GPS PRÜFTECHNIK

DATA SHEET

WA-P-Auto

PNEUMATIC FIXTURE

GPS Prüftechnik

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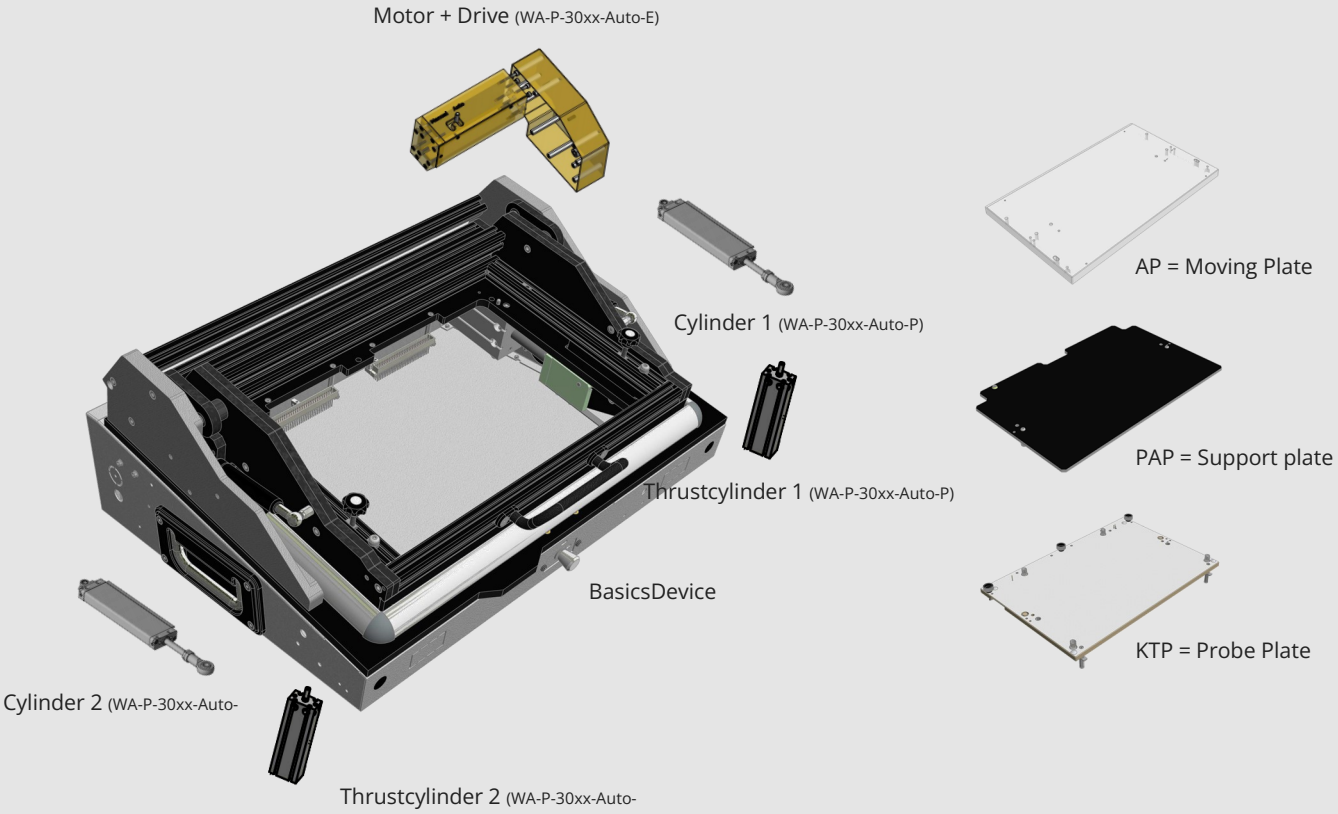
WA-P-30XX-AUTO

- Pneumatic Fixture with changing unit for for fully automated operation
- Automatic opening and closing functions by electromechanical or pneumatical drive
- The electromechanical version can also be operated manually.
- Optional connection to robot systems
- Connection and partial integration of security systems
- High operation comfort
- Parallel pressure mechanism
- Costefficient Exchange Kit System
- The Exchange Kit is an option and not part of the basic device. This needs to be ordered separately.
- Raise of case is possible up to 3 x 90 mm
- Kits for expansion of existing fixtures hitherto operated manually



OVERVIEW - MODEL VARIANTS

1	Model / Item number	WA-P-3000-Auto-E	WA-P-3000-Auto-P	WA-P-3010-Auto-P
2	Basic Device	WA-P-3000	WA-P-3000	WA-P-3010
3	Outer Dimension	540 x 500 x 330	540 x 500 x 330	740 x 510 x 340
4	Raise of Case	incl.	Incl.	Incl.
5	Interface Testsystem	Yes	No	No
6	Interface Robot	Yes	No	NO
7	Open & Close	elektromechanical	pneumatic	pneumatic
8	Operation Mode	Auto / Man	Auto	Auto
9	exchangeable plates VG-bar model	WA-KTP-400 WA-PAP-400 WA-AP-400	WA-KTP-400 WA-PAP-400 WA-AP-400	WA-KTP-410 WA-PAP-410 WA-AP-410
10	working area	350 x230	350 x230	520 x 295
11	exchangeable plates Pylon-model	WA-KTP-400-I WA-PAP-400-I WA-AP-400-I	WA-KTP-400-I WA-PAP-400-I WA-AP-400-I	WA-KTP-410-I WA-PAP-410-I WA-AP-410-I
12	working area	330 x180	330 x180	520 x 295
13	Kit: (optional)	Auto-E-1	-	-
14	Kit: (optional)	Auto-E-2	-	-
15	Kit: (optional)	Auto-E-3	-	-
16	Safety system Safe 1	integrable	stand alone	stand alone
17	Safety system Safe 2	integrable	stand alone	stand alone
18	Safety system Safe 3	integrable	stand alone	stand alone
19	Dimensions	700 x 700 x 520	700 x 700 x 520	1000 x 720 x 530
20	Weight (Basic version)	26	19	26

WA-P-30XX-AUTO - MODELL TYPES

WA-P-30xx-Auto-E

- Automatic Opening and Closing is electro mechanical
- Opening angel is 82°
- Opening and Closing by an electric motor and gearbox and

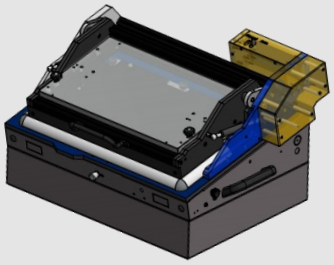
  associating control with sensors
- Switch between manual and automatic operation possible
- Universal robot interface available

WA-P-30xx-Auto-P

- Automatic Opening and Closing by pneumatic cylinders
- Opening angel is 88°
- Pressure port can be made at the side or back rear
- The pressure setting of the built-in manometer is 6bar

WA-P-30XX-AUTO-E

Pneumatic exchangeable Fixture with automatic function

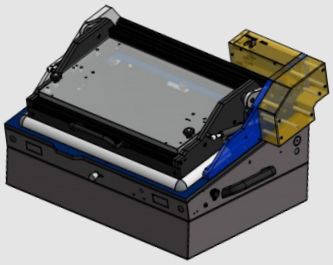


Drive Unit: electromechanical

Features: Incl. internal 192-pin VG-bar interface
Max. Product area 350 x 230 mm

Part Number: WA-P-3000-AUTO-E

Pneumatic exchangeable Fixture (I-Mode) with automatic function



Drive Unit: electromechanical

Features: Incl. support for internal spring interface system (max. 9 Pylon-blocks)
Max. Product area 330 x 180 mm

