

Robust. Flexible. Strong.

Universal Gripper EZN

Servo-electric 3-finger centric gripper with high gripping force and high maximum moment due to the use of a multi-tooth guidance

Field of Application

Optimum standard solution for many areas of application; flexible use due to controllable gripping force, position, and speed.

Advantages – Your benefits

Drive design of servomotor for flexible use

With external electronics for simple integration into existing servo-controlled concepts via PROFINET, PROFIBUS or CAN

Pre-positioning capability to reduce cycle times through a short working stroke

Robust multi-tooth guidance for precise handling

High maximum moments possible suitable for using long gripper fingers

Fastening at one gripper side in two screw directions for universal and flexible gripper assembly



Sizes
Quantity: 2



Weight
0.98 .. 2.48 kg



Gripping force
500 .. 800 N



Stroke per jaw
6 .. 10 mm



Workpiece weight
2.5 .. 4 kg

Functional Description

The spindle nut which is mounted on bearings, transfers the rotary motion of the servomotor into an axial motion. The oblique surfaces of the wedge-hook generate a synchronous jaw movement.



① **Wedge-hook principle**

For high force transmission and centric gripping

② **Base jaw**

With multi-tooth guidance for precise gripping, even with long gripper fingers

③ **Housing**

Is weight-optimized due to the use of high-strength aluminum alloy

④ **Spindle nut**

Transforms the rotational movement into the axial movement of the wedge-hook

⑤ **Drive**

DC servomotor with resolver

General Notes about the Series

Operating principle: Wedge-hook kinematics

Housing material: Aluminum alloy, coated

Base jaw material: Steel

Actuation: Servo-electric, via brushless DC servomotor and spindle drive

Warranty: 24 months

Scope of delivery: Enclosed accessory pack with centering sleeves and centering pin, assembly and operating manual with declaration of incorporation. An external controller is required for operating the gripper EZN ECM required. Connection cables are also required for the EZN-S plug version. The controller and the connection cables are not included in the scope of delivery and have to be ordered separately.

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.

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.

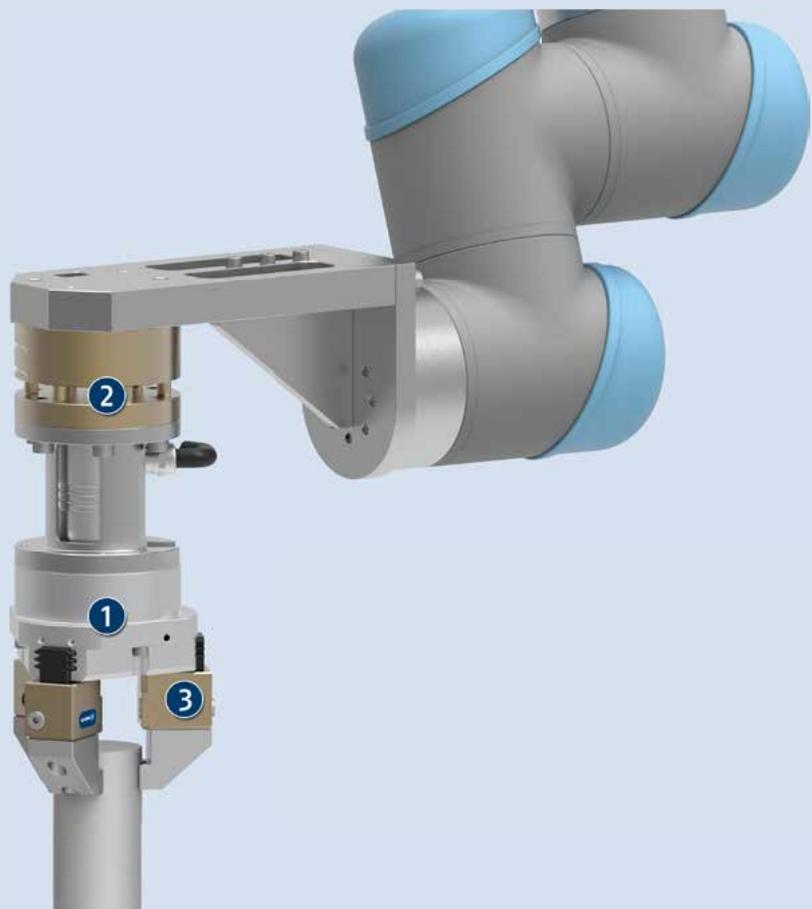
Closing and opening times: Minimum closing and opening times are merely the movement times of the base jaws or fingers at max. speed, max. acceleration, without current limitation (maximum current), and observance of the maximum permissible mass per finger.

