Technical Manual

EMME ANTINCENDIO | SAFETY FOR FUTURE

www.emme-italia.com

Via del Molino, 40 - 52010 Corsalone (AR) - Italy - info@emme-italia.com - Tel. +39.0575.511320
P.IVA/ C.F. 11208251006 - R.E.A. AR-159122

22066-45 : Portable Fire Extinguisher, 6 L Foam

TESTED SUCCESSFULLY ON LITHIUM BATTERY WITH CAPACITY

36 V — 750 Wh — 20,1 Ah

AVAILABLE CERTIFICATE

BENOR
EN3-B23/2325

Note: image is for illustrative purpose only, the product purchased can has some difference

- CYLINDER
  Stainless steel, 3 pieces drawing, external powder painting Red Ral 3000.
- EXTINGUISHING AGENT
  Lith-M 10, water-based foam.
- PROPELLANT
  Dehumidified air or Nitrogen (N_2).
- VALVE
  M. 30x1.5, brass body, levers with green painting Ral 6029.
- USE
  Class A Fires (solid materials)
  Class B Fires (flammable liquids)
  Class F Fires (cooking oils)
  Lithium-ion batteries.

6 L foam fire extinguisher, temperature range from 0°C to +60°C, manufactured in accordance to **UNI EN 3-7 (D.M. 7.1.2005)**, approved Marine Equipment Directive **MED 2014/90/EU**, certified according to the directive for pressure equipment PED 2014/68/EU. Manufactured according at productions checks as agreed with **EN 3-10**.
Quality Product certification guaranteed by Bureau Veritas Italia.
Suitable for use on fire involving electrical voltages up to 1'000 V, at a minimum distance of 1 meter.

APPROVED/CERTIFIED FIRE EXTINGUISHER:

MPA Dresden · MTIC INTERCERT · EN 3-7 · EN 3-10 Inspection Certificate N° 55840/21/NMJ/nmj · BUREAU VERITAS

FIRE RATING :

File name	Type of document	Fire Extinguisher Model	Date	Rele.	Check	Rev.	Pag.
22066-45_Technical manual	Technical manual	22066-45	28/05/2025	S.R		3	1/4

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- **INSTALLATION**
- **USE**
- **MAINTENANCE**

The installation must be carried out in accordance with the provisions in force in the country where the device is used.
The commissioning and maintenance activities for maintaining efficiency must be carried out in accordance with the document **PSP_1-B_ENG** by qualified technical personnel and in compliance with the regulations in force in the country of use.
Any tampering or intervention carried out by unqualified personnel will void the product warranty.
It is recommended to place the device in a dry place protected from atmospheric agents.

TECHNICAL SPECIFICATIONS

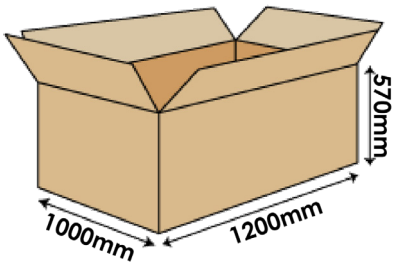
FIRE RATING	27 A 233 B 40 F
EXTINGUISHING AGENT	Foam Lith-M 10
PROPELLANT	Dehumidified air or Nitrogen (N_2), 15 Bar at 20°C
TEMPERATURE RANGE	0°C / +60°C
NOMINAL CHARGE	6 Liters
FULL WEIGHT	~ 8,7 Kg
DIMENSIONS	Height (base - valve) 530 +/- 5 mm Diameter (cylinder) 160 +/- 2 mm
DISCHARGE TIME	~ 43,5 seconds
CYLINDER PRESSURE TEST	PT 27 bar
CYLINDER VOLUME	7,8 Liters
SAFETY DEVICE	Set between 20 and 26 bar
CYLINDER MATERIAL	Stainless steel Aisi 304
TREATMENT	Outside: Sandblast and powder painting Ral 3000

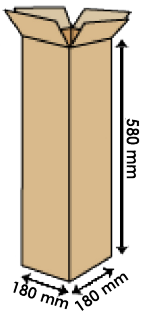
PACKAGING

(Note: quantities and measurements are indicative and can be subject at changes)

STANDARD
Maximum nr. 100 pieces for pallet
(44 pieces for box, max 2 boxes for pallet)
(12 pieces. single packaging)
Pallet dimensions 100x120x160(h) cm

ON REQUEST: SINGLE PACKAGING
- maximum 64 pieces on pallet 100x120
- maximum 48 pieces on pallet 80x120





TRANSPORT DISPOSAL

Land transport : Exemption for the purposes of ADR disposal 594
Ship Transport : IMDG Code - UN 1044 class 2.2 Fire Extinguishers

