

**AMT**

ALFING MONTAGETECHNIK

# HANDHELD NUTRUNNER TECHNOLOGY

Product catalog 2017





# THE ALFING SONDERMASCHINEN-GROUP



Aerial image AMT & AKS – ALFING-Sondermaschinen-Group 2017

## THE ALFING SONDERMASCHINEN-GROUP

The ALFING Sondermaschinen Group is made of two producing companies: Alfing Kessler Special Machines (AKS) and Alfing Montagetechnik GmbH (AMT) as well as the sales and service branches of Alfing Corporation (USA) and Alfing Machine Tools, China. AKS and AMT are jointly managed and are closely interrelated in the fields of development, design and production. Common cross-departmental functions, e.g. Finance, Human Resources, Purchasing and IT were merged and now support both companies. With more than 500 employees, the Group generates an annual turnover of approx. 100 million Euro.

### AMT - leading specialist for fastening technology, assembly and leak-testing systems and automation

Our globally top ranking position is based on the continuous development of more precise, intelligent and energy efficient assembly systems for safety and quality critical fastening.

Also, our technical expertise in conception and construction of manual, semi-automated and fully automatic assembly systems makes us a sought-after partner worldwide for the automotive industry and its suppliers.

In addition, we develop individual leak testing systems, tailored to your requirements, your production environment and your business environment. To this end, we combine proven solutions and integrate them into an efficient overall process.

Our automation unit develops complex solutions for the automated loading and unloading of machines as well as their interlinking.

### AKS – World leader in Connecting rod processing

AKS stands for special machines and machining centers worldwide for connecting rod processing as well as assembly and Fracture splitting machines. They are mostly used in the workshops of the major automobile manufacturers and suppliers.

Focused competence, constant innovation and numerous patents from more than 75 years of mechanical engineering make AKS the world's leading supplier for everything related to connecting rod processing.

The constant striving for uncompromisingly precise, fast and reliable high-tech solutions leads to our new generation of AX, AT and AF rod machining machines.

## History – The ALFING-Sondermaschinen-Group through the years

**1938**

Incorporation of Alfing Kessler Sondermaschinen GmbH (AKS). Worldwide, the company is regarded as a leader in technology for rotary transfer machines, turning centers, fracture splitting Systems and machines for connecting rod processing.

**1981**

Incorporation of Alfing Montagetechnik GmbH (AMT). The new division focuses on technologically sophisticated special solutions such as fastening technology, assembly machines and automation. A German Specialist for the world market.

**1992**

Alfing establishes a sales and service office in the USA. The American industry values leading German technology as well as comprehensive on site consulting and support.

**2009**

Alfing establishes a Service-subsiidiary in China. Our Asian customers will also benefit from prompt assistance that is comparable to the European and American service levels.

**2016**

The ALFING-Sondermaschinen-Group generated a turnover of approx. 100 million Euro with 500 employees.

**Opinion**

Precise workmanship and continuous innovations have made Alfing a technology leader. Worldwide We will be by your side As a reliable solutions coordinator.



# AMT FASTENING TECHNOLOGY

## Powerful, intelligent, efficient

Nutrunners from AMT are the ideal choice if critical safety fastening must be made with high precision and of uniform quality. As a partner to the automotive industry, AMT offers innovative and strong nutrunner systems that can easily meet the high requirements of the customers.

## Safety in the assembly process

The quality of fastening does not depend solely on the use of high-quality tools, but also on the employees who use them. When designing solutions for our customers, we consider not only the individual fastening, but also the people and the design of their workspace. The avoidance of errors through a suitable workspace design and the detection of errors through innovative monitoring strategies are in the foreground.

## Everything from a single source

Alfing Montagetechnik provides the right nutrunner technology and complete peripherals for your workstations; from simple telescopes to complex semi-automatic handling devices. AMT is able to supply hand-held multi-nutrunners, fixture nutrunners or complete assembly units because of special machine construction. AMT assumes the design, construction, assembly and commissioning. As an installation engineering company driven by passion, we have kept in mind the human factor: We assist you in the design and set-up of up-to-date ergonomic and employee friendly Workstations and systems.

It is clear why many customers decide for assembly technology from AMT. One contact for all tasks dealing with the assembly technology reduces the planning and coordination efforts and therefore the costs.