Nominal currents: Can be permanently actuated. With regard to all the currents which are ranging above the nominal current up to the maximum current, the notes of the individual product documentation has to be respected.

Application Example

Gripping unit for machine loading of raw material.

- 1 3-finger centric gripper EZN
- 2 Compensation unit AGE-Z
- 3 Jaw quick-change system BSWS



SCHUNK offers more ...

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



Controller



Jaw quick-change system



Finger blank



Protection cover

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

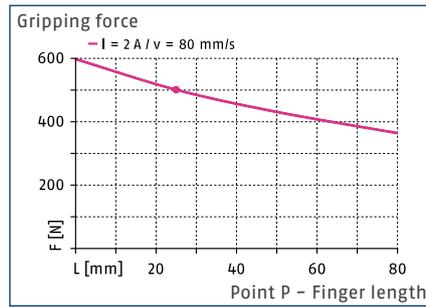
Control via external controller ECM: The electrical control of the gripper takes place via the separately available controller ECM. Integration of the controller into the higher-level control concept is either via PROFINET, PROFIBUS-DP or CAN. Both communication interfaces ensure simple integration into the higher level control system and enable the design of industrial bus topologies.

Plug version EZN-S: Plug version EZN-S is available for the controller ECM in addition to the standard variant with 5 m attached connection cable. The gripper has a 30 cm long cable and stepped Y-plug in this version. Drag-chain-compatible or robot-compatible power and sensor cables have to be ordered separately.

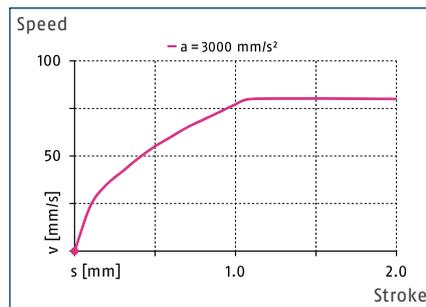
Dust-tight version SD: Absolutely dust-tight, increased degree of protection against ingress of materials.



