

## ORION® Dividers

### Application:

For marking dimension lines, e.g. for hole circles.

- Three-part milled joint
- Finely ground, hardened tips
- With wing

### Execution:

- Rivet hinge, forged



Length (mm)		150	200	250	300	500
35003...	Ident. No.	015	020	025	030	050
	Price/unit, €	•	•	•	•	•

Prod. Gr. 3BG

## ORION® spring dividers

### Application:

For marking dimension lines, e.g. for hole circles.

- Strong annular spring and hardened pivot pins for firm control of legs
- No. 35015: Replaceable tips

### Execution:

- Quick-action clamping nut and particularly strong legs



No. 35010



No. 35015

Length (mm)		125	150	200	250	300
35010...	Ident. No.	127	150	200	250	301
	Price/unit, €	•	•	•	•	•
35015...	Ident. No.	126	150	200	250	301
	Price/unit, €	•	•	•	•	•

Prod. Gr. 3BG

## ORION® Compass vernier callipers

For marking off



### Application:

For marking off on workpieces by directly setting the required dimensions.

- No. 35026: Carbide-tipped marking-off arms

### Technical data:

- Vernier scale: 0.1 mm
- Limb length: 40 mm

### Execution:

- No. 35025: Hardened steel marking-off arms



Max. length of application area (mm)		150	200	300
Max. Ø (mm)		300	400	600
35025...	Ident. No.	150	200	300
	Price/unit, €	•	•	•
35026...	Ident. No.	150	200	300
	Price/unit, €	•	•	•

Prod. Gr. 3BG

## ATORN® Marking-off vernier callipers

With fine adjustment



### Application:

For marking off on workpieces by directly setting the required dimensions

- Scale and vernier scale with anti-glare, brushed chromium-plated finish

### Execution:

- Gauge bar and marking ruler made from one piece
- Measuring faces very finely ground, made of alloyed steel, hard-chrome plated

### Technical data:

- Max. length of application area: 300 mm
- Vernier scale: 0.05 mm



35036...	Ident. No.	030
	Price/unit, €	•

Prod. Gr. 3AF

Source: Hahn+Kolb Werkzeuge GmbH

Technical data subject to change.

Availability subject to country specific rules and regulations.

www.iconridge.com

## ATORN® Beam compasses

With fine adjustment

### Application:

For scribing by directly setting required dimensions at intervals of 1 mm.

### Execution:

- Steel pipe beam with guide groove (special steel)
- With fine adjustment
- Graduation with 1 mm scale interval
- Anodised aluminium slide
- Hardened tips, Ø 6 mm

- Replaceable tips

- Two movable trammels

### Notes:

Clean measuring equipment after use and avoid contact with hand perspiration.

### Technical data:

- Vernier scale: 0.1 mm



Max. length of application area (mm)		500	1000	1500	2000	3000
Pipe Ø (mm)		20	20	20	20	28
Weight (kg)		0.9	1.45	2	2.6	5.3
35042...	Ident. No.	050	100	150	200	300
	Price/unit, €	●	●	(○)*	(○)*	(○)*

Prod. Gr. 3AF

Replacement scribing tips no. 35044050

## ORION® Marking gauge

With fine adjustment

### Application:

For precise marking off parallel to the workpiece edge.

### Execution:

- Round rod made of INOX steel, with guide groove
- Graduation with 1 mm scale interval

- Exchangeable, hardened scribing tip
- Steel slide with rectangular stop plate
- With fine adjustment

### Technical data:

- Scale value: 0.1 mm



Max. working length (mm)		200	300
35051...	Ident. No.	020	030
	Price/unit, €	●	●

Prod. Gr. 3BG

## ORION® Marking gauge

With runner

### Application:

For precise marking off parallel to the workpiece edge.

### Execution:

- INOX steel beam

- Exchangeable cemented carbide marking-off needle
- Locking screw

### Technical data:

- Max. working length: 200 mm
- Scale value: 0.1 mm



	Ident. No.	011
35052...	Price/unit, €	●

Prod. Gr. 3BG

## ORION® Marking gauge

With flat slide

### Application:

For precise marking off parallel to the workpiece edge

### Execution:

- Flat, with millimetre pitch

- Anti-glare, brushed chromium-plated
- Hardened, wide marking-off edge

### Technical data:

- Scale value: 1 mm



Max. working length (mm)		200	250	300
35053...	Ident. No.	020	025	030
	Price/unit, €	●	●	●

Prod. Gr. 3BG

## ORION® Scriber

Sturdy cast iron base



### Application:

For marking scale lines on workpiece surfaces.

