

DSM TIGHTENING TECHNIQUE

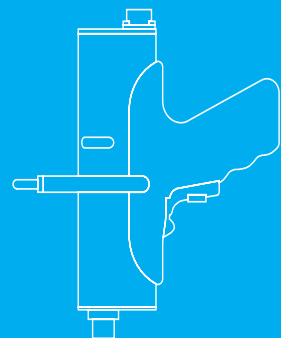
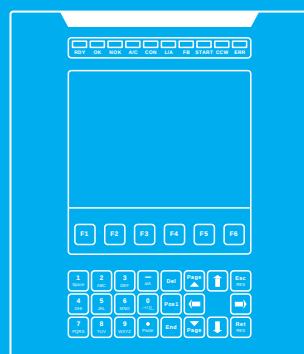
Product catalogue 2018



DSM TIGHTENING TECHNIQUE IN BEST QUALITY.
EXACT, RELIABLE, INDIVIDUAL CUSTOMISABLE.



English



www.dsm-messtechnik.de

*Tightening Technique
Press-in Technique
Measuring Technique*

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All rights to modify this information are reserved, due to the continuous development of our products.

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0,01 up to 2400 Nm
Torque

**Individual customised technology
for millions of precise connections.**



50 up to 120 000 N
Press-in force



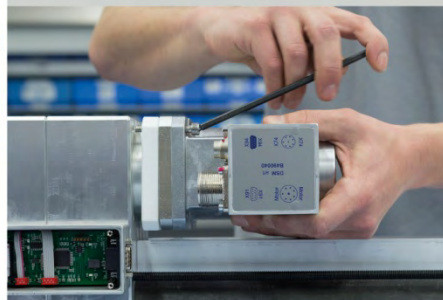
Tightening technique

Hand-held nutrunners
Built-in nutrunners
Tightening control systems
Handling systems
Tightening working stations



Press-in technique

Press-in units
Press-in control systems
Press-in working stations



Measuring technique

QS reference measurement
system for calibration and
monitoring
DAkkS accredited calibration
laboratory



The company DSM Messtechnik GmbH was established in 1982 and represents than 35 years efficient products, excellent quality and elaborate special solutions in the sectors tightening technology, press-in technology and measuring technology. Good and reliable products don't arise by accident, but are always the result of remarkable planning and a brilliant manufacturing quality. As owner managed company we're currently among the global leading suppliers. We mainly deal with the automotive sectors but provide solutions to quite a few other industries as well.

More than a thousand companies in Europe, South America and Asia are our customers. Our strength is the permanent continued development of our technologies and to customise these to individual requirements. So are e.g. in the tightening technique ten patents applied for DSM. We use our innovation to implement customised solutions for you or also to develop completely new solutions, if required. All DSM products are developed and manufactured at our head office in Aalen, Germany.

Customer demands, discovered by e.g. our sales representatives on site, are an incentive for our electrical, mechanical and software engineers. They shortly turn these into marketable products. This image brochure introduces you the versatile standard product range of DSM. Should you have further demands, we're looking forward to your inquiry. Get to know the DSM Messtechnik a little more detailed – you will see, it will be profitable!



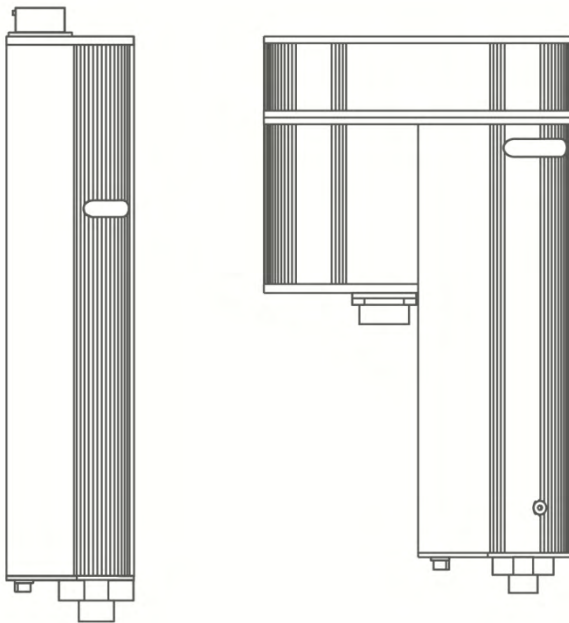
MultiPro 3G

Tighten / Press-in
One system for your assembly.

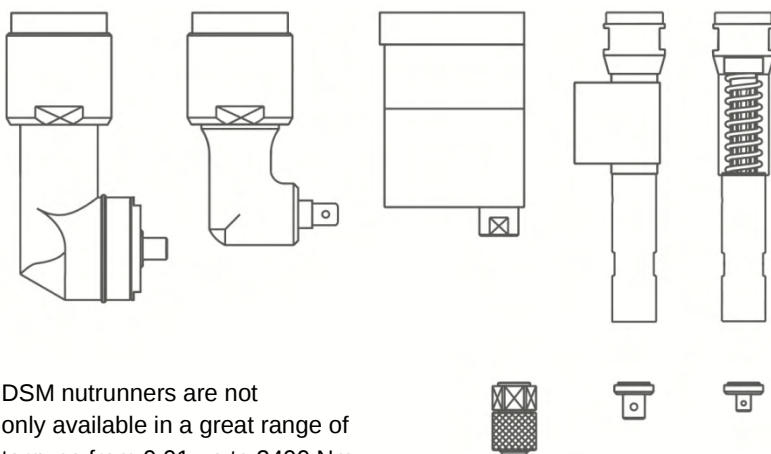
Plug-ins and hardware option modules for solution
of process-specific requirements.

Modular design – custom-fit technique.

Motor modules



Output modules



DSM nutrunners are not only available in a great range of torques from 0,01 up to 2400 Nm, but also with various modules of motors and outputs.
If it is possible to receive the DSM high technology for nearly every application.



DSM offers electrical hand-held nutrunners and those nutrunners to be installed for manual, automated and fully automated assembly processes. They are characterised by their proliferation of options, highest reliability and precision.

The data transfer is made digitally by nutrunners of the **DS series**. The advantage: The nutrunner has an independent decentred intelligence and to that, only one connection cable is needed in the power class up to 60 Nm. Further distinctive details are the LED's at the nutrunner. These show the status of the tightening. The control electronic and the servo controller are in the same case. Thanks to the plaintext menu navigation, the programming of the tightening control systems is especially easy to handle.

Hand-held nutrunners DS series

				
DSH 26	DSH 34	DS 34-P	DSH 44	DS 44-P
0,5/1/2/4 Nm	5/10/20 Nm	2,5/5/10/15 Nm	20/30/40/60 Nm	2,5/5/10/20/35 Nm

Built-in nutrunners DS series

		
DS 26	DS 34	DS 44
0,5/1/2/4 Nm	2,5/5/10/15 Nm	2,5/5/10/20/35 Nm

MultiPro 3G – easy to use and flexible

From the combination of intuitive operator convenience and of a modular hardware and software concept a forward-looking basis has been created which meets the current requirements in the tightening technology.

Equipped with a lot of functions, the scope of work of the MultiPro 3G can be formed individually.

DSM puts special process specific requirements customer-focussed and competent into practice – a new generated function is easily integrated as add-on into the control system.

Built-in nutrunners DS series



DS 57

50/70/90/140 Nm



DS 80

220/300/420/500/600 Nm



DS 80-130

900/1000/1500/2000/2400 Nm

Tightening control systems

- CPU 4 -



MultiBasic Blue TA



MultiBasic TA



MultiClassic TA



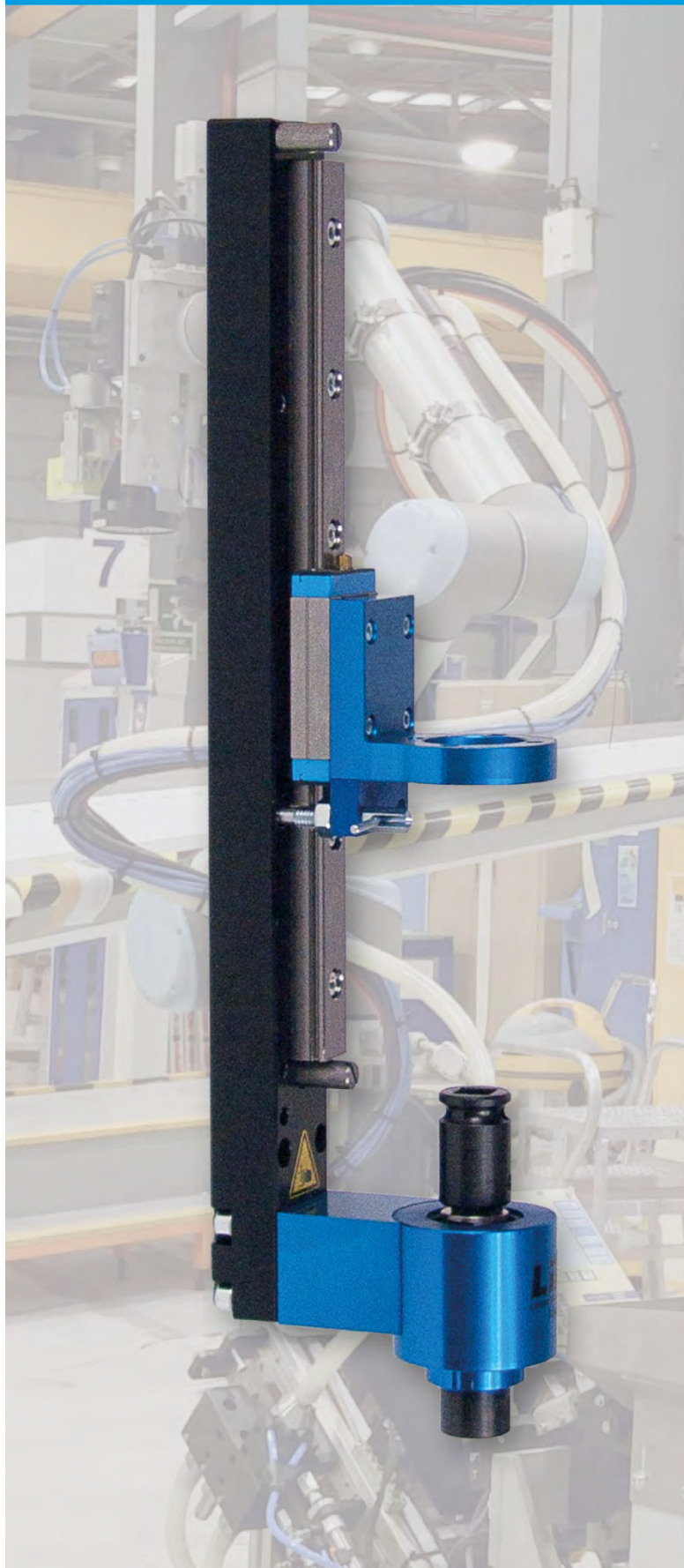
MultiPro TA

- CPU 5 -



MultiPro 3G

Assemble test equipment without using tools – no long process interruption



DSM linear modules for the assembly of test equipment (rotating torque transducers) to the DSM nutrunner of the DS 34 / DS 44 series without using tools and without long process interruption.

In basic position the nutrunner is fixed by a locking device at the output. The nutrunner can be manually moved with the linear slide by pulling the locking bolt and can be fixed on two further snap-in points for the integration / assembly of the torque transducer. Precondition for this is a firm connection between linear module and output (e.g. spring output) as well as the direct mounting of the nutrunner at the linear slide.



Standard use of the nutrunner in the assembly process



Assemble torque transducer without using tools



Measure via a reference measuring system during the production process and record the data, e.g. with the DSM QS-Box

Fatigue-free working without error – DSM technology for manual assembly.



Handling devices are essential for the tasks and the applications of the hand-guided and the semi-automated assembly.

Daily recurring operations makes the tool with time heavier and heavier for the user - if you also considers the reaction torque and incorrect holding of the tool, a disorder of the hand-arm-shoulder system cannot be excluded.

Preserve the health of your employees!

The weight of the tool is balanced by the DSM handling system, so that a safe, easy and effortless handling is guaranteed.

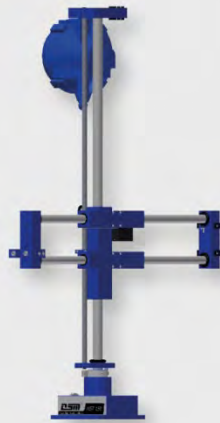
Equipped with positioning-electronic and sensors for the XY(Z) coordinates the position of the tool can be monitored.

No screw will be forgotten - even complex tightening sequences can be specified and monitored.

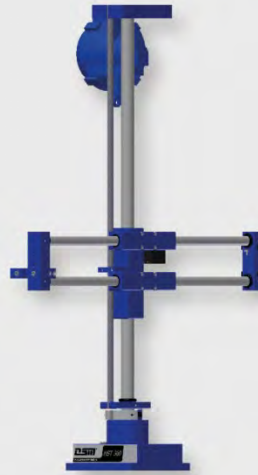
Handling stand HST



HST 40



HST 150



HST 300



HST 600

Handling stand POSI 1



POSI 1 GG-40



POSI 1 GG-150



POSI 1 GG-300

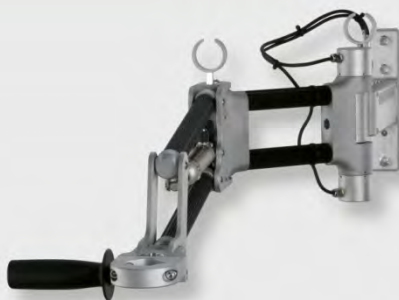


PosiControl



PosiControl4

Handling swivel arm POSI 2



POSI 2



PosiControl



PosiControl4

Advanced handling – precise, reaction-free and clever.



DSM offers with the HST series advanced handling devices.

The model series is available in 4 sizes as pure handling stand or in the execution with integrated position monitoring – positioning controller is installed in the pedestal.

Thanks to the modular design of both versions and the variety of innovative equipment options allows to realise modern and ergonomically structured workplaces.



ToolControl – the intelligent socket box.

If a tool is taken out, ToolControl automatically calls up the correct sequence program. After appropriate activation, ToolControl shows the operator the tool that is required for the current assembly process.

Features ToolControl

- Processor monitored tool removal
- Status reports via LCD plain text display
- Status indication for each tool
- Available with two, four or eight tool inserts
- Cascatable up to 32 tools
- Connection to the control unit by a systembus cable
- Optional interfaces: Profibus, Ethernet for the integration in a PLC
- Stable aluminium pressure die housing with mounting plate
- Customised tool inserts made of synthetic material

ToolControl



TC2 TC4 TC8
Basic system



TC2-E TC4-E
Expansion system



In the sector of electro-mechanical presses, DSM covers a range of 50 N up to 120 000 N press-in force.

As required, we equipped the press with a stroke extension or with an electro-mechanical brake.

Our own production enables customer-specific versions at any given time.

DSM offers two series for digital press-in technology:

The QMP series and the SMP series.

DSM precision presses of the **QMP series** are construed for press and pull forces.

They are designed very slim in a square-cut stainless steel case.

This results in a low permanent weight of the press unit, so that consequently high increases in speed, speeds and cycle time can be implemented.

The digital load cell (measuring accuracy 0,5 % of the final value), which is protected against overload, is located directly in the plunger. Length/stroke measurement is carried out by a absolute length/stroke measuring system with a resolution of 0,002 mm. LED status report at the press unit show the operating status and the result.

Precision presses of the **SMP series** are construed only for press forces. They are designed very robust and low-maintenance. The simple construction convinced in the rough industrial environment.

The digital load cell (measuring accuracy 1 % of the final value) is located directly near the plunger.

Length/stroke measurement is carried out by a absolute length/stroke measuring system with a resolution of 0,003 mm.

The press units of the SMP series cannot equipped with optional accessories.

The control electronic and the servo controller are in the same case. Thanks to its plaintext menu navigation, the programming of the QMP / SMP control systems is especially easy to handle.

QMP press-in units

		
QMP 80	QMP 100	QMP 140
2,5/5/10/20 kN	30/40/50/60 kN	70/100/120 kN
200/300/500 mm	200/300/500 mm	200/300/500 mm

MultiPro 3G – easy to use and flexible

From the combination of intuitive operator convenience and of a modular hardware and software concept a forward-looking basis has been created which meets the current requirements in the press-in technology.

Equipped with a lot of functions, the scope of work of the MultiPro 3G can be formed individually.

DSM puts special process specific requirements customer-focussed and competent into practice – a new generated function is easily integrated as add-on into the control system.

SMP press-in units			
			
SMP 300	SMP 300	SMP 400	SMP 500
0,5 kN	1/2 kN	5/10 kN	20/30/50/70 kN
100/200/400 mm	100/200/400 mm	100/200/400 mm	100/200/400 mm

Press-in control systems		
- CPU 4 -		
		
MultiClassic FL	MultiPro FL	
- CPU 5 -		
		
		MultiPro 3G

Work stations from DSM – always a good basis.

Next to single components for the tightening technique and press-in technique, DSM also offers complete single work stations and rebuilding for existing stations. Our long-time experience on this sectors assures you a cost-effective and technical projecting overall solution, at which all components are ideal harmonised on each other.

All dimensions can be specified individually. We equipped your work station with required DSM products and, if necessary, also with components of other manufacturers.

The personnel safety with the applicable standard for example is assured by a two-hand control, a lockable automatic lift door or a light curtain.



DSM assembly station for the automated tightening of thread nuts.



DSM press-fit station with protected working space for caulking of bushings.

Special solutions



△
Test nutrunner for
radial clearance
measurement.

Special angle output
for positioning the
opening of the crow
foot. ▽

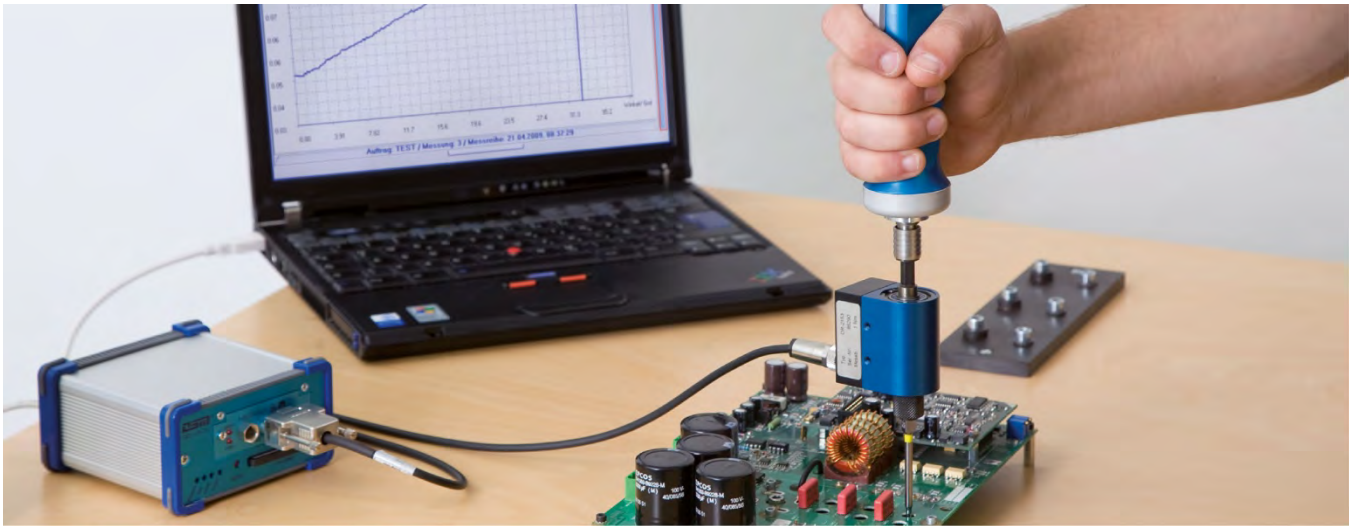


△
SMP with fan unit for
short cycle times.

Individual technical solutions for hardware and software, are our strength.

Beyond our versatile standard product proposal, we produce special designs and completely new products for you. In close cooperation with you, we develop customised solutions for the application ranges tightening technique, press-in technique and quality assurance.

Measuring technique



Reference measuringsystem

The QS-Box is a compact, extremely versatile reference measuring system. It processes analogue as well as digital measuring signals. All established measuring sensors can be connected with corresponding plug-in modules. The channel DSM-Digital offers you all the options of a modern, digital measuring system with the QS-Box.

Features QS-Box

- Exchangeable plug-in modules for analogue and digital measuring signals: DSM-Digital, $\pm 1 \text{ mV/V}$, $\pm 2 \text{ mV/V}$, $4\text{-}20 \text{ mA}$, $\pm 5 \text{ V}$, $\pm 10 \text{ V}$, $\pm 15 \text{ V}$
- Measurements possible in online and offline mode
- Exchangeable CF data storage
- Synchronisation input for angle of rotation and length/stroke control
- Recording of measurements with graphics monitoring
- Interfaces: USB, RS232, TCP/IP, Profibus (optional)

DSM Digital plug-in module

The QS-Box unfolds its complete potential with DSM-Digital:

- Insensible signal transfer
- Direct status report at the measuring sensor
- QS-Box-Software for administration, parameterisation and evaluation
- Automatic recording of the sensor data's
- Automatic adjustment of the measuring parameters
- Data transfer and remote control via TCP/IP



SCI module

We convert your analogue sensors: Equipped with a SCI module, every existing transducer can be connected to the digital-interface of the QS-Box. This allows you to use all advantages of the digital system cost-effectively.

Measuring sensors

According to requirements, DSM delivers analogue and digital measuring sensors of any type: e.g. force load cell, length/stroke sensors, length/stroke measuring sensors, torque transducers and temperature sensors.



Torque transducer



Force load cells

Play it safe right from the beginning with the experts service of DSM.

DAkkS accredited calibration laboratory

DSM runs a calibration laboratory, which is accredited and controlled from the DAkkS (German Accreditation Body) and is also a member of the DKD. We check your measuring system and your measuring sensors in our calibration lab in Aalen, Germany, or at your place. Of course, we calibrate older DSM products as well as nutrunners and measuring sensors of a lot of other manufacturers.

The calibration certificates, issued by DSM, are a confirmation for the traceability to the national standards.

Commissioning and maintenance

DSM escorts you during the complete life time cycle of your product. Whether it is initial commissioning, extension or rebuilding – we take care of the perfect integration of DSM products into your applications on site. Experienced DSM specialists support you by starting your plant, by the process specification and by the training of your employees. With unbureaucratic assistance, we care fore, to get the operations running quickly again in very urgent situations.

Training

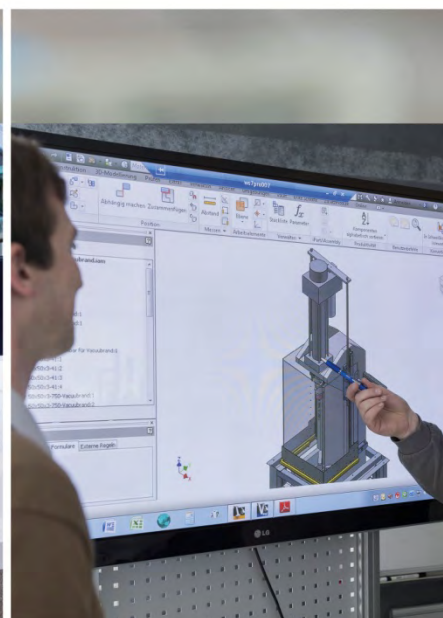
In our training centre in Aalen, Germany, we offer you the most modern technology and a comfortable ambience. There, all DSM products are at the participants disposal. To that, we also provide units for tightening as well as press-in technology and for calibration by trainings at your place. Our experts not only communicate the professional handling with DSM products, but also their long-time experience in tightening and press-in processes. The contents of the trainings are tailored especially to the requirements of the participants.



Calibrations conforming to standards: The DSM calibration laboratory in Aalen, Germany, is accredited acc. to DAkkS.



Expert advice and service at your place – we're always on the go.



The operation of the DSM products can be practised under competent instruction in the DSM training centre.

DSM

Custom-made innovative tools

■ ■ ■ made in Germany

Company headquarters in Aalen, Dieselstraße 16
Development, production, administration and sales



RELIABLE HAND-HELD TIGHTENING TECHNIQUE
IN BEST QUALITY.



DSH 26



DSH 34



DSH 44

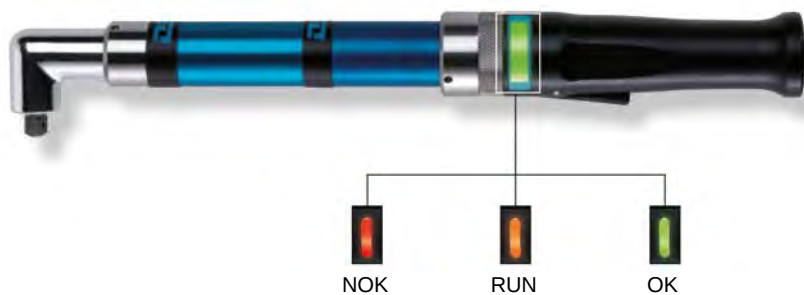


DS 34-P/DS 44-P

HAND-HELD NUTRUNNER DS series

Overview of the different construction sizes

Type	Models max. torque in Nm
> DSH 26	0,5 1 2 4
> DS 34-P	2,5 5 10 15
> DSH 34	5 10 20
> DS 44-P	2,5 5 10 20 35
> DSH 44	20 30 40 60



The illuminated field at the nutrunner shows the tightening status.

Highest precision, also by the manual assembly

Hand-held nutrunners from DSM are available in a lot of sizes from 0,5 up to 60 Nm torque. They are characterised by a robust technology, reliable precision and an intelligent control engineering.

Components of DS hand-held nutrunners

- Maintenance-free brushless servo motor
- Robust housing out of stainless steel and aluminium
- Ergonomic handle
- Wear-free operating elements
- Various output variants

Advantages of DS hand-held nutrunners

- Insensitive against electro-magnetic radiation due to digital data transfer
- Change-over between programs via function switch (different processes)
- Illuminated field for indication of the tightening status
- Simple programmable at the control unit or via external PC

MDW or SA – with or without torque transducer

DS-nutrunners of type MDW have a digital torque transducer. With this, the upcoming torque can be collected very precise. The accuracy-deviation is max. 0,5 % of the final value.

By DS-nutrunners of the type SA, the torque and the angle of rotation are collected via the motor. The accuracy-deviation here is max. 5 % of the final value.

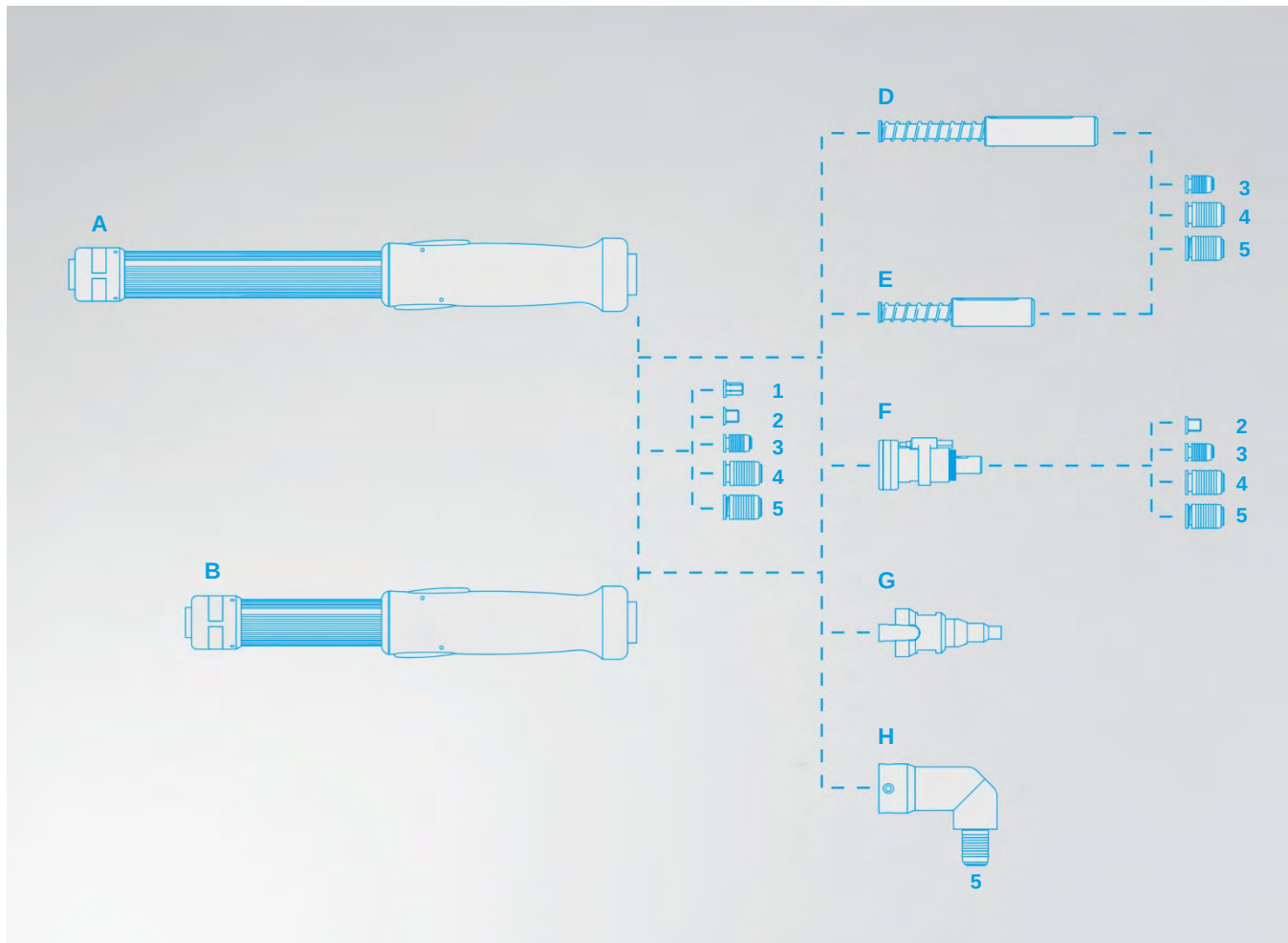
Type	Torque measuring	Torque accuracy	Angle resolution
MDW	via digital torque transducer	0,5 %	> Data sheet
SA	via motor current	5 %	> Data sheet

Suitable control units for DS hand-held nutrunners



Control unit	MultiBasic Blue TA	MultiBasic TA	MultiClassic TA	MultPro TA	MultiPro 3G
suitable for type	SA	SA	MDW	MDW	MDW

[> to the control systems \(page 63\)](#)



DSH 26 series

A) DSH 26 MDW with torque transducer



Type	Max. torque Nm	Application area Nm	Max. speed rpm	Angle resolution Degree [°]	Article number
DSH 26 / 005 MDW	0,5	0,05 – 0,5	1450	3,7	DSH-2260005
DSH 26 / 01 MDW	1	0,2 – 1	1450	3,7	DSH-2260010
DSH 26 / 02 MDW	2	0,4 – 2	1020	2,6	DSH-2260020
DSH 26 / 04 MDW	4	0,8 – 4	400	1,0	DSH-2260040

Torque accuracy 0,5 %, torque tolerance better 5 % according to ISO 5393

B) DSH 26 SA without torque transducer



Type	Max. torque Nm	Application area Nm	Max. speed rpm	Angle resolution Degree [°]	Article number
DSH 26 / 005 SA	0,5	0,05 – 0,5	1700	4,3	DSH-2261005
DSH 26 / 01 SA	1	0,2 – 1	1700	4,3	DSH-2261010
DSH 26 / 02 SA	2	0,4 – 2	820	2,1	DSH-2261020
DSH 26 / 04 SA	4	0,8 – 4	400	1,0	DSH-2261040

Torque accuracy 5 %

D/E) Spring output

Type	Article number
Spring output 20 mm	DS-2263010
Spring output 50 mm	DS-2263015

F) Self start output

Type	Article number
Self start with 5 mm spring deflexion	DS-2263020

G) Vacuum screw-retainer

Type	Article number
With electric supply unit	DS-2263895
With pneumatic supply unit	DS-2263896

H) Angle head

Type	Article number
Angle head (D6,3)	DS-2263025

Torque tolerance better 8 % according to ISO 5393

1) Hexagon drive 1/4"

