

XCONTROL-P

OPERATING MANUAL

spinogy.de

Index

Preamble

01 General remarks **6**

01.1 Notice	6
01.2 Limitation of liability	6
01.3 Product name and type designation	6
01.4 Labeling of Xcontrol-P	6
01.5 Manufacturer details	7
01.6 Target group	7
01.7 Lifecycles of machine	7

02 Safety instructions **8**

02.1 Intended use	8
02.2 Symbols and notes	8
02.3 Personnel requisition	9
02.4 Responsibilities and duties of the operator	10
02.5 Modifications and unauthorized changes	10
02.6 Special hazard warnings	11

03 Transport, Packaging and Storage **12**

03.1 Transport	12
03.2 Packaging	12
03.3 Storage	12

04 Technical description **13**

04.1 Technische data	13
04.2 Components	13
04.3 Dimensions	15

05 Installation	16
05.1 Transport damages check	16
05.2 Integrity check	16
05.3 Install Xcontrol-P	16
05.4 Pneumatic wiring	17
05.5 Electrical wiring	17
06 Commissioning	18
06.1 Commissioning for regular use	18
07 Maintenance	19
07.1 Maintenance	19
07.2 Maintenance and spare parts	19
08 Disassembly and disposal	20
08.1 Disassembly	20
08.2 Disposal	21
09 Service and repair	22
09.1 Service- und Reparaturbevollmächtigte	22
10 Warranty	23
11 Decleration of installation	24

Preamble

Dear customer,

Thank you for choosing the spindle equipment Xcontrol-P from SPINOGY.

Along with this equipment for the spindle you experience a perfectly aligned system.

The single components of the spindles are manufactured with our machines, assembled in Weiterstadt and completed with high-quality purchased parts. So, we can monitor the complete manufacturing process and always ensure a high quality. In order to keep the quality of this product for a long period, please carefully read this operating manual.

SPINOGY is always working on further development of our products. Therefore, deviations may occur with the spindle and the operating manual. We therefore ask you for your understanding, that no claims can be derived from technical data, illustrations or descriptions.

During the development of this equipment we have always taken care to involve the feedback of our customers. Nevertheless, we always want to improve to be able to respond to requests even more specific. Therefore, we are very grateful for your praise, constructive criticism and suggestions.

Please contact us for any request, questions or wishes about our products or your application case, we are glad to help you. Just use our contact form on our website or contact us via E-Mail: mail@spinogy.de. Of course, we are also available for a personal conversation.

We wish you a successful work.

Marcel Linke, Andreas Schleifer, Dominik Eschenbach und Marc Schmidt-Winterstein
Managing directors SPINOGY GmbH



01 General remarks

01.1 Notice

This operating manual contains important information about handling the product. It has to be read carefully before using the product. SPINOGY Xcontrol-P may only be put into operation if the instruction manual was understood completely. SPINOGY must be contacted if there are obscurities. Please follow the instructions of this operating manual. This operating manual has to be available for the user at any time and has to be replaced in case of loss or impracticalness immediately. The obligation to preserve records applies as long as someone is in possession of the product.

The content of this operating manual is checked for conformity with the described incomplete machine, but deviations and mistakes cannot be excluded. Technical and content-related changes, errors and misprints are reserved.

This operating manual is subject to the copyright law and may not be reproduced, copied or changed in any form, neither all nor part, without the permission of the creator. In case of contravention there is a risk of criminal prosecution. All rights reserved.

01.2 Limitation of liability

SPINOGY doesn't assume liability for personal injuries, material damages, damages caused to the device and consequential damages caused by failure to follow this operating manual, not intended use of the device, repair operations or any other actions done by non-qualified workers (Please see chapter 2.3. personal requisition) or by using unauthorized non-approved spare parts. Non-compliance of maintenance specification of the manufacturer does also lead to limitation of liability. (Please see chapter 7 – maintenance and servicing.) In addition, it is strictly prohibited to make any unauthorized modifications or technical changes on the device.

01.3 Product name

This operating manual is created for the following product:

Product name:	Xcontrol-P, Xcontrol-P DIY
Compatible with spindle:	XP005, XP006, XP007, XP008, XP093, XP094, XP100, XP101 (as well as all configurations of this spindle)

01.4 Labeling of Xcontrol-P



The Xcontrol-P is labeled with a six-digit serial number and a five-digit article number. The data with all technical data are shown on the type plate in the left picture.

