Fig7:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Bias cup aperture | 4mm | 4.5mm | 5mm | 5.5mm | 6mm |
| The beam spot diameter | 0.280mm | 0.261mm | 0.243mm | 0.221mm | 0.198mm |

Fig8:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Cathode-anode distance | 28.5mm | 28.7mm | 28.9mm | 29.1mm | 29.3mm |
| The beam spot diameter | 0.233mm | 0.236mm | 0.238mm | 0.240mm | 0.248mm |

Fig9:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| The anode aperture | 8.5mm | 9mm | 9.5mm | 10mm | 10.5mm |
| The beam spot diameter | 0.321mm | 0.307mm | 0.276mm | 0.248mm | 0.237mm |

Fig10:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Distance between focusing coil and transmitting surface | 400mm | 425mm | 450mm | 475mm | 500mm |
| The beam spot diameter | 0.301mm | 0.267mm | 0.240mm | 0.218mm | 0.180mm |

Fig11:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Focusing on the current | 3.0A | 3.1A | 3.2A | 3.3A | 3.4A |
| The beam spot diameter | 0.221mm | 0.194mm | 0.181mm | 0.170mm | 0.168mm |

Fig14:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Bias cup aperture | 4mm | 4.5mm | 5mm | 5.5mm | 6mm |
| The beam spot diameter | 0.280mm | 0.261mm | 0.243mm | 0.221mm | 0.198mm |
| Depth to width ratio of weld | 8.29 | 9.2 | 12.92 | 16.4 | 29.7 |

Fig15:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Cathode-anode distance | 4mm | 4.5mm | 5mm | 5.5mm | 6mm |
| The beam spot diameter | 0.233mm | 0.236mm | 0.238mm | 0.240mm | 0.248mm |
| Depth to width ratio of weld | 14.45 | 13.9 | 11.73 | 11.54 | 11.3 |

Fig16:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Anode aperture | 8.5mm | 9mm | 9.5mm | 10mm | 10.5mm |
| The beam spot diameter | 0.321mm | 0.307mm | 0.276mm | 0.248mm | 0.237mm |
| Depth to width ratio of weld | 10.78 | 11.35 | 11.84 | 11.92 | 15.2 |

Fig17-a):

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Test plate height | 100m | 200mm | 300mm | 400mm | 500mm |
| Depth to width ratio of weld | 9.69 | 12.08 | 13.09 | 15.2 | 18 |

Fig17-b):

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Focusing on the current | 3.0A | 3.1A | 3.2A | 3.3A | 3.4A |
| The beam spot diameter | 0.221mm | 0.194mm | 0.181mm | 0.170mm | 0.168mm |