

# TESTit

The modular measuring system



## TEST AND MEASUREMENT TECHNOLOGY

### TESTit clamping force measuring device

A regular check of the clamping force and draw-in force is imperative for a safe, precise, and productive process. These days no one can afford to manufacture with »theoretical clamping forces/draw-in forces«. Not to mention the fact that DIN EN 1550 requires that static clamping force measurements have to be carried out at regular intervals.

The TESTit modular measuring system measures and logs the clamping force of clamping devices, the draw-in force of tool holders, and much more in zero-point clamping systems.

TESTit consists of two parts: The base unit, which is the IT module, and the measuring units, which are the TEST modules.

You only need the IT module once – regardless of whether you want to measure the clamping force with O.D. clamping or I.D. clamping or the draw-in force. It is so-to-speak the basis. Depending on the measurement application, there are different TEST modules that you can easily connect to the IT module via plug & play. Even special TEST modules fit on the IT module. All aspects have been carefully considered!

With TESTit you do not leave clamping force and draw-in force up to chance; you do prevent workpiece deformation and reduce scrap.

#### Key advantages





- Clamping force measurement for O.D. and I.D. clamping
- Draw-in force measurement of tool holders [HSK, SK] for zero-point clamping systems and quick change-over systems
- Axial force measurement during service calls / machine maintenance
- Two units, connected with plug & play: IT module – only needed 1x, TEST module – for various measurement applications
- Can be used rotating [under RPM] and for stationary applications
- Software for visualization and archiving



## TEST AND MEASUREMENT TECHNOLOGY

### TESTit clamping force measuring device

#### TESTit variants

	O.D. clamping 1	O.D. clamping 2/3	I.D. clamping	Draw-in force HTS [hollow tapered shank]
				
Sizes	AS18	AS32, AS65, AS65-30kN, AS65-4	IS28, IS50, IS70	HSK40, HSK50, HSK63, HSK100
Description	Clamping force measurement for O.D. clamping devices with round and smooth clamping surface	Clamping force measurement for O.D. clamping devices with smooth clamping surface	Clamping force measurement for I.D. clamping devices with round and smooth clamping surface	Draw-in force measurement in the tool holder
Use	<ul style="list-style-type: none"> <li>Clamping heads and collets 3-jaw chuck</li> </ul>	<ul style="list-style-type: none"> <li>For O.D. clamping 2: Clamping heads and collets / 3-jaw chucks / 2-jaw chucks / vises / centric vises</li> <li>For O.D. clamping 3: 4-jaw chucks / 2x2 chucks / 2-jaw chucks / vises / centric vises</li> </ul>	<ul style="list-style-type: none"> <li>Segmented clamping bushings</li> </ul>	<ul style="list-style-type: none"> <li>Hollow tapered shank</li> </ul>
Applications	Machining center, lathe, multi spindle	Machining center, lathe, multi spindle	Machining center, lathe	Machining center, turning/milling center








#### TESTit Software

- 3 options for visualizing the measured results; bar graph, speedometer or line diagram [force / RPM diagram]
- Archive the results as .pdf or .csv file
- Bluetooth® connection for the TESTit devices

## TEST AND MEASUREMENT TECHNOLOGY

### TESTit clamping force measuring device

Draw-in force SK	Draw-in force centroteX S / AC	Draw-in force zero-point clamping systems	Axial force mandrel T211	Axial force drawtube
				
SK40	centroteX S / AC	ZP	ZB	ZR
Draw-in force measurement in the tool holder	Draw-in force measurement of the actuation / locking of the centroteX S / AC	Draw-in force measurement in zero-point clamping systems	Axial force measurement of the drawtube via the draw bolt on the mandrel T211	Axial force measurement directly on the drawtube
■ Steep taper	■ centroteX S / AC machine adapter	■ Diverse zero-point clamping systems	■ MANDO / MAXXOS T211 mandrel	■ Machine spindle
Machining center, turning/ milling center	Lathe	Zero-point clamping system	Lathe	Lathe

