

Gripper - Rotary Actuator Type RMPG 0612...1020

Assembly and operating manual



Translation of the original manual

Dear Customer,

Congratulations on choosing a SCHUNK product. By choosing SCHUNK, you have opted for the highest precision, premium quality and optimum service.

You are going to increase the process reliability of your production and achieve best machining results – to the customer's complete satisfaction.

SCHUNK products are inspiring.

Our detailed assembly and operation manual will support you.

Do you have further questions? You may contact us at any time - even after purchase. You can reach us directly at the addresses provided in the last chapter of this manual.

Best regards,

SCHUNK GmbH & Co. KG
Spann- und Greiftechnik
Bahnhofstr. 106 – 134
D-74348 Lauffen/Neckar, Germany

Tel. +49-7133-103-2503
Fax +49-7133-103-2189
automation@de.schunk.com
www.de.schunk.com



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1 About this manual

1.1 Purpose/validity

This manual forms part of the module and describes the safe and proper use during all phases of operation.

This manual is valid only for the module specified on the front page.

1.2 Target groups

Target group	Task
Manufacturer, operator	<ul style="list-style-type: none">➔ Keep this manual accessible for personnel at all times.➔ Require personnel to read and observe this manual and the applicable documents, especially the safety notes and warnings.
Skilled personnel, fitters	<ul style="list-style-type: none">➔ Read, observe and follow this manual and the applicable documents, especially the safety notes and warnings.

Table 1

1.3 Applicable documents

The following documents can be found on our website:

Document	Purpose
Assembly and operating manual for RM rotary module	Description of the integrated RM rotary module
Calculation program for gripper modules (SSG)	Selection of module based on the particular application. Available free of charge.
Program Combibox.	Selection and parts list for adaptation of RMPG modules to other modules of the system
Program Toolbox Rotation	Design of the integrated RM rotary module
Catalog	Technical data and application parameters of the module and information on accessories. The most recent version applies.
Assembly and operating manual for sensors	Additional information on installation, adjustment and repair of the sensors.
General terms and conditions	Includes information on the warranty, for example.

Tab. 2

1.4 Symbols in this manual

To give you quick access to information, the following symbols will be used in this guide:







Symbol	Meaning
 DANGER	Dangers for persons. Non-observance causes death or serious injuries.
 WARNING	Dangers for persons. Non-observance can cause death or serious injuries.
 CAUTION	Dangers for persons. Non-observance can cause minor injuries.
 NOTICE	Information on avoiding material damage.
✓	Prerequisite for an instruction for action.
➔	Instruction for action, including measures in a warning or note.
1. 2. 3. ...	Step-by-step instruction for action. ➔ Observe the order.
	Component/spare part represented in a graphic.
	Part shown in a graphic that must be ordered separately or provided by the customer.
(10), (/10/)	Reference in the text or in a handling instruction to a part that is represented in a graphic.

Table 3

2 Basic safety instructions

2.1 Intended use

The module was designed for reliable gripping, rotation and temporary secure holding of workpieces or other objects.

The module is intended for installation in a machine. The requirements of the applicable directives must be observed and complied with.

The module may be used only within the range of its defined application parameters.

Any other use beyond this definition is deemed improper and unintended use. The manufacturer will not be liable for any resulting damages.

2.2 Environmental and operating conditions

- ➔ The module may be used only within its defined application parameters (see Chapter 6, page 14 and catalog).
- ➔ Do not subject the module to excessive vibrations and/or mechanical shocks.
- ➔ Make sure that the module and the top jaws are a sufficient size for the application.
- ➔ Ensure that the environment is clean and the ambient temperature corresponds to the specifications in the catalog. Observe the lubrication intervals (see Chapter 10, page 27).
- ➔ Ensure that the environment is free of splashing water and vapors, and also of abrasive dust and process dust. This does not apply to modules designed especially for unclean environments.
- ➔ Strong magnetic fields can impair the function of the module. If the product is to be used in strong magnetic fields, contact your SCHUNK partner (see Chapter 14 page 39).

2.3 Product safety

The module conforms to the state of the art and the recognized technical safety regulations at the time of delivery. However, there are potential risks associated with the module, for example if:

- the module is not used for the intended purpose;
- the module is improperly installed or serviced;
- the EC Machine Directive, the VDE regulations, the applicable safety and accident prevention regulations and the safety and installation instructions are not complied with.

2.3.1 Safety devices

➔ Safety devices must be provided in accordance with the EC Machine Directive.

2.3.2 Design changes, additions or modifications

Without the permission of SCHUNK it is forbidden to make any changes, additions or modifications to the module which could affect the safe operation of the module.

In case of unauthorized modifications the manufacturer will accept no liability for the product.

2.4 Personnel qualifications

The installation, commissioning, maintenance and repair of the module may be carried out only by trained specialists.

Every person who is assigned by the owner/operator to work on the module must have read and understood the entire installation and operating manual, especially the chapter 2 "Basic safety instructions". This applies in particular to personnel who work on the module only occasionally, e.g. maintenance personnel.

2.5 Safety-conscious work procedures

- ➔ Refrain from all work procedures that impair the proper functioning and safe operation of the module.
- ➔ The applicable safety regulations and accident prevention regulations must be observed.

2.6 Information about special dangers

Danger of injury due to falling or ejected objects!

- ➔ Provide protective means to prevent the falling or ejection of objects such as machined workpieces, tools, chips, debris, waste, etc.

Danger of injury due to falling objects in case of power outage!

In the event of a power outage, modules with a mechanical gripping force safety device can continue to move automatically in the direction defined by the mechanical gripping force safety device.

- ➔ Secure the end positions of the module with SCHUNK pressure maintenance valves SDV-P.

Danger of injury due to unexpected movements of the machine/system!

- ➔ Do not move any parts by hand when the unit is connected to the power supply.
- ➔ Do not reach into the mechanical parts and the area of motion of the module.
- ➔ Remove the power supply cables prior to assembly, modification, maintenance and adjustment of the module.
- ➔ Carry out all maintenance, modifications or attachments outside of the danger zone.
- ➔ Secure module against inadvertent actuation during all work.
- ➔ The danger area must be surrounded by a safety fence during operation.

Danger of injury due to residual energy in the gripper if gripping force is maintained by springs.

- ➔ Uncontrolled motion of the individual parts of the gripper is possible during disassembly!
- ➔ Prior to decommissioning make sure that there is no residual energy in the system.

Danger of injury due to rotating parts

- ➔ The danger area must be surrounded by a safety fence during operation.
- ➔ Remove the power supply cables prior to assembly, modification, maintenance and adjustment of the module.
- ➔ Make sure that there is no residual energy in the system.

