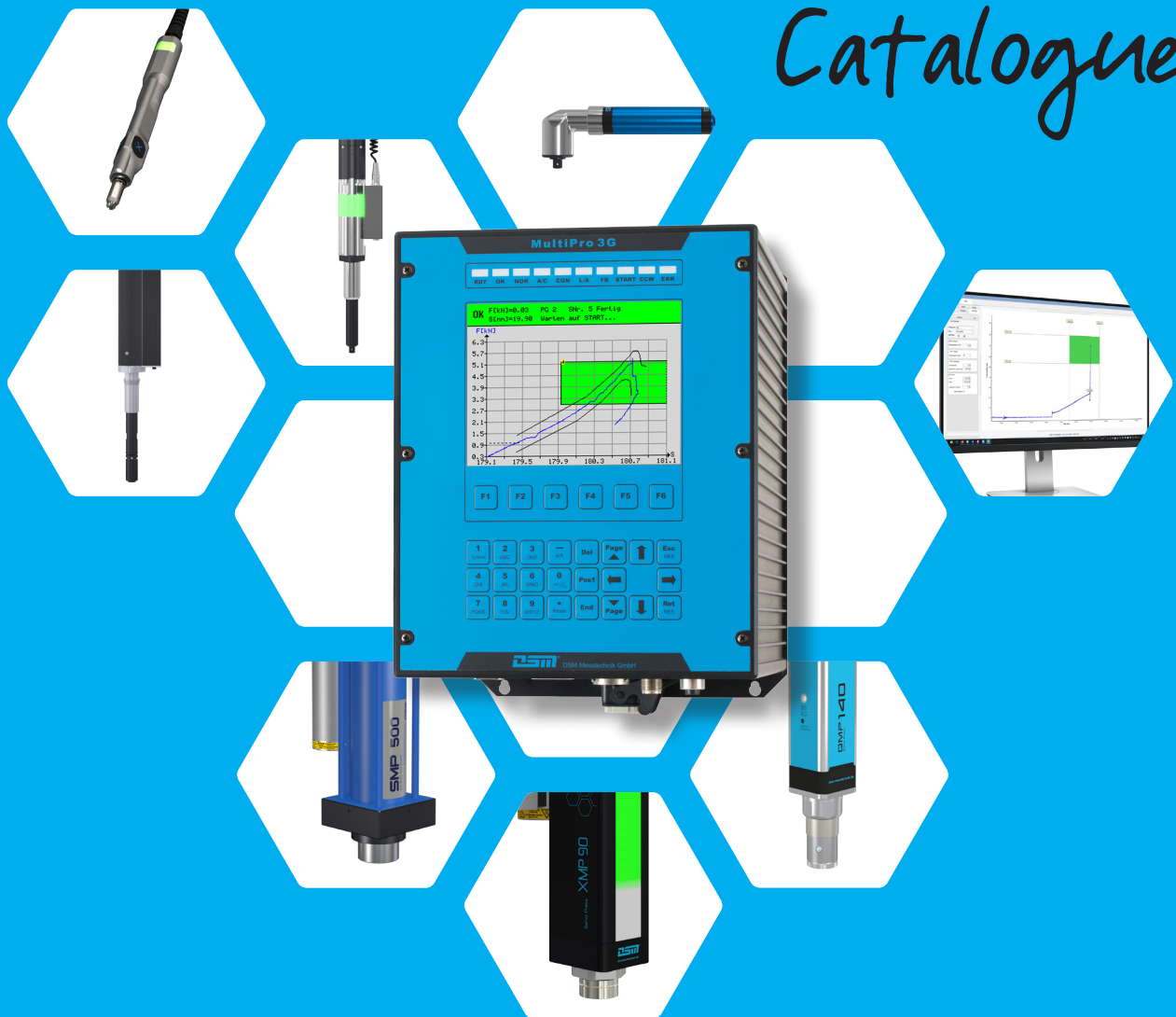


DSM Messtechnik GmbH

... for tightening and press-in processes in your assembly

ENGLISH

Catalogue



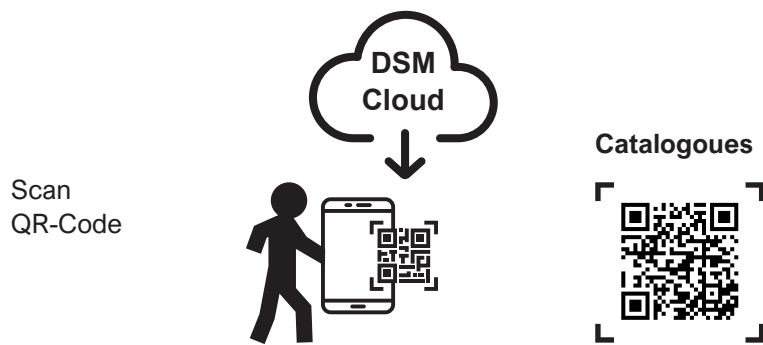
DSM[®]

www.dsm-messtechnik.de

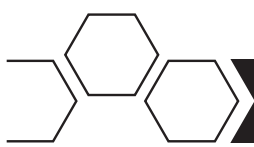