## TEST AND MEASUREMENT TECHNOLOGY

### TESTit clamping force measuring device

#### TESTit for O.D. clamping in detail

Designation	
<ol style="list-style-type: none"> <li>1 TEST module AS [measuring unit]</li> <li>2 IT module [basis unit]</li> <li>3 Measuring segments [3 x 120° displaceable for O.D. clamping 1/2, 2 x 180° displaceable for 2-jaw measuring for O.D. clamping 2/3 and 4 x 90° displaceable for O.D. clamping 3]</li> <li>4 USB-outlet for charging of the battery</li> <li>5 Marking for positioning</li> <li>6 Chuck with standard clamping head [smooth bore]</li> </ol>	

#### TESTit for I.D. clamping in detail

Designation	
<ol style="list-style-type: none"> <li>1 TEST module IS [measuring unit]</li> <li>2 IT module [basis unit]</li> <li>3 Measuring segments [3 x 120° offset]</li> <li>4 USB-outlet for charging of the battery</li> <li>5 Marking for positioning</li> <li>6 Mandrel with standard segmented clamping bushing [smooth clamping surface]</li> </ol>	

#### TESTit for draw-in force HTS [hollow tapered shank] in detail

Designation	
<ol style="list-style-type: none"> <li>1 TEST module HSK [measuring unit]</li> <li>2 IT module [basis unit]</li> <li>3 Measuring element</li> <li>4 USB-outlet for charging of the battery</li> <li>5 Turret spindle with HTS</li> </ol>	

## TEST AND MEASUREMENT TECHNOLOGY

### TESTit clamping force measuring device

#### TESTit for draw-in force SK [clamping head] in detail

Designation	
<ul style="list-style-type: none"> <li>1 TEST module SK [measuring unit]</li> <li>2 IT module [basis unit]</li> <li>3 USB-outlet for charging of the battery</li> <li>4 Measuring element</li> <li>5 Tool spindle with clamping head reception</li> </ul>	

#### TESTit for draw-in force centroteX S /AC in detail

Designation	
<ul style="list-style-type: none"> <li>1 TEST module centroteX S / AC [measuring unit]</li> <li>2 IT module [basis unit]</li> <li>3 USB-outlet for charging of the battery</li> <li>4 Measuring element</li> <li>5 centroteX S machine adapter</li> </ul>	

#### TESTit for draw-in force zero-point clamping systems in detail

Designation	
<ul style="list-style-type: none"> <li>1 IT module [basis unit]</li> <li>2 TEST module ZP [measuring unit]</li> <li>3 Measuring adapter</li> <li>4 Hydraulic zero-point clamping system</li> <li>5 USB-outlet for charging of the battery</li> </ul>	

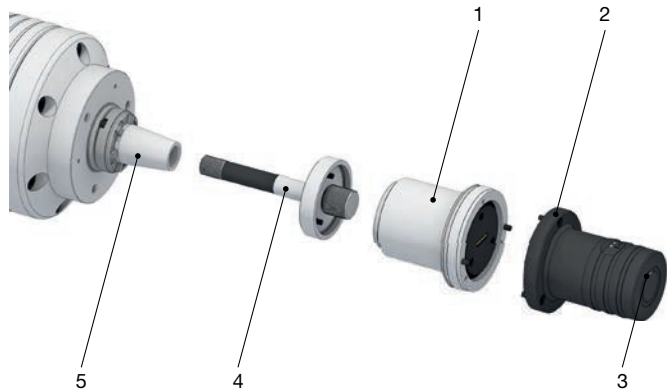
## TEST AND MEASUREMENT TECHNOLOGY

### TESTit clamping force measuring device

#### TESTit for axial force mandrel T211 in detail

##### Designation

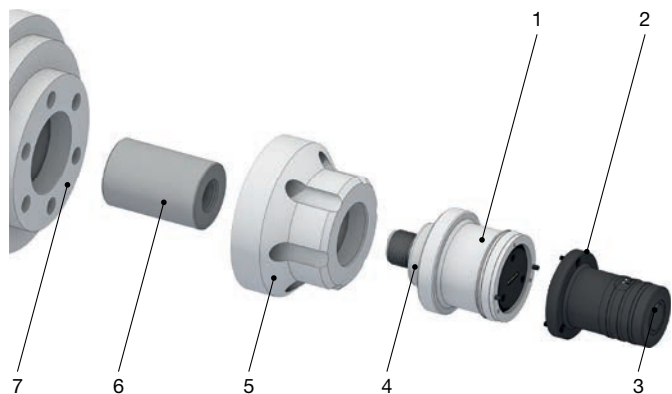
- 1 TEST module ZB [measuring unit]
- 2 IT module [basis unit]
- 3 USB-outlet for charging of the battery
- 4 Measuring adapter
- 5 MANDO T211 mandrel