Danger of injury due to crushing and impact during motion of the gripper jaws, and due to breakage or loosening of the gripper fingers!

- ➔ Remove the power supply cables prior to assembly, modification, maintenance and adjustment of the module.
- ➔ Make sure that there is no residual energy in the system.
- ➔ Carry out all maintenance, modifications or attachments outside of the danger zone.
- ➔ Secure the unit against inadvertent actuation during all work.
- ➔ The danger area must be surrounded by a safety fence.

Danger of injury due to loose workpieces in case of damage to the end position shock absorbers

- ➔ Observe information on adjusting the end position shock absorbers in the operating manual for the rotary module RM.

3 Warranty

The warranty is valid for a period of 24 months starting with the date of delivery from the factory, under the following conditions:

- Intended use in single-shift operations
- Compliance with the specified maintenance and lubrication intervals (see Chapter 10.2, page 27)
- Compliance with the ambient conditions and operating conditions (see Chapter 2.2, page 8).

Parts that come into contact with the workpiece and wearing parts are not covered by the warranty. See also our General Terms and Conditions in this regard.

4 Scope of delivery

The scope of delivery includes:

- Gripper - Rotary Actuator RMPG in the version ordered.
- Enclosed pack (for contents, see Chapter 12, page 35)

5 Accessories

The following accessories are required for the module:

- Sensors
- ➔ Order accessories separately.
- ➔ For further accessories, see the catalog.

5.1 Sensors

- ➔ For exact designations of the matching sensors, see catalog.

Designation	Monitoring	Type
Inductive Proximity Switch	Rotary motion	IN
Magnetic Switch	Gripping motion	MMS

Tab. 4 Overview of matching sensors

6 Technical data

Further technical data can be found in our catalog. The most recent version applies.

Size	0612	0812	0816	1016	1020
Mechanical operating data					
Dead weight [kg]	0,054	0,099	0,119	0,206	0,223
Max. permissible finger length [mm]	12	12	16	16	20
Max. permissible mass per finger [kg]	0.01	0.01	0.01	0.01	0.01
Stroke per jaw [mm]	1.2	1.2	1.5	1.5	2
Closing force, standard [N]*	12	12	29	29	34
Closing force, option AS [N]*	-	-	38	38	44
Opening force, standard [N]*	10	10	26	26	29
Opening force, option IS [N]*	-	-	34	34	38
Angle of rotation [°]	0-185	0-185	0-185	0-185	0-185
Torque [Nm]*	0.05	0.11	0.22	0.38	0.38
End position adjustment [°]	stepless	stepless	stepless	stepless	stepless
Repeat accuracy for turning [°]	±0.041	±0.042	±0.042	±0.044	±0.044
Repeat accuracy for gripping [mm]	0.02	0.02	0.02	0.02	0.02
Recommended workpiece weight [kg]	0.05	0.05	0.13	0.13	0.14
Impermeability IP	40	40	40	40	40
Ambient temperature					
Min. [°C]	+5	+5	+5	+5	+5
Max. [°C]	+60	+60	+60	+60	+60
Noise emission [dB(A)]	≤ 70	≤ 70	≤ 70	≤ 70	≤ 70
Operating data for compressed air connection					
Pressure medium	Compressed air, quality according to ISO 8573-1: 6 4 4				
Minimum gripping pressure Standard [bar]	2	2	2	2	2
Maximum gripping pressure Standard [bar]	8	8	8	8	8

Size	0612	0812	0816	1016	1020
Minimum gripping pressure Option IS [bar]	4	4	4	4	4
Maximum gripping pressure Option IS [bar]	-	-	6.5	6.5	6.5
Minimum gripping pressure Option AS [bar]	-	-	4	4	4
Maximum gripping pressure Option AS [bar]	-	-	6.5	6.5	6.5
Minimum turning pressure [bar]	3	3	3	3	3
Maximum turning pressure [bar]	8	8	8	8	8
Nominal operating pressure [bar]	6	6	6	6	6
Fluid consumption for gripping, double stroke, Standard [cm ³]	0.5	0.5	0.93	0.93	1.56
Fluid consumption for gripping, double stroke, Options IS / AS [cm ³]	X	X	1.18	1.18	2.02
Fluid consumption for turning, cycle (2x185°) [cm ³]	0.66	1.4	1.4	2.9	2.9

*Tab. 5 Technical data
at nominal operating pressure

7 Description of the module

7.1 Module design

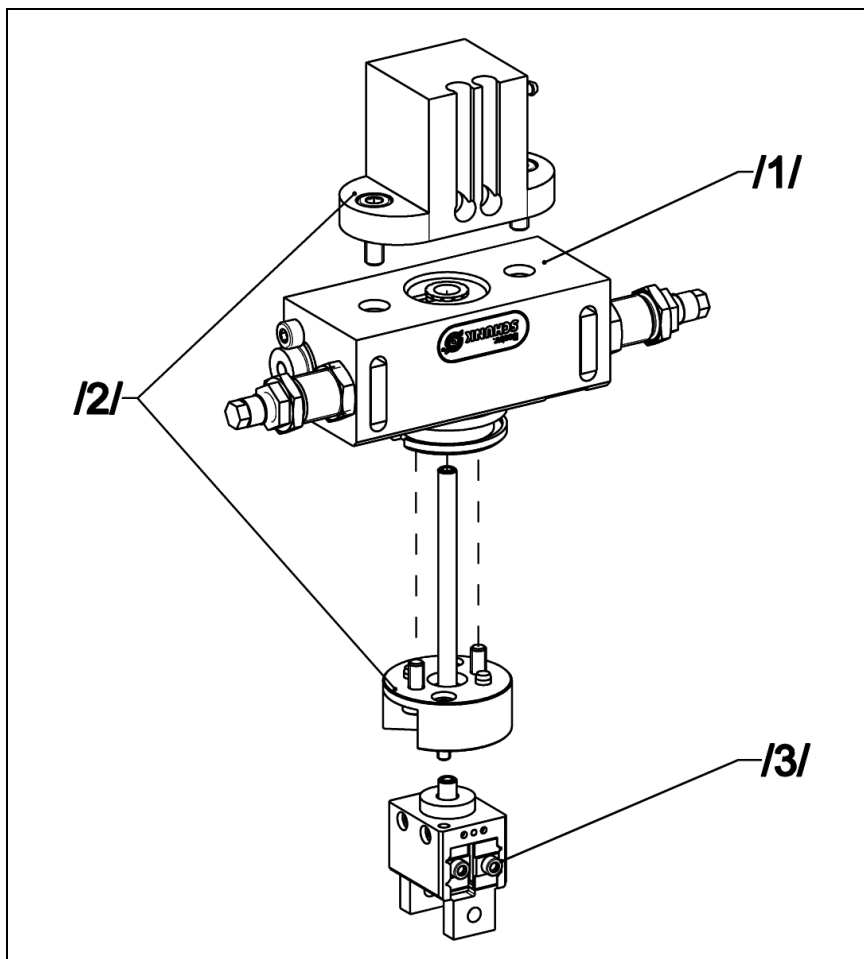


Fig. 1 Module design

RMPG modules consist of a complete RM rotary module /1/ and a gripper module consisting of a drive unit /2/ and gripper head /3/.

