# SA2-XTD6 Tech. Commissioning (T-C) status 19.7.2018 KW29

- Target definition:
  - Target-2: Until SDL beam transport pipe mounted, T-C individual HED components , when transport pipe installed there will be a need to define a Target-4 equiv. to Target-3
  - Target-3: XTD1-XTD6-MID all components ready for beam by mid-Sept
- Aimed for loop operation schedule
  - KW34+ Patch HED loop for HED components (+ because we concentrate on Target-3)
- KW29 (slowdown due to vacation & experiment prioritization)
  - MID_XTD6_PSLIT-1 T-C'd (owner tickoff needed)
  - SA2_XTD6_PBLM-1 T-C started, continue next week. Delay due to:
    - Some not fully understood features of one ELMO controller – now understood
    - Needed to store configurations of other MID loop devices - required Karabo mods – now done
  - Bellow issues: Martin finished review.
    - HED_XTD6_CRL – do not move wrong bellows installed.
    - MID_XTD6_CRL – vacuum group needs specs from Lewis before final decision on bellows
    - MID_XTD6_ATT – y motor cable disconnected, bellow must be replaced ?
  - MID_XTD6_CRL repair MID plan – finalized ?
- Outlook (KW30)
  - Continue T-C'ing: SA2_XTD6_PBLM-1 & 2, MID_XTD6_PBLM…
  - Still expect to finish (T-C all components & repair plans) Target-3 ~end July
  - Release of Mc2 homing f/w and documentation. Needed by CRL, ATT…
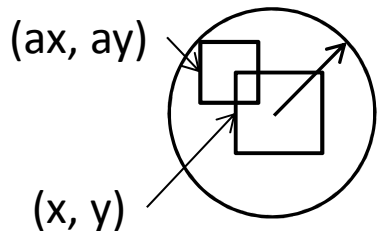 - Next slide: Bellows and end-switches

XTD6: Bellows and end-switches
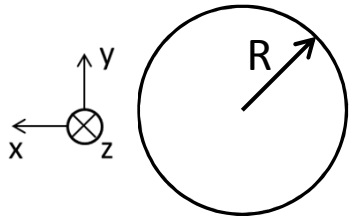
Bellow specs define a maximum lateral deflection ($\perp$ to pipe direction), shown as R in x-y plane.
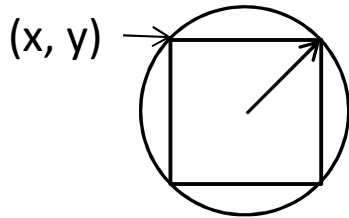
Bellow safe position of table symmetric x & y end-switches is
$$x = y = R/\sqrt{2}.$$
e.g. R = 10mm, then x = y = 7mm

Bellow safe position of pointing symmetric x, y, ax (rotn about x axis) & ay end-switches is
$$x + ax = y + ay \approx R/\sqrt{2}.$$
But ax and ay are small = L . θ = O(0.5m) . O(1cm) / O(300m) = 2mm
Where L = component ½ length and θ = max defl. of beam from mirror.

- Should component end-switches guarantee bellow safety ? If yes, then need to check/set.

- Recommended: label bellows on components with lateral deflection specifying maximum strokes .   e.g

Max. Bellow Stroke:
Lateral: ± 20 mm
Axial: ± 10 mm