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Download



or

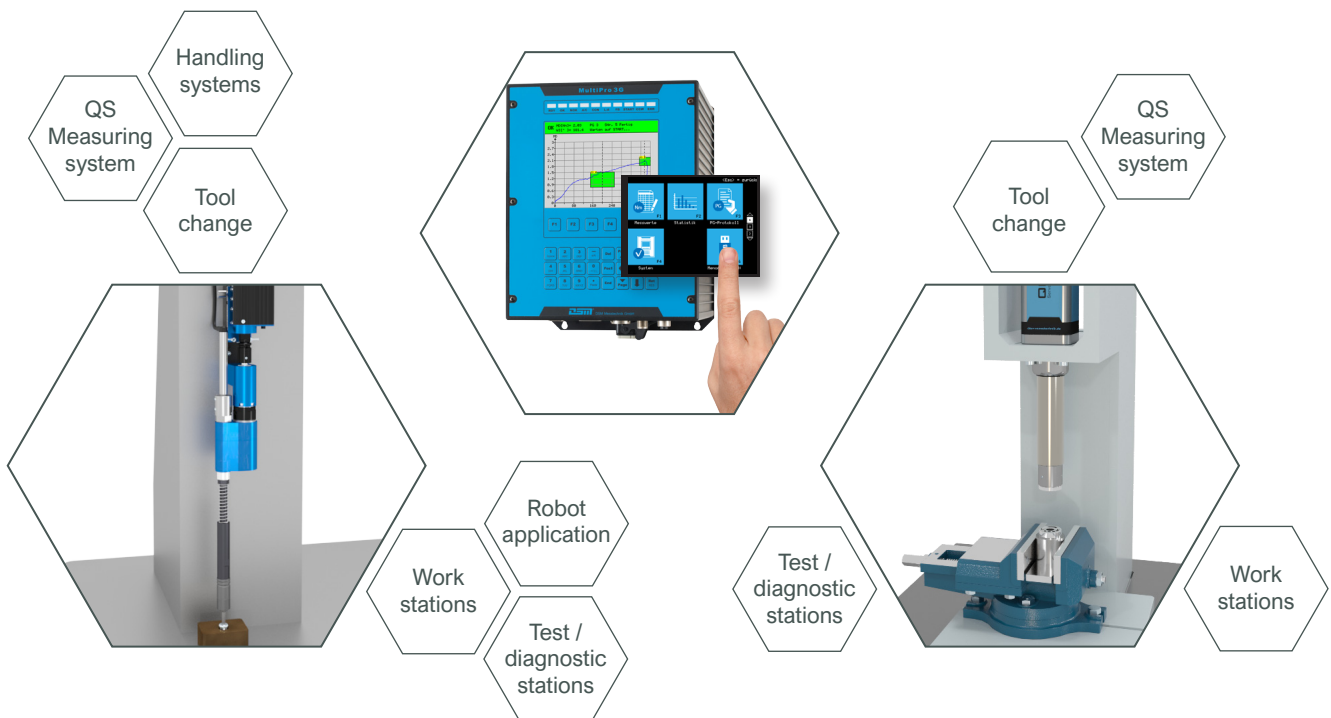


Control system

MultiPro 3G, the control system for **tightening** and **press-in processes**. Thanks to its scalable performance, it is the flexible solution in assembly for simple and complex tasks.

