

Use and Maintenance Manual



Extension arm RO

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1. Introductory Remarks

The purpose of the present Use and Maintenance Manual is to supply User with directions within the range of application, installation, start-up and the use of the **RO extension arms**.

Installing, start and operational use are exclusively admissible after getting acquainted with the contents of the Use and Maintenance Manual.

With regard to continuity of work carried on improvement of our products, we reserve for ourselves the revision possibility of the draft and technological changes improving their functional features and safety.

The construction of the **RO extension arms** meets the requirements of the current state of technology as well as the safety and health assurances included in:

- **2006/42/EC Machinery Directive** of the European Parliament and of the Council of 17 May, 2006 on machinery – amending the 95/16/EC (recast) /*Journal of Laws EC L157 of 09.06.2006, page 24/*

The device has been constructed and produced on the basis of following harmonized standards:

- **PN-EN ISO 12100:2012** – “Safety of machinery. Basic concepts, general principles for design. Risk assessment and risk reduction”.

2. Application

Extension arms enlarge the operational range of the ERGO hanging extraction arms that are attached to their terminations. In the basic version, the ERGO extraction arm is mounted (at the end of the extension arm). Whereas, in the “broken” version, the ERGO arm should be fastened at the end of a set consisting of two extension arms.

3. Reservations of Producer

(They apply to a complete appliance along with the filtering unit).

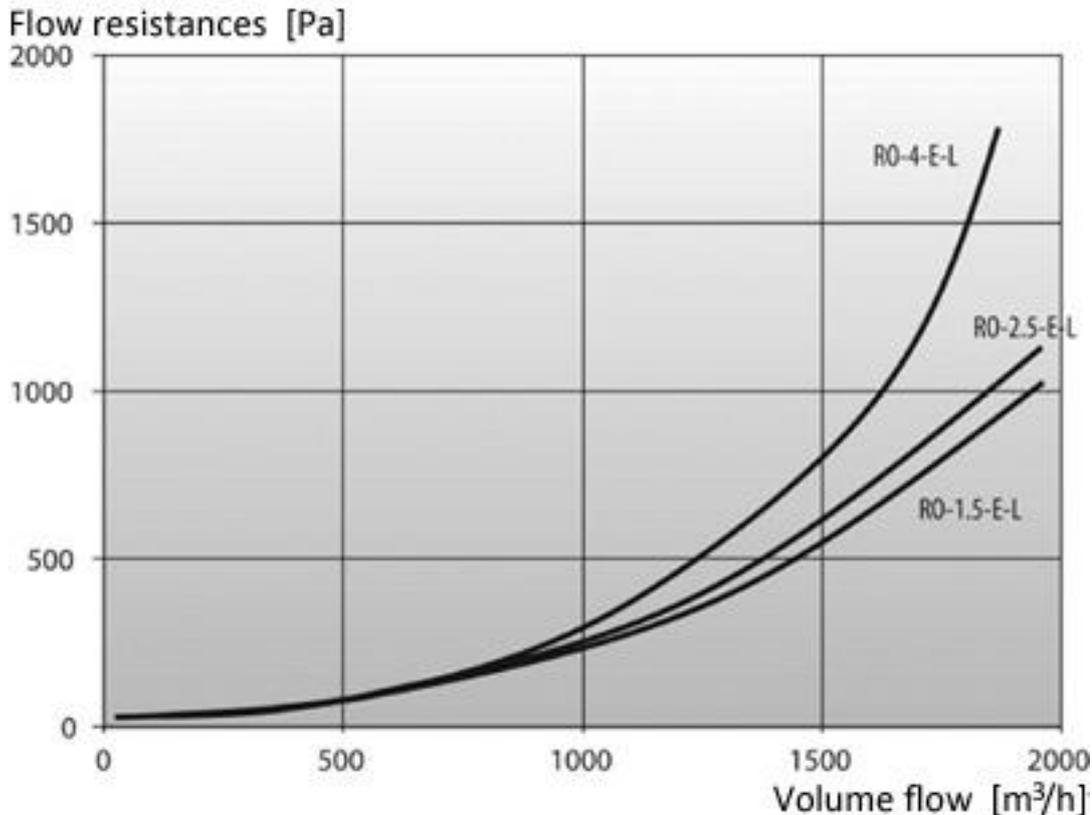
- 3.1** Producer is not liable for any consequences being caused by operational use that is in contradiction to the purpose of application.
- 3.2** Installing of any additional elements, not belonging to the normal device structure (or accessory set) is not acceptable.
- 3.3** Any structural changes or modification of the appliance, performed by User on one’s own, (unauthorised repairs) are not permitted.
- 3.4** Before installing, it is important to examine the load carrying capacity of the building structure, in points where the appliance shall be installed. Unsure mounting might result in uncontrolled device disattachment and hazard to operators / people in the vicinity.

