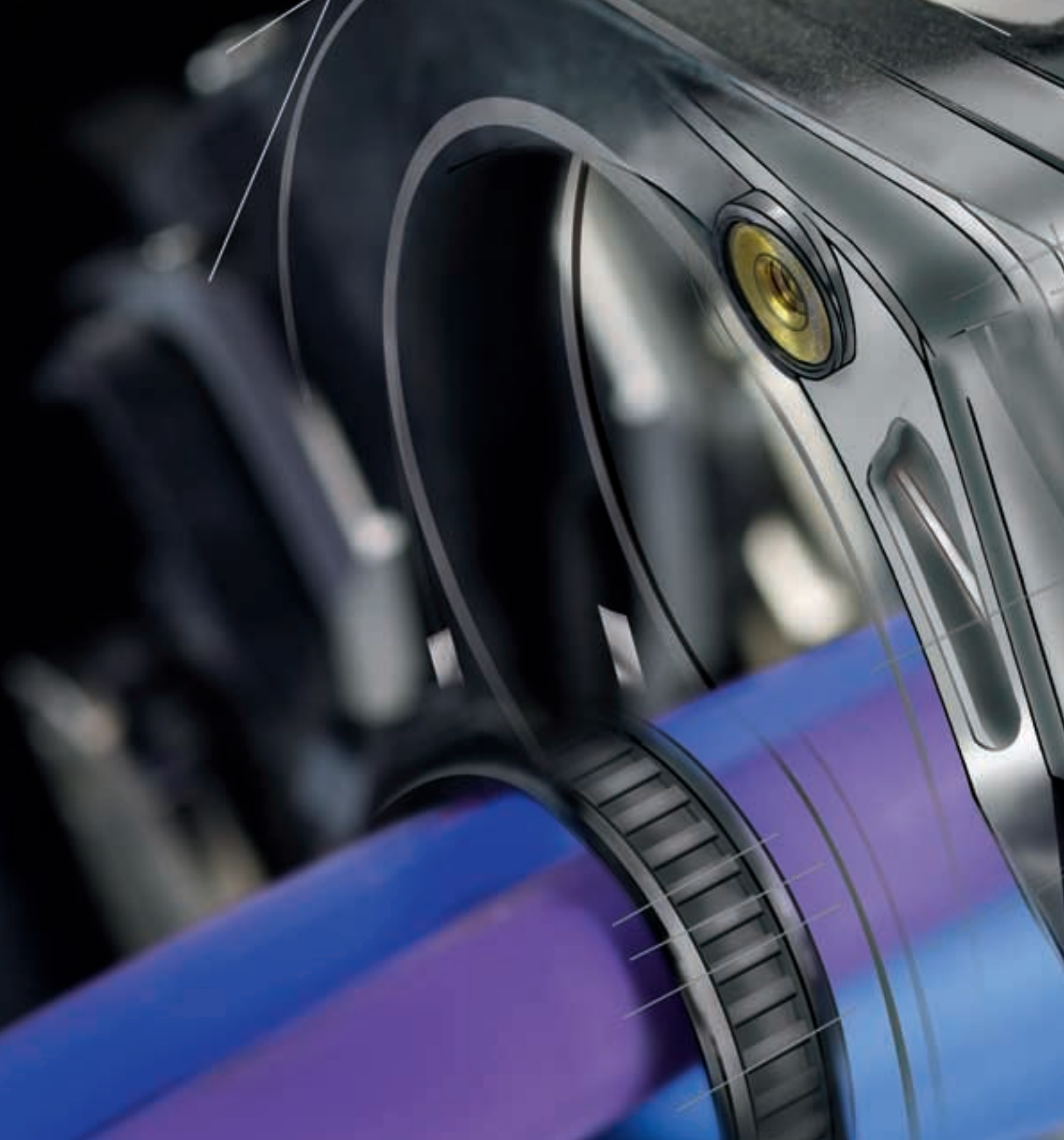


Application Tooling



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Application Tooling



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6.1 Application Tooling

Automatic Cable Tying System



AutoTool System 3080

The ATS3080 is an electrical bundling system from HellermannTyton. In about one second you get absolutely waste free bindings. The outside serrated strap and the closures are each supplied on "continuous reels". The ATS3080 is an outstanding innovation in bundling systems!

High quality standards in the production industry are requiring fully automatic, precise bundling. Only the automation of bindings allows efficient manufacturing of high quantities in a consistent workflow. A challenge which HellermannTyton solved successfully with the development of the ATS3080.

The ATS3080 can be used with an overhead suspender or a bench mount system. This makes the tool flexible for different applications, especially in the Automotive and the white or brown goods industry, or even for packaging. It is a high-capacity tool with a very short cycle time (about 1.3sec./50 mm jaws).



ATS3080 with overhead dispenser for mobile applications.

Material Data	
Power Supply	Electrical
Cycle Time	approx. 1.3 sec. (50mm jaw)
Weight (Kg)	2,2
Application	Stationary or mobile

Material Data	
Power Supply unit	Input: 230/115 VAC, 50/60 Hz Output: 48 VDC, max. 50 W
Bench mount kit	Tool and tie reel stand including foot pedal
Overhead Suspender	Overhead Suspender and tie reel stand including balancer



Closures, strap and fixing parts FT6 and EC36.



The ATS 3080 is also innovative for its strap and closures. The outside serrated strap prevents damage to wire insulation. The whole system is waste free and every shot has a flush cut off. The tool uses only the required strap length for your diameter. You do not lose any time cleaning or opening any waste boxes, resulting in a clean and safe production environment. The material is available in reels of 500m strap and reels of 5000 piece closures.

The ATS 3080 has a tension control system as an optional feature. Every shot is stored and documented on the PCB. You can read out the data via an interface to your PC, with this option you can guarantee a reliable binding and fixing process.



For the stationary installation – the bench mount kit.

Technical Table

Article-No.	Type	Bundle Ø min.	Bundle Ø max.
102-30000	ATS3080 jaw 30 mm	0.0	30.0
102-50000	ATS3080 jaw 50 mm	0.0	50.0
102-80000	ATS3080 jaw 80 mm	0.0	80.0
102-55000	ATS3080 jaw 50 mm for fixing parts	0.0	50.0

All dimensions in mm. Subject to technical changes.

For your assembly line situation we offer individual solutions.



Three jaws optimise the cycle time for the different bundling diameters.

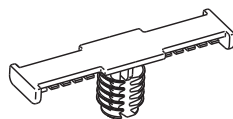
6.1 Application Tooling

Automatic Cable Tying System

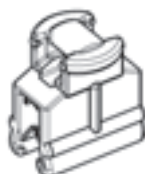


HellermannTyton developed a very innovative solution for harnesses of the Automotive industry. With the ATS3080 it is now possible to fasten fixings, also known as foot parts, with an automatic binding. This simplifies the final assembly of harnesses, because the pre-assembled harness can be fixed directly at the metal edge or in a hole! It's the first time that you can produce a complex harness completely automatically.

Another advantage of the ATS3080 is the three different jaw diameters: 30 mm, 50 mm and 80 mm are available. If your application needs ties from very small up to 80 mm, you use the 80's. If your max. is 45 mm you choose the 50's and save time. You don't have to adjust anything. The sophisticated electronics recognise it and change the parameters for the cycle.



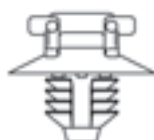
Fixing Clip ATS BCFT6LG



Fixing Clip ATS EC35



The footpart is placed, ...



