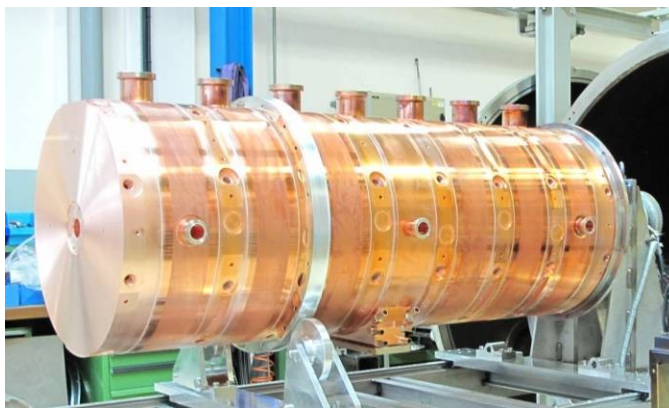


Metrology of the PIMS Prototype



Prepared by D.PUGNAT (PIMS controller)

Measurement conditions

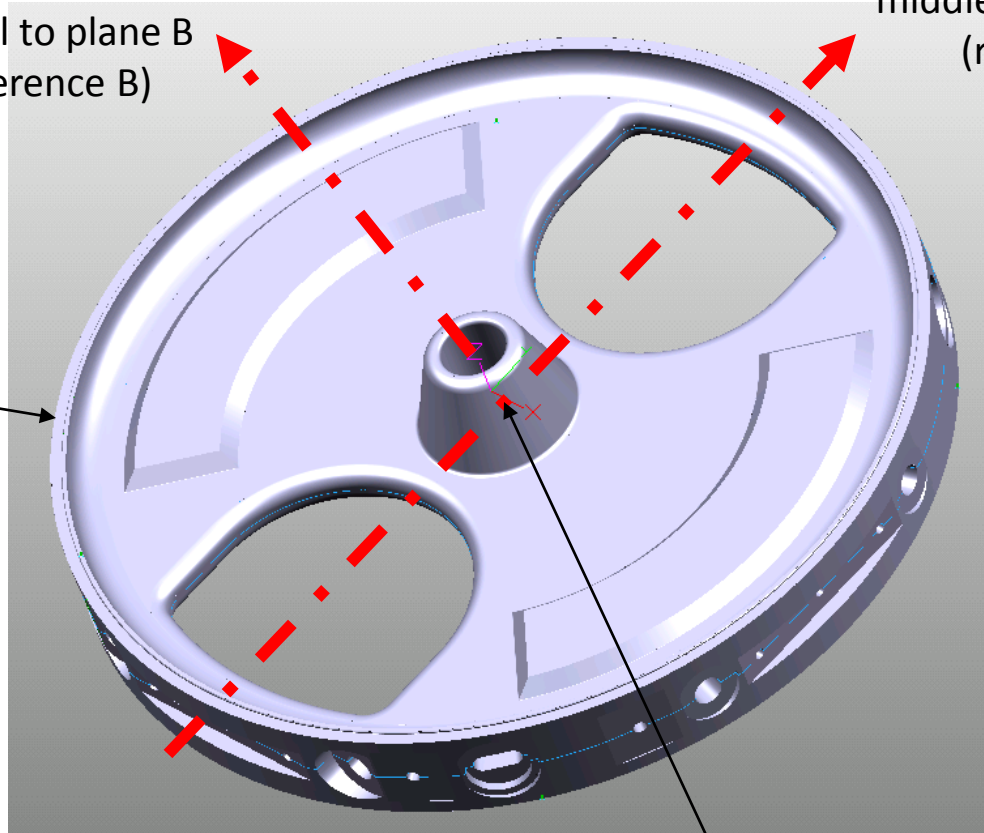
- 3 D measurement equipment OLIVETTI Inspector Maxi 900v
- Head: RENISHAW PH10M
- Sensor TP2 + Stylus $\varnothing 1\text{mm}$
- Measuring force: radial: 7g
axial: 40g
- Room temperature: $20^{\circ}\text{C} \pm 1^{\circ}\text{C}$
- Temperature of pieces during measurement: range from 19.5°C to 20.3°C
- Uncertainty of measurement: $\pm 0.006\text{ mm}$

