








Special Grippers

Product Quickfinder

	Page	Image	Stroke per finger [mm]			Gripping force [N]			
			0 – 10	10 – 100	100 – 1000	0 – 100	100 – 1000	1000 – 10000	10000 – 100000
Characterization									
Hole gripper LOG	546		0.15 – 5.8					27 – 2516	

	Page	Image	Description	Fields of application
Characterization				
O-ring gripper ORG • 6-finger gripper for process-reliable internal and external assembly of O-rings	552		O-ring gripper	For automated assembly of O-rings
Gripper with shank interface GSW-B	558		Universal gripper with shank interface	For fully automated loading and unloading of machining centers
Gripper with shank interface GSW-B-AGE	566		Universal gripper with shank interface and compensation unit	For fully automated loading and unloading of clamping devices such as vises
Vacuum gripper with shank interface GSW-V	572		Vacuum gripper with shank interface	For fully automated loading and unloading of flat workpieces
Magnetic Gripper with shank interface GSW-M	580		Magnetic gripper with shank interface	For fully automated loading and unloading of ferromagnetic workpiece families
Cleaning device with shank interface RGG	586		Cleaning device with shank interface	For cleaning for instance clamping devices and automated cleaning of machine tools.

Ambient conditions						Variant variety	Variety of sensor systems
Normal, clean environment	Contaminated environment I, coarse dust	Contaminated environment II, fine dust and liquids	Contaminated environment III, aggressive liquids	High temperature range >90 °C	Cleanroom		
●	●	●			○	+++	

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●					○	+	+
●	●	○	○	●	○	++	+
●	○	○	○	●	○	++	+
●	○	○				+	
●	○	○				+	
●	●	●	●	●		+	

● = Very highly suitable ○ = Highly suitable ○ = Suitable in customized version

+ = Medium selection ++ = Wide selection +++ = Very wide selection



LOG

Special Grippers | Hole Gripper

Cost-efficient. Smoothly running. Reliable.

Hole Gripper LOG

Light gripper made of very resistant polyamide with closed diaphragm system

Field of Application

Particularly suitable for highly dynamic applications with a low workpiece weight, for handling of small components and plastic parts, as well as for sand core handling.



Advantages – Your benefits

Low weight allows high dynamics in the application

Closed membrane system and internal stop protect the expansion membrane against damage

Short delivery time for customized measurements

Long service life enables long-lasting economical use

Air supply via hose-free direct connection or screw connections for flexible pressure supply in all automated systems



Sizes
Quantity: 5



Weight
0.008 .. 0.44 kg



Clamping diameter
20 .. 99 mm

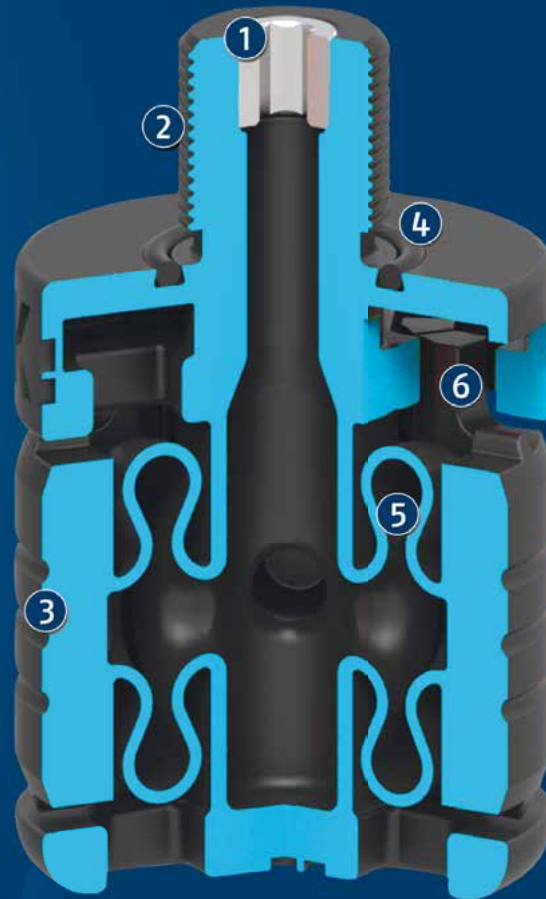


Workpiece weight
0.55 .. 12.83 kg



Functional Description

The membrane expands when pressure is applied, creating a synchronized movement of the gripping surfaces.



① Air connection thread

② Mounting threads

③ Gripping surface

④ O-ring seal

For hose-free air connection

⑤ Membrane

⑥ Internal stop/overload protection

General Notes about the Series

Operating principle: Membrane

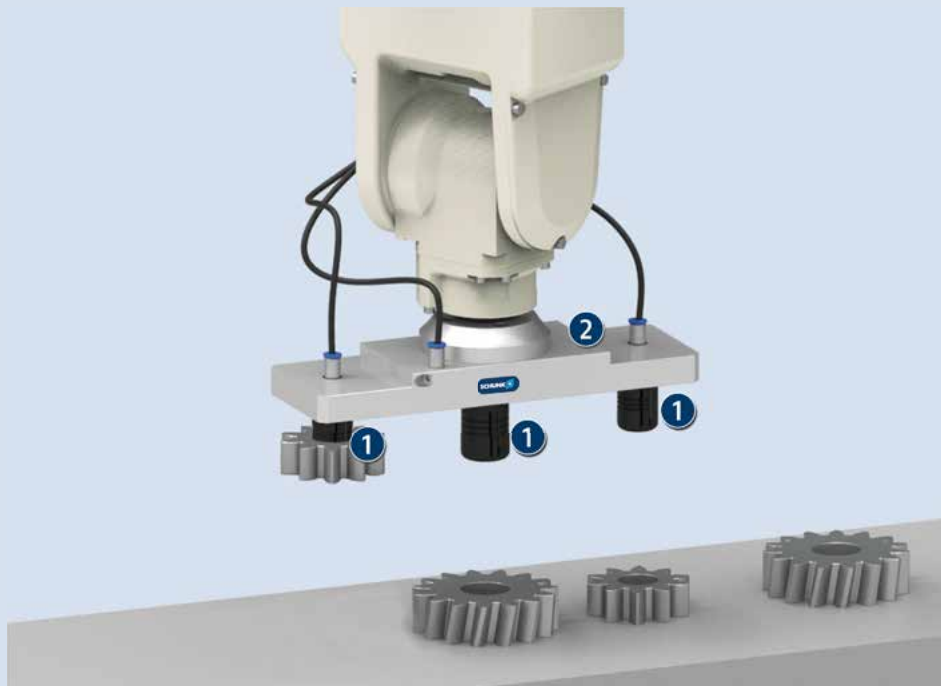
Housing material: PA 12

Base jaw material: PA 12

Actuation: Pneumatic, with filtered compressed air as per ISO 8573-1:2010 [7:4:4]

Scope of delivery: Assembly instructions (operating manual with declaration of incorporation is available online)

Gripping force maintenance: Not possible



Application Example

Handling of gears with different diameters.

❶ Hole gripper LOG

❷ Customized adapter plate

SCHUNK offers more ...

The following components make the product LOG even more productive – the suitable addition for the highest functionality, flexibility, reliability, and process safety.



Universal gripper



Miniature swivel unit



Linear module



Compensation unit



Pressure maintenance valve



Manual change system

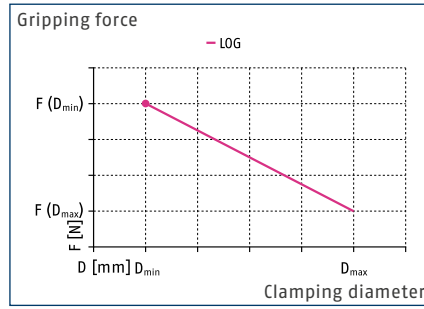
① Further information on these products can be found on the following product pages or at schunk.com. Please contact us: SCHUNK technical hotline +49-7133-103-2696

Options and special Information

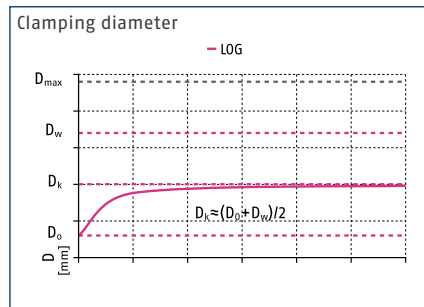
Additional sizes and customized designs are available upon request



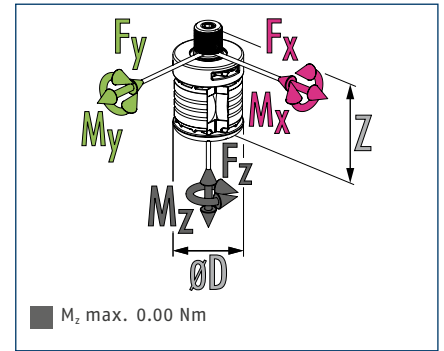
Gripping force I.D. gripping



Creep properties



Dimensions and maximum loads



① The indicated moments and forces are static values and should not appear simultaneously.

