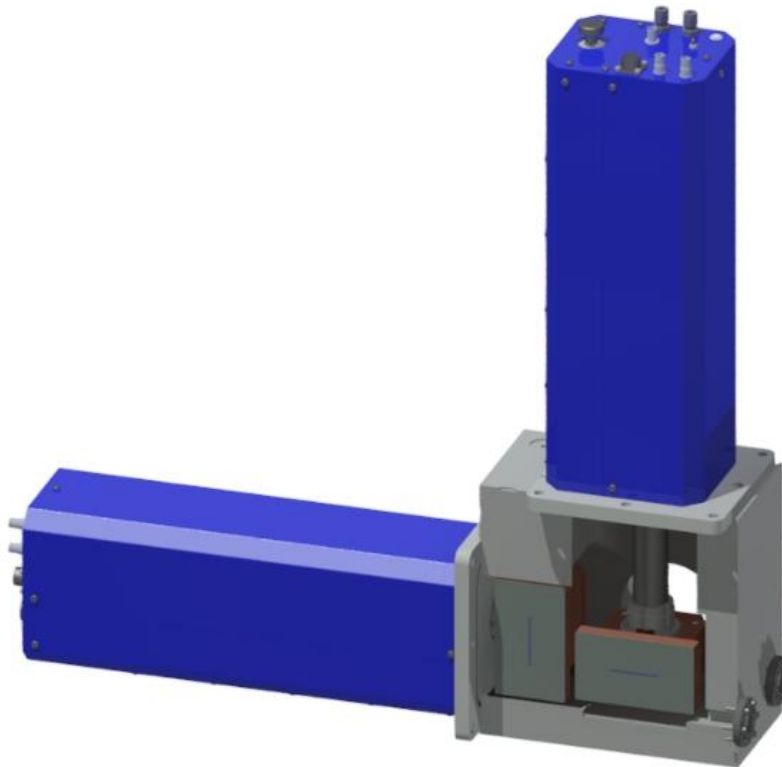


ES-4 VACUUM BOX OPTIONS



DN 2010083: ES-4 VACUUM BOX OPTIONS

REVISIONS

V1.0	2017-Feb-28	D.Potkins	Initial release.
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ES-4 EMITTANCE SCANNER SOLID MODEL

A solid model (step file) for the ES-4 Emittance Scanner is provided in the *downloads* section of the D-Pace webpage for the ES-4 Emittance Scanner System:

<http://www.d-pace.com/?e=2> .

This model represents the ES-4 probe in its fully extended position (slit 180mm from flange surface).

ES-4 STANDARD FLANGE

The ES-4 probe has a rectangular flange. A rectangular flange has the advantage of a shorter insertion length along the beam axis than a round flange. This rectangular flange has eight M10 clearance holes and has an O-Ring groove for a size AS568-362 O-Ring.



Figure 1: ES-4 Probe Standard Flange

D-Pace drawing 1800350 (page 2) shows the overall dimensions of the ES-4 Probe. This drawing is found on the *downloads* section for the ES-4 page on the D-Pace website:

<http://www.d-pace.com/?e=2>

The ES-4 is also available with custom flanges including a CF200 (O.D. 10" / 254mm). Please contact D-Pace for a quotation.

D-PACE VACUUM BOXES FOR THE ES-4 PROBE

D-Pace offers vacuum boxes for ES-4 emittance scanner probes. These vacuum boxes are designed with appropriate flange dimensions to interface with the ES-4 emittance scanner, and accommodate the full range of motion of the probe.

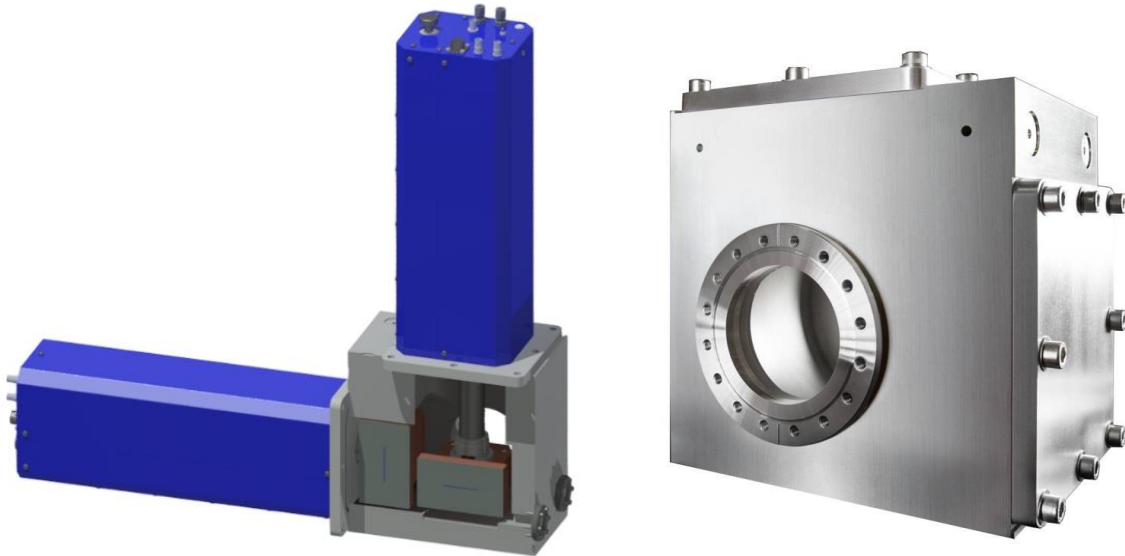


Figure 2: Dual ES-4 mounted on D-Pace Dual-Probe Vacuum Box (CF Version)

