

## Primary Beam Collimation

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The primary beam collimation at HRPT is handled by two rotating drums (cex1 and cex2), each equipped with three selectable collimator slots.

Note: Motor names differ between SICS and NICOS systems.

Motor name mapping from .dic files:

```
hrpt.dic:
          ccex1    =    /entry1,NXentry/$(inst),NXinstrument/Kollimator1,NXKollimator/SDS
kollimator1
          ccex2    =    /entry1,NXentry/$(inst),NXinstrument/Kollimator1,NXKollimator/SDS
kollimator2
```

Motor name mapping from hrpt.tcl:

```
hfactory $path/drum1 link cex1
hfactory $path/drum2 link cex2
```

Reference: <https://www.psi.ch/en/sinq/hrpt/specifications>

CEX2 (Collimation Modes):

```
Mode: HI (High Intensity)
  cex2 = -104.4
  Collimator: Open
  Size: 55 mm x 150 mm (approx. 40')
```

```
Mode: HR (High Resolution)
  cex2 = 16.57
  Collimator: 6' Soller
```

```
Mode: MR (Medium Resolution)
  cex2 = 71.86
  Collimator: 12' Soller
```

CEX1 (Collimation Modes):

```
46.5    => Open (no collimator), 58 mm x 150 mm
154.0    => Open (no collimator), 44 mm x 150 mm
312.0    => 24' Soller collimator (rarely used)
```

Note:

- The 24' collimator at cex1 (312.0) is not commonly used.  
Most of the time, cex1 is set to the open position (46.5).
- Motor values may drift or reset over time due to electronics issues.  
Recently, efforts have been made to restore consistent values when needed.