



Cutting

Battery-powered hydraulic cutting tools 10.8 V

THE LITTLE CUTTING EXPERT - BATTERY-POWERED HYDRAULIC CUTTING TOOL (10.8 V)

The Klauke mini is lightweight yet powerful. The high-quality shears cut with an opening width of 32 mm, the bolt cutters with a 12 mm opening width. Its practical dimensions make it especially suitable for confined areas.

Klauke[®]*mini*

▶ Pure performance without frills

The Klauke mini concentrates on its core task: reliable cutting. Even without pressure sensor and display, the little expert does its job well - no fuss or quibble.

▶ Usage time at a glance

Read the charge level at any time directly from the powerful 10.8 V battery.

▶ All-round cutting

Cutting in confined areas? No problem with these cutting heads, which rotate through 360°.



EBS 8 ML / EBS 12 ML Battery powered hydraulic bolt cutter 8 mm dia. / 12 mm dia.



- ▶ For cutting cable channels, bolts and steel wire, medium-hard (e.g. ST 37)
- ▶ Slim cutting head - ideal when space is critical
- ▶ Powerful 10,8 V Li-Ion battery with charge status display

Characteristics

- Open head, rotatable
- Simple and safe: One-button operating concept for controlling all tool functions
- Comfortable and secure one-hand operation thanks to 2-component plastic housing with soft grips
- Effortless working thanks to low weight
- Simple and safe: Automatic retraction when operation is complete
- Maintenance display via LED

Technical data		
Cutting range	EBS8ML: max. 8 mm dia., EBS12ML: max. 12 mm dia.	
Cutting force	EBS8ML: 15 kN, EBS12ML: 45 kN	
Cutting time	EBS8ML: 2 s, EBS12ML: 4 s (depending on material thickness)	
Number of cuts	ES8ML: 80 at silver steel 6 mm, EBS12ML: 105 at mild steel 10 mm	
Battery voltage	10.8 V	
Battery capacity	1.5 Ah, Li-Ion	
Charging time	approx. 40 min.	
Weight incl. battery	EBS8ML: 1.2 kg, EBS12ML: 1.8 kg	
Ambient temperature	-10 °C up to +40 °C	
Item	Part No.	
Battery powered hydraulic bolt cutting tool 8 mm dia.	EBS8ML	
Battery powered hydraulic bolt cutting tool 12 mm dia.	EBS12ML	
Scope of supply	Part No.	Page
Battery 10.8 V / 1.5 Ah, Li-Ion (16.2 Wh)	RAML1	493
Charger for 10.8 V Li-Ion batteries, 230 V	LGML1	495
Plastic case	KKML	



Cutting

Battery-powered hydraulic cutting tools 10.8 V

ES 20 ML Battery powered hydraulic cutting tool 20 mm dia.



- ▶ For cutting Al/St conductors (ACSR) to DIN EN 50182, solid Al/Cu cables to DIN EN 60228, Class 1 and laminated copper bus bars
- ▶ Extremely robust design and lightweight
- ▶ Powerful 10.8 V Li-Ion battery technology with battery charge indicator

Characteristics

- Open head, rotatable
- Simple and safe: One-button operating concept for controlling all tool functions
- Comfortable and secure one-hand operation thanks to 2-component plastic housing with soft grips
- Effortless working thanks to low weight
- Simple and safe: Automatic retraction when operation is complete
- Maintenance display via LED

Technical data

Cutting range	Multi-stranded max. 20 mm dia. (depending on cable type)
Cutting force	23 kN
Cutting time	4 s to 6 s (depending on material thickness)
Number of cuts	approx. 160 for steel cable 8 mm
Battery voltage	10.8 V
Battery capacity	1.5 Ah, Li-Ion
Charging time	approx. 40 min.
Weight incl. battery	1.6 kg
Ambient temperature	-10 °C up to +40 °C

Item	Part No.	
Battery powered hydraulic cutting tool 20 mm dia.	ES20ML	
Scope of supply	Part No.	Page
Battery 10.8 V / 1.5 Ah, Li-Ion (16.2 Wh)	RAML1	493
Charger for 10.8 V Li-Ion batteries, 230 V	LGML1	495
Plastic case	KKML	
Accessories	Part No.	
Replacement blade	ES20E	

ES 32 ML / ES 32 F ML Battery powered hydraulic cutting tools 32 mm dia.



- ▶ Cuts multi-stranded copper and aluminium cables (ES 32 ML)
- ▶ Cuts fine and superfine stranded copper cables (ES 32 F ML)
- ▶ Slim cutting head - ideal when space is critical
- ▶ Powerful 10.8 V Li-Ion battery technology with battery charge indicator

Characteristics

- Open head, rotatable
- Electronic control and monitoring of operation
- Simple and safe: One-button operating concept for controlling all tool functions
- Comfortable and secure one-hand operation thanks to 2-component plastic housing with soft grips
- Effortless working thanks to low weight
- Simple and safe: Automatic retraction when operation is complete
- Maintenance display via LED

Technical data	
Cutting range	max. 32 mm dia.
Cutting force	15 kN
Cutting time	8 s to 10 s (depending on material thickness)
Number of cuts	ES32ML: approx. 90 at 150 mm ² NYV, ES32FML: approx. 120 at H07V-K 185 mm ²
Battery voltage	10.8 V
Battery capacity	1.5 Ah, Li-Ion
Charging time	approx. 40 min.
Weight incl. battery	1.8 kg
Ambient temperature	-10 °C up to +40 °C

Item	Part No.	
Battery powered hydraulic cutting tool 32 mm dia.	ES32ML	
Battery powered hydraulic cutting tool 32 mm dia., superfine-stranded	ES32FML	
Scope of supply	Part No.	Page
Battery 10.8 V / 1.5 Ah, Li-Ion (16.2 Wh)	RAML1	493
Charger for 10.8 V Li-Ion batteries, 230 V	LGML1	495
Plastic case	KKML	
Accessories	Part No.	
Replacement blade set	ES32E	
Replacement blade set for fine and superfine stranded copper cables	ES32FE	

THE NEW STANDARD - KLAUKE NEXT GENERATION CUTTING TOOLS

Aspire to the new standard: Battery-powered hydraulic cutting tools from Klauke offer impressive power and durability. The tools effortlessly cut cross-sections up to 105mm, with open cutting head for better accessibility or closed cutting head for improved force transmission. Improved ergonomics with optimised centre of gravity makes work more convenient and faster. Also through the time-saving opening mechanism.