Fir Tree ATS FT6



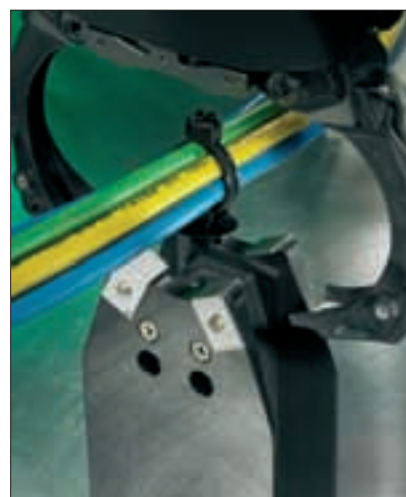
Arrow Head ATS SFT6,5



... the strap is tied automatically through the head of the footpart, ...



Autotool System 3080.



... and the harness is completely bundled including the footpart.

Technical Table

Article-No.	Type
102-00000	ATS3080 Complete
102-00010	Power Pack ATS3080
102-00040	Bench Mount Kit
102-00050	Overhead Dispenser

All dimensions in mm. Subject to technical changes.

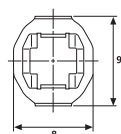
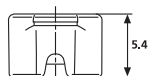
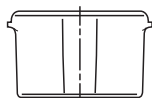
Other fixings available on request.



Technical Table

Article-No.	Type	Panel Thickness min.	Panel Thickness max.	Fixing Hole Ø (FH)	Material	Colour	Pack Cont.
102-67060	ATS FT6	0.6	3.0	6.3-7.0	PA66HIRHS	Black (BK)	500 pcs.
102-67061	ATS FT6 LG	0.6	6.0	6.3-7.0	PA66HIRHS	Black (BK)	1000 pcs.
102-67065	ATS BC FT6 LG	0.6	5.1	6.3-7.0	PA66HIRHS	Black (BK)	1000 pcs.
102-67080	ATS FT8G SD	0.8	5.0	7.9-8.5	PA66HIRHS	Black (BK)	1000 pcs.
102-68350	ATS EC35	1.5	4.0	–	PA66HIRHS	Black (BK)	5000 pcs.
102-68360	ATS EC36	1.5	4.0	–	PA66HIRHS	Black (BK)	5000 pcs.
102-68370	ATS EC37	1.5	4.0	–	PA66HIRHS	Black (BK)	5000 pcs.
102-68380	ATS EC38	1.5	4.0	–	PA66HIRHS	Black (BK)	5000 pcs.
102-69060	ATS SFT 6.5	2.5	3.5	6.3-6.7	PA66HIRHS	Black (BK)	1000 pcs.

All dimensions in mm. Subject to technical changes.



Closure ATS3080

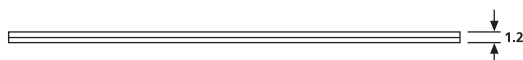
Material Data

Material	Polyamide 6.6 heat and UV stabilised (PA66HSUV)
Operating Temperature	-40 °C to +105 °C Continuous, (+145 °C for 500 h)
Flammability	UL94 V2



Material Data

Material	Polyamide 6.6 high impact modified, heat and UV stabilised (PA66HIRHSUV)
Operating Temperature	-40 °C to +95 °C Continuous, (+105 °C for 5000 h)
Flammability	UL94 HB



Strap ATS3080

Technical Table

Article-No.	Type	Min. Tensile Strength (N)	Material	Colour	Pack Cont.
102-66109	Strap Natural ATS3080	220	PA66HIRHSUV	Natural (NA)	500 m
102-66110	Strap Black ATS3080	220	PA66HIRHSUV	Black (BK)	500 m
102-66209	Closures Natural ATS3080	220	PA66HSUV	Natural (NA)	5000 pcs.
102-66210	Closures Black ATS3080	220	PA66HSUV	Black (BK)	5000 pcs.

All dimensions in mm. Subject to technical changes.

6.1 Application Tooling

Automatic Cable Tying System



Autotool 2000

Autotool 2000 is an electronically operated automatic cable tying system which has been design to speed up the binding process. Consistency and quality in the process of bundling, threading and cutting is achieved at the touch of a button.

Features and Benefits

The HellermannTyton Autotool 2000 is very easy to use. The tool has a binding speed of 0,8 seconds per cycle. The tool handles both bands of 50 or reels of 3500 cable ties. The ties can bundle up to a diameter of 20 mm. Once fitted, the tie will have a flush cut off. The adjustable binding force and the electronic fault diagnosis system ensures that optimum results are achieved.

Application

The reliability, ergonomics, simple handling and flexibility makes the HellermannTyton Autotool 2000 ideal for diverse applications where high quantities are required, e.g. in cable assemblies for automotive, electronics, TV and domestic appliances, packaging of bags and the bundling of parts together. The system suits both the high volume use of ties or where flexible production practices are necessary. Overall the Autotool 2000 gives full, flexible and cost effective utilization of labour and maximises efficiency.



Assembly equipment, band reel, Autotool 2000 in receptacle and power supply unit.

Technical Table	
Article-No.	Description
120-00000	Autotool 2000
120-00010	Power Pack
120-00040	Bench Mount Kit
120-00050	Overhead Suspender
120-00060	Control Box
120-00080	HH20

All dimensions in mm. Subject to technical changes.



Packaging application with the bench mount kit.



Autotool 2000

Application Method

With the bench mount kit or the overhead dispenser the Autotool 2000 can be used stationary or mobile, depending on the customer's application.

Another opportunity is the integration of AT2000 into a fully automated production line. To do this you would need the control box, which is the interface between AT2000 and your production line.



Overhead suspender, reel with ties and Autotool 2000.

Material Data	
Power Supply	Electrical, with Power Pack or Battery Pack
Cycle Time	0.8 s
Weight (Kg)	1.2
Application	Stationary, mobile or included in a fully automated production line
Tension Force	Continuously adjustable

Material Data	
Power Supply unit	Electrical: - 230/115 VAC Mains Output: - 25 VDC max. 30 W
Battery charger	Standard charger without memory effect
Battery Pack	Battery Capacity: 2500 bindings per charge (1 hour charge)
Bench mount kit	Bench mounting kit with foot pedal operation
Overhead Suspender	Overhead suspension unit with spring balance
Harness board accessory HH20	Bundle Ø max. 20 mm, stand-offs are used as spacer for an optimal bundling, Bundle height 45-25 mm

6.1 Application Tooling

Automatic Cable Tying System



Autotool 2000 Innovations

On Automotive harnesses many "tape clips" are used for harness mount points. These are mostly manually installed with tape. HellermannTyton have now created a new and much faster solution to install the now called "bundling clips". With a cable tie on each side of the clip you can fix it easily.

The small ridges below the clip avoid under-taping on small harness diameters and also prevent sideways movement.

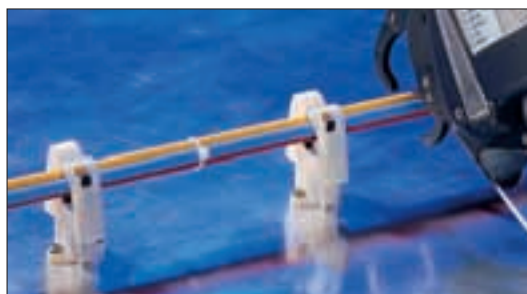
Because of new requirements from the cabling market to protect sensitive wiring or pipes etc., outside-serrated ties for AT2000 will be available in the future.