#### TESTit for axial force drawtube in detail

##### Designation

- 1 TEST module ZR [measuring unit]
- 2 IT module [basis unit]
- 3 USB-outlet for charging of the battery
- 4 Measuring element
- 5 Flange
- 6 Threaded adapter for connecting the drawtube with the TESTit
- 7

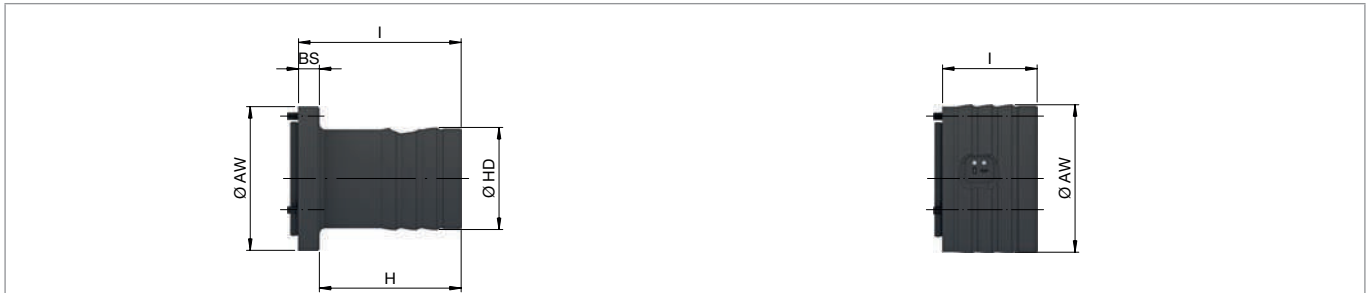




# TEST AND MEASUREMENT TECHNOLOGY

## TESTit clamping force measuring device

### IT module. Technical data



Product variants		Standard	Short model	
Total length [mm]	I	86	50	
Outer Ø [mm]	AW	76	78	
Outer Ø 2 [mm]	HD	54		
Length [mm]	H	75		
Length 2 [mm]	BS	11		
Variant		With display device	Without display device	With display device
In stock		✓	✓	-
Material no.		10014933	10014934	10017319
				10019129

Please note: A TEST module is not included. At least one TEST module is needed for a measurement with TESTit.  
System requirements: Operating system Windows 10, version 1709 or higher.

#### Scope of delivery without display device

- IT module [basic unit], battery operating time approx. 8 h
- Measurement and archiving software [USB-Stick]
- Bluetooth® stick
- Storage case

#### Scope of delivery with display device

- IT module [basic unit], battery operating time approx. 8 h
- Tablet with 10 inch display
- Measurement and archiving software
- Storage case



# TEST AND MEASUREMENT TECHNOLOGY

## TESTit clamping force measuring device

### TEST modules for O.D. clamping. Technical data

Size	AS18	AS32	AS65	AS65-30kN	AS65-4
Clamping Ø [mm]	18	32	65	65	65
Type	1	2	2	2	3
Measuring range attribute [4 measuring points] [kN]					0 – 150
Measuring range attribute [3 measuring points] [kN]	0 – 75	0 – 140	0 – 225	0 – 30	
Measuring range centric [2 measuring points] [kN]		0 – 90	0 – 150	0 – 15	0 – 150
Measurement accuracy of the final value ± [%]	≤ 3				
RPM n max. [1/min.]	10000	8000	6000		
Total length [mm]	I	48	56		
Outer Ø [mm]	DR	76	134		
Length [mm]	H	30	28	36	
Length 2 [mm]	BS	7	14	21	
Distance [mm]	JA	15,5	14,5	18,5	
In stock	✓	✓	✓	✓	✓
Material no.	10014843	10014845	10014846	10017405	10014847

