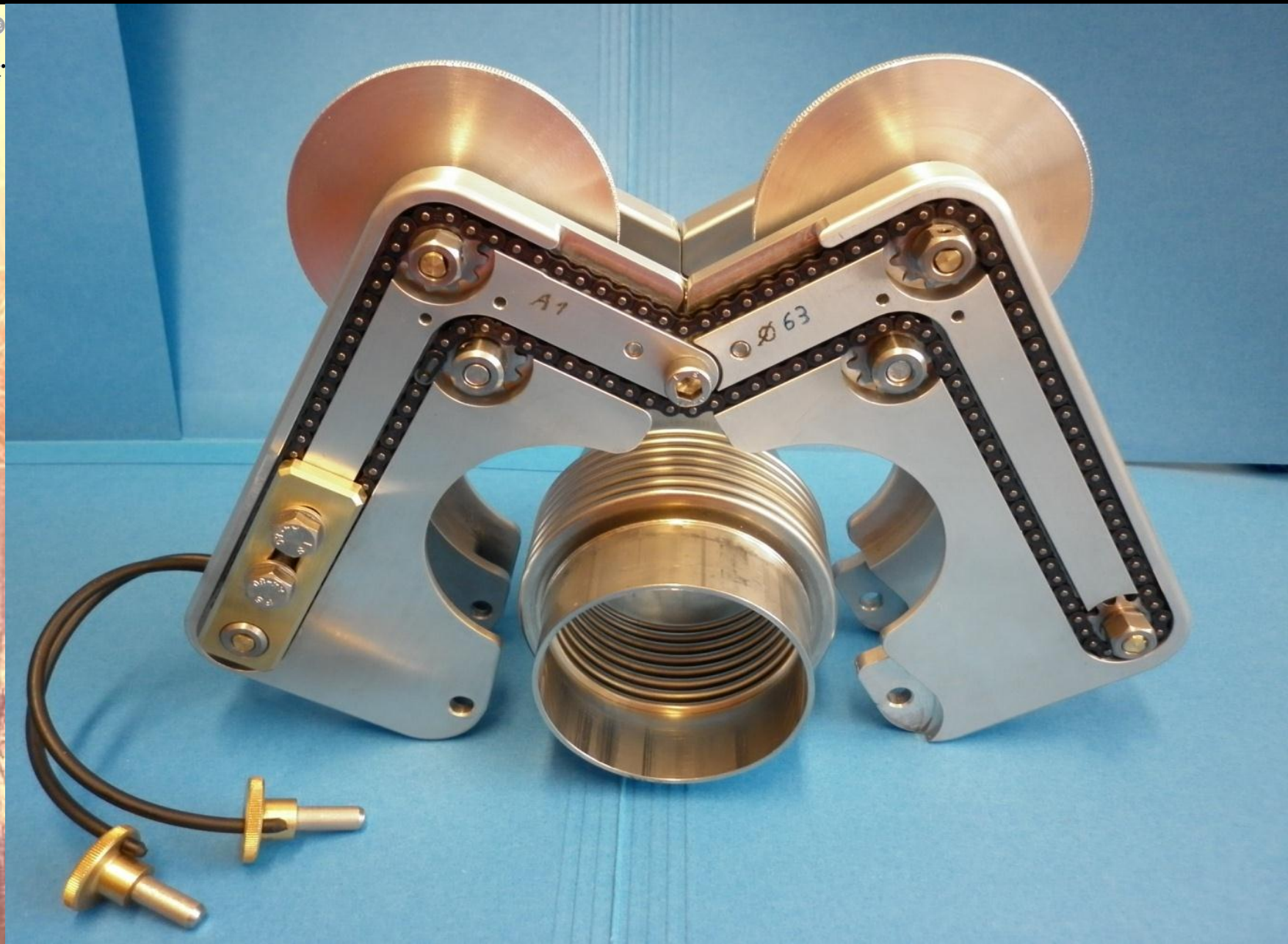
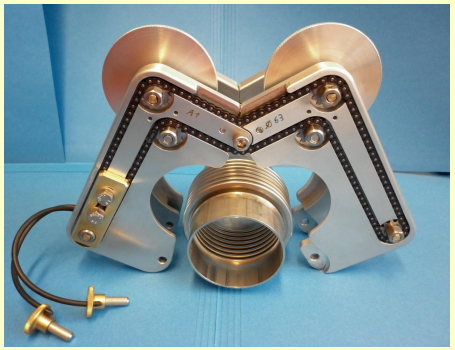
Rapid bellows compression tool



