

ARMOTECH™

INSTRUCTION MANUAL FOR USE AND MAINTENANCE



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GENERAL INFORMATION

| Par | Description |
|-----|---|
| 1 | Manufacturer's identification data |

MANUFACTURER

Aerservice Equipments S.r.l.



REGISTERED OFFICE – ADMINISTRATIVE OFFICE

Viale dell'industria 24 – 35020 – Legnaro – (PD) – Italy

CONTACTS





Tel. +39 049 641 200

E-mail: info@aerservice.com

GENERAL INFORMATION

| Par | Description |
|-----|---|
| 2 | Machine identification and data plates (if they are present) |

Each machine is fitted with a CE plate with indelible identification data. All communications with the manufacturer or technical assistance centres must refer to the said data.

|  | | | | Viale dell'Industria, 24 35020 - Legnaro (PD) - Italy Tel +39 049.64.1200 - Fax +39 049.82.52310 equipments.aerservice.com | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---------|---|-------|--|--|--|--|---------------|-----|-------------|-----|--------------|-----|--------------|-----|----------|--|--|--|---|----|---|----|--|--|--|--|-------------|--|--|--|------|---------|---|-------|--|--|--|--|
| Equipments for air pollution | | | | <hr/> <div style="display: flex; justify-content: space-around; font-size: 2em; font-weight: bold;"> CE UK CA ERC </div> <hr/> <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <table border="1"> <tr><td>MODEL:</td><td>xxx</td></tr> <tr><td>S/N:</td><td>xxx</td></tr> <tr><td>ART.:</td><td>xxx</td></tr> <tr><td>YEAR:</td><td>xxx</td></tr> </table> </div> <div style="width: 45%; text-align: center;">  xxx </div> <div style="width: 10%; text-align: center;">   </div> </div> <hr/> <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <table border="1"> <tr><th colspan="4">ELECTRIC</th></tr> <tr> <th>V</th> <th>kW</th> <th>A</th> <th>Hz</th> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </table> </div> <div style="width: 45%;"> <table border="1"> <tr><th colspan="4">PERFORMANCE</th></tr> <tr> <th>m³/h</th> <th>EN 1822</th> <th>%</th> <th>dB(A)</th> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </table> </div> </div> <div style="text-align: center; margin-top: 10px;">  </div> | | | | MODEL: | xxx | S/N: | xxx | ART.: | xxx | YEAR: | xxx | ELECTRIC | | | | V | kW | A | Hz | | | | | PERFORMANCE | | | | m³/h | EN 1822 | % | dB(A) | | | | |
| MODEL: | xxx | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| S/N: | xxx | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ART.: | xxx | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| YEAR: | xxx | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ELECTRIC | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| V | kW | A | Hz | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| PERFORMANCE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| m³/h | EN 1822 | % | dB(A) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

The position of the plate on the machine may vary.

GENERAL INFORMATION

| Par | Description |
|-----|---------------------|
| 3 | Declarations |

The machine is manufactured in conformity with relevant EC Directives applicable when the machine is put on the market.

ANNEX IV Directive 2006/42/EC

The machine does not belong to the category of machines mentioned in Annex IV to directive 2006/42/EC.

EC DECLARATION OF CONFORMITY

(Annex IIA DIR. 2006/42/EC)

THE MANUFACTURER

Aerservice Equipments S.r.l.

Company

Viale dell'Industria, 24

Address

35020

Postal code

Padova

Province

Legnaro

City

Italy

Country

DECLARES THAT THE PRODUCT

Articulated suction arm with external structure and rigid tubes

Description

Serial number

Year of manufacture

ARMOTECH

Commercial name

Extraction of welding fumes and microparticles from industrial processes

Intended use

IS IN COMPLIANCE WITH THE FOLLOWING DIRECTIVES

Directive 2006/42/EC of the European Parliament and Council, May 17th 2016, on machinery amending directive 95/16/EC.

Directive 2014/30/EU of the European Parliament and Council, February 26th 2014, on the approximation of the laws of the member States relating to electromagnetic compatibility.

Directive 2014/35/EU of the European Parliament and Council, February 26th 2014, on the approximation of the laws of the member States relating to electrical equipment destined to be used within certain voltage limits.

Directive 2011/65/EU of the European Parliament and Council, June 8th 2011, on the restriction of the utilization of certain substances in the electric and electronic devices.