### Execution:

- Fine adjustment
- Carbide-tipped marking-off needle
- Ergonomically designed cast iron base

Max. length measuring range (mm)		300	600
Vernier scale		0.05 mm	0.05 mm
Base length x base width		136 x 91 mm	180 x 120 mm
35060...	Ident. No.	031	061
	Price/unit, €	●	●

Prod. Gr. 3BE



# **ATORN®** Scriber with sliding scriber


**Application:**

For marking scale lines on workpiece surfaces.

- Parallax-free reading
- Stainless steel measuring arms
- Marking-off needle from base

**Execution:**

- Scale and vernier scale with anti-glare, brushed chromium-plated finish



Ident. No. 030-100



Ident. No. 130-200

Max. length measuring range (mm)			300	600	1000
Vernier scale			0.02 mm	0.02 mm	0.02 mm
Base length x base width			145 x 90 mm	189 x 118 mm	189 x 118 mm
<b>35072...</b>	fine adjustment	Ident. No.	<b>030</b>	<b>060</b>	<b>100</b>
		Price/unit, €	●	●	●
<b>35072...</b>	toothed rack	Ident. No.	<b>130</b>	<b>160</b>	<b>200</b>
		Price/unit, €	●	●	○

Prod. Gr. 352

# **ATORN®** Electronic scriber with data output


**Application:**

For marking scale lines on workpiece surfaces and for measuring heights and clearances.

**Execution:**

- Marking-off needle from base
- LCD display, 11 mm
- Carbide-tipped marking-off needle
- Steel foot
- ON/OFF

- Zero setting at any position
- mm/inch changeover
- Hold function
- Preset function

**Advantage:**

- **Ident. No. 430-500:** With sliding, straight marking-off needle

**Delivery:**

Battery included (1 x 3 V lithium type CR 2032)



Ident. No. 230-300



Ident. No. 330-400



Ident. No. 430-500

Max. length measuring range (mm)			300	600	1000
Digit increment (mm)			0.01	0.01	0.01
Base length x base width			145 x 90 mm	189 x 118 mm	189 x 118 mm
Data transmission type			Proximity	Proximity	Proximity
<b>35072...</b>	fine adjustment	Ident. No.	<b>230</b>	<b>260</b>	<b>300</b>
		Price/unit, €	●	●	○
<b>35072...</b>	toothed rack	Ident. No.	<b>330</b>	<b>360</b>	<b>400</b>
		Price/unit, €	●	●	○
<b>35072...</b>	sliding scriber	Ident. No.	<b>430</b>	<b>460</b>	<b>500</b>
		Price/unit, €	●	●	●

Prod. Gr. 352

## Scribing tips for ATORN scriber

Length 75 mm CC-tipped	Length 150 mm CC-tipped	for scriber with sliding needle, straight, length 270 mm	for scriber with sliding needle, straight, length 270 mm, cemented carbide	for scriber with sliding needle, depressed centre, length 270 mm	for scriber with sliding needle, depressed centre, length 270 mm, cemented carbide
<b>35072...</b> Ident. No.	<b>35072...</b> Ident. No.	<b>35072...</b> Ident. No.	<b>35072...</b> Ident. No.	<b>35072...</b> Ident. No.	<b>35072...</b> Ident. No.
<b>900</b> ●	<b>910</b> ●	<b>920</b> ●	<b>925</b> ●	<b>930</b> ●	<b>935</b> ●
Price/unit, €					

Prod. Gr. 352

## ORION® Height measuring and marking-off device

### Round scale and double guide

**Application:**

For marking scale lines on workpiece surfaces and for measuring heights and clearances.

**Execution:**

- Adjusted using hand wheel
- Carbide-tipped marking-off needle
- Ergonomically designed cast iron base

- Rotating scale dial

- Double counter, one positive counter, one negative counter

**Delivery:**

Basic device, 1 carbide-tipped measuring and marking-off blade, 1 clamping element for marking-off blade and gauge slides

Max. length measuring range (mm)		300	600
Scale value (mm)		0.01	0.01
Base length x base width		125 x 85 mm	180 x 120 mm
Ident. No.		030	060
Price/unit, €		●	●

Prod. Gr. 3BE

## ORION® electronic scribes

**Application:**

For marking scale lines on workpiece surfaces.

