



ELECTRICAL COMPONENTS

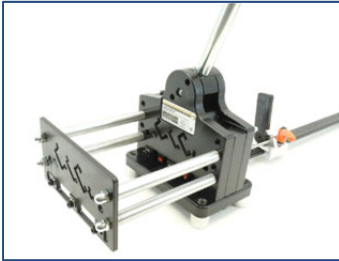
DIN Rail Tools Hole Punches & Saws

- DIN Rail cutting & punching
- Hole Cutting Solutions for Electrical Panels
- Assembly Tables



DIN RAIL tools, Hole Punches, Hole Saws and Multi-Step Drills

ITC offers extensive lines of tools for DIN Rail processing and tools for punching and cutting holes in sheet metal and other materials.



In addition to the tools listed here, ITC offers a series of copper busbar cutting, bending and hole punching devices, and the ALFRA Press series of stationary and mobile punching stations. Contact ITC for more information.



INDEX

DIN RAIL cutting and punching tools	3
Handy-Cut series - portable DIN Rail cutting tools	3
PSG series - multi-profile cutting and punching tools.....	4
GH heavy duty, high production DIN Rail cutting and punching tools	6
DRCP universal bench-mounted cutting and punching tool	8
DIN-Rail cutting tools selection guide	9
Punching Tools	10
Manual and battery hydraulic punching tools	10
Manual, electro-hydraulic and pneumatic-hydraulic pumps	11
Punch and Die Sets	12
TriCut round punch/die sets	12
Accessories: draw bolt and spacers	13
Notching pliers	13
Rectangular, square and DIN punch sets	14
Kudos hydraulic round punch/die sets.....	15
Hole saws and multi-step drills	16
Multi-step drills.....	16
TCT hole saws.....	17
AMTE Assembly Tables	18

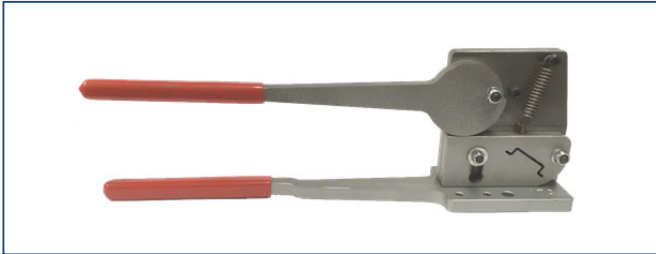
Handy-Cut series - portable DIN Rail cutting tools

Tools designed and priced for the small panel builder and contractor.

The Handy-Cut are compact, fully portable tools (weight 2.5-4.6 kg / 6-10 lbs.) which cleanly cut DIN rails. With their two handles, there is no need to bench-mount these tools - cutting requires minimal effort.

Features and specifications:

- **Material:** Steel. Cutting dies in tempered, tool quality steel
- **Expected life:** at least 7,500 cuts in normal steel



510.801



510.811

Handy-Cut DIN rail cutter (Order by Part No.)

Part No.	Model	Description	Dimensions (approx. mm)	Weight (g)
510.801	30 002	Handy-Cut portable DIN Rail cutting tool for TS35 35x7.5mm rail	L= 360	2,600
510.802	30 002RG	Optional rail-guide with end stop for Handy-Cut tools 510.801 and 510.811	L= 500	1,400
510.811	30 003	Handy-Cut portable DIN Rail cutting tool for TS15 15x5.5mm rail	L= 360	2,600
510.821	30 004	Handy-Cut portable DIN Rail cutting tool for TS35C 35x15mm rail	L=605	4,500

Replacement parts available from ITC
Information subject to change without notice



510.821

Warranty information

All ITC DIN Rail cutters are covered by a limited warranty of 1 year on all manufacturer defects.

PSG series multi-profile cutting and punching tools

The PSG series provide in one single, bench-mounted machine, the most efficient solution for cutting (and punching - PSG 5+ models) all four types of common DIN rails, without changing dies.

Features and specifications:

- Lower force application due to improved force transmission
 - Cuts profile and ground rails precisely and without effort
- Guide plate to facilitate insertion and to provide support for the profiles
- Burr-free cutting to length without waste
- Low maintenance tools
- Re-grindable shear plate; replaceable punch
- 1000mm handle (manual models only)
- Laser-engraved rail guide with mm and inch scaling and end stop
- PSG tools are easily installed on a workbench
- Custom tools for non-standard profiles, as well as special punching dies are available upon request

510.501 (PSG 5+ G)

- Cuts and punches TS35, TS35C and TS32 rails in two sequential operations: a 6.4x12mm hole can be punched in any position on the axis of the rail, and even transversally at the end of the rail
- Cuts TS15 DIN rail
- Cuts 10x3mm grounding copper bars

510.510 (PSG Duo)

- The smallest PSG tool
- Cuts TS35 35x7.5mm, TS35C 35x15mm DIN rails

510.520 (PSG 4 Special)

- Cuts High-Rise Aluminum rail
- Cuts TS35 35x7.5mm, TS35C 35x15mm DIN rails

510.571 (PSG 5+ Hydraulic)

- Cuts and punches TS35, TS35C and TS32 rails in two sequential operations: a 6.4x12mm hole can be punched in any position on the axis of the rail, and even transversally at the end of the rail
- Cuts TS15 DIN rail
- Cuts 10x3mm grounding copper bars
- Similar to the 510.501, but the handle has been replaced by a hydraulic cylinder for fast, effortless operation
- No force transmitted to the bench; this model can be installed on any table, without bolts
- Separate hydraulic pump required (see page 11 of this catalog)

PSG Multi-profile DIN Rail Cutting Tools (Order by Part No.)