In brief

- ▶ Freely-selectable battery platform: with Bosch or Makita
- ▶ Proof of quality can be created via Bluetooth
- ▶ Ensure tool availability: Read the tool properties from the display or via the app
- ▶ Effortless operations thanks to modern, ergonomic design

Interested in Klauke Next Generation tools? Then take a look at our Multi universal tool on [Page 472 >>](#)

▶ **Making work easier**

Klauke cutting tools guarantee effortless operations: The “mini” impresses through its low weight and the pistol shape ensures a balanced centre of gravity

- Our compact “mini” is just perfect for confined areas
- The 2-stage hydraulic system allows you to work quickly thanks to fast feed and power stroke
- Save time with the innovative opening mechanism of the cutters. They open immediately after every cut.
- Extremely impressive and reliable: The one-button control concept for all tools



▶ **Latest developments for your everyday work**


Mini design - Pure cutting force: The ESGM45 and the ESM50 impress all along the line and for every application

- Cutting made simple thanks to a new, improved cutter geometry
- Burr-free cutting of wire mesh cable trays without any rework whatsoever thanks to the new wire mesh cable tray cutter

▶ **i-press® app**

Use the i-press® app to check and control your tool data on the go. Individual tool settings, such as the double-click function for increased user safety, help make your day-to-day work simpler and more reliable - just as you need it.

The i-press® app can be found at:
www.klauke.com/en/service/downloads/connectivity-software/






Cutting

Battery-powered hydraulic cutting tools 18 V

EBS 6 L GKS Battery powered hydraulic cable tray cutter 6 mm dia.



- ▶ No follow-up work required thanks to burr-free cutting
- ▶ Fast and efficient operations: The cut is made in less than 1 second
- ▶ Maintenance required only after 20.000 cuts (renew hydraulic shock absorber system)
- ▶ Always cut ready due to autonomous replaceable blades

Characteristics

- Open head, rotatable
- Electronic control and monitoring of operation
- Simple and safe: One-button operating concept for controlling all tool functions
- Comfortable and secure one-hand operation thanks to 2-component plastic housing with soft grips
- Balanced centre of gravity for easy handling and effortless operations
- LED for work area illumination
- Powerful 18 V Li-Ion battery - high capacity, short charging time
- High-performance motor for maximum operating speed
- Energy saving function with motor cut-out after successful operation
- Quick motor stop for high user safety
- Simple and safe: Automatic retraction when operation is complete
- Manual retract as required
- Multifunction LED for maintenance display and charge status display of the battery
- Environmentally-friendly hydraulic oil, quickly biodegradable

Technical data		
Cutting range	max. 6 mm (VA)	
Cutting force	24 kN	
Cutting time	< 1 s	
Number of cuts	approx. 300 at 6 mm VA, 360 at grid channel 5 mm	
Battery voltage	18 V	
Battery capacity	1.5 Ah	
Charging time	15 min.	
Weight incl. battery	1.9 kg	
Ambient temperature	-10 °C up to +40 °C	
Item	Part No.	
Battery powered hydraulic cable tray cutter 6 mm dia.	EBS6LGKS	
Scope of supply	Part No.	Page
Makita battery 18 V / 1.5 Ah, Li-Ion	RAL1	491
Makita quick-charger for 18 V Li-Ion battery	LGL1	494
Plastic case	KK50L	
Accessories	Part No.	Page
Makita battery 18 V / 3.0 Ah, Li-Ion (54 Wh)	RAL2	491
Makita battery 18 V / 4.0 Ah, Li-Ion	RAL40	492
18 V mains adapter for 230 V Voltage	NG2230	493

EBS 8 Battery powered hydraulic bolt cutter 8 mm dia.



- ▶ For cutting cable trays, bolts and medium-hard steel wire (e.g. ST 37)
- ▶ Narrow crimping head - Ideal in confined areas
- ▶ All tool data in view thanks to display and i-press® app

Characteristics

- Choose your battery system: Bosch or Makita
- All data can be easily read via Bluetooth
- Open head, rotatable
- Simple and safe: One-button operating concept for controlling all tool functions
- Effortless working due to balanced centre of gravity
- LED for work area illumination
- Simple and safe: Automatic retraction when operation is complete
- LED display for showing tool data
- Always ready-to-use thanks to battery charge and service display

Suitable for

- Cable trays, bolts, medium-hard steel wire

Technical data			
Cutting range	max. 8 mm dia.		
Cutting force	15 kN		
Cutting time	1 s (depending on material thickness)		
Charging time	15 min.		
Weight incl. battery	1.65 kg		
Ambient temperature	-10 °C up to +40 °C		
Item	Part-No. Bosch	Part-No. Makita	
Battery powered hydraulic bolt cutting tool 8 mm dia.	EBS8CFB	EBS8CFM	
Scope of supply			Page
Bosch battery 18 V / 2.0 Ah, Li-Ion	RALB1EU		492
Bosch quick-charger for 18 V Li-Ion battery	LGLB1EU		494
Makita battery 18 V / 1.5 Ah, Li-Ion		RAL1	491
Makita quick-charger for 18 V Li-Ion battery		LGL1	494
Plastic case 450 x 370 x 105 mm	KK50NG	KK50NG	
Accessories			Page
Bosch battery 18 V / 5.0 Ah, Li-Ion	RALB2EU		493
Makita battery 18 V / 3.0 Ah, Li-Ion (54 Wh)		RAL2	491



EBS 12 Battery powered hydraulic bolt cutter 12 mm dia.

