

PRECISION SCREW TIGHTENING

Founded in 1989, KOLVER has soon taken the leadership in the European market for precision and reliable electric screwdrivers for industry. Thousands of state-of-the-art Electric Screwdrivers are produced every year in Kolver and are shipped to more than 30 Countries worldwide.

ISO 9001 certified since 1998, KOLVER has gained international recognition for building premier quality innovative products that meet or even anticipate the most rigorous customer requirements.



Kolver family of Electric Screwdrivers is one of the most comprehensive, covering wide range of torque at several speeds and are suitable for wide range of applications. Kolver Electric Screwdrivers feature either shut-off clutch or current control system, coreless or brushless motors: all controlled by a state-of-the-art Electronic Control Unit. Thanks to their low operating and maintenance costs as well as to their reduced vibration and noise levels, Kolver Electric Screwdrivers represent the perfect alternative to pneumatic screwdrivers for torque range as high as 50Nm

Kolver Electric Screwdrivers are:

ERGONOMIC

Advanced grip design, light in weight, vibrations within the norms for maximum operator comfort

CLEAN

No air exhaust + No lubrication = a cleaner environment

SAFE

Because of the transformer, only 30 V to the tool

FLEXIBLE

From the Controller, you can adjust the running speed and the slow start duration. Multi torque models also available for additional functions

ACCURATE

With the electronic shut off mechanism, the accuracy is better than 5% of the pre-set value

FOR EVERY APPLICATION

Torque range up to 50 Nm, straight, pistol, 90°, ESD, with vacuum, lever start or push to start...

NOISELESS

Noise within 55 dB(A)

COST EFFECTIVE

Virtually no maintenance + no need of compressed air line + no need of spiral hoses, couplers, filters and regulators-lubricators = operating cost up to 200 times cheaper than pneumatic screwdrivers



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BRUSHLESS Screwdrivers (KBL-Series)



KBL series Electric Screwdrivers feature state-of-the-art brushless motors and clutch torque control, the perfect solution for clean room applications thanks to zero emissions of coal dust and other pollutants into the working environment.

Small and lightweight for utmost operator comfort and with advanced ergonomic design, they ensure very low noise level, minimum vibrations and maximum safety (low supply voltage operation).

Magnetic clutch switches last 10 times more than traditional switches, virtually maintenance-free operations guarantee high production rate at lower running cost. KBL Screwdrivers are equipped with sophisticated electronic torque control system that will cut the power supply to the motor as soon as the pre set torque has been reached. KBL Screwdrivers are available in in-line body or for automation, with ESD Safety as standard.

The new clutch for the adjustment of tightening torque guarantees an excellent accuracy on the whole torque range. Rotational speed can be adjusted over a wide range: this function allows the operator to work on different materials always at the proper speed. They work with EDU1BL and EDU1FR Control Units (5 pin connector). KBL../S are equipped with innovative electronics which processes and sends torque, error, lever signals and receives remote start, reverse input. These are mainly designed for automated applications. They work with EDU1BL/SG Control Units (8 pin connector).

The new heavy duty Cables and Connectors, developed for robotic applications, are made of antistatic dissipative material for safe use in an EPA (Electrostatic Protected Area) environment.

Range of KBL-Series BRUSHLESS Electric Screwdrivers

Model	Code	Torque (Nm)	Torque (KgfcM)	RPM (Min~Max)	Weight (Kg)	Dimensions (mm)	Controller type
KBL15FR	190015	0.4~1.5	4.08~15.30	650~1000	0.50	255x32	EDU1BL
KBL30FR	190030	0.7~3.0	7.14~30.59	650~1000	0.65	267x38	EDU1BL
KBL40FR	190040	0.9~4.0	9.18~40.79	450~750	0.65	267x38	EDU1BL
KBL15FR/S	190015/S	0.4~1.5	4.08~15.30	650~1000	0.50	255x32	EDU1BL/SG
KBL30FR/S	190030/S	0.7~3.0	7.14~30.59	650~1000	0.65	267x38	EDU1BL/SG
KBL40FR/S	190040/S	0.9~4.0	9.18~40.79	450~750	0.65	267x38	EDU1BL/SG

Note: KBL../S are with signals. Automation type also available. All above models are also available in Pistol style.