Type	Article number
Hexagon drive 1/4"	DS-2263725

2) Square drive 1/4"

Type	Article number
Square drive 1/4"	DS-2263730

3) Hexagonal quick change chuck B3

Type	Article number
Hexagonal quick-change chuck B3	DS-2263720

4) Hexagonal quick change chuck B5,5

Type	Article number
Hexagonal quick-change chuck B5,5	DS-2263715

5) Hexagonal quick change chuck D6,3

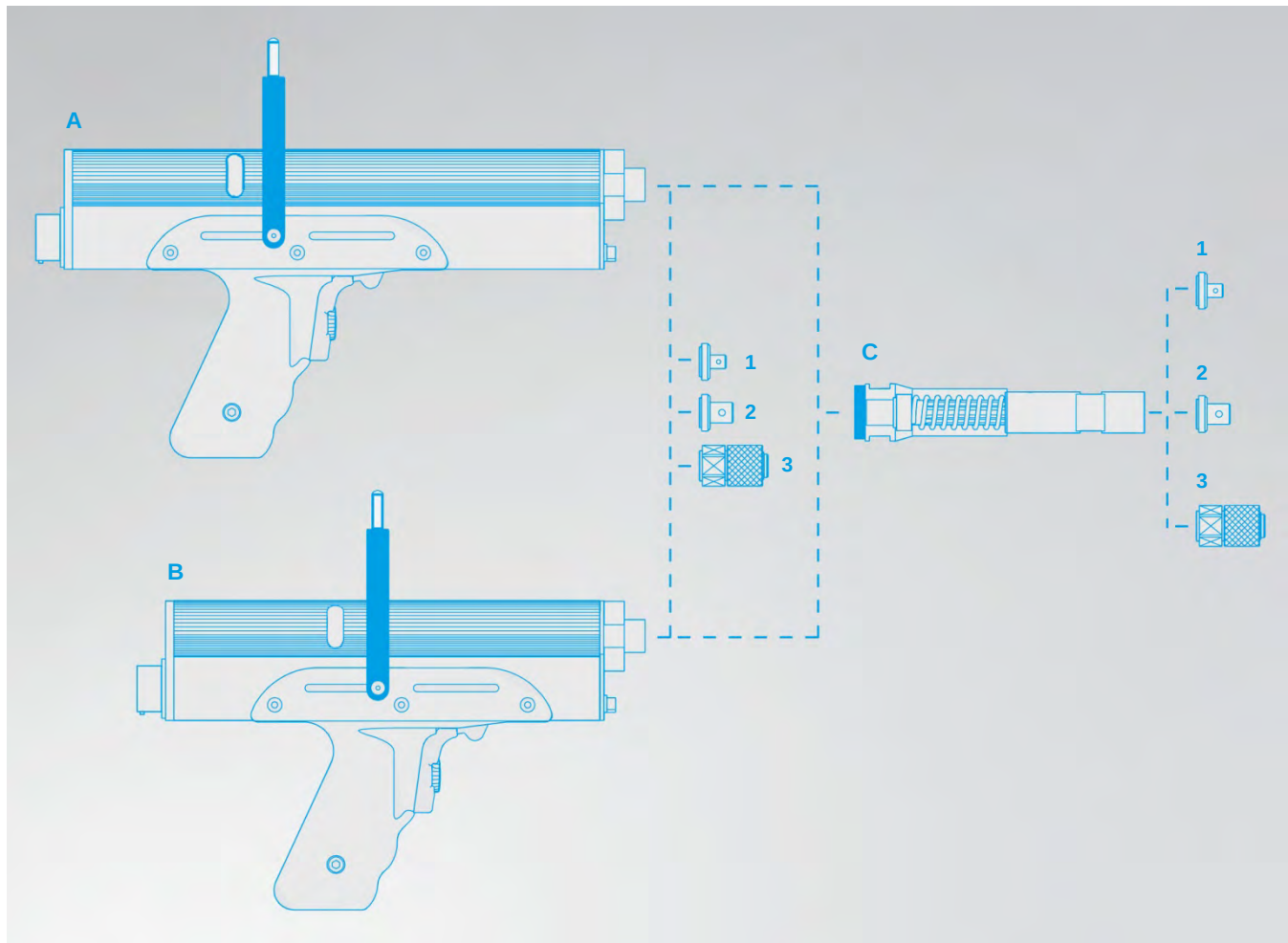
Type	Article number
Bit shaft precision-guide 13 mm	DS-2263705
Bit shaft precision-guide 24 mm	DS-2263710

Cable

Cable for interconnection between nutrunner and control system

Type	Cable length	Article number
Interconnecting cable DS26 / DSH26 DSP05	5 m	MK-2269005

[> to the technical drawings \(page 94\)](#)



DS 34-P series

A) DS 34 MDW-P with torque transducer



Type	Max. torque Nm	Application area Nm	Max. speed rpm	Angle resolution Degree [°]	Article number
DS 34 / 025 MDW-P	2,5	0,5 – 2,5	880	0,1	DS-2342025
DS 34 / 05 MDW-P	5	1 – 5	880	0,1	DS-2342050
DS 34 / 10 MDW-P	10	2 – 10	1540	0,1	DS-2342100
DS 34 / 15 MDW-P	15	3 – 15	1540	0,1	DS-2342150

Torque accuracy 0,5 %, torque tolerance better 5 % according to ISO 5393

B) DS 34 SA-P without torque transducer



Type	Max. torque Nm	Application area Nm	Max. speed rpm	Angle resolution Degree [°]	Article number
DS 34 / 025 SA-P	2,5	0,5 – 2,5	880	3,3	DS-2343025
DS 34 / 05 SA-P	5	1 – 5	880	3,3	DS-2343050
DS 34 / 10 SA-P	10	2 – 10	1540	1,7	DS-2343100
DS 34 / 15 SA-P	15	3 – 15	1540	1,7	DS-2343150

Torque accuracy 5 %

C) Spring output

Type	Article number
Spring output 30 mm	DS-2403025
Spring output 30 mm with depth initiator	DS-2403045
Spring output 50 mm	DS-2403030
Spring output 50 mm with depth initiator	DS-2403050

1) Square drive 1/4"

Type	Article number
Square drive 1/4"	DS-2403715

2) Square drive 3/8"

Type	Article number
Square drive 3/8"	DS-2403720

**3) Hexagonal quick change chuck
D6,3**

Type	Article number
Bit shaft precision-guide 13 mm	DS-2403705
Bit shaft precision-guide 24 mm	DS-2403710

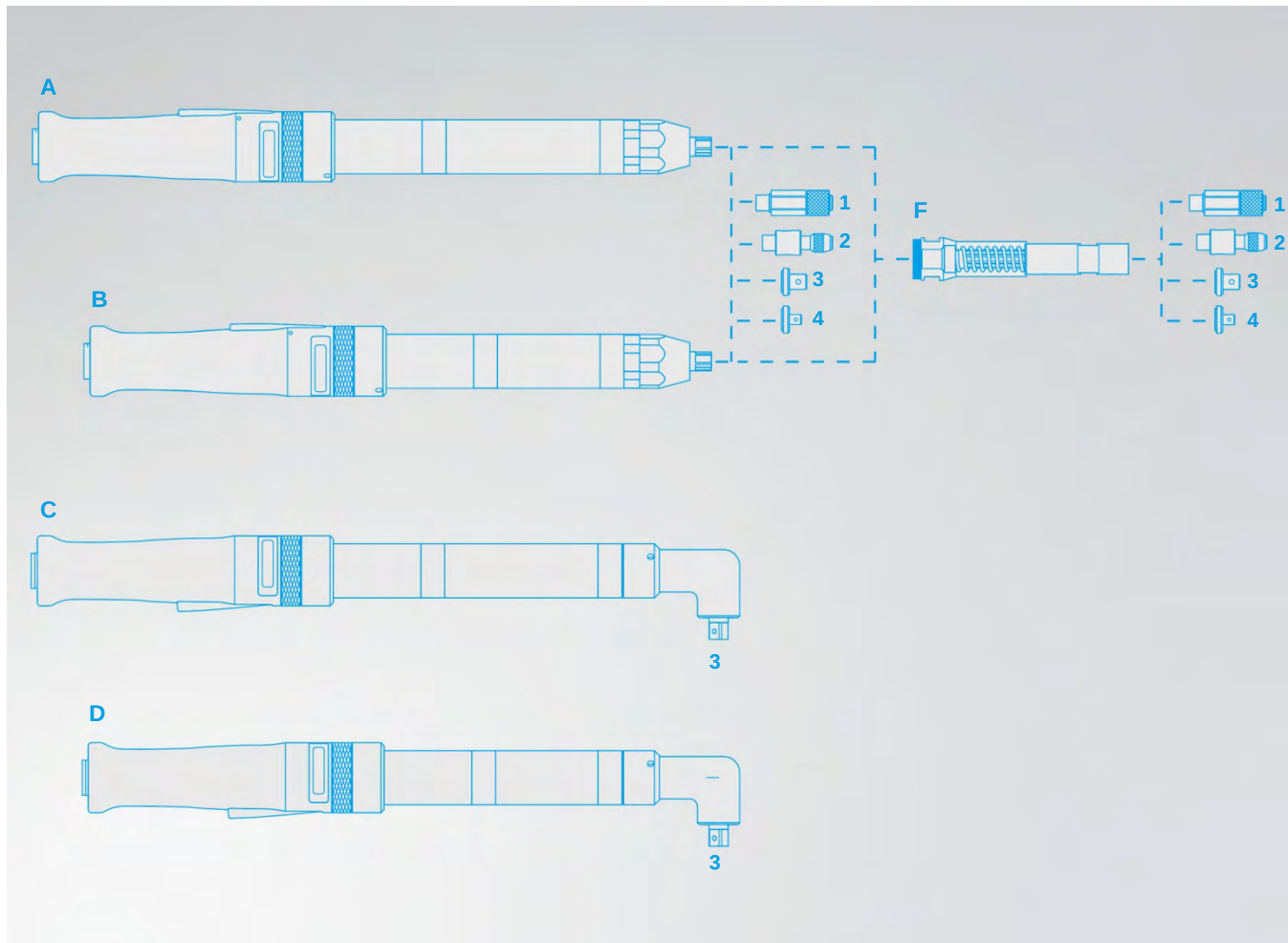
Cable

Cable for interconnection between nutrunner and control system

Type	Cable length	Article number
Interconnecting cable DS34 / DS44 / SMP300 DSP05	5 m	MK-2409005
Interconnecting cable DS34 / DS44 / SMP300 DSP10	10 m	MK-2409010
Interconnecting cable DS34 / DS44 / SMP300 DSP15	15 m	MK-2409015
Interconnecting cable DS34 / DS44 / SMP300 DSP05 - angled 90° right	5 m	MK-2409105
Interconnecting cable DS34 / DS44 / SMP300 DSP10 - angled 90° right	10 m	MK-2409110
Interconnecting cable DS34 / DS44 / SMP300 DSP15 - angled 90° right	15 m	MK-2409115
Interconnecting cable DS34 / DS44 / SMP300 DSP05 - angled 90° left	5 m	MK-2409205
Interconnecting cable DS34 / DS44 / SMP300 DSP10 - angled 90° left	10 m	MK-2409210
Interconnecting cable DS34 / DS44 / SMP300 DSP15 - angled 90° left	15 m	MK-2409215

[> Illustration angled interconnecting cable \(page 97\)](#)

[> to the technical drawings \(page 96\)](#)



DSH 34 series

A) DSH 34 MDW with torque transducer Straight output



Type	Max. torque Nm	Application area Nm	Max. speed rpm	Angle resolution Degree [°]	Article number
DSH 34 / 05 MDW	5	1 – 5	1540	1,7	DSH-2340051
DSH 34 / 10 MDW	10	2 – 10	1540	1,7	DSH-2340101

Torque accuracy 0,5 %, torque tolerance better 5 % according to ISO 5393

B) DSH 34 SA without torque transducer Straight output



Type	Max. torque Nm	Application area Nm	Max. speed rpm	Angle resolution Degree [°]	Article number
DSH 34 / 05 SA	5	1 – 5	1540	1,7	DSH-2341051
DSH 34 / 10 SA	10	2 – 10	1540	1,7	DSH-2341101

Torque accuracy 5 %

C) DSH 34 MDW-WA with torque transducer
Angle head (3/8" square drive)


Type	Max. torque Nm	Application area Nm	Max. speed rpm	Angle resolution Degree [°]	Article number
DSH 34 / 05 MDW-WA	5	1 – 5	1070	1,2	DSH-2340050
DSH 34 / 10 MDW-WA	10	2 – 10	1070	1,2	DSH-2340100
DSH 34 / 20 MDW-WA	20	4 – 20	1070	1,2	DSH-2340200

Torque accuracy 0,5 %, torque tolerance better 8 % according to ISO 5393

D) DSH 34 SA-WA without torque transducer
Angle head (3/8" square drive)


Type	Max. torque Nm	Application area Nm	Max. speed rpm	Angle resolution Degree [°]	Article number
DSH 34 / 05 SA-WA	5	1 – 5	1070	1,2	DSH-2341050
DSH 34 / 10 SA -WA	10	2 – 10	1070	1,2	DSH-2341100
DSH 34 / 20 SA-WA	20	4 – 20	1070	1,2	DSH-2341200

Torque accuracy 5 %

F) Spring output


Type	Article number
Spring output 30 mm	DS-2403025
Spring output 50 mm	DS-2403030

1) Hexagonal quick change chuck
D6,3


Type	Article number
Bit shaft precision-guide 24 mm	DS-2403710

2) Hexagonal quick change chuck
D6,3


Type	Article number
Bit shaft precision-guide 13	DS-2403705

3) Square drive 3/8"


Type	Article number
Square drive 3/8"	DS-2403720

4) Square drive 1/4"

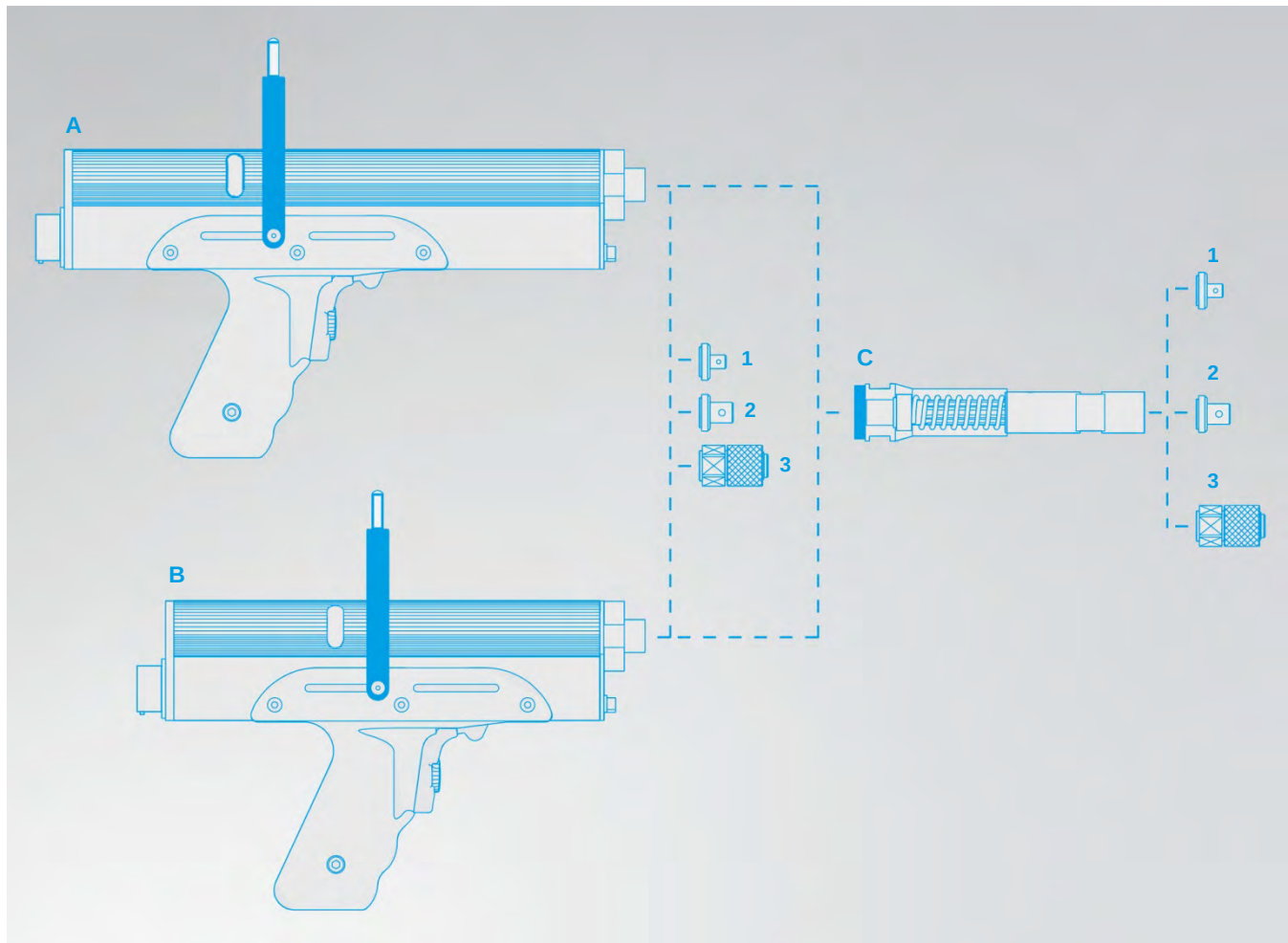

Type	Article number
Square drive 1/4"	DS-2403715

Cable

Cable for interconnection between nutrunner and control system

Type	Cable length	Article number
Interconnecting cable DSH34 / DSH44 DSP05 - with plug protection	5 m	MK-2409305
Interconnecting cable DSH34 / DSH44 DSP10 - with plug protection	10 m	MK-2409310
Interconnecting cable DSH34 / DSH44 DSP15 - with plug protection	15 m	MK-2409315

[> to the technical drawings \(page 98\)](#)



DS 44-P series

A) DS 44 MDW-P with torque transducer



Type	Max. torque Nm	Application area Nm	Max. speed rpm	Angle resolution Degree [°]	Article number
DS 44 / 025 MDW-P	2,5	0,5 – 2,5	1300	0,1	DS-2442025
DS 44 / 05 MDW-P	5	1 – 5	1300	0,1	DS-2442050
DS 44 / 10 MDW-P	10	2 – 10	900	0,1	DS-2442100
DS 44 / 20 MDW-P	20	4 – 20	530	0,1	DS-2442200
DS 44 / 35 MDW-P	35	7 – 35	480	0,1	DS-2442350

Torque accuracy 0,5 %, torque tolerance better 5 % according to ISO 5393

B) DS 44 SA-P without torque transducer



Type	Max. torque Nm	Application area Nm	Max. speed rpm	Angle resolution Degree [°]	Article number
DS 44 / 05 SA-P	5	1 – 5	1300	3,3	DS-2443050
DS 44 / 10 SA-P	10	2 – 10	900	2,3	DS-2443100
DS 44 / 20 SA-P	20	4 – 20	530	1,4	DS-2443200
DS 44 / 35 SA-P	35	7 – 35	480	1,0	DS-2443350

Torque accuracy 5 %

C) Spring output

Type	Article number
Spring output 30 mm	DS-2403025
Spring output 30 mm with depth initiator	DS-2403045
Spring output 50 mm	DS-2403030
Spring output 50 mm with depth initiator	DS-2403050

1) Square drive 1/4"

Type	Article number
Square drive 1/4"	DS-2403715

2) Square drive 3/8"

Type	Artikelnummer
Square drive 3/8"	DS-2403720

**3) Hexagonal quick change chuck
D6,3**

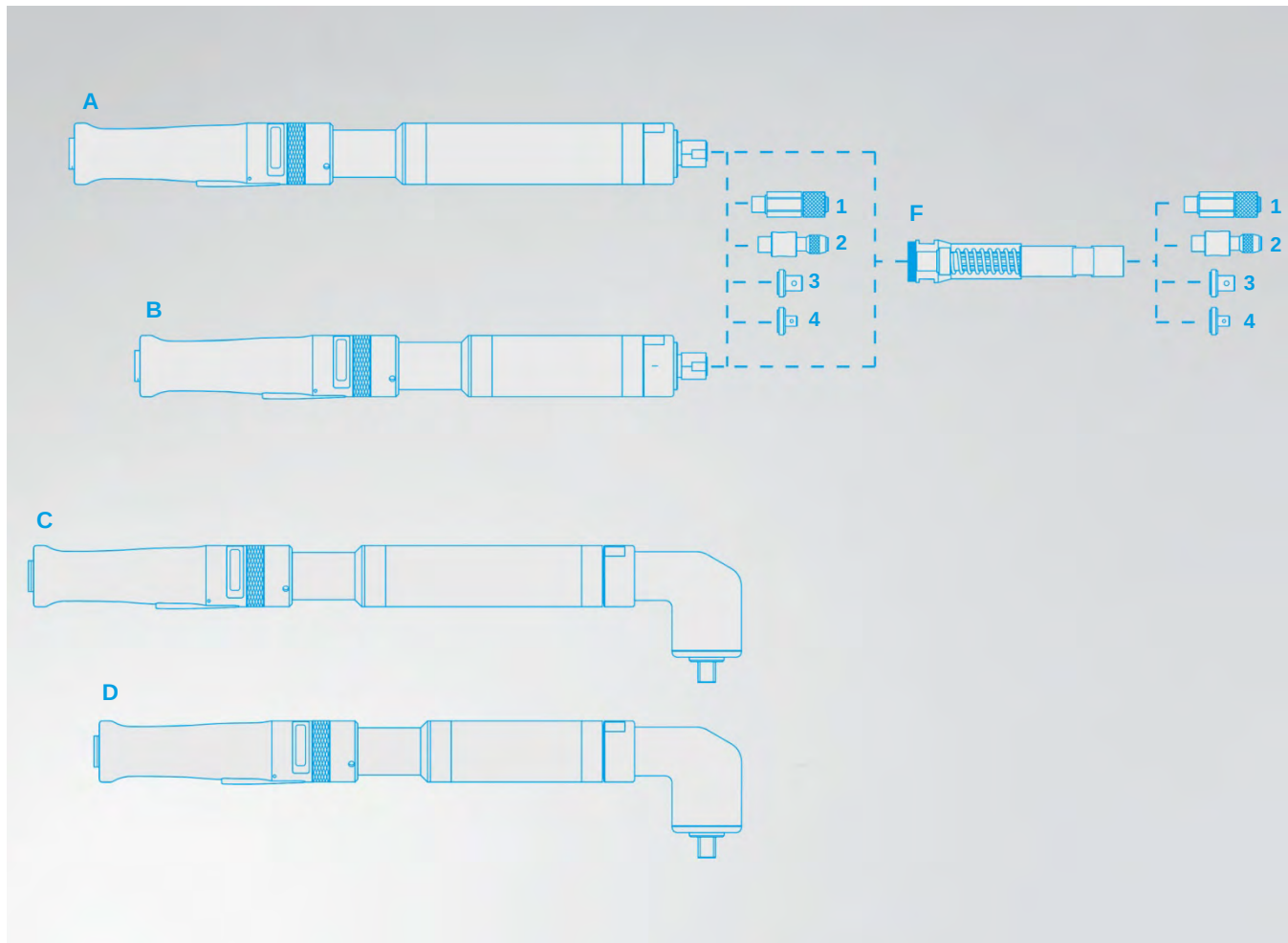
Type	Article number
Bit shaft precision-guide 13 mm	DS-2403705
Bit shaft precision-guide 24 mm	DS-2403710

Cable

Cable for interconnection between nutrunner and control system

Type	Cable length	Article number
Interconnecting cable DS34 / DS44 / SMP300 DSP05	5 m	MK-2409005
Interconnecting cable DS34 / DS44 / SMP300 DSP10	10 m	MK-2409010
Interconnecting cable DS34 / DS44 / SMP300 DSP15	15 m	MK-2409015
Interconnecting cable DS34 / DS44 / SMP300 DSP05 - angled 90° right	5 m	MK-2409105
Interconnecting cable DS34 / DS44 / SMP300 DSP10 - angled 90° right	10 m	MK-2409110
Interconnecting cable DS34 / DS44 / SMP300 DSP15 - angled 90° right	15 m	MK-2409115
Interconnecting cable DS34 / DS44 / SMP300 DSP05 - angled 90° left	5 m	MK-2409205
Interconnecting cable DS34 / DS44 / SMP300 DSP10 - angled 90° left	10 m	MK-2409210
Interconnecting cable DS34 / DS44 / SMP300 DSP15 - angled 90° left	15 m	MK-2409215

[> Illustration angled interconnecting cable \(page 102\)](#)[> to the technical drawings \(page 100\)](#)



DSH 44 series

A) DSH 44 MDW with torque transducer Straight output



Type	Max. torque Nm	Application area Nm	Max. speed rpm	Angle resolution Degree [°]	Article number
DSH 44 / 20 MDW	20	4 – 20	680	1	DSH-2440201
DSH 44 / 30 MDW	30	6 – 30	680	1	DSH-2440301

Torque accuracy 0,5 %, torque tolerance better 5 % according to ISO 5393

B) DSH 44 SA without torque transducer Straight output



Type	Max. torque Nm	Application area Nm	Max. speed rpm	Angle resolution Degree [°]	Article number
DSH 44 / 20 SA	20	4 – 20	680	1	DSH-2441201
DSH 44 / 30 SA	30	6 – 30	680	1	DSH-2441301

Torque accuracy 5 %

C) DSH 44 MDW-WA with torque transducer
Angle head

Type	Square drive	Max. torque Nm	Application area Nm	Max. speed rpm	Article number
DSH 44 / 40 MDW-WA	1/2"	40	8 – 40	350	DSH-2440400
DSH 44 / 60 MDW-WA	1/2"	60	12 – 60	350	DSH-2440600

Torque accuracy 0,5 %, torque tolerance better 8 % according to ISO 5393, angle resolution 1 degree [°]

D) DSH 44 SA-WA without torque transducer
Angle head

Type	Square drive	Max. torque Nm	Application area Nm	Max. speed rpm	Article number
DSH 44 / 40 SA-WA	1/2"	40	8 – 40	350	DSH-2441400
DSH 44 / 60 SA -WA	1/2"	60	12 – 60	350	DSH-2441600

Torque accuracy 5 %, angle resolution 1 degree [°]

F) Spring output

Type	Article number
Spring output 30 mm	DS-2403025
Spring output 50 mm	DS-2403030

1) Hexagonal quick change chuck
D6,3

Type	Article number
Bit shaft precision-guide 24 mm	DS-2403710

2) Hexagonal quick change chuck
D6,3

Type	Article number
Bit shaft precision-guide 13 mm	DS-2403705

3) Square drive 3/8"

Type	Article number
Square drive 3/8"	DS-2403720

4) Square drive 1/4"

Type	Article number
Square drive 1/4"	DS-2403715

Cable

Cable for interconnection between nutrunner and control system

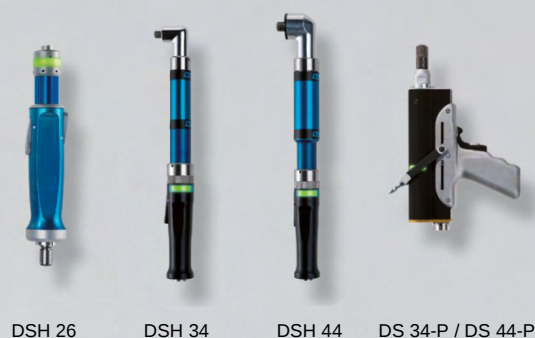
Type	Cable length	Article number
Interconnecting cable DSH34 / DSH44 DSP05 - with plug protection	5 m	MK-2409305
Interconnecting cable DSH34 / DSH44 DSP10 - with plug protection	10 m	MK-2409310
Interconnecting cable DSH34 / DSH44 DSP15 - with plug protection	15 m	MK-2409315

[> to the technical drawings \(page 103\)](#)

Technical data

Hand-held nutrunners of the DS series for a manual assembly with straight or with angled output. Available in the execution MDW, the torque measurement is made directly at the output by a transducer, or in the execution SA, the torque measurement is made indirect by the motor.

The tightening tools consist out of a robust mechanic with servo drive technology, gearbox unit with precision gearwheel bearing, ergonomic handle and wear-free operating elements.



- Torque control, angle of rotation control and signal control are integrated
- Integrated digital parameter memory module enables error-free setup
- Monitoring with envelope technology and windowing (tightening control system)
- Thanks to the torque transducer with consistent accuracy, only one measuring range is necessary
- Powerful, maintenance-free EC motor with infinitely variable speed control; CW / CCW
- Status indication (RUN, OK, NOK) directly at the nutrunner
- Start-button with programmable functions-switch, can be configured for the switchover of programs (different operations)

DSH 26 series	MDW SA	Straight nutrunners Angle nutrunners			
Models, max. torque		0,5 Nm	1 Nm	2 Nm	4 Nm
max. speed (execution MDW)		1450 1/min	1450 1/min	1020 1/min	400 1/min
max. speed (execution SA)		1700 1/min	1700 1/min	820 1/min	400 1/min
Type of output		straight angled	straight angled	straight angled	straight angled

DS 34-P series	MDW SA	Pistol grip nutrunners			
Models, max. torque		2,5 Nm	5 Nm	10 Nm	15 Nm
max. speed		880 1/min	880 1/min	1540 1/min	1540 1/min
Type of output		straight	straight	straight	straight

DSH 34 series	MDW SA	Straight nutrunners Angle nutrunners			
Models, max. torque		5 Nm	10 Nm	20 Nm	
max. speed (straight nutrunner)		1540 1/min	1540 1/min	---	
max. speed (angle nutrunner)		1070 1/min	1070 1/min	1070 1/min	
Type of output		straight angled	straight angled	angled	

DS 44-P series	MDW SA	Pistol grip nutrunners			
Models, max. torque		2,5 Nm	5 Nm	10 Nm	20 Nm
max. speed		1300 1/min	1300 1/min	900 1/min	530 1/min
Type of output		straight	straight	straight	straight

DSH 44 series	MDW SA	Straight nutrunners Angle nutrunners			
Models, max. torque		20 Nm	30 Nm	40 Nm	60 Nm
max. speed		680 1/min	680 1/min	350 1/min	350 1/min
Type of output		straight	straight	angled	angled

Accessories

- Diverse motor and output variants, crow foots as well as individual technical solutions
- Suspension elements, balancer
- Socket boxes, handling equipment

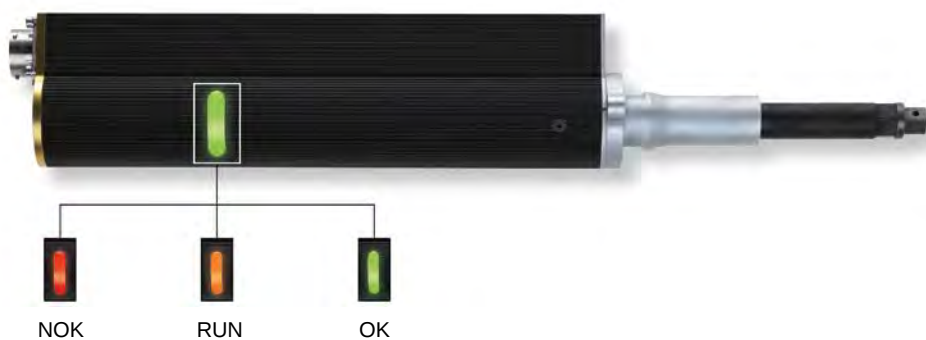
CONVINCING ASSEMBLY SOLUTIONS FROM DSM MESSTECHNIK.



BUILT-IN NUTRUNNERS DS series

Overview of the different construction sizes

Type	Models Maximum torque in Nm
> DS 26	0,5 1 2 4
> DS 34	2,5 5 10 15
> DS 44	2,5 5 10 20 35
> DS 57	25 50 70 90 140
> DS 80	220 300 420 500 600
> DS 80-130	900 1000 1500 2000 2400



The illuminated field at the tool shows the tightening status.

The correct nutrunner for every tightening process

The requirements to a built-in nutrunner are multifaceted. The DS series offers you products which are especially configured for your application.

In the suitable size, with the suitable torque, in the required precision, with the suitable output.

