

EQUIPMENT FOR SS 12

(3S12-000-3)

A SPECIFICATION

The ss 12 is equipped with one vertical dipole (4C02-200-3) and a horizontal bumper magnet (4C02-800-3). The vacuum chamber (3A65-703-4) is of standard type with both sides standard two-point quick-couplings (P. Riboni, F. Rohner).

1. The requirements for precision and stability of alignment of the elements are :

$$\left\{ \begin{array}{l} \pm 1 \text{ mm radially,} \\ \pm 0,5 \text{ mm vertically,} \\ \pm 1 \text{ mrad in angle perpendicular to the beam.} \end{array} \right.$$

It follows that the precision of the initial installation, because of the rigidity of the supporting structure, is only a fraction of the given values.

2. The vertical dipole is a split magnet which allows the mounting of the dipole in the PS ring individually of the vacuum chamber.

3. The bumper magnet encloses the vacuum chamber. The chamber has therefore to be welded into the element.

4. All elements are sitting on one main support, but each has its individual alignment system.

5. The main support is aligned in height to $\pm 0,2$ mm by means of shims.

The elements are adjusted in the laboratory to the required height. The angular and radial movements are done in the ring.

6. At first, the bumper magnet with the enclosed vacuum chamber is built in and aligned. Then the split dipole is mounted in situ and aligned. The two elements have their electric and water connections towards the inside of the ring (F. Rohner).

B ALIGNMENT AND ASSEMBLY PROCEDURE

a) Work in the laboratory and workshop

1. Assembly of the dipole and the bumper magnet on their individual support mechanisms.

Alignment in horizontal plane with shims : $\pm 0,2$ mm.

2. Welding in the vacuum chamber into the bumper magnet.

3. Vacuumtest of assembly.

b) Work in the PS ring

1. Installation and alignment of the main support by means of shims. The reference-faces are the two rails on top of the bedplate.

Alignment in horizontal plane : $\pm 0,2$ mm with spirit levels and for the absolute height the surveyors.

Radial positioning : ± 2 mm with the jig (3T04-800-S4).

Drawing : 4C02-600-3.