Therefore, the following description is based in part on the operating manual for the RM rotary module.

7.2 RMPG versions IS / AS

The rotary gripper module size 0816 and above is available optionally with gripping force maintenance in the following versions:

- **IS** (gripping force maintenance with I.D. gripping)
- **AS** (gripping force maintenance with O.D. gripping)

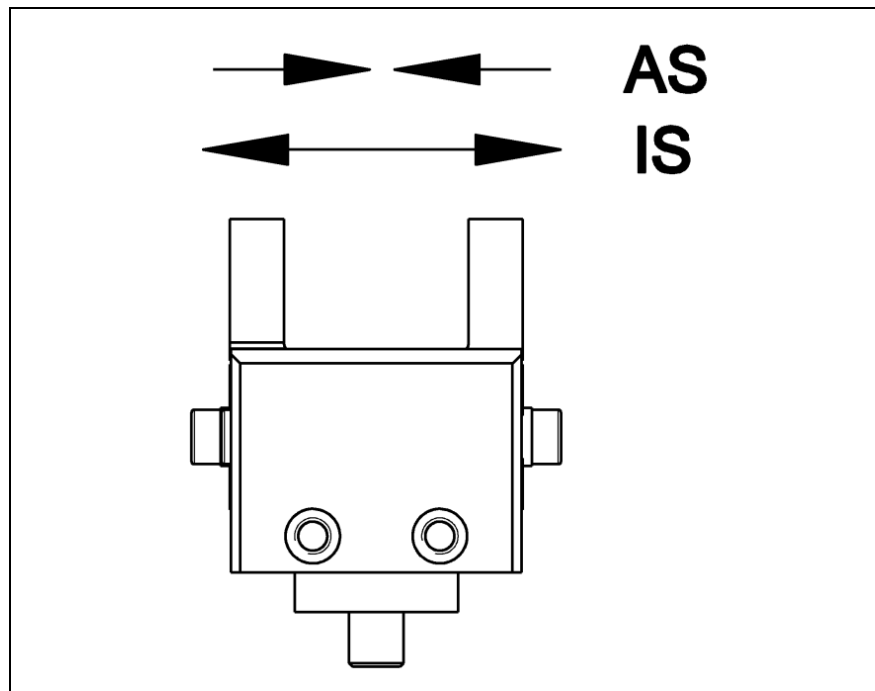


Fig. 2 Direction of gripping force maintenance

7.3 RMPG versions 0° / 90° / conversion

The gripper module is delivered in the versions RMPG ... 0° and RMPG ...-90°.

The module can also be converted from one version to the other.

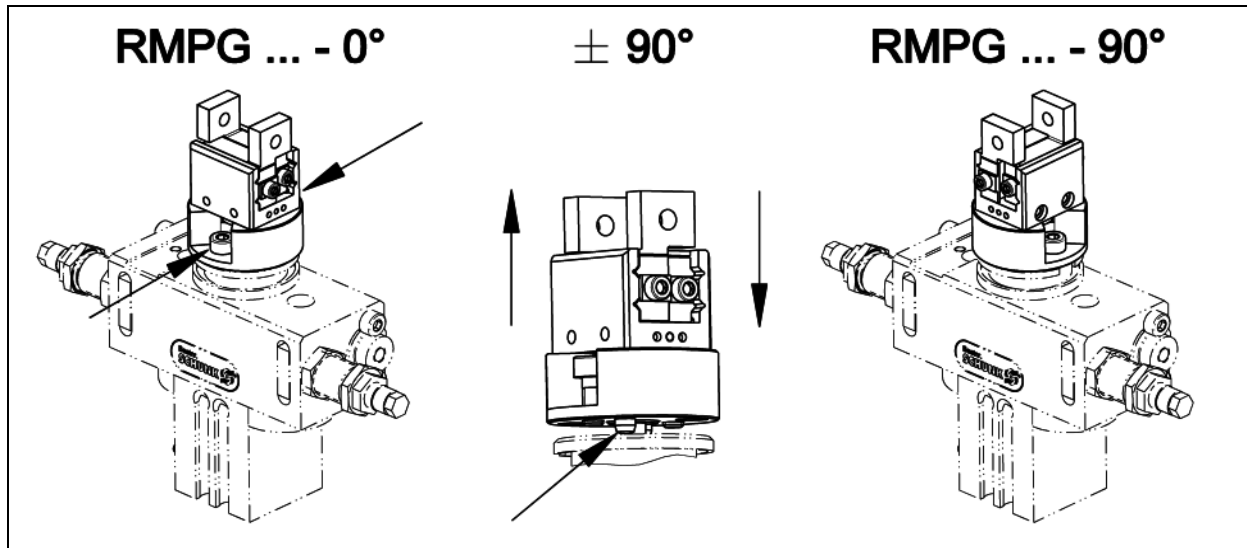


Fig. 3 Conversion of gripper head

1. Loosen mounting screws (arrows).

⚠ WARNING →VERSION AS

The parts are under spring tension.

→ Clamp the module carefully between the housing (12) and the gripper head (2). Remove the screws and slowly release the spring tension.

2. Pull the gripper head with the adapter up until the centering element (see arrow Fig. 3) no longer grips and turn the gripper head

! In version IS the parts are pulled down by spring force. If necessary, disassemble the module as described in Chapter 10.4 page 29 and release the spring tension.

3. Centre the gripper head again and tighten the mounting screws.

8 Assembly and settings

8.1 Mechanical connection

⚠ WARNING

Danger of injury due to falling module!

➔ Take care when mounting the module on the machine.

⚠ WARNING

Danger of injury due to unexpected movements of the machine/system!

➔ Switch off energy supply.

Check levelness of the bolting surface

The values refer to the entire bolting surface.

Edge length [mm]	Permissible unevenness [mm]
< 100	< 0.02
> 100	< 0.05

Tab. 6 Requirements for levelness of the bolting surface

Mounting

The connection geometry can be found on the side of the rotary module. See catalog for positioning dimensions of the connection holes.