Technical data

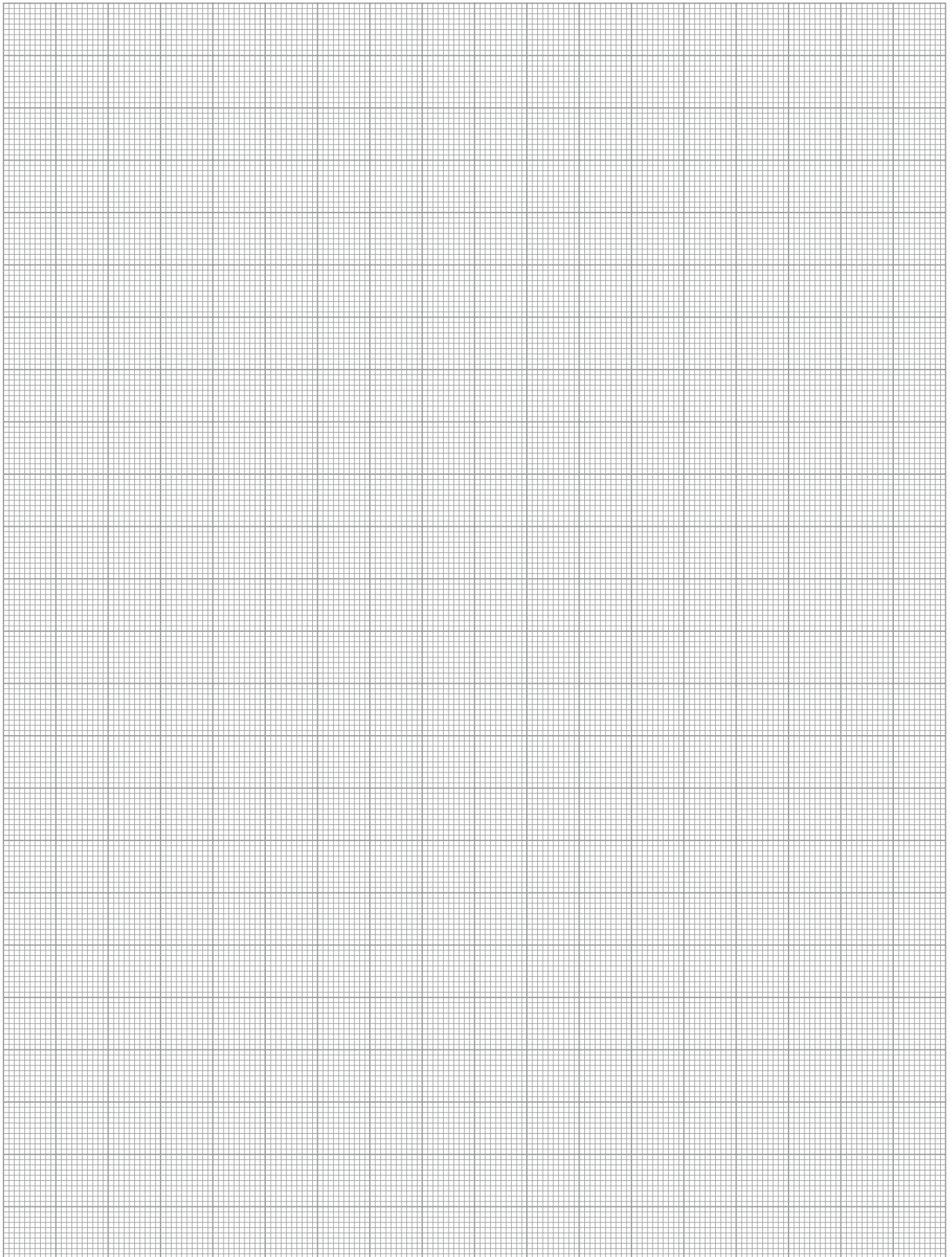
Description		LOG 20.0-M14x1.5-M5	LOG 40.0-M16x1-M5	LOG 60.0-M16x1-M5	LOG 80.0-M20x1,5-G1/8	LOG 99.0-M20x1.5-G1/8
ID		0398920	0398940	0398960	0398980	0398999
Mounting thread A		M14 x 1.5	M16 x 1	M16 x 1	M20 x 1.5	M20 x 1.5
Air connection thread B		M5	M5	M5	G1/8"	G1/8"
Min. workpiece diameter	[mm]	20	40	60	80	99
Max. workpiece diameter	[mm]	20.3	44.37	66.13	88.7	110.7
Opening force for $\varnothing D_{min}$	[N]	107.2	241.4	596.7	972.7	2516.7
Opening force for $\varnothing D_{max}$	[N]	27.3	66.7	190.5	433.3	1166.7
Weight	[kg]	0.008	0.034	0.108	0.238	0.44
Recommended workpiece weight	[kg]	0.55	1.23	3.04	4.96	12.83
Fluid consumption double stroke	[cm ³]	2.35	8.21	28.82	65.34	122.8
Max. operating pressure	[bar]	6	6	6	6	6
Nominal operating pressure	[bar]	6	6	6	6	6
Closing/opening time	[s]	0.05/0.05	0.08/0.08	0.14/0.14	0.22/0.22	0.44/0.44
Min./max. ambient temperature	[°C]	-40/80	-40/80	-40/80	-40/80	-40/80
Housing material		PA 12	PA 12	PA 12	PA 12	PA 12
Dimensions $\varnothing D \pm 0.2 \times Z$	[mm]	19.8 x 46	39.6 x 64	59.4 x 87.5	79.2 x 111	98.01 x 123.33
Moments M_x max./ M_y max.	[Nm]	1.50/1.50	2.00/2.00	2.00/2.00	2.50/2.50	2.50/2.50
Forces F_x max./ F_y max./ F_z max.	[N]	150.00/150.00/150.00	200.00/200.00/200.00	200.00/200.00/200.00	250.00/250.00/250.00	250.00/250.00/250.00

① The gripping force can be set directly by the operating pressure. At a lower pressure than the nominal operating pressure, the full stroke cannot be achieved.

The graduation of the individual sizes varies about 1 mm. Please consider that the size of the mounting thread A depends on the individual gripper size. (LOG 20–25: M14 x 1.5; LOG 26–63: M16 x 1; LOG 64–99: M20 x 1.5).

Information on further gripper sizes are available online.

More detailed, up-to-date information on the SCHUNK product including drawings, CAD data, and operating manuals are available online at: schunk.com/log



ORG

Special Grippers | O-ring Gripper

Reliable. Flexible. Productive.

O-ring Assembly Gripper ORG

A gripper, attached with appropriate attachment fingers allows assembly of O-rings, including square rings and others both on shafts (O.D. assembly) and in bores (I.D. assembly)

Field of Application

The gripper should be used in a clean environment, particularly in automated assembly.

Advantages – Your benefits

O.D. and I.D. assembly with one gripper ensures flexibility and cost-saving

Process reliable due to new mounting principle for high availability

Standard assembly finger for O.D. assembly for conventional ring sizes for fast commissioning



Sizes
Quantity: 1



Weight
1.35 kg



Repeat accuracy
0.02 mm

Functional Description

O.D. assembly

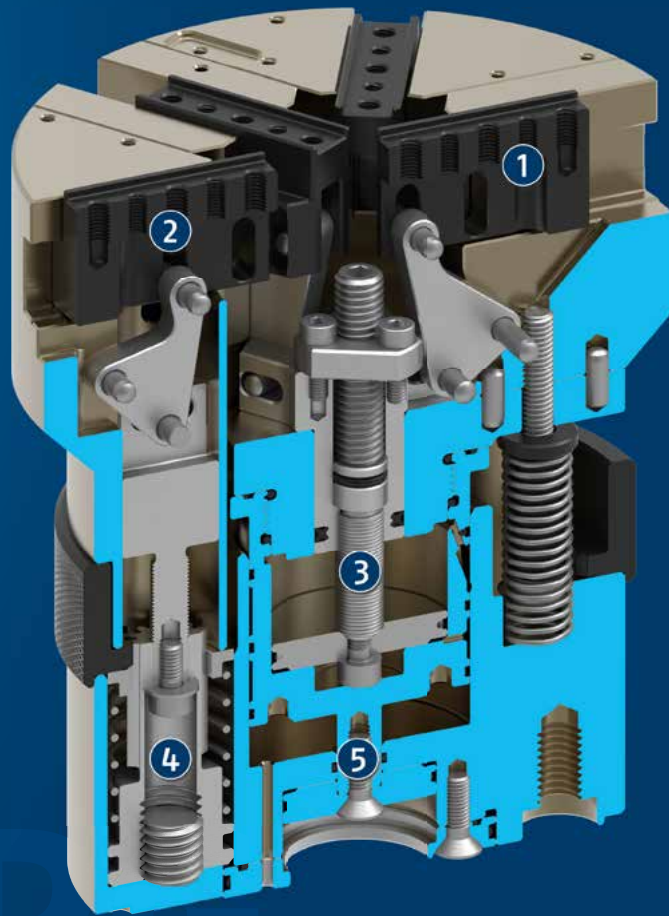
The O-ring is expanded by all six fingers, then the gripper is moved to the assembly groove on the shaft. First the three fingers of triple jaws A are retracted with the linear motion.

The O-ring is fit through the triangle shape, which adjusts to the remaining hold of the three fingers of triple jaws B, already partially in the groove. The entire gripper is now retracted. The O-ring is now forced completely into its assembly groove.

I.D. assembly

The O-ring is forced into a cloverleaf shape by the segment jaw of triple B and the finger of triple A. The gripper is moved with its fingers in the assembly bore. The segment jaws now press the O-ring onto a majority of the groove's circumference.

The fingers are retracted and the O-ring remains settles further in the groove. The fingers are now inside the O-ring and the segment jaws press the O-ring, forcing it into its groove.



- ① **Triple jaw A**
Double-acting
- ② **Triple jaw B**
One-way acting

- ③ **Drive**
For triple jaws A
- ④ **Drive**
For triple jaws B
- ⑤ **Drive**
For linear motion



General Notes about the Series

Operating principle: Two independent triple-finger combinations deform the O-ring in order to then install it.

Housing material: Aluminum

Base jaw material: Steel

Actuation: Pneumatic, with filtered compressed air as per ISO 8573-1:2010 [7:4:4]

Warranty: 24 months

Scope of delivery: Centering sleeves, assembly instructions (operating manual with declaration of incorporation is available online)

Gripping force: Is the arithmetic sum of the individual force applied to each jaw at distance P (see illustration)

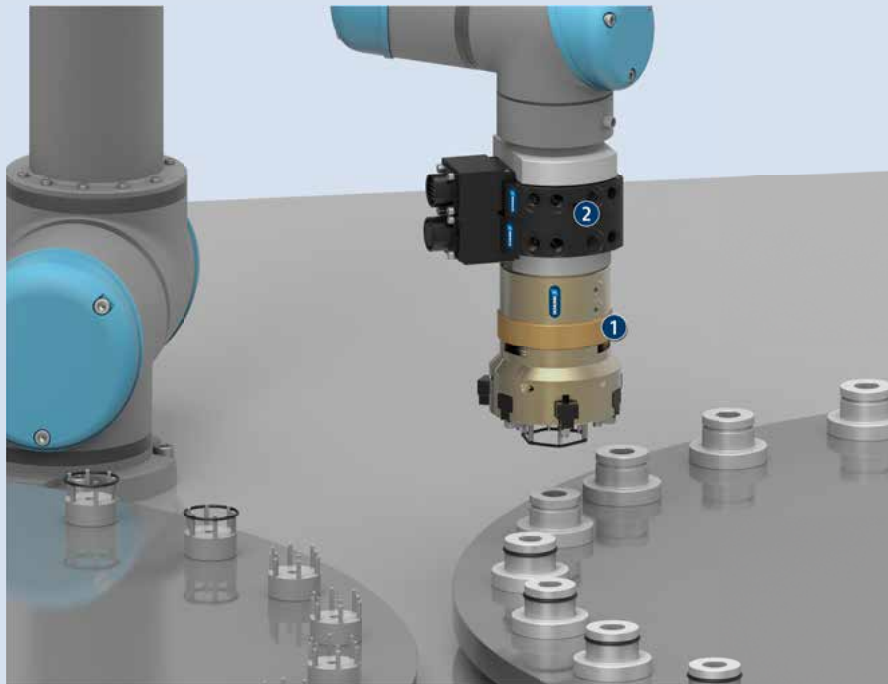
Finger length: Is measured from the reference surface as the distance P in direction to the main axis.