4. Technical Data

Table No.1

Type	Part No.	Connection diameter [mm]	Weight [kg]	Maximum torque M [Nm]
RO-1,5-E-L/X	811R16	160	46	1400
RO-2,5-E-L/X	811R17	160	51	1700
RO-4-E-L/X	811R22	160	84	3100
RO-2,5-E-L/Y	811R21	160	68	4400
RO-4-E-L/Y	811R23	160	98	6400

CAUTION: Before installing check if the load carrying capacity of the wall (or another structural element of the building) is sufficient to take the torque M. Additionally, it is important to select suitable mounting bolts.



5. Structure and Function

The extension arm is constructed of a bearing swivel, connected with a steel sheet duct of rectangular cross-section. RO-L/X extension arms of 1,5m and 2,5m operational range are equipped with swivels of cast aluminium rings in roller bearings, whereas other extension arms are have steel swivels in slide bearings. The movement resistances are very minimal, therefore it is easy to manoeuvre and set the arm into convenient operational position.



Fig. No.1 – A set of arms in basic version



Fig. No.2 – A set of arms in a “broken” version

6. Assembly and Start-up

Prior to installing make subsequent steps:

1. Examine the load carrying capacity of the constructional elements of the building, where the RO extension arm shall be installed.
2. Prepare the necessary constructional elements connected with the building structure within the screw connection points of the mounting plate (of the wall bracket).

Diameter, hole pattern and quantity of holes for the bolts as well as the diameters of mounting bolts of the mounting plate of RO extension arms are given in the enclosed drawings.

During installing pay attention that the mounting plate must be positioned accurately vertically. In case of their deviation from verticality – the arm will tend to setting always into the same position.

