ArmoLine

COMPRESSOR NEBULIZER

MODEL NO: AL-20

User Guide

English

ArmoLine

COMPRESSOR NEBULIZER
USER MANUAL

MODEL NO: AL-20

PLEASE READ THIS MANUAL CAREFULLY PRIOR TO USE

KK0101 Rev:03

www.medimport.com.tr

CE 1984

English

COMPRESSOR NEBULIZER
MODEL NO.: AL-20

INSTRUCTIONS

INDEX **PAGE**

1. INTRODUCTION

Thank you for purchasing the Compressor Nebulizer. It is a compact medical device designed to deliver the drug prescribed by a doctor to the bronchial lobes in an efficient manner. Proper care and use will provide you with reliable treatment for many years.

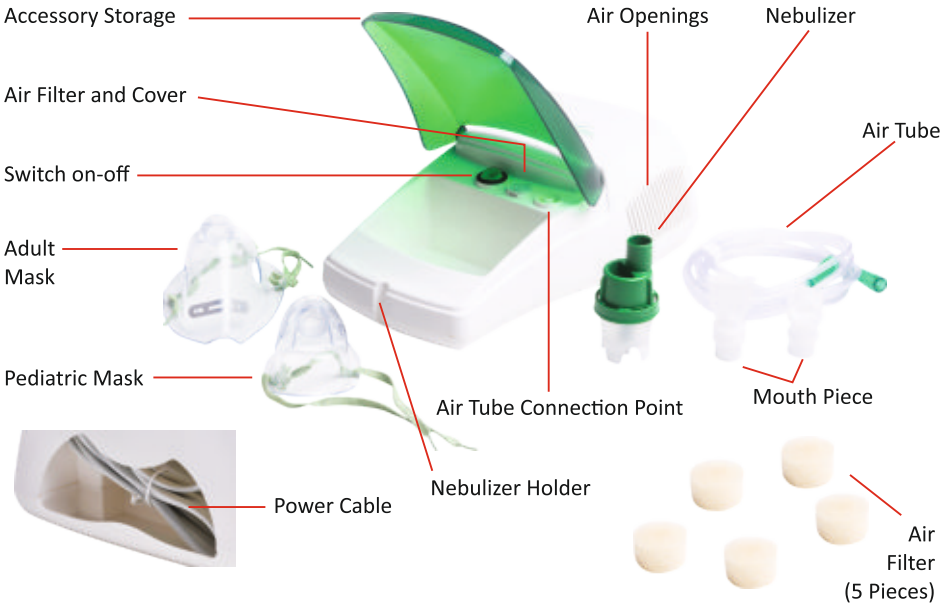
This product has been developed for the successful treatment of asthma, allergies and other respiratory disorders. From the air conduit, the nebulizer creates an air current that flows towards the body. When the air enters the nebulizer, it will turn the medicine into aerosol for easy inhalation.

The Compressor Nebulizer must be used under the supervision of a licensed physician and / or a respiratory therapist. We strongly recommend that you read this manual thoroughly to learn about these product features. This product should always be avoided for any purpose other than its intended use.

SYMBOLS

SYMBOL	DESCRIPTIONS
	Production Date
	Serial Number
	Model / Reference No
	Producer
	Fuse
	Refer to User's Manuel
	Class II İnsulated Equipment
	General Warnings and/or Technical Specifications
	Applied Part Type BF (Suction Probe)
	This symbol on the device and box indicates that electrical and electronic devices are collected seperately.
	EC Directive NO 93/42/EEC and compliance CE mark and code of the certifying body
IP20	İnternational Protection Code. This code determines the resistance of electrical devices against outer effects (Solid - Liquid)

3. PRODUCT INTRODUCTION



4. IMPORTANT SAFETY PRECAUTIONS

Note: Carefully read all instructions before using.
The following basic precautions must be taken when using an electrical product:
Caution: Failure to read this booklet and take all necessary precautions may result in personal injury or equipment damage.

Issues to be considered about the product:

1. To avoid electric shock: Keep the unit away from water * Do not immerse the electric cord or unit in a liquid * Do not use while bathing * Do not try to reach a water-dropping unit - immediately unplug the unit.
2. Never operate the unit if it has any damaged parts (including power cord), it has fallen in water or is actually water. Immediately send it to a service center for inspection and repair.
3. The unit should not be used where flammable gases, oxygen or aerosol spray products are used.
4. Unplug the unit before cleaning, filling and after each use.
5. Do not use any other components which are not recommended by the manufacturer.

