

# PAKISTAN AERONAUTICAL COMPLEX, KAMRA MIRAGE REBUILD FACTORY

## TENDER NOTICE : OPEN TENDER

Tender reference	:	MRF/Log/23-24/OT-19
Tender No	:	OT-19
Publishing date	:	24 January, 2024
Last date of submission of bids	:	07 February, 2024 (1000 Hrs)
Opening date & Time	:	07 February, 2024 (1100 Hrs)

1. Sealed tenders for purchase / repair of items as per enclosed list are invited from sales tax registered Suppliers who are on Active Taxpayers List (ATL) of FBR.

### Pattern of Quotations

2. The quotation shall comprise a single package containing 02 separate envelopes. Tender reference along with due date of opening and Category Number must be clearly marked. Each envelope shall contain separately, the financial proposal and the Technical proposal respectively. Each bid (financial / technical) will be on separate leaf against single line item, envelope cover must be marked with "Item name". Quotations with multiple line items on single page will be dropped. **Quotations should be on original letter head (color printed)**. The quotations shall be addressed to Managing Director MRF, PAC Kamra as per terms given below:-

(a) **Technical Offer:** It should be without prices and contain all relevant essential specifications along with literature / brochures. Tender number, date of opening and word (**Technical offer**) should be clearly marked. The tendered Part No should be mentioned against quoted item / offer. Any details of equivalent / variables being quoted should be clearly mentioned against Part No being tendered. **NSN / OEM Part No** should be mentioned on both technical and commercial quotations. All quoted products must have traceable local / foreign OEM. **Country / Place of Manufacture / OEM** of stores is to be provided along with Technical / Commercial offer. **Certificate of Conformance** (where applicable), **Technical Data Sheet (TDS)** and **Material Safety Data Sheet (MSDS)** along with any other relevant literature by OEM are must for all Aviation Items, Chemicals, Material and Equipment. All precision measuring equipment must be quoted with provisioning of fresh **Calibration Certificate**. Spectrometric analysis report against raw material / hardware items may be required to establish conformity of delivered product. All Chemicals, lubricants and any item of shelf life range must be quoted with provisioning of **MSDS** along with fresh **Laboratory Test Reports** against corresponding LOT No, Batch No, Date of Production, Date of Expiry of delivered stores. **Part Catalogues, IPBs (Illustrated Part Breakdown), User Guides, Operating / Maintenance Manuals, Brochures, Prices** which ever available / applicable would be provided free of cost along with delivered stores. **Unit of issue** must be same as mentioned in tender notice. Confirmation to this effect is to be furnished by written certificate along with quotation. License keys, activation / access passwords and source codes are to be provided along with all software whether purchased individually or as a part of any system/equipment or machinery.

(b) **Financial Offer:** It should indicate price of quoted item (**to be delivered at MRF, Kamra premises with all liabilities on Suppliers**) and confirmation to the terms and condition of MRF tender inquiry. The words "**Financial offer**" should be clearly marked. The Quoted prices are to be exclusive of GST levied by the Government and these should be in accordance with the current Local market prices. GST must be mentioned separately. All

other charges must be incorporated in offered price. Rates must be mentioned in both “words” and “figures”. Following documents must accompany financial offer:-

- (i) Proof of being on **active taxpayers list**
- (ii) Sales tax registration certificate
- (iii) NTN certificate
- (iv) Professional Tax certificate of the province where the contract is being concluded as per MAG letter No 54/AT/S/1687-Vol-XXVII/P-29 dated 22 April, 2013 and Taxation department Punjab letter No SO (TAX) 1-33/77 (P-IV) date 28 August, 2003.
- (v) Any specific SRO / Tax exemptions if applicable must be notified along with commercial offer.

(c) **Bid Money / Earnest Money:** The **unregistered firms with PACB** (Pakistan Aeronautical Complex Board, Kamra) will have to furnish **earnest money @ 5%** of the quoted value through **Bank Draft / CDR** in favour of **Public Fund Account MRF PAC, Kamra**. The earnest money instrument should indicate Tender reference and firm/company name. In case where the exact Quantity has not been mentioned the earnest money should be calculated against MOQ / market available standard OEM packaging. The exact bid money in this scenario will have to be furnished within 01 week of intimation of being technically accepted, lowest financial bidder. The confirm purchase order will be furnished upon receipt of earnest money. Earnest money of bidders backing out of submitted quote or failing to provide in time delivery will be forfeited along with initiation of disciplinary actions.