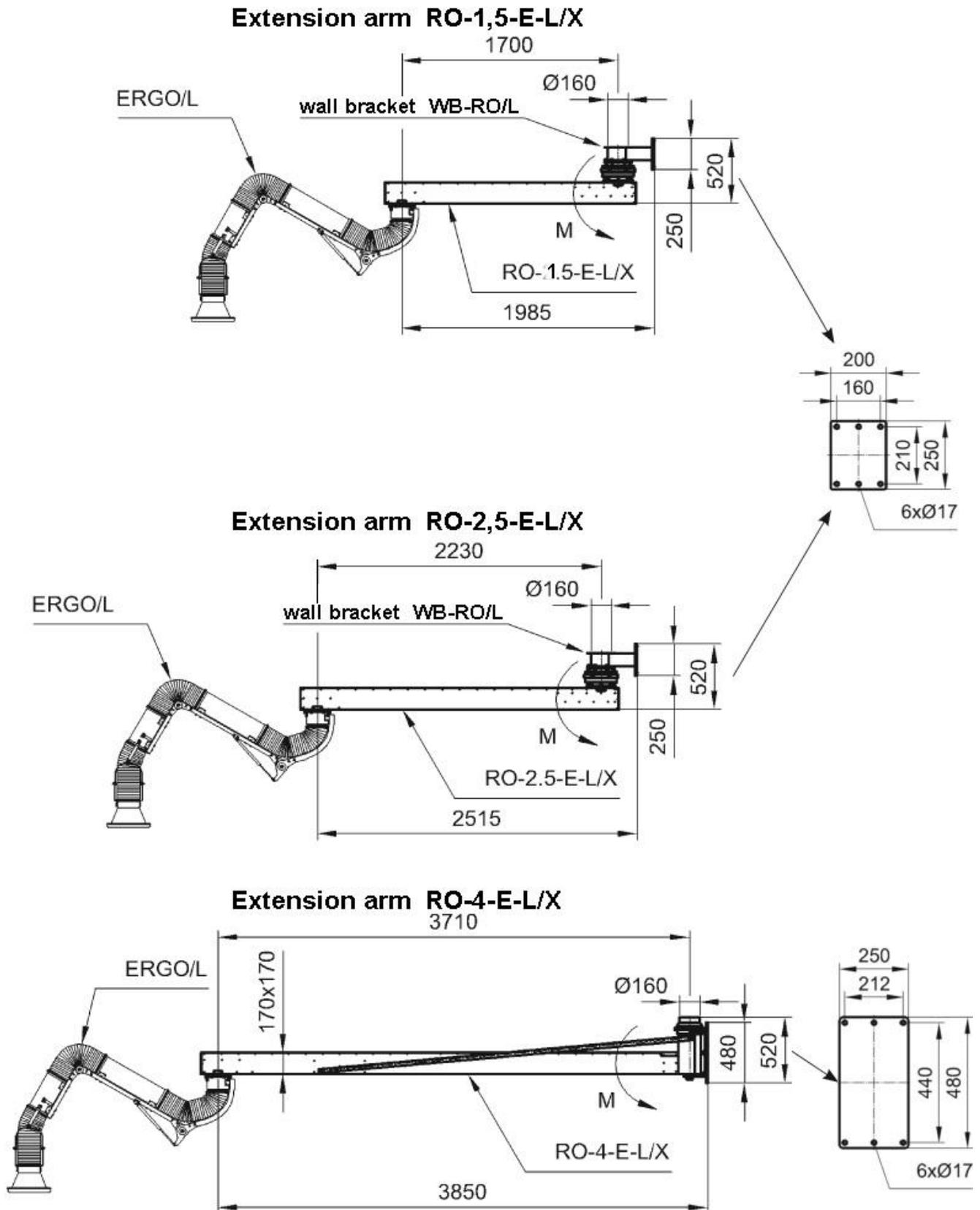
The swivel construction provides:

- installing of the extraction fan,
- connection to the ventilation discharge ducting.

Extension arms type RO-E-L/X

RO-E-L/X extension arms are designed for attachment of ERGO-L extraction arm at its free end.

The extension arm should be installed to the wall by means of a WB-RO/L wall bracket (in case of extension arms RO-1,5-E-L/X and RO-2,5-E-L/X) or directly to the wall (RO-4-E-L/X).