Drawings for these vacuum boxes can be downloaded from the *downloads* section of the following D-Pace website links:

<http://www.d-pace.com/?e=36>

(VBOX-ES4-CFI: Imperial CF100)

<http://www.d-pace.com/?e=83>

(VBOX-ES4-CFM: Metric CF100)

CUSTOMER-PROVIDED VACUUM BOXES THE ES-4 PROBE

The customer can also design their own vacuum box.

Figure 3 shows the single probe vacuum box configuration. This configuration allows for a larger scan range relative to the beam axis, but only one emittance scanner probe can be installed on the vacuum box at a time due to interference between orthogonal probes.

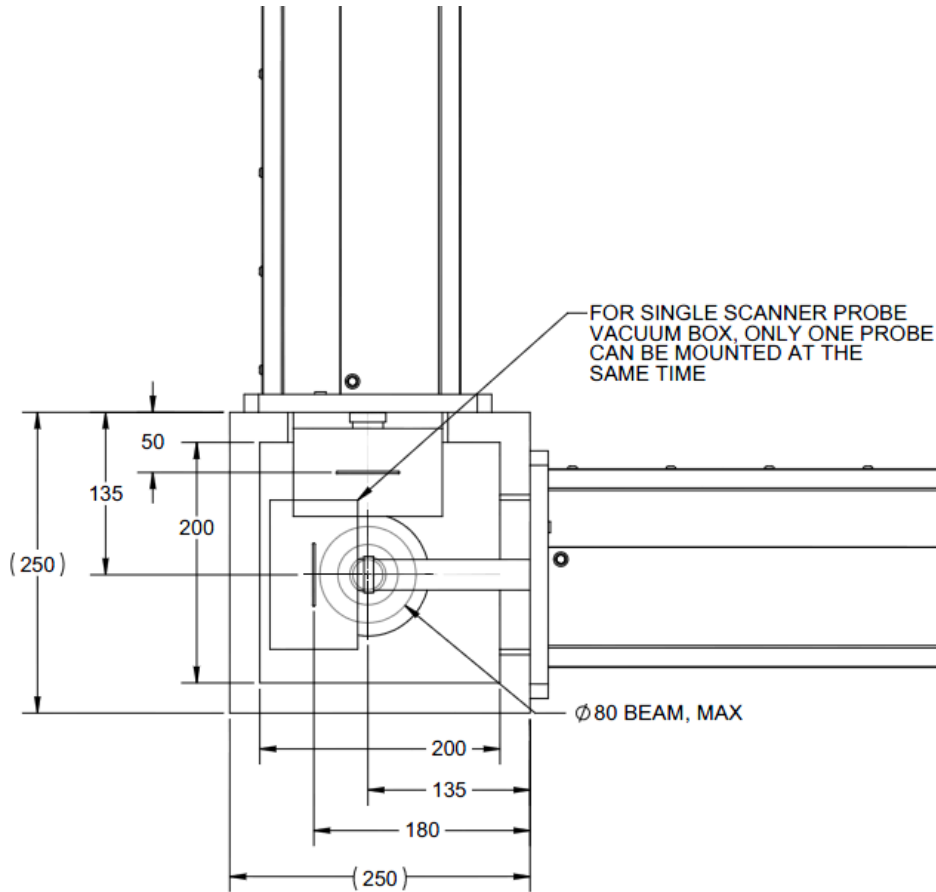


Figure 3: Example Vacuum Box, Single Scanner Probe

Figure 4 shows the dual probe vacuum box configuration. This configuration allows two emittance scanner probes to be mounted at the same time, but has a smaller scanning range relative to the beam axis. The vacuum boxes offered by D-Pace (VBOX-ES4-CFI and VBOX-ES4-CFM) utilize this geometry.