### Scope of delivery

- TEST module incl. one set of measuring bolts in the specified clamping diameter [except for AS18]
- Service Pass
- Storage case

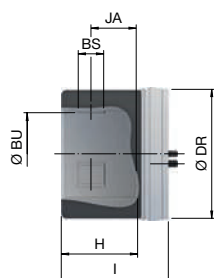
### Plug gauge

Product	Figure	Suitable for	Clamping Ø [mm]	Application	In stock	Material no.
Plug gauge		AS32	32	For 2-point clamping force measurement	✓	10015181
			42	For 3-point clamping force measurement	✓	10015184
			52		-	10015185
			65		-	10015187
		AS65 AS65-30kN	65	For 3-point and 2-point clamping force measurement	✓	10015188
			80		✓	10015190
			100		-	10015191
			120		✓	10015193
		AS65-4	65	For 4-point and 2-point clamping force measurement	✓	10015195
			120		✓	10015197
					✓	10015198

# TEST AND MEASUREMENT TECHNOLOGY

## TESTit clamping force measuring device

### TEST modules for I.D. clamping. Technical data

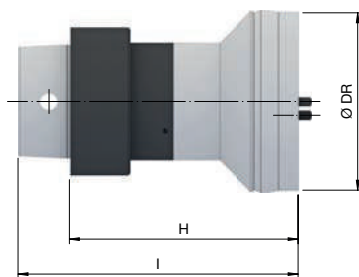


Size		IS28	IS50	IS70
Clamping Ø [mm]	BU	28	50	70
Measuring range attribute [3 measuring points] [kN]		0 – 100	0 – 200	0 – 240
Measurement accuracy of the final value ± [%]		≤ 5		
RPM n max. [1/min.]		7000		
Total length [mm]	I	53	63	68
Outer Ø [mm]	DR	76		
Length [mm]	H	35	45	50
Length 2 [mm]	BS	15		
Distance [mm]	JA	21,5	27,5	30,5
In stock		✓	✓	✓
Material no.		10014840	10014841	10014842

### Scope of delivery

- TEST module
- Service Pass
- Storage case

### TEST module for draw-in force HTS [hollow tapered shank]. Technical data



Size		HSK40	HSK50	HSK63	HSK100
Max. measuring range axial [kN]		20		50	90
Measurement accuracy of the final value ± [%]		≤ 3			
Total length [mm]	I	105	115,5	120	188,5
Outer Ø [mm]	DR	76			
Length [mm]	H	91	98		100
In stock		-	-	✓	-
Material no.		10015203	10015204	10014848	10015205

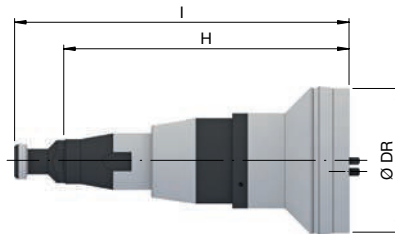
### Scope of delivery

- TEST module
- Service Pass
- Storage case

## TEST AND MEASUREMENT TECHNOLOGY

### TESTit clamping force measuring device

#### TEST module for draw-in force SK [clamping head]. Technical data

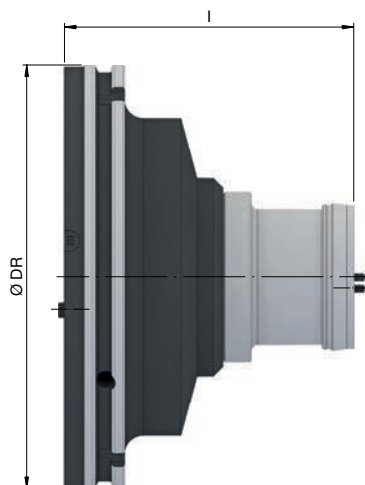


<b>Size</b>	<b>SK40</b>	
<b>Max. measuring range axial [kN]</b>	<b>25</b>	
Measurement accuracy of the final value $\pm$ [%]		$\leq 3$
Total length [mm]	L	177
Outer Ø [mm]	DR	76
Length [mm]	H	151
In stock		-
Material no.		10019131