**NEXT
GENERATION**



- ▶ For cutting cable trays, bolts and medium-hard steel wire (e.g. ST 37)
- ▶ Slim cutting head - ideal when space is critical
- ▶ All tool data in view thanks to display and i-press® app

Characteristics

- Choose your battery system: Bosch or Makita
- All data can be easily read via Bluetooth
- Open head, rotatable
- Simple and safe: One-button operating concept for controlling all tool functions
- Effortless working due to balanced centre of gravity
- LED for work area illumination
- Simple and safe: Automatic retraction when operation is complete
- LED display for showing tool data
- Always ready-to-use thanks to battery charge and service display

Suitable for

- Cable trays, bolts, medium-hard steel wire

Technical data			
Cutting range	max. 12 mm dia.		
Cutting force	45 kN		
Cutting time	2 s (depending on cable size)		
Charging time	15 min.		
Weight incl. battery	2.1 kg		
Ambient temperature	-10 °C up to +40 °C		
Item	Part No. Bosch	Part No. Makita	
Battery powered hydraulic bolt cutting tool 12 mm dia.	EBS12CFB	EBS12CFM	
Scope of supply			Page
Bosch battery 18 V / 2.0 Ah, Li-Ion	RALB1EU		492
Bosch quick-charger for 18 V Li-Ion battery	LGLB1EU		494
Makita battery 18 V / 1.5 Ah, Li-Ion		RAL1	491
Makita quick-charger for 18 V Li-Ion battery		LGL1	494
Plastic case 450 x 370 x 105 mm	KK50NG	KK50NG	
Accessories			Page
Bosch battery 18 V / 5.0 Ah, Li-Ion	RALB2EU		493
Makita battery 18 V / 3.0 Ah, Li-Ion (54 Wh)		RAL2	491

ES 20 Battery powered hydraulic cutting tool 20 mm dia.

**NEXT
GENERATION**



- ▶ For cutting Al/St conductors (ACSR) to DIN EN 50182, solid Al/Cu cables to DIN EN 60228, Class 1 and laminated copper bus bars
- ▶ Extremely robust design and lightweight
- ▶ Slim cutting head - ideal when space is critical
- ▶ All tool data in view thanks to display and i-press® app

Characteristics

- Choose your battery system: Bosch or Makita
- All data can be easily read via Bluetooth
- Open head, rotatable
- Simple and safe: One-button operating concept for controlling all tool functions
- Effortless working due to balanced centre of gravity
- LED for work area illumination
- Simple and safe: Automatic retraction when operation is complete
- Manual retract stop (MRS) for efficient operations
- Always ready-to-use thanks to battery charge and service display

Suitable for

- Al/St wire (ACSR)

Technical data			
Cutting range	max. 18 mm dia. (depending on cable type)		
Cutting force	23 kN		
Cutting time	2 s to 4 s (depending on cable type)		
Charging time	15 min.		
Weight incl. battery	2.0 kg		
Ambient temperature	-10 °C up to +40 °C		
Item	Part No. Bosch	Part No. Makita	
Battery powered hydraulic cutting tool 20 mm dia.	ES20CFB	ES20CFM	
Scope of supply			Page
Bosch battery 18 V / 2.0 Ah, Li-Ion	RALB1EU		492
Bosch quick-charger for 18 V Li-Ion battery	LGLB1EU		494
Makita battery 18 V / 1.5 Ah, Li-Ion		RAL1	491
Makita quick-charger for 18 V Li-Ion battery		LGL1	494
Plastic case 450 x 370 x 105 mm	KK50NG	KK50NG	
Accessories			Page
Replacement blade	ES20E	ES20E	
Bosch battery 18 V / 5.0 Ah, Li-Ion	RALB2EU		493
Makita battery 18 V / 3.0 Ah, Li-Ion (54 Wh)		RAL2	491
Variants			Page
L-BOXX with battery powered cutting tool ES20CFB	LBOXXES20CFB		205
L-BOXX with battery powered cutting tool ES20CFM			LBOXXES20CFM 205

ES 20 RMC / ES 32 RMC Battery powered hydraulic cutting tool 20 mm or 32 mm dia.

**NEXT
GENERATION**



ES 20 RMC

ES 32 RMC

BTC2

- ▶ Tool with remote control, e.g. for telescopic rods
- ▶ ES20RMC: For cutting Al/St conductors (ACSR) to DIN EN 50182, solid Al/Cu cables to DIN EN 60228, Class 1 and laminated copper bus bars
- ▶ ES32RMC: Cuts multi-stranded Al/Cu cables Class 2
- ▶ Extremely robust design and lightweight
- ▶ Slim cutting head - ideal when space is critical
- ▶ All tool data in view thanks to display and i-press® app
- ▶ Powerful 18 V Li-Ion battery - high capacity, short charging time
- ▶ Can also be used as a normal cable cutter when the Hotstick holder is not attached

Characteristics

- Choose your battery system: Bosch or Makita
- All data can be easily read via Bluetooth
- Open head, rotatable
- Simple and safe: One-button operating concept for controlling all tool functions
- Effortless operations due to balanced centre of gravity, even when used with a telescopic rod
- LED for work area illumination
- Quick motor stop for high user safety
- Simple and safe: Automatic retraction when operation is complete
- Manual retract stop (MRS) for efficient operations
- Energy saving: Motor stops when the operation is complete
- Always ready-to-use thanks to battery charge and service display
- Simple one-hand operation via remote control

ES 20 RMC suitable for

- Al/St wire (ACSR)
- Solid Al/Cu cables to DIN EN 60228 Class 1
- Laminated Cu bus-bars

ES 32 RMC suitable for

- Multi-stranded Al/Cu cable Class 2

Additional information

- Part number suffix for tools without battery and charger „0000“



Scope of supply for ES 20 RMC

Technical data	
Head type	Cutter open
Cutting range	max. Ø 20 mm / max. Ø 32 mm
Cutting time	2 s to 8 s (depending on material thickness)
Charging time	15 min.
Weight incl. battery	2.0 kg
Ambient temperature	-10 °C up to +40 °C

Item	Part No. Bosch	Part No. Makita
Battery powered hydraulic cutting tool 20 mm dia.	ES20RMCCFB	
Battery powered hydraulic cutting tool 20 mm dia.		ES20RMCCFM
Battery powered hydraulic cutting tool 32 mm dia.	ES32RMCCFB	
Battery powered hydraulic cutting tool 32 mm dia.		ES32RMCCFM
Scope of supply		Page
Bosch battery 18 V / 2.0 Ah, Li-Ion	RALB1EU	492
Makita battery 18 V / 1.5 Ah, Li-Ion		RAL1 491
Bosch quick-charger for 18 V Li-Ion battery	LGLB1EU	494
Makita quick-charger for 18 V Li-Ion battery		LGL1 494
Bluetooth remote control	BTC2	BTC2
Accessories		Page
Bosch battery 18 V / 4.0 Ah, Li-Ion	RALB2EU	493
Makita battery 18 V / 4.0 Ah, Li-Ion		RAL40 492
Replacement blade set for ES 20 RMC	ES20E	ES20E
Replacement blade set for ES 32 RMC	ES32E	ES32E

ESG 25 Battery powered hydraulic cutting tool 25 mm dia.

