

Author(s): Mats Möller

Refno: PS/ML/Technical note/87-36

Subject: Beam dimensions in the kicker and pick-up tanks of the AC ring.

1. SCOPE

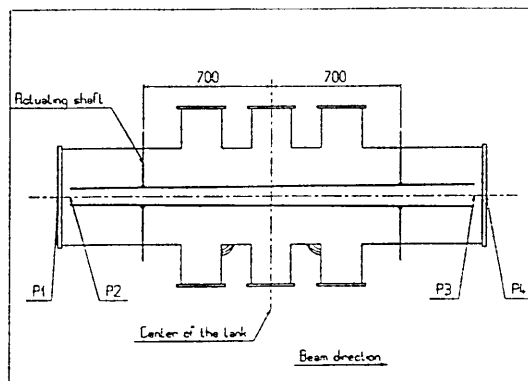
This note presents the vertical cross-sections of the kicker and pick-up tanks with beams and ferrite dampers. This work has been done in order to verify that there is a free path at all places where there are equipment close to the beams.

2. COORDINATES

The coordinates of the entrance (P1) and of the exit (P4) for each tank are given in Table 1. This table also gives the start point (P2) and the end point (P3) of the ferrite dampers.

The following coordinate system is used:

The origin is located in the center of magnet QDN01. The positive X-axis is pointing towards the center of the ring and the positive Y-axis towards the center of magnet QFN02.



NAME	LENGTH (m)	COORDINATE AT P1		COORDINATE AT P2		COORDINATE AT P3		COORDINATE AT P4	
		X(m)	Y(m)	X(m)	Y(m)	X(m)	Y(m)	X(m)	Y(m)
KVM01	2.30000	0.00000	0.50000	0.00000	0.56500	0.00000	2.73500	0.00000	2.80000
KHM02	2.30000	0.00000	3.80000	0.00000	3.86500	0.00000	6.03500	0.00000	6.10000
KHM03	2.20000	0.00000	7.10000	0.00000	7.16500	0.00000	9.23500	0.00000	9.30000
KVM04	2.20000	0.01500	10.29985	0.01695	10.36482	0.07904	12.43389	0.08099	12.49886
KHM14	2.20000	20.87552	30.17557	20.94052	30.17557	23.01052	30.17557	23.07552	30.17557
KVM15	2.20000	24.07552	30.17557	24.14052	30.17557	26.21052	30.17557	26.27552	30.17557
UVM29	2.30000	47.15104	-0.50000	47.15104	-0.56500	47.15104	-2.73500	47.15104	-2.80000
UHM30	2.30000	47.15104	-3.80000	47.15104	-3.86500	47.15104	-6.03500	47.15104	-6.10000
UHM31	2.20000	47.15104	-7.10000	47.15104	-7.16500	47.15104	-9.23500	47.15104	-9.30000
UVM32	2.20000	47.13604	-10.29985	47.13409	-10.36482	47.07200	-12.43389	47.07005	-12.49886
UHM42	2.20000	26.27552	-30.17557	26.21052	-30.17557	24.14052	-30.17557	24.07552	-30.17557
UVM43	2.20000	23.07552	-30.17557	23.01052	-30.17557	20.94052	-30.17557	20.87552	-30.17557

Table 1 Coordinates

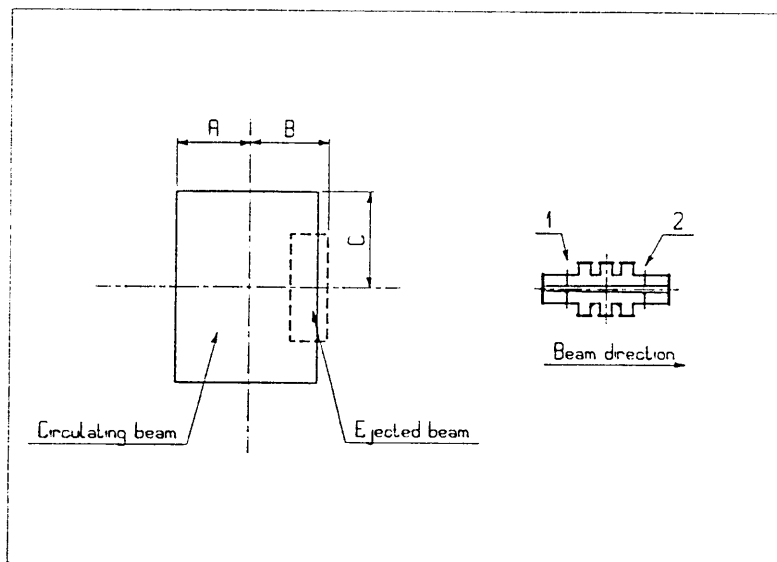
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3. BEAM DIMENSIONS

The three beams (i.e. circulating, injected and ejected) plus all the elements of the AC-ring have been introduced into the CAD-system. Cuts have then been made at the start- and end-point of the ferrite damper in each tank.

These cross-sections are shown on the following six pages. They follow the rule: the beam is always pointing into the paper and the center of the ring is on the right side.

The beam dimensions at the actuating shafts (1 and 2) have thereafter been calculated, see Table 2. Note that the beams are symmetrical in vertical direction.