## Communication with mobile end devices

The new control generation allows for the greatest possible freedom and can be operated at any given time from any given location. The access to the control is carried out through a network connection and a browser-enabled end device.

Programming, error diagnosis, and maintenance- each action is now possible in the new generation nutrunner independent of the location and time. In the case of fault messages, the operator is able to access the control directly via the mobile terminal. This convenient operation saves channels and money.

Another innovation is the QR code attached to the controller. If it is scanned by a mobile terminal, the connection is established to the control.

## Easy operation

It will no longer be necessary to install special software on a PC or a mobile device for settings or to program fastening control. The new integrated web server frees the nutrunner world from compatibility and updating problems of the past. The control hardware already contains the required programming software. The only thing that our customers need in the future is a web browser - the user interface of the control will be displayed on any end device. Be it PC or smart phone - the image is adjusted to the display of the end device being used.

## Energy efficient

The heart of your new nutrunner control is a powerful Low-Power-Processor. The new low loss power amplifiers as well as the new individual switch-off control components for standby operation reduce your energy requirements significantly. The new generation AMT nutrunner technology reduces your energy costs by up to 75 % compared to its predecessor.



# AMT HANDHELD NUTRUNNER TECHNOLOGY

AMT Handheld nutrunners are impressive with their high performance and lightweight construction. Due to their ergonomic and robust design, our nutrunners are ideal to use in highly productive assembly lines.

## High accuracy

AMT Handheld nutrunners have a torque sensor and a rotation angle sensor. Fastening can therefore be done with the highest precision with consistent quality. All AMT controls additionally monitor the power intake of the tool equivalent to the torque as a redundant control variable. Thus, all requirements that are placed in the assembly of safety-relevant or quality-critical fastening joints are fulfilled.

## Ergonomics

The new AMT Handheld nutrunners combines appealing design and trend-setting ergonomics. The status display with display of the selected direction of rotation enables a good view of the LEDs from all directions. Smoother, more comfortable hand grips as well as motor protection sleeves with better grip ensure new ergonomic standards in the Handheld nutrunner - sector.

Because of these optimal ergonomic designs and the lower weight of the tool, the operator's strain reduces. The control allows the tightening of a fastener in several controlled stages without intermediate stops. Acceleration and braking ramps as well as a soft stop reduce the physical strain.

## Digital communication

The AMT Handheld nutrunners communicate digitally with the control. As the number of wires are reduced, the nutrunner cable is thin, flexible, light and has an improved kink protection. The new tool plug has a high degree of protection against unintentional disconnection of the connector.

## Robust design

The AMT Handheld nutrunner combines sophisticated technology with robust design. Motors and gearboxes ensure maximum load capacity and durability in rough industrial applications. Longer maintenance periods and life cycles reduce your overall cost of purchase and deployment, thus supporting your amortization.

## Maintenance management

The integrated maintenance management signals the technically and economically optimal time for the next nutrunner maintenance. Must be carried out only if it is required.



## ANGLE NUTRUNNER HSX

Page 10



## INLINE NUTRUNNER HSX

Page 12



## PISTOL-GRIP NUTRUNNER PSX

Page 14



## CONTROLS

Page 18



## CABLES

Page 28



## ACCESSORIES

Page 32





# HANDHELD NUTRUNNERS

Our Handheld nutrunners meet the most stringent requirements for industrial durability. The HSX / PSX series of nutrunners can meet all requirements that are safety-critical and quality-critical for threaded fasteners.



# ANGLE NUTRUNNER HSX

### Technical key figures

Torque: 4 - 250 Nm  
Speed: Up to 1876 1/m



### Identification key (example: Angle nutrunner HSX1025WV38)

Series SX - SX-Series		Torque Torque max. in Nm		Output V - Square output F - Spring deflection H - Hexagon socket		Options B - with fastener lighting GF - with GyroFlex S - with scanner Tracking system	
H	SX	1	025	W	V	38	
Basic construction H - Handheld nutrunner P - Pistol-grip nutrunner		Size 1 - Size 1 2 - Size 2		Output design W - Angle design Z - Centric output		Output size In conjunction with V: 14 - 1/4"-square 38 - 3/8"-square 12 - 1/2"-square 34 - 3/4"-square  In conjunction with F: Spring deflection in mm in conjunction with H: 14 - 1/4"-hexagon socket	