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Maintenance-free, safe low voltage operation, Torque range of 4 to 40kgfcm

Control Units for BRUSHLESS Screwdrivers



EDU1BL
Control Unit



EDU1BL/SG
Control Unit with Signals

All Kolver Brushless Electric Screwdrivers work in combination with a Control Unit (AC/DC converter for low voltage operation for operator's safety). The electronic control circuit cuts the power supply to the motor as soon as the pre-set torque has been reached.

The EDU1BL, and EDU1BL/SG Control Units for KBL Brushless Electric Screwdrivers, feature maintenance-free state-of-the-art electronics with no wear and tear of components.

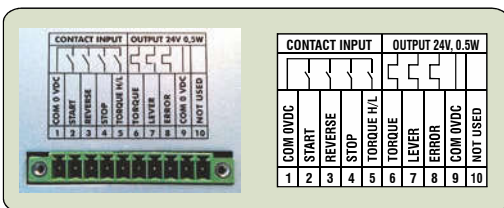
They come standard with the torque knob to adjust the torque (from 60% to 100%) of current control tools and a green LED which indicates when the control unit is ON. EDU1BL/SG Control Unit works with KBL..FR/S or KBL..FR/CA and it additionally features signals for reached/not reached torque, pressed lever and remote start/reverse.

A Double Output Connector (Dock02) is also available to lower the cost so that 2 Brushless Electric Screwdrivers can work with one Control Unit.

Control Units for BRUSHLESS Electric Screwdrivers

Model	Code	Features	Dimensions (mm)	Weight (Kg)	Compatible with Screwdriver
EDU1BL	003000	Adjustable torque	138x118x37	0.60	KBL15FR, 30FR & 40FR
EDU1BL/SG	003000/SG	I/P: start and reverse contacts O/P: reached torque and pressed lever	138x118x37	0.60	KBL15FRS, 30FR/S & 40FR/S

Additional attachments for above Control Units



10 Pin Connector for EDU1BL/SG only

This 10 Pin Connector is fixed on the back panel for input and output signals.

INPUT

PIN 1 (COM 0VDC): Common pin for I/P signals

PIN 2 (START): Clockwise remote start

PIN 3 (REVERSE): Counterclockwise reverse remote start.

PIN 4 (STOP): Stop motor

OUTPUT

PIN 6 (TORQUE): Torque reached signal.

PIN 7 (LEVER): Lever signal. Signal is 24VDC.

PIN 8 (ERROR): Error signal

PIN 9 (COM 0VDC): Common pin for O/P signals



ACE Screw Counter

ACE Screw Counter monitors real time fastening process. It tracks the fastening of each screw in assembly line and then notifies the result. It keeps a summary of good and complete assemblies as well as of bad and incomplete ones. The unit gives audible and visual indications.

- ACE includes Screw Counter + Cable
- 8 independent programs
- Up to 99 screw for each program
- Sequence of 4 programs
- Min and max fastening time
- OK & Error lights



Double Output Connector

Double Output Connector allows to use two Screwdrivers with one Controller. One end of this device is connected to controller (cable included) and the other end has two outputs for 2 Screwdrivers.

This Connector is used with all KBL and FR Series drivers using the EDU1BL or EDU1FR Control Units. Ideal for when two screwdrivers are set to different torque settings. This is capable of powering both drivers at the same time.

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Pluto Series Screwdrivers Current Control & Clutch Style



Kolver's ingenuity and experience have led to the development of PLUTO (**PLU**s **TO**rque) Electric Screwdrivers, the most advanced types in world market, able to reach 50Nm. They feature an innovative coreless electric motor with low inertia and friction with absence of iron losses for extreme efficiency and extended life. Uses Planetary gearboxes with high quality composite materials. Pistol grip to fit operator's hand ergonomically. PLUTO Screwdrivers are available in pistol or in-line styles; lever, trigger, or push-to-start. All models are ESD safe. Select models (Pluto 3, 5, 7 FR) also available in clutch style torque adjustment.

Pluto CA/SR series Electric Screwdrivers are designed for higher torque range up to 50Nm. The CA/SR series features a sleek design with a robust aluminium body allowing for operator comfort and durability. Torque & Angle controlled models are available with TA options.