Components of DS-nutrunners

- Maintenance-free brushless servo motor
- Robust housing out of stainless steel and aluminium
- Various motors and outputs

Advantages of DS-nutrunners

- Insensitive against electro-magnetic radiation due to digital data transfer
- Absolut measuring system enables positioning (MDW)
- Illuminated field for indication of the tightening status
- Simple programmable at the control unit or via external PC

MDW or SA – with or without torque transducer

DS-Schrauber des Typs MDW verfügen über einen digitalen Drehmomentsensor. Das anliegende Drehmoment kann damit sehr präzise erfasst werden. Die Genauigkeitsabweichung beträgt maximal 0,5 % vom Messbereichsendwert.

DS-nutrunners of type MDW have a digital torque transducer. With this, the upcoming torque can be collected very precise. The accuracy-deviation is max. 0,5 % of the final value.

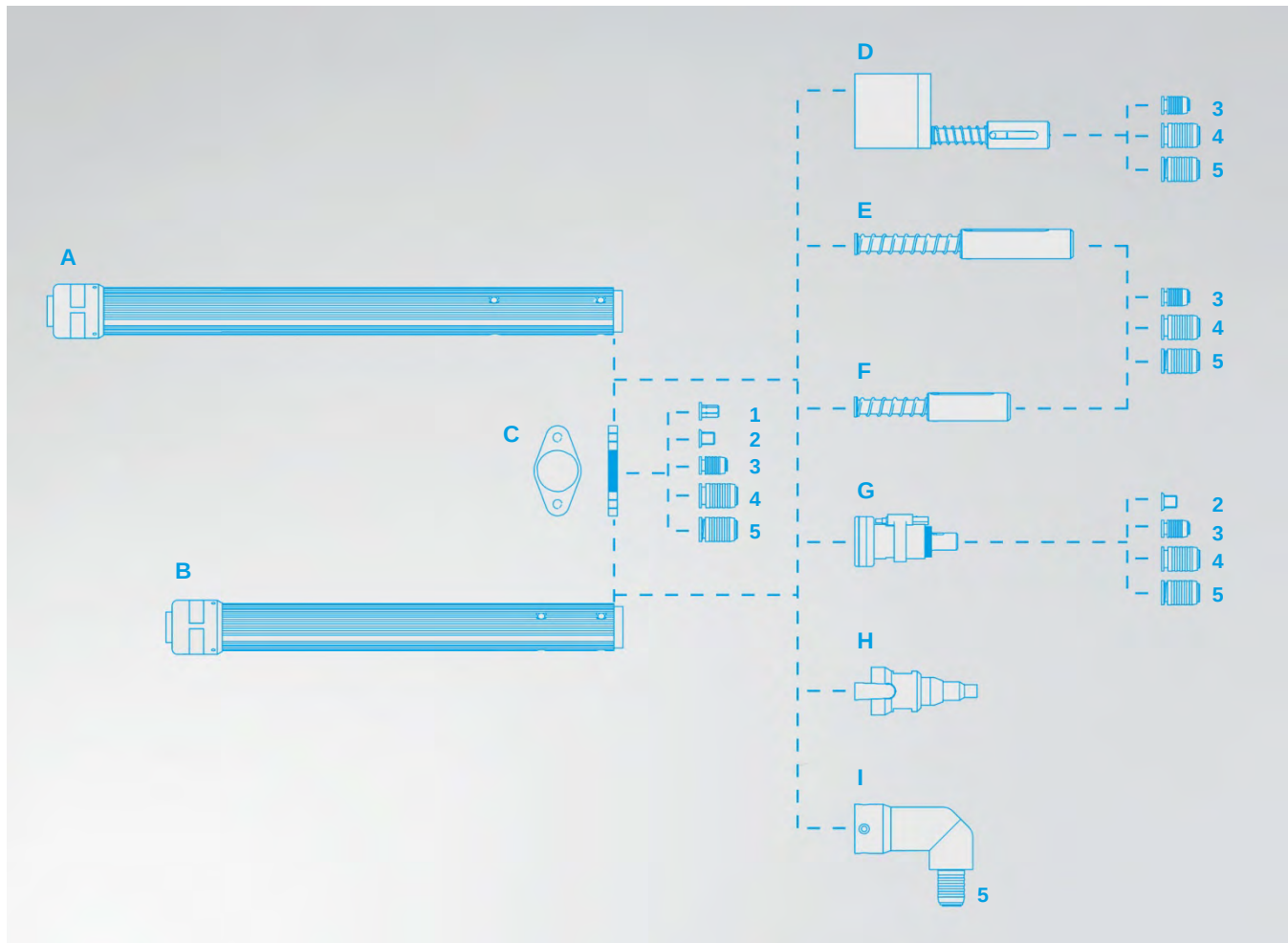
Type	Torque measuring	Torque accuracy	Angle resolution
MDW	via digital torque transducer	0,5 %	> Data sheet
SA	via motor current	5 %	> Data sheet

Suitable control units for nutrunners of the DS series



Control unit	MultiBasic Blue TA	MultiBasic TA	MultiClassic TA	MultPro TA	MultiPro 3G
suitable for type	SA	SA	MDW	MDW	MDW

[> to the control systems \(page 63\)](#)



DS 26 series

A) DS 26 MDW with torque transducer



Type	Max. torque Nm	Application area Nm	Max. speed rpm	Angle resolution Degree [°]	Article number
DS 26 / 005 MDW	0,5	0,05 – 0,5	1450	3,7	DS-2260005
DS 26 / 01 MDW	1	0,2 – 1	1450	3,7	DS-2260010
DS 26 / 02 MDW	2	0,4 – 2	1020	2,6	DS-2260020
DS 26 / 04 MDW	4	0,8 – 4	400	1,0	DS-2260040

Torque accuracy 0,5 %, torque tolerance better 5 % according to ISO 5393

B) DS 26 SA without torque transducer



Type	Max. torque Nm	Application area Nm	Max. speed rpm	Angle resolution Degree [°]	Article number
DS 26 / 005 SA	0,5	0,05 – 0,5	1700	4,3	DS-2261005
DS 26 / 01 SA	1	0,2 – 1	1700	4,3	DS-2261010
DS 26 / 02 SA	2	0,4 – 2	820	2,1	DS-2261020
DS 26 / 04 SA	4	0,8 – 4	400	1,0	DS-2261040

Torque accuracy 5 %

C) Mounting flange

Type	Article number
Mounting flange	DS-2263000

**D) Output offset
max. 2 Nm**

Type	Article number
Output offset V1	DS-2263005

E/F) Spring output

Type	Article number
Spring output 20 mm	DS-2263010
Spring output 50 mm	DS-2263015

G) Self start output

Type	Article number
Self start with 5 mm spring deflexion	DS-2263020

H) Vacuum screw-retainer

Type	Article number
With electric supply unit	DS-2263895
With pneumatic supply unit	DS-2263896

I) Winkelabtrieb

Type	Article number
Angle head (D6,3); Gear ratio 1:1	DS-2263025
Torque tolerance better 8 % according to ISO 5393	

1) Hexagon drive 1/4"

Type	Article number
Hexagon drive 1/4"	DS-2263725

2) Square drive 1/4"

Type	Article number
Square drive 1/4"	DS-2263730

**3) Hexagonal quick change chuck
B3**

Type	Article number
Hexagonal quick change chuck B3	DS-2263720

**4) Hexagonal quick change chuck
B5,5**

Type	Article number
Hexagonal quick change chuck B5,5	DS-2263715

**5) Hexagonal quick change chuck
D6,3**

Type	Article number
Bit shaft precision-guide 13 mm	DS-2263705
Bit shaft precision-guide 24 mm	DS-2263710

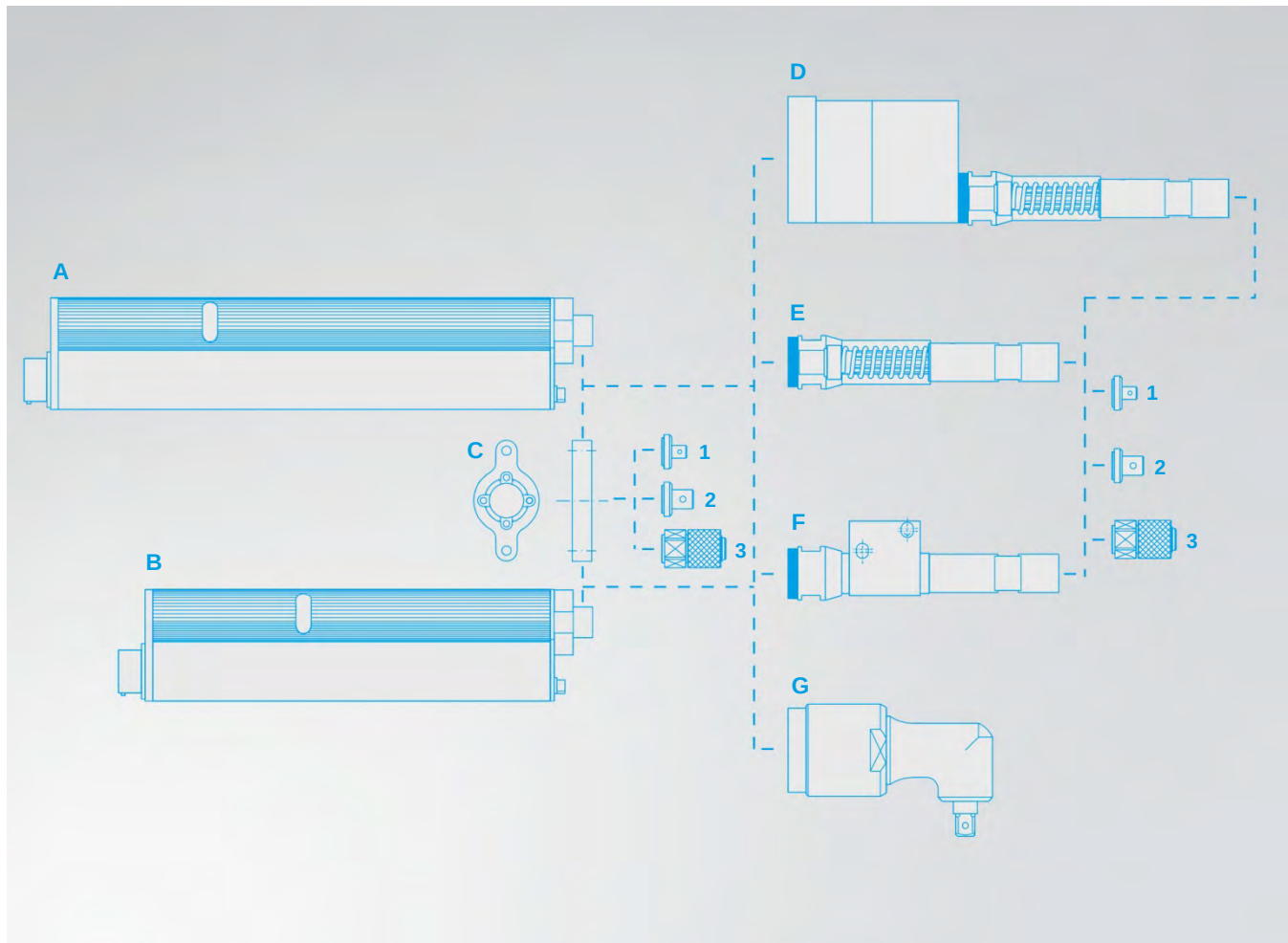
Cable

Cable for interconnection between nutrunner and control system

Type	Cable length	Article number
Interconnecting cable DS26 / DSH26 DSP05	5 m	MK-2269005
Interconnecting cable DS26 DSP05 - heavy duty version	5 m	MK-2269105
Interconnecting cable DS26 DSP10 - heavy duty version	10 m	MK-2269110
Interconnecting cable DS26 DSP15 - heavy duty version	15 m	MK-2269115
Interconnecting cable DS26 DSP05 - heavy duty version, angled 90° right	5 m	MK-2269205
Interconnecting cable DS26 DSP10 - heavy duty version, angled 90° right	10 m	MK-2269210
Interconnecting cable DS26 DSP15 - heavy duty version, angled 90° right	15 m	MK-2269215
Interconnecting cable DS26 DSP05 - heavy duty version, angled 90° left	5 m	MK-2269305
Interconnecting cable DS26 DSP10 - heavy duty version, angled 90° left	10 m	MK-2269310
Interconnecting cable DS26 DSP15 - heavy duty version, angled 90° left	15 m	MK-2269315

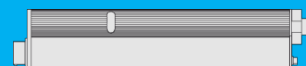
[> Illustration angled interconnecting cable \(page 107\)](#)

[> to the technical drawings \(page 105\)](#)



DS 34 series

A) DS 34 MDW with torque transducer



Type	Max. torque Nm	Application area Nm	Max. speed rpm	Angle resolution Degree [°]	Article number
DS 34 / 025 MDW	2,5	0,5 – 2,5	880	0,1	DS-2340025
DS 34 / 05 MDW	5	1 – 5	880	0,1	DS-2340050
DS 34 / 10 MDW	10	2 – 10	1540	0,1	DS-2340100
DS 34 / 15 MDW	15	3 – 15	1540	0,1	DS-2340150

Torque accuracy 0,5 %, torque tolerance better 5 % according to ISO 5393

B) DS 34 SA without torque transducer



Type	Max. torque Nm	Application area Nm	Max. speed rpm	Angle resolution Degree [°]	Article number
DS 34 / 025 SA	2,5	0,5 – 2,5	880	3,3	DS-2341025
DS 34 / 05 SA	5	1 – 5	880	3,3	DS-2341050
DS 34 / 10 SA	10	2 – 10	1540	1,7	DS-2341100
DS 34 / 15 SA	15	3 – 15	1540	1,7	DS-2341150

Torque accuracy 5 %

C) Mounting flange

Type	Article number
Mounting flange	DS-2343000

D) Output offset 3K

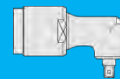
Type	Article number
Output offset V1 (max. 10 Nm)	DS-2343005

E) Spring output

Type	Artikelnummer
Spring output 30 mm	DS-2403025
Spring output 30 mm with depth initiator	DS-2403045
Spring output 50 mm	DS-2403030
Spring output 50 mm with depth initiator	DS-2403050

F) Spring output with self start initiator

Type	Article number
Self start 30 mm	DS-2403035
Self start 50 mm	DS-2403040

G) Angle head 3/8"

Nutrunner MDW / SA	Max. speed 1/min	Type	Article number
DS 34 / 025 WA	550	WA (3/8")	DS-2343010
DS 34 / 05 WA	550		
DS 34 / 10 WA	1070		
DS 34 / 15 WA	1070		

Torque tolerance better 8 % according to ISO 5393

1) Square drive 1/4"

Type	Article number
Square drive 1/4"	DS-2403715

2) Square drive 3/8"

Type	Article number
Square drive 3/8"	DS-2403720

**3) Hexagonal quick change chuck
D6,3**

Type	Article number
Bit shaft precision-guide 13 mm	DS-2403705
Bit shaft precision-guide 24 mm	DS-2403710

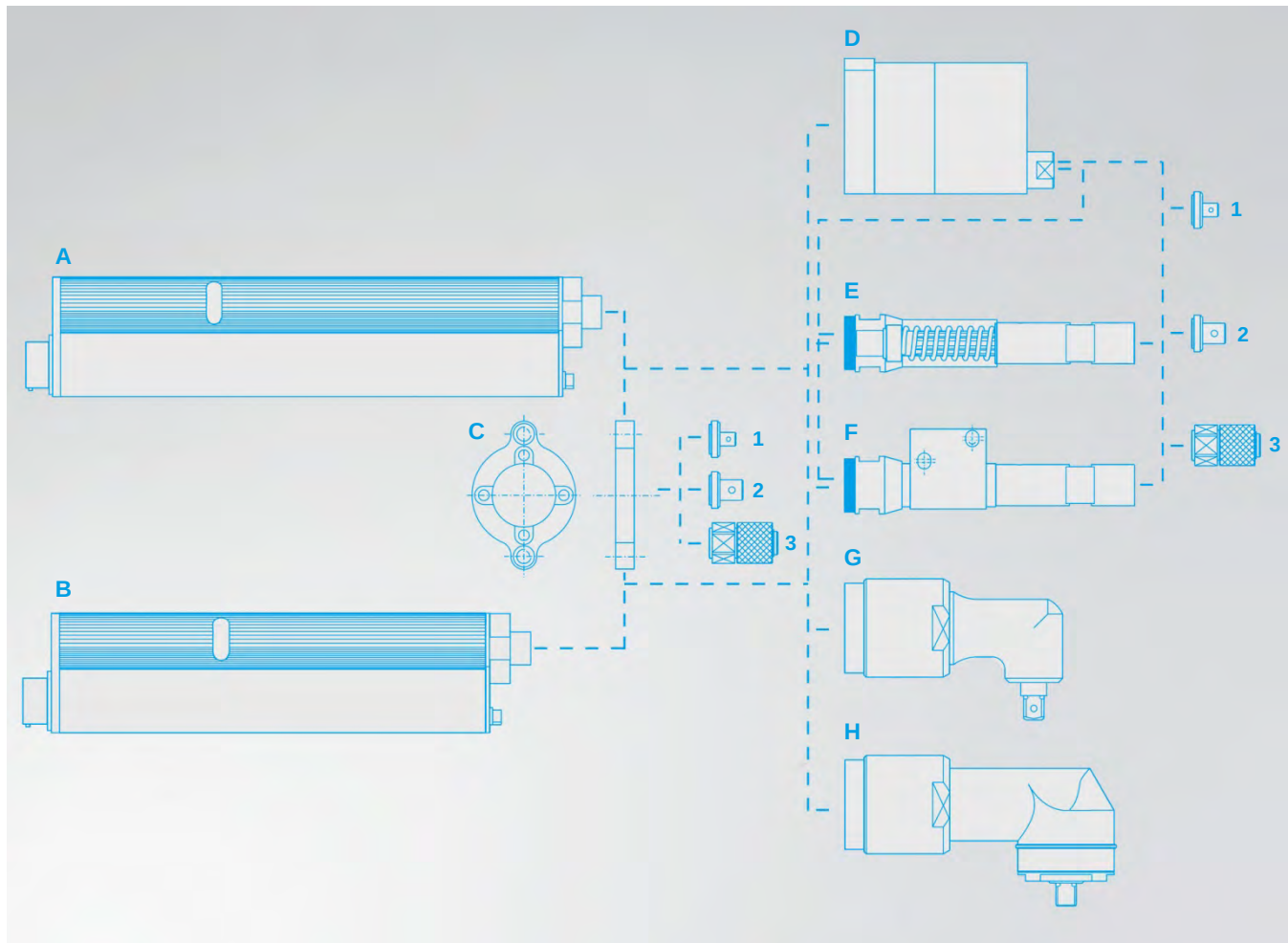
Cable

Cable for interconnection between nutrunner and control system

Type	Cable length	Article number
Interconnecting cable DS34 / DS44 / SMP300 DSP05	5 m	MK-2409005
Interconnecting cable DS34 / DS44 / SMP300 DSP10	10 m	MK-2409010
Interconnecting cable DS34 / DS44 / SMP300 DSP15	15 m	MK-2409015
Interconnecting cable DS34 / DS44 / SMP300 DSP05 - angled 90° right	5 m	MK-2409105
Interconnecting cable DS34 / DS44 / SMP300 DSP10 - angled 90° right	10 m	MK-2409110
Interconnecting cable DS34 / DS44 / SMP300 DSP15 - angled 90° right	15 m	MK-2409115
Interconnecting cable DS34 / DS44 / SMP300 DSP05 - angled 90° left	5 m	MK-2409205
Interconnecting cable DS34 / DS44 / SMP300 DSP10 - angled 90° left	10 m	MK-2409210
Interconnecting cable DS34 / DS44 / SMP300 DSP15 - angled 90° left	15 m	MK-2409215

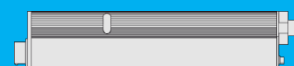
[> Illustration angled interconnecting cable \(page 110\)](#)

[> to the technical drawings \(page 108\)](#)



DS 44 series

A) DS 44 MDW with torque transducer



Type	Max. torque Nm	Application area Nm	Max. speed rpm	Angle resolution Degree [°]	Article number
DS 44 / 025 MDW	2,5	0,5 – 2,5	1300	0,1	DS-2440025
DS 44 / 05 MDW	5	1 – 5	1300	0,1	DS-2440050
DS 44 / 10 MDW	10	2 – 10	900	0,1	DS-2440100
DS 44 / 20 MDW	20	4 – 20	530	0,1	DS-2440200
DS 44 / 35 MDW	35	7 – 35	480	0,1	DS-2440350

Torque accuracy 0,5 %, torque tolerance better 5 % according to ISO 5393

B) DS 44 SA without torque transducer



Type	Max. torque Nm	Application area Nm	Max. speed rpm	Angle resolution Degree [°]	Article number
DS 44 / 05 SA	5	1 – 5	1300	3,3	DS-2441050
DS 44 / 10 SA	10	2 – 10	900	2,3	DS-2441100
DS 44 / 20 SA	20	4 – 20	530	1,4	DS-2441200
DS 44 / 35 SA	35	7 – 35	480	1,0	DS-2441350

Torque accuracy 5 %

C) Mounting flange

Type	Article number
Mounting flange	DS-2443000

D) Output offset

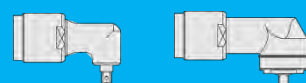
Type	Article number
Output offset V1 (max. 10 Nm)	DS-2443005

E) Spring output

Type	Article number
Spring output 30 mm	DS-2403025
Spring output 30 mm with depth	DS-2403045
Spring output 50 mm	DS-2403030
Spring output 50 mm with depth	DS-2403050

F) Spring output with self start initiator

Type	Article number
Self start 30 mm	DS-2403035
Self start 50 mm	DS-2403040

G/H) Angle head

Nutrunner MDW / SA	Max. speed 1/min	Type	Max. Drehm. Nm	Article number
DS 44 / 025 WA 20	620	WA 20 (3/8")	20	DS-2443015
DS 44 / 05 WA 20	620	WA 40 (3/8")	40	DS-2443020
DS 44 / 10 WA 20	370			
DS 44 / 20 WA 20	370			
DS 44 / 35 WA 40	250			

Torque tolerance better 8 % according to ISO 5393

1) Square drive 1/4"

Type	Article number
Square drive 1/4"	DS-2403715

2) Square drive 3/8"

Type	Article number
Square drive 3/8"	DS-2403720

**3) Hexagonal quick change chuck
D6,3**

Type	Article number
Bit shaft precision-guide 13 mm	DS-2403705
Bit shaft precision-guide 24 mm	DS-2403710

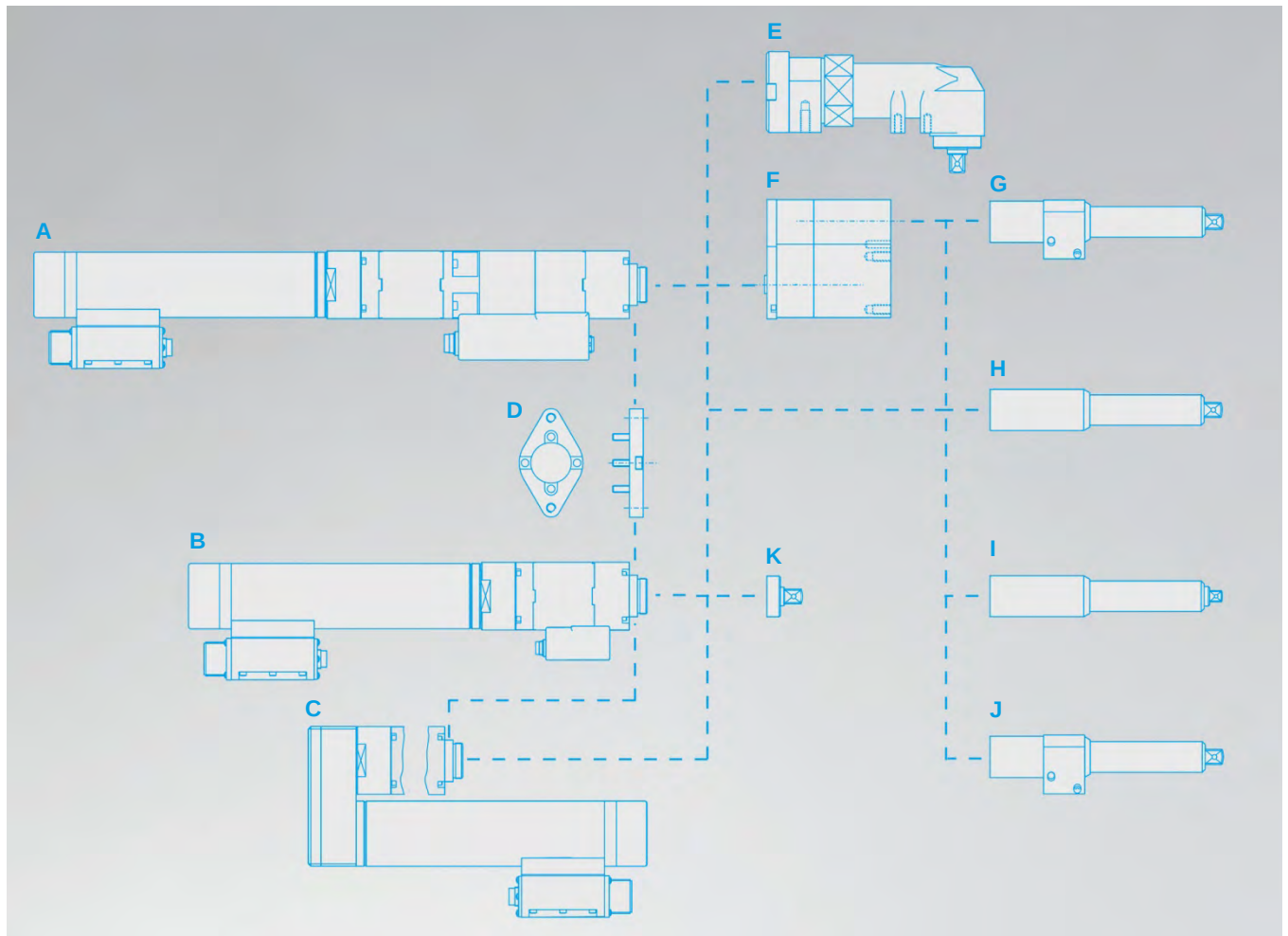
Cable

Cable for interconnection between nutrunner and control system

Type	Cable length	Article number
Interconnecting cable DS34 / DS44 / SMP300 DSP05	5 m	MK-2409005
Interconnecting cable DS34 / DS44 / SMP300 DSP10	10 m	MK-2409010
Interconnecting cable DS34 / DS44 / SMP300 DSP15	15 m	MK-2409015
Interconnecting cable DS34 / DS44 / SMP300 DSP05 - angled 90° right	5 m	MK-2409105
Interconnecting cable DS34 / DS44 / SMP300 DSP10 - angled 90° right	10 m	MK-2409110
Interconnecting cable DS34 / DS44 / SMP300 DSP15 - angled 90° right	15 m	MK-2409115
Interconnecting cable DS34 / DS44 / SMP300 DSP05 - angled 90° left	5 m	MK-2409205
Interconnecting cable DS34 / DS44 / SMP300 DSP10 - angled 90° left	10 m	MK-2409210
Interconnecting cable DS34 / DS44 / SMP300 DSP15 - angled 90° left	15 m	MK-2409215

[> Illustration angled interconnecting cable \(page 114\)](#)

[> to the technical drawings \(page 111\)](#)



DS 57 series

A) DS 57 MDW with torque transducer



Type	Max. torque Nm	Application area Nm	Max. speed rpm	Angle resolution Degree [°]	Article number
DS 57 / 25 MDW	25	5 – 25	650	0,1	DS-2570025
DS 57 / 50 MDW	50	10 – 50	800	0,1	DS-2570050
DS 57 / 70 MDW	70	14 – 70	800	0,1	DS-2570070
DS 57 / 90 MDW	90	18 – 90	430	0,1	DS-2570090
DS 57 / 140 MDW	140	28 – 140	430	0,1	DS-2570140

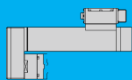
Torque accuracy 0,5 %, torque tolerance better 5 % according to ISO 5393

B) DS 57 SA without torque transducer



Type	Max. torque Nm	Application area Nm	Max. speed rpm	Angle resolution Degree [°]	Article number
DS 57 / 25 SA	25	5 – 25	650	4,5	DS-2571025
DS 57 / 50 SA	50	10 – 50	800	4,5	DS-2571050
DS 57 / 70 SA	70	14 – 70	800	2,2	DS-2571070
DS 57 / 140 SA	140	28 – 140	430	1,2	DS-2571140

Torque accuracy 5 %

C) Motor offset

Type	Article number
Motor offset V2	DS-2573010

D) Montageflansch

Type	Article number
Mounting flange	DS-2573000
Not compatible with the variants E) and F)	

E) Angle head

Nutrunner MDW / SA	Max. speed 1/min	Type	Article number
DS 57 / 50 WA	760	WA (1/2", max. 130 Nm)	DS-2573015
DS 57 / 70 WA	760		
DS 57 / 140 WA	400		

Torque tolerance better 8 % according to ISO 5393

F) Output offset

Type	Article number
Output offset V1	DS-2573005

**G) Spring output 50 mm
with self start initiator**

Type	Article number
Self start, square drive 1/2"	DS-2573045
Self start, square drive 3/8"	DS-2573050

**H) Spring output
square drive 1/2"**

Type	Article number
Spring output 50 mm	DS-2573025
Spring output 100 mm	DS-2573035

**I) Spring output
square drive 3/8" (max. 50 Nm)**

Type	Article number
Spring output 50 mm	DS-2573030
Spring output 100 mm	DS-2573040

**J) Spring output 50 mm
with depth initiator**

Type	Article number
Depth initiator, square drive 1/2"	DS-2573055
Depth initiator, square drive 3/8"	DS-2573065

* max. 50 Nm

**K) Stump output
square drive 1/2"**

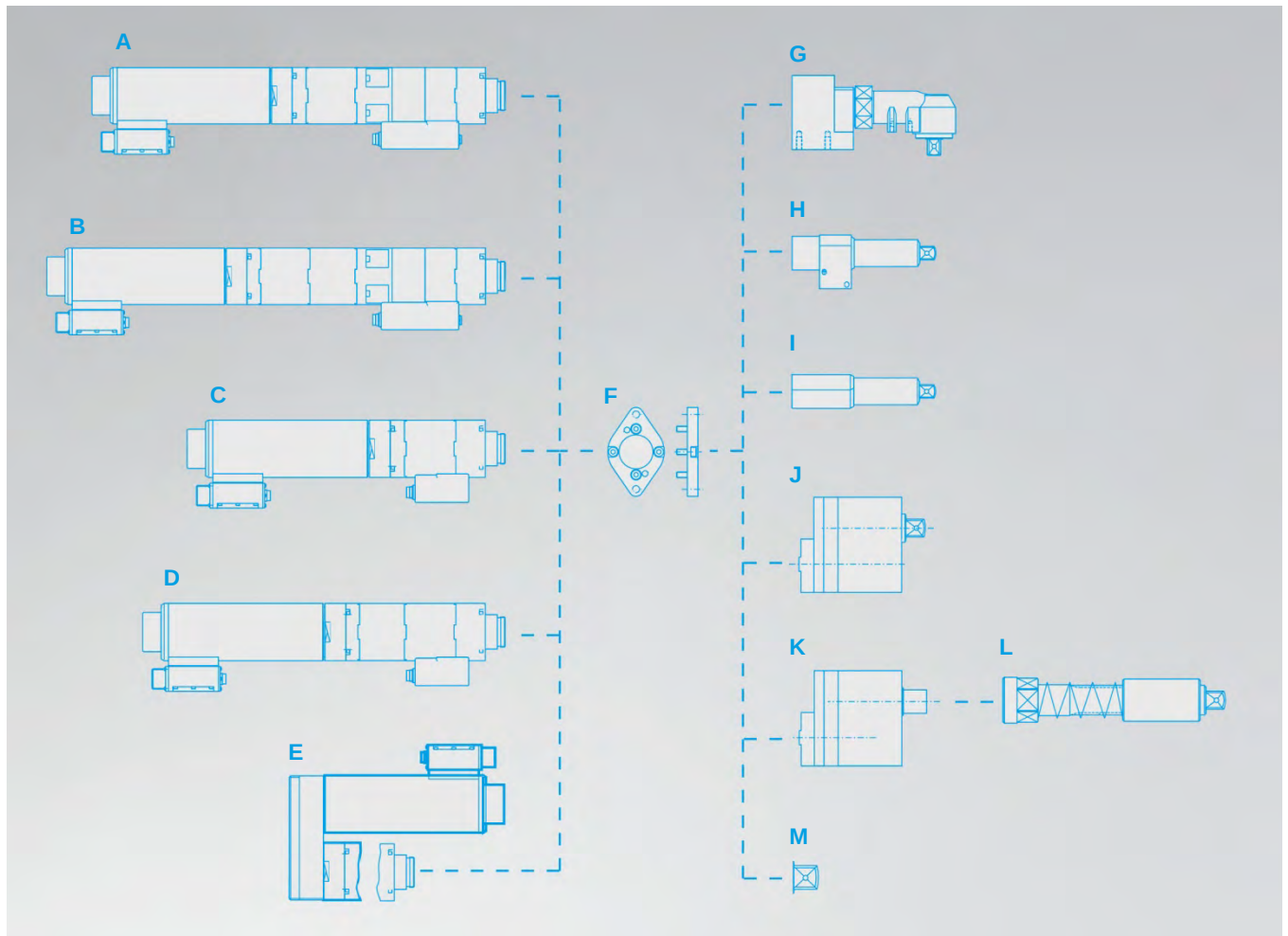
Type	Article number
Stump output ST	DS-2573020