Part No.	Model	Description/model	Dimensions	Weight (kg)
510.501	PSG 5+ G	Multi-profile DIN cutting and punching tool; TS35/TS35C/TS15/TS32 and 10x3mm copper bars	~180x180x280mm	18
510.510	PSG Duo	2 profile DIN cutting tool; TS35/TS35C	~140x180x280mm	10
510.520	PSG 4 Special	3 profile DIN cutting tool; TS35/TS35C and High Rise AL	~140x180x280mm	16.5
510.571	PSG 5+ H	Hydraulic multi-profile DIN cutting and punching tool; TS35/TS35C/TS15/TS32 and 10x3mm copper bars	~180x180x365mm	23

*Dimensions in mm. are approximate and do not include the handle or the rail guide
Contact ITC for replacement parts and custom specifications
Information subject to change without notice*

510.501



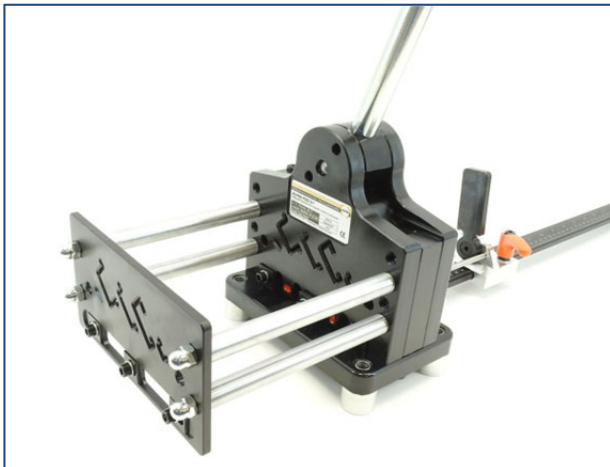
510.510



510.520



510.501



510.571



GH heavy-duty, high production DIN Rail cutting and punching tools

GH3 series tools are extremely sturdy, professional bench mounted DIN cutters / punchers. They are available in two versions:

- **GH3-M** - Manual version
- **GH3-P** - Pneumatic version

These machines provide the fastest operation available amongst the models offered by ITC. All models can cut and punch selected rails in one operation only. Of course, cutting only, punching only, or punching one side only is also possible. Operation of either models is extremely simple and safe.

Each machine is supplied with:

- One cutting blade L33
- Two standard slot punching dies P33 (6.5x13mm)
- 1m long rail guide with end stop
- One pair of rail cutting dies (to be specified when ordering, among the standard models available - see the table below)
- Instruction manual and set of Allen keys

Notes:

- Additional cutting dies must be ordered separately
- Special cutting dies for different profiles, as well as different punching dies, are available upon special order
- The manual model GH3-M is bench mounted and equipped with a 1m long lever for effortless operation
- The pneumatic model GH3-P is supplied with a sturdy metal stand and foot-switch

Heavy-duty DIN Rail Cutters (Order by Part No.)

Part No.	Model	Description	Weight (g)
510.300	GH3-M	Manual heavy-duty cutter/puncher	18,000
510.320	GH3-P	Pneumatic heavy-duty cutter/puncher	110,000
510.351	M31	Cutting die set for TS32 rail (111.001)	1,000
510.352	M32	Cutting die set for TS35 rail (111.013)	1,000
510.353	M33	Cutting die set for TS35C rail (111.021)	1,000
510.354	M34	Cutting die set for TS35I rail - GH3E / P only (111.031)	1,600
510.355	M35	Cutting die set for TS15 rail (111.016)	850
510.361	RA2	Rail-guide with end stop	5,000
510.371	L33	Replacement cutting blade L33	330
510.372	P33	Replacement punch set	500

*Dimensions in mm. are approximate and do not include the handle or the rail guide
Information subject to change without notice*

510.300



510.320



510.320



GH3 die sets, blade and punches

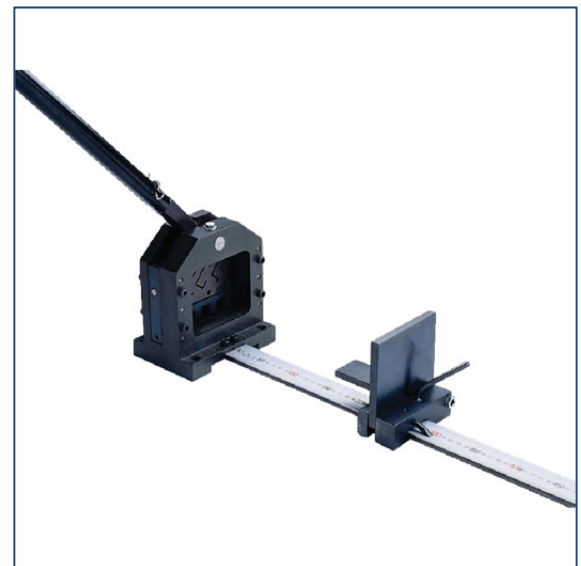


DRCP universal bench-mounted cutting and punching tool

The DRCP tool provides excellent value in one single, bench-mounted machine that cuts the five types of common DIN rails and punches 4 types of DIN rails, without changing dies.