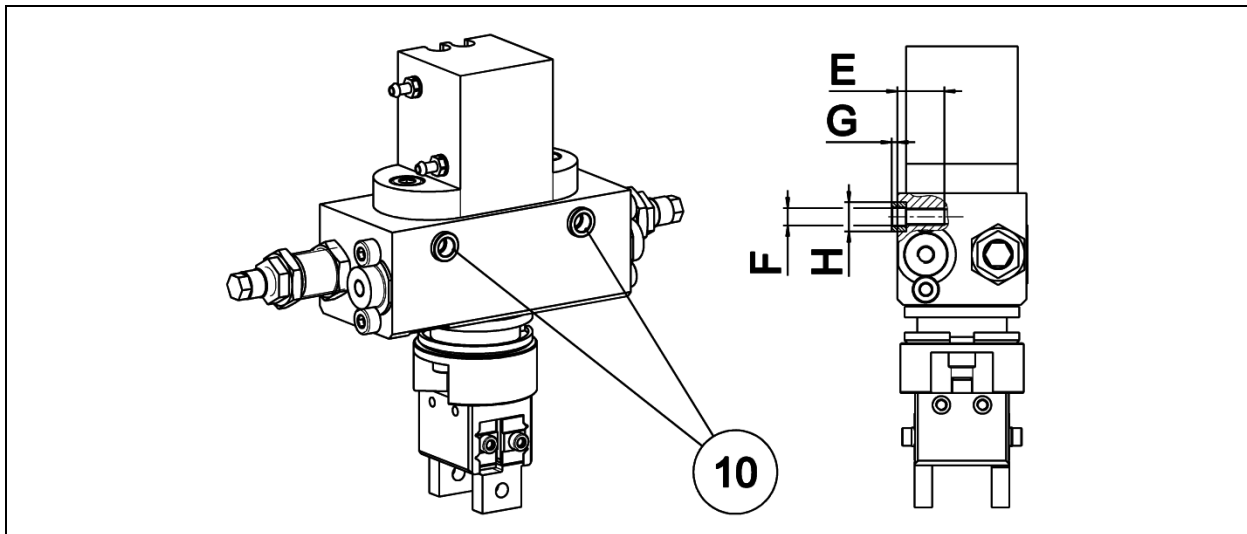


Fig. 4 Mechanical connection

No. / dimension	Designation	0612	0812	0816	1016	1020
(10)*	Centering sleeve	ZH 500 (2x)	ZH 500 (2x)	ZH 500 (2x)	ZH 500 (2x)	ZH 500 (2x)
E [mm]		6	8	8	9	9
F		M3	M3	M3	M3	M3
G [mm]		1	1	1	1	1
H [mm]		Ø5H7	Ø5H7	Ø5H7	Ø5H7	Ø5H7

Tab. 7 Mounting material / connection geometry for RMPG ...
*included in scope of delivery of module

! NOTICE

Mounting procedure

- ➔ When mounting loads, take measures to prevent impermissible forces and torques. (see catalog data)
- ➔ Select the suitable screw tightening torque for mounting the module or for mounting loads on the module in accordance with the generally applicable directives for screw connections.
- ➔ Secure all screws with a suitable chemical thread locking agent

8.2 Air connections

WARNING

Danger of injury due to loss of workpiece in case gripper jaws are moved too quickly or if the workpiece is gripped too firmly!

➔ Switch off energy supply. Make sure that there is no residual energy in the system.

WARNING

Danger of injury due to unexpected movements of the machine/system!

➔ Use air flow control valves to control the movement of the gripper jaws.

➔ During commissioning, first set a slow movement, then adjust to the desired speed under controlled conditions.

Note

- Observe the air supply requirements (see Chapter 6, page 14).

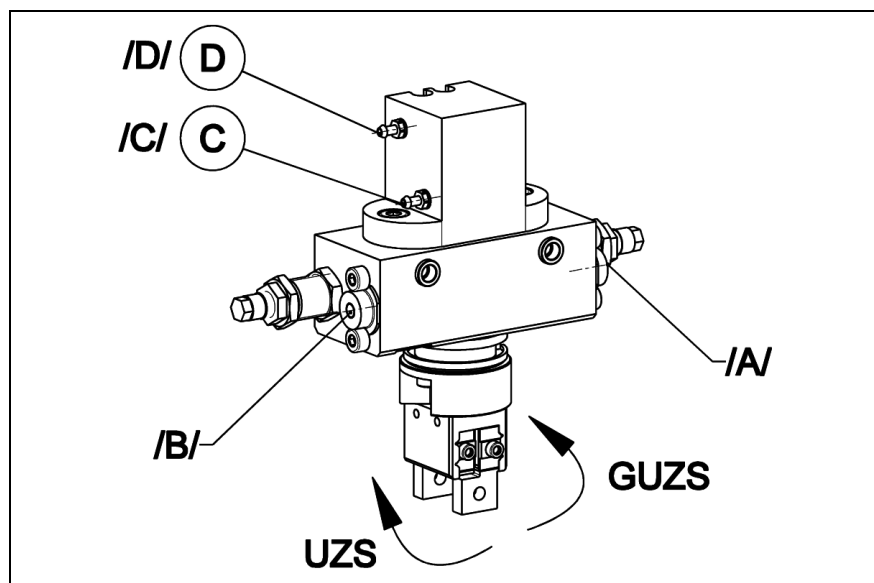


Fig. 5 Pneumatic control / air connections

No. / dimension	Description	0612	0812	0816	1016	1020
/A/*	Rotary unit for turning UZS	M3	M3	M3	M3	M3
/B/*	Rotary unit for turning GUZS	M3	M3	M3	M3	M3
(C)**	Open gripper	Sleeve for hose Di=1.6mm	Sleeve for hose Di=1.6mm	Sleeve for hose Di=1.6mm	-	-
/C/*	Open gripper	-	-	-	M3	M3
(D)**	Close gripper	Sleeve for hose Di=1.6mm	Sleeve for hose Di=1.6mm	Sleeve for hose Di=1.6mm	-	-
/D/*	Close gripper	-	-	-	M3	M3

Tab. 8 *Pneumatic controller / air connections*
**must be provided by customer*
***included in scope of delivery of module*