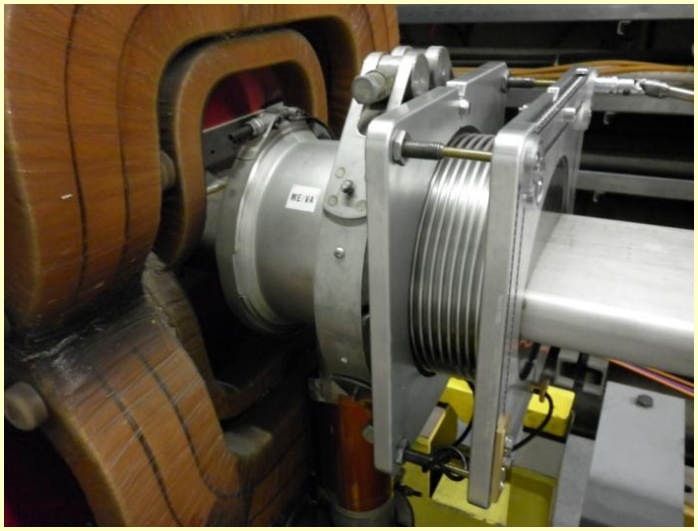
SPECIFICATIONS

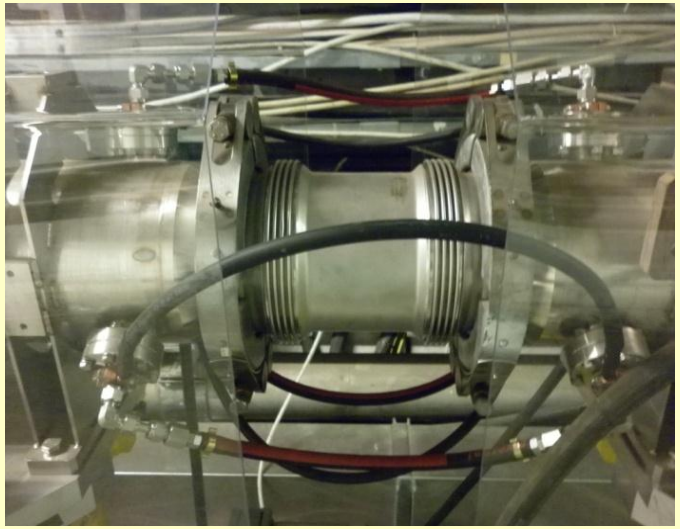
- Initially developed in the framework of the CLIC modules, the aim was to compress bellows:
- Easily
- Quickly
- Light
- Not bulky
- With a minimum number of tools
- Easy to manipulate and to maintain
- Low risk of damaging surrounding elements



