



# M3STAR

## MSG AND ESG HAND HELD GAUGES FOR SHAFTS



Forks and ring gauges

**M3 Star™** manual snap gauges are designed to measure outside diameters located between walls on shaft-like parts like crankshafts, transmission shafts and camshafts. They are easily re-tooled to measure different workpieces with the same gauge and are available in mechanical (Mechanical Snap Gauge **MSG**), wired and wireless (Electronic Snap Gauge **ESG**) configurations, to meet a broad range of measurement needs.

## Displacement Sensors



## Bore Gauges Line



## Forks and Ring Gauges



## Bench Gauges



## Indicators and Electronic Display Units



## Interface Boxes for Data Acquisition



## Software



## Product features

M3Star is an ergonomic, high-precision snap gauge that combines high technology and high quality in a compact body only 10mm wide. Two models are available to handle diameters from 5mm to 30mm and 30mm to 70 mm. The advanced design is easily re-tooled using only one hex wrench to position both the contacts and V-block. M3Star is supplied in the recommended configuration with the 20 mm thick "V" reference. 10mm and 14mm "V" references are also available for measurements in narrow spaces between shoulders. The snap head can be combined with various handles and accessories.



### M3STAR MSG

M3Star MSG Mechanical Snap Gauge is designed to be used with a dial or digital indicator in either a mini or standard holder (8mm h6). The Snap Head is also compatible with both the Marposs. Wave Line wireless handle and pencil probe handle (M10).



### M3STAR ESG

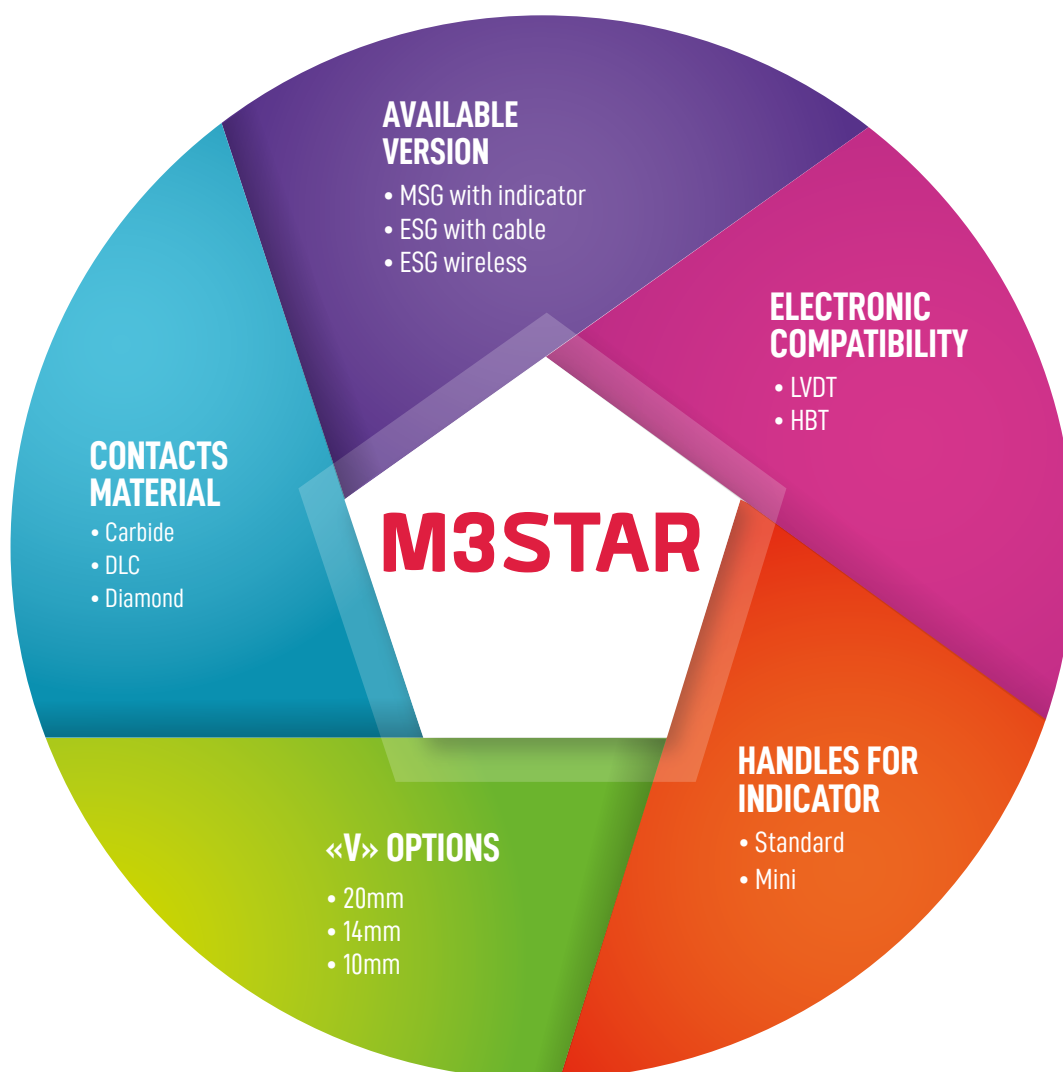
The M3 Star ESG Electronic Snap Gauge is available in cable or wireless versions equipped with integrated HBT or LVDT transducers. The absence of friction in the measurement chain makes the M3 Star ESG exceptionally accurate.