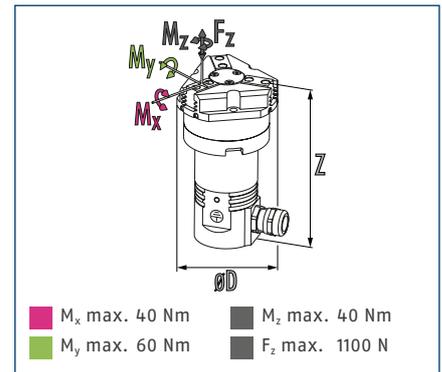
Gripping force



Speed



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

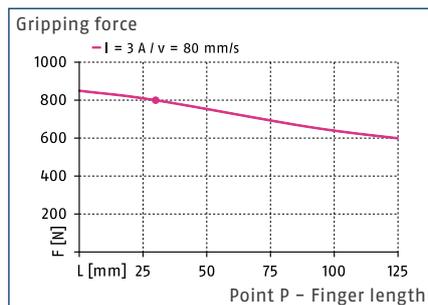
Description		EZN 64	EZN 64-S
ID		0306110	0306113
General operating data			
Stroke per jaw	[mm]	6	6
Min./max. gripping force	[N]	140/500	140/500
Recommended workpiece weight	[kg]	2.5	2.5
Max. permissible finger length	[mm]	80	80
Max. permissible mass per finger	[kg]	0.35	0.35
Repeat accuracy	[mm]	±0.01	±0.01
Min./max. air purge pressure	[bar]	0.5/1	0.5/1
Closing/opening time	[s]	0.25/0.25	0.25/0.25
Max. speed	[mm/s]	80	80
Max. acceleration	[mm/s ²]	3000	3000
Weight	[kg]	0.98	0.98
Min./max. ambient temperature	[°C]	5/55	5/55
Protection class IP		41	41
Dimensions Ø D x Z	[mm]	70.5 x 133.5	70.5 x 133.5
Electrical operating data			
Nominal voltage	[V DC]	24	24
Nominal current	[A]	2	2
Max. current	[A]	4	4
Controller electronics		External	External
Controller type		ECM-EZN064	ECM-EZN064
Communication interface		See controller ECM	See controller ECM
Options and their characteristics			
Dust-tight version, ID		37306110	37306113
Protection class IP		64	64
Weight	[kg]	1.08	1.08

① Plug version EZN-S is available for the controller ECM in addition to the standard variant with 5 m attached connection cable. The gripper has a 30 cm long cable and stepped Y-plug in this version. Drag-chain-compatible or robot-compatible power and sensor cables have to be ordered separately.

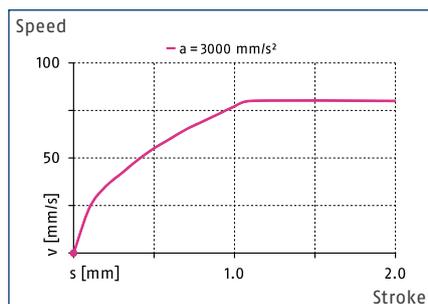
More detailed, up-to-date information on the SCHUNK product including drawings, CAD data, and operating manuals are available online at: schunk.com/ezn



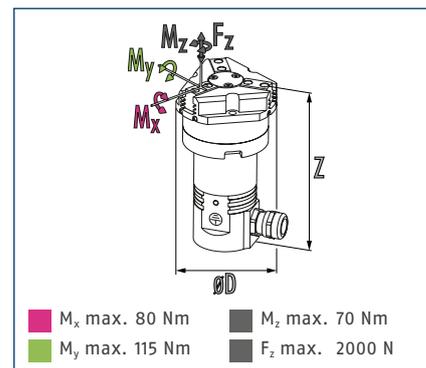
Gripping force



Speed



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		EZN 100	EZN 100-S
ID		0306112	0306114
General operating data			
Stroke per jaw	[mm]	10	10
Min./max. gripping force	[N]	300/800	300/800
Recommended workpiece weight	[kg]	4	4
Max. permissible finger length	[mm]	125	125
Max. permissible mass per finger	[kg]	1.1	1.1
Repeat accuracy	[mm]	±0.01	±0.01
Min./max. air purge pressure	[bar]	0.5/1	0.5/1
Closing/opening time	[s]	0.4/0.4	0.4/0.4
Max. speed	[mm/s]	80	80
Max. acceleration	[mm/s ²]	3000	3000
Weight	[kg]	2.3	2.3
Min./max. ambient temperature	[°C]	5/55	5/55
Protection class IP		41	41
Dimensions Ø D x Z	[mm]	110.5 x 147.5	110.5 x 147.5
Electrical operating data			
Nominal voltage	[V DC]	24	24
Nominal current	[A]	3	3
Max. current	[A]	4	4
Controller electronics		External	External
Controller type		ECM-EZN100	ECM-EZN100
Communication interface		See controller ECM	See controller ECM
Options and their characteristics			
Dust-tight version, ID		37306112	37306114
Protection class IP		64	64
Weight	[kg]	2.48	2.48

① Plug version EZN-S is available for the controller ECM in addition to the standard variant with 5 m attached connection cable. The gripper has a 30 cm long cable and stepped Y-plug in this version. Drag-chain-compatible or robot-compatible power and sensor cables have to be ordered separately.