

Diffuser

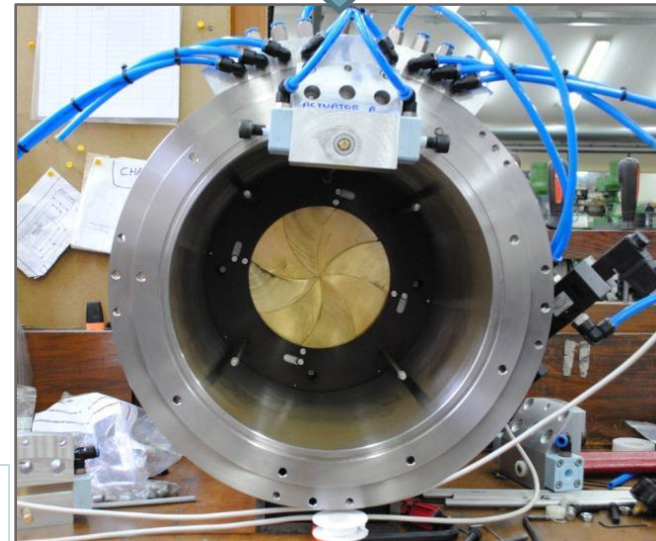
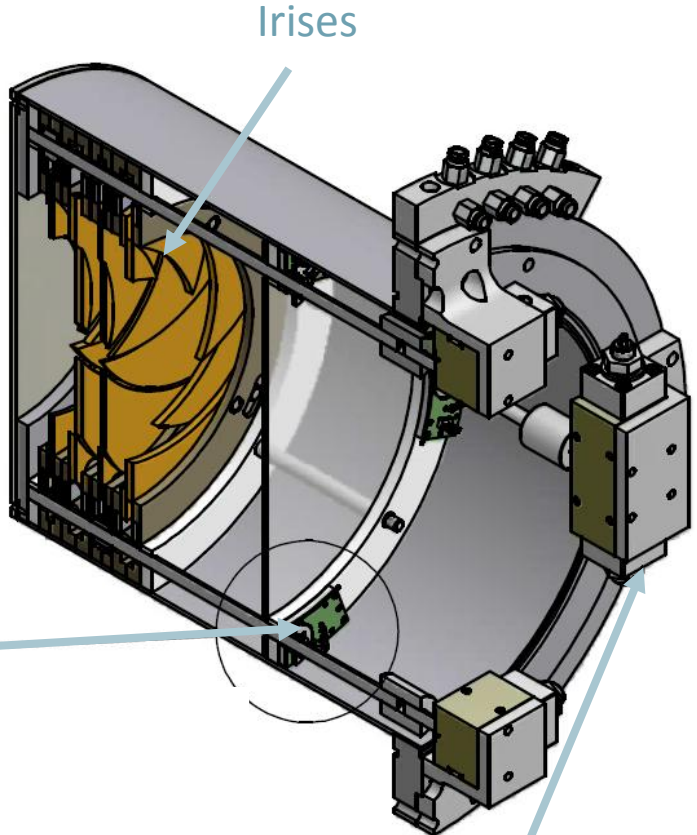
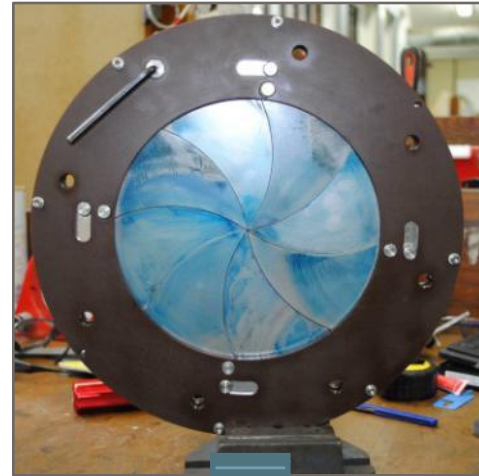
V. Blackmore

CM32, RAL, 10/02/12

Has it really been this long?

Updates since CM29

Prototype with stainless steel petals.

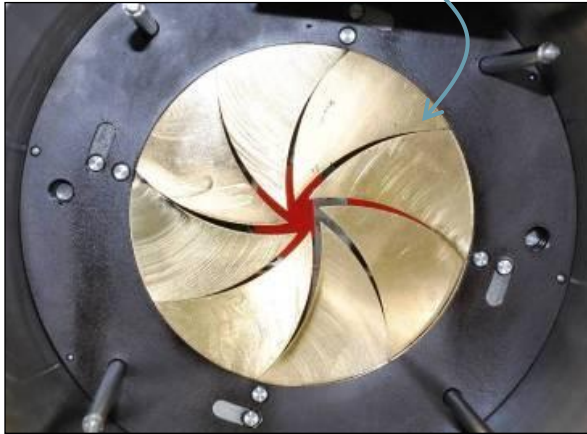


Brass irises undergoing tests

Irises, Actuators, Sensors

“Lions and tigers and bears”
(oh my!)

Brass irises tested ~10k times



‘Homemade’ actuators complete
(bar a few seals)



Stainless steel drum prepared
and ready for testing.

Tricky Tungsten



- The petals are a very complicated shape that is difficult to machine.
 - Tungsten is also very hard, which doesn't help!
- Tungsten is also very brittle.
- Made two complete sets of tungsten irises and began testing:
 - One thinnest tungsten petal broke after 8k actuations.
 - Thick tungsten petals were very easy to break.

Weak point!

Tricky Tungsten Tamer

- Brass is a proven material.
 - No hint of problems after 10k actuations.
 - Machine 'fiddly' bits from brass, eliminating (tungsten) weak point
- Ordered machinable tungsten to make irises from.
 - Has been much easier, though still slow, to machine.



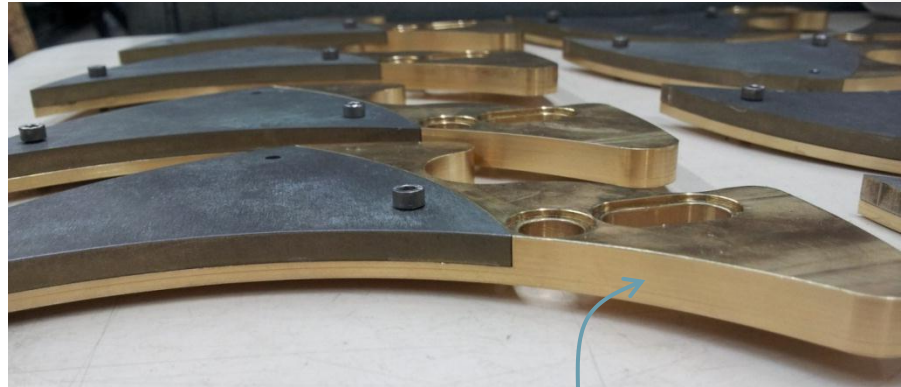
Tricky Tungsten Tamer

- Countersink screws to hold on tungsten.
 - Holes still to drill.
- Thick iris tungsten cut.
- Thin iris tungsten machining imminent (if not happening now!)



Assembly 'To Do' List

- Holes for thin tungsten petals need drilling.
- Countersink holes in both sets of petals, then bolt to brass backing.
- Modify 1 tufnol cassette and make 1 new cassette for the thick tungsten iris.
- Make new stainless steel pins (for new/modified cassettes)
- Assemble and test tungsten!
 - Require some parts for the actuators.



*This part is thicker than it used to be
(thicker overall, actually)*

- In other news...
 - Electronics crate tests proceeding.
 - Labview controls completed, moving to EPICS.