Cable

Cables for interconnection between nutrunner and control system

Type	Cable length	Article number
Cable set DS57 / QMP80 / SMP400 DSP05	5 m	MK-0809005
Cable set DS57 / QMP80 / SMP400 DSP10	10 m	MK-0809010
Cable set DS57 / QMP80 / SMP400 DSP15	15 m	MK-0809015
Cable set DS57 / QMP80 / SMP400 DSP05 - with shielding	5 m	MK-0809105
Cable set DS57 / QMP80 / SMP400 DSP10 - with shielding	10 m	MK-0809110
Cable set DS57 / QMP80 / SMP400 DSP15 - with shielding	15 m	MK-0809115

[> to the technical drawings \(page 115\)](#)



DS 80 series

A) DS 80 MDW (220/300 Nm) with torque transducer



Type	Max. torque Nm	Application area Nm	Max. speed rpm	Angle resolution Degree [°]	Article number
DS 80 / 220 MDW	220	44 – 220	320	0,1	DS-2800022
DS 80 / 300 MDW	300	60 – 300	320	0,1	DS-2800030

Torque accuracy 0,5 %, torque tolerance better 5 % according to ISO 5393

B) DS 80 MDW (420/500/600 Nm) with torque transducer Booster gear unit



Type	Max. torque Nm	Application area Nm	Max. speed rpm	Angle resolution Degree [°]	Article number
DS 80 / 420 MDW	420	84 – 420	160	0,1	DS-2800042
DS 80 / 500 MDW	500	100 – 500	160	0,1	DS-2800050
DS 80 / 600 MDW	600	120 – 600	160	0,1	DS-2800060

Torque accuracy 0,5 %, torque tolerance better 5 % according to ISO 5393

C) DS 80 SA (220/300 Nm) without torque transducer

Type	Max. torque Nm	Application area Nm	Max. speed rpm	Angle resolution Degree [°]	Article number
DS 80 / 220 SA	220	44 – 220	320	1,2	DS-2801022
DS 80 / 300 SA	300	60 – 300	320	1,2	DS-2801030

Torque accuracy 5 %

**D) DS 80 SA (420/500/600 Nm) without torque transducer
Booster gear unit**

Type	Max. torque Nm	Application area Nm	Max. speed rpm	Angle resolution Degree [°]	Article number
DS 80 / 420 SA	420	84 – 420	160	1,0	DS-2801042
DS 80 / 500 SA	500	100 – 500	160	1,0	DS-2801050
DS 80 / 600 SA	600	120 – 600	160	1,0	DS-2801060

Torque accuracy 5 %

E) Motor offset

Type	Article number
Motor offset V2	DS-2803005

F) Mounting flange

Type	Article number
Mounting flange	DS-2803000

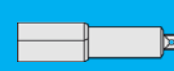
G) Angle head

Nutrunner MDW / SA	Max. speed 1/min	Type	Article number
DS 80 / 220 WA	200	WA (3/4")	DS-2803010

Torque tolerance better 8 % according to ISO 5393

**H) Spring output with self start
square drive 3/4"**

Spring deflexion	Article number
50 mm	DS-2803050
100 mm	DS-2803065
150 mm	DS-2803070

**I) Spring output
square drive 3/4"**

Spring deflexion	Article number
50 mm	DS-2803030
100 mm	DS-2803040
150 mm	DS-2803045

J) Output offset with stump output, square drive 1"

Type	Article number
Output offset V1 ST	DS-2803015

K) Output offset for spring output

Type	Article number
Output offset V1 3K	DS-2803020

L) Spring output for output offset

Type	Article number
Spring output 50 mm 3K	DS-2803075

M) Stump output square drive 3/4"

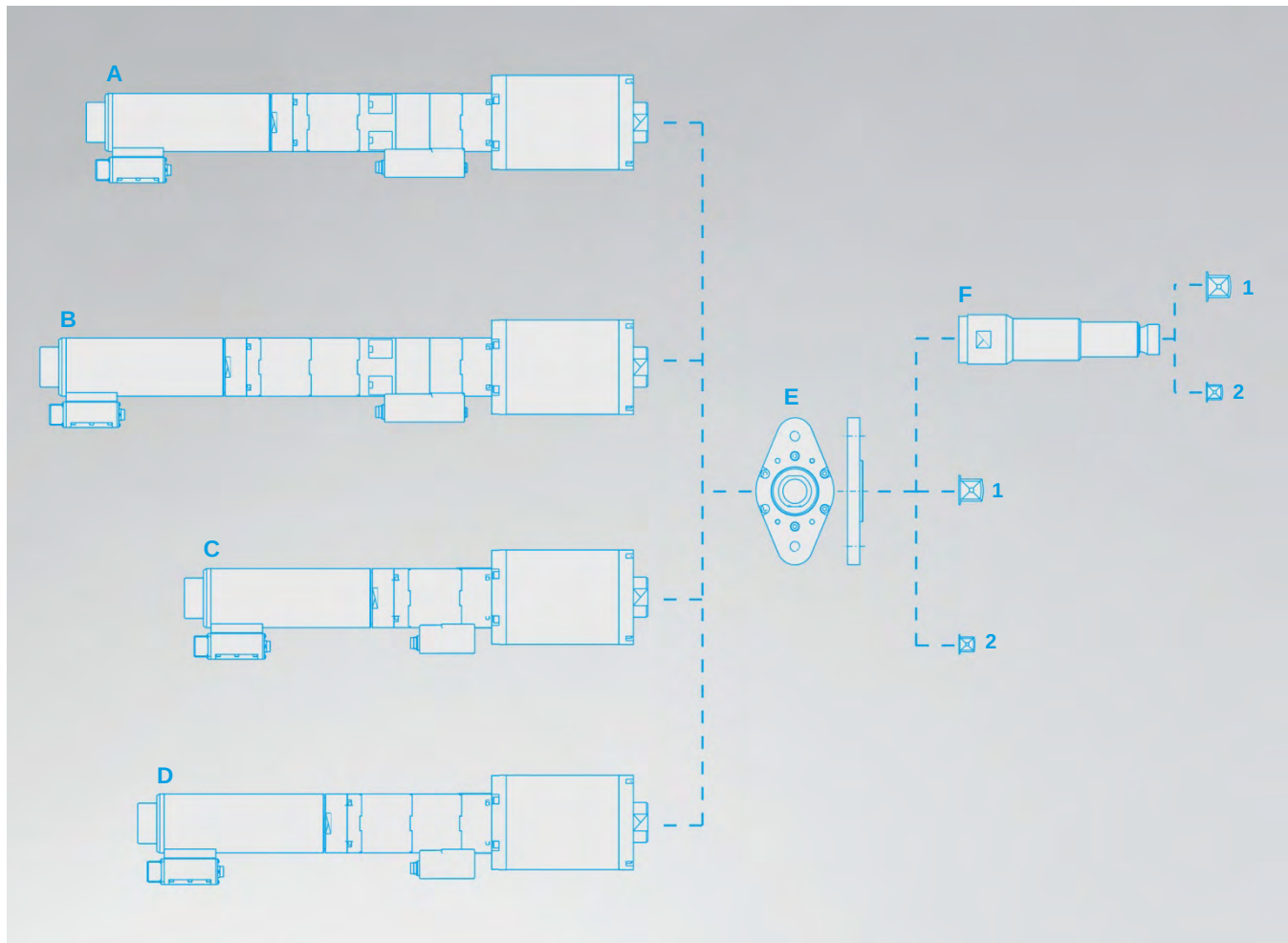
Type	Article number
Stump output ST	DS-2803025

Cable

Cables for interconnection between nutrunner and control system

Type	Cable length	Article number
Cable set DS80 / QMP100/140 / SMP500 DSP05	5 m	MK-1009005
Cable set DS80 / QMP100/140 / SMP500 DSP10	10 m	MK-1009010
Cable set DS80 / QMP100/140 / SMP500 DSP15	15 m	MK-1009015
Cable set DS80 / QMP100/140 / SMP500 DSP05 - with shielding	5 m	MK-1009105
Cable set DS80 / QMP100/140 / SMP500 DSP10 - with shielding	10 m	MK-1009110
Cable set DS80 / QMP100/140 / SMP500 DSP15 - with shielding	15 m	MK-1009115

[> to the technical drawings \(page 118\)](#)



DS 80-130 series

A) DS 80-130 MDW (900/1000 Nm) with torque transducer



Type	Max. torque Nm	Application area Nm	Max. speed rpm	Angle resolution Degree [°]	Article number
DS 80-130 / 900 MDW	900	180–900	75	0,1	DS-2800090
DS 80-130 / 1000 MDW	1000	200–1000	75	0,1	DS-2800100

Torque accuracy 0,5 %, torque tolerance better 5 % according to ISO 5393

B) DS 80-130 MDW (1500/2000/2400 Nm) with torque transducer Booster gear unit



Type	Max. torque Nm	Application area Nm	Max. speed rpm	Angle resolution Degree [°]	Article number
DS 80-130 / 1500 MDW	1500	300–1500	75	0,1	DS-2800150
DS 80-130 / 2000 MDW	2000	400–2000	37	0,1	DS-2800200
DS 80-130 / 2400 MDW	2400	480–2400	37	0,1	DS-2800240

Torque accuracy 0,5 %, torque tolerance better 5 % according to ISO 5393

C) DS 80-130 SA (900/1000 Nm) without torque transducer

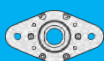
Type	Max. torque Nm	Application area Nm	Max. speed rpm	Angle resolution Degree [°]	Article number
DS 80-130 / 900 SA	900	180–900	75	1,0	DS-2801090
DS 80-130 / 1000 SA	1000	200–1000	75	1,0	DS-2801100

Torque accuracy 5 %

**D) DS 80-130 SA (1500/2000/2400 Nm) without torque transducer
Booster gear unit**

Type	Max. torque Nm	Application area Nm	Max. speed rpm	Angle resolution Degree [°]	Article number
DS 80-130 / 1500 SA	1500	300–1500	75	1,0	DS-2801150
DS 80-130 / 2000 SA	2000	400–2000	37	1,0	DS-2801200
DS 80-130 / 2400 SA	2400	480–2400	37	1,0	DS-2801240

Torque accuracy 5 %

E) Mounting flange

Type	Article number
Mounting flange	DS-2803001

F) Spring output

Type	Article number
Spring output 50 mm	DS-2803080

1) Square drive 1,5"

Type	Article number
Square drive 1,5" (up to 2400 Nm)	DS-2803110

2) Square drive 1"

Type	Article number
Square drive 1" (up to 1000 Nm)	DS-2803105

Cable

Cables for interconnection between nutrunner and control system

Type	Cable length	Article number
Cable set DS80 / QMP100/140 / SMP500 DSP05	5 m	MK-1009005
Cable set DS80 / QMP100/140 / SMP500 DSP10	10 m	MK-1009010
Cable set DS80 / QMP100/140 / SMP500 DSP15	15 m	MK-1009015
Cable set DS80 / QMP100/140 / SMP500 DSP05 - with shielding	5 m	MK-1009105
Cable set DS80 / QMP100/140 / SMP500 DSP10 - with shielding	10 m	MK-1009110
Cable set DS80 / QMP100/140 / SMP500 DSP15 - with shielding	15 m	MK-1009115

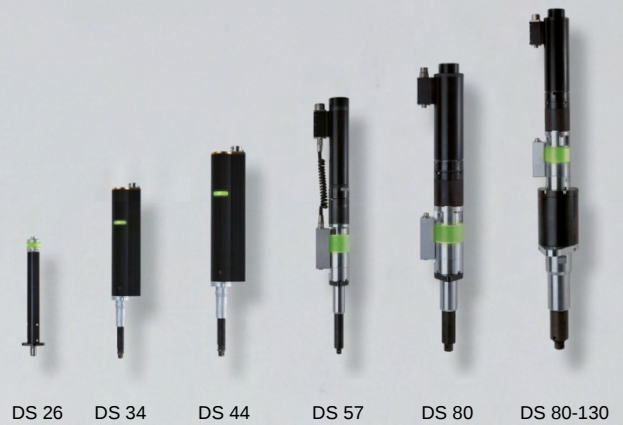
[> to the technical drawings \(page 121\)](#)

Technical data

Nutrunners of the DS series in equal measure are suitable to be used in manual working stations as well as in automatic stations.

Available in the execution MDW, the torque measurement is made directly at the output by an transducer, or in the execution SA, the torque measurement is made indirect by the motor.

The tightening tools consist out of a robust mechanic with servo drive technology and gearbox unit with precision gearwheel bearing.



- Torque control, angle of rotation control and signal control are integrated
- Integrated digital parameter memory module enables error-free setup
- Monitoring with envelope technology and windowing (tightening control system)
- Thanks to the torque transducer with consistent accuracy, only one measuring range is necessary
- Powerful, maintenance-free EC motor with infinitely variable speed control, CW / CCW
- Status indication (RUN, OK, NOK) directly at the nutrunner

Baureihe DS 26 MDW SA				
Models, max. torque	0,5 Nm	1 Nm	2 Nm	4 Nm
max. speed (execution MDW)	1450 1/min	1450 1/min	1020 1/min	400 1/min
max. speed (execution SA)	1700 1/min	1700 1/min	820 1/min	400 1/min

Baureihe DS 34 MDW SA				
Models, max. torque	2,5 Nm	5 Nm	10 Nm	15 Nm
max. speed	880 1/min	880 1/min	1540 1/min	1540 1/min
max. speed (angle output)	550 1/min	550 1/min	1070 1/min	1070 1/min

Baureihe DS 44 MDW SA					
Models, max. torque	2,5 Nm	5 Nm	10 Nm	20 Nm	35 Nm
max. speed	1300 1/min	1300 1/min	900 1/min	530 1/min	480 1/min
max. speed (angle output)	---	620 1/min	370 1/min	370 1/min	250 1/min

Baureihe DS 57 MDW SA					
Models, max. torque	25 Nm	50 Nm	70 Nm	90 Nm	140 Nm
max. speed	530 1/min	800 1/min	800 1/min	430 1/min	430 1/min
max. speed (angle output)	---	760 1/min	760 1/min	---	400 1/min

Baureihe DS 80 MDW SA						
Models, max. torque	220 Nm	300 Nm	420 Nm	500 Nm	600 Nm	
max. speed	320 1/min	320 1/min	160 1/min	160 1/min	160 1/min	
max. speed (angle output)	200 1/min	---	---	---	---	

Baureihe DS 80-130 MDW SA					
Models, max. torque	900 Nm	1000 Nm	1500 Nm	2000 Nm	2400 Nm
max. speed	75 1/min	75 1/min	75 1/min	37 1/min	37 1/min

Accessories

- Diverse motor and output variants, crow foots as well as individual technical solutions
- Socket boxes, handling equipment
- Complete workstation

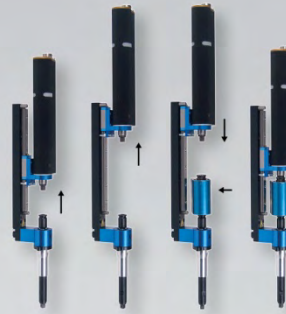
LINEAR MODULE – ASSEMBLE TEST EQUIPMENT WITHOUT USING TOOLS.



LM34, LM44



*Standard use
of the nutrunner
in the assembly
process*



*Assemble torque transducer
without using tools*



*Measure via
a reference measuring
system during the
production process and
record the data*

LINEAR MODULES

DSM linear modules in the execution LM34 and LM44 for the assembly of test equipment (rotating torque transducers) without using tools to the DSM nutrunner of the DS 34 / DS 44 series and without long process interruption.

In basic position the nutrunner is fixed by a locking device at the output. The nutrunner can be manually moved with the linear slide by pulling the locking bolt and can be fixed on two further snap-in points for the integration / assembly of the torque transducer. Precondition for this is a firm connection between an output of the DS series (e.g. spring output) and the output feature of the linear module as well as the direct mounting of the nutrunner at the linear slide.

Features

- Linear module with 168 mm stroke to integrate a torque transducer
- Linear slide to move the nutrunner manually
- Locking bolt with function for unlocking
- 3 snap-in points (basic position, service 1, service 2)
- Identical output at linear module and nutrunner; this allows the simple adaptation of the DSM output variants (e.g. when retrofit the LM into a existing station)
- Assembly of the linear module via standard flange, back side or via front attachment
- Linear module in the execution **LM34** suitable for nutrunners of the DS 34 series up to 15 Nm
- Linear module in the execution **LM44** suitable for nutrunners of the DS 44 series up to 35 Nm

Linear unit LM34 3/8"
for nutrunners of the DS 34 series

Type	Article number
LM34 with DIN 3121 F10 3/8" drive / output feature	DS-2343910

Linear unit LM34 1/4"
for nutrunners of the DS 34 series

Type	Article number
LM34 with DIN 3121 F10 1/4" drive / output feature	DS-2343915
+ Adapter 3/8" onto 1/4"	
+ Adapter 1/4" onto 3/8" square drive	

Linear unit LM34 1/4" 6-kt
for nutrunners of the DS 34 series

Type	Article number
LM34 with DIN 3126 D6,3 1/4" hexagonal quick change chuck, drive / output feature	DS-2343920
+ Adapter 3/8" square drive onto 1/4" bit	
+ Adapter 1/4" bit onto 3/8" square drive	

Linear unit LM44 3/8"
for nutrunners of the DS 44 series

Type	Article number
LM44 with DIN 3121 F10 3/8" drive / output feature	DS-2443910

Linear unit LM44 1/4"
for nutrunners of the DS 44 series

Type	Article number
LM44 mit DIN 3121 F10 1/4" drive / output feature	DS-2443915
+ Adapter 3/8" onto 1/4"	
+ Adapter 1/4" onto 3/8" square drive	

Linear unit LM44 1/4" 6-kt
for nutrunners of the DS 44 series

Type	Article number
LM44 with DIN 3126 D6,3 1/4" hexagonal quick change chuck, drive / output feature	DS-2443920
+ Adapter 3/8" square drive onto 1/4" bit	
+ Adapter 1/4" bit onto 3/8" square drive	

> [Reference measuring system QS-Box \(page 89\)](#)

> [to the technical drawings \(page 123\)](#)

TOOL CONTROL – THE INTELLIGENT SOCKET BOX.



ToolControl

SOCKET BOXES

The intelligent ToolControl recognises if a tool (e.g. bit, nut) is taken out. Based on this, it then automatically calls up the correct sequence program. By external presetting the ToolControl shows the assembler the tool which at the moment is required in the assembly process.

The connected socket boxes are identified from the DSM control system and communicate via the DSM systembus as well as via Profibus by external presetting using a foreign controller.

ToolControl is available as base system and as extension system. By cross linking of several units the base system is combined with the corresponding number of extensions. The identification and classification is made automatically. The system can be extended to up to 32 sockets.

The tool inserts, manufactured out of plastic, are part of the shipment. To assure a mix-proof handling, an adjustment of the inserts to the tool is necessary. This can either be made by the customer or by DSM.

Features

- Aluminium pressure die housing with mounting plate
- If a tool is taken out, ToolControl automatically calls up the correct program or external preset for tool removal
- Processor monitored tool removal
- Status reports via LCD plain text display
- LED Status indication for each tool
- Available with two, four or eight tool inserts
- Cascatable up to max. 32 tools
- Customised tool inserts (inserts made of synthetic material)
- USB port for the interface configuration, software included in delivery
- System bus interface for communication with control system (Basic, Classic, Pro)
- Extension interface for further modules
- Profibus interface, Ethernet interface for the integration in a PLC



ToolControl
Basic system with LCD plain text display


Type	Tool inserts	Outside diameter tool	Article number
ToolControl TC2 socket box	2	max. 72 mm	DSM-200200
ToolControl TC4 socket box	4	max. 40 mm	DSM-200400
ToolControl TC8 socket box	8	max. 15 mm	DSM-200800

ToolControl
Expansion system without LCD plain text display


Type	Tool inserts	Outside diameter tool	Article number
ToolControl TC2-E socket box	2	max. 72 mm	DSM-200250
ToolControl TC4-E socket box	4	max. 40 mm	DSM-200450

Cable

Type	Cable length	Article number
Cable for interconnection between basic system and expansion system	0,8 m	DSM-200176

Expansion system contains the interconnecting cable

System bus
Accessories

Type	Article number
System bus cable 1 m	MS-1003001
System bus cable 2 m	MS-1003002
System bus cable 5 m	MS-1003005
System bus terminating resistor	MS-1003030
T-piece for system bus connection	DSM-200722
Y-piece for system bus connection	DSM-200724

[> to the technical drawings \(page 123\)](#)

DSM CONTROL SYSTEMS – THE PERFECT CHOICE FOR EVERY ASSEMBLY PROCESS.

- CPU 4 -

- CPU 5 -



MultiBasic Blue



MultiBasic



MultiClassic



MultiPro



MultiPro 3G

CONTROL SYSTEMS

Overview

Type	for DS nutrunners in execution
> MultiBasic Blue TA	SA (without torque transducer)
> MultiBasic TA	SA (without torque transducer)
> MultiClassic TA	MDW (with torque transducer)
> MultiPro TA	MDW (with torque transducer)
> MultiPro 3G (firmware TIGHTEN)	MDW (with torque transducer)

Control units with digital processing of the measuring signals for nutrunners of the DS series and the perfect choice for the uncritical as well as for the function critical and safety critical assembly. Suitable for hand-held, semi-automatic and fully automatic tightening processes.

Thanks to the modular design the control electronic and the servo controller are combined in one case – the control system require little space and no additional control cabinet. Configuration and programming is made directly at the unit or at an external computer.

Create individual sequence programs and adjust these to the process flow.

The accurate control system for every assembly process

DSM offers products which are especially configured for your applications in the tightening and press-in technique. In the adequate execution, for the adequate range of application, in the required precision, with the adequate accessories.

Components of DSM control systems

- Control module with firmware for tightening processes or press-in processes
- Basic module supplies power to control unit and DSM tool, controls and monitors the servo motor
- Modular set-up of the housing, control module + power electronic module
- Mobile memory to store the measurement data
- DSM software – for configuration, parameterisation, programming and monitoring of the control system
- Various accessories and options

Advantages of DSM control systems

- Control system and software are suitable for tightening and press-in applications, same operating concept
- Control electronic and servo controller are accommodated in a single housing
- Compact design for wall mounting
- Thanks to the parameter memory module inside the nutrunner, a error-free configuration is possible
- Simple and convenient programming with the plain text menu navigation
- E A wide range of tightening processes / press-in processes are integrated in the control system
- Complex, customer-specific procedures realised the DSM development team
- Traceable calibration

Accessories control system



Type	IO-Extension 4/4S	IO-Extension 4/4C	IO-Extension 8/8S	IO-Extension 8/8C
Inputs / Outputs	4IN/4OUT	4IN/4OUT	8IN/8OUT	8IN/8OUT

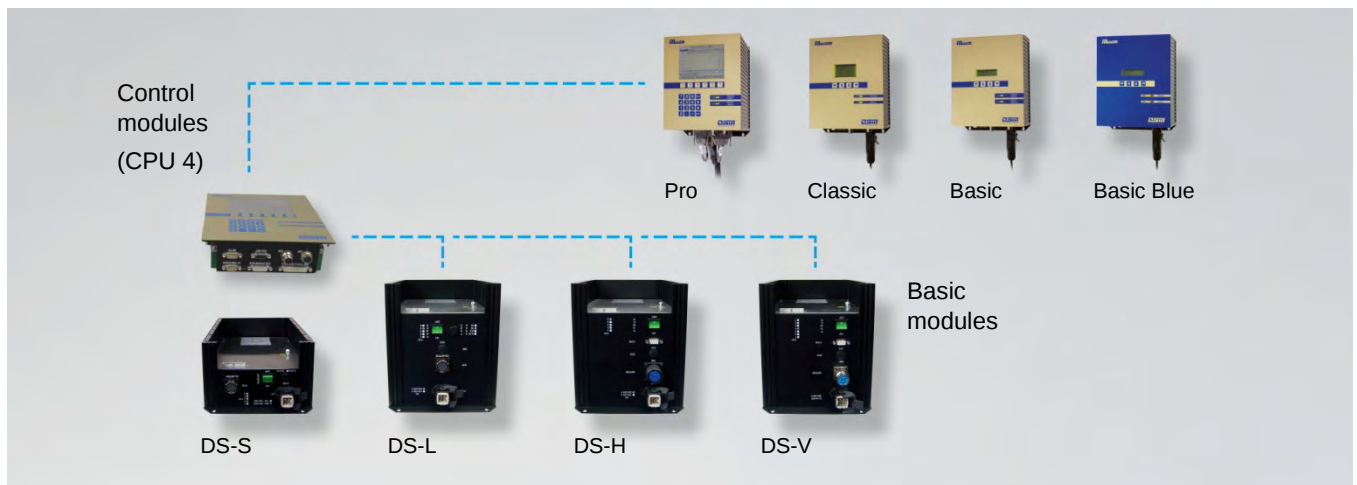
IO Extension is used to expand the standard inputs and outputs of the DSM control systems. The device is selected via the DSM systembus interface. The inputs and outputs can be used for any control tasks in the sequence programming. Up to 16 extension modules can be connected at a control system.

Each IO-Extension is equipped with

- Status display of the inputs and outputs
- Function check DSM system bus
- Reset key

Suitable servo controllers for all control modules

The basic module supplies the control unit and the connected nutrunner. There are different basic modules available. This depending on the required performance of the nutrunner. Important accessory for the safety of persons is the safety interface.



Basic modules DS-S, DS-L, DS-H, DS-V

Overview		
Basic module Type	Designed for nutrunner (DS series)	Article number
DS-S type 1	DSH 26/005; DS 26/005	ML-1000210
DS-S type 2	DSH 26/01/02/04; DS 26/01/02/04	ML-1000220
DS-L type 1	DS 34/025/05	ML-1000310
DS-L type 3	DS 44/025/5/10/20	ML-1000330
DS-L type 4	DS 34/10/15; DSH 34/05/10/20; DSH 44/20/30/40/60	ML-1000340
DS-L type 5	DS 44/35	ML-1000350
DS-H type 4	DS 57/25/50/70/90/140	ML-1000840
DS-V type 4	DS 80/220/300/420/500/600; DS80-130/900/1000/1500/2000/2400	ML-1000940

Extension for basic module		
Type		Article number
MSI Machine-Safety-Interface Tightening system		ML-1000005

To that, the basic module (servo controller) controls and monitors the motor of the nutrunner. Among others it thereby it checks the voltage and condition of the hallsensor as well as temperature, current and voltage of the servo motor.

Supply

- Mains voltage basic module type DS-S, DS-L, DS-H: 230 VAC / 50 Hz
- Mains voltage basic module type DS-V: 3 x 400 VAC / 50 Hz

Suitable servo controllers – optimised for the new generation

The basic module supplies the MultiPro 3G and the connected nutrunner. There are different basic modules available. This depending on the required performance of the nutrunner. Important for the personal safety is the execution with safety interface STO.



Basic modules BM-S, BM-L, BM-H, BM-V

Overview		
Basic module Type	Designed for nutrunner (DS series)	Article number
BM-S-1	DSH 26/005; DS 26/005	ML-2000210
BM-S-1-STO	DSH 26/005; DS 26/005	ML-2001210
BM-S-2	DSH 26/01/02/04; DS 26/01/02/04	ML-2000220
BM-S-2-STO	DSH 26/01/02/04; DS 26/01/02/04	ML-2001220
BM-L-1	DS 34/025/05	ML-2000310
BM-L-1-STO	DS 34/025/05	ML-2001310
BM-L-3	DS 44/025/5/10/20	ML-2000330
BM-L-3-STO	DS 44/025/5/10/20	ML-2001330
BM-L-4	DS 34/10/15; DSH 34/05/10/20; DSH 44/20/30/40/60	ML-2000340
BM-L-4-STO	DS 34/10/15; DSH 34/05/10/20; DSH 44/20/30/40/60	ML-2001340
BM-L-5	DS 44/35	ML-2000350
BM-L-5-STO	DS 44/35	ML-2001350
BM-H-4	DS 57/25/50/70/90/140	ML-2000840
BM-H-4-STO	DS 57/25/50/70/90/140	ML-2001840
BM-V-4	DS 80/220/300/420/500/600; DS80-130/900/1000/1500/2000/2400	ML-2000940
BM-V-4-STO	DS 80/220/300/420/500/600; DS80-130/900/1000/1500/2000/2400	ML-2001940

To that, the basic module (servo controller) controls and monitors the motor of the nutrunner. Among others it thereby it checks the voltage and condition of the hallsensor as well as temperature, current and voltage of the servo motor. Equipped with the interface "STO (Safe Torque Off)" the safety interface ensure the safe switching-off of the servo controller.

Supply

- Mains voltage basic module type BM-S, BM-L, BM-H: 230 VAC / 50 Hz
- Mains voltage basic module type BM-V: 3 x 400 VAC / 50 Hz



Control module MultiBasic Blue

A) MultiBasic Blue TA with firmware tightening system (1000 BasBlue-E)

Type	Tightening control	Article number
Control module MultiBasic Blue	SA	MS-1001400

Extensions for control module

Type	Article number
Modification control system to protection class IP 54	MS-1001554
Basic module (servo controller), depending on the performance of the nutrunner	> Basic modules (page 67)

Cable MultiBasic Blue

Type	Cable length	Article number
Power cord 230 VAC (Basic module DS-S, DS-L, DS-H)	1,5 m	MS-1009002
Power cord 400 VAC (Basic module DS-V)	5 m	MS-1009035

B) DSM USB module		C) Portable memory CF card	
Type	Article number	Type	Article number
DSM USB module RS232 USB	MS-1001705	Compact flash card (CF) 128 MB	MS-1001605

D) PC software packages	
Type	Article number
MultiControl4 standard software (50 measuring results), included in delivery	MS-1002500
MultiControl4 software, activated full version (unlimited numbers of measuring results)	MS-1002505
Linemanager software for centralised control tasks and data storage	MS-1002600

Accessories		
Type	Cable length	Article number
PC interconnecting cable	3 m	MK-1001703

[> to the technical drawings \(page 126\)](#)

Technical data

MultiBasic Blue the Low-Cost starter model into the EC tightening technique.
For all DSM tightening tools of the DS series with indirect torque-measurement (SA).
The ideal tightening control system for simple tightening operations.