MultiPro 3G hardware unit – configurable with standardised option modules, firmware for tightening or press-in, extension level for scope of performance as well as with additional processes and functions.

Space-saving control system with integrated servo controller, compact in one housing for quick installation.



Tightening technique

The requirements placed on a nutrunner are diverse.

The DS series offers you products which are specially configured for your applications. In the right size, with the correct torque, in the required precision, with the appropriate attachment.

Thanks to in-house production, individual adjustments can also be made.

0,05 up to 2400 Nm

Torque

Press-in technique

The right press-in unit for press, joining and forming tasks.

DSM offers you press-in units which are specially configured for your applications. In the right size, with the correct force, in the required precision, with an appropriate stroke. If required, we can equip the press-in unit with backstop or with electromechanical brake.

Thanks to in-house production, individual adjustments can also be made.

50 up to 120 000 N

Force

MultiPro 3G

The combination of intuitive user-friendliness and a modular hardware and software concept created a basis that meets the current and future requirements in assembly 4.0.

Flexible in application, because the installed firmware defines the use of the MultiPro 3G as a tightening or press-in system.

Furthermore, the MultiPro 3G technology with the scalable functional area enables the individual configuration of the performance.

All additional functions and procedures are integrated in the firmware and can be activated via a licence if needed. Your benefit, everything can be unlocked for testing.

DSM implements special modifications in a customer oriented and professional manner – a new generated function can be quickly integrated into the control system.