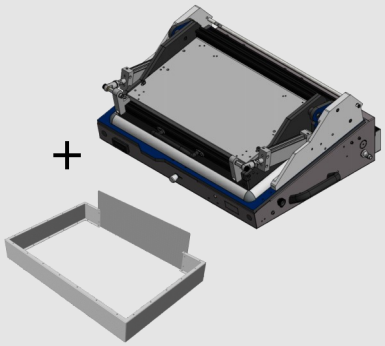
WA-P-30XX-AUTO-P

Pneumatic exchangeable fixture with automatic function

Drive Unit: pneumatic

Features: Incl. internal 192-pin VG-bar interface
Inkc. 90 mm raise of case
Max. product area 350 x 230 mm

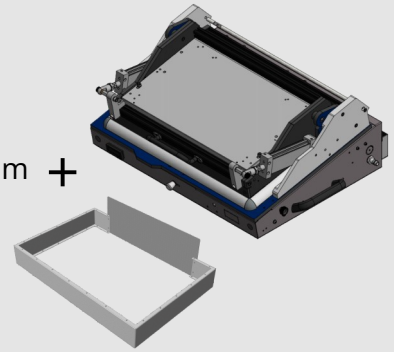
Part Number: WA-P-3000-AUTO-P



Pneumatic exchangeable fixture (I-Mode) with automatic function

Drive Unit: pneumatic

Features: Incl. Mounting for interal contact pin interface system (max. 9 Pylon-Blocks)
Incl. 90 mm raise of case
Max. product area 330 x 180 mm

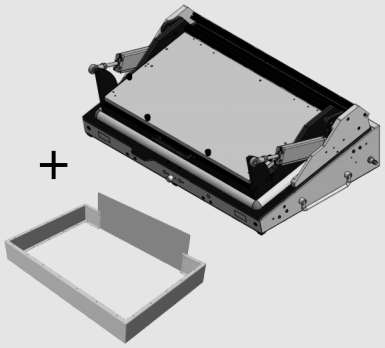


Pneumatic exchangeable fixture with automatic function

Drive unit: pneumatic

Features Incl. internal 192-pin VG bar interface
Max. product area 520 x 295 mm
Incl. 90 mm raise of case

Part Number: WA-P-3010-AUTO-P

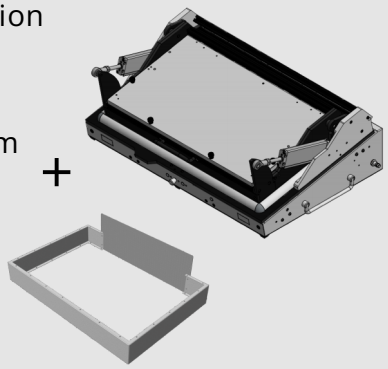


Pneumatic exchangeable fixture (I-Mode) with automatic function

Drive Unit: pneumatic

Features: Incl. Mounting for interal contact pin interfacesystem (max. 9 Pylon-Blocks)
Incl. 90 mm raise of case
Max. product area 520 x 295 mm

Part Number: WA-P-3010-AUTO-P

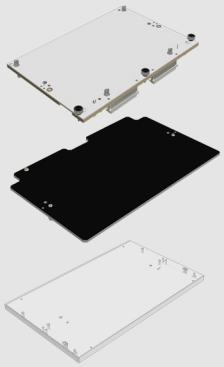


WA-P-30XX-AUTO— Interchangeable Kits

Interchangeable Kits for WA-P-3000-AUTO

Consisting of: WA-KTP-400
WA-PAP-400
WA-AP-400

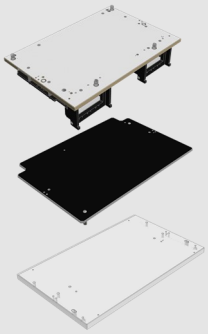
Part Number: WA-WK-400



Interchangeable Kits for WA-P-3000-I-AUTO

Consisting of: WA-KTP-400-I
WA-PAP-400-I
WA-AP-400

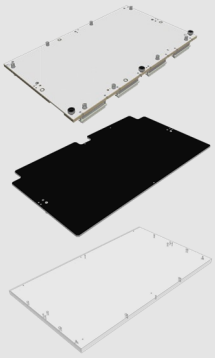
Part Number: WA-WK-400-I



Interchangeable Kits for WA-P-3010-AUTO

Consisting of: WA-KTP-410
WA-PAP-410
WA-AP-410

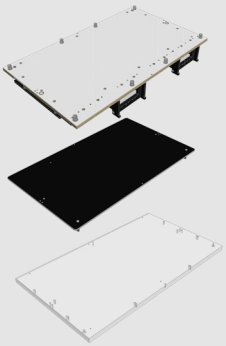
Part Number: WA-WK-410



Interchangeable Kits for WA-P-3010-AUTO-I

Consisting of: WA-KTP-410-I
WA-PAP-410-I
WA-AP-410

Part Number: WA-WK-410-I

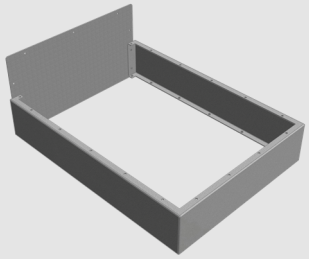


WA-P-30XX-AUTO - Raise of case

Raise of case 90mm

for MFG-350-Desk-Case; all-alluminum
light grey

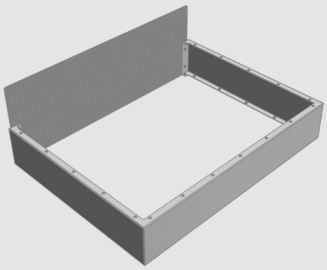
Part Number: MFG-350-GEHÄUSEERHÖHUNG-90



Raise of case 90mm

For MFG-530-Desk-Case; all-alluminum
light grey

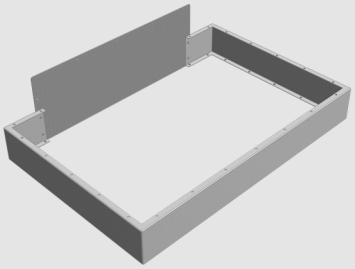
Part Number: MFG-530-GEHÄUSEERHÖHUNG-90



Raise of case 90mm

for MFG-750-Desk-Case; all-alluminum
light grey

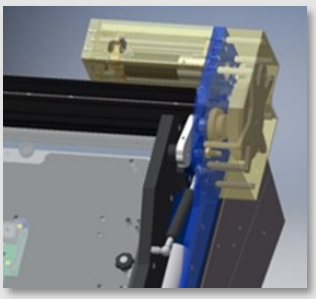
Part Number: MFG-700-GEHÄUSEERHÖHUNG-90



KIT - ELECTRO-/MECHANICAL OPEN/CLOSE-FUNCTION

Drive Unit and Control Module

Mechanical Kit for WA-P-3000 and WA-P-3010



Conduces a subsequent automation of an existing WA-P-3000 or WA-P-3010. This Kit contains all mechanical components.

Components: E-Motor + Drive Unit
+ robust mechanical components
To be installed by customer.

Part Number: AUTO-E-1

Electromechanical Kit for WA-P-3000 and WA-P-3010

Conduces a subsequent automation of an existing WA-P-3000 or WA-P-3010.

Components: E-Motor + Drive Unit
+ robust mechanical components
+ all electronical components
+ Software
To be installed by customer.