The following harmonized standards have been applied

UNI EN ISO 12100:2010: Safety of machinery - General principles for design - Risk assessment and risk reduction.

UNI EN ISO 13849-1:2016: Safety of machinery - Safety-related parts of control systems - Part 1: General principles for design.

UNI EN ISO 13849-2:2013: Safety of machinery - Safety-related parts of control systems - Part 2: Validation.

UNI EN ISO 13857:2020: Safety of machinery - Safety distances to prevent hazard zones being reached by upper and lower limbs.

CEI EN 60204-1:2018: Safety of machinery - Electrical equipment of machines - Part 1: General requirements.

The complete list of applied standards, guidelines and specifications are available at the manufacturer.

Additional information: The declaration of conformity decays in case of non-compliant use and in the event of non-confirmed construction changes approved by the manufacturer.

DECLARES THAT THE TECHNICAL FILE

Has been compiled, and is kept and available at the registered office of the company.

Place and date of the document

Legnaro,

The manufacturer

Marco Gallerino



UK Declaration of Conformity (UKCA)

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Intended use

IS IN COMPLIANCE WITH THE FOLLOWING DIRECTIVES

Machinery: The Supply of Machinery (Safety) Regulations 2008.

EMC: Electromagnetic Compatibility Regulations 2016.

LVD: The Electrical Equipment (Safety) Regulations 2016.

RoHS: Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012.

The following harmonized standards have been applied

S.I. 2008 No. 1597: Safety of machinery - General principles for design - Risk assessment and risk reduction (ISO 12100:2010)

S.I. 2008 No. 1597: Safety of machinery - Safety-related parts of control systems - Part 1: General principles for design (ISO 13849-1:2015)

S.I. 2008 No. 1597: Safety of machinery - Safety-related parts of control systems - Part 2: Validation (ISO 13849-2:2012)

S.I. 2008 No. 1597: Safety of machinery - Safety distances to prevent hazard zones being reached by upper and lower limbs (ISO 13857:2008)

S.I. 2008 No. 1597: Safety of machinery - Electrical equipment of machines - Part 1: General requirements.

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Legnaro,

The manufacturer

Marco Gallerino



THE SUCTION ARM ARMOTECH

| Par | Description |
|-----|------------------------|
| 1 | Description of the arm |



The new ARMOTECH series, thanks to the materials used and the innovative design, allows the operator to count on high maneuverability, stable positioning and exceptional robustness, guaranteed by a pantograph structure that supports the arm.

ARMOTECH arm represents the ideal solution for extracting the fumes produced by the various work operations, in the metalworking, chemical industry, goldsmith laboratories, electronics industry etc. sectors, capturing fumes as close as possible to the source of pollutant as required by EU regulations and in line with international standards.

The reduced air flow rates, optimized by the possibility of choosing the type of ARMOTECH most appropriate to the customer's needs, ease of installation and reduced maintenance, mean that this product increasingly meets the favor of operators in the sector.

CAUTION:



- ⚠ During the removal of the packaging, all resulting residues must be disposed of in accordance with the provisions of the laws in force.
- ⚠ For greater simplicity and better comprehensibility of this manual, some images have been rendered not exactly in conformity with reality (e.g. dismantled protections).
- ⚠ The installation operations (lifting, fixing, etc.) must be carried out through the use of appropriate devices and means and in accordance with the Legislative Decree 626/94.
- ⚠ At the end of the installation, it should be checked that there are no exhaust gas leaks in the work environment. Follow the provisions in force regarding emissions into the atmosphere.
- ⚠ Aerservice Equipments SRL declines all responsibility for damage to persons or things, which could derive either from an improper use of the appliance or from failure to observe what is prescribed in this manual.

THE SUCTION ARM ARMOTECH

| Par | Description |
|-----|-----------------------|
| 2 | Technical data |

AVAILABLE VERSIONS:

| IBSA | Ø | LENGTH | AIR FLOW | HEAD LOSS | WEIGHT TOT. |
|-------|-----|--------|-------------|-------------|-------------|
| | mm | mm | m³/h | Pa | Kg |
| 100/2 | 100 | 2000 | 600 - 750 | average 700 | 15 |
| 100/3 | | 3000 | | | 23 |
| 125/2 | 125 | 2000 | 800 - 900 | average 700 | 16 |
| 125/3 | | 3000 | | | 24 |
| 125/4 | | 4000 | | | 28 |
| 160/2 | 160 | 2000 | 1000 - 1200 | average 700 | 18 |
| 160/3 | | 3000 | | | 26 |
| 160/4 | | 4000 | | | 30 |