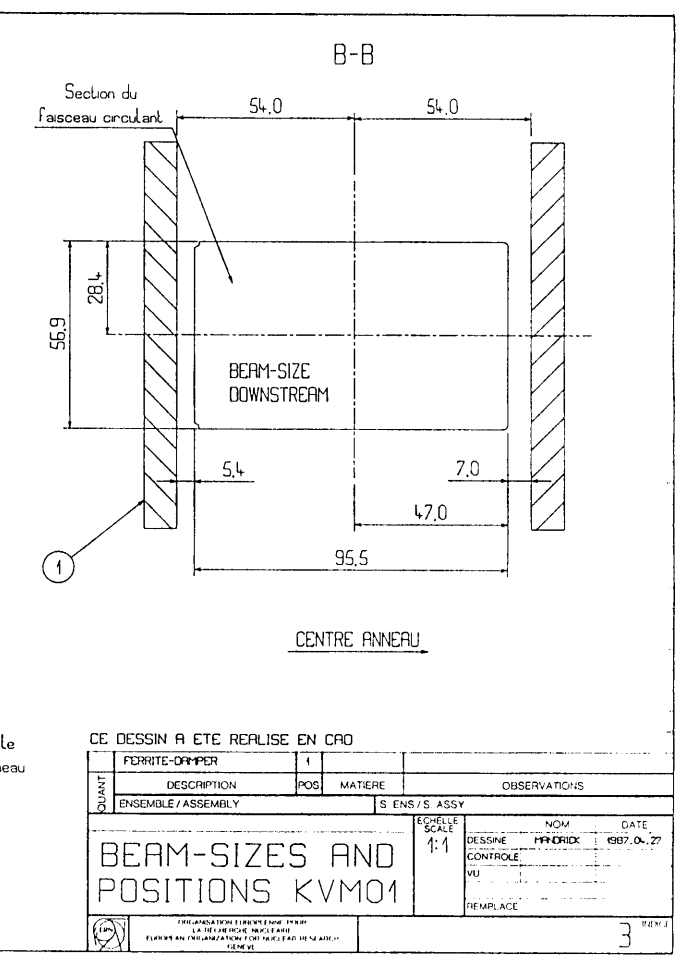
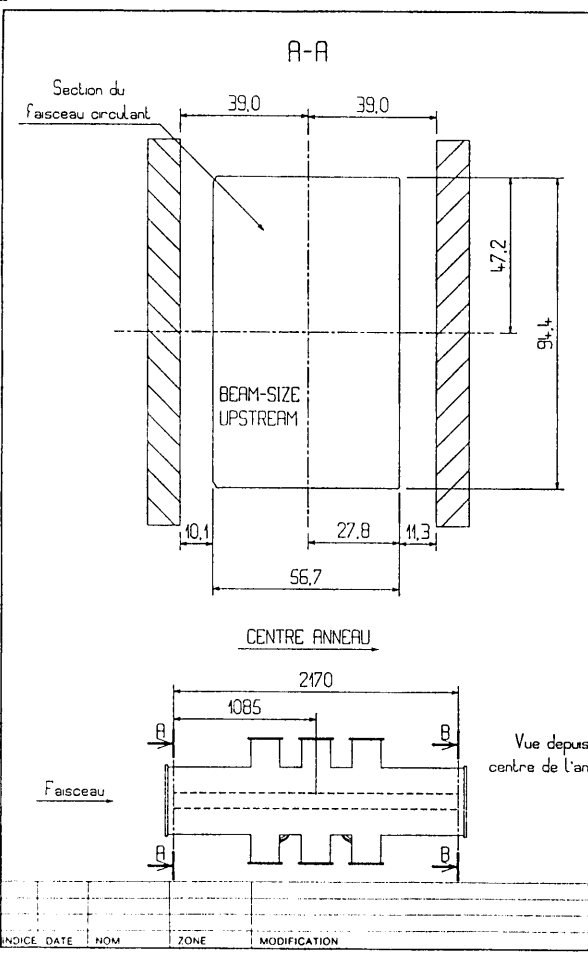


NAME	BEAM DIMENSIONS AT 1			BEAM DIMENSIONS AT 2		
	A (mm)	B (mm)	C (mm)	A (mm)	B (mm)	C (mm)
KVM01	32.38	31.21	43.86	45.02	43.59	31.74
KHM02	44.68	43.69	31.84	32.62	32.01	44.36
KHM03	32.28	32.46	44.84	44.32	44.84	32.06
KVM04	45.92	45.63	31.01	35.98	36.17	41.89
KHM14	44.52	44.58	32.16	32.88	32.82	45.34
KVM15	32.88	32.82	45.34	44.52	44.58	32.16
UVM29	32.38	31.21	43.86	45.02	43.59	31.74
UHM30	44.68	43.69	31.84	32.62	32.01	44.36
UHM31	32.28	32.46	44.84	44.32	44.84	32.06
UVM32	45.92	45.63	31.01	35.98	36.17	41.89
UHM42	44.52	44.84	32.16	32.88	34.16	45.34
UVM43	32.88	33.74	45.34	44.52	44.76	32.16