- Digital measuring signal processing
- 2,5" LCD display with illumination
- 2 x 3 LED status reports for torque and angle of rotation
- Function keys
- Programming and parameterisation via the MultiControl4 software
- Freely programmable tightening operations
- Automatic self test of the tightening control system and of the DS nutrunner
- Mobile backup and production memory 128 MB (compact flash card)
- Parameter and program backup in EEPROM
- Firmware bilingual, reversible

Number of programs	16
Number of instruction lines per program / total	max. 50 / 800
Instruction set	33 instructions
Number of tightening stages per program	max. 49
Tightening processes	5
Untightening processes	1
Freely direct inputs	4
Freely direct outputs	4
Inputs / outputs expandable	no
Sampling rate	1 kHz
Interfaces	V24
Interfaces optional	-
Protection class	IP 40 (optional IP 54)

Accessories

- Printer PR-II



Basic Blue



Control module MultiBasic

A) MultiBasic TA with firmware tightening system (1000 Bas-E)

Type	Tightening control	Article number
Control module MultiBasic	SA	MS-1001300

Extensions for control module

Type	Article number
Profibus module / interface	MS-1001510
Ethernet module / interface (TCP/IP)	MS-1001520
Modification control system to protection class IP 54	MS-1001554
Basic module (servo controller), depending on the performance of the nutrunner	> Basic modules (page 67)

Cable MultiBasic

Type	Cable length	Article number
Power cord 230 VAC (Basic module DS-S, DS-L, DS-H)	1,5 m	MS-1009002
Power cord 400 VAC (Basic module DS-V)	5 m	MS-1009035

B) DSM USB-Modul		C) Portable memory CF card	
Type	Article number	Type	Article number
DSM USB module RS232 USB	MS-1001705	Compact flash card (CF) 128 MB	MS-1001605

D) PC software packages	
Type	Article number
MultiControl4 standard software (50 measuring results), included in delivery	MS-1002500
MultiControl4 software, activated full version (unlimited numbers of measuring results)	MS-1002505
Linemanager software for centralised control tasks and data storage	MS-1002600

Accessories		
Type	Cable length	Article number
PC interconnecting cable	3 m	MK-1001703

E) IO-Extension System bus device for additional inputs and outputs		
Type	Inputs / Outputs	Article number
IO-Extension 4/4S with terminal block	4IN, 4OUT	MS-1003044
IO-Extension 4/4C with M8 circular plug-in connector	4IN, 4OUT	MS-1003144
IO-Extension 8/8S with terminal block	8IN, 8OUT	MS-1003088
IO-Extension 8/8C with M8 circular plug-in connector	8IN, 8OUT	MS-1003188

Accessories	
Type	Article number
System bus terminating resistor	MS-1003030
T-piece for system bus connection	DSM-200722
Y-piece for system bus connection	DSM-200724
System bus cable 1 m	MS-1003001
System bus cable 2 m	MS-1003002
System bus cable 5 m	MS-1003005

[> to the technical drawings \(page 126\)](#)

Technical data

MultiBasic the starter model into the EC tightening technique.
For all DSM nutrunners of the DS series with indirect torque-measurement (SA).
Suitable for a multi-channel system solution.

- Digital measuring signal processing
- 2,5" LCD display with illumination
- 2 x 3 LED status reports for torque and angle of rotation
- Function keys
- Programming and parameterisation via the MultiControl4 software
- Freely programmable tightening operations
- Automatic self test of the control system and of the nutrunner
- Mobile backup and production memory 128 MB (compact flash card)
- Parameter and program backup in EEPROM
- Firmware bilingual, reversible



Basic

Number of programs	32
Number of instruction lines per program / total	max. 50 / 1600
Instruction set	33 instructions
Number of tightening stages per program	max. 49
Tightening processes	5
Untightening processes	1
Freely direct inputs	4
Freely direct outputs	4
Inputs / outputs extendable	yes
Sampling rate	1 kHz
Interfaces	V24, system bus
Interfaces optional	TCP/IP, Profibus, Profinet*
Protection class	IP 40 (optional IP 54)

Accessories

- IO-Extension (up to 128 inputs and outputs)
- Printer PR-II
- ToolControl socket box
- P-Control position monitoring
- DCM-Extension: for activation of an external DC motor
- Status Indication: external status report

* Profinet / Profibus proxy connector is plugged directly into the Profibus interface



Control module MultiClassic

A) MultiClassic

Type	Article number
Control module MultiClassic	MS-1001200

Extensions for control module

Type	Article number
Profibus module / interface	MS-1001510
Ethernet module / interface (TCP/IP)	MS-1001520
Modification control system to protection class IP 54	MS-1001554
Basic module (servo controller), depending on the performance of the nutrunner	> Basic modules (page 67)

Cable MultiClassic

Type	Cable length	Article number
Power cord 230 VAC (Basic module DS-S, DS-L, DS-H)	1,5 m	MS-1009002
Power cord 400 VAC (Basic module DS-V)	5 m	MS-1009035

B) Firmware

Type	Execution	Article number
Firmware tightening system (firmware 1200 ClaDS-E)	Classic TA – Tightening control unit MDW	MS-1101200
Firmware press-in system (firmware 3200 Cla-E)	Classic FL – Press-in control unit QMP/SMP	MS-1103200

C) DSM USB module

Type	Article number
DSM USB module RS232 USB	MS-1001705

**D) Portable memory
CF card**

Type	Article number
Compact flash card (CF) 128 MB	MS-1001605

E) PC software packages

Type	Article number
MultiControl4 standard software (50 measuring results), included in delivery	MS-1002500
MultiControl4 software, activated full version (unlimited numbers of measuring results)	MS-1002505
Linemanager software for centralised control tasks and data storage	MS-1002600

Accessories

Type	Cable length	Article number
PC interconnecting cable	3 m	MK-1001703

F) IO-Extension

System bus device for additional inputs and outputs

Type	Inputs / Outputs	Article number
IO-Extension 4/4S with terminal block	4IN, 4OUT	MS-1003044
IO-Extension 4/4C with M8 circular plug-in connector	4IN, 4OUT	MS-1003144
IO-Extension 8/8S with terminal block	8IN, 8OUT	MS-1003088
IO-Extension 8/8C with M8 circular plug-in connector	8IN, 8OUT	MS-1003188

Accessories

Type	Article number
System bus terminating resistor	MS-1003030
T-piece for system bus connection	DSM-200722
Y-piece for system bus connection	DSM-200724
System bus cable 1 m	MS-1003001
System bus cable 2 m	MS-1003002
System bus cable 5 m	MS-1003005

[> to the technical drawings \(page 126\)](#)

Technical data

The all-round controller MultiClassic TA is in equal measure suitable for simple as well as for complex tightening operations. With this, all DSM nutrunners of the DS series with direct torque-measurement (MDW) can be controlled.

In the execution "FL" all press-in units of the QMP and SMP series can be controlled and monitored.

Manual work stations as well as automatic stations can be equipped with the control system MultiClassic. Thank to the DSM system bus the networking of several devices to a multi channel system can be done very easily.



Classic

- Digital measuring signal processing
- 2,7" LCD display with illumination
- 2 x 3 LED status reports for torque and angle of rotation / force and length (stroke)
- Function keys
- Traceable calibration
- Programming and parameterisation via the MultiControl4 software
- Freely programmable operations
- Automatic self test of the control system and of the nutrunner
- Mobile backup and production memory 128 MB (compact flash card)
- Ring buffer for 500 measured values
- Parameter and program backup in EEPROM
- Firmware bilingual, reversible

Number of programs	128
Number of instruction lines per program / total	max. 100 / 2000
Instruction set	31 instructions
Number of tightening stages per program	99
Tightening processes	5
Untightening processes	2
Envelope monitoring	yes
Freely direct inputs	4
Freely direct outputs	4
Inputs and outputs extendable	yes
Sampling rate	1 kHz
Interfaces	V24, system bus
Interfaces optional	TCP/IP, Profibus, Profinet*
Protection class	IP 40 (optional IP 54)

Accessories

- IO-Extension (up to 128 inputs and outputs)
- Printer PR-II
- ToolControl socket box
- P-Control position monitoring
- DCM-Extension: for activation of an external DC motor
- Status Indication: external status report

* Profinet / Profibus proxy connector is plugged directly into the Profibus interface



Control module MultiPro

A) MultiPro

Type	Article number
Control module MultiPro	MS-1001100

Extensions for control system

Type	Article number
Ethernet module / interface (TCP/IP)	MS-1001520
Modification control system to protection class IP 54	MS-1001554
Basic module (servo controller), depending on the performance of the nutrunner	> Basic modules (page 67)

Cable MultiPro

Type	Cable length	Article number
Power cord 230 VAC (Basic module DS-S, DS-L, DS-H)	1,5 m	MS-1009002
Power cord 400 VAC (Basic module DS-V)	5 m	MS-1009035

B) Firmware

Type	Execution	Article number
Firmware tightening system (firmware 1200 ProDS-E)	Pro TA – Tightening control unit MDW	MS-1101200
Firmware press-in system (firmware 3200 Pro-E)	Pro FL – Press-in control unit QMP/SMP	MS-1103200

C) DSM USB module

Type	Article number
DSM USB module RS232 USB	MS-1001705

**D) Portable memory
CF card**

Type	Article number
Compact flash card (CF) 128 MB	MS-1001605

E) PC software packages

Type	Article number
MultiControl4 standard software (50 measuring results), included in delivery	MS-1002500
MultiControl4 software, activated full version (unlimited numbers of measuring results)	MS-1002505
Linemanager software for centralised control tasks and data storage	MS-1002600

Accessories

Type	Cable length	Article number
PC interconnecting cable	3 m	MK-1001703

F) IO-Extension

System bus device for additional inputs and outputs

Type	Inputs / Outputs	Article number
IO-Extension 4/4S with terminal block	4IN, 4OUT	MS-1003044
IO-Extension 4/4C with M8 circular plug-in connector	4IN, 4OUT	MS-1003144
IO-Extension 8/8S with terminal block	8IN, 8OUT	MS-1003088
IO-Extension 8/8C with M8 circular plug-in connector	8IN, 8OUT	MS-1003188

Accessories

Type	Article number
System bus terminating resistor	MS-1003030
T-piece for system bus connection	DSM-200722
Y-piece for system bus connection	DSM-200724
System bus cable 1 m	MS-1003001
System bus cable 2 m	MS-1003002
System bus cable 5 m	MS-1003005

[> to the technical drawings \(page 126\)](#)

Technical data

High-end tightening control system MultiPro TA for complex tightening operations with highest precision. Suitable for all DSM nutrunners of the DS series with direct torque measurement (MDW).

In the execution "FL" all press-in units of the QMP and SMP series can be controlled and monitored.

Manual work stations as well as automatic stations can be equipped with the control system MultiPro. Thank to the DSM system bus the networking of several devices to a multi channel system can be done very easily.



- Digital measuring signal processing
- 5,7" LCD display with illumination
- 2 x 3 LED status reports for torque and angle of rotation / force and length (stroke)
- Function keys and keypad
- Traceable calibration
- Programming and parameterisation directly at the device or via the MultiControl4 software
- Freely programmable operations
- Automatic self test of the control system and of the nutrunner
- Mobile backup and production memory 128 MB (compact flash card)
- Ring buffer for 500 measured values
- Parameter and program backup in EEPROM
- Firmware bilingual, reversible
- User administration, access control / access journal
- Single-step mode (for test of the program sequence)

Number of programs	255
Number of instruction lines per program / total	max. 200 / 3000
Instruction set	37 instructions
Number of tightening stages per program	max. 199
Tightening processes	5
Untightening processes	2
Envelope monitoring	yes
Freely direct inputs	4
Freely direct outputs	4
Inputs and outputs extendable	yes
Sampling rate	1 kHz
Interfaces	V24, system bus, Profibus
Interfaces optional	TCP/IP, Profinet*
Protection class	IP 40 (optional IP 54)

Accessories

- IO-Extension up to 128 inputs and outputs)
- Printer PR-II
- ToolControl socket box
- P-Control position monitoring
- DCM-Extension: for activation of an external DC motor
- Status Indication: external status report

* Profinet / Profibus proxy connector is plugged directly into the Profibus interface



Control module MultiPro 3G

A) MultiPro 3G

Type	Article number
Control module MultiPro 3G	MS-1002100

Extensions for control system

Type	Article number
BT module - Bluetooth connection to a compatible device, e.g. to the remote display	Available soon
WLAN module - connection to the software MPEC via wireless LAN	Available soon
Modification control system to protection class IP 54	MS-1001554
Basic module (servo controller), depending on the performance of the nutrunner	> Basic modules (page 68)

Cable MultiPro 3G

Type	Cable length	Article number
Power cord 230 VAC (Basic module BM-S, BM-SL, BM-L, BM-H)	1,5 m	MS-1009002
Power cord 400 VAC (Basic module BM-V)	5 m	MS-1009035

B) Firmware

Type	Execution	Article number
Firmware TIGHTEN (firmware 1300)	Tightening control system MDW	MS-1201300
Firmware PRESS-IN (firmware 3300)	Press-in control system QMP/SMP	MS-1201310

C) Expansion stages firmware TIGHTEN

Type	Article number
Expansion stage S - firmware function bundle	Available soon
Expansion stage M - firmware function bundle	Available soon
Expansion stage L - firmware function bundle	Available soon
Firmware add-on - function	Upon your request

D) Profinet module

Type	Article number
Profinet interface	MS-1002120

E) Profibus module

Type	Article number
Profibus interface	MS-1001510

F) Measuring module

Type	Article number
Interface for external sensors	Available soon

G) DIPPC module

Type	Article number
Interface for special solutions	Available soon

H) External memory

Type	Article number
USB memory stick SLC (industrial grade) 2GB	MS-1002160

I) PC software**Setting and analysis program MPEC**

Type	Article number
MPEC MULTI Programming - Evaluation - Communicator, included in delivery	Available soon

Accessories

Type	Cable length	Article number
USB cable (1x type A plug - 1x type B plug)	2 m	MK-1001702

J) Remote control

Type	Article number
MultiVisu - MultiPro 3G remote control (Android app)	Available soon
HMI panel, Android tablet 7"	Available soon

K) IO-Extension**System bus device for additional inputs and outputs**

Type	Inputs / Outputs	Article number
IO-Extension 4/4S with terminal block	4IN, 4OUT	MS-1003044
IO-Extension 4/4C with M8 circular plug-in connector	4IN, 4OUT	MS-1003144
IO-Extension 8/8S with terminal block	8IN, 8OUT	MS-1003088
IO-Extension 8/8C with M8 circular plug-in connector	8IN, 8OUT	MS-1003188

Accessories

Type	Article number
System bus terminating resistor	MS-1003030
T-piece for system bus connection	DSM-200722
Y-piece for system bus connection	DSM-200724
System bus cable 1 m	MS-1003001
System bus cable 2 m	MS-1003002
System bus cable 5 m	MS-1003005

Technical data

The modern high-end tightening control system MultiPro 3G "TIGHTEN" is the perfect choice for the uncritical as well as for the function critical and safety critical assembly. Usable for hand-held, semi-automatic and fully automatic tightening processes. Suitable for all DSM nutrunners of the DS series with direct torque measurement (MDW).

If the firmware "PRESS-IN" is integrated all press-in units of the QMP and SMP series can be controlled and monitored.

Equipped with a lot of functions the scope of the performance of the MultiPro 3G can be formed individually. Thank to the DSM system bus the networking of several devices to a multi channel system can be done very easily.

- Digital measuring signal processing
- 5,7" Colour touchscreen
- 12 LEDs for status report
- Function keys, navigation keys and alphanumeric keypad
- Traceable calibration
- Programming and parameterisation directly at the device or via the MPEC software
- Freely programmable operations
- Automatic self test of the control system and of the nutrunner
- External memory (backup and production memory) USB memory stick 2 GB
- Internal memory 2 GB, for example as ring buffer to storage the measured values of each tightening stage
- Parameter and program backup
- Firmware bilingual, reversible
- User administration, access control / access journal
- Single-step mode (for test of the program sequence)

Number of programs	255
Number of instruction lines per program / total	max. 200 / 3000
Instruction set	40 instructions
Number of tightening stages per program	max. 99
Tightening processes	5
Untightening process	2
Envelope monitoring	yes
Freely direct inputs	8
Freely direct outputs	8
Inputs and outputs extendable	yes
Sampling rate	1 kHz
Field bus	System bus
Field bus option modules	Profinet, Profibus
Interfaces	COM, E/A, USB (A), USB (B), TCP/IP
Other option modules	Measurement module, DIP-PC, BT module, WLAN module
Protection class	IP 40 (optional IP 54)

Accessories

- IO-Extension (up to 128 inputs and outputs)
- Printer PR-II
- ToolControl socket box
- P-Control position monitoring
- DCM-Extension: for activation of an external DC motor
- Status Indication: external status report



Pro 3G

ENTIRE EXACT AND PUT IN A NUTSHELL: DSM MESSTECHNIK.



QS Box



QS plug-in module



SCI module

REFERENCE MEASURING SYSTEM

QS Box is a digital measuring system for the quality assurance of operating sequences. The reference measuring system can be used for the monitoring and control as well as for the adjustment or calibration of tightening and press-fit systems. The use of slide-in modules for all current measuring sensors enables this flexibility. That means that every type of sensor can be equipped with an adequate measuring module.

In combination with the intelligent sensor converter by DSM sensors but also by third-party products, the QS Box works on a digital level via the measuring channel DSM-digital.

Advantages of the modern digital measuring system are an interference-free signal transfer, the direct status report near the measuring point as well as an intelligent memory chip.

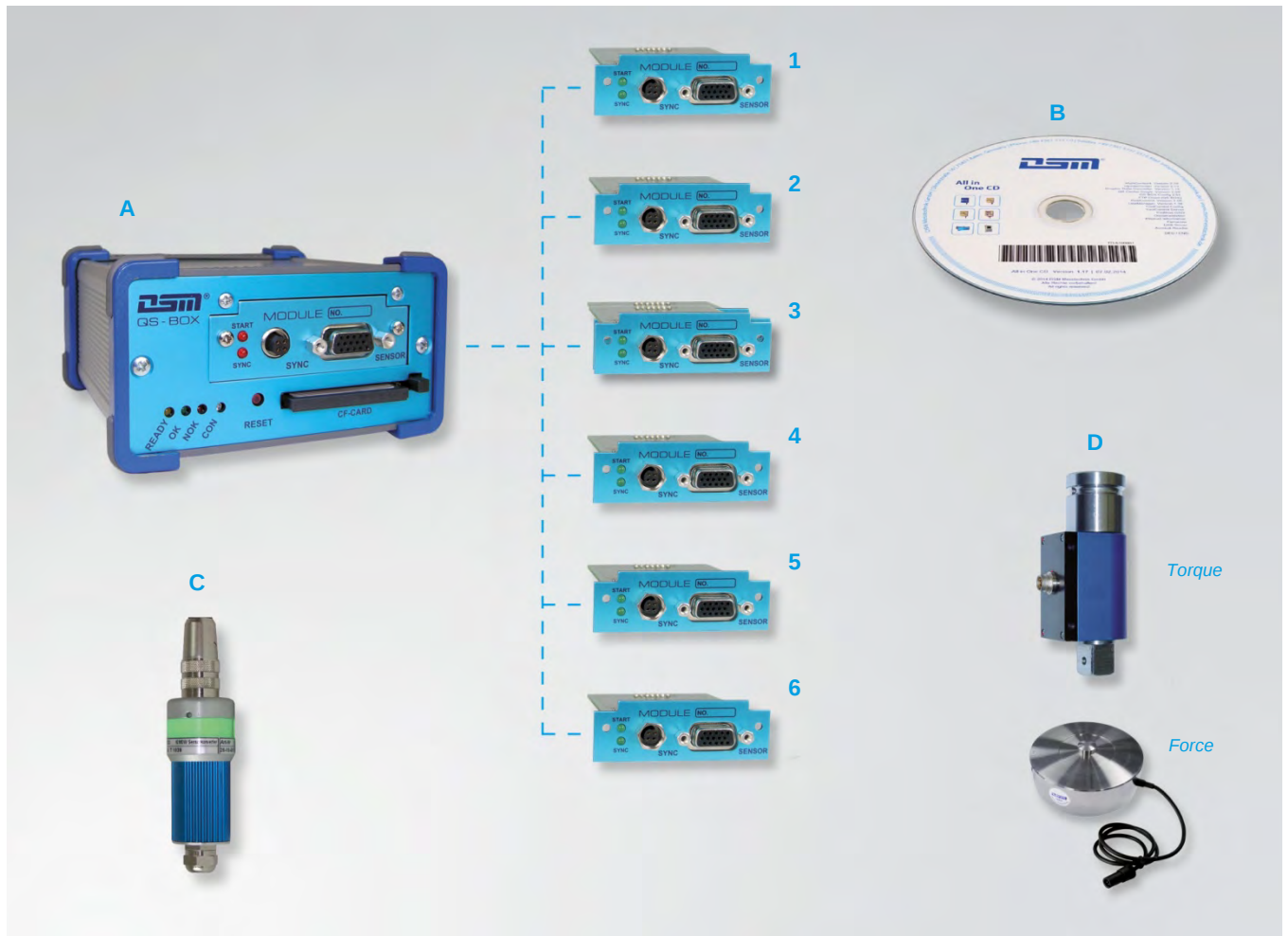
The stored sensor data are adjusted automatically by connection to the QS Box. Only the sensor and not the complete measuring chain is calibrated by periodic calibrations.

Measurements are made in the online mode in combination with the QS center software. The QS Box transfers the measured data immediately to the connected computer.

Without computer, in the offline mode, the QS Box records the measurands. The data are written onto CF card and analysed later on at the computer.

Features

- Reference measuring system for monitoring and calibration
- Exchangeable plug-in modules for analogue and digital measurement signals
- Measurements possible in online and offline mode
- Measured value recording and graphics monitoring
- Data storage directly on the CF card or via QS-Center software
- Test equipment monitoring with integrated measuring system
- Synchronisation input for angle of rotation and length/stroke tests
- Interfaces: USB, RS232, TCP/IP, Profibus (optional)
- QS-Center software for administration, parameterisation and analysis



Reference measuring system QS Box

A) QS Box with slot for measuring module

Type	Article number
QS measurement box, basic device	DSM-161000

Accessories

Type	Cable length	Article number
QS Box AC adapter (plug-in power supply) 230 VAC / 50 Hz DC 24 V / 1A	1,5 m	DSM-600640

1/2/3/4/5/6/7) QS plug-in modules

Type	Measuring signal	Article number
1) QS plug-in module	DSM digital	DSM-161110
2) QS plug-in module	± 1 mV/V	DSM-161111
3) QS plug-in module	± 2 mV/V	DSM-161112
4) QS plug-in module	4-20 mA	DSM-161113
5) QS plug-in module	± 5 V	DSM-161114
6) QS plug-in module	± 10 V	DSM-161115

B) QS center software

Type	Article number
QS Box analysis software pro	DSM-161901

Accessories

Type	Cable length	Article number
USB cable 2.0, hi-speed, type A plug type B plug	1,8 m	MK-1001702

**C) SCI module
Signal converter intelligent**

Type	Article number
QS SCI module	DSM-161200

Accessories

Type	Cable length	Article number
SCI connection cable	5 m	DSM-910050

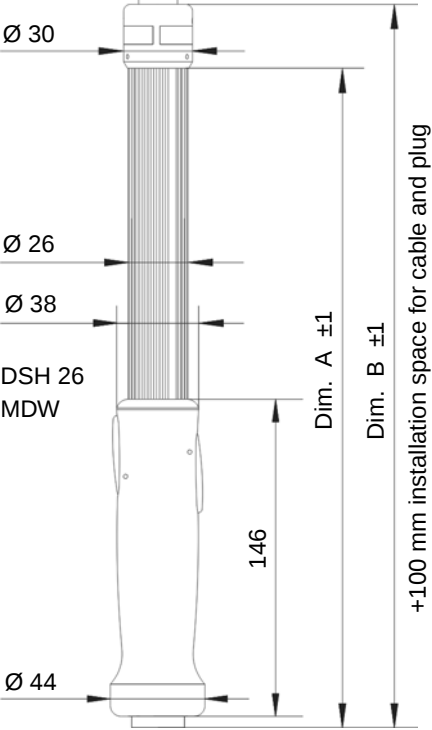
D) Measuring sensors

Type	Article number
Digital torque transducer	Upon your request
Digital force load cell	Upon your request

Hand-held nutrunners DS series	Page
> DSH 26 series	94, 95
> DS 34-P series	96, 97
> DSH 34 series	98, 99
> DS 44-P series	100, 101, 102
> DSH 44 series	103, 104
Built-in nutrunners DS series	Page
> DS 26 series	105, 106, 107
> DS 34 series	108, 109, 110
> DS 44 series	111, 112, 112, 113
> DS 57 series	115, 116, 117
> DS 80 series	118, 119, 120
> DS 80-130 series	121, 122
Linear modules	Page
> LM34, LM44	123
Socket boxes	Page
> ToolControl	124, 125
Control systems	Page
> MultiBasic Blue	126
> MultiBasic	126
> MultiClassic	126
> MultiPro	126
> MultiPro 3G	127
> IO-Extension	128
Reference measuring system	Page
> QS Box	129
> SCI module	129

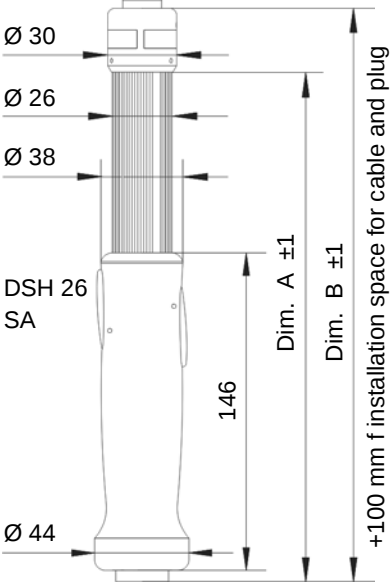
Hand-held nutrunners DS series DSH 26 series

DSH 26 MDW



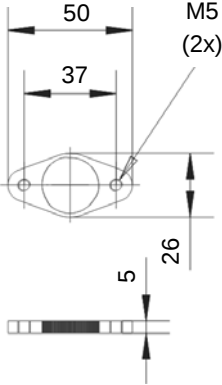
Type MDW	Dim. A mm	Dim. B mm
DSH 26 / 02 MDW	235	263
DSH 26 / 04 MDW	242	270

DSH 26 SA

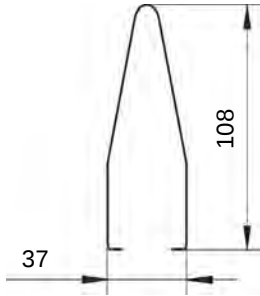


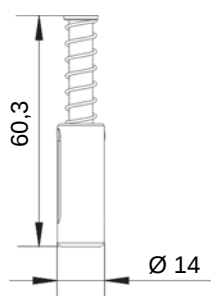
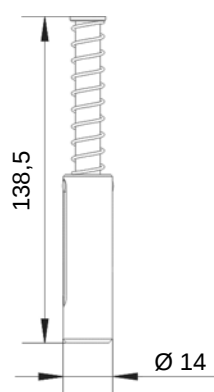
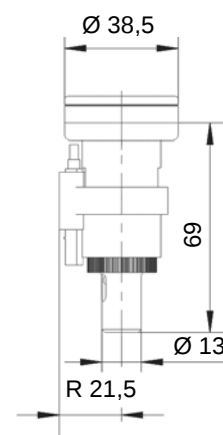
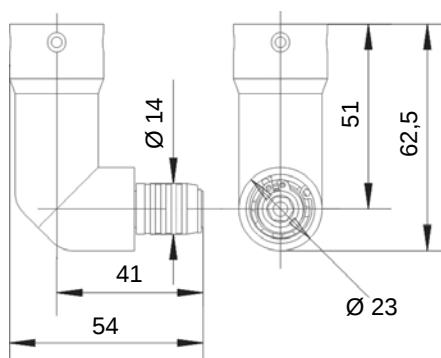
Type SA	Dim. A mm	Dim. B mm
DSH 26 / 02 SA	197	225
DSH 26 / 04 SA	200	228

Mounting flange

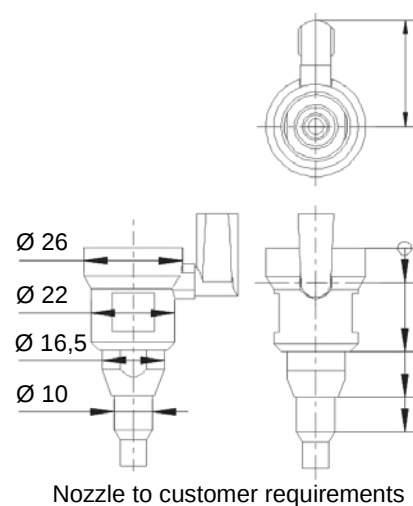
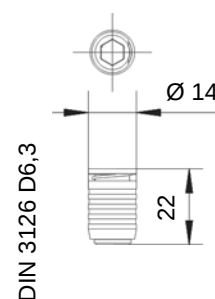
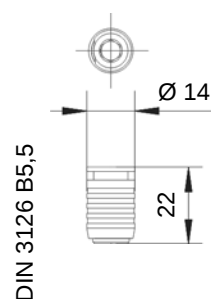
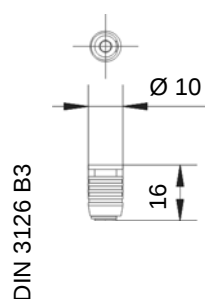
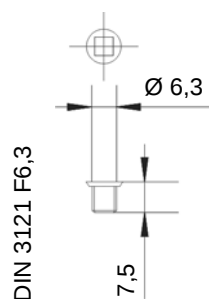
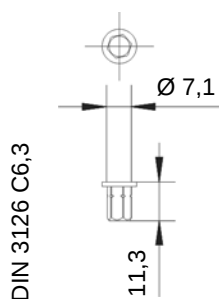


Suspension clip



Spring output 20 mm**Spring output 50 mm****Self start****Angle output**

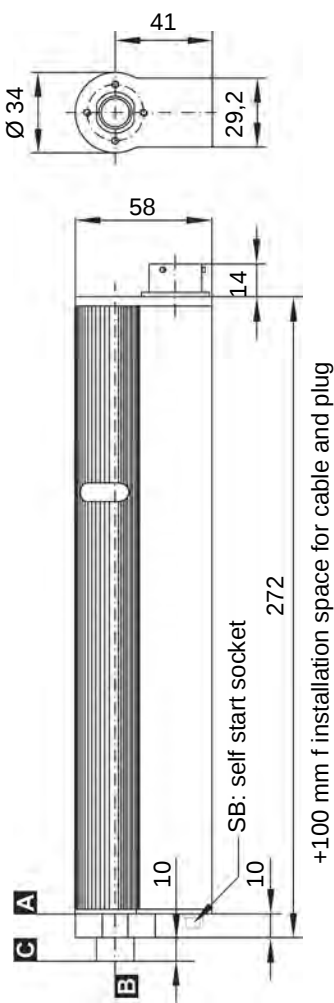
WA with quick change chuck
DIN 3126 D6,3

Vacuum screw-retainer**Output features**

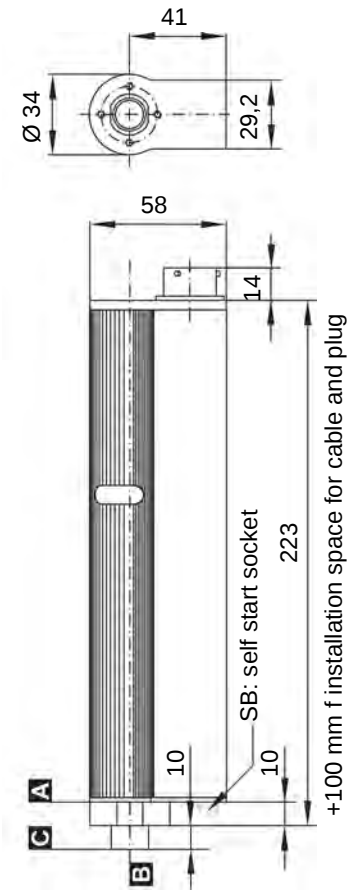
[> to the product description \(page 25\)](#)

