

Oil-free compressor

# Mega-Air 2

*Installation & User's Manual*

CE



New Medical Partner -  
**DMEGA**

[www.dmega.co.kr](http://www.dmega.co.kr)

U-UM-06, 2019. 06. 28 (Rev.1)



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## Certificate of conformity



This devices classification according to Machinery directive 89/37/EC as amended by Directive 2006/42/EC Annex II, B type Protection against electric shock Class I

DMEGA Co., Ltd. Certificated under sole responsibility that the product:

Product name: Mega-Air 2

Product type/model: Oil-free compressor

- Ordinary equipment (IPXO).
- Equipment not suitable for use in the presence of a flammable anesthetic
- Mixture with air or with oxygen or nitrous oxide.
- Continuous operation.

This equipment has been tested and found to comply with the limits for medical devices in Electromagnetic Compatibility Directive 2006/42/EC

- EN 60335-1:2012+A11: 2014 and EN 62233:2008
- EN 61000-6-2:2005, EN 61000-6-4:2007/A1:2011,
- EN 61000-3-2:2014, EN 61000-3-3:2013

These limits are designed to provide reasonable protection against harmful interference in a typical medical installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to other devices in the vicinity. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to other devices, which can be determined by turning the equipment off and on, the user is encourage trying to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving device.
- Increase the separation between the equipment.
- Connect the equipment into an outlet on a circuit different from that to which the other device(s) are connected.
- Consult that manufacturer or field service technician for help.

## INSTRUCTION WARNING AND CAUTION, PLEASE READ BEFORE

While reading your manual, please pay close attention to areas labeled:

### WARNING AND CAUTION

The description of each is found below



#### WARNING

**Warnings are given where failure to observe instruction could result in Injury to people. And to avoid the risk of electric shock, this equipment must only be connected to supply mains with protective earth.**



#### CAUTION

**Cautions are found where failure to observe the instruction could result in damage to the equipment, associated equipment and process.**

The following symbols of warning will be found on the equipment

	Electric shock (Attached label on the product)		Hot surface (Attached label on the product)
	Attention, consulting accompanying documents		CE marking
	"ON" (power: connection from the mains)		"OFF" (power: disconnection from the mains)
	Date of manufacture		Address of manufacturer
	Serial Number		European Representative
	Dispose of Electric and Electronic Equipment Correctly		Refer to instruction manual/booklet Follow instructions for use.

## SECTION 1. SAFETY INFORMATION

- 1.1 Never operate this product if it has a damaged cord or plug. If it is not working properly, has been dropped, damaged or has fallen into water, please contact appropriate service center for examination and repair.
- 1.2 Keep the cord away from heated surfaces. All electrical products generate heat. To avoid serious burns, NEVER touch suction motor during or immediately after operation. The temperature to compressor motor can be reached 120°C.
- 1.3 Do not block the air outlet of the motor or place it on a soft surface that may block its opening. The exhaust vent is for motor ventilation inside the housing. Make sure the exhaust vent of the motor is free of lint, dust and other debris.



### WARNING

**Blocking air outlet can cause the product to overheat and fire.**

- 1.4 Never drop or insert fingers or any other object into any openings. It may get caught on the rotating parts and cause damage or injury to the equipment.
- 1.5 Use only in well ventilated areas. All motor of products have a built in cooling fan, but if not ventilated, it may cause overheating.



### WARNING

**Do not operate the pumps in an atmosphere containing flammable or explosive gases/vapors.**

- 1.6 Before using the equipment. Check that the oil-free compressor and discharge are correct.
- 1.7 Protect from contaminants and moisture when not using the equipment for a long period of time. Parts exposed to moisture may rust if left unused for a long time.



### WARNING

**Do not modify this equipment without authorization of the manufacturer. Excessive use of equipment or user disassembly may cause motor fires.**

### 1.8 Electrical shock hazard

If done incorrectly, attempting to disassemble or repair, there is a risk of electric shock. Contact service only by a qualified service organization.