Table 2 Beam dimensions at the actuating shafts

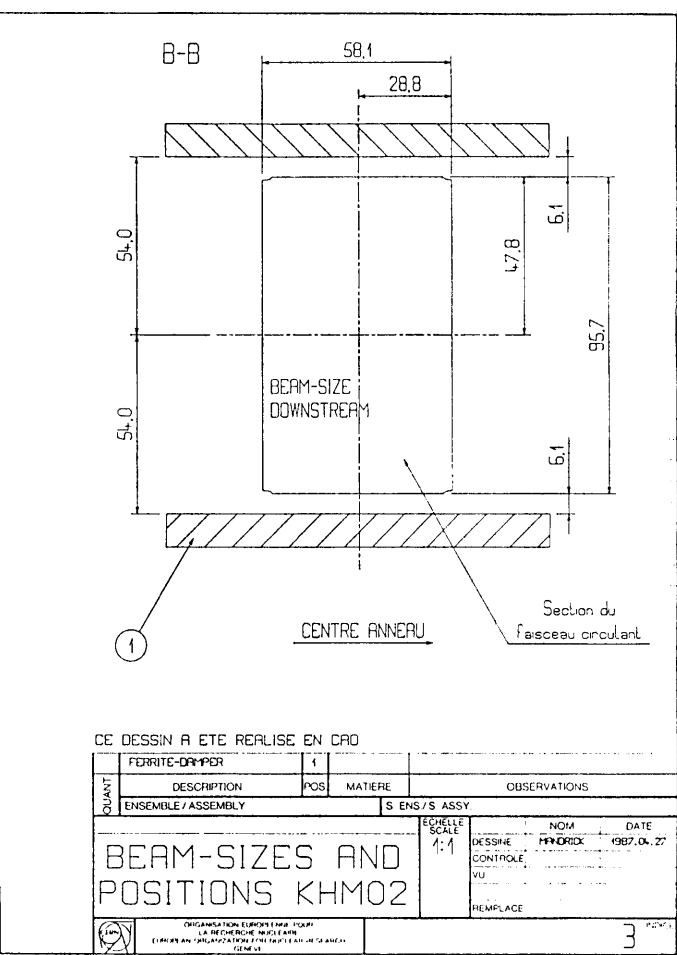
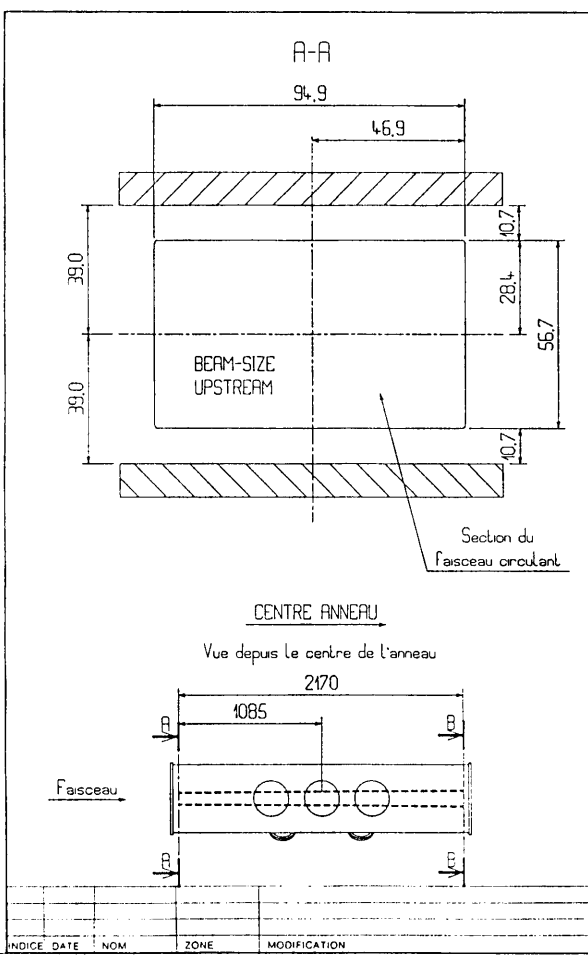
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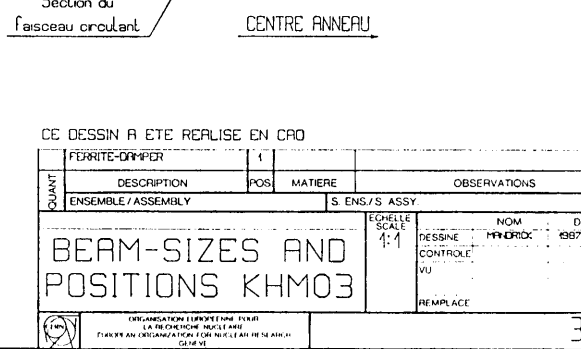
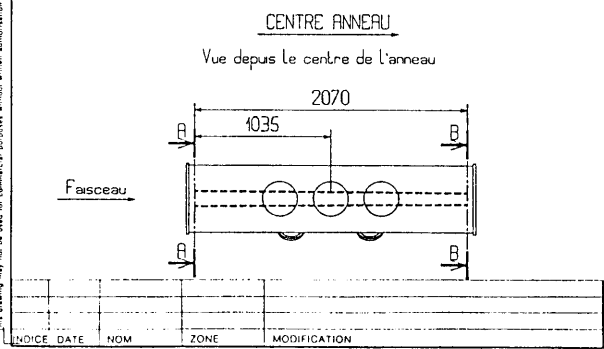