The maximum permissible finger length applies until the nominal operating pressure is achieved. With higher pressures, the finger length must be reduced proportionally to the nominal operating pressure.

Repeat accuracy: Is defined as a distribution of the end position for 100 consecutive strokes.

Workpiece weight: Is calculated for force-fit gripping with a coefficient of static friction of 0.1 and a safety factor of 2 against workpiece slippage at acceleration due to gravity g. For form-fit or capture gripping, there are significantly higher permissible workpiece weights.

Closing and opening times: Are purely the times that the base jaws or fingers are in motion. Valve switching times, hose fill times, or PLC reaction times are not included, and are to be considered when cycle times are calculated.



Application Example

Gripping unit for assembling O-rings.

❶ O-ring gripper ORG

❷ Quick-change system SWS

SCHUNK offers more ...

The following components make the product ORG even more productive – the suitable addition for the highest functionality, flexibility, reliability, and process safety.



Assembly fingers



Inductive proximity switch

① Further information on these products can be found on the following product pages or at [schunk.com](https://www.schunk.com). Please contact us: SCHUNK technical hotline +49-7133-103-2696

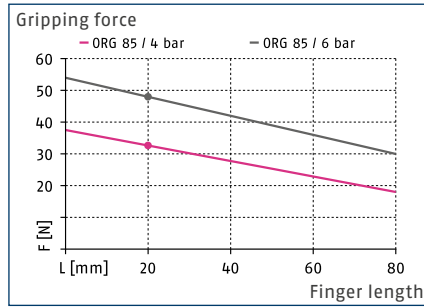
Options and special Information

For standard O-ring sizes SCHUNK offers standard assembly fingers for external assembly. Assembly fingers for internal assembly are always O-ring specific. On request, they can be purchased as customized components from SCHUNK or manufactured by customers themselves. Drawings and design instructions can be found in the extensive operating manual that is available online as a PDF document.

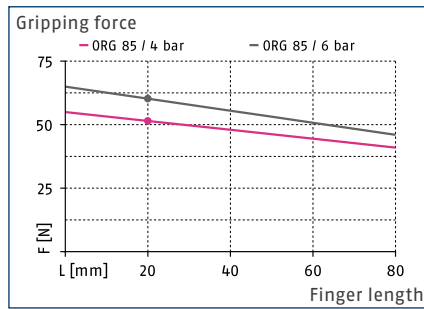
Max. O-ring cord thickness: The max. O-ring cord thickness to be installed is a diameter of 4 mm.



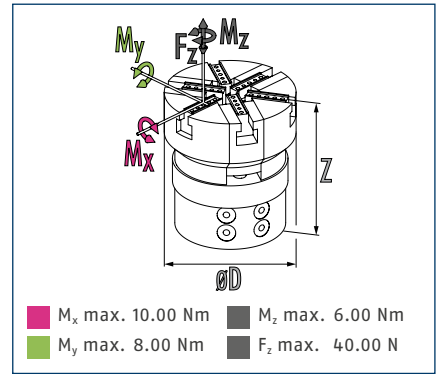
Triple jaws A outside gripping force



Triple jaws A inside gripping force



Dimensions and maximum loads



① The specified torques and forces are static values, apply for each base jaw, and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself.

Technical data

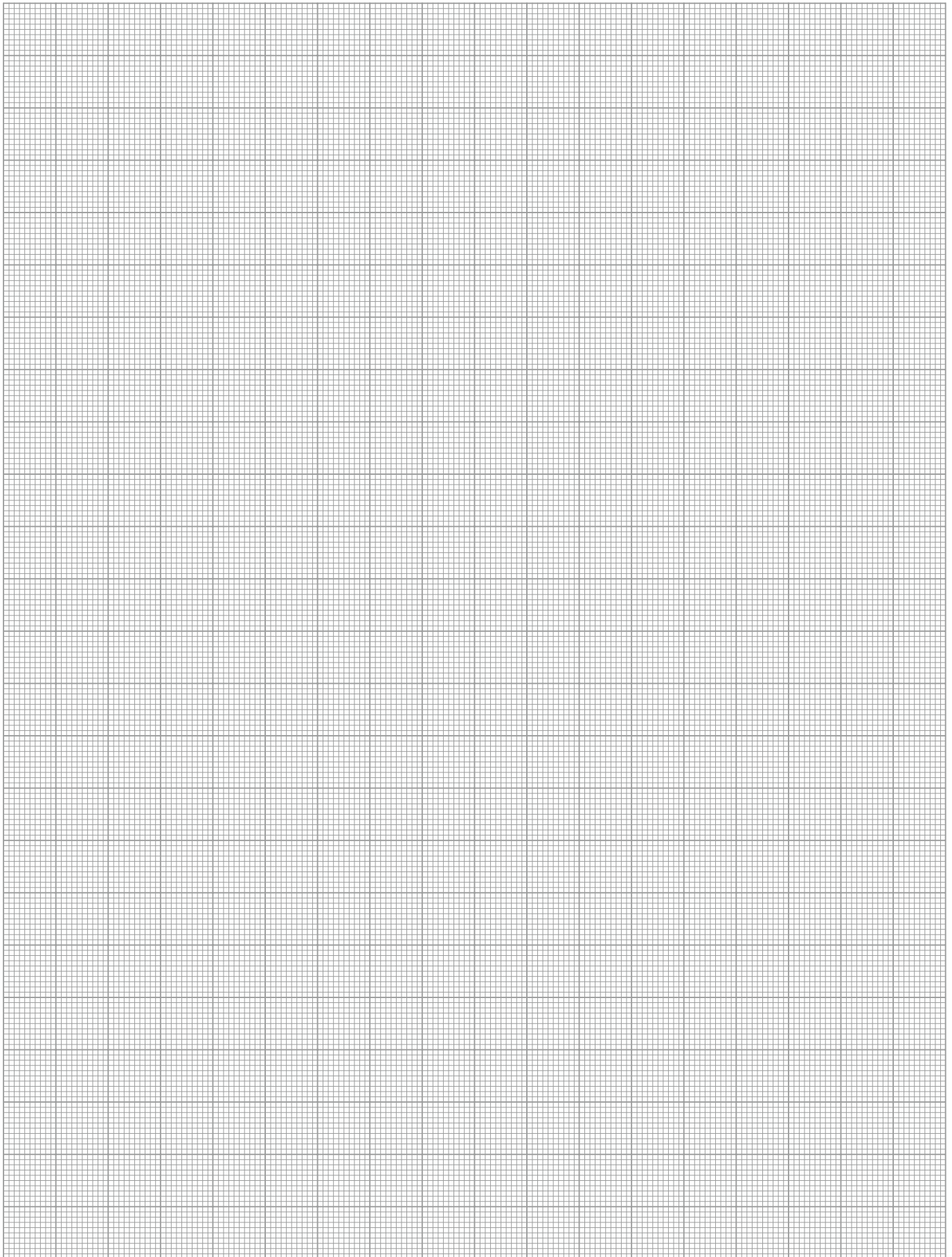
Description		ORG 85
ID		0304120
Number of fingers		6
Triple jaws A: working principle		Double-acting
Triple jaws A: stroke per finger	[mm]	21.0
Triple jaws A: closing force	[N]	45.0
Triple jaws A: opening force	[N]	55.0
Triple jaws A: retraction stroke	[mm]	5.0
Triple jaws A: retraction force	[N]	20.0
Triple jaws A: fluid consumption per double stroke	[cm ³]	11
Triple jaws A: fluid consumption per retraction stroke	[cm ³]	6
Triple jaws B: working principle		One-way acting
Triple jaws B: stroke per finger	[mm]	15.0
Triple jaws B: opening force	[N]	125.0
Triple jaws B: fluid consumption per opening stroke	[cm ³]	9
Closing/opening time	[s]	0.1/0.12
Weight	[kg]	1.35
Min./nom./max. operating pressure	[bar]	4/6/8
Max. permissible finger length	[mm]	80.0
Protection class IP		40
Min./max. ambient temperature	[°C]	5/90
Repeat accuracy	[mm]	0.02
Dimensions Ø D x Z	[mm]	85 x 98

① The principle mountability of O-rings depends on the shape (O-ring, square ring, etc.), shore hardness, inner diameter, and cord strength, as well as installation depth. In general, Ø 5 mm to Ø 160 mm O-rings can be mounted for outside assembly, and for internal assembly O-ring from Ø 10 mm to Ø 120 mm are used.

Triple jaws A and B can both be adjusted with regard to their opening stroke – the closed position remains unaffected.

Please contact SCHUNK to ensure ultimate installation compatibility.

More detailed, up-to-date information on the SCHUNK product including drawings, CAD data, and operating manuals are available online at: schunk.com/org



GSW-B

Special Grippers | Gripper with Shaft Interface

High Flow Rate. Cost-efficient. Powerful. Gripper with Shank Interface GSW-B

Universal gripper PGN-plus/PZN-plus with shank interface GSW-B

Field of Application

Unit for fully automated loading and unloading of machining centers.

