Miltenyi Biotec

MACSmix™ Tube Rotator

User manual



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MACSmix™ Tube Rotator

User manual

Original instructions

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Read the chapter **Important safety information** and all other information in this user manual before using the instrument

⚠WARNING Before using the MACSmix Tube Rotator, read the chapter **Important safety information** and all other information contained in this user manual, including any safety and operating instructions. Pay special attention to all warnings displayed on the instrument. Failure to read and follow these guidelines could lead to improper or incorrect usage and result in damage to the instrument. Improper usage could also cause severe personal injury, death, unpredictable results, instrument malfunction, and premature wear to components shortening the lifetime of the instrument. Such actions may void your warranty. Keep the user manual and any other safety and operating instructions provided with the instrument in a safe place accessible to all users for future reference.

If you have a serious concern regarding the safe use of your instrument, contact your authorized Miltenyi Biotec service provider or call Miltenyi Biotec Technical Support.

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EN

Important safety information

General safety instructions



THIS CHAPTER DESCRIBES POTENTIALLY HAZARDOUS SITUATIONS ASSOCIATED WITH THIS INSTRUMENT AND PROVIDES IMPORTANT SAFETY INFORMATION TO MINIMIZE THE RISKS AND PROTECT YOURSELF AND OTHERS.

This chapter provides important information for your personal safety and the correct use of the instrument. Read and observe all instructions carefully before proceeding with the installation and use of the instrument. Observe general safety practices in addition to this user manual.

- Use this instrument only as indicated in this user manual to avoid personal injury and property damage.
- Keep this user manual in a place that is always accessible to all users.
- Observe local working area safety instructions and laboratory policies, as well as standards for health, safety, and prevention of accidents.
- In case of severe accidents, damages to the instrument, or if smoke or flames appear, cut the power supply immediately.
- Ensure that the power switch and the plug of the power cable of the instrument are easily accessible.
- To entirely disconnect the instrument from the power supply, unplug the power cable.
- Ensure that the power cable plug is close to the user.

- If it is necessary to cut the power supply, unplug the cable from the power outlet and contact an authorized Miltenyi Biotec service provider or Miltenyi Biotec Technical Support.
- Check the instrument before each use for visible damage.

Hazard levels

Signal words are used to warn against hazardous situations and property damages. The following signal words are used in this user manual.

⚠ WARNING or WARNING! indicates a hazardous situation that, if not avoided, could result in death or serious injury.

NOTICE or NOTICE indicates information considered important but not hazard related (e.g. messages relating to property damage).

Symbols



SAFETY WARNING: THE DOCUMENTATION MUST BE CONSULTED IN ALL CASES WHERE THIS SAFETY SYMBOL IS USED ON THE INSTRUMENT



READ THE USER MANUAL BEFORE USING THE INSTRUMENT



WEEE (WASTE OF ELECTRICAL AND ELECTRONIC EQUIPMENT)



DIRECT CURRENT



POLARITY (POSITIVE INSIDE)

EUROPEAN CONFORMITY MARKING

NRTL CERTIFICATION MARK: PRODUCT MEETS CONSENSUS-BASED STANDARDS OF SAFETY, REQUIRED BY THE OCCUPATIONAL SAFETY/HEALTH ADMINISTRATION (OSHA), DETERMINED BY THE NATIONALLY RECOGNIZED TESTING LABORATORIES (NRTL) TÜV SÜD

UNITED KINGDOM CONFORMITY ASSESSED MARKING

Safety labels

Notice the hazard points and safety symbols of the instrument.

- Keep safety labels and safety markings clean and legible.
- Inspect the safety labels and safety markings regularly and replace them if they are not legible or identifiable from a safe viewing distance.
- Contact Miltenyi Biotec for replacement labels.

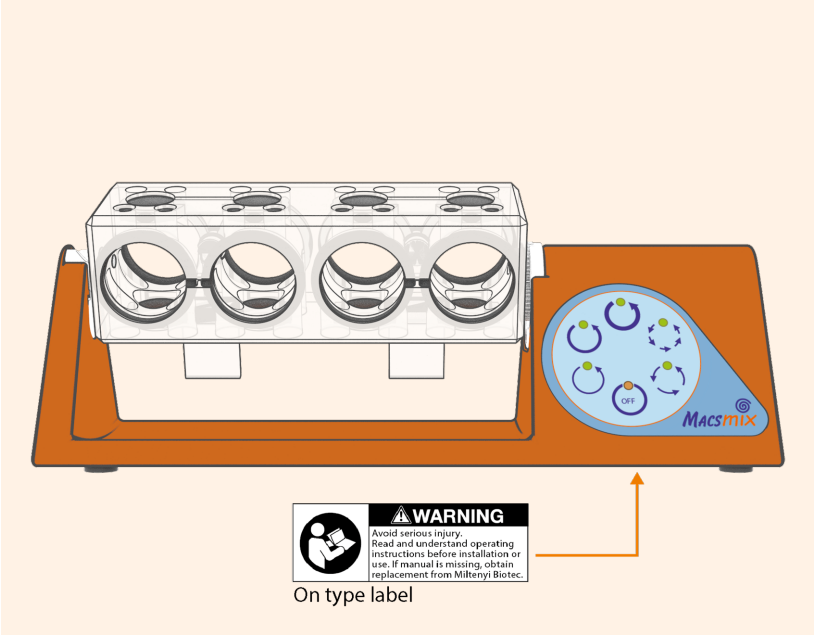
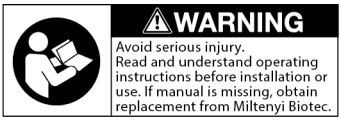


Figure 1: Safety symbols on the instrument.



WARNING! Avoid serious injury. Read and understand operating instructions before installing or use. If manual is missing, obtain replacement from Miltenyi Biotec.

Safety instructions

Documentation needs to be consulted before proceeding with installation and operation of the system.

A hazard exists if the operating instructions are not followed.

The MACSmix Tube Rotator is for research applications only.

The MACSmix Tube Rotator should only be used in the range of temperatures between 2 °C and 42 °C. The instrument may be damaged if it is used at higher or lower temperatures.

The MACSmix Tube Rotator is intended for indoor use only. Do not use the instrument in locations classified as hazardous or with hazardous materials for which the equipment is not designed.

The safety features of the MACSmix Tube Rotator may be impaired if the equipment is used with accessories not provided or recommended by Miltenyi Biotec, or used in a manner not specified by Miltenyi Biotec.

A hazard may occur if the MACSmix Tube Rotator is used to mix materials classified as inflammable or where the transfer of mechanical energy to glass apparatus could lead to breakage.

Do not use a power supply other than the one included in the delivery of the instrument. The electrical components of the MACSmix Tube Rotator may be damaged if the power supply and line voltages are not compatible.

Do not fit a battery of the wrong type in the battery compartment. An explosion or fire hazard could occur. Do not fit non-rechargeable cells in the battery compartment.

Use only NiMH rechargeable batteries type AA with 2000–4000 mAh. Check the correct polarity, otherwise, the MACSmix Tube Rotator can be damaged. NiMH rechargeable batteries have to be disposed of as hazardous waste.

Do not allow liquids to enter the interior of the external power supply. Protect the external power supply against accidental spillages and splashes. Clean up spillages immediately. Do not use the external power supply if liquids have entered it. Do not use the external power supply in a wet and damp location. Avoid areas with high humidity or condensation. Before cleaning, disconnect the external power supply from mains. Do not use liquid or aerosol cleaning agents, always use a damp cloth.

Disposal



WASTE OF ELECTRICAL AND ELECTRONIC EQUIPMENT (WEEE) CUSTOMER INFORMATION

Dispose of your end-of-life Miltenyi Biotec products in accordance with the applicable WEEE and hazardous waste disposal legislation, which may differ by country or region. Electrical equipment may contain hazardous substances that may have a serious detrimental effect on the environment and/or human health. All equipment must be specifically collected and treated by designated waste facilities and by qualified WEEE compliance schemas. By ensuring that you dispose of your unwanted electrical and electronic equipment according to the applicable WEEE and hazardous waste disposal legislation, you are helping to preserve our natural resources and protect human health.

