## Rittal - The System.

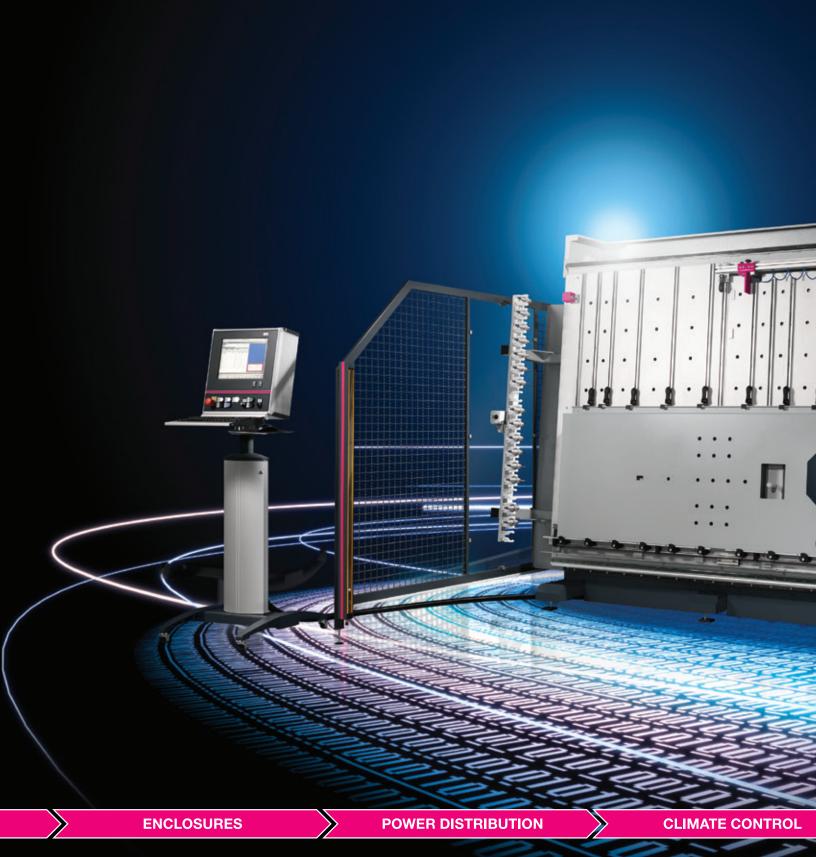
Faster – better – everywhere.

## Rittal Automation Systems Hand Tools



## Rittal – The System.

Faster – better – everywhere.



2



## Rittal Automation Systems

## **Hand Tools**

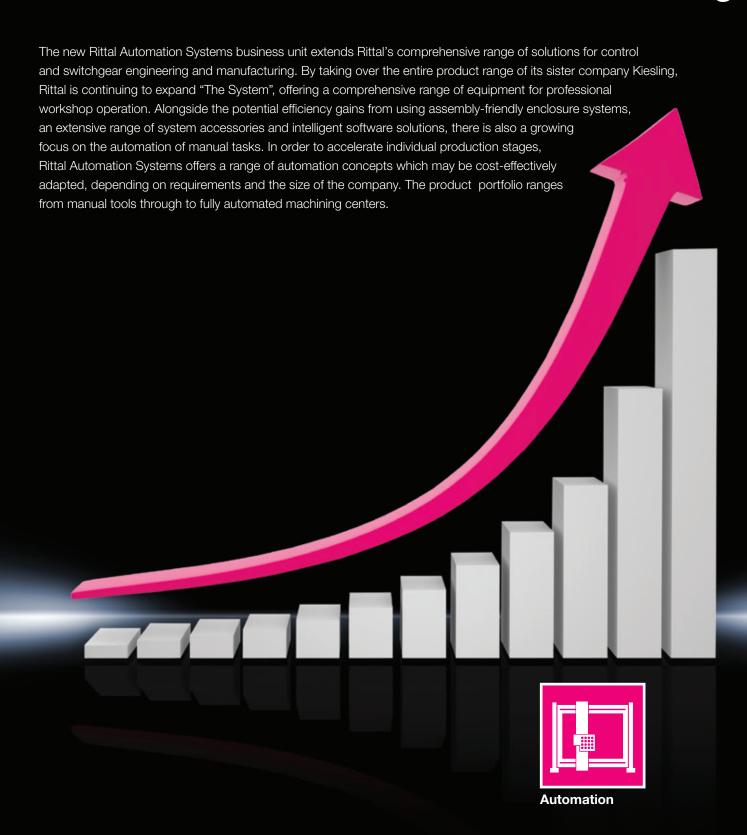
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IT INFRASTRUCTURE

**SOFTWARE & SERVICES** 



## Rittal automates enclosure manufacturing



**ENCLOSURES** 

**POWER DISTRIBUTION** 

**CLIMATE CONTROL** 

# Optimization of the complete workflow in enclosure manufacturing

The Rittal Automation Systems business unit with its portfolio of services supports all process stages in control and switchgear engineering. From manual tools through to fully automated systems, find your customized solutions for process-optimized workshop operations.

- Machining of enclosures and components
- Assembly of terminal blocks on DIN rails
- Assembly of wires and cables
- Automated wiring solutions
- Handling systems and tools



### Machining:

Discover our solutions for the fully automated, fast, precise and reliable milling or laser machining of enclosures and cases, plus optimized cutting and kitting of cable ducts and support rails.

- Perforex BC Milling, thread tapping, drilling
- Perforex LC Laser cutting of stainless steel and powder-coated sheet steel enclosures
- Secarex For cutting cable ducts and support rails to length
- Copper processing CW 120 Bending, punching, cutting



IT INFRASTRUCTURE

**SOFTWARE & SERVICES** 

# Optimization of the complete workflow in enclosure manufacturing







**Tools** 



Handling

#### Assembly:

Our component mounting products are used for the automated manufacturing of terminal strips in control and switchgear engineering.

■ Athex – Terminal configuration and labeling

#### Wire processing:

Take advantage of our professional, rational solutions in wire processing.

- Cutting machine
- Stripping machines
- Stripping/crimping machines

#### Tools:

The right tool for every application.

- Screwdrivers
- Pliers
- Insulation stripping and crimping tools
- Hole punching tools

**ENCLOSURES** 

**POWER DISTRIBUTION** 

**CLIMATE CONTROL** 



Wiring



**Tools** 



Handling

#### Wiring

The efficient interplay between engineering, handling, assembly and hand tools makes your wiring process swift, ergonomic and safe.

To complete the process chain, our automation team are dedicated to the development of pioneering wiring solutions through to full automation.

#### Handling:

We support you with ergonomic, efficient handling systems for a wide range of transport and lifting operations in the workshop.

- LUT 1000 Workpiece stillage and transport
- Assembly frames Ergonomic assembly and wiring
- Functional trolley Practical solution for transport of parts and a working table in the factory

IT INFRASTRUCTURE

**SOFTWARE & SERVICES** 

## The right tool for every application!

Rittal offers a comprehensive range of hand-held tools for professional support with your work operations. All the machining and handling technology you need for time-saving and cost-cutting manufacturing processes, all from a single source.



## Tool bag

### Tool bag

#### Configured

Configured tool bag comprising a selected range of Rittal hand tools, designed especially for electricians. The practical, high-quality shoulder bag may be used either as a tool bag or laptop case.

#### Design

- 19 separate compartments for tools
- Cushioned compartment for laptop or tablet
- Document holder
- Two additional storage pockets inside

#### Benefits:

- Protected storage
- Shoulder pad for comfortable carrying
- Flexible use

#### Material:

- Polyester

#### Supply includes:

- Screwdriver, insulated SL 3.5 x 0.6
  - (Model No.: 4052.102), SL 6 x 1.2 (Model No.: 4052.107), PZ 2 (Model No.: 4052.122)
- Screwdriver, non-insulated PZ 2 (Model No.: 4052.022), SL 6 x 1.2
  - (Model No.: 4052.011), TX 20
  - (Model No.: 4052.055), TX 25 (Model No.: 4052.056), TX 30
  - (Model No.: 4052.058)
- Bit holder with handle, magnetic (Model No.: 4053.300)
- Bit set with bit holder, 7-piece (Model No.: 4053.420)
- Crimping pliers for wire end ferrules, for cross-section 0.5 - 6 mm<sup>2</sup>, square crimp (Model No.: 4054.001)
- Wire stripper for wire end ferrules, for cross section 0.02 - 11 mm<sup>2</sup> (Model No.: 4054.300)
- Stripping tools for cables Ø 2.5 11 mm (Model No.: 4054.400), for cables Ø 8 - 13 mm (Model No.: 4054.405)
- Side cutter for cables Ø 0.2 11 mm (Model No.: 4054.600)
- Electrician's scissors for cables Ø 0.1 3.7 mm (Model No.: 4054.700)
- Combination pliers with insulated handle (Model No.: 4054.800)
- Needle-nose pliers with insulated handle (Model No.: 4054.850)
- Tool bag (Model No.: 4053.000)

Width mm (in.)	Height mm (in.)	Depth mm (in.)	Packs of	Model No.
420 (16.5)	340 (13.3)	190 7.48	1 pc(s).	4053.500

### **Tool Bag**

#### Unconfigured

The practical, high-quality shoulder bag may be used either as a tool bag or laptop case.

- 19 separate compartments for tools
- Cushioned compartment for laptop or tablet
- Document holder
- Two additional storage pockets inside

#### Benefits:

- Protected storage
- Shoulder pad for comfortable carrying
- Flexible use

#### Material:

- Polyester

_					
	Width mm (in.)	Height mm (in.	Depth mm (in.)	Packs of	Model No.
	420 (16.5)	340 (13.3)	190 (7.48)	1 pc(s).	4053.000





### Screwdriver









#### Screwdriver

#### Insulated

With a long, slender handle and high-performance tip with non-marking insulation.