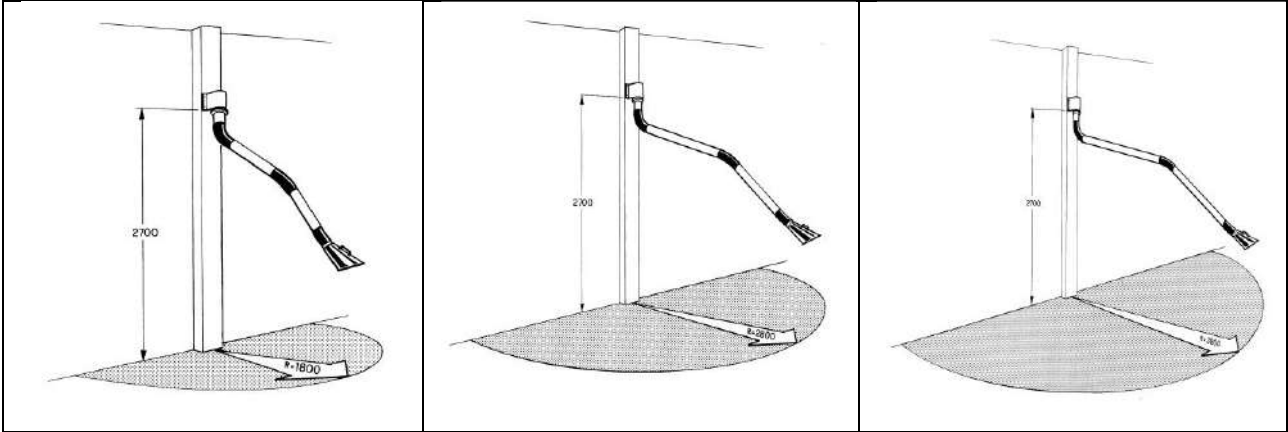
| IBSAV | Ø | LENGTH | FAN | POWER | EXTRACTION CAPACITY | ERSIDUAL PRESSURE | NOISE | WEIGHT TOT. |
|-------|----|--------|------|-------|---------------------|-------------------|-------|-------------|
| | mm | mm | mod. | kW | m³/h | Pa | dBA | Kg |

| | | | | | | | | |
|-------|-----|------|-------|-----|------|-----|----|----|
| 100/2 | 100 | 2000 | EV 15 | 1,1 | 750 | 520 | 74 | 31 |
| 100/3 | | 3000 | | | | | | 39 |
| 125/2 | 125 | 2000 | EV 15 | 1,1 | 900 | 520 | 74 | 32 |
| 125/3 | | 3000 | | | | | | 40 |
| 125/4 | | 4000 | | | | | | 44 |
| 160/2 | 160 | 2000 | EV 18 | 1,5 | 1200 | 520 | 74 | 34 |
| 160/3 | | 3000 | | | | | | 42 |
| 160/4 | | 4000 | | | | | | 46 |

| IBSAC | Ø | LENGTH | AIR FLOW | HEAD LOSS | WEIGHT TOT. |
|-------|----|--------|----------|-----------|-------------|
| | mm | mm | m³/h | Pa | Kg |

| | | | | | |
|-------|-----|------|-------------|-------------|----|
| 100/2 | 100 | 2000 | 600 - 750 | average 700 | 15 |
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| 125/4 | | 4000 | | | 28 |
| 160/2 | 160 | 2000 | 1000 - 1200 | average 700 | 18 |
| 160/3 | | 3000 | | | 26 |
| 160/4 | | 4000 | | | 30 |

For arms with a length of 2, 3, 4 m, the table shows the range of action (corresponding to the maximum extension of the arm), installation height, figure and diagram.









| Mod. | Height of installation (m) | Radius of action (m) |
|-------------------|----------------------------|----------------------|
| ARMOTECH L = 2000 | 2,40 | 2,25 |
| ARMOTECH L = 3000 | 2,40 | 3,25 |
| ARMOTECH L = 4000 | 2,70 - 3,80 | 4,25 |









ASSEMBLY OF THE ARM ARMOTECH

| Par | Description |
|-----|-------------|
| 1 | Assembly |

The arm is packed inside n ° 4 cardboard boxes:

1. Rotating base unit
2. Lever (for wall arm version)
3. Articulated arm assembly incl. aluminium tubes and PVC sleeves
4. Suction hood incl. bolts

| | |
|--|---|
|  |  |
| <p>1</p> | <p>2 – open the box with the rotating base and check that the hardware kit, the rotating base unit, the flexible hose and the 3 pre-assembled screws are present.</p> |
|  |  |
| <p>3 – use the screws of the bag to connect the rotating flange of the rotating base unit to the lower flange of the wall bracket. In this phase, lubricate the internal part of the rotating base unit with grease.</p> | <p>4 – ensure that all M8 screws are tightened fix.</p> |
|  |  |
| <p>5 – open the box of the lever and check that the hardware kit and the lever are present.</p> | <p>6 – use the pre-assembled screws on the rotating base unit to secure the lever on it. Be sure to tighten all three screws.</p> |

| | | |
|--|--|--|
|  | |  |
| <p>7 – open the box of the articulated arm assembly and check its integrity.</p> | | <p>8 – use one of the screws of kit supplied to fix the structure to the lever. Use the hole indicated first, to make assembly easier.</p> |
|  | |  |
| <p>9 – lift the structure until the remaining holes match and insert the appropriate screws.</p> | | <p>10 – screw the flanged nuts to the screws.</p> |
|  | |  |
| <p>11 – be sure to tighten all three M10 screws.</p> | | <p>12 – carefully remove the plastic band that keeps the pantograph system closed.</p> |
|  | |  |
| <p>13 – remove the two hose clamps from inside the hose.</p> | | <p>14 – use a clamp to secure the flexible sleeve to the aluminum tube.</p> |



15 – open the suction hood box and check the integrity of the hood and the presence of the protective band called "clamp cover".



16 -



17 – remove the screw and nut. The red bakelite washers must remain attached to the joint structure.



18 – insert the clamp cover into the hood



19 – screw the suction hood to the joint using the screws removed previously, making sure to insert the belleville washers (dished washers) in the correct direction.
Make all the adjustments of the joint by screwing or unscrewing the system.



20 – use the second hose clamp to fix the flexible sleeve and finally use the clamp cover to hide everything.



21 – move and check correct maneuverability and, if necessary, review the adjustments made previously.

TYPES OF WALL BRACKET

| Par | Description |
|-----|---|
| 1 | <p>Description types of wallbracket:</p> <ol style="list-style-type: none">1) Bracket for central ventilation plants;2) Bracket for fan;3) Bracket with RF1 adapter. |



Bracket for central ventilation plants, without hose.



Bracket for central ventilation plants, with hose



FLANGE WITH HOLES FOR
FIXING OF FAN

MOD. EV 15 / EV 18

FLANGE WITH HOLES FOR
FIXING OF ROTATING
BASE UNIT OF THE
SUCTION ARM

Bracket for extractor fan



Bracket with RF1 adapter

FIRST START

| Par | Description |
|-----|------------------------|
| 1 | Recommendations |

Permitted environmental conditions

- The ambient operating temperature of the machine is between -10 ° C and 60 ° C.
- The humidity of the internal environment in which the work is carried out must be between 0% and 90%.
- THE EQUIPMENT CANNOT BE USED IN AN EXPLOSIVE ATMOSPHERE!

Indications relating to the removal / elimination of waste materials

The elimination of this material must be carried out according to current regulations.

Recommendations on the prevention measures that must be adopted by the user

For the replacement operations of any damaged parts, consult the manufacturer.

Testing the machine

It is carried out by the manufacturer at its headquarters before shipment.

After carrying out the checks described above, turn on the suction arm with the switch on the panel and adjust the position of the suction arm.

FIRST START

| Par | Description |
|-----|-------------------|
| 2 | Normal use |

The equipment must only be used to suck in semi-dusty air of low and medium grain size deriving from industrial processes through the suction arm or the flexible hose whose ends are inserted one into the special attachment on the suction arm, the other near the position where the fumes are generated (e.g. welding fumes).

For any other use, other than that described, the manufacturer is not liable.

Usage rules

- In general, do not disassemble or remove any part of the suction arm when it is in operation or connected to the power supply.
- Do not insert the electric cable into the joints of the arm.
- Do not tamper with the components of the electrical panel.
- Do not operate the vacuum cleaner for a long time with the arm nozzle closed.
- Do not suck up liquids.

IMPORTANT NOTE!