Fig. No.3

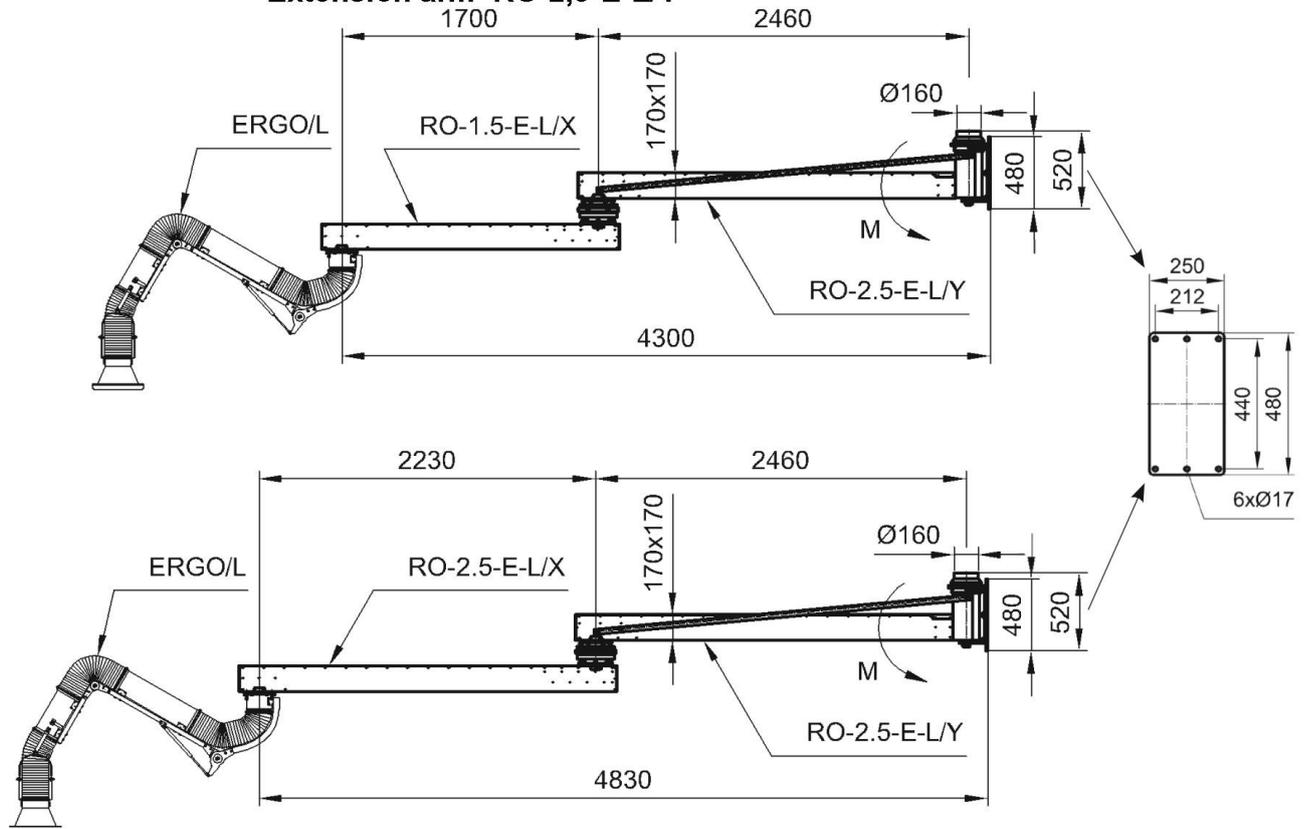
Extension arms type RO-E-L/Y

RO-E-L/Y extension arms are designed for simultaneous attachment of RO-1,5-E-L/X or RO-2,5-E-L/X extension arm and the ERGO-L extraction arm.

The extension arm should be installed directly to the wall.

The wall bracket is not standard equipment of the arm, so it should be ordered separately.