2. Mounting of the welded in unit on the main support.

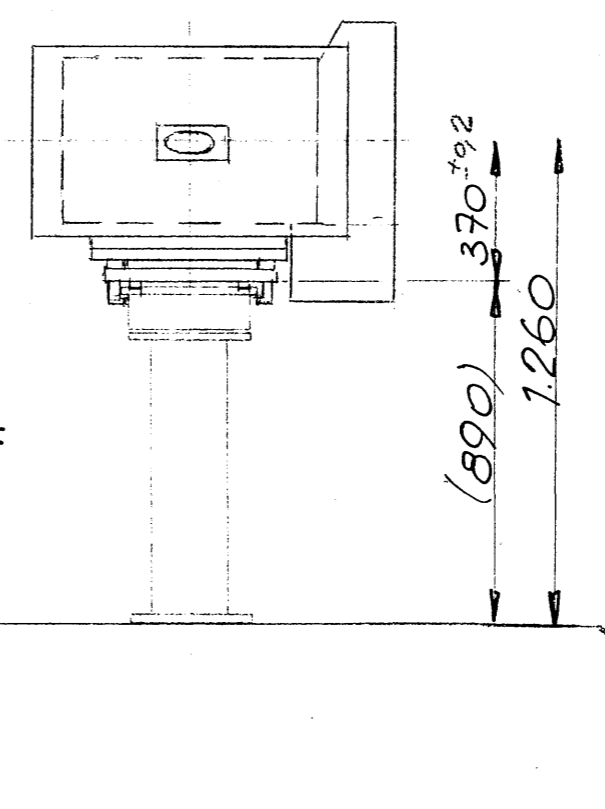
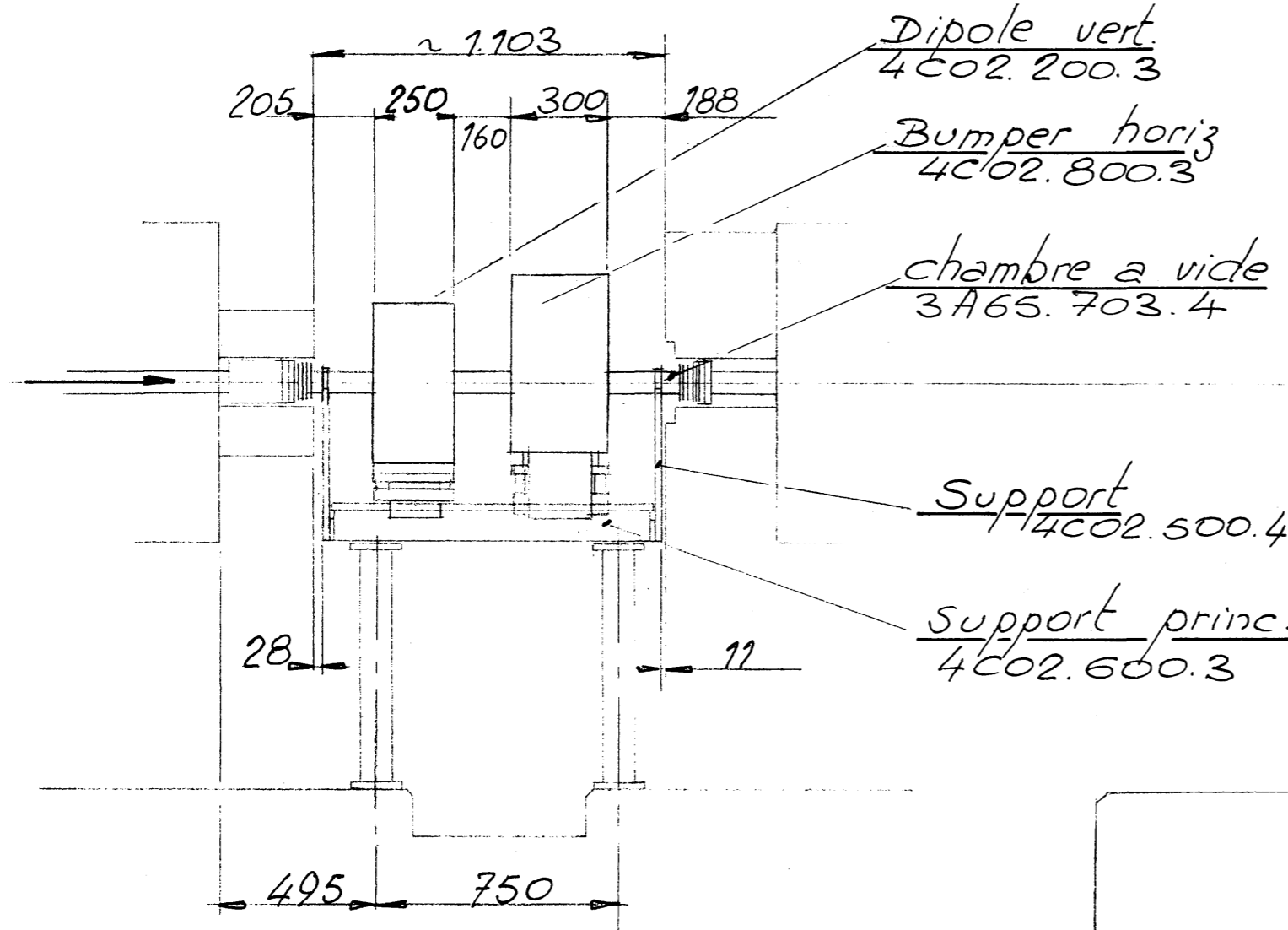
3. Mounting of dipole.