DS 34-P series

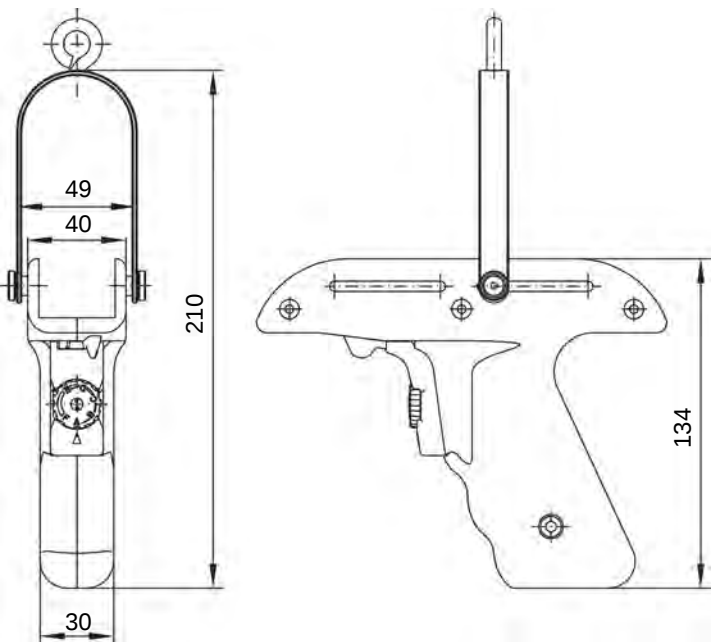
DS 34 MDW

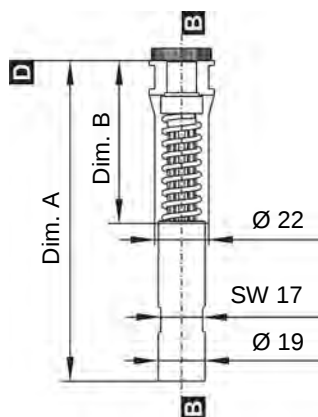


DS 34 SA

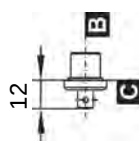


Pistol grip

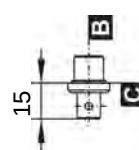


Spring output

Square drive DIN 3121 F6,3



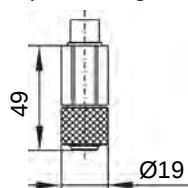
Square drive DIN 3121 F10



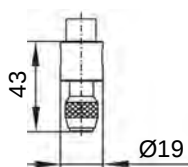
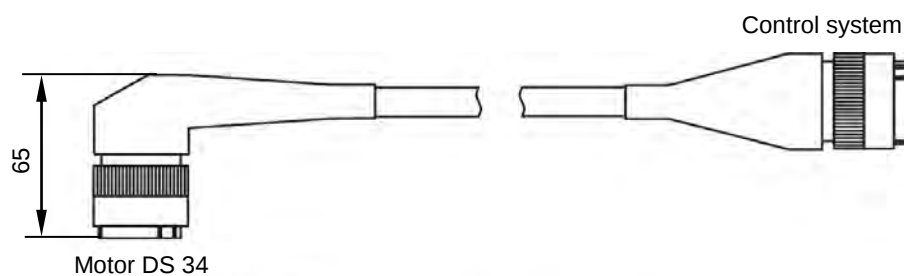
Spring deflexion	Dim. A mm	Dim. B mm
30 mm	130	66
50 mm	150	86

Quick change chuck DIN 3126 D6,3

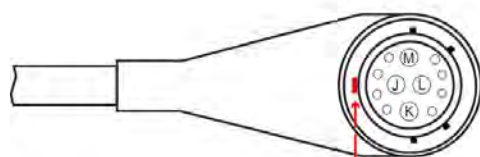
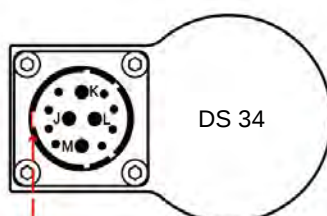
Bit shaft precision-guide 24 mm



Bit shaft precision-guide 13 mm

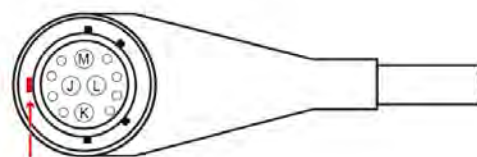
**Interconnecting cable 90° angled**

Connector plug 90° left

Coding keyway
at alignment
Left

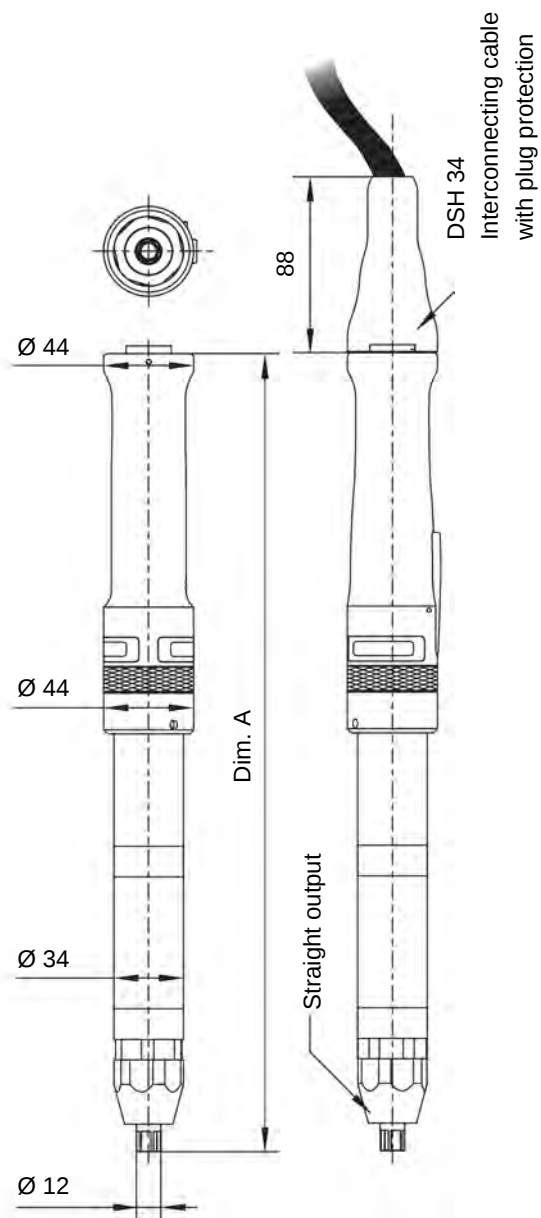
Coding

Connector plug 90° right

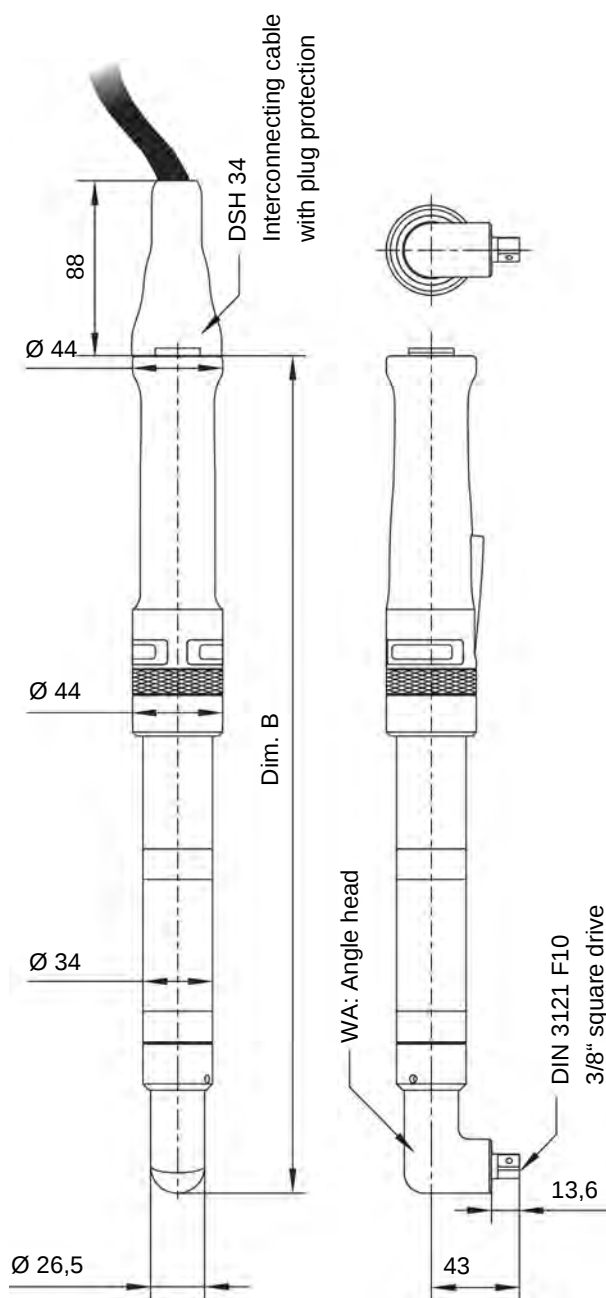
Coding keyway
at alignment
Right[> to the product description \(page 27\)](#)

DSH 34 series

DSH 34 MDW/SA



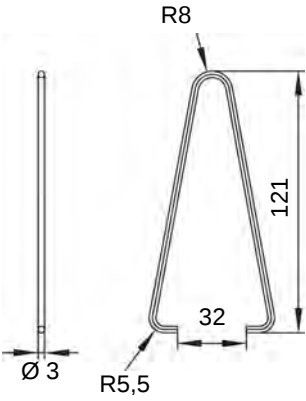
DSH 34 MDW-WA/SA-WA



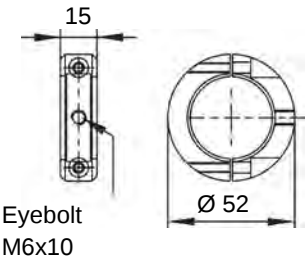
Type	Dim. A mm
DSH 34 / 05 / 10 MDW	448 ±2
DSH 34 / 05 / 10 SA	398 ±2

Type	Dim. B mm
DSH 34 / 05 / 10 / 20 MDW-WA	459 ±2
DSH 34 / 05 / 10 / 20 SA-WA	409 ±2

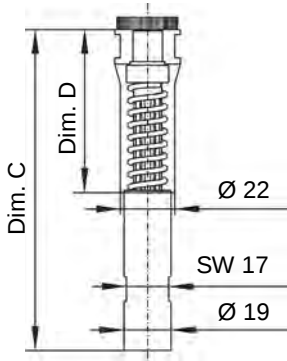
Suspension clip



Suspension eye



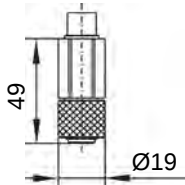
Spring output



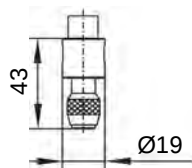
Spring deflexion	Dim. C mm	Dim. D mm
30 mm	130	66
50 mm	150	86

Quick change chuck DIN 3126 D6,3

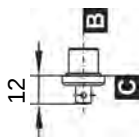
Bit shaft precision-guide 24 mm



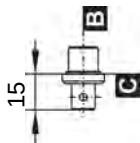
Bit shaft precision-guide 13 mm



Square drive DIN 3121 F6,3



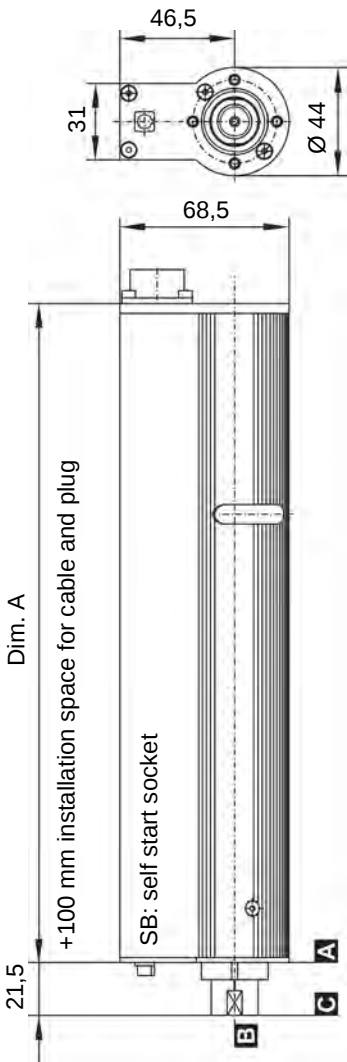
Square drive DIN 3121 F10



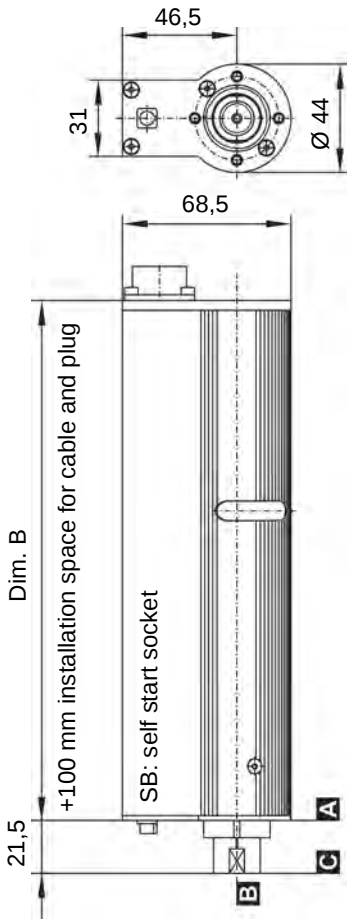
[> to the product description \(page 29\)](#)

DS 44-P series

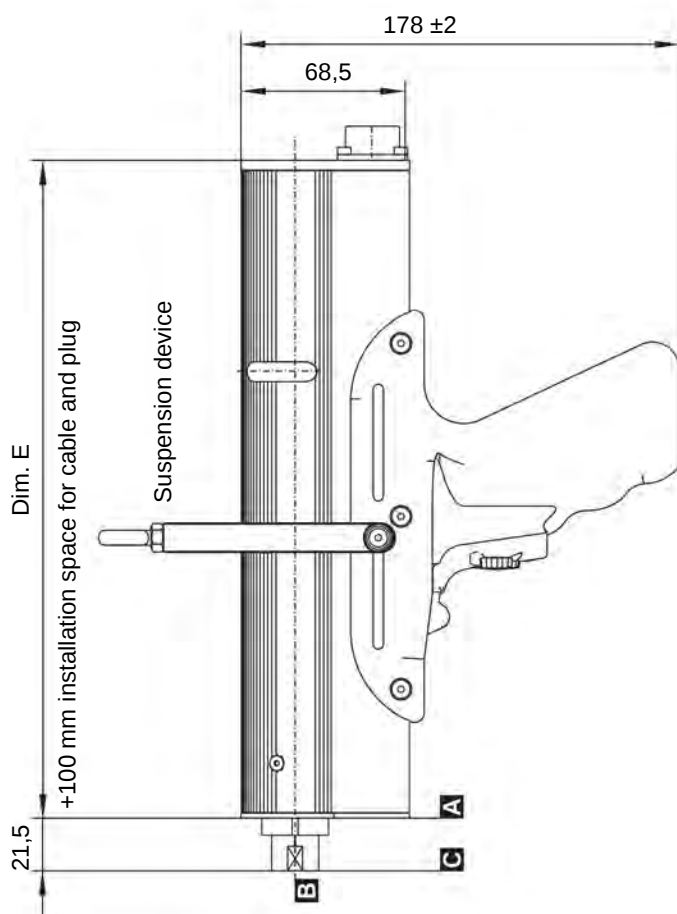
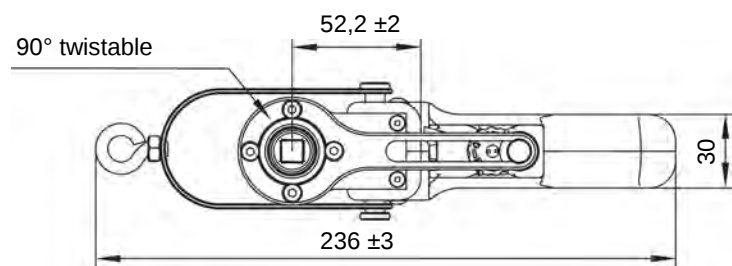
DS 44 MDW



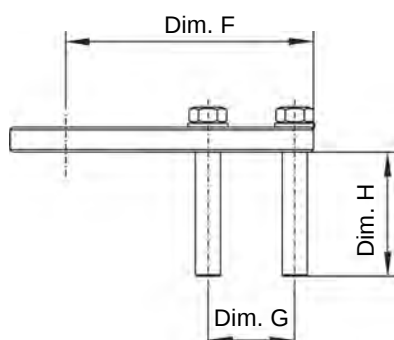
DS 44 SA



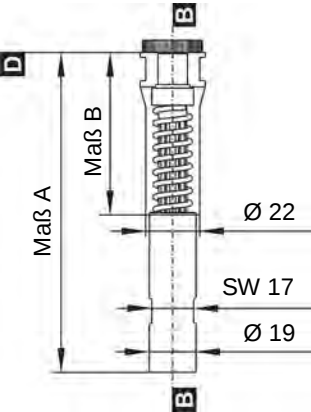
Type	Dim. A mm	Dim. B mm
DS 44 / 05 / 10 / 20	267,5	211,5
DS 44 / 35	348,5	292,5

Pistol grip**Counter bracket for pistol grip nutrunner**

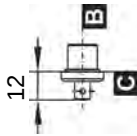
Dimensions according to customer requirement



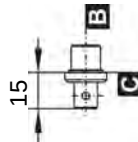
Spring output



Square drive DIN 3121 F6,3



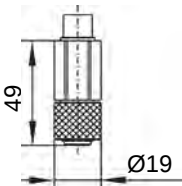
Square drive DIN 3121 F10



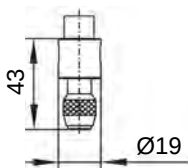
Spring deflexion	Dim. A mm	Dim. B mm
30 mm	130	66
50 mm	150	86

Quick change chuck DIN 3126 D6,3

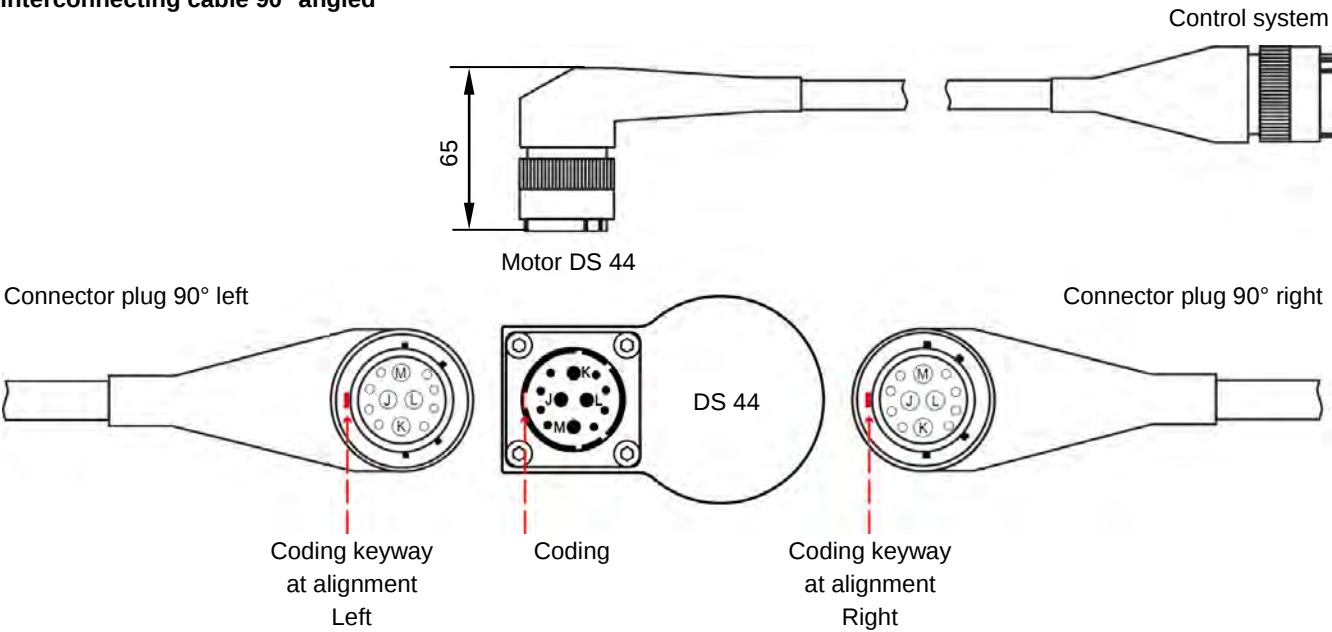
Bit shaft precision-guide 24 mm



Bit shaft precision-guide 13 mm

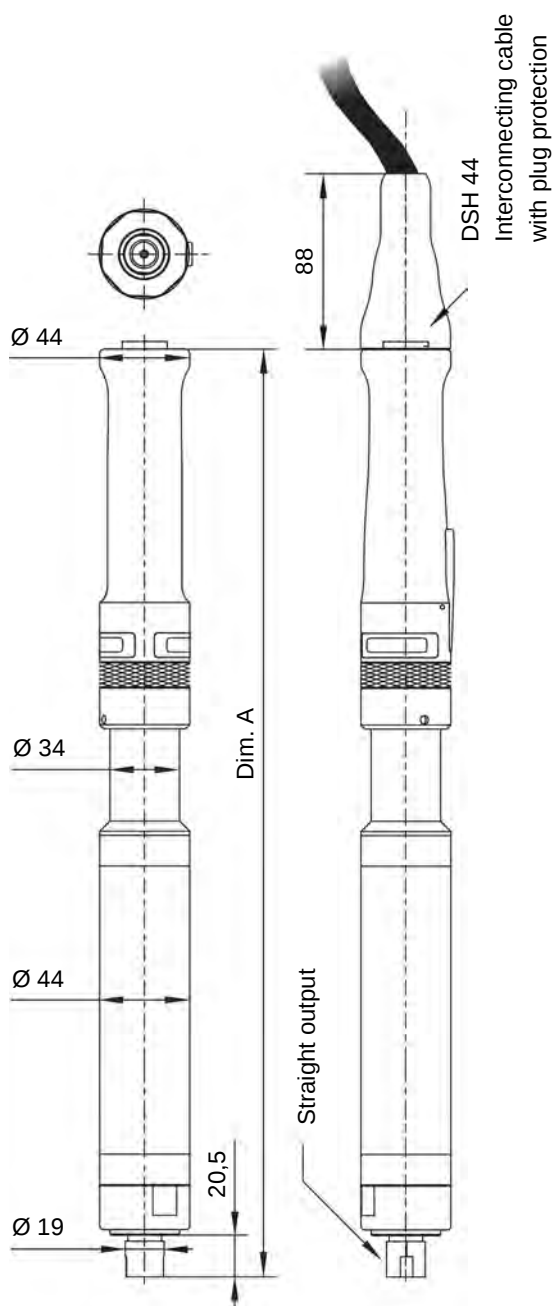


interconnecting cable 90° angled

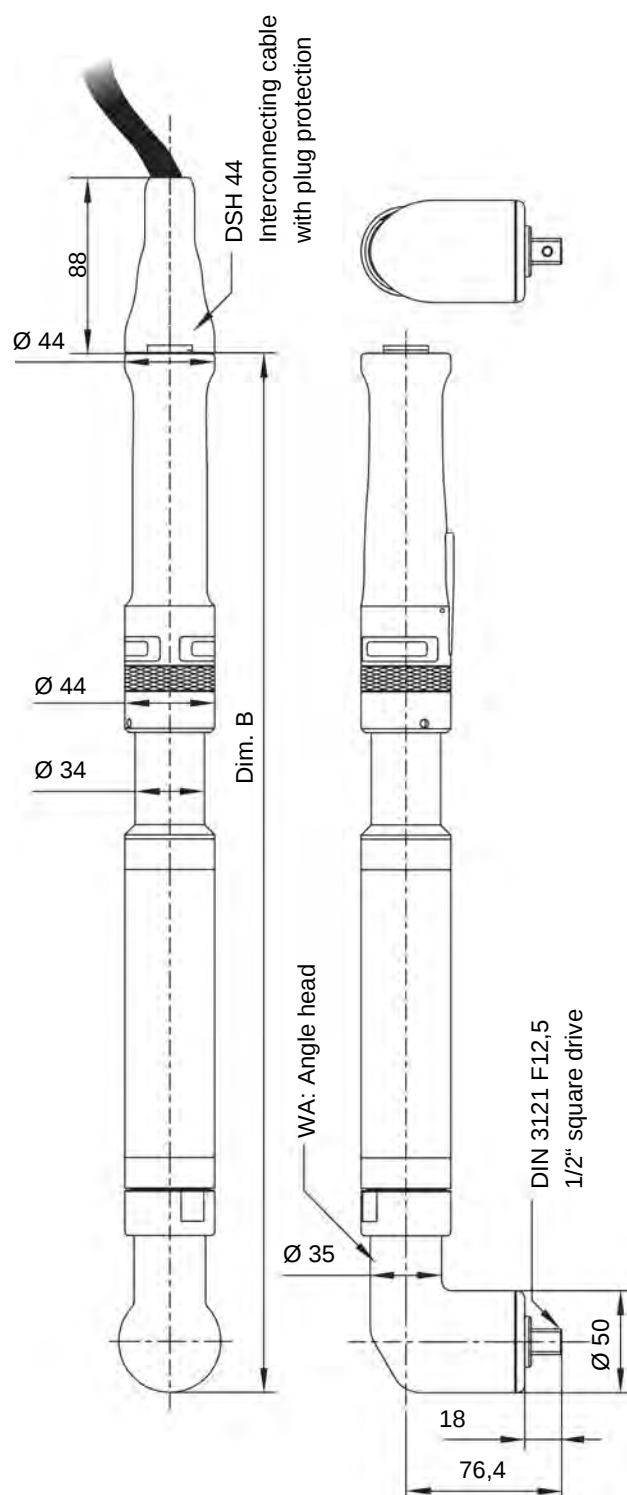


> to the product description (page 31)

DSH 44 MDW/SA

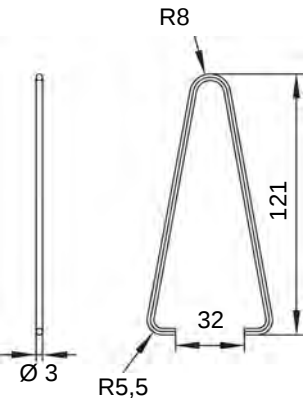


DSH 44 MDW-WA/SA-WA

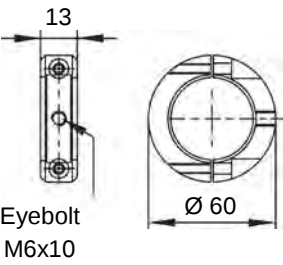


Type	Dim. A mm	Type	Dim. B mm
DSH 44 / 20 / 40 MDW	454 ±2	DSH 44 / 40 / 60 MDW-WA	509 ±2
DSH 44 / 20 / 40 SA	398 ±2	DSH 44 / 40 / 60 SA-WA	428 ±2

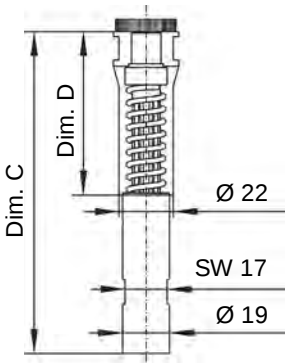
Suspension clip



Suspension eye



Spring output

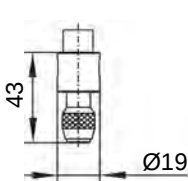
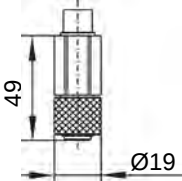


Spring deflexion	Dim. C mm	Dim. D mm
30 mm	130	66
50 mm	150	86

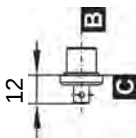
Quick change chuck DIN 3126 D6,3

Bit shaft precision-guide 24 mm

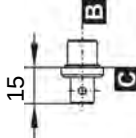
Bit shaft precision-guide 13 mm



Square drive DIN 3121 F6,3



Square drive DIN 3121 F10

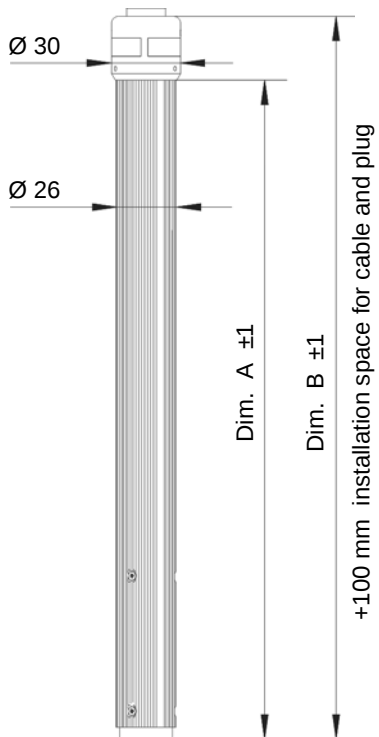


[> to the product description \(page 33\)](#)

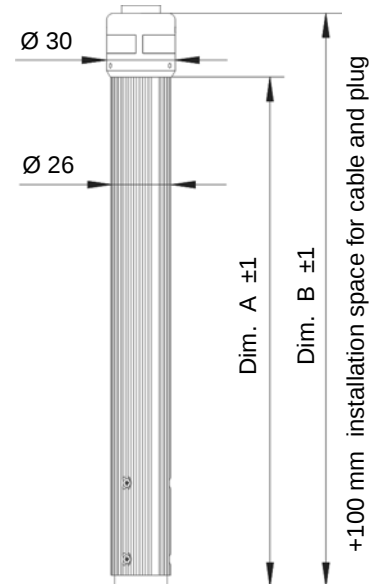
Built-in nutrunners DS series

DS 26 series

DS 26 MDW

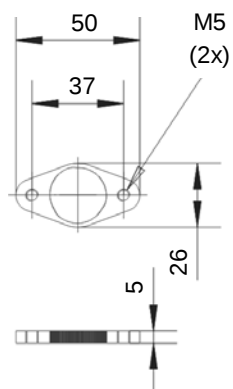


DS 26 SA

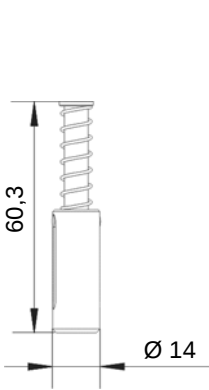


Type MDW	Dim. A mm	Dim. B mm	Type SA	Dim. A mm	Dim. B mm
DS 26 / 005 MDW	217	245	DS 26 / 005 SA	179	207
DS 26 / 01 /02 MDW	235	263	DS 26 / 01 /02 SA	197	225
DS 26 / 04 MDW	242	270	DS 26 / 04 SA	200	228