**NEXT
GENERATION**



- ▶ For cutting Al/St cables (ACSR), round materials (Cu, Al, St) as well as armoured cables, solid structural steel and fine-stranded copper cables
- ▶ High-performance cutting characteristics for highly-flexible conductors and wire cables
- ▶ Extremely robust design and lightweight
- ▶ All tool data in view thanks to display and i-press® app

Characteristics

- Choose your battery system: Bosch or Makita
- All data can be easily read via Bluetooth
- Closed head, flip top style, rotatable
- Simple and safe: One-button operating concept for controlling all tool functions
- Effortless working due to balanced centre of gravity
- LED for work area illumination
- Simple and safe: Automatic retraction when operation is complete
- Manual retract stop (MRS) for efficient operations
- Always ready-to-use thanks to battery charge and service display

Suitable for

- Al/St wire (ACSR), Cu, Al, St and armoured cables, construction steel, fine-stranded copper cable

Technical data			
Head type	Guillotine closed		
Cutting range	max. 25 mm dia.		
Cutting force	60 kN		
Cutting time	Depending on material		
Charging time	15 min.		
Weight incl. battery	2.0 kg		
Ambient temperature	-10 °C up to +40 °C		
Item	Part No. Bosch	Part No. Makita	
Battery powered hydraulic cutting tool 25 mm dia.	ESG25CFB	ESG25CFM	
Scope of supply			Page
Bosch battery 18 V / 2.0 Ah, Li-Ion	RALB1EU		492
Bosch quick-charger for 18 V Li-Ion battery	LGLB1EU		494
Makita battery 18 V / 1.5 Ah, Li-Ion		RAL1	491
Makita quick-charger for 18 V Li-Ion battery		LGL1	494
Plastic case 450 x 370 x 105 mm	KK50NG	KK50NG	
Accessories			Page
Inner moving blade		ESG25ES	
Outer fixed blade		ESG25EF	
Bosch battery 18 V / 5.0 Ah, Li-Ion	RALB2EU		493
Makita battery 18 V / 3.0 Ah, Li-Ion (54 Wh)		RAL2	491



Cutting

Battery-powered hydraulic cutting tools 18 V

ES 32 Battery powered hydraulic cutting tool 32 mm dia.

**NEXT
GENERATION**



- ▶ Slim cutting head - ideal when space is critical
- ▶ All tool data in view thanks to display and i-press® app

Characteristics

- Choose your battery system: Bosch or Makita
- All data can be easily read via Bluetooth
- Open head, rotatable
- Simple and safe: One-button operating concept for controlling all tool functions
- Effortless working due to balanced centre of gravity
- LED for work area illumination
- Simple and safe: Automatic retraction when operation is complete
- Manual retract stop (MRS) for efficient operations
- Always ready-to-use thanks to battery charge and service display

Suitable for

- Stranded Cu and Al cables

Technical data

Head type	Cutter open
Cutting range	max. 32 mm dia.
Cutting force	15 kN
Cutting time	8 s to 10 s (depending on cable type)
Charging time	15 min.
Weight incl. battery	2.0 kg
Ambient temperature	-10 °C up to +40 °C

Item	Part No. Bosch	Part No. Makita
Battery powered hydraulic cutting tool 32 mm dia.	ES32CFB	ES32CFM

Scope of supply			Page
Bosch battery 18 V / 2.0 Ah, Li-Ion	RALB1EU		492
Bosch quick-charger for 18 V Li-Ion battery	LGLB1EU		494
Makita battery 18 V / 1.5 Ah, Li-Ion		RAL1	491
Makita quick-charger for 18 V Li-Ion battery		LGL1	494
Plastic case 450 x 370 x 105 mm	KK50NG	KK50NG	
Accessories			Page
Replacement blade set		ES32E	
Bosch battery 18 V / 5.0 Ah, Li-Ion	RALB2EU		493
Makita battery 18 V / 3.0 Ah, Li-Ion (54 Wh)		RAL2	491
Variants			Page
L-BOXX with battery powered cutting tool ES32CFB	LBOXXES32CFB		205
L-BOXX with battery powered cutting tool ES32CFM		LBOXXES32CFM	205

**ES 32 F Battery powered hydraulic cutting tool 32 mm dia.
for fine and superfine stranded copper cable**



- ▶ Cuts fine and superfine stranded copper cables
- ▶ Slim cutting head - ideal when space is critical
- ▶ All tool data in view thanks to display and i-press® app

Characteristics

- Choose your battery system: Bosch or Makita
- All data can be easily read via Bluetooth
- Open head, rotatable
- Simple and safe: One-button operating concept for controlling all tool functions
- Effortless working due to balanced centre of gravity
- LED for work area illumination
- Simple and safe: Automatic retraction when operation is complete
- Manual retract stop (MRS) for efficient operations
- Always ready-to-use thanks to battery charge and service display

Suitable for

- Fine and superfine stranded copper cables

Technical data	
Head type	Cutter open
Cutting range	max. 32 mm dia.
Cutting force	15 kN
Cutting time	8 s to 10 s (depending on material thickness)
Charging time	15 min.
Weight incl. battery	2.0 kg
Ambient temperature	-10 °C up to +40 °C

Item	Part No. Bosch	Part No. Makita	
Battery powered hydraulic cutting tool 32 mm dia., superfine-stranded	ES32FCFB	ES32FCFM	
Scope of supply			Page
Bosch battery 18 V / 2.0 Ah, Li-Ion	RALB1EU		492
Bosch quick-charger for 18 V Li-Ion battery	LGLB1EU		494
Makita battery 18 V / 1.5 Ah, Li-Ion		RAL1	491
Makita quick-charger for 18 V Li-Ion battery		LGL1	494
Plastic case 450 x 370 x 105 mm	KK50NG	KK50NG	
Accessories			Page
Replacement blade set for fine and superfine stranded copper cables		ES32FE	
Bosch battery 18 V / 5.0 Ah, Li-Ion	RALB2EU		493
Makita battery 18 V / 3.0 Ah, Li-Ion (54 Wh)		RAL2	491
Variants			Page
L-BOXX with battery powered cutting tool ES32FCFB	LBOXXES32FCFB		205
L-BOXX with battery powered cutting tool ES32FCFM		LBOXXES32FCFM	205



Cutting

Battery-powered hydraulic cutting tools 18 V

ESGM 45 Battery powered hydraulic cutting tool 45 mm dia.

