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प्लाज्मा अनुसंधान संस्थान  
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परमाणु ऊर्जा विभाग, भारत सरकार का एक सहायता प्राप्त संस्थान  
**An Aided Institute of Department of Atomic Energy,  
Government of India**



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## ENQUIRY

ENQUIRY NO : IPR/EQ/18-19/144  
Date : 12-10-2018

**Due on : 22-11-2018 by 1:00 PM IST**

Please send your offer in sealed envelope specifying Enquiry No, Date & Due Date, ALONG WITH your credentials for the following items which we are interested to import directly against Foreign Trade Policy 2015-2020.

### Important Note:

Please note that e-mail quotations are not acceptable however you may send your queries (if any) to [importpurchase@ipr.res.in](mailto:importpurchase@ipr.res.in)

Please ensure your sealed quotation reaches this office not later than above mentioned due date and time.

Kindly go through the following documents properly before quoting which are available on the IPR web portal i.e., [http://www.ipr.res.in/documents/tender\\_terms.html](http://www.ipr.res.in/documents/tender_terms.html) / attached herewith.

- 1) Instructions to the bidders & Terms and conditions (refer Form No: **IPR-FP-01.V3**)
- 2) Bidding format

**GST for Goods and Services (IGST/CGST/SGST TAX BENEFITS):** Please refer **clause no: 14** of Form No: **IPR-FP-01.V3**

### QUOTATION SHOULD BE ADDRESSED TO PURCHASE OFFICER ONLY

Sr No	Description	Quantity
1	Dual coated (532 and 1064 nm) laser line mirror	12.0 Nos.
2	Harmonic separator	2.0 Nos.
3	Broad band dielectric mirror	12.0 Nos.
4	High-frequency spatial resolution test target	1.0 Nos.
5	Concentric Circle Reticles (Positive)	1.0 Nos.
6	Concentric Circle Reticles (Negative)	1.0 Nos.

Note: Please quote with complete technical details (Technical compliance sheet and product data sheet).

Encl: Other details are as per attached specification sheet.

Sd/-

Mr. D. Ramesh  
Purchase Officer-II

**Information to Vendors:** We are working towards a single platform for our future requirement. Hence, please refer IPR website i.e, <http://www.ipr.res.in/documents/tendersenq.html> for our future requirement.

TDS as per CGST Act: As per provisions of section No. 51 of the CGST Act 2017, TDS @2% (IGST 2% or CGST 1% and SGST 1%) will be deducted while making payment to the suppliers where total value of orders/contracts/work orders exceeds Rs. 2.5 lakhs, in the event of order in Indian Rupees.

Necessary TDS Certificate will be issued to the supplier after TDS deduction.

### 1. Dual coated (532 and 1064 nm) laser line mirror

Type	Circular
Diameter	25mm
Wavelength	Dual Coated ( 532 and 1064 nm)
Angle of incidence	0° to 45°
Reflection	Reflection (R) > 98 % at 532 nm and 1064
Clear aperture	≥ 80% of the diameter
Parallelism	≤ 5 arcmin
Surface flatness	$\lambda/8$ @ 633nm or better
Surface quality	10-5 scratch-dig
Damage threshold	≥ 2 J/cm <sup>2</sup> for both the wavelengths for 10ns pulse @ 10 Hz
Quantity	12

### 2. Harmonic separator

Type	Circular
Diameter	25 mm
Clear aperture	≥ 80% of the diameter
Angle of incidence	45°
Transmission	≥ 95% @532 nm
Reflection	≥ 98% @1064 nm
Surface flatness	$\lambda/8$ @ 633nm or better
Surface quality	10-5 scratch-dig
Damage threshold	≥ 2 J/cm <sup>2</sup> for both the wavelengths for 10 ns pulse @ 10 Hz
Quantity	2

### 3. Broad band dielectric mirror

Type	Fused silica dielectric circular mirror
Diameter	25mm
Wavelength range	400 – 750 nm
Angle of incidence	0° to 45°
Reflection (R <sub>avg</sub> )	> 98 %
Clear aperture	≥ 80% of the diameter
Parallelism	≤ 5 arcmin
Surface flatness	$\lambda/8$ @ 633nm or better
Surface quality	10-5 scratch-dig
Damage threshold	~ 0. 2 J/cm <sup>2</sup> for 532 nm @ 10ns pulse and 10 Hz
Quantity	12