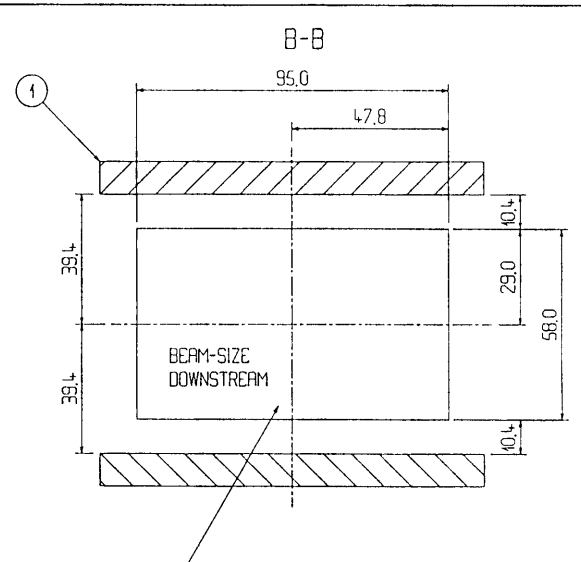
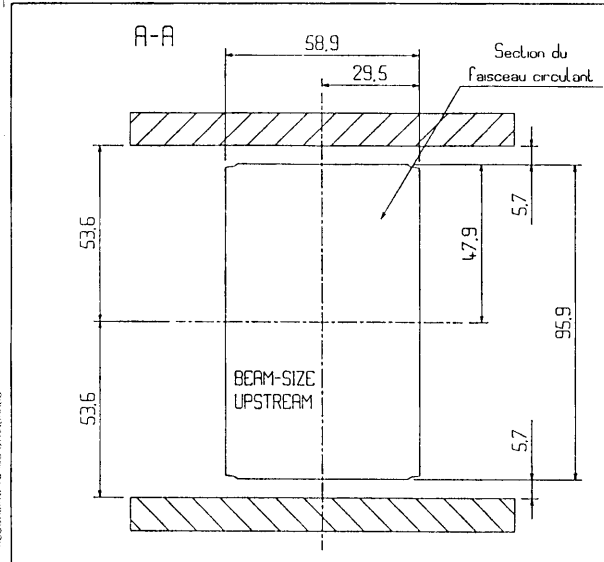
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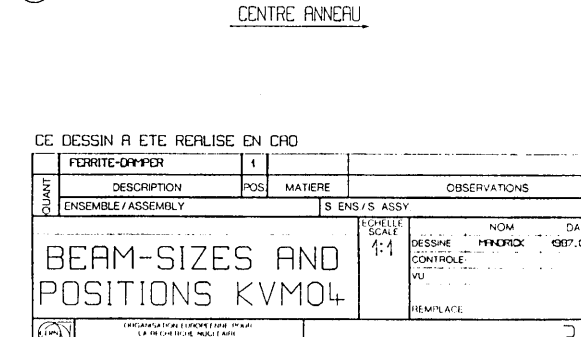
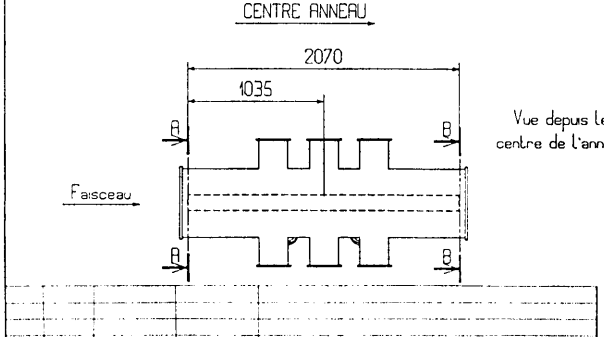
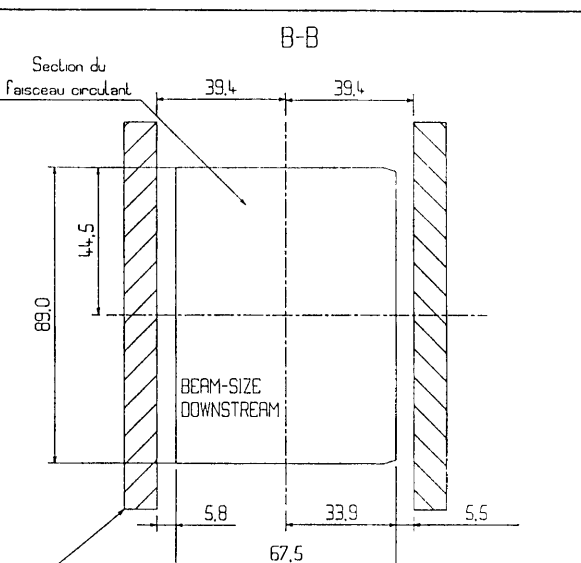
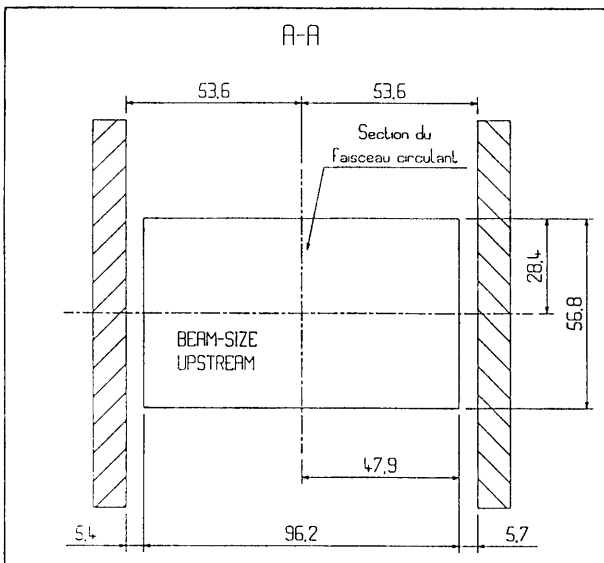