Issues to be considered during use:

1. Connect this product to an appropriate voltage outlet according to the model you are using.
2. Do not operate this product while no aatendant is present.
3. Never use this unit if it has a damaged cord or plug, has fallen into water, or is in any way in water, or does not function properly. Return it to a service center for repair.
4. If any abnormality arises, stop using it immediately until the unit is inspected and repaired.
5. Always unplug the product immediately after use.
6. Never close the air vents of the main unit or place the unit where the air vents can be blocked.

Issues to be considered during storage:

1. Do not store the unit in direct sunlight, high temperature or exposed to moisture.
2. Store the unit in places where small children can not reach it.
3. Always keep the unit unplugged when not in use.

Issues to be considered during cleaning:

1. Do not immerse the unit in water. This can lead to damage to the unit.
2. Disconnect the unit from the electrical outlet before cleaning.
3. Clean all necessary parts after each use as described in this manual.

5. USE OF THE COMPRESSOR NEBULIZER

1. Place your nebulizer on a flat, stable floor. When you sit down, make sure you can easily reach the controls.
2. Open the cleaning cover and remove the accessories inside.
3. Important: Before starting the first time, the nebulizer should be cleaned thoroughly by looking at the "Cleaning Procedures" section of this manual.

	To open the nebulizer, unscrew it counterclockwise.
	Fill the prescribed amount of medication into the nebulizer and screw it clockwise to close it again. Make sure the parts are in place.
	Connect the air tube. Connect one end to the bottom of the nebulizer and the other end to the connection point on the device.
	Connect the mouth piece or mask as desired to the top of the nebulizer.
	Plug the power cord into a suitable power outlet.
	Be sure the switch is set to "Off" for the procedure above.
	Hold the nebuliser in your hand and connect the mouthpiece or mask as desired. To begin the prescribed treatment, switch the switch to "On".
	Turn off the device and remove the plug as soon as the treatment is complete.

Important:

The motor of the compressor has a thermal protector which closes the unit before the unit overheats. As the thermal protection unit is switched off, please do the following:

a. Switch the unit off.
b. Unplug the unit from the socket.
c. Wait 30 minutes for the engine to cool down before proceeding to the next treatment. Make sure the air openings are unobstructed.

6. CLEANING

It is recommended that the nebuliser, mouthpiece and mask should be cleaned thoroughly with hot water after each use and also with a mild detergent after the last use. If your doctor or respiratory therapist specifies a different cleaning procedure, follow their instructions.

Washing (after each treatment)

1. Unscrew air pipe, nebuliser, mouthpiece and mask.
2. Gently turn the nebulizer to open it.
3. Wash the nebulizer, mouthpiece and mask with water.
4. Dry with a clean soft towel or leave to dry outdoors.
5. When fully dry, reassemble the nebuliser and place these pieces in a dry, closed container.

Disinfection:

Unless otherwise specified by your doctor, please follow the steps below to purify your nebulizer from microorganisms. It is recommended that the unit be disinfected after the last treatment.

1. Use a solution consisting of one volüme of white vinegar and 3 volumes of pure water. Make sure that this mixture solution is sufficient to immerse the nebuliser, the mouthpiece and the mask.
2. Keep the pieces in the vinegar-water solution for 30 minutes.
3. Wash the nebulizer, mouthpiece and mask with warm water and a mild detergent. Then wash them in hot tap water.

Cleaning the compressor

1. Wipe with a damp piece of cloth everyday.
2. Do not use any powder detergent or soap which could damage the body of the appliance.

Changing filter

1. Do not use cotton or any other material. Do not wash or replace the filter. Only use filters supplied by the manufacturer and / or dealer / distributor and do not operate without a filter.
2. Change the filter every 30 days or when the filter begins to turn gray.
3. Changing procedure
   A. Remove the filter cover.
   B. Replace the used filter with a new one.
   C. Replace the filter cover.

7. TECHNICAL SPECIFICATIONS

Voltage and frequency values	AC220V ± 10% - 50Hz ± 2%
Power consumption	180 VA
Drug Capacity	8 - 12 ml
Particle size	0.5 to 10 µm
MMAD	<3µm
Sound Level	≤ 55 dBA
Average Spray Rate	Min. 0.25 ml/min.
Compressor Pressure Range	35 to 50 Psi (210 to 345 KPa/ 2.1 to 3.4 bar)
Operating Pressure Range	8 to 16 Psi (50 to 100 KPa/ 0.5 to 1.0 bar)
Liter Flow Rate	8~10 lpm
Working Temperature Range	10 C° to 40 C° (50 F° to 104 F°)
Working Humidity Range	% 10 dan 95 RH e
Storing Temperature Range	-20 C° to 70 C° (-4 F° to 158 F°)
Storing Humidity Range	10 to 95% RH
Measurements (L x W x H)	280 x 190 x 100 mm (11.02" x 7.48" x 3.93")
Weight	1700 g (without accessories)
Accessories	In a single package Drug container (nebulizer), adult and child (pediatric) mask, air tube (hose), mouth piece and 4 filters