Miltenyi Biotec is committed to protecting the environment. Miltenyi Biotec offers product end-of-life return programs in many countries, and partners with licensed WEEE compliance schemes throughout the world. Miltenyi Biotec takes back your end-of-life Miltenyi Biotec equipment for recycling free of charge. The terms and availability of this offer vary by geography because of differences in regulatory requirements. Please note that, depending on the type and use of your equipment, additional requirements may apply. Before shipping the instrument back to the manufacturer for disposal, decontaminate the instrument to remove any hazardous material.

For more information, or if you wish to dispose of your end-of-life Miltenyi Biotec equipment, please contact your local Miltenyi Biotec representative or Miltenyi Biotec Technical Support.

DE

Wichtige Sicherheitsinformationen

Allgemeine Sicherheitshinweise



DIESES KAPITEL BESCHREIBT POTENZIELL GEFÄHRLICHE SITUATIONEN IM ZUSAMMENHANG MIT DIESEM GERÄT UND ENTHÄLT WICHTIGE SICHERHEITSHINWEISE, UM RISIKEN ZU MINIMIEREN UND SICH SELBST UND ANDERE ZU SCHÜTZEN.

Dieses Kapitel enthält wichtige Informationen für Ihre persönliche Sicherheit und die richtige Verwendung des Instruments. Lesen und beachten Sie alle Anweisungen sorgfältig, bevor Sie mit der Installation und Verwendung des Instruments fortfahren. Beachten Sie zusätzlich zu diesem Benutzerhandbuch die allgemeinen Sicherheitsvorschriften.

- Verwenden Sie das Gerät nur wie in diesem Benutzerhandbuch angegeben, um Personen- und Sachschäden zu vermeiden.
- Bewahren Sie dieses Benutzerhandbuch an einem Ort auf, der jederzeit für alle Benutzer zugänglich ist.
- Beachten Sie die lokal geltenden Arbeitsschutzvorschriften und Laborrichtlinien sowie die gesetzlich geregelten Maßnahmen zu Sicherheit, Gesundheitsschutz und Unfallverhütung.
- Bei schweren Unfällen, Beschädigungen des Gerätes, Rauch oder Flammen unterbrechen Sie sofort die Stromversorgung.
- Stellen Sie sicher, dass der Hauptschalter und der Netzstecker des Gerätes leicht zugänglich sind.

- Ziehen Sie den Netzstecker, um das Gerät vollständig von der Stromversorgung zu trennen.
- Stellen Sie sicher, dass sich der Netzstecker in der Nähe des Benutzers befindet.
- Muss die Stromversorgung unterbrochen werden, ziehen Sie den Netzstecker und wenden Sie sich an einen autorisierten Dienstleister von Miltenyi Biotec oder den Miltenyi Biotec Technical Support.
- Überprüfen Sie das Gerät vor jeder Benutzung auf sichtbare Schäden.

Gefahrenstufen

Es werden Signalwörter verwendet, um vor Gefahrensituationen und Sachschäden zu warnen.In diesem Benutzerhandbuch werden die folgenden Signalwörter verwendet.

⚠ WARNUNG oder WARNUNG! weist auf eine Gefahrensituation hin, die, falls sie nicht vermieden wird, zum Tod oder zu schweren Verletzungen führen kann.

HINWEIS **oder HINWEIS weist auf wichtige, jedoch nicht gefahrenbezogene Informationen hin (z. B. Hinweise in Verbindung mit Sachschäden).**

Symbole



SICHERHEITSWARNUNG: BEACHTEN SIE DIE DOKUMENTATION IMMER WENN DIESES WARNSYMBOL AM GERÄT VERWENDET WIRD



LESEN SIE DAS BENUTZERHANDBUCH VOR VERWENDUNG DES GERÄTES



WEEE (ENTSORGUNG VON ELEKTRO- UND ELEKTRONIK-ALTGERÄTEN)

GLEICHSTROM



POLARITÄT (INNEN POSITIV)



EUROPÄISCHE KONFORMITÄTSKENNZEICHNUNG



NRTL-PRÜFZEICHEN: DAS PRODUKT ENTSPRICHT DEN IM KONSENSVERFAHREN ERARBEITETEN SICHERHEITSANFORDERUNGEN,WELCHE VON DER OCCUPATIONAL SAFETY/HEALTH ADMINISTRATION (OSHA), GEFORDERT UND VON DER STAATLICH ANERKANNTEN PRÜFSTELLE (NATIONALLY RECOGNIZED TESTING LABORATORIES (NRTL)) TÜV SÜD GPRÜFT WURDEN



BRITISCHE PRODUKTKENNZEICHNUNG

Sicherheitskennzeichnungen

Beachten Sie die Gefahrenhinweise und Sicherheitssymbole des Gerätes.

- Halten Sie die Warnaufkleber und Sicherheitskennzeichnungen sauber und lesbar.
- Überprüfen Sie die Warnaufkleber und Sicherheitskennzeichnungen regelmäßig und ersetzen Sie diese, wenn sie nicht mehr lesbar oder aus sicherer Entfernung nicht zu erkennen sind.
- Kontaktieren Sie Miltenyi Biotec, um Ersatzaufkleber zu erhalten.

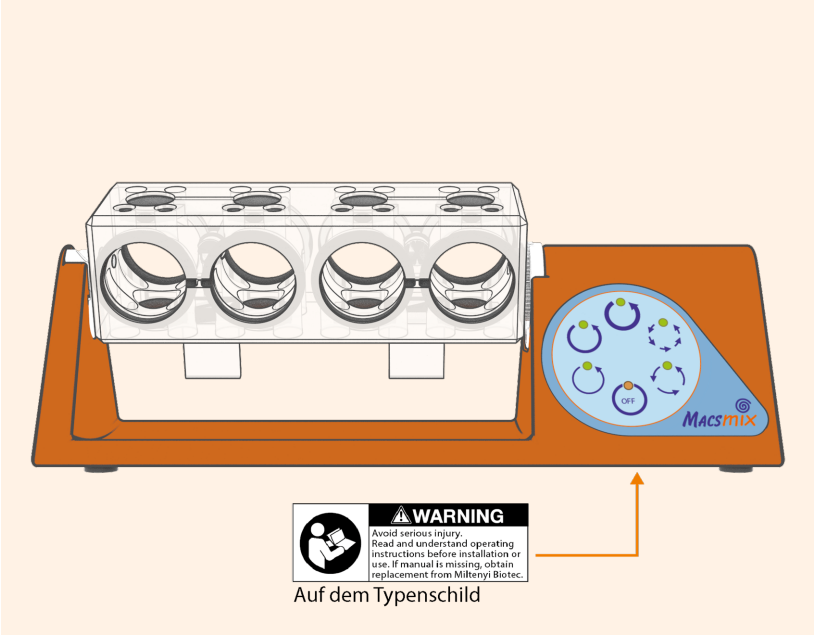
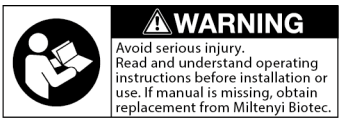


Figure 1: Sicherheitssymbole auf dem Gerät.



WARNUNG! Vermeiden Sie schwere Verletzungen. Vor der Installation oder Inbetriebnahme ist die Bedienungsanleitung zu lesen. Wenn die Anleitung fehlt, fordern Sie Ersatz bei Miltenyi Biotec an.

Sicherheitshinweise

⚠ Die Bedienungsanleitung muss vor Aufstellung und Inbetriebnahme des Gerätes gelesen und beachtet werden.

⚠ Bei Nichtbeachtung der Bedienungsanleitung besteht ein Unfallrisiko.

⚠ Der MACSmix Tube Rotator darf nur zu Forschungszwecken eingesetzt werden.

⚠ Der MACSmix Tube Rotator darf nur im spezifizierten Temperaturbereich von 2 °C bis 42 °C betrieben werden. Ein Betrieb außerhalb dieses Bereichs kann Schäden am Gerät zur Folge haben.

⚠ Das Gerät ist ausschließlich für den Betrieb in Innenräumen ausgelegt. Der MACSmix Tube Rotator darf nicht in unmittelbarer Gefahrenumgebung oder mit gefährlichen Materialien genutzt werden, welche nicht für den Gebrauch des Gerätes bestimmt sind.

