

ANKA RF Status

ANKA Parameter:

Energy [GeV]:	0.5 – 2.5
Current [A]:	0.2
Emittance [nmrad]:	50
Circumference [m]:	110.4
Structure:	8 x DBA

RF System:

Loss per turn [MeV]:	0.6
Mom.Comp.:	0.01

Cavities:

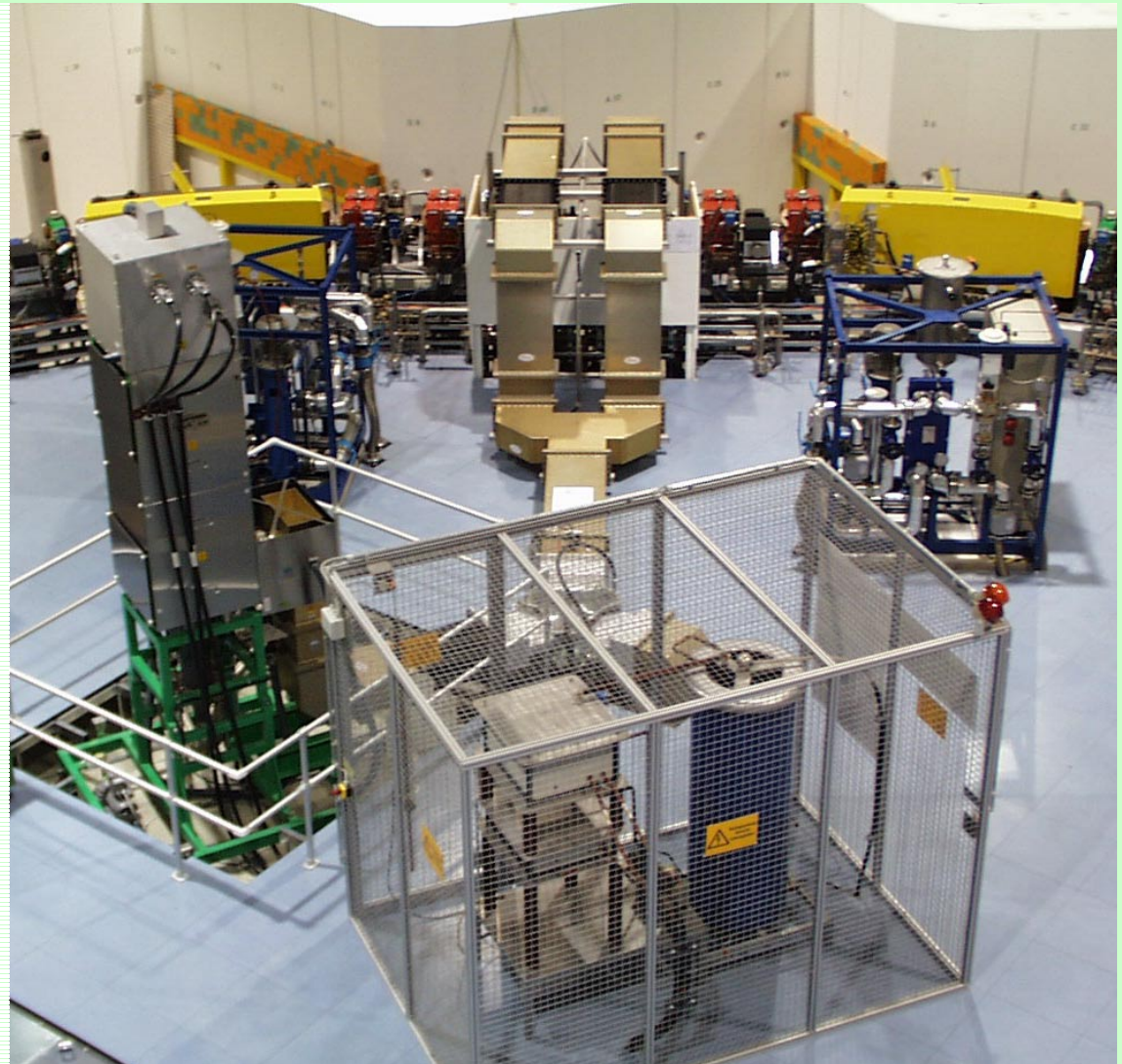
4 ELETTRA cavities:

Shunt Imp. [$M\Omega$]	3.5
U cav. [MV]	0.6

Klystrons:

2 EEV klystrons:

Power [kW]	250
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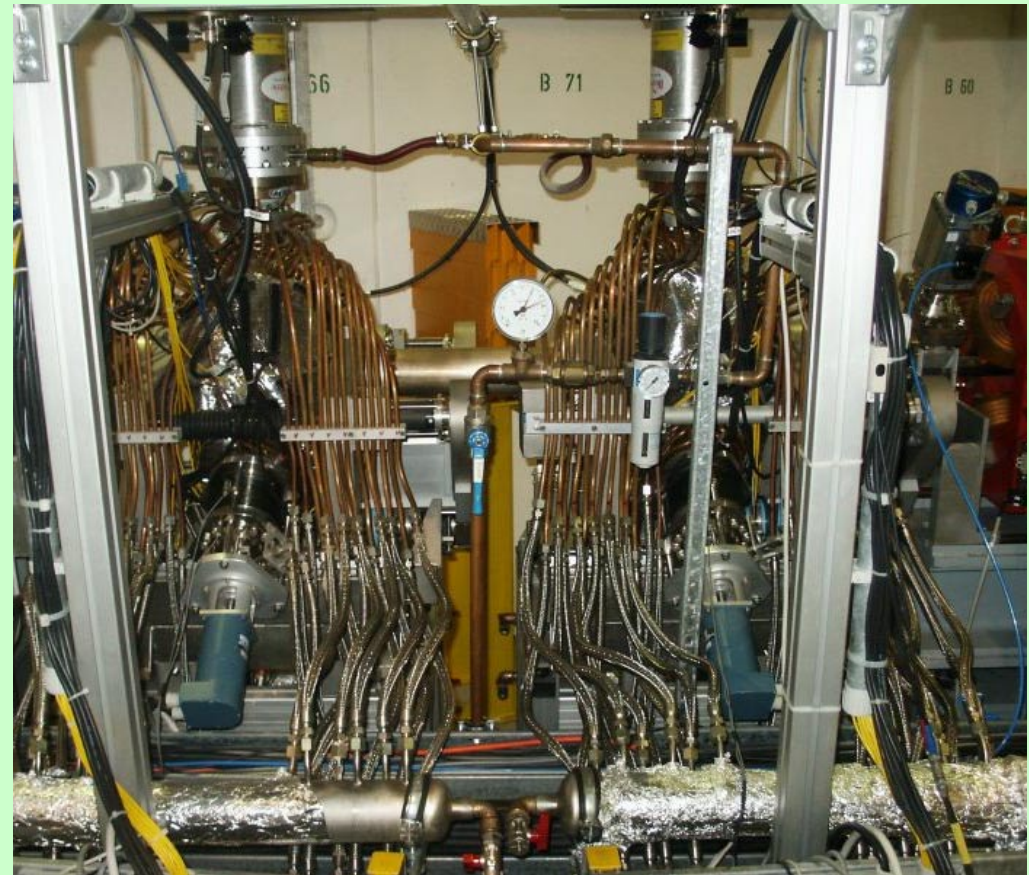


Cavity Cooling

Some rubber tubes leaked
All rubber tubes replaced by
Stainless steel tubes

Witzenmann	7 k€,
Swagelok	41 k€,
Eichert (rubber)	6 k€

Sealing of all cooling pumps
had to be replaced



Arc Detectors

Some vertical Instabilities after ramping

Higher electron loss rate (beam not lost)

Higher radiation →

Arc detection triggered → RF off

→ Total beam loss

Fiber optics disconnected from wave guide

Arc detectors still triggered

Do lead shielded fibers help (Thickness?)?

Arc detectors not connected since one year!

End of RF Trips!

Similar Experiences at ASP:

Losses from injection → arc detection triggered

Replacement of 250 kW EEV Klystron

	Design	Status
U cav	4 x 0.6	4 x 0.37 MV
I:	0.4	0.2 A
Pcav	50	20 kW
P beam per cav.	70	30 kW
Sum per cavity	120	50 kW

One spare available, operating hours: 33000 h

Alternative:	300 kW Thales klystron	300 k €
	2 x 80 kW IOT	200 k €
	90 kW IOT	100 k €
	same PS used	
	Semiconductors (SLS)	500 k €