Reference system for the discs measurement

Primary axis is given by the normal to plane B (reference B)

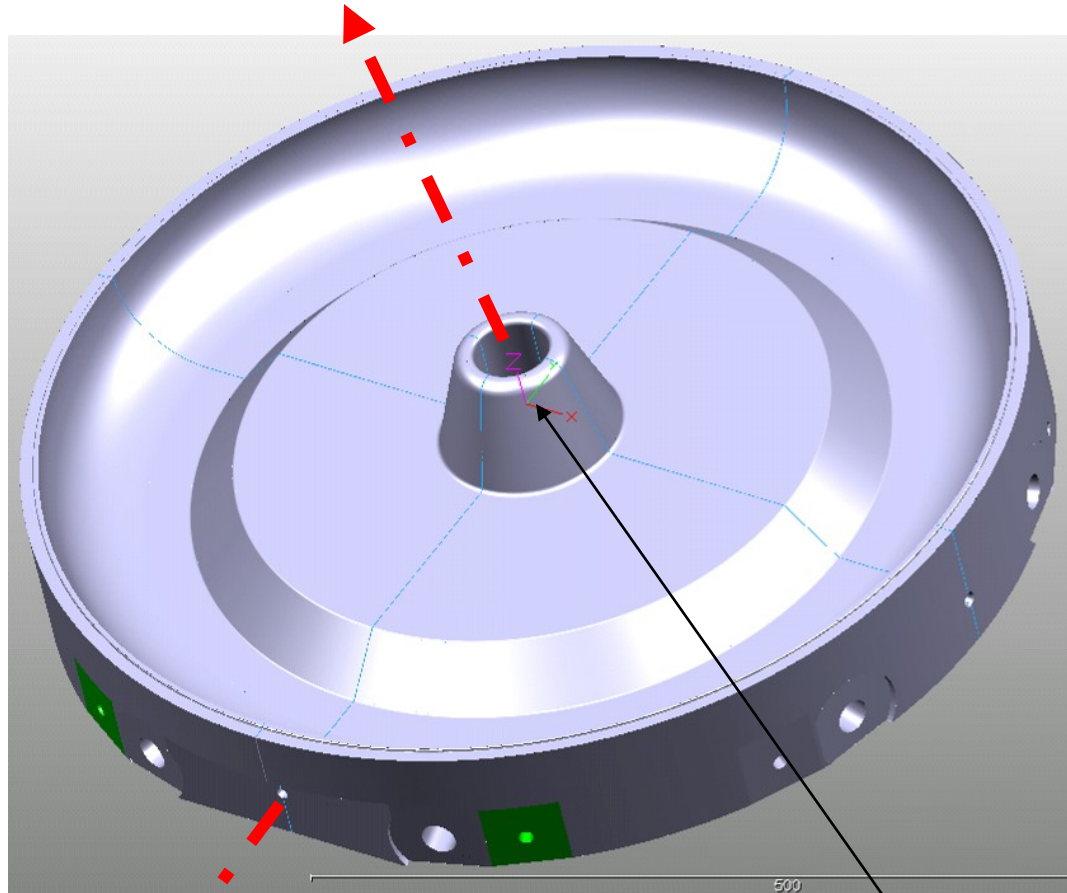
Secondary axis is given by the middle of the 2 shapes (reference E)

Plane B



Origin is the intersection point between the bore axis $\varnothing 40$ (reference A) and the plane B

