

Overview on number of collimators

R. Assmann & G. Robert-Demolaize
CWG 31.1.05

| Type | Number | Phase | TCS type vacuum interconnects | Number TCS type interconnects | Comments |
|----------|--------|-------|-------------------------------|-------------------------------|------------------------|
| TCP | 8 | 1 | 1 | 8 | |
| TCSG | 32 | 1 | 1 | 32 | |
| TCSM | 30 | 2 | 1 | 30 | |
| TCLI(D2) | 2 | 1 | 1 | 2 | |
| TCLI(D1) | 2 | 1 | 0 | 0 | |
| TCLP | 8 | 1 | 1 | 8 | also called TCL |
| TCT (D2) | 12 | 1 | 1 | 12 | |
| TCT(D1) | 4 | 1 | 0 | 0 | |
| TCHS | 8 | 1 | 1 | 8 | |
| TCP4 | 2 | 4 | 0 | 0 | |
| TCS4 | 10 | 4 | 0 | 0 | |
| TCSM4 | 10 | 4 | 0 | 0 | |
| TCLA | 18 | 1 | 1 | 18 | number to be confirmed |
| Total | 146 | | | 118 | |

Watch out: Different types and different phases! Not evident from DB!
All except TCLA approved in ECO's!

| NAME | S | MUX | MUY | á [degrees] | PHASE |
|--------------|-----------|--------|--------|-------------|-------|
| TCLA.A4R3.B1 | 6755.2208 | 16.879 | 15.075 | 90 | 1 |
| TCLA.B4R3.B1 | 6757.2208 | 16.882 | 15.077 | 0 | 1 |
| TCLA.5R3.B1 | 6841.2208 | 16.934 | 15.217 | 0 | 1 |
| TCLA.6R3.B1 | 6913.2208 | 17.164 | 15.285 | 0 | 1 |
| TCLA.A6R7.B1 | 20148.334 | 48.132 | 43.697 | 90 | 1 |
| TCLA.C6R7.B1 | 20179.288 | 48.155 | 43.782 | 0 | 1 |
| TCLA.E6R7.B1 | 20213.073 | 48.208 | 43.832 | 90 | 1 |
| TCLA.B7R7.B1 | 20236.646 | 48.271 | 43.855 | 90 | 1 |
| TCLA.A7R7.B1 | 20251.646 | 48.299 | 43.877 | 0 | 1 |
| TCLA.6L3.B2 | 6416.2208 | 15.785 | 15.131 | 90 | 1 |
| TCLA.5L3.B2 | 6488.2208 | 16.017 | 15.196 | 0 | 1 |
| TCLA.B4L3.B2 | 6572.2208 | 16.070 | 15.337 | 0 | 1 |
| TCLA.A4L3.B2 | 6574.2208 | 16.072 | 15.338 | 0 | 1 |
| TCLA.A7L7.B2 | 19736.678 | 47.077 | 43.731 | 90 | 1 |
| TCLA.B7L7.B2 | 19751.678 | 47.103 | 43.757 | 0 | 1 |
| TCLA.E6L7.B2 | 19775.251 | 47.164 | 43.781 | 90 | 1 |
| TCLA.C6L7.B2 | 19809.036 | 47.217 | 43.831 | 90 | 1 |
| TCLA.A6L7.B2 | 19839.99 | 47.240 | 43.916 | 0 | 1 |

...plus passive absorbers (at least 1 in each IR3 and IR7)!

Detailed list:
(except TCLA)