4. Alignment of elements in radial sense with jigs (4T-002-2)

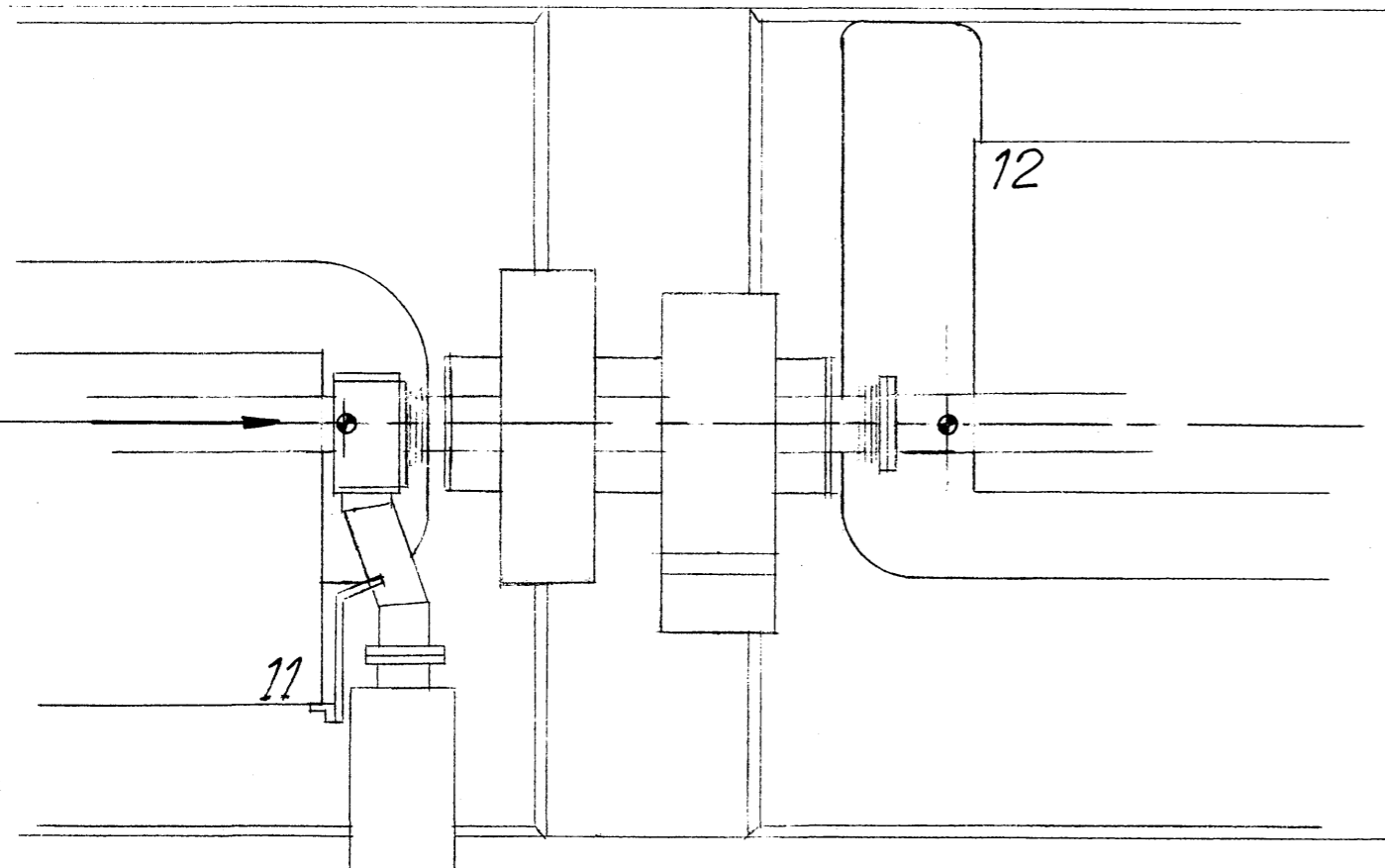
ANNEX : 3S12-000-3.

Distribution

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Gabarit d'alignement: pour dipole vert. 4T.003.2



NOMBRE DE PIÈCES	DÉSIGNATION	POS.	MATIÈRE	OBSERVATIONS	
		section droite. 12			ECHELLE
	Dipole vertical Bumper horizontal				CONTROLÉ 1.72 B. Szele
				1/20	VU
					REMPLECE
					REMPLECE PAR
					RÉDUCTION

CERN ORGANISATION EUROPÉENNE POUR LA RECHERCHE NUCLÉAIRE - GENÈVE **M.P.S. 3S 12.000.3**