#### Scope of delivery

- TEST module
- Service Pass
- Storage case

#### TEST module for draw-in force centroteX S / AC. Technical data



<b>Variant</b>	<b>centroteX S / AC</b>	
<b>Max. measuring range axial [kN]</b>	<b>90</b>	
Measurement accuracy of the final value $\pm$ [%]		$\leq 3$
Total length [mm]	L	153
Outer Ø [mm]	DR	224
In stock		-
Material no.		10018275

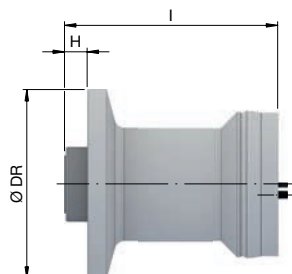
#### Scope of delivery

- TEST module
- Service Pass
- Storage case

# TEST AND MEASUREMENT TECHNOLOGY

## TESTit clamping force measuring device

### TEST module for zero-point clamping systems. Technical data



<b>Variant</b>	<b>ZP</b>	
<b>Max. measuring range axial [kN]</b>	<b>35</b>	
Measurement accuracy of the final value ± [%]	≤ 3	
Total length [mm]	I	113
Outer Ø [mm]	DR	100
Length [mm]	H	12
In stock	-	
Material no.	10018284	


A measuring adapter is also needed [not included].

On request, we can offer a measuring adapter for any zero-point clamping system on the market.

### Scope of delivery

- TEST module
- Service Pass
- Storage case

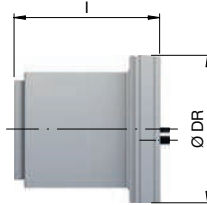
### Measuring adapter

Product	Figure	Suitable for	Application	In stock	Material no.
Measuring adapter		TEST Modul ZP	For DockLock safe 20	-	10018730
			For DockLock safe 30	-	10018731
			For DockLock autosafe 30-752170-31 LA	-	10018732
			For DockLock autosafe 30-752170-60 LA	-	10018733
			For DockLock safe 50	-	10018734
			For DockLock airline 755136 LA + airline 755142 + airline 755120	-	10018736

## TEST AND MEASUREMENT TECHNOLOGY

### TESTit clamping force measuring device

#### TEST module for axial force mandrel T211. Technical data



Variant	ZB	
Axial measurement range [kN]	70	
Measurement accuracy of the final value $\pm$ [%]	$\leq 3$	
Outer Ø [mm]	DR	78
Total length [mm]	l	77
In stock	-	
Material no.	10018282	

You will also need a measuring adapter that fits your mandrel [not included].

#### Scope of delivery

- TEST module
- Service Pass
- Storage case

#### Measuring adapter

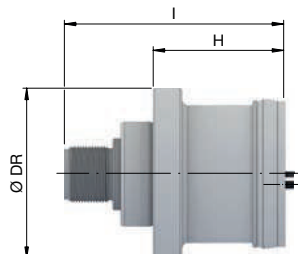
Product	Figure	Suitable for	Application	Size	In stock	Material no.
Measuring adapter		TEST module ZB	MANDO / MAXXOS mandrel	0, B	-	10019132
				1, C	-	10019133
				2	-	10019134
				3	-	10019135
				4	-	10019036
				5	-	10019136
				6	-	10019137
				7	-	10019138

The measuring adapters are designed to fit the MAXXOS mandrel in size B and C only.

# TEST AND MEASUREMENT TECHNOLOGY

## TESTit clamping force measuring device

### TEST module for axial force drawtube. Technical data



<b>Variant</b>	<b>ZR</b>	
<b>Axial measurement range [kN]</b>	<b>90</b>	
Measurement accuracy of the final value $\pm$ [%]		$\leq 3$
Total length [mm]	I	116
Outer Ø [mm]	DR	90
Length [mm]	H	69
In stock		-
Material no.		10018276

In addition, a threaded adapter and a flange are needed [not included].  
On request we can offer a compatible threaded adapter and flange for every spindle.

#### Scope of delivery

- TEST module
- Service Pass
- Storage case