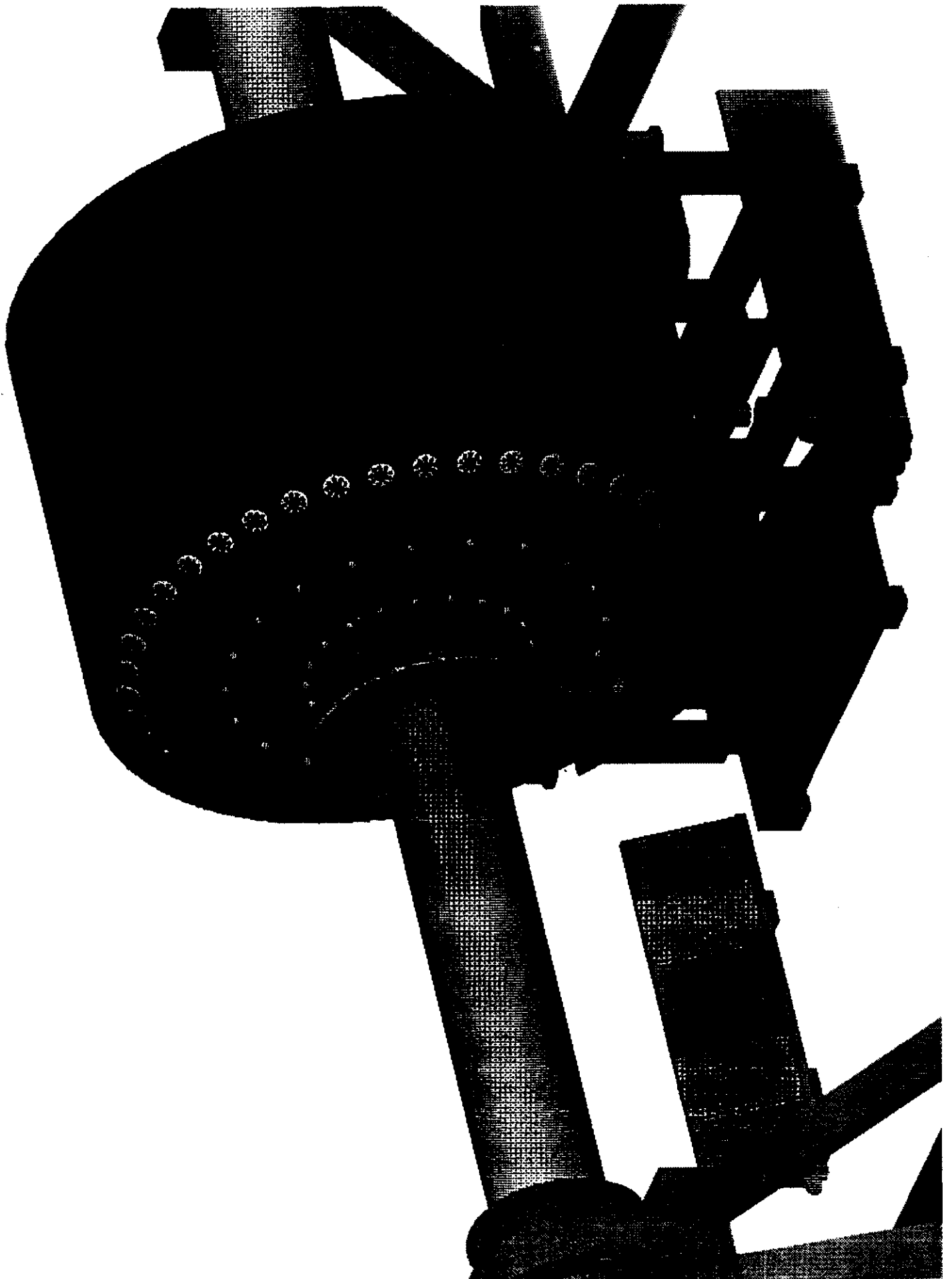


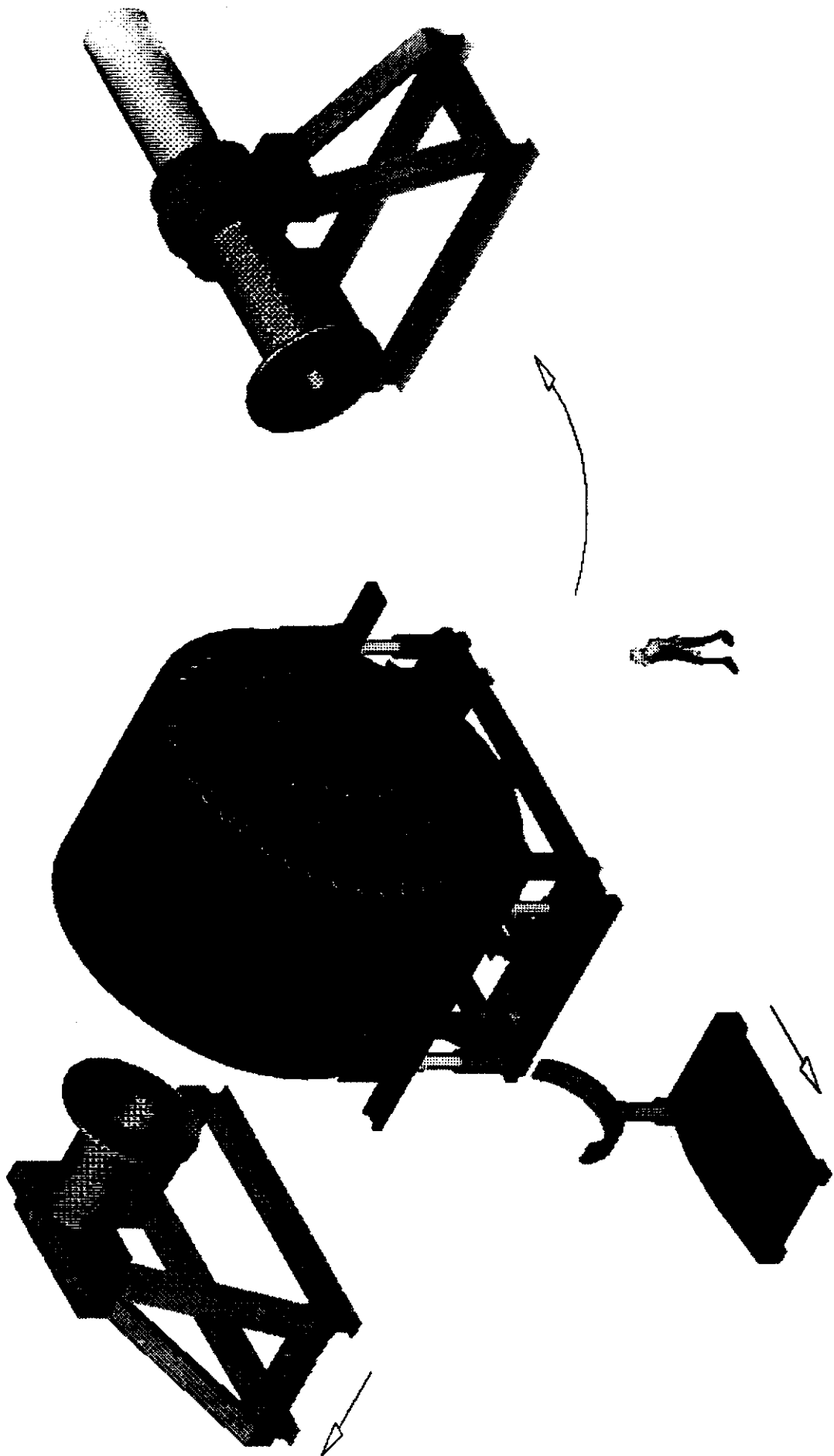


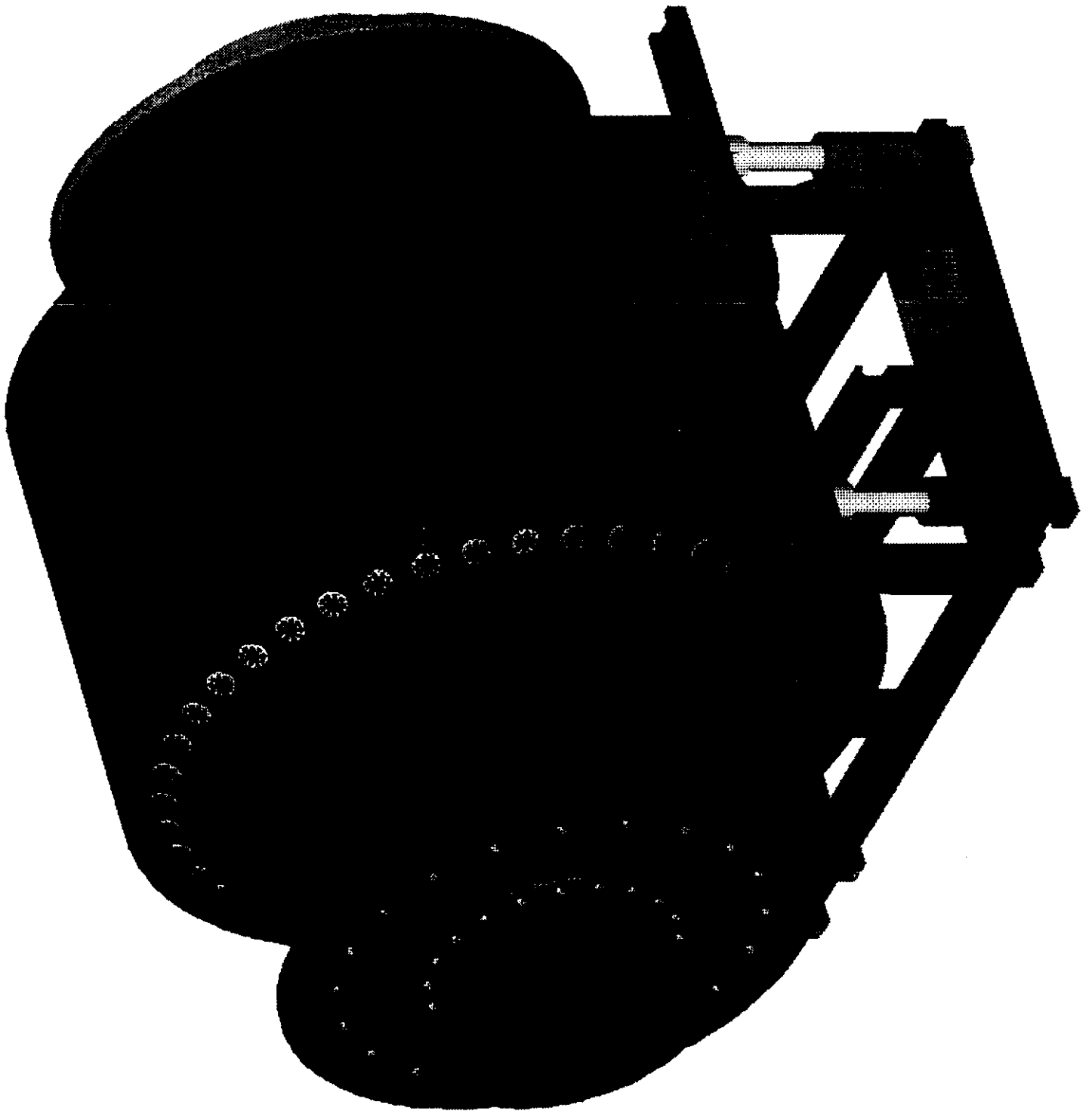


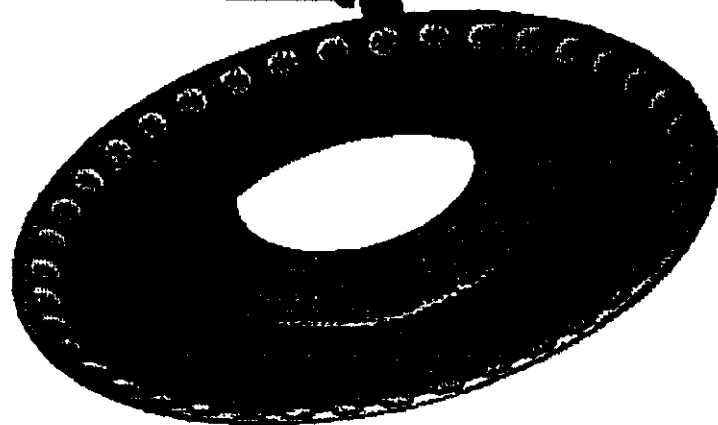
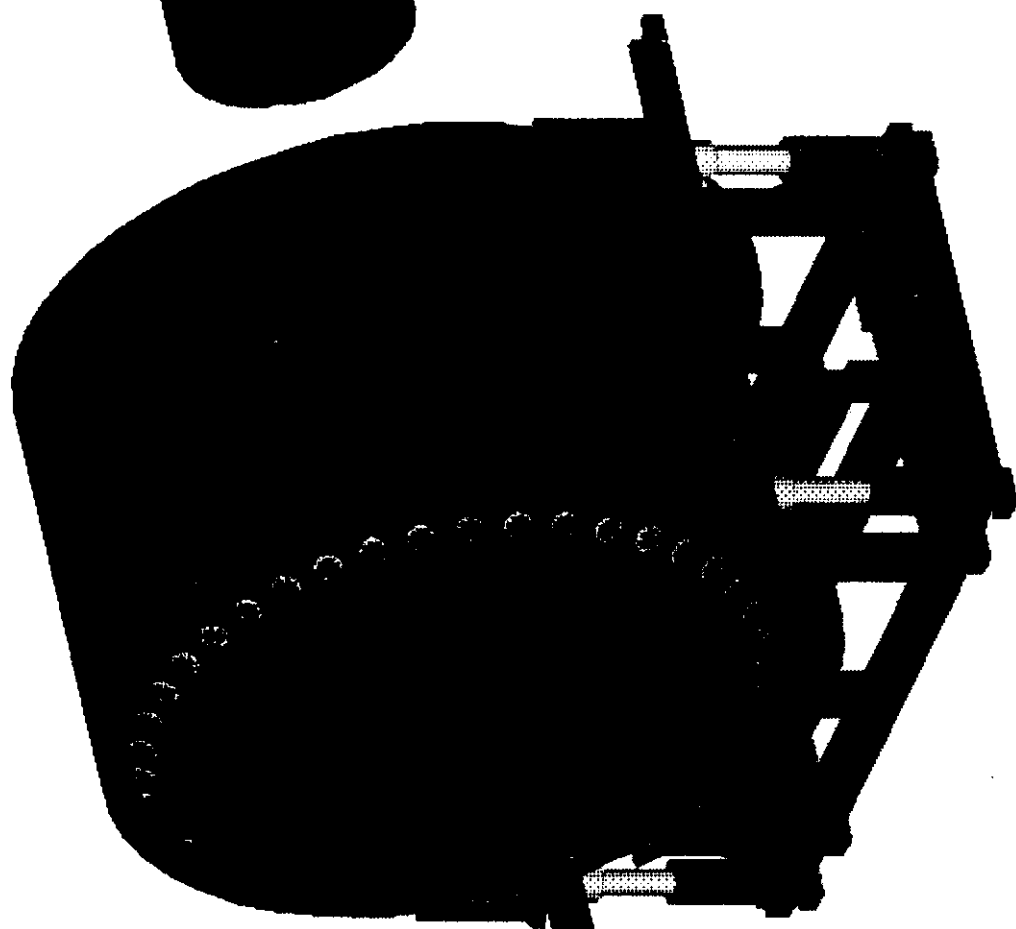
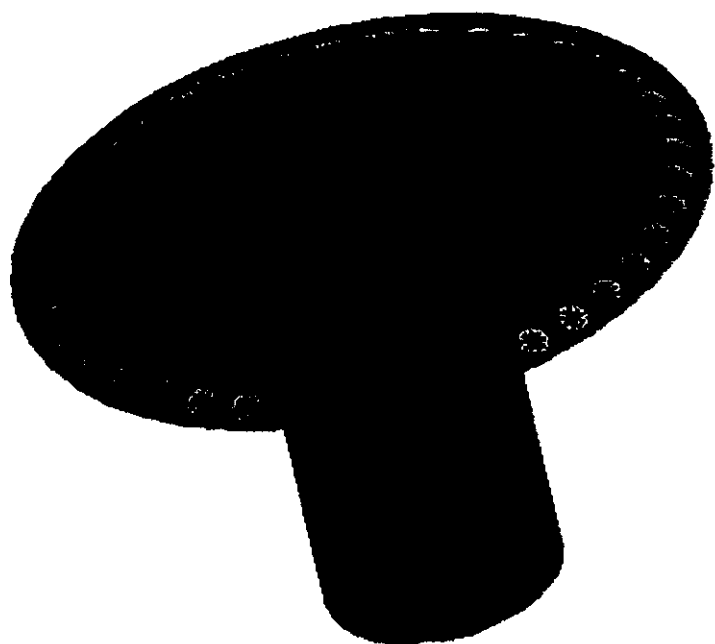


