

Adaptable. Flexible. Robust.

FMS Force Measuring Jaws

Force measuring jaws measure gripping forces, but can also determine workpiece weights or dimensional deviations. There are active and passive intermediate jaws (FMS-ZBA or FMS-ZBP). At least one active force measuring jaw is required per gripper, the rest can be passive. For each active jaw, a FMS-A control unit and a FMS-AK connection cable are required

Field of Application

Used in applications, where the actually occurring gripping force is required, e.g. for adjustment of the gripping force, static or dynamic control of gripping force or integrated in measuring and educational processes.

Advantages – Your benefit

Simplest handling via a control line that is directly connected to an SPC

Result output via analog voltage value

Simple, linear relationship between output voltage and gripping force

Simple zero balancing with button or via control line

Integrated LCD for visual monitoring

Easy assembly

Hermetically sealed for use in extreme working conditions



Options and special Information

General notes about the series: The FMS force measuring system allows you to measure forces that act on the base jaw in the direction of the jaw movement. Up to three active (equipped with sensors) FMS-ZBA intermediate jaws are required for this purpose, depending on the application.

The remaining base jaws are equipped with FMS-ZBP passive intermediate jaws (without sensor system). Each FMS-ZBA active intermediate jaw requires an FMS-A1 electronic processor for evaluation, and an FMS-AK connection cable for connecting the electronic processor to an SPC or a control cabinet.

Application example



① FMS Force Measuring Jaws

② PGN-plus 2-Finger Parallel Gripper

SCHUNK offers more ...

The following components make the product FMS even more productive – the suitable addition for the highest functionality, flexibility, reliability, and controlled production.



PGN-plus 2-Finger Parallel Gripper



PZN-plus 3-Finger Centric Gripper



EGN Universal Gripper



EZN Universal Gripper

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

CAD data, operating manuals and other current product documents are available at www.schunk.com

FMS 50-300

Accessories | Sensor Systems | Force Measuring Jaws



Technical data

Description		FMS-ZBA 50	FMS-ZBA 64	FMS-ZBA 80	FMS-ZBA 100	FMS-ZBA 125	FMS-ZBA 160
ID		0301830	0301832	0301834	0301836	0301838	0301840
Beginning of the measurement area	[N]	0	0	0	0	0	0
End of the measurement areas	[N]	145	260	430	685	1120	1600
End of the loading area	[N]	290	520	860	1370	2240	3200
Weight	[kg]	0.03	0.04	0.06	0.08	0.13	0.24
min. ambient temperature	[°C]	-10	-10	-10	-10	-10	-10
max. ambient temperature	[°C]	70	70	70	70	70	70

Passiv

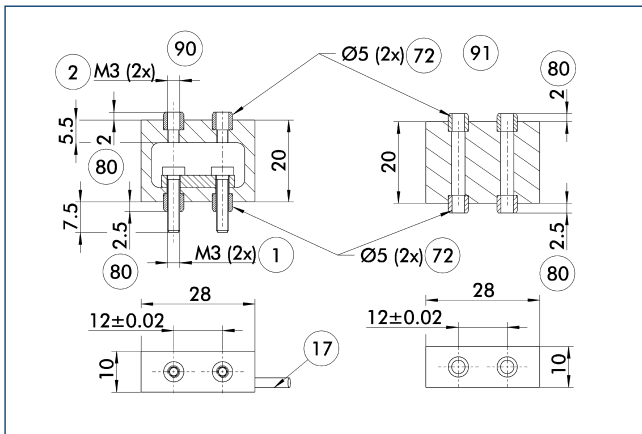
Description		FMS-ZBP 50	FMS-ZBP 64	FMS-ZBP 80	FMS-ZBP 100	FMS-ZBP 125	FMS-ZBP 160
ID		0301831	0301833	0301835	0301837	0301839	0301841
Weight	[kg]	0.02	0.03	0.04	0.06	0.11	0.19

