ASSISTIVE PRODUCT SPECIFICATION FOR PROCUREMENT

Magnifiers, Optical

Objective:

The objective of this specification is to help organizations in procuring good quality optical magnifiers that are durable and which assist the individuals with visual impairment in performing their near tasks comfortably.

World Health Organization

1. Product description

The purpose of this section is to provide specific key details relevant to the assistive product so that it is easily identifiable.	
Purpose of 1.1	Name of product as per WHO priority APL and/or commonly used names.
1.1 Name of product	Magnifiers, optical
Purpose of 1.2	As per ISO 9999 classification and terminology document (refer https://www.iso.org/standard/60547.html).
1.2 ISO 9999 code	ISO 22 03 09 *Magnifier glasses, lenses and lens systems for magnification* Devices for enlarging the image of an object Included are, e.g. lenses with and without illumination, loupe glasses (spectacles).
Purpose of 1.3	Describes the product type in clear, simple, easily understood language and the intended use in addressing functional needs.
1.3 Description and intended use	An optical magnifier is a device which can produce magnified or enlarged images of close objects and print. It is commonly used by people with impaired vision that cannot be improved by ordinary spectacle lenses. A magnifying lens or lens system in the magnifier is crucial in producing the enlarged image. The lens or lens system is housed in a lens mount designed for different types of magnifiers according to the purpose of use. The common types are hand-held, stand. There are other kinds of designs.
Purpose of 1.4	Refers to general characteristics of the assistive product that describes its appearance and components.
1.4 General features	A convex lens of positive power to produce magnifying effect. It can be a lens system with more than one lens. The common range of magnifying power/magnification in general is from 4 dioptres (D) to 76 D, or from 1 time (X) magnification to 19X. A lens mount is usually used to hold the lens to allow handle, stand etc. to be attached to it to make it a hand-held or stand magnifier. Light sources are added to some of the magnifiers to give adequate amount of brightness and contrast to the users. These are called illuminated magnifiers.
Purpose of 1.5	Refers to product models that are included in the specific APS.
1.5 Inclusion	• Magnifying lenses adapted to common household appliances or daily living items. • Magnifying lenses mounted on stands, illuminated and non-illuminated. • Handy and portable magnifiers (pocket magnifiers) with lenses that are foldable or retractable into soft or hard casing, that could have a string attached to the handle to allow wearing on neck.
Purpose of 1.6	Refers to product models that are excluded in the specific APS.
1.6 Exclusion	• Head-borne magnifier that can free both hands for more manipulative tasks and provide longer viewing distance (please see APS 19-Spectacles for this product variation). • Magnifiers or magnifying system for technicians such as watch maker.
Purpose of 1.7	Important, searchable words that relate to the specific assistive product.

1.7 Keywords	Low vision, visual impairment, sight enhancement, hand-held magnifier, stand magnifier, pocket magnifier, illuminated magnifier

2. Product requirements

The purpose of this section is to provide details of all applicable requirements relative to the specific assistive product. A requirement is mandatory and typically describes what a product should be able to do, how it should appear (product and packaging) etc. Only supply and service requirements considered applicable in procurement of optical magnifiers- stand and hand-held magnifiers.

2.1 Functional requirements

Purpose of 2.1		A functional requirement refers to technical details and other specific functionality that define what a product variation is supposed to accomplish. Per product variation, the requirement should describe the typical user, specific characteristics of the product (in addition to the general features above) as well as the requirements for standard configuration of the product. It is important to focus on performance requirements rather than form factors. It is important to have a clear and specific description of the typical users including e.g. health condition, functional limitation or demographics (range of age, body weight, height, etc). If applicable, specific context of use (e.g. indoor/outdoor, in noisy environment, etc) should be specified in the product variations.		
Item	**Product variations**	**Typical user**	**Specific characteristics**	**Requirements for standard configuration**
1	Non-illuminated stand magnifier	Children and adults with visual impairment who cannot read or see near targets clearly. Suit people with unsteady hand and easy muscle fatigue, such as elderly persons.	A better magnifier of choice for prolonged use. The supports around the lens mount to make it stand on a surface should be small in size or transparent to avoid obstruction of light onto the viewing materials. Smaller supporting stands can expose more area for better spot writing function of the stand magnifier. Some focusable stand magnifiers have an adjustable lens to target distance to compensate for uncorrected refractive error of the user.	Lens power range: 6D-76D The preferable minimum lens diameter is as follows: ≤ 8D: Greater than or equal to 90 mm >8D to 12D: Greater than or equal to 80 mm >12D to 16D: Greater than or equal to 60 mm >16D to 20D: Greater than or equal to 45 mm >20D to 26D: Greater than or equal to 35 mm >26D to 40D: Greater than or equal to 30 mm ≥40D: Greater than or equal to 26 mm Lens materials: preferably made of lightweight plastic which is scratch resistant. Lens design preferably to be aspheric for better image quality without spherical aberrations. High grade plastic lens mount and stand.
2	Illuminated stand magnifier	Children and adults with visual impairment who cannot read or see the near targets clearly.	A better magnifier of choice for prolonged use. Evenly distributed illumination across the target material with suitable brightness and	Lens power range: 6D-76D The preferable minimum lens diameter is as follows: ≤ 8D: Greater than or equal to 90 mm >8D to 12D: Greater than or equal to 80 mm