Features and Specifications:

- Cuts and punches:
 - TS35 rail (35x7.3mm standard symmetric rail)
 - TS35C rail (35mm heavy duty symmetric)
 - TS32 rail (32mm Asymmetric)
 - TS35G rail (35x15mm symmetric reinforced steel or aluminum)
- Also cuts:
 - TS15 (15x5.5mm miniature rail)
 - 6mm (~1/4") steel rods, threaded or unthreaded
- Punches an oblong hole 8.8x5mm (0.35"x0.20") in either direction on the axis of the rail
- Accessories included:
 - 1m. ruler - End Stop - 730mm (~28")
 - High leverage handle
- Dimensions:
 - Length: 1110mm (~ 44")
 - Width: 140mm (~ 5 1/2")
 - Height (without lever): 162mm (~ 6 1/2")
- Expected life: at least 10,000 cuts in normal steel




DRCP universal bench-mounted DIN rail cutter/puncher (order by part no.)

Part No.	Model	Description/model	Weight (g)
510.601	DRCP	DIN rail cutting tool complete with dies, ruler, handle and end stop	11,000

Replacement parts available from ITC
Information subject to change without notice



DIN-Rail Cutting Tools Selection Guide

Cutter	TS35 35x7.5x1*	TS35C 35x15x1.5	TS32 32x15x1.5	TS15 15x5x1	Other Profiles	Punches	Operation	Other
510.501 	✓	✓	✓	✓	Cu bars 10x3mm	12X6.4	manual	
510.510 	✓	✓			Cu bars 10x3mm		manual	
510.520 	✓	✓			high rise aluminum rail		manual	
510.571 	✓	✓	✓	✓	Cu bars 10x3mm	12X6.4	hydraulic	with hydraulic cylinder
510.801 	✓						manual	portable
510.821 		✓					manual	portable
510.811 				✓			manual	portable
510.601 	✓	✓	✓	✓		8.8x5 either direction	manual	
510.300 	✓	✓	✓	✓	TS35I C 30x15x1.5 C 20x14x1.5	13x6.5 custom	manual	
510.320 	✓	✓	✓	✓	TS35I C 30x15x1.5 C 20x14x1.5 Schneider AM1 ED200 & ED201 ALU DIN	13x6.5 custom	pneumatic	

* not aluminum 111.033; Information subject to change without notice - All dimensions in mm except where noted




Manual and Battery-Operated Hydraulic Punching Tools

These hydraulic punchers are for use in construction of switchgear and control cabinets - suitable for all punch and die sets.

Features and specifications:

- **Standard hole punching:** up to 82mm Ø round holes / up to 68x68mm square holes
 - 3.0mm mild sheet steel. Up to 2.0mm stainless steel.
- **Large hole punching:** 89-152mm Ø round holes / up to 92x92mm square holes
 - requires a special draw bolt and spacer sleeve, up to 2.0mm sheet steel (S235), up to 1.5mm stainless steel
- **Punching force:** 7.5tons / 75kN
- **Maximum hydraulic pressure:** 680 bar
- **Piston stroke:** 18mm
- **Tool mounting (draw-stud diameter):** 19mm thread
- **Hydraulic hose length:** 600mm (where applicable)

Hydraulic Punchers

				
Part No.	502.601	502.611	502.621	502.641
Description	Compact manual straight puncher	Compact Combi manual puncher 90° head	Compact Flex puncher, 600mm hose	AKKU-Compact Flex puncher, battery operated
Weight	1.34 kg (3.2 lbs)	1.75 kg (3.9 lbs)	2 kg (4.4 lbs)	2.5 kg (5.5 lbs) with standard 18V LI-Ion battery
Handle	Reinforced - soft touch			Handle inset soft touch
Other	High-compression cylinder bore surface			USB interface for readable pressure values, service intervals

Hydraulic Punchers and kits (Order by Part No.)

Part No.	Model	Description/model
502.601	02001	Compact manual punch straight, with case, 2 draw bolts, 3 spacers
502.602	01752	Compact manual punch straight (kit w/case, TriCut set Pg9 to Pg48, bolts, spacers)
502.603	01765	Compact manual punch straight (kit w/case, TriCut set M16-M40, bolts, spacers)
502.604	01758	Compact manual punch straight (kit w/case, TriCut set M16-M63, bolts, spacers)
502.605	02001A	Compact manual punch straight (kit w/case, Tri-cut ½" - 2" set, bolts, spacers)
502.611	02050	CompactCombi manual punch 90-degree with case, bolts, spacers
502.612	01753	CompactCombi manual punch 90-degree, with case, TriCut set Pg9-Pg48, bolts, spacers
502.613	01766	CompactCombi manual punch 90-degree, with case, Tri-cut M16-M40, bolts, spacers
502.614	01759	CompactCombi manual punch 90-degree, with case, Tri-cut M16-M63, bolts, spacers
502.615	01756	CompactCombi manual punch 90-degree, kit with case, Tri-cut ½" - 2" set, bolts, spacers)
502.621	02065	Compact Flex manual punch - separate head, with case, bolts, spacers
502.625	02065T	Compact Flex manual punch - separate head, with TriCut ½" - 2" set, case, bolts, spacers
502.641	02082.120V	Akku-Compact Flex Battery hydraulic punch kit, with case, charger, bolts, spacers
502.645	02082.120T	Akku-Compact Flex Battery hydraulic punch kit, with case, TriCut ½" - 2" set, charger, bolts, spacers
502.648	02082-01	Replacement. 18V Li-Ion Battery for Akku-Compact Flex hydraulic punch