Part Number: AUTO-E-2

Electromechanical Modification for WA-P-3000 and WA-P-3010

Conduces a subsequent automation of an existing WA-P-3000 or WA-P-3010.

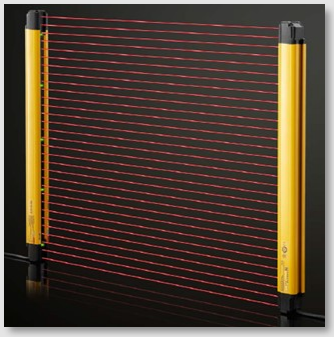
Components: E-Motor + Drive Unit
+ robust mechanical components
+ all electronical components
+ Software

The modification for automation incl. Final Test has to be car ried our by GPS.

Part Number: AUTO-E-3

SAFETY SYSTEMS

Safety Light Barrier Courtain

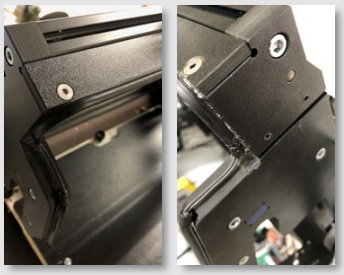


Applications: All automatic fixtures from GPS Prüftechnik

Features: Light Barrier Courtain with 700mm Height
Fixture housing required
Conduces interrupting open/close operation
Conditional fitness with COBOT application

Part Number: SAFE-1

Safety Contact Strip



Applications: All automatic fixtures with E-Version from GPS Prüftechnik

Features: Circumferential safety contact strip in fixture cover
Fixture housing recommended
Conduces interrupting open/close operation
Fits COBOT application

Part Number SAFE-2

Safety Laser Scanner

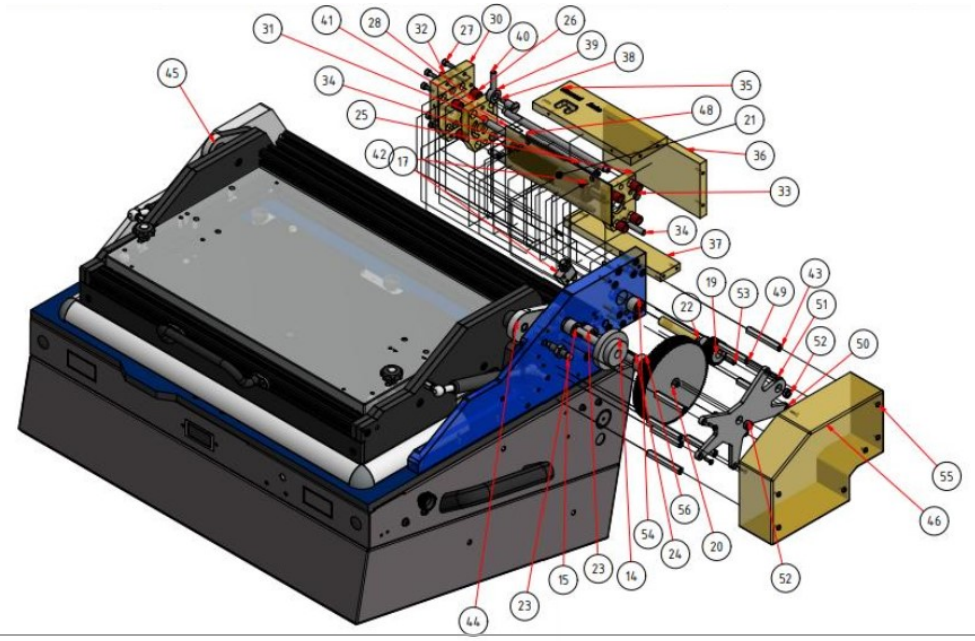
Applications: All automatic fixtures from GPS Prüftechnik

Features: Laser scanner with two safety areas on individual setting options
Fixture housing not required
Conduces interrupting open/close operation
High Fitness with COBOT application

Part Number SAFE-3

ATTACHMENT TO WA-P-30XX-AUTO-E

EQUIPMENT CONFIGURATION AND PARTS LIST



COMPONENTS			
OBJECT	NUMBER	OBJECT NUMBER	DESCRIPTION
14	1	SN 1045	gear
15	2	Datasensor IS-08-H1-03	data sensor
17	1	Sensorhalter IS-08-H1-03	sensor
19	1	22400-0110150025	radial gear
20	1	22400-0210150100	radial gear
21	1	Faulhaber_1848538	electric motor
22	1	Antriebsachse Motor	drive shaft
23	1	Achse_Knochen	axis_bone
24	1	Achse_Untersetzung	axis_gear-down
25	1	Träger Motor	support motor
26	8	Glacier-0808DU	socket
27	20	AS 1420-1973-M4x20	socket head screw, metric
28	1	Lagerbock Motor	bearing support motor
29	1	DIN 625 SKF-SKF 623-2RS1	grooved ball bearing, single-row, sealed on both sides
30	1	Trägerplatte Motorgehäuse	mounting plate crankcase
31	4	Führungsstangen Motor	guiding rod motor
32	4	AS 1420 - 1973 - M4x14	socket head screw, metric
33	2	Elobau_MAG_Plast_8x3mm	magnet
34	3	Elobau-12623005	reed contact
35	1	Motorabdeckung oben	top motor cover
36	1	Motorabdeckung hinten	rear motor cover
37	1	Motorabdeckung unten	bottom motor cover
38	1	Passschraube_D8_x12_M5	fitting screw
39	1	Stellring_8_DIN703_FormA	fixing collar
40	1	Stellstift	fixing pin
41	1	Motorabdeckung vorn	front motor cover
42	3	AS 1427 - M3x8	all threaded screw metric
43	5	Ettinger-05.04.505	bolt
44	1	WA-P-30XX-Knochen-Stahl-Rechts	bone, steel, right
45	1	WA-P-30XX-Knochen-Stahl-Links	bone, steel, left
46	1	WA-P-30XX-Schutzhaube-Getriebe	drive for protecive cover
48	2	Verbindungsstange	connection rod
49	5	Ettinger-05.04.440	bolt
50	1	Achsstrebe	axle strut
51	5	DIN 7991 - M3x10	countersunk socket screw
52	2	MR105ZZ_Kugellager	ball bearing
53	2	ISO8734 - 5 x 14 - A	dowel pin
54	3	NK10_12	needle bearing
55	6	JIS B 1174 - M3 x 6	hexagon fillister head screw
56	1	SN 1018	gear
57	1	Verschlussknopf_V2,2	locking knob

WORKFLOW

1. Main switch to "ON"
   - 1.1 Electronics self-test
   - 1.2 Feedback from motor sensor = motor in active position
   - 1.3 Feedback from housing cover for gearbox (closed). If no feedback is given operation to be continued "manually" only
   - 1.4 If the electronic switch is set to "without SCL = safety", there is no feedback for the safelty system. (OUT 3) The fixture opens automatically
   - 1.5 If the electronic switch is on "with SCL", there is feedback from the safety system, whether this is OK or NOK (internal)
   - 1.6 If the security system IO. = Activation and opening of the fixture up to the end position
   - 1.7 After reaching this point, the safety system is deactivated
   - 1.8 Check whether there is still an "old circuit board" inside - feedback on Test system = NOK, now it is necessary to remove the old circuit board and to implement a new one

2. Plug in the test board
   - 2.1 After recognition of the test board = OUT 1

3 **Start by hand (button) or via test system**
   - 3.1 Activation of the safety system
   - 3.2 Motor is activated
   - 3.3 The fixture closes to the end point (sensor)
   - 3.4 Deactivating the safety system
   - 3.5 Motor switches off
   - 3.6 Activation of the internal pneumatics, the fixture moves to the test position (sensor)
   - 3.7 Sending OUT 2 to the test system