Using this serial number, all necessary information about Xcontrol-P can be obtained from SPINOGY at any time.

01.5 Manufacturer details

Name:	SPINOGY GmbH
Address	Brunnenweg 17, 64331 Weiterstadt
E-Mail	mail@spinogy.de
Phone	+49 6150 / 970 960
Website	spinogy.de

01.6 Target group

This operating manual is primarily aimed at the following staff:

- Installation personnel
- Machine operators
- Maintenance personnel

01.7 Lifecycles of the machine

The machine processes the following lifecycles

- Transport
- Assembly
- Operation
- Maintenance
- Disassembly
- Disposal

02 Safety instructions

02.1 Intended use

Xcontrol-P is to be considered as an incomplete machine for the installation into machine tools, covered by the definition of a fixed industrial large tool. Seen in isolation, Xcontrol-P cannot fulfill any function. The installation has to be done by the manufacturer of the machine tool, as the required skills for professional installation cannot be expected from end users. Xcontrol-P is to be considered as equipment for a spindle from SPINOGY and is only approved for this purpose.

02.2 Symbols and notes

The mentioned symbols in this operating manual shall obviously call the attention of the reader for potential dangers. Those indications or warnings can never be seen as a replacement for correct accident prevention!



Warning of general hazard



Warning of dangerous electrical voltage



Note to avoid material damage

The following signal words are used:

SIGNAL WORD	MEANING
DANGER	Danger with a high-risk level that will result in death or serious injury in case of non-observance
WARNING	Danger with a medium-risk level that will result in death or serious injury in case of non-observance
CAUTION	Danger with a low-risk level that will result in minor or moderate injury in case of non-observance
NOTE	Information that may lead to material damage in case of non-observance

02.3 Personnel requisition

Basis details

Only persons who can be expected to perform their work reliably are permitted as personnel. Persons who have an affected capacity of reaction, e.g. through drugs, alcohol, or medication, are not permitted. Adhere to the valid local regulations relating to age and profession when selecting staff.



WARNING: Improper use

Improper use with the product can lead to considerable personal injuries and material damage. All activities may only be carried out by qualified and trained personnel. If the personnel doesn't have the necessary expertise, the personnel is to be trained and instructed.

Qualification

The tasks described in this operating manual represent different personal and professional requirements for the qualifications of the people who are entrusted with these tasks. In this operating manual, the following qualifications are therefore named and required for various fields of activity:

1. Professionals

Professionals are, due to their technical training, knowledge and experience and their knowledge of the relevant standards and regulations, able to evaluate and carry out the given tasks. Furthermore, they are able to recognize and avoid potential dangers independently.

2. Electricians

Electricians are, due to their technical training, knowledge and experience and their knowledge of the relevant standards and regulations, able to evaluate and carry out the given tasks. Furthermore, they are able to recognize and avoid potential dangers independently. These electrical engineering works are only allowed, however, to be performed by electricians or under their direction and monitoring.

The technical requirements for electricians are:

- Technical education (Electrical engineering)
- Knowledge and experience in the respective field of activity
- Knowledge of the relevant standards
- Evaluation of the work assigned to them
- Recognizing hazards

3. Instructed staff

Instructed staff are employees who can behave safely at their workplace. For this purpose, they must be informed about the possible hazards resulting from the tasks assigned to them. In addition, they should recognize the purpose of the occupational safety and health measures and assume personal responsibility for their health-conscious behavior.

For this purpose, they must be informed by the operator about the tasks assigned to them and possible hazards resulting from improper behavior. Corresponding effectiveness-checks on the part of the operator are recommended.

Note: Staff must be regularly and sufficiently instructed by the operator. Further details are regulated in the national occupational safety laws and regulations. For better traceability, the execution of the instruction must be recorded.

**WARNING: Unauthorized staff**

Unauthorized staff is unaware of the hazards in their work area. Failure to comply with the personnel requirement can result in serious injury or even death.

Unauthorized staff

Any person that

- has not read this operating manual, has not read it completely, or has not clearly understood it
- does not meet the qualification requirements for working at Xcontrol-P
- has not received instructions from the operator for working at Xcontrol-P

is considered an unauthorized person.