Information subject to change without notice

Punch and die sets are also available in 'PLUS' version for punching stainless steel - contact ITC

Manual, Electro-Hydraulic & Pneumatic-Hydraulic Pumps

ITC offers manual powered hydraulic pumps, electric-hydraulic pumps and pneumatic-hydraulic pumps for use with hydraulic tools such as punching heads (cylinders), DIN-Rail cutting and punching tools and BUSBAR machining tools.

Manual HP/HYP models automatically release when their maximum pressure of is reached. They come equipped with a hose with connector and a tough plastic carrying case.

The LHP-700 pneumatic-hydraulic power pump is equipped with a pneumatic actuator which in turn operates a hydraulic pump. It has an oil tank of 2.1 liters, and operates at an air pressure of 3 to 10 bar. It is supplied complete with oil hose and sound absorber for reduced noise levels.

The Electro-hydraulic pumps, models AHP, and DSP, are available in 110V and 220V versions, with a hand switch or optional foot switch.

Replacement accessories - couplers, hoses - are available.

Hydraulic Pumps (Order by Part No.)

Part No.	Model	Description	Oil pressure (bar/psi)	Weight (Kg)
502.090 *	HP-180N	Hydraulic Hand Pump 1-stage; 1m hose	590/8,557	3.7
502.091	HP-700A	Hydraulic Hand Pump 2-stage; 2m hose	700/10,000	8.8
502.093 *	HYP-700FT	Hydraulic Foot Pump 2-stage; 2m hose	700/10,000	13.5
502.095 *	HYP-700FTG	Hydraulic Foot Pump 2 stage / with pressure gauge, metal case	700/10,000	13.7
510.702 *	LHP-700 02140	Pneumatic-hydraulic power pump, 1-stage	700/10,000	6.3
510.704 *	AHP S 03854	Electro-hydraulic pump AHP S, 110V-60Hz Flow rate: 0.58 l/min; volume: 3.2l/2.2l	700/10,000	27
510.705 *	AHP M1 03857	Electro-hydraulic pump AHP M1, 110V-60Hz Flow rate: 1.1 l/min; volume: 3.2l/2.2l Footswitch 03862.NG required	700/10,000	29
510.708 *	03859	Hand switch control for AHP S pump	-	-
510.709 *	03866	Foot switch control for AHP S pump	-	-
510.706 *	DSP 120 02025	Electro-hydraulic pump, 110V-60Hz Includes: hydraulic cylinder, draw-bolt, spacers, pre-drill bit, hose and hand switch Flow rate: 2 l/min; volume: 1.2l/0.8l	700/10,000	7.5
510.706P *	DSP 120 02027	Electro-hydraulic pump DSP 120, 110V-60Hz; Includes: hose and hand-switch Flow rate: 2 l/min; volume: 1.2l/0.8l	700/10,000	7.5
510.706FS *	02029	Foot switch control for DSP pump; 2-pedal	-	-

Information subject to change without notice

AHP M1 is recommended for use with BUSBAR processing machines

* Special order item



TriCut® Round Punch/Die Sets

ALFRA's TriCut punch/die sets can punch round holes in mild steel plate (max 3.0 mm), without using a hydraulic press (pump) - just a draw stud with ball-bearing head.

TriCut punch/die sets can be operated mechanically up to large diameters thanks to the special design of the 3 cutting edges and the ball-bearing draw studs; a hydraulic cylinder with appropriate pump may also be used, if available.

TriCut kits include punch/die sets as indicated, ball-bearing draw, one pre-dill HSS bit and one container of lubricating paste, in a plastic case.



TriCut Round Punch/Die Sets & Draw Studs (Order by Part No.)