### Quantity

3. Quantity can be increased / decreased at the time of order as per MRF requirement without change of financial quotations. Bids once submitted will not be allowed to be changed and will be binding on suppliers for delivery of stores if purchase order is furnished, however, clarifications may be sought.

### Offer requirement / validity

4. The quotation should be valid if it contain under mentioned information.
  - (a) Quote Validity should be minimum **90 days** and extendable on request. Quotations with less validity will be rejected.
  - (b) EDD must be available on Commercial Quote. Quotation will not be accepted without delivery period.
  - (c) Picture and TDS must be available with technical quote.
  - (d) Separate quote for every single line item.
  - (e) Mentioning of date on commercial / technical quotes is mandatory.
  - (f) Terms & Conditions should be mentioned on commercial / technical quotes.

### Delivery Period

5. **Items are to be delivered at MRF, PAC KAMRA premises with all liabilities on Suppliers.** Stores are required within minimum possible delivery period. Offer with minimum delivery period are likely to be preferred. However, the delivery period should be factual as no subsequent extension will be granted except under extreme / un-avoidable circumstances. **Delivery period will invariably start from furnishing of written (provisional / firm) purchase order whichever is earlier.** Delivered stores must be in **standard packing** (free of any separate

cost). Delivery of items shall be strictly made as per timeline mentioned in purchase order. In case of failure, MRF reserves the right to cancel any PO.

## 6. **Acceptance of Stores / General Terms & Conditions**

- (a) **Certificate of Conformance, TDS and MSDS** by OEM is must for all aviation items, Materials and Equipment.
- (b) All precision measuring equipment must accompany fresh **Calibration Certificate either from OEM or any certified credible facility.**
- (c) All Chemicals, lubricants and any item of shelf life range must accompany **MSDS** along with fresh **laboratory test reports against corresponding LOT number, Batch number, date of production, date of expiry of delivered stores.**
- (d) In case of life items, the remaining shelf life must be at least 75 % at the time of delivery.
- (e) Stores will be accepted after inspection by concerned user / Quality Control Directorate as per QMS of MRF.
- (f) Supplier will be made responsible for **warranty / guarantee** of newly purchased items **at least one year or maximum possible.** In case of rejection of item on receipt or any defect / anomaly found within warranty period whether before use or while in use, the supplier will provide free of cost repair / replacement (which applicable) at MRF Kamra premises bearing all liabilities.
- (g) All repair works / services will INVARIABLY be under at least **06 months warranty**, unless contracted otherwise and depends upon case to case basis.
- (h) **Part Catalogues, IPBs (Illustrated Part Breakdown), User Guides, Operating / Maintenance Manuals, Brochures, Prices** which ever available / applicable would invariably be provided **free of cost** along with delivered stores.
- (j) Items should be current year's production.
- (k) Supplier will retain record of all products delivered to MRF karma, for at least 03 years.
- (l) MRF reserves the right to visit / inspect any premises of supply chain against required / offered products.
- (m) The supplier will be responsible for in time payment of all applicable taxes and duties to relevant agencies as per in vogue GOP regulations. The supplier must be able to furnish / produce such record as and when demanded by MRF.
- (n) Any item being tendered if obsolete / discontinued by OEM may please be communicated along with said certification by OEM. Suitable replacements / substitutes / interchangeable may also be communicated along with complete technical / operational details.
- (p) All quotations/ bids, correspondence and clarifications / queries must be on company letter head duly signed by authorized signatory authority. Active contact / correspondence details (phone no. mobile no. email & postal address must be mentioned).
- (q) All quotations, bids, clarifications, queries, correspondence and product will be kept strictly confidential.

## Release of Payment

7. Payment will be released by Dte of Budget and Accounts, MRF PAC, Kamra on submission of Sales Tax invoice along with copies of GST registration, NTN certificate and Professional Tax certificate. Sales Tax Return against previous transactions (if any) during current financial year and copy of relevant SRO (if applicable) will also be required. All payments are to be received after successful acceptance of delivered stores by user and upon furnishing of requisite documentation. After receipt of payment, supplier is to furnish monthly sales tax return declaration along with Annexure "C" (DOMESTIC SALES INVOICE DETAIL) duly depicting invoice number against which payment has been received from MRF, Kamra. Specified amount of GST and Income tax will be withheld/ deducted at source as per GOP instructions in vogue. Any exemption in this regard will only be entertained upon furnishing of FBR issued EXEMPTION certificate in name of Firm / Company against specified item.