Advantages – Your benefits

Price-attractive module consisting of a universal gripper PGN-plus/PZN-plus and a shank interface

Fast, automated exchange of the gripper from the storage rack

Fully automated workpiece change without robot or gantry system



Sizes
Quantity: 4



Suitable for
PGN-plus/
PZN-plus

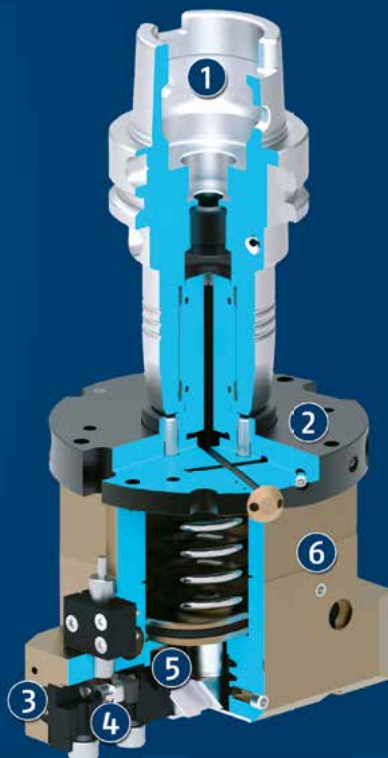


Shank diameter
20 mm

Functional Description

The pressure generated by the central machine coolant supply is reduced by the pressure distributor, which is integrated in the adapter plates. The gripper can then be actuated and can actuate the base jaws correspondingly

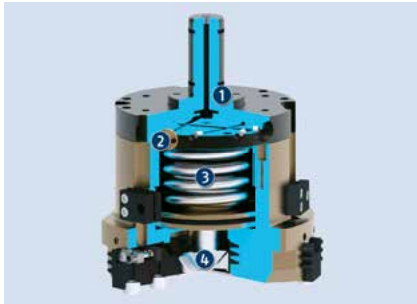
via the piston and wedge hook. During the gripping operation the gripper continuously supplies coolant or compressed air via the lateral pressure control valve.



- ① **Mounting**
For automatically exchanging and inserting the spindle
(not included in the scope of delivery)
- ② **Adapter plate with integrated pressure distributor**
For a large pressure range
- ③ **Multi-tooth guidance**
Highly loadable, nearly backlash-free base jaw guidance
for long finger lengths
- ④ **Base jaw**
For the connection of workpiece-specific gripper fingers
- ⑤ **Wedge-hook principle**
For high force transmission and centric gripping
- ⑥ **Housing**
Is weight-optimized due to the use of high-strength
aluminum alloy

Detailed Functional Description

Gripper versions



The gripper with shank interface GSW-B is available as a parallel and centric gripper in the versions AS and IS. Due to the integrated spring, the gripper moves back to its original position in the depressurized condition. In the version AS, the spring acts as closing force in the depressurized state; and in the version IS as an opening force.

- ❶ Adapter plate with mounting for toolholder
- ❷ Pressure relief valve
- ❸ Piston chamber with spring support
- ❹ Wedge-hook principle

Gripper monitoring



On option, the gripper can be equipped with a wireless sensor system. Therefore monitoring of the gripper and the wireless transmission of the signals from the machine room are possible.

- ❶ Adapter plate with spindle Interface GSW-B
- ❷ End position monitoring with cylindrical reed switches RMS 80
- ❸ Transmitter module RSS-T2 for radio sensor system

General Notes about the Series

Operating principle: Pressure distributor and wedge-hook kinematics

Housing material: Aluminum alloy, anodized

Base jaw material: Blackened steel

Spindle interface material: Aluminum alloy

Actuation: Hydraulically with machine coolant (filtered, max. particle size of 30 µm) or pneumatically with filtered compressed air in accordance with ISO 8573-1:2010 [7:4:4]

Warranty: 24 months

Scope of delivery: Centering elements, assembly instructions (operating manual with declaration of incorporation is available online), the gripper is not included in the scope of delivery and must be ordered separately

Gripping force: Refers to the combination of a GSW-B with a correspondingly named gripper, and represents the minimum sufficient gripping force.

Finger length: Is measured from the reference surface as the distance P in direction to the main axis.

Repeat accuracy: Is defined as a distribution of the end position for 100 consecutive strokes.

Closing and opening times: The indicated times depend on the flow rate and pressure of the drive medium and the therefrom resulting electrical resistances.



Application Example

Use of a gripper with spindle interface in a machine tool for automated loading of raw parts and unloading of finished parts.

- ① Workpiece rack
- ② Quick-change pallet system VERO-S with lathe chuck ROTA TPS
- ③ Gripper with spindle interface PGN-plus on GSW-B, and with wireless sensor system, RSS
- ④ Machine table

SCHUNK offers more ...

The following components make the product GSW-B even more productive – the suitable addition for the highest functionality, flexibility, reliability, and process safety.



Magnetic gripper



Vacuum gripper



Cleaning unit



Toolholder



Finger blank



Universal intermediate jaw



Jaw quick-change system



Protection cover



Reed switch



Wireless sensor system

① Further information on these products can be found on the following product pages or at schunk.com. Please contact us: SCHUNK technical hotline +49-7133-103-2696

Options and special Information

Air connections: Please note that the connection A of IS version grippers or grippers of AS version should not be sealed air-tight.

Diversity of variants: When using the GSW-B with the PGN-plus/-P and PZN-plus grippers, nearly all variants and accessories of these grippers can be used. For more information see the chapter gripper series. Further shaft diameters on request.

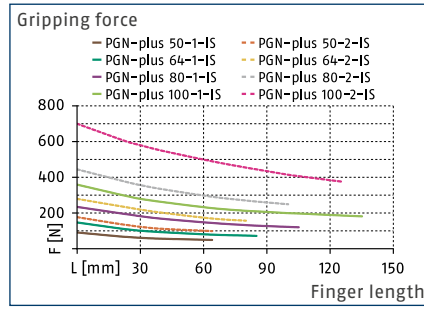
Precondition: If the spindles do not rotate, then the machines have to provide compressed air or coolant.

GSW-B 50-100

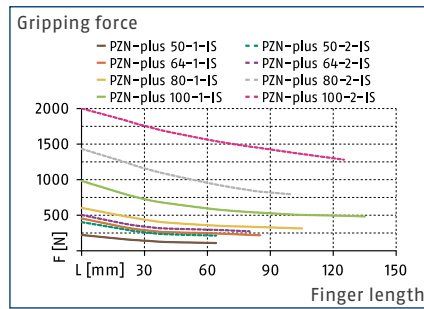
Special Grippers | Gripper with Shaft Interface



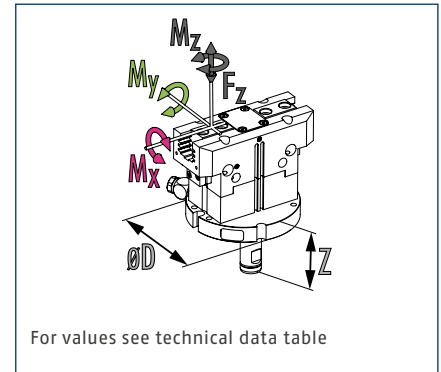
Gripping force O.D. gripping



Gripping force O.D. gripping



Dimensions and maximum loads



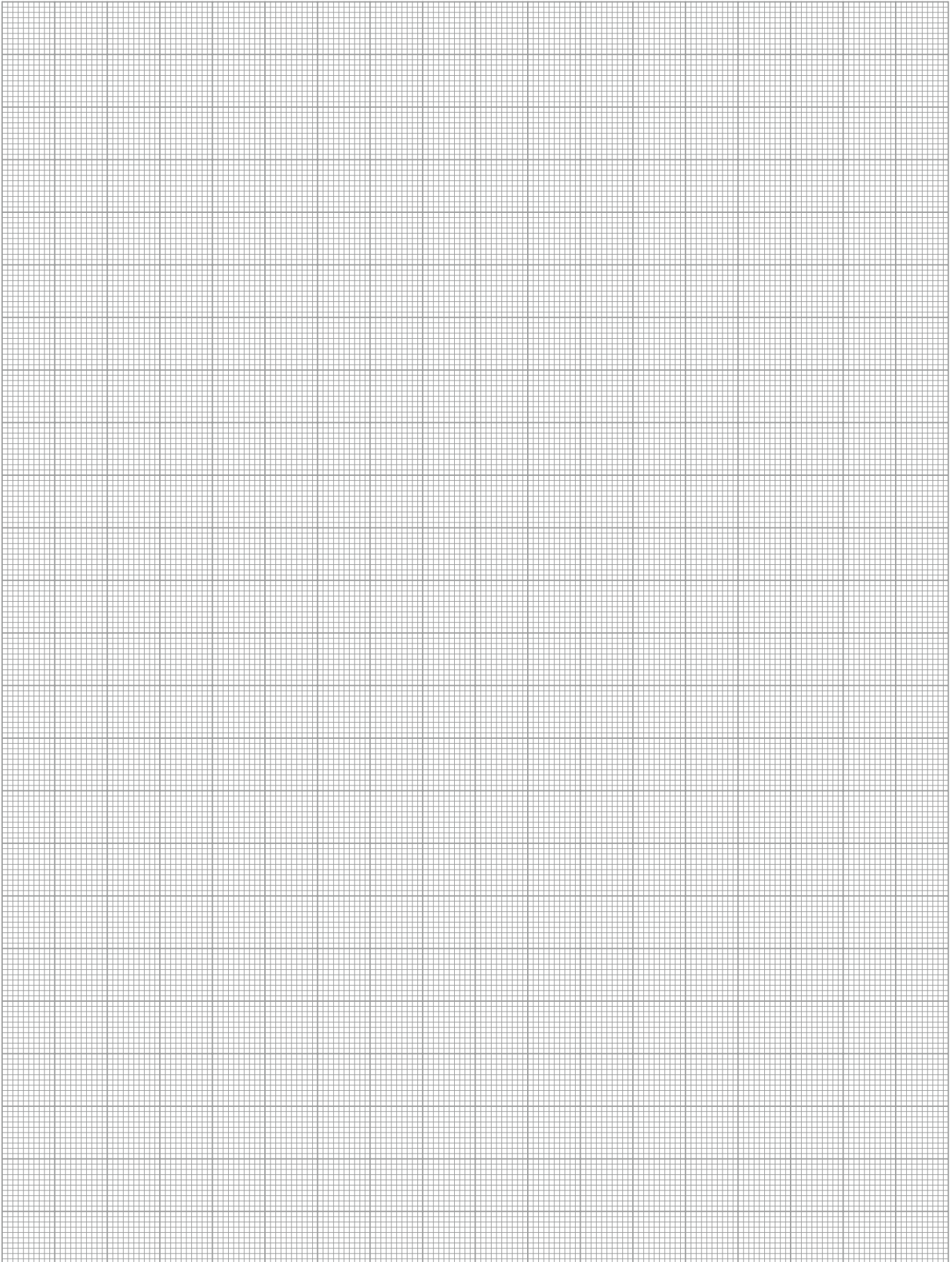
① Refer to the respective size of the gripper for the forces and torques.