		Better magnifier of choice for user who require stronger illumination to enhance contrast. Suit people with unsteady hand and easy muscle fatigue, such as elderly persons.	color of choice that can enhance the contrast of target materials and improve the visual ability of the user. The supports around the lens mount to make it stand on a surface should be small in size or transparent to avoid obstruction of light onto the viewing materials. Smaller supporting stands can expose more area for better spot writing function of the stand magnifier. Some focusable stand magnifiers have an adjustable lens to target distance to compensate for uncorrected refractive error of the user.	>12D to 16D: Greater than or equal to 60 mm >16D to 20D: Greater than or equal to 45 mm >20D to 26D: Greater than or equal to 35 mm >26D to 40D: Greater than or equal to 30 mm ≥40D: Greater than or equal to 26 mm Lens materials: preferably to be made of lightweight plastic and scratch resistance. Lens design preferably to be aspheric for better image quality without spherical aberrations. High grade plastic lens mount and ergonomic handle. Various illumination sources are available. The most common types are Light-emitting diode (LED), SMD-LED and Incandescent. LED illumination is preferred in most cases. It should be shock resistant and not heat generating. Regular and rechargeable (eg: high capacity nickel metal hydride batteries) battery options to be made available.
3	Non-illuminated hand-held magnifier	Children and adults with visual impairment who cannot read or see the near targets clearly.	A better magnifier of choice for spot reading. Magnification can be adjusted by changing the lens to target distance. The change of lens to target distance can also compensate the user's uncorrected refractive error. In addition to the conventional design, also available as: Pocket magnifiers, chest-support magnifiers and pendant magnifiers.	Range: 4D-56D Larger lens diameter The preferable minimum lens diameter is as follows: ≤ 8D: Greater than or equal to 90 mm >8D to 12D: Greater than or equal to 80 mm >12D to 16D: Greater than or equal to 60 mm >16D to 20D: Greater than or equal to 45 mm >20D to 26D: Greater than or equal to 35 mm >26D to 40D: Greater than or equal to 30 mm ≥40D: Greater than or equal to 26 mm Lens materials : preferably to be made of lightweight plastic and is scratch resistant. Lens design preferably to be aspheric for better image quality without spherical aberrations.

				High grade plastic lens mount and ergonomic handle.
4	Illuminated hand-held magnifier	Children and adults with visual impairment who cannot read or see the near targets clearly. Better magnifier of choice for user who require stronger illumination to enhance contrast.	A better magnifier of choice for spot reading. Magnification can be adjusted by changing lens to target distance. The change of lens to target distance can also compensate the user's uncorrected refractive error. Evenly distributed illumination across the target material of suitable brightness and color can enhance the contrast of target materials and improve the visual ability of the user.	Range: 4D-56D Larger lens diameter The preferable minimum lens diameter is as follows: ≤ 8D: Greater than or equal to 90 mm >8D to 12D: Greater than or equal to 80 mm >12D to 16D: Greater than or equal to 60 mm >16D to 20D: Greater than or equal to 45 mm >20D to 26D: Greater than or equal to 35 mm >26D to 40D: Greater than or equal to 30 mm ≥40D: Greater than or equal to 26 mm Lens materials : preferably to be made of lightweight plastic and is scratch resistant. Lens design preferably to be aspheric for better image quality without spherical aberrations. High grade plastic lens mount and ergonomic handle. Various illumination sources are available. The most common types are Light-emitting diode (LED), SMD-LED and Incandescent. LED illumination is preferred in most cases. It should be shock resistant and not heat generating. Regular and rechargeable (eg: high capacity nickel metal hydride batteries) battery options to be made available.