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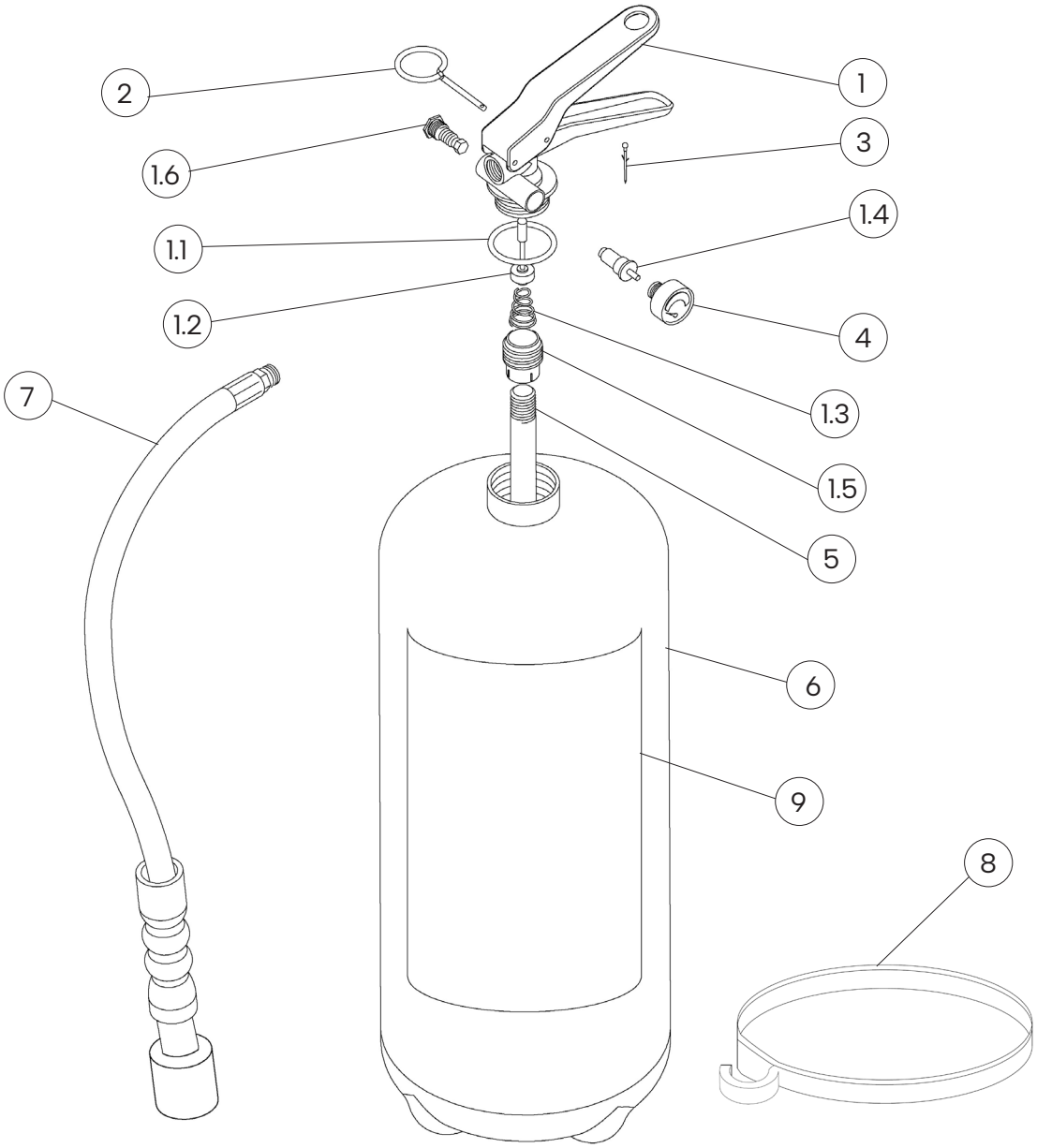
COMPONENTS AND SPARE PARTS LIST



NUM.	DESCRIPTION	CODE
1	Valve M. 30x1.5	0212FV
1.1	O-ring valve	0201R
1.2	Valve stem	0242R
1.3	Internal spring of the valve	0251R
1.4	Test valve for pressure gauge	1163
1.5	Dip tube holder	0253R
1.6	Safety device	0261R
2	Safety pin	0282-1
3	Safety pin seal	0285
4	Pressure gauge	1576

NUM.	DESCRIPTION	CODE
5	PVC dip tube	0154
6	Cylinder	1849
7	Hose with dispensing nozzle	0293-2
8	Stop hose ring	0301
9	Label	0083-45
OPTIONAL	Iron marine bracket red painting	0316
OPTIONAL	Stainless steel marine bracket	1464
	Foam refill (6 L. bottle, ready to use)	2054-1L

The spare part at number 1 includes already all others components indicated from 1.1 to 1.6

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Prerequisite when using the fire extinguisher on lithium batteries

According to tests executed with this fire extinguisher, it's possible to stop the combustion of a lithium-ion battery with a water based fire extinguisher with foam additives. It has been verified that the use of the fire extinguisher allows to lower the temperature and control any re-ignitions of the cells present inside the battery (generated by the chain reaction of the same and due to their shape inside the battery pack).
The battery tested has a voltage of 36 V with a capacity of 20.1 Ah and an anergy value of 750 Wh.
The fire extinguisher tested is therefore effective in containing the flames emanated from a battery with same or inferior characteristics compared to the one tested.

**NOTE: the test was executed on a new battery and so at full efficiency.*

SAFETY WARNING

The combustion of lithium-ion batteries realeses very harmful gases and fumes.
Direct exposure to high concentrations of gases emanating from the combustion of lithium-ion batteries can cause serious damage to health. Lithium-ion batteries can have unpredictable phenomenons during fire, such as explosive reactions caused by the pressure of the cells inside the battery pack. It's advisable to use appropriate safety devices.
The use of fire extinguisher is recommended for professional and expert staff.
The use of fire extinguisher by uninformed people can lead to lower results and cause damage to involved people.

DISCLAIMER

The result of the tests performed refers exclusively to the fire extinguisher model used during the tests themselves. The fast development of lithium-ion batteries and portable fire extinguishers means that the performance achieved during the test phase is not guaranteed when using lithium-ion batteries or shutdown tecniques other than those tested. It is not possible to understand where and to what extent these fire extinguishers can be installed due to the outer casing of the lithium-ion battery pack.
The fire extinguishers tested are intended to help contain the principle of fire resulting from the triggering of a lithium-ion battery.