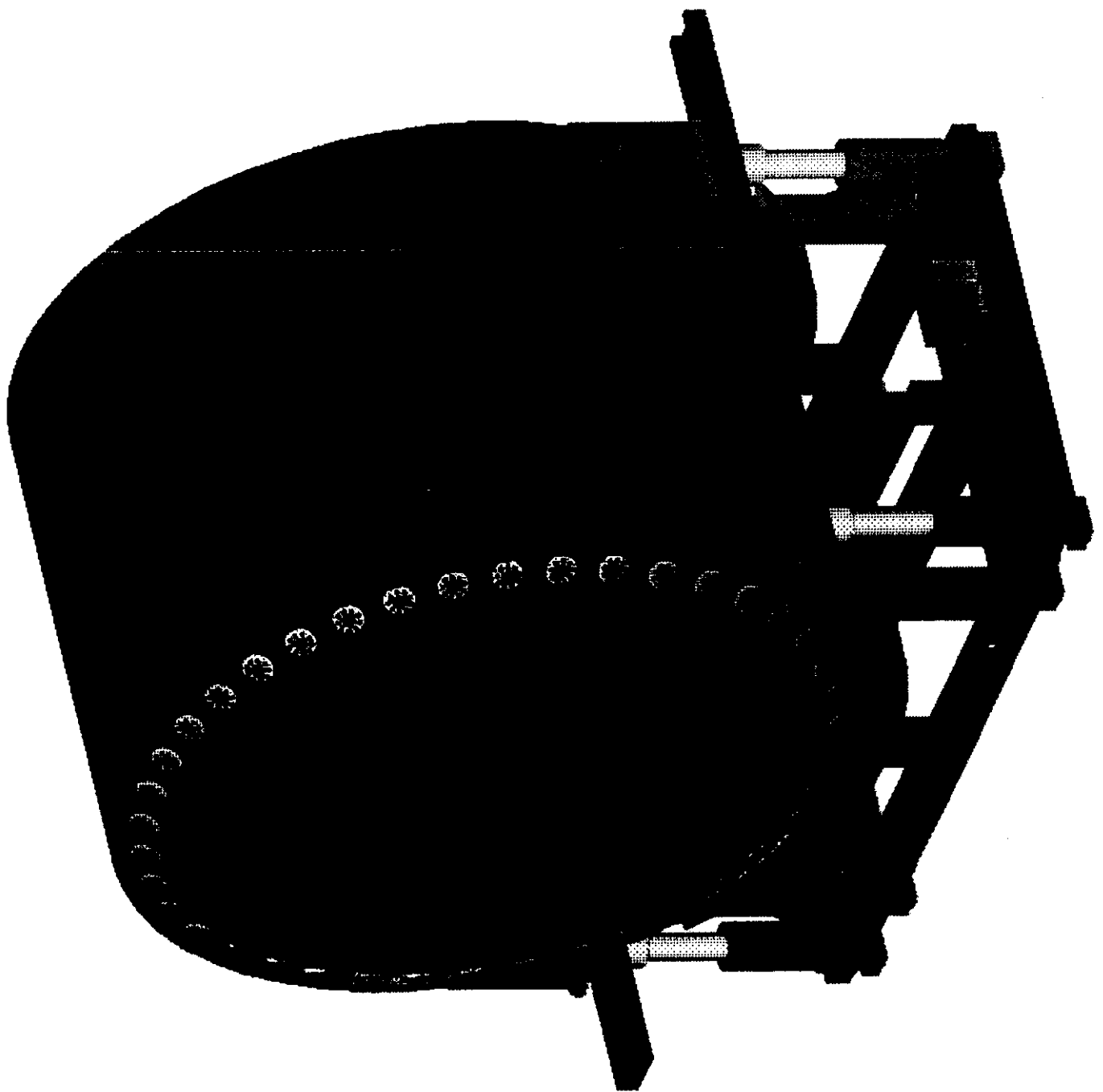






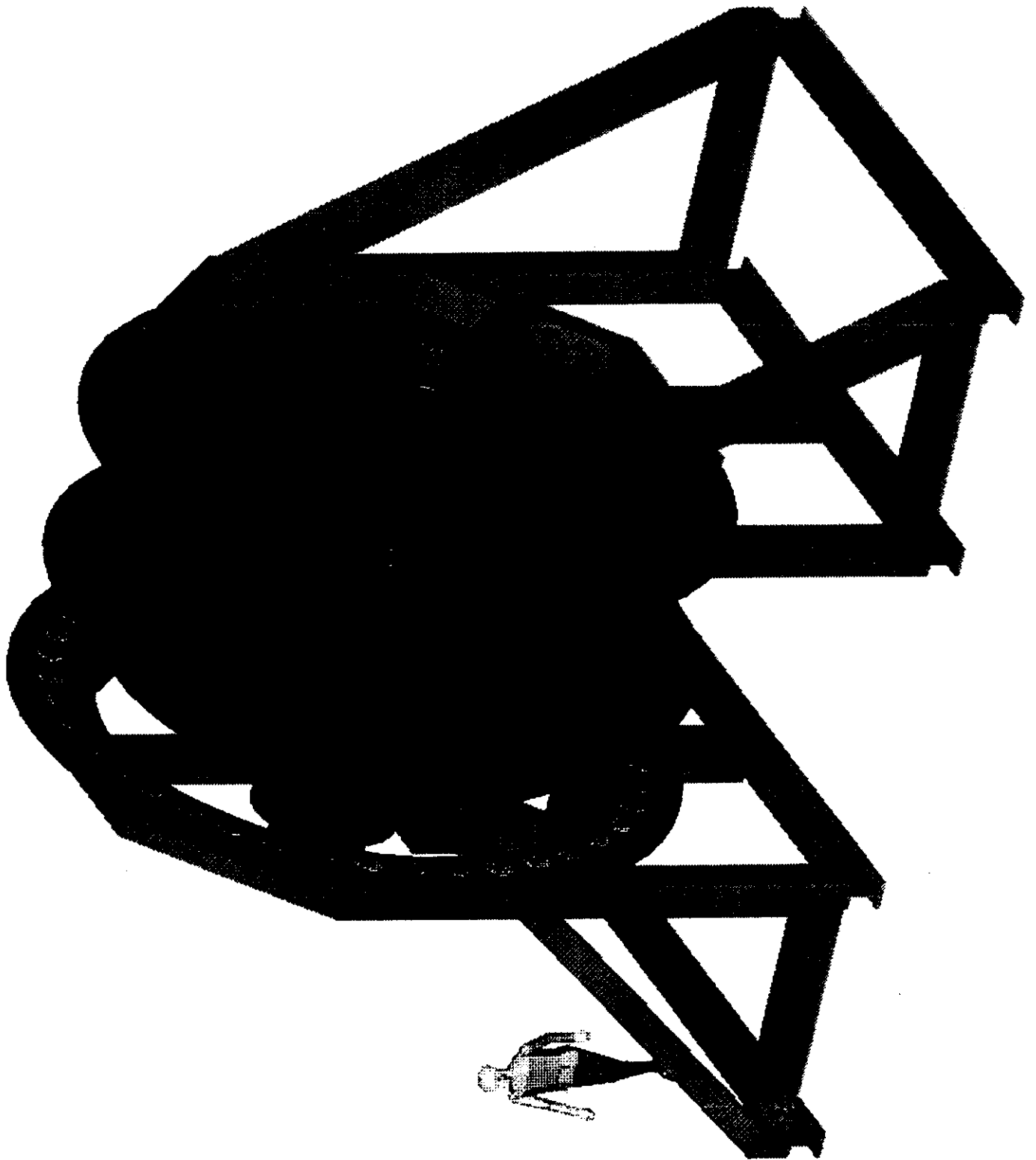


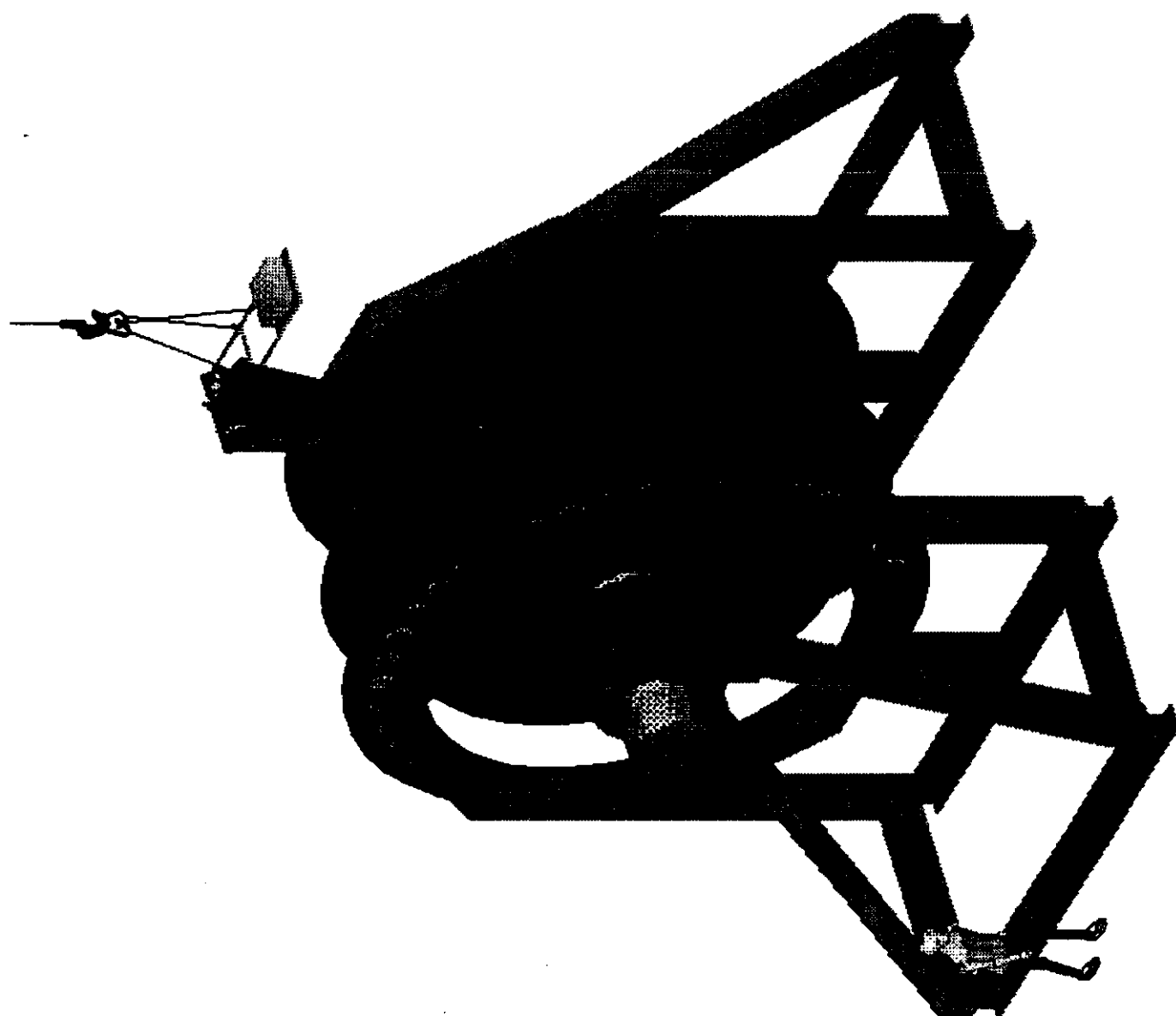


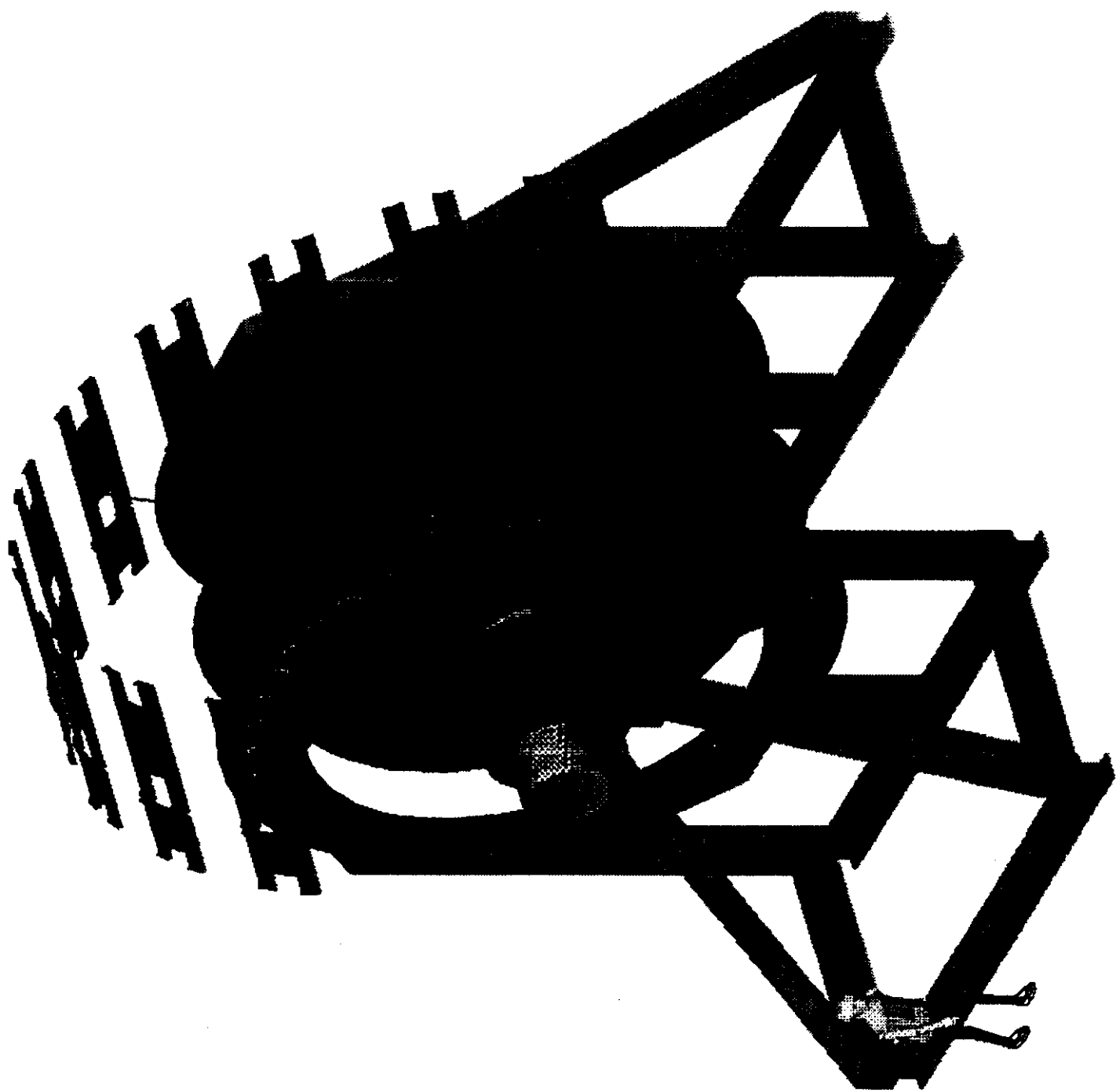


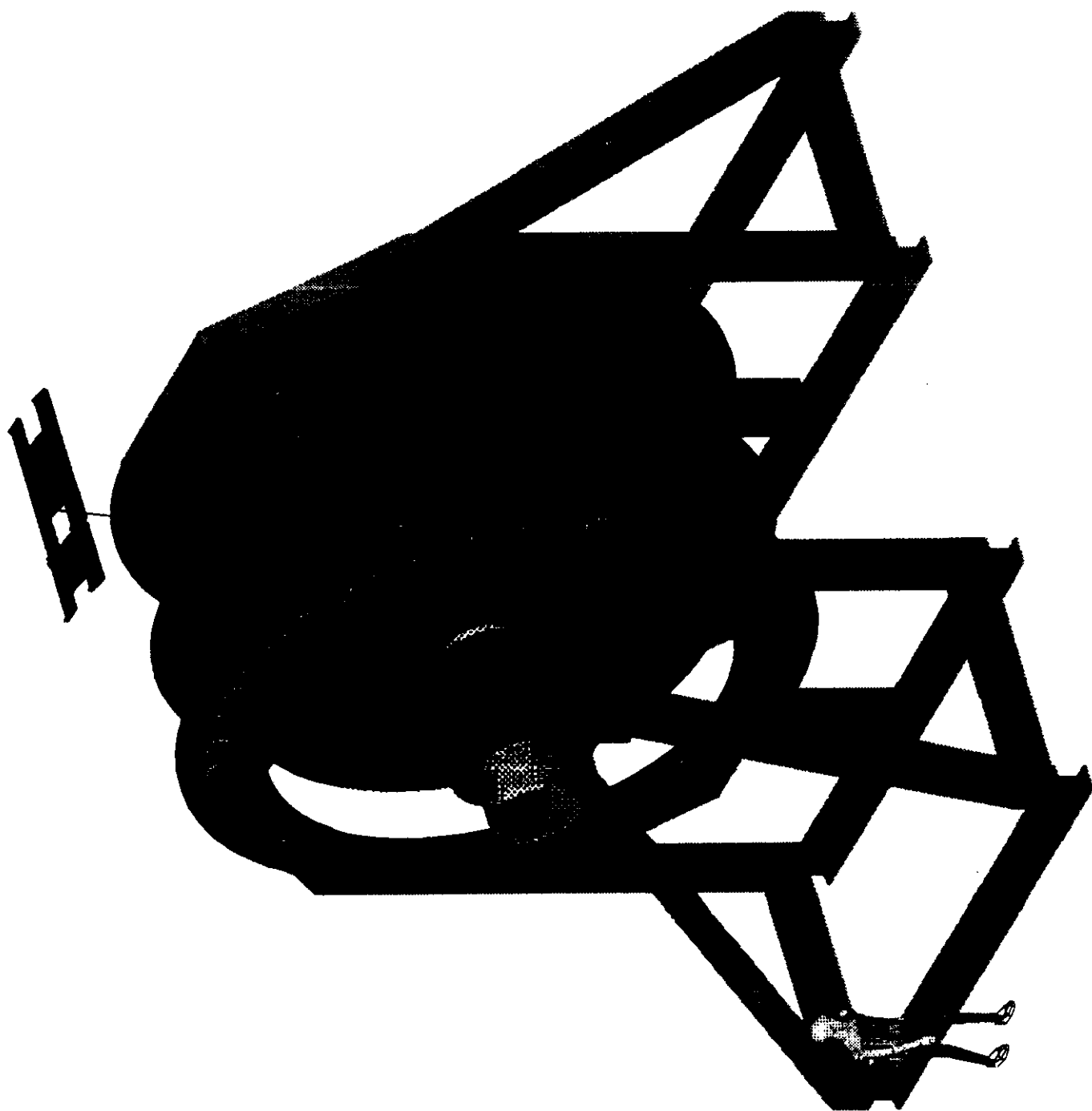


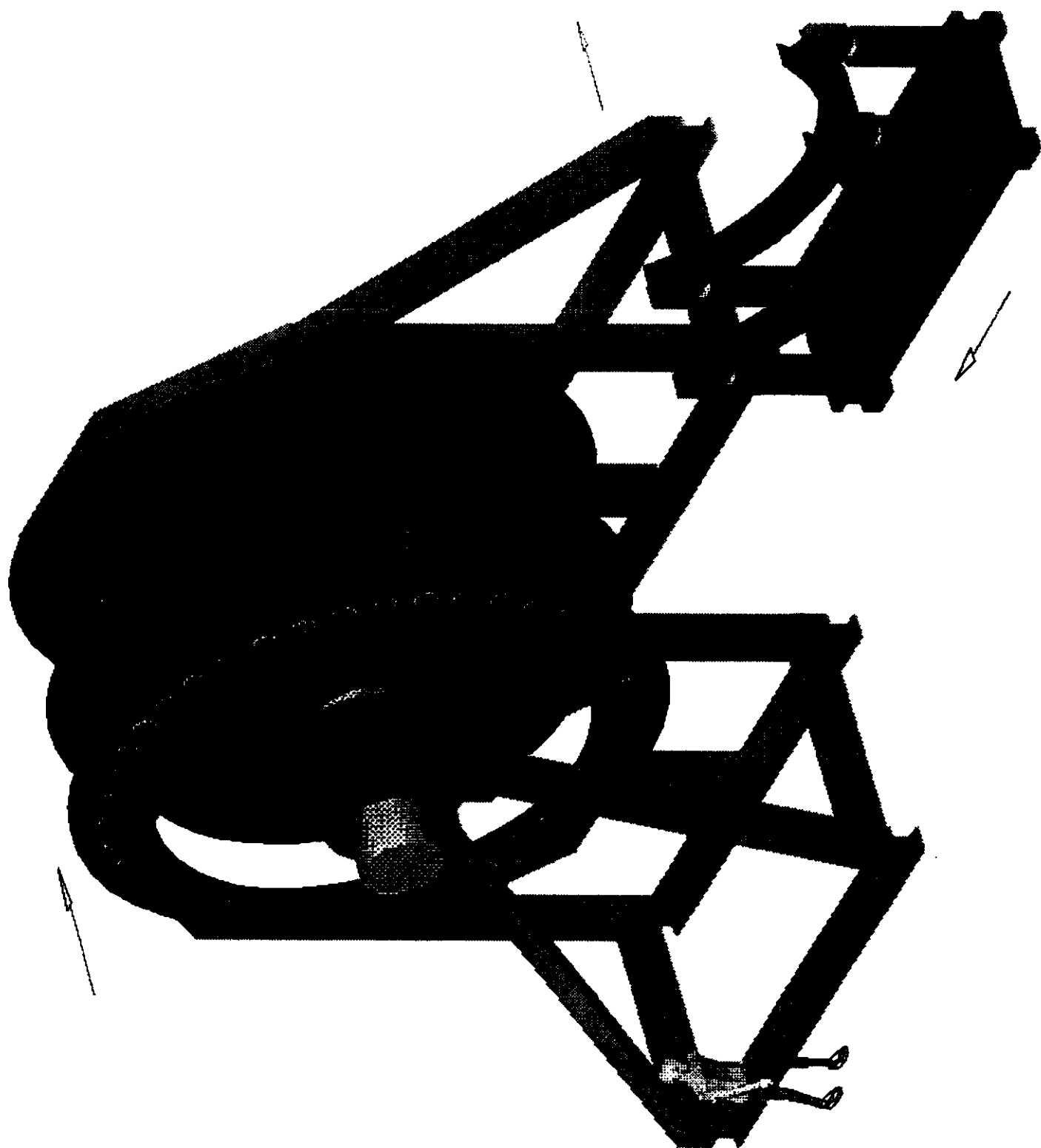


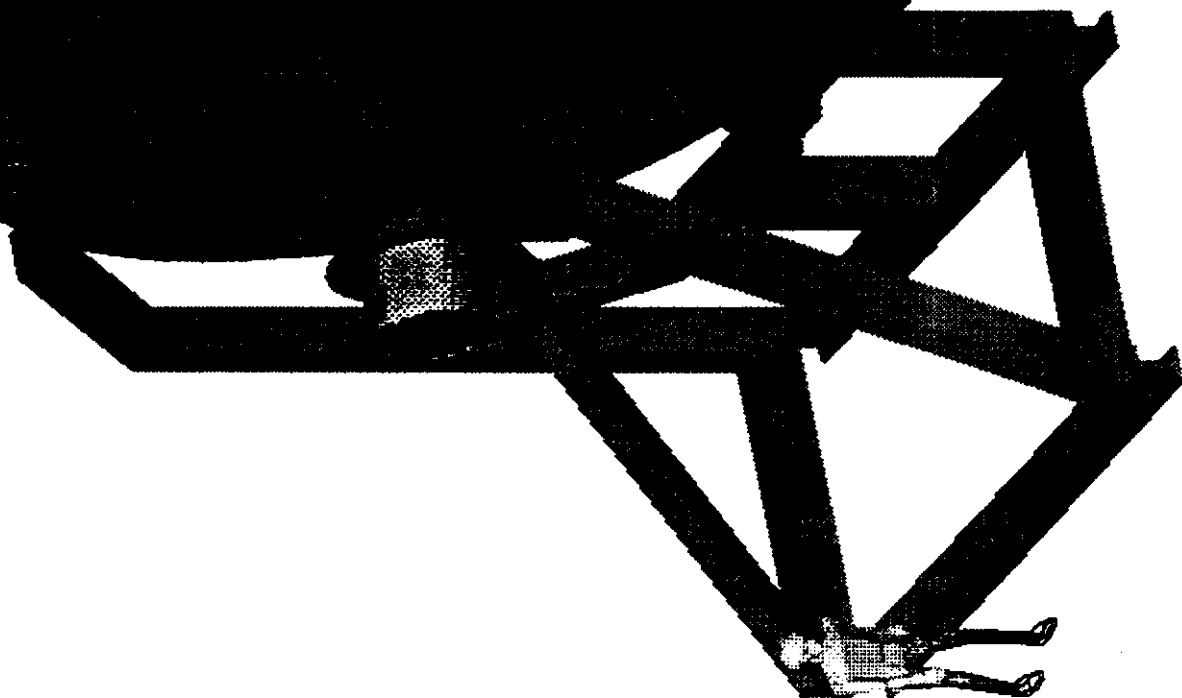
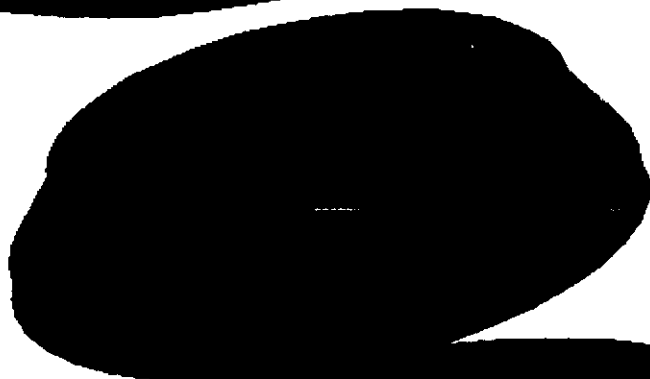










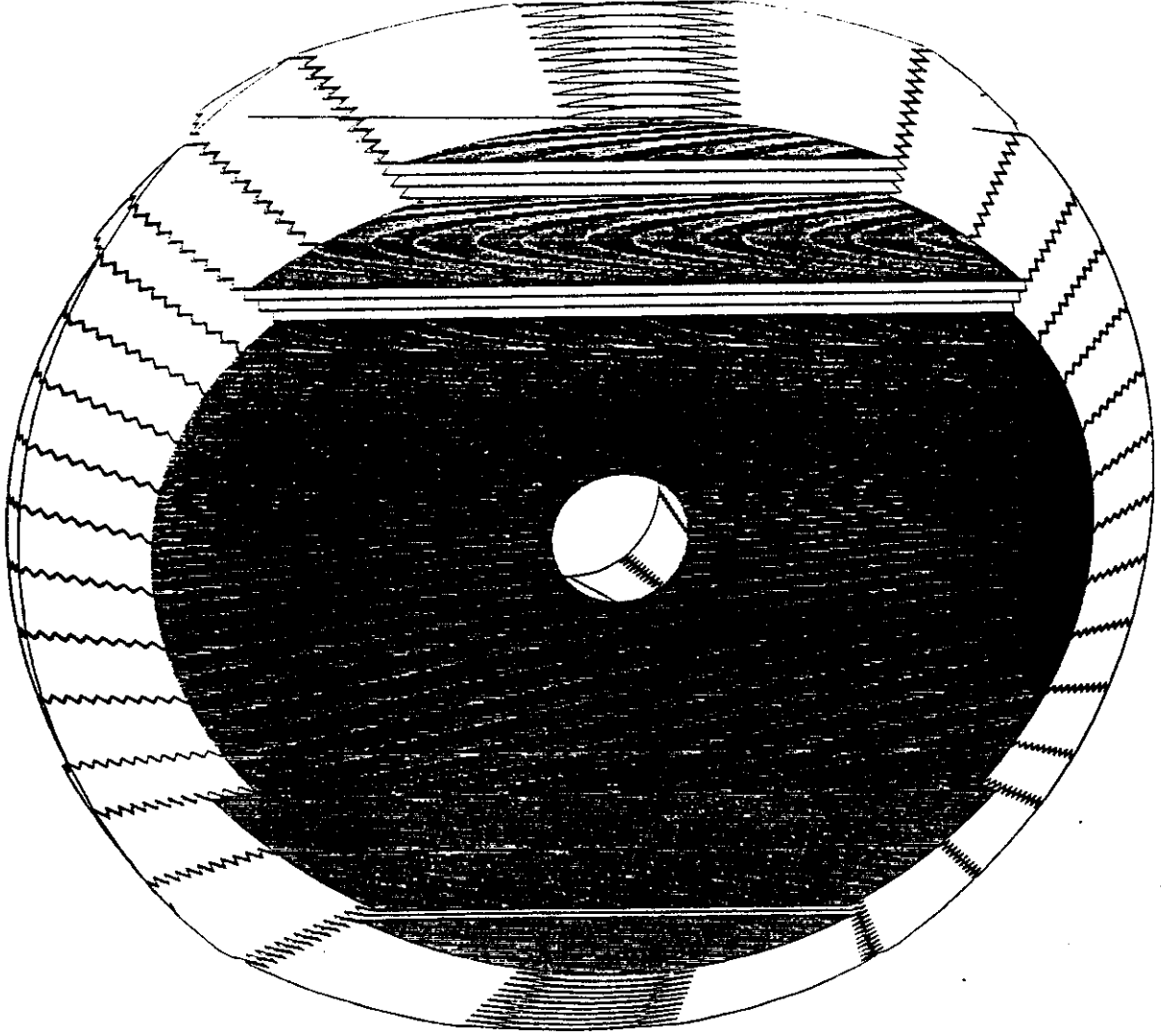


SDRC I-DEAS VI.i(e): Solid_Modeling

13-MAY-93 15156114

Attributes of assembly
view : no thread view