Description		FMS-ZBA 200	FMS-ZBA 300
ID		0301842	0301846
Beginning of the measurement area	[N]	0	0
End of the measurement areas	[N]	2325	5150
End of the loading area	[N]	4650	10300
Weight	[kg]	0.4	0.91
min. ambient temperature	[°C]	-10	
max. ambient temperature	[°C]	70	

Passiv

Description		FMS-ZBP 200	FMS-ZBP 300
ID		0301843	0301847
Weight	[kg]	0.34	0.78

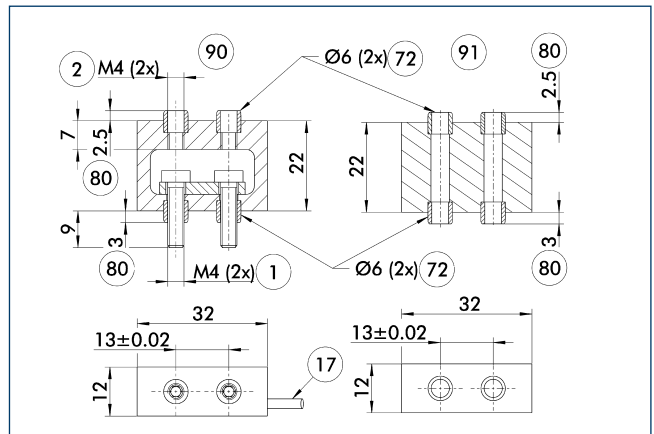
FMS-ZBA / ZBP 50 force-measuring jaws



- ① Gripper connection
- ② Finger connection
- ①⑦ Cable outlet
- ⑦② Fit for centering sleeves
- ⑧⑩ Depth of the centering sleeve hole in the mating part
- ⑨⑩ Active intermediate jaws
- ⑨① Passive intermediate jaws

The drawing shows the active and the passive force-measuring jaw without associated evaluation electronics.

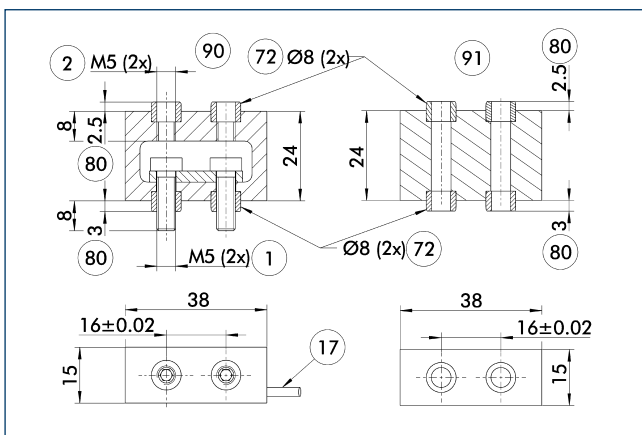
FMS-ZBA / ZBP 64 force-measuring jaws



- ① Gripper connection
- ② Finger connection
- ①⑦ Cable outlet
- ⑦② Fit for centering sleeves
- ⑧⑩ Depth of the centering sleeve hole in the mating part
- ⑨⑩ Active intermediate jaws
- ⑨① Passive intermediate jaws

The drawing shows the active and the passive force-measuring jaw without associated evaluation electronics.

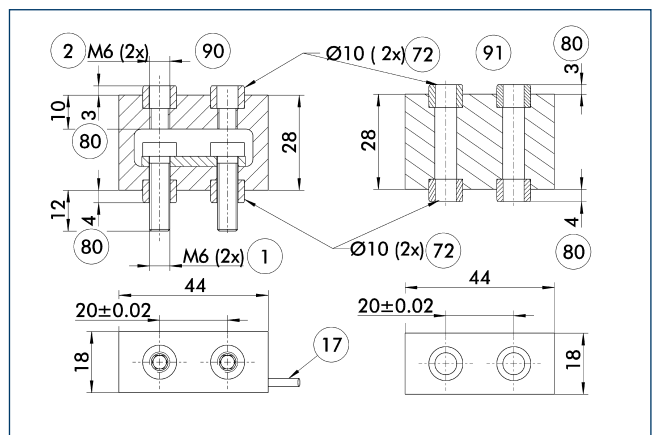
FMS-ZBA / ZBP 80 force-measuring jaws



- ① Gripper connection
- ② Finger connection
- ①⑦ Cable outlet
- ⑦② Fit for centering sleeves
- ⑧⑩ Depth of the centering sleeve hole in the mating part
- ⑨⑩ Active intermediate jaws
- ⑨① Passive intermediate jaws