Technical data

Description		GSW-B 50-P	GSWB 50-Z	GSW-B 64-PZ	GSW-B 80-PZ	GSW-B 100-PZ
ID		0308420	0308421	0308422	0308423	0308424
General technical data						
Weight	[kg]	0.2	0.2	0.23	0.31	0.42
Max. permissible speed	[1/min]	20	20	20	20	20
Nominal operating pressure compressed air	[bar]	6	6	6	6	6
Min./max. operating pressure, compressed air	[bar]	4/8	4/8	4/8	4/8	4/8
Nominal operating pressure coolant	[bar]	40	40	40	40	40
Min./max. operating pressure, coolant	[bar]	20/50	20/50	20/50	20/50	20/50
Protection class IP		40	40	40	40	40
Min./max. ambient temperature	[°C]	5/90	5/90	5/90	5/90	5/90
Dimensions Ø D x Z	[mm]	52 x 66	52 x 66	64 x 63	80 x 63	100 x 63
Prepared for parallel grippers		Yes	No	Yes	Yes	Yes
Prepared for centric grippers		No	Yes	Yes	Yes	Yes

① The values only relate to the adapter GSW-B.
The suitable gripper can be ordered separately.
You will find gripper-specific values on the following catalog pages.

More detailed, up-to-date information on the SCHUNK product including drawings, CAD data, and operating manuals are available online at: schunk.com/gsw-b



High flow rate. Cost-efficient. Compliant. Gripper with Shank Interface GSW-B and Compensation Unit

Universal gripper PGN-plus/PZN-plus with GSW-B shank interface and compensation unit AGE

Field of Application

Unit for fully automated loading and unloading of machining centers.

Advantages – Your benefits

Price-attractive module consisting of a universal gripper PGN-plus/PZN-plus and a shank interface

Fast, automated changeover from the gripper to the storage rack

Fully automated workpiece change without robot or gantry system

Three compensation directions in one unit compact design for minimum installation height

Robust sliding guidance for high moment load at minimum space

Compensation of workpiece-related tolerances and position inaccuracies reduced risk of jamming, necessary assembly forces are reduced and wear of the workpiece and handling device is minimized



Sizes
Quantity: 4



Suitable for
PGN-plus /
PZN-plus



Shank diameter
20 mm



Compensation XY
1.5 mm

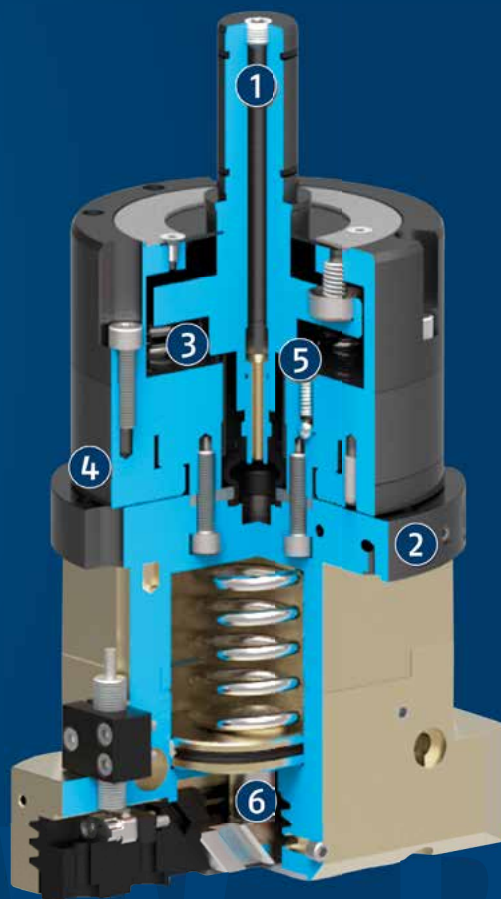


Compensation Z
2.7 mm

Functional Description

The pressure generated by the central machine coolant supply is reduced by the pressure distributor, which is integrated in the adapter plates. The gripper can then be actuated and can actuate the base jaws correspondingly

via the piston and wedge hook. During the gripping operation the gripper continuously supplies coolant or compressed air via the lateral pressure control valve.



- ① **Taper shank**
For universal assembly of the gripper
- ② **Adapter plate with integrated pressure distributor**
For a large pressure range
- ③ **Axial compensation**
Spring-loaded, for pressing workpieces into place
- ④ **Planar compensation**
For preventing the spindle or axes from wear
- ⑤ **Angular compensation**
For higher flexibility and compliance
- ⑥ **Gripper kinematics**
For high force transmission and centric gripping



General Notes about the Series

Operating principle: Pressure distributor and wedge-hook kinematics

Housing material: Aluminum alloy, anodized

Base jaw material: Blackened steel

Spindle interface material: Aluminum alloy

Actuation: Hydraulically with machine coolant (filtered, max. particle size of 30 µm) or pneumatically with filtered compressed air in accordance with ISO 8573-1:2010 [7:4:4]

Warranty: 24 months

Scope of delivery: Centering elements, assembly instructions (operating manual with declaration of incorporation is available online), the gripper is not included in the scope of delivery and must be ordered separately

Gripping force: Refers to the combination of a GSW-B with a correspondingly named gripper, and represents the minimum sufficient gripping force.

Finger length: Is measured from the reference surface as the distance P in direction to the main axis.

Repeat accuracy: Is defined as a distribution of the end position for 100 consecutive strokes.

Closing and opening times: The indicated times depend on the flow rate and pressure of the drive medium and the therefrom resulting electrical resistances.



Application Example

Handling of pinions in a milling center.

- ① Vacuum gripper GSW-V
- ② Magnetic gripper GSW-M
- ③ Gripper with shank interface GSW-B and PGN-plus
- ④ Gripper with shank interface GSW-B and PZN-plus
- ⑤ Cleaning unit RGG
- ⑥ Wireless sensor system RSS

SCHUNK offers more ...

The following components make the product GSW-B-AGE even more productive – the suitable addition for the highest functionality, flexibility, reliability, and process safety.



Magnetic gripper



Vacuum gripper



Cleaning unit



Toolholder



Finger blank



Universal intermediate jaw



Jaw quick-change system



Protection cover



Reed switch



Wireless sensor system

① Further information on these products can be found on the following product pages or at schunk.com. Please contact us: SCHUNK technical hotline +49-7133-103-2696

Options and special Information

Please note that use under extreme conditions (e.g. with coolant, casting or abrasive dust) will considerably reduce the service life of this product.

Further shaft diameters on request.

Please note that the connection A of IS version grippers or grippers of AS version should not be sealed air-tight.

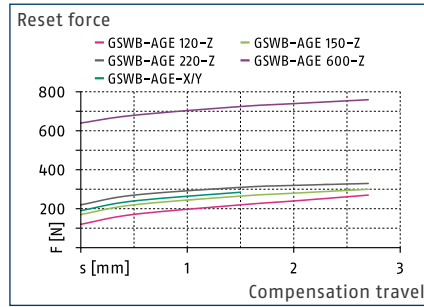
Precondition: If the spindles do not rotate, then the machines have to provide compressed air or coolant.

GSW-B-AGE 50-100

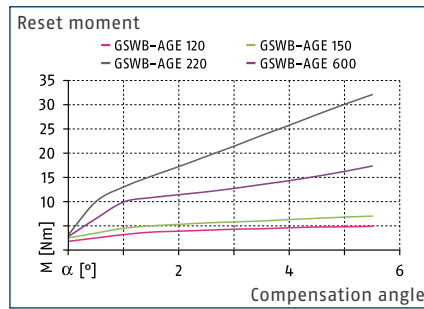
Special Grippers | Gripper with Shaft Interface



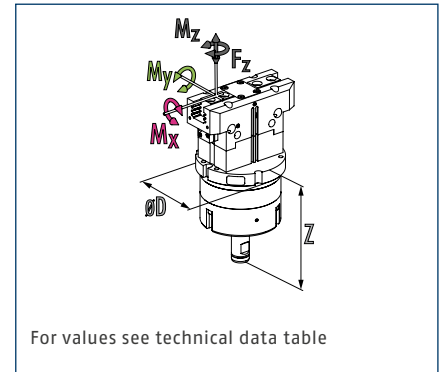
Compensation travel



Compensation angle



Dimensions and maximum loads



① Refer to the respective size of the gripper for the forces and torques.