The following points must therefore be observed in any case:

- Keep unauthorized persons away from the danger and work area
- In case of doubt, talk to persons and direct them away from the danger and working area
- Interrupt the work as long as unauthorized persons are in the danger and work area
- Deny access to unauthorized people

02.4 Responsibilities and duties of the operator

The operator himself is assumed to have the necessary qualifications and special expertise in handling machine tools and systems. If the operator does not carry out the necessary work himself, appropriate personnel must be called in for the professional installation, commissioning, maintenance and repair, dismantling / decommissioning / disposal!

In addition to the safety instructions in this manual, the country-specific safety measures, occupational health and safety measures and environmental protection regulations etc. valid for the application range of the machine must be observed.

Furthermore, the operator is responsible for the following points:

- Ensuring that Xcontrol-P is always in a technically perfect condition
- Compliance with maintenance intervals
- Creating of operating manuals
- Creating of hazard assessments
- Training and instruction of authorized staff at regular intervals
- Ensuring that authorized persons using Xcontrol-P, have carefully read and understood the operating manual.
- Equipping staff with appropriate protective equipment

02.5 Modifications and unauthorized changes

Modifications and unauthorised changes to the Xcontrol-P by the operator are only permitted after consultation with SPINOGY. If unauthorised modifications are made, the issued CE declaration of conformity loses its validity and the operator legally becomes the machine manufacturer.

02.6 Special hazard warnings

Specific hazards are listed below with the appropriate measures to prevent and avoid death and serious injury. These warnings must be read carefully and understood before commissioning. In addition, the operator must affix appropriate warnings to the machine in which the Xcontrol-P is installed.



CAUTION: Loud noise / bang

A loud noise bang may occur when disassembling compressed air hoses. Intending to avoid this, the main pressure on the maintenance unit must be turned down before disassembly.



DANGER: Electrical voltage

There is a risk of electrical shock that can lead to serious injury or death. Before working at Xcontrol-P, switch it off and disconnect it from the electrical network!

03 Transport, Packaging and Storage

03.1 Transport

Xcontrol-P must be transported in a stable packaging with sufficient padding. During the transport it must be taken care to avoid strong shocks or impacts as damages may be a result.

Transport may only be carried out by qualified transport companies or qualified personnel.

The corresponding dimensions and weight specifications of Xcontrol-P can be found in the technical data in chapter 4.

03.2 Packing

The packaging is intended to protect Xcontrol-P until assembly from transport damages and other external influences such as corrosion. The packaging should therefore only be removed shortly before assembly. In addition, the packaging should be kept, if possible, to protect Xcontrol-P in case of storage or to wrap it properly in case of return.

All packaging materials must be disposed at the appropriate collection points.

03.3 Storage

The following precautions must be arranged in case of storing the spindle:

- Xcontrol-P must be stored protected against dust, moisture and other environmental influences
- Mechanical vibrations of Xcontrol-P must be avoided
- The door of Xcontrol-P must be closed
- All openings of Xcontrol-P must be closed
- The following conditions for storage must be observed:
 - Temperature storage location: +10 to 45 °C
 - Relative humidity <40 %
 - Do not store outdoor



NOTE: Check pressure levels and pressure switch

After storing Xcontrol-P for a longer period, all pressure levels as well as the proper triggering of the pressure switch needs to be checked (Please see chapter 06 Commissioning)