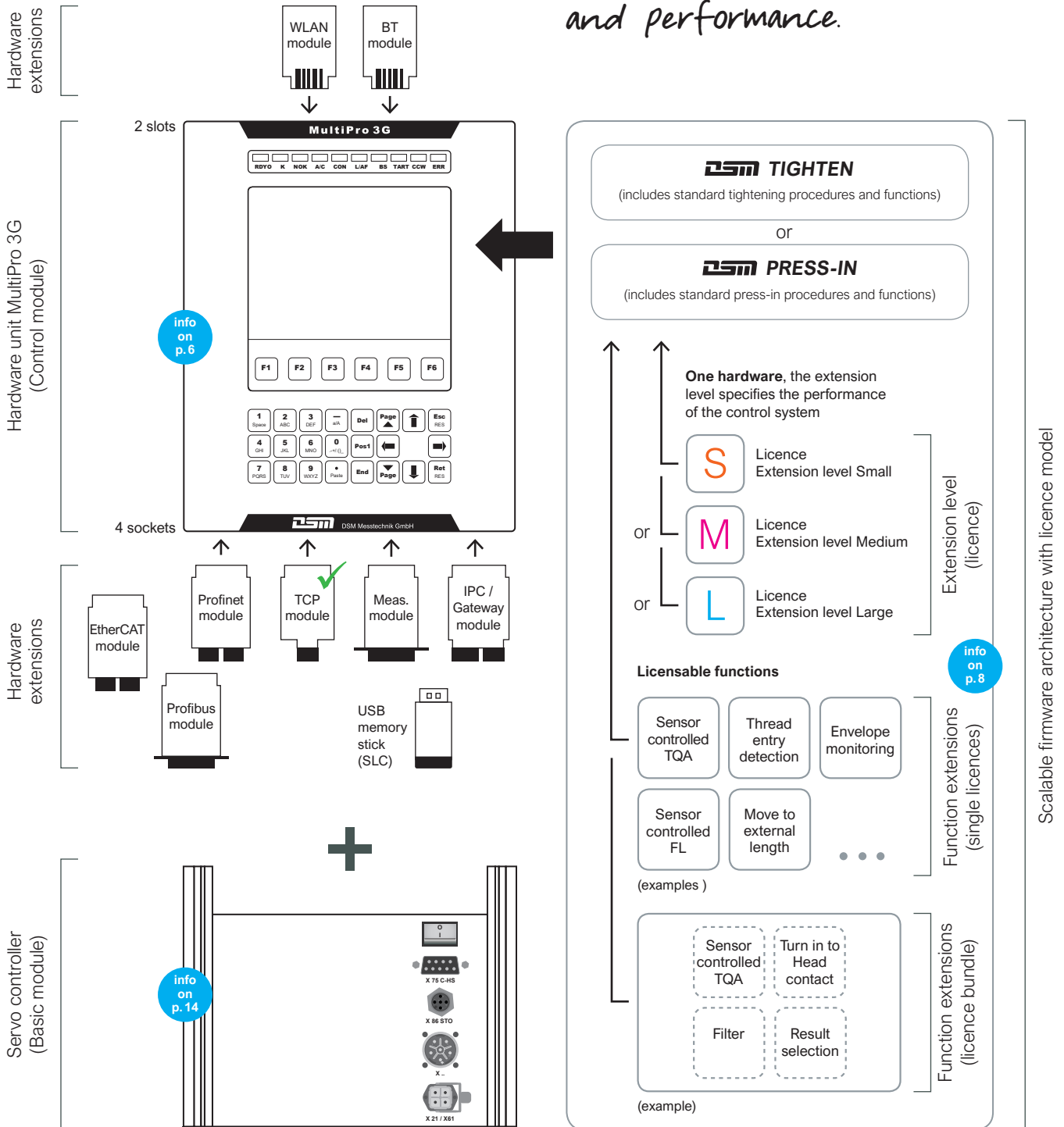


Modular design

MultiPro 3G with a concept of standardised hardware and software components. The compact control system consists of the control module and the basic module and therefore requires little space and no control cabinet.

Slots for expanding the MultiPro 3G with communication and performance modules complement the flexibility. Firmware for tightening and press-in – scalable with extension levels and function extensions, according to your requirements.

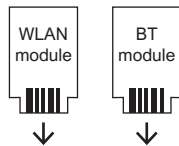
Flexible in price and performance.



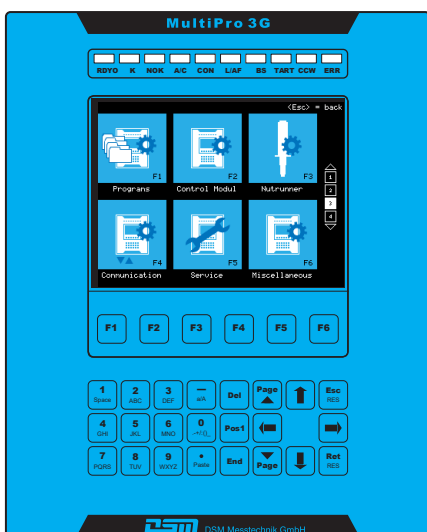
Control module MultiPro 3G

Compared to the previous DSM control generations, the MultiPro 3G control module is the same for all applications. The scope of performance of the control system is specified by the extension level of the firmware as well as by additional activatable procedures and functions.

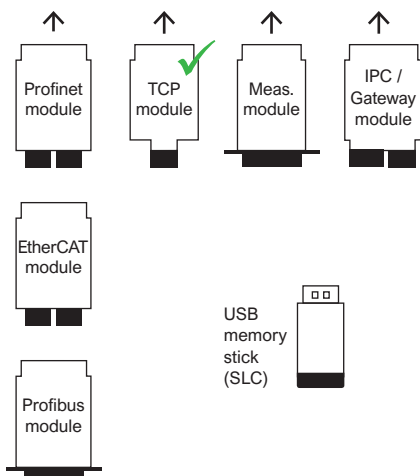
In addition to the already integrated TCP/IP interface – for the LAN connection with the MPEC programming software – it is possible to further expand the MultiPro 3G's range of applications through various option modules.



2 free slots



4 sockets on module rack (3 free)



Option **WLAN module** MS-1002137

To integrate the MultiPro 3G into a WLAN network or to use the MultiPro 3G as a WLAN access point

Option **BT module** MS-1002138

Used to connect a Bluetooth®-enabled device with the MultiPro 3G

MultiPro 3G Hardware unit MS-1003250

5,7 inch colour touch display
LED status reports for operating status and process status OK/NOK torque / force and angle of rotation / stroke
Numeric Keypad with shortcut keys
Classification of measuring acc. to VDE 0410
Display of program flow in real time
Firmware update via PC/ USB possible

Standard interfaces:

Freely configurable resource interface with 8 inputs and 8 outputs (24 V)
PC interface USB 2.0 type B
Ethernet TCP/IP
USB 2.0 type A for DSM memory stick
Printer interface RS 232
2 x DSM systembus interface

Option **Profinet module** MS-1002120

Profinet interface (2 sockets) for integration into the field bus system

Option **EtherCAT module** MS-1002125

EtherCAT interface (2 sockets) for integration into the field bus system

Option **Profibus module** MS-1002115

Profibus interface for integration into the field bus system

Option **Measurement module** MS-1002130

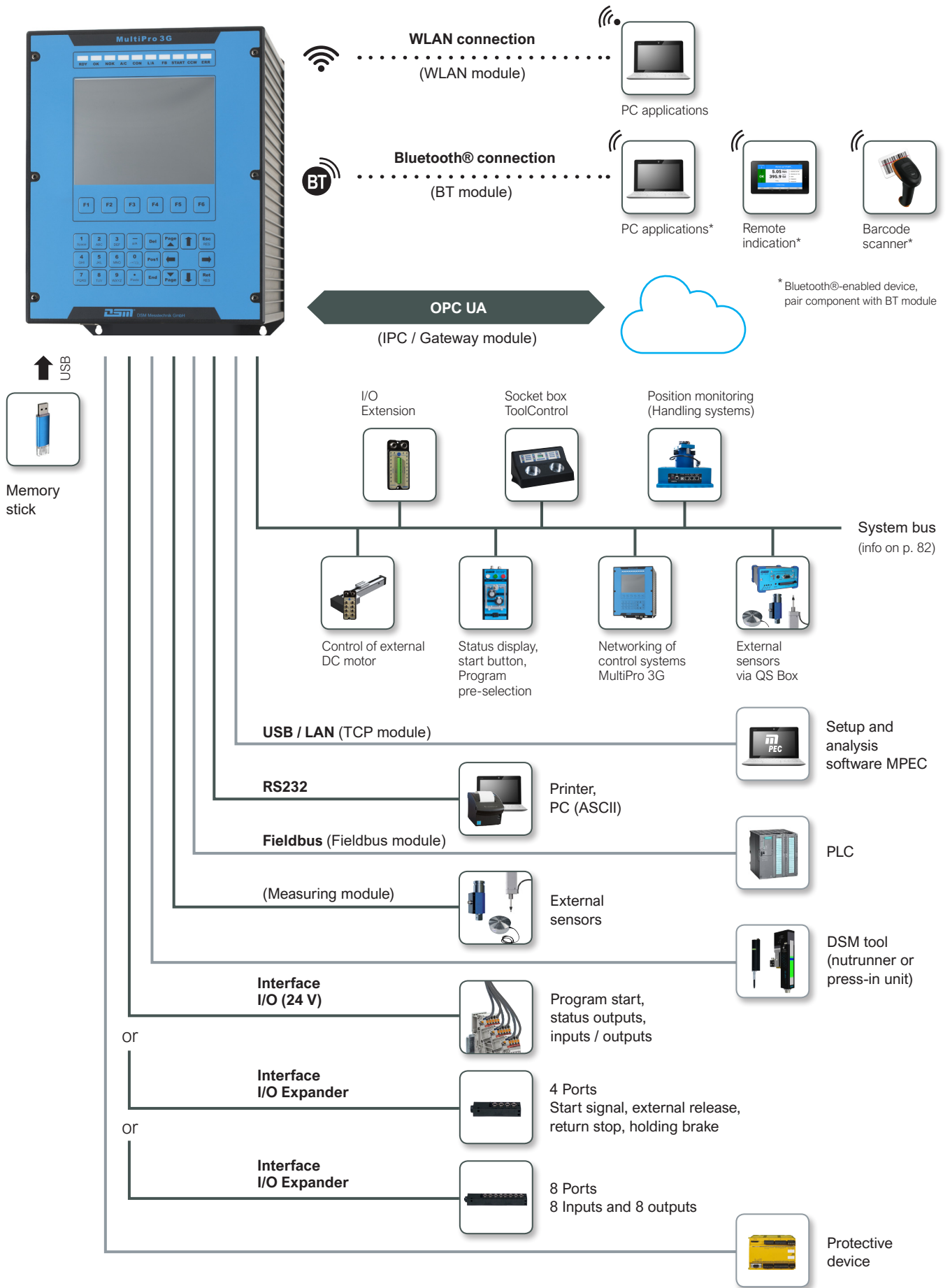
Interface for the connection of an external sensor

Option **IPC / Gateway module** MS-1002135

PC for use as OPC UA server, worker guidance, web server ...

