

TCDI collimator specification

Main design aspects

Jaw opening

Tolerances

Angular precision

Operational aspects

Length, breadth, height

- High-density carbon 1.77 g/cm^3
- 1.2 m jaw length
- Minimum $\sim 50 \times 50$ mm jaw dimension
- TCS or 'reduced' TCS design

T12

Name [m]	s [m]	βx [m]	Dx [m]	σx_d [mm]	βy [m]	Dy [m]	σy_d [mm]	$\Delta\mu$ to $TCDI_{MSI}$ [°]
TCDI _{Mom}	403.12	95.39	-0.041	0.834	19.44	-1.490	0.591	29.51 in y
TCDI _{H225}	2868.14	37.87	-0.375	0.538	61.90	0.023	0.672	204.40 in x
TCDI _{V225}	2902.14	81.89	-1.358	0.878	58.65	-0.266	0.579	225.06 in x
TCDI _{V135}	2962.34	96.41	-2.328	1.100	48.52	-0.140	0.597	132.49 in y
TCDI _{H135}	2975.58	45.22	-1.649	0.764	95.01	-0.117	0.833	135.02 in x
TCDI _{H090}	3006.47	44.42	-1.231	0.683	96.42	-0.084	0.839	87.47 in x
TCDI _{V090}	3026.18	122.47	1.413	1.040	44.67	-0.053	0.571	90.06 in y
TCDI _{HMSI}	3112.78	43.65	-0.232	0.569	198.38	0.033	1.203	0
TCDI _{VMSI}	3114.78	47.23	-0.212	0.591	185.91	0.046	1.165	0

T18

Name [m]	s [m]	βx [m]	Dx [m]	σx_d [mm]	βy [m]	Dy [m]	σy_d [mm]	$\Delta\mu$ to $TCDI_{MSI}$ [°]
TCDI _{Mom}	670.67	91.73	-4.437	1.585	22.11	0.000	0.402	23.7 in x
TCDI _{H315}	2387.83	17.80	-2.014	0.714	69.92	-0.983	0.775	312.0 in x
TCDI _{H225}	2398.24	7.10	-0.508	0.276	149.82	-1.350	1.124	238.8 in x
TCDI _{V135}	2436.00	194.51	2.703	1.450	55.44	-0.373	0.646	134.9 in y
TCDI _{V090}	2485.90	108.05	2.478	1.168	55.21	0.101	0.636	88.7 in y
TCDI _{V045}	2515.01	75.54	2.059	0.974	58.74	0.129	0.656	45.0 in y
TCDI _{H090}	2549.08	26.65	1.088	0.553	141.17	0.155	1.016	83.8
TCDI _{HMSI}	2623.58	40.74	-0.527	0.569	172.13	-0.029	1.112	0
TCDI _{VMSI}	2626.02	44.02	-0.629	0.599	161.82	-0.034	1.087	0

Jaw opening and tolerances

- The TCDI values are based on the minimum beam sigma at any of the proposed collimator locations (0.276 mm at TCDIH225 in TI 8).

– Maximum opening :	50 mm.	
– Minimum gap opening :	2 mm	($\pm 4 \sigma$).
– Surface flatness :	± 0.05 mm	($\pm 0.2 \sigma$).
– Gap knowledge precision :	± 0.1 mm	($\pm 0.5 \sigma$).
– Jaw adjustability :	± 0.025 mm	($\pm 0.1 \sigma$).
– Jaw setting reproducibility :	± 0.1 mm	($\pm 0.5 \sigma$).
– Extreme jaw positions :	-5 \Rightarrow +25mm	
– Jaw stroke :	30 mm	
– Angular precision:	?????	

Tolerances

- Click to add text

Angular precision

- Click to add text

Operational aspects

- Click to add text

Settings

- Click to add text