Work Assembly
System: I3D-9301_0001_0001

Display : the threaded option
Unit: I3D-9301_0001_0001
System: I3D-9301_0001_0001

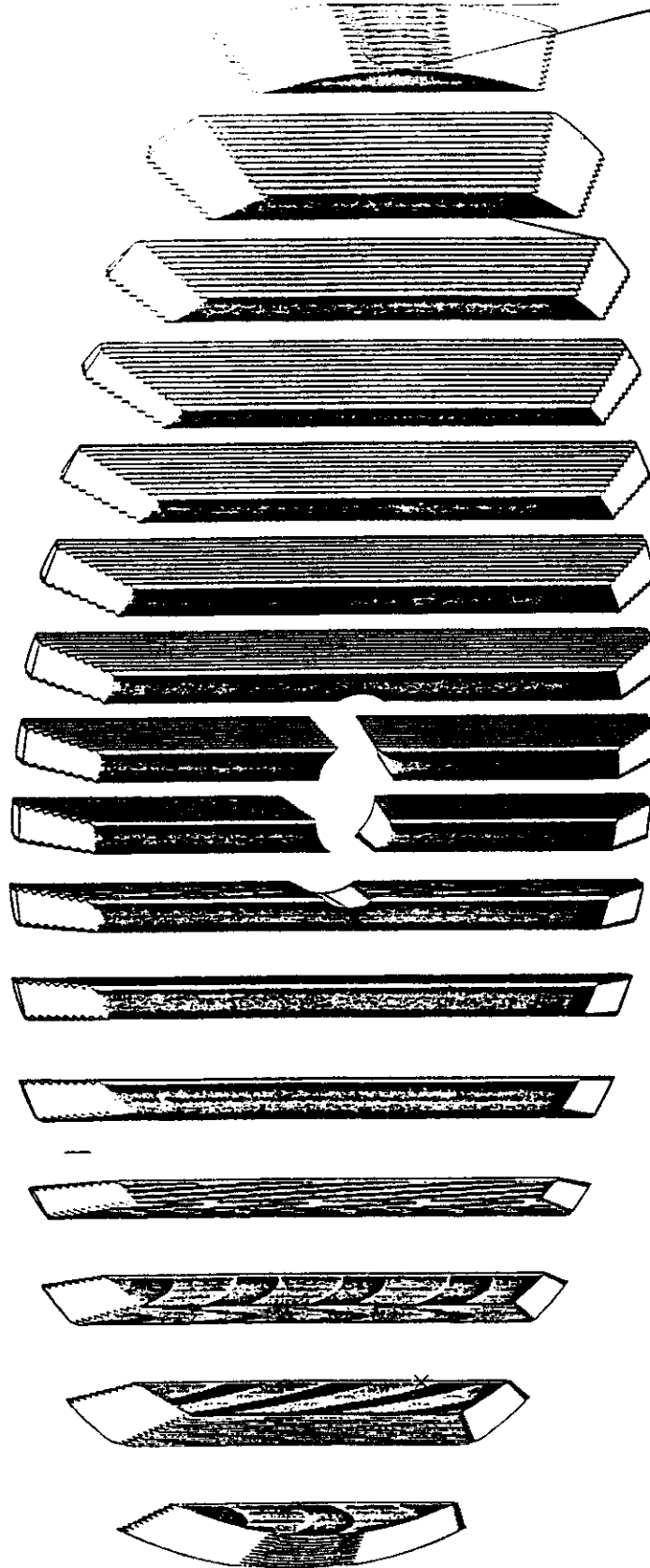


SDRC I-DEAS VI.i(s): Solid_Modeling

13-MAY-93 15:25:23

Display: Isometric View
Axis: 100-000_00000_00000
Display Limits: 0.000 0.000 0.000

Isolines: on, hidden
View: Isometric View
Units: millimeter
System: 001-000_00000_00000



14-MAY-93 09:04:00

Display : No stored option

Units : mm

Model : 101-001_001

Options : ... off ...