- (1) It must be connected to the correct earth contact type socket on this product.
- (2) Install the system where it will not come in contact with water or other liquids.
- (3) Install the system in a place protected from rainy weather or weather.
- (4) Electrically ground the system. Failure to follow these instructions can result in death, fire, or electric shock.

1.9 Do not use this product in or near area where it can fall or be pulled into water or other liquids. If moisture enters the motor, it may cause malfunction of the motor

1.10 Do not reach for this product if it has fallen into liquid. Unplug immediately. Water may cause a short circuit which may result in an electric shock.

1.11 Never operate this product outdoors in the rain or in a wet area. All electrical products can be electrocuted by moisture.

1.12 Do not use in places where there is a risk of explosion or fire  
Do not use this equipment in or near explosive atmospheres or where aerosol (spray) products are being used. There is a risk of explosion or fire in case of motor overheating in the firearm area.



**WARNING**

**Do not use this product near flames**

### Electromagnetic Compatibility

EN 61000-6-2:2005, EN 61000-6-4:2007/A1:2011, EN 61000-3-2:2014,  
EN 61000-3-3:2013 Standards governing Electromagnetic Compatibility

## SECTION 2. INSTALLATION NOTES

### 2.1 Introduction

This manual has been compiled not only for the care and maintenance of DMEGA suction system now in your possession, but as a helpful reference and guide to prevent many problems which can occur if used improperly.

### 2.2 Intended Use:

This product generates compressed air and supplies it directly to the dental unit chair, or to provide compressed air for use with medical devices such as pneumatically operated hand-pieces.

### 2.3 Unpacking

Carefully remove the machine from the shipping case. Preserve all paper work for future reference. If damage has occurred from shipment a Claim must be filed with the carrier immediately; preserve the shipping carton for inspection by the carrier. If you are required to communicate with your dealer or DMEGA, be sure to include your order numbers for quick identification.

### 2.4 Mounting

Rubber feet are attached to the product. Rubber feet are excellent for applications involving a semi-flexible surface such as bench top; they help to isolate noise and eliminate creeping. However, the horizontal position of the motor shaft should be preferred.

### 2.5 Installation Location

The compressor system should be located preferably in a clean, dry and well-ventilated area. Please be sure not to block the ventilation ports located on the motor housing. The unit should be placed where the surrounding temperature remains between 10°C and 40°C (50°F and 104°F). Always check to insure the location chose is protected from direct or indirect moisture contact.



#### **WARNING**

Do not operate the compressor in an atmosphere containing flammable or explosive gases /vapors. To avoid the risk of electric shock, this equipment must only be connected to supply mains with protective earth.

## 2.6 Environmental Conditions for normal operation

- Temperature: 10°C ~35°C
- Humidity: 30% to 80% R.H.
- Atmospheric pressure: 700 to 1,060 hPa

## 2.7 Transport and storage conditions

The compressor is packed in a special transport carton for shipping. This serves to protect the appliance from damage during transport.

Be sure to set the compressor in an upright position during transport.