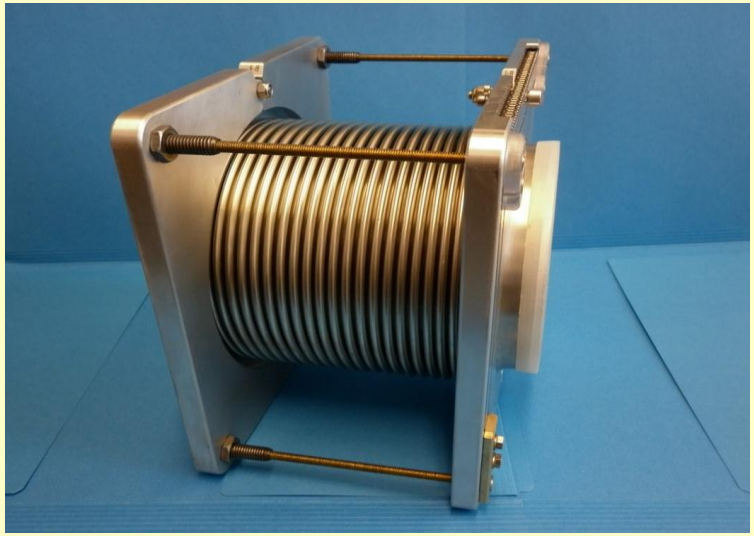
FAMILY OF TOOLS

ONE BELLOWS DIAMETER:
ONE TOOL AVAILABLE FOR DIFFERENT BELLOWS LENGHTS

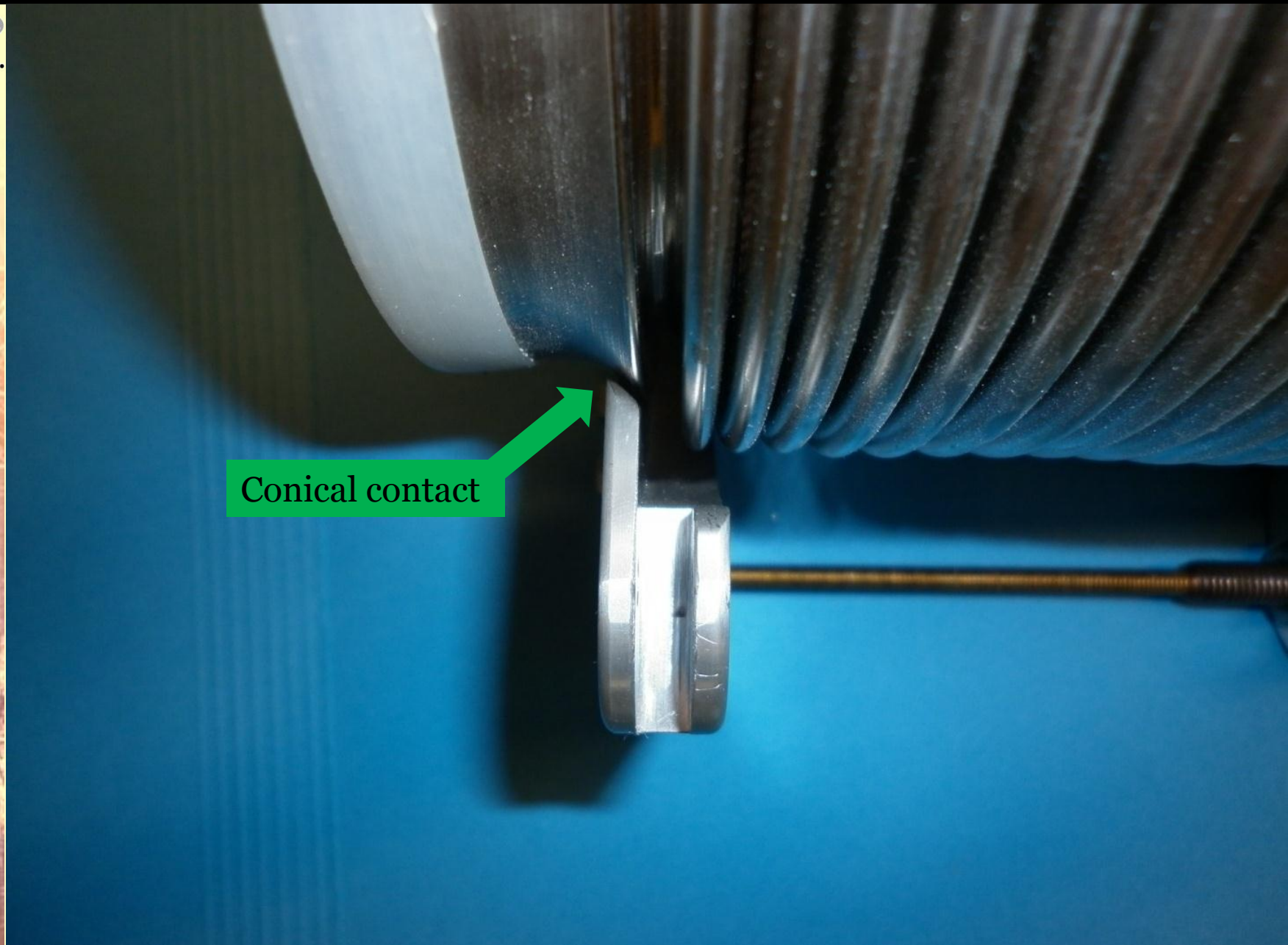