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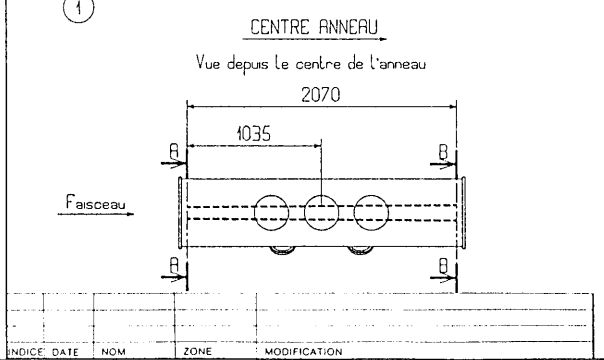
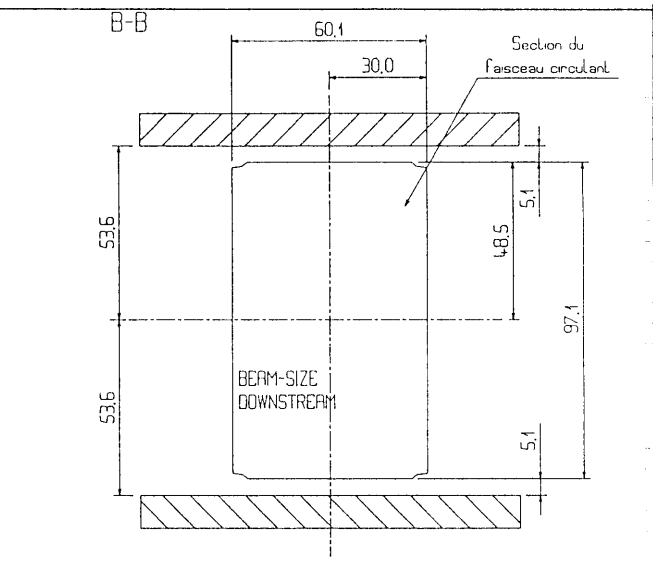
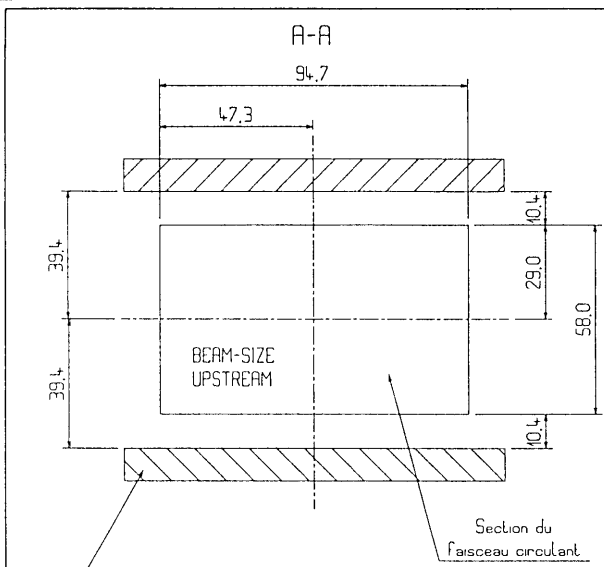
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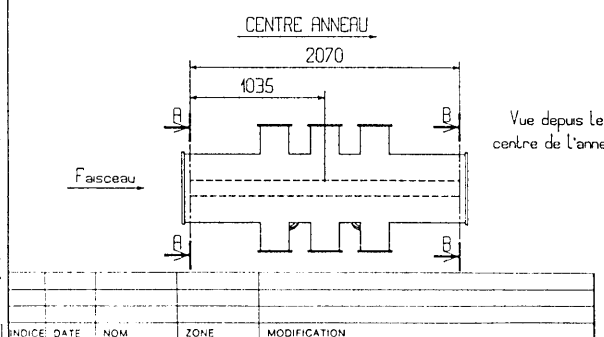