Standard		PLUS [^]		Diameter		Metric	Pg	NPT Conduit, Pipe Size	Draw bolt †	Draw bolt with ball bearing †
Part No.	Model	Part No.	Model	mm	Inches					
502.401	01770	-	-	12.5	0.500	M12	7	-	502.434	502.450
502.350	01771	502.350P	01600	15.2	0.598	-	9	-	502.439	502.451
502.402	01772	502.402P	01656	16.2	0.638	M16	-	-	502.439	502.451
502.351	01773	502.351P	01603	18.6	0.732	-	11	-	502.439	502.451
502.403	01774	502.403P	01606	20.4	0.803	M20	13	-	502.439	502.451
502.353	01775	502.353P	01609	22.5	0.886	-	16	1/2"	-	-
502.353+N	01420	502.353P+N	014201	22.5	0.886	-	-	1/2"	-	-
502.404	01776	502.404P	01659	25.4	1.000	M25	-	-	502.439	502.451
502.354	01777	502.354P	01612	28.3	1.114	-	21	3/4"	502.439	502.451
502.363	01779	502.363P	01615	30.5	1.201	-	-	-	502.439	502.451
502.405	01780	502.405P	01662	32.5	1.280	M32	-	-	502.439	502.451
502.360	01788	502.360P	01618	34.6	1.362	-	-	1"	502.440	502.452
502.355	01781	502.355P	01621	37.0	1.457	-	29	-	502.440	502.452
502.406	01782	502.406P	01665	40.5	1.594	M40	-	-	502.440	502.453
502.361	01789	502.361P	01624	43.2	1.701	-	-	1 1/4"	502.440	502.453
502.356	01783	502.356P	01627	47.0	1.850	-	36	-	502.440	502.453
502.362	01790	502.362P	01630	49.6	1.953	-	-	1 1/2"	502.440	502.453
502.407	01784	502.407P	01668	50.5	1.988	M50	-	-	502.440	502.453
502.357	01785	502.357P	01633	54.0	2.126	-	42	-	502.440	502.453
502.408	01787	502.408P	01671	63.5	2.500	M63	-	-	502.440	502.453
502.358	01786	502.358P	01636	60.0	2.362	-	48	-	502.440	502.453
502.364	01791	502.364P	01640	61.5	2.421	-	-	2"	502.440	502.453
502.33005	33005	Lubricating Paste- use with metal punch/die sets								

Information subject to change without notice - All dimensions in mm except where indicated

Punch/Die Sets are available in the following versions: kits with ball bearing draw bolts

[^]PLUS versions for mild steel and stainless steel; † Contact ITC for correct draw bolts for PLUS versions

TriCut Round Punch/Die Kits (Order by Part No.)

Part No.	Model	Description	Hole Diameter
502.390	01755	TriCut Metric set M16/20/25/32/40/50/63 punch/dies, 4 ball bearing draw bolts - Φ 9.5x50mm (2), Φ 19x55mm, Φ 19x75mm, 1 pre-drill HSS Φ 10mm, lubricating paste, plastic case	16.2-63.5mm; 0.64-2.50"
502.391	01751	TriCut Pg set Pg9/11/13/16/21/29/36/42/48 & Φ 30.5mm punch/dies, 4 ball bearing draw bolts Φ 9.5x50mm (2), Φ 19x55mm, Φ 19x75mm, 1 pre-drill HSS Φ 10mm, lubricating paste, plastic case	15.2-60.0mm; 0.60-2.362"
502.392	01760	TriCut NPT Set 1/2", 3/4", 1", 1 1/4", 1 1/2", 2" punch/dies, plastic case	12.7-50.8mm; 0.5-2.0"

Information subject to change without notice - All dimensions in mm except where indicated

Available in PLUS versions for sheet steel and stainless steel; Available in kits with hydraulic tools



Accessories: Draw Bolts & Spacers (Order by Part No.)

Part No.	Model	Description	
502.493	02004	Hydraulic Spacer bushing set; 3 pieces; H = 10/16/23.5mm	
502.495	02014	Hydraulic Spacer bushing set; 5 pieces; H=10/16/23/23.5/38mm	
502.435	02023	Draw bolt adaptor; 19/6mm	
502.436	01353	Draw bolt adaptor; 19/9.5mm	
502.434	02022	Draw bolt (02024) + adaptor (02023) TriCut set, dia. 19/6mm	
502.439	02003	Draw bolt (02009) + adaptor (01353) TriCut set, dia. 19/9.5mm	
502.444	02007	Draw bolt (01424) + adaptor (01425) TriCut set, dia. 19/11.1mm	
502.441	02024	Draw bolt only for TriCut, Φ 6/6mm	
502.442	02009	Draw bolt only for TriCut, Φ 9.5/9.5mm	
502.443	01424	Draw bolt only for TriCut, Φ 11.1/11.1mm	
502.440	02002	Draw bolt only for TriCut, Φ 19/19mm	
502.445	02010	Draw bolt for heavy duty applications; 19/9.5mm	
502.446	02011	Draw bolt for heavy duty applications; 19/11.1mm	
502.450	01334	Draw bolt with ball bearing for TriCut, Φ 6mm, L 46mm	
502.451	01339	Draw bolt with ball bearing for TriCut, Φ 9.5mm, L 50mm	
502.452	01340	Draw bolt with ball bearing for TriCut, Φ 19mm, L 55mm	
502.454	01342	Draw bolt with ball bearing for TriCut, Φ 11.1mm, L 60mm	
502.453	01341	Draw bolt with ball bearing for TriCut, Φ 19mm, L 75mm	

Information subject to change without notice - All dimensions in mm except where indicated

Notching Pliers (Order by Part No.)