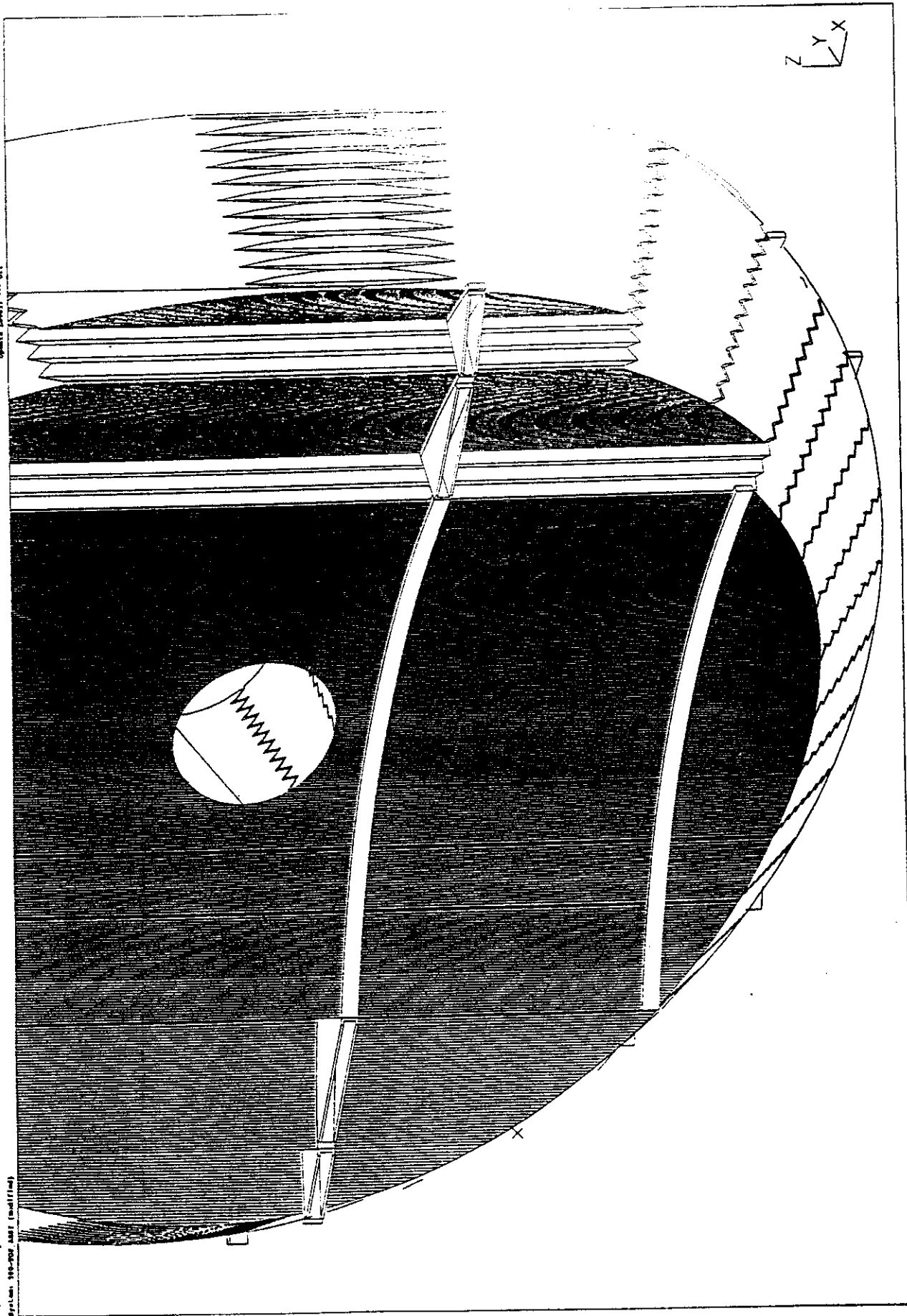
SDRC I-DEAS V6.1(s): Solid Modeling

Sketches: on ...

View : Isometric View

Tools: Assembly

System: 101-001_001 (modified)