- Minimal force required, due to ergonomically styled handle
- Handle head with anti-roll protection and label-
- ling of screw type
  Black coated blade tip to preserve precision and accuracy of fit
- Handle 30% and insulation up to 50% thinner
- than comparable tools
  Optimum interconnection of hand and handle to support higher torques and longer, fatigue-free working

#### Material:

- Blade: Chrome-molybdenum-vanadium alloy
- Handle core: Hard plastic
- Handle body: Elastic, highly flexible plastic

#### Color:

- Handle: Anthracite and Rittal pink

#### Standards:

- IEC 60 900

#### Approvals:

- VDE
- Tested Safety GS

#### For slot-head screws

Blade tip	Blade (width x thickness) mm (in.)	Blade length mm (in.)	Blade dia mm (in.)	Handle length mm (in.)	Handle dia mm (in.)	Packs of	Model No.
SL	3 x 0.5 (0.11 x .001)	100 (3.9)	3.5 (.13)	105 (4.1)	25 (.98)	1 pc(s).	4052.101
SL	3.5 x 0.6 (0.13 x 0.02)	100 (3.9)	3.5 (.13)	105 (4.1)	25 (.98)	1 pc(s).	4052.102
SL	4 x 0.8 (0.15 x 0.03)	100 (3.9)	4 (.15)	105 (4.1)	25 (.98)	1 pc(s).	4052.104
SL	5.5 x 1 (0.21 x 0.03)	125 (3.9)	5.5 (.21)	115 (4.5)	27 (1.06)	1 pc(s).	4052.106
SL	6.5 x 1.2 (0.25 x 0.04)	125 (3.9)	6.5 (.25)	115 (4.5)	27 (1.06)	1 pc(s).	4052.107

#### For pozidrive screws

Blade tip	Blade (width x thickness) mm (in.)	Blade length mm (in.)	Blade dia mm (in.)	Handle length mm (in.)	Handle dia mm (in.)	Packs of	Model No.
PZ 1	-	80 (3.14)	4.5 (.17)	105 (4.1)	25 (.98)	1 pc(s).	4052.121
PZ 2	_	100 (3.9)	6 (.23)	115 (4.5)	27 (1.06)	1 pc(s).	4052.122

#### For Phillips-head screws

Blade tip	Blade (width x thickness) mm (in.)	Blade length mm (in.)	Blade dia mm (in.)	Handle length mm (in.)	Handle dia mm (in.)	Packs of	Model No.
PH 1	-	80 (3.14)	4.5 (.17)	105 (4.1)	25 (.98)	1 pc(s).	4052.131
PH 2	_	100 (3.9)	6 (.23)	115 (4.5)	27 (1.06)	1 pc(s).	4052.132

#### For plus/minus

Blade tip	Blade (width x thickness) mm (in.)	Blade length mm (in.)	Blade dia mm (in.)	Handle length mm (in.)	Handle dia mm (in.)	Packs of	Model No.
Z1	_	80 (3.14)	4.5 (.17)	105 (4.1)	25 (.98)	1 pc(s).	4052.141
Z2	_	100 (3.9)	6 (.23)	115 (4.5)	27 (1.06)	1 pc(s).	4052.142

## Scredriver

#### **Screwdriver set**

Multi-part screwdriver set. With a long, slender handle and high-performance tips with non-marking

#### Benefits:

- Minimal force required due to ergonomically styled handle
- Handle head with anti-roll protection and clear
- screw labelling

   Black coated blade tip to preserve precision and accuracy of fit

  - Handle 30% and insulation up to 50% thinner
- than comparable tools

- Material:
   Blade: Chrome-molybdenum-vanadium alloy
- Handle core: Hard plastic
  Handle body: Elastic, highly flexible plastic

Color:
- Handle: Anthracite and Rittal pink

#### Supply includes:

- Set with 5 screwdrivers

#### Standards:

- IEC 60 900

## **Approvals:** – VDE

- Tested Safety

Blade tip	Packs of	Model No.
SL 3 x 05 mm SL 4 x 0.8 mm SL5.5 x 1.mm PH 1 PH 2	1 pc(s).	4052.210
SL 3 x 05 mm SL 4 x 0.8 mm SL5.5 x 1.mm PZ 1 PZ 2	1 pc(s).	4052.211
SL 3 x 05 mm SL 4 x 0.8 mm PH 1 PH 2 Z2	1 pc(s).	4052.212



### Screwdriver







#### **Screwdriver**

#### Uninsulated

Ergonomic screwdriver which adapts perfectly to the hand, thereby minimizing the force required.

- Handle head with anti-roll protection and label-
- Handle head with anti-roll protection and labelling of screw type
   Black coated blade tip to preserve precision and accuracy of fit
   Optimum interconnection of hand and handle to support higher torques and longer, fatigue-free working

#### Material:

- Blade: Chrome-molybdenum-vanadium alloy
- Handle core: Hard plastic
- Handle body: Elastic, highly flexible plastic

#### Color:

- Handle: Anthracite and Rittal pink

#### Approvals:

- Tested Safety GS

#### For slot-head screws

Blade tip	Blade (width x thickness) mm (in.)	Blade length mm (in.)	Blade dia mm (in.)	Handle length mm (in.)	Handle dia mm (in.)	Packs of	Model No.
SL	2.5 x 0.4 (0.098 x .015)	75 (2.9)	2.5 (.09)	86 (3.3)	25 (.98)	1 pc(s).	4052.001
SL	3.5 x 0.6 (0.13 x 0.02)	100 (3.9)	3.5 (.13)	86 (3.3)	25 (.98)	1 pc(s).	4052.003
SL	4 x 0.8 (0.15 x 0.03)	100 (3.9)	4 (.15)	94 (3.7)	30 (1.18)	1 pc(s).	4052.004
SL	5.5 x 1 (0.21 x 0.03)	150 (5.9)	5 (.19)	101 (3.9)	33 (1.29)	1 pc(s).	4052.007
SL	6.5 x 1.2 (0.25 x 0.04)	150 (5.9)	6 (.23)	106 (4.1)	36 (1.41)	1 pc(s).	4052.011
SL	8 x 1.2 (0.31 x 0.04	175 (6.8)	7 (.27)	112 (4.4)	39 (1.53)	1 pc(s).	4052.014
SL	5.5 x 1 (0.2 x 0.03)	25 (0.9)	5 (.19)	60 (2.3)	21 (.82)	1 pc(s).	4052.018

#### For pozidrive screws

Blade tip	Blade (width x thickness) mm (in.)	Blade length mm (in.)	Blade dia mm (in.)	Handle length mm (in.)	Handle dia mm (in.)	Packs of	Model No.
PZ 1	-	80 (3.14)	4.5 (.17)	94 (3.7)	30 (1.18)	1 pc(s).	4052.021
PZ 2	_	100 (3.9)	6 (.23)	106 (4.17)	36 (1.41)	1 pc(s).	4052.022

#### For Phillips-head screws

Blade tip	Blade (width x thickness) mm (in.)	Blade length mm (in.)	Blade dia mm (in.)	Handle length mm (in.)	Handle dia mm (in.)	Packs of	Model No.
PH 1	_	80 (3.14)	4.5 (.17)	94 (3.7)	30 (1.18)	1 pc(s).	4052.031
PH 2	-	100 (3.9)	6 (.23)	106 (4.17)	36 (1.41)	1 pc(s).	4052. 032
PH 3	-	25 (.98)	6 (.23)	60 (2.36)	21 (0.82)	1 pc(s).	4052.038

#### For multi-tooth screws

Blade tip	Blade (width x thickness) mm (in.)	Blade length mm (in.)	Blade dia mm (in.)	Handle length mm (in.)	Handle dia mm (in.)	Packs of	Model No.
TX 10	-	100 (3.93)	3.5 (.13)	86 (3.38)	25 (.98)	1 pc(s).	4052.053
TX 15	-	100 (3.93)	4 (.15)	94 (3.70)	30 (1.18)	1 pc(s).	4052.054
TX 20	-	100 (3.93)	5 (.19)	101 (3.97)	33 (1.29)	1 pc(s).	4052.055
TX 25	-	100 (3.93)	5 (.19)	106 (4.17)	36 (1.14)	1 pc(s).	4052.056
TX 30	_	115 (4.52)	6 (.23)	112 (4.40)	39 (1.53)	1 pc(s).	4052.058

### Screwdriver

#### Screwdriver set

#### Uninsulated

Multi-part screwdriver set.