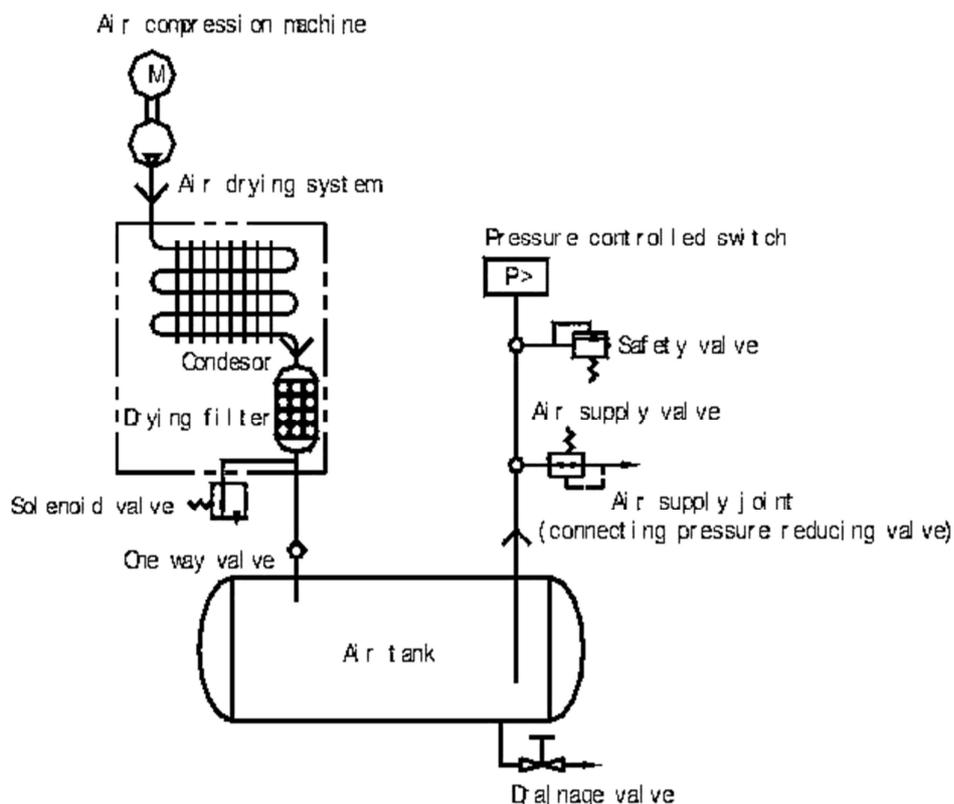
Protect the compressor during transport and storage from humidity, dirt and extremes of temperature. Compressors which are still in their original packing can be safely stored in warm, dry and dust-free rooms.

- Temperature: 0 to 50 °C
- Relative Humidity: 25 to 80 % R.H.
- Atmospheric Pressure: 700 to 1,060 hPa



**WARNING**

**The compressor may only be transported when no pressure is present.  
Before transport the pressure tank and the pressure hose must be vented thoroughly.**



## **SECTION 3. OPERATION**

### **3.1 Preparation for operation**

- (1) Check user voltage and hertz before operating equipment.
- (2) Check if there is any foreign material in the cooling fan part of the motor.
- (3) Connect the air supply hose to the air supply valve.  
(Make sure that the pressure gauge is in position "0" because power is not applied.)
- (4) Connect the hose to the drain valve and place it in the sewer.
- (5) Plug the power cord into a wall outlet that meets your requirements.
- (6) Plug the power cord into a suitable outlet and turn the red pressure switch to the right to activate the equipment.

