**插头插座量规校准规范**

**试验报告**

（征求意见稿）

《插头插座量规校准规范》编写组

2023年11月

**《插头插座量规校准规范》试验报告**

1. **实验目的**

插头插座量规是对插头和插座要素尺寸边界条件进行综合检验的计量器具，主要用于控制插头和插座的极限尺寸。根据其额定电压、额定电流的不同，量规的基本尺寸要求均有所不同。

为了验证《插头插座量规校准规范》中校准方法的可靠性，同时也为了验证测量不确定度的评定结果，选择了全套家用和类似用途单相插头插座量规和家用和类似用途三相插头插座量规进行试验。

1. **实验方法**

参照《插头插座量规校准规范》中6.2所描述的校准方法进行量规的校准。

1. **实验结果**

1、家用和类似用途单相插头插座量规基本尺寸

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| 单相两级插头量规 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 实测值（mm） | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| *F*pg | | | | | | | | | | *t*pg左 | | | | | | | | | *b*pg左 | | | | | | | | | | | | *t*pg右 | | | | | | | | | | | | | | *b*pg右 | | | | | | | | | | | | | | *D* | | | | | | | | | | | *H* | | | | | | | | |
| 12.70 | | | | | | | | | | 1.81 | | | | | | | | | 6.44 | | | | | | | | | | | | 1.81 | | | | | | | | | | | | | | 6.44 | | | | | | | | | | | | | | Φ30.00 | | | | | | | | | | | 10.00 | | | | | | | | |
| 单相两极带接地插头量规 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 规格 | | | | 实测值（mm） | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| *A*pg | | | | | | | *F*pg | | | | | *J*pg（左/右） | | | | | | | | | | | *t*pg(E) | | | | | | *b*pg(E) | | | | | | | | | *t*pg(L) | | | | | | *b*pg(L) | | | | | | | *t*pg(N) | | | | | | | *b*pg(N) | | | | | | *D* | | | | | | | *H* | | | |
| ≤10A | | | | 10.30 | | | | | | | 7.89 | | | | | 119°54′/120°04′ | | | | | | | | | | | 1.97 | | | | | | 6.72 | | | | | | | | | 1.97 | | | | | | 6.72 | | | | | | | 1.97 | | | | | | | 6.72 | | | | | | Φ35.00 | | | | | | | 10.00 | | | |
| 16A | | | | 11.10 | | | | | | | 9.48 | | | | | 120°05′/120°00′ | | | | | | | | | | | 2.26 | | | | | | 8.42 | | | | | | | | | 2.26 | | | | | | 8.42 | | | | | | | 2.26 | | | | | | | 8.42 | | | | | | Φ40.00 | | | | | | | 10.00 | | | |
| 单相两极插座通规 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 实测值（mm） | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| *F*sg | | | | | | | *T*sg左 | | | | | | | | | | *B*sg左 | | | | | | | | | *T*sg右 | | | | | | | | | | | | *B*sg右 | | | | | | | | | | | | *E*sg | | | | | | | | | | | *D* | | | | | | | | | | | | *H* | | | | | |
| 12.68 | | | | | | | 1.84 | | | | | | | | | | 7.25 | | | | | | | | | 1.84 | | | | | | | | | | | | 7.25 | | | | | | | | | | | | 6.00 | | | | | | | | | | | Φ30.00 | | | | | | | | | | | | 9.99 | | | | | |
| 单相两极带接地插座通规 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 规格 | | | 实测值（mm） | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| *A*sg | | | | | | *F*sg | | | | | | *J*sg（左/右） | | | | | | | *T*sg (E) | | | | | | | | *B*sg (E) | | | | | *T*sg (L) | | | | | | | | | *B*sg (L) | | | | | *T*sg (N) | | | | | | | *B*sg (N) | | | | | | | | | *C*sg | | | | *D* | | | | | | *H* | | | |
| ≤10A | | | 10.30 | | | | | | 7.90 | | | | | | 119°50′/119°51′ | | | | | | | 1.69 | | | | | | | | 6.97 | | | | | 1.69 | | | | | | | | | 6.97 | | | | | 1.69 | | | | | | | 6.97 | | | | | | | | | 6.00 | | | | Φ35.00 | | | | | | 10.00 | | | |
| 16A | | | 11.10 | | | | | | 9.52 | | | | | | 120°04′/120°06′ | | | | | | | 2.07 | | | | | | | | 8.68 | | | | | 2.07 | | | | | | | | | 8.68 | | | | | 2.07 | | | | | | | 8.68 | | | | | | | | | 6.00 | | | | Φ40.00 | | | | | | 9.99 | | | |
| 单相插座单插销孔止规 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 规格 | | | | | | | | | | | | | | 实测值（mm） | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| *T*sg | | | | | | | | | *B*sg | | | | | | | | | | | | | | | | | *E*sg | | | | | | | | | | | | | | *D* | | | | | | | | | | | | | | *H* | | | | | | | | | | |