#### Benefits:

- Minimal force required due to ergonomically
- styled handle

   Handle head with anti-roll protection and label-
- ling of screw type

   Black coated blade tip to preserve precision and accuracy of fit

#### Material:

- Blade: Chrome-molybdenum-vanadium alloy
- Handle core: Hard plastic
  Handle body: Elastic, highly flexible plastic

- Handle: Anthracite and Rittal pink

**Approvals:**– Tested Safety GS

Blade tip	Product specific scope of supply	Packs of	Model No.
SL 3.5 x 06 mm SL 6.5 x 1.2 mm PZ 1 PZ 2 PH 1 PH 2	6-part set	1 pc(s).	4052.200
PH 1 PH 2 TX 15 TX 20 TX 25 TX 30	6-part set	1 pc(s).	4052.201
TX 10 TX 15 TX 20 TX 25 TX 30	5-part set	1 pc(s).	4052.202



#### Interchangeable screwdriver set

#### Uninsulated

13-piece tool set with ergonomic, foldable, lockable handle

#### **Technical specifications:**

- PH 1 SL 4 X 0.8 mm PH 2 PH 3 PZ 1 SL 5 x 0.8 mm PZ 2 SL 6 x 1 mm PZ 3 SL 7 x 1.2 mm TX 6 TX 7 TX 8 TX 9 TY 10 TY 15

- TX 10 TX 15 TX 20 TX 25 TX 30 TX 40

- Hex socket 3 mm -hex socket 4 mm
- Hex socket 5 mm -hex socket 6 mm

#### Material:

- Blade: Chrome-molybdenum-vanadium alloy
- Handle core: Hard plastic
- Handle body: Elastic, highly flexible plastic

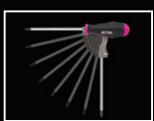
- Handle: Anthracite and Rittal pink

#### Supply includes:

- Combined blade holder Screwdriver and T handle
- 12 blades each with 2 tips
- Storage box

Blade length mm (in.)	Handle length mm (in.)	Handle dia. mm (in.)	Packs of	Model No.
160 (6.29)	105 (4.13)	39 (1.5)	1 pc(s).	4053.450





## Hex wrench



#### Hex wrench set

#### For Allen screws

Hex wrench with optimum, narrow-tolerance hexagonal profiles and precise ballhead geometry. The extra-long design achieves a greater leveage effect.

#### Benefits:

- Up to 30% more corrosion resistance
- Optimum hardness and elasticity
  Greater leverage effect

**Technical specifications:**- For hex socket: 1.27 - 1.5 - 2.0 - 2.5 - 3.0 - 3.5 - 4.0 - 4.5 - 5.0 - 5.5 - 6.0 - 7.0 - 8.0 - 9.0-

#### Supply includes:

- 15 hex wrenchesStorage box

Packs of	Model No.
1 pc(s).	4052.480

## Bits and bit holders

### Industrial bit for cordless screwdrivers

#### with long shaft

Precision screwdriver with a long shaft for industrial use.

#### Benefits:

Maximum hardness and torque values

**Technical specifications:** – Tool adaptation e 6.3 (1/4")

#### Material:

- High-quality special tool steel



#### For slot-head screws Blade Length mm Blade dia. mm

віаае пр	width x thickness mm (in.)	(in.)	(in.)	Packs of	Model No.
SL	3.5 x 0.6 (0.13 x 0.02)	73 (2.87)	6.3 (2.48)	3 pc(s).	4053.002
SL	4 x 0.8 (0.15 x 0.03)	73 (2.87)	6.3 (2.48)	3 pc(s).	4053.003

#### For pozidrive screws

Blade Tip	Blade width x thickness mm (in.)	Length mm (in.)	Blade dia. mm (in.)	Packs of	Model No.
PZ 1	-	73 (2.87)	6.3 (2.48)	3 pc(s).	4053.011
PZ 2	-	73 (2.87)	6.3 (2.48)	3 pc(s).	4053.012

#### For Phillips-head screws

Blade Tip	Blade width x thickness mm (in.)	Length mm (in.)	Blade dia. mm (in.)	Packs of	Model No.
PH 1	-	73 (2.87)	6.3 (2.48)	3 pc(s).	4053.021
PH 1	-	73 (2.87)	6.3 (2.48)	3 pc(s).	4053.022

#### For plus/minus

Blade Tip	Blade width x thickness mm (in.)	Length mm (in.)	Blade dia. mm (in.)	Packs of	Model No.
Z 1	-	73 (2.87)	6.3 (2.48)	3 pc(s).	4053.031
Z 2	_	73 (2.87)	6.3 (2.48)	3 pc(s).	4053.032

#### For multi-tooth screws

Blade width x thickness mm (in.)	Length mm (in.)	Blade dia. mm (in.)	Packs of	Model No.
-	73 (2.87)	6.3 (2.48)	3 pc(s).	4053.041
-	73 (2.87)	6.3 (2.48)	3 pc(s).	4053.042
-	73 (2.87)	6.3 (2.48)	3 pc(s).	4053.043
-	73 (2.87)	6.3 (2.48)	3 pc(s).	4053.044
-	73 (2.87)	6.3 (2.48)	3 pc(s).	4053.045
-	73 (2.87)	6.3 (2.48)	3 pc(s).	4053.046
-	73 (2.87)	6.3 (2.48)	3 pc(s).	4053.047
		width x thickness mm (in.)  - 73 (2.87)  - 73 (2.87)  - 73 (2.87)  - 73 (2.87)  - 73 (2.87)  - 73 (2.87)  - 73 (2.87)  - 73 (2.87)	width x thickness mm (in.) (in.) (in.) (in.)  - 73 (2.87) 6.3 (2.48)  - 73 (2.87) 6.3 (2.48)  - 73 (2.87) 6.3 (2.48)  - 73 (2.87) 6.3 (2.48)  - 73 (2.87) 6.3 (2.48)  - 73 (2.87) 6.3 (2.48)  - 73 (2.87) 6.3 (2.48)	width x thickness mm (in.)     (in.)     (in.)     Packs of       -     73 (2.87)     6.3 (2.48)     3 pc(s).       -     73 (2.87)     6.3 (2.48)     3 pc(s).





### Bits and bit holders



## Industrial bit set for cordless screwdriver

#### with long shaft

Precisely manufactured screwdriver with a long shaft for industrial use.

#### Benefits

- Case with viewing window
- Secure storage

#### **Technical specifications:**

- Tool adaptation E 6.3 (1/4")

#### Material:

- High-quality special tool steel

#### Supply includes:

- Set with 6 bits
- Viewing box

Blade Tip	Length mm (in.)	Packs of	Model No.
SL 3.5 x 0.6 mm SL 4 x 0.8 mm SL 5.5 x 1 mm PH 1 PH 2 PZ 2	73 (2.87)	1 pc(s).	4053.400
TX 10 TX 15 TX 20 TX 25 TX 30 TX 40	73 (2.87)	1 pc(s).	4053.410



#### Bit set

#### with bit holder

7-piece bit set with an assortment of quality bits with a short shaft and magnetic holder.

#### **Benefits**

- One-handed operation
- Can function as a screwdriver

#### **Technical specifications:**

Tool adaptation C 6.3 (1/4")

#### Supply includes:

- Set with 6 bits
- Bit holder

Blade Tip	Length mm (in.)	Packs of	Model No.
TX 25 TX 30 TX 40 PH 1 PH 2 PH 3	25 (0.98)	1 pc(s).	4053.420



#### with handle, magnetic

Ergonomic, adaptable bit holder with handle.

#### Benefits:

- Extra-strong magnet for optimum retention force
- Precise concentricity
- Handle for anti-roll protection

#### **Technical specifications:**

- Tool adaptation C 6.3 (1/4")
- Tool adaptation E 6.3 (1/4")

#### Material:

- Handle core: Hard plastic
- Handle body: Elastic, highly flexible plastic

#### Color:

- Handle: Anthracite and Rittal pink

Blade length mm (in.)	Blade dia. mm (in.)	Handle length mm (in.)	Handle dia. mm (in.)	Packs of	Model No.
100 (3.93)	6.3 (0.24)	101 (3.97)	33 (1.29)	1pc(s).	4053.300



#### Bit holder

#### magnetic

Magnetic holder with hex drive to hold bits securely.

#### Benefits

- Extra-strong magnet for optimum retention force
- Precise concentricity

#### Technical specifications:

- Tool adaptation E 6.3 (1/4")

#### Material

- High-quality special tool steel

Blade length	Blade dia.	Packs	Model No.
mm (in.)	mm (in.)	of	
47 (1.85)	6.3 (0.24)	1pc(s).	4053.310

## Crimping pliers

### **Crimping pliers**

#### for wire end ferrules

For use with wire end ferrules with no insulating collar to DIN 46228 Part 1 and wire end ferrules with insulating collar to DIN 46228 Part 4.

#### Benefits:

- Minimal effort required with large conductor
- Millinal eliot required with arge conductor cross-sections
   Uniform high quality compression
   Marked die stations for precise crimping of the relevant cross-sections
   Releasable ratchet

#### Material:

- High-quality special tool steel

#### Surface finish:

- Matt, plated

- Handle: Anthracite and Rittal pink



## + Accessories:

- Wire end ferrules, see page 20

For cross-section mm² (in.²)	AWG	Direction of cable entry	Compression	Length mm (in.)	Design	Packs of	Model No.
0.25 - 6 (.0003009)	24 -10	Side	Trapezoid crimp	198 (7.79)	Angled	1 pc(s).	4054.000
0.5 - 6 (.0007009)	22 - 10	Front	Square crimp	198 (7.79)	Angled	1 pc(s).	4054.001
10 - 25 (.01038)	8 - 4	Side	WM crimp	256 (10.07)	Straight	1 pc(s).	4054.004
35 - 50 (.054077	2 - 1	Side	WM crimp	256 (10.07)	Straight	1 pc(s).	4054.008

### **Crimping pliers**

#### for crimp tab terminals

For use with non-insulated crimp tab terminals.