4 Test OK (positive test completion)
   - 4.1 After the test - message from the test system - test IO (IN 2)
   - 4.2 Internal pneumatics open
   - 4.3 Activation of the safety system
   - 4.4 Motor is activated
   - 4.5 The fixture opens to the end point (sensor)

5. Test NOK (negative test result)
   - 5.1 After the test - message from the test system: Test NOK (IN 3)
   - 5.2 The fixture moves out of the test position
   - 5.3 Separate start impulse by hand or by the test system
   - 5.4 Activation of the security system
   - 5.5 Motor is activated
   - 5.6 The fixture opens to the end point (sensor)
   - 5.7 Deactivating the security system

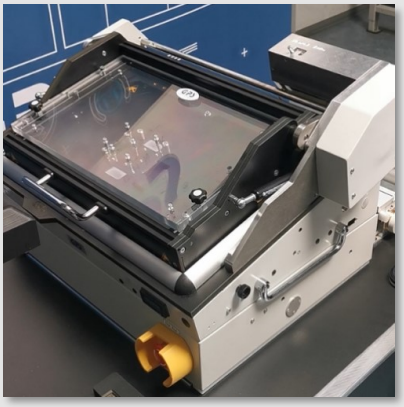
6. Ready for the next test

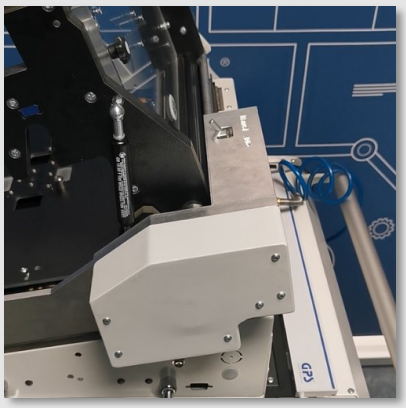
7. End of test
   - 7.1 The device is in the open position
   - 7.2 Main switch to "Off"
   - 7.3 Set the lever to manual to disconnect the motor from the gearbox
   - 7.4 Close the fixture by hand
   - 7.5 Set the lever back to automatic to reconnect the motor to the gearbox

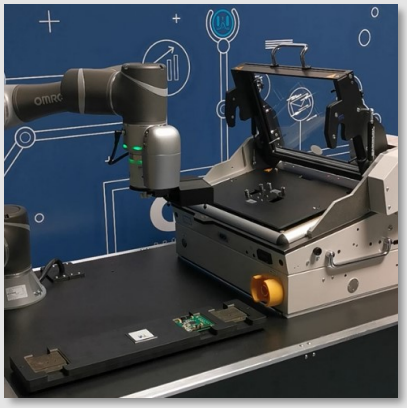
8. Emergency stop
   - 8.1 The power is off after an emergency stop
   - 8.2 Main switch on "Off"

FUNCTIONAL DESCRIPTION

The WA-P-Auto-E with an opening angle of 82 ° describes the function of the automatic opening and closing of a pneumatic fixture from the WA-P-3000 series. This automation function is implemented by an electric motor and a gearbox as well as an associated control with sensors. This automation function can be used for all test fixtures of the WA-P-30XX series from GPS Prüftechnik. With this variant, the test adapter can be switched over manually in the manual as well as automatic operation. This offers a high level of safety, especially when setting up a test process. A universal robot interface is available for this version. Based on I / O interfaces, this can be used for all types of robots.







COMPONENTS

The basis of the WA-P-Auto-E is a pneumatic interchangeable fixture of the WA-P-30XX series with a parallel closing pressure mechanism. Consisting of the basic device, moving plate, support plate and probe plate, This fixture forms the basis.

Components WA-P-30XX-Auto-E

- Basic Device (WA-P-30xx)
- Raise of Case
- Preparation for Pylon Inferface
- Emergency Stopp
- Contactless Sensor für Board-Recognition
- Hand switch for Automatik / Manuell
- Protection Cover for gear system
- Push button with green LED for „Start“
- Main switch On/Off
- Elektronic geat motor

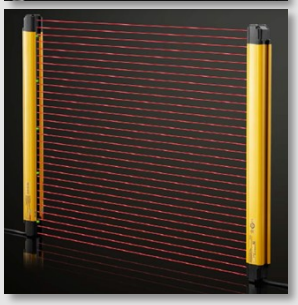
SAFETY SYSTEM

The following three options for built-in safety systems exist. Here also forms a fixture of the WA-P-30XX series the basis. The safety systems offer additional protection against injuries. They are activated when the fixture is opened or closed.

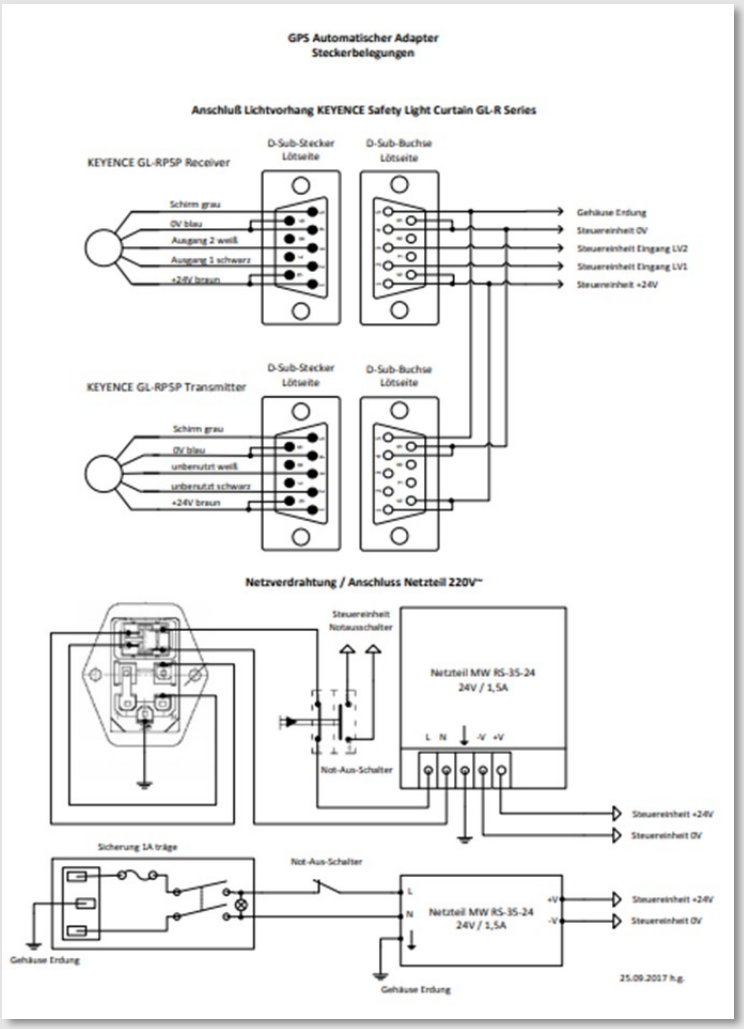
Safety light barrier curtain

This safety system is suitable for all automatic fixtures from GPS Prüftechnik. With a suitable housing for the fixture, the 700mm high light barrier curtain provides additional protection. Any cracks in the test area will immediately interrupt the opening / closing process, preventing possible injury.

All implementations including the final test are carried out by GPS Prüftechnik.