**NEXT
GENERATION**



- ▶ For cutting Al/St cables (ACSR), round materials (Cu, Al, St) as well as armoured cables, solid structural steel and fine-stranded copper cables
- ▶ High-performance cutting characteristics for highly-flexible conductors and wire cables
- ▶ All tool data in view thanks to display and i-press® app

Characteristics

- Choose your battery system: Bosch or Makita
- All data can be easily read via Bluetooth
- Closed head with bolt interlock, rotatable, flip top style
- Simple and safe: One-button operating concept for controlling all tool functions
- Effortless working due to balanced centre of gravity
- LED for work area illumination
- 2-stage hydraulic system with fast feed and power stroke
- Simple and safe: Automatic retraction when operation is complete
- Manual retract stop (MRS) for efficient operations

Suitable for

- Cu and Al cables, Al/St wires (ACSR)

Technical data	
Head type	Guillotine closed
Cutting range	max. 45 mm dia.
Cutting force	70 kN
Cutting time	8 s to 10 s (depending on material thickness)
Charging time	15 min.
Weight incl. battery	4,6 kg
Ambient temperature	-10 °C up to +40 °C

Item	Part No. Bosch	Part No. Makita	
Battery powered hydraulic cutting tool 45 mm dia.	ESGM45CFB	ESGM45CFM	
Scope of supply			Page
Bosch battery 18 V / 2.0 Ah, Li-Ion	RALB1EU		492
Bosch quick-charger for 18 V Li-Ion battery	LGLB1EU		494
Makita battery 18 V / 1.5 Ah, Li-Ion		RAL1	491
Makita quick-charger for 18 V Li-Ion battery		LGL1	494
Plastic case 450 x 370 x 105 mm	KKESGM45NG	KKESGM45NG	
Accessories			Page
Bosch battery 18 V / 5.0 Ah, Li-Ion	RALB2EU		493
Makita battery 18 V / 3.0 Ah, Li-Ion (54 Wh)		RAL2	491

SPECIALIST FOR ARMoured CABLE + CONSTRUCTION STEEL

Thanks to its closed and rotating head, the ESGM45 is the specialist for cutting ACSR ropes, round materials (Cu, Al, St), and also armoured cable and solid construction steel, for instance. Even fine-stranded and highly-flexible conductors and wire ropes up to 45 mm can be precisely cut. As a special highlight, the tool has the innovative opening mechanism, which facilitates safe and fast operations. If an unwelcome object happens to be located between the cutters, all you need to do is release the control button. The two cutting blades then move apart straight away. This mechanism also makes sure that the tool is quickly ready to use again after a completed cut.

ESG 45 Battery powered hydraulic cutting tool 45 mm dia.

NEXT GENERATION



- ▶ High cutting force cuts armoured copper and aluminium cables and Al/St cables (ACSR)
- ▶ Also suitable for round material made of Al, Cu and steel
- ▶ Extremely robust design and lightweight
- ▶ Saves time with multiple cuts thanks to innovative opening mechanism
- ▶ All tool data in view thanks to display and i-press® app

Characteristics

- Choose your battery system: Bosch or Makita
- All data can be easily read via Bluetooth
- Closed head with bolt interlock, rotatable, flip top style
- Simple and safe: One-button operating concept for controlling all tool functions
- Effortless working due to balanced centre of gravity
- LED for work area illumination
- 2-stage hydraulic system with fast feed and power stroke
- Simple and safe: Automatic retraction when operation is complete
- Manual retract stop (MRS) for efficient operations
- Always ready-to-use thanks to battery charge and service display

Suitable for

- Armoured Cu and Al cables, Al/St wires

Technical data			
Head type	Guillotine closed		
Cutting range	max. 45 mm dia.		
Cutting force	70 kN		
Cutting time	8 s to 18 s (depending on material)		
Charging time	45 min.		
Weight incl. battery	5.9 kg		
Ambient temperature	-10 °C up to +40 °C		
Item	Part No. Bosch	Part No. Makita	
Battery powered hydraulic cutting tool 45 mm dia.	ESG45CFB	ESG45CFM	
Scope of supply			Page
Bosch battery 18 V / 5.0 Ah, Li-Ion	RALB2EU		493
Bosch quick-charger for 18 V Li-Ion battery	LGLB1EU		494
Makita battery 18 V / 3.0 Ah, Li-Ion (54 Wh)		RAL2	491
Makita quick-charger for 18 V Li-Ion battery		LGL1	494
Plastic case 450 x 370 x 105 mm	KK120NG	KK120NG	
Accessories			Page
Inner moving blade		ESG45ES1	
Outer fixed blade		ESG45EF	
Bosch battery 18 V / 5.0 Ah, Li-Ion	RALB2EU		493
Makita battery 18 V / 4.0 Ah, Li-Ion		RAL40	492





ESM 50 Battery powered hydraulic cutting tool 50 mm dia. for copper and aluminium cable

**NEXT
GENERATION**



- ▶ For cutting copper and aluminium cables (fine-stranded also)
- ▶ Very high cutting capacity thanks to innovative cutting geometry
- ▶ All tool data in view thanks to display and i-press® app

Characteristics

- Choose your battery system: Bosch or Makita
- All data can be easily read via Bluetooth
- Open head, rotatable
- Simple and safe: One-button operating concept for controlling all tool functions
- Effortless working due to balanced centre of gravity
- LED for work area illumination
- Simple and safe: Automatic retraction when operation is complete
- Manual retract stop (MRS) for efficient operations
- Always ready-to-use thanks to battery charge and service display

Suitable for

- Cu and Al cables (multi and fine stranded) even armoured cable

Technical data

Head type	Cutter open
Cutting range	max. 50 mm dia.
Cutting force	38 kN
Cutting time	8 s up to 10 s (depending on material thickness)
Charging time	15 min.
Weight incl. battery	3.0 kg
Ambient temperature	-10 °C up to +40 °C

Item	Part No. Bosch	Part No. Makita	
Battery powered hydraulic cutting tool 50 mm dia.	ESM50CFB	ESM50CFM	
Scope of supply			Page
Bosch battery 18 V / 2.0 Ah, Li-Ion	RALB1EU		492
Bosch quick-charger for 18 V Li-Ion battery	LGLB1EU		494
Makita battery 18 V / 1.5 Ah, Li-Ion		RAL1	491
Makita quick-charger for 18 V Li-Ion battery		LGL1	494
Plastic case 450 x 370 x 105 mm	KK50NG	KK50NG	
Accessories			Page
Bosch battery 18 V / 5.0 Ah, Li-Ion	RALB2EU		493
Makita battery 18 V / 3.0 Ah, Li-Ion (54 Wh)		RAL2	491

A GENUINE ALL-ROUNDER!