#### Benefits:

- Releasable rachet
- Marked die stations for precise crimping of the relevant cross-sections

#### Material:

- High-quality special tool steel

#### Surface finish:

- Matt, plated

	For cross-section mm² (in.²)	AWG	Compression	Length mm (in.)	Design	Packs of	Model No.
	0.1 - 1.5 (.0001002)	26 -16	B-crimp	198 (7.79)	Angled	1 pc(s).	4054.080
_	0.5 - 6 (.0007009)	22 - 10	B-crimp	256 (10.07)	Straight	1 pc(s).	4054.081















## Crimping pliers











### **Crimping pliers**

**for ring terminals**For use with non-insulated ring terminals.

- Benefits:

   Releasable ratchet

   Optimized lever transmission means that only minimal actuator forces are required, even with large cross sections

#### Material:

- High-quality special tool steel

#### Surface finish:

- Matt, plated

#### Color:

For cross-section mm² (in.²)	AWG	Compression	Length mm (in.)	Design	Packs of	Model No.
0.5 - 2.5 (.0007003)	20 -14	Indent crimp	198 (7.79)	Angled	1 pc(s).	4054.020
0.35 - 6 (.0005009)	22 - 10	Indent crimp	198 (7.79)	Angled	1 pc(s).	4054.021
4 - 10 (.006015)	12 - 8	Double-indent crimp	256 (10.07)	Straight	1 pc(s).	4054.023
10 - 25 (.015038	8 - 4	Indent crimp	256 (10.07)	Straight	1 pc(s).	4054.024

## Crimping pliers

### **Crimping pliers**

#### for ring terminals

For use with insulated ring terminals and connectors.

- Clear identification of cross-sections, due to color coding on the dies
- Releasable ratchet
- Releases as soon as the required pressure is reached, to prevent underpressing

#### Material:

- High-quality special tool steel

#### Surface finish:

- Matt, plated

#### Color:

For cross-section mm² (in.²)	AWG	Compression	Length mm (in.)	Design	Packs of	Model No.
0.75 - 2.5 (.0.00110.0038)	22 -14	Oval crimp	198 (7.79)	Angled	1 pc(s).	4054.140
0.75 - 6 (0.009 - 0.0011)	22 - 10	Oval crimp	256 (10.07)	Straignt	1 pc(s).	4054.141



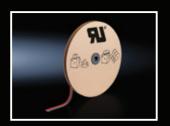




## Wire end ferrules







### Wire end ferrules

According to DIN color code

With plastic collar.

#### **Technical specifications**

- Heat resistant to 105°C (221° F)HSS Co8
- TiAIN coating

#### Material:

- E-Cu, galvanic tin-plated
- Plastic collar: Polypropylene

#### Note:

- UL-certified in conjunction with the relevant tools, such as crimping machines.

#### Standards:

- AEH DIN 46228

#### **Approvals**

- UL
- UR
- CSA

#### For crimping machines

For cross-section mm² (in.²)	AWG	Length mm (in.)	Color	Delivery form	Packs of	Model No.
0.5 (0.0007)	20	8 (0.31)	White	Loose	500 pc(s).	4050.730
0.75 (.0011)	18	8 (0.31)	Grey	Loose	500 pc(s).	4050.731
1 (.0015)	18	8 (0.31)	Red	Loose	500 pc(s).	4050.732
1.5 (.0023)	16	8 (0.31)	Black	Loose	500 pc(s).	4050.733

#### For crimping machines

For cross-section mm² (in.²)	AWG	Length mm (in.)	Color	Delivery form	Packs of	Model No.
0.5 (0.0007)	20	8 (0.31)	White	Taped	5000 pc(s).	4050.746
0.75 (.0011)	18	8 (0.31)	Grey	Taped	5000 pc(s).	4050.747
1 (.0015)	18	8 (0.31)	Red	Taped	5000 pc(s).	4050.748
1.5 (.0023)	16	8 (0.31)	Black	Taped	5000 pc(s).	4050.749
2.5 (.0038)	14	8 (0.31)	Blue	Taped	3000 pc(s).	4050.750

#### For manual wire processing (AWG cables) and crimping machines 0.5 - 1.5mm<sup>2</sup>

For cross-section mm² (in.²)	AWG	Length mm (in.)	Color	Delivery form	Packs of	Model No.
0.5 (.0007)	20	8 (0.31)	White	Loose	500 pc(s).	4050.742
0.75 (.0011)	18	8 (0.31)	Grey	Loose	500 pc(s).	4050.743
1 (.0015)	18	8 (0.31)	Red	Loose	500 pc(s).	4050.744
1.5 (.0023)	16	8 (0.31)	Black	Loose	500 pc(s).	4050.745

#### For manual wire processing

To manual wife processing									
For cross-section mm² (in.²)	AWG	Length mm (in.)	Color	Delivery form	Packs of	Model No.			
0.5 (.0007)	20	10 (0.39)	White	Loose (10 packs of 100)	1000 pc(s).	4051.638			
0.5 (.0007)	20	12 (0.47)	White	Loose (10 packs of 100)	1000 pc(s).	4050.737			
0.75 (.0011)	18	10 (0.39)	Grey	Loose (10 packs of 100)	1000 pc(s).	4051.641			
0.75 (.001)	18	12 (0.47)	Grey	Loose (10 packs of 100)	1000 pc(s).	4050.738			
1 (.0015)	18	10 (0.39)	Red	Loose (10 packs of 100)	1000 pc(s).	4051.644			
1 (.0015)	18	12 (0.47)	Red	Loose (10 packs of 100)	1000 pc(s).	4050.739			
1.5 (.0023)	16	10 (0.39)	Black	Loose (10 packs of 100)	1000 pc(s).	4051.647			
1.5 (.0023)	16	12 (0.47)	Black	Loose (10 packs of 100)	1000 pc(s).	4050.740			
2.5 (.0038)	14	10 (0.39)	Blue	Loose (10 packs of 100)	1000 pc(s).	4051.525			
2.5 (.0038)	14	12 (0.47)	Blue	Loose (10 packs of 100)	1000 pc(s).	4050.741			
4 (.0062)	12	12 (0.47)	Grey	Loose	500 pc(s).	4050.783			
6 (.0093)	10	12 (0.47)	Yellow	Loose	100 pc(s).	4050.736			

## Wire end ferrules

### Wire end ferrule

#### According to Rittal color code:

With plastic collar.

#### **Technical specifications:**

- Heat-resistant to 105°C (221°F)

#### Material:

- E-Cu, galvanic tin-plated

- Plastic collar: Polypropylene

- UL-certified in conjunction with the relevant tools, such as crimping machines.

#### Approvals:

- UL UR
- CSA

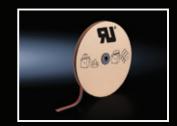
#### For crimping machines

. •								
For cross-section mm² (in.²)	AWG	Length mm (in.)	Color	Deliver form	Packs of	Model No.		
0.5 (.0007))	20	8 (0.31)	Orange	Taped	5000 pc(s).	4051.597		
0.75 (0011)	18	8 (0.31)	White	Taped	5000 pc(s).	4051.599		
1 (.0015)	18	8 (0.31)	Yellow	Taped	5000 pc(s).	4051.601		
1.5 (.0023)	16	8 (0.31)	Red	Taped	5000 pc(s).	4051.603		
2.5 (.0038)	14	8 (0.31)	Blue	Taped	3000 pc(s).	4051.750		

#### For manual wire processing and crimping machines 0.5 - 2.5 mm<sup>2</sup> (.0007 - .0038 in.<sup>2</sup>)

For cross-section mm² (in.²)	AWG	Length mm (in.)	Color	Delivery form	Packs of	Model No.
0.14 (.0002)	26	8 (0.31)	Grey	Loose	500 pc(s).	4050.752
0.25 (.0003)	24	8 (0.31)	Light Blue	Loose	500 pc(s).	4050.754
0.34 (.0005)	22	8 (0.31)	Turquoise	Loose	500 pc(s).	4050.757
0.5 (.0007)	20	8 (0.31)	Orange	Loose	500 pc(s).	4050.760
0.5 (.0007)	20	10 (0.39)	Orange	Loose	500 pc(s).	4050.761
0.75 (.0011)	18	8 (0.31)	White	Loose	500 pc(s).	4050.764
0.75 (.0011)	18	10 (0.39)	White	Loose	500 pc(s).	4050.766
1(.0015)	18	8 (0.31)	Yellow	Loose	500 pc(s).	4050.769
1(.0015)	18	10 (0.39)	Yellow	Loose	500 pc(s).	4050.770
1.5 (.0023)	16	8 (0.31)	Red	Loose	500 pc(s).	4050.773
1.5 (.0023)	16	10 (0.39)	Red	Loose	500 pc(s).	4050.774
2.5 (.0038)	14	8 (0.31)	Blue	Loose	500 pc(s).	4050.734
2.5 (.0038)	14	10 (0.39)	Blue	Loose	500 pc(s).	4050.779
4 (.0062)	12	8 (0.31)	Grey	Loose	500 pc(s).	4050.782
4 (.0062)	12	10 (0.39)	Grey	Loose	500 pc(s).	4050.735
6 (.0093)	10	12 (0.47)	Black	Loose	100 pc(s).	4050.785





## Insulation stripping tools











### Wire stripper

For stripping cables and conductors. Self-adjusting, with ergonamically styled handle, replaceable insulation stripping blade.

#### Benefits:

- Flexible end stop for the insulation stripping length
- Integrated wire cutter
   Automatic adjustment mechanism for a wide range of insulations and conductor diameters
- Dies compatible with all types of pliers, may be replaced in a few actions

  - Two-component handle with anti-slip soft zone

- Handle: Anthracite and Rittal pink



- Spare blade, see page 23

For cross-section mm² (in.²)	AWG	Length mm (in.)	Note	Packs of	Model No.
0.02 - 10 (3.1 - 0.015)	34 -8	191 (7.51)	-	1 pc(s).	4054.300
0.1 - 4 (.00010062)	28 - 12	191 (7.51)	Also suitable for rubber and silicone insulation	1 pc(s).	4054.310
4 - 16 (.0062024)	12 - 5	191 (7.51)	-	1 pc(s).	4054.305

### Stripping tool

for cables Ø 2.5 - 11mm

For stripping installation cables and wires.