Connection Diagram



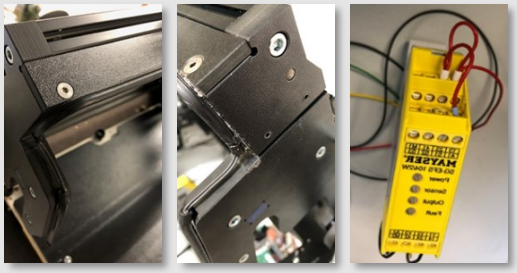
Safety contact strip

This safety system is suitable for all automatic fixtures of the E-version from GPS Prüftechnik. The strip consists of two parts - contact bar and evaluation unit.

The contact strip is specially designed, adapted and connected to the lower edge of the housing for the respective fixture.

The evaluation unit is integrated into the safety concept of the control. As soon as a resistance (e.g. a hand) reaches the safety contact strip during the closing process, the fixture stops and moves back to the "open" position.

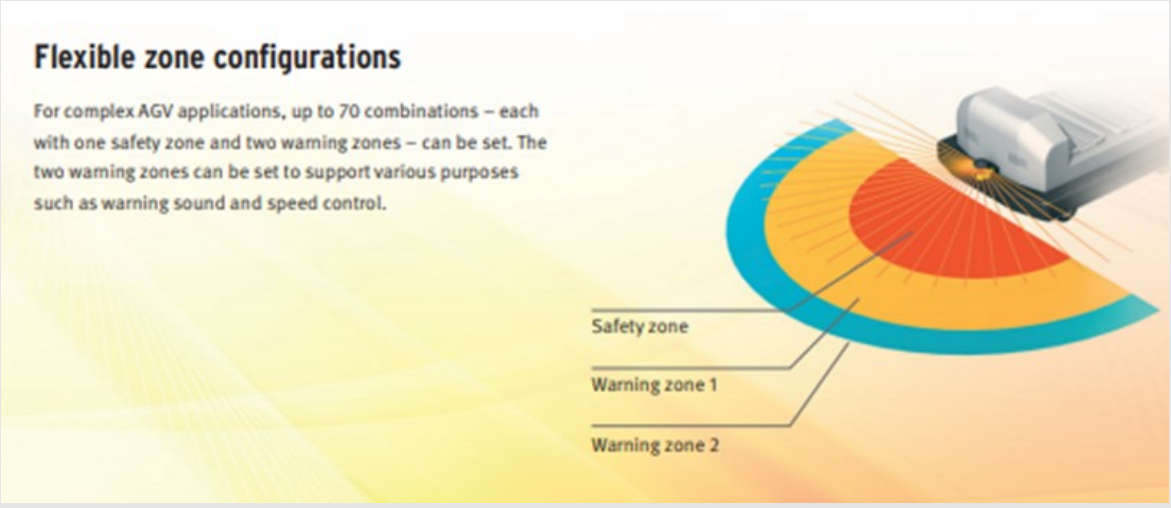
This safety system is particularly suitable for cobot applications. All implementations including the final tests are carried out by GPS Prüftechnik.



Safety laser scanner

This safety system is suitable for all automatic fixtures from GPS Prüftechnik. The laser scanner offers two safety areas with individual setting options. The system does not require any additional housing for the respective fixture.

This technology is particularly suitable for use with collaborative robots. The installation is simple and does not present any obstacles. All implementations including the final test are car-



CONTROLL SYSTEM

The control system is an in-house development by GPS Prüftechnik.

It essentially consists of three components:

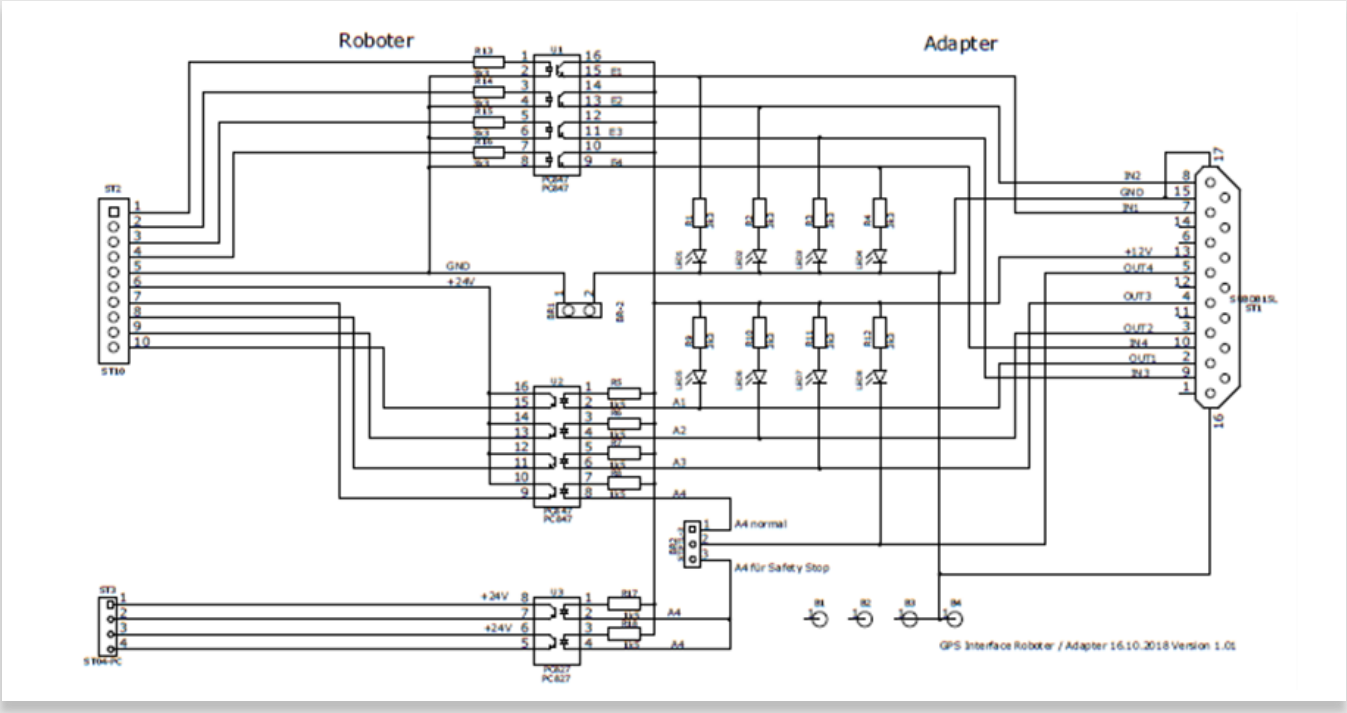
- Power supply unit
- control device (Arduino)
- Interface board

The following software versions can be offered:

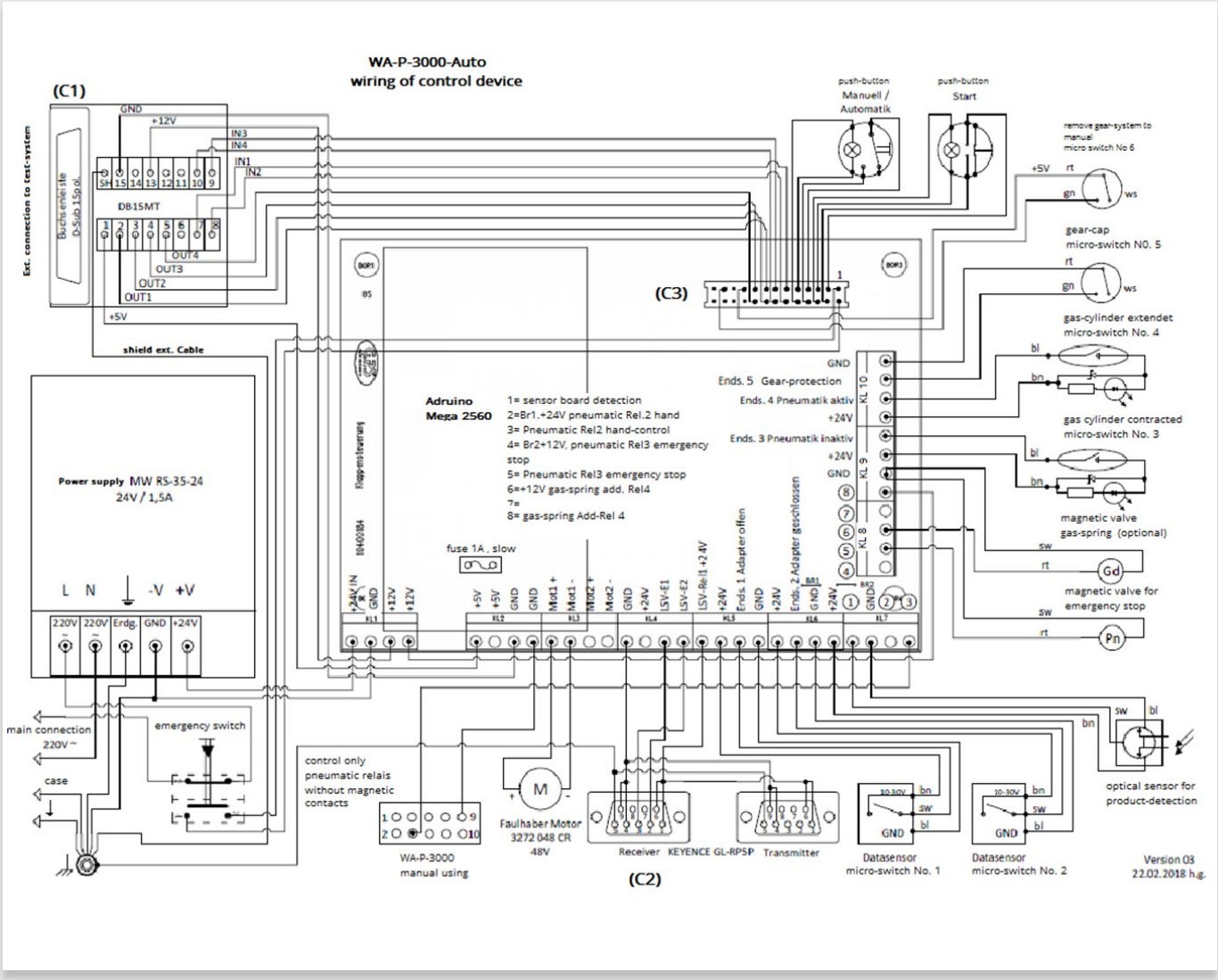
- Software 1 including integration of the safety contact strip (standard)
- Software 2 including integration of the light barrier curtain
- Software 3 including integration of the laser scanner
- Software 4 including robot connection

INTERFACE FOR ROBOT CONNECTION

GPS provides the ready-made interface every standard robot can communicate with. Based on I / O interfaces, this can be used for all types of robots. It offers four inputs and four outputs that are designed as I / O.



CONNECTION DIAGRAM



EXTERNAL CONNECTIONS

External Connection to Test-System (D-SUB -15pin)

The OC output (open collector) can use up to 100mA. The maximum voltage is +24 V. When using a TTL output, a resistance of 1 KOhm to +5 V must be assumed. Incoming signals can be used again directly +5 V with a button. The maximum input power is +12 V, the input impedance 4.7 KOhm. For powers above +12 V, an additional resistor must be connected in series.

PIN	INDICATION	DESCRIPTION
1	+5V	max. power 100 mA
2	OUT 1	OC-output = identification test piece = low level
3	OUT 2	OC-output = fixture closed = low level
4	OUT 3	OC-output = automatic on = low level
5	OUT 4	OC-output = motor off = low level
6		free
7	IN 1	transistor stage = start - fixture close = high impuls
8	IN 2	transistor stage = start - return signal "Test OK." = high
9	IN 3	transistor stage = start - return signal "Test NOK." = high
10	IN 4	
11		free
12		free
13	+12V	max. power 250 mA
14		free
15	GND	zero voltage related to +5V and +12V
16	SH	shield ext. cable

If no light barrier system is used, wiring on the D-SUB - 9 pins

(LCS from Keyence). To do this, connect pin 2 + 3 with pin 1 (+24 V)

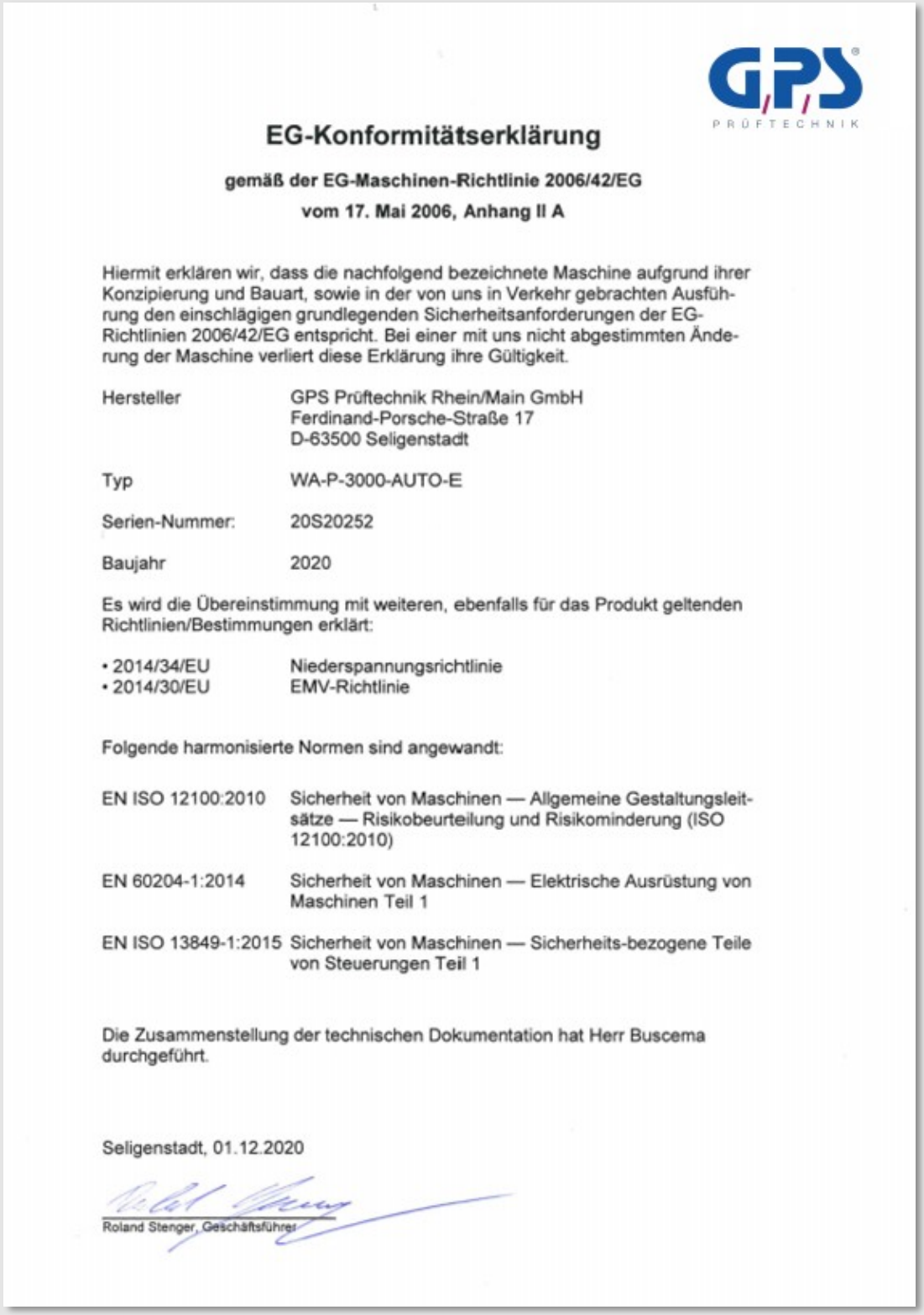
Shutdown of the transmission

If there is no sensor to detect the gear disconnection, pin 19 must be connected to pin 23, otherwise the motor would not work.