**Execution:**

- Guide column made from INOX steel
- Fine adjustment
- Carbide-tipped marking-off needle
- Ergonomically designed cast iron base

- ON/OFF

- Zero setting at any position

- mm/inch switch-over

- HOLD function

- ABS/TOL/SET

**Delivery:**

Battery included (type SR44)

Max. length measuring range (mm)		300	600
Digit increment (mm)		0.01	0.01
Base length x base width		136 x 91 mm	136 x 91 mm
Ident. No.		031	061
Price/unit, €		●	●

Prod. Gr. 3BE

## Mahr® Height measuring and marking-off device

### Digimar 814 SR

**Application:**

For marking scale lines on workpiece surfaces and for measuring heights and clearances.

**Execution:**

- Data output
- Fine adjustment
- Carbide-tipped marking-off needle
- Easy-grip, secure base
- Reset function
- Zero setting at any position
- mm/inch switch-over
- Auto off
- Preset function

- ABS function

**Advantage:**

- Key lock to prevent unintentional adjustment
- Switch on by moving the slider
- Large hand wheel for positioning and measuring

**Delivery:**

Marking-off tip, battery, box, operating instructions

**Technical data:**

- Digit increment: 0.01 mm
- Base length x base width: 180 x 80 mm
- Data transmission type: multiCOM

Max. length measuring range (mm)		350	600
Ident. No.		035	060
Price/unit, €		●	●

Prod. Gr. 306

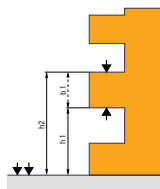


Ident. No. 035

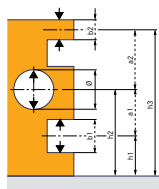


## TESA-HITE MAGNA and TESA-HITE

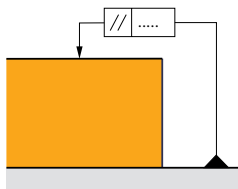
Overview of the measuring options



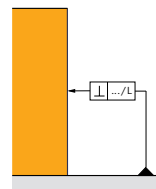
measurement in one probe direction



measurement in two probe directions



measurements of parallelism



measurements of perpendicularity (TESA-HITE only)



## TESA 1D height measuring device TESA-HITE MAGNA and TESA-HITE

### Application:

For measuring external, internal, height, depth and distance measurements, parallel deviations and inside and outside diameter using the Quickcentre dynamic function.

### Execution:

- manual measuring slide movement using handwheel
- Large control panel 92x121mm with keypad and colour display
- Control panel IP65 splash-proof
- Integrated Li-ion battery 12.8 V 3 Ah, rechargeable
- Including SCS calibration certificate
- Ident. No. 100–110:** Measurement system IP55 protection against contact, dust and water
- Ident. No. 120–130:** Air cushion activation for easy movement

### Advantage:

- Contextual help provides specific information and supports the user in performing measuring tasks

- Display of measurement result provides clarity with optimal readability (digit size 10x21mm)
- Quickcentre dynamic function for effectively determining dead centre points
- flexible data management, allowing for easy data export
- Ident. No. 100–110:** Best possible workshop compatibility thanks to IP55-protected measurement system
- Ident. No. 120–130:** Air cushion system for easy movement on the measuring plate (at the push of a button)

### Notes:

- Ident. No. 120–130:** Optional accessories also enable testing of perpendicularity deviations.

### Technical data:

- Digit increment (can be pre-selected): 0.001 mm | 0.005 mm | 0.01 mm
- Min./max. measurement force: 1.0-2.0 N
- Max. battery operating time: 60 h
- Data transmission type: TLC



Ident. No. 100



Ident. No. 130



Control panel with IP65 degree of protection and large digital display



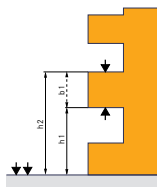
Length measuring range (mm)			415	715	415	715
Min./max. application area with standard gauge slide carrier			0-570 mm	0-870 mm	0-570 mm	0-870 mm
Height gauge error limit			< 8 µm	< 8 µm	(2.5 + 4 x L) µm (L in m)	(2.5 + 4 x L) µm (L in m)
Perpendicularity tolerance (front) (µm)			-	-	9	13
With air cushion equipment			No	No	Yes	Yes
Weight (kg)			15	18	24	30
35 147...	TESA-HITE MAGNA	Ident. No. Price/unit, €	100	110	-	-
35 147...	TESA-HITE	Ident. No. Price/unit, €	-	-	120	130