Changes on the tool can easily be made and kept to a minimum, to allow use of the outside-serrated ties instead of the standard inside serrated ties.

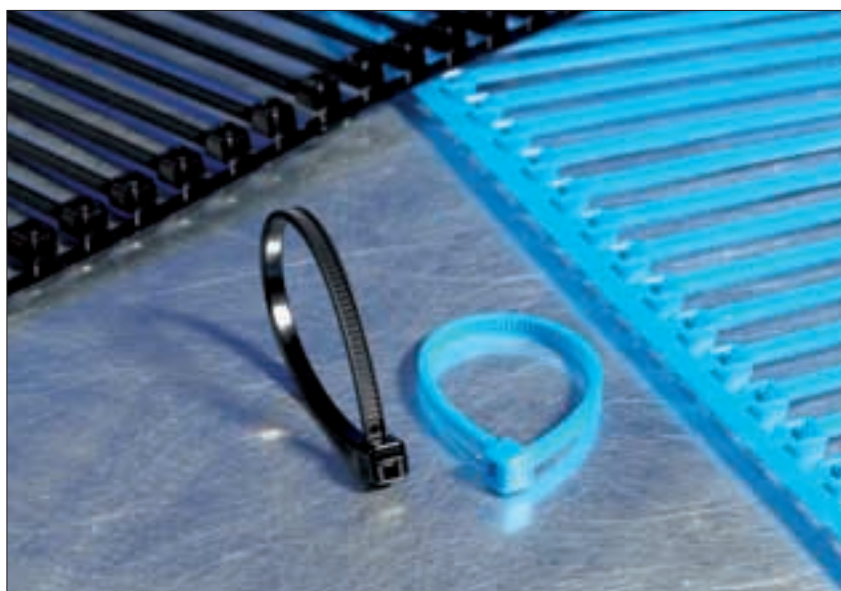
With outside-serrated ties you greatly reduce the possibility of damaging sensitive applications by the tie.



Bundling Clip ATS BC FT6LG.



Harness board accessory HH20.



Inside and outside serrated ties for AT2000.



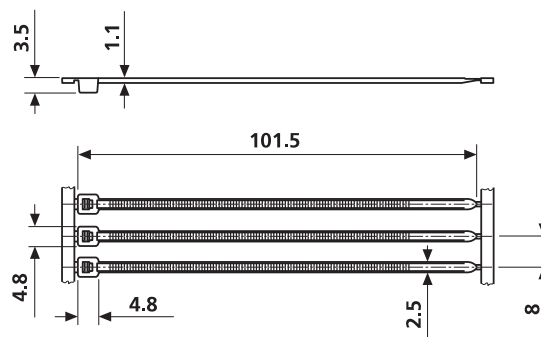
Material Data	
Material	Polyamide 4.6 (PA46)
Colour	Natural (NA)
Quantity	Bandolier with 3500 cable ties
Operating Temperature	-40 °C to +150 °C Continuous, (+195 °C for 500 h)
Flammability	UL94 V2, Limited Fire Hazard, Low generation of toxic gases and corrosive acid, Low smoke generation



Material Data	
Material	Polyamide 6.6 Heat Stabilised (PA66HS)
Colour	Natural (NA)
Quantity	Bandolier with 50 cable ties Bandolier with 3500 cable ties
Operating Temperature	-40 °C to +105 °C Continuous, (+145 °C for 500 h)
Flammability	UL94 V2



Material Data	
Material	Polyamide 6.6 Heat and UV stabilised (PA66HSUV)
Colour	Black (BK)
Quantity	Bandolier with 50 cable ties Bandolier with 3500 cable ties
Operating Temperature	-40 °C to +105 °C Continuous, (+145 °C for 500 h)
Flammability	UL94 V2



Bandoleer T18RA.

Technical Table							
Article-No.	Type	Length (L)	Width (W)	Bundle Ø max.	Min. Tensile Strength (N)	Colour	Material
120-04019	T18RA50	100	2.5	20.0	80	Natural (NA)	PA66HS
120-50009	T18RA3500	100	2.5	20.0	80	Natural (NA)	PA66HS
120-04010	T18RA50	100	2.5	20.0	80	Black (BK)	PA66HSUV
120-50010	T18RA3500	100	2.5	20.0	80	Black (BK)	PA66HSUV
120-46009	T18RA3500	100	2.5	20.0	80	Natural (NA)	PA46

All dimensions in mm. Subject to technical changes.

6.2

Application Tooling

Overview Application Tools for Cable Ties



MK10-SB
see page 410.



*MK20,
MK21* see page 410.



MK3SP
see page 411.



MK7
see page 411.



MK7HT
see page 411.



MK6
see page 412.



MK9
see page 412.



MK9HT
see page 412.



MK9SST
see page 417.



MK3PNSP2
see page 413.



MK7P
see page 414.



MK9P
see page 415.



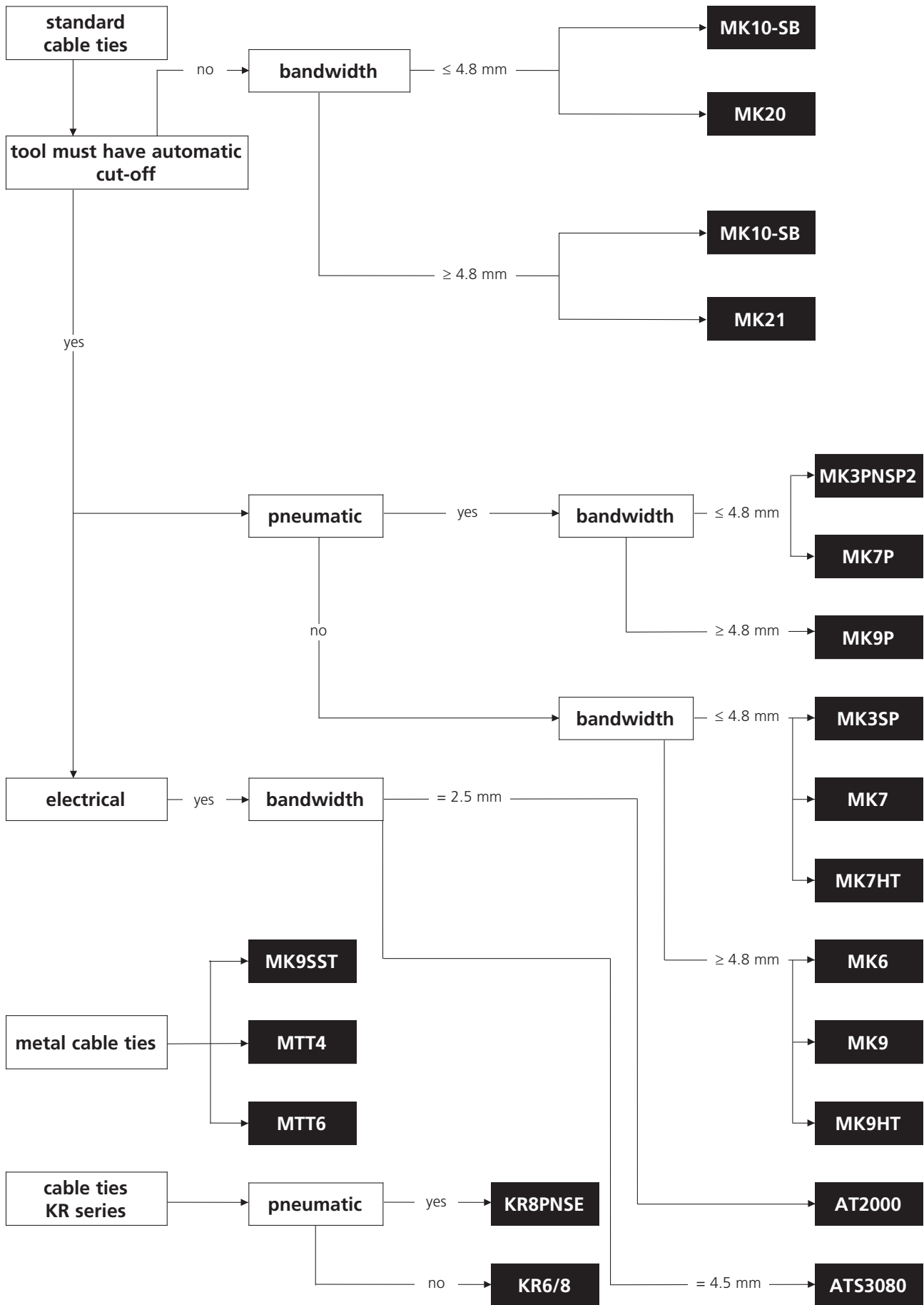
KR6/8
see page 416.