## TECHNICAL SPECIFICATIONS

	MSG	ESG
Thickness		10 mm
Thickness of the "V" part reference		20 mm
Measurable diameters and retooling range		5 - 15 mm
		15 - 30 mm
		30 - 50 mm
		50 - 70 mm
Working range		0,1 mm*
Clamping diameter for indicator/probe	Clamping diameter for indicator/probe: 8 mm h6	
Repeatability error (2,77 σ)	≤1,5 μm	≤1 μm

\* By unscrewing the contacts fastened to the measuring armset by means of a screw with Heli-Coil, the measuring ranges can be extended up to 0,4 mm accepting lower performance.

## Product mix



## COMPATIBILITY WITH ELECTRONIC UNITS

M3Star with cable can be connected, through a Marposs data acquisition interface box such as Easy Box or Gage Pod, to any Marposs industrial PC or any commercial PC with Marposs software installed, as well as to E4N or Duo directly. The wireless M3Star can be connected, through its dongle, to Nemo, Merlin Line, E9066 Line or any commercial PC with Marposs software installed.



Displacement  
Sensors



Bore Gauges  
Line



Forks and  
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Bench  
Gauges



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Software



## Displacement Sensors



### 1 CONTACT PROTECTIONS:

protect the contacts from accidental damage.

### 2 BODY:

it is 10mm-thick designed to house and protect the measuring mechanism.

2.1 Mechanical measuring cells are housed in the M3Star MSG body and transfer the measurement to the dial indicator.

2.2 The electronic measuring cell with LVDT or HBT transducer is housed in M3Star ESG body and transfers the measurement to the display device.

### 3 MEASURING CONTACTS:

The easily-replaced threaded tungsten carbide contacts facilitate rapid retooling. DLC covered or Diamond contacts are optionally available.

### 4 “V”-PART REFERENCE:

Tungsten carbide planes in the support area reference the snap gauge to the workpiece cylindrical section to be measured. They are available in three versions with thicknesses of 20mm, 14mm or 10mm. A readjustment of the “V”-part with respect to the body allows the gauge center line to be changed to re-tool the gauge within the measuring range.

### 5 HANDLE:

The ergonomically designed handle is used to hold the snap gauge.

5.1 M3 Star MSG handle connects the Snap head to the dial indicator and is specifically designed for easy handling. it can be a Standard Indicator Holder (5.A) or a Mini Indicator Holder (5.B).

5.2 M3Star ESG is available with a standard handle with a 3,5m cable and SV/50 connector (5.C) or a Mini Wave handle (5.D).

### 6 NUMBER PLATE:

Can be marked with any information required by the customer.