Extension arm RO-2,5-E-L/Y



Extension arm RO-4-E-L/Y

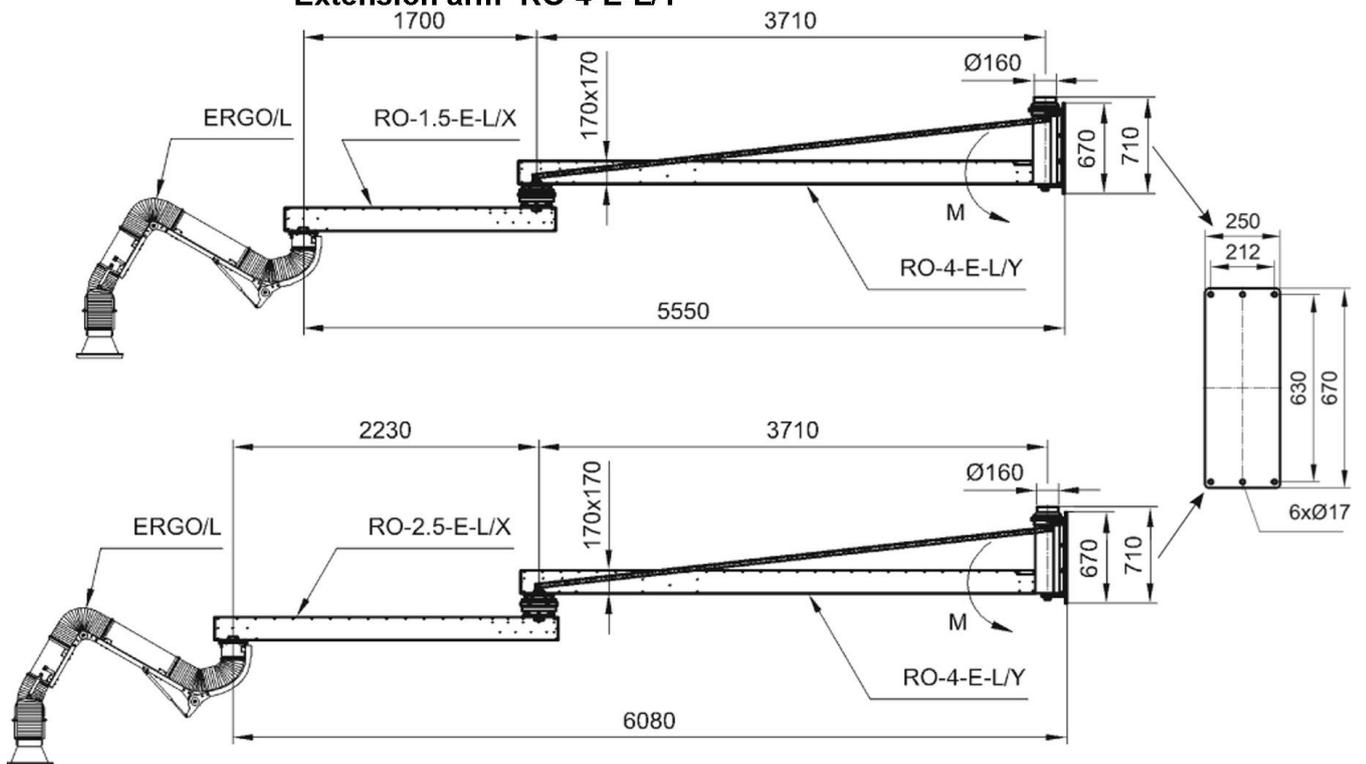


Fig. No.4

CAUTION: RO-4-E-L/X; RO-2,5-E-L/Y; RO-4-E-L/Y are not equipped with a mounting flange to install the fan.

7. Operational Use

A. Prior to start up:

- Check if the arm is rotating without resistances and after stopping keeps the requested operational position (not changing it from itself).
- Set the extension arm into position that is most convenient for operation in this workplace, and at the same, it do not cause obstruction for operational movements and viewing within the workplace.

B. After the work is completed:

- Leave the device in the ultimately used position. If this position causes obstruction for operators / people in the vicinity, set the extension arm and the extraction arm into home position.

8. Troubleshooting Guide

Table No.2

	Problem	Possible reason	Corrective action
1.	The extension arm sets automatically from itself always in the same position.	The swivel is not positioned exactly vertically.	Set the swivel into vertical position by levelling the mounting plate of the device.
2.	The extension arm is rotating with high resistances or with too low resistances.	Incorrectly adjusted swivel	Tighten up or release the adjustment nuts.

9. Maintenance

9.1 Swivel with the bracket:

- a) Lubricate the swivel with solid grease (LT4 S3 with graphite additive) minimum once a year.
- unscrew and remove the duct of the extension arm,
 - release alternatively the adjustment nuts,
 - apply the solid grease into the lubricating nipples (placed in the collar of the solid collar),
 - install the duct back,
 - adjust the slackness (clearance) in the sliding bearing assembly of the swivel, by turning the adjustment nuts alternatively – to obtain the fluency of rotation within the swivel.
- B. Periodically, adjust the slackness (clearance) in the swivel, by turning the adjustment nuts alternatively (Fig. No.5).