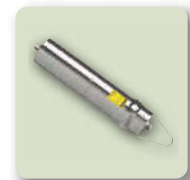
PUSH-TO-START DRIVER



OPTIONAL RIGHT ANGLE HEADS



TUBE NUT & CROWS FOOT



PLUTO20CA/SR

Model	Code	Torque Nm	RPM (Max)	Weight Kg	Dimensions (mm)	Torque Adjustment	Style
PLUTO3D	130203	0.3-3.0	1200	0.55	216x40	Current	inline
PLUTO3P	130204	0.3-3.0	1200	0.55	150x150x45	Current	Pistol
PLUTO3P/U	130205	0.3-3.0	1200	0.55	150x150x45	Current	Pistol/Cord Up
PLUTO3D/PS	130203/PS	0.3-3.0	1200	0.55	289x51	Current	inline/Push-start
PLUTO3FR	131203	0.5-3.2	1300	0.55	273x40	Clutch	inline
PLUTO5FR	131205	0.7-5.0	1000	0.55	273x40	Clutch	inline
PLUTO6D	130206	0.5-6.0	920	0.55	216x40	Current	inline
PLUTO6P	130207	0.5-6.0	920	0.55	150x150x45	Current	Pistol
PLUTO6P/U	130207/U	0.5-6.0	920	0.55	150x150x45	Current	Pistol/Cord Up
PLUTO6D/PS	130206/PS	0.5-6.0	920	0.55	289x51	Current	inline/Push-start
PLUTO7FR	131207	1.0-7.0	600	0.55	273x40	Clutch	inline
PLUTO10D/N	130211/N	1.5-10.0	600	0.55	216x40	Current	inline
PLUTO10P/N	130210/N	1.5-10.0	600	0.55	150x150x45	Current	Pistol
PLUTO10P/U/N	130210/U/N	1.5-10.0	600	0.55	150x150x45	Current	Pistol/Cord Up
PLUTO10D/PS	130211/PS	1.5-10.0	600	0.55	289x51	Current	inline/Push-start
PLUTO15D/N	130216/N	2.0-15.0	320	0.60	216x40	Current	inline
PLUTO15P/N	130215/N	2.0-15.0	320	0.60	150x150x45	Current	Pistol
PLUTO15P/U/N	130215/U/N	2.0-15.0	320	0.60	150x150x45	Current	Pistol/Cord Up
PLUTO15D/PS	130216/PS	2.0-15.0	320	0.60	289x51	Current	inline/Push-start
PLUTO20CA/SR	133221/SR	2.0-20.0	210	1.10	232,10x47	Current	Aluminium body*
PLUTO35CA/SR	133236/SR	2.0-35.0	140	1.50	246,60x57	Current	Aluminium body*
PLUTO50CA/SR	133250/SR	5.0-50.0	90	1.50	246,60x57	Current	Aluminium body*

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Pluto Series Screwdrivers with Torque & Angle Control

Industrial tightening may require different control strategies and solutions. The most common cases are: torque control with angle monitoring and angle control with torque monitoring. Kolver Multi-Torque Torque & Angle Controllers can manage all such strategies, with up to 8 individual P-sets.

The Torque/Angle Control

The main parameters to be controlled are the tightening torque applied to the screw and the rotation angle of the screw, with priority to the torque value. If the torque and angle values found by the system are within the programmed settings, the motor stops automatically and the indication of OK cycle (green led turned on) is given, otherwise an error (red led) is generated.

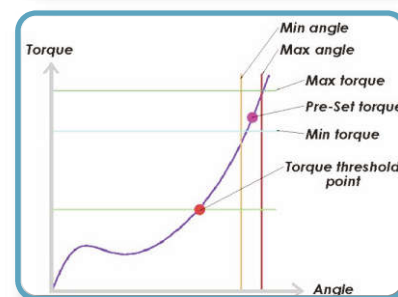
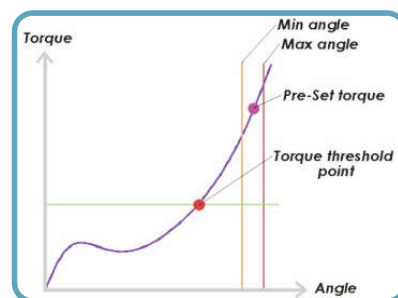


Features of the EDU2AE/TOP/TA:

The main parameters to be controlled is the rotation angle of the screw. The motor stops automatically when the pre-set angle value has been reached and an indication of OK cycle (green led turned on) is given.