One tool for (almost) all situations! Both multi-stranded and fine-stranded (including armoured) cables are reliably cut. So you need only require one tool for a range of applications. Thanks to new cutting geometry, the annoying jamming of strands in the cutting blades is also a thing of the past.



ESG 55 Battery powered hydraulic cutting tool 55 mm dia.



- ▶ High cutting force cuts armoured copper and aluminium cables and Al/St cables (ACSR)
- ▶ Also suitable for round material made of Al, Cu and steel
- ▶ 120 kN cutting force for maximum output
- ▶ Saves time with multiple cuts thanks to innovative opening mechanism

Characteristics

- Choose your battery system: Bosch or Makita
- All data can be easily read via Bluetooth
- Closed head with bolt interlock, rotatable, flip top style
- Simple and safe: One-button operating concept for controlling all tool functions
- Effortless working due to balanced centre of gravity
- LED for work area illumination
- 2-stage hydraulic system with fast feed and power stroke
- Simple and safe: Automatic retraction when operation is complete
- Manual retract stop (MRS) for efficient operations
- Always ready-to-use thanks to battery charge and service display

Suitable for

- Armoured Cu and Al cables, Al/St wires

Technical data			
Head type	Guillotine closed		
Cutting range	max. 55 mm dia.		
Cutting force	120 kN		
Cutting time	10 s to 19 s (depending on material thickness)		
Charging time	45 min.		
Weight incl. battery	8.2 kg		
Ambient temperature	-10 °C up to +40 °C		
Item	Part No. Bosch	Part No. Makita	
Battery powered hydraulic cutting tool 55 mm dia.	ESG55CFB	ESG55CFM	
Scope of supply			Page
Bosch battery 18 V / 5.0 Ah, Li-Ion	RALB2EU		493
Bosch quick-charger for 18 V Li-Ion battery	LGLB1EU		494
Makita battery 18 V / 4.0 Ah, Li-Ion		RAL40	492
Makita quick-charger for 18 V Li-Ion battery		LGL1	494
Plastic case 450 x 370 x 105 mm	KK120NG	KK120NG	
Accessories			Page
Inner moving blade		ESG55ES	
Outer fixed blade		ESG55EF	
Bosch battery 18 V / 5.0 Ah, Li-Ion	RALB2EU		493
Makita battery 18 V / 4.0 Ah, Li-Ion		RAL40	492



ES 65 Battery powered hydraulic cutting tool 65 mm dia.

**NEXT
GENERATION**



- ▶ Cuts copper and aluminium cables with lightweight steel armouring (depending on cable type)
- ▶ Also suitable for fine-stranded cables (depending on cable type)
- ▶ Saves time with multiple cuts thanks to innovative opening mechanism
- ▶ All tool data in view thanks to display and i-press® app

Characteristics

- All data can be easily read via Bluetooth
- Choose your battery system: Bosch or Makita
- Open head, rotatable
- Simple and safe: One-button operating concept for controlling all tool functions
- Effortless working due to balanced centre of gravity
- LED for work area illumination
- 2-stage hydraulic system with fast feed and power stroke
- Simple and safe: Automatic retraction when operation is complete
- Manual retract stop (MRS) for efficient operations
- Always ready-to-use thanks to battery charge and service display

Suitable for

- Cu/Al cable

Technical data	
Head type	Cutter open
Cutting range	max. 65 mm dia.
Cutting force	40 kN
Cutting time	Depending on material thickness
Charging time	45 min.
Weight incl. battery	6.3 kg
Ambient temperature	-12 °C up to +40 °C

Item	Part No. Bosch	Part No. Makita	
Battery powered hydraulic cutting tool 65 mm dia.	ES65CFB	ES65CFM	
Scope of supply			Page
Bosch battery 18 V / 5.0 Ah, Li-Ion	RALB2EU		493
Bosch quick-charger for 18 V Li-Ion battery	LGLB1EU		494
Makita battery 18 V / 3.0 Ah, Li-Ion (54 Wh)		RAL2	491
Makita quick-charger for 18 V Li-Ion battery		LGL1	494
Plastic case 450 x 370 x 105 mm	KK120NG	KK120NG	
Accessories			Page
Replacement blade		ES65E	
Bosch battery 18 V / 5.0 Ah, Li-Ion	RALB2EU		493
Makita battery 18 V / 4.0 Ah, Li-Ion		RAL40	492

ESG 85 Battery powered hydraulic cutting tool 85 mm dia.

**NEXT
GENERATION**



- ▶ Cuts copper and aluminium cables with lightweight steel armoring (depending on cable type)
- ▶ Saves time with multiple cuts thanks to innovative opening mechanism
- ▶ All tool data in view thanks to display and i-press® app

Characteristics

- Choose your battery system: Bosch or Makita
- All data can be easily read via Bluetooth
- Larger cutting area, optimum force transmission due to closed head shape
- Simple and safe: One-button operating concept for controlling all tool functions
- LED for work area illumination
- 2-stage hydraulic system with fast feed and power stroke
- Simple and safe: Automatic retraction when operation is complete
- Manual retract stop (MRS) for efficient operations
- Always ready-to-use thanks to battery charge and service display

Suitable for

- lightly armoured Cu and Al cables

Technical data			
Head type	Guillotine closed		
Cutting range	max. 85 mm dia.		
Cutting force	60 kN		
Cutting time	Depending on material thickness		
Charging time	45 min.		
Weight incl. battery	6,8 kg		
Ambient temperature	-10 °C up to +40 °C		
Item	Part No. Bosch	Part No. Makita	
Battery powered hydraulic cutting tool 85 mm dia.	ESG85CFB	ESG85CFM	
Scope of supply			Page
Bosch battery 18 V / 5.0 Ah, Li-Ion	RALB2EU	493	
Bosch quick-charger for 18 V Li-Ion battery	LGLB1EU	494	
Makita battery 18 V / 4.0 Ah, Li-Ion		RAL40	492
Makita quick-charger for 18 V Li-Ion battery		LGL1	494
Plastic case 450 x 370 x 105 mm	KK120NG	KK120NG	
Accessories			Page
Inner moving blade	ESG85ES1		
Outer fixed blade	ESG85EF1		
Bosch battery 18 V / 5.0 Ah, Li-Ion	RALB2EU	493	
Makita battery 18 V / 4.0 Ah, Li-Ion		RAL40	492





Cutting

Battery-powered hydraulic cutting tools 18 V

ES 85 Battery powered hydraulic cutting tool 85 mm dia.