### **3.2 Test run of machine**

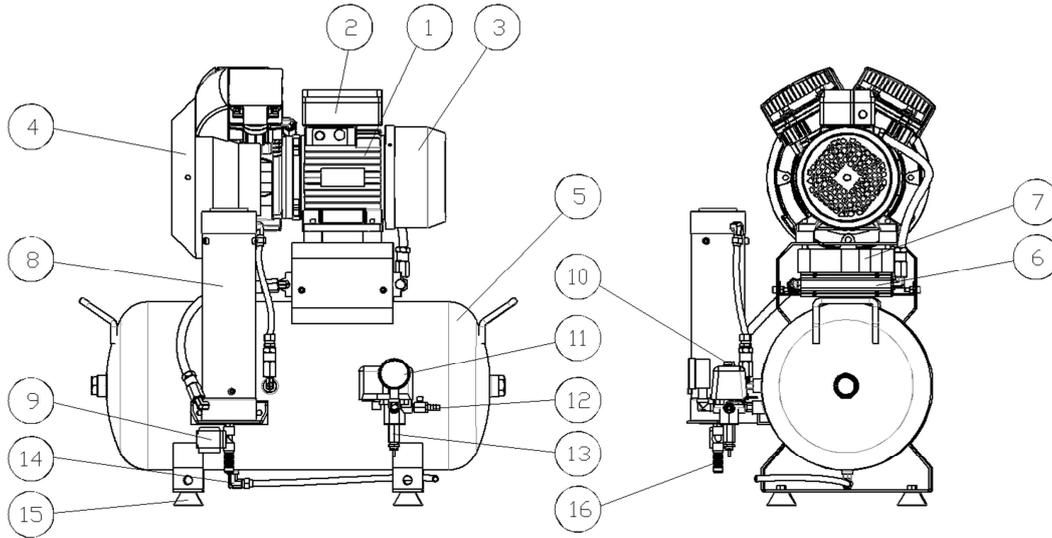
- (1) Turn the operation handle of pressure controlled switch to "AUTO" and the machine will start immediately.
- (2) The reading of barometer will slowly rise with increasing pressure inside the air tank. When the reading of barometer reaches 8 bar, pressure controlled switch activates, the power supply is cut off, machine stops running.
- (3) At the same time the load-releasing valve of pressure controlled switch activates to lower high pressure in the cylinder of compression machine so that the machine can be started again; during the period when the machine stops running observe if the reading of barometer is decreasing. If there is no leakage of air in the machine, open air supply valve to begin supply of compressed air. When the pressure in the air tank decreases to 5bar, pressure controlled switch resets and power supply resumes, the machine starts running again.
- (4) The pressure in air tank increases again. If the machine can automatically stop and start the machine works normally.
- (5) Check for abnormal noise or vibration in the compressor system. In this case, see the troubleshooting guide in this manual. After removing the cause of the noise and vibration, restart the system.

### **3.3 Operation**

- (1) To operate the machine correctly and safely read carefully this instruction.
- (2) Insert the plug of the machine in power socket of single phase 10A.  
Open air supply valve, turn the operation handle for pressure controlled switch to "AUTO" position, the machine will run in a normal condition.