Size	Name	Ident-Nr.	Torque [Nm]	Speed [1/min]	Weight [kg]	Length [mm]	Output	Angle head Ø [mm]
1	HSX1015WV14	70058335	4 - 15	1876	1.57	445	□ 1/4"	23
	HSX1025WV38	70058336	7 - 25	1367	1.61	447	□ 3/8"	28
	HSX1032WV38	70058337	8 - 32	1367	1.67	449	□ 3/8"	31
	HSX1039WV38	70058338	10 -39	977	1.69	452	□ 3/8"	33
	HSX1050WV38	70058339	13 -51	862	1.81	459	□ 3/8"	38
	HSX1064WV38	70058340	16 -64	660	1.82	464	□ 3/8"	38
	HSX1100WV12	70058341	27 -105	380	2.57	532	□ 1/2"	48
2	HSX2064WV38	70058320	16 - 64	766	2.20	504	□ 3/8"	38
	HSX2100WV12	70058342	27 - 105	596	3.30	549	□ 1/2"	41
	HSX2150WV12	70058343	38 -152	413	3.60	574	□ 1/2"	51
	HSX2200WV34	70058344	51 - 204	309	3.90	581	□ 3/4"	59
	HSX2250WV34	70058345	63 -250	252	4.10	590	□ 3/4"	67

# INLINE NUTRUNNER HSX

## Technical key figures

Torque: 3 - 131 Nm  
Speed: Up to 2.388 1/m



## Identification key (example: Inline nutrunner HSX1030ZF50)

Series SX - SX-Series		Torque Torque max. in Nm		Output V - Square output F - Spring deflection H - Hexagon socket		Options B - with fastener lighting S - with scanner Tracking system	
H	SX	1	030	Z	F	50	
Basic construction H - Handheld nutrunner P - Pistol-grip nutrunner		Size 1 - Size 1 2 - Size 2		Output design W - Angle design Z - Centric output		Output size In conjunction with V: 14 - 1/4"-square 38 - 3/8"-square 12 - 1/2"-square 34 - 3/4"-square  In conjunction with F: Spring deflection in mm in conjunction with H: 14 - 1/4"-hexagon socket	

Size	Name	Ident-Nr.	Torque [Nm]	Speed [1/min]	Weight [kg]	Length [mm]	Output
1	HSX1015ZV38	70058346	3 - 15	2388	1.60	421	□ 3/8"
	HSX1030ZV38	70058347	6 - 30	1466	1.62	421	□ 3/8"
	HSX1040ZV38	70058348	8 - 40	1122	1.63	425	□ 3/8"
2	HSX2087ZV12	70058349	18 -87	759	2.90	511	□ 1/2"
	HSX2131ZV12	70058350	27 -131	505	2.90	515	□ 1/2"
1	HSX1015ZF50	70058351	3 - 15	2388	1.64	421	Travel Page 50mm
	HSX1030ZF50	70058352	6 - 30	1466	1.66	421	Travel Page 50mm
	HSX1040ZF50	70058353	8 - 40	1122	1.68	425	Travel Page 50mm
2	HSX2087ZF50	70058354	18 -87	759	3.00	511	Travel Page 50mm
	HSX2131ZF50	70058355	27 -131	505	3.10	514	Travel Page 50mm

Key head is not included in the standard-delivery (See accessories)

# PISTOL-GRIP NUTRUNNER PSX

### Technical key figures

Torque: 3 - 25 Nm  
Speed: Up to 1008 1/m



### Identification key (example: Pistol-grip nutrunner PSX1015ZV38S)

	Series <b>SX</b> - SX-Series		Torque Torque max. in Nm		Output <b>V</b> - Square output <b>F</b> - Spring deflection <b>H</b> - Hexagon socket		Options <b>B</b> - with fastener lighting <b>GF</b> - with GyroFlex <b>S</b> - with scanner Tracking system
P	SX	1	015	Z	V	38	S
Basic construction <b>H</b> - Handheld nutrunner <b>P</b> - Pistol-grip nutrunner		Size <b>1</b> - Size 1 <b>2</b> - Size 2		Output design <b>W</b> - Angle design <b>Z</b> - Centric output		Output size In conjunction with V: <b>14</b> - 1/4"-square <b>38</b> - 3/8"-square <b>12</b> - 1/2"-square <b>34</b> - 3/4"-square	
In conjunction with F: Spring deflection in mm in conjunction with H: <b>14</b> - 1/4"-hexagon socket							