04 Technical description

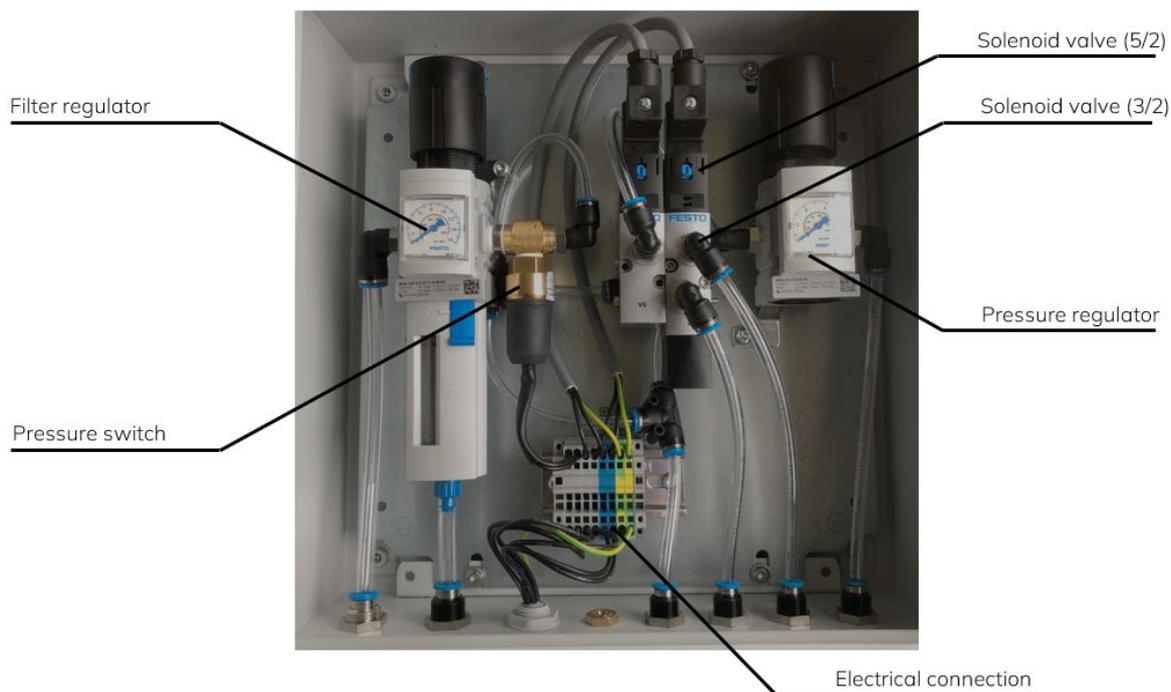
04.1 Technical data

Xcontrol-P is made for operating spindles from SPINOGY with automatic tool change (compatible with XP005, XP006, XP007, XP008, XP093., XP094, XP100, XP101 as well as all configurations of this product). It is used to switch the release pressure, the cone blowing air and the pneumatic reset.

ARTIKEL-NO.:	XM019 bzw. XM029
Function	Pneumatische Ansteuerung Motorspindel
Required pressure [bar]	6 bis 10
Voltage magnet valve [V DC]	24
Performance magnet valve [W]	2,6
Weight [kg]	4,0

04.2 Components

The following picture shows the main components of Xcontrol-P.



Filter regulator

Normal nominal flow [l/min]	900
Pressure regulation range [bar]	0,5 bis 12
Ambient temperature[°C]	-10 bis 60

Pressure regulator with solenoid coil

Normal nominal flow [l/min]	1200
Pressure regulation range [bar]	0,3 bis 4
Ambient temperature [°C]	-10 bis 60

Solenoid valve with solenoid coil (5/2)

Function	5/2 monostabil
Normal nominal flow [l/min]	700
Ambient temperature [°C]	-10 bis 60
Voltage [V DC]	24
Power [W]	2,6

Solenoid valve with solenoid coil (5/2)

Function	3/2 geschlossen monostabil
Normal nominal flow [l/min]	700
Ambient temperature [°C]	-10 bis 60
Voltage [V DC]	24
Power [W]	2,6

Pressure switch

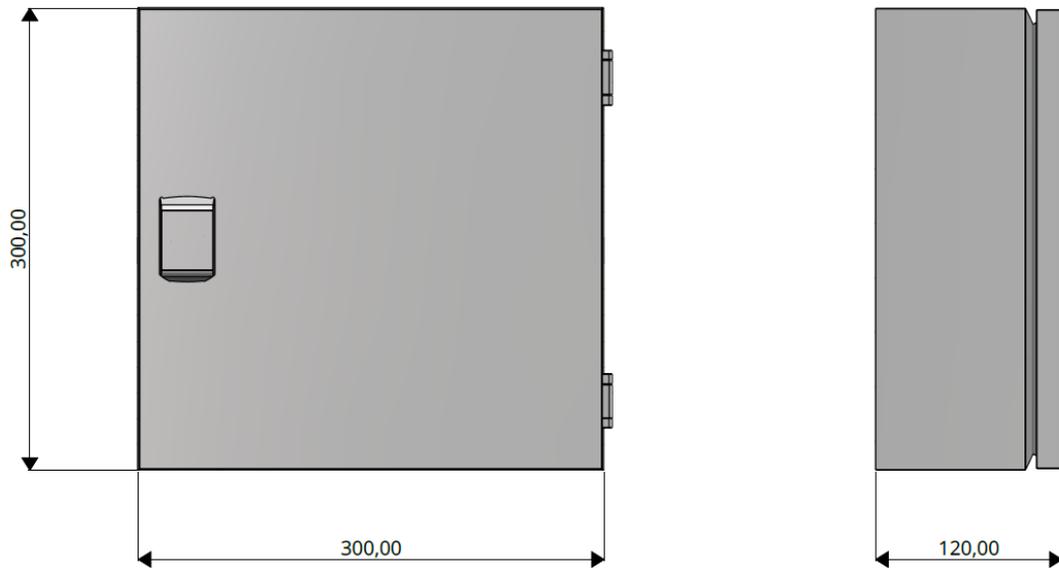
Switched voltage [V]	42
Pressure regulation range[bar]	1 bis 10 bar
Switching frequency [1/min]	200
Switch type	Schließer
Operating temperature[°C]	-25 bis 85