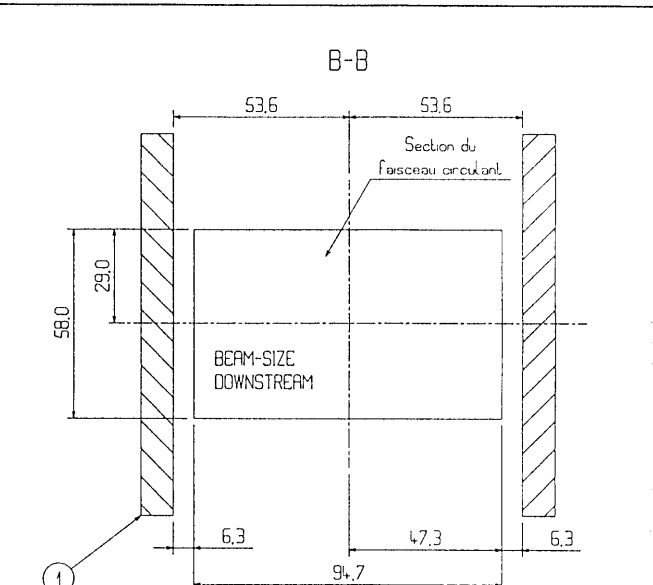
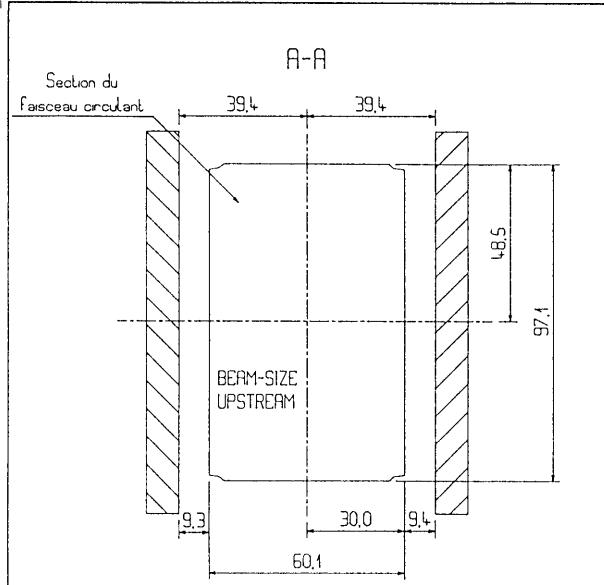
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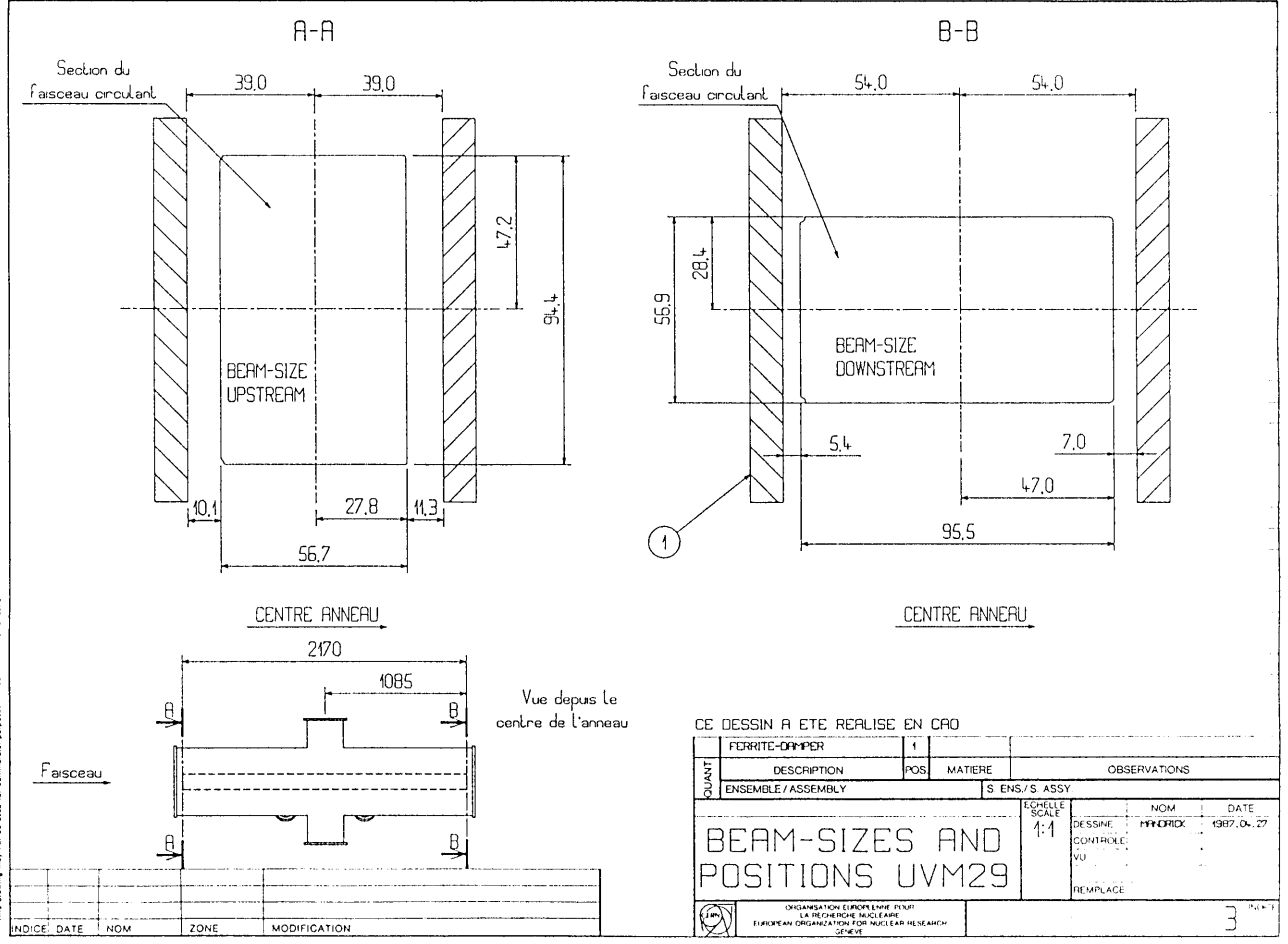
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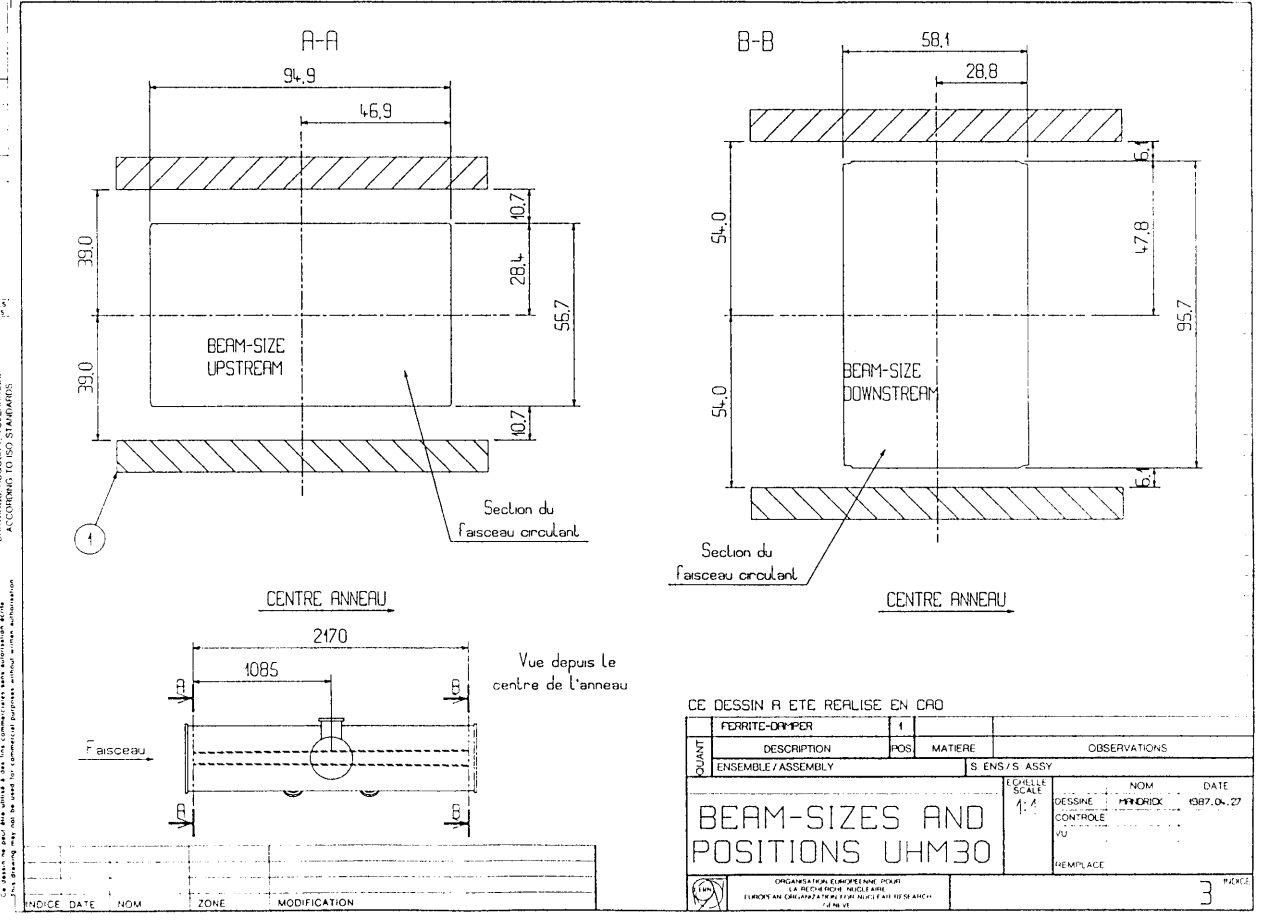