Main Features:

- New Expanded software package for remote programming via PC.
- USB port on the front of the Controller for uploading and downloading programs.
- Easy to program user interface screens
- Password protected
- Torque value in Nm, lbf.in and kgf.cm
- Angle value in degrees.
- 8 independent programs including the options:
 - Min/Max torque value
 - Min/Max angle value
 - Rundown speed
 - Slow start/Soft stop
 - Hard/soft joint
 - Min/Max rundown time
 - Prevailing torque (threadcutting)
 - Auto reverse if required
- 6 Torque & Angle strategies:
 - Torque priority: angle count from torque threshold (T) or from remote input (T/I) or from lever input (T/L).
 - Angle priority: driver stops when angle is reached from threshold torque (A) or from remote input (A/I) or from lever (A/L).



Model	Code	Torque Nm	RPM (Max)	Dimensions LxØ(mm)	Output	Control Unit
PLUTO3D/TA	130203/TA	0.3-3.0	1200	216x40	Hex. 1/4"	EDU2AE/TOP/TA
PLUTO6D/TA	130206/TA	0.5-8.0	920	216x40	Hex. 1/4"	EDU2AE/TOP/TA
PLUTO10D/TA	130211/TA	1.5-10.0	600	216x40	Hex. 1/4"	EDU2AE/TOP/TA
PLUTO15D/TA	130216/TA	2.0-15.0	320	216x40	Hex. 1/4"	EDU2AE/TOP/TA
PLUTO20CA/SR/TA	133221/SR/TA	2.0-20.0	210	232.10x47	Sq. 3/8"	EDU2AE/TOP/TA
PLUTO35CA/SR/TA	133236/SR/TA	2.0-35.0	140	246.60x57	Sq. 3/8"	EDU2AE/TOP/TA
PLUTO50CA/SR/TA	133250/SR/TA	5.0-50.0	90	206.60x57	Sq. 1/2"	EDU2AE/TOP/TA

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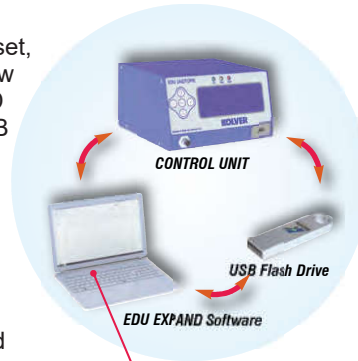
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New PLUTO Control Units - with Expanded Software

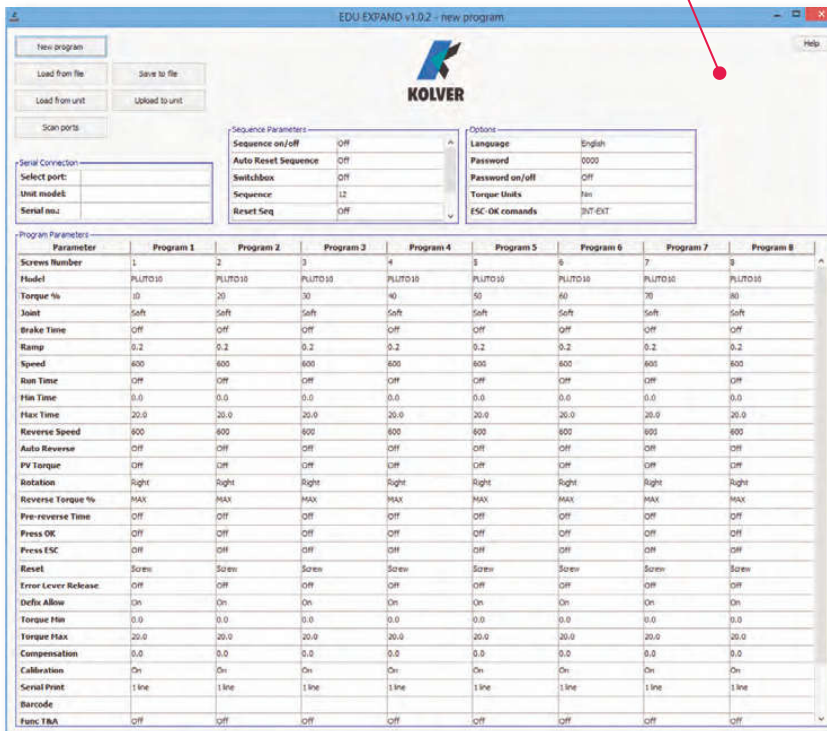
The EDU2AE/TOP/E & the improved version of EDU2AE/TOP/TA Controllers are now available with programming software. Each control unit is supplied standard with EDU EXPAND software and an 8GB USB flash drive. An external WiFi device is available on request.