Part No.	Model	Description	Weight
502.310	03015	Notching Pliers - Punches notches in mild steel up to 2.0 mm thick, simply and quickly. Notches possible in sizes of 3.2 mm and 4.8 mm	1.3 kg

Information subject to change without notice - All dimensions in mm except where indicated



ALFRA's stationary punching stations "ALFRA-PRESS" are the perfect complement to their large selection of punch/die sets, hole saws and multi-step drill bits.

Contact ITC for details.



Rectangular, Square & DIN Punch Sets

These unique punch and die sets are specially designed for punching holes of the exact sizes required to install multipole connector housings and DIN-sized devices.

They are designed to operate by a hydraulic cylinder or hand hydraulic pumps, are easy to align, and offer considerable time and cost savings compared to drilling/cutting, for installation of popular multi-pole connectors (ITC's ILME product line) and cable passing devices.

Special shapes are available, and custom sizes can be produced.



Features and specifications:

- Maximum mild steel thickness: 2.0mm
- Supplied in a plastic case with draw bolt
- Also available for stainless steel

Rectangular Punch/Die Sets for Multipole Connectors (Order by Part No.)

Part No.	Model	Description	Punch Dimensions	Draw bolt
502.321	CCW PD 03	Punch/die set for "size 3" multi-pole connector	22x22mm	-
502.325	01325	Punch/die set for "size 6" multi-pole connectors	35x52mm	502.463
502.326	01326	Punch/die set for "size 10" multi-pole connectors	35x65mm	502.463
502.322	CCW PD 15	Punch/die set for "size 15" multi-pole connectors	23x57mm	-
502.327	01327	Punch/die set for "size 16" multi-pole connectors	35x85.5mm	502.463
502.328	01328	Punch/die set for "size 24" multi-pole connectors	35x112mm	502.463
502.323	CCW PD 25	Punch/die set for "size 25" multi-pole connectors	23x74mm	-
502.461	01360	Draw bolt for heavy duty applications; L=106mm	-	
502.463	01344	Draw bolt for heavy duty applications; L=165mm	-	
502.464	01343	Draw bolt for heavy duty applications; L=170mm	-	
502.465	01395	Draw bolt for heavy duty applications; L=184mm; used for 92x92mm holes with AKKU 502.641	-	

Information subject to change without notice - All dimensions in mm
Other sizes are available upon request.



Rectangular multipole connector punches not only punch the rectangular knockouts, but also indent 4 guide points for drilling the appropriate mounting holes.

These 4 guide points can be used as a drilling template.

DIN Punch/Die Sets (Order by Part No.)

Part No.	Model	Description	Punch Dimensions	DIN	Draw bolt
502.311	01375	1/32 DIN Punch/die set with stud, bolt and case	22.5x45mm	1/32 DIN	502.461
502.313	01313	1/16 DIN Punch/die set with stud, bolt and case	45x45mm	1/16 DIN	502.462
502.314	01314	1/8 DIN Punch/die set with stud, bolt and case	45x92mm	1/8 DIN	502.463
502.315	01309	1/4 DIN Punch/die set with stud, bolt and case	92x92mm	1/4 DIN	502.464

Information subject to change without notice - All dimensions in mm
Other sizes are available upon request.



KUDOS Hydraulic Round Punch/Die Sets

Model PN-052 (Part No. 502.061i) is a cost-effective hydraulic kit for punching holes in mild steel (max. thickness 3.2mm = 0.125") and stainless steel (max 1.6mm).

It includes one hydraulic cylinder to operate under oil pressure of 700 bar (10,000 psi), 6 4-splitter round punch/die sets for the most common NPT sizes: ½" (22mm), ¾" (27.5mm), 1" (34.3mm), 1 ¼" (43mm), 1 ½" (48.8mm), 2" (60.8mm).

Supplied in a tough plastic carrying case.

Spare punch/die sets and accessories are also available; these can be used with standard drivers and punching tools.

Note: A hydraulic pump is required. Refer to page 11 of this catalog.



KUDOS Hydraulic Punch/Die Sets and accessories (Order by Part No.)

Part No.	Model	Description/model	Spare draw-bolt	Dimensions (mm)
502.061i	PN-052	Hydraulic punch/die set with dies, in plastic case 12.7 tons (125 kN) Dies: ½", ¾", 1", 1 ¼", 1 ½", 2"		Case ~415x285x115mm
502.071		Punch/Die set ½" (22mm)	502.081	Thread = 9.5mm
502.072		Punch/Die set ¾" (27.5mm)	502.082	Thread = 13mm
502.073		Punch/Die set 1" (34.3mm)	502.083	Thread = 19mm
502.074		Punch/Die set 1 ¼" (44.3mm)	502.083	Thread = 19mm
502.075		Punch/Die set 1 ½" (48.8mm)	502.083	Thread = 19mm
502.076		Punch/Die set 2" (60.8mm)	502.083	Thread = 19mm
502.077*		Punch/Die set 2 ½"	502.083	Thread = 19mm
502.078*		Punch/Die set 3"	502.083	Thread = 19mm
502.079*		Punch/Die set 3 ½"	502.083	Thread = 19mm
502.080*		Punch/Die set 4"	502.083	Thread = 19mm
502.081	R1	Spare draw bolt for PN-052, ½" die		Thread = 9.5mm L=72mm
502.082	R2	Spare draw bolt for PN-052, 1" to 2" dies		Thread = 19mm; L=128mm
502.083	R4	Spare draw bolt for PN-052, ¾" die		Thread = 13mm; L=105mm
502.084	Spacer-S	Spacer R1 for draw bolt, ½" die		H=26mm
502.085	Spacer-M	Spacer R2 for PN-052, 1" to 2" dies		H=31mm
502.086	Spacer-L	Spacer R4 for PN-052, ¾" die		H=38mm
502.088	PDV-10	Hydraulic cylinder; 12.7 tons (125 kN)		Thread = 19mm; L=138mm