⚠ Die Sicherheitsvorkehrungen des MACSmix Tube Rotators können durch den Gebrauch von nicht für das Gerät gedachtem oder nicht von Miltenyi Biotec empfohlenem Zubehör sowie unsachgemäßer Nutzung des Zubehörs beeinträchtigt werden.

⚠ Bei dem Gebrauch des MACSmix Tube Rotators mit entflammbaren Stoffen besteht ein Risiko. Bei der Übertragung von mechanischer Energie auf Glasapparaturen besteht ein Bruchrisiko.

⚠ Der MACSmix Tube Rotator darf nur mit dem mitgelieferten Netzteil elektrisch betrieben werden. Die Benutzung anderer Spannungsversorgungen kann zu irreparablen Schäden am Gerät führen.

⚠ Es dürfen keine anderen Batterietypen als angegeben in das Batteriefach gegeben werden. Es besteht dann Explosions- oder Feuergefahr. Verwenden Sie keine nicht-wiederaufladbaren Batterien.

⚠ Verwenden Sie nur NiMH-Akkus Typ AA mit 2000–4000 mAh. Achten Sie auf die richtige Polung, sonst kann der MACSmix Tube Rotator beschädigt werden. NiMH-Akkus müssen als Sondermüll entsorgt werden.

⚠ **Lassen Sie keine Flüssigkeit in das Innere des externen Netzteiles gelangen. Schützen Sie das externe Netzteil vor verschütteten oder verspritzten Flüssigkeiten. Beseitigen Sie ausgetretene oder verschüttete Flüssigkeit sofort. Benutzen Sie das externe Netzteil nicht, sollte Flüssigkeit in das Innere des Netzteiles gelangt sein.** Setzen Sie das externe Netzteil nicht in einer nassen oder feuchten Umgebung ein. Vermeiden Sie

Arbeitsumgebungen mit hoher Luftfeuchtigkeit oder Kondensation. Ziehen Sie den Netzstecker vor der Reinigung des Netzteils. Verwenden Sie keine Flüssig- oder Sprühreinigungsmittel, sondern nur ein feuchtes Tuch.

Entsorgung



KUNDENINFORMATION ZUR ENTSORGUNG VON ELEKTRO- UND ELEKTRONIK-ALTGERÄTEN (WASTE OF ELECTRICAL AND ELECTRONIC EQUIPMENT, WEEE)

Entsorgen Sie Ihre Altgeräte von Miltenyi Biotec unter Einhaltung der jeweils geltenden Vorschriften für die Erfassung und Behandlung von Elektronik-Altgeräten und die Entsorgung von Gefahrstoffen, die je nach Land oder Region unterschiedlich sein können. Elektrische Geräte können gefährliche Stoffe enthalten, welche die Umwelt erheblich belasten und/oder die Gesundheit gefährden. Sämtliche Altgeräte müssen gesondert gesammelt und von ausgewiesenen Abfallentsorgungseinrichtungen im Rahmen der hierfür vorgesehenen Entsorgungssysteme fachgerecht behandelt werden. Indem Sie sicherstellen, dass ihr Altgerät gemäß den geltenden Vorschriften zur Behandlung von Elektro- und Elektronik-Altgeräten sowie von Gefahrstoffen entsorgt wird, tragen Sie zum Erhalt unserer natürlichen Ressourcen und zum Schutz der menschlichen Gesundheit bei.

Miltenyi Biotec hat sich dem Schutz der Umwelt verpflichtet. Miltenyi Biotec bietet in zahlreichen Ländern Rücknahmeprogramme für Altgeräte an und arbeitet weltweit mit lizensierten Partnern zusammen, die an bestehende Recycling- und Entsorgungssysteme angeschlossen sind. Miltenyi Biotec ermöglicht Ihnen ein kostenloses Recycling Ihres Altgerätes. Die Bedingungen und die Verfügbarkeit dieses Angebots unterscheiden sich geographisch aufgrund unterschiedlicher regulatorischer Anforderungen. Bitte beachten Sie, dass je nach Art und Nutzung Ihres Gerätes zusätzliche

Anforderungen gelten können. Bevor Sie das Altgerät an den Hersteller zur Entsorgung zurücksenden, dekontaminieren Sie es, um sämtliche gefährlichen Stoffe zu entfernen.

Für weitere Informationen oder wenn Sie Altgeräte von Miltenyi Biotec entsorgen möchten, wenden Sie sich an Ihren lokalen Vertreter von Miltenyi Biotec oder an den Miltenyi Biotec Technical Support.

ES

Información importante de seguridad

Instrucciones generales de seguridad

Este capítulo ofrece información importante para su seguridad personal y el correcto uso del instrumento. Lea y siga todas las instrucciones atentamente antes de la instalación y el uso del instrumento. Siga las prácticas de seguridad generales además de este manual de uso.

- Use este instrumento solo como se indica en este manual de uso para evitar lesiones personales y daños materiales.
- Guarde este manual de uso en un lugar que siempre esté accesible para todos los usuarios.
- Observe las instrucciones de seguridad de la zona de trabajo local y las políticas de laboratorio, así como las normas de salud, seguridad y prevención de accidentes.
- En caso de accidentes graves, daños en el instrumento o si aparece humo o llamas, corte de inmediato el suministro de la corriente eléctrica.
- Asegúrese de que se pueda acceder fácilmente al interruptor de corriente y al enchufe del cable de alimentación del instrumento.
- Para desconectar completamente el instrumento del suministro de la corriente eléctrica, desenchufe el cable de alimentación.
- Asegúrese de que el enchufe del cable de alimentación esté cerca del usuario.
- Si es necesario cortar el suministro de la corriente eléctrica, desenchufe el cable de la toma de corriente y póngase en contacto con un proveedor de servicios autorizado de Miltenyi Biotec o el Miltenyi Biotec Technical Support.

- Lea las instrucciones del capítulo Información importante de seguridad antes de utilizar el instrumento.
- Revise el instrumento antes de cada uso para detectar daños visibles.

Nieveles de riesgo

Las palabras de advertencia se utilizan para advertir contra situaciones peligrosas y daños materiales.En este manual de uso se utilizan las siguientes palabras de advertencia.

⚠ ADVERTENCIA o ¡ADVERTENCIA! indica una situación peligrosa que, de no evitarse, podría conllevar la muerte o lesiones graves.

AVISO **o AVISO indica información que se considera importante, pero no relacionada con un peligro (p. ej., mensajes relacionados con daños materiales).**

Símbolos



ADVERTENCIA DE SEGURIDAD: SE DEBE CONSULTAR LA DOCUMENTACIÓN EN TODOS LOS CASOS EN QUE SE UTILICE ESTE SÍMBOLO DE SEGURIDAD EN EL INSTRUMENTO



LEA EL MANUAL DE USO ANTES DE USAR EL INSTRUMENTO



RAEE (RESIDUOS DE APARATOS ELÉCRICOS Y ELECTRÓNICOS)



CORRIENTE CONTINUA



POLARIDAD (POSITIVE POR DENTRO)

MARCADO DE CONFORMIDAD EUROPEA

MARCA DE CERTIFICACIÓN NRTL: EL PRODUCTO CUMPLE LOS ESTÁNDARES DE SEGURIDAD CONSENSUADOS, REQUERIDOS POR LA ADMINISTRACIÓN DE SEGURIDAD Y SALUD OCUPACIONAL (OSHA), DETERMINADOS POR EL LABORATORIO DE ENSAYO RECONOCIDO NACIONALMENTE (NATIONALLY RECOGNIZED TESTING LABORATORIES (NRTL)) TÜV SÜD

CONFORMIDAD EVALUADA DEL REINO UNIDO

Etiqueta de seguridad

Observe los puntos de peligro y los símbolos de seguridad del instrumento.

- Mantenga las etiquetas y marcas de seguridad en un estado limpio y legible.
- Inspeccione las etiquetas y marcas de seguridad con regularidad, y reemplácelas si no son legibles o identificables desde una distancia de visualización segura.
- Póngase en contacto con Miltenyi Biotec si necesita etiquetas de recambio.