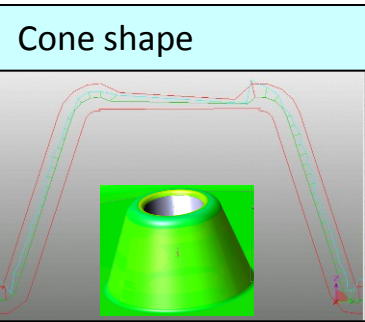
Primary axis is given by the normal to plane B (reference B)



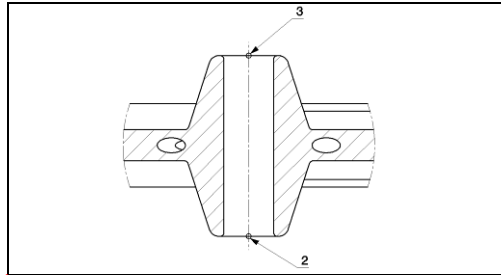
Secondary axis is given by the normal to this plane

Origin is the intersection point between the bore axis $\varnothing 40$ (reference A) and the plane B

Discs measurement - Main points



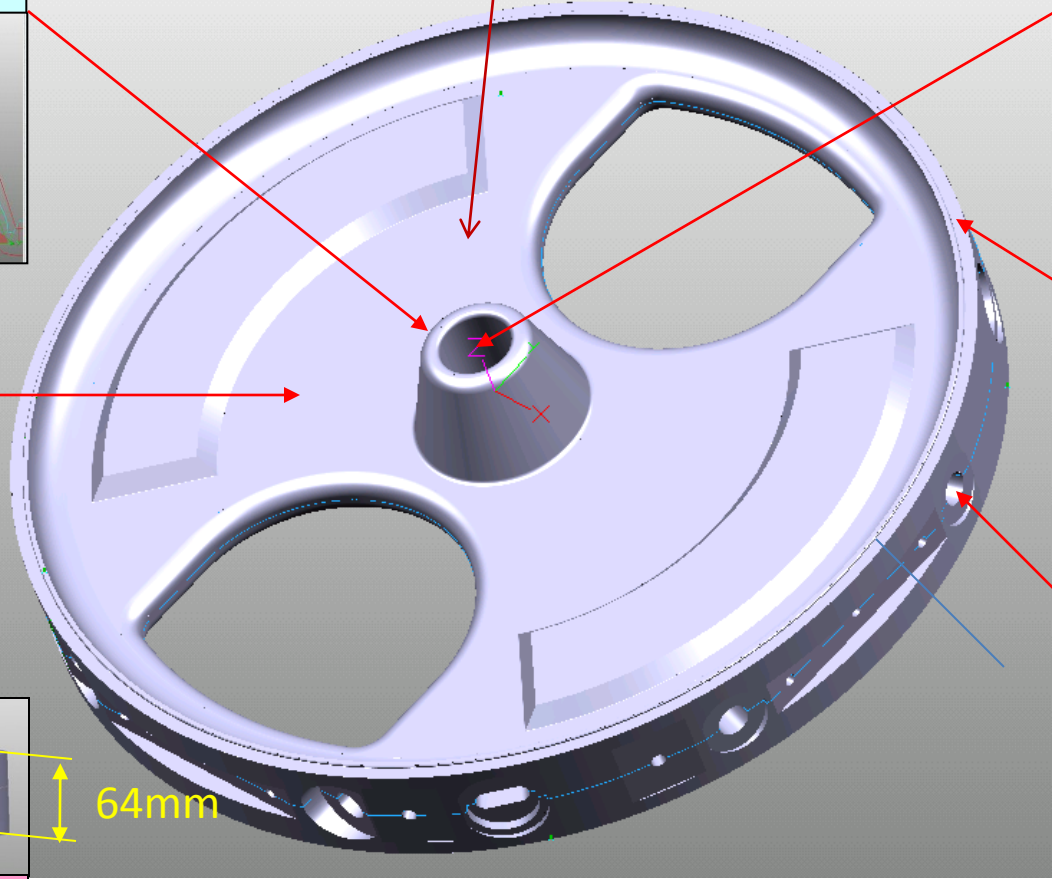
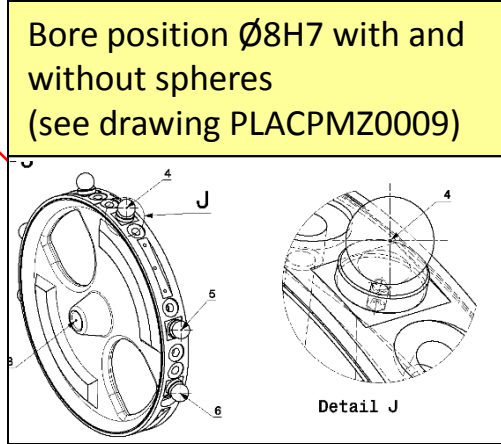
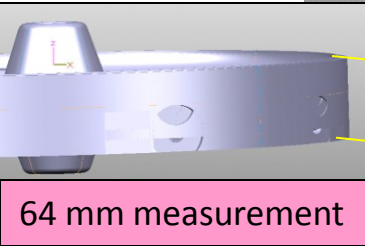
General roughness Ra 0.8