KR8PNSE
see page 416.

For detailed information on application tooling please refer to chapter 6.2.

Flowchart for Optimum Tool Selection





Manual Processing Tool for Cable Ties – MK10-SB

The metal MK10-SB tool is ideal for easy handling of the entire HellermannTyton RPE, PE series (Chapter 1.1.). Pre-looped cable ties can be tensioned and cut off flush at the head by pressing the cutting button.



MK10-SB.

Manual Tensioning Tools for Cable Ties – MK20/MK21

These lightweight, ergonomic tools are used for tensioning and cutting HellermannTyton standard cable ties that are between 4.8mm - 7.6mm wide.

With their user friendly design, the MK20 and MK21 are ideal for on-site assembly: Mount and pre-tension the ties by hand and then cut them off by twisting the tool. The cable tie is then cut off flush at the head.



MK20, MK21.



Apply.



Tension.



Twist to cut.

Technical Table

Article-No.	Type	Strap Width max. (G)	Strap Thickness max.	Weight (Kg)
110-10001	MK10-SB	9.5	2.5	0.80
110-20006	MK20	4.8	1.5	0.05
110-21016	MK21	7.6	2.5	0.05

All dimensions in mm. Subject to technical changes.



Manual Processing Tool for Cable Ties – MK3SP

The MK3SP with its ergonomic design can be used anywhere. A tough and extremely low maintenance metal tool with an adjustable preset tension device for tensioning and automatically cutting HellermannTyton cable ties up to a width of 4.8mm.



MK3SP.

Manual Processing Tool for Cable Ties – MK7

The MK7 with its ergonomic design can be used anywhere. The casing is made of glass fibre reinforced polyester making it extraordinarily light. The MK7 is a state of the art tool for applying HellermannTyton cable ties up to a width of 4.8mm.

The MK7 has a three level preset tension device for quick adjustment. Further adjustment is possible within each level. MIL approved.



MK7.



MK7HT

Manual Processing Tool for Cable Ties – MK7HT

The MK7HT is distinguished from the MK7 mainly by its increased tensioning force. It is particularly suitable for applications that require cable ties to be very tightly applied.

Technical Table

Article-No.	Type	Strap Width max. (G)	Strap Thickness max.	Weight (Kg)
110-03500	MK3SP	4.8	1.5	0.33
110-03524	Replacement Blade	–	–	–
110-07500	MK7	4.8	1.5	0.29
110-07000	MK7HT	4.8	1.5	0.29
110-07511	Replacement Blade	–	–	–

All dimensions in mm. Subject to technical changes.



Please note! Not every product listed carries these approvals! For Product Specific Approvals please refer to the Appendix.

6.2 Application Tooling

Manual Application Tooling



Manual Processing Tool for Cable Ties – MK9HT

The MK9HT offers high tensioning forces and an ergonomic design. It is suitable for tensioning and cutting HellermannTyton cable ties up to a width of 13.5mm and is the ideal tool for cable ties of the EL-TY series (Chapter 1.2). There are two preset tension levels. Fine adjustment is possible within each level.



MK9HT.

Manual Processing Tool for Cable Ties – MK9

The MK9 for applying HellermannTyton cable ties up to a width of 13.5mm is characterised by its very light weight and ergonomic design. Like the MK7, the housing is made of resilient and light weight glass fibre reinforced polyester.

The MK9 has two preset tension levels and a device for fine adjustment. MIL approved.



MK9.



MK6.

Manual Processing Tool for Cable Ties – MK6

An optimum solution for quickly applying HellermannTyton cable ties up to a width of 9.0mm. This durable metal tool offers simple handling, low maintenance and has a user friendly design. The tensioning force is freely adjustable.

Technical Table				
Article-No.	Type	Strap Width max. (G)	Strap Thickness max.	Weight (Kg)
110-06000	MK6	9.0	2.0	0.52
110-06126	GUNPART.9D	–	–	–
110-09500	MK9.9A	13.5	2.0	0.39
110-09000	MK9HT.9A	13.5	2.0	0.39
110-09511	GUNPART.9AA	–	–	–

All dimensions in mm. Subject to technical changes.



Please note! Not every product listed carries these approvals! For Product Specific Approvals please refer to the Appendix.



Pneumatic Tensioning Tool for Cable Ties – MK3PNSP2

The MK3PNSP2 tensioning tool achieves unique levels of repeatability and accuracy while maintaining a high application speed. One further advantage is its low maintenance handling. Cable ties are cut off flush at the head, thus avoiding any excess tail and ensuring safety in the workplace. The MK3PNSP2 is suitable for applying cable ties with a strap width of up to 4.8mm and strap thickness of 1.5mm (all cable ties in the T18 to T50 series).

It saves application time and is particularly suitable for use in sensitive applications, or in repetitive work such as cable harnessing.

Ergonomically designed, the cutting process is pneumatically activated which helps to prevent repetitive strain injury.

The tensioning force has 125 adjustable settings from 45 to 210N.

Due to its high precision, the MK3PNSP2 is suited for use in applications where quality is critical.

Powered by compressed air at a pressure of up to 6 bars, the MK3PNSP2 is most beneficial in mass production environments, whether on the assembly line or in cable fabrication.



MK3PNSP2.

Material Data	
Air Supply	Non oiled / oiled
Air Pressure (min.)	3 bar
Air Pressure (max.)	6 bar
Hose Internal Diameter	4.0 mm
L x H x W	approx. 225 x 140 x 40mm

Technical Table				
Article-No.	Type	Strap Width max. (G)	Strap Thickness max.	Weight (Kg)
110-03400	MK3SPM.9A	4.8	1.5	0.56
110-30002	Air hose, complete	–	–	–
110-30101	GUNPART.9DC	–	–	–

All dimensions in mm. Subject to technical changes.

free2move®

You are missing a common pressured air supply throughout?

This tool will work with our newly developed "free2move" system.