- Handle: Anthracite and Rittal pink

For cable diameters mm (in.)	Length mm (in.)	Packs of	Model No.
2.5 - 11 (.098433)	90.5 (3.56)	1pc(s).	4054.400

## + Accessories:

- Spare blade, see page 23

### **Stripping tool**

for cables Ø 8 - 13 mm

For stripping single- and multi-wire signal, pilot and fiberglass cables.

For cable diameters mm (in.)	Length mm (in.)	Packs of	Model No.
8 - 13 (.314511)	125 (4.92)	1pc(s).	4054.405

## Insulation stripping tools

### **Stripping tool**

for cables  $\varnothing$  4.5 - 40 mm For stripping cables. Vertically hinged blade for creating round, longitudinal and spiral cuts.

- Handle: Anthracite and Rittal pink

For cable diameters mm (in.)	Length mm (in.)	Packs of	Model No.
4.5 - 40 (.177 - 1.57)	167 (6.57)	1pc(s).	4054.410



- Spare blade, see page 23



### Spare blade

For wire strippers

Interchangeable blade cassettes for cables with different cross-sections. Also suitable for special insulations.

To fit Model No.	For cross- section mm² (in.²)	Color	Packs of	Model No.
4054.300	0.02 - 10 (3.10015)	Black	1pc(s).	4054.500
4054.310	0.1 - 4 (.0001006)	Blue	1pc(s).	4054.510
4054.305	4 - 16 (.006024)	Red	1pc(s).	4054.505







### Spare blade

For stripping tools
Easily replaceable blades for stripping wires and cables.

To fit Model No.	For cable diameters mm (in.)	Packs of	Model No.
4054.400	2.5 - 11 (.098433)	1pc(s).	4054.520
4054.410	4.5 - 40 (.1771.57)	1pc(s).	4054.530





## **Cutting tools**



### Side cutter

For copper and aluminum conductors.

#### Benefits:

- Guarantees long-term stable cutting performance and a clean cut
- Ergonomically styled handles for fatigue-free non-slip working

#### Material:

- High quality special tool steel

#### Surface finish:

Matt, plated

#### Color:

- Handle: Anthracite and Rittal pink

For cable diameters mm (in.)	Length mm (in.)	Design	Packs of	Model No.
0.2 - 11 (.0078433)	160 (6.29)	Straight	1 pc(s).	4054.600



#### **Electronic side cutter**

With pointed head, 21° angled blades and small chamfer.

#### Benefits:

- Even, smooth-running opening with opening spring
- Ergonomically styled handles
   Box-joint for permanent stability and optimum force progression

#### Material:

- High quality special tool steel

#### Surface finish:

- Polished, oiled

#### Color:

- Handle: Anthracite and Rittal pink

Length mm (in.)	Packs of	Model No.
115 (4.52)	1 pc(s).	4054.750



#### Cable cutter

For copper and aluminum conductors.

#### Benefits:

- Ergonomically styled handles for fatigue-free, non-slip working

- High-quality special tool steel

- Handle: Anthracite and RIttal pink

For cross-section mm² (in.²)	For cable diameters mm (in.)	Length mm (in.)	Design	Packs of	Model No.
0.5 - 35 (.00070542)	12 (.472)	160 (6.29)	Straight	1 pc(s).	4054.650
0.5 - 50 (.00070775)	18 (.708)	180 (7.08)	Angled	1 pc(s).	4054.660



### Electrician's scissors

For cutting copper, aluminum, Kevlar and plastic.

- High cutting performance due to micro-serration in the cutting zone
- Ergonomically styled handles
- Two-component handle with anti-slip soft zone
- Adjustable screw joint

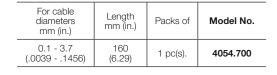
#### Material:

- High quality special tool steel

#### Surface finish:

- Brushed

#### Color:





### **Combination pliers**

With serrated gripping surface and integral ring spanner M8 to M10.

#### Benefits:

- Ergonomically styled handles for fatigue-free, non-slip working
- High force transmission for good holding and cutting performace
- Minimal force required

#### Material:

- High-quality special tool steel

#### Surface finish:

- Matt, plated

#### Color:

-Handle: Anthracite and RIttal pinkl

Length mm (in.)	Packs of	Model No.
180 (7.08)	1 pc(s).	4054.800



### **Needle-nose pliers**

With serrated gripping surface

#### Benefits:

 Ergonomically styled handles for fatigue-free, non-slip working

#### Material:

- High-quality special tool steel

#### Surface finish:

- Matt, plated

#### Color

-Handle: Anthracite and RIttal pinkl

Length mm (in.)	Packs of	Model No.
200 (7.87)	1 pc(s).	4054.850



### **Electronic needle-nose pliers**

With smooth gripping surface.

#### **Benefits**

- Ergonomically styled handles for fatigue-free, non-slip working
- Even, smooth-running opening with opening spring

#### Material:

- High-quality special tool steel

#### Surface finish:

Matt, plated

#### Color:

-Handle: Anthracite and RIttal pinkl

Length mm (in.)	Packs of	Model No.
120 (4.72)	1 pc(s).	4054.860



### Slip-joint pliers

For width across flats 10 - 36 mm (.393 - 1.41 in.).

#### Benefits:

- Ergonomically styled handles for fatigue-free, non-slip working
- Smooth clamping surfaces avoid the usual damage caused by wrenches and pipe wrenches on screws/nuts
- QuickSnap retcheting for fast adjustment to the workpiece with no push-button
- Robust box-joint

#### Material:

High-quality special tool steel

#### Surface finish:

Matt, plated

#### Color:

_	Length mm (in.)	Packs of	Model No.
	260 (10.2)	1 pc(s).	4054.900



### Hydraulic punches











For punching round, square and rectangular cutouts.

#### Benefits:

- Extend tool life with a built-in overpressure valve

Punching capacity:

- Round punch up to Ø 82 mm
   Square punch up to 68 x 68 mm
   Rectangular punch up to 46 x 86 mm
   Punching force 75 kN

#### Material:

- Aluminum

#### Supply includes:

- Manual hydraulic punch
- Hydraulic screw Ø 19 mm
- Hydraulic screw Ø 9.5/19 mm
- HSS pilot drill Ø 11m
- Spacer sleeve set (3-part)
- Plastic case

Design	Packs of	Model No.
Straight	1 pc(s).	4055.000
With 90° angled and 360° rotating cylinder head	1 pc(s)	4055.010
Flexible, with hydraulic hose and separate cylindar	1 pc(s)	4055.020

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36



#### Electric hydraulic punch

For punching round and square cutouts.

#### Benefits:

- Extend tool life with a built-in overpressure valve
- High performance drive motor with ergonomically styled handle
- Slide in the battery packs

- Punching capacity:
   Round punch uo to Ø 82 mm
- Square punch up to 68 x 68 mm
  Punching force 75 kN

#### Material:

Aluminum

#### Supply includes:

- Electric hydraulic punch with 2 NiMH batteries,
- Charging device 18 28 VHydraulic screw Ø 9.5/19 mm
- Hydraulic screw Ø 19 mm
- Spacer sleeve set (3-part)
- HSS pilot drill Ø 11 mm
- Plastic case

Model No.	Packs of
4055.040	1 pc(s).

### Hydraulic punches

#### Manual hydraulic punch set, M16 - M63

Manual hydraulic punch in a practical set with hole punches for sheet steel. Maximum machinable material thickness 2 or 3 mm.

#### Bennefits:

- Extend tool life with a built-in overpressure valve

#### Supply includes:

- Manual hudraulic punch, straight
- 7 splitter hole punches, triple splitting
  Hydraulic screw Ø 19 mm
  Hydraulic screw Ø 9.5/19 mm

- HSS pilot drill Ø 10 mm
- Spacer sleeve set (3-part)
- Plastic case

For threads	Ø punch mm (in.)	Packs of	Model No.
M16 M20 M25 M32 M40 M50 M63	16.2 (.637) 20.4 (.803) 25.4 (1) 32.5 (1.27) 40.5 (1.59) 50.5 (1.98) 63.5 (2.5)	1 pc(s).	4055.070



#### Manual hydraulic punch set, M16 - M40

Manual hydraulic punch in a practical set with hole punches for sheet steel. Maximum machinable material thickness 2 or 3 mm.

#### Design:

- With 90° angled and 360° rotating cylinder head

- Extend tool life with a built-in overpressure valve

#### Supply includes:

- Manual hydraulic punch
- 5 splitter hole punches, triple splitting
- Hydraulic screw Ø 19 mm
  Hydraulic screw Ø 9.5/19 mm
- HSS pilot drill Ø 10 mm
- Spacer sleeve set (3-part) - Plastic case

For threads	Ø punch mm (in.)	Packs of	Model No.
M16 M20 M25 M32 M40	16.2 (.637) 20.4 (.803) 25.4 (1) 32.5 (1.27) 40.5 (1.59)	1 pc(s).	4055.080



### Manual hydraulic punch set, PG 9 - PG 48

Manual hydraulic punch in a practical set with hole punches for sheet steel. Maximum machinable material thickness 2 or 3 mm.