Plane B and C
 \varnothing : 538.72 mm & 524.72 mm

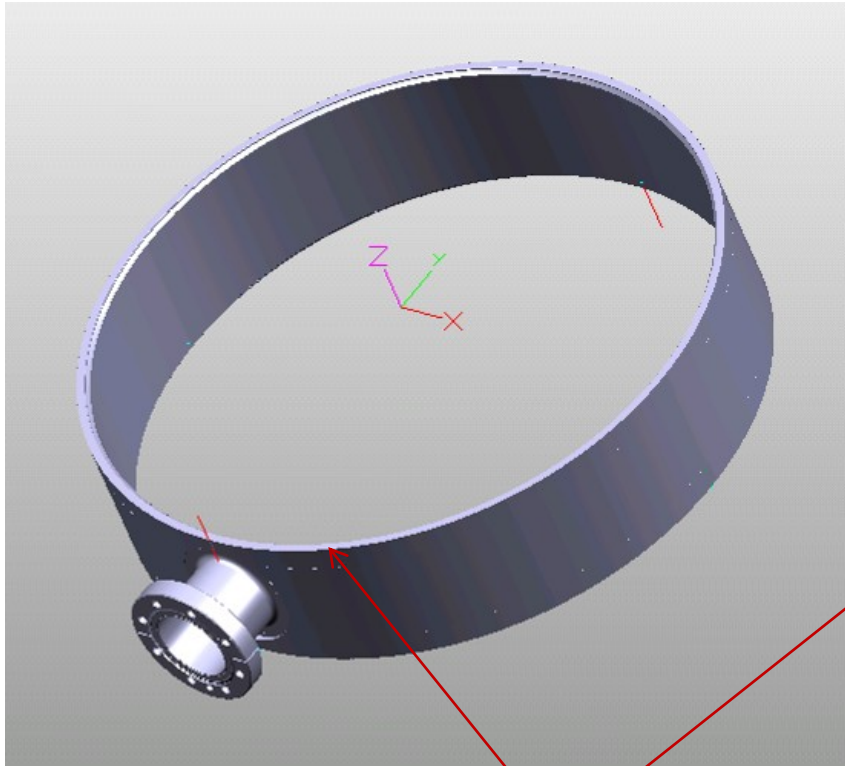
Geometry

Bore position $\varnothing 8H7$ with and without spheres
(see drawing PLACPMZ0009)