SDRC I-DEAS V6.1(s): Solid_Modeling

16-MAY-93 07:56:01

File Edit View

Database: m_ending

View: Isometric View

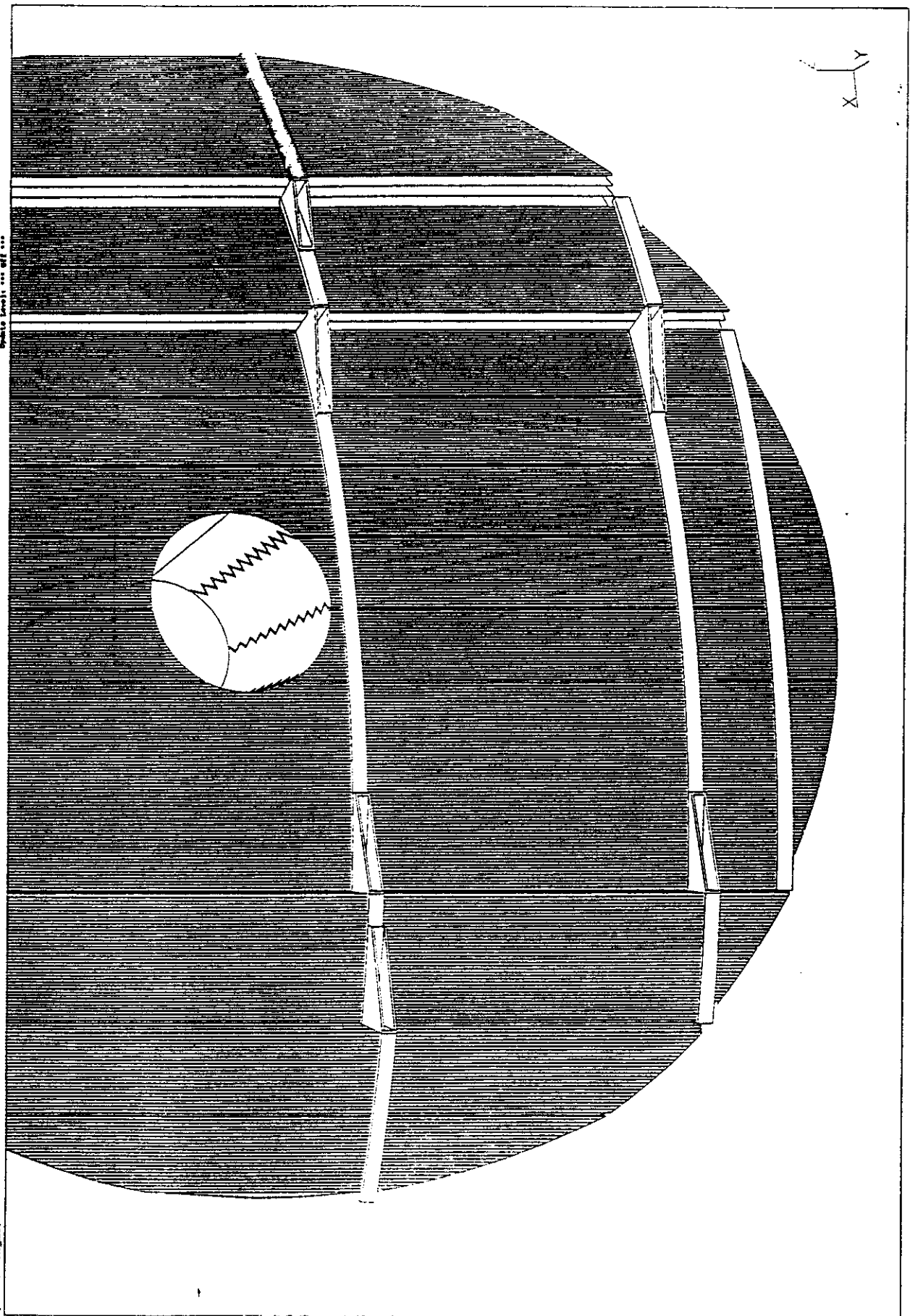
Model: Assembly

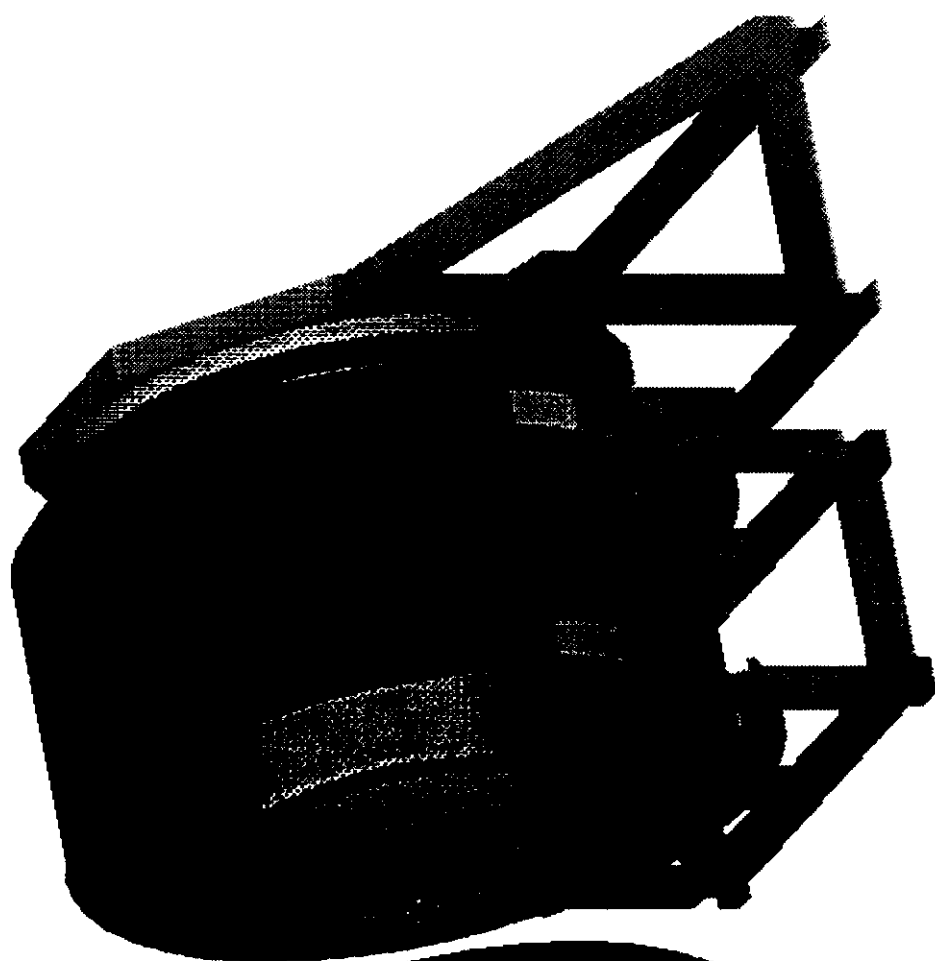
System: IIS-top_jaw2

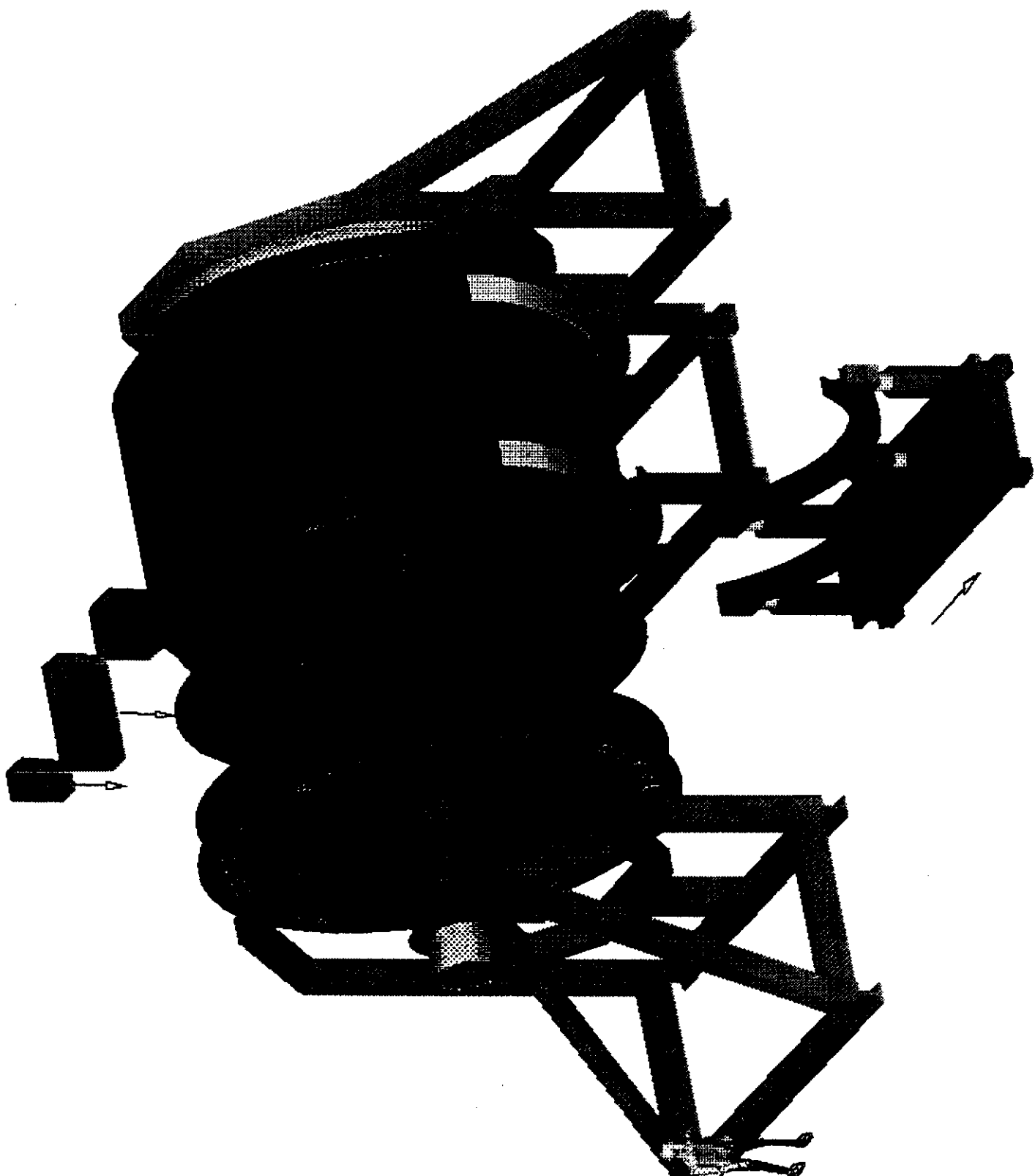
Display: 1 No mirrored display

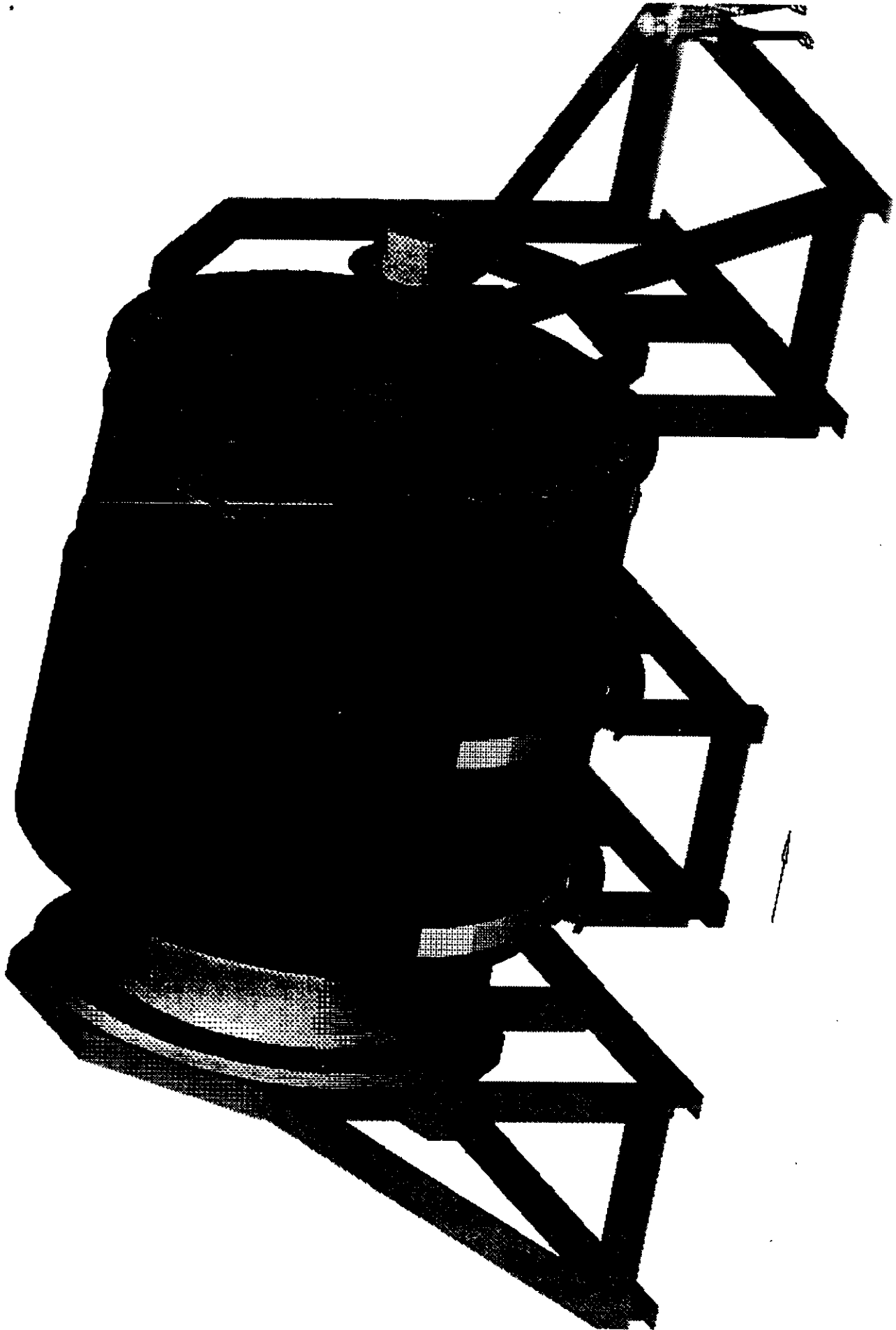
File: IIS-top_jaw2

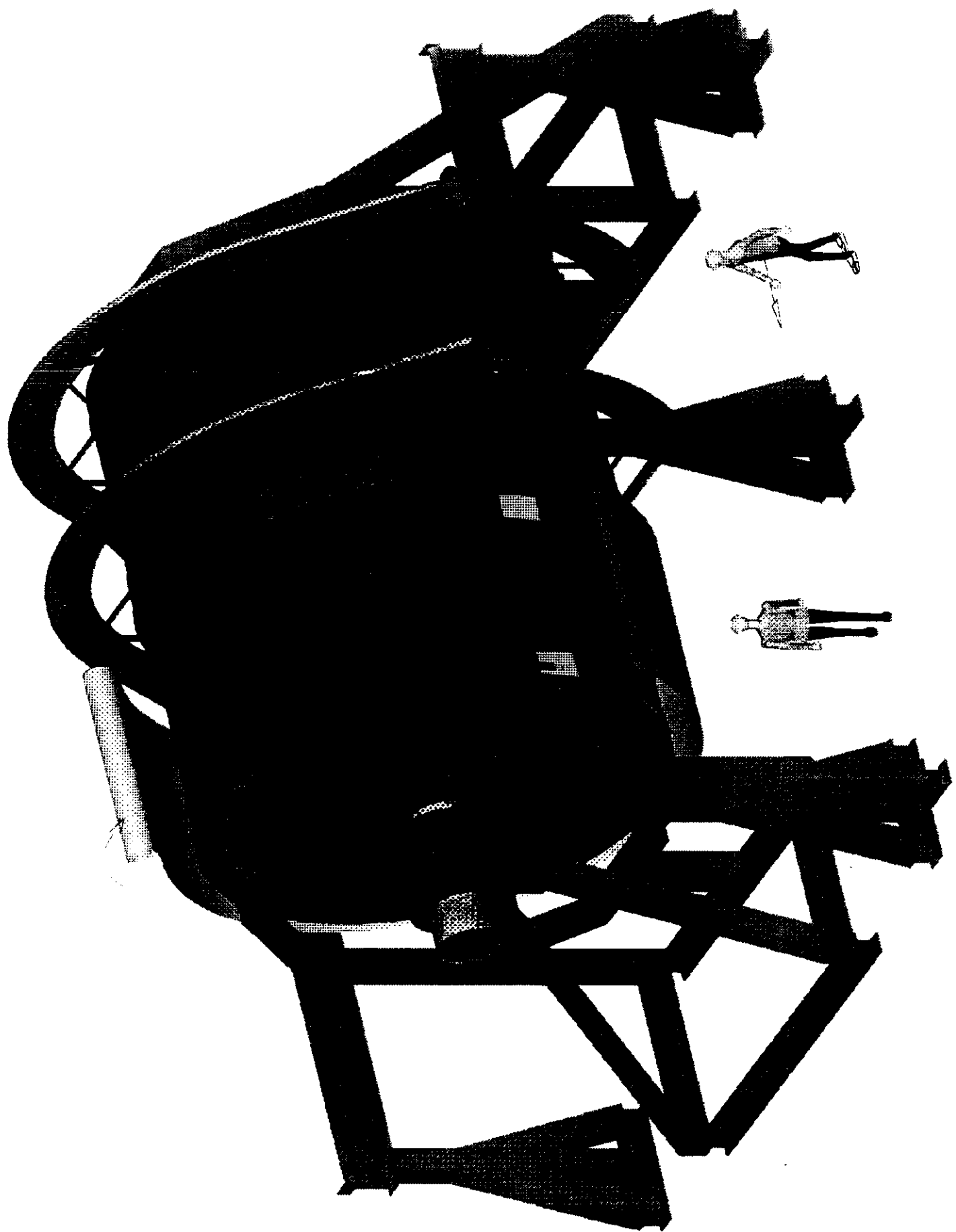