## Terms and Conditions

8. The terms and conditions mentioned in this document will be integral part of any purchase order furnished against this tender, whether or not mentioned again.

## Clarifications of Queries

9. Queries if any may be cleared by contacting **051-90994414, 90994727**.

## Rejection

10. Offers are liable to be rejected if:

- (a) There is a deviation from any instruction.
- (b) Offers are found conditional or incomplete in any respect.
- (c) Overwriting / erasing in prices.
- (d) Firm **BLACKLISTED / UNDER EMBARGO / DELISTED** by any **Government Organization**.
- (e) Any terms and conditions not in conformity with tendered terms and conditions.

## Delivery of Tender

11. **Each quotation (financial / technical) shall be on separate leaf against single line item.** Both the envelopes of **Technical and Commercial** offers should be enclosed in one cover properly sealed, **envelope cover must be marked with "Item name"** and bear the following address of Indigenous Provisioning office, MRF with **tender Inquiry number and opening date**.

**O i/c Indigenous Provisioning**  
Mirage Rebuild Factory,  
Pakistan Aeronautical Complex, Kamra  
District Attock

## Opening of Tender

12. The quotations must be in original and are to reach at this factory by **1000 Hrs** on **07 February, 2024**. All quotations are to be dropped in the tender box placed at the MRF Guard Room. No quotation will be accepted in photocopy, through Fax and after due date and time. Tender will be opened on **same day at 1100 Hrs** in the presence of witnessing officers and available representatives of the firms in O i/c Indigenous Provisioning. MRF reserve the right to cancel or reject any or all bids / proposals against complete tender or any part thereof, at any time

without any liability. In case of official holiday the Tender will be opened on next working day. Details of requirements is as follows: -

“Lucas.Hrz.Boring MA, Sermateal Part-1, Teflon Resin, Hollow Flange Torque” Fix Check Safety Coupling Torque Static, Shutoff Valve, Air Circulatory Oven, D Ball Visible Laser & IR ( NVD BI ), Bipot/Vertical Hand Grip ( NVD BI ), Bullet Proof Jacket with Accessories (A=Front Plate (B=Back Plate (C=Vest, Sniper 7.62 MM UK (Accuracy), Multi Grenade Launcher 40 MM, Thermal Weapon Sight, NVGS, Tourn Visible A & IR ( NVD BI ), Bullet Proof Helmet With Accessories (A= Pads for Bullet (B=Helmet Frame (C=Chin Straps for Helmet, Binoculars”).

13. List of items can also be downloaded from PPRA website [www.ppra.org.pk](http://www.ppra.org.pk) and as well as PACB website [www.pac.org.pk](http://www.pac.org.pk) free of cost or can be collected from DTE of Log (LP Section) MRF PAC Kamra Distt Attock from **25 January, 2024** during working hours (except holidays).

**Yours Sincerely,**



**(RAFAY JAMAL)**  
Squadron Leader  
for Managing Director  
MRF, PAC Kamra

## MRF QUALITY SYSTEM REQUIREMENTS

Following are the requirements to be satisfied by the Supplier (External Provider) / Sub-Contractor (Local Vendor) of MRF:-