| NAME | S | MUX | MUY | á [degrees] | PHASE |
|--------------|-------------|--------|--------|-------------|-------|
| TCLP.4R1.B1 | 149.73 | 0.260 | 0.257 | 0 | 3 |
| TCL.5R1.B1 | 190.772 | 0.289 | 0.262 | 0 | 1 |
| TCTH.L2.B1 | 3214.488584 | 8.230 | 7.232 | 0 | 1 |
| TCTV.4L2.B1 | 3258.948584 | 8.233 | 7.236 | 90 | 1 |
| TCLIA.4R2.B1 | 3408.184584 | 8.734 | 7.737 | 90 | 1 |
| TCLIB.6R2 | 3560.090584 | 9.185 | 7.853 | 90 | 1 |
| TCP.6L3.B1 | 6487.6713 | 16.316 | 14.850 | 0 | 1 |
| TCHSH.6L3.B1 | 6489.2713 | 16.318 | 14.851 | 0 | 1 |
| TCSG.5L3.B1 | 6521.0428 | 16.383 | 14.875 | 0 | 1 |
| TCSM.5L3.B1 | 6523.0428 | 16.389 | 14.876 | 0 | 2 |
| TCSG.4R3.B1 | 6707.5258 | 16.733 | 15.047 | 0 | 1 |
| TCSM.4R3.B1 | 6709.5258 | 16.745 | 15.048 | 0 | 2 |
| TCSG.A5R3.B1 | 6718.9208 | 16.795 | 15.052 | 170.82 | 1 |
| TCSM.A5R3.B1 | 6720.9208 | 16.803 | 15.053 | 170.3 | 2 |
| TCSG.B5R3.B1 | 6724.7408 | 16.818 | 15.054 | 10.81 | 1 |
| TCSM.B5R3.B1 | 6726.7408 | 16.824 | 15.056 | 11.45 | 2 |
| TCTH.L5.B1 | 13181.76923 | 31.793 | 29.345 | 0 | 1 |
| TCTV.L5.B1 | 13183.44923 | 31.793 | 29.345 | 90 | 1 |
| TCLP.4R5.B1 | 13479.01923 | 32.309 | 29.861 | 0 | 3 |
| TCL.5R5.B1 | 13520.66823 | 32.339 | 29.866 | 0 | 1 |
| TCDS.4L6.B1 | 16622.12582 | 40.190 | 36.363 | 0 | 0 |
| TCDQ.4R6.B1 | 16810.81082 | 40.308 | 36.569 | 0 | 0 |
| TCS.TCDQ.B1 | 16815.97582 | 40.310 | 36.574 | 0 | 1 |
| TCP.D6L7.B1 | 19789.1844 | 47.492 | 43.228 | 90 | 1 |
| TCP.C6L7.B1 | 19791.1844 | 47.494 | 43.232 | 0 | 1 |
| TCP.B6L7.B1 | 19793.1844 | 47.496 | 43.235 | 127.51 | 1 |
| TCP.A6L7.B1 | 19795.1844 | 47.499 | 43.239 | 50.94 | 4 |
| TCHSV.6L7.B1 | 19796.7844 | 47.500 | 43.242 | 90 | 1 |
| TCHSH.6L7.B1 | 19797.9844 | 47.502 | 43.243 | 0 | 1 |
| TCHSS.6L7.B1 | 19799.1844 | 47.504 | 43.245 | 132.82 | 2 |
| TCSG.B6L7.B1 | 19828.6789 | 47.569 | 43.278 | 41.4 | 4 |
| TCSM.B6L7.B1 | 19830.6789 | 47.576 | 43.279 | 39.9 | 4 |
| TCSG.A6L7.B1 | 19832.6789 | 47.584 | 43.281 | 141.1 | 1 |
| TCSM.A6L7.B1 | 19834.6789 | 47.592 | 43.282 | 142.5 | 2 |
| TCSG.B5L7.B1 | 19891.9064 | 47.794 | 43.316 | 143.5 | 1 |
| TCSM.B5L7.B1 | 19893.9064 | 47.796 | 43.318 | 141.6 | 2 |
| TCSG.A5L7.B1 | 19895.9064 | 47.798 | 43.320 | 40.7 | 1 |
| TCSM.A5L7.B1 | 19897.9064 | 47.800 | 43.322 | 42.7 | 2 |
| TCSG.D4L7.B1 | 19917.2364 | 47.811 | 43.355 | 90 | 1 |
| TCSM.D4L7.B1 | 19919.2364 | 47.812 | 43.360 | 90 | 2 |
| TCSG.C4L7.B1 | 19946.4214 | 47.825 | 43.436 | 133.6 | 4 |
| TCSM.C4L7.B1 | 19948.4214 | 47.826 | 43.441 | 134.5 | 4 |
| TCSG.B4L7.B1 | 19987.1624 | 47.857 | 43.511 | 0 | 1 |
| TCSM.B4L7.B1 | 19989.1624 | 47.860 | 43.513 | 0 | 2 |