Purpose of 2.2	Brief and clear description of general product performance requirements and overall qualities (e.g. stability, strength, durability, waterproof, etc).

2.2 General design requirements	Multiple forms of design in size and shape to suit different task needs. Wide range of magnification for people with different degrees of low vision. The lenses should be light in weight, durable and with protective coating against scratches and preferably aberration free. The lens mount and body of the magnifier should be made of high-quality and durable material to make it long lasting. Built-in illumination could be an option to provide adequate amount of light to suit the task need. Well-designed battery compartment for the illuminated magnifier to allow easy battery change. The magnifier should be ergonomic for use and the overall design should be user friendly.
Purpose of 2.3	Details of existing or in-progress national or international standards should be provided here, whether freely or commercially available.
2.3 Standards	Optical magnifiers should comply with and be tested according to relevant national or international standards. Documents that provide detailed reports of tests performed, should also be provided. If optical magnifiers do not comply with or are not tested according to relevant national or international standards, an explanation should be provided. All documentation should be in the official language or in English (other languages could be specified too). *Current product standards for optical magnifier:* *Several international standards are applicable, see ISO standards catalogue for Ophthalmic equipment https://www.iso.org/ics/11.040.70/x/*
Purpose of 2.4	A certificate of conformity confirms that a product conforms to applicable national and/or international regulations. If a certificate is required for the specific assistive product, this information should be requested, e.g., CE (Europe), COC (Japan), GCC (USA).
2.4 Certificate of conformity	Optical magnifiers should comply with and be tested according to relevant national or international standards. Documents that provide detailed reports of tests performed, should also be provided. A certificate that the product conform with applicable national or international regulations and standards should be provided (for example, a declaration of conformity with the medical device directive or the medical device regulation of the European Union). If the product does not conform with applicable national or international regulations and standards, the supplier should provide a certificate that the product comply with the requirements in this call for tender and is safe and effective for use by the typical user. The certificate should specify the product, all applied standards, if any, and the name and contact information of the supplier and be provided with the tender. The certificate of conformity is a legal document and should be signed by an authorized person at the supplier. The certificate of conformity should be supplied in the official language or in English (other languages could be specified too).
Purpose of 2.5	Lists the relevant scope of information required to identify the appropriate size and weight of the assistive product in its standard configuration (specific dimensions may be given if appropriate).

2.5 Size and weight	Information about the lens size, overall weight, and dimensions of the optical magnifier should be provided.
Purpose of 2.6	Lists the relevant scope of information that should be provided to service providers (e.g. how to select, assemble, fit, adapt, follow up, maintain, repair, refurbish the assistive product). The desired language(s) in which the technical information should be provided should be stated.
2.6 Technical information (for service providers)	Information on how to assemble and adapt the magnifier should be provided. Instructions on how to properly maintain the magnifier, and how to replace the batteries and light bulb (in case of changeable incandescent and LED light bulb) of the magnifier should be provided. The technical information should be provided in the official language or in English (other languages could be specified too). Information on the power of the lens should be provided. For the illuminated magnifiers, information on the color temperature of the lighting (e.g. SMD LED), battery type, the required quantity of batteries and the type of power adaptor when using rechargeable batteries should be provided. Information on True Magnification (Power/4) should be included in the label for all hand held magnifiers. Information on voltage should be included if power plug is available.
Purpose of 2.7	Lists the scope of information, and its format, that should be provided to end-users to show how to safely use the assistive product.
2.7 Instructions for use	A user manual with instructions for use of the optical magnifiers (stand and hand-held magnifier) should be provided. It should provide instructions on how to safely and effectively use the product, and how to adapt, maintain and clean the product. It is intended for the user and/or caregiver. The user manual may be provided in print or electronic format. The user manual should be provided in the official language, and if applicable, in English (other languages could be specified too).
Purpose of 2.8	Refers to the various weather and other environmental conditions, e.g., temperatures, humidity, rain, snow, sunshine, that the assistive product should be able to withstand.
2.8 Environment of use	Illuminated and non-illuminated optical magnifiers should be operated under room temperature condition. It is not recommended to keep the optical magnifier on a radiator or in direct sunlight.
Purpose of 2.9	Refers to the duration of the warranty period and the details of the warranty the manufacturer/supplier should provide within the specified period.
2.9 Warranty	Provided normal heedful use, the supplier should, during the warranty period and without extra expenses, rectify faults arising in connection with manufacturing and/or material errors. This comprises all spare parts and labour, except for normal wear and tear of the product. It is desirable to have a minimum warranty period of at least 1 year for the illuminated optical magnifiers except for the consumables such as the battery and the light bulb. The supplier should cover all transport expenses when repairing the magnifier. Following a written complaint, the supplier should investigate and see to the reasonable repair or replacement of the product as soon as possible.
Purpose of 2.10	Refers to the expected duration, in years, of the assistive product. Documents describing how this is ensured must be provided.
2.10 Lifespan	Under normal condition of use, the magnifier should be designed for at least 3 years of use.
Purpose of 2.11	Lists the scope of information required in packaging and labeling the assistive product. Explains the state of assembly the assistive product should be in when received by the end-user.