The pressure switch is used to monitor the pressure level, which is at least necessary to release the tool.

- Pressure level < 6 bar: The pressure switch opens.
- Pressure level > 6 bar: The pressure switch closes.

The pressure switch can e. g. be integrated into the emergency stop circuit of the machinery so that it stops if the pressure level is insufficient.

04.3 Dimensions



05 Installation

05.1 Transport damages check

The entire delivery must be checked for transport damage after acceptance. In case of external damage to the packaging, this must be documented. After unpacking Xcontrol-P and the additional scope of delivery, the products must be checked directly for transport damage. Despite the greatest care in packaging and shipping our products, transport damage may occur as a result of improper handling or force majeure in transit. Defective or damaged products must not be put into operation. The products must always be used in perfect condition.

If a transport damage is detected or if there are any questions, SPINOGY must be contacted immediately.

05.2 Integrity check

The content of the consignment must be checked for completeness. If any parts are missing, please contact SPINOGY.

Scope of delivery:

- Xcontrol-P
- Key for the door of Xcontrol-P

05.3 Install Xcontrol-P

The installation of Xcontrol-P may only be carried out by qualified staff. During all work, the locally applicable occupational safety and accident prevention regulations as well as internal company regulations must be observed and complied with. Suitable tools must be used for the installation.



WARNING: Unauthorized staff

Unauthorized employees are not aware of the hazards in the respective work area. Failure to comply with the personnel requisition can result in serious injury or even death.



WARNING: Falling parts

During installation, components may fall, resulting in serious injury and property damage. It is recommended to work at least in pairs and to wear suitable protective equipment and use appropriate tools.

Xcontrol-P is to be installed in the following steps:

01. If necessary, attach Xcontrol-P to a wall
02. Connect Xcontrol-P with suitable hoses to the spindle
03. Connect Xcontrol-P to the compressed air network
04. Connect Xcontrol-P control line (7G)

05.4 Pneumatic wiring

For connecting Xcontrol-P the pneumatic screw connections P1, P2 and P3 must be connected with media hoses on the spindle to the corresponding labeled connections. Connection PIN is designed for connection to the compressed air network. Connection drain is designed for the condensate drain of the filter control valve.



DESIGNATION	DESCRIPTION	PRESSURIZATION LEVEL	CONNECTION
P _{IN}	Connection to compressed air network	6 to 10 bar	NW7
Drain	Condensate drain	-	-
P _{OUT}	Additional pressure connection (optional)	According to set pressure at filter control valve	6 mm
P1	Release pressure to release the tool	6 to 10 bar	6 mm
P2	Taper blow to clean the taper	1 to 1,5 bar	6 mm
P3	Pneumatic reset for clamping the tool	At least 3 bar	6 mm

05.5 Electrical wiring

Xcontrol-P is delivered with a five-core cable (7G). It is to be connected as follows:

FUNCTION	CABLE SIDE
24 V solenoid valve for taper blow	1
24 V solenoid valve for release pressure	2
0 V solenoid valve	3
0 V solenoid valve for release pressure	4
Pressure switch	5
Pressure switch	6
PE-conductor	Yellow/green

06 Commissioning



WARNING: Machine guideline 2006/42/EG must be applied

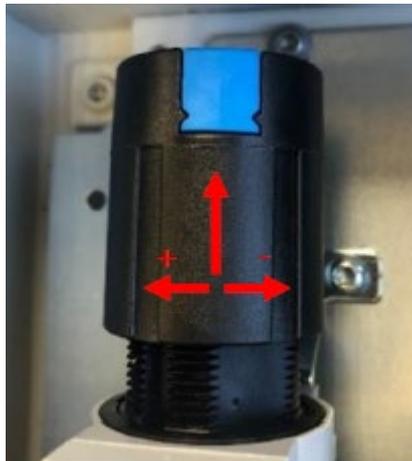
Before placing on the market or commissioning a machine into Xcontrol-P is installed, the manufacturer or operator must ensure that the machine guideline 2006/42/EC applies. For this purpose, reference is made to article 5 of the currently valid machine guideline. Furthermore, it must be checked whether other regulations or directives apply and must be complied with.