Technical data

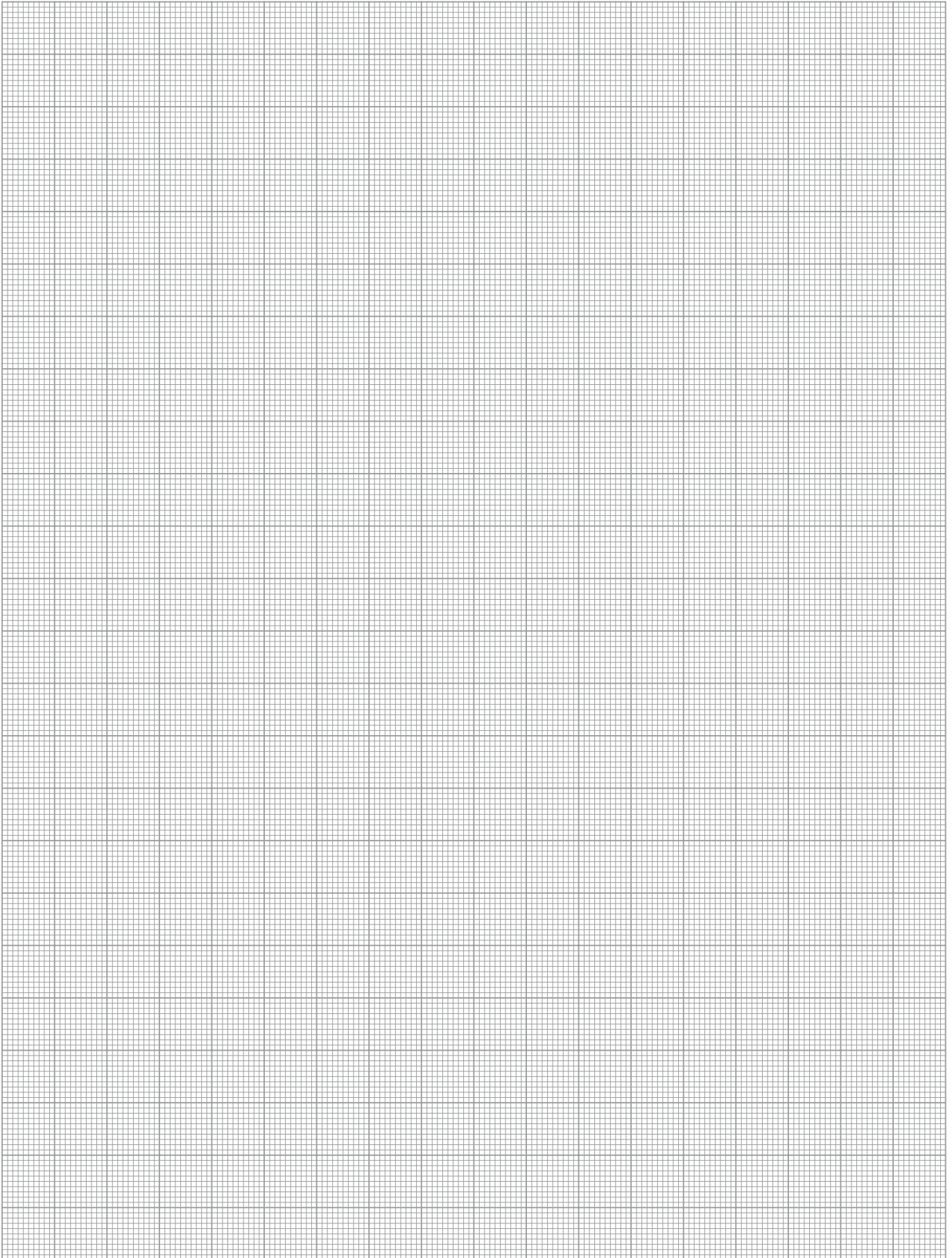
Description		GSW-B-AGE-XYZ 120	GSW-B-AGE-XYZ 150	GSW-B-AGE-XYZ 220	GSW-B-AGE-XYZ 600
ID		0308435	0308436	0308437	0308438
General technical data					
Weight	[kg]	1.1	1.1	1.1	1.1
Max. permissible speed	[1/min]	20	20	20	20
Nominal operating pressure compressed air	[bar]	6	6	6	6
Min./max. operating pressure, compressed air	[bar]	4/8	4/8	4/8	4/8
Nominal operating pressure coolant	[bar]	40	40	40	40
Min./max. operating pressure, coolant	[bar]	20/50	20/50	20/50	20/50
Min./max. ambient temperature	[°C]	5/90	5/90	5/90	5/90
Compensation XY	[mm]	1.5	1.5	1.5	1.5
Compensation Z	[mm]	2.7	2.7	2.7	2.7
Angular deflection	[°]	5.5	5.5	5.5	5.5
Deflection rotatory	[°]	3.5	3.5	3.5	3.5
Rotary compensation torque	[Nm]	0.2	0.2	0.2	0.2
Dimensions Ø D x Z	[mm]	90 x 132.1	90 x 129.1	90 x 129.1	90 x 129.1
Moments M_x max./ M_y max./ M_z max.	[Nm]	20.00/25.00/10.00	40.00/60.00/40.00	60.00/95.00/55.00	80.00/115.00/70.00
Forces F_z max.	[N]	500.00	1100.00	1500.00	2000.00

① The values only refer to the adapter GSW-B-AGE with compensation unit. The suitable gripper can be ordered separately.

You will find gripper-specific values on the following catalog pages.

Position of the allowable center of mass as a function of the payload for horizontal applications. A higher value of mass is valid for central locking, and a lower value of mass for position storage.

More detailed, up-to-date information on the SCHUNK product including drawings, CAD data, and operating manuals are available online at: schunk.com/gsw-b-age



GSW-V

Special Grippers | Vacuum Gripper with Shank Interface

Compact. Cost-efficient. Productive.

Vacuum Gripper with Shank Interface GSW-V

Vacuum gripper for spindle interfaces are ideal for handling flat components

Field of Application

Unit for automatic loading and unloading of machining centers by their own axis, which provides compressed air and coolant supply via the tool mounting.

Advantages – Your benefits

Price-attractive module for flexible automation in your machine

Fast, automated exchange and insertion of the gripper from the storage rack

Fully automated workpiece changeover without robot or gantry system

Universally suitable for many different workpieces



Suction pad diameter
30 .. 125 mm



Clamping diameter
20 .. 32 mm



Weight
0.12 .. 0.39 kg



Gripping force
55 .. 980 N



Workpiece weight
0.28 .. 4.9 kg

Functional Description

The gripper can be used in any machine which provides compressed air or coolant supply via the toolholder mounting.

The vacuum gripper is equipped with an integrated

Venturi nozzle, and therefore does not require a vacuum connection to generate negative pressure.

During the gripping operation the gripper continuously supplies coolant or compressed air.



① **Vacuum suction cup**
For a flexible range of parts

② **Intake duct**
For producing suction power

③ **Media supply**
Via spindle interface

④ **Venturi nozzle**
For producing negative pressure

⑤ **Outlet opening**
For diverting the overpressure



GSW-V

Special Grippers | Vacuum Gripper with Shank Interface

General Notes about the Series

Operating principle: Venturi nozzle

Housing material: Aluminum

Spindle interface material: Aluminum alloy

Material of the suction cups: NBR-60

Actuation: Hydraulically with machine coolant (filtered, max. particle size of 30 µm) or pneumatically with filtered compressed air in accordance with ISO 8573-1:2010 [7:4:4]

Warranty: 24 months

Scope of delivery: Assembly and operating manual

Suction pad: Perfectly adaptable to smooth surfaces, with damping effect during attachment, and stroke effect during the suction phase. Special suction cups on request.

Times: The indicated times depend on the flow rate and pressure of the drive medium and the therefrom resulting electrical resistances.

Workpiece weight: Is calculated for force-fit gripping, specified rated flow rate and pressure, as well as a confidence coefficient of 2 against the gravitational force of the earth's acceleration.



Application Example

Handling of pinions in a milling center.

- ❶ Vacuum gripper GSW-V
- ❷ Magnetic gripper GSW-M
- ❸ Gripper with shank interface GSW-B and PGN-plus
- ❹ Gripper with shank interface GSW-B and PZN-plus
- ❺ Cleaning unit RGG
- ❻ Wireless sensor system RSS

SCHUNK offers more ...

The following components make the product GSW-V even more productive – the suitable addition for the highest functionality, flexibility, reliability, and process safety.



Gripper with shaft interface



Magnetic gripper



Cleaning unit



Toolholder



Stationary workholding

Further information on these products can be found on the following product pages or at schunk.com. Please contact us: SCHUNK technical hotline +49-7133-103-2696

Options and special Information

Please note that use under extreme conditions (e.g. with coolant, casting or abrasive dust) will considerably reduce the service life of this product.

Further shaft diameters on request.

Please note that the product is not suitable for heat shrink toolholders.

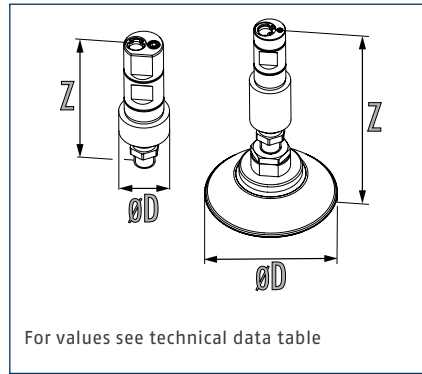
Precondition: If the spindles do not rotate, then the machines have to provide compressed air or coolant.

GSW-V 20

Special Grippers | Vacuum Gripper with Shank Interface



Dimensions

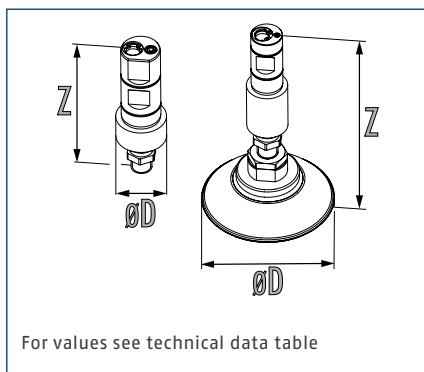


Technical data

Description		GSW-V20	GSW-V20-SND030	GSW-V20-SND080	GSW-V20-SND125
ID		0309120	0309121	0309122	0309123
Weight	[kg]	0.12	0.14	0.19	0.28
Recommended workpiece weight	[kg]		0.28	2	4.9
Time evacuation	[s]		1	1.1	1.2
Time for putting down	[s]		0.7	0.7	0.7
Suction force	[N]		55	400	980
Min./max. ambient temperature	[°C]	5/90	5/90	5/90	5/90
Max. permissible speed	[1/min]	20	20	20	20
Nominal operating pressure compressed air	[bar]	6	6	6	6
Nominal flow rate compressed air	[l/min]	300	300	300	300
Min./max. operating pressure, compressed air	[bar]	4/8	4/8	4/8	4/8
Min. flow rate compressed air	[l/min]	220	220	220	220
Nominal operating pressure coolant	[bar]	40	40	40	40
Nominal flow rate coolant	[l/min]	25	25	25	25
Min./max. operating pressure, coolant	[bar]	20/60	20/60	20/60	20/60
Nominal vacuum	[bar]	-0.8	-0.8	-0.8	-0.8
Min. vacuum	[bar]	-0.6	-0.6	-0.6	-0.6
Noise pressure level	[dB(A)]	90	90	90	90
Dimensions Ø D x Z	[mm]	26 x 100	34 x 110	89 x 130	135 x 138

More detailed, up-to-date information on the SCHUNK product including drawings, CAD data, and operating manuals are available online at: schunk.com/gsw-v