| ≤10A | | | | | | | | | | | | | | 2.50 | | | | | | | | | 7.91 | | | | | | | | | | | | | | | | | 6.00 | | | | | | | | | | | | | | Φ30.00 | | | | | | | | | | | | | | 10.00 | | | | | | | | | | |
| 16A | | | | | | | | | | | | | | 2.90 | | | | | | | | | 9.63 | | | | | | | | | | | | | | | | | 5.99 | | | | | | | | | | | | | | Φ39.99 | | | | | | | | | | | | | | 10.00 | | | | | | | | | | |
| 单相两极插座不接触规 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 实测值（mm） | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| *F*sg | | | | | | | *T*sg左 | | | | | | | | | | *B*sg左 | | | | | | | | *T*sg右 | | | | | | | | | | | | *B*sg右 | | | | | | | | | | | | *E*sg | | | | | | | | | | | *D* | | | | | | | | | | | *H* | | | | | | |
| 12.69 | | | | | | | 1.48 | | | | | | | | | | 6.32 | | | | | | | | 1.48 | | | | | | | | | | | | 6.32 | | | | | | | | | | | | 7.96 | | | | | | | | | | | Φ30.00 | | | | | | | | | | | 10.00 | | | | | | |
| 单相两极带接地插座不接触规 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 规格 | | 实测值（mm） | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| *A*sg | | | | *F*sg | | | | | | *J*sg（左/右） | | | | | | | | *T*sg (E) | | | | *B*sg (E) | | | | | | *T*sg (L) | | | | *B*sg (L) | | | | | | | *T*sg (N) | | | | | *B*sg (N) | | | | | | | *C*sg | | | | *E*sg(L) | | | | | | | *E*sg(N) | | *R* | | | | | | | *D* | | | | *H* | |
| ≤10A | | 10.31 | | | | 7.88 | | | | | | 120°05′/119°45′ | | | | | | | | 1.50 | | | | 6.36 | | | | | | 1.50 | | | | 6.36 | | | | | | | 1.50 | | | | | 6.36 | | | | | | | 21.00 | | | | 9.96 | | | | | | | 9.96 | | 6.09 | | | | | | | Φ35.00 | | | | 10.00 | |
| 16A | | 11.11 | | | | 9.58 | | | | | | 119°31′/119°44′ | | | | | | | | 1.78 | | | | 8.06 | | | | | | 1.78 | | | | 8.06 | | | | | | | 1.78 | | | | | 8.06 | | | | | | | 20.98 | | | | 9.96 | | | | | | | 9.96 | | 6.19 | | | | | | | Φ39.99 | | | | 10.00 | |
| 单相两极插座接触规 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 实测值（mm） | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| *F*sg | | | | | | | | *T*sg左 | | | | | | | | | | *B*sg左 | | | | | | | | | | *T*sg右 | | | | | | | | | | | *B*sg右 | | | | | | | | | | | | *E*sg | | | | | | | | | | | | *D* | | | | | | | | | | | *H* | | | | |
| 12.70 | | | | | | | | 1.45 | | | | | | | | | | 6.32 | | | | | | | | | | 1.45 | | | | | | | | | | | 6.32 | | | | | | | | | | | | 11.60 | | | | | | | | | | | | Φ30.00 | | | | | | | | | | | 10.01 | | | | |
| 单相两极带接地插座接触规 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 规格 | 实测值（mm） | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| *A*sg | | | | *F*sg | | | | | | | | *J*sg（左/右） | | | | | | | | *T*sg (E) | | | | | | | | *B*sg (E) | | | *T*sg (L) | | | | *B*sg (L) | | | | | | | *T*sg (N) | | | | *B*sg (N) | | | | | *C*sg | | | | | | *E*sg(L) | | | | | | *E*sg(N) | | | *R* | | | | | *D* | | | | *H* | | |
| ≤10A | 10.31 | | | | 7.89 | | | | | | | | 120°19′/120°10′ | | | | | | | | 1.50 | | | | | | | | 6.35 | | | 1.50 | | | | 6.35 | | | | | | | 1.50 | | | | 6.35 | | | | | 21.08 | | | | | | 13.65 | | | | | | 13.65 | | | 6.08 | | | | | Φ35.00 | | | | 10.00 | | |
| 16A | 11.10 | | | | 9.51 | | | | | | | | 119°49′/120°09′ | | | | | | | | 1.78 | | | | | | | | 8.04 | | | 1.78 | | | | 8.04 | | | | | | | 1.78 | | | | 8.04 | | | | | 20.98 | | | | | | 13.65 | | | | | | 13.65 | | | 6.12 | | | | | Φ39.98 | | | | 10.00 | | |