The magnetic valve works with +12 V. If only one switching contact is required, the +12 V connection on KL9.1 pin can be removed. KL9.1 Pin and KL8.3 Pin can be used as switching contacts for other things.

EC DECLARATION OF CONFORMITY

With this document, GPS Prüftechnik declares that the product WA-P-3000-Auto-E complies with the guidelines for CE conformity and may bear the CE mark. This declaration is only valid for the original basic device. If changes or installations are made, the certificate is not valid.



EG-Konformitätserklärung

gemäß der EG-Maschinen-Richtlinie 2006/42/EG

vom 17. Mai 2006, Anhang II A

Hiermit erklären wir, dass die nachfolgend bezeichnete Maschine aufgrund ihrer Konzipierung und Bauart, sowie in der von uns in Verkehr gebrachten Ausführung den einschlägigen grundlegenden Sicherheitsanforderungen der EG-Richtlinien 2006/42/EG entspricht. Bei einer mit uns nicht abgestimmten Änderung der Maschine verliert diese Erklärung ihre Gültigkeit.

Hersteller	GPS Prüftechnik Rhein/Main GmbH Ferdinand-Porsche-Straße 17 D-63500 Seligenstadt
Typ	WA-P-3000-AUTO-E
Serien-Nummer:	20S20252
Baujahr	2020

Es wird die Übereinstimmung mit weiteren, ebenfalls für das Produkt geltenden Richtlinien/Bestimmungen erklärt:

• 2014/34/EU	Niederspannungsrichtlinie
• 2014/30/EU	EMV-Richtlinie

Folgende harmonisierte Normen sind angewandt:

EN ISO 12100:2010	Sicherheit von Maschinen — Allgemeine Gestaltungsleitsätze — Risikobeurteilung und Risikominderung (ISO 12100:2010)
EN 60204-1:2014	Sicherheit von Maschinen — Elektrische Ausrüstung von Maschinen Teil 1
EN ISO 13849-1:2015	Sicherheit von Maschinen — Sicherheits-bezogene Teile von Steuerungen Teil 1

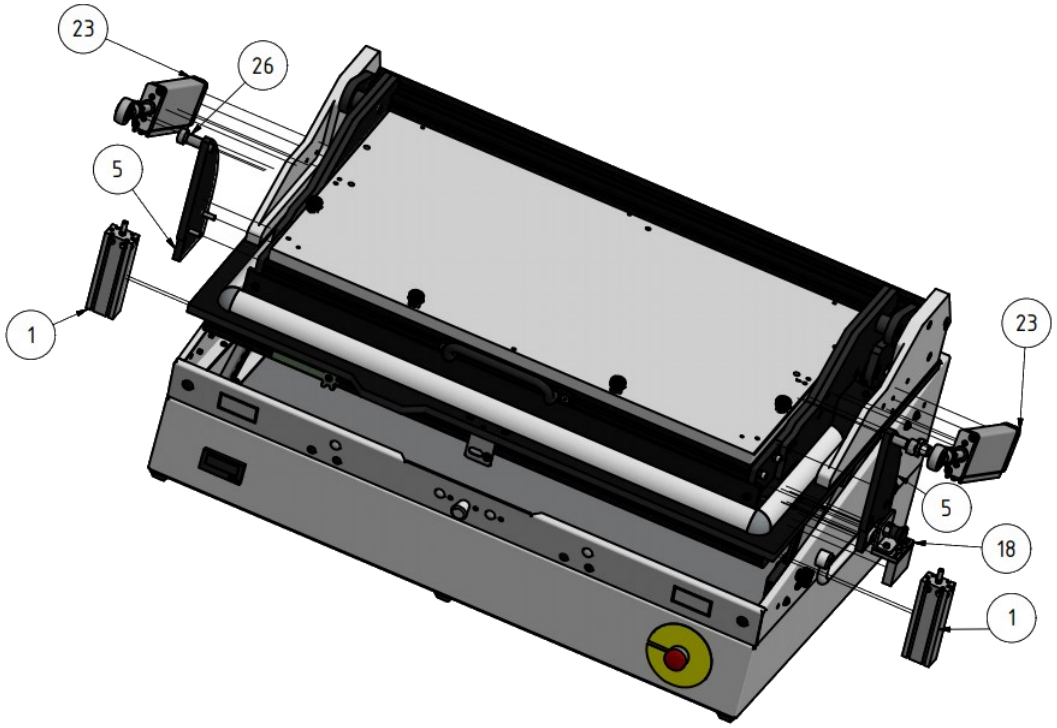
Die Zusammenstellung der technischen Dokumentation hat Herr Buscema durchgeführt.

Seligenstadt, 01.12.2020

Roland Stenger, Geschäftsführer

ATTACHMENT TO WA-P-30xx-AUTO-P

EQUIPMENT CONFIGURATION AND PARTS LIST



COMPONENTS			
OBJECT	NUMBER	OBJECT NUMBER	DESCRIPTION
1	2	CDU16-60D	thrust support
5	1	Verlängerung_Bewegungsplatte	extension plate
18	1	Verriegelung	locking mechanism
23	2	DZF-25-125A-PA	open & close pneumatic cylinder
26	2	ANSI B18.3.3M - M8x1.25 x 33.25	fitting screw cylindric

WORKFLOW

With this version the control and monitoring of the opening and closing process is carried out by the test system. GPS Prüftechnik supplies the air cylinders, control valves and the sensors. The pressure to the test position is carried out via standard air cylinders including the standard control from the WA-P-3000 series. As soon as the device is connected to compressed air and a 24 V power supply, the process can begin.

Basic position	The fixture is closed and no test object is inserted.
Open fixture	Activating Valve 4 The lid is pushed open by approx. 4cm Shortly upon controlling this valve, Valve 5 is activated The lid opens up to an angle of 88° Upon reaching end position „open“, sensor S5) reports this to To the test system.

Check, if test object is inserted

For this purpose, a non-contact sensor can (optionally) be installed below the test item. This sensor reports to the test system whether a test item is positioned.

Close the fixture to the test position

The control of valve 5 is removed, the valve goes into the basic position and the cylinders are actuated, the cover closes. When the "closed" end position is reached, two reed contacts (S1 and S2) are switched - this contact initiates the final closing process up to the test position. This process is carried out by the supplied control board, valve 3 and the lock cylinders installed on the inside. At the same time, the valve 2 is actuated in order to avoid counter pressure from the opening cylinders. When the test position is reached, a sensor (S3) transmits this information to the test system.