Protection against electric shock
- Class II Equipment
- Type BF applied parts

This symbol on the device indicates that electrical and electronic equipment is collected separately. At the end of the lifetime, do not dispose it with mixed municipal waste, direct it to the special collection center in your area, or dispose of it by returning it to the distributor / manufacturer / dealer while taking a new device with the same functions. The disposal of equipment and accessories must be carried out in accordance with applicable laws and regulations in each country where it is used.

8. EMC STATEMENT

This device generates, uses and can radiate radio frequency (RF) energy. If this equipment is not used as instructed in the manual, it may cause electromagnetic interference.

This device has been tested in accordance with EN 60601-1-2 Standard for Medical Devices and its suitability for acceptable limits has been determined. These limits indicate that if the device is used in the manner specified in the manual, the device provides protection at an acceptable level against electromagnetic interference (EMC).

This device has been designed and manufactured in accordance with the requirements of EN 60601-1-2, EN 13544-1.

This device may be affected by portable and mobile RF communication devices. This device must not be stored with other equipment.

For more information about this device and EMC, (see below) Tables 1, 2, 3 and 4.

Guide and manufacturer's declaration - electromagnetic emissions		
This device is intended for use in the electromagnetic environment specified bellow. This device must be operated by the customer or the user in such an environment.		
Emission Test	**Compatibility**	**Electromagnetic environment - guide**
RF emissions CISPR 11	Group 1	The device uses RF energy only for its internal functions. For this reason, RF emissions are very low and therefore this device is not expected to cause electromagnetic interference to electronic devices nearby.
RF emissions CISPR 11	Class B	This device is suitable for use in organizations all of which are directly connected to the low-voltage city network intended for use in houses and premises within house category
Harmonic emissions IEC 61000-3-3	Class A	
Voltage Fluctuation/ Vibration Emissions IEC 61000-3-3	Compatible	

Guide and manufacturer's declaration - electromagnetic immunity			
This device is intended for use in the electromagnetic environment specified below. The customer or user of this device should make sure that it is used in such an environment.			
Immunity Test	**IEC 60601 Test Level**	**Compatibility Level**	**Electromagnetic environment - guide**
Electrostatic discharge (ESD) IEC 61000-4-2	± 6 kV contact ± 8 kV air	± 6 kV contact ± 8 kV air	The floors must be wooden, concrete or ceramic tile. The relative humidity should be at least 30% for floors covered with synthetic material.
Electricity fast temporary / disintegrating immunity IEC 61000-4-4	For lines with ± 6 kV power source ± 1 kV for input/ output lines	Power source ± 6 kV for lines ± 1 kV for input/ output lines	Mains power quality should be in typical commercial or hospital environment quality
Shock IEC 61000-4-5	± 1 kV differential Mode - ± 2 kV Common mode	± 1 kV differential Mode - ± 2 kV Common mode	Mains power quality should be in typical commercial or hospital environment quality
Voltage at Deviations input line's power source, short Interruptions and voltage Differences IEC 61000-4-11	<%5 *U*T (>95% decrease in *U*T) for 0,5 cycles 40% *U*T (>60% decrease in *U*T) for 5 cycles 70% *U*T (30% decrease in *U*T) for 25 cycles <%5 *U*T (>95% decrease in *U*T) for 5 seconds	<%5 *U*T (>95% decrease in *U*T) for 0,5 cycles 40% *U*T (>60% decrease in *U*T) for 5 cycles 70% *U*T (30% decrease in *U*T) for 25 cycles <%5 *U*T (>95% decrease in *U*T) for 5 seconds	Mains power quality should be in typical commercial or hospital environment quality
Power frequency (50/60 Hz) Magnetic field IEC 61000-4-8	3 A/m	3 A/m	The magnetic fields of the power freuency should be in typical commercial or hospital environment quality
Note: *U*T is the AC mains voltage prior to application of the test level.			

Guide and manufacturer's declaration - electromagnetic immunity

This device is intended for use in the electromagnetic environment specified below. This device must be operated by the customer or the user in such an environment.