THE EQUIPMENT CANNOT BE USED IN AN EXPLOSIVE ATMOSPHERE!

Most frequent faults: causes and remedies

Given that most of the malfunctions occur due to incorrect use of the system, some possible malfunctions that may occur and the measures to be taken to remedy them are indicated in the following table.

| FAULT | POSSIBLE CAUSE | REMEDY |
|--|---|--|
| The suction arm does not support itself, maneuverability and positioning of the hood is compromised. | <ul style="list-style-type: none"> • The clutches are loose : <ul style="list-style-type: none"> • new clutches that must grip the support material • consumption of the same | Tighten the fixing bolts gradually and not too much so as not to compromise maneuverability. |
| The sleeves break near the grip | The clutch bolts are tightened too much, overcoming the resistance of the joints | <ul style="list-style-type: none"> • Loosen the clutch bolts, and replace the hoses: <ul style="list-style-type: none"> • hood connection forearm tube (replacement can be carried out by the customer) • spring part tube (must be replaced by the manufacturer for safety reasons) |
| Breakage of flexible fittings. | Wear, abrasion, puncture etc. caused by incandescent material sucked in by the arm. | Remove and replace the hose clamps |
| The fan over the suction arm stops suddenly. | Power failure. | Restore the power supply |
| | The fuse has blown | Replace the fuse. |
| | The thermal switch has tripped. | Open the switchboard and reset the switch. Check the reasons why the thermic tripped. |
| | The engine burned out. | Repair where possible or replace. See related manual. |

Turn off

To turn off the arm, turn OFF the switch on the electric switch box.

Description of dangers and specific protections

However, the manufacturer has taken steps to reduce the dangers that may arise due to incorrect use of the machine by installing protective devices on the machine itself.

Description of hazards that cannot be eliminated from the security measures adopted

The dangers that cannot be eliminated from the safety measures adopted by the manufacturer are caused by incorrect use of the machine or by a failure by the user to comply with the safety standards described in this manual.

INSTRUCTIONS FOR EMERGENCY SITUATIONS

In case of fire, use powder fire extinguishers complying with current regulations.

Never use liquid fire extinguishers.

In case of fire, pay attention to the combustion gases (plastic system).

MAINTENANCE

| Par | Description |
|-----|--|
| 1 | Ordinary and extra-ordinary maintenance |

CLEANING AND ROUTINE MAINTENANCE

Adequate cleaning is recommended for optimal operation. Regular checks and cleaning of the fan impeller should be provided.

For normal cleaning operations, commercially available cleaners can be used.

Regular maintenance of the system increases its duration and operating safety, the hood internal joint must be periodically greased.

EXTRAORDINARY MAINTENANCE, REPLACEMENTS AND REPAIRS

Extraordinary operations are those for the repair and replacement of one or more components of the the system that normally becomes necessary only after years of good operation, which do not alter the characteristics of the machine.

The device does not require any particular replacements except in cases where there is a possible filtering of the fluid downstream of the system.

The parts most subject to wear and which need to be replaced over time can be the flexible hose, the nozzle and the centrifugal impeller of the fan.

In the event of substantial changes, the manufacturer cannot be held responsible for any dangers that may arise.

DISASSEMBLY AND DISPOSAL

| Par | Description |
|-----|--------------------------|
| 1 | Disassembly and disposal |

DISASSEMBLY

In case of decision not to use the system anymore, or to replace it with another one, it must be dismantled and taken out of service.

This operation must be carried out in accordance with current regulations.

DISPOSAL

If the equipment, or part of it, needs taking out of service, its parts which are likely to cause any danger must be made harmless.

The materials making up the equipment, which must be subjected to a differentiated subdivision, are:

- steel
- plastic
- rubber
- electrical system conductors
- aluminium components

All of the aforementioned operations, and final disposal, must always be carried out in compliance with the applicable legal provisions in force.

OPERATOR'S NOTES

| Par | Description |
|-----|-----------------------------------|
| 1 | Details of maintenance operations |

The following table must be completed by a specialized technician authorized by Aerservice Equipments S.r.l

..

It is of fundamental importance to keep these notes up-to-date in order to have an affective record of the problems encountered and the maintenance performed; in this way future malfunctions could be settled in a short time and with the least economic expenditure.

| DATE | COMPANY NAME | CONTACT PERSON | OPERATION CARRIED OUT |
|------|--------------|----------------|-----------------------|
| | | | <u>First start-up</u> |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |



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