Dimensions



Technical data

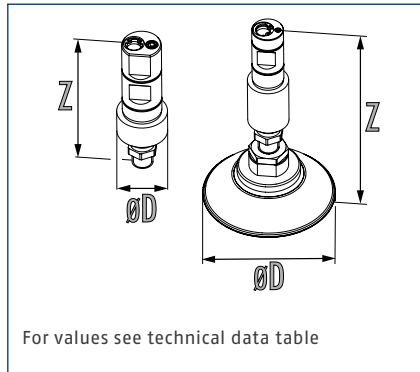
Description		GSW-V25	GSW-V25-SND030	GSW-V25-SND080	GSW-V25-SND125
ID		0309125	0309126	0309127	0309128
Weight	[kg]	0.15	0.17	0.22	0.31
Recommended workpiece weight	[kg]		0.28	2	4.9
Time evacuation	[s]		1	1.1	1.2
Time for putting down	[s]		0.7	0.7	0.7
Suction force	[N]		55	400	980
Min./max. ambient temperature	[°C]	5/90	5/90	5/90	5/90
Max. permissible speed	[1/min]	20	20	20	20
Nominal operating pressure compressed air	[bar]	6	6	6	6
Nominal flow rate compressed air	[l/min]	300	300	300	300
Min./max. operating pressure, compressed air	[bar]	4/8	4/8	4/8	4/8
Min. flow rate compressed air	[l/min]	200	200	200	200
Nominal operating pressure coolant	[bar]	40	40	40	40
Nominal flow rate coolant	[l/min]	25	25	25	25
Min./max. operating pressure, coolant	[bar]	20/60	20/60	20/60	20/60
Nominal vacuum	[bar]	-0.8	-0.8	-0.8	-0.8
Min. vacuum	[bar]	-0.6	-0.6	-0.6	-0.6
Noise pressure level	[dB(A)]	94	94	94	94
Dimensions Ø D x Z	[mm]	32 x 100	34 x 110	89 x 130	135 x 138

GSW-V 32

Special Grippers | Vacuum Gripper with Shank Interface



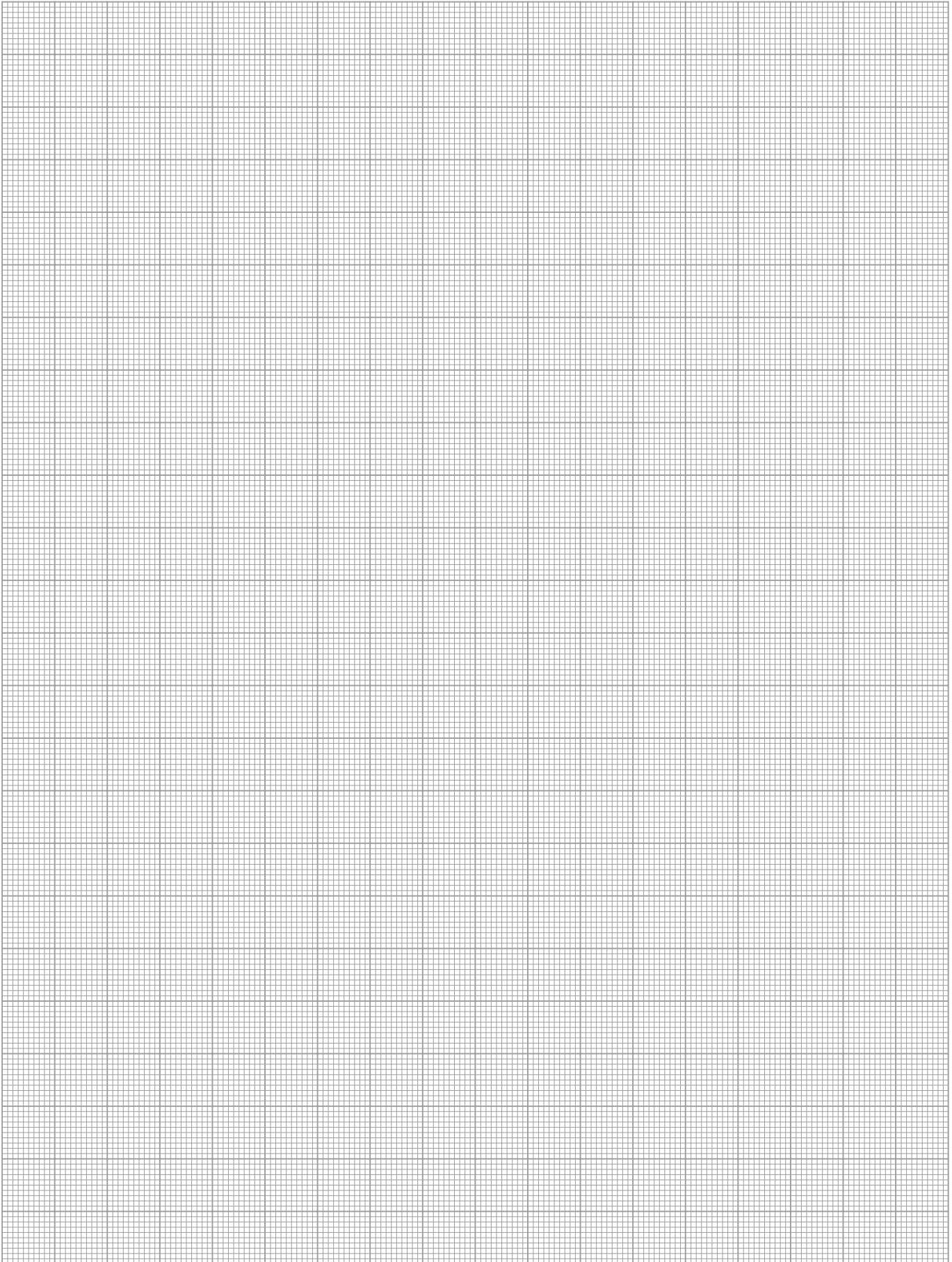
Dimensions



Technical data

Description		GSW-V32	GSW-V32-SND030	GSW-V32-SND080	GSW-V32-SND125
ID		0309130	0309131	0309132	0309133
Weight	[kg]	0.23	0.24	0.3	0.39
Recommended workpiece weight	[kg]		0.28	2	4.9
Time evacuation	[s]		1	1.1	1.2
Time for putting down	[s]		0.7	0.7	0.7
Suction force	[N]		55	400	980
Min./max. ambient temperature	[°C]	5/90	5/90	5/90	5/90
Max. permissible speed	[1/min]	20	20	20	20
Nominal operating pressure compressed air	[bar]	6	6	6	6
Nominal flow rate compressed air	[l/min]	350	350	350	350
Min./max. operating pressure, compressed air	[bar]	4/8	4/8	4/8	4/8
Min. flow rate compressed air	[l/min]	250	250	250	250
Nominal operating pressure coolant	[bar]	40	40	40	40
Nominal flow rate coolant	[l/min]	25	25	25	25
Min./max. operating pressure, coolant	[bar]	20/60	20/60	20/60	20/60
Nominal vacuum	[bar]	-0.8	-0.8	-0.8	-0.8
Min. vacuum	[bar]	-0.6	-0.6	-0.6	-0.6
Noise pressure level	[dB(A)]	98	98	98	98
Dimensions Ø D x Z	[mm]	40 x 105	34 x 115	89 x 135	135 x 143

More detailed, up-to-date information on the SCHUNK product including drawings, CAD data, and operating manuals are available online at: schunk.com/gsw-v



GSW-M

Special Grippers | Magnetic Gripper with Shank Interface

Cost-efficient. Productive. Compliant.

Magnetic Gripper with Shank Interface GSW-M

Magnetic gripper for spindle interfaces is excellently suitable for handling flat components

Field of Application

Unit for automatic loading and unloading of machining centers by their own axis, which provides compressed air and coolant supply via the tool mounting.

Advantages – Your benefits

Price-attractive module for flexible automation in your machine

Fast, automated exchange and insertion of the gripper from the storage rack

Fully automated workpiece change without robot or gantry system

Universally suitable for many different workpieces



Sizes
Quantity: 1



Weight
1 kg



Holding force
70 N



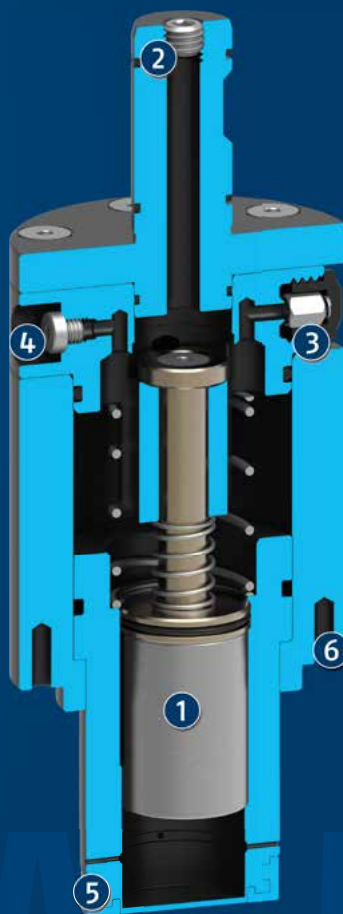
Workpiece weight
3.5 kg

Functional Description

The gripper can be used in any machine which provides compressed air or coolant supply via the toolholder mounting.

The magnetic gripper GSW-M is placed on the workpiece and pressed 20 mm deep. The spring force (F_c) of the ejector must be overcome. (In addition, there is a reserve or compensation stroke of 9 mm.)

The stroke causes the permanent magnet to approach the workpiece and the workpiece is firmly held by the magnet. To place the workpiece, the gripper is actuated with compressed air or coolant. During the placement, the gripper continuously supplies coolant or compressed air via the outlet port.



- | | |
|---|--|
| <p>① Permanent magnet
For holding of magnetic materials</p> <p>② Media supply
Via spindle interface</p> <p>③ Overpressure valve
For a large pressure range</p> | <p>④ Drain valve
For coolant operation</p> <p>⑤ Rubber friction ring
For absorbing shear forces and protecting the workpiece</p> <p>⑥ Thread
For customer-specific attachments/supports</p> |
|---|--|



GSW-M

Special Grippers | Magnetic Gripper with Shank Interface

General Notes about the Series

Operating principle: Permanent magnet

Housing material: Aluminum

Spindle interface material: Aluminum alloy

Actuation: Hydraulically with machine coolant (filtered, max. particle size of 30 µm) or pneumatically with filtered compressed air in accordance with ISO 8573-1:2010 [7:4:4]

Warranty: 24 months

Scope of delivery: Assembly and operating manual



Application Example

Handling of pinions in a milling center.

- ❶ Vacuum gripper GSW-V
- ❷ Magnetic gripper GSW-M
- ❸ Gripper with shank interface GSW-B and PGN-plus
- ❹ Gripper with shank interface GSW-B and PZN-plus
- ❺ Cleaning unit RGG
- ❻ Wireless sensor system RSS

SCHUNK offers more ...

The following components make the product GSW-M even more productive – the suitable addition for the highest functionality, flexibility, reliability, and process safety.



Gripper with shaft interface



Vacuum gripper



Cleaning unit



Toolholder



Stationary workholding

Further information on these products can be found on the following product pages or at schunk.com. Please contact us: SCHUNK technical hotline +49-7133-103-2696

Options and special Information

Please note that use under extreme conditions (e.g. with coolant, casting or abrasive dust) will considerably reduce the service life of this product.