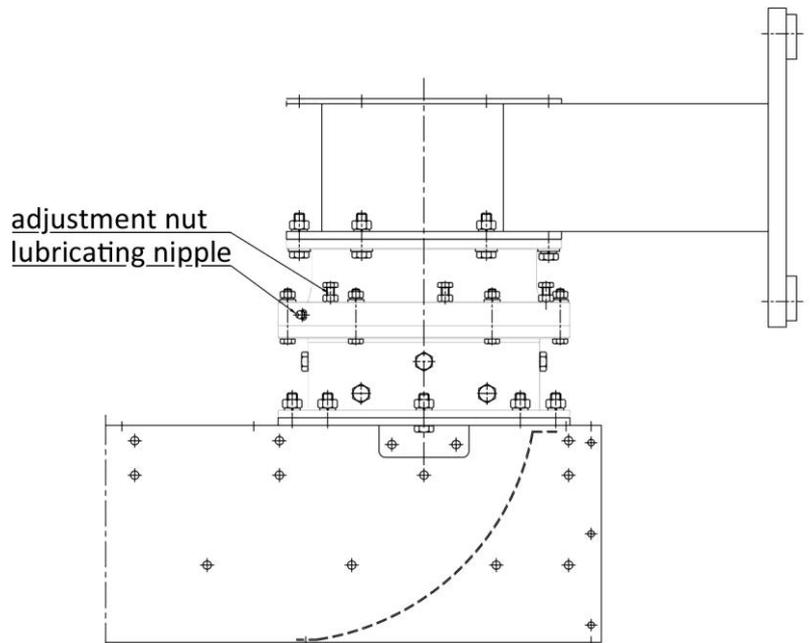


Fig. No.5 – Swivel with a bracket

9.2 Swivel RO:

- a) The construction of the RO extension arm provides its use without constant maintenance. It is recommended to carry out the periodical maintenance every 6 months. Within the scope of maintenance execute following steps:
- clean the arm from the deposited dusts and other contamination,
 - check the screw connections. Slacken screws and bolts should be tightened.