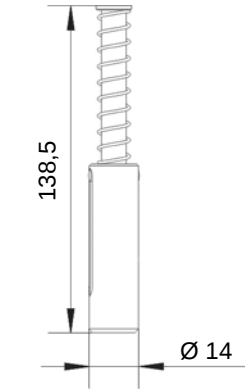
Mounting flange



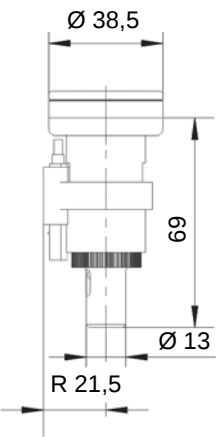
Spring output 20 mm



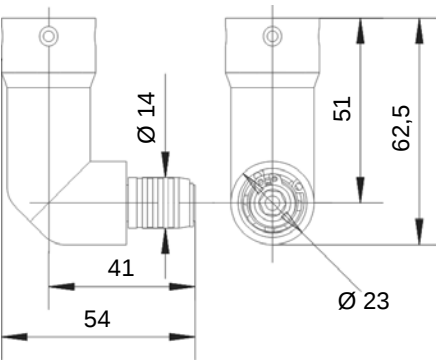
Spring output 50 mm



Self start

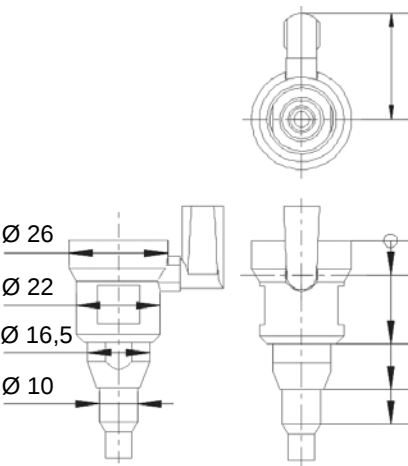


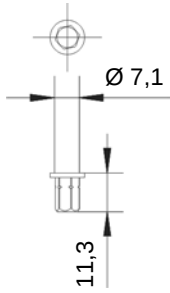
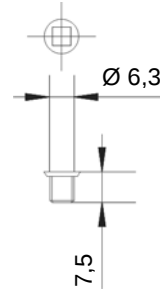
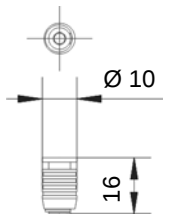
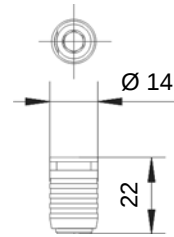
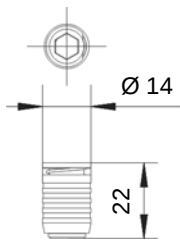
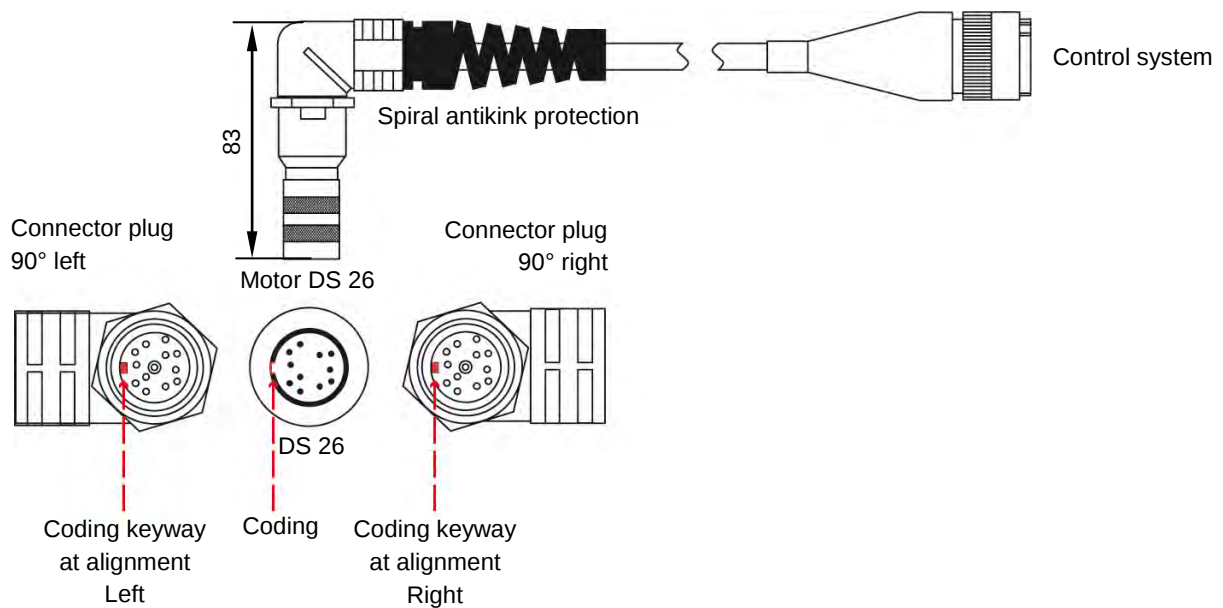
Angle head



WA with quick change chuck
DIN 3126 D6,3

Vacuum screw-retainer

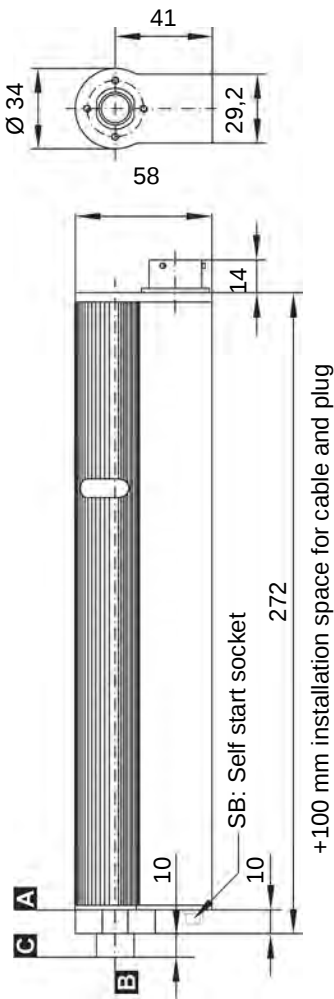


Hexagonal drive DIN 3126 C6,3**Square drive DIN 3121 F6,3****Quick change chuck DIN 3126 B3****Quick change chuck DIN 3126 B5,5****Quick change chuck DIN 3126 D6,3****Interconnecting cable 90° angled**

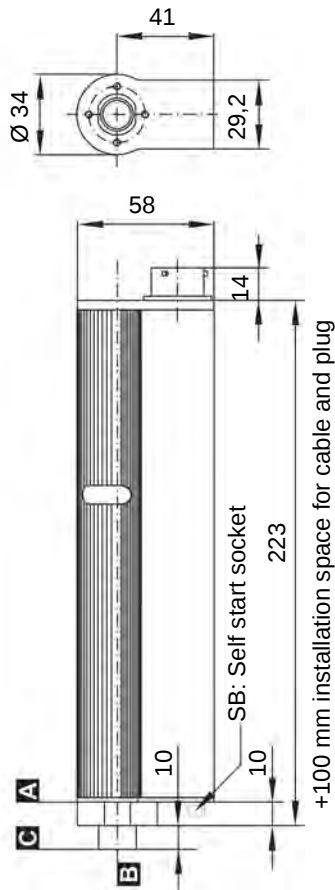
[> to the product description \(page 39\)](#)

DS 34 series

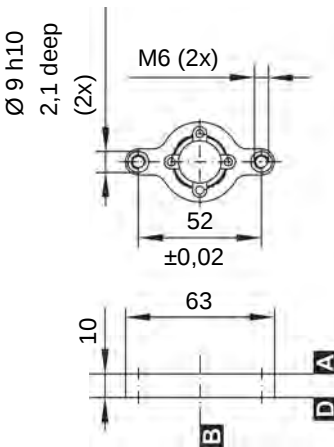
DS 34 MDW



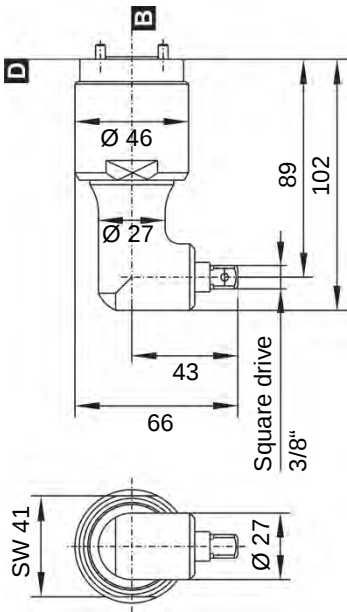
DS 34 SA



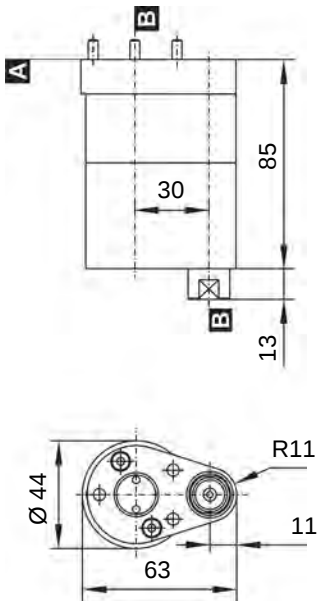
Mounting flange



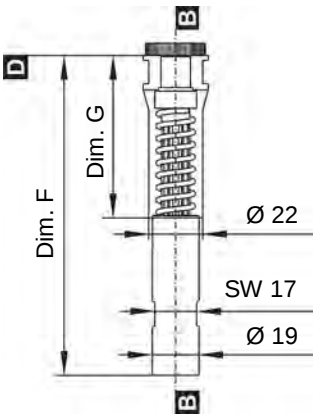
Angle head



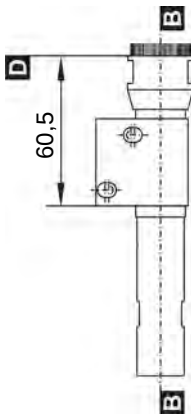
Output offset



Spring output

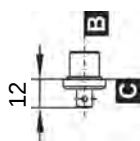


Self start

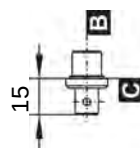


Spring deflexion	Dim. F mm	Dim. G mm
30 mm	130	66
50 mm	150	86

Square drive DIN 3121 F6,3

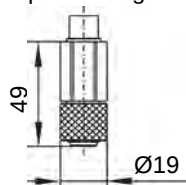


Square drive DIN 3121 F10

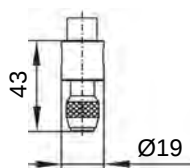


Quick change chuck DIN 3126 D6,3

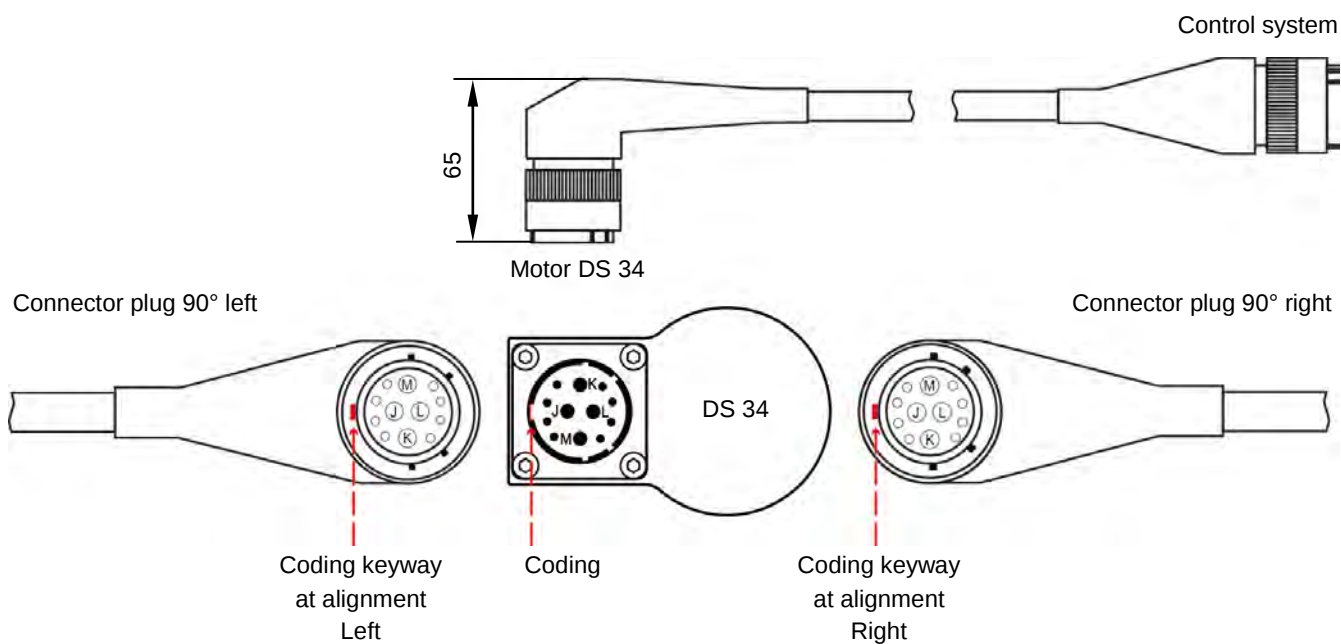
Bit shaft precision-guide 24 mm



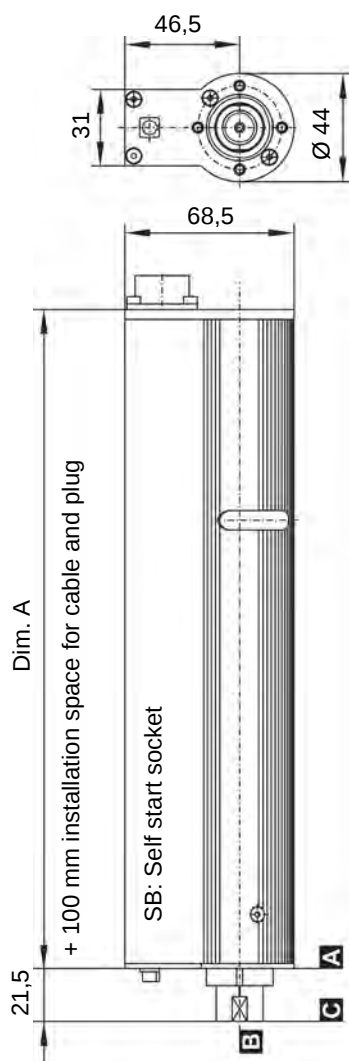
Bit shaft precision-guide 13 mm



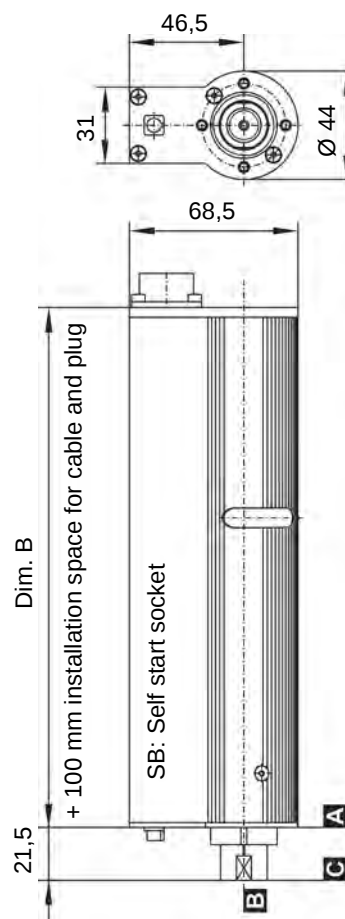
Interconnecting cable 90° angled



DS 44 MDW

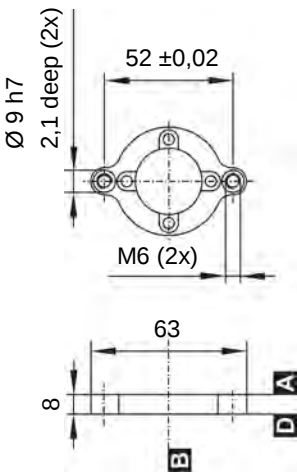


DS 44 SA

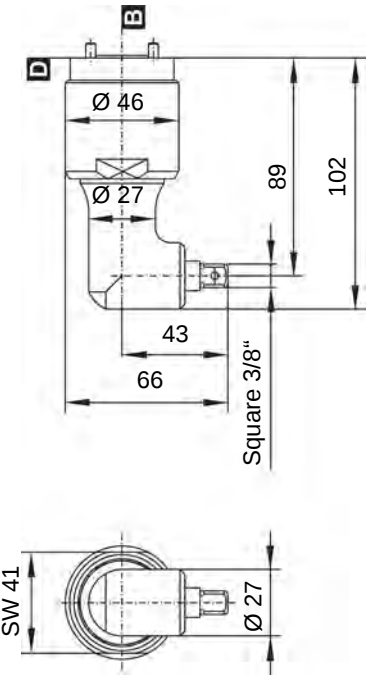


Type	Dim. A mm	Dim. B mm
DS 44 / 05 / 10 / 20	267,5	211,5
DS 44 / 35	348,5	292,5

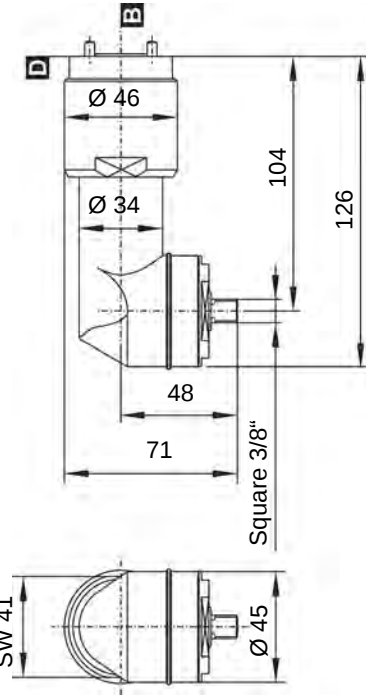
Mounting flange



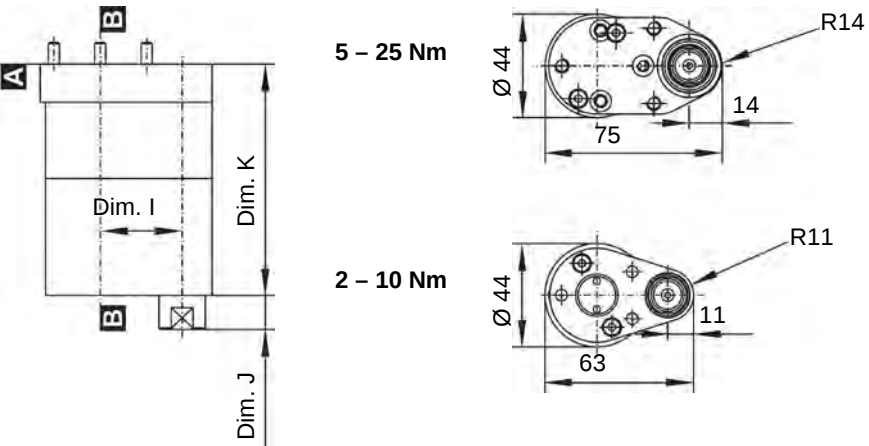
Angle head 20 Nm



Angle head 40 Nm

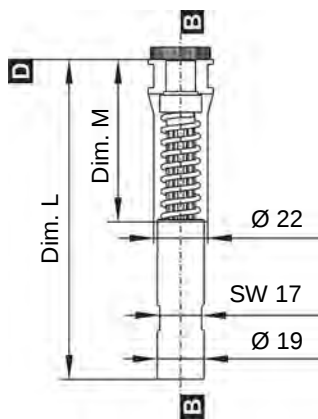


Output offset



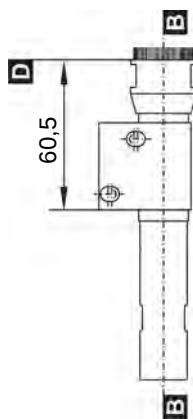
Type	Dim. I mm	Dim. J mm	Dim. K mm
2 – 10 Nm	30	13	85
5 – 25 Nm	35	12	106

Spring output

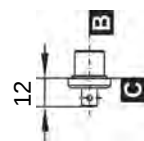


Type	Dim. L mm	Dim. M mm
30 mm	130	66
50 mm	150	85

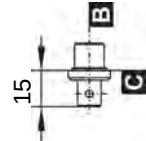
Self start



Square drive DIN 3121 F6,3

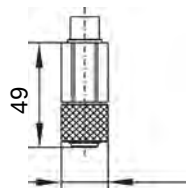


Square drive DIN 3121 F10

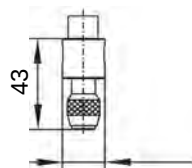


Quick change chuck DIN 3126 D6,3

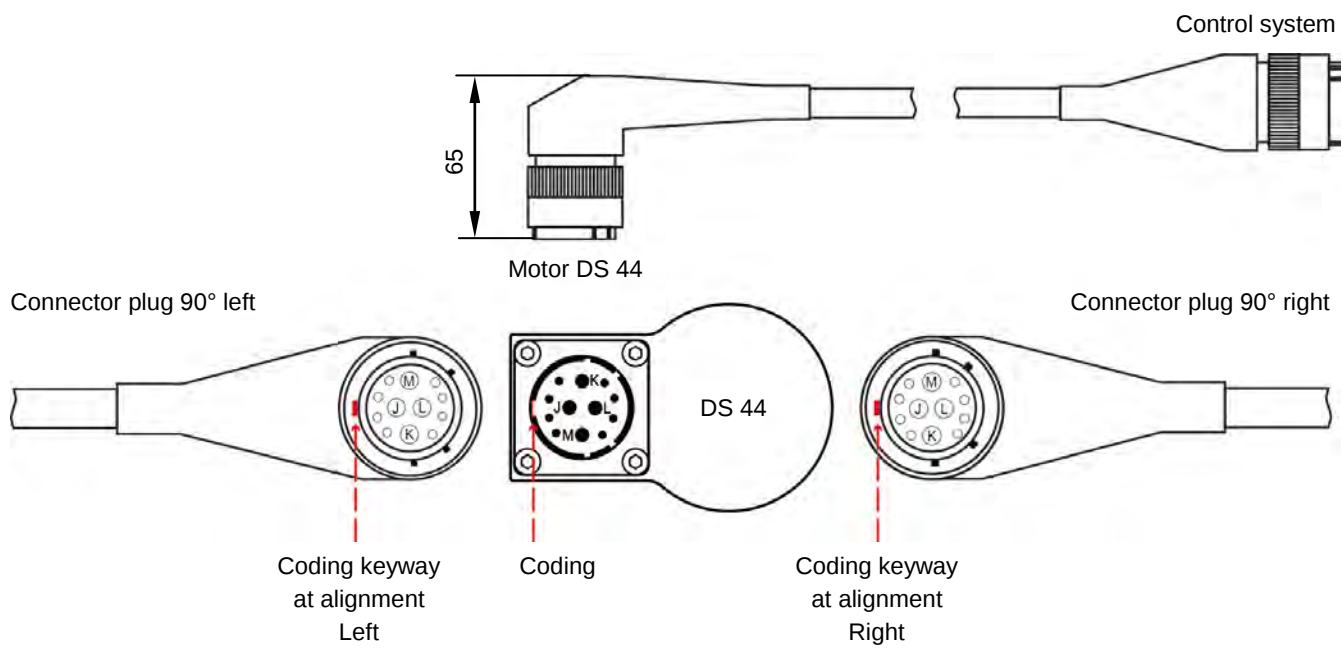
Bit shaft precision-guide 24 mm



Bit shaft precision-guide 13 mm

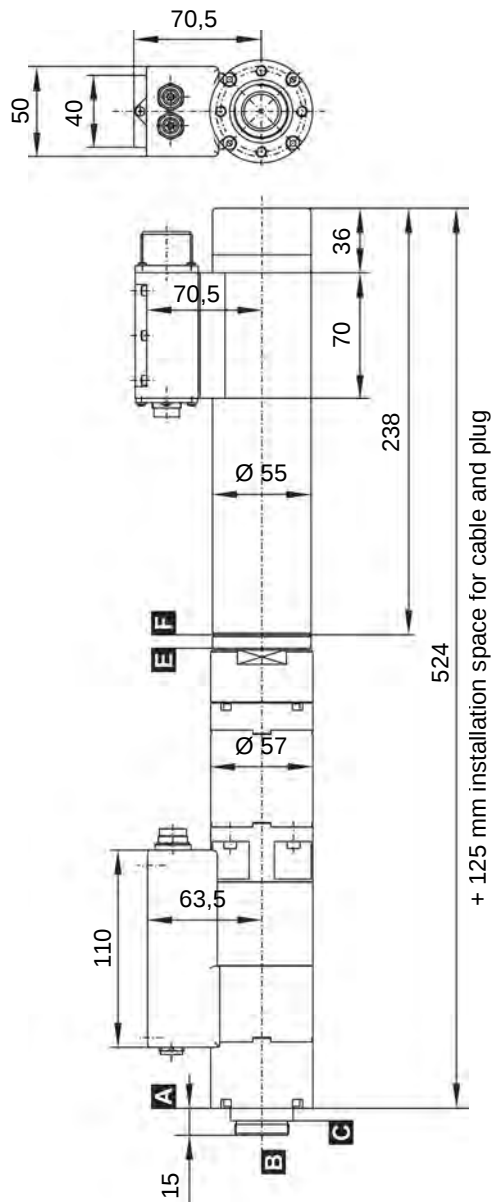


Interconnecting cable 90° angled

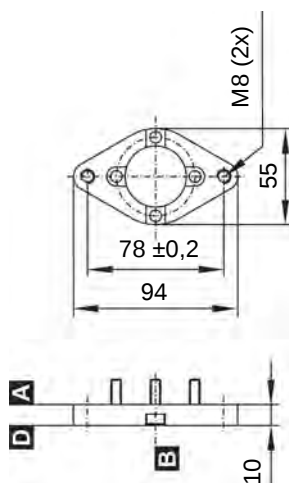


[> to the product description \(page 47\)](#)

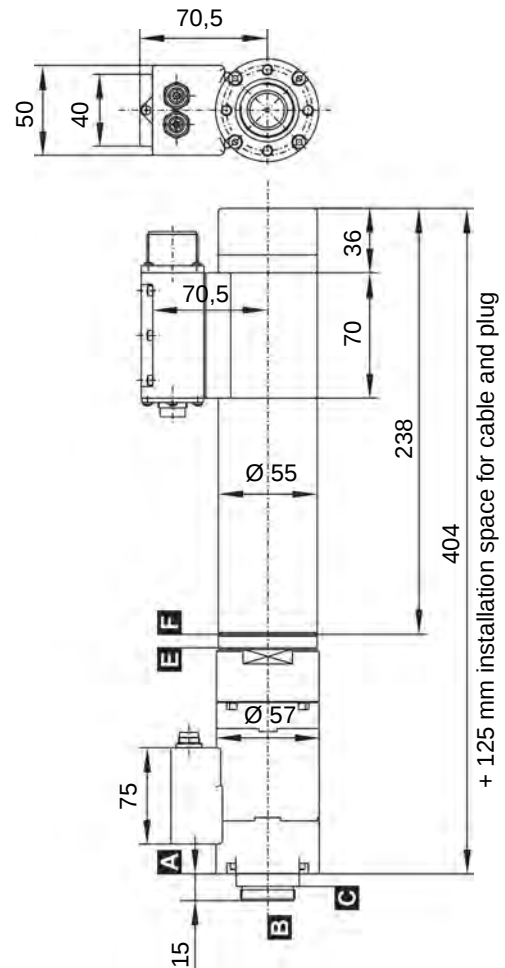
DS 57 MDW



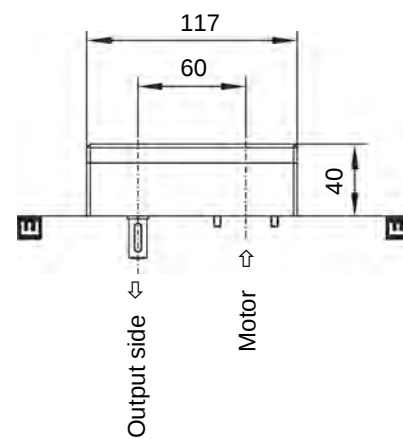
Mounting flange



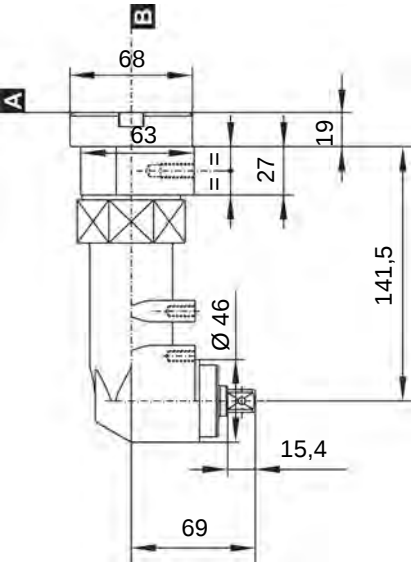
DS 57 SA



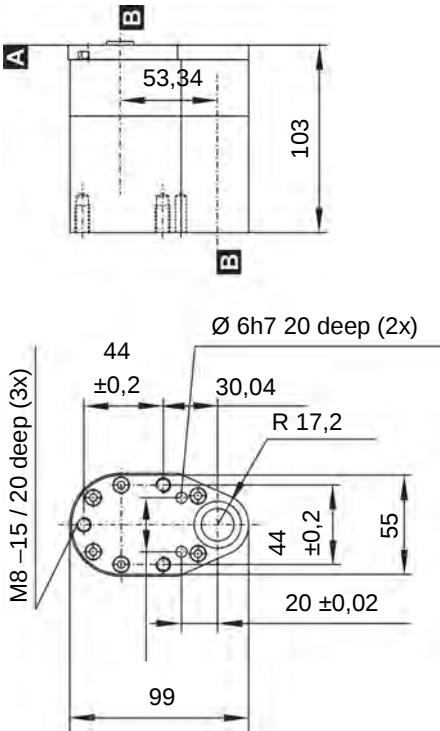
Motor offset



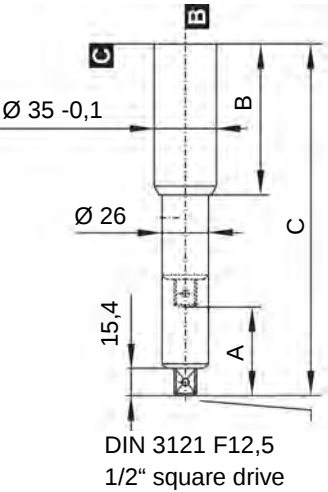
Angle head WA



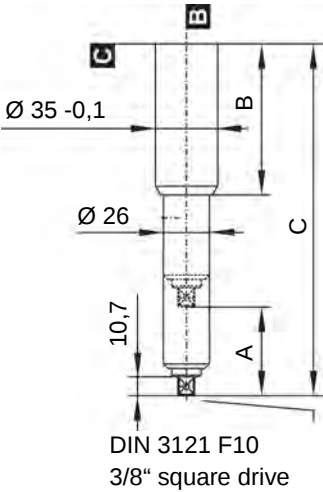
Output offset



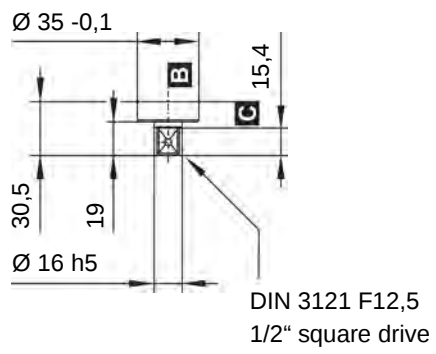
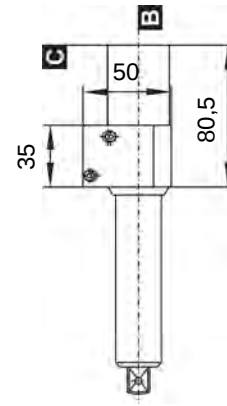
Spring output 1/2"square drive



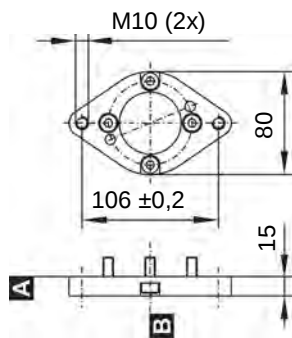
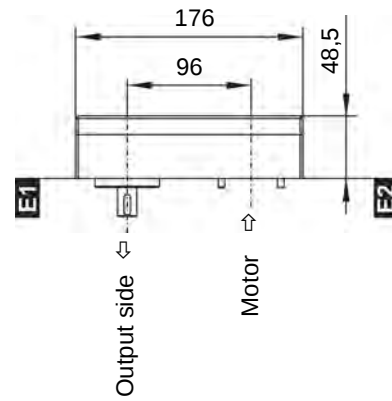
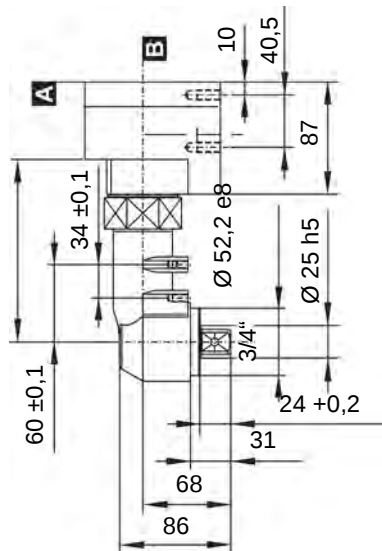
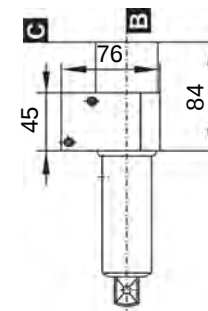
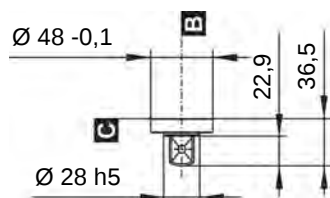
Spring output 3/8"square drive



Type (spring deflexion)	A mm	B mm	C mm
F50	50	85	198
F100	100	135	298

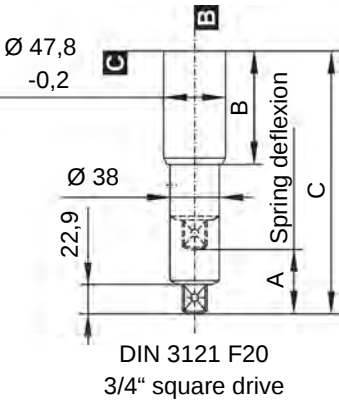
Stump output**Self start**

[> to the product description \(page 51\)](#)