Further shaft diameters on request.

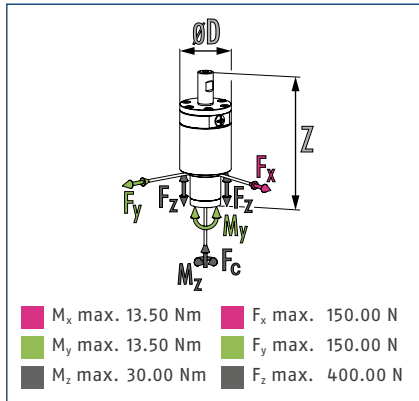
Please note that the product is not suitable for heat shrink toolholders.

Precondition: If the spindles do not rotate, then the machines have to provide compressed air or coolant.

GSW-M 20

Special Grippers | Magnetic Gripper with Shank Interface

Dimensions and maximum loads

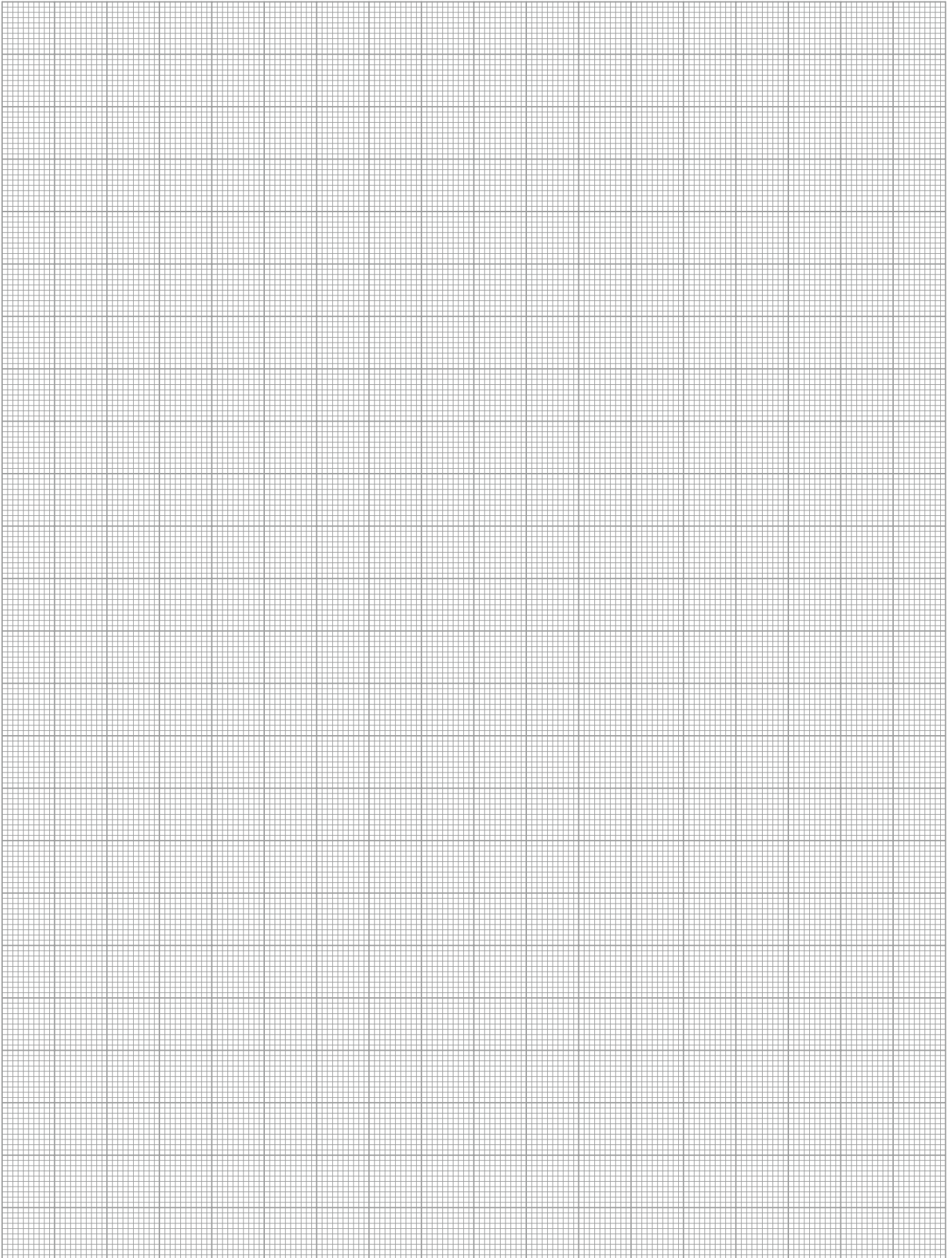


ⓘ The indicated moments and forces are static values and should not appear simultaneously.

Technical data

Description		GSW-M 20
ID		0308355
General technical data		
Weight	[kg]	1
Holding force	[N]	70
Recommended workpiece weight	[kg]	3.5
Max. permissible speed	[1/min]	0
Nominal operating pressure compressed air	[bar]	6
Min./max. operating pressure, compressed air	[bar]	2/8
Nominal operating pressure coolant	[bar]	40
Min./max. operating pressure, coolant	[bar]	10/50
Min./max. ambient temperature	[°C]	5/90
Dimensions $\varnothing D \times Z$	[mm]	67 x 177.1
Broach spring force F_c	[N]	80.00

More detailed, up-to-date information on the SCHUNK product including drawings, CAD data, and operating manuals are available online at: schunk.com/gsw-m



RGG

Special Grippers | Cleaning Unit with Shank Interface

Reliable. Productive. Cost-efficient.

General Accessories RGG

For cleaning of clamping devices and automation of machine tools. The cleaning unit can be used in any machine, which provides compressed air or coolant supply via the tool mounting

Field of Application

Every machine with conventional tool mountings and compressed air or coolant supply by the spindle.

Advantages – Your benefits

Price-attractive module for flexible automation in your machine

Fast, automatic cleaning for a maximum machine utilization

Idle times reduced to a minimum

Increased safety for the machine operators



Sizes
Quantity: 1



Weight
0.1 kg

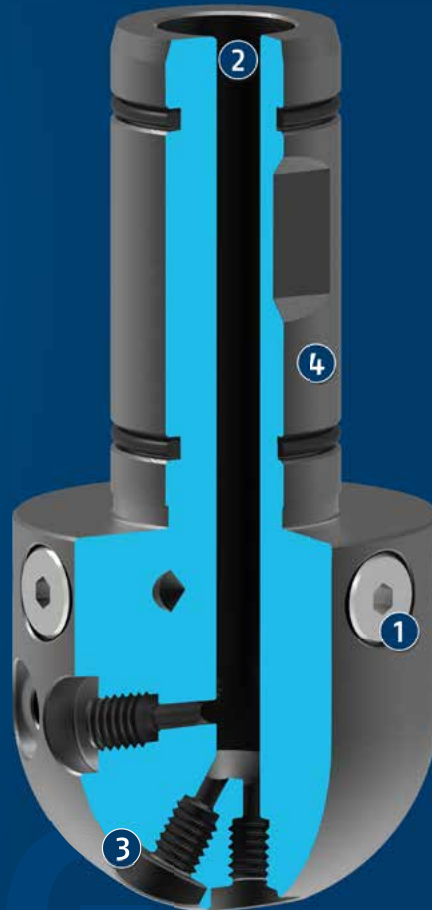
Functional Description

The cleaning unit is operated hydraulically with machine coolant (filtered, max. particle size of 30 µm) or pneumatically with filtered compressed air in accordance with ISO 8573-1:2010 [7:4:4].

Cleanliness made simple – a total of six nozzles on the ballhead blow out a powerful jet of air or coolant, which is

forced from the toolholder taper into the shaft of the cleaning unit via a bore.

The head can also rotate with the machine tool spindle when it moves, and can reach all corners of the working area.



① **Locking screws and restrictor inserts**
For changing the cleaning jet

② **Center bore**
For introduction of cleaning medium

③ **Outlet openings**
For producing cleaning jets

④ **Clamping diameter**
For mounting in any toolholding system



General Notes about the Series

Spindle interface material: Aluminum alloy

Actuation: Hydraulically with machine coolant (filtered, max. particle size of 30 µm) or pneumatically with filtered compressed air in accordance with ISO 8573-1:2010 [7:4:4]

Warranty: 24 months

Scope of delivery: Scope of delivery with locking screws, set-screws, assembly and operating instructions



Application Example

Handling of pinions in a milling center.

- ❶ Vacuum gripper GSW-V
- ❷ Magnetic gripper GSW-M
- ❸ Gripper with shank interface GSW-B and PGN-plus
- ❹ Gripper with shank interface GSW-B and PZN-plus
- ❺ Cleaning unit RGG
- ❻ Wireless sensor system RSS

SCHUNK offers more ...

The following components make the product RGG even more productive – the suitable addition for the highest functionality, flexibility, reliability, and process safety.



Gripper with shaft interface



Vacuum gripper



Magnetic gripper



Toolholder



Stationary workholding

Further information on these products can be found on the following product pages or at schunk.com. Please contact us: SCHUNK technical hotline +49-7133-103-2696

Options and special Information

Please note that use under extreme conditions (e.g. with coolant, casting or abrasive dust) will considerably reduce the service life of this product.

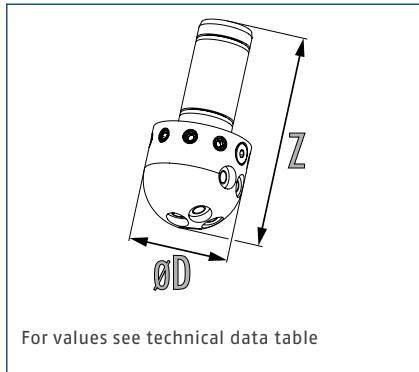
Please note that the product is not suitable for heat shrinking toolholders.

RGG 20

Special Grippers | Cleaning Unit with Shank Interface



Dimensions



Technical data

Description		RGG 20
ID		0308590
Weight	[kg]	0.10
Min./max. ambient temperature	[°C]	-10/90
Max. permissible speed	[1/min]	100
Max. operating pressure	[bar]	80
Dimensions $\varnothing D \times Z$	[mm]	37 x 78

More detailed, up-to-date information on the SCHUNK product including drawings, CAD data, and operating manuals are available online at: schunk.com/rgg