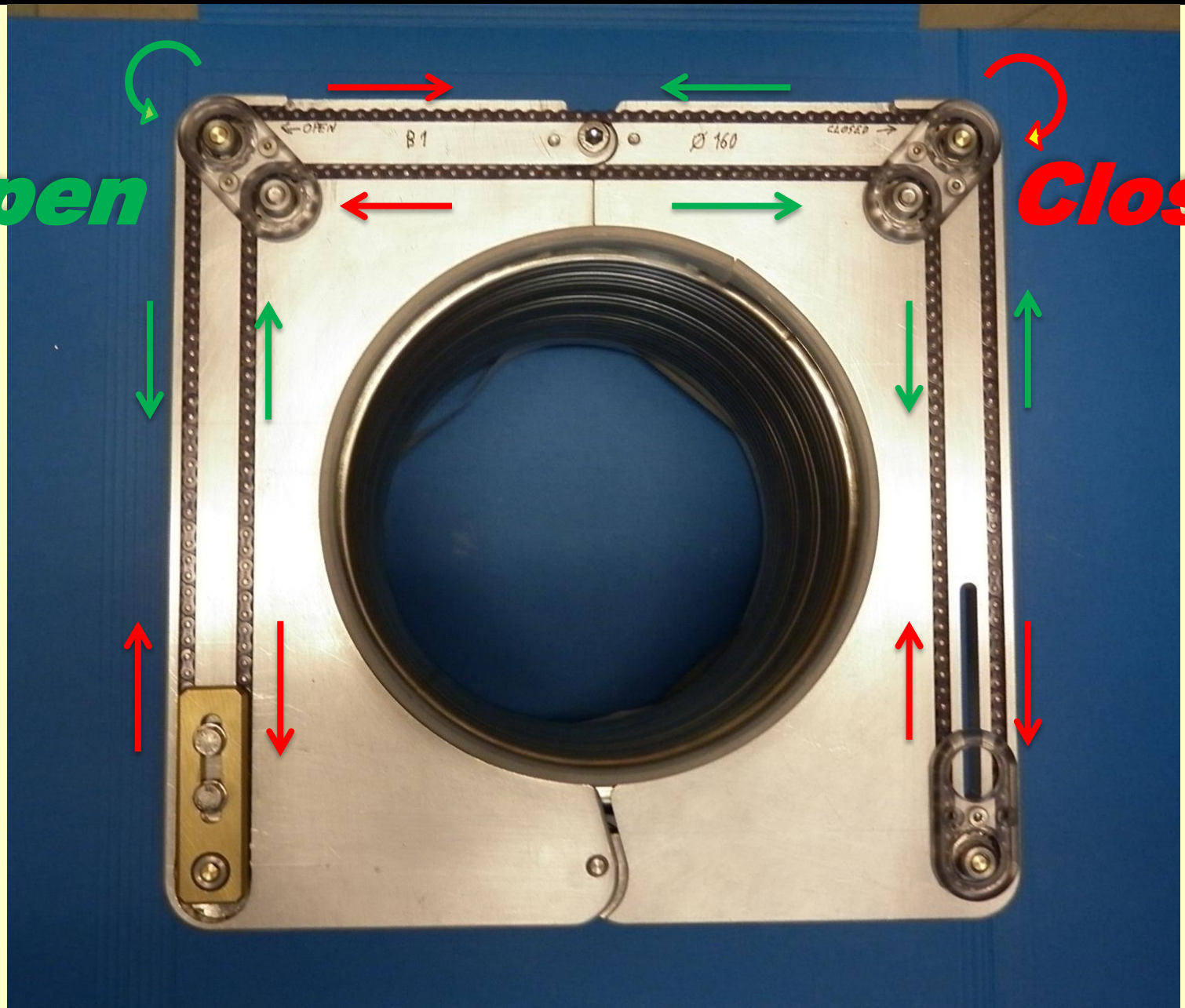
Application in the SPS



Interface with the vacuum chamber and module

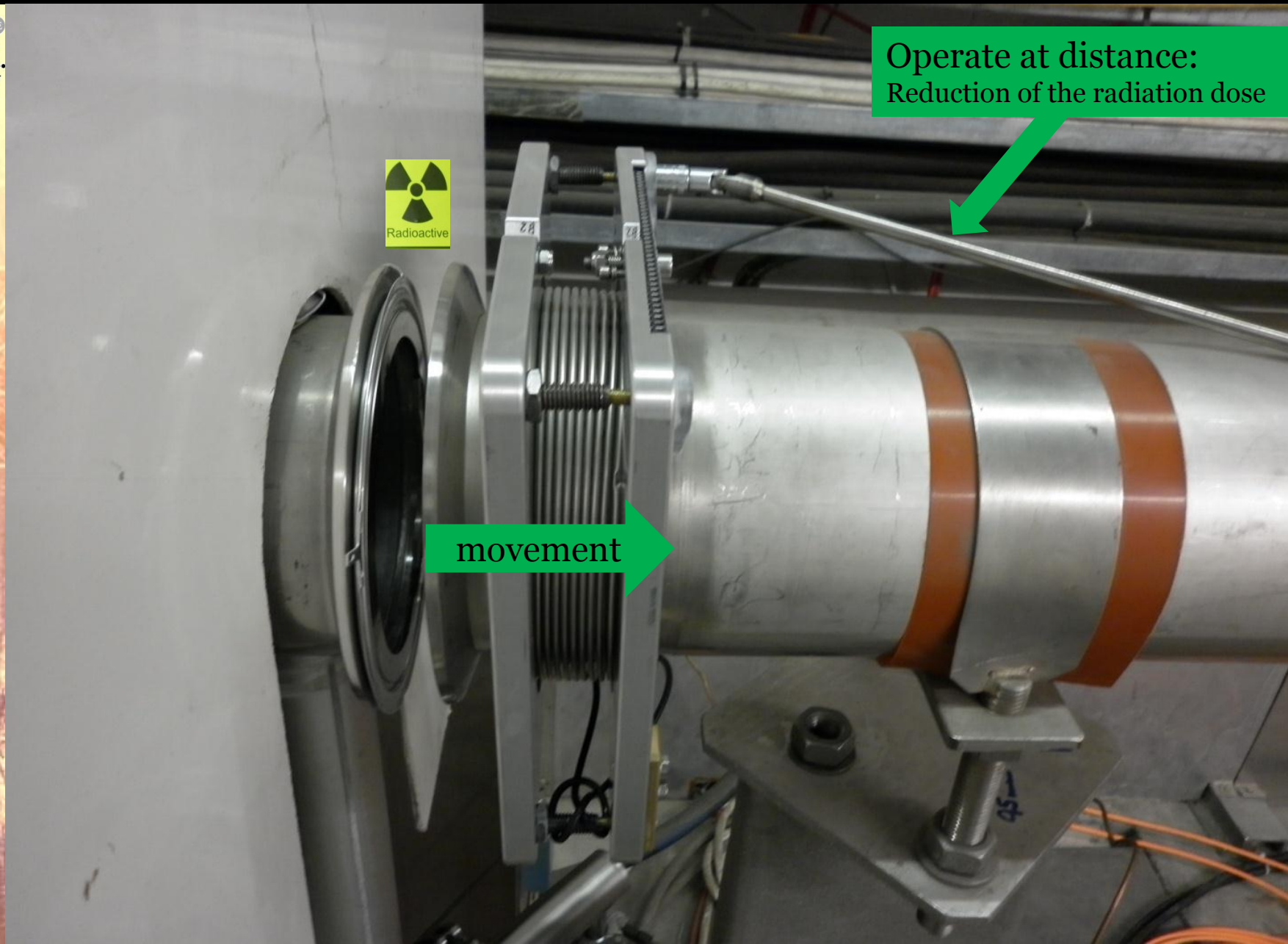


Principle Function