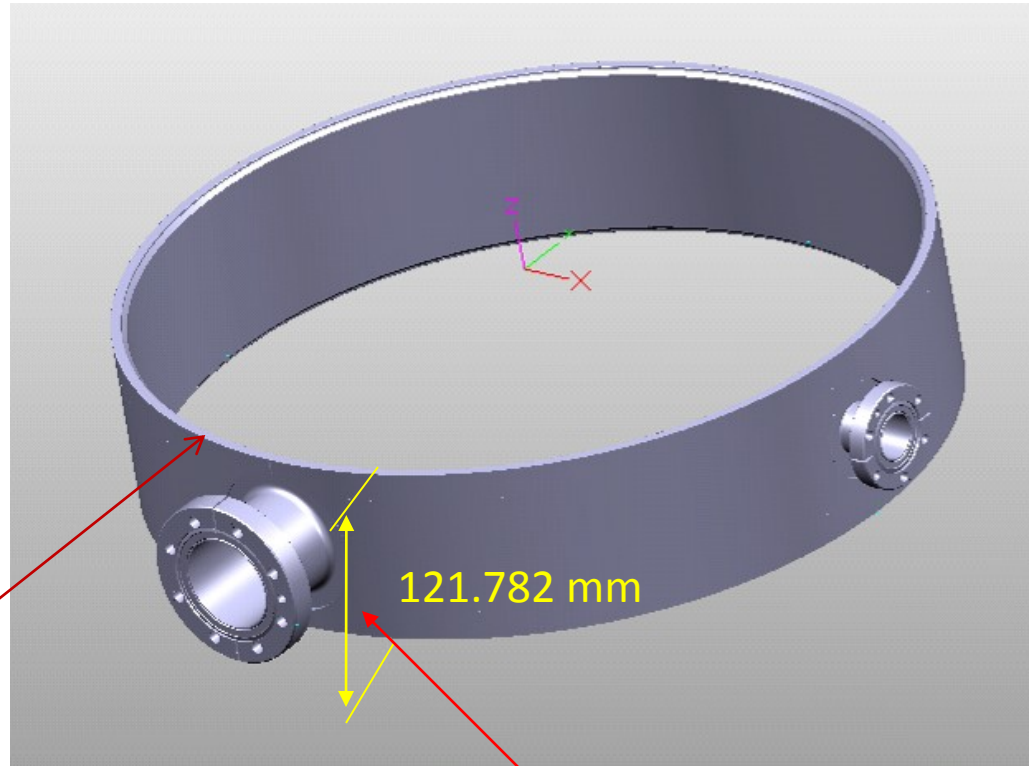


**Pay attention to the piece temperature:
Thermal expansion: 0.010 mm/°C for a 500 mm diameter**

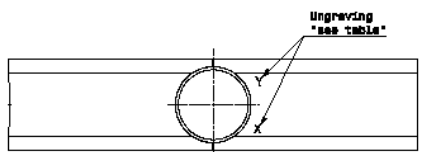
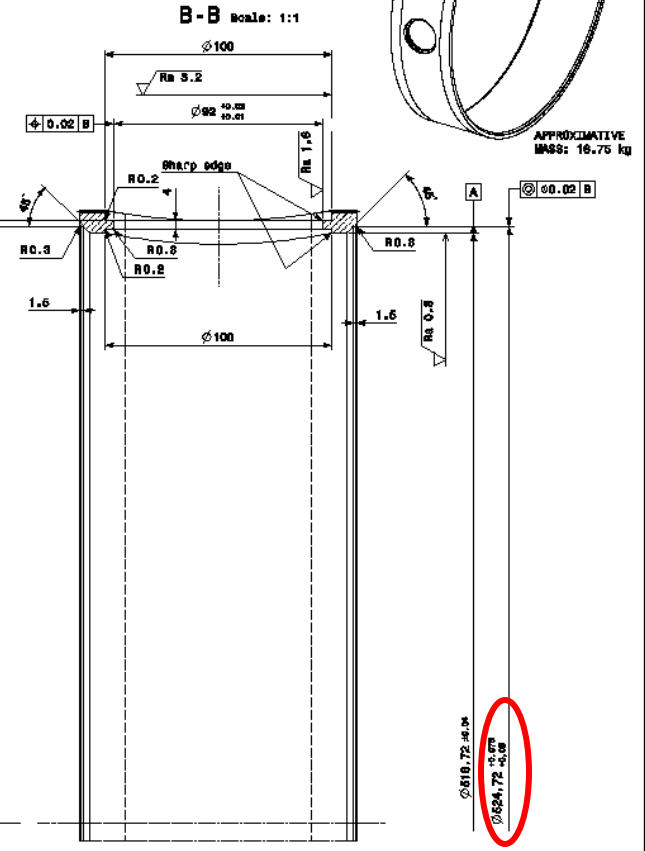
