



Republic of the Philippines
 NATIONAL POLICE COMMISSION
NATIONAL HEADQUARTERS PHILIPPINE NATIONAL POLICE
OFFICE OF THE CHIEF, PNP
 Camp BGen Rafael T Crame, Quezon City

MEMORANDUM CIRCULAR
 NO.: 2021-025

24 FEB 2021

**PRESCRIBING THE MINIMUM TECHNICAL SPECIFICATIONS
 FOR VORTEX MIXER**

1. REFERENCES:

- a. NAPOLCOM Resolution No. 2020-0953 entitled, "Prescribing the Minimum Standard for Vortex Mixer" dated October 26, 2020;
- b. NAPOLCOM Memorandum Circular (MC) No. 2019-002 entitled: "Defining the Duty and Authority of the NAPOLCOM to Prescribe Minimum Standards for Uniforms, Arms, and Equipment to be Procured by the PNP" dated January 29, 2019;
- c. PNP MC No. 2019-016 entitled "Implementing Guidelines of NAPOLCOM Resolution No. 2019-002 Defining the Commission's Function to Prescribe Minimum Standards for Uniforms, Arms and Equipment for the Philippine National Police and Delineation of Authority to the Chief, Philippine National Police and to Set Technical Specifications of PNP Uniforms, Arms and Equipment" dated April 4, 2019; and
- d. PNP UESB Resolution No. 2020-006 entitled, "Approving the Proposed Minimum Technical Specifications for Vortex Mixer" dated January 22, 2021.

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JENIFER D. BONJOC
 POLICE LIEUTENANT COLONEL
 Chief, Administrative Section

2. RATIONALE:

This MC sets forth the minimum technical specifications for Vortex Mixer that will serve as reference in the procurement of the said equipment.

3. SITUATION:

The PNP Health Service needs Vortex Mixer or Vortexer to be used in the laboratory to mix small vials of liquid, mix reagents of an assay on an experimental sample and suspend cells. The equipment consists of an electric motor with the drive shaft oriented vertically and attached to a cupped rubber piece and mounted slightly off-center. The motor runs the rubber piece and oscillates rapidly in a circular motion. When a test tube or other appropriate container is pressed into the rubber cup, the motion is transmitted to the liquid inside and a vortex is created.

4. PURPOSE:

To provide and establish the minimum technical specifications for Vortex Mixer that will serve as reference in the procurement of the said equipment.

5. DEFINITION OF TERMS:

For purposes of this MC, the following terms shall mean:

- a. **Enzyme** – refers to a substance produced by a living organism which acts as a catalyst to bring about a specific biochemical reaction.
- b. **Microarray Data Analysis** – refers to the final step in reading and processing data produced by a microarray chip.
- c. **Molecular Biology** – refers to the branch of biology that concerns the molecular basis of biological activity in and between cells, including molecular synthesis, modification, mechanisms, and interactions.
- d. **Oscillation** – refers to the repetitive variation, typically in time, of some measure about a central value or between two or more different states. The term vibration is precisely used to describe mechanical oscillation.
- e. **Precision Temperature Control** - refers to an indirect cooling system utilizing a combination of refrigeration technologies, glycol/water heat exchange technologies, and the latest temperature control methods to outperform conventional refrigeration systems in environmental chamber applications.
- f. **Vortex** – refers to a mass of fluid (such as a liquid) with a whirling or circular motion that tends to form a cavity or vacuum in the center of the circle and to draw toward this cavity or vacuum bodies subject to its action especially: whirlpool, eddy.

6. SPECIFICATIONS:

a. Description:

Vortex Mixer is a laboratory equipment with precision temperature control and various mixing speeds which make it ideal for a wide variety of molecular biology applications including immunochemical reactions, enzyme and protein analysis, and microarray analysis.

b. Technical Specifications:

- | | | |
|---------------|---|----------------------|
| 1) Electrical | : | Philippine standard |
| 2) Dimensions | : | 5.5x 5.7x 5.1 inches |

MANIFER O. BONJOC
OFFICE LIEUTENANT COLONEL
Chief, Administrative Section

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- 3) Weight : 1.9 k
- 4) Mixing : Ttubes
- 5) Orbit : circular
- 6) Speed Range : 200 to 3000 rpm
- 7) Operating Temperature : 5 to 40
- 8) Operating mode : Touch or continuous

7. REPEALING CLAUSE:

All other technical specifications contrary to or inconsistent with the provisions of this MC are hereby rescinded, modified or amended.

8. EFFECTIVITY:

This MC shall take effect immediately after 15 days from filing a copy thereof at the UP Law Center in consonance with Section 3, Chapter 2, Book VII of Executive Order 292 otherwise known as the "Revised Administrative Code of 1987, as amended.



[Signature]
DEBOLD M SINAS
 Police General
 Chief, PNP

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 Chief, Administrative Section
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