## Bore Gauges Line



## Forks and Ring Gauges



## Bench Gauges



## Indicators and Electronic Display Units



## Interface Boxes for Data Acquisition

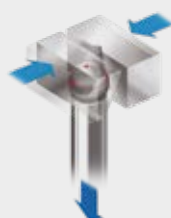
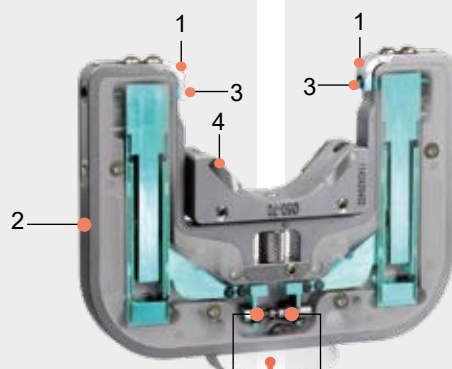


## Software



## M3STAR

Mechanical Snap Gauge

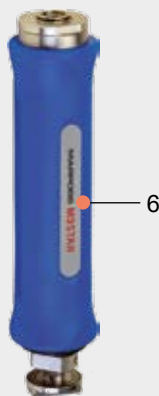


2.1



2.2

5.A



6

6



5.B



5.C



6



5.D

## M3STAR

Electronic Snap Gauge

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## M3 STAR - MSG MECHANICAL SNAP GAUGE

The complete snap gauge includes the measuring head, plus handle, chosen to suit the customer's application.



### COMPLETE SNAP GAUGE

Complete M3 Star MSG Order Code.

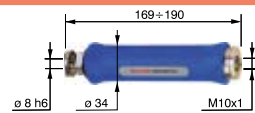
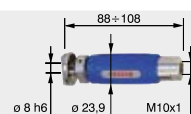


		Mini Indicator Handle			Standard Indicator Handle		
							
SNAP GAUGE	RANGE [mm]	20mm "V"	14mm "V"	10mm "V"	20mm "V"	14mm "V"	10mm "V"
	5 - 15	B3TBAMISAWS	B3TBAMITAWS	B3TBAMIUAWS	B3TBAIHSAWS	B3TBAIHTAWS	B3TBAIHUAWS
	15 - 30	B3TBAMISBWS	B3TBAMITBWS	B3TBAMIUBWS	B3TBAIHSBWS	B3TBAIHTBWS	B3TBAIHUBWS
	30 - 50	B3TBAMISCWS	B3TBAMITCWS	B3TBAMIUCWS	B3TBAIHS CWS	B3TBAIHTCWS	B3TBAIHUCWS
	50 - 70	B3TBAMISDWS	B3TBAMITDWS	B3TBAMIUDWS	B3TBAIHS DWS	B3TBAIHTDWS	B3TBAIHUDWS

## THE SNAP HEAD

M3 Star Mechanical Snap Head Order Code.

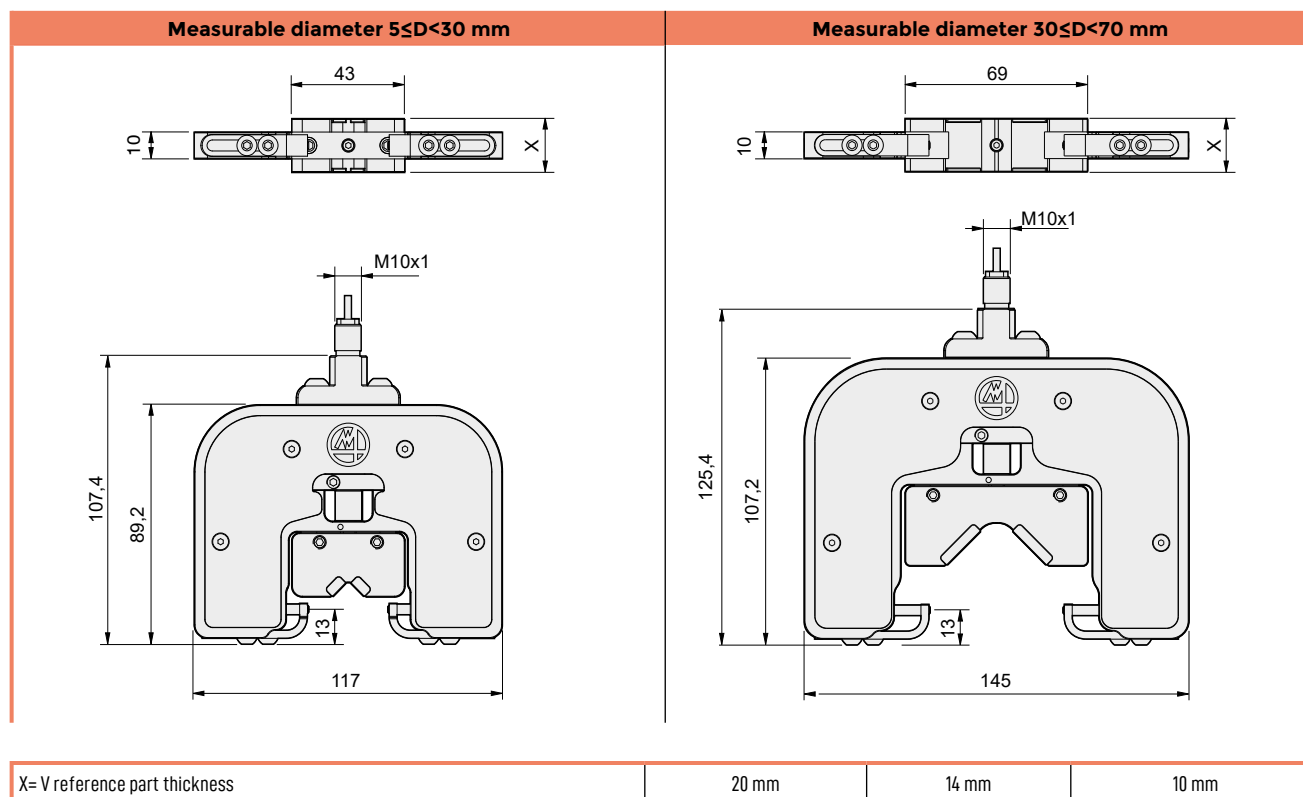
SNAP GAUGE	RANGE [mm]	With 20mm "V" part reference	With 14mm "V" part reference	With 10mm "V" part reference
	5 - 15	B3TTASAWXXS	B3TTATAWXXS	B3TTAUAWXXS
	15 - 30	B3TTASBWXXS	B3TTATBWXXS	B3TTAUBWXXS
	30 - 50	B3TTASCWXXS	B3TTATCWXXS	B3TTAUCWXXS
	50 - 70	B3TTASDWXXS	B3TTATDWXXS	B3TTAUDWXXS