| | | | | | |
|-------------------|-------------|-------------|-------------|--------|---|
| TCSG.A4L7.B1 | 19991.1624 | 47.862 | 43.515 | 134.6 | 1 |
| TCSM.A4L7.B1 | 19993.1624 | 47.865 | 43.518 | 135.7 | 2 |
| TCSG.A4R7.B1 | 19995.1624 | 47.867 | 43.520 | 46.3 | 1 |
| TCSM.A4R7.B1 | 19997.1624 | 47.870 | 43.522 | 45.2 | 2 |
| TCSG.B4R7.B1 | 20043.9034 | 47.980 | 43.554 | 135.9 | 4 |
| TCSM.B4R7.B1 | 20045.9034 | 47.986 | 43.555 | 136.4 | 4 |
| TCSG.A5R7.B1 | 20082.4184 | 48.087 | 43.571 | 37.3 | 4 |
| TCSM.A5R7.B1 | 20084.4184 | 48.090 | 43.572 | 39.2 | 4 |
| TCSG.B5R7.B1 | 20086.4184 | 48.093 | 43.573 | 141.5 | 1 |
| TCSM.B5R7.B1 | 20088.4184 | 48.096 | 43.575 | 139.6 | 2 |
| TCSG.C5R7.B1 | 20098.4184 | 48.106 | 43.582 | 90 | 4 |
| TCSM.C5R7.B1 | 20100.4184 | 48.107 | 43.584 | 90 | 4 |
| TCSG.D5R7.B1 | 20102.4184 | 48.109 | 43.586 | 51.4 | 1 |
| TCSM.D5R7.B1 | 20104.4184 | 48.110 | 43.588 | 53.3 | 2 |
| TCSG.E5R7.B1 | 20106.4184 | 48.112 | 43.590 | 130.5 | 1 |
| TCSM.E5R7.B1 | 20108.4184 | 48.113 | 43.593 | 128.5 | 2 |
| TCSG.6R7.B1 | 20141.0234 | 48.129 | 43.672 | 0.5 | 1 |
| TCSM.6R7.B1 | 20143.0234 | 48.129 | 43.679 | 0.5 | 2 |
| TCTH.L8.B1 | | | | | 1 |
| TCTV.4L8.B1 | 23241.89098 | 55.885 | 50.570 | 90 | 1 |
| TCTH.L1.B1 | 26511.3632 | 64.053 | 59.061 | 0 | 1 |
| TCTV.L1.B1 | 26513.0432 | 64.053 | 59.061 | 90 | 1 |
| TCTV.R1.B2 | 145.84 | 0.256573524 | 0.258814046 | 90 | 1 |
| TCTH.R1.B2 | 147.52 | 0.256741458 | 0.259242156 | 0 | 1 |
| TCTV.4R2.B2 | 3405.772216 | 8.453129892 | 8.196575061 | 90 | 1 |
| TCTH.R2.B2 | 3450.232216 | 8.45674124 | 8.201072231 | 0 | 1 |
| TCSM.B5L3.B2 | 6602.7008 | 16.128 | 15.358 | 11.46 | 2 |
| TCSG.B5L3.B2 | 6604.7008 | 16.134 | 15.359 | 10.82 | 1 |
| TCSM.A5L3.B2 | 6608.5208 | 16.149 | 15.361 | 170.29 | 2 |
| TCSG.A5L3.B2 | 6610.5208 | 16.157 | 15.362 | 170.81 | 1 |
| TCSM.4L3.B2 | 6619.9158 | 16.207 | 15.366 | 0 | 2 |
| TCSG.4L3.B2 | 6621.9158 | 16.219 | 15.367 | 0 | 1 |
| TCSM.5R3.B2 | 6806.3988 | 16.563 | 15.539 | 0 | 2 |
| TCSG.5R3.B2 | 6808.3988 | 16.569 | 15.540 | 0 | 1 |
| TCHSH.6R3.B2 | 6840.1703 | 16.634 | 15.563 | 0 | 1 |
| TCP.6R3.B2 | 6841.7703 | 16.636 | 15.564 | 0 | 1 |
| TCL.5L5.B2 | 13138.82197 | 31.7830857 | 29.45219759 | 0 | 1 |
| TCLP.4L5.B2 | 13179.86397 | 31.80891546 | 29.45751092 | 0 | 3 |
| TCTV.R5.B2 | 13475.43397 | 32.32533172 | 29.97328896 | 90 | 1 |
| TCTH.R5.B2 | 13477.11397 | 32.32549966 | 29.97371706 | 0 | 1 |
| TCS.TCDQ.B2 | 16507.62818 | 39.53781692 | 37.13270511 | 0 | 1 |
| TCDQ.4L6.B2 | 16512.79318 | 39.5394131 | 37.13752083 | 0 | 0 |
| TCDS.4R6.B2 | 16701.47818 | 39.6569919 | 37.33352407 | 0 | 0 |
| TCSM.6L7.B2 | 19845.3014 | 47.243 | 43.934 | 0.5 | 2 |
| TCSG.6L7.B2 | 19847.3014 | 47.244 | 43.941 | 0.5 | 1 |

← Add!