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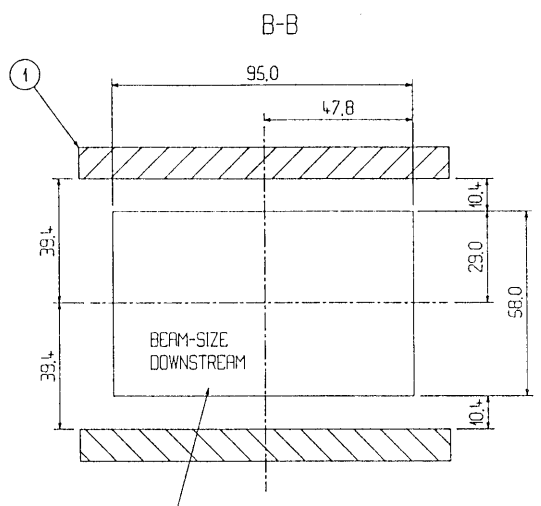
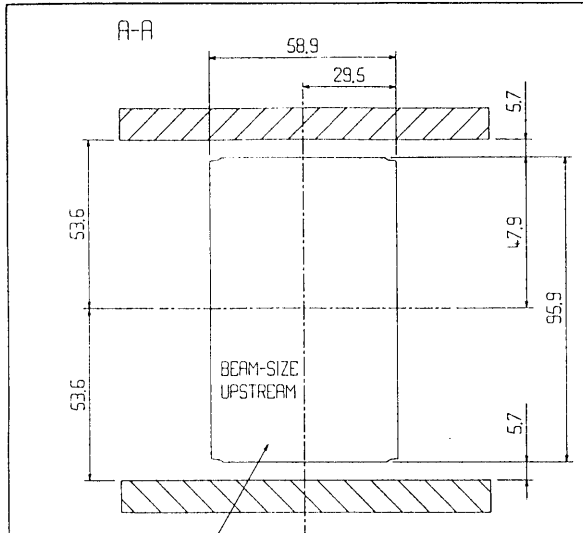
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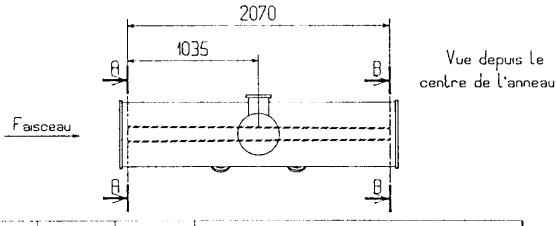
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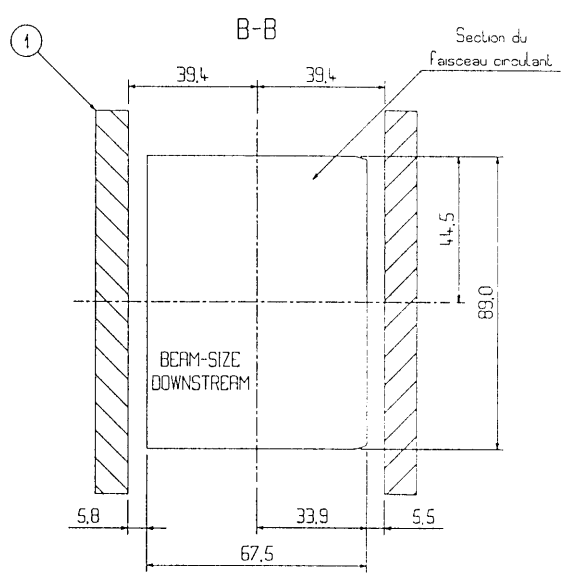
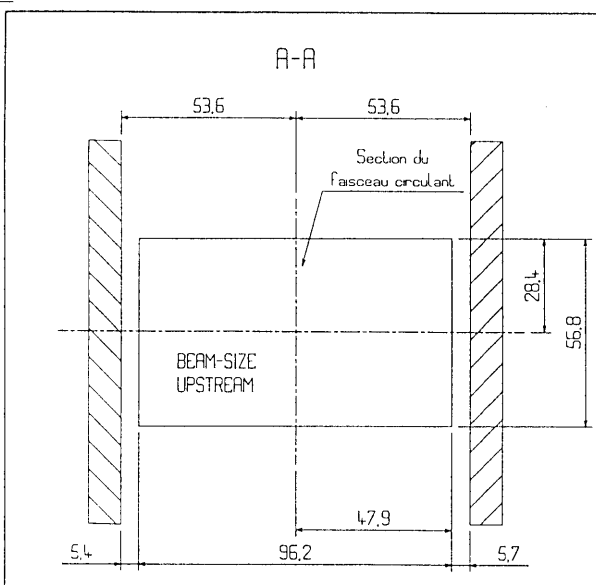
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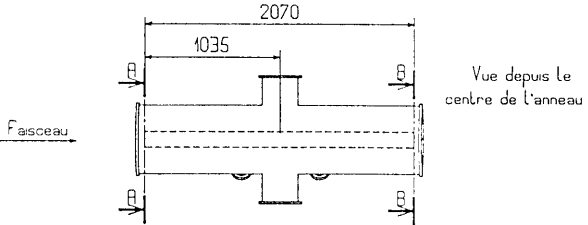
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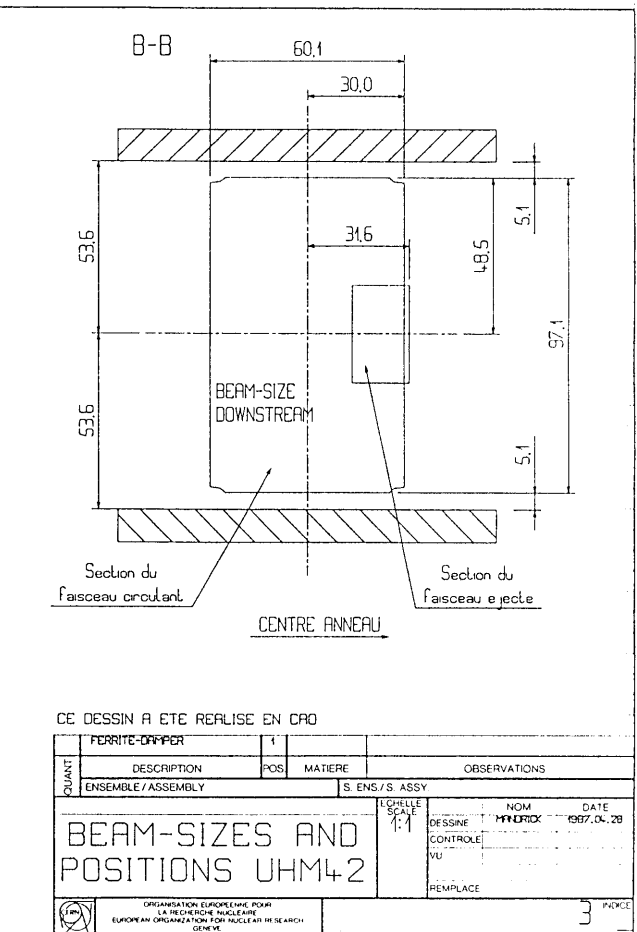
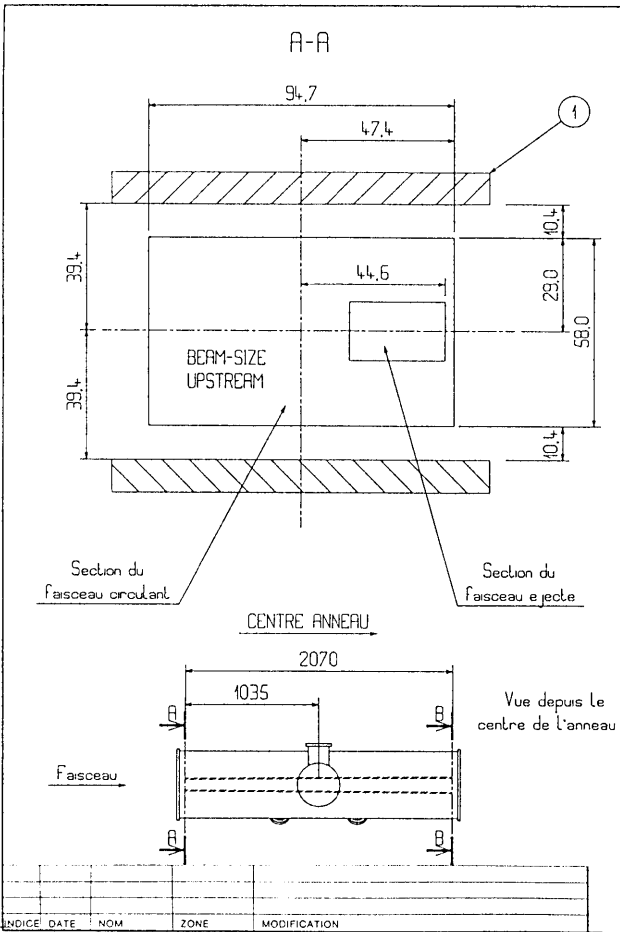
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		CONTROLE / CHECK		
		VU / VIEW		
		REMPLECE / REPLACEMENT		