Options: Isometric *** OFF ***

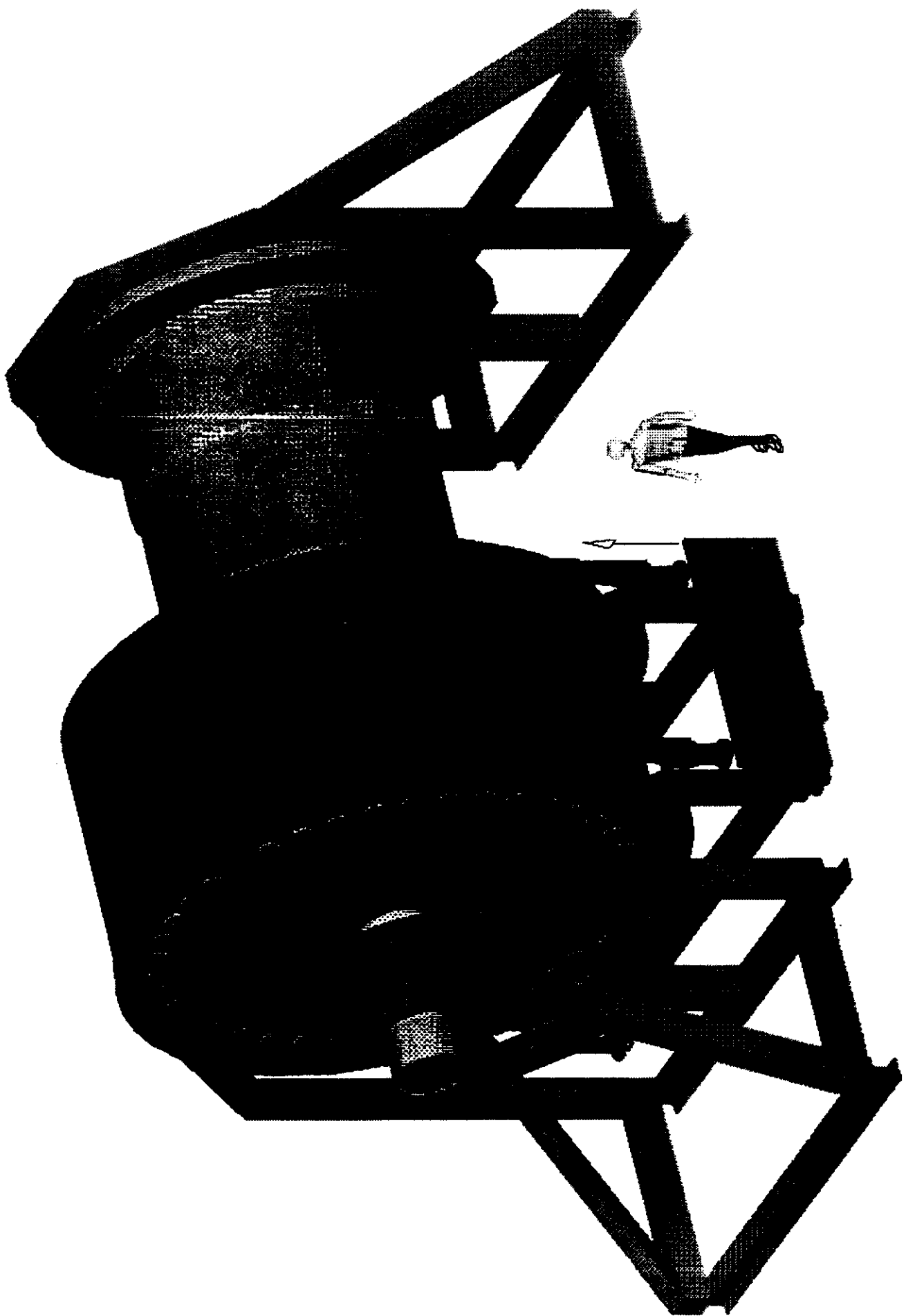


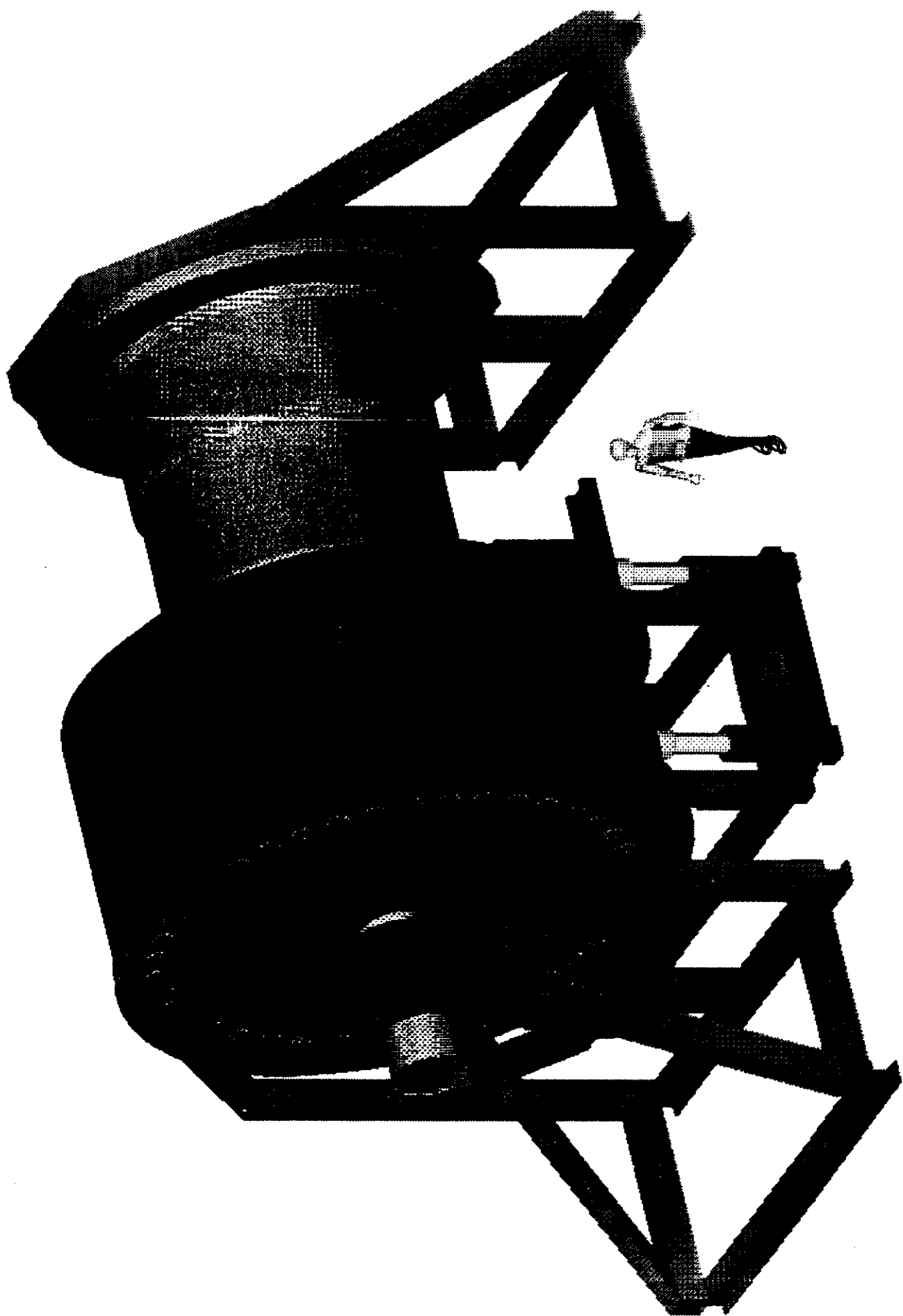




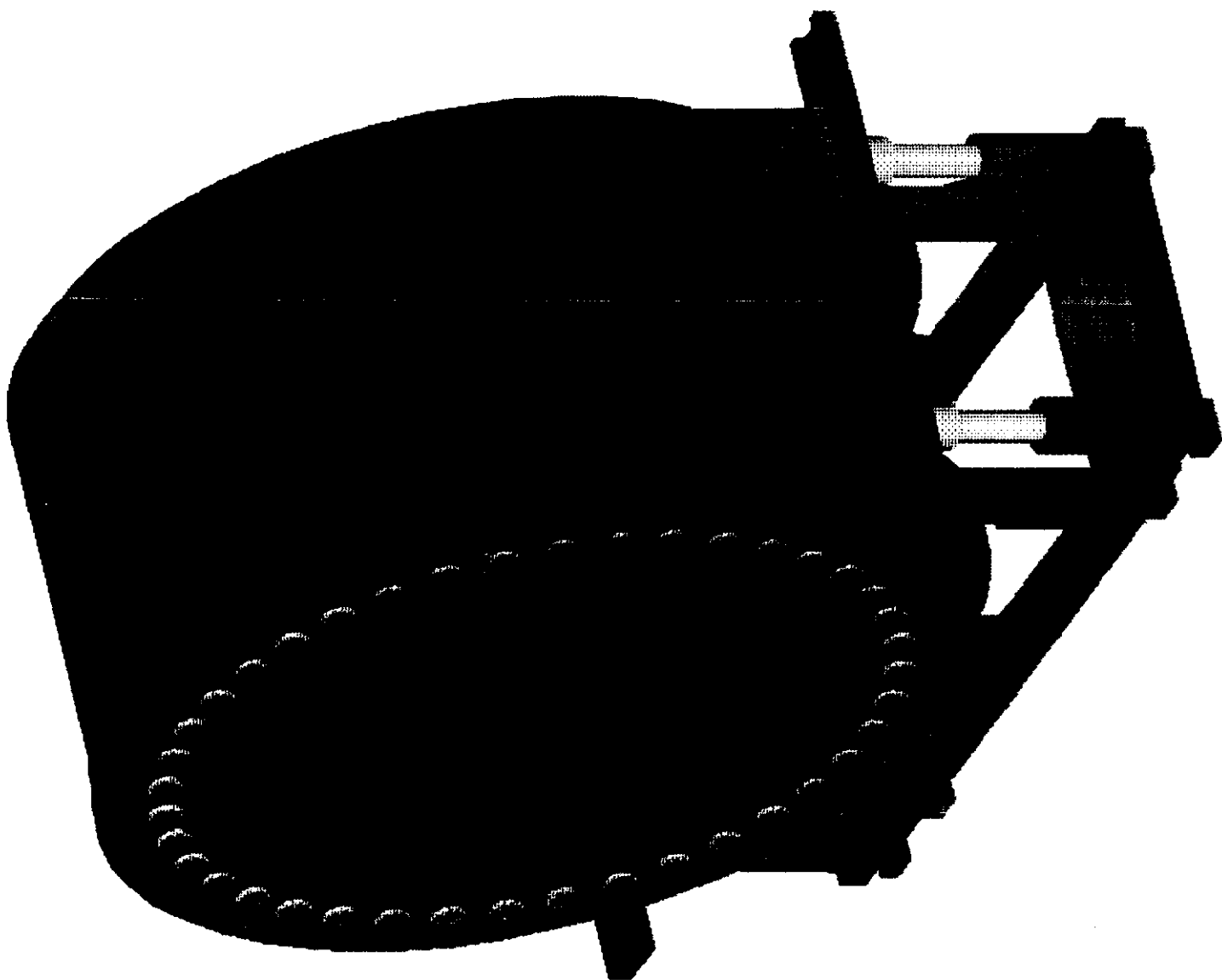


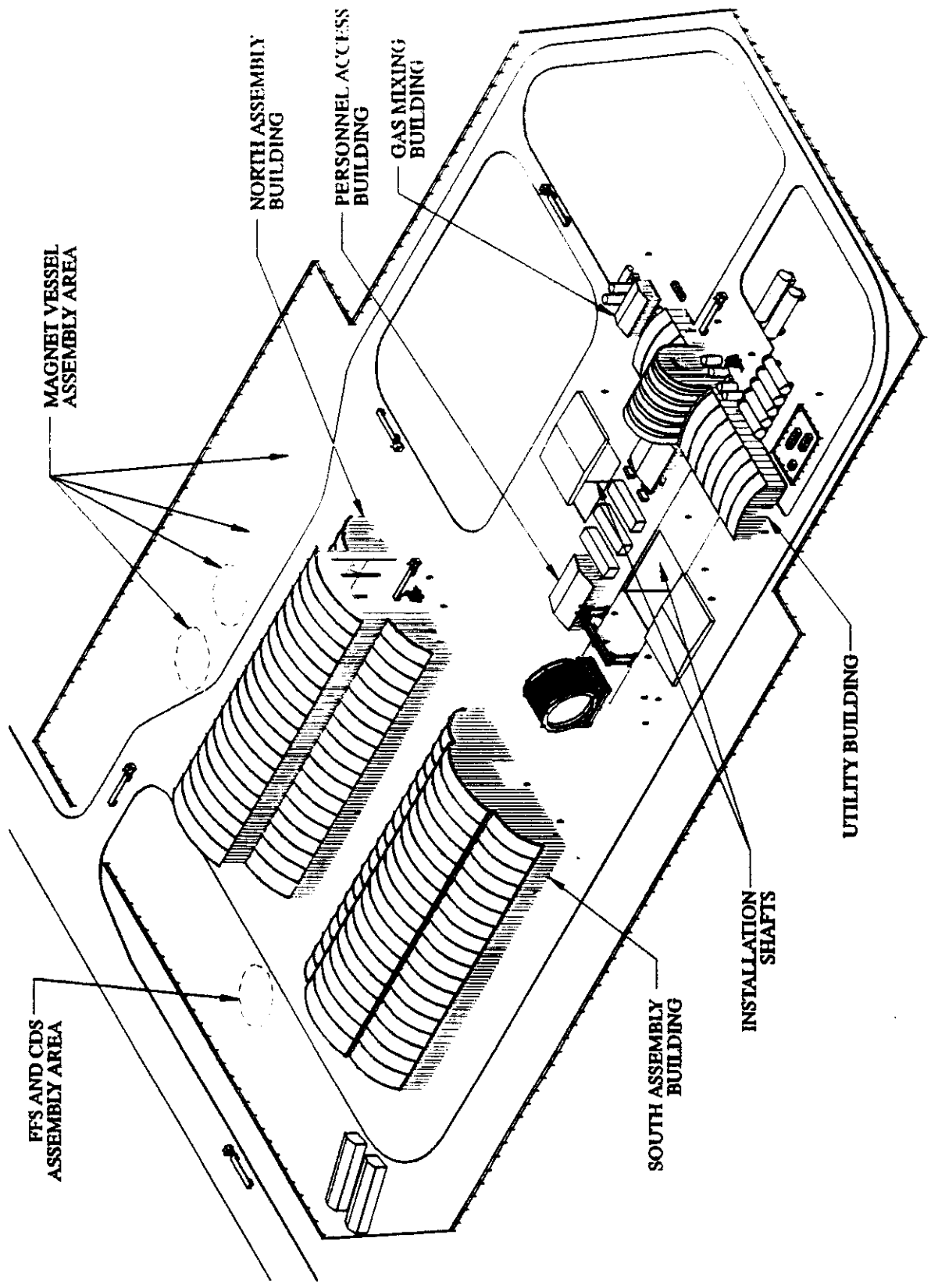


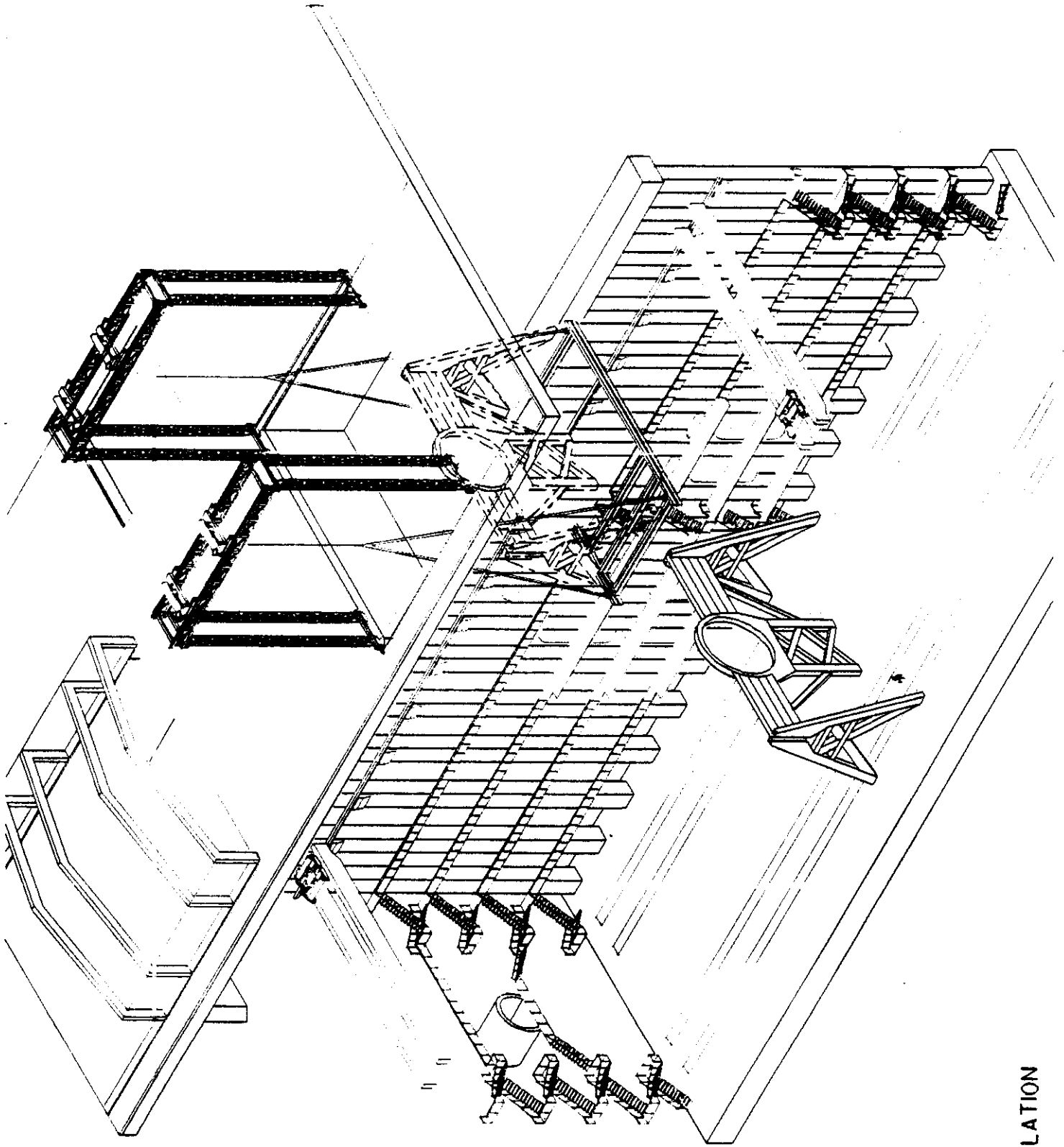




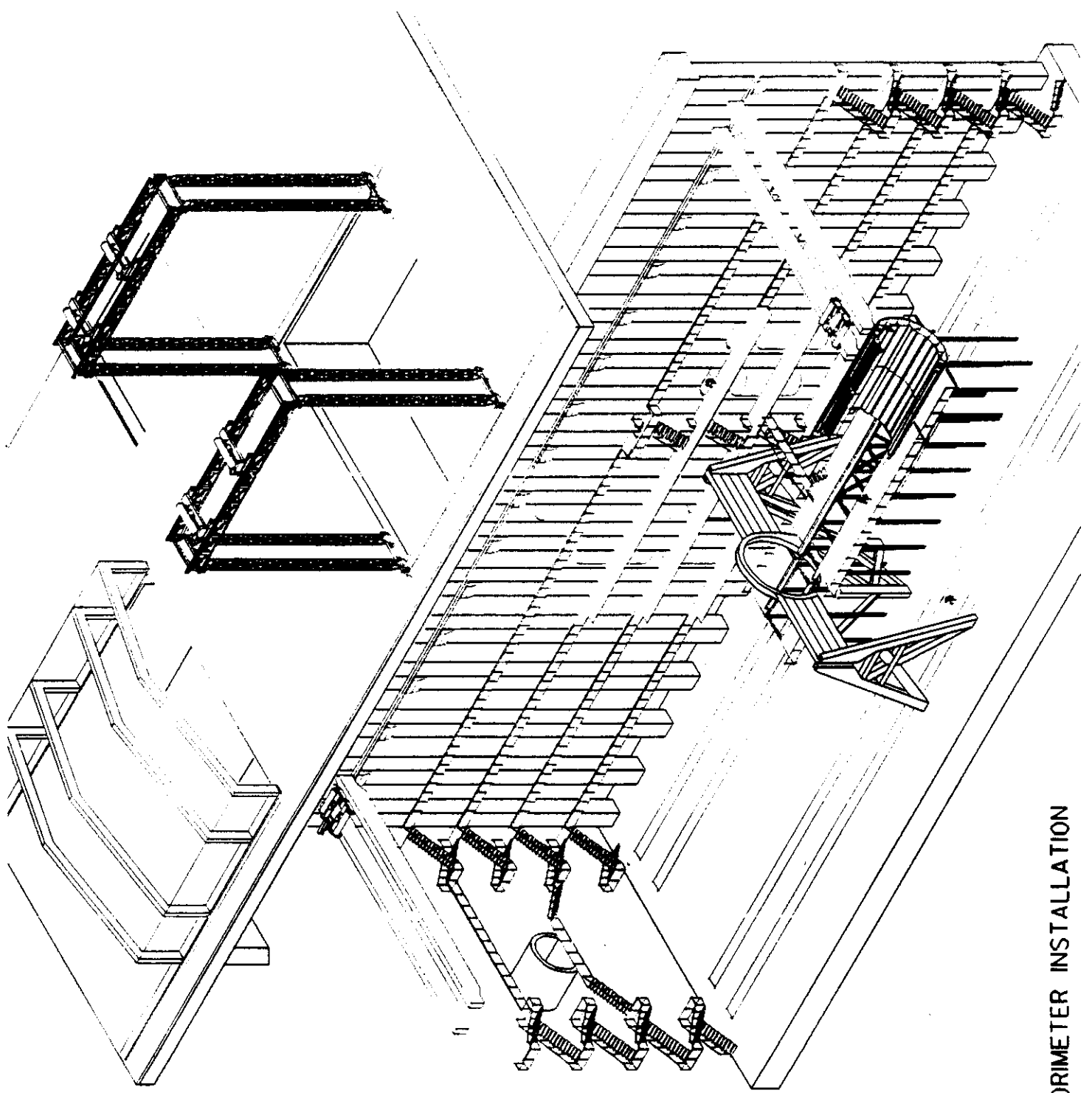






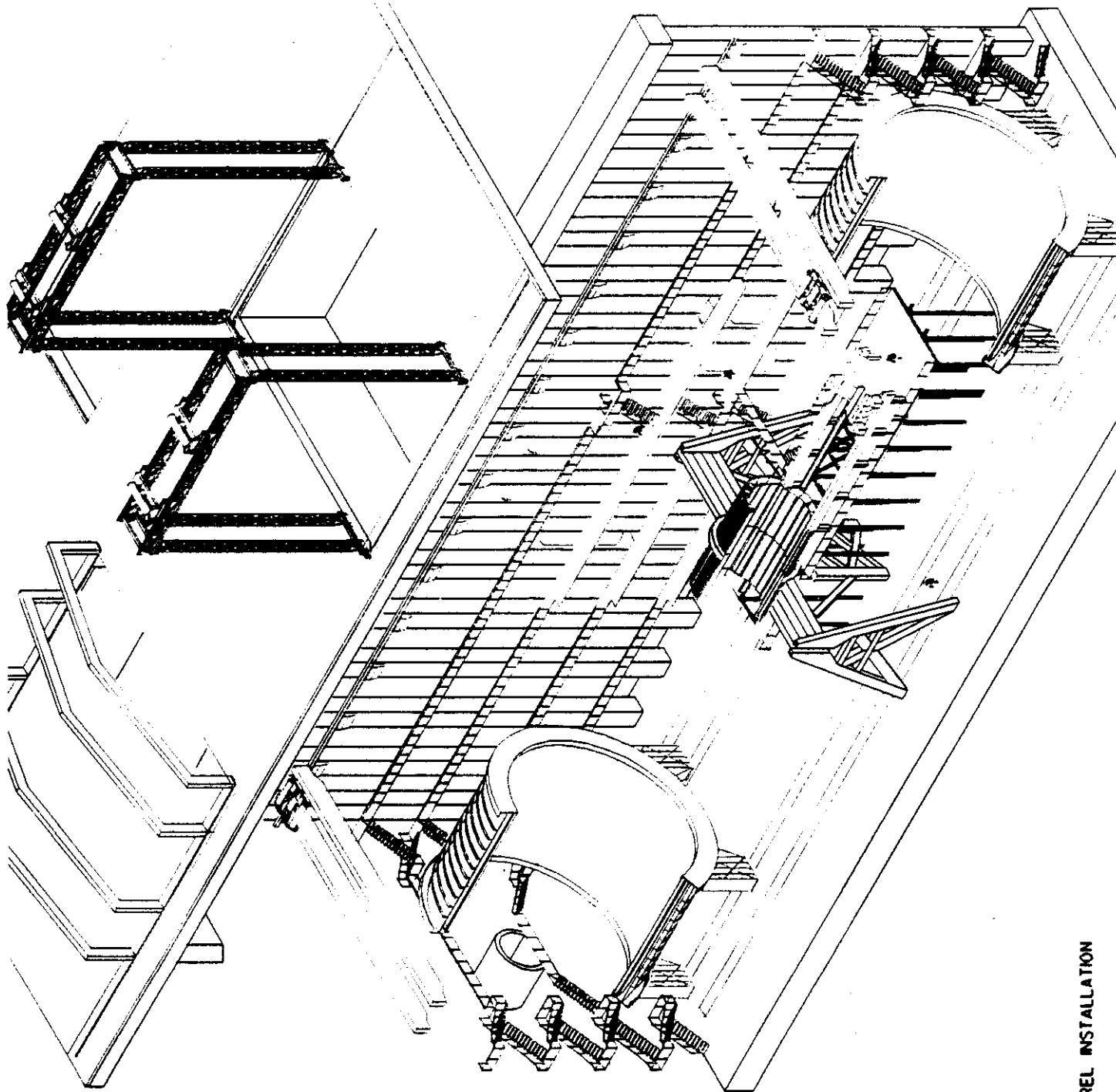


PHASE I
C.D.S. INSTALLATION