06.1 Commissioning for regular use

The pressure control valves and the pressure switch are predefined (Xcontrol-P DIY is excluded). Nevertheless, the following points must be checked during initial commissioning as well as during each regular operation before starting work:

01. Is the air compressor switched on?
02. Does the air compressor supply the required pressure level? (Check pressure gauge on filter regulator)
03. Is the pressure switch triggered at < 6 bar? (E.g. turn the filter regulator below 6 bar and check triggering, then set the filter regulator to at least 6.5 bar again.)
04. Is the pressure level of the pressure regulator set correctly? (Check pressure gauge on filter control valve)
05. Does the solenoid valve switch?

Note: A pressure regulator can be adjusted by unlocking the black adjustment cap by pulling it upwards. The pressure can be increased by turning to the left and decreased by turning to the right. After each adjustment, lock the adjustment cap again by pushing it down.



07 Maintenance

07.1 Maintenance

All compressed air connections should be regularly checked for tightness to prevent leaks at the connections.

In addition, the condensate should be drained from the filter regulator on a weekly basis.

A regular check of the pressure switch is recommended.

07.2 Maintenance and spare parts

Maintenance work may only be carried out by qualified and trained personnel. Please contact SPINOGY, if you require spare parts.

08 Disassembly and disposal

08.1 Disassembly

The disassembly as well as the decommissioning of Xcontrol-P may only be carried out by qualified staff. For all work, the locally applicable occupational safety and accident prevention regulations as well as internal company regulations must be observed and complied with. Suitable tools must be used for disassembly.

**WARNING: Unauthorized staff**

Unauthorized employees are not aware of the hazards in the respective work area. Failure to comply with the personnel requisition can result in serious injury or even death.

**WARNING: Repairs by the operator or third parties are not permitted**

Unauthorized repairs carried out by the operator or third parties can result in the fact, that the product is not in a perfect condition afterwards. This can lead to property damage and in the worst case to serious injury or even death.

01. The entire machine or system must be taken out of service before dismantling Xcontrol-P.

Therefore

- a. Stop the spindle and ensure that the shaft is at an absolute standstill. (If necessary, eject the tool via pneumatic exertion)
- b. Press the emergency stop of the machine or system.
- c. Set the main switch of the machine or system to „0“ or „Off“
- d. Secure the machine or system against unauthorized restarting.
- e. Disconnect the machine or system from the electrical mains intending to do this, physically disconnect the power supply lines and discharge any stored residual energy.

02. Drain off the condensate in the filter regulator.

03. Switch off the compressor to reduce the system pressure.

04. Check the pressure gauge on the filter regulator to see whether the pressure has dropped completely to 0 bar. If this is not the case, the pressure can be lowered via the adjusting cap. Intending to do this, unlock the adjustment cap by pulling it upwards and lower the pressure by turning it to the right

(-) Then lock the adjustment cap again by pushing it down



05. The control line must be disassembled machine-side.

06. Disassemble all pneumatic tubings.

07. If necessary, remove the Xcontrol-P from the wall or machine.

08.2 Disposal

Disposal of the spindle, any accessories and the packaging must be carried out in accordance with the relevant laws and regulations of the respective country. If in doubt, contact the relevant local authority or a specialist disposal company. Depending on the material, the individual components should preferably be recycled. Disposal with domestic waste or similar facilities for the collection of municipal waste is not permitted.

After consulting SPINOGY, Xcontrol-P can be returned directly to the manufacturer. In this case a disposal fee may be charged by the manufacturer.

09 Service and repair

09.1 Service- and repair-authorized

Repairing components of Xcontrol-P may only be carried out only by SPINOGY, since only then a perfect function can be guaranteed. If unauthorized repairs are carried out, any warranty and guarantee claim expires and SPINOGY is not liable for any damages resulting to property or personal injury.



WARNING: Repairs by operators or third parties are not permitted

Unauthorized repairs carried out by the operator or third parties can result in the fact, that the product is not in a perfect condition afterwards. This can lead to property damage and in the worst case to serious injury or even death.