Information subject to change without notice
*Special order item

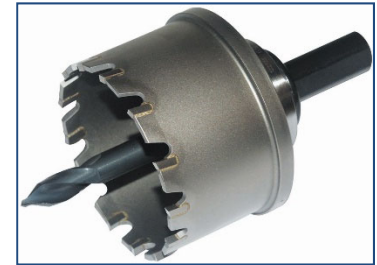
IMPORTANT NOTICE

- Draw stud threads, female threads, punch and die profiles should always be lubricated with an appropriate oil or grease.
- Operate mechanical punches until the metal has been cut, without forcing the punch into the die after cutting.
- Punch and die profiles may be sharpened if necessary.

TCT Hole Saws

An extensive series of carbide-tipped hole saws designed for work on mild steel, stainless steel, aluminum, plastic or wood.

ALFRA's short-type TCT Hole Saws differ from conventional HSS bi-metal hole saws currently found on the market. They provide high precision cutting with no deburring, combined with a long tool life, which can be extended further with replaceable center arbors, and the possibility of tooth sharpening, if required. The centre bit can be replaced on all models.



Features and specifications:

- cuts stainless steel up to 2mm (-1/16")
- cuts mild steel up to 4mm (-3/16")
- cuts plastics, PVC, aluminum, zinc, wood and drywall
- For use with hand drills (recommended to max. hole dia. 40 mm = 1 9/16") or with vertical drills/drill presses (all sizes) - do not use automatic feed
- CAD-designed cutting carbide tips optimize cutting capacity and reduce need for re-grinding
- Replaceable centre bit with tapered tip - no need for center punch
- Removal of core after cut is made simple thanks to the replaceable ejector spring
- Arbors can be replaced on models from Ø 32-140mm (smaller models are of unitary construction)
- **Hole sizes:** 16-140mm (5/8 - 5 1/2")
- **Materials:** Carbide-tipped stainless steel

How to order TCT Hole Saws - short type (Order by Part No.)

Part No.	Model	Hole diameter		No. of teeth	Pg cutout	Metric cutout	NPT Cutout	Shank Ø mm
		mm	in					
506.160	0600160	16	5/8"	4	9	16		10mm
506.180	0600180	18	11/16"	4				10mm
506.190	0600190	19	3/4"	4	11			10mm
506.210	0600210	21	13/16"	5	13.5	20	1/2"	10mm
506.230	0600230	23	7/8"	5	16			10mm
506.240	0600240	24	15/16"	5				10mm
506.260	0600260	26	1"	5		25	3/4"	10mm
506.270	0600270	27	1-1/16"	5				10mm
506.290	0600290	29	1-1/8"	5				10mm
506.300	0600300	30	1-3/16"	5				10mm
506.320	0600320	32	1-1/4"	6		32		10mm
506.340	0600340	34	1-5/16"	6				10mm
506.350	0600350	35	1-3/8"	6			1"	10mm
506.370	0600370	37	1-7/16"	7	29			10mm
506.390	0600390	39	1-1/2"	7				10mm
506.400	0600400	40	1-9/16"	7		40		10mm
506.420	0600420	42	1-5/8"	8				10mm
506.430	0600430	43	1-11/16"	8				10mm
506.450	0600450	45	1-3/4"	8		50	1-1/4"	10mm
506.470	0600470	47	1-13/16"	9				10mm
506.480	0600480	48	1-7/8"	9	36			10mm
506.500	0600500	50	1-15/16"	9				10mm
506.510	0600510	51	2"	9			1-1/2"	13mm
506.530	0600530	53	2-1/16"	10				13mm
506.540	0600540	54	2-1/8"	10	42			13mm
506.560	0600560	56	2-3/16"	10				13mm