**NEXT
GENERATION**



- ▶ Cuts copper and aluminium cables with lightweight steel armoring (depending on cable type)
- ▶ Also suitable for fine-stranded cables (depending on cable type)
- ▶ Saves time with multiple cuts thanks to innovative opening mechanism
- ▶ All tool data in view thanks to display and i-press® app

Characteristics

- Choose your battery system: Bosch or Makita
- All data can be easily read via Bluetooth
- Open head, rotatable
- Simple and safe: One-button operating concept for controlling all tool functions
- Effortless working due to balanced centre of gravity
- LED for work area illumination
- 2-stage hydraulic system with fast feed and power stroke
- Simple and safe: Automatic retraction when operation is complete
- Manual retract stop (MRS) for efficient operations
- Always ready-to-use thanks to battery charge and service display

Suitable for

- Cu and Al cable

Technical data

Head type	Cutter open
Cutting range	max. 85 mm dia.
Cutting force	30 kN
Cutting time	Depending on material thickness
Charging time	45 min.
Weight incl. battery	7.2 kg
Ambient temperature	-10 °C up to +40 °C

Item	Part No. Bosch	Part No. Makita	
Battery powered hydraulic cutting tool 85 mm dia.	ES85CFB	ES85CFM	
Scope of supply			Page
Bosch battery 18 V / 5.0 Ah, Li-Ion	RALB2EU		493
Bosch quick-charger for 18 V Li-Ion battery	LGLB1EU		494
Makita battery 18 V / 4.0 Ah, Li-Ion		RAL40	492
Makita quick-charger for 18 V Li-Ion battery		LGL1	494
Plastic case 450 x 370 x 105 mm	KK120NG	KK120NG	
Accessories			Page
Replacement blade	ES85E		
Bosch battery 18 V / 5.0 Ah, Li-Ion	RALB2EU		493
Makita battery 18 V / 4.0 Ah, Li-Ion		RAL40	492

ESG 105 Battery powered hydraulic cutting tool 105 mm dia.



- ▶ Cuts copper and aluminium cables with armoring
- ▶ 120 kN cutting force for extremely wide cutting range up to 105 mm dia.
- ▶ Remarkably lightweight for tools in this performance class
- ▶ Saves time with multiple cuts thanks to innovative opening mechanism
- ▶ All tool data in view thanks to display and i-press® app

Characteristics

- Choose your battery system: Bosch or Makita
- All data can be easily read via Bluetooth
- Closed head with bolt interlock, rotatable, flip top style
- Simple and safe: One-button operating concept for controlling all tool functions
- Effortless working due to balanced centre of gravity
- LED for work area illumination
- 2-stage hydraulic system with fast feed and power stroke
- Simple and safe: Automatic retraction when operation is complete
- Manual retract stop (MRS) for efficient operations
- Always ready-to-use thanks to battery charge and service display

Suitable for

- lightly armoured Cu and Al cables

Technical data	
Head type	Guillotine closed
Cutting range	max. 105 mm dia.
Cutting force	120 kN
Cutting time	Depending on cable type
Charging time	45 min.
Weight incl. battery	10.7 kg
Ambient temperature	-10 °C up to +40 °C

Item	Part No. Bosch	Part No. Makita	
Battery powered hydraulic cutting tool 105 mm dia.	ESG105CFB	ESG105CFM	
Scope of supply			Page
Bosch battery 18 V / 5.0 Ah, Li-Ion	RALB2EU		493
Bosch quick-charger for 18 V Li-Ion battery	LGLB1EU		494
Makita quick-charger for 18 V Li-Ion battery		RAL40	492
Plastic case 450 x 370 x 105 mm		LGL1	494
Makita battery 18 V / 4.0 Ah, Li-Ion	MK105NG	MK105NG	
Accessories			Page
Inner moving blade	ESG105ES		
Outer fixed blade	ESG105EF		
Bosch battery 18 V / 5.0 Ah, Li-Ion	RALB2EU		493
Makita battery 18 V / 4.0 Ah, Li-Ion		RAL40	492

ES 105 Battery powered hydraulic cutting tool 105 mm dia.

**NEXT
GENERATION**



- ▶ Cuts copper and aluminium cables with lightweight steel armouring and fine-stranded conductors (depending on cable type)
- ▶ Extremely large cutting area to 105 mm dia.
- ▶ Saves time with multiple cuts thanks to innovative opening mechanism
- ▶ All tool data in view thanks to display and i-press® app

Characteristics

- Choose your battery system: Bosch or Makita
- All data can be easily read via Bluetooth
- Open head, rotatable
- Simple and safe: One-button operating concept for controlling all tool functions
- Effortless working due to balanced centre of gravity
- LED for work area illumination
- 2-stage hydraulic system with fast feed and power stroke
- Simple and safe: Automatic retraction when operation is complete
- Manual retract stop (MRS) for efficient operations
- Always ready-to-use thanks to battery charge and service display

Suitable for

- Cu and Al cable



Technical data	
Head type	Cutter open
Cutting range	max. 105 mm dia.
Cutting force	74 kN
Cutting time	Depending on cable type
Charging time	45 min.
Weight incl. battery	9.6 kg
Ambient temperature	-10 °C up to +40 °C

Item	Part No. Bosch	Part No. Makita	
Battery powered hydraulic cutting tool 105 mm dia.	ES105CFB	ES105CFM	
Scope of supply			Page
Bosch battery 18 V / 5.0 Ah, Li-Ion	RALB2EU		493
Bosch quick-charger for 18 V Li-Ion battery	LGLB1EU		494
Makita battery 18 V / 4.0 Ah, Li-Ion		RAL40	492
Makita quick-charger for 18 V Li-Ion battery		LGL1	494
Plastic case 450 x 370 x 105 mm	MK105NG	MK105NG	
Accessories			Page
Replacement blade	ES105E		
Bosch battery 18 V / 5.0 Ah, Li-Ion	RALB2EU		493
Makita battery 18 V / 4.0 Ah, Li-Ion		RAL40	492