## HANDLES

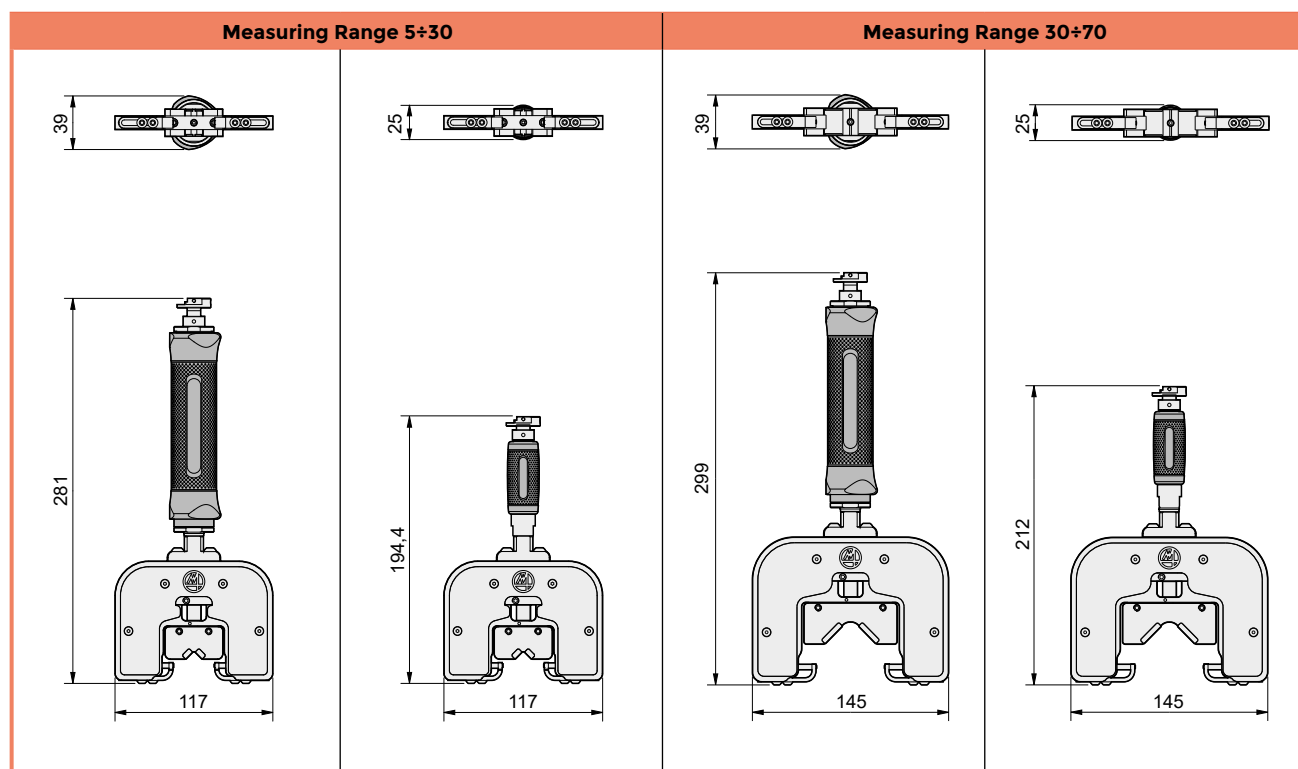
SNAP GAUGE	Description	Order Code
	Indicator handle	B2TCLAS0030
	Mini Indicator handle	B2TCSAS0030
	Protective shell for mechanical Indicator (P=38 mm)	B2TODIPS001
	Protective shell for digital Indicator (P=52 mm)	B2TODIPS000
	Protective shell for digital Indicator (P=52 mm)	B2TODICS000