Part No.	Model	Hole diameter		No. of teeth	Pg cutout	Metric cutout	NPT Cutout	Shank Ø mm	
		mm	mm						
506.570	0600570	57	2-1/4"	10				13mm	
506.590	0600590	59	2-5/16"	10				13mm	
506.600	0600600	60	2-3/8"	11	48			13mm	
506.620	0600620	62	2-7/16"	11				13mm	
506.640	0600640	64	2-1/2"	11		63	2"	13mm	
506.660	0600660	66	2-9/16"	12				13mm	
506.670	0600670	67	2-5/8"	12				13mm	
506.690	0600690	69	2-11/16"	12				13mm	
506.700	0600700	70	2-3/4"	12				13mm	
506.720	0600720	72	2-13/16"	13				13mm	
506.730	0600730	73	2-7/8"	13		72		13mm	
506.740	0600740	74	2-15/16"	13				13mm	
506.760	0600760	76	3"	13			2-1/2"	13mm	
506.780	0600780	78	3-1/16"	14				13mm	
506.790	0600790	79	3-1/8"	14				13mm	
506.810	0600810	81	3-3/16"	14				13mm	
506.830	0600830	83	3-1/4"	14				13mm	
506.840	0600840	84	3-5/16"	15				13mm	
506.860	0600860	86	3-3/8"	15				13mm	
506.870	0600870	87	3-7/16"	15				13mm	
506.890	0600890	89	3-1/2"	16				13mm	
506.900	0600900	90	3-9/16"	16				13mm	
506.920	0600920	92	3-5/8"	16			3"	13mm	
506.940	0600940	94	3-11/16"	16				13mm	
506.950	0600950	95	3-3/4"	17				13mm	
506.970	0600970	97	3-13/16"	17				13mm	
506.980	0600980	98	3-7/8"	17				13mm	
507.000	0601000	100	3-15/16"	17				13mm	
507.050	0601050	105	4"	18			3-1/2"	13mm	
507.150	0601150	115	4-1/2"	20			4"	13mm	
507.300	0601300	130	5"	20				13mm	
507.400	0601400	140	5-1/2"	24				13mm	
506.006	0602006	Replacement spring				-			
506.650	0602650	Replacement Bit 6mm				-			
507.402	0734002	MT Arbor max 100mm				-			
506.002	21010	Coolant Alfra BIO2000				-			
506.003	21040	Coolant Alfra 4000				-			
506.001	0600001	Kit - 5 hole-saws 16/20/25/32/40mm and 2 Allen keys in a tough plastic case.							10mm

Information subject to change without notice - All dimensions in mm except where indicated

ALFRA's TCT family of hole-saws - contact ITC for details:

- long-type series - for pipes and vaulted materials
- MBS universal series - up to 10mm depth
- MBS-PRO series - up to 20mm depth
- FRP series - up to 60mm depth






AMTE 150 / 250 Assembly Tables



Designed for quick, safe, and easy mounting for any type of manufacturing/assembly process:

- Tilt-adjustable with variable working height (AMTE250)
- A wide range of accessories
- Maximum working weight - 200/300 kg (440/661 lbs.)
- Ergonomic and highly accessible
- Designed to reduce potential for workplace injury

Assembly Tables (Order by Part No.)

		
Part Number	505.310	505.360
Model	AMT 150	AMTE 250
Simple and variable fixing of mounting plates using quick-acting clamps	✓	✓
Intelligent clamping system permits the unrestricted processing of the complete mounting plate	✓	✓
Continuously adjustable from vertical to horizontal position	By hand crank or cordless drill	By battery-operated electric motors
Continuous height adjustment	Using angle of tilt	By battery-operated electric motors
Electric motor	–	✓
Battery operation	–	✓
Adjustable angle of tilt	0 - 80°	0 - 80°
Working height	Fixed: 90cm	Variable: 80 - 110cm
4 lockable casters	✓	✓
Maximum size of mounting plates (HxW)	1,900 x 1,100mm	1,900 x 1,100mm
Maximum load-bearing capacity	200kg	300kg
Space required	1,400 x 1,200mm	1,400 x 1,200mm
Weight	83kg	140kg
Parts included	Assembly table AMT 150 2 x clamping unit with screw 2 x clamping unit with quick release Screw adapter for operation with cordless drill	Electric assembly table AMTE 250 2 x clamping unit with screw 2 x clamping unit with quick release External charger for the battery

Information subject to change without notice

Assembly Tables Accessories & Replacement Parts (Order by Part No.)

Part Number	Description	AMT 150	AMTE 250
505.311	Table extension, for 1690 to 1890mm board, includes screws	✓	
505.322	Clamping set with screw	✓	
505.323	Clamping set with quick-release	✓	
505.324	Assembly table adapter for cordless drill	✓	
505.326	Wire guide	✓	✓
505.327	Wire spool holder	✓	✓
505.328	Assembly table clamping set for enclosures	✓	✓
505.348	Spare battery		✓
505.349	Battery charger		✓

Information subject to change without notice



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DIN Rail



DIN Rail Accessories



Hinged Enclosures



Thermal Management



PANEL Lighting



Multipole Connectors



Compact IP68 Connectors



Terminal Blocks



Terminal Strips



Screwless Parallel Connectors



22.5mm Pushbuttons



LED Indicators



Control Stations



Limit Switches



Micro Limit Switches



Safety Switches



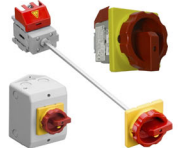
Foot Switches



Circuit Breakers



IEC Contactors



Disconnect Switches



Midget and CC Fuse Holders



Tower Lights



Power Continuity



Ferrules



Colour Coded Lugs



Crimp Terminals



Termination Kits



Cable Glands



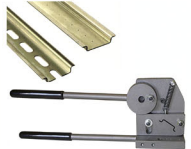
Thread Adapters



Cable Entry Systems



Wire Management



DIN Rail Cutters



Assembly Tables



Cutting & Stripping



Crimping Tools



Hole Cutting & Punching Tools

SOME OF OUR MANUFACTURING PARTNERS

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ALFRA

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