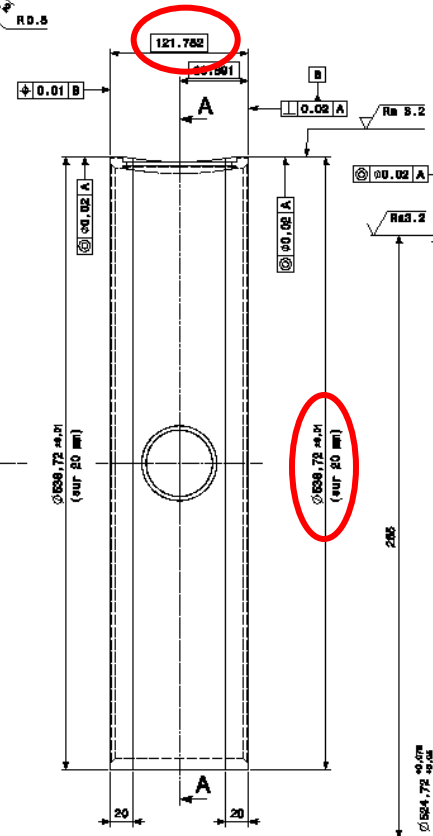
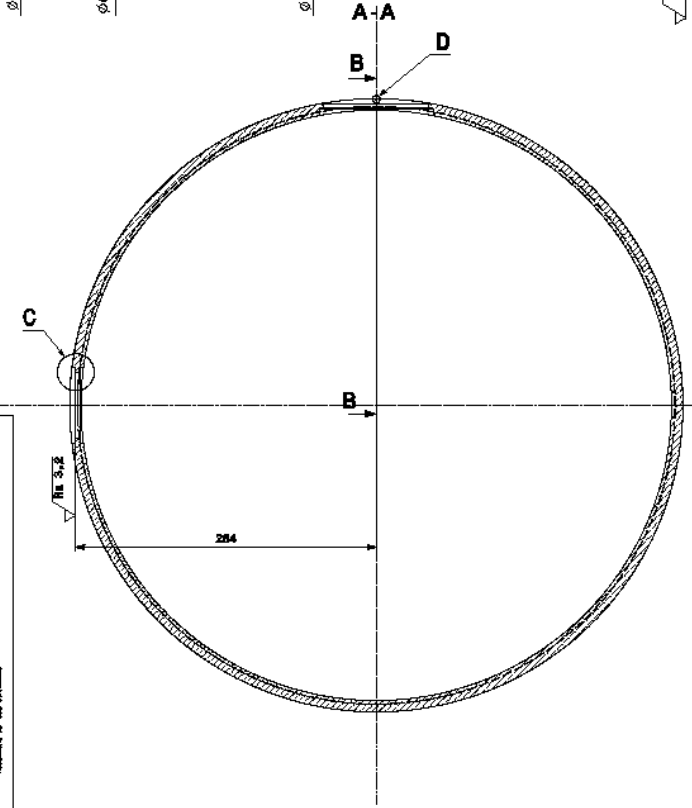
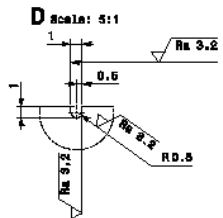
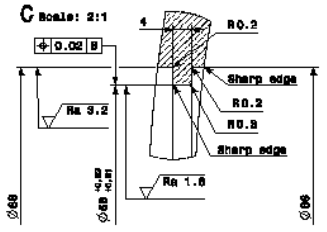
Rings measurement - Main points



