**Enclosure No 1 to call tender**

**Technical specification of waveguide system elements for 30MeV linear accelerator**

List of elements:

1. Straight waveguide: 310mm: 1 pc.
2. Straight waveguide: 950mm: 1 pc.
3. Straight waveguide: 1400mm: 1 pc.
4. E-band: 100mm: 2 pc.
5. H-band: 160mm: 1 pc.

|  |  |  |
| --- | --- | --- |
| Parameter | Required | Offered |
| Frequency range | 2998 MHz +/- 15 MHz |  |
| Microwave peak power, range | From 0 to 11MW |  |
| Microwave average power, range | From 0 to 13kW |  |
| Pulse repetition rate range | From 0,1 to 400Hz |  |
| VSWR maximum | 1,10:1 |  |
| Maximal attenuation | Up to 0,2dB/m |  |
| Material | Free-oxide cupper |  |
| Flange material | Brass |  |
| Pressure working range | Up to 3 bar absolute |  |
| Helium leak rate | >1\*10-9 mbar\*l/s |  |
| Dimensions [mm] and weight [g] | According attached sketches:Szkic: 1 Straight waveguide 310mmSzkic: 2 Straight waveguide 950mmSzkic: 3 Straight waveguide 1400mmSzkic: 4 E-band 100mmSzkic: 5 H-band 160mm |  |
| CPR284F flanges dimensions | Szkic: 6 CPR284F Flange dimensions |  |



Minimum weight: 2100g

Szkic: 1 Straight waveguide 310mm



Minimum weight: 5300g

Szkic: 2 Straight waveguide 950mm



Minimum weight: 7800g

Szkic: 3 Straight waveguide 1400mm

100±1



100±1

Szkic: 4 E-band 100mm



160±1

160±1

Szkic: 5 H-band 160mm



Szkic: 6 CPR284F Flange dimensions

**Technical specification of waveguide track elements for the test stand.**

1. Straight waveguide (length L=500 mm); 2 pcs.
2. Straight waveguide (length L=200 mm); 2 pcs.
3. Straight waveguide (length L=100 mm); 2 pcs.
4. Straight waveguide (length L=50 mm); 2 pcs.
5. E-band (100 x 100 mm); 1 pc.
6. H-band (160 x 160 mm); 1 pc.

|  |  |  |
| --- | --- | --- |
| Parameter | Required | Offered |
| Frequency range | 2998 MHz +/- 15 MHz |  |
| Microwave peak power, range | From 0 to 5MW |  |
| Pulse repetition rate range | From 0,1 to 400Hz |  |
| VSWR maximum | 1,10:1 |  |
| Maximal attenuation | Up to 0,05dB/m |  |
| Material | Free-oxide cupper |  |
| Flange material | Brass |  |
| Pressure working range | Up to 2 bar absolute |  |
| Helium leak rate | >1\*10-9 mbar\*l/s |  |
| Dimensions [mm] and weight [g] | Szkic: 7 Straight waveguide 500mmSzkic: 8 Straight waveguide 200mmSzkic: 9 Straight waveguide 100mmSzkic: 10 Straight waveguide 50mmSzkic: 4 E-band 100mmSzkic: 5 H-band 160mm |  |
| CPR284F flanges dimensions | Szkic: 6 CPR284F Flange dimensions |  |

1. Flexible Seamless Waveguide (length 50 mmm); 2 pcs.

|  |  |  |
| --- | --- | --- |
| Parameter | Required | Offered |
| Frequency range | 2998 MHz +/- 15 MHz |  |
| Microwave peak power, range | From 0 to 5MW |  |
| Pulse repetition rate range | From 0,1 to 400Hz |  |
| VSWR maximum | 1,10:1 |  |
| Maximal attenuation | Up to 0,05dB/m |  |
| Material | Free-oxide cupper |  |
| Flange material | Brass |  |
| Pressure working range | Up to 2 bar absolute |  |
| Helium leak rate | >1\*10-9 mbar\*l/s |  |
| Frequency range | 2998 MHz +/- 15 MHz |  |
| Dimensions | Szkic: 11 Flexible Seamless Waveguide  |  |
| CPR284F flanges dimensions | Szkic: 6 CPR284F Flange dimensions |  |

1. Waveguide Twist (length L=300 mm); 1 pc.

|  |  |  |
| --- | --- | --- |
| Parameter | Required | Offered |
| Frequency range | 2998 MHz +/- 15 MHz |  |
| Microwave peak power, range | From 0 to 5MW |  |
| Pulse repetition rate range | From 0,1 to 400Hz |  |
| VSWR maximum | 1,10:1 |  |
| Maximal attenuation | Up to 0,05dB/m |  |
| Material | Free-oxide cupper |  |
| Flange material | Brass |  |
| Pressure working range | Up to 2 bar absolute |  |
| Helium leak rate | >1\*10-9 mbar\*l/s |  |
| Frequency range | 2998 MHz +/- 15 MHz |  |
| Dimensions | Szkic: 12 Waveguide Twist |  |
| CPR284F flanges dimensions | Szkic: 6 CPR284F Flange dimensions |  |



Minimum weight: 3100g

500±2

Szkic: 7 Straight waveguide 500mm



Minimum weight: 1600g

200±2

Szkic: 8 Straight waveguide 200mm



Minimum weight: 1200g

100±2

Szkic: 9 Straight waveguide 100mm



Minimum weight: 950g

50±1

Szkic: 10 Straight waveguide 50mm



Szkic: 11 Flexible Seamless Waveguide



Szkic: 12 Waveguide Twist