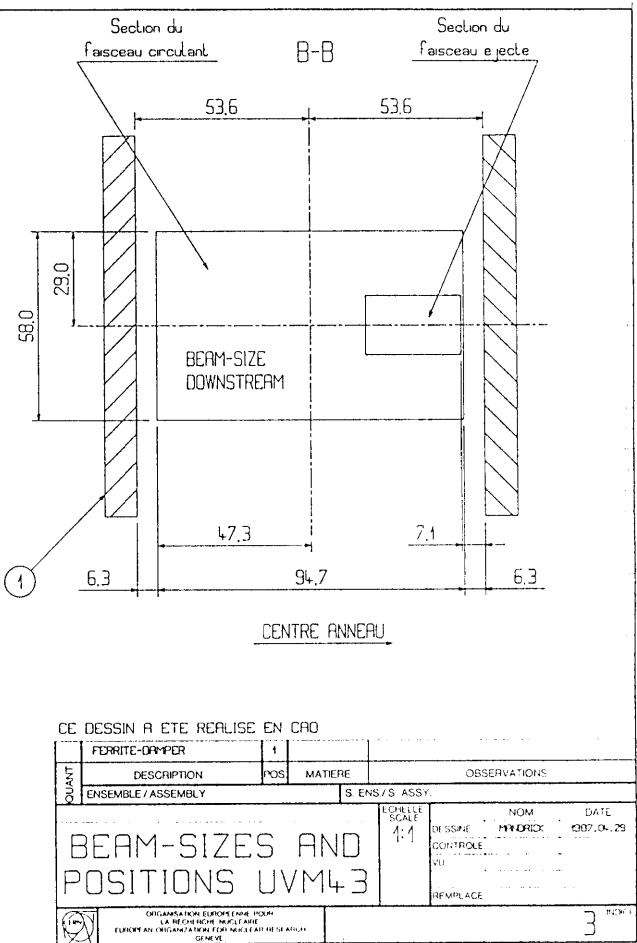
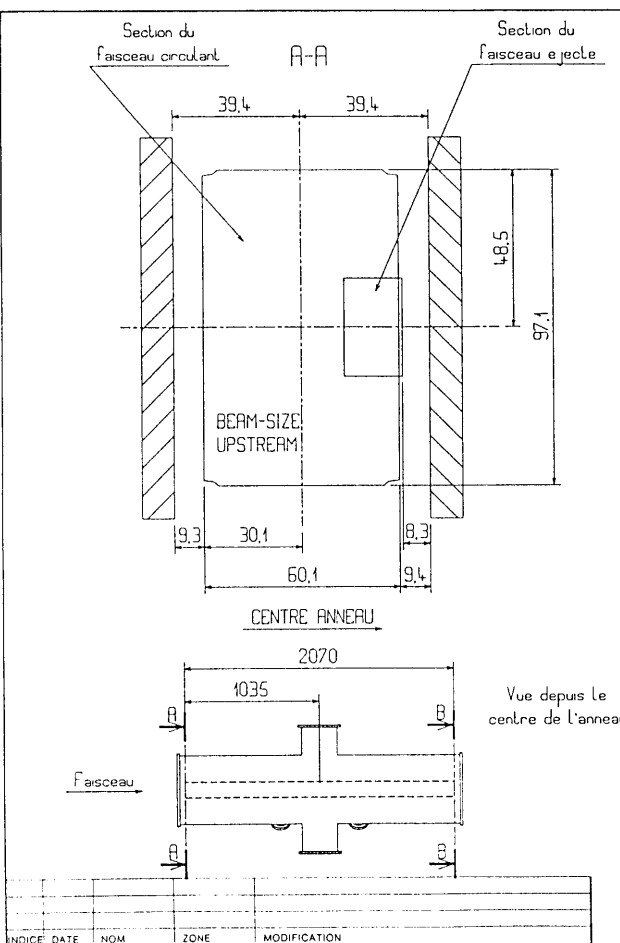
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