## SECTION 4. PRODUCT INFORMATION

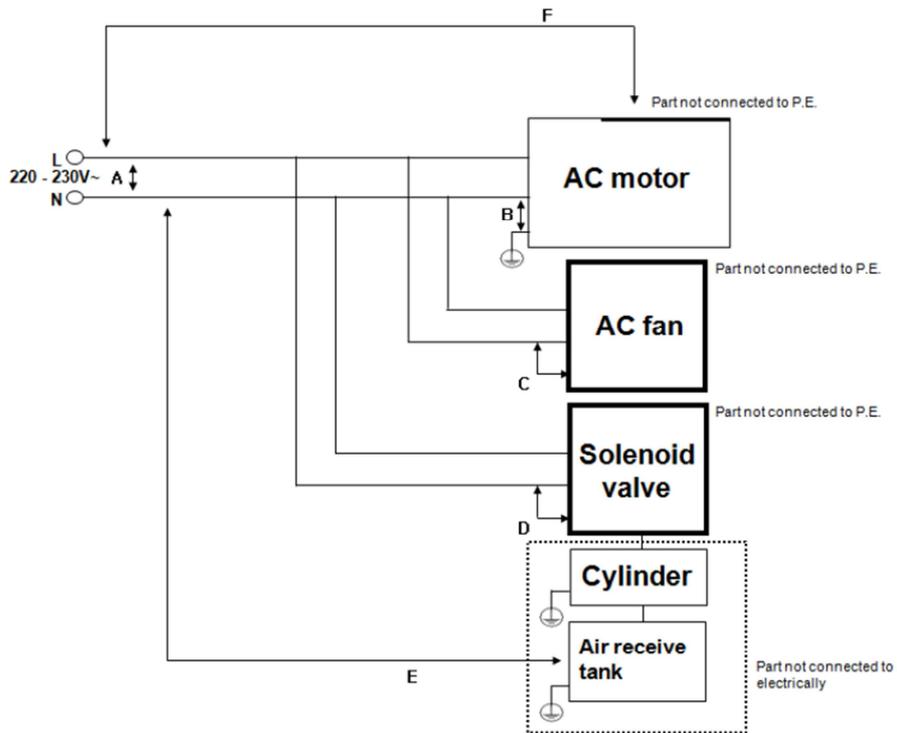
### 4.1 Functional Description



No.	Components	Description
1	Motor Housing	Housing to protect shaft and motor
2	Interrupter switch box	Switch to cut off the electric current in case of overload.
3	Fan cover	Fan to cool motor and prevent tentacle danger.
4	Motor cover	Motor cam protection and cooling air circulation cover
5	Air tank	Containers to store compressed air.
6	Cooling Body	Device for cooling the air generated by motor to supply air to the dryer.
7	Cooling Fan	Auxiliary device for cooling air of cooling body
8	Dryer	Removing moisture from compressed air.
9	Solenoid valve	Valve that maintains pressure to prevent air in the tank connected to dryer from leaking out.
10	Power switch	Switch for inputting motor power.
11	Pressure gauge	Gauge indicating air pressure of the tank.
12	Air exhauster	Air outlet for supplying compressed air from the tank to dental device.
13	Safety Valve	Safety valve that discharges pressure when the reference pressure is exceeded.
14	Drain	Removing moisture form compressed air.
15	Rubber foot	Rubber base of this equipment.
16	Silencer	Air exhaust noise reduction device

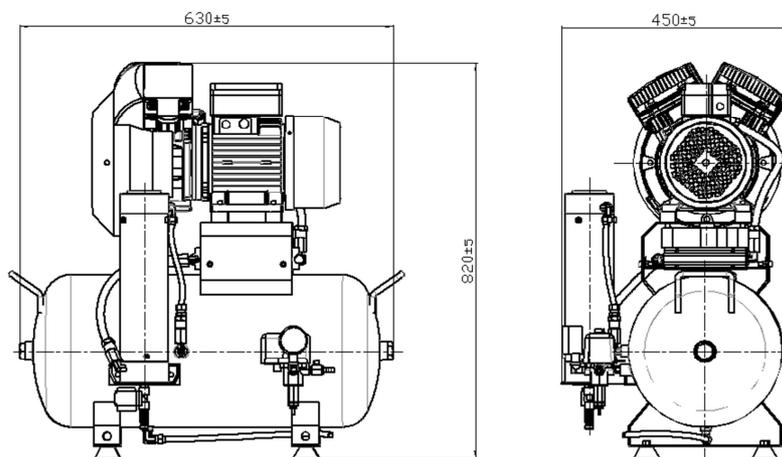
#### 4.2 Specification of equipment

- (1) Compressed air method: Piston-Wob-L type
- (2) Response quantity of dental unit chair: 3~4unit
- (3) Main voltage: 220~230V
- (4) Frequency: 50/60Hz
- (5) Electrical power (Motor): 1.5KW (2HP)
- (6) Air tank volume: 40 liter
- (7) Pressure setting: 5~8bar (0.5~0.8MPa)



Insulation diagram

#### 4.3 Dimension of the equipment



Dimension	630(L) x 450(W) x 820(H) mm
Weight	52kg±0.5



Air Com Pressure Container Co. Ltd.  
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201316 Hang Tou, Nanhui, P.R.C.