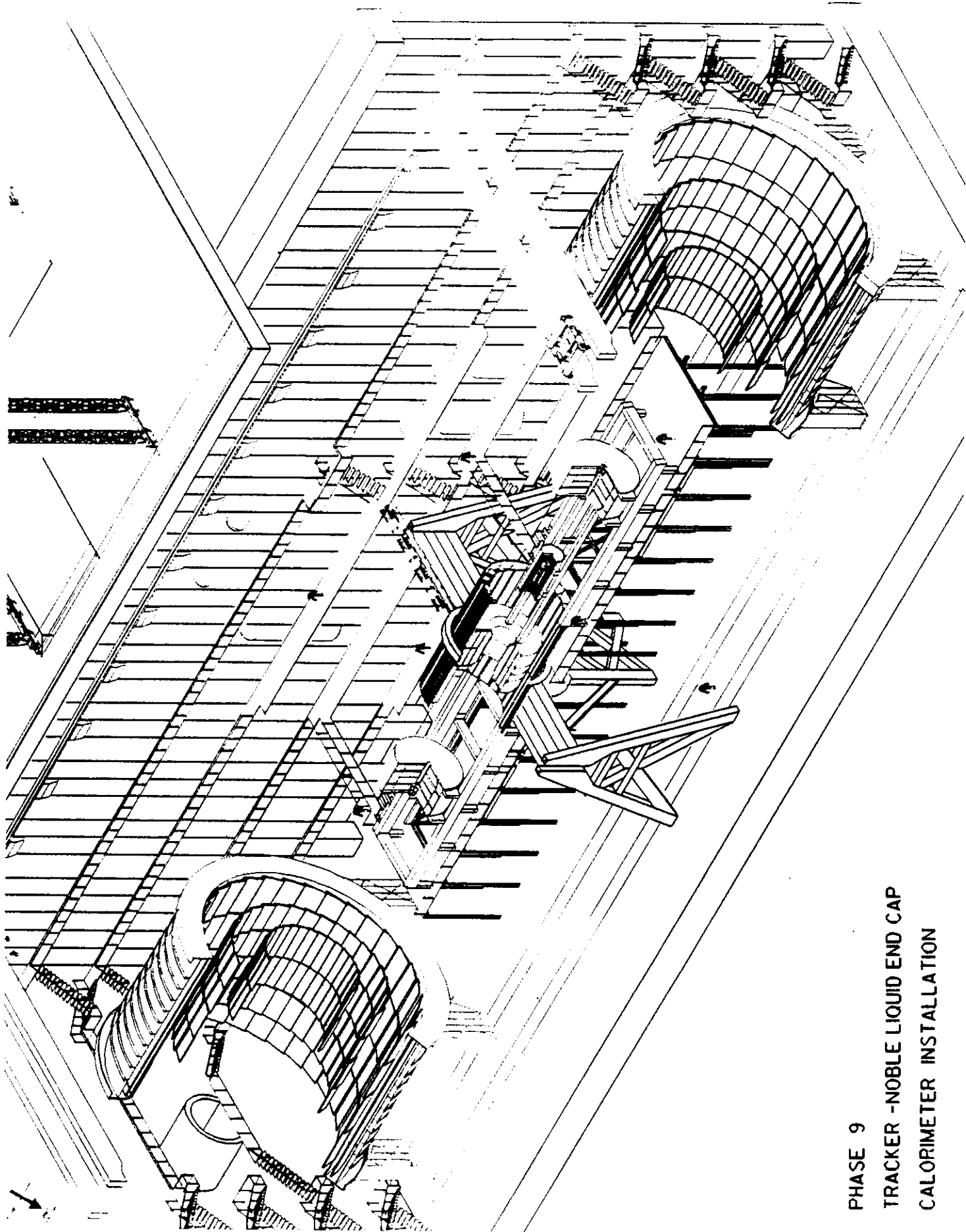


PHASE 2
SCINTILLATING CALORIMETER INSTALLATION

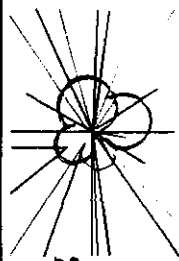




PHASE 6
NOBEL LIQUID BARREL INSTALLATION



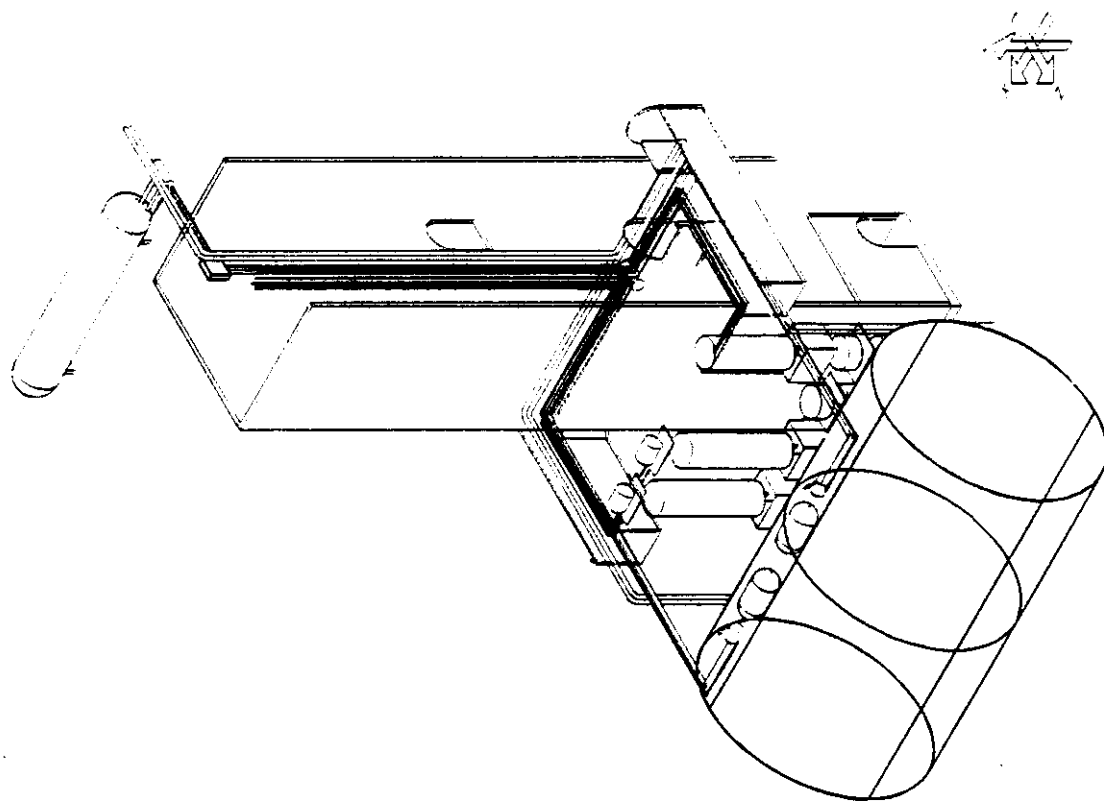
PHASE 9
TRACKER -NOBLE LIQUID END CAP
CALORIMETER INSTALLATION

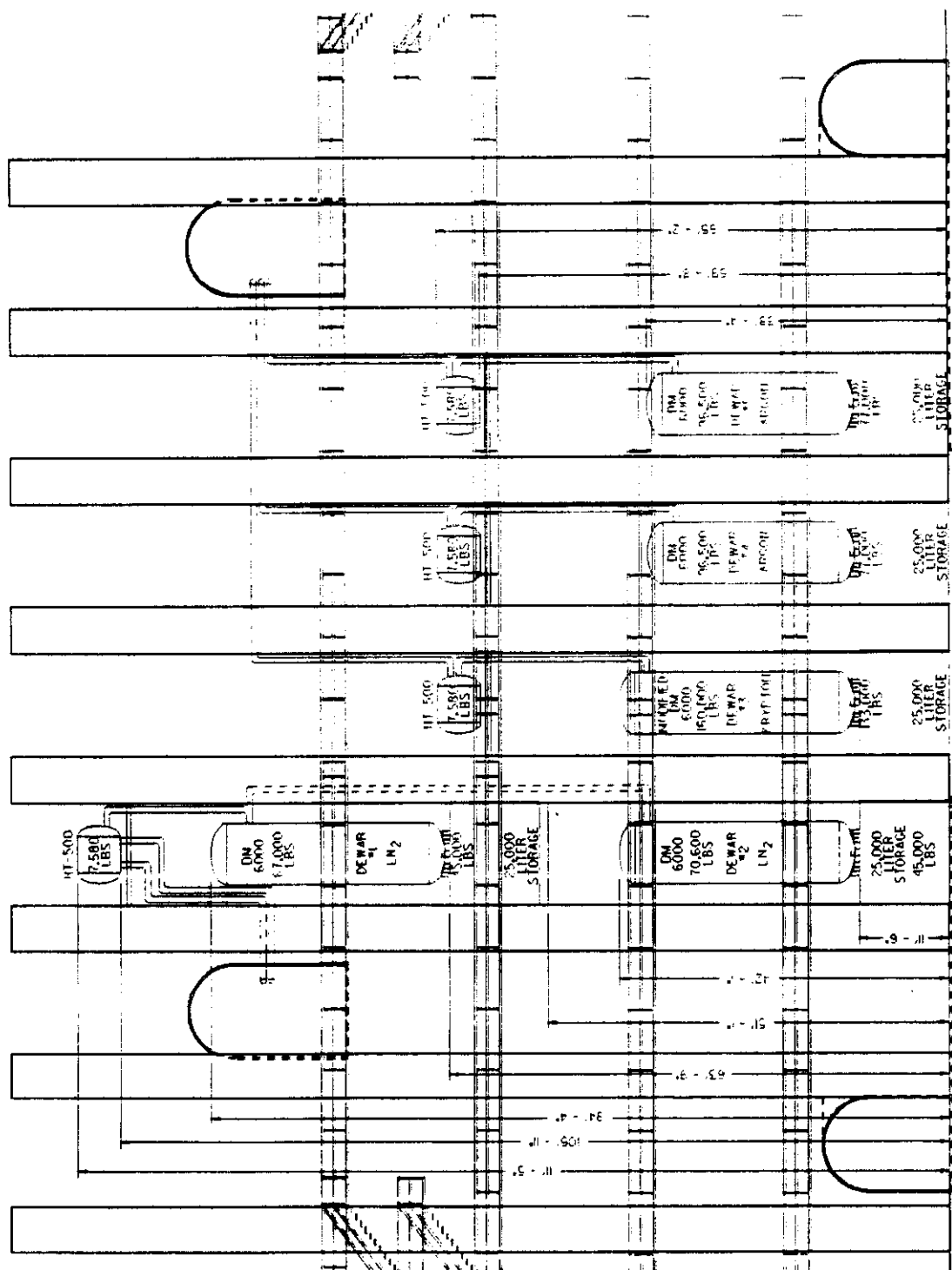


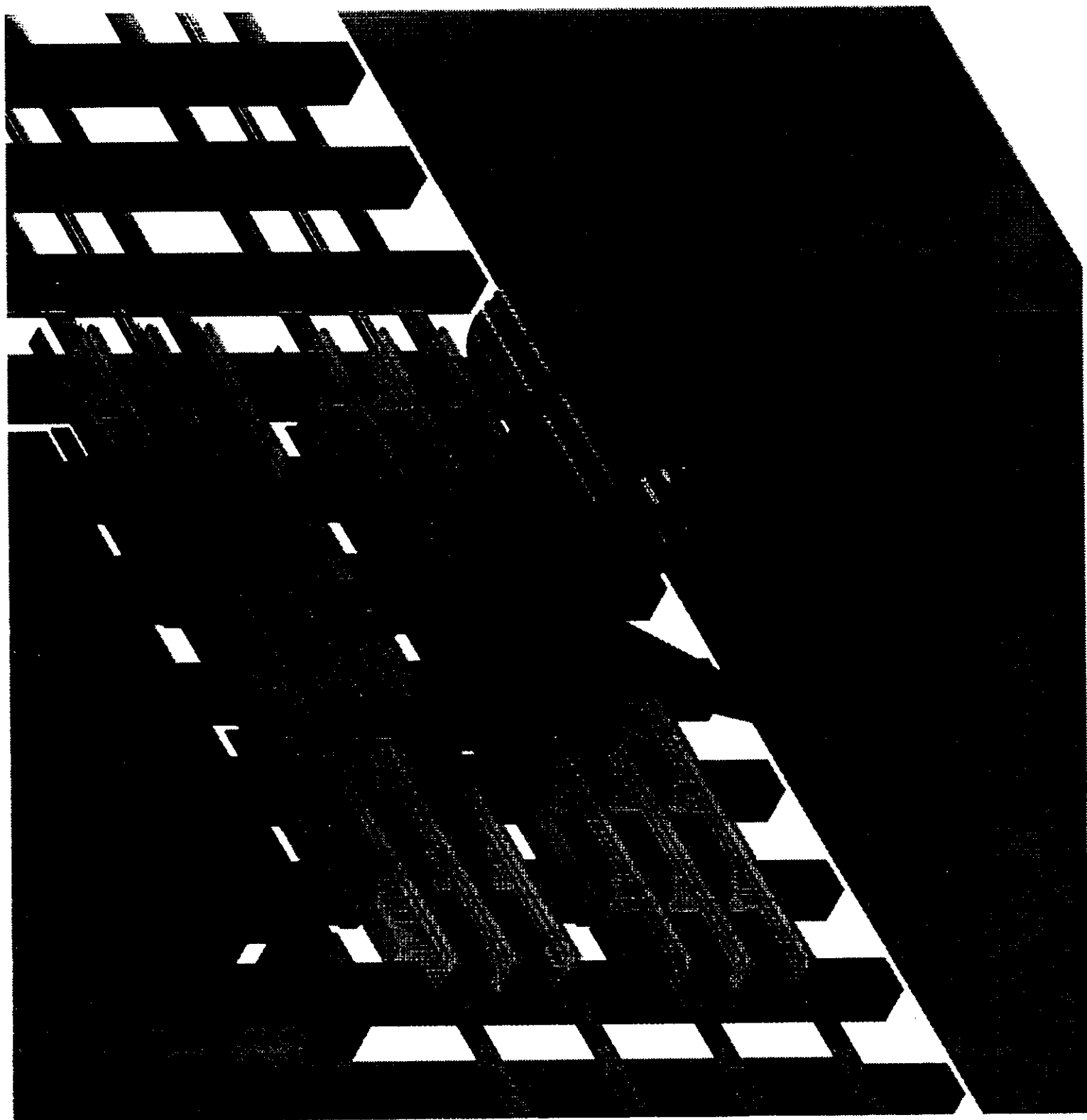
**Superconducting
Super Collider
Laboratory**