Option **USB memory stick 2GB (SLC)** MS-1002160

Storing measured value and graphic data, screenshots, backup ...



DSM breaks new ground with the MultiPro 3G. Because not different model variants determine the suitability for the respective application, but one hardware with a scalable functional range that is fitted to the respective assembly process – from low cost to high end.

The advantage is quite clear: If the process changes, a quick upgrade is all that is needed and your MultiPro 3G is ready to meet the new requirements. And that at any time, because the many different functions can be activated for testing.

Scalable firmware architecture with licence model

Already includes many basic functions

e.g. turn in to torque, turn in to angle of rotation, turn out to angle of rotation ... or move to force, move to length ...

Select your adequate performance ...

Licence Extension level **S**

Licence Extension level **M**

Licence Extension level **L**

and functions ...

Licence Sensor controlled TQA

Licence Current controlled SA

Licence Sensor controlled FL

Licence Unit adjustable

Licence Linearisation TQ

Licence Linearisation AN

Licence Linearisation F

Licence Linearisation L

Licence Filter

Licence Gradient detection

Licence Result selection

Licence External sensors

Licence

Licence

Licence

Firmware 1300 TIGHTEN MS-1201300

for use as a tightening control system – fast update via USB memory stick

Firmware 3300 PRESS-IN MS-1201310

for use as a press-in control system – fast update via USB memory stick

Licence **Extension level S (small)** MS-1003220

Programming only on PC via MPEC software (info on p. 16)
16 startable programs
Measured data storage for 50 data sets (ring buffer)
Graphics memory for 5000 measuring points per graphic curve

Licence **Extension level M (medium)** MS-1003210

Programming only on PC via MPEC software (info on p. 16)
64 startable programs
Measured data storage for 500 data sets (ring buffer)
Graphics memory for 10000 measuring points per graphic curve

Licence **Extension level L (large)** MS-1003200

Programming directly on the device / on PC via MPEC software (info on p. 16)
128 startable programs
Measured data storage for 1000 data sets (ring buffer)
Graphics memory for 20000 measuring points per graphic curve

Licence **Sensor controlled TQA** MS-1201330

Use of the MultiPro 3G with torque / rotation angle controlled nutrunners

Licence **Current controlled SA** MS-1201335

Use of the MultiPro 3G with current controlled nutrunners (without transducer)

Licence **Sensor controlled FL** MS-1203350

Use of the MultiPro 3G with force / length controlled press-in units

Licence **Program editing** MS-1203005

Programme editing directly on the control system (incl. in extension level L)

By the way, the range of functions can be configured in the form of single licences or in the form of a bundle (several licences combined under one order number).

Starting with extension level S with one or two single licences up to the highest extension level with a company bundle for solving complex assembly tasks.

examples

Non-linearities of the characteristic curve between reference value and displayed value are piecewise linearly approximated with the linearisation.

The values of the positions are stored in a chart in the control system.

Gradient detection is used in tightening processes as well as in press-in processes.

In the yield strength procedure, the screw is tightened to the edge of plastic elongation. The gradient of the curve is measured continuously over the entire tightening process.

Licence **Linearisation TQ** MS-1203505

Linearisation / multi-range calibration torque for higher accuracy

Licence **Linearisation AN** MS-1203510

Linearisation / multi-range calibration angle of rotation for higher accuracy

Licence **Linearisation F** MS-1203605

Linearisation / multi-range calibration force for higher accuracy

Licence **Linearisation L** MS-1203610

Linearisation / multi-range calibration length for higher accuracy

Licence **Filter** MS-1204005

DSM filter functions for blending out high-frequency (unwanted) interferences of the measuring signal.

Licence **Gradient detection** MS-1201545

Function for detection of a defined gradient – detects positive as well as negative peaks and their quantity.