1. The processes, products, and services to be provided including the identification of relevant technical data (e.g., specifications, drawings, process requirements, work instructions).
2. The approval of products and services, methods, processes, equipment, and the release of products and services.
3. Provide inspection and testing criteria for acceptance by MRF.
4. Obtain approval from MRF of changes in product / process.
5. Provide Objective evidence of the quality of product.
6. To ensure product conformance to specified requirements.
7. To provide manufacturing date and Lot number.
8. To provide shelf life and expiry date as applicable
9. Competence, including any required qualification of persons.
10. The external providers' interactions with the organization.
11. Control and monitoring of the external providers' performance to be applied by the organization.
12. Verification or validation activities that the organization, or its customer, intends to perform at the external providers' premises.
13. Supplier (External providers) apply appropriate controls to their direct and sub-tier Suppliers (external providers), to ensure that requirements are met.
14. Design and development control.
15. Special requirements, critical items, or key characteristics.
16. Test, inspection, and verification (including production process verification).
17. The use of statistical techniques for product acceptance and related instructions for acceptance by the organization.
18. To provide Material / Metallurgical test reports along with raw material for traceability through Lot / Batch No. External Provider will also provide date of manufacture of provided Lot / Batch No of raw material.
19. The need to:
  - (a) Implement a Quality Management System.
  - (b) Use customer-designated or approved external providers, including process sources (e.g., special processes).
  - (c) Notify the organization of nonconforming processes, products, or services and obtain approval for their disposition.
  - (d) Prevent the use of counterfeit parts.
  - (e) Notify the organization of changes to processes, products, or services, including changes of their external providers or location of manufacture, and obtain the organization's approval.
  - (f) Flow down to external providers applicable requirements including customer requirements.
  - (g) Provide test specimens for design approval, inspection/verification, investigation, or auditing.
  - (h) Retain records (documented information), including retention periods and disposition requirements.
20. Ensuring that persons are aware of:
  - (a) Their contribution to product or service conformity.
  - (b) Their contribution to product safety.
  - (c) The importance of ethical behavior.

**MRF/Log/23-24/OT-19 Date of Publishing 24 January, 2024 Last Date of Bids Submission 07 February 2024**

S No	Part No	Noun	Qty	UI	Shop	Remarks / Specifications
1	542B	Lucas.Hrz.Boring MA	1	Ea	Machine Shop (F100)	<p><b>Scope of Work</b></p> <p>(a) Machine accuracy (0.001 inch) to be achieved as spindle accuracy is disturbed.</p> <p>(b) All sort of leakages (oil / hydraulic) to be rectified</p> <p>(c) Main lead screw movement to be calibrated</p> <p>(d) Complete wiring to be rectified and routed as per original layout</p> <p>(e) CNC Controller Program parameters input output to be rectified through password reset and movement calibration</p> <p>(f) Complete machine repair on turnkey basis is required</p>
2	P-720	Sermateal Part-1	2	GI	Paint Shop	<p><b>P-code</b> : P-720</p> <p><b>Part No</b> : 093-997-5001</p> <p><b>Serma Seal</b> : 570 A&amp;B</p>
3	851-204	Teflon Resin	1	Can	F100 Electric Accesory Bay	<p>a) <b>Noun:</b> Coating, Polytetiafluoroethelene (Dow Chemical) / Teflon</p> <p>b) <b>Dielectric strength:</b> 19.7 KV/mm</p> <p>c) Nonstick property over wide temperature range : <b>260 C</b></p> <p>d) Insulating power on hot and wet environment : <b>Good</b></p> <p>Colour: <b>Green</b></p>


4	5330-600	Hollow Flange Torque	1	Ea	Hyd Shop	As per sample Specifications are attached at the end, please
5	6797903	Fix Check Safety Coupling Torque Static	1	Ea	RGB T-56	<b>Scope of Work</b> Torque Guage U/S due to wrong indication.
6	26130011-01	Shutoff Valve	1	Ea	Accessories T-56	<b>Scope of Work</b> Anti-icing Shutt of Valve (QEC) Test Stand LCD & Software Unserviceable repair is required.
7	AG-850	Air Circulatory Oven	1	Ea	ETP Shop	<b>Scope of Work</b> The Heater Oven is Unserviceable and also, functions of Oven are not working properly. Therefore, functions of Oven and Heater needs to be Repaired / Replaced from civil market.
8	1095PK0990003	D Ball Visible Laser & IR ( NVD BI )	10	Ea	GC Sqn	As per Sample
9	1095PK0990007	Bipot/Vertical Hand Grip ( NVD BI )	12	Ea	GC Sqn	As per Sample
10	8470-PK-000-7084M	Bullet Proof Jacket with Accessories (A=Front Plate (B=Back Plate (C=Vest	30	Ea	GC Sqn	Specifications are attached at the end, please
11	1010PK0009376	Sniper 7.62 MM UK (Accuracy)	3	Ea	GC Sqn	Specifications are attached at the end, please
12	1055/PK0011399	Multi Grenade Launcher 40 MM	4	Ea	GC Sqn	Specifications are attached at the end, please
13	96214ASSY6631000-14	Thermal Weapon Sight	3	Ea	GC Sqn	Specifications are attached at the end, please
14	5350PK2710001	NVGS	9	Ea	GC Sqn	Specifications are attached at the end, please
15	1095PK0990004	Tourch Visible A & IR ( NVD BI )	11	Ea	GC Sqn	As per Sample