8.3 Sensors

8.3.1 Installation of sensors on rotary unit

See installation and operating manual for RM modules

8.3.2 Installation of sensors on gripper module drive unit

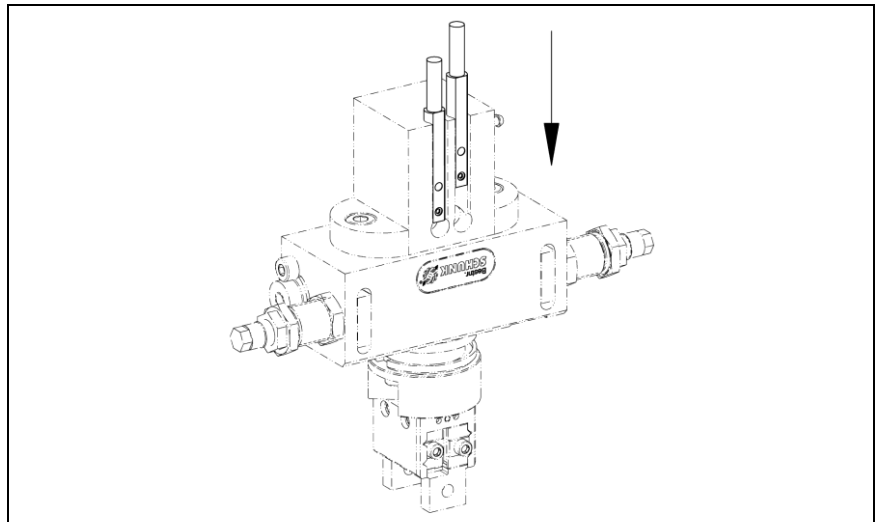


Fig. 6 Installation of magnetic switch MMS on drive unit

! NOTICE

Sensor can be damaged during assembly.

➔ Do not exceed the maximum tightening torque of 10 Ncm for set screws.

If you would like more information on the handling of sensors, please contact your SCHUNK representative. Information is also available for download on our website.

➔ Technical data for the sensors can be found in the data sheets (included in the scope of delivery and also available at our website).

8.4 Settings for the rotary movement

The settings required for this can be found in the operating manual for the RM module.

9 Troubleshooting

9.1 Gripping motion

9.1.1 Gripper does not move?

Possible cause	Corrective action
Pressure drops below minimum	→ Check air supply (see Chapter 6, page 14).
Compressed air hoses reversed	→ Check compressed air hoses (see Chapter 8.2 page 21).
Proximity switch defective or set incorrectly	→ Repair proximity switch (see separate manual).
Component breakdown, e.g. due to overload	→ Replace component or send module to SCHUNK with a repair order. (see also Chapter 10.4, page 29 and Chapter 10.6, page 32). → Ensure that the module is used only within its defined application parameters (see Chapter 6, page 14)and catalog).

Tab. 9

9.1.2 Gripper does not execute the full stroke?

Possible cause	Corrective action
Accumulation of dirt between the base jaws and the guide of the gripper head	→ Dismantle and clean the gripper head (see Chapter 10.4, page 29 and Chapter 10.6, page 32).
Pressure drops below minimum	→ Check air supply (see Chapter 6, page 14).
Components loose, e.g. due to overload	→ Send module to SCHUNK with a repair order or dismantle module (see Chapter 10.4, page 29 and Chapter 10.6, page 32).

Tab. 10

9.1.3 Module opens or closes jerkily?

Possible cause	Corrective action
Insufficient grease in the mechanical guide surfaces of the module.	➔ Dismantle the module, clean and lubricate (see Chapter 10.4, page 29 and Chapter 10.6, page 32).
Compressed air hoses are blocked.	➔ Check compressed air hoses for kinks or damage.

Tab. 11

9.1.4 Gripping force drops?

Possible cause	Corrective action
Compressed air can escape	➔ Check seals; if necessary, dismantle module and replace seals (see Chapter 10.4, page 29).
Too much grease in the areas of mechanical movement in the module.	➔ Dismantle the module, clean and lubricate (see Chapter 10.4, page 29 and Chapter 10.6, page 32).
Pressure drops below minimum	➔ Check air supply (see Chapter 6, page 14).

Tab. 12

9.1.5 Opening and closing times of the gripper are not achieved?

Mögliche Ursache	Maßnahmen zur Behebung
Compressed air lines not optimally executed	<ul style="list-style-type: none"> ➔ If applicable: Open flow control couplings on the module to the maximum setting so the jaw movement is executed smoothly. ➔ Check compressed air lines: <ul style="list-style-type: none"> – Inner diameters of compressed air lines should be sufficiently large in relation to the compressed air consumption – Compressed air lines between the module and the directional control valve should be as short as possible – Flow rate of the directional control valve should be sufficiently large in relation to the compressed air consumption

Tab. 13

9.2 Rotary motion

For troubleshooting the direction of rotation, see the operating manual for the RM module.

10 Maintenance and care

10.1 Note

! NOTICE

→ The following recommendations apply if the unit is operated as intended in compliance with the specified operating parameters, operating conditions and settings.

10.2 Maintenance and lubrication intervals

10.2.1 Rotary module

For maintenance and lubrication, see the operating manual for the RM module.

10.2.2 Gripper module

- Lubricate the gripper module at the lubrication points at the specified intervals
- Check the gripper module for leaks and damage
- Dismantle the gripper module only for repairs!

! NOTICE

At ambient temperatures above 60°C lubricants harden more quickly!

→ Reduce interval accordingly.

Size	0612 - 1020
Interval [million cycles]	2

Tab. 14

10.3 Lubricants / lubrication points (basic lubrication)

10.3.1 Rotary module

For maintenance and lubrication, see the operating manual for the RM module.

10.3.2 Gripper module

We recommend the lubricants listed here. Equivalent lubricants can also be used.

Lubrication points	Lubricant
Linear bearings of gripper module	Isoflex Topas NCA 52 (from Klüber)
Bore hole in piston*	
All seals*	

Tab. 15 Lubrication points, lubricants
*only after dismantling the module for repairs