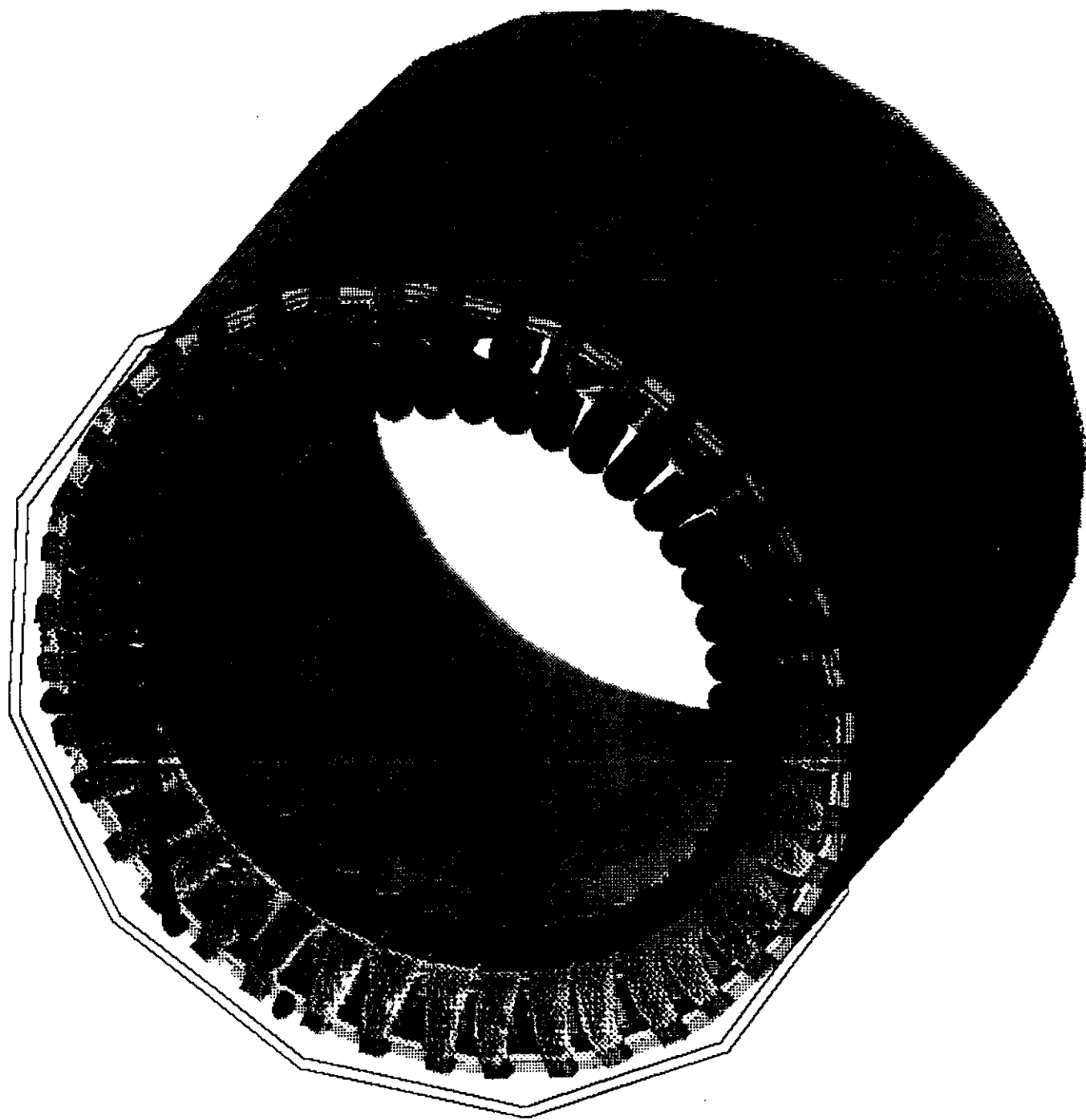
**Cryogenics
Group**

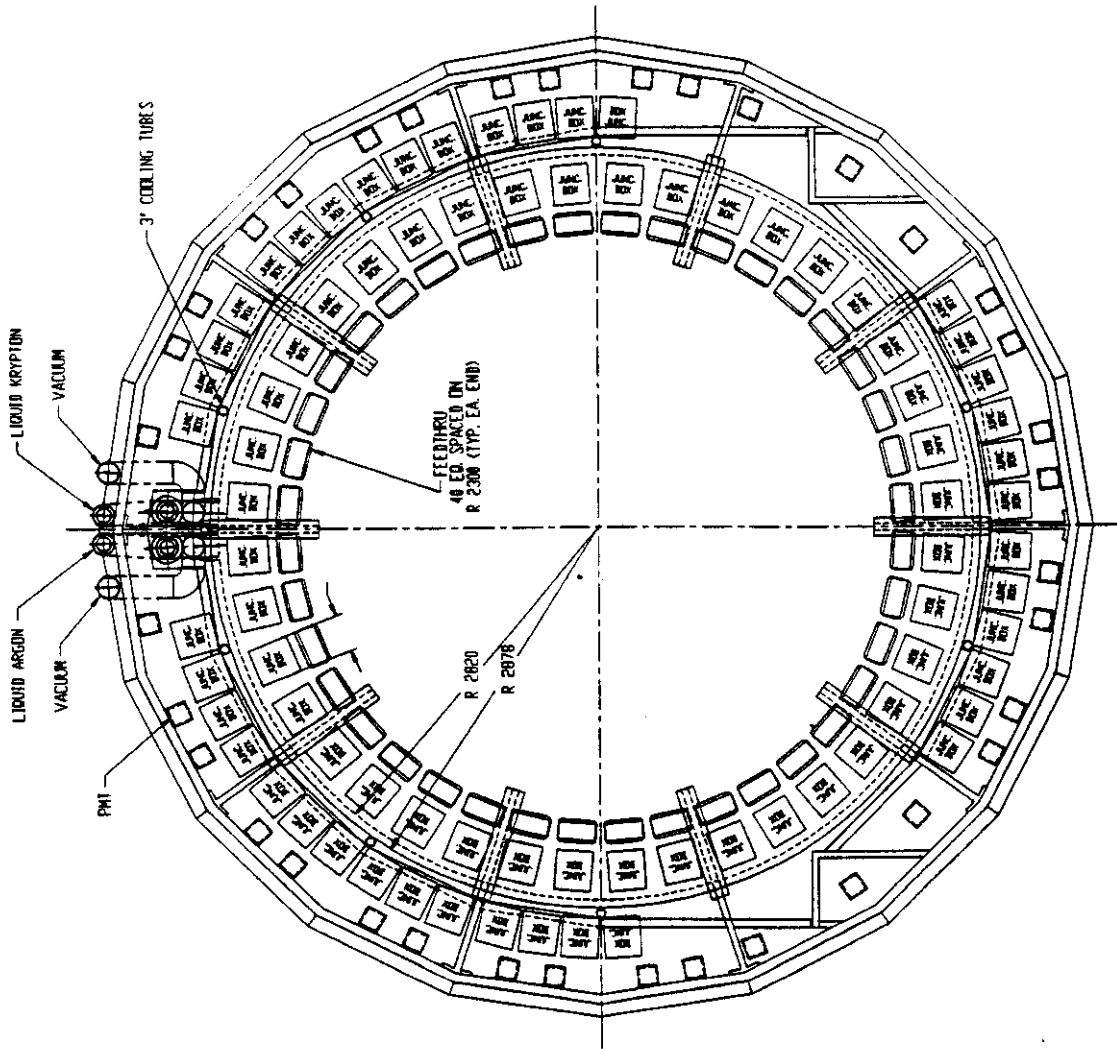
**Physics
Research Division**











SECTION "B" - "B"
TAKEN FROM DWG A684

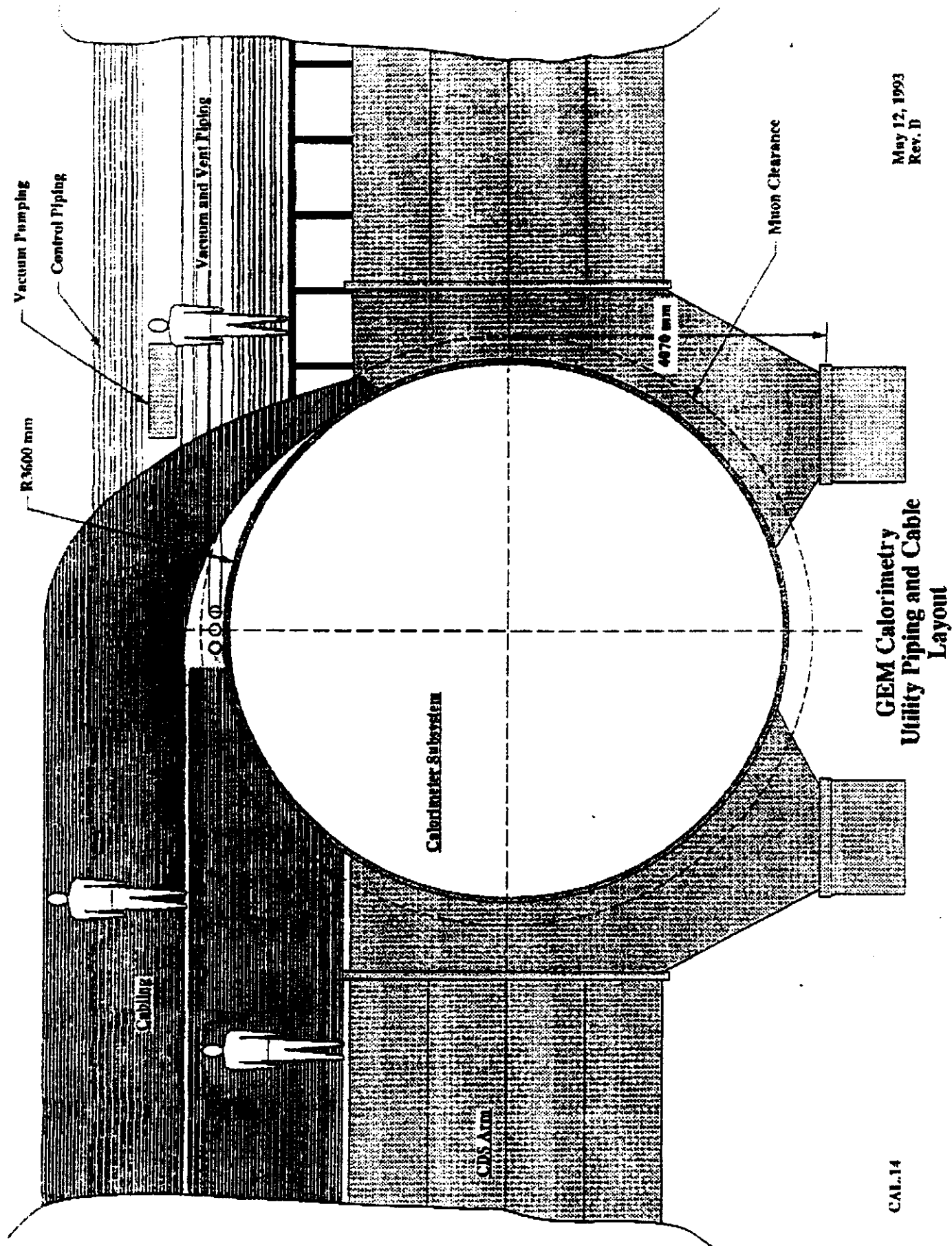
INSTRUCTIONS ARE IN YELLOW TYPE
UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN MILLIMETERS

NO.	REVISION	DATE	BY	CHKD.
1	1	1984.01.10	...	...
2	2	1984.01.10	...	...
3	3	1984.01.10	...	...
4	4	1984.01.10	...	...
5	5	1984.01.10	...	...
6	6	1984.01.10	...	...
7	7	1984.01.10	...	...
8	8	1984.01.10	...	...
9	9	1984.01.10	...	...
10	10	1984.01.10	...	...

NOTE: DIMENSIONS ARE IN MILLIMETERS
UNLESS OTHERWISE SPECIFIED

NO.	REVISION	DATE	BY	CHKD.
1	1	1984.01.10	...	...
2	2	1984.01.10	...	...
3	3	1984.01.10	...	...
4	4	1984.01.10	...	...
5	5	1984.01.10	...	...
6	6	1984.01.10	...	...
7	7	1984.01.10	...	...
8	8	1984.01.10	...	...
9	9	1984.01.10	...	...
10	10	1984.01.10	...	...

PLAT SCALE: 1:10



Thermal Control Lines
(Size and No. TBD)

Cable Bypass

Fill/Vent Lines (6 inch)

Vacuum Pumping

Vacuum Lines (6 inch)

Scintillating Barrel

Access Platform
(Temporary)

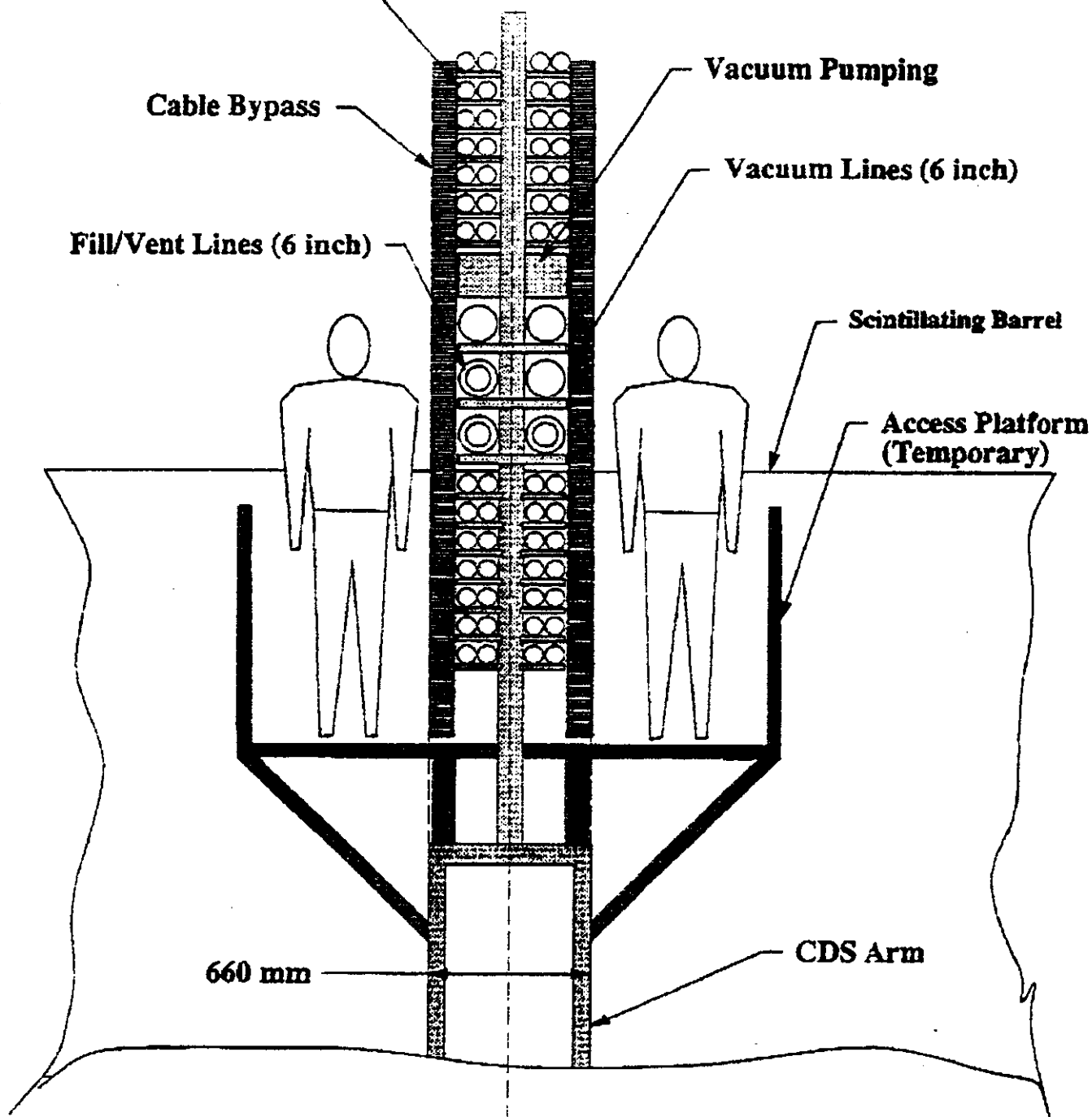
660 mm

CDS Arm

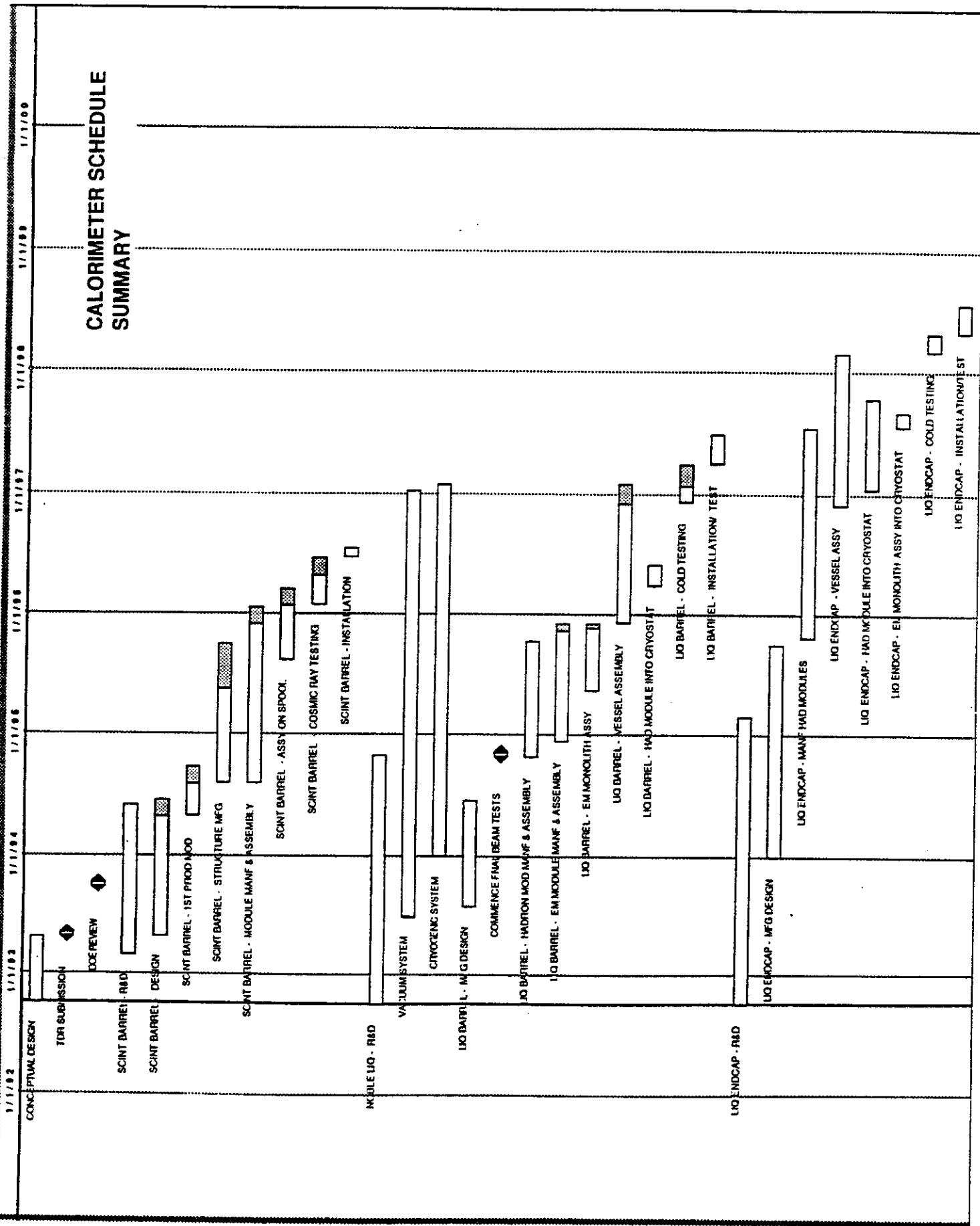
Utility Piping
On CDS Horizontal Arm

CAL.13

May 12, 1993
Rev C



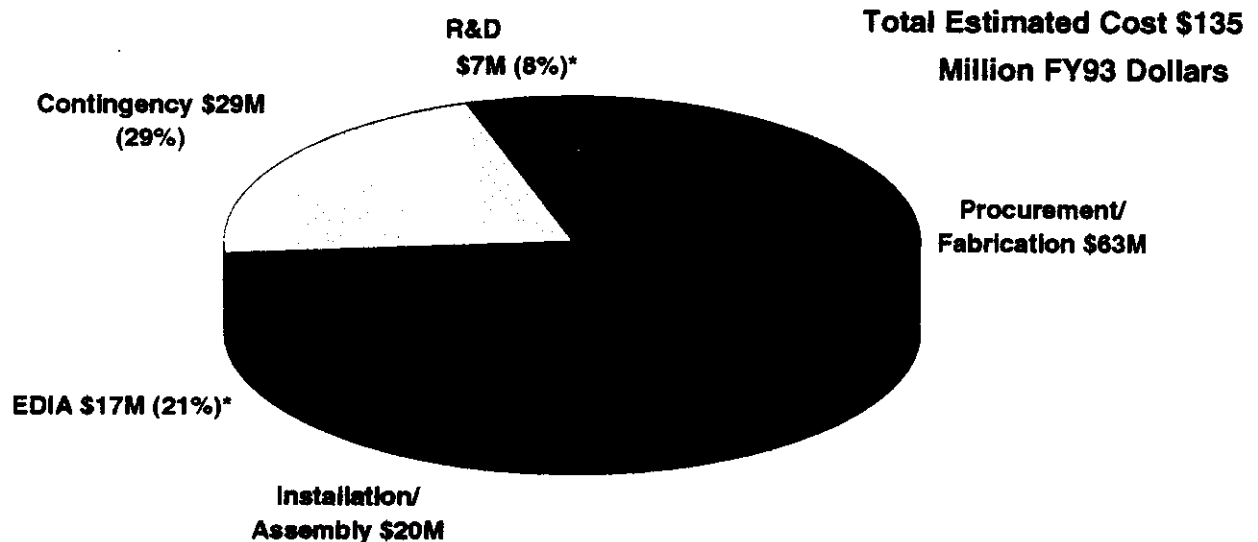
CALORIMETER SCHEDULE SUMMARY



GEM Calorimeter Total Cost Summary

W.B.S. #	DESCRIPTION	LABOR (\$k)	MATERIAL (\$k)	SUBTOTAL (\$k)	CONTING. (\$k)	TOTAL (\$k)
20.01	R&D	2,092	4,634	6,726	1,883	8,609
20.02	Inner Barrel	5,890	13,586	19,476	5,412	24,888
20.03	Scintil. Barrel	5,159	8,731	13,890	4,128	18,018
20.04	Endcap	11,961	15,447	27,408	7,642	35,050
20.05	Forward Hadronic	1,266	7,310	8,576	2,466	11,042
20.06	Passive Absorber	1,331	779	2,110	752	2,862
20.07	Vacuum	583	76	659	224	883
20.08	Cryogenics	499	11,954	12,453	2,565	15,018
20.09	Controls	52	215	267	73	340
20.10	Final Assy	511	509	1,020	429	1,449
20.11	Hall Installation	2,092	1,532	3,624	1,383	5,007
20.12	Test Beam	701	3,618	4,319	1,143	5,462
20.13	Subsys Mgmt	3,975	62	4,037	565	4,602
20.14	Concept./Prelim	1,864	117	1,981	205	2,186
	Total	37,976	68,570	106,546	28,870	135,416

GEM Calorimeter - Total Costs



* % of Subtotal (Procurement and Labor)