No pipes or tubes are necessary to run the "free2move" system with this gun, your work is more easy and you are entirely independent to go where you need to be to finish the job.

Additional information will be available on request.



6.2 Application Tooling

Manual Application Tooling



Pneumatic Tensioning Tool for Cable Ties – MK7P

The MK7P pneumatic bundling tool sets a new benchmark for the rational application of ties in the industrial production process. Enhanced technology significantly improves the application of cable ties.

Improved compressed air supply moves the tensioning piston faster than in comparable tools. Processing time is shortened and the volume of connecting ties applied is increased. At a time when cost implications are crucial this tool offers genuine potential for rationalisation.

Great attention was paid to ergonomic design in the development of this tool. The moulded handle prevents any slippage and eliminates operator fatigue. The housing is made of glass fibre reinforced plastic, which is a lightweight but very tough material that fully meets the high requirements found in industry today.

Applying the cable ties is remarkably easy: press the button and the cable tie is tensioned and then automatically cut off flush with the head. The smooth edge of the cut prevents injuries.

The cut off end of the tie is ejected automatically. Production breaks normally required to the cut off ties are thus eliminated.

The three level preset control is used to set the tool tension. Fine adjustment is then made with the wheel below the tension control. An optionally available safety cap prevents the tension setting being changed by accident. This is particularly important when bundling sensitive materials and represents an important aspect in maintaining process reliability.

This tool features a non slip, comfortable grip, soft touch trigger, and a one touch tensioning/cut off capability. The MK7P is very lightweight making it very easy for the operator to use on all cable ties from 2.5mm to 4.8mm wide.



MK7P



The easy to use quick-set-knob.

Material Data	
Air Supply	Non oiled / oiled
Air Pressure (min.)	3 bar
Air Pressure (max.)	6 bar
Hose Internal Diameter	4.0 mm
L x H x W	220 x 170 x 40mm

Technical Table				
Article-No.	Type	Strap Width max. (G)	Strap Thickness max.	Weight (Kg)
110-07100	MK7P	4.8	1.5	0.43
110-30002	Compressed-air hose	–	–	–
110-07111	Replacement Blade	–	–	–
110-07200	Lock cap tensioning knob	–	–	–

All dimensions in mm. Subject to technical changes.





Pneumatic Tensioning Tool for Cable Ties – MK9P

The MK9 Pneumatic (MK9P) is constructed with heavy duty parts to ensure optimum performance in demanding environments. It is ideally designed to apply heavy-duty ties (T50-T250), clamp and button head ties. Like the MK7P, HellermannTyton's MK9P incorporates the next level of ergonomic improvement with its low weight, comfortable grip and easy trigger depression. Very durable, the pneumatic MK9P features adjustable, easy to read tension settings. Lock-out features are available. The MK9P is available with lower air attachment (standard) or can be ordered with an upper air attachment.



MK9P



free2move®

You are missing a common pressured air supply throughout? This tool will work with our newly developed "free2move" system. No pipes or tubes are necessary to run the "free2move" system with this gun, your work is more easy and you are entirely independent to go where you need to be to finish the job. Additional information will be available on request.



MK9P is also available with upper air attachment.

Material Data

Air Supply	Non oiled / oiled
Air Pressure (min.)	3 bar
Air Pressure (max.)	6 bar
Hose Internal Diameter	4.0 mm
L x H x W	approx. 280 x 200 x 55mm

Technical Table

Article-No.	Type	Type	Strap Width max. (G)	Strap Thickness max.	Weight (Kg)	Air att. Position
110-09100	MK9P	MK9PEU.9A	12.7	2.5	0.91	Lower air connection
110-09110	MK9P	MK9PUAEU.9A	12.7	2.5	0.91	Top air connection
110-30002	Compressed-air hose	Air hose, complete	-	-	-	-
110-09111	Replacement Blade	GUNPART.9WX	-	-	-	-
110-07200	Lock cap tensioning knob	-	-	-	-	-

All dimensions in mm. Subject to technical changes.



6.2 Application Tooling

Manual Application Tooling



Manual Processing Tool for Cable Ties – KR6/8

The KR 6/8 tool has been specially developed for reliably applying HellermannTyton cable ties of the KR series (Chapter 1.2). In separate operations the cable tie is tensioned, fixed and then cut off directly at the head. The tool can be quickly adapted to deal with different tie widths (6mm and 8mm) simply by exchanging the front plate.

The glass-fibre-reinforced locking pin of the KR seal is mechanically crimped and leads to plastic deformation of the tie ends. This produces a vibration-proof permanent connection.



KR6/8.

Technical Table				
Article-No.	Type	For Ties	Strap Width max. (G)	Weight (Kg)
121-00680	KR6PNA.9A	KR6, KR8	6.0/8.0	0.52
122-68019	GUNPART.9GY	KR6, KR8	–	–

All dimensions in mm. Subject to technical changes.

Pneumatic Tensioning Tool for Cable Ties – KR8PNSE

Specially developed for the processing of HellermannTyton KR series cable ties (Chapter 1.2) with a width of 8.0 mm. The KR8PNSE offers a simple and easy to use tool which is ideal for applications where the volumes are too great for manual tooling.

The KR8PNSE pulls the strap tight, closes the head and cuts off the excess tail – all with a single push of the button.



KR8PNSE.

Material Data	
Air Supply	Non oiled / oiled
Air Pressure (min.)	3 bar
Air Pressure (max.)	4 bar
Hose Internal Diameter	6.0 mm
L x H x W	approx. 320 x 210 x 50mm

Technical Table				
Article-No.	Type	For Ties	Strap Width max. (G)	Weight (Kg)
121-00889	KR8PNA.9C	KR8	8.0	1.56
122-80032	GUNPART.9QR	–	–	–

All dimensions in mm. Subject to technical changes.





Manual Processing Tool for Cable Ties – MK9SST

With its lightweight, ergonomic design, the MK9SST is an ideal tool for applying the MBT series stainless steel cable ties (Chapter 1.2). Although it is used for applying stainless steel cable ties, the MK9SST enables work to be carried out without operator fatigue.

For easier handling the tensioning is fully adjustable by means of a quick two level control with an additional fine setting. This feature means that damage to the bundled materials is easily avoided. The cable ties are automatically cut off flush with the head when the preset tensioning level has been reached.



MK9SST.

Manual Processing Tool for Cable Ties – MTT4

- Designed for use with all sizes of MLT stainless steel ties
- Simple ratchet operation
- Operator controlled tensioning and cutting facility
- Lightweight and easy to use



MTT4.

Manual Processing Tool for Cable Ties – MTT6

- Designed for use with all sizes of MAT stainless steel ties
- Operator controlled cutting facility
- Excess tail removed with suitable cutters
- Lightweight and easy to use



MTT6.

Technical Table

Article-No.	Type	Strap Width max. (G)	Strap Thickness max.	Weight (Kg)
110-95000	MK9SST.9A	13.0	0.25	0.48
110-95011	GUNPART.9CU	–	–	–
110-04000	MTT4	12.0	0.7	0.78
110-60000	MTT6	12.0	0.7	0.45

All dimensions in mm. Subject to technical changes.

6.2 Application Tooling

Manual Application Tooling



AMTS Automated Metal Tying System

Features and Benefits

The Automated Metal Tying System is a quick and simple way to apply strong, high performance metal banding. The System comprises a purpose designed applicator tool together with an electric torque driver and AMTS ties. The ties are in pre-cut lengths with a safe, shaped end at the tip of the tie tail which means no sharp edges. The fastening buckle is already securely fitted and so the band is ready to fit from the pack with no assembly required. Optional protective channel is available for additional protection of cables or pipes where necessary.