Licence **FB direct control** MS-1203010

Controls the DSM tool by the specifications in the dynamic fieldbus protocol via fieldbus with the PLC.

Licence **FB cyclic values** MS-1201525

The measured values selected in the dynamic fieldbus are transmitted cyclically to the fieldbus in real time.

Licence **Parameter via fieldbus (dynamic)** MS-1201537

Defined parameters of a stage can be temporarily modified at runtime via the fieldbus.

Licence **Parameter via fieldbus (static)** MS-1201535

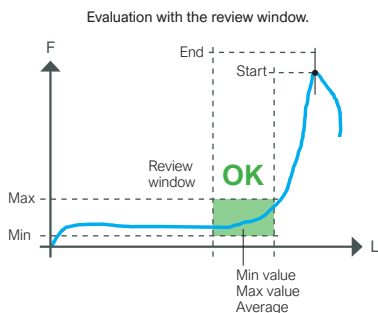
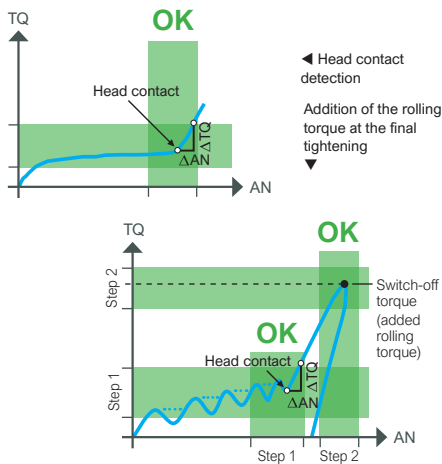
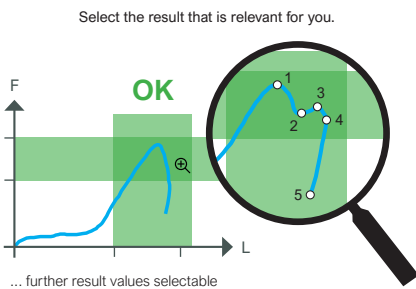
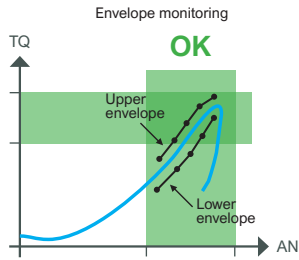
Defined parameters of a stage can be permanently modified via the field bus.

Licence **Yield strength procedure** MS-1201505

Tighten until the defined switch-off gradient is reached.

One control system many possibilities ...

examples



Licence **Turn and hold** MS-1201520

After switch-off, the torque / the position (angle of rotation) measured at this time is held for a defined period of time.

Licence **Press and hold** MS-1203520

After switch-off, the force / the position (length) measured at this time is held for a defined period of time.

Licence **Envelope** MS-1201530

Additional evaluation element for control of the process. The measuring curve may not break the upper and/or lower envelope.

Licence **Correction factor TQ / F** MS-1204610

The correction factor serves to matching the torque / force. Each stage calculates a total factor which has an effect on the values to be processed.

Licence **Result selection** MS-1204605

With the result selection you specify the result values for the evaluation of the process. This will evaluate the result relevant to your process.

Licence **Head contact** MS-1201510

Tighten to head contact with the specially developed DSM algorithm for head contact detection for self-forming / self-tapping tightening processes.

Licence **Unit adjustable** MS-1204630

The unit of torque / force can be set, e.g. Nm / dNm / cNm / Nmm / lbf ft / lbf in / ozf ft / ozf in

Licence **External length** MS-1203530

The procedure „Move to external length“ in conjunction with an external length sensor offers the possibility of direct and high-precision measurement on the component – measures the actual stroke (relative height), regardless of influences such as bending, different heights or tolerances on the tool carrier.