Open the fixture to the "open" end position

The test system sends a contact to the control board: The test process is complete. The control board controls valve 3 and the product support plate assumes the "normal position". When this position is reached, it is transmitted from the sensor (S4) to the test system. Valves 2, 3 and 4 are activated one after the other and the lid opens up to an angle of 88 °.

FUNCTIONAL DESCRIPTION

The WA-P-30XX-Auto-P is a pneumatic fixture from the WA-P-30XX series. This is equipped with automatic opening and closing via pneumatic cylinders. The technical data correspond to the adapter model WA-P-30XX. There are also four other pneumatic cylinders built-in. Two of these four cylinders are used to "push" the upper part. The other two cylinders are responsible for o-pening and closing. The opening angle is approx. 88 °.

Thrustcylinders

Cylinders for open and close process

COMPESSED AIR SUPPLY - VALVE FUNCTION

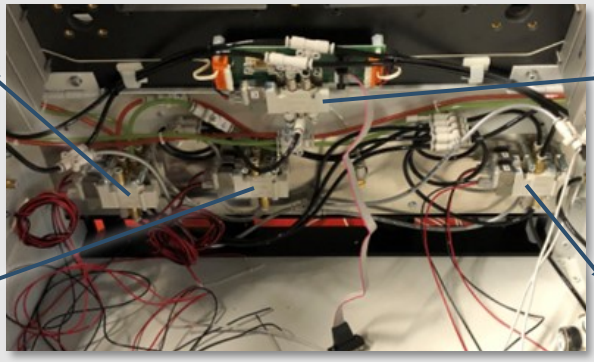
A compressed air connection can be attached at the side or at the rear. A pressure of 6 bar is set via the built-in manometer.

Valve 1 main valve, the emergency stop is also connected here.
All valves are supplied via this valve

Valve 2 control valve, is used to regulate the exhaust air during the test process

Valve 3 Control valve with electronics to control the standard cylinder to control

Ventil 2, 4 und 5



Ventil 3

Ventil 6 und 7

Ventil 1

SENSORS

Two sensors on each standard cylinder detect the positions “test position” or “non-test position”. Two additional sensors on each O / S cylinder detect the "open" or "closed" positions and an optional sensor on each push cylinder detects whether the cylinder is in the extended position.

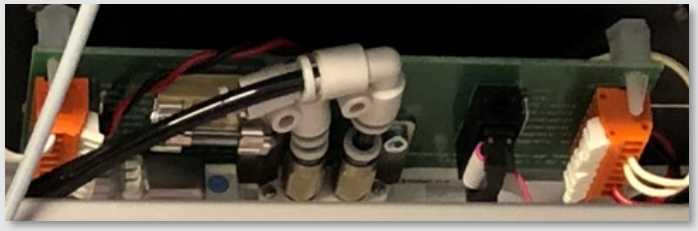
THROTTLING

It is possible to set the following speeds using various throttles:

- impact speed
- opening speed
- closing speed

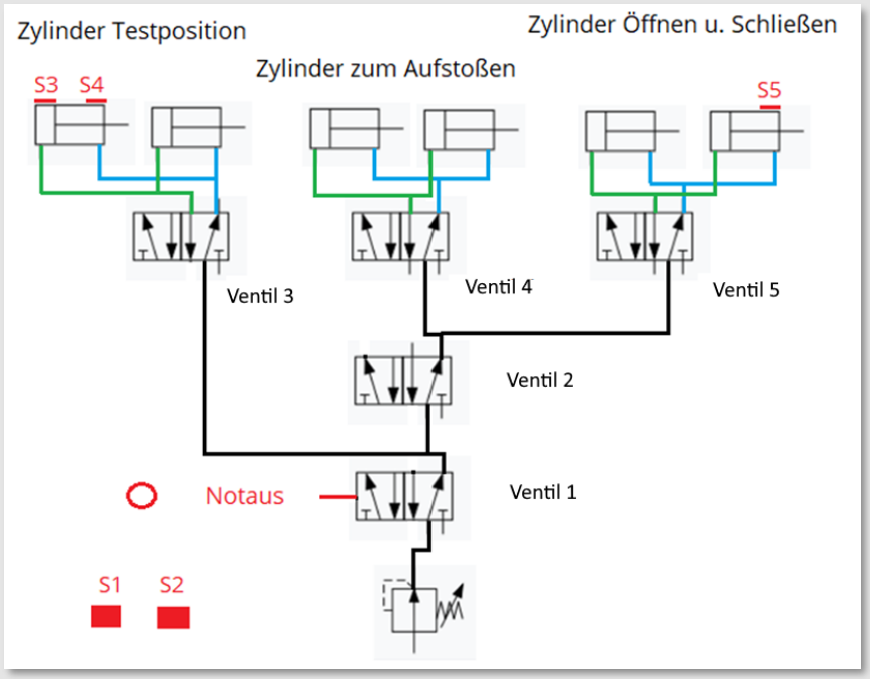
CONTROL SYSTEM

There is only a standard control with the associated sensors for the standard cylinders. So when the upper part touches down on the lower part, this is detected by a sensor. At this moment the valve 3 is activated and the fixture is brought into the test position.



After the signal from the test system about
the end of the test, the standard control will
activate valve 3 and the fixture will be brought into the "non-test position".

PNEUMATIC DIAGRAM
for automatic Open/Close




Pressure control Valve


Pressure control Valve


Cylinder (double output)

Products and functions

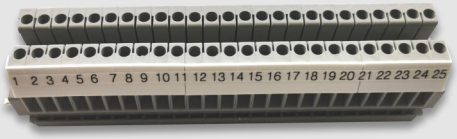
A sensor (S1 / S2) is built into the respective Valve 1 is responsible for a safety stop. Two sensors are integrated in the cylinder for the test position, one sensor (S3) recognizing the open position and one sensor (S4) recognizing the closed position. No sensors are integrated in the pressure cylinders. The cylinders for opening and closing contain a sensor (S5) for the "open"

Workflow

1. 0 position - bracket is open
2. Inserting the circuit board
3. Input - start signal (coming from test system TS) - V1 + V2 + V5 = open - cylinder closes the holder
4. Device is closed, S1 and S2 send a signal to the GPS board
5. GPS board activates V3 - cylinder move to "test position"
6. Sensor S3 inside the cylinder when the cylinder is in "test position"
7. Input from TS - V2 closes (air out)
8. Test process
9. Input from TS - end of test - signal to GPS board
10. GPS board activates V3 - cylinder goes into "non-test position"
11. Sensor S4 inside the cylinder when the cylinder is in "non-test position"
12. Input from TS to open the device - valve 2 + valve 4 + valve 5 = open
13. Device open - S5 sends signal to TS
14. Input from TS for valve 4 - back in "closed position"

TERMINAL DIAGRAM

Slot	Assignment	Comment
1	Power supply + 24V Board	
2	Power supply - 24V Board	
3	Valve 1 red	
4	Valve 1 black	
5	Valve 2 red	
6	Valve 2 black	
7	Valve 4 red	
8	Valve 4 black	
9	Valve 5 red	
10	Valve 5 black	
11	Testposition +	from circuit board
12	Testposition -	from circuit board
13	Sensor 5 O/C-Cylinder right open +	
14	Sensor 5 O/C-Cylinder right open -	
15	Sensor 6 O/C-Cylinder right closed	
16	Sensor 6 O/C-Cylinder right closed -	
17	Sensor 7 Thrust-Cyl. Left open +	optional
18	Sensor 7 Thrust-Cyl. Left open -	optional
19	Sensor 8 Thrust-Cyl. Right open +	optional
20	Sensor 8 Thrust-Cyl. Right open -	optional
21	free	
22	free	
23	free	
24	free	
25	free	



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