2、家用和类似用途三相插头插座量规基本尺寸

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| 三相五线插头量规 | | | | | | | | | | | | | | | | |
| 规格 | 实测值（mm） | | | | | | | | | | | | | | | |
| *A*pg | *G*pg | *F*pg  (左) | *F*pg  (右) | *H*pg | *t*1pg  (L1) | *t*1pg  (L3) | *t*2pg | *t*3pg | *t*4pg | *b*1pg  (L1) | *b*1pg  (L3) | *b*2pg | *b*3pg  (N) | *b*3pg  (L2) | *h* |
| 16A | 9.51 | 10.30 | 10.30 | 10.60 | 2.01 | 2.15 | 2.14 | 1.83 | 2.14 | 2.01 | 8.05 | 8.05 | 8.30 | 8.05 | 8.05 | 9.00 |
| 25A | 17.51 | 17.51 | 17.51 | 17.51 | 2.51 | 2.55 | 2.55 | 2.23 | 2.54 | 2.41 | 12.04 | 12.04 | 12.36 | 12.04 | 12.05 | 9.00 |
| 32A | 20.01 | 20.01 | 20.00 | 20.00 | 3.01 | 3.40 | 3.41 | 3.03 | 3.41 | 3.21 | 15.05 | 15.05 | 15.42 | 15.05 | 15.04 | 12.00 |

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| 三相五线插座通规 | | | | | | | | | | | | | | | | | | | | |
| 规格 | 实测值（mm） | | | | | | | | | | | | | | | | | | | |
| *A*sg | *G*sg | *F*sg(左) | *F*sg(右) | *H*sg | *T*sg(L1) | *T*sg(L2) | *T*sg(L3) | *T*sg(E) | *T*sg(N) | *B*sg(L1) | *B*sg(L2) | *B*sg(L3) | *B*sg(E) | *B*sg(N) | *C*sg(L1) | *C*sg(L2) | *C*sg(L3) | *C*sg(E) | *C*sg(N) |
| 16A | 9.51 | 10.30 | 10.30 | 10.30 | 2.01 | 2.06 | 2.07 | 2.06 | 2.07 | 2.07 | 8.29 | 8.30 | 8.29 | 8.30 | 8.29 | 8.00 | 8.00 | 8.00 | 8.00 | 8.00 |
| 25A | 17.51 | 17.50 | 17.50 | 17.50 | 2.51 | 2.47 | 2.46 | 2.47 | 2.46 | 2.46 | 12.49 | 12.49 | 12.50 | 12.50 | 12.49 | 8.00 | 8.00 | 8.00 | 8.00 | 8.00 |
| 32A | 20.00 | 20.01 | 20.01 | 20.01 | 3.01 | 3.29 | 3.29 | 3.29 | 3.30 | 3.29 | 15.49 | 15.49 | 15.49 | 15.50 | 15.50 | 8.00 | 8.00 | 8.00 | 8.00 | 8.00 |