Average diameters and coaxiality of 524.72 mm and 538.72 mm diameters



121.782 mm measurement



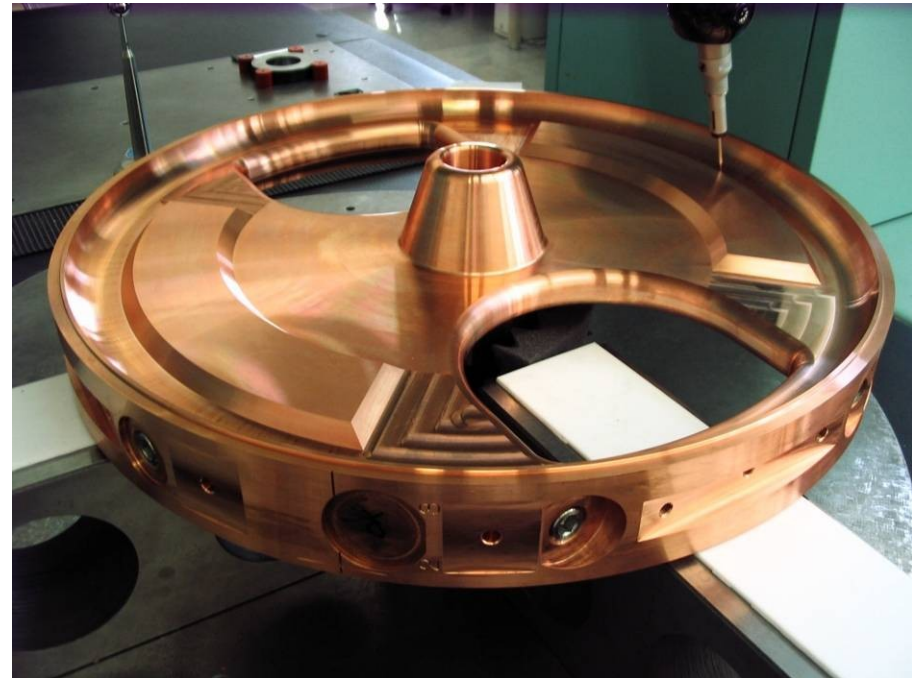
Auxiliary view E
Scale: 1:3

Ungraving table

Piece	X	Y
1	1	2
2	13	14

Method drawing of: SPLACPM0033

1	RELEVÉ ET VUE EN LIGNE (M. 10)	1	OU-RELEVÉ	SPECIFICATION DE M. 10
2	RELEVÉ EN LIGNE (M. 10)	1	CORNER	
3	DESCRIPTION	POU	MAT.	COMPARTEMENTS
4	REF. JAH	SPLACPM0033	REV. 2/0.000	
5	230 2700-001-E	✓	180 15716	180 15716
6	Authorizing Officer, Primary Welding	REV. 2/0.000	1.000	200-10-16
7	WELDING WITHDRAWAL	REV. 2/0.000	1.000	200-10-20
8	RING PICK-UP	REV. 2/0.000	1.000	200-10-21
9	RETRACT DE SOUDAGE	REV. 2/0.000	1.000	200-10-21
10	ARBEAU PICK-UP	REV. 2/0.000	1.000	200-10-21
11	PROJECT ENGINEER INFORMATION	SPLACPM0033	1	



Tuesday, November 16, 2010

PIMS Kick-off meeting

Example of geometry measurement (2 profiles)

End disc type 3