	Name	Ident-Nr.	Torque [Nm]	Speed [1/min]	Weight [kg]	Length [mm]	Output
Standard	PSX1015ZV38	70058391	3 - 15	1008	1.08	211	□ 3/8"
	PSX1025ZV38	70058392	5 - 25	771	1.08	211	□ 3/8"
	PSX1015ZH14	70058393	3 - 15	1008	1.10	224	○ 1/4"
2D-Scanner	PSX1015ZV38S	70058394	3 - 15	1008	1.25	211	□ 3/8"
	PSX1025ZV38S	70058395	5 - 25	771	1.25	211	□ 3/8"
	PSX1015ZH14S	70058396	3 - 15	1008	1.27	224	○ 1/4"

Can be adapted to tracking systems of different manufacturers



# COMPLETE NUTRUNNER

Nutrunner with optional components

	Name	Ident-Nr.	Torque [Nm]	Speed [1/min]	Weight [kg]	Length [mm]	Output	Angle head [Ø]
equipped for telescope mounting	HSX1015WV14T	70058356	4 - 15	1876	1.68	445	□ 1/4"	23
	HSX1025WV38T	70058357	7 - 25	1367	1.72	447	□ 3/8"	28
	HSX1032WV38T	70058358	8 - 32	1367	1.78	449	□ 3/8"	31
	HSX1039WV38T	70058359	10 -39	977	1.80	452	□ 3/8"	33
	HSX1050WV38T	70058360	13 -51	862	1.92	459	□ 3/8"	38
	HSX1064WV38T	70058361	16 -64	660	1.93	464	□ 3/8"	38
	HSX1100WV12T	70058362	27 -105	380	2.68	532	□ 1/2"	48
lighting	HSX1015WV14B	70058363	4 - 15	1876	1.60	445	□ 1/4"	23
	HSX1025WV38B	70058364	7 - 25	1367	1.64	447	□ 3/8"	28
	HSX1032WV38B	70058365	8 - 32	1367	1.70	449	□ 3/8"	31
	HSX1039WV38B	70058366	10 -39	977	1.72	452	□ 3/8"	33
	HSX1050WV38B	70058367	13 -51	862	1.84	459	□ 3/8"	38
	HSX1064WV38B	70058368	16 -64	660	1.85	464	□ 3/8"	38
	HSX1100WV12B	70058369	27 -105	380	2.60	532	□ 1/2"	48
2D-Scanner	HSX1015WV14S	70058370	4 - 15	1876	1.74	445	□ 1/4"	23
	HSX1025WV38S	70058371	7 - 25	1367	1.78	447	□ 3/8"	28
	HSX1032WV38S	70058372	8 - 32	1367	1.84	449	□ 3/8"	31
	HSX1039WV38S	70058373	10 -39	977	1.86	452	□ 3/8"	33
	HSX1050WV38S	70058374	13 -51	862	1.98	459	□ 3/8"	38
	HSX1064WV38S	70058375	16 -64	660	1.99	464	□ 3/8"	38
	HSX1100WV12S	70058376	27 -105	380	2.74	532	□ 1/2"	48
GyroFlex	HSX1015WV14GF	70058377	4 - 15	1876	1.71	445	□ 1/4"	23
	HSX1025WV38GF	70058378	7 - 25	1367	1.75	447	□ 3/8"	28
	HSX1032WV38GF	70058379	8 - 32	1367	1.81	449	□ 3/8"	31
	HSX1039WV38GF	70058380	10 -39	977	1.83	452	□ 3/8"	33
	HSX1050WV38GF	70058381	13 -51	862	1.95	459	□ 3/8"	38
	HSX1064WV38GF	70058382	16 -64	660	1.96	464	□ 3/8"	38
	HSX1100WV12GF	70058383	27 -105	380	2.71	532	□ 1/2"	48

Can be adapted to tracking systems of different manufacturers



# CONTROLS

A modular system architecture allows for individual solutions even for the most complex of demands. Five controllers are available for the realization of different customer requirements.

The controls are designed for hand-held as well as for fixture spindles and multi-purpose nutrunners.