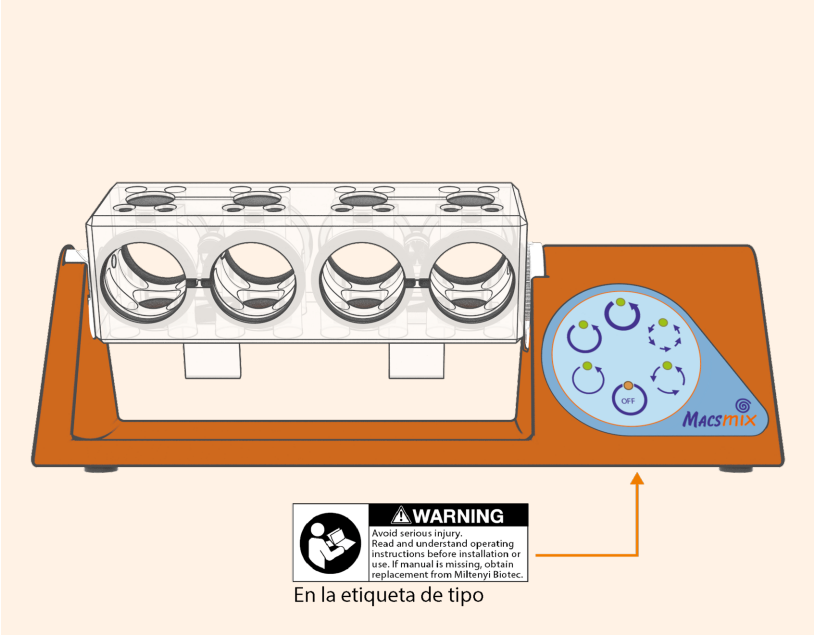
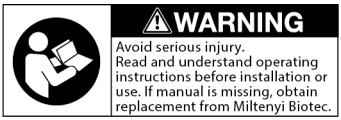


Figure 1: Símbolos de seguridad en el instrumento.



ADVERTENCIA! Evita las lesiones graves. Lea y comprenda las instrucciones de funcionamiento antes de la instalación o el uso. Si falta el manual, solicite su sustitución a Miltenyi Biotec.

Instrucciones de seguridad

⚠ La documentación del equipo deberá ser consultada antes de proceder a la instalación y uso del mismo.

⚠ En caso de no seguir correctamente las instrucciones de uso del manual existe riesgo de peligro.

⚠ El MACSmix Tube Rotator está diseñado únicamente para su uso en aplicaciones de investigación.

El MACSmix Tube Rotator sólo debe usarse en un rango de temperaturas de 2 °C a 42 °C. Utilizarlo a temperaturas menores o mayores podría dañar el sistema.

El MACSmix Tube Rotator está diseñado solo para uso en interiores. El aparato MACSmix no debe utilizarse en atmósferas peligrosas; tampoco con materiales peligrosos para los cuales el equipo no ha sido diseñado.

La protección con la que el MACSmix Tube Rotator viene equipado, podría ser dañada en el caso de ser usado de manera inapropiada o de utilizar accesorios no suministrados o recomendados por Miltenyi Biotec.

Existe riesgo de peligro en el caso de utilizar el MACSmix Tube Rotator para mezclar materiales inflamables, o en el caso de usar accesorios de vidrio, a los que la energía mecánica podría llevar a rotura.

No use una fuente de alimentación que no sea la incluida en la entrega del instrumento. Los componentes eléctricos del MACSmix Tube Rotator podrían ser dañados en el caso de utilizar fuentes de suministro y voltajes no compatibles.

No inserte una batería diferente a la indicada en el compartimento de la batería. Existe riesgo de explosión o fuego. No utilice baterías no recargables.

Utilice únicamente baterías recargables de NiMH tipo AA con 2000–4000 mAh. Asegúrese de que la polarización es la correcta,de lo contrario el MACSmix Tube Rotator podría ser dañado. Las baterías recargables de NiMH deben ser eliminadas según la legislación vigente.

No permita que líquidos penetren la fuente de alimentación externa. Proteja la fuente de alimentación externa contra vertidos y salpicaduras accidentales. Limpie inmediatamente los vertidos. No utilice la fuente de alimentación externa si se han derramado líquidos en la fuente de alimentación externa. No use el la fuente de alimentación externa en un lugar mojado o húmedo. Evite áreas con alta humedad o vapor. Desechufe la fuente de alimentación externa de la toma de corriente antes de limpiarlo. No utilice agentes limpiadores líquidos o aerosoles; use siempre un paño húmedo.

Eliminación



INFORMACIÓN AL CLIENTE SOBRE LA DIRECTIVA DE RESIDUOS DE APARATOS ELÉCTRICOS Y ELECTRÓNICOS (RAEE)

Deseche sus productos Miltenyi Biotec al final de su vida útil de acuerdo con la legislación aplicable sobre eliminación de desechos peligrosos y residuos de aparatos eléctricos y electrónicos (RAEE), que puede diferir según el país o la región. El equipo eléctrico puede contener sustancias peligrosas que pueden tener un efecto perjudicial grave en el medio ambiente y/o la salud humana. Todo el equipo debe ser recogido y tratado específicamente en instalaciones de desechos designadas y en sistemas conformes a la legislación sobre RAEE. Al asegurarse de desechar sus aparatos eléctricos y electrónicos no deseados de acuerdo con la legislación aplicable sobre eliminación de desechos peligrosos y RAEE, está ayudando a preservar nuestros recursos naturales y proteger la salud humana.

Miltenyi Biotec se compromete a proteger el medio ambiente. Miltenyi Biotec ofrece programas de devolución de productos al final de su vida útil en muchos países y socios con licencia que disponen de sistemas conformes a la legislación sobre RAEE en todo el mundo. Miltenyi Biotec recoge su equipo Miltenyi Biotec al final de su vida útil para reciclarlo de forma gratuita. Los términos y la disponibilidad de esta oferta pueden variar según la región geográfica, debido a las diferencias en los requisitos reglementarios. Tenga en cuenta que, dependiendo del tipo y uso del equipo, pueden aplicarse requisitos adicionales. Antes de devolver el instrumento al fabricante para que lo deseche, descontamine el instrumento para eliminar cualquier material peligroso.

Para obtener más información, o si desea desechar su equipo Miltenyi Biotec al final de su vida útil, póngase en contacto con su representante local de Miltenyi Biotec o con el Soporte Técnico de Miltenyi Biotec.

FR

Informations de sécurité importantes

Instructions générales de sécurité



CE CHAPITRE DÉCRIT LES SITUATIONS POTENTIELLEMENT DANGEREUSES ASSOCIÉES À CET INSTRUMENT ET FOURNIT DES INFORMATIONS DE SÉCURITÉ IMPORTANTES DESTINÉES À RÉDUIRE LES RISQUES ET À VOUS PROTÉGER AINSI QU'À PROTÉGER LES AUTRES.

Le présent chapitre donne des informations importantes pour votre sécurité personnelle et pour l'utilisation correcte de l'instrument. Veuillez lire attentivement toutes les instructions et les retenir avant de procéder à l'installation de l'instrument et d'utiliser celui-ci. Appliquez les mesures de sécurité générales en plus de celles exposées dans le manuel d'utilisation.

- Utilisez toujours cet instrument en suivant les indications fournies dans ce manuel d'utilisation, afin d'éviter toute blessure et tous dommages matériels.
- Conservez ce Guide de l'Utilisateur dans un endroit qui reste toujours accessible à tous les utilisateurs.
- Respecter les consignes de sécurité sur le lieu de travail et les protocoles de laboratoire, ainsi que les normes en matière de santé, de sécurité et de prévention des accidents.
- En cas d'accident grave, d'endommagement de l'instrument ou si de la fumée ou des flammes apparaissent, coupez immédiatement l'alimentation électrique.
- Assurez-vous que l'interrupteur principal et la prise du câble d'alimentation de l'instrument soient facilement accessibles.

- Pour éteindre entièrement l'instrument de l'alimentation électrique, débranchez le câble d'alimentation.
- Assurez-vous que la prise du câble d'alimentation est proche de l'utilisateur.
- S'il est nécessaire de couper l'alimentation électrique, débranchez le câble de la prise de courant et contactez un prestataire de services agréé Miltenyi Biotec ou le Miltenyi Biotec Technical Support.
- Lisez les instructions du chapitre « Informations de sécurité importantes » avant d'utiliser l'instrument.
- Vérifiez l'instrument avant chaque utilisation pour détecter des dommages visibles.