## M3 STAR - MSG MECHANICAL SNAP GAUGE

MSG Snap Head



Complete snap gauge



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Bore Gauges  
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Forks and  
Ring Gauges



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## M3 STAR - ESG ELECTRONIC SNAP GAUGE





The complete snap gauge includes the measuring head, plus handle, chosen to suit the customer's application.

### COMPLETE SNAP GAUGE

Complete M3 Star ESG LVDT Order Code.



		Standard Handle with 3,5m cable			Mini Wave handle		
							
SNAP GAUGE	RANGE [mm]	20mm "V"	14mm "V"	10mm "V"	20mm "V"	14mm "V"	10mm "V"
	5 - 15	B3TBFE3SAWS	B3TBFE3TAWS	B3TBFE3UAWS	B3TBFEWSAWS	B3TBFEWTAWS	B3TBFEWUAWS
	15 - 30	B3TBFE3SBWS	B3TBFE3TBWS	B3TBFE3UBWS	B3TBFEWSBWS	B3TBFEWTBWS	B3TBFEWUBWS
	30 - 50	B3TBFE3SBWS	B3TBFE3TCWS	B3TBFE3UCWS	B3TBFEWSCWS	B3TBFEWTCWS	B3TBFEWUCWS
	50 - 70	B3TBFE3SDWS	B3TBFE3TDWS	B3TBFE3UDWS	B3TBFEWSDWS	B3TBFEWTDWS	B3TBFEWUDWS

Complete M3 Star ESG HBT Order Code

		Standard Handle with 3,5m cable			Mini Wave handle		
							
SNAP GAUGE	RANGE [mm]	20mm "V"	14mm "V"	10mm "V"	20mm "V"	14mm "V"	10mm "V"
	5 - 15	B3TBHE3SAWS	B3TBHE3TAWS	B3TBHE3UAWS	B3TBHEWSAWS	B3TBHEWTAWS	B3TBHEWUAWS
	15 - 30	B3TBHE3SBWS	B3TBHE3TBWS	B3TBHE3UBWS	B3TBHEWSBWS	B3TBHEWTBWS	B3TBHEWUBWS
	30 - 50	B3TBHE3SCWS	B3TBHE3TCWS	B3TBHE3UCWS	B3TBHEWSCWS	B3TBHEWTCWS	B3TBHEWUCWS
	50 - 70	B3TBHE3SDWS	B3TBHE3TDWS	B3TBHE3UDWS	B3TBHEWSDWS	B3TBHEWTDWS	B3TBHEWUDWS

## THE SNAP HEAD

M3 Star Electronic Snap Head Order Code.