10 Warranty

SPINOGY warrants the product against material defects to the exclusion of further claims, taking into account the following points:

01. The warranty period from the date of delivery is 24 months, in accordance with statutory provisions.
02. In case of justified complaints of the goods, recognized by SPINOGY, which had their cause provably before the passage of risk of the goods – this concerns in particular the defective function, defects of the external condition or the delivery of a wrong product – According to § 439 1 BGB you can choose between two options: There is the option to have the defect repaired free of charge by SPINOGY and there is the other option to have it replaced by a defect-free product.
03. The claim for repair of defects is not applicable if SPINOGY is entitled to refuse the repair of defects due to legal regulations. This applies in particular in case that the subsequent improvement is accompanied by disproportionately high costs. In this case, according to §439 4 B, the purchasers right to subsequent performance is limited to the other option.
04. If more than 6 months have passed since the purchase of the product, the obligation to provide proof, lies with the customer. The customer has to prove that the defect already existed before delivery. This applies in particular to defects that are not immediately apparent. According to the legal regulations, business customers are obliged to report defects immediately.
05. Any parts or products replaced under warranty shall become the property of SPINOGY, unless SPINOGY expressly waives such right.
06. For all necessary rework and replacement deliveries the buyer has to set an appropriate period after consultation with SPINOGY. If this is not the case SPINOGY is released from the liability of resulting consequences.
07. If the warranty claim turns out to be legally valid, the costs arising from a repair or replacement delivery plus the shipping costs are to be paid by SPINOGY. If the customer initiates the inspection of a product delivered by SPINOGY and it turns out that there is no warranty case, that means there are no defects to be complained about or these are based on reasons for which SPINOGY is not responsible.
08. No warranty is given by SPINOGY in the following cases:
 - Improper use
 - Incorrect assembly or disassembly by the purchaser or third parties
 - Incorrect commissioning or decommissioning by the purchaser or third parties
 - Unauthorized modifications to the product
 - Usual wear and tear
 - Improper maintenance
 - Incorrect or careless handling
 - Incorrect storage
 - Disregarding of this operating manual
 - Defects the purchaser already knew at the time of the purchase
 - Force majeure
 - Unsuitable operating site
 - Chemical, electrochemical or electrical influences
09. In the event that SPINOGY, taking into account legal exceptions, allows a set deadline for the removal of defects or the delivery of a replacement product to expire, the buyer has a right to withdraw from the contract within the framework of legal provisions. In the event of an insignificant defect, the purchaser shall only be entitled to a reduction of the contract price. The right to reduce the contract price is otherwise excluded.
10. In case of self-remedy of defects by the buyer or third parties, SPINOGY is not liable for the resulting consequences. The same applies to changes made, which SPINOGY has not agreed to.
11. SPINOGY reserves the right to make technical changes to the product (e.g. constructive) without prior notification or special notice.
12. SPINOGY reserves the right to update the product to the latest state of the art over the course of repairs.

11 Declaration of installation

(In accordance with EC Machinery Directive
2006/42/EG annex IIB)

Original document

Manufacturer:

SPINOGY GmbH
Brunnenweg 17
64331 Weiterstadt
Deutschland

Authorized to issue documents:

SPINOGY GmbH
Brunnenweg 17
64331 Weiterstadt
Deutschland

We hereby declare, that the following product

Product	Spindle control
Type	Xcontrol-P
Serial number	

complies with the following basic requirements of the guideline machines (2006/42/EG)

Annex 1, subchapter 1.1.2, 1.1.3, 1.1.5, 1.3.2, 1.3.4

The partly completed machine may only be put into operation until it has been determined that the machine into which the partly completed machine is to be installed, complies with the purpose of the Machine Guideline (2006/42/EC) and the EC Declaration of Conformity according to Annex II A is available.

The special technical documents belonging to the partly completed machine according to Annex VII Part B have been created and are kept accordingly.

The manufacturer commits to provide the special technical documents according to Annex VII, Part B, for the partly completed machine to individual national authorities in digital form, upon reasonable request.

If the partly completed machine is modified after it has been handed over to the user without our approval, this declaration loses its validity with immediate effect.



Marc Schmidt-Winterstein
Dokumentationsbevollmächtigter

made in Germany

SPINOGY GmbH

Brunnenweg 17,
64331 Weiterstadt
mail@spinogy.de
+49 6150 / 970 960
spinogy.de

©SPINOGY GmbH

Rev.09//2023