① DICHIARAZIONE DI CONFORMITÀ IN ACCORDO ALLA DIRETTIVA 2014/29/EU

DECLARATION OF CONFORMITY IN ACCORDANCE WITH  
DIRECTIVE 2014/29/EU

KONFORMITÄTSEKTLÄRUNG GEMÄSS EG-RICHTLINIE  
2014/29/EU

DECLARATION OF CONFORMITY IN ACCORDANCE WITH  
DIRECTIVE 2014/29/EU

DECLARACIÓN DE CONFORMIDAD CONFORME CON LA  
DIRECTIVA 2014/29/EU

② Lotto N.:  
N.F.:  
Serial N°:  
N° de serie:  
Fabrikationsnummer.:

**G75/16**

③ Tipo:  
Type:  
Type:  
Tipo:  
Typ:

**G024W**

④ Anno di fabbricazione:  
Année de fabrication :  
Year of manufacture:  
Año de fabricación:  
Herstellungsjahr:

**2016**

⑤ Capacità:  
Capacité:  
Capacity:  
Capacidad:  
Fassungsvermögen:

**24 lt**

⑥ Pressione di esercizio:  
Pression de service:  
Working pressure:  
Presion de servicio:  
Betriebsdruck:

**11 BAR**

⑦ Pressione di prova:  
Pression d'épreuve:  
Test pressure:  
Presion de prueba:  
Prüfdruck:

**16.5 BAR**

⑧ Temperatura di progetto (min & max):  
Température de calcul (min et max):  
Design Temperature (min & max):  
Temperatura de diseño (min & max):  
Auslegungstemperatur (min / max):

**-10°C - +100°C**

⑨ Elenco norme armonizzate:  
Liste des normes harmonisées  
List of harmonised standards:  
Lista de normas armonizadas:  
Verzeichnis der harmonisierten Normen

UNI EN ISO 15614-1

⑩ Elenco norme applicabili:  
Liste des normes applicables:  
List of applicable standards:  
Lista de normas aplicables:  
Verzeichnis der anwendbaren Normen

CODAP 2000

⑪ ATTESTAZIONE D'ESAME DEL TIPO, modulo B  
ATTESTATION D'EXAMEN DE TYPE, module B  
EC TYPE EXAMINATION CERTIFICATE, module B  
CERTIFICADO DE EXAMEN DE TIPO, módulo B  
Die BAUMUSTERPRÜFBESCHEINIGUNG,,Modul B

**07.72064/C/PS**

⑫ Rilasciato da  
délivrée par  
issued by  
emitido por  
wurde ausgestellt durch

**APAVE ITALIA CPM  
Via Artigiani, 63 - 25040  
Bienne (BS),  
CE 0398**

⑬ Eseguito la verifica sul prodotto in conformità al tipo modulo,

Réalisation de l'inspection sur le produit attestant la  
conformité au type selon le module

Inspection of the equipment in conformity to the type  
described in Module

Procedimiento de evaluación de la conformidad del producto  
con el tipo, de acuerdo con el módulo

gemäß Modul auf seine Konformität mit der Bauart überprü  
ft.

**C2**

⑭ eseguita da

par

carried out by

emitido por

Das Produkt wurde von

**APAVE  
191, rue de Vaugirard  
75015 PARIS- France  
CE 0060**

⑮ AIR COM S.r.l. DICHIARA DI AVER PROGETTATO, COSTRUITO E COLLAUDATO IL SERBATOIO SOPRA DESCRITTO IN ACCORDO A QUANTO PRESCRITTO  
DALLA DIRETTIVA 2014/29/EU.

AIR COM S.r.l. DÉCLARE AVOIR CONÇU, CONSTRUIT ET TESTÉ LE RÉCIPIENT CI-DESSUS CONFORMÉMENT AUX DISPOSITIONS DE LA DIRECTIVE  
2014/29/EU

AIR COM S.r.l. DECLARES TO HAVE DESIGNED, MANUFACTURED AND TESTED THE AFOREMENTIONED PRESSURE VESSEL IN COMPLIANCE WITH  
DIRECTIVE 2014/29/EU

AIR COM. S.r.l. CERTIFICA QUE HA DISEÑADO, FABRICADO Y EJECUTADO LA PRUEBA FINAL DEL RECIPIENTE ANTERIORMENTE DESCRITO DE  
CONFORMIDAD CON LA DIRECTIVA 2014/29/EU

DER HERSTELLER AIR COM S.r.l. ERKLÄRT HIERMIT, DASS DER OBEN BESCHRIEBENE DRUCKBEHÄLTER ENTSPRECHEND DEN VORGABEN DER EG-  
RICHTLINIE 2014/29/EU ENTWICKELT, HERGESTELLT UND GEPRÜFT WURDE.