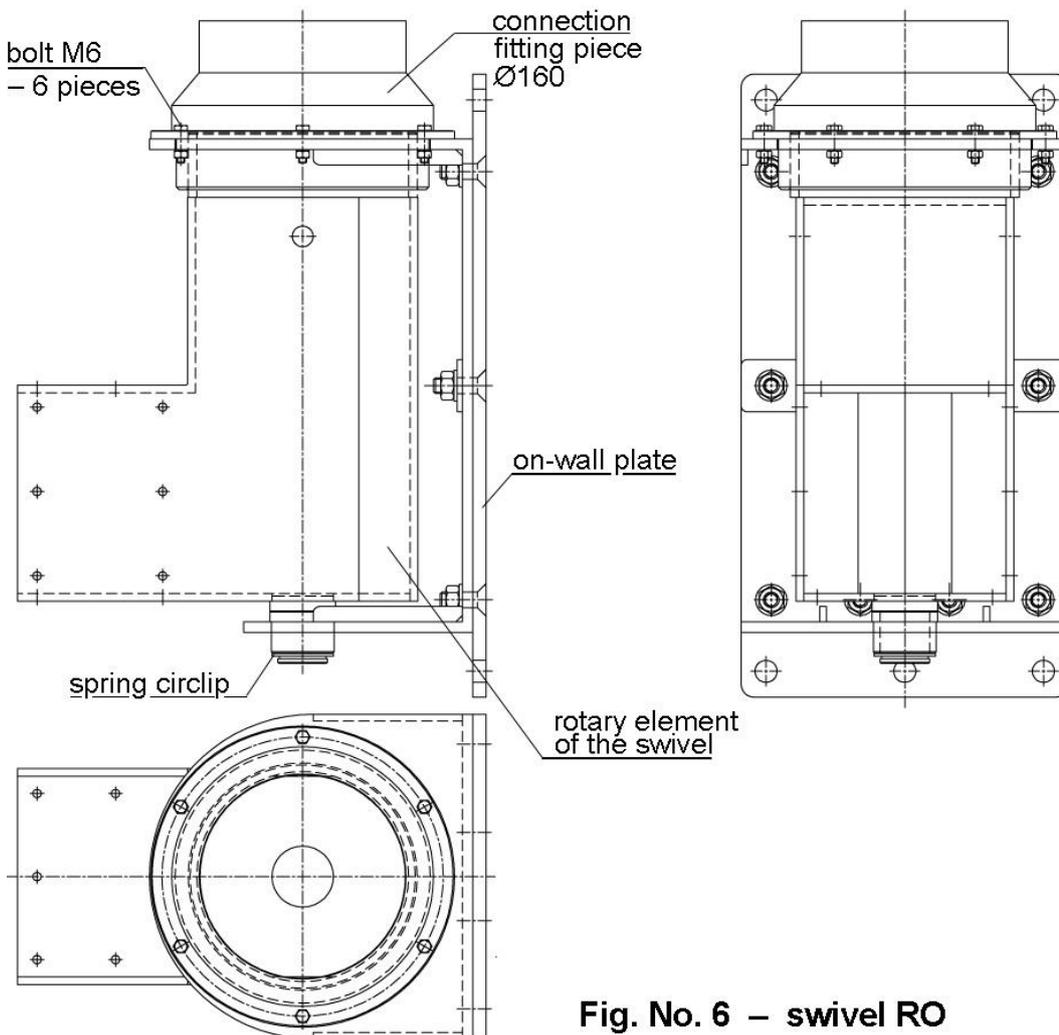


Fig. No. 6 – swivel RO

10. Occupational Health and Safety

Start-up and maintenance are exclusively possible after getting acquainted with the contents of the present Use and Maintenance Manual.

1. RO extension arms do not cause hazard – under the condition that they are correctly and firmly installed on the wall or other structural element of the building. Unsure mounting might result in uncontrolled device disattachment attachment and hazard to operators / people in the vicinity.
2. Do not put any excessive load (forces) on the extension arm.
3. After the work is finished, the extension arm should be left in such position that do not cause obstruction / hazard to other users or employees in the vicinity (in the process room).
4. In the course of operational use, necessarily observe the rules and regulations of Occupational Health and Safety.

11. Transport and Storage

RO extension arms ought to be stored and transported in their packages.

Store them in dry rooms and of efficient ventilation.

During the transport, reloading pay attention that no damage, scratching, indents occur to the device. Additionally, important are the packages themselves and that the markings on packages would not get obliterated or detached.

12. Terms of warranty

The period of warranty for the purchased device is indicated in the “Card of Warranty”.

The warranty does not comprise:

- device failures caused during use which was in contradiction with the purpose of operational use and the present Use and Maintenance Manual,
- mechanical damage and dysfunctions caused by User,
- changes or device modifications, undertaken by User on one’s own,
- damages being effected during improper transport, storage or incorrect maintenance.

Infringement of the Section 3 “Reservations of Producer” of the Use and Maintenance Manual and especially unauthorised modifications undertaken by User on one’s own shall cause the loss of warranty validity.

13. Sample of the Declaration of Conformity

Declaration of conformity EC No.

Manufacturer (eventually the authorized representative / importer):

name: **KLIMAWENT S.A.**

address: **81-571 Gdynia**

A person, authorized for issuing the technical documentation:

hereby declares that the appliance:

name: **Extension arm**

type/model: **RO**

serial number: year of production:

meets the requirements of the subsequent European Directives:

- **2006/42/EC Machinery Directive** of the European Parliament and of the Council of 17 May, 2006 on machinery – amending the 95/16/EC (recast) /*Journal of Laws EC L157 of 09.06.2006, page 24/*

The device has been constructed and produced on the basis of following harmonized standards:

- **PN-EN ISO 12100:2012** – “Safety of machinery. Basic concepts, general principles for design. Risk assessment and risk reduction”.

.....
place, date

.....
signature of authorised person

.....
name, surname, function
of the signatory

KLIMAWENT S.A.

Supported Employment Enterprise
81-571 Gdynia, ul. Chwaszczyńska 194
phone: +49 58 829 64 80

email: klimawent@klimawent.com.pl
www.klimawent.com.pl

District Court Gdańsk-Północ
in Gdańsk, VII Wydział Gospodarczy
of the National Register of Court
KRS 0000308902 company stock
13.779.200 zł paid in total

NIP: 958 159 21 35
REGON: 220631262
Bank Account: **Bank Zachodni WBK S.A.**
56 1500 1025 1210 2007 8845 0000

**Producer:****KLIMAWENT S.A.**

81-571 Gdynia, ul. Chwaszczyńska 194

tel. 058 629 64 80

fax 058 629 64 19

e-mail: klimawent@klimawent.com.plwww.klimawent.com.pl

811R16	RO-1,5-E-L/X	27.09.2016/EN
811R17	RO-2,5- E-L/X	27.09.2016/EN
811R22	RO-4- E-L/X	27.09.2016/EN
811R21	RO-2,5- E-L/Y	27.09.2016/EN
811R23	RO-4- E-L/Y	27.09.2016/EN