Prod. Gr. 362

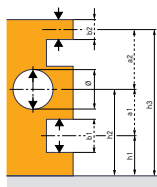


## TESA MICRO-HITE and TESA MICRO-HITE+M

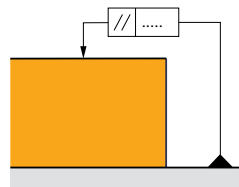
### Overview of the measuring options



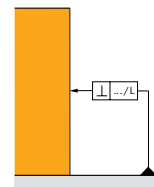
measurement in one probe direction



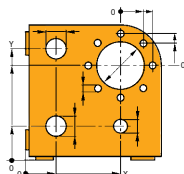
measurement in two probe directions



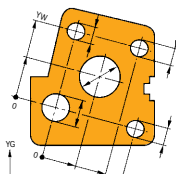
Measurement of the parallelism difference



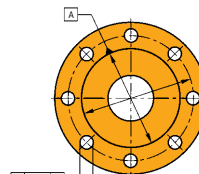
Measurements of the perpendicularity and straightness deviation using optional accessories internal thread 13



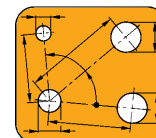
measurement in two coordinate directions



measurement in two coordinate directions



measurement in two coordinate directions



Angle measurement

## TESA 2D height measuring device MICRO-HITE

### Manual measuring slide control with handwheel

#### Application:

For measuring external, internal, height, depth, step and distance dimensions on geometric elements with flat, plane-parallel and circular cylindrical surfaces in 1D or 2D coordinate directions. Dynamic measuring processes with max., min. and max.-min. memory functions. Optional via TESA IG-13 measuring probe for perpendicularity, straightness and parallelism deviations.

#### Execution:

- hybrid control panel with backlit keypad and colour touchscreen display
- Air cushion activation for easy movement
- Quickcenter functionality for efficient determination of the reversal points
- Ident. No. 030, 060, 090:** manual measuring slide movement using handwheel
- Ident. No. 035, 065, 095:** manual measuring slide movement using handwheel and fine adjustment

#### Advantage:

- hybrid control panel allows „classic“ operation via keyboard, as well as „modern“ operation via touchscreen

- new Quickcenter technology simplifies the task of measuring bore holes and shaft diameters
- intelligent context menu supports the process by providing specific information and supporting the user while performing measuring tasks
- the measurement result display provides clear organisation of large amounts of information
- flexible data management, allowing for easy data export

#### Delivery:

battery cartridge, charger (mains power supply adapter), standard gauge slide carrier, standard gauge slide with carbide ball  $\varnothing$  5 mm, reference piece, SCS calibration certificate (DAkkS standard).

#### Technical data:

- Digit increment (can be pre-selected): 0.1 mm | 0.001 mm | 0.0001 mm
- Height gauge error limit:  $2 + 2L/1000$  (L in mm)
- Repeat accuracy of drill hole: 1  $\mu$ m
- Repetition accuracy, level: 1  $\mu$ m
- Max. battery operating time: 8 h
- Data transmission type: TLC
- With air cushion equipment: Yes



Length measuring range (mm)			365	615	920
Min./max. application area with standard gauge slide carrier			0-520 mm	0-770 mm	0-1075 mm
Perpendicularity tolerance (front) ( $\mu$ m)			7	9	11
Weight (kg)			33	37	45
35 170...	MICRO-HITE	Ident. No.	030	060	090
		Price/unit, €	•	•	•
35 170...	MICRO-HITE F	Ident. No.	035	065	095
		Price/unit, €	(•)*	(•)*	(•)*

Prod. Gr. 365



## TESA 2D height measuring device MICRO-HITE plus M

Motorised measuring slide control with wheel

### Application:

For measuring external, internal, height, depth, step and distance dimensions on geometric elements with flat, plane-parallel and circular cylindrical surfaces. Measurement of diameters using automatic recording of the reversal point of bores and shafts (TESA QUICKCENTER patented measuring system). It is also possible to measure in two co-ordinate directions. Dynamic measuring processes are possible using max., min. and max.-min. memory functions. The TESA IG-13 measuring probe can optionally be used to output additional perpendicularity, straightness and parallelism deviations.