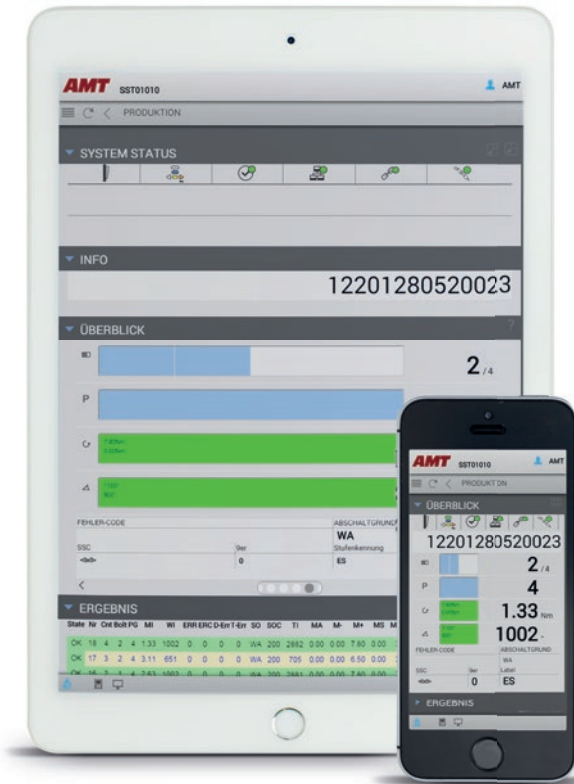


# OUR LATEST GENERATION OF CONTROLLERS

## SMX100, SMX200, SMX300, SMX400

While developing our newest generation of controls for HSX handheld tools and ESX fixture spindles, the AMT developers follows a new approach. Instead of simply further developing existing controls, completely new control software was developed based on a completely new hardware platform. The following development goals were in focus:

- Use of a new, powerful hardware platform
- Direct communication of the control with mobile devices such as smartphones and tablets
- Simple operation of the control software
- Energy efficiency, this means clear savings in energy compared to the previous systems



## Scalable hardware

Due to the plug-in modules which can be plugged in from outside, controls can easily be arranged around interfaces, e.g. for various field bus systems. If this is used consistently, there is a reduction in the control variants and thus the number of spare parts.

## Exchangeable storage medium

When replacing a controller, it is sufficient to transfer the Micro SD card to the new controller. The new control system thus automatically has the correct software status and the correct parameters. A software update or a parameter restore is not necessary.

## Simple operation – new programming tools

A multitude of development and design work was placed in the new operating interfaces - for the easiest possible handling. It is characteristic for the three newly designed programming tools:

The Library contains variety of premade algorithm programs from which the user can select the suitable program and use without further settings. New programs are created with the help of an Assistant. In just a few steps, the assistant guides the user through the program creation. The fastening program is then automatically created and set. The graphic programming interface is ideal for very demanding tasks. Symbols are used here that the user drags to the desktop and puts together into a fastening process. Even complex programs can be created in a very clear and comprehensible manner through this.

SMX100



SMX200



SMX300



SMX400



SMXC



# CONTROL SMX100

The SMX100 is the base control of the SX-Series. It is a full-fledged single-channel controller with a variety of interfaces. The status visualization is carried out via a 7-segment display and four LEDs. The SMX100 has a high number of fastening and supervisory procedures as well as the possibility to control complex fastening sequences. The SMX100 is used wherever no visualization is required on the control. In multichannel systems, the SMX100 works as a secondary controller under a master control (SMX300/SMX400).



**Single channel control**  
7 segment display and LEDs

**Interfaces**  
1 x Ethernet  
9 x digital output  
10 x digital input  
1 x RS232/422/485 for Ident systems  
2 x USB Host for external equipment  
Field bus interface (optional)  
Integrated Safety

**Software**  
Operating system, firmware and parameters on exchangeable MicroSD card

Ident-Nr.	Type description
70085290	SMX100-40-0001-A
70085310	SMX100-60-0001-A

# CONTROL SMX200

The SMX200 has the same performance features such as the SMX100, but also has a 7 inch touch LCD display. The control can be parameterized completely on site via this display. The content of the production image can be configured specifically for each application. A variety of production widgets are available for this purpose.