Immunity Test	IEC 60601 Test Level	Compatibility Level	Electromagnetic environment - guide
Conducted RF IEC 61000-4-6	3 V rms 150 kHz to 80 Mhz outside ISM band[a]	3 V	Portable and mobile RF communication equipment, including cables. This device should not be closer than recommended separation distance calculated by the equation applicable to the transmitter frequency
Radiated RF IEC 61000-4-3	10 V rms 150 kHz to 80 Mhz inside ISM band[b] 10 V/m 80 Mhz to 2,5 Ghz	10 V 10 V/m	**Recommended separation distance:** $d = 1{,}16\ \sqrt{P}$ $d = 1{,}20\ \sqrt{P}$ $d = 1{,}2\ \sqrt{P}$ 80 MHz to 800 MHz $d = 2{,}3\ \sqrt{P}$ 800 MHz to 2,5 GHz Here, P is the Maximum output transmitter in watts (W) according to the transmitter manufacturer and d is the recommended separation distance in meters (m).[c] The field strength of RF constant transmitters determined by an electromagnetic field analysis[c] must be less than the compliance level in each frequency range[d] Interference may occur near an equipment marked with the following symbol:

Note 1: The higher frequency range is valid at 80 MHz and 800 MHz,
Note 2: These guidelines may not apply in all circumstances. Electromagnetic propagation is affected by absorption or reflection created by buildings, objects and people.

a. ISM (industrial, scientific and medical) bands between 150 kHz and 80 MHz are 6,765 MHz to 6,795 MHz; 13,553 MHz to 13,567 MHz; 26,957 MHz to 27,283 MHz and 40,66 MHz to 40,70 MHz.

b. The suitability levels of the ISM frequency bands from 150 kHz to 80 MHz and the frequency range from 80 MHz to 2.5 GHz are intended to reduce the likelihood of interference when mobile/portable communications equipment is accidentally brought into the area of the patient. For this reason, an additional factor of 10/3 is used by the receivers to calculate the recommended separation distance in this frequency range.

c. Field strengths from fixed transmitters such as radio (cellular/cordless) telephones and mobile radios, ameteur radio, AM and FM radio broadcasts and TV broadcasts cannot be predicted in advance from the theoretically. An electromagnetic ground survey should be considered to evaluate the electromagnetic environment due to fixed RF transmitters. The measured field strength at the location where this device is used indicates that the current RF compliance level above is normal for the operation of this device. Normal operation of this device should be observed and controlled. Additional measures like changing the direction or position of this device may be required if abnormal performance is observed.

d. The field strengths over the frequency range from 150 kHz to 80 MHz must be less than 3 V/m.

Recommended separation distance between portable and mobile RF communication equipments and this device

This device is intended for use in the electromagnetic environment in which the radiating RF interference can be controlled. Owner or user of this device must maintain the minimum distance recommended below for protection from electromagnetic interference depending on the maximum output of the communication equipment, between portable or mobile RF communication devices (transmitters) and this device

Calculated Maximum output Power (W) of the Transmiter	Separation distance according to the frequency of the transmitter (m)			
	outside 150 kHz to 80 MHz, ISM bands $d = 1{,}16\ \sqrt{P}$	inside 150 kHz to 80 MHz, ISM bands $d = 1{,}20\ \sqrt{P}$	80 MHz to 800 MHz $d = 4\ \sqrt{P}$	80 MHz to 800 MHz $d = 7{,}66\ \sqrt{P}$
0,01	0,12	0,12	0,12	0,23
0,1	0,37	0,38	0,38	0,73
1	1,16	1,20	1,20	2,30
10	3,67	3,79	3,79	7,27
100	11,60	12,00	12,00	23,00

The appropriate equation for the frequency of the transmitter is used and ***d*** which is the recommended separation distance can be calculated in meters (m) for the transmitters maximum output power of which are measured and which are not included in the above list ; here ***P*** is the Maximum output transmitter rate in watts (W) provided by the transmitter manufacturer

Note 1:separatIon distance for the higher frequency range is applied at 80 MHz and 800 MHz,

Note 2:ISM (industrial, scientific and medical) bands between 150 kHz and 80 MHz are 6,765 MHz to 6,795 MHz; 13,553 MHZ to 13,567 MHz; 26,957 MHz to 27,283 MHz and 40,66 MHz to 40,70 MHZ

Note 3: An additional factor of 10/3 is used to calculate the recommended separation distance between the ISM frequency bands from 150 kHz to 80 MHz and reduce the likelihood of interference when mobile/portable communication equipments within the frequency range from 80 MHz to 2.5 GHz are accidentally brought into the area of the patient.