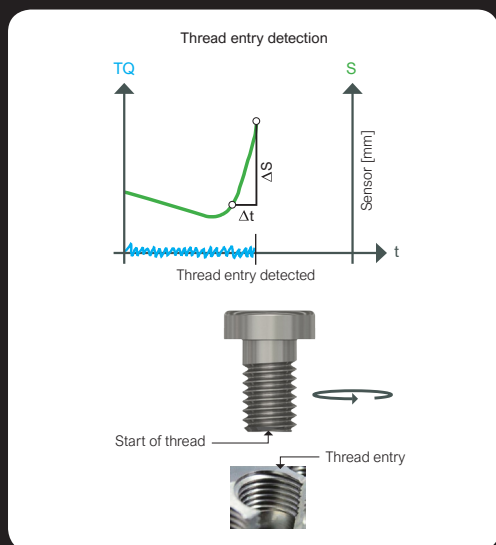
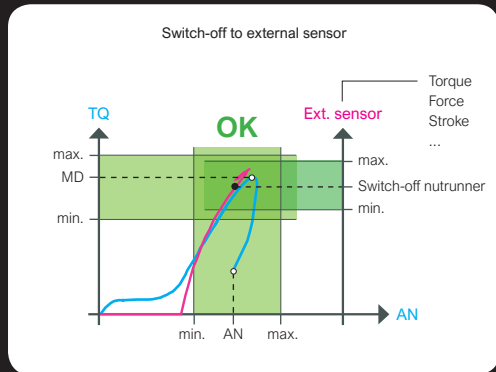
Licence **Move to gradient** MS-1201515

Move until the defined switch-off gradient [kN/ms] is reached – display of the gradient curve with the second Y axis. Control of force and length.

Licence **Review window** MS-120xxxx

The function can be used to generate a window within a procedure, which is defined by a start and end value (in mm) as well as min.-max. limits (force) for retrospective evaluation. The result value to be evaluated is the minimum force value, the maximum force value or the average value.

examples



Licence **Turn in to ES (External sensor)**

MS-1204625

Tightening until a defined external target value is reached with monitoring of torque and angle of rotation.

Licence **External sensors**

MS-1204615

With the appropriate hardware, external sensors can be connected to the MultiPro 3G. The external measuring value can be used for additional monitoring or in corresponding procedures.

Licence **Turn out to TED (Thread entry detection)**

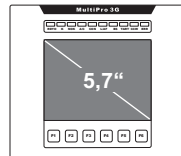
MS-1204620

Rotation against the screw-in direction – detection of the jump of thread entry into the first thread by using a length measuring sensor.



Control module **MultiPro 3G hardware unit (MS-1003250)**

Display



5,7" touch colour display (14,48 cm diagonal)
Resolution 320 x 240 Pixel, TFT 262k colours, touch screen,
measured value display, statistic display, graphic display with full screen
mode and zoom function, user interface with intuitive icons

Status LED

12 LEDs
Ready, OK, NOK, Memory A / C, Connection, Network, Fieldbus, Start, Left / Right rotation, Error

Keyboard

6 function keys for configuration and programming directly on the device
15 keys (alphanumeric), 8 navigation keys

Internal memory

2 GB + 4 MB RAM
Measured data storage, graphics storage, error storage, statistics storage for each stage

External memory

Option USB memory stick 2 GB Industrial Grade with SLC technology
Saving measured value and graphic data, screenshots, parameters (backup); firmware update

Programming

255 programme positions:
1 - 128 = startable programs, 129 - 255 = subroutines (for recurring process sequences)
PG 1-16 (extension level S), PG 1-64 (extension level M), PG 1-128 (extension level L)
Max. 200 lines (instructions) per program / max. 3000 total programme lines
Up to 60 instructions are available for sequence programming
A selected procedure forms a tightening or a press-in stage
Up to 99 stages per programme can be used to implement the assembly process
Extension level S, M: Configuration on device, programme editing only by the MPEC
Extension level L: Configuration and programme editing directly on the unit or via MPEC
MPEC programming, parameterisation and analysis software (free download of the freeware version)

Dimensions and weight

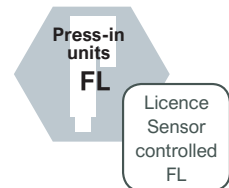
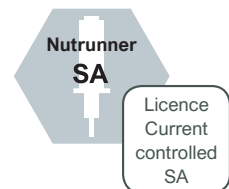
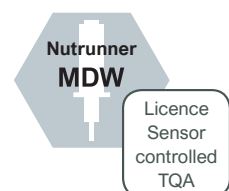


Width:
201 mm

Height:
246 mm

Weight: 1,5 