| | | | | | |
|--------------|-------------|-------------|-------------|-------|---|
| TCSM.E5L7.B2 | 19879.9064 | 47.259 | 44.021 | 128.5 | 2 |
| TCSG.E5L7.B2 | 19881.9064 | 47.260 | 44.023 | 130.5 | 1 |
| TCSM.D5L7.B2 | 19883.9064 | 47.262 | 44.026 | 53.3 | 2 |
| TCSG.D5L7.B2 | 19885.9064 | 47.263 | 44.028 | 51.4 | 1 |
| TCSM.C5L7.B2 | 19887.9064 | 47.265 | 44.030 | 90 | 4 |
| TCSG.C5L7.B2 | 19889.9064 | 47.266 | 44.031 | 90 | 4 |
| TCSM.B5L7.B2 | 19899.9064 | 47.276 | 44.039 | 139.5 | 2 |
| TCSG.B5L7.B2 | 19901.9064 | 47.279 | 44.040 | 141.5 | 1 |
| TCSM.A5L7.B2 | 19903.9064 | 47.282 | 44.041 | 39.2 | 4 |
| TCSG.A5L7.B2 | 19905.9064 | 47.285 | 44.042 | 37.3 | 4 |
| TCSM.B4L7.B2 | 19942.4214 | 47.386 | 44.058 | 136.2 | 4 |
| TCSG.B4L7.B2 | 19944.4214 | 47.392 | 44.059 | 135.6 | 4 |
| TCSM.A4L7.B2 | 19983.1624 | 47.490 | 44.084 | 41 | 2 |
| TCSG.A4L7.B2 | 19985.1624 | 47.493 | 44.086 | 42.1 | 1 |
| TCSM.A4R7.B2 | 19999.1624 | 47.512 | 44.101 | 133.3 | 2 |
| TCSG.A4R7.B2 | 20001.1624 | 47.515 | 44.103 | 132.1 | 1 |
| TCSM.B4R7.B2 | 20003.1624 | 47.517 | 44.105 | 0 | 2 |
| TCSG.B4R7.B2 | 20005.1624 | 47.519 | 44.108 | 0 | 1 |
| TCSM.C4R7.B2 | 20039.9034 | 47.546 | 44.173 | 134.5 | 4 |
| TCSG.C4R7.B2 | 20041.9034 | 47.547 | 44.178 | 133.6 | 4 |
| TCSM.D4R7.B2 | 20069.0884 | 47.560 | 44.253 | 90 | 2 |
| TCSG.D4R7.B2 | 20071.0884 | 47.561 | 44.258 | 90 | 1 |
| TCSM.A5R7.B2 | 20090.4184 | 47.572 | 44.291 | 42.5 | 2 |
| TCSG.A5R7.B2 | 20092.4184 | 47.574 | 44.293 | 40.6 | 1 |
| TCSM.B5R7.B2 | 20094.4184 | 47.576 | 44.295 | 141.7 | 2 |
| TCSG.B5R7.B2 | 20096.4184 | 47.578 | 44.297 | 143.6 | 1 |
| TCSM.A6R7.B2 | 20153.6459 | 47.780 | 44.331 | 142.8 | 2 |
| TCSG.A6R7.B2 | 20155.6459 | 47.788 | 44.332 | 141.3 | 1 |
| TCSM.B6R7.B2 | 20157.6459 | 47.796 | 44.334 | 39.7 | 4 |
| TCSG.B6R7.B2 | 20159.6459 | 47.803 | 44.335 | 41.2 | 4 |
| TCHSS.6R7.B2 | 20189.1404 | 47.868 | 44.368 | 132.5 | 2 |
| TCHSH.6R7.B2 | 20190.3404 | 47.870 | 44.369 | 0 | 1 |
| TCHSV.6R7.B2 | 20191.5404 | 47.871 | 44.371 | 90 | 1 |
| TCP.A6R7.B2 | 20193.1404 | 47.873 | 44.374 | 51 | 4 |
| TCP.B6R7.B2 | 20195.1404 | 47.876 | 44.378 | 127.5 | 1 |
| TCP.C6R7.B2 | 20197.1404 | 47.878 | 44.381 | 0 | 1 |
| TCP.D6R7.B2 | 20199.1404 | 47.880 | 44.385 | 90 | 1 |
| TCLIB.6L8 | 23098.54362 | 55.10640932 | 51.12174148 | 90 | 1 |
| TCLIA.4L8.B2 | 23239.47862 | 55.54466917 | 51.2294015 | 90 | 1 |
| TCTV.4R8.B2 | 23388.71462 | 56.04583082 | 51.73042317 | 90 | 1 |
| TCTH.R8.B2 | 23433.17462 | 56.05258789 | 51.73829006 | 0 | 1 |
| TCL.5L1.B2 | 26467.5042 | 64.024 | 59.058 | 0 | 1 |
| TCL.4L1.B2 | 26509.0382 | 64.050 | 59.063 | 0 | 3 |