Application

The applicator tool used in conjunction with the strap is ideal where "saving time" is a key factor. The high load this tie can withstand, makes it suitable for any heavy-duty job in the Rail, Ministry of Defence, Ship and Offshore industries.

Made from Stainless Steel, the cable tie will cope with fire and arduous conditions.



Easy to use the AMTS noticeably speeds up bundling processes of heavy metal ties.



Shipyard.



The AMTS-Kit consists of the application tool and the driver.

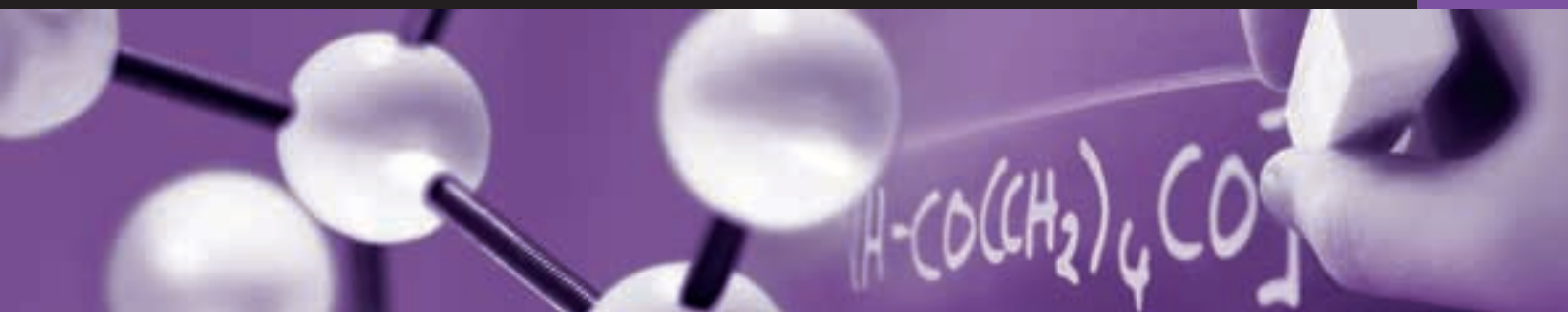
Material Data

Power Supply	Electric Driver
Cycle Time	30 sec.
Weight (Kg)	1.4
Application	Mobile

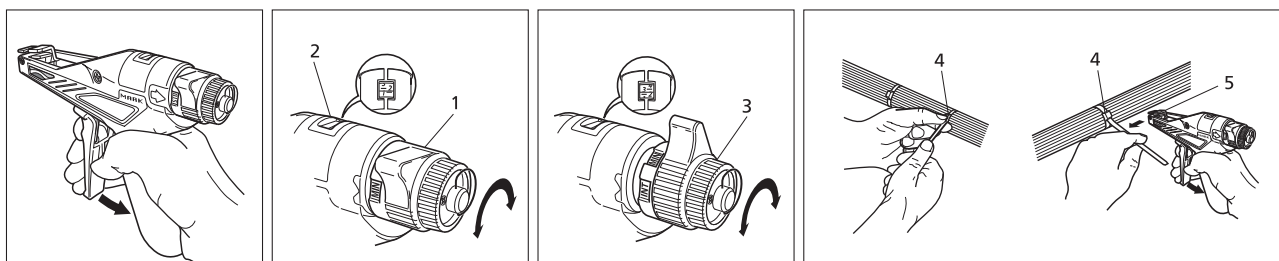
Technical Table

Article-No.	Type
104-00044	<p>AMTS2005 Kit consists of:</p> <ul style="list-style-type: none"> • Application Tool • Battery powered driver • Two batteries • Battery charger • Application CD <p>Optional: A holster complete with belt to allow for hands free when initially applying the Application Tool</p>

All dimensions in mm. Subject to technical changes.



How to use a cable tie tool (using an MK7 as an example)



1. Rough adjustment (1) depending on the type of cable tie, and set according to the details in the user instructions. Value is displayed in the viewing window (2).
2. Use fine adjustment (3), if necessary, to set the desired value.
3. Lay cable tie around the bundle and guide strap end through the cable tie head (4). Tighten tie firmly enough so that one stroke of the tool is enough to tension and cut off.
4. Push the tool with the open side of the tool head (5) over the free strap end and guide in the direction of the bundle until the tool head butts on the tie head (4).
5. Pull manual lever through one or more times to the stop. Once the pre-selected tension is reached, the free tie end is automatically cut off flush with the tie head.

Tool testing – Determination of tensions

To date, no generally applicable test method has been established for this market. The companies within the **HellermannTyton** group work to the HT50 test criteria from MAV Prüftechnik (Berlin) to determine the tensile forces of the tools and to guarantee the quality of the tools.

It is more difficult to test cable tie tools than would appear at first glance. It is of supreme importance to comply with a standardised test procedure and consistent test conditions. This means for example the size and not only the cross-section of the cable ties, but also the water content of the tie. A test using different ties and/or different conditioning can easily result in two different values.

In general, the speed of cut off, the position of the tool with respect to the cable tie, the condition of the wearing parts in the tool

and the state of the cable tie play a fundamental role in the determination of tensile forces.

Therefore we must point out that any values we provide can only ever be regarded as guide values for your information. The values cannot be transferred into practice like for like.

In our user instructions, we specify an adjustment range for each type of cable tie. If tension values must be documented or comply with a specification, we recommend that you adjust them with the aid of the MAV device. Also, as a guideline, half the minimum holding strength of the cable tie should be used as tensile force.

The minimum tensile strength (also referred to as minimum unlocking strength) is the

least force which the cable tie can withstand before it tears or stretches (see also determination of minimum tensile strength on page 29). This strength is determined using a threaded tie, hence the following formula should be used for guidance as to the correct tensile force of the tool:

$$\frac{\text{Min. tensile strength}}{2} = \text{rec. tensile force}$$

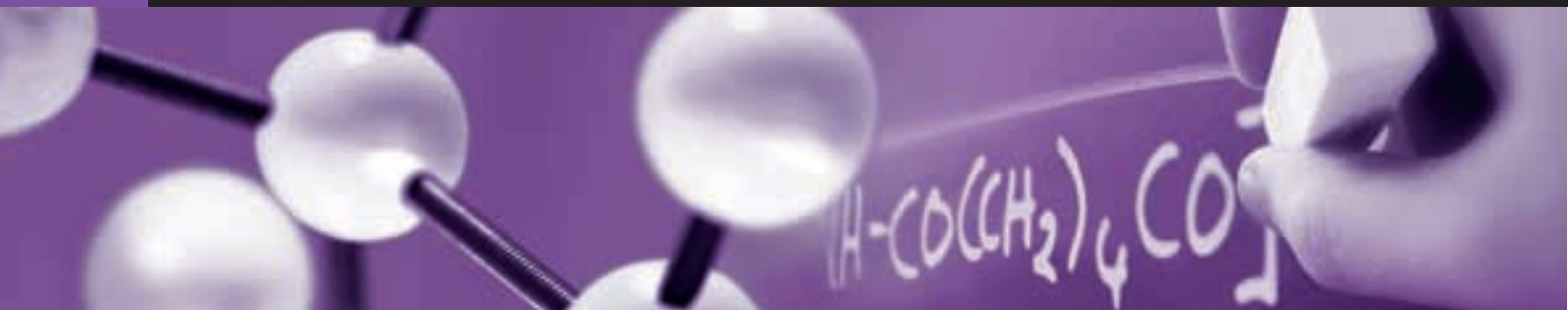
Example:

$$T50R = \frac{225 \text{ N min. tensile strength}}{2}$$

$$\frac{225 \text{ N}}{2} = 112.5 \text{ N rec. tensile force according to formula}$$

6.2 Application Tooling

Technical Information



The tensile force can of course be adjusted up or down, in line with the corresponding application.