		LVDT TRANSDUCER			HBT TRANSDUCER		
SNAP GAUGE	RANGE [mm]	With 20mm "V" part reference	With 14mm "V" part reference	With 10mm "V" part reference	With 20mm "V" part reference	With 14mm "V" part reference	With 10mm "V" part reference
	5 - 15	B3TTFSAWXXS	B3TTFTAWXXS	B3TTFUAWXXS	B3TTHSAWXXS	B3THTAWXXS	B3THUAWXXS
	15 - 30	B3TTFBWXXS	B3TFTBWXXS	B3TTFUBWXXS	B3TTHSBWXXS	B3THTBWXXS	B3THUBWXXS
	30 - 50	B3TTFSCWXXS	B3TFTFCWXXS	B3TTFUCWXXS	B3TTHSCWXXS	B3THTCWXXS	B3THUCWXXS
	50 - 70	B3TTFSDWXXS	B3TFTDWXXS	B3TTFUDWXXS	B3TTHSDWXXS	B3THTDWXXS	B3THUDWXXS



## MECHANICAL SPECIFICATIONS

### ESG Snap Head

Measuring Range 5÷30		Measuring Range 30÷70	
X= V reference part thickness		20 mm	14 mm
			10 mm

### Complete snap gauge

Measuring Range 5÷30		Measuring Range 30÷70	

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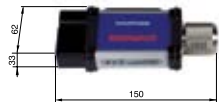
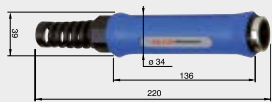



Software




## HANDLES AND CABLES FOR ESG SNAP GAUGE

The complete snap gauge includes the measuring head, plus handle, chosen to suit the customer's application.

SNAP GAUGE	Description	Order Code
	Mini Wave Handle for wireless transmission	B3TJ1SDIJ000
	M3Star handle (without cable)	B2TH3000001
	Cable 2 mt LVDT - connector SV50/6	B2TG0000026
	Cable 3,5 mt LVDT - connector SV50/6	B2TG0000356
	Cable 5 mt LVDT - connector SV50/6	B2TG0000056
	Cable 2 mt LVDT - connector S3	B2TG0000023
	Cable 2 mt TESA COMPATIBLE - connector SV50/6	B2TG00TS026
	Cable 2 mt HBT - connector SV50/6	B2TG0001026
	Cable 3,5 mt HBT - connector SV50/6	B2TG0001356
	Cable 5 mt HBT - connector SV50/6	B2TG0001056

## SPARES AND ACCESSORISES


Bodies (V part, contacts and contact protections not included).

	M3 STAR MSG	M3 STAR ESC	LVDT	HBT
5-30mm				
30-70mm				

## V-PART REFERENCES

RANGE	20mm "V"	Order code	14mm "V"	Order code	10mm "V"	Order code
5 - 15 mm		B2942426459		B2942426463		B2942426457
15 - 30 mm		B2942426458		B2942426462		B2942426456
30 - 50 mm		B2942426455		B2942426465		B2942426453
50 - 70 mm		B2942426454		B2942426464		B2942426452






## COMPONENTS

Contact (Carbide 1 piece)		Contact Protections (Carbide)		
Description	Order Code	Description	Order Code	
	B3TXCX00026		M3Star 5+30 mm	B2942426434
			M3Star 30+50 mm	B2942426435
			M3Star 50+70 mm	B2942426436

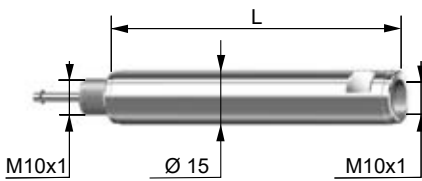
## TOOLS

	Description	Order code
	2 mm Hex wrench	B4413675303
	2,5 mm Hex wrench	B4413675304


## SPARES

	Description	Order code
	Protections kit for 5-30mm body	B2042426432
	Protections kit for 30-70mm body	B2042426406
	Spring – 1 piece	B1042426287
	Screw for spring limitation – 1 piece	B1042426286
	Transfer Rod	B2042433015
	Rod Bushing	B1042433204

## DEPTH EXTENSIONS AVAILABLE ONLY FOR M3STAR MSG

	Length L (mm)	Order code
	50	B2TXMSF0050
	65	B2TXMSF0065
	80	B2TXMSF0080
	100	B2TXMSF0100
	125	B2TXMSF0125

## STAND AVAILABLE ONLY FOR M3STAR ESG MINI WAVE

	Description	Order code
	Stand charger for M3 Star ESG with Mini Wave handle (power supply unit included).	B2T0IRBS004

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## Application examples

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Bore Gauges  
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Forks and  
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