16	22F/8470-PK	Bullet Proof Helmet With Accessories (A=Pads For Bullet (B=Helmet Frame (C=Chin Straps For Helmet	30	Ea	GC Sqn	Specifications are attached at the end, please
17	5350PK2710002	Binoculars	10	Ea	GC Sqn	Specifications are attached at the end, please

Leader in Force Measurement

## Model 5330 Hollow Flange Reaction Torque Transducer



Why the Interface model 5330 Reaction Torque Transducer is the best in class:

- High torsional stiffness
- Extraneous load resistance
- Compact size
- Large thru-hole

### SPECIFICATIONS

ACCURACY - (MAX ERROR)

Nonlinearity % FS	±0.1
Hysteresis % EE	±0.15
Repeatability %	±0.05

TEMPERATURE

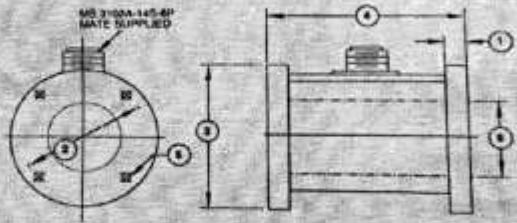
Compensated Range °F	-75 to +175
Compensated Range °C	-24 to +85
Operating Range °F	65 to +225
Operating Range °C	54 to +107
Effect on Output % FS MAX	±0.002
Effect on Zero % FULL SCALE	±0.002

### DIMENSIONS

Size Drawing	MODEL 5330 HOLLOW FLANGE TYPE				
	CAPACITY (lb-in)				
	5K, 10K, 24K	50K, 120K	5K, 5K	10K, 20K	50K, 100K
	inch	inch	inch	inch	inch
1	0.3125	0.3125	0.3125	0.625	0.625
2	3	3	3.375	4.375	7.60
3	2.5	3.25	4	5	6.5
4	7.00	2.00	2.125	3.5	3.5
5	0.70 inch	0.30 inch	0.40 inch	0.20 inch	0.20 inch
6	0.70 inch	1.375 inch	2.375 inch	2.375 inch	3.375 inch

MECHANICAL

Rated Output mV/V (Nominal)	2.0
(1000) 0.001000	1.0
Bridge Resistance - Ohms (Nominal)	350
(500) 5K Ohm 100K	100
Excitation Voltage MAX	10 VDC
Cal/Meter	OW & CON
Safe Overload % CAP	200



Model 5330

INTERFACE • 7401 E. Sothern Drive, Scottsdale, AZ 85260 • PHONE: (480) 948-8866 • FAX: (480) 948-9024  
www.interfaceforce.com • ORDER TOLL-FREE 1-800-947-5598

### TECHNICAL SPECIFICATIONS OF BULLET PROOF JACKET

- Composition**
  - Front and rear soft Armour Panels (SAPs).
  - Front and rear Hard Armour-Plates (HAPs).
  - Integrated Neck protection.
  - Removable Groin protection.
  - Pouches of ammunition and communication (6-8) (As specified by Dte of Security during finalization of advance sample).
- Protection Level**
  - Only SAPs (without HAPs) : Level PK III-A
  - HAPs (in conjunction with SAPs) : Level PK III
- Weight**
  - Weight of SAPs : Max 2.5 Kg
  - Weight of HAP (each plate) : Max 1.8 Kg
  - Total Weight of complete Bullet Proof Jacket including Outer Cover, pouches, SAPs & HAPs : Max 7.5 Kg
- Size of Jacket**

S No	Description	Size		
		Chest	Waist	Length
(a)	Medium	42-44	36-38	21-22
(b)	Large	45-47	39-41	20-21
- Design.** The design of Jacket shall comply with following aspects: -
  - Maximum protected cover area.
  - Weight distribution to reduce fatigue and comfort to wearer.
  - High quality adjustable straps providing good body fitting
  - In addition to the Velcro, Quick release Buckle of good quality shall be provided at where required.
  - Right shoulder joint should be fixed and a leather patch should be provided for rifle Butt.
  - Left Shoulder strap should have sufficient length to relax the neck. Provided buckle (in addition to the Velcro) can be disconnected from the ring so that left shoulder can be fully disconnected.
  - Strap for Hand Held Torch should be provided in centre.
  - Additional utility strap should be provided at ammo pouches and Hard Armor pouch.
  - Hand Grip at back side of Bullet Proof Jacket.