Please bear in mind that this statement applies only to **HellermannTyton** products. Cable ties from other manufacturers may require a higher or lower force setting.

In order to secure the device after it has been adjusted using the MAV device against manipulation or unintentional maladjustment, **HellermannTyton** offers an adjustment safety cap (Art. No.: 110-07200 for MK7, MK7HT, MK7P, MK9, MK9HT, MK9P) which you can push onto the device after removing the adjustment unit (loosening a screw is all it takes to remove).

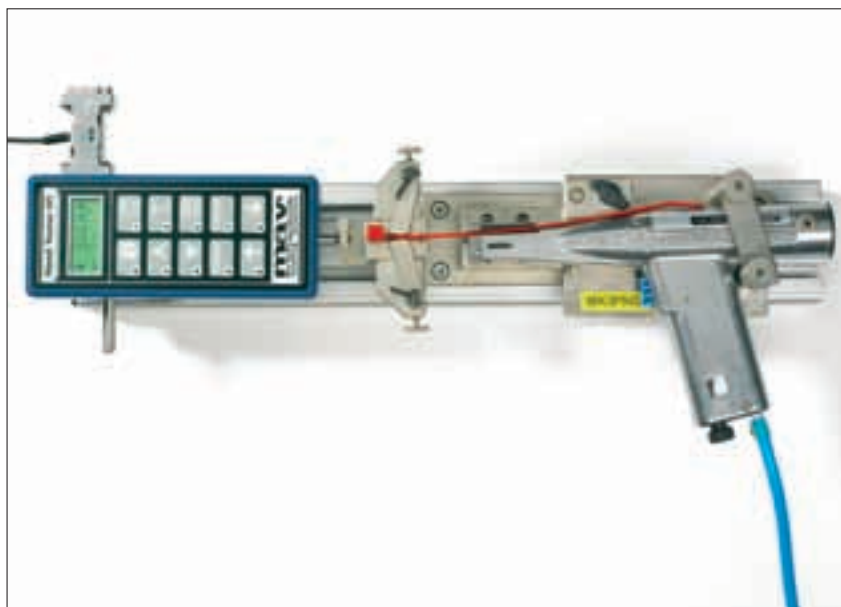
After a period of time, to be defined, you test the device again and if necessary re-adjust it. The problem of determination of forces depends on the individual case and has no direct connection with the quality of our product. An exact value for each setting (e.g. in Newtons), without stating a tolerance, cannot be confirmed.

Test set-up with MAV HT50 device and cable tie tool MK3PNSP2

Your contact and our partner for the testing of cable tie tools:

MAV Prüftechnik GmbH
 Dr. Turowsky
 Sanderstraße 28
 12047 Berlin
 Germany

Telephone: +49 30/6 93 10 53
 Fax: +49 30/6 93 10 69
 E-mail: MAV.GmbH@t-online.de
 Website: www.MAV-Germany.de



The MK3PNSP2 is fixed onto the rail using an adapter. The cable tie (red) is clamped into the jaw. The tool tightens the cable tie. The tension achieved at cut off is determined. The tool could only be adjusted with the aid of several tests such that a specified value is attained. This could for example be the value calculated previously using the guidance formula.



Weldy Hot Air Tool

The Weldy Pro and Plus are compact, light-weight heat guns. They are designed for use with all types of heatshrinkable tubing and shapes. The Weldy Pro has an adjustable temperature range from 100°C to 550°C, whilst the Weldy Plus gives a maximum 650°C. For ease-of-use the Plus also includes a handy LCD display to show air temperature and application.

The Triac-S is specifically designed for long running bench work. It features a high temperature element protected by thermal cut-off and a stay cool nozzle. The temperature range is from ambient to 600°C. Nozzle accessories are available upon request.



H5002 – The light, convenient hot-air tool (picture shows continental version).



H5004 – for professional use (picture shows continental version only).

Please note that the items pictured are not available in the UK!



Accessories suitable for both H5002 and H5004 (picture shows continental version only).

Technical Table

Article-No.	Type	Air Flow l/min	Temp. °C	Wattage	Operational Voltage	Weight (Kg)
391-00407	Triac-S	230 max.	20-700	1600 W	230-240 V	1.3
391-00409	Sieve reflector 50mm dia.	-	-	-	-	-
391-00410	Sieve reflector 35mm dia.	-	-	-	-	-
391-00411	Solder sleeve reflector 34mm dia.	-	-	-	-	-
391-00501	Weldy Plus	200-550	80-650	2000 W	230-240 V	0.62
391-00502	Weldy Pro	250-500	100-550	1800 W	230-240 V	0.57
391-00503	Overlap welding nozzle	-	-	-	-	-
391-00504	Reduction nozzle	-	-	-	-	-
391-00505	Reflector nozzle	-	-	-	-	-
391-00506	Wide slot nozzle	-	-	-	-	-
391-00507	Solder sleeve reflector nozzle	-	-	-	-	-
391-00508	Welding nozzle	-	-	-	-	-



6.3 Application Tooling Specialist Tooling



E4500 Gas powered Hot Air Gun Kit

The E4500 kit consists of a cordless gas heating gun with protective spring and a range of accessories including two different sized nozzles and a gas cartridge.

The hot air gun is a very convenient tool of 760 g which operates with a gas cartridge (Type P444, Butane/Propane). It has an automatic piezo electric ignition and a valve controlled temperature setting.

The hot air gun can be operated on its stand for hands free use.

The gas cartridge has a continuous burn time of approx. 1.5 hours. The E4500 can be used with no connection to electrical power supply and allows precise working in any position even in restricted spaces.

The E4500 hot-air gun is suitable for shrinking all types of heat shrink products including tubing, shapes and cable repair sleeves. It can also be used for the bending and shaping of PVC pipes, soft soldering of copper pipes, sealing, defrosting, heating and paint stripping.



E4500 the cordless hot air gun, ideal for service jobs.



Practical hot air gun kit E4500 with accessories.

Technical Table

Article-No.	Type	Description
391-90002	GAS-HEATGUN4500	Hot air gun with protective spring incl. gas cartridge (Butane/Propane), reflector nozzle Z2 and flat nozzle Z3
391-90100	GAS-CANISTER444	Gas Cartridge
391-90200	Z1	Wide Slot Nozzle
391-90300	Z2	Deflector Nozzle
391-90001	Z3	Reduction Nozzle

Subject to technical changes.



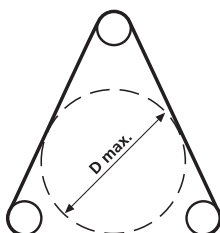
NA Three-Pronged Pliers and Replacement Prongs

Features and Benefits

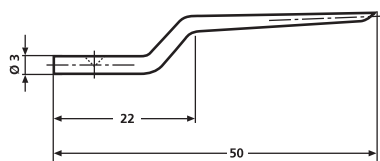
Three-pronged pliers are used to affix sleeves of every type quickly and easily. To facilitate operation, we recommend the foot pedal device as well as the lubricant Hellerine (Chapter 2.2).