Shanghai 2016-11-8

Air Com Pressure Container Co. Ltd.

*张书云*

Shuyun Zhang



FC: 75

-Direttore Qualità-Quality Manager-Directeur Qualité  
-Director de calidad -Qualitätsleiter-Dyrektor Ds. Jakości

## SECTION 5. MAINTENANCE

### 5.1 Draining of air tank

When the air compressor is running, the vapor in the air is condensed in the air tank. Excess water would affect air quality in air tank, and would affect normal work of the equipment using compressed air. Therefore accumulated water in the air tank must be drained off regularly. The frequency for draining is depended on environment condition and operation time, but usually once every 2-3 days. The way to drain off the condensate is as follows: Put the pipe connecting drainage valve in a container, with compressed air in the air tank; slowly turn counter clockwise the knob on the drainage valve to drain off the water in the air tank until all accumulated water comes out from the pipe. After that turn tightly clockwise the knob to ensure no leakage.

### 5.2 Anti-bacteria filter (in the Air dryer unit) - Option

The bacteria filter installed in the air drying unit and need to replace annually.



#### CAUTION

This product may be contaminated after using years. Please make the disposal organization aware of this in order that they can take the proper safety actions.



Uncontaminated plastic components of the product may be recycled. The built-in electric circuit board and other electric components should be disposed as el electric waste. Other metal components may be disposed of as metallic waste. If the product is returned to the local dealer or DMEGA, all connections should be closed so that they are water-tight.

## SECTION 6. TROUBLE SHOOTING CHART

This trouble-shooting is carried out by qualified technicians only.

Problem	Possible cause	Possible solution
Motor does not work	<ul style="list-style-type: none"> <li>- Mains supply is not connected</li> <li>- Incorrect electrical connection or power source</li> <li>- Circuit breaker(12A) if shut-off</li> </ul>	Check mains power, and reset (push) circuit breaker if necessary
Unusual noise increased	<ul style="list-style-type: none"> <li>- Check cooling fan</li> <li>- Motor side is noisy</li> <li>- Leak air from tubing, check valve or dryer</li> </ul>	<ul style="list-style-type: none"> <li>- If fan is broken or not fitted correctly, change or fit correctly</li> <li>- Call to authorized dealer</li> <li>- Call to authorized dealer</li> </ul>
Excessive vibration	<ul style="list-style-type: none"> <li>- Inside part of compressor head damaged</li> </ul>	Call to authorized dealer
Unit is very hot	<ul style="list-style-type: none"> <li>- Wrong wiring</li> <li>- Low voltage</li> <li>- Intake filter is clogged or dirty</li> <li>- Installation place is too hot</li> </ul>	<ul style="list-style-type: none"> <li>- Check wiring</li> <li>- Supply proper voltage</li> <li>- Clean primary filter</li> <li>- Cool ventilation is necessary</li> </ul>
Air supply is too low	<ul style="list-style-type: none"> <li>- Leak air</li> </ul>	<ul style="list-style-type: none"> <li>- Disconnect main power supply. Drain storage tank</li> <li>- Close tank outlet valve and turn on the power</li> <li>- Check which part is leak and call to authorized dealer</li> </ul>
Compressor pressure is not reach 8bar	<ul style="list-style-type: none"> <li>- Leak air</li> <li>- Pressure switch need to adjusted</li> </ul>	<ul style="list-style-type: none"> <li>-Same remedy above</li> <li>-Call to authorized dealer to adjusted</li> </ul>

# Warranty

DMEGA Oil-free dental compressor, when properly installed and operated under normal conditions of use, are warranted by DMEGA Co., Ltd. to be free from defects in material and workmanship for a period of twenty-fourth (24) months from the date of purchase from DMEGA Co., Ltd. or an authorized DMEGA Representative or Distributor. In order to obtain performance under this warranty, the buyer must promptly (in no event later than 30 days after discovery of the defect) give written notice of the defect to DMEGA Co., Ltd. (Fax: +82-31-314-1989 or E-mail: [dmega@dmega.co.kr](mailto:dmega@dmega.co.kr)) or a representative in your country. Customer is responsible for freight charges to DMEGA in all cases.