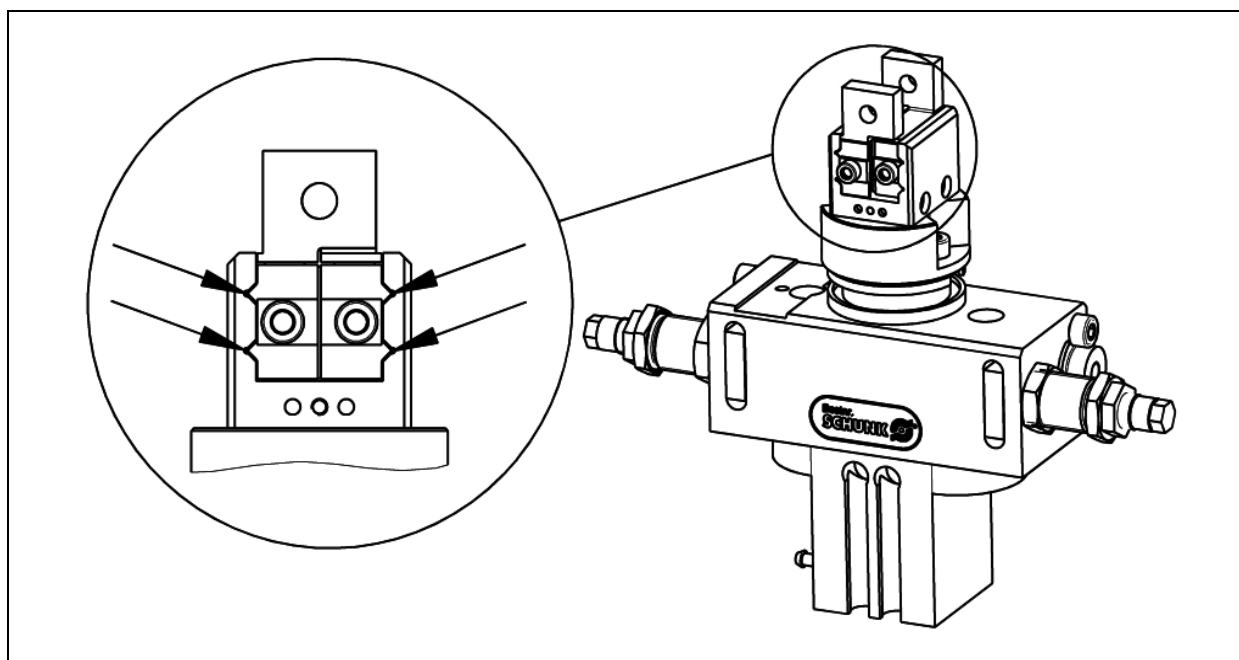


Fig. 7 Lubrication points for linear bearing of gripper module

➔ Apply the grease directly to the races (arrow).

10.4 Dismantling the module

NOTICE

Sound technical knowledge is required for disassembly and assembly of the module

(see also Chapter 2.4 page 9)

→ We recommend having damaged and defective modules repaired at our production facility. Consult your SCHUNK contact person (see Chapter 14 page 39)

WARNING

Danger of injury due to unexpected movements of the machine/system!

→ Switch off energy supply.

(For no., see Chapter 11 "Assembly drawing", page 34)

1. Remove the pressure hoses.
2. Remove the housing (12):

WARNING →VERSION AS

The housing is under spring tension

→ Clamp the module carefully between the housing (12) and the gripper head (2). Remove the screws (25) and slowly release the spring tension; then remove the housing.

Other versions:

Unscrew the screws (25) and remove the housing (12).

3. Loosen the screw (26) and remove it.

⚠ WARNING → VERSION IS

The parts are under spring tension.

- ➔ When loosening the screw (26), exert pressure on the guide plug (08) to relieve the spring tension on the screw
- ➔ Carefully release the spring tension after removing the screw and then remove the drive components (08), (09), (10), (20), (21), (22)

Other versions:

Unscrew the screw (26) and remove the drive components (08), (09), (10), (20), (21), (22)

- If necessary, disassemble module further as described in Chapter 11 "Assembly drawing", page 34
- For disassembly of the gripper head (02) see Chapter 10.6 page 32
- For procedure for rotary module (01), see RM operating manual

10.5 Assembling the module

(For no., see Chapter 11 "Assembly drawing", page 34)

Assemble module as described in Chapter 11 "Assembly drawing", page 34

WARNING VERSIONS IS AND AS

Danger of injury due to spring tensions!

- Use suitable devices and aids when installing springs (18)

NOTICE

Mounting procedure

- Select the suitable screw tightening torques for mounting of the module in accordance with the generally applicable guidelines for screw connections
- Comply with the specified lubricants and lubrication points (see Chapter 10.3, page) 28
- Secure all screws with a suitable chemical thread locking agent

10.6 Dismantling the gripper head

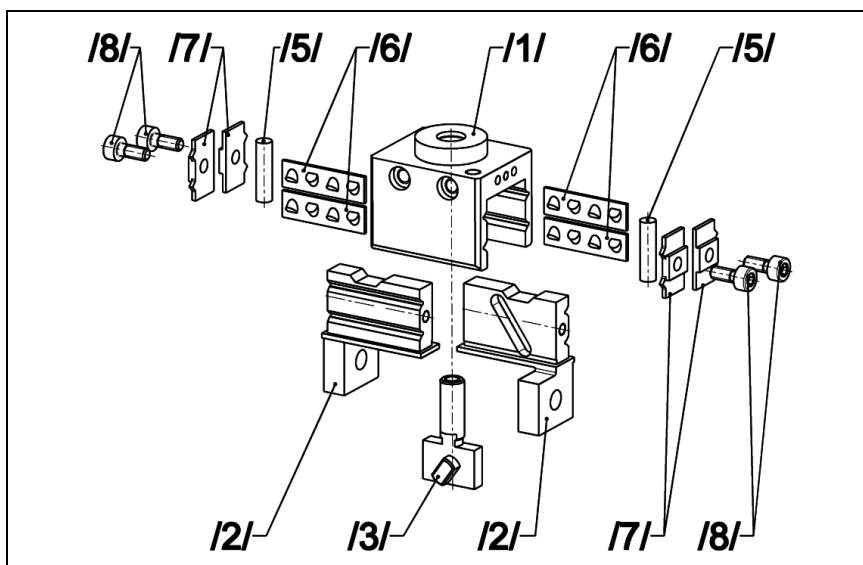


Fig. 8 Dismantling the gripper head

- ✓ Disassemble the module as described in Chapter 10.4 page 29.

! NOTICE

Parts /2/, /6/ and /1/ are designed as mating parts.

- ➔ During installation, these parts must be installed at the same location in the gripper.
- ➔ Mark the parts accordingly during disassembly of the gripper

1. Unscrew screw /8/, and remove holder /7/ and rollers /5/
 2. Remove roller cages /6/
 3. Pull out base jaws /2/ and piston rod /3/ from the cover housing /1/
- ➔ Clean all parts and check for defects and wear
 - ➔ If parts /2/ and/or /6/ and/or /1/ are damaged, the entire gripper head must be replaced
Consult your SCHUNK contact person (see Chapter 14 page 39)

→ Reassemble the gripper head as described in Fig. 8

! NOTICE**Mounting procedure**

- Select the suitable screw tightening torques for mounting of the module in accordance with the generally applicable guidelines for screw connections
- Comply with the specified lubricants and lubrication points (see Chapter 10.3, page) 28
- Secure all screws with a suitable chemical thread locking agent