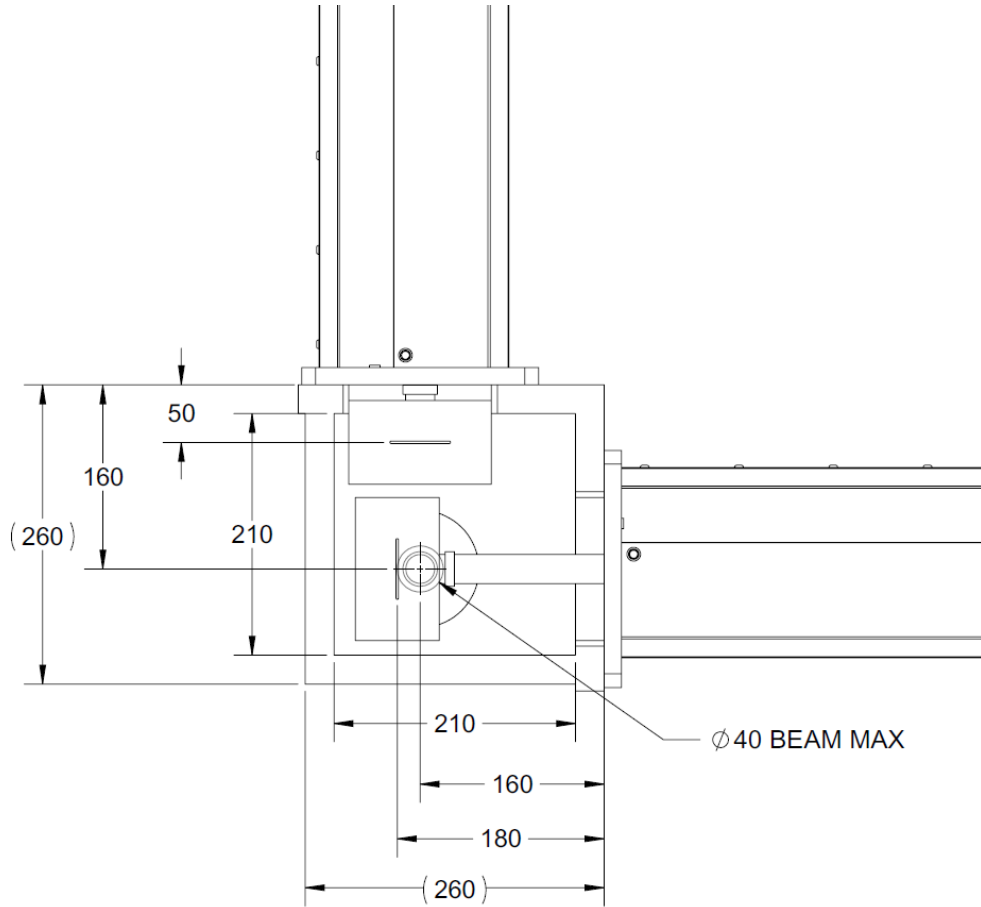


Figure 4: Example Vacuum Box, Dual Scanner Probe

Figure 5 shows the flange features required on the vacuum box to interface with the ES-4 probe.

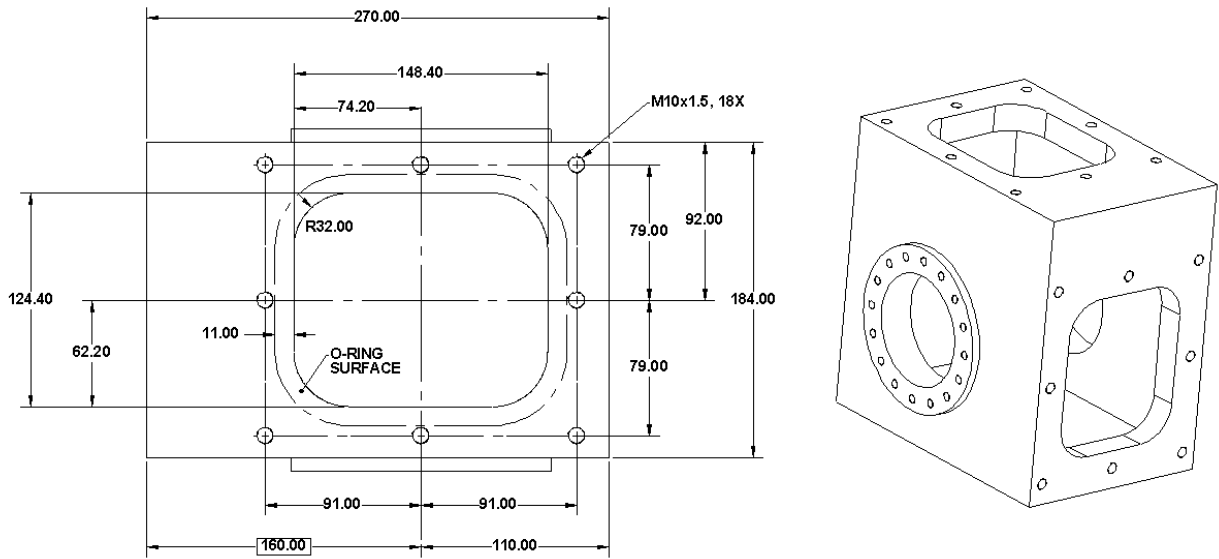


Figure 5: Vacuum Box Flange Feature Dimensions