The drawing shows the active and the passive force-measuring jaw without associated evaluation electronics.

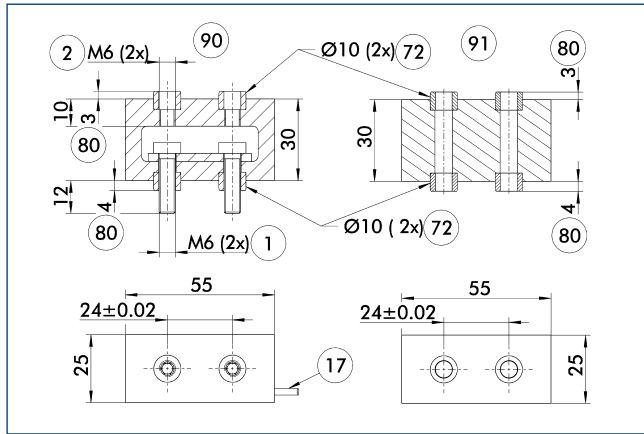
FMS-ZBA / ZBP 100 force-measuring jaws



- ① Gripper connection
- ② Finger connection
- ①⑦ Cable outlet
- ⑦② Fit for centering sleeves
- ⑧⑩ Depth of the centering sleeve hole in the mating part
- ⑨⑩ Active intermediate jaws
- ⑨① Passive intermediate jaws

The drawing shows the active and the passive force-measuring jaw without associated evaluation electronics.

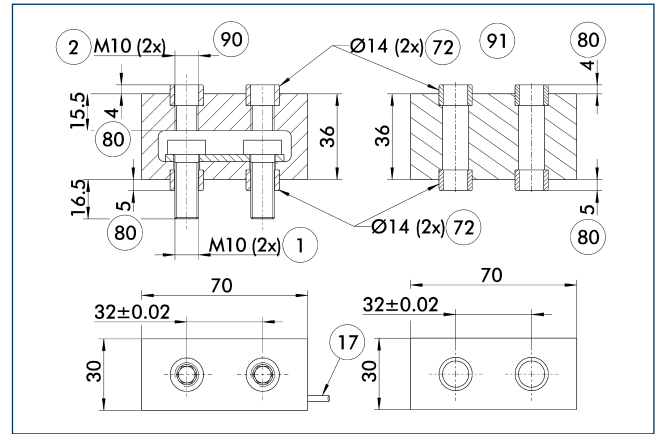
FMS-ZBA / ZBP 125 force-measuring jaws



- ① Gripper connection
- ② Finger connection
- ①⑦ Cable outlet
- ⑦② Fit for centering sleeves
- ⑧① Depth of the centering sleeve hole in the mating part
- ⑨① Active intermediate jaws
- ⑨① Passive intermediate jaws

The drawing shows the active and the passive force-measuring jaw without associated evaluation electronics.

