Modular Design

Version of the series:

- **Type**: GSM
- **Gripper type**: P, Z, W, R
- **Size**: 32, 40, 50, 64, 30, 38, 45, 16, 20, 25, 32, 40
- **Gripping force safety device**: without, AS, IS, without
- **End position damping**: E, S
- **Swivel angle**: 90°, 180°
Pneumatic · Gripper-Swivel System

How to order

GSM - P - 20 - AS - E - 090

- Swivel angle
  - 90° / 180°

- End position damping
  - E = with Elastomer damping
  - S = with Hydraulic shock absorbers

- Gripping force safety device
  - without / O.D. clamping / I.D. clamping

- Size
  - 16 / 20 / 25 / 30 / 32 / 38 / 40 / 45 / 50 / 64

- Gripper type
  - P = Parallel gripper
  - Z = Centric gripper
  - W = Angular gripper
  - R = Radial gripper

End stop adjustability and switching angle of sensor

- in the case of 90° units
  - 0° - 3° to 90° - 93°

- in the case of 180° units
  - 0° - 3° to 180° - 183°
**GSM-R**

Pneumatic • Gripper-Swivel System • Radial Gripper Swivel Module

**Sizes**
16 ... 40

**Weight**
0.49 kg ... 2.19 kg

**Gripping moment**
0.9 Nm ... 15 Nm

**Angle per jaw**
90°

**Torque**
0.3 Nm ... 2.9 Nm

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**Application example**

Double converter for simultaneous conversion of two workpieces on a separate workpiece carrier.

1. GSM-R Gripper Swivel Module
2. Linear module LM
Radial Gripper Swivel Module
compact rotary gripper combination, consisting of a powerful pneumatic rotary actuator, an end position and damping mechanism and a radial gripper.

Field of application
gripping and rotating combined in a single compact module, for automated assembly in places with a restricted amount of available space.

Your advantages and benefits
Space-saving
as the rotary drive, end-position damping unit and gripper are merged in one compact module.

Economical
since adapter plates are not needed, there will be costs for project planning and engineering design.

Roller guide
for precise gripping through base jaw guidance with minimum play.

Process reliability
as moving cables and hoses are replaced by integrated feed-throughs.

Comprehensive accessories
through the use of existing gripper components.

General note to the series
Principle of function
double-acting, guided kinematics.

Housing material
Aluminum alloy, hard-anodized.

Base jaw material
Steel.

Actuation
pneumatic, with filtered compressed air (10 microns): dry, lubricated or non-lubricated.

Pressure medium: Required quality class of compressed air according to DIN ISO 8573-1: 6 4 4.

Warranty
24 months (details, general terms and conditions and operation manuals can be downloaded under www.schunk.com).

Scope of delivery
Centering sleeves, O-rings for direct connection, screws for lateral fastening, steel balls for adjustment of the swiveling angle, assembly and operation manual with declaration of incorporation.

Gripping force maintenance device
with either mechanical gripping force maintenance or SDV-P pressure maintenance valve.
Sectional diagram

Functional description
As its rotor is actuated with pressure, the drive rotates the integrated gripping module. The module itself is driven by its own piston. The piston motion is subsequently transformed into a synchronized gripping motion.

Options and special information
Despite the many options and versions already available as standard, SCHUNK also designs and produces customized versions on request.
Accessories

Accessories from SCHUNK – the suitable supplement for maximum functionality, reliability and performance of all automation modules.

Plastic inserts

Gripper pads

Centering sleeves

Fittings

Programmable magnetic switch

Sensor cables

Sensor Distributor

Pressure maintenance valve

General note to the series

Gripping moment

Gripping moment is the arithmetic total of gripping moments for each claw jaw.

Finger length

The finger length is measured from the upper edge of the gripper housing in direction to the main axis. If the max. admissible finger length is exceeded, the speed of jaw motions have to be reduced and/or the opening angle has to be diminished, as it is done with heavy fingers. The service life of the gripper can shorten.

Repeat accuracy

is defined as the spread of the limit position after 100 consecutive strokes.

Workpiece weight

The recommended workpiece weight is calculated for a force-type connection with a coefficient of friction of 0.1 and a safety factor of 2 against slippage of the workpiece on acceleration due to gravity g. Considerably heavier workpiece weights are permitted with form-fit gripping.

Closing and opening times, cycle times

Closing and opening times are purely the times that the base jaws or fingers are in motion. Cycle times are purely the times that the rotating port (mostly the pinion) is in motion. Valve switching times, hose filling times or PLC reaction times are not included in the above times and must be taken into consideration when determining cycle times.

Middle attached load

The middle attached load should constitute a typical load. It is defined as the half of the max. possible mass moment of inertia that can be swiveled without restriction, bouncing or hitting, with a centric load and a vertical rotating axis.

For the exact size of the required accessories, availability of this size and the designation and ID, please refer to the additional views at the end of the size in question. You will find more detailed information on our accessory range in the “Accessories” catalog section.
Pneumatic • Gripper-Swivel System • Radial Gripper Swivel Module

## Technical data

<table>
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<tr>
<th>Description</th>
<th>GSM-R 32 E-090</th>
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### OPTIONS and their characteristics

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The indicated moments and forces are statical values, apply for each base jaw and should not appear simultaneously. If the maximum admissible finger weight is exceeded, throttling is necessary in order to ensure a smooth jaw motion without jerks or bounces. The life-time may reduce.
Main view

The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

1. The SDV-P pressure maintenance valve can also be used for I.D. or O.D. gripping alternatively or in addition to the spring-loaded, mechanical gripping force maintenance device (see “Accessories” catalog section).

Hose-free direct connection

The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

Version with shock absorbers

The drawing shows changes in dimensions of the shock absorber versions, compared to the elastomer versions shown on the main view.
CAUTION: Monitoring is carried out by magnetic switches, and in case of side-by-side assembly of several units, a minimum distance of X mm between the units must be maintained.

Programmable magnetic switch

Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

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<th>Description</th>
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1) Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

2) Per each GSM two sensors MMS-P are required. If standard extension cables (M8-3P) are used, the sensor distributor can be applied.

You can find more detailed information and individual parts of the above-mentioned accessories in the “Accessories” catalog section.