#### 4. High-frequency spatial resolution test target

Type	Positive pattern
Dimension	~ 2" x 2"
Design	Chrome pattern on glass
Substrate	Clear glass/ N-BK7
Substrate thickness	~ 1.5 mm
Standard	NBS
Frequencies	1 to 228 cycle/ mm
Chrome optical density (OD)	≥ 3
Line spacing tolerance	± 1 micrometer or better
Line spacing tolerance	± 0.5 micrometer or better
Quantity	1

#### 5. Concentric Circle Reticles (Positive)

Type	Positive pattern
Dimension	1" diameter
Design	Ten numbered concentric ring (minimum diameter ~1 mm) with diameter increment 1mm in association with crosshair.
Substrate	Fused silica
Substrate thickness	~ 1.5 mm
Surface quality	60-40 scratch-dig
Chrome optical density (OD)	≥ 3
Quantity	1

#### 6. Concentric Circle Reticles (Negative)

Type	Negative pattern
Dimension	1" diameter
Design	Ten numbered concentric ring (minimum diameter ~1 mm) with diameter increment 1mm in association with crosshair.
Substrate	Fused silica
Substrate thickness	~ 1.5 mm
Surface quality	60-40 scratch-dig
Chrome optical density (OD)	≥ 3
Quantity	1

## Compliance Sheet

### 1. Dual coated (532 and 1064 nm) laser line mirror

Description	IPR Specifications	Offered Specifications
Type	Circular	
Diameter	25mm	
Wavelength	Dual Coated ( 532 and 1064 nm)	
Angle of incidence	0° to 45°	
Reflection	Reflection (R) > 98 % at 532 nm and 1064	
Clear aperture	≥ 80% of the diameter	
Parallelism	≤ 5 arcmin	
Surface flatness	$\lambda/8$ @ 633nm or better	
Surface quality	10-5 scratch-dig	
Damage threshold	≥ 2 J/cm <sup>2</sup> for both the wavelengths for 10ns pulse @ 10 Hz	

### 2. Harmonic separator

Description	IPR Specifications	Offered Specifications
Type	Circular	
Diameter	25 mm	
Clear aperture	≥ 80% of the diameter	
Angle of incidence	45°	
Transmission	≥ 95% @532 nm	
Reflection	≥ 98% @1064 nm	
Surface flatness	$\lambda/8$ @ 633nm or better	
Surface quality	10-5 scratch-dig	
Damage threshold	≥ 2 J/cm <sup>2</sup> for both the wavelengths for 10 ns pulse @ 10 Hz	

### 3. Broad band dielectric mirror

Description	IPR Specifications	Offered Specifications
Type	Fused silica dielectric circular mirror	
Diameter	25mm	
Wavelength range	400 – 750 nm	
Angle of incidence	0° to 45°	
Reflection ( $R_{avg}$ )	> 98 %	
Clear aperture	≥ 80% of the diameter	
Parallelism	≤ 5 arcmin	
Surface flatness	$\lambda/8$ @ 633nm or better	
Surface quality	10-5 scratch-dig	
Damage threshold	~ 0.2 J/cm <sup>2</sup> for 532 nm @ 10ns pulse and 10 Hz	

### 4. High-frequency spatial resolution test target

Description	IPR Specifications	Offered Specifications
Type	Positive pattern	
Dimension	~ 2" x 2"	
Design	Chrome pattern on glass	
Substrate	Clear glass/ N-BK7	
Substrate thickness	~ 1.5 mm	
Standard	NBS	
Frequencies	1 to 228 cycle/ mm	
Chrome optical density (OD)	≥ 3	
Line spacing tolerance	± 1 micrometer or better	
Line spacing tolerance	± 0.5 micrometer or better	

### 5. Concentric Circle Reticles (Positive)

Description	IPR Specifications	Offered Specifications
Type	Positive pattern	
Dimension	1" diameter	
Design	Ten numbered concentric ring (minimum diameter ~1 mm) with diameter increment 1mm in association with crosshair.	
Substrate	Fused silica	
Substrate thickness	~ 1.5 mm	
Surface quality	60-40 scratch-dig	
Chrome optical density (OD)	≥ 3	

### 6. Concentric Circle Reticles (Negative)

Description	IPR Specifications	Offered Specifications
Type	Negative pattern	
Dimension	1" diameter	
Design	Ten numbered concentric ring (minimum diameter ~1 mm) with diameter increment 1mm in association with crosshair.	
Substrate	Fused silica	
Substrate thickness	~ 1.5 mm	
Surface quality	60-40 scratch-dig	
Chrome optical density (OD)	≥ 3	
Quantity	1	

Date: \_\_\_\_\_

Bidder's Stamp and Sign: \_\_\_\_\_