#### Design:

With 90° angled and 360° rotating cylinder head

- Extend tool life with a built-in overpressure valve

#### Supply includes:

- Manual hydraulic punch
- 9 splitter hole punches, triple splitting
   Hydraulic screw Ø 19 mm
   Hydraulic screw Ø 9.5/19 mm

- HSS pilot drill Ø 10 mm
- Spacer sleeve set (3-part)
- Plastic case

Model No.	Packs	Ø punch	For
	of	mm (in.)	PG
4055.085	1 pc(s).	15.2 (.598) 18.6 (.732) 20.4 (.803) 22.5 (.885) 28.3 (1.11) 37 (1.45) 47 (1.85) 54 (2.12) 60 (2.36)	9 11 13 16 21 29 36 42 48



### Hole punches





### Hole punch, round

for sheet steel:
For punching round cut-outs. The hole punch is operated with a wrench or hydraulic punch.

- With 3 cutting points

#### Supply includes:

- Die
   Stamp
   Tension screw without ball bearing

#### Note:

- When operating with wrenches, tension screws with ball bearings should be used



- Tension screws, see page 38Hydraulic tension screws, see page 38

For threads	For PG	Ø punch mm (in.)	Tension screw (Ø x L) mm (in.)	Tension screw with ball bearing Model No.	Hydraulic tension screw Ø mm (in.)	Hydraulic ten- sion screw Model No.	Maximum machinable material thick- ness, sheet steel mm (in.)	Packs of	Model No
M12	7	12.7 (0.5)	9.5 x 50 (.37 x 1.9)	4055.631	9.5/19 (.37/.74)	4055.661	2 (.078)	1 pc(s).	4055.212
-	9	15.2 (0.59)	9.5 x 50 (.37 x 1.9)	4055.631	9.5/19 (.37/.74)	4055.661	2 (.078)	1 pc(s).	4055.215
M16	-	16.2 (0.63)	9.5 x 50 (.37 x 1.9)	4055.631	9.5/19(.37/.74)	4055.661	2 (.078)	1 pc(s).	4055.216
-	11	18.6 (0.73)	9.5 x 50 (.37 x 1.9)	4055.631	9.5/19 (.37/.74)	4055.661	2 (.078)	1 pc(s).	4055.218
M20	13	20.4 (0.80)	9.5 x 50 (.37 x 1.9)	4055.631	9.5/19 (.37/.74)	4055.661	2 (.078)	1 pc(s).	4055.220
-	16	22.5 (0.88)	9.5 x 50 (.37 x 1.9)	4055.631	9.5/19 (.37/.74)	4055.661	2 (.078)	1 pc(s).	4055.222
M25	-	25.4 (1.0)	9.5 x 50 (.37 x 1.9)	4055.631	9.5/19 (.37/.74)	4055.661	2 (.078)	1 pc(s)	4055.225
_	21	28.3 (1.11)	9.5 x 50 (.37 x 1.9)	4055.631	9.5/19 (.37/.74)	4055.661	2 (.078)	1 pc(s).	4055.228
-	-	30.5 (1.20)	9.5 x 50 (.37 x 1.9)	4055.631	9.5/19 (.37/.74)	4055.661	2 (.078)	1 pc(s).	4055.230
M32	-	32.5 (1.27)	9.5 x 50 (.37 x 1.9)	4055.631	9.5/19 (.37/.74)	4055.661	2 (.078)	1 pc(s).	4055.232
-	-	34.6 (1.36)	19 x 55 (.74 x 2.1)	4055.633	19 (.74)	4055.663	3 (.118)	1 pc(s).	4055.234
-	29	37 (1.45)	19 x 55 (.74 x 2.1)	4055.633	19 (.74)	4055.663	3 (.118)	1 pc(s).	4055.237
M40	-	40.5 (1.59)	19 x 55 (.74 x 2.1)	4055.633	19 (.74)	4055.663	3 (.118)	1 pc(s).	4055.240
_	-	43.2 (1.70)	19 x 55 (.74 x 2.1)	4055.633	19 (.74)	4055.663	3 (.118)	1 pc(s).	4055.243
-	36	47 (1.85)	19 x 75 (.74 x 2.9)	4055.634	19 (.74)	4055.663	3 (.118)	1 pc(s).	4055.247
-	-	49.6 (1.95)	19 x 75 (.74 x 2.9)	4055.634	19 (.74)	4055.663	3 (.118)	1 pc(s).	4055.249
M50	-	50.5 (1.98)	19 x 75 (.74 x 2.9)	4055.634	19 (.74)	4055.663	3 (.118)	1 pc(s).	4055.250
-	42	54 (2.12)	19 x 75 (.74 x 2.9)	4055.634	19 (.74)	4055.663	3 (.118)	1 pc(s).	4055.254
-	48	60 (2.36)	19 x 75 (.74 x 2.9)	4055.634	19 (.74)	4055.663	3 (.118)	1 pc(s).	4055.260
-	-	61.5 (2.42)	19 x 75 (.74 x 2.9)	4055.634	19 (.74)	4055.663	3 (.118)	1 pc(s).	4055.261
M63	-	63.5 (2.50)	19 x 75 (.74 x 2.9)	4055.634	19 (.74)	4055.663	3 (.118)	1 pc(s).	4055.263

### Hole punches

## Hole punch set, metric for sheet steel

For punching round cut-outs. The hole punch is operated with a wrench or hydraulic punch.

- With 3 cutting points

#### Supply includes:

- 5 dies
- 5 stamps
- Plastic case

#### Note:

- When operating with wrenches, tension screws with ball bearings shoud be used.

## + Accessories:

- Tension screws, see page 38 Hydraulic tension screw, see page 38

For threads	Ø punch mm (in.)	Tension screw with ball bearing Model No.	Hydraulic tension screw Model No.	Maximum machinable material thickness, sheet steel mm (in.)	Packs of	Model No
M16 M20 M25 M32 M40	16.2 (.637) 20.4 (.803) 25.4 (1) 32.5 (1.27) 40.5 (1.59)	4055.631 4055.631 4055.631 4055.631 4055.633	4055.661 4055.661 4055.661 4055.661 4055.663	2 (.078) 2 (.078) 2 (.078) 2 (.078) 3 (.118)	1 pc(s).	4055.480

## Hole punch set, PG for sheet steel

For punching round cut-outs. The hole punch is operated with a wrench or hydraulic punch.

- With 3 cutting points

#### Supply includes:

- 5 dies
- 5 stamps
- 2 tension screws with ball bearing Ø 9.5x 50mm
- HSS pilot drill Ø 11mm
- 1 tube of lubricant paste
- Plastic case

When operating with wrenches, tension screws with ball bearings shoud be used.



- Hydraulic tension screws, see page 38

For PG	Ø punch mm (in.)	Hydraulic tension screw Model No.	Maximum machinable material thickness, sheet steel mm (in.)	Packs of	Model No
9 11 13 16 21	15.2 (.598) 18.6 (.732) 20.4 (.803) 22.5 (.885) 28.3 (1.11)	4055.661	2 (.078)	1 pc(s).	4055.481





### Hole punches



### Splitter hole punch, round

**for sheet steel, with triple splitting:** For punching round cut-outs. The hole punch is operated with a wrench or hydraulic punch.

- With triple splitting

#### Supply includes:

- DieStamp

#### Note:

When operating with wrenches, tension screws with ball bearings should be used

## + Accessories:

- Tension screws, see page 38Hydraulic tension screws, see page 38

For threads	For PG	Ø punch mm (in.)	Tension screw (Ø x L) mm (in.)	Tension screw with ball bearing Model No.	Hydraulic tension screw Ø mm (in.)	Hydraulic tension screw Model No.	Maximum machinable material thick- ness, sheet steel mm (in.)	Packs of	Model No
M12	-	12.5 (0.49)	6 x 40 (.23 x 1.5)	4055.630	6/19 (.23/.74)	4055.660	1.5 (.059)	1 pc(s).	4055.512
_	9	15.2 (0.59)	9.5 x 50 (.37 x 1.9)	4055.631	9.5/19 (.37/.74)	4055.661	2 (.078)	1 pc(s).	4055.515
M16	-	16.2 (0.63)	9.5 x 50 (.37 x 1.9)	4055.631	9.5/19(.37/.74)	4055.661	2 (.078)	1 pc(s).	4055.516
_	11	18.6 (0.73)	9.5 x 50 (.37 x 1.9)	4055.631	9.5/19 (.37/.74)	4055.661	2 (.078)	1 pc(s).	4055.518
M20	13	20.4 (0.80)	9.5 x 50 (.37 x 1.9)	4055.631	9.5/19 (.37/.74)	4055.661	2 (.078)	1 pc(s).	4055.520
_	16	22.5 (0.88)	9.5 x 50 (.37 x 1.9)	4055.631	9.5/19 (.37/.74)	4055.661	2 (.078)	1 pc(s).	4055.522
M25	_	25.4 (1.0)	9.5 x 50 (.37 x 1.9)	4055.631	9.5/19 (.37/.74)	4055.661	2 (.078)	1 pc(s)	4055.525
-	21	28.3 (1.11)	9.5 x 50 (.37 x 1.9)	4055.631	9.5/19 (.37/.74)	4055.661	2 (.078)	1 pc(s).	4055.528
_	_	30.5 (1.20)	9.5 x 50 (.37 x 1.9)	4055.631	9.5/19 (.37/.74)	4055.661	2 (.078)	1 pc(s).	4055.530
M32	_	32.5 (1.27)	19 x 55 (.74 x 2.1)	4055.633	19 (.74)	4055.663	3 (.118)	1 pc(s).	4055.532
_	_	34.6 (1.36)	19 x 55 (.74 x 2.1)	4055.633	19 (.74)	4055.663	3 (.118)	1 pc(s).	4055.534
_	29	37 (1.45)	19 x 55 (.74 x 2.1)	4055.633	19 (.74)	4055.663	3 (.118)	1 pc(s).	4055.537
M40	_	40.5 (1.59)	19 x 75 (.74 x 2.9)	4055.634	19 (.74)	4055.663	3 (.118)	1 pc(s).	4055.540
_	-	43.2 (1.70)	19 x 75 (.74 x 2.9)	4055.634	19 (.74)	4055.663	3 (.118)	1 pc(s).	4055.543
_	36	47 (1.85)	19 x 75 (.74 x 2.9)	4055.634	19 (.74)	4055.663	3 (.118)	1 pc(s).	4055.547
_	-	49.6 (1.95)	19 x 75 (.74 x 2.9)	4055.634	19 (.74)	4055.663	3 (.118)	1 pc(s).	4055.549
M50	-	50.5 (1.98)	19 x 75 (.74 x 2.9)	4055.634	19 (.74)	4055.663	3 (.118)	1 pc(s).	4055.550
_	42	54 (2.12)	19 x 75 (.74 x 2.9)	4055.634	19 (.74)	4055.663	3 (.118)	1 pc(s).	4055.554
-	48	60 (2.36)	19 x 75 (.74 x 2.9)	4055.634	19 (.74)	4055.663	3 (.118)	1 pc(s).	4055.560
_	_	61.5 (2.42)	19 x 75 (.74 x 2.9)	4055.634	19 (.74)	4055.663	3 (.118)	1 pc(s).	4055.561
M63	-	63.5 (2.50)	19 x 75 (.74 x 2.9)	4055.634	19 (.74)	4055.663	3 (.118)	1 pc(s).	4055.563