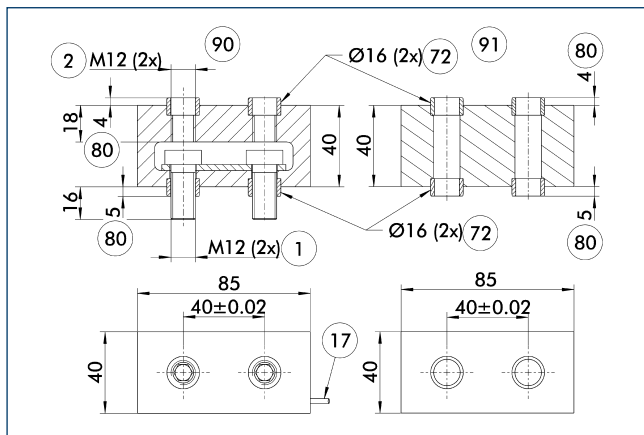
FMS-ZBA / ZBP 160 force-measuring jaws



- ① Gripper connection
- ② Finger connection
- ①⑦ Cable outlet
- ⑦② Fit for centering sleeves
- ⑧① Depth of the centering sleeve hole in the mating part
- ⑨① Active intermediate jaws
- ⑨① Passive intermediate jaws

The drawing shows the active and the passive force-measuring jaw without associated evaluation electronics.

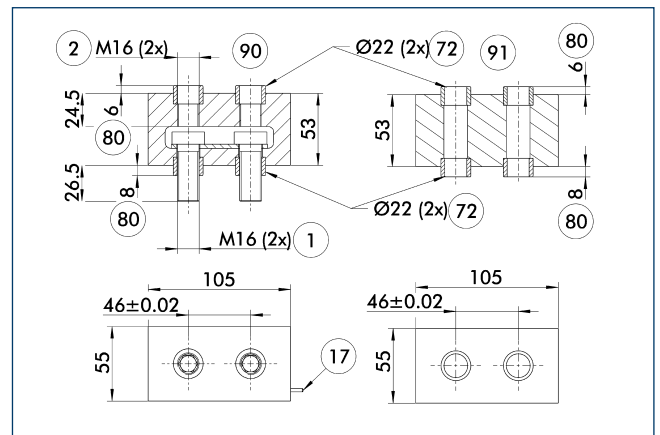
FMS-ZBA / ZBP 200 force-measuring jaws



- ① Gripper connection
- ② Finger connection
- ①⑦ Cable outlet
- ⑦② Fit for centering sleeves
- ⑧① Depth of the centering sleeve hole in the mating part
- ⑨① Active intermediate jaws
- ⑨① Passive intermediate jaws

The drawing shows the active and the passive force-measuring jaw without associated evaluation electronics.

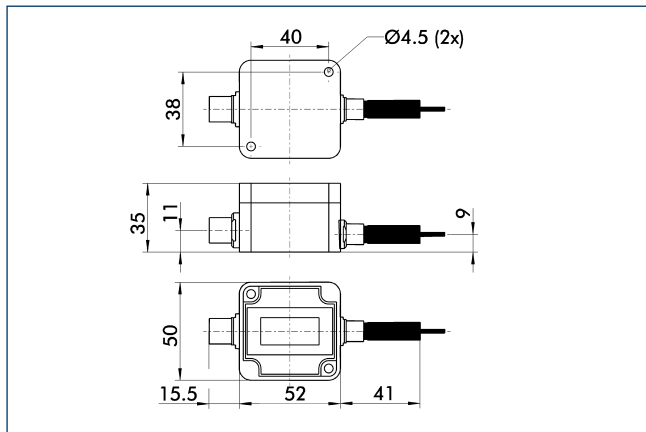
FMS-ZBA / ZBP 300 force-measuring jaws



- ① Gripper connection
- ② Finger connection
- ①⑦ Cable outlet
- ⑦② Fit for centering sleeves
- ⑧① Depth of the centering sleeve hole in the mating part
- ⑨① Active intermediate jaws
- ⑨① Passive intermediate jaws

The drawing shows the active and the passive force-measuring jaw without associated evaluation electronics.

Electronic processor



Force measuring jaws measure gripping forces, but can also determine workpiece weights or dimensional deviations. There are active and passive intermediate jaws (FMS-ZBA or FMS-ZBP). At least one active force measuring jaw is required per gripper, the rest can be passive. For each active jaw, a FMS-A control unit and a FMS-AK connection cable are required.

Description	ID	
Electronic processor		
FMS-A1	0301810	
FMS-A2	0301811	