### Execution:

- control panel with touchscreen or via operator keypad
- quick, easy and reliable measurements, especially for bores
- reset to zero at any position
- air cushion system for easy movement on the measuring plate (at the push of a button)

### Advantage:

- automatic correction for very high accuracy
- suitable for measurements on the production line or in the laboratory

### Delivery:

battery cartridge, charger (mains power supply adapter), standard gauge slide carrier, standard gauge slide with carbide ball  $\varnothing$  5 mm, reference piece, SCS calibration certificate (DAkkS standard).

### Technical data:

- Digit increment (can be pre-selected): 0.1 mm | 0.001 mm | 0.0001 mm
- Height gauge error limit:  $1,8 + 2L/1000$  (L in mm)
- Repeat accuracy of drill hole: 1  $\mu$ m
- Repetition accuracy, level: 0.5  $\mu$ m
- Max. battery operating time: 8 h
- Data transmission type: TLC
- With air cushion equipment: Yes



Length measuring range (mm)	365	615	920
Min./max. application area with standard gauge slide carrier	0-520 mm	0-770 mm	0-1075 mm
Perpendicularity tolerance (front) ( $\mu$ m)	7	9	11
Weight (kg)	33	37	45
35170... MICRO-HITE +M	Ident. No. 130 Price/unit, €	Ident. No. 160 Price/unit, €	Ident. No. 190 Price/unit, €

Prod. Gr. 365



## TESA Accessories for height measuring device TESA MICRO-HITE and TESA MICRO-HITE plus M

until model year 2016 – 35170 003/006/009, 35171 003/006/009

### Application:

Ident. No. 090: For determining straightness and

squareness deviations.



Ident. No. 090

Charger for Micro-Hite/ TESATRONIC	Replacement battery for TESA Micro-Hite 350/600/900 to model year 2016	Paper roll for MICRO-HITE printer and memo printer	Battery cartridge for models TESA Micro-Hite 350/600/900 to model year 2016	Electronic measuring probe FT 13 to model year 2016 When used with MI- CRO-HITE plus M, cable 35172098 is required!	Extension cable for IG 13 length 1 m
35172... Ident. No.	35172... Ident. No.	35172... Ident. No.	35172... Ident. No.	35172... Ident. No.	35172... Ident. No.
515	530	610	650	090	098
Price/unit, €		Set price, €		Price/unit, €	

Prod. Gr. 362



## Mahr 1D height measuring device Digimar 816 CL with motorised measuring slide

### Application:

For measuring external, internal, height, depth and distance dimensions, as well as diameters and reversal points in bores and shafts. Also allows dynamic measurements.

### Execution:

- Reset to zero at any position
- Large function keys
- Language-neutral navigation using self-explanatory symbols

- Measured value storage of up to 99 values
- Clear display with LCD display and backlighting
- Air cushion system for easy movement on the measuring plate
- Optical incremental measuring system with double reading head for outstanding precision

### Delivery:

Height measuring device includes operating and display element, carrier 817 h1, gauge slide K6/51, setting block 817 eb, operating instructions, charger, USB cable, protective cover, calibration certificate



Ident. No. 035

Length measuring range (mm)	350	600
Min./max. application area with standard gauge slide carrier	0-520 mm	0-770 mm
Digit increment (can be pre-selected)	0.001 mm   0.01 mm	0.001 mm   0.01 mm
Height gauge error limit	2.8 + L/300 (L in mm)	2.8 + L/300 (L in mm)
Repeat accuracy of drill hole (µm)	3	3
Repetition accuracy, level (µm)	2	2
Perpendicularity tolerance (front) (µm)	15	20
Min./max. measurement force	0.8-1.2 N	0.8-1.2 N
Max. battery operating time (h)	14	14
Data transmission type	RS232	RS232
With air cushion equipment	Yes	Yes
Weight (kg)	25	30
<b>35131...</b>	Ident. No. <b>035</b>	Ident. No. <b>060</b>
	Price/unit, €	Price/unit, €