### Hole punches

## Splitter hole punch set, M16 to M40

#### for sheet steel with triple splitting

For punching round cut-outs. The hole punch is operated with a wrench or hydraulic punch.

#### Design

- With triple splitting

#### Supply includes:

- 5 dies
- 5 stamps
- Plastic case

#### Note

 When operating with wrenches, tension screws with ball bearings shoud be used.

## + Accessories:

- Tension screws, see page 38
- Hydraulic tension screws, see page 38

For threads	Ø punch mm (in.)	Tension screw with ball bearing Model No.	Hydraulic tension screw Model No.	Maximum machinable material thickness, sheet steel mm (in.)	Packs of	Model No
M16 M20 M25 M32 M40	16.2 (.598) 20.4 (.732) 25.4 (.803) 32.5 (.885) 40.5 (1.11)	4055.631 4055.631 4055.631 4055.633 4055.634	4055.661 4055.661 4055.661 4055.663 4055.663	2 2 2 2 3 3	1 pc(s).	4055.580

## Splitter hole punch set, M12 to M40

#### for sheet steel with triple splitting

For punching round cut-outs. The hole punch is operated with a wrench or hydraulic punch.

#### Design

- With triple splitting

#### Supply includes:

- -6 dies
- 6 stamps
- Tension screw with ball bearing Ø 6 x 40 mm
- Tension screw with ball bearing Ø 9.5 x 50 mm
- Tension screw with ball bearing Ø 19 x 55 mm
- HSS pilot drill Ø 10 mm
- 1 can of lubricant
- Plastic case

#### Note:

- When operating with wrenches, tension screws with ball bearings shoud be used.



- Hydraulic tension screws, see page 38

For threads	Ø punch mm (in.)	Hydraulic tension screw Model No.	Maximum machinable material thickness, sheet steel mm (in.)	Packs of	Model No
M12 M16 M20 M25 M32 M40	12.5 (.492) 16.2 (.637) 20.4 (.803) 25.4 (1.00) 32.5 (1.27) 40.5 (1.59)	4055.660 4055.661 4055.661 4055.661 4055.663 4055.663	1.5 (.059) 2 (.078) 2 (.078) 2 (.078) 2 (.078) 3 (.118) 3 (.118)	1 pc(s).	4055.581





### Hole punches



#### Splitter hole punch set, PG 9 to PG 21

for sheet steel with triple splitting
For punching round cut-outs. The hole punch is operated with a wrench or hydraulic punch.

- With triple splitting

#### Supply includes:

- 6 dies
- 6 stamps
- 2 Tension screws with ball bearing  $\varnothing$  9.5 x 50 mm
- HSS pilot drill Ø 10 mm
- 1 tube of lubricant paste
- Plastic case

- When operating with wrenches, tension screws with ball bearings shoud be used.



- Hydraulic tension screws, see page 38

For PG	Ø punch mm (in.)	Hydraulic tension screw Model No.	Maximum machinable material thickness, sheet steel mm (in.)	Packs of	Model No
9 11 13 16 21	15.2 (.598) 18.6 (.732) 20.4 (.803) 22.5 (.885) 28.3 (1.11) 30.5 (1.20)	4055.661	2 (.078)	1 pc(s).	4055.582

### Hole punches

**Spliter hole punch, round** for stainless steel, round, with triple splitting For punching round cut-outs. The hole punch is operated with a wrench or hydraulic punch.

**Design**– With triple splitting

#### Supply includes:

- DieStamp

#### Note:

- When operation with wrenches, tension screws with ball bearing should be used.

## Also required:

- Tension screws, see page 38
  Hydraulic tension screw, see page 38
  Hydraulic tension screw, see page 38





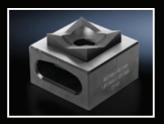
For threads	For PG	Ø punch mm (in.)	Tension screw (Ø x L) mm (in.)	Tension screw with ball bearing Model No.	Hydraulic tension screw Ø mm (in.)	Hydraulic ten- sion screw Model No.	Maximum machinable material thick- ness, stainless steel mm (in.)	Packs of	Model No
_	9	15.2 (0.59)	11.1 x 60 (.43 x 2.3)	4055.632	11.1/19 (.23/.74)	4055.665	2 (.078)	1 pc(s).	4055.115
M16	_	16.2 (0.63)	11.1 x 60 (.43 x 2.3)	4055.632	11.1/19 (.37/.74)	4055.665	2 (.078)	1 pc(s).	4055.116
_	11	18.6 (0.73)	11.1 x 60 (.43 x 2.3)	4055.632	11.1/19 (.37/.74)	4055.665	2 (.078)	1 pc(s).	4055.118
M20	13	20.4 (0.80)	11.1 x 60 (.43 x 2.3)	4055.632	11.1/19 (.37/.74)	4055.665	2 (.078)	1 pc(s).	4055.120
_	16	22.5 (0.88)	11.1 x 60 (.43 x 2.3)	4055.632	11.1/19 (.37/.74)	4055.665	2 (.078)	1 pc(s).	4055.122
M25	-	25.4 (1.0)	11.1 x 60 (.43 x 2.3)	4055.632	11.1/19 (.37/.74)	4055.665	2 (.078)	1 pc(s).	4055.125
_	21	28.3 (1.11)	19 x 55 (.74 x 2.1)	4055.633	19 (.74)	4055.663	2.5 (.098)	1 pc(s)	4055.128
_	-	30.5 (1.20)	19 x 55 (.74 x 2.1)	4055.633	19 (.74)	4055.663	2.5 (.098)	1 pc(s).	4055.130
M32	-	32.5 (1.27)	19 x 55 (.74 x 2.1)	4055.633	19 (.74)	4055.663	2.5 (.098)	1 pc(s).	4055.132
_	-	34.6 (1.36)	19 x 55 (.74 x 2.1)	4055.633	19 (.74)	4055.663	2.5 (.098)	1 pc(s).	4055.134
_	29	37 (1.45)	19 x 55 (.37 x 1.9)	4055.633	19 (.74)	4055.663	2.5 (.098)	1 pc(s).	4055.137
M40	-	40.5 (1.59)	19 x 75 (.74 x 2.9)	4055.634	19 (.74)	4055.663	2.5 (.098)	1 pc(s).	4055.140
_	-	43.2 (1.70)	19 x 75 (.74 x 2.9)	4055.634	19 (.74)	4055.663	2.5 (.098)	1 pc(s).	4055.143
_	36	47 (1.85)	19 x 75 (.74 x 2.9)	4055.634	19 (.74)	4055.663	2.5 (.098)	1 pc(s).	4055.147
_	-	49.6 (1.95)	19 x 75 (.74 x 2.9)	4055.634	19 (.74)	4055.663	2.5 (.098)	1 pc(s).	4055.149
M50	-	50.5 (1.98)	19 x 75 (.74 x 2.9)	4055.634	19 (.74)	4055.663	2.5 (.098)	1 pc(s).	4055.150
_	42	54 (2.12)	19 x 75 (.74 x 2.9)	4055.634	19 (.74)	4055.663	2.5 (.098)	1 pc(s).	4055.154
_	48	60 (2.36)	19 x 75 (.74 x 2.9)	4055.634	19 (.74)	4055.663	2.5 (.098)	1 pc(s).	4055.160
_	-	61.5 (2.42)	19 x 75 (.74 x 2.9)	4055.634	19 (.74)	4055.663	2.5 (.098)	1 pc(s).	4055.161
M63	-	63.5 (2.50)	19 x 75 (.74 x 2.9)	4055.634	19 (.74)	4055.663	2.5 (.098)	1 pc(s).	4055.163

### Hole punches













### Splitter hole punch set, metric

for stainless steel, round, with triple splitting For punching round cut-outs. The hole punch is operated with a wrench or hydraulic punch.

- With triple splitting

### Supply includes:

- 5 dies5 stamps
- Plastic case

#### Note:

- When operating with wrenches, tension screws with ball bearings should be used.