Mounting flange**Output offset****Angle head****Self start****Stump output 3/4" square drive**

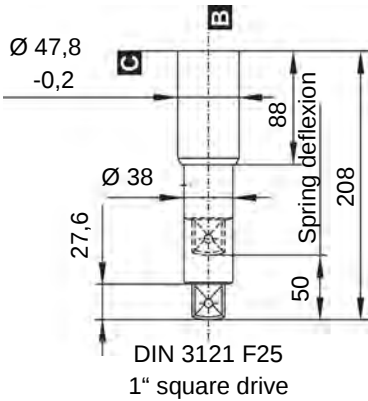
DIN 3121 F20
3/4" square drive

Spring output 3/4" square drive

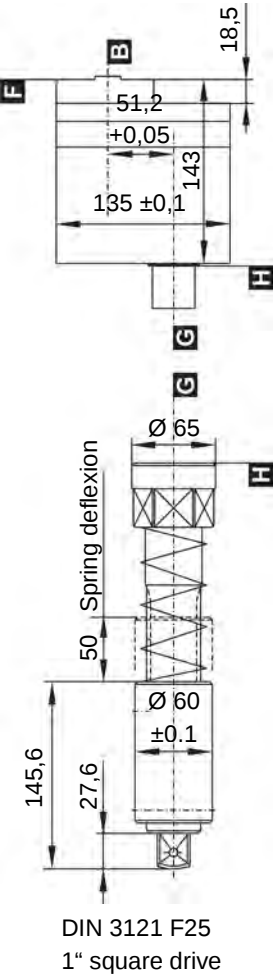


Type (spring deflexion)	A mm	B mm	C mm
F50	50	88	204
F70	70	130	268
F100	100	152	321,5
F150	150	212,2	432

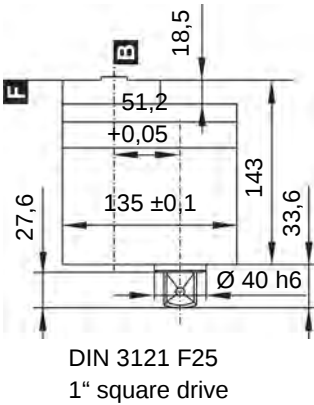
Spring output 1" square drive



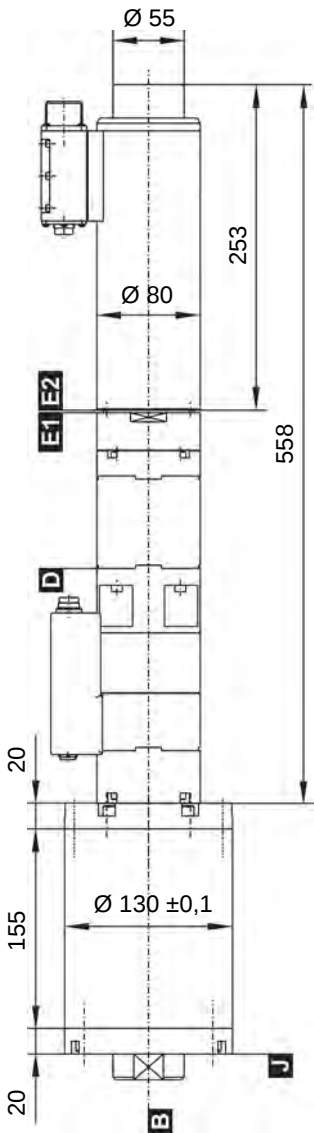
Output offset with spring deflexion



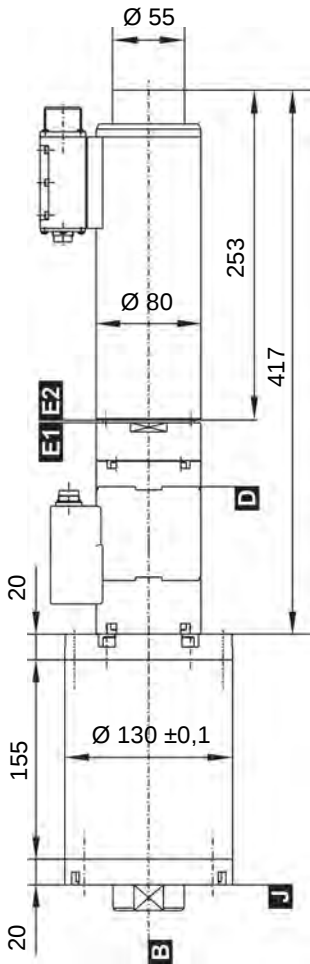
Output offset with stump offset



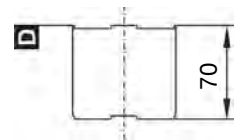
DS 80-130 MDW (900/1000 Nm)



DS 80-130 SA (900/1000 Nm)

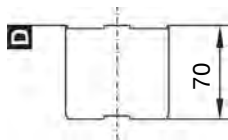


DS 80-130 MDW (1500/2000/2400 Nm)



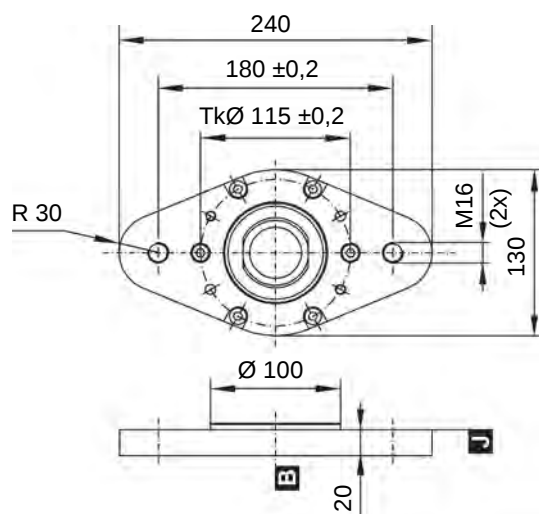
Additional
2nd gear stage
(Booster gear unit)

DS 80-130 SA (1500/2000/2400 Nm)

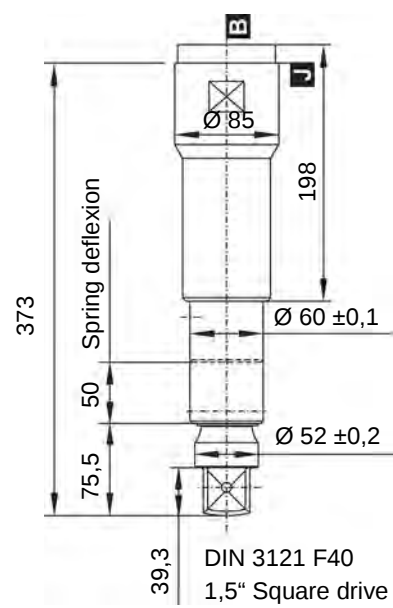


Additional
2nd gear stage
(Booster gear unit)

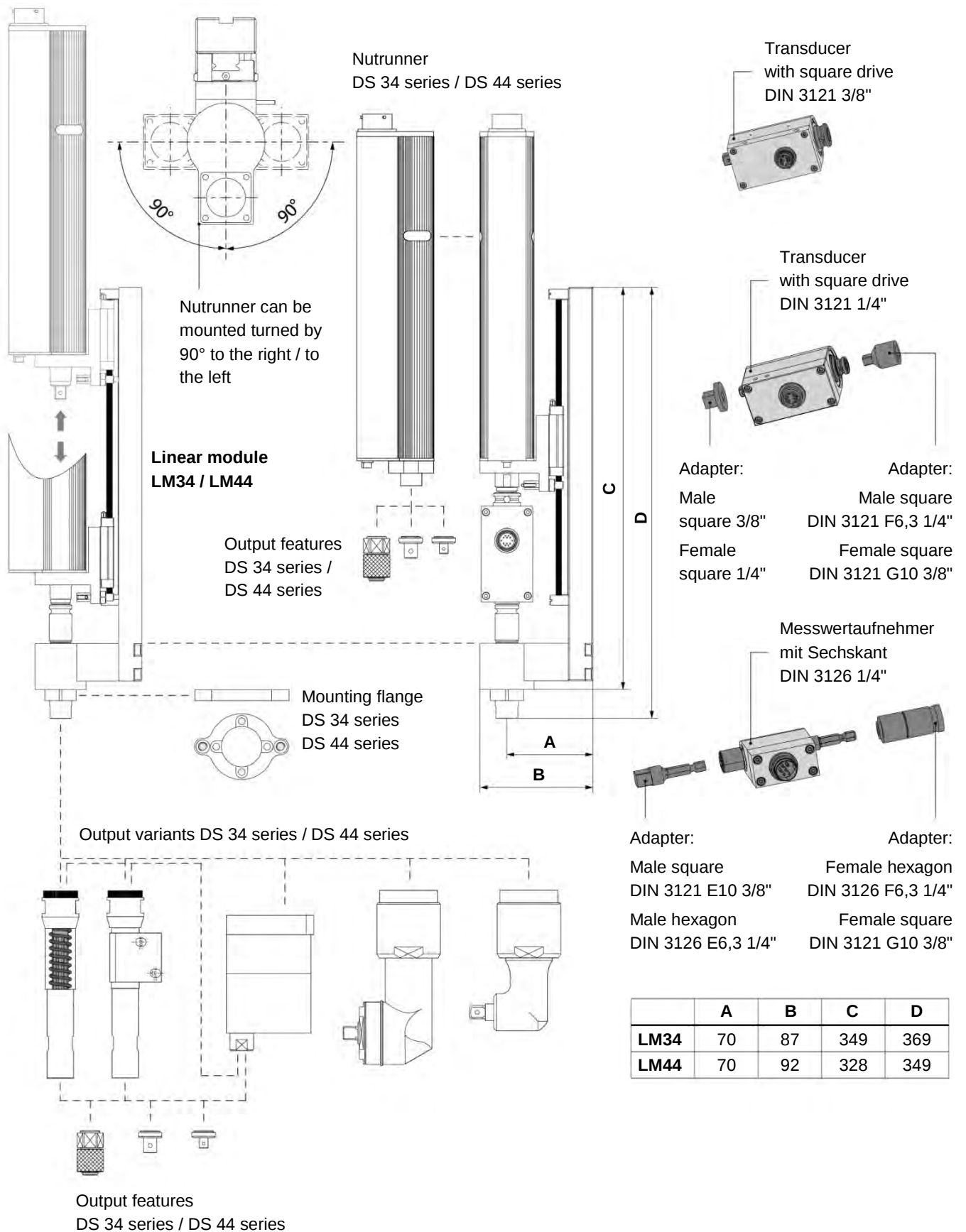
Mounting flange



Spring output



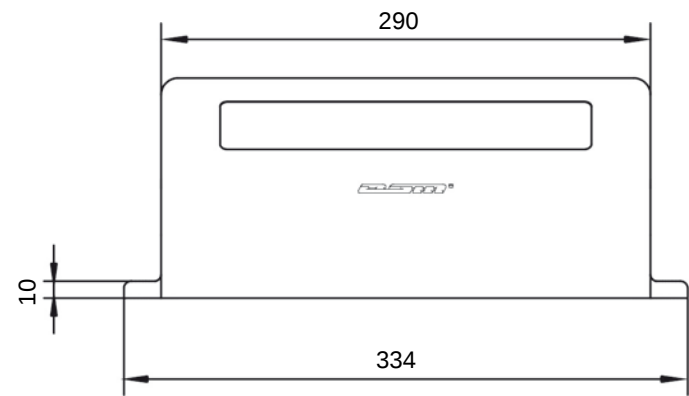
[> to the product description \(page 57\)](#)



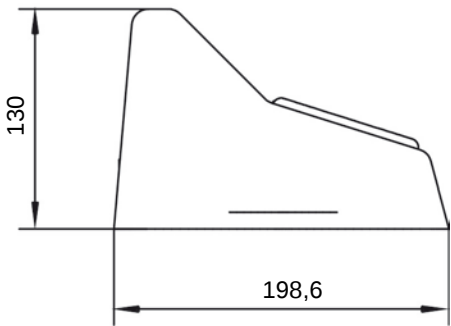
[> to the product description \(page 61\)](#)

Socket boxes ToolControl

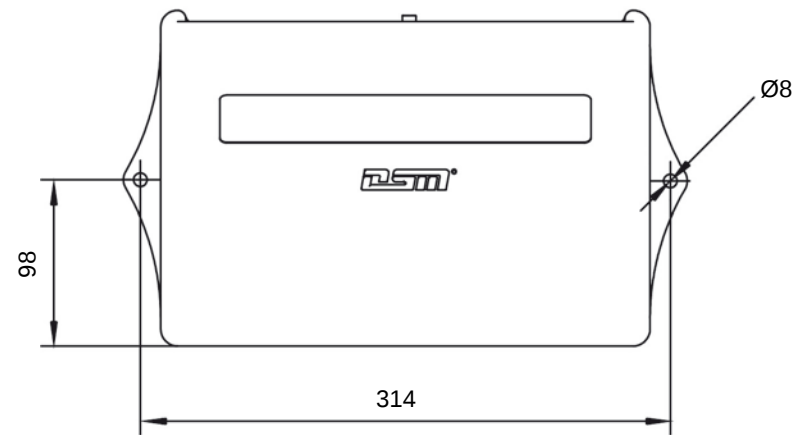
Front view



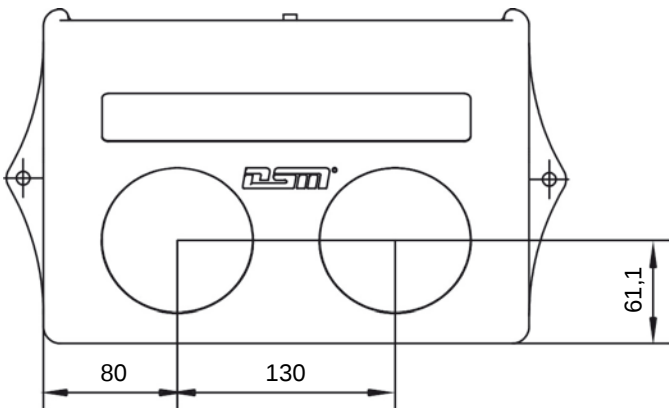
Side view



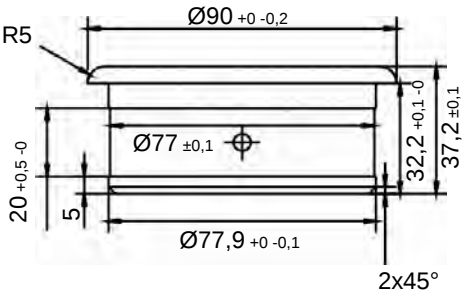
Top view



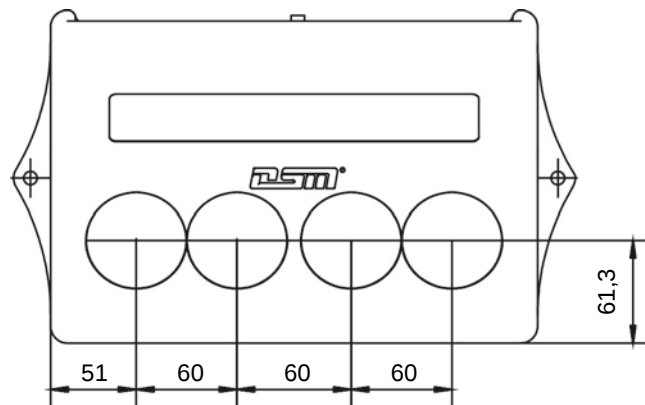
Tool places TC2



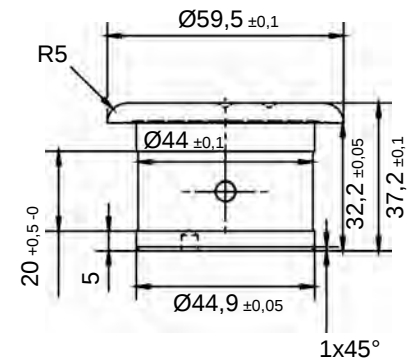
Tool insert TC2



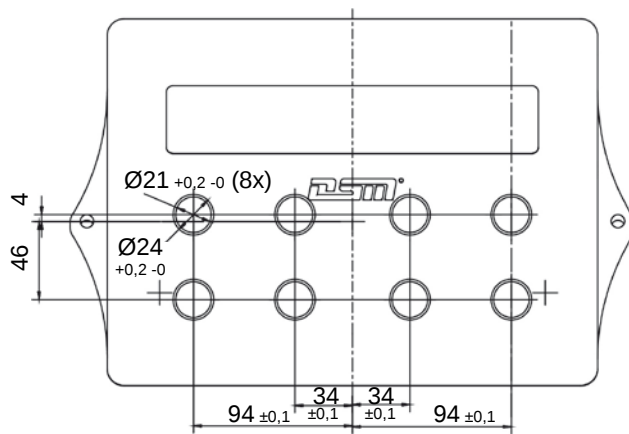
Tool places TC4



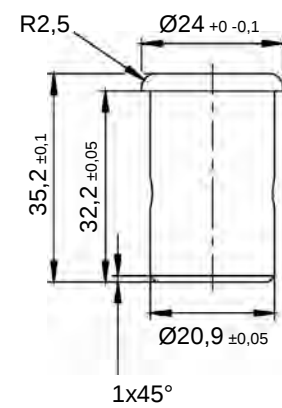
Tool insert TC4



Tool places TC8



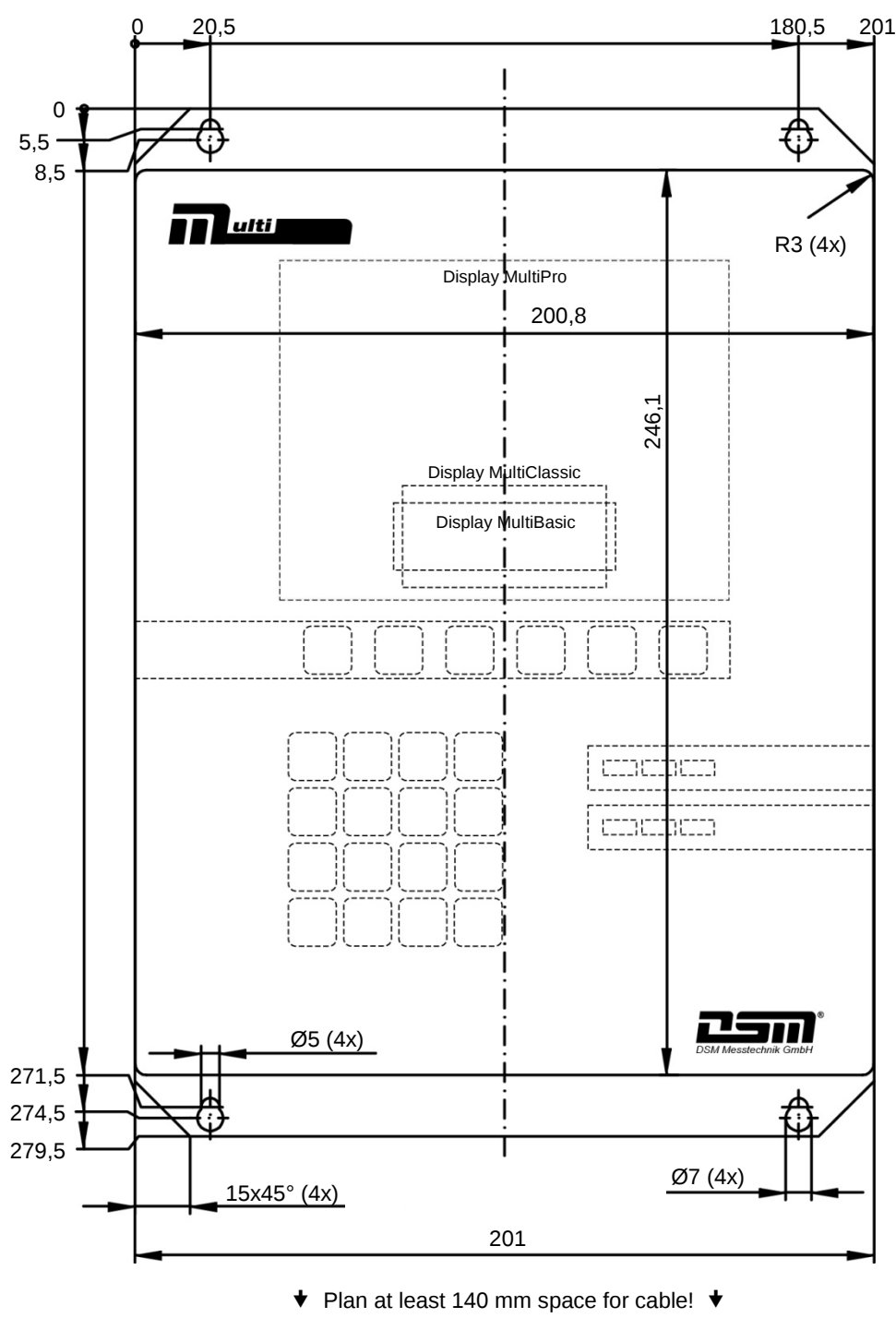
Tool insert TC8



[> to the product description \(page 63\)](#)

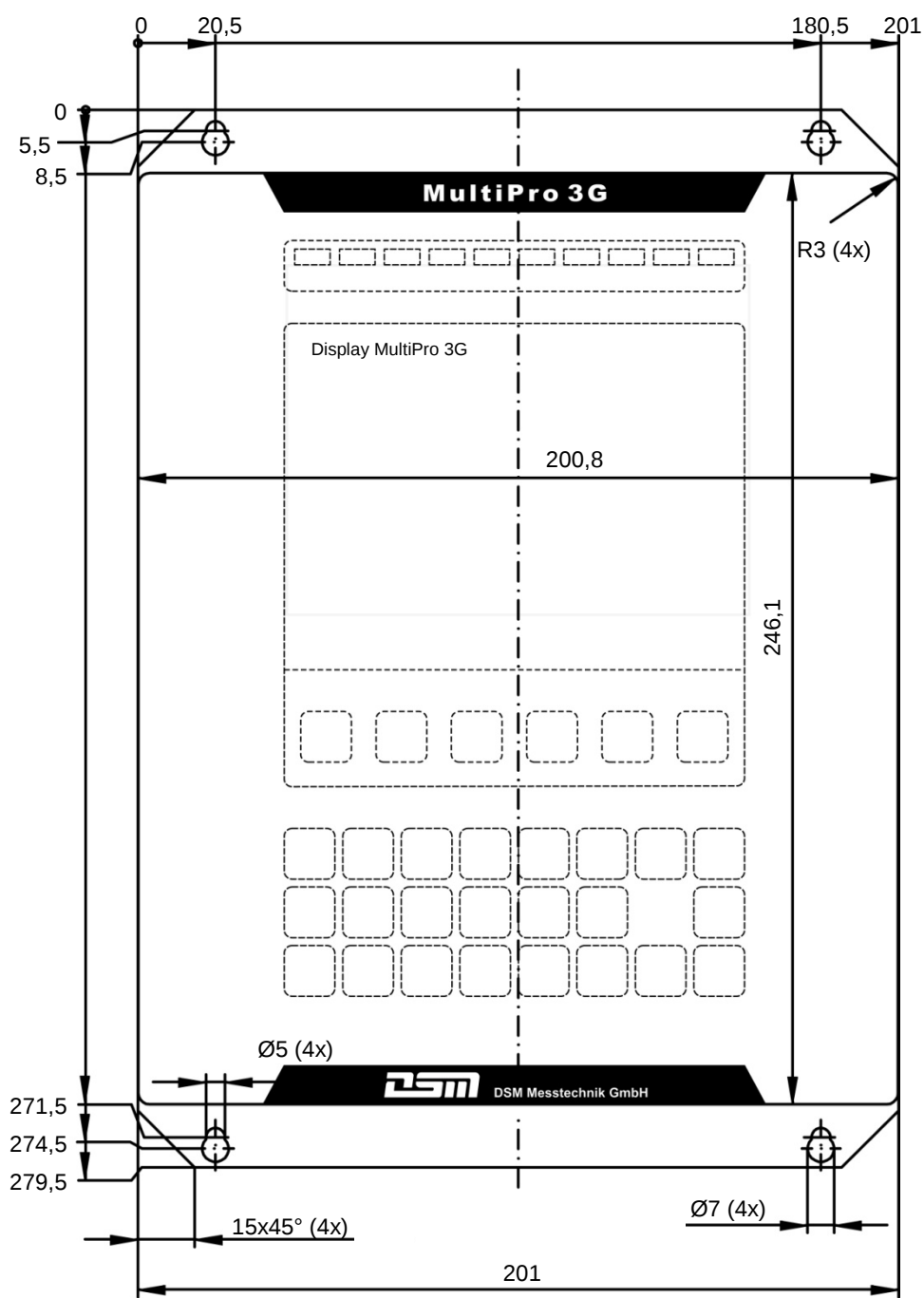
Control systems

MultiBasic Blue, MultiBasic, MultiClassic, MultiPro



Type	Depth mm
Control module + Basic module DS-S type 1	128
Control module + Basic module (all other executions)	231

> to the product description (page 65)



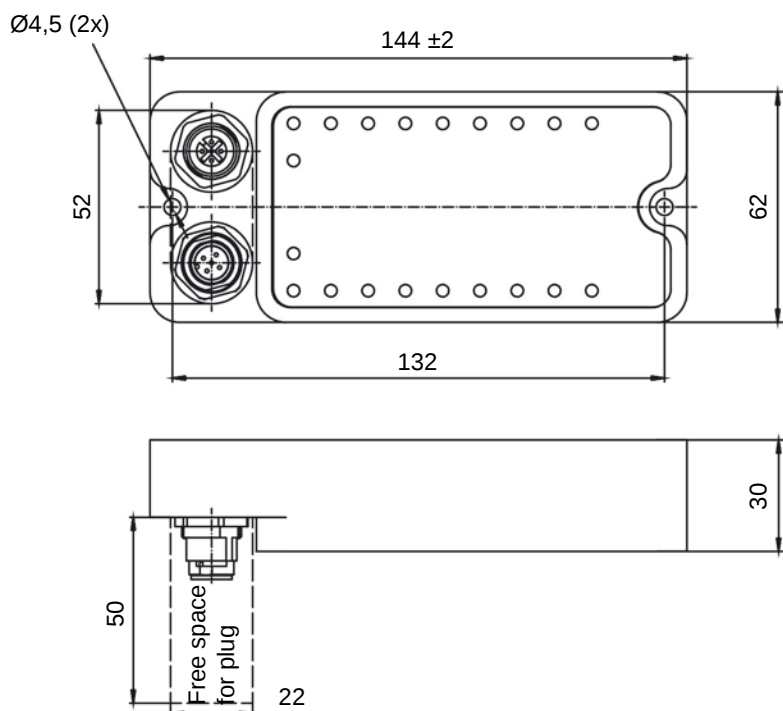
↓ Plan at least 140 mm space for cable! ↓

Type	Depth mm
Control module + Basic module BM-S-1	128
Control module + Basic module (all other executions)	231

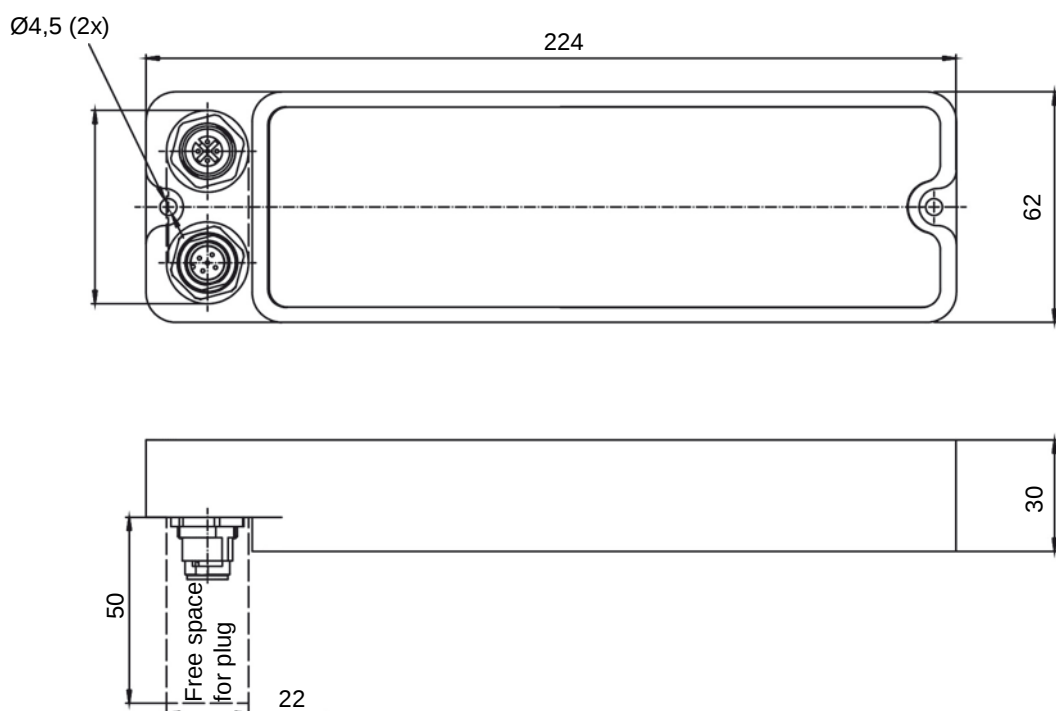
[> to the product description \(page 85\)](#)

IO-Extension

4/4S, 4/4C, 8/8S



8/8C

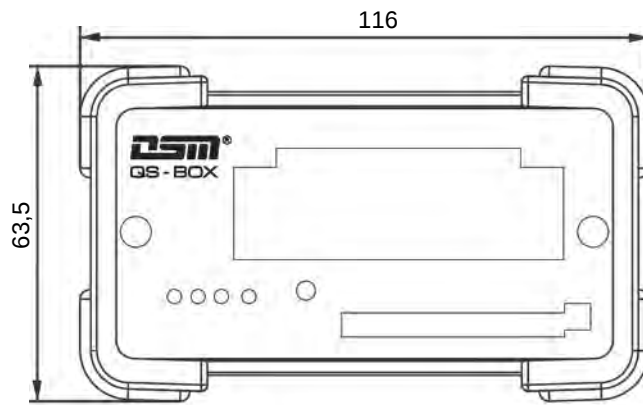


[> to the product description \(page 66\)](#)

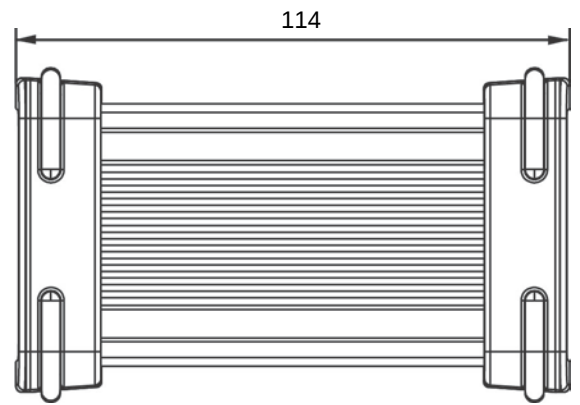
Reference measuring system

QS-Box

Front view

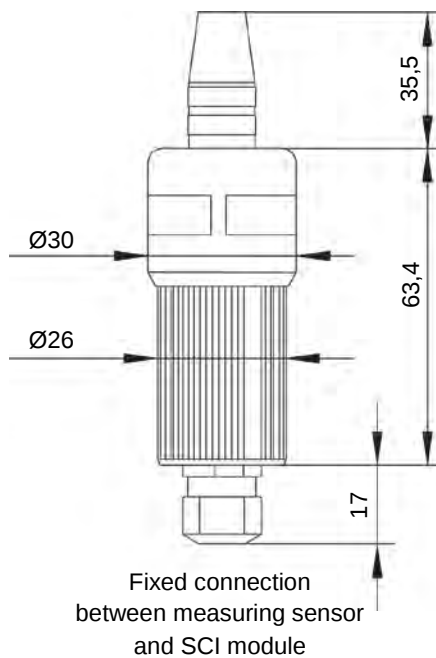


Side view



SCI module

Connector measuring module



[> to the product description \(page 89\)](#)



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Article number



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