Nieveaux de danger

Les mots d'avertissement sont utilisés pour mettre l'utilisateur en garde contre des situations dangereuses et des dommages matériels.Les mots d'avertissement suivants sont utilisés dans ce Guide de l'Utilisateur.

⚠ AVERTISSEMENT ou AVERTISSEMENT ! signale une situation dangereuse qui, si elle n'est pas évitée, peut causer la mort ou des blessures graves.

AVIS **ou AVIS signale des informations jugées importantes mais qui ne concernent pas un danger (p. ex. les messages relatifs à des dommages matériels).**

Symboles



AVERTISSEMENT DE SÉCURITÉ: LA DOCUMENTATION DOIT ÊTRE CONSULTÉE DANS TOUS LES CAS OÙ CE SYMBOLE DE SÉCURITÉ EST UTILISÉ SUR L'INSTRUMENT



LISEZ LE GUIDE DE L'UTILISATEUR AVANT D'UTILISER L'INSTRUMENT



DEEE (DÉCHETS D'ÉQUIPEMENTS ÉLECTRIQUES ET ÉLECTRONIQUES)

COURANT CONTINU



POLARITÉ (POSITIVE À L'INTÉRIEUR)



MARQUAGE DE CONFORMITÉ EUROPÉENNE



MARQUE DE CERTIFICATION NRTL : LE PRODUIT RÉPOND AUX NORMES DE SÉCURITÉ CONSENSUELLES IMPOSÉES PAR L'OCCUPATIONAL SAFETY/HEALTH ADMINISTRATION (OSHA) ET DÉTERMINÉES PAR LE LABORATOIRE D'ESSAIS RECONNU AU NIVEAU NATIONAL (NATIONALLY RECOGNIZED TESTING LABORATORIES (NRTL)) TÜV SÜD



MARQUAGE DE PRODUIT DU ROYAUME-UNI

Étiquette de sécurité

Repérez les points dangereux et les symboles de sécurité de l'instrument.

- Maintenez les étiquettes et les marquages de sécurité propres et lisibles.
- Contrôlez régulièrement les étiquettes et marquages de sécurité et remplacez ceux qui ne sont pas lisibles ou identifiables à une distance sûre.
- Contactez Miltenyi Biotec pour obtenir des étiquettes de rechange.

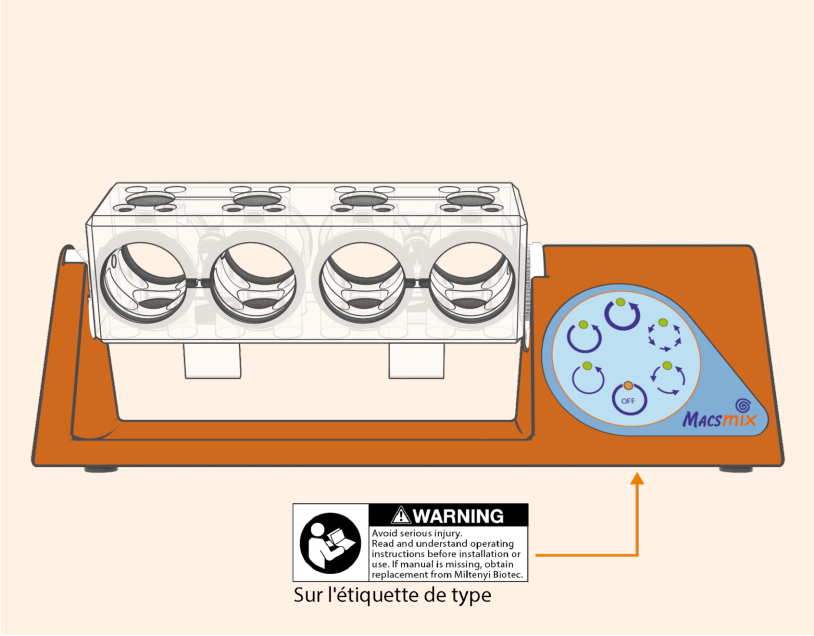
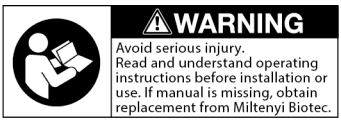


Figure 1: Symboles de sécurité sur l'instrument.



AVERTISSEMENT! Évitez les blessures graves. Lisez et comprenez les instructions d'utilisation avant d'installer ou d'utiliser l'appareil. Si le manuel est manquant, demandez à Miltenyi Biotec de le remplacer.

Consignes de sécurité

La documentation doit être consultée avant de procéder à l'installation et l'utilisation du système.

Un risque existe si le mode d'emploi n'est pas suivi.

Le MACSmix Tube Rotator est à usage de recherche uniquement.

⚠ Le MACSmix Tube Rotator peut supporter des températures entre 2 °C et 42 °C. Une conservation dans des températures en dehors de cette marge, pourrait engendrer des dommages sur l'appareil.

⚠ Le MACSmix Tube Rotator ne doit pas être utilisé dans des atmosphères dangereuses ou avec des matériels dangereux pour lesquels l'équipement n'est pas conçu.

⚠ La protection fournie par le MACSmix Tube Rotator peut être diminuée si l'équipement est utilisé avec des accessoires non fournis ou non recommandé par Miltenyi Biotec, ou utilisé d'une manière non indiquée par Miltenyi Biotec.

⚠ Un risque peut être encouru en utilisant le MACSmix Tube Rotator pour agiter des produits inflammables, ou lors du transfert d'énergie mécanique dans un appareil en verre qui pourrait se briser.

⚠ Le régime électrique du MACSmix Tube Rotator n'est approuvé qu'avec le cable électrique fourni. L'utilisation d'autres tensions électriques pourrait causer des dommages irréversibles sur le MACSmix Tube Rotator.

⚠ Ne pas utiliser de batterie non adaptées dans le compartiment de batterie. Cela pourrait provoquer une explosion ou un risque d'incendie. Ne pas installer de pilles non-rechargeables dans le compartiment de batterie.

⚠ Appliquez seulement des accumulateurs NiMH de type AA à 2000–4000 mAh. Vérifiez la correcte polarisation électrique, sinon le MACSmix Tube Rotator pourrait être endommagé. Des accumulateurs NiMH sont à traiter en tant que déchets speciaux.

⚠ **Veillez à ce qu'aucun fluide ne pénètre à l'intérieur de adaptateur d'alimentation externe. Protégez l'adaptateur d'alimentation externe contre des déversements et éclaboussements accidentels. Nettoyez immédiatement tout déversement. Ne pas utiliser l'adaptateur d'alimentation externe, si des liquides ont coulés dans l'adaptateur d'alimentation externe.** Ne pas utiliser l'adaptateur d'alimentation externe dans des endroits humides et brumeux. Évitez des endroits ayant une forte

humidité ou condensation. Débranchez l'adaptateur d'alimentation externe de la prise électrique avant de le nettoyer. Ne pas utiliser des détergents liquides ou aérosols; utilisez toujours un tissue humide.

Élimination



INFORMATION CLIENT SUR LES DÉCHETS D'ÉQUIPEMENTS ÉLECTRIQUES ET ÉLECTRONIQUES (DEEE)

Éliminez vos produits Miltenyi Biotec en fin de vie conformément à la directive DEEE et à la législation applicable relative à l'élimination des déchets dangereux, qui peut varier en fonction du pays ou de la région. Les équipements électriques peuvent contenir des substances dangereuses susceptibles d'avoir un effet nocif grave sur l'environnement et/ou la santé humaine. Tous les équipements doivent être spécifiquement collectés et traités par des établissements désignés de gestion des déchets et des systèmes qualifiés de conformité à la directive DEEE. En veillant à éliminer vos déchets d'équipements électriques et électroniques en accord avec la directive DEEE et la législation applicable relative à l'élimination des déchets dangereux, vous contribuez à la préservation des ressources naturelles et à la protection de la santé humaine.