This warranty does not extend to any goods or parts which have been subjected to misuse, lack of maintenance, neglect, damaged by accident or transit damage. This express warranty excludes all other warranties or representations expressed or Implied by any literature, date or person. DMEGA maximum liability under this exclusive remedy shall never exceed the cost of the subject product. DMEGA reserves the right, at its sole discretion, to refund the purchase price in lieu of repair or replacement.

DMEGA is not responsible or liable for indirect or consequential damage of any kind. However, including but not limited to those for use of any products, loss of time, Inconvenience, lost profit, labor charges, or other incidental or consequential damages with respect to persons, business, or property, whether as a result of breach of warranty, negligence or otherwise.

Notwithstanding any other provision of this warranty: Customer's remedy against DMEGA for goods supplied or for non-deliverable goods or failure to furnish goods, whether or not based on negligence, strict liability or breach or express or implied warranty is limited solely to DMEGA's option, to replacement of or cure of such non-forming or non-deliverable goods or return of the purchase price for such goods and in no event shall exceed the price or charge for such goods. DMEGA expressly disclaims any warranty of merchantability or fitness for a particular use of purpose with respect to the goods sold. There are no warranties that extend beyond the descriptions set forth in this warranty.

Notwithstanding any knowledge of DMEGA regarding the use or uses intended to be made of goods, proposed changes or additions to goods, or any assistance or suggestions that may have been made by DMEGA personnel. Unauthorized extensions of warranties by the customer shall remain the customer's responsibility.

Customer is responsible for determining the suitability of DMEGA products for customer's use or resale, or for incorporating them into objects or applications which customer designs, assemblies, constructs or manufacturers. This warranty can be modified only by authorized DMEGA personnel, by signing a specific written description of any modifications



**DMEGA Co., Ltd.**

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Tel. : +82-31-313-1757 / Fax. : +82-31-314-1989

E-mail : [dmega@dmega.co.kr](mailto:dmega@dmega.co.kr) / Homepage: <http://www.dmega.co.kr>

# WARRANTY

## Mega-Air 2

We will repair this product free of charge according to warranty overleaf from defects in material and workmanship during the period of twenty-fourth(24) months.

Stamp	
-------	--



Serial Number

Corporate Name

Address

Delivery Date

Store Tel

Address

Sales Person



Issued on dated Dec. 2019.

# WARRANTY

### 1. Details and Period

When this product goes out of order under the normal use of customer, we will repair it free of charge from defects in material and workmanship during the period of twenty-fourth (24) months from the date of purchase from DMEGA Co. Ltd.

### 2. Exception for warranty

Even during the warranty period, we will provide repair services for problems not covered under this warranty with reasonable charges.

- Users faults by lack of maintenance
- Faults by the users own intention of dismantle or repairs.
- Damages caused by natural disaster (Fire, Flood, Earthquake, Lighting, etc.)
- Replacement to new parts.
- Without the warranty card
- Faults and Damages caused by not following instructions for use.



### 3. Notice

- This warranty is invalid without a stamp.
- If you have any questions about this warranty, please contact DMEGA CO., Ltd. or an authorized DMEGA Representative or Distributor.
- Please be sure to write the place where you purchased and dates.
- Please be sure to keep the warranty card securely as it is not reissued.

#### Directions for the use

- ▶ Use and keeping this product in a dry place or with no sudden changes in temperature.
- ▶ Avoiding impact to this product

Date	Details	Results of Check	Inspector