Prod. Gr. 306

## Accessories for TESA height measuring devices MICRO-HITE/ TESA-HITE

### Probe inserts



Ident. No. 020

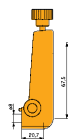


Ident. No. 050

Number of pieces in assortment/set (PCS)		8	17	9
Composition of set		Gauge slide with carbide ball Ø 3 and Ø 10 solid carbide gauge slides Ø 1 Ø 2 and Ø 3 gauge slide with cemented carbide disc Ø 14 gauge slide with cylindrical measuring surface Ø 10 gauge slide with probe rod	Gauge slide with carbide ball Ø 3 and Ø 10 solid carbide gauge slides Ø 1 Ø 2 and Ø 3 gauge slide with barrel-shaped measuring surfaces Ø 2.2 Ø 4.5 Ø 9.7 gauge slide with solid carbide disc Ø 4.5 Ø 14 Ø 19 gauge slide with small cylindr. cemented carbide measuring surface   gauge slide with cylindrical measuring surface Ø 10 gauge slide carrier for large depths   gauge slide holder for extending the measuring range   gauge slide with probe rod	Gauge slide holder   probe rod for depth measurements   gauge slides with steel ball 0.9 and 1.9 and 2.9 mm   gauge slide with conical measuring surface   extension 20 mm   adapter M3 to M2.5
<b>TESA</b>	<b>35172...</b>	Ident. No. <b>010</b>	Ident. No. <b>020</b>	-
		Set price, €	Set price, €	
<b>ORION</b>	<b>35172...</b>	Ident. No. -	Ident. No. -	<b>050</b>
		Set price, €	Set price, €	

ORION = Prod. Gr. 3BE  
TESA = Prod. Gr. 362





Ident. No. 430

Technical drawing of a mechanical part with the following dimensions:

- Overall length: 96
- Distance from left end to start of last step: 60
- Distance from left end to start of second-to-last step: 12
- Distance from left end to start of first step: 10
- Radius of first step:  $R8$
- Radius of second-to-last step:  $R8$
- Radius of last step:  $R19$
- Radius of the main body:  $R8$

Technical drawing of a stepped shaft with the following dimensions:

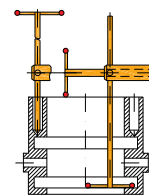
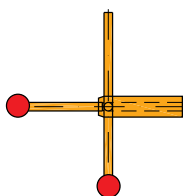
- Total length: 91
- Length of the first section: 55
- Length of the second section: 19
- Diameter of the first section:  $\varnothing 12$
- Diameter of the second section:  $\varnothing 10$
- Diameter of the third section:  $\varnothing 8$
- Fillet radius: 3

Ident. No. 448

35172...	Gauge slide carrier with 8 mm mount	Ident. No. Price/unit, €	410 ●
35172...	Spherical measuring probe, diameter 4 mm	Ident. No. Price/unit, €	424 ○
35172...	Spherical measuring probe, diameter 6 mm	Ident. No. Price/unit, €	426 ○
35172...	Spherical measuring probe, diameter 8 mm	Ident. No. Price/unit, €	428 ○
35172...	Spherical measuring probe, diameter 10 mm	Ident. No. Price/unit, €	429 ○
35172...	Spherical measuring probe, extra long, diameter 10 mm	Ident. No. Price/unit, €	430 ○
35172...	Mount for exchangeable gauge slides with thread M1.4 gauge slide diameter 1	Ident. No. Price/unit, €	435 ○
35172...	Cylindrical measuring probe, diameter 10 mm	Ident. No. Price/unit, €	440 ○
35172...	Measuring probe with measuring disc diameter 12 mm	Ident. No. Price/unit, €	444 ○
35172...	Conical measuring probe for diameters 0.5-5.5 mm	Ident. No. Price/unit, €	446 ○
35172...	Conical measuring probe for diameters 5-20 mm	Ident. No. Price/unit, €	448 ○
35172...	Mount for exchangeable gauge slides with thread M1.4 gauge slide diameter 2	Ident. No. Price/unit, €	450 ○
35172...	Adjustable depth gauge diameter 1 mm	Ident. No. Price/unit, €	460 ○

**ORION®** 3-piece measuring probe set with ruby balls  
For height measuring devices

With hexagonal screwdriver in a case



Number of pieces in assortment/set (PCS)	Composition of set	35172... Ident. No.
3	T-probe: Length 100 mm   2 ruby balls diameter 2 mm   ball distance 18 mm   straight gauge slide: Length 100 mm   ruby ball diameter 6 mm   measuring probe holder: Overall length 63 mm	080 ●
		Set price, €



ICON RIDGE