11 Assembly drawing

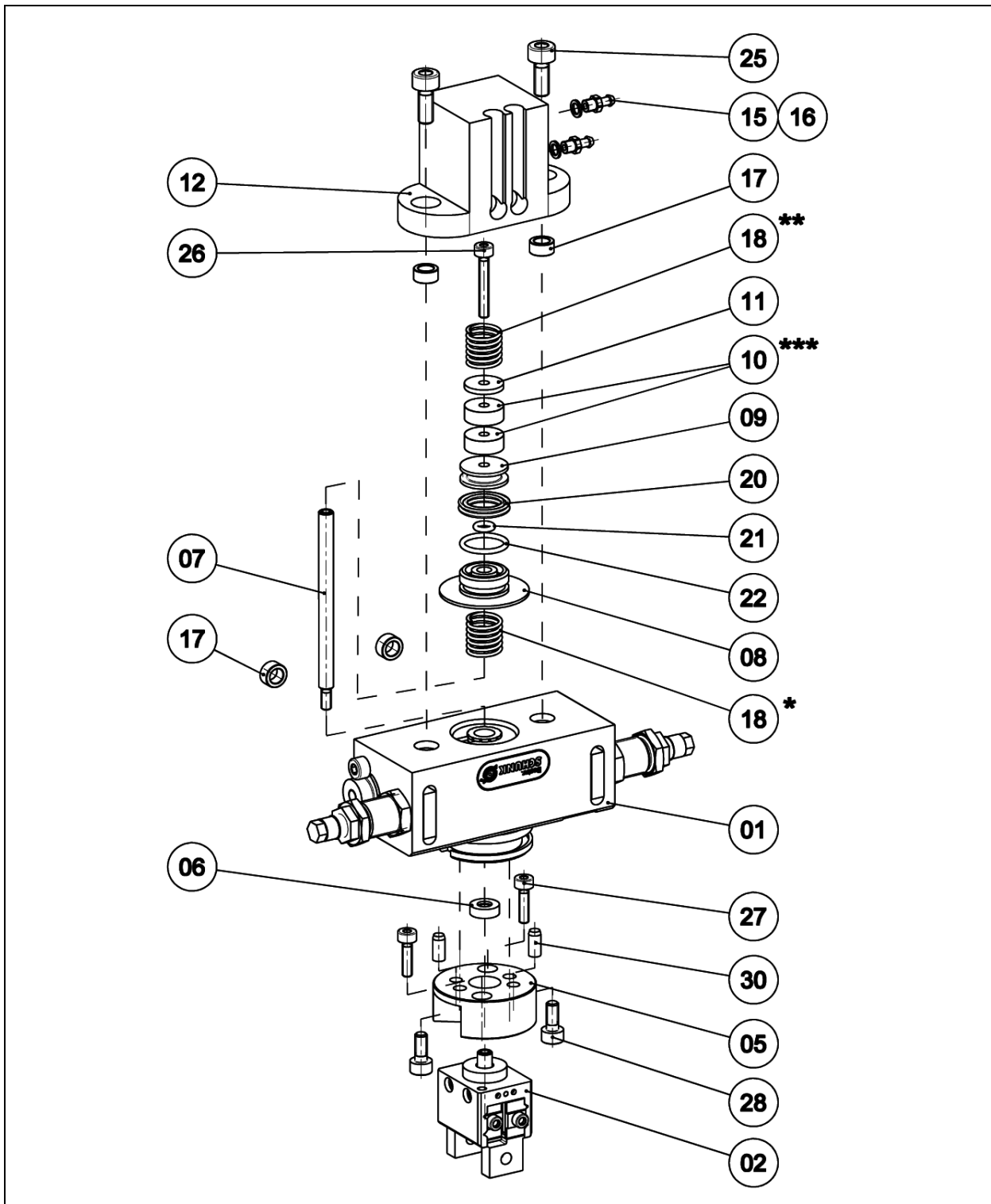


Fig. 9 Assembly RMPG

*only for version IS (see also Chapter 7.2 page 17)

**only for version AS (see also Chapter 7.2 page 17)

*** ! Install south to south!

12 Replacement parts

(For no., see Chapter 11 "Assembly drawing", page 34)

12.1 RMPG 0612

Item	ID No.	Quantity	Designation
01**	0313017	1	Rotary module RM 006
02*	5519483	1	Gripper head BS-MPG 12
15	9942298	2	Hose sleeve M 2.5
16	9942299	2	Sealing disk M2.5
17	0313399	2	Centering sleeve ZH500

Tab. 16 .

12.2 RMPG 0812

Item	ID No.	Quantity	Designation
01**	0313018	1	Rotary module RM 008
02*	5519483	1	Gripper head BS-MPG 12
15	9942298	2	Hose sleeve M 2.5
16	9942299	2	Sealing disk M2.5
17	0313399	2	Centering sleeve ZH500

Tab. 17

12.3 RMPG 0816

Item	ID No.	Quantity	Designation
01**	0313018	1	Rotary module RM 08
02*	5519484	1	Gripper head BS-MPG 16
15	9942298	2	Hose sleeve M 2.5
16	9942299	2	Sealing disk M2.5
17	0313399	2	Centering sleeve ZH500

Tab. 18

12.4 RMPG 1016 ...

Item	ID No.	Quantity	Designation
01**	0313019	1	Rotary module RM 10
02*	5519484	1	Gripper head BS-MPG 16
15	9942298	2	Hose sleeve M 2.5
16	9942299	2	Sealing disk M2.5
17	0313399	2	Centering sleeve ZH500

Tab. 19

12.5 RMPG 1020 ...

Item	ID No.	Quantity	Designation
01**	0313019	1	Rotary module RM 10
02*	5519485	1	Gripper head BS-MPG 20
17	0313399	2	Centering sleeve ZH500

Tab. 20 .

13 Translation of original EC declaration of incorporation

In terms of the EC Machinery Directive 2006/42/EC, annex II B

Manufacturer/ distributor SCHUNK GmbH & Co. KG.
Spann- und Greiftechnik
Bahnhofstr. 106 – 134
74348 Lauffen/Neckar, Germany

We hereby declare that the following product:

Product designation Gripper - Rotary Actuator
Type designation: RMPG
ID number: 0313581 ... 031360

meets the applicable basic requirements of the Directive Machinery (2006/42/EC).

The incomplete machine may not be put into operation until conformity of the machine into which the incomplete machine is to be installed with the provisions of the Machinery Directive (2006/42/EC) is confirmed.


Applied harmonized standards, especially:

EN ISO 12100-1 Safety of machines - Basic concepts, general principles for design --
Part 1: Basic terminology, methodology
EN ISO 12100-2 Safety of machines - Basic concepts, general principles for design --
Part 2: Technical principles

The manufacturer agrees to forward on demand the special technical documents for the incomplete machine to state offices.

The special technical documents according to Annex VII, Part B, belonging to the incomplete machine have been created.

Person responsible for documentation: Mr. Michael Eckert, Tel.: +49(0)7133/103-2204

Location, date/signature: Lauffen, Germany,
January 2011 ppa. 