2.11 Packaging, labelling, and state of assembly	The magnifier should be delivered fully assembled. All necessary accessories should be included in the package. If any special tools are required, it should be included with the delivery. Batteries could be included (in case of illuminated magnifiers). Each magnifier should be delivered in an individual package with a label clearly stating the details of the product. The package should withstand handling during transport.
Purpose of 2.12	Refers to additional product requirements, depending on the specific assistive product, e.g., material, corrosion-resistance, adjustability, foldability, etc.
2.12 Other product requirements	The supplier should provide the following information about the optical magnifiers: • Type of optical magnifier and its product code • Unit price • The harmonized system code for import and export use.

3. Supply and service requirements

From the information provided below, only those supply and service requirements considered applicable may be used in a procurement bid.

The purpose of this section is to describe key supply and service requirements that are needed in order to ensure that the assistive product is received in due time, operational, being maintained/repaired and refurbished.	
Purpose of 3.1	Lists the scope of information to be requested on how the assistive product will be transported to the place of delivery.
3.1 Transportation	Information on how the optical magnifier will be transported should be provided and who should pay for the transportation.
Purpose of 3.2	Specifies the time between placing an order and receiving delivery of the assistive product (e.g. that it should not exceed 30 calendar days).
3.2 Delivery time	Delivery time can vary according to the order size, inventory of the supplier and manufacturing lead time. For international delivery it can be affected by shipment method and the customs clearance procedures. The delivery time should be agreed by the supplier and customer. In general, after the confirmation of order and payment arrangement, the delivery for domestic order should not exceed 30 working days and the delivery for international order should not to exceed 60 working days.
Purpose of 3.3	Refers to the specific details of the various accessories and spare parts available for the assistive product, including pricing and availability.
3.3 Accessories and spare parts	The supplier should provide the accessories and spares specified in the order (e.g. pouch for magnifier).
Purpose of 3.4	Provides information regarding required maintenance services the supplier will provide, including the timeframe and frequency.
3.4 Maintenance	Not applicable in this call for tender.
Purpose of 3.5	Provides information regarding required repairment services the supplier will provide, including the timeframe and frequency.
3.5 Repair	Not applicable in this call for tender.
Purpose of 3.6	Provides information regarding required refurbishment services the supplier will provide, including the timeframe and frequency.

3.6 Refurbishing	Not applicable in this call for tender.
Purpose of 3.7	Specifies if training service providers is required by suppliers, and the key elements included in the training (e.g. selection, assembly, fit, maintenance and repair of the assistive product). Refers to detailed training contents or materials, if available and applicable.
3.7 Training of service providers	Information about assembling, adapting, fitting and maintaining the optical magnifier should be provided to the service provider.
Purpose of 3.8	Specifies if training users is required by suppliers, and the key elements included in the training (e.g. training to users should include fit, use, maintenance and cleaning of the assistive product). Refers to detailed training contents or materials, if available and applicable.
3.8 Training of users	Information about adapting, using and maintaining the optical magnifier should be provided to the end-user.
Purpose of 3.9	Provides information regarding other supply and service requirements.
3.9 Other supply and service requirements	Not applicable in this call for tender.