Miltenyi Biotec s'engage à protéger l'environnement. Miltenyi Biotec propose des programmes de retour des produits en fin de vie dans de nombreux pays, et conclut des partenariats avec des établissements conduisant des systèmes de conformité DEEE agréés dans le monde entier. Miltenyi Biotec reprend et recycle gratuitement vos équipements Miltenyi Biotec en fin de vie. Les conditions et la disponibilité de cette offre varient selon les pays et les différentes exigences réglementaires. Selon le type et l'utilisation de votre équipement, des exigences suppléméntaires peuvent s'appliquer. Avant d'expédier l'instrument au fabricant pour élimination, décontaminez-le pour éliminer tout matériel dangereux.

Pour de plus amples informations, ou si vous souhaitez éliminer votre équipement Miltenyi Biotec arrivé en fin de vie, veuillez contacter votre représentant Miltenyi Biotec local ou le Support Technique (Miltenyi Biotec).

1 Introduction

1.1 Description

The MACSmix Tube Rotator runs on rechargeable batteries, working independently from permanent power supply. It can be used at a temperature range of 2 °C to 42 °C and can be placed in an incubator as well as in a refrigerator. MACSmix Tube Rotator can be equipped with tubes from 0.5 mL to 50 mL in size. The instrument operates at three different speeds or at set intervals.

1.2 Applications

- Short time culturing of cells in tubes in an incubator
- Magnetic labeling of cells for depletion using MACSiBead Particles
- Resuspending blood or other cell suspensions
- Immunoprecipitations
- Extractions and phase separations
- Dissolving substances
- Mixing of tissue with enzyme solutions for tissue dissociation

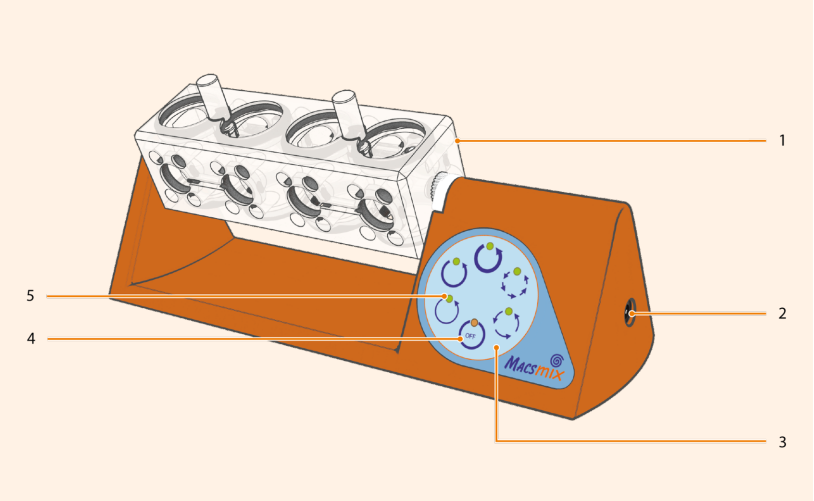


Figure 1.1: The MACSmix Tube Rotator

1 Tube rack

2 Power cable connection

3 Control panel

4 OFF button

5 LED lamps

1.3 Intended use

The MACSmix Tube Rotator 2.0 provides overhead sample mixing in various tube sizes from 0.5 mL to 50 mL tubes. The device operates at three different speeds or at set intervals.

The MACSmix Tube Rotator 2.0 is an instrument running on rechargeable batteries and operating independently of a permanent power supply. Alternatively, mains operation is possible. It is suitable for a temperature range of 2 °C to 42 °C and can, therefore, be placed in a refrigerator or incubator.

2

Installation

2.1 Included components

- MACSmix Tube Rotator (order no. 130-090-753)
- 4 rechargeable NiMH batteries, type AA
- Screwdriver
- Power supply for 100–240 V~, 50–60 Hz with EU/US/UK and AU plug
- Rack for tubes from 0.5 mL to 50 mL
- User manual

2.2 Assembly

1. Insert the 4 batteries (see **Change the batteries on page 44**).
2. Connect the power cable to the MACSmix Tube Rotator and plug it into a power outlet.
3. Charge the batteries for 2.5–4 hours, depending on the capacity of the batteries (see **Charge the batteries on page 43**). While charging, the green LED above the OFF-button is flashing.
4. When charging is complete, flashing will stop.
5. Install the rack. The gearwheel must face to the right, as depicted in **Figure 2.1**.
6. Insert the gearwheel first, then lower the left side of the rack.

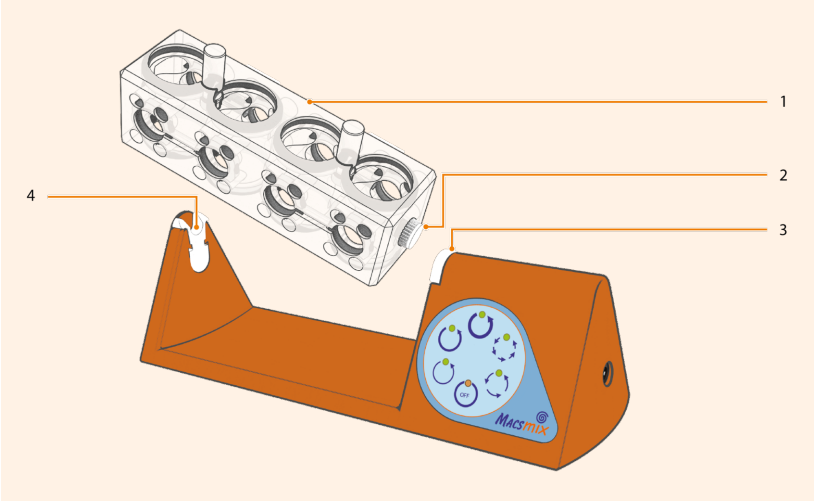


Figure 2.1: Installation of the tube rack

1 Tube rack

2 Gearwheel

3 Right bearing

4 Left bearing

Ensure that the batteries are fully charged before using the MACSmix Tube Rotator for the first time.

3

Instructions for use

3.1 Compatible tubes

Slots for 15 mL or 50 mL tubes are located at the side with spacers (**Figure 3.1**). The smaller slots are used for 1.5 mL and 2 mL tubes.

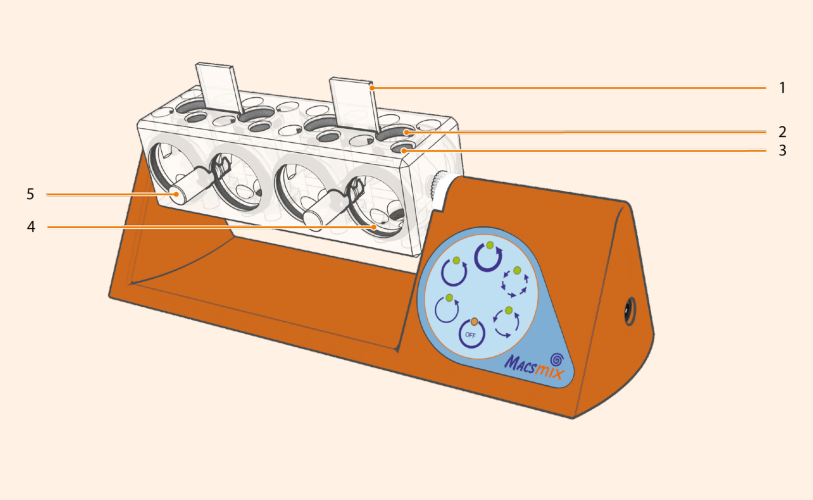


Figure 3.1: Slots for 1.5 mL, 2 mL,15 mL, or 50 mL tubes

1 Spacer for 15 mL tubes

2 Slot for 15 mL tubes

3 Slot for 1.5 mL and 2 mL tubes

4 Slot for 50 mL tubes

5 Spacer for 50 mL tubes

Slots on the other sides (without spacers) can be used for 0.5 mL tubes or gentleMACS Tubes (**Figure 3.2**).

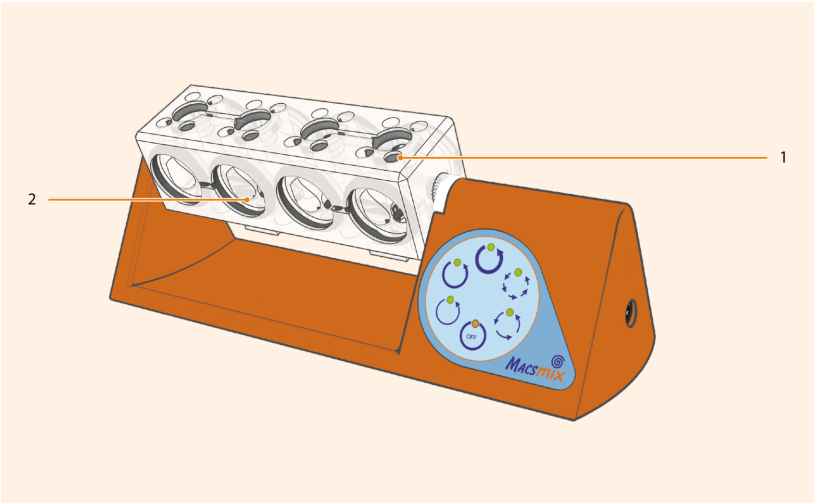


Figure 3.2: Slots for 0.5 mL tubes or gentleMACS Tubes

1 Slot for 0.5 mL tubes

2 Slot for gentleMACS Tubes

3.2 Insert tubes into the rack

1. When using 50 mL or 15 mL tubes, ensure to insert the tubes completely until the lid touches the spacer.
2. Always insert 50 mL tubes and 15 mL tubes from the side on which the spacers are located (**Figure 3.3**).

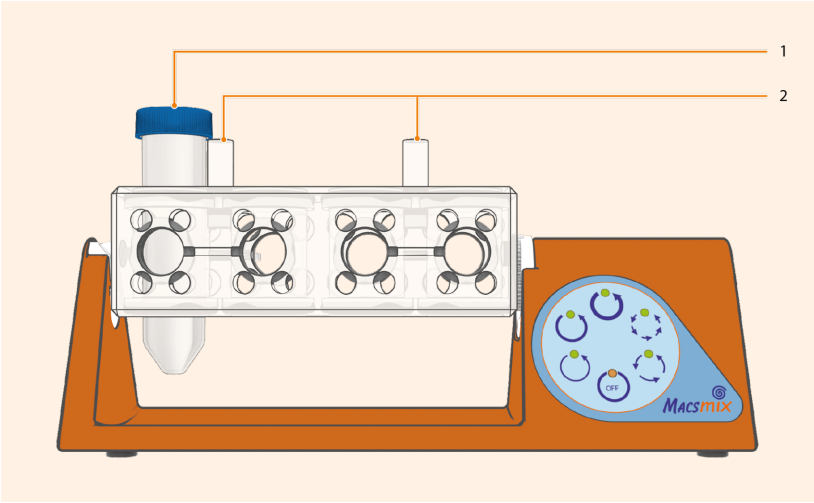


Figure 3.3: Correct orientation of 50 mL tubes in the MACSmix Tube Rotator

1 50 mL tubes

2 Spacers

3 Always insert gentleMACS Tubes from the side opposite the spacers (**Figure 3.3**).

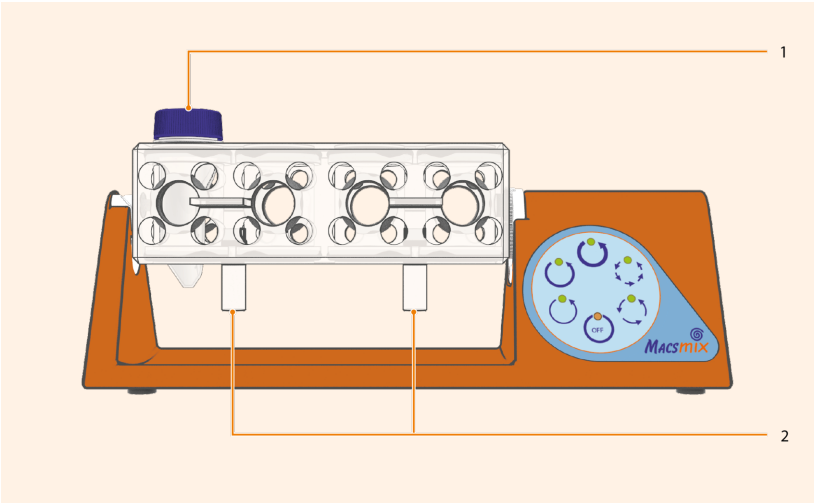


Figure 3.4: Correct orientation of gentleMACS Tubes in the MACSmix Tube Rotator

1 GentleMACS Tube

2 Spacers

3.3 Operating the instrument

NOTICE **Do not touch or move the tube rack while the instrument is operating. Otherwise, the instrument may be damaged.**

1 For operation without permanent connected power supply, make sure that the batteries are charged (see **Charge the batteries on page 43**).

2 For operation with permanently connected power supply, connect the power cable into the outlet and plug the power supply into the socket of the MACSmix Tube Rotator.

3 Make sure that the rack and tubes are properly installed (see **Assembly on page 35** and **Compatible tubes on page 37**).

4 To select the appropriate program, press the respective button (see **Figure 1.1** and **Functions of the buttons on the control panel below**).

5 Press the OFF-button on the control panel to stop the operation of the MACSmix Tube Rotator.

3.4 Functions of the buttons on the control panel

	**OFF**
	**12 rpm, permanent**
	**16 rpm, permanent**
	**20 rpm, permanent**
	**12 rpm, intervals of 30 sec, 1 minute pause**
	**12 rpm, intervals of 30 sec, 5 minute pause**

4

Maintenance

4.1 Charge the batteries

1. Plug the main adapter of the transformer into the socket of the MACSmix Tube Rotator.
2. Insert the transformer into the socket.
3. Depending on the capacity of the batteries, charge the batteries for 2.5–4 hours (**Table 4.1**). During this time the green LED above the OFF-button will flash.
4. Once the recharging process has finished, the green light stops flashing.

The batteries cannot be overcharged. The MACSmix Tube Rotator may be used while recharging.
The batteries of the MACSmix Tube Rotator should only be recharged with the enclosed power supply. Using other than the original power supply may damage the instrument.

Battery capacity	Charging time
2000 mAh	2.5 h
3000 mAh	3 h
4000 mAh	4 h

Table 4.1: Charging time of rechargeable batteries

4.2 Change the batteries

If batteries are no longer rechargeable, they can be replaced.

1. Disconnect the instrument from the power supply.
2. Open the lid on the base of the instrument with the screwdriver.
3. Remove the old batteries from the battery holder.
4. Set the capacity selector switch to the correct position depending on the battery capacity (**Figure 4.1**). The capacity is printed on the batteries.

NOTICE **Wrong orientation of the batteries can damage the instrument.**

5. Insert the 4 new batteries into the battery holder as indicated.
6. Use the screwdriver to close the lid.

The capacity selector is already set to the correct position for the enclosed batteries.

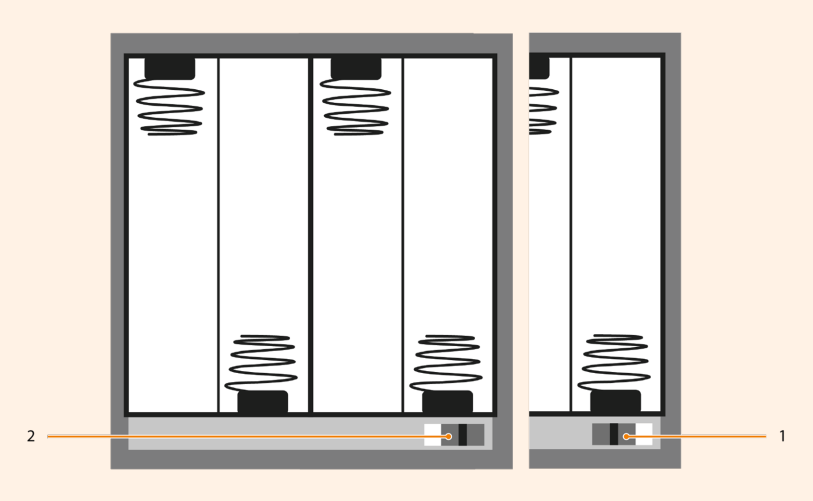


Figure 4.1: Positions of capacity selector switch

1 Position for battery capacity of 2000–2600 mAh

2 Position for battery capacity of 2600–4000 mAh

4.3 Clean the MACSmix Tube Rotator

NOTICE **Do not use acetone to clean the MACSmix Tube Rotator.**

Switch off and unplug the MACSmix Tube Rotator before cleaning. Use only commercially available cleaning agents such as mild detergent or alcohol (70% ethanol) to clean the MACSmix Tube Rotator and the racks.

4.4 Clean the left bearing

The left bearing can be removed for cleaning (**Figure 4.2**). Switch off and unplug the MACSmix Tube Rotator before cleaning.

1 Remove the rack.

2 Remove the bearing.

3 Clean and insert the bearing. The bevelled side of the bearing faces inward as depicted in **Figure 4.2**.

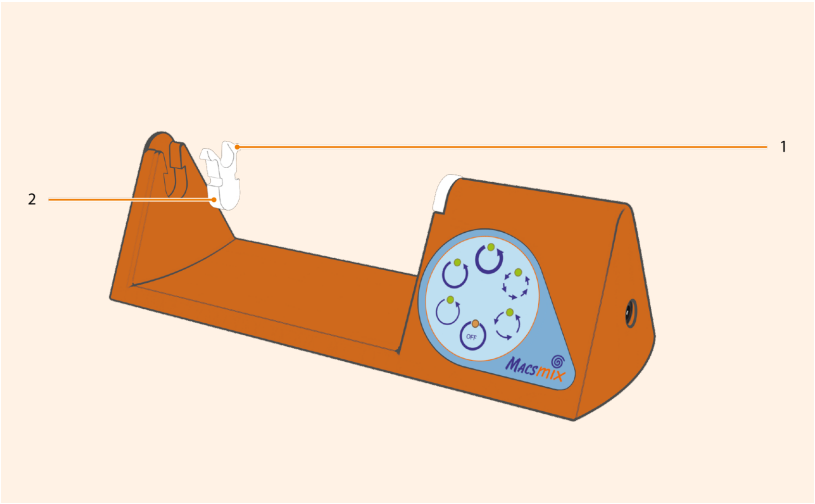


Figure 4.2: Correct orientation of the left bearing

1 Bevelled front

2 Left bearing

4.5 Decontamination of the MACSmix Tube Rotator

Switch off and unplug the MACSmix Tube Rotator before decontamination.

- If the MACSmix Tube Rotator has been used to process biohazardous samples, it is recommended to decontaminate the instrument.
- If sample tubes have been in contact with biohazardous material, they should be autoclaved after use.
- In case of spillage, it is recommended to use a disinfectant that is appropriate for the potential pathogen, e.g. bleach, isopropyl alcohol, or 70% ethanol, to decontaminate surfaces with tissue or swabs.

Dispose tissues and swabs appropriately. It is recommended to wear protective gloves, protective clothing, and safety glasses to prevent contact with skin and eyes.

5

Troubleshooting

Issue	Root cause	Action	Reference
Rack does not move, LED is on.	Bearing parts or couplings of the rack are soiled	Clean the bearing parts and the couplings of the rack	**Clean the MACSmix Tube Rotator on page 45** **Clean the left bearing on page 45**
	Tubes are blocking the rotation	Insert 15 mL or 50 ml tubes into their slots at the side with spacers	**Insert tubes into the rack on page 39**
Rack does not move, LED does not work	Batteries are empty	Charge batteries	**Charge the batteries on page 43**
OFF-button LED does not work while the batteries are charging	Transformer is not plugged in correctly	Plug in transformer	**Charge the batteries on page 43**
Running time is less than 30 h after fully charging the batteries	Batteries are expired	Change batteries	**Change the batteries on page 44**

Table 5.1: Troubleshooting

6

Technical data and specifications

Parameter	Technical specification
Model	MACSmix Tube Rotator
Order number	130-090-753
Footprint (w × d)	281 mm × 96 mm
Height	110 mm
Running modes	Continuous mixing: 12 rpm, 16 rpm, or 20 rpm Interval mixing: 30 seconds at 12 rpm, 1 minute or 5 minutes pause The average speed might slightly change with different loads (+/–2 rpm).
Rack capacity	16 tubes with 0.5 mL, 1.5 mL, or 2 mL 4× 15 mL tubes 4× 50 mL tubes, or 4× gentleMACS Tubes
Input voltage (MACSmix Tube Rotator)	12 V⎓
Power consumption (MACSmix Tube Rotator)	20 W
Power supply	Input voltage 100–240 V~ Frequency 50/60 Hz Power consumption 25 W Output voltage 12 V⎓

Parameter	Technical specification
Batteries	4 NiMH rechargeable batteries 2000–4000 mAh, type AA
Working temperature	+2 °C to +42 °C
Humidity	0% to 85% relative humidity, non-condensing
Altitude	Max. 2000 m
Emission sound pressure level at work station	< 70 dB(A)

Table 6.1: Technical data of the MACSmix Tube Rotator

6.1 EC/EU Declaration of Conformity

This declaration of conformity is issued under the sole responsibility of the manufacturer:

Miltenyi Biotec B.V. & Co. KG
Friedrich-Ebert-Straße 68
51429 Bergisch Gladbach
Germany

This declaration relates exclusively to the machinery in the state in which it was placed on the market, and excludes components which are added and/or operations carried out subsequently by the final user.

The declaration of conformity refers to the machinery identified as follows:

Description: Laboratory equipment
Model: MACSmix Tube Rotator

The machinery complies with all essential requirements of the following directives:

2006/42/EC Machinery
2011/65/EU Restriction of the use of certain hazardous substances in electrical & electronic equipment
2014/30/EU Electromagnetic compatibility

The machinery is in conformity with the following harmonized standards:

EN 61010-1:2010
EN 61010-2-051:2015
EN 61326-1:2013

Person authorized to compile the relevant technical documentation:

Dr. Bernd Schröder
Global Head Regulatory Affairs
Miltenyi Biotec B.V. & Co. KG
Friedrich-Ebert-Straße 68
51429 Bergisch Gladbach
Germany

6.2 UK Declaration of Conformity

This declaration of conformity is issued under the sole responsibility of the manufacturer:

Miltenyi Biotec B.V. & Co. KG
Friedrich-Ebert-Straße 68
51429 Bergisch Gladbach
Germany

This declaration relates exclusively to the machinery in the state in which it was placed on the market, and excludes components which are added and/or operations carried out subsequently by the final user.

The declaration of conformity refers to the machinery identified as follows:

Description: Laboratory equipment
Model: MACSmix Tube Rotator

The machinery complies with all essential requirements of the following legislations:

Supply of machinery (Safety) regulations 2008
The Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012
Electromagnetic Compatibility Regulations 2016

The machinery is in conformity with the following UK designated standards:

EN 61010-1:2010
EN 61010-2-051:2015
EN 61326-1:2013

Person authorized to compile the relevant technical documentation:

Dr. Bernd Schröder
Global Head Regulatory Affairs
Miltenyi Biotec B.V. & Co. KG
Friedrich-Ebert-Straße 68
51429 Bergisch Gladbach
Germany

7

Technical support

For technical support, contact your local Miltenyi Biotec representative or Miltenyi Biotec Technical Support at Miltenyi Biotec headquarters:

Miltenyi Biotec B.V. & Co. KG
Friedrich-Ebert-Straße 68
51429 Bergisch Gladbach
Germany
Phone: +49 2204 8306 3803
technicalsupport@miltenyi.com

Visit **www.miltenyibiotec.com** for local Miltenyi Biotec Technical Support contact information.

8

Legal notes

8.1 Limited warranty

Except as stated in a specific warranty statement which may accompany this product or as otherwise agreed in writing by an authorized representative of Miltenyi Biotec, Miltenyi Biotec's warranty to you, the original purchaser and end user ("you" or "your"), with respect to the product accompanied by this limited warranty shall be subject to the following provisions and the general terms and conditions of sale of the company within the Miltenyi Biotec group which supplied the product in effect at the date of purchase. Those terms and conditions of sale may vary by country and region. Nothing in this document should be construed as constituting an additional warranty.

Miltenyi Biotec warrants that this product will operate or perform substantially in conformance with Miltenyi Biotec's published specifications and be free from material defects in material and workmanship, when subjected to normal, proper, and intended usage by properly trained personnel, for the period of time set forth in the product documentation or package inserts accompanying the product (the "Warranty Period").

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