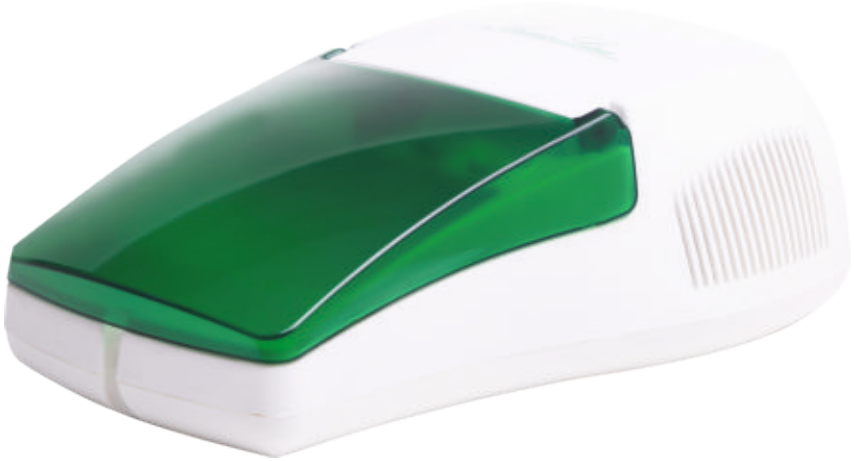
Note: These guidelines may not apply in all circumstances. Electromagnetic propagation is affected by absorption or reflection created by buildings, objects and people.

English

ArmoLine

COMPRESSOR NEBULIZER
USER MANUAL

MODEL NO: AL-20



Manufacturer Company and Technical Service Contact Information :

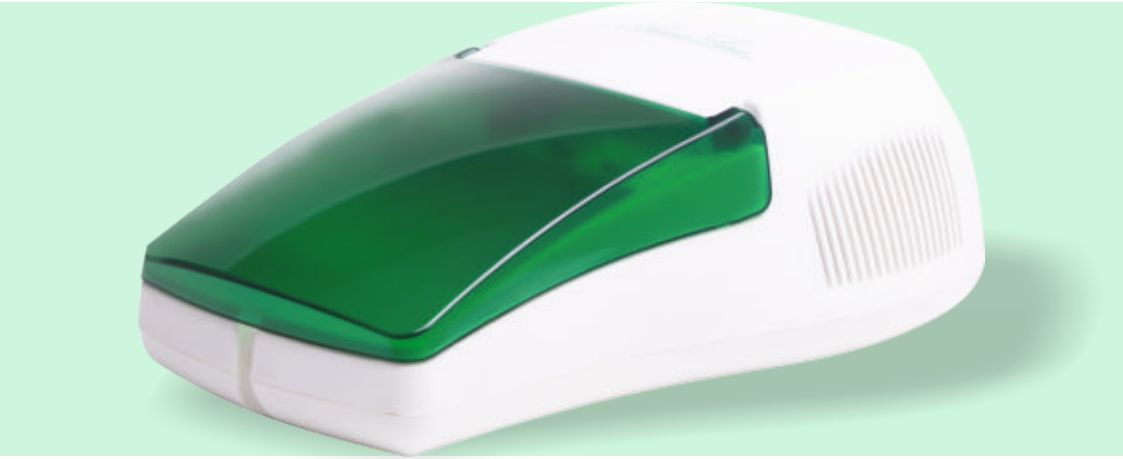
Medimport Sağlık Ürünleri Sanayi ve Ticaret Limited Şirketi

Adress : Oruç Reis Mah. Giyimkent 3. Sk. No: 87A Esenler
City : Istanbul
Country : TÜRKİYE
Tel. : +90 212 534 88 64
Fax : +90 212 534 88 60
E-mail : info@medimport.com.tr
web : www.medimport.com.tr

KK0101 REV:03

Made in Turkey

CE 1984



COMPRESSOR NEBULIZER

MODEL NO: AL-20

ArmoLine

Manufacturer Company and Technical Service Contact Information :

Medimport Sağlık Ürünleri Sanayi ve Ticaret Limited Şirketi

Adress : Oruç Reis Mah. Giyimkent 3. Sk. No: 87A Esenler
City : Istanbul
Country : TÜRKİYE
Tel. : +90 212 534 88 64
Fax : +90 212 534 88 60
E-mail : info@medimport.com.tr
web : www.medimport.com.tr

Made in Turkey

CE 1984

KK0101 Rev:03