## ! Also required:

- Tension screws, see page 38
- Hydraulic tension screw, see page 38
- Hydraulic tension screw, see page 38

For threads	Ø punch mm (in.)	Tension screw with ball bearing Model No.	Hydraulic tension screw Model No.	Maximum machinable material thickness, stainless steel mm (in.)	Packs of	Model No.
M16 M20 M25 M32 M40	16.2 (.637) 20.4 (.803) 25.4 (1.00) 32.5 (1.27) 40.5 (1.59)	4055.632 4055.632 4055.632 4055.633 4055.634	4055.665 4055.665 4055.665 4055.663 4055.663	2 (.078) 2 (.078) 2 (.078) 2 (.078) 2.5 (.098) 2.5 (.098)	1 pc(s).	4055.180

### Hole punch, square

#### for sheet steel

For punching square cut-outs. The hole punch is operated with a hydraulic punch.

- With side ejector for the waste
- No jamming of the die

#### Supply includes:

- DieStamp
- Tension bolts - Lock nut
- Plastic case



#### Assembly:

For hole punch 4055.392, a special tension bolt and a space sleeve are additionally required.

□ punch mm (in.)	Maximum machine material thickness, sheet steel mm (in.)	Product specific scope of supply	Operation, manual	Operation, hydraulic	Packs of	Model No.
22.2 x 22.2 (0.87 x 0.87)	2 (.078)	Pressure nut with ball bearing Adaptor for hydraulics	•	•	1 pc(s).	4055.322
45.5 x 45.5 (1.79 x 1.79)	3 (.118)	-	-		1 pc(s).	4055.345
46 x 46 (1.81 x 1.81)	3 (.118)	-	-		1 pc(s).	4055.346
50.8 x 50.8 (2.0 x 2.0)	3 (.118)	-	-		1 pc(s).	4055.350
68 x 68 (2.67 x 2.67)	3 (.118)	-	-		1 pc(s).	4055.368
92 x 92 (3.62 x 3.62)	3 (.118)	_	-		1 pc(s).	4055.392

### Hole punches

### **Spacer sleeve**

for hole punch, square

For punching cut-outs from size 92 x 92 mm. (3.6 x 3.6 in.)

To fit Model No.	Packs of	Model No.
4055.392	1 pc(s.)	4055.667



<sup>-</sup> Special tension bolt, see page38



### Special tension bolt

for hole punch, square For punching cut-outs from size 92 x 92 mm.  $(3.6 \times 3.6 \text{ in.})$ 

To fit Model No.	Packs of	Model No.
4055.392	1 pc(s.)	4055.666



<sup>-</sup> Spacer sleeve, see page 38



### Hotel punches



## Hole punch, rectangular for sheet steel

For punching rectangular cut-outs. The hole punch is operated with a wrench or hydraulic punch.

- With side ejector for the wasteNo jamming of the die

#### Supply includes:

- DieStamp
- Tension bolts
- Lock nut
- Plastic case

punch mm (in.)	Maximum machinable material thickness, sheet steel mm (in.)	Product-specific scope of supply	Operation, manual	Operation, hydraulic	Packs of	Model No.
22 x 30 (.86 x 1.65)	2 (.078)	Pressure nut with ball bearing Adaptor for hydraulics		•	1 pc(s).	4055.400
22 x 42 (.86 x 1.65	2 (.078)	Pressure nut with ball bearing Adaptor for hydraulics		•	1 pc(s).	4055.401
45 x 92 (1.77 x 3.62)	2 (.078)	-	-		1 pc(s).	4055.402
46 x 92 (1.81 x 3.62)	2 (.078)	-	-		1 pc(s).	4055.403



## Hole punch, special contour for sheet steel

For punching cut-outs with a special contour. The hole punch is operated with a wrench or hydraulic

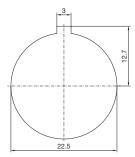
#### Benefits:

- With side ejector for the waste
- No jamming of the die

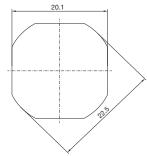
#### Supply includes:

- Die
- Stamp
- Tension bolts
- Lock nut
- Pressure nut with ball bearing
- Adaptor for hydraulics
- Plastic case

4055.440



4055.441



Design	Ø punch mm (in.)	Maximum machinable material thickness, sheet steel mm (in.)	Packs of	Model No.
With 3 mm (.118 in.) lug	22.5 (.885)	2 (.078)	1 pc(s).	4055.440
Flattened to 20.1 mm (.791 in.) on 4 sides	22.5 (.885)	2 (.078)	1 pc(s).	4055.441

### Hole punches

### Hole punch, heavy connectors

#### for sheet steel

For punching rectangular cut-outs for connectors. The hole punch is operated with a hydraulic punch.

- With side ejector for the waste
   No jamming of the die
   When the die and stamp are compressed, the mounting holes for connectors are maked on the metal sheet between them

#### Supply includes:

- Die
- StampTension bolts
- Lock nut



□ punch mm (in.)	No. of poles	Maximum machinable material thickness, sheet steel mm (in.)	Packs of	Model No.
36 x 52 (1.41 x 2.04)	6-pole	2 (.078)	1 pc(s).	4055.460
36 x 65 (1.41 x 2.55)	10-pole	2 (.078)	1 pc(s).	4055.461
36 x 86 (1.41 x 3.38)	16-pole	2 (.078)	1 pc(s).	4055.463
36 x 112 (1.41 x 4.40)	24-pole	2 (.078)	1 pc(s).	4055.465

### Hole punch, sub-D

#### for sheet steel and stainless steel

For punching rectangular cut-outs for connectors. The holepunch is operated with a wrench or hydraulic punch.

#### Benifits:

- With side ejector for the waste
- No jamming of the die
  Anti-twist axles for stamps and dies are used as tension bolts.

#### Supply includes:

- Die
- Stamp
- Tension bolts
- Lock nut
- Pressure nut with ball bearing
- Adaptor for hydraulics
- Plastic case







□ punch mm (in.)	No. of poles	Maximum machinable material thickness, sheet steel mm (in.)	Maximum machinable material thickness, stainless steel mm (in.)	Packs of	Model No.
19.8 x 11.3 (0.77 x 0.44)	9-pole	2 (.078)	1.5 (.059)	1 pc(s).	4055.470
28.2 x 11.3 (1.11 x 0.44)	15-pole	2 (.078)	1.5 (.059)	1 pc(s).	4055.471
41.9 x 11.3 (1.64 x 0.44)	25-pole	1.75 (.068)	1.25 (.049)	1 pc(s).	4055.472
58.4 x 11.3 (2.29 x 0.44)	37-pole	1.75 (.068)	1.25 (.049)	1 pc(s).	4055.473
55.7 x 13.9 (2.19 x 0.54)	50-pole	1.65 (064)	1 (.039)	1 pc(s).	4055.474

### Hole punches



### **Tension screws**

Accessories for hole punches. Required as a connecting part between the die and stamp.

#### Note:

- For operation with wrench

Tension screw (ø x L) mm (in.)	Packs of	Model No.
9.5 x 40 (.374 x 1.57)	1 pc(s).	4055.600
9.5 x 50 (.374 x 1.96)	1 pc(s).	4055.601
19 x 55 (.748 x 2.16)	1 pc(s).	4055.602
19 x 75 (.748 x 2.95)	1 pc(s).	4055.603



## Tension screws with ball bearing

Accessories for hole punches. Required as a connecting part between the die and stamp.

#### Note:

- For operation with wrench

Tension screw (ø x L) mm (in.)	Packs of	Model No.
6 x 40 (.236 x1.57)	1 pc(s).	4055.630
9.5 x 50 (.374 x 1.96)	1 pc(s).	4055.631
11.1 x 60 (11.1 x 2.36	1 pc(s).	4055.632
19 x 55 (.748 x 2.16)	1 pc(s).	4055.633
19 x 75 (.748 x 2.95)	1 pc(s).	4055.634



### Hydraulic tension screw

Accessories for hole punches. Required as a connecting part between the die and stamp.

#### Note:

- For operation via hydraulic punch

Hydraulic tension screw ø mm (in.)	Product specific scope of supply	Packs of	Model No.
6/19 (.236/.748)	Adaptor for hydraulics	1 pc(s).	4055.660
9.5/19 (.374/.748)	Adaptor for hydraulics	1 pc(s).	4055.661
11.1/19 (.437/.748)	Adaptor for hydraulics	1 pc(s).	4055.662
19 (.748)	-	1 pc(s).	4055.663



### Hole punches

## Hydraulic tension screws for higher loads

Accessories for hole punches. Required as a connecting part between the die and stamp.

#### Benefits

 Hydraulic tension screw made from high-alloy tool steel for higher loads

#### Note:

- For operation via hydraulic punch

Hydraulic tension screw ø mm (in.)	Packs of	Model No.
9.5/19 (.374/.748 in.)	1 pc(s).	4055.664
11.1/19 (.437/.748)	1 pc(s).	4055.665



### **Notching pliers**

Punches key-way slot quickly and easily. Saves the time-consuming process of filling the grooves for anti-twist protection of push button, switches and instruments. Slots in sizes 3.2 mm (.125 in.) and 4.8 mm (.188 in.) can be created

#### Benefits:

- Long service life
- Stamp and die made from hardened tool steel
- Eay punching with large leverage

#### Material:

- Handles: Plastic-coated

Maximum machinable material thickness, sheet steel mm (in.)	Packs of	Model No.
2 (0.078)	1 pc(s).	4055.690



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