EKM 60 UNV Battery-powered hydraulic universal tool 6 - 300 mm²

**NEXT
GENERATION**



**K22
SERIE**

**K18
SERIE**

**K5
SERIE**

- ▶ One head for crimping, cutting and punching - one tool for all
- ▶ Ideal in the assembly field where all common jobs can be carried out using one tool
- ▶ All tool data on view thanks to display and i-press® app
- ▶ Small and slim, perfect for cramped conditions

Characteristics

- Choose your battery system: Bosch or Makita
- All data can be easily read via Bluetooth
- Universal head flip top style, rotatable
- Simple and safe: One-button operating concept for controlling all tool functions
- Effortless working due to balanced centre of gravity
- LED for work area illumination
- Simple and safe: Automatic retraction when operation is complete (crimping or cutting)
- Always ready-to-use thanks to battery charge and service display

Technical instructions

- Interchangeable adapters and dies for crimping, cutting and punching you will find on page 478

Technical data	
Crimping force	60 kN
Stroke	42 mm
Crimping range	6 - 300 mm ²
Crimping cycle	7 s up to 9 s (depending on cross-section)
Cutting range	max. 40 mm dia.
Punching capacity	up to 64 mm dia. round, up to 92 x 92 mm square
Charging time	15 min.
Weight	3.0 kg
Ambient temperature	-10 °C up to +40 °C

Item	Part No. Bosch	Part No. Makita	
Battery-powered hydraulic universal tool 6 - 300 mm ²	EKM60UNVCFB	EKM60UNVCFM	
Scope of supply			Page
Bosch battery 18 V / 2.0 Ah, Li-Ion	RALB1EU		492
Bosch quick-charger for 18 V Li-Ion battery	LGLB1EU		494
Makita battery 18 V / 1.5 Ah, Li-Ion		RAL1	491
Makita quick-charger for 18 V Li-Ion battery		LGL1	494
Adapter for crimping dies of Series 22	UA22	UA22	478
Plastic case 450 x 370 x 105 mm	KKMUNVNG	KKMUNVNG	
Accessories			Page
Bosch battery 18 V / 5.0 Ah, Li-Ion	RALB2EU		493
Makita battery 18 V / 3.0 Ah, Li-Ion (54 Wh)		RAL2	491
Variants			Page
L-BOXX with battery powered universal tool EKM60UNVCFB	LBOXXEKM60UNVCFB		205
L-BOXX with battery powered universal tool EKM60UNVCFM		LBOXXEKM60UNVCFM	205



Cutting

Battery powered cutting tools

EK 60 UNV Battery-powered hydraulic universal tool 6 - 300 mm²

**NEXT
GENERATION**



- ▶ One head for crimping, cutting and punching - one tool for all
- ▶ Ideal in the assembly field where all common jobs can be carried out using one tool
- ▶ Fast working due to 2-stage hydraulics
- ▶ All tool data on view thanks to display and i-press® app

Characteristics

- Choose your battery system: Bosch or Makita
- All data can be easily read via Bluetooth
- Universal head flip top style, rotatable
- Simple and safe: One-button operating concept for controlling all tool functions
- Effortless working due to balanced centre of gravity
- LED for work area illumination
- Simple and safe: Automatic retraction when operation is complete (crimping or cutting)
- Always ready-to-use thanks to battery charge and service display

Technical instructions

- Interchangeable adapters and dies for crimping, cutting and punching you will find on page 478



Technical data	
Crimping force	60 kN
Stroke	42 mm
Crimping range	6 - 300 mm ²
Crimping cycle	3 s to 5 s (depending on cross-section)
Cutting range	max. 40 mm dia.
Punching capacity	up to 64 mm dia. round
Charging time	45 min.
Weight	4.8 kg
Ambient temperature	-10 °C up to +40 °C

Item	Part No. Bosch	Part No. Makita	
Battery-powered hydraulic universal tool 6 - 300 mm ²	EK60UNVCFB	EK60UNVCFM	
Scope of supply			Page
Bosch battery 18 V / 5.0 Ah, Li-Ion	RALB2EU		493
Bosch quick-charger for 18 V Li-Ion battery	LGLB1EU		494
Makita battery 18 V / 4.0 Ah, Li-Ion		RAL40	492
Makita quick-charger for 18 V Li-Ion battery		LGL1	494
Plastic case 450 x 370 x 105 mm	UA22	UA22	478
Adapter for crimping dies of Series 22	KK120UNVNG	KK120UNVNG	



EK 120 UNV Battery-powered hydraulic universal tool 10 - 400 mm²



- ▶ One head for crimping, cutting and punching - one tool for all
- ▶ Ideal in the assembly field where all common jobs can be carried out using one tool
- ▶ All tool data on view thanks to display and i-press® app

Characteristics

- Choose your battery system: Bosch or Makita
- All data can be easily read via Bluetooth
- Universal head flip top style, rotatable
- Simple and safe: One-button operating concept for controlling all tool functions
- Effortless working due to balanced centre of gravity
- LED for work area illumination
- Simple and safe: Automatic retraction when operation is complete (crimping or cutting)
- Always ready-to-use thanks to battery charge and service display

Technical instructions

- Interchangeable adapters and dies for crimping, cutting and punching you will find on page 478



**K13
SERIE**

Technical data	
Crimping force	108 kN
Stroke	42 mm
Crimping range	10 - 400 mm ²
Crimping cycle	Depending on cable type
Cutting range	max. 40 mm dia.
Punching capacity	up to 144 mm dia. round, up to 138 x 138 mm square
Charging time	45 min.
Weight	6.5 kg
Ambient temperature	-10 °C up to +40 °C

Item	Part No. Bosch	Part No. Makita	
Battery-powered hydraulic universal tool 10 - 400 mm ²	EK120UNVCFB	EK120UNVCFM	
Scope of supply			Page
Bosch battery 18 V / 5.0 Ah, Li-Ion	RALB2EU		493
Bosch quick-charger for 18 V Li-Ion battery	LGLB1EU		494
Makita battery 18 V / 4.0 Ah, Li-Ion		RAL40	492
Makita quick-charger for 18 V Li-Ion battery		LGL1	494
Plastic case 450 x 370 x 105 mm	KK120UNVNG	KK120UNVNG	
Adapter for crimping dies	UA12TKL	UA12TKL	478