**Single channel control**  
7" Touch-LCD Display

**Interfaces**  
1 x Ethernet  
9 x digital output  
10 x digital input  
1 x RS232/422/485 for Ident systems  
2 x USB Host for external equipment  
Field bus interface (optional)  
Integrated Safety

**Software**  
Operating system, firmware and parameters on exchangeable MicroSD card

Ident-Nr.	Type description
70085330	SMX200-40-0101-A
70085350	SMX200-60-0101-A



# CONTROL SMX300

The SMX300 is a master control. The SMX300 takes over the control in multi-channel spindle systems of the first spindle channel as well as the synchronization of the Secondary Controller. Up to 98 SMX100 controllers can be connected to the SMX300. The SMX300 offers additional interfaces as the master control compared with the basic controlling. The status and value can be seen on the 6.5 inch touch LCD display, which also allows parameter adjustments.



**Single channel control - master control**  
6.5" Touch-LCD Display  
Integrated PC

**Interfaces**  
2 x Ethernet  
9 x digital output  
10 x digital input  
4 x RS232/422/485 for Ident systems  
6 x USB Host for external equipment  
Field bus interface (optional)  
Integrated Safety

**Software**  
Operating system, firmware and parameters on exchangeable MicroSD card / CF-card

Ident-Nr.	Type description
70085370	SMX300-40-0401-A
70085390	SMX300-60-0401-A

# CONTROL SMX400

The SMX400 has the same features as the SMX300, but has a 10.4 inch touch LCD display. Using this, the display can be parameterized completely on site via this display.  
The 10.4 inch touch LCD display allows for large-area display Production-related information.

**Single - channel master control**  
10,4" Touch-LCD Display, Integrated PC

**Interfaces**  
2 x Ethernet  
9 x digital output  
10 x digital input  
4 x RS232/422/485 for Ident systems  
6 x USB Host for external equipment  
Field bus interface (optional)  
Integrated Safety

**Software**  
Operating system, firmware and parameters on exchangeable MicroSD card / CF-card

Ident-Nr.	Type description
70085410	SMX400-40-0401-A
70085430	SMX400-60-0401-A





# MULTIPLE CHANNEL CONTROL

## SMXC – switch cabinet based multichannel control

With high-channel nutrunner systems, the design of the control as a switch cabinet solution is frequently the best solution for saving space.

The SMXC control allows for the construction of multichannel controls in a control cabinet.

- SMXC for handheld nutrunners: up to 10 screw channels
- SMXC for fixture spindles: up to 99 screw channels

An industrial PC for the master functions and one fastening module per spindle channel form the basis of the SMXC system. The master PC coordinates the connected fastening modules and forms the external interface. Through the master PC, the communication possibilities of the SMXC control are nearly unlimited. Interfaces like Ethernet, field bus, RS232, RS485 and USB are available.

Ident-Nr.	Type description
70063109	SMX100C-40-0001
70063110	SMX100C-60-0001



# MODEL CODE

## Model code SMX-fastening control

Control variants

100C

Cabinet module

100

7-Segment-Display and LEDs

200

7.0"-Touch-Display

300

6.5"-Touch-Display with PC

400

10.4"-Touch-Display with PC

Version PC

00

without PC (e.g. in SMX 100)

01

SMX-CPU-Module 01

03

SMX-PC 03 D525 1.8 GHz DualCore

04

SMX-PC 04 D425 1.8 GHz sCore

SMX

1-Channel-Control

Power range

40

40A / 300V  
(for PCX1 / HSX1 + 2 / KSX1 / ESX1 + 2)

60

60A / 560V  
(for ESX3 + 4 + 5)

Wall console configuration

A

63 mm deep  
(Standard-configuration)

Version Fastening module

00

without Fastening module

01

Fastening module  
Version 01

aaa, bbb ... Options  
(if required, several)

DNS

DeviceNet

EIP

Ethernet/IP

PBS

ProfiBus Slave

PN

ProfiNET

EA

16 I/O-Cards  
(only in SMX300/  
SMX400)

NT

Power supply

TR

Transformer

VD

Voltage-Doubler

WLAN

WLAN-Module  
(only in SMX300/  
SMX400)

SMX

300

-

40

-

04

01

-

A

-

aaa

-

bbb

	SMX 100-40..	SMX 100-60..	SMX 200-40..	SMX 200-60..	SMX 300-40..	SMX 300-60..	SMX 400-40..	SMX 400-60..	SMX 100C-40..	SMX 100C-60..
PSX1	•		•		•		•		•	
HSX1	•		•		•		•		•	
HSX2	•		•		•		•		•	
KSX1	•		•		•		•		•	
ESX1	•		•		•		•		•	
ESX2	•		•		•		•		•	
ESX3		•		•		•		•		•
ESX4		•		•		•		•		•
ESX5		•		•		•		•		•



