

Installation and Maintenance Instructions

**„BioControl“ – Housing
including Components**

**PN16
-10°C to +200°C**



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1. Intended Use:

NEUMO „BioControl“-Components are suitable for being orbitally welded into pipe work of industrial plants (pharmaceutical industry, chemical industry as well as food industry).

According to the PED (Pressure Equipment Directive), Article 9, para. 2, no. 2.1 and 2.2, fluids of group 1 and 2 are allowed as flow media.

The intended use includes compliance with the maintenance and servicing specifications provided by the manufacturer.

The work described herein is described in sufficient detail for only a qualified person to understand and complete it.

The definition follows the contents of DIN EN-60204-1:

The „BioControl“- Components comprise the following single parts:

- Housing
- Blind cover, set of sight glasses or measuring equipment
- O-ring
- hex-head screw

Qualified person:

A person who, based on his/her technical training, knowledge and experience as well as his/her knowledge of the applicable standards, is capable of judging the tasks he/she is entrusted with and can recognize possible risks.

2. Field of Application:

These instructions apply for the installation and maintenance of the construction described under point 3.



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3. Installation:

Preparation for welding in the „BioControl“ housing:

Any built-in inspection glasses, blind covers or measuring devices have to be removed prior to the following installation procedure as described under para. 4 „Maintenance“.

The weld-on ends of the housing and the pipe connections have to be prepared for the I-seam according to EN-29692.

Please ensure that the sealing edges of the „BioControl“ housing are not damaged and cannot be damaged during the operations with the parts. Never use a screwdriver, hammer or any other tool or object that could damage the sealing faces within the sealing area!



DANGER

The pipe work may contain corrosive cleansing media residues. Therefore, the pipe section for the BioControl housing has to be rinsed thoroughly prior to assembly.

Welding the housings:

WIG or WIG-Orbital.

Please adhere to the corresponding process regulations and certificates of the appropriate welding procedures!

Assembly of the single components:

Prior to assembly the various elements have to be checked for damage and replaced if necessary.

Attach the O-ring clean and free of grease to the designated slot of the blind cover, the glass or the measuring device.

The O-ring may not be rolled onto the component!

Please draw particular attention to the o-ring, which has to be clean, fit tightly into the slot and may not be twisted, turned or bent.



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CAUTION

Pay attention to proper fit of the single components during installation. Jammed locks damage the seat and sealing surface and cause leakage.

Attention!

Only original, NEUMO-„BioControl“ O-rings may be installed.

Place the cover, the glass or the measuring device carefully and with gentle pressure into the groove provided in the housing.

(The O-ring can be moistened slightly for installation.)

The flat seal and the retaining ring are placed on the glass. The parts are secured with the appropriate hex head screws by fastening the screws to cross.

For the permitted tightening torque of the single screws, please take the technical information into account and refer to table 1.

Table 1.

	M6	M8	M10
Friction Coefficient	Tightening Torque		
0.10	5.9	14.5	30.0
0.12	6.7	16.3	33.0
0.14	7.4	17.8	36.0
0.16	7.9	19.3	39.0
0.18*	8.4	20.4	41.0
0.20	8.8	21.5	44.0
0.30	10.4	25.5	51.0
0.40	11.3	27.6	56.0

* Recommended tightening torque!

Technical information for the tightening torques for screws:

Since different friction coefficients can appear in practice the torques quoted in table 1 can only be adopted as reference values!

The torques apply for screws EN 24014 / 24017, strength category 70 at room temperature.

It is recommended to conduct an appropriate test under operational conditions prior to final determination of the torque!

Attention!



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Before taking the „BioControl“ component into operation the tightness has to be verified by exposing it to 1,43-fold of the maximum permissible operating pressure!

4. **Maintenance:**

Loosen and remove screws.



CAUTION

Please ensure that the pipe connection is in a pressure-free state before loosening the screws.



DANGER

The pipe work may contain corrosive cleansing media residues. Therefore, the pipe section for the BioControl housing has to be rinsed thoroughly prior to assembly.

- Close, rinse and secure the pipe section of the BioControl housing

Remove the blind cover or measuring device carefully from the housing seat.

Please adhere to the following procedure during removal of the inspection glass:

Remove the sealing flange and the flat seal.

Raise the inspection glass with the suction cup (available with the supplier of the set of inspection glasses) or any other suitable suction device with a careful pull until the O-ring can be removed from the seat. Pull out the glass completely, slowly and smoothly.

Remove the seal ring and ensure that the sealing edges are not damaged.

Clean the sealing surfaces and check the sealing contours for possible damages.



In case of damage the components concerned have to be replaced.

Further procedures as described in para. 3 ff.

5. **Advice and Recommendations:**

By default, the NEUMO „BioControl“ components are undetachably marked for a nominal pressure of 16 bar. Should they be applied for higher pressures, please include the following data in your inquiry to the company NEUMO:

The required pressure = bar

The overall size.

The pipe connection dimensions = outer diameter x wall thickness.

By default, seal rings with appropriate tolerances are applied, which are made of material grade: EPDM peroxidically crosslinked, FDA conform. If a different sealing material should be applied, this has to be indicated in the inquiry, too.

6. **Execution:**

Materials:

Housing:	1.4435 / 1.4404 (316L)
Blind Cover:	1.4435 / 1.4404 (316L)
Measuring Device:	see device manufacturer
Glass:	Borosilicate glass
Flat Seal:	Klinger Top Chem 2000
Sealing:	EPDM peroxidically cross-linked, FDA-conform (max. 150°C)
Screws:	A4-70.

7. **Spare Parts:**

See <http://www.neumo.de>



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Measuring devices, see device manufacturer.

8. Possible dangers:

BioControl housings are designed and manufactured according to AD 2000-data sheet for 16 bar positive operating pressure at steady operation and 200°C operating temperature. If necessary, any deviating, or lower maximum permissible temperatures of the applied sealings or instruments have to be taken into account.

The BioControl housing are components designated for installation in the pipe works. The dangers in combination with components from other manufacturers, such as measuring or control devices, need to be specified separately or prevented. Possible dangers that can arise are mainly defined by the planers or operators.

9. Warranty:

The warranty does not apply to defects attributable to improper installation, failure to follow application instruction, improper interference or modification of the product by the purchaser or a third party not authorized by the supplier.

Furthermore, the warranty does not apply, if technical original identification, seals, serial numbers or similar indicators have been altered or removed.

10. Disclaimer:

For safe operation of the BioControl unit please observe these installation and maintenance instructions. Neumo does not assume liability for personal, property or financial loss incurred due to non-compliance of the operating instructions.



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