Title of the signatory Director for Development

14 Contact**GERMANY – HEAD OFFICE**

SCHUNK GmbH & Co. KG
Spann- und Greiftechnik
Bahnhofstrasse 106 – 134
D-Lauffen/Neckar
Tel. +49-7133-103-0
Fax +49-7133-103-2399
info@de.schunk.com
www.schunk.com

**CANADA**

SCHUNK Intec Corp.
190 Britannia Road East,
Units 23-24
Mississauga, ON L4Z 1W6
Tel. +1-905-712-2200
Fax +1-905-712-2210
info@ca.schunk.com
www.ca.schunk.com

**DENMARK**

SCHUNK Intec A/S
Storhaven 7
7100 Vejle
Tel. +45-43601339
Fax +45-43601492
info@dk.schunk.com
www.dk.schunk.com

**HUNGARY**

SCHUNK Intec Kft.
Széchenyi út. 70.
3530 Miskolc
Tel. +36-46-50900-7
Fax +36-46-50900-6
info@hu.schunk.com
www.hu.schunk.com

**AUSTRIA**

SCHUNK Intec GmbH
Holzbauernstr. 20
4050 Traun
Tel. +43-7229-65770-0
Fax +43-7229-65770-14
info@at.schunk.com
www.at.schunk.com

**CHINA**

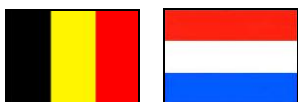
SCHUNK Intec Precision
Machinery Trading (Shanghai)
Co., Ltd.
Xinzhuang Industrial Park
479 Chundong Road
Minhang District
Shanghai 201108
Tel. +86-21-51760266
Fax +86-21-51760267
info@cn.schunk.com
www.cn.schunk.com

**FRANCE**

SCHUNK Intec SARL
Parc d'Activités des Trois Noyers 15, Avenue James de Rothschild
Ferrières-en-Brie
77614 Marne-la-Vallée
Cedex 3
Tel. +33-1-64 66 38 24
Fax +33-1-64 66 38 23
info@fr.schunk.com
www.fr.schunk.com

**INDIA**

SCHUNK Intec India Private
Ltd. # 80 B, Yeswanthpur
Industrial Suburbs,
Bangalore 560 022
Tel. +91-80-40538999
Fax +91-80-41277363
info@in.schunk.com
www.in.schunk.com

**BELGIUM, LUXEMBOURG**

SCHUNK Intec N.V./S.A.
Bedrijvencentrum Regio Aalst
Industrielaan 4, Zuid III
9320 Aalst-Erembodegem
Tel. +32-53-853504
Fax +32-53-836351
info@be.schunk.com
www.be.schunk.com

**CZECH REPUBLIC**

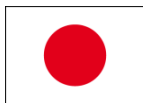
SCHUNK Intec s.r.o.
Dražní 7
627 00 Brno
Tel. +420-545 229 095
Fax +420-545 220 508
info@cz.schunk.com
www.cz.schunk.com

**GREAT BRITAIN, IRELAND**

SCHUNK Intec Ltd.
Cromwell Business Centre
10 Howard Way,
Interchange Park
Newport Pagnell MK16 9QS
Tel. +44-1908-611127
Fax +44-1908-615525
info@gb.schunk.com
www.gb.schunk.com

**ITALY**

SCHUNK Intec S.r.l.
Via Barozzo
22075 Lurate Caccivio (CO)
Tel. +39-031-4951311
Fax +39-031-4951301
info@it.schunk.com
www.it.schunk.com



JAPAN

SCHUNK Intec K.K.
45-28 3-Chome Sanno
Ohta-Ku Tokyo 143-0023
Tel. +81-33-7743731
Fax +81-33-7766500
s-takano@tbk-hand.co.jp
www.tbk-hand.co.jp



POLAND

SCHUNK Intec Sp.z o.o.
ul. Słoneczna 116 A
Stara Iwiczna
05-500 Piaseczno
Tel. +48-22-7262500
Fax +48-22-7262525
info@pl.schunk.com
www.pl.schunk.com



SOUTH KOREA

SCHUNK Intec Korea Ltd.
907 Joongang
Induspia 2 Bldg.,
144-5 Sangdaewon-dong
Jungwon-gu, Seongnam-si
Kyunggi-do, 462-722
Tel. +82-31-7376141
Fax +82-31-7376142
info@kr.schunk.com
www.kr.schunk.com



**SWITZERLAND,
LIECHTENSTEIN**

SCHUNK Intec AG
Im Ifang 12
8307 Effretikon
Tel. +41-523543131
Fax +41-523543130
info@ch.schunk.com
www.ch.schunk.com



MEXICO, VENEZUELA

SCHUNK Intec S.A. de C.V.
Calle Pirineos # 513 Nave 6
Zona Industrial Benito Juárez
Santiago de Querétaro,
Qro. 76120
Tel. +52-442-211-7800
Fax +52-442-211-7829
info@mx.schunk.com
www.mx.schunk.com



RUSSIA

OOO SCHUNK Intec
ul. Samojlovoj, 5, lit. C
St. Petersburg 192102
Tel. +7-812-326-78-35
Fax +7-812-326-78-38
info@ru.schunk.com
www.ru.schunk.com



SPAIN, PORTUGAL

SCHUNK Intec S.L.U.
Foneria, 27
08304 Mataró (Barcelona)
Tel. +34-937 556 020
Fax +34-937 908 692
info@es.schunk.com
www.es.schunk.com



TURKEY

SCHUNK Intec
Bağlama Sistemleri ve
Otomasyon San. ve Tic. Ltd. Şti.
Küçükyali İş Merkezi
Girne Mahallesi
Irmak Sodak, A Blok, No: 9
34852 Maltepe, Istanbul
Tel. +90-216-366-2111
Fax +90-216-366-2277
info@tr.schunk.com
www.tr.schunk.com



NETHERLANDS

SCHUNK Intec B.V.
Speldenmakerstraat 3d
5232 BH 's-Hertogenbosch
Tel. +31-73-6441779
Fax +31-73-6448025
info@nl.schunk.com
www.nl.schunk.com



SLOVAKIA

SCHUNK Intec s.r.o.
Mostná 62
949 01 Nitra
Tel. +421-37-3260610
Fax +421-37-6421906
info@sk.schunk.com
www.sk.schunk.com



SWEDEN

SCHUNK Intec AB
Morabergsvägen 28
152 42 Södertälje
Tel. +46-8 554 421 00
Fax +46-8 554 421 01
info@se.schunk.com
www.se.schunk.com



USA

SCHUNK Intec Inc.
211 Kitty Hawk Drive
Morrisville, NC 27560
Tel. +1-919-572-2705
Fax +1-919-572-2818
info@us.schunk.com
www.us.schunk.com