# CABLE AND ACCESSORIES

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# CABLES

Tool cable for HSX and PSX,  
Straight, fixed, ø 14.0 mm

Length [m]	Ident-Nr.
3	700 58303
5	700 58305
7	700 58307
10	700 58310
15	700 58315



Extension Cables	Length [m]	Ident-Nr.
	2	70112802
	3	70112803
	5	70112805
	7	70112807
	10	70112810
	15	70112815
	20	70112820
	25	70112825
	30	70112830
	35	70112835
	40	70112840
	45	70112845
	*	70058271
	2	70112702
	3	70112703
	5	70112705
	7	70112707
	10	70112710
	15	70112715
	20	70112720
	25	70112725
	**	70058270

**Standard (suitable for tugging)**  
Can be used as tool and extension cable

**Diameter:**  
around 12.5 mm

**Minimum bend radius:**  
One 5 x Cable -ø  
Minimum movement 7.5 x Cable -ø  
Optimal movement 12 x Cable -ø

**Highflex (suitable for use with robots)**

**Diameter:**  
around 14.0 mm

**Minimum bend radius:**  
One 3 x Cable -ø  
Minimum movement 5 x Cable -ø  
Optimal movement 10 x Cable -ø

(Torsion ± 180 °/m)

\* Length must be specified while placing the order,  
Maximum cable length including Tool cable 50 m.  
\*\* Length must be specified while placing the order,  
Maximum cable length including





# ACCESSORIES

Scratch resistant  
for Angle screwdriver HSX

Size	Name	Wall strength	Ident-Nr.
1	HSX1015WV14	3	7017743
	HSX1025WV38	3	7017744
	HSX1032WV38	3	7017745
	HSX1039WV38	3	7017746
	HSX1050WV38	3	7017769
	HSX1064WV38	3	7017769
	HSX1100WV12	10	70131948
2	HSX2064WV38	3	7017769



## Spindle tray

Various versions of the tool tray, transverse in front of the control or lateral next to the control. Depending on the design, the tool can be placed horizontal, transverse or vertical.

Name	Ident-Nr.
Spindle tray horizontal	70005112
Spindle tray vertical	70005119
Spindle tray lateral	70005123
Pistol-grip body	70005177

Horizontal



Vertical



Lateral



Pistol-grip body



## Key heads \*

Size	Type	Ident-Nr.	Spring tension min. [N]	Spring tension max. [N]	Suitable for type	Torque max. [Nm]
1	SK1-3/8"-50	7002230	12	30	HSX 1	63
	SK1-3/8"-50	7040068	17	44	HSX 2	63
2	SK2-1/2"-50	7002049	20	40	HSX 2	165
	SK2-1/2"-50	7002059	40	80	HSX 2	165



## Operating handles \*

Operating handles with radial or axial switches. Also available with lever switch if requested. Signal output electrical or pneumatic. Due to their modular design, up to four buttons can be connected to one control handle. A combination of electrical and pneumatic configuration is possible. Variable fastening system that can be adjusted easily on site.



\*Various designs available upon request

# ACCESSORIES

## Socket changer\*

Coding possible using extension. Advantage: independent of the dimensions of the socket by different suppliers. Available as 4-way and 8-way socket changer. LED display for worker guidance. Different control engineering interfaces available.



## Balancer suspension for cable

Standard with steel cable, on request with plastic cable for the protection of work pieces.

Name	Ident-Nr.
Cable balancer with steel cable	7050145
Cable balancer with nylon cable	7050200
Belt strap	7017576
Carabine 60mm	7015062



## Balancer suspension for nutrunners

Holding the spindle in a rotatable holder. Optional seeking of parking position or different screw locations possible.

Name	Ident-Nr.
Balancer suspension HSX1	70005179
Balancer suspension HSX2	70005180
Balancer suspension PSX	70005181



## Telescope\*

From the simple standard telescope in lightweight construction (carbon) to the complex handling with semi-automatic and fully automatic processes, everything is possible. Due to the modular design, special designs are also available for simple applications at a short notice.

We are the specialists in designing systems for demanding applications with multiple pullouts, built-in brackets, workpiece recognition, screw-in-point checks, presetting as well as auto-matic return to home position.



\*Various designs available upon request



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