**TECHNICAL SPECIFICATIONS  
[SNIPER RIFLE 7.62 MM]**

1.	Caliber	7.62 x 51 mm (NATO)
2.	Magazine Capacity	5 to 10 Rounds
3.	Weight (with scope)	Max 8 Kg
4.	Weight (without scope)	6 to 7 Kg
5.	Overall Length	1000-1200 mm
6.	Folded Length	750-1000 mm
7.	Barrel Length	Min 600 mm
8.	Muzzle Brake	Standard
9.	Effective Range	800-1000 mtr
10.	Accuracy	Max ½ MOA or Max 0.15 Mil Rad
11.	Life of weapon / Barrel	Min 5,000 Rounds
12.	Butt Pad	Adjustable for height and length
13.	Cheek piece	Adjustable
14.	Front Bipod	Adjustable and quick release
15.	Rear monopod	High strength and fully adjustable
16.	Sight	Front (folding/flip-up) and rear sights Mil Std 1913 (Picatinny Rail) (Military grade scopes, optical devices, NVD, laser designator, torch, etc)
17.	Rail for add-on accessories	2-Point (3-Point preferable)
18.	Sling Attachment points	OEM's standard carry case will
19.	Transit case cutouts	for all rifle's parts / sub - assemblies (Ruggedized water - resistant hard Carry Case if preferable)
20.	Interchangeability	All parts must be interchangeable

**Notes: -**

- Supplier shall provide OEM's certificate confirming interchangeability of parts and availability of all spares for at least 10 years.
- Average tolerances / statistical margins of error of = 10-20% would be catered for in OEM's specs during technical scrutiny.
- Requirements which are desirable (preferred) but not mandatory are indicated in italics. In case of more than one technical offer meeting the mandatory specs, the one with more desired (preferred) features would be selected.

**OR**

Equivalent /Latest Specifications available in the market

**TECHNICAL SPECIFICATIONS MULTI-GRENADE LAUNCHER  
(MGL) 40 MM**

Caliber  
Type  
Capacity  
Firing Method  
Practical Firing Rate  
Barrel Type  
Overall Length, butt extended / retracted  
Weight (Empty)  
Effective Range  
Picatinny Rail

Standard Sight

40 mm  
Multi Shot Receiver  
6 Rounds  
Semi-Automatic  
6 Rounds in less than 3 Seconds  
Progressive with 1 in 1200 mm final twist  
755 mm / 675 mm  
6.2 kg without sight  
375 m  
Standard configuration ships with 1 x rail  
for easy sight mounting

Milkor occluded Eye Gun Sight

**OR**

Equivalent /Latest Specifications available in the market



15 December, 2020

### TECHNICAL SPECIFICATIONS OF NIGHT VISION THERMAL WEAPON SIGHT

	Type	Telescope
Structure	Mount and calibration for weapon (including mounting rail and accessories for weapon)	Range Master, Accuracy International, M-24, AK 47
	Magnification	7 X to 10 X
Optics	Field of view	8° to 20°
	Recognition of man size	2000 to 2500 m
	Detection of vehicle	6000 to 7000 m
Display	Readiness time	4 to 8 Seconds from switch on
	Compass indicator	Yes
	Meter / Yard display	Yes
	Low battery indicator	Yes
	Operating temperature range	-40°C to 60°C
Operating Environment	Weight with battery	1.5 to 2 Kg
	Water Proofing & Construction	Military Standard
	Battery & Adaptor	Info Lithium, 220 V AC & 12 V DC Adaptor (Preferable) AA size with charging adaptor
Power Option	Operation time on Battery	7 to 12 hours of night vision operation