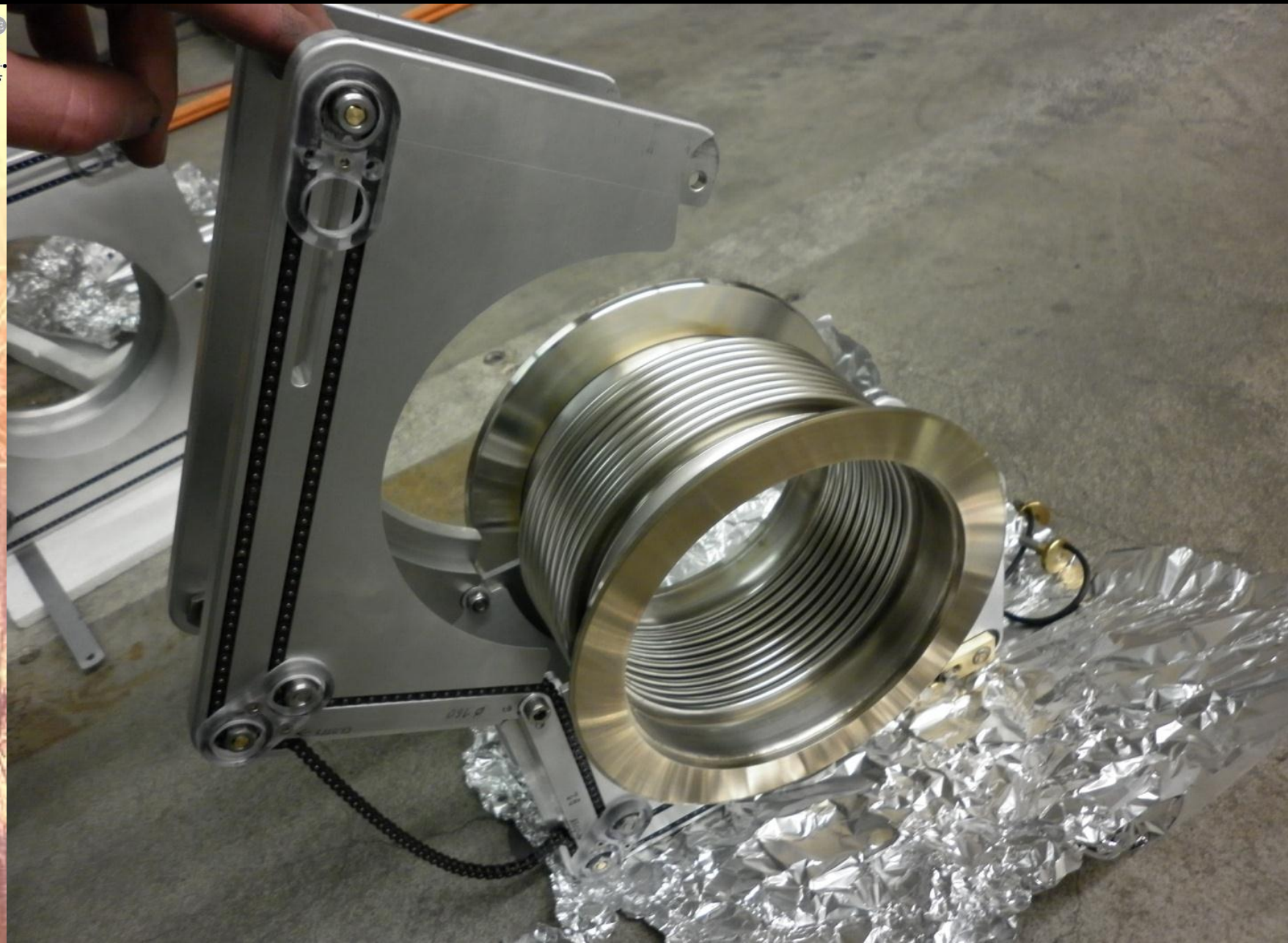


SIMPLE USAGE
mounting

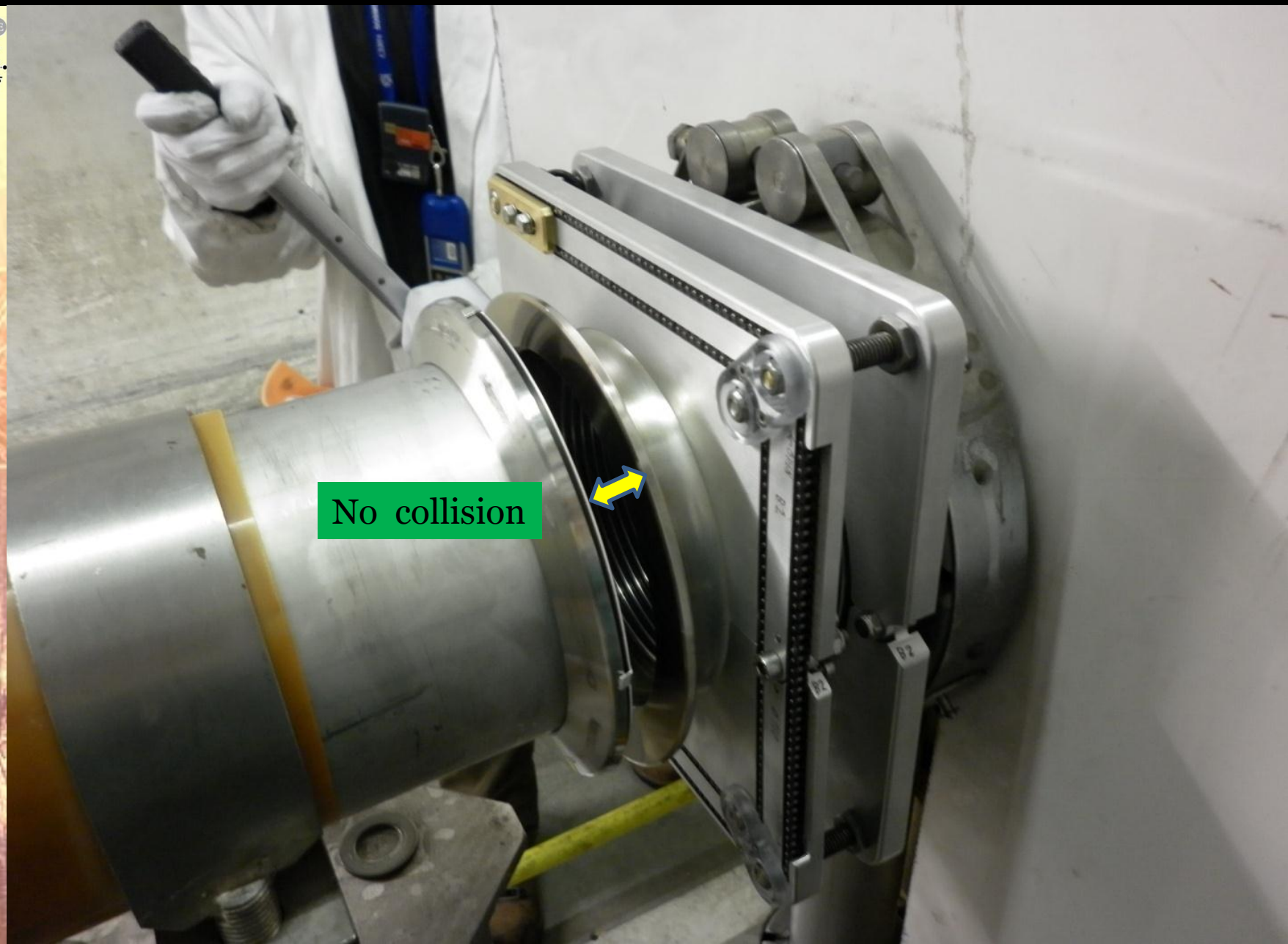
COMPRESSION OF THE BELLOWS AT DISTANCE