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| 三相五线插座止规 | | | | | | | | | | | | | | | | | | | | |
| 规格 | 实测值（mm） | | | | | | | | | | | | | | | | | | | |
| *A*sg | *G*sg | *F*sg(左) | *F*sg(右) | *H*sg | *T*sg(L1) | *T*sg(L2) | *T*sg(L3) | *T*sg(E) | *T*sg(N) | *B*sg(L1) | *B*sg(L2) | *B*sg(L3) | *B*sg(E) | *B*sg(N) | *C*sg(L1) | *C*sg(L2) | *C*sg(L3) | *C*sg(E) | *C*sg(N) |
| 16A | 9.51 | 10.30 | 10.30 | 10.30 | 2.01 | 2.58 | 2.57 | 2.58 | 2.57 | 2.57 | 9.28 | 9.27 | 9.28 | 9.28 | 9.27 | 8.00 | 8.00 | 8.00 | 8.00 | 8.00 |
| 25A | 17.51 | 17.50 | 17.50 | 17.50 | 2.51 | 3.41 | 3.42 | 3.42 | 3.42 | 3.41 | 13.32 | 13.32 | 13.32 | 13.32 | 13.32 | 8.00 | 8.00 | 8.00 | 8.00 | 8.00 |
| 32A | 20.00 | 20.01 | 20.01 | 20.01 | 3.01 | 4.22 | 4.21 | 4.21 | 4.22 | 4.21 | 16.33 | 16.32 | 16.32 | 16.32 | 16.33 | 8.00 | 8.00 | 8.00 | 8.00 | 8.00 |

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| 三相五线插座不接触规 | | | | | | | | | | | | | | | | | | | | |
| 规格 | 实测值（mm） | | | | | | | | | | | | | | | | | | | |
| *A*sg | *G*sg | *F*sg(左) | *F*sg(右) | *H*sg | *T*sg(L1) | *T*sg(L2) | *T*sg(L3) | *T*sg(E) | *T*sg(N) | *B*sg(L1) | *B*sg(L2) | *B*sg(L3) | *B*sg(E) | *B*sg(N) | *C*sg(L1) | *C*sg(L2) | *C*sg(L3) | *C*sg(E) | *C*sg(N) |
| 16A | 9.51 | 10.30 | 10.30 | 10.30 | 2.01 | 1.81 | 1.81 | 1.80 | 1.80 | 1.80 | 8.01 | 8.01 | 8.00 | 8.00 | 8.01 | 10.29 | 10.30 | 10.29 | 10.30 | 10.29 |
| 25A | 17.51 | 17.50 | 17.50 | 17.50 | 2.51 | 2.21 | 2.21 | 2.21 | 2.20 | 2.20 | 12.01 | 12.00 | 12.01 | 12.01 | 12.00 | 17.49 | 17.49 | 17.50 | 17.49 | 17.50 |
| 32A | 20.00 | 20.01 | 20.01 | 20.01 | 3.01 | 3.01 | 3.01 | 3.00 | 3.00 | 3.00 | 15.01 | 15.02 | 15.02 | 15.01 | 15.01 | 25.69 | 25.69 | 25.69 | 25.68 | 25.68 |

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| --- | --- | --- | --- |
| 三相插座带电插套接触规 | | | |
| 规格 | 实测值（mm） | | |
| *T*sg | *B*sg | *E*sg |
| 16A | 1.79 | 7.99 | 13.31 |
| 25A | 2.18 | 11.98 | 20.81 |
| 32A | 2.99 | 14.98 | 29.51 |

1. **实验结论**

通过上述实验可知，校准规范确定的校准方法是科学、合理、可行的，可以满足插头插座量规的校准要求。