Main Features:

- PC programming (back panel): it is possible to set, change and save all parameters through the new "EDU EXPAND" software for PC. EDU EXPAND communicates with the Control Unit via miniUSB or RS232.
- Saving/programming on USB flash drive (front panel): you can now save the results of each screwing operation directly on USB pen drive!



It is also possible to upload via USB drive all parameters/programs previously set on "EDU EXPAND". Just connect your USB to the port and recall the desired programs on the menu. The programs set on Control Unit can be downloaded on USB and recalled on another unit and on EDU EXPAND too.



EDU2AE/TOP/E



EDU2AE/TOP/TA

Model	Code	Features	Dimensions mm	Weight kg	Screwdriver
EDU2AE/TOP/E	031000/TOP/E	EDU2AE/TOP Controller with Expanded Software for remote programming via USB port & PC	190x205x120	4.0	PLUTO Series
EDU2AE/TOP/TA	031000/TOP/TA	031000/TOP/TA 8 P-set Controller, Parts Counting, Torque Display, 15 I/O, USB port	190x205x120	4.0	PLUTO/TA Series

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Various EDU2AE Control Units Comparison Chart

	EDU2AE	EDU2AE/FR	EDU2AE/HPro	EDU2AE/TOP	EDU2AE/TOP/E	EDU2AE/TOP/TA
Switching power supply	x	x	x	x	x	x
Settable Torque percentage	x		x	x	x	x
Ramp and Speed settings	x	x	x	x	x	x
Speed 1 and Speed 2 settings	x		x	x	x	x
Min/max or infinite time settings	x	x	x	x	x	x
Auto reverse	x	x	x	x	x	x
Pre Reverse			x	x	x	x
Settable loosening speed	x		x	x	x	x
Settable loosening torque	x		x	x	x	x
Run time	x	x	x	x	x	x
Prevailing torque			x	x	x	x
Clockwise/anticlock wise tightening			x	x	x	x
Password		x	x	x	x	x
Calibration			x	x	x	x
Nm - lb/in - Kgf.cm selection			x	x	x	x
Min/max torque			x	x	x	x
Screw count and end cycle signal		x	x	x	x	x
Screw reset				x	x	x
Program reset		x	x	x	x	x
Sequence reset				x	x	x
Multitorque				x	x	x
Lever error				x	x	x
Enable/Disable loosening				x	x	x
Barcode				x	x	x
Serial print		x	x	x	x	x
Error,motor on and correct screw signals	x	x	x	x	x	x
Optional screwdriver connector on back panel		x	x			
Multilanguage	x	x	x	x	x	x
Use with DOCK04 double output connector				x	x	x
Use with PRNTR1 serial printer		x	x	x	x	x
Printing options for each program				x	x	x
Use with TLS1	x	x	x	x	x	x
>> w/automatic program switch				x	x	x
PC programming (EDU EXPAND software)					x	x
USB flash drive & port					x	x

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Linear Reaction Arm

Linear arm maneuvers smoothly as it absorbs the torque reactions from the Screwdrivers providing ergonomic support for the operator. The fluid movement increases precision and production for a variety of torque applications. It prevents cross threading and side load. It keeps tool perpendicular, reduces RMI (Repetitive Motion Injury) and CTS (Carpal Tunnel Syndrome) while boosting production. Adjustable arm length extends horizontally.

Model	Code	Max Torque Nm	Max Reach mm	Min Reach mm
LINAR1	010681	25	665	184



Telescopic Reaction Arms

CAR series Torque Reaction Arms are designed to eliminate the reaction that Screwdrivers generate when they stop at the preset torque (up to 50 Nm). Their carbon structure makes them extremely lightweight and incredibly resistant at the same time. For such reasons, they resist degradation in high fatigue applications much better than conventional materials.