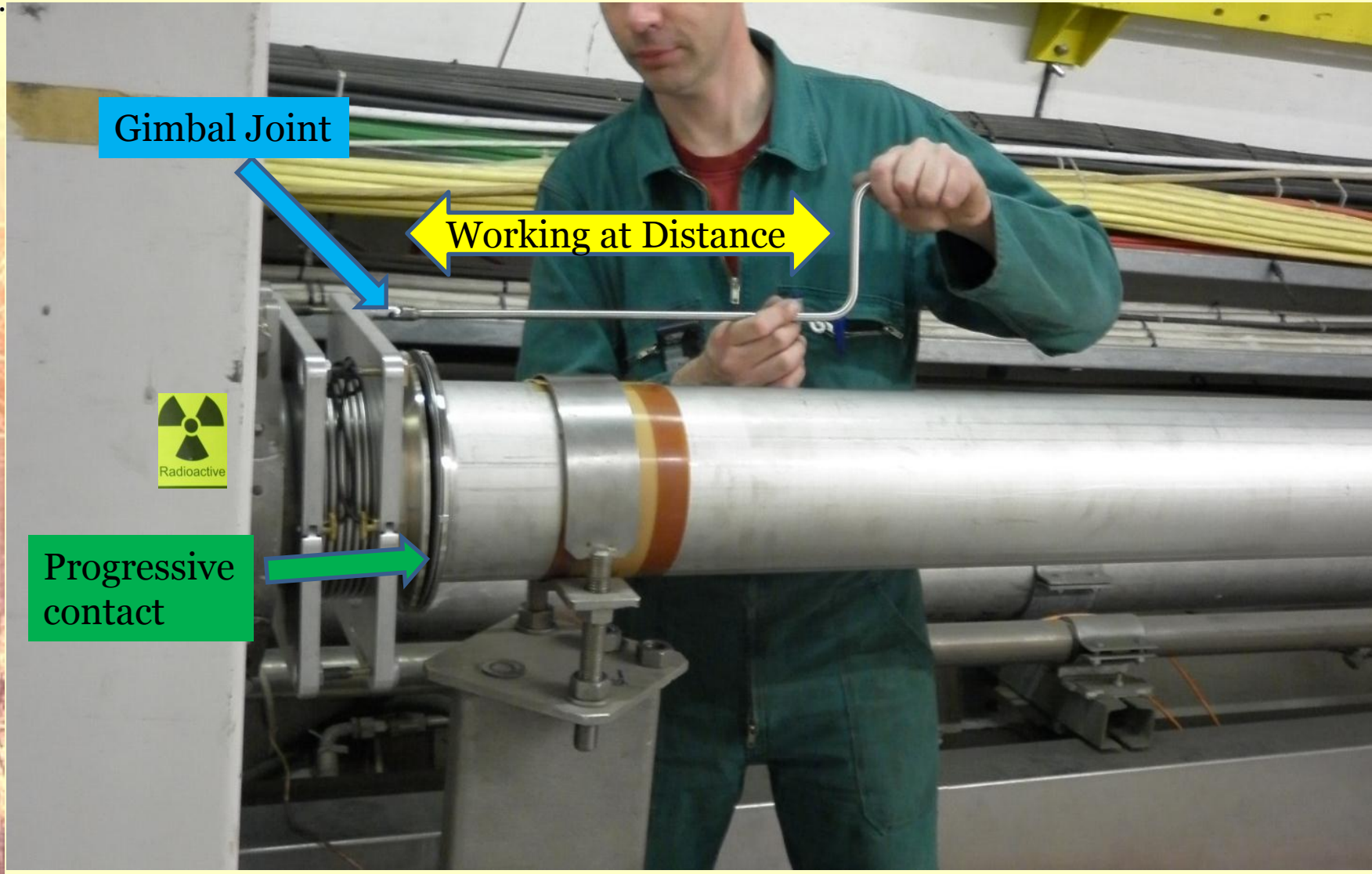
PREPARATION OF THE NEW BELLOW



INSERTION OF THE COMPRESSED BELLOW



REATTACHMENT OF THE BELLOW
Controlled engagement of the seal



Conclusions

- A bellows compression tool has been developped with the aim to facilitate manipulation in confined and radiation environments.
- It has been trialed successfully in the SPS, except for magnet vacuum chamber (available space not sufficiant).
- Next step :
  -Study of tooling for SPS magnet vacuum chamber.
  -Design for LSS warm modules.