OR

Equivalent /Latest Specifications available in the market



### TECHNICAL SPECIFICATIONS OF NIGHT VISION GOGGLES (NVGs) BINOCULAR

<b>1. General Specification:</b> - Item should be simpler to use, greater mobility and agility. It should be hand held with option of tripod mount, Head mounted ad Helmet mounted (for standard PASGT helmet). The system should recognize the object even in poor weather conditions.			
(a) Mode of observation	Binocular (M Bridge) with double image intensifier tube		
(b) Minimum magnification required	1x		
(c) Field of view	Min 40°		
(d) Minimum eye relief distance	25mm		
(e) Dioptric setting range	> + diopters		
(f) Focus Range	25 cm to infinity		
(g) Type of focus	Fixed		
(h) Start up time	5 + 1 Sec from switch on		
(i) Range capability	Detection		Min 600 m
Night	10 Mlux, quarter moon	Recognition	
	Tem (°C)	-10 ~ +35	Min 400 m
	Humidity	80%	
	Target size	Human size	Identification
	Detection probability	90%	Min 300 m
<b>2. Display</b>			
(a) Type	LED with automatic brightness control		
(b) Data Display	(i) Infrared LED indicator in both eyepiece (ii) Low battery indicator LED in both eyepiece		
(c) High light Cutoff	Auto		
<b>3. Environmental conditions tested to Mil-STD-810G</b>			
(a) Waterproof	1m for 30 minutes		
(b) Operating Temp	-20°C to +50°C		
(c) Humidity	80%		
(d) Storage temperature	-20°C to +65°C		
<b>4. Power Supply</b>			
(a) Power Source	Single AA size battery (Info Lithium, 220 V AC & 12 V DC adaptor preferable)		
(b) Battery time	> 15 hrs without battery change		
<b>5. Physical Specifications</b>			
(a) Weight including battery	Up to 650 Grms		
(b) Colour	Green		
(c) Dimensions	Length	Max: 5" (12 cm)	
	Width	Max: 5" (12 cm)	
	Height	Max: 3" (8 cm)	



**TECHNICAL SPECIFICATIONS  
ANTI BALLISTIC HELMETS**

1. **Protection Level**
  - (i) Bullet Resistance as NIJ-III Standard 0106.01
  - (ii) Fragmentation as per Stanag 2920 V50 @ 600m/s 17 Grain Steel-fragment
2. **Weight (Maximum)** 1.400 Kg weight
3. **Size & Qty**
  - (a) Medium Qty-800 (head sizes 53-59 cm)
  - (b) Large Qty-430 (head sizes 59-64 cm)
4. **Design Features**
  - (a) Ultra comfortable webbing / harness which provide balance and stress fatigue.
  - (b) Laser cut edges with rubber coated finishing strip.
  - (c) Water, Oil and fire resistant.
  - (d) Multi-hot protection tested on all sides.
  - (e) It should not restrict the eye sight and hearing.
  - (f) It should allow easy use of communication equipment goggles and binoculars.
  - (g) It should not interfere with weapons sight, gas mask, hearing protection devices and it should ensure convenient movement of head.
  - (h) Internal surface should not cause any skin reaction.
  - (i) Helmet should be robust and paint should not peel off for 03 years.
5. **Harness Features**
  - (a) Mesh suspension system with leather crown support.
  - (b) Air gap between harness and shell provides sufficient ventilation and improved sweat management.
  - (c) Chin strap and neck strap (4-Point with neck pad) should be provided which avoid extra movement of helmet when wear by troops.
  - (d) Harness should be shock absorption.
  - (e) Mass distribution should reduce lag during head movement.
  - (f) Multiple point adjustable harness.
  - (g) Quick release buckle.
6. Colour of helmet will be subject to purchaser's choice.

OR

Equivalent /Latest Specifications available in the market



**Binoculars:-**

S No	Specification	
1	Magnification	5x to 7x
2	Field of view	110 to 135 m @ 1000m
3	Diopter Adjustment	-5/ +7
4	Interpupillary Distance	50 to 50 mm
5	Operating Temperature	-45 to +75 °C or better
6	Dimension	(200 to 220)mm x (75 to 210)mm x (70 to 160)mm
7	Weight	1 to 1.5 Kg .

OR

Equivalent / latest specification available in the market