Model	Code	Min Reach mm	Max Reach mm	Weight kg	Max Torque Nm
CAR101	010661	549	906	0.25	10
CAR281	010663	490	950	0.60	25
CAR282	010664	730	1650	0.75	25
CAR501	010665	490	950	0.65	50
CAR502	010666	730	1650	0.80	50



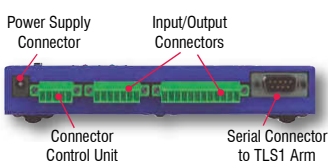
TLS1 Positioning Arm

The TLS1 Arm is an “intelligent” system that ensures that every screw is in correct location at the right torque. Assembly sequences and X-Y co-ordinates are easily programmed with user interface screens through the keypad from the intuitive menu. Torque programs are automatically selected and enabled from the Screwdriver Controller based on TLS1 Arm locations and current sequence step. No PC is required. Only requirement is a fixture that can hold the work at the same place every time.

TLS1 Arm consists of Torque Reaction Arm with an Encoder & a Linear Metering Resistor. The Encoder records angle and the Linear Resistor records the distance. TLS1 Control Box converts the angle counts of the encoder and the distance detected by the resistor to the precise X-Y position of the Screwdriver.



- 8 available programs.
- Up to 35 screws per program
- Screw position (length/angle)
- Programmable tolerance
- Statistics
- Manual reset
- Password protected
- Units in (mm, inch)
- Language option
- Accuracy: Length ± 1 mm; Angle $\pm 1^\circ$
- External Keyboard and Serial Port for easy programming & reporting



Model	Code	Min Reach mm	Max Reach mm	Max Torque Nm
TLS1/CAR281	010663/TLS1	550	1000	25
TLS1/CAR282	010664/TLS1	800	1720	25
TLS1/CAR501	010665/TLS1	550	1000	50
TLS1/CAR502	010666/TLS1	800	1720	50

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TORQUE TESTER - Mini Ke series

Controlling torque is vital for companies to ensure their product's quality. Fasteners that are insufficiently torqued, can vibrate loose and excessive torque can strip threaded fasteners. Using a quality Torque Analyzer, has become increasingly important for many companies to ensure that proper torque is being applied.

The Mini Ke System consists of a Torque Read-out and an External Rotary Transducer. The Rotary Torque Transducer is the ideal torque-auditing tool for testing the actual torque being applied on the assembly application. By connecting a Rotary Torque Transducer between an Electric or Pneumatic Tool and an assembly application, you can monitor the real torque being applied from the tool to fastener or bolt.

Accuracy: 0.5% of reading from 10% to 100%.
Accuracy: 1% of reading from 1% to 10%.

Correction factor (FATC): it is possible to connect different transducers to the same Torque Read-out.



Model	Code	Torque (Nm)	Tester Dimensions (Nm)	Rotary Transducer Dimensions (Nm)	Weight (kg)*
mini Ke 5	021405/5	0.5-5	150x70x45	25x92	0.50
mini Ke 25	021405/25	2-25	150x70x45	25x92	0.50
mini Ke 50	021405/50	Up to 50	150x70x45	89.5x52x63.5	0.50
mini Ke	021405	#	150x70x45		0.50

#Transducers up to 500 Nm available upon request

*without transducer

Kolver Italy High Precision Screw Feeders NFK-Series

Kolver new Feeders Series NFK-Nxx (xx stands for the screw size) are supplied with inter-changeable spacers between the rails (spacer size: 1.3mm to 5.3mm). You can also combine spacers to reach the desired rail width. Dimensional drawings and complete up-to-date info available on Kolver website. The new NFK UNI can be used with any (non-countersunk) screw with diameter 1.4 ~ 5.0mm.

Model	Code	Max Shank Ø(mm)	Min Screw Length (mm)	Max Screw Length (mm)
NFK N14	014514	1.4	1.4	20
NFK N17	014517	1.7	1.7	20
NFK N20	014520	2.0	2.0	20
NFK N23	014523	2.3	2.3	20
NFK N26	014526	2.6	2.6	20
NFK N30	014530	3.0	3.0	20
NFK N40	014540	4.0	4.0	20
NFK N50	014550	5.0	5.0	20
NFK UNI	014705	1.4-5.0	-	20



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