

Suggested components list

| Item | Section | Type | Component |
|------|---------|----------------|---|
| 1 | PFM+TL1 | UHV components | CF100–CF63 adapter |
| 2 | | | inlet bellows CF63 |
| 3 | | | chamber of PFM |
| 4 | | | tubing of TL1 |
| 5 | | | outlet bellows CF63 |
| 6 | | | blind flanges |
| 7 | | | viewports |
| 8 | | pumps | ion pump for PFM |
| 9 | | | ion pump controller |
| 10 | | | getter pump |
| 11 | | | getter pump controller |
| 12 | | | diaphragm pump for vacuum guard line |
| 13 | | | ion pump of TL1 |
| 14 | | | turbopumping station for bakeout |
| 15 | | gauges | pirani gauge (passive) |
| 16 | | | 2 cold-cathode gauges (passive) |
| 17 | | | safety gauge for vacuum guard line |
| 18 | | | gauge controller (passive) |
| 19 | | valves | CF63 angle valve for bakeout (all-metal) |
| 20 | | | CF40 valve for mass spectrometer leak testing (all-metal) |
| 21 | | | CF16 angle valve for venting (all-metal) |
| 22 | | | CF63 electropneumatic gate valve (all-metal) |
| 23 | | optics | baffles of the cleanup mask |
| 24 | | | toroidal mirror |
| 25 | | motion | cleanup mask manipulator (2 axes) |
| 26 | | | mirror manipulator (5 axes) |
| 27 | | | 7 motors |
| 28 | | | 7 encoders |
| 29 | | | 14 end switches |
| 30 | | bakeout | heating elements |
| 31 | | | bakeout controller |
| 32 | | | thermocouples on cleanup mask, mirror and sensitive electronics |
| 33 | | cooling | cleanup mask cooling |
| 34 | | | mirror cooling |
| 35 | | | vacuum guard lines |
| 36 | | other | cables 45 m |
| 37 | | | PFM chamber support and feet |
| 38 | | | TL1 support |
| 39 | | | manuals |
| 40 | | | drawings |
| 41 | | | pre-alignment |

| Item | Section | Type | Component |
|------|---------|----------------|---|
| 42 | PGM | UHV components | inlet bellows CF63 |
| 43 | | | chamber |
| 44 | | | outlet bellows CF40 |
| 45 | | | blind flanges |
| 46 | | | viewports (with X-ray protection) |
| 47 | | pumps | ion pump |
| 48 | | | ion pump controller |
| 49 | | | getter pump |
| 50 | | | getter pump controller |
| 51 | | | diaphragm pump for vacuum guard line |
| 52 | | gauges | full-range gauge (active) |
| 53 | | | cold-cathode gauge (active) |
| 54 | | | safety gauge for vacuum guard line |
| 55 | | | gauge controller (active) |
| 56 | | valves | CF63 angle valve for bakeout (all-metal) |
| 57 | | | CF40 valve for mass spectrometer leak testing (all-metal) |
| 58 | | | CF16 angle valve for venting (all-metal) |
| 59 | | | CF40 electropneumatic gate valve (polymer) |
| 60 | | optics | screen |
| 61 | | | PM |
| 62 | | | 2 PGs |
| 63 | | motion | PM pitch (1 axis) |
| 64 | | | PG selection and pitch (2 axes) |
| 65 | | | 3 motors |
| 66 | | | 3 encoders |
| 67 | | | 6 end switches |
| 68 | | | 1 PM–PG collision safety switch |
| 69 | | | manual adjustment of other axes |
| 70 | | | manual screen insertion |
| 71 | | bakeout | heating elements |
| 72 | | | bakeout controller |
| 73 | | | thermocouples on optics and sensitive electronics |
| 74 | | cooling | PM cooling |
| 75 | | | PG cooling |
| 76 | | | vacuum guard lines |
| 77 | | other | cables 45 m |
| 78 | | | PGM chamber support and feet |
| 79 | | | camera |
| 80 | | | manuals |
| 81 | | | drawings |
| 82 | | | pre-alignment |

| Item | Section | Type | Component |
|------|----------|----------------|---|
| 83 | TL2+ES+F | UHV components | tubing of TL2 |
| 84 | | | bellows CF40 |
| 85 | | | chamber of ES |
| 86 | | | bellows CF40 |
| 87 | | | chamber of F |
| 88 | | | blind flanges |
| 89 | | | viewports (with X-ray protection) |
| 90 | | pumps | ion pump of TL2 |
| 91 | | | ion pump controller |
| 92 | | | ion pump of ES |
| 93 | | | ion pump of F |
| 94 | | gauges | full-range gauge (active) of ES |
| 95 | | | full-range gauge (active) of F |
| 96 | | | gauge controller (active) |
| 97 | | valves | CF63 angle valve for bakeout (all-metal) |
| 98 | | | CF40 valve for mass spectrometer leak testing (all-metal) |
| 99 | | | CF16 angle valve for venting (all-metal) |
| 100 | | | CF40 electropneumatic gate valve (polymer) |
| 101 | | optics | circular aperture |
| 102 | | | exit slit |
| 103 | | | filter holder with 8 positions |
| 104 | | | 4 filters |
| 105 | | motion | ES aperture (1 axis) |
| 106 | | | filter selection (1 axis) |
| 107 | | | 2 motors |
| 108 | | | 2 encoders |
| 109 | | | 4 end switches |
| 110 | | | manual insertion of circular aperture |
| 111 | | | manual insertion of screen |
| 112 | | bakeout | heating elements |
| 113 | | | bakeout controller |
| 114 | | other | cables 45 m |
| 115 | | | TL2 support |
| 116 | | | ES chamber support and feet |
| 117 | | | F chamber support and feet |
| 118 | | | camera |
| 119 | | | manuals |
| 120 | | | drawings |
| 121 | | | pre-alignment |

| Item | Section | Type | Component |
|------|---------|----------------|--|
| 122 | RFM | UHV components | bellows CF40 |
| 123 | | | chamber of RFM |
| 124 | | | flange to insert Au evaporator pointing on wire mesh |
| 125 | | | bellows CF40 |
| 126 | | | blind flanges |
| 127 | | | viewports (with X-ray protection) |
| 128 | | pumps | ion pump |
| 129 | | | ion pump controller |
| 130 | | | getter pump |
| 131 | | | getter pump controller |
| 132 | | gauges | full-range gauge (active) |
| 133 | | | cold-cathode gauge (active) |
| 134 | | | gauge controller (active) |
| 135 | | valves | CF63 angle valve for bakeout (all-metal) |
| 136 | | | CF40 valve for mass spectrometer leak testing (all-metal) |
| 137 | | | CF16 angle valve for venting (all-metal) |
| 138 | | | CF40 electropneumatic gate valve (polymer) |
| 139 | | optics | toroidal mirror |
| 140 | | | gold wire mesh |
| 141 | | | photodiode |
| 142 | | | screen |
| 143 | | motion | manual positioning of RFM (2 axes) |
| 144 | | | mesh insertion (1 axis) |
| 145 | | | photodiode insertion (1 axis) |
| 146 | | | screen insertion (1 axis) |
| 147 | | bakeout | heating elements |
| 148 | | | bakeout controller |
| 149 | | other | connectors to read RFM current, mesh current, photodiode current |
| 150 | | | cables 45 m |
| 151 | | | RFM chamber support and feet |
| 152 | | | camera |
| 153 | | | manuals |
| 154 | | | drawings |
| 155 | | | pre-alignment |