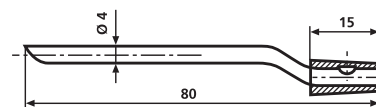
Fast, secure application with the NA three-pronged pliers.



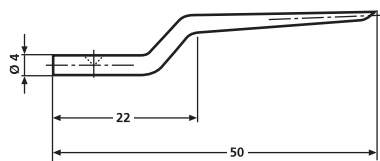
Three-prong pliers D = max. application diameter



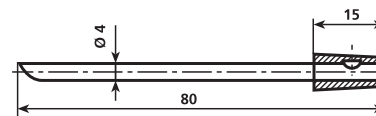
Replacement prong NA1K/3



Replacement prong NA4/5



Replacement prong NA0/1



Replacement prong NA8/10

Technical Table

Article-No.	Type	Bundle Ø min.	Bundle Ø max.	Ø D max.	Max. length of marker
621-10001	NA0/1	1.25	1.75	10.5	28.0
621-60001	621-60001.9A	1.25	1.75	–	28.0
621-10103	NA1K/3	2.50	5.00	11.0	28.0
621-60103	Replacement prongs for NA1K/3	2.50	5.00	–	28.0
621-10405	NA4/5	7.50	10.00	15.5	50.0
621-60405	Replacement prongs for NA4/5	7.50	10.00	–	50.0
621-10810	NA8/10	12.00	17.00	25.5	60.0
621-60810	Replacement prongs for NA8/10	12.00	17.00	–	60.0

All dimensions in mm. Subject to technical changes.

6.3 Application Tooling

Specialist Tooling

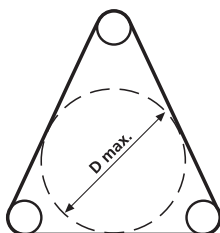


VA2.5/5 Three-Prong Expansion pliers

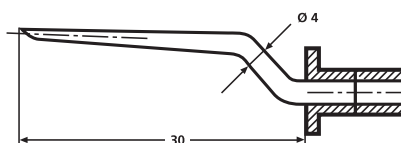
The VA2.5/5 reinforced three-pronged pliers are particularly suitable for expanding plastic moulded shapes, tubing cut lengths and thick rubber parts. The pliers and prongs are manufactured with high-quality material in order to withstand high loading. The VA2.5/5 pliers are delivered with the pins 2,5/5. The replacement pins of size 8 and 18 are also available for larger diameters. A set consists of 3 pins.



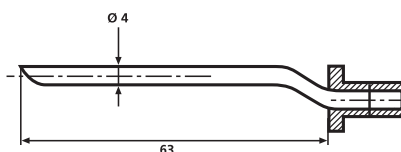
VA2.5/5.



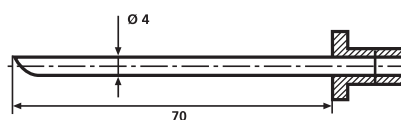
Three-prong pliers
max. application diameter



Replacement prong size 2.5/5



Replacement prong size 8



Replacement prong size 18

Technical Table

Article-No.	Type	Bundle Ø min.	Bundle Ø max.	Ø D max.
621-00200	Expansion tool VA2,5/5	2.5	5.0	26.0
621-01200	Replacement prongs size 2,5/5	2.5	5.0	26.0
621-02200	Replacement prongs size 8	8.0	10.0	28.0
621-03200	Replacement prongs size 18	18.0	20.0	30.0

All dimensions in mm. Subject to technical changes.



Three Pronged Expansion Applicator Tools

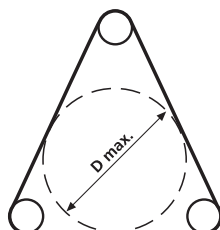
Features and Benefits

Three-pronged expansion tools are used to ensure speedy application of markers and sleeves. For easy operation, we recommend the use of Hellerine lubricant (Chapter 2.2).

The handy D kit contains a tool body and a range of prongs to enable the fitting of sleeves between 1.2 mm and 11.5 mm diameters. A small bottle of Hellerine lubricant is also included.



Fast, secure application with the three-pronged expansion tools.



Three-prong pliers D = max. application diameter

Technical Table

Article-No.	Type	Bundle Ø min.	Bundle Ø max.	Ø D max.	Max. length of marker
621-80007	K Tool	5.0	10.0	17.0	32.0
621-80008	SS Tool*	1.2	2.0	15.0	20.0
621-80009	S Tool	2.5	4.0	15.0	20.0
621-80005	D Kit	-	-	-	-

All dimensions in mm. Subject to technical changes.

* Delivery of foot pedal in combination with a three pronged plier.

6.3 Application Tooling Specialist Tooling



TY5 Wedge base socket tool

The insertion tools, developed especially for wedge base sockets, are used for the fast fixing of wedge base sockets (Chapter 1.4), also under restricted space conditions. The wedge base socket, consisting of two halves, is inserted into the TY5 insertion tool. After that, the base socket is placed onto the planned bore and it is hammered in.



Wedge base socket tool TY5.

Technical Table

Article-No.	Type	Application	Weight (Kg)	Colour
152-00510	TY5K1/I	TY5K1	0.26	Metal (ML)
152-00200	TY5K2/I	TY5K2	0.09	Metal (ML)
152-00300	TY5K3/I	TY5K3	0.14	Metal (ML)

All dimensions in mm. Subject to technical changes.

ASNP, MSNP snapper tools

The ASNP and MSNP snapper tools are used for safe and efficient fixing of the snapper (Chapter 1.6). While the smaller MSNP tool is employed in case of snapper installation on site (ideal for fitters), the ASNP tools offer particular advantages in series production. By means of an attachment screw, the draw-in area can be limited, by which an overstretching of the snapper is prevented.



MSNP1-70 and ASNP24-70 snapper tools.

Technical Table

Article-No.	Type	Application	Weight (Kg)	Material	Colour
191-02220	ASNP2-22	SNP-Series 2 up to 22	0.2	Metal, Plastic	Blue (BU)
191-24700	ASNP24-70	SNP-Series 24 up to 70	0.25	Metal, Plastic	Red (RD)
191-01700	MSNP1-70	SNP-Series 1 up to 22	0.18	Metal, Plastic	Yellow (YE)

All dimensions in mm. Subject to technical changes.

Pneumatic Tools for Snapper are available on request. Contact us!



Helafix HCT tool and Accessories

HCT1 and HCT2 tools are ideal for cleanly cutting Helafix HCR carrier strips as well as punching out the securing holes.

The punching device is designed for HCR09 and HCR12 types of character carriers. For Helafix HCR06, HCR18 and HCR24 character carrier types, individual holes can be punched with both tools.

Both tools punch holes with a diameter of 2.5mm. To fix the carrier holders simply use the T18 range of cable ties, fixings or rivets.



Any length can be used ...



... just cut to suit.

Technical Table

Article-No.	Type	For Carrier Width	For Size	Ø D
525-00010	HCT1	10.00	HCR09	2.5
525-00013	HCT2	13.00	HCR12	2.5

All dimensions in mm. Subject to technical changes.