



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

SEP 09 2020

MEMORANDUM CIRCULAR
NO.: 2020-059

**PRESCRIBING THE MINIMUM TECHNICAL SPECIFICATIONS
FOR REFRIGERATED MICRO CENTRIFUGE**

1. REFERENCES:

- a. NAPOLCOM Resolution No. 2020-0152 entitled: Prescribing the Minimum Standard for Refrigerated Centrifuge dated February 26, 2020;
- b. NAPOLCOM 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 Memorandum Circular 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. 2020-017 entitled: Proposed Minimum Refrigerated Micro Centrifuge.

2. RATIONALE:

This MC sets forth the minimum technical specifications for Refrigerated Micro centrifuge that will serve as reference in the procurement of thermal insulation suit.

3. SITUATION:

Presently, the PNP Health Service laboratory need the equipment for separation of suspended particles from a liquid or separation of liquid different densities. These liquids can include body fluids, reagents, or combinations of the two with other additives. This will be done by creating forces many times greater than gravity, centrifuges can greatly accelerate separations that occur naturally as a result of density differences. In its simplest form, a centrifuge is a metal rotor with holes to accommodate vessels of liquid, spun at selected speeds by a motor. Low-speed centrifuges generally operate at up to 10,000 revolutions per minute (rpm) and may be non-refrigerated or refrigerated. High-speed centrifuges generally operate at 10,000 to 30,000 rpm are refrigerated to cool the rotor chamber.

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4. PURPOSE:

To provide and establish the minimum technical specifications for Refrigerated Micro Centrifuge 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. **Additives** - is a substance added to something in a small quantity to improve or preserve it.
- b. **Centrifuge** - is a piece of equipment that puts an object in rotation around a fixed axis, applying a force perpendicular to the axis of spin that can be extraordinarily strong. The centrifuge works using the sedimentation principle, where the centrifugal acceleration causes denser substances and particles to move outward in the radial direction.
- c. **Centrifugal force** - is a word from Latin Centrum, meaning "center", and fugere, means "to flee", is the apparent force that draws a rotating body away from the center of rotation.
- d. **Centrifugation** - is a process which involves the use of the centrifugal force for the sedimentation of heterogeneous mixtures with a centrifuge.
- e. **Induction Motor or Asynchronous Motor** - is an AC electric motor in which the electric current in the rotor needed to produce torque is obtained by electromagnetic induction from the magnetic field of the stator winding.
- f. **Lid Lock** - is a mechanism for keeping a door, lid, etc., fastened, typically operated only by a key of a particular form.
- g. **Microprocessor** - is an integral circuit that contains all functions of a central processing unit of a computer.
- h. **Relative Centrifugal Force (RCF)** - is the ratio of the centrifugal acceleration at a specified radius and the speed to the standard acceleration of gravity.

6. SPECIFICATIONS:

- a. Description:

A Refrigerated Centrifuge is a piece of equipment that puts an object in rotation around a fixed axis, applying a force perpendicular to the axis of spin that can be extraordinarily strong. The centrifuge works using the

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sedimentation principle, where the centrifugal acceleration causes denser substances and particles to move outward in the radial direction.

While Refrigerated Micro Centrifuge is useful to separate or sediment small volume samples at high speed. The short-spin key, soft brake, Fast Temp features optimize the overall function of the centrifuges. Faults are diagnosed automatically and displays fault code.

b. Technical Specifications:

- | | | |
|-------------------------------------|---|-------------------------------------|
| 1) Refrigerator | : | Pre-cooling or Set Temperature |
| 2) Safety Function | : | Manufacturer Standard |
| 3) Rotor identification | : | Automatic or ideal fit |
| 4) Operating Interface | : | Microprocessor or Intuitive Control |
| 5) Display | : | LCD or easy to read |
| 6) Capacity | : | 24 x 1.5/2mL |
| 7) Max ACL/DCL Rotor | : | 26/21 seconds |
| 8) Speed Control Range | : | Programmable up to 14, 800 RPM |
| 9) Relative Centrifugal Force (RCF) | : | Max. RCF 21, 630xg |
| 10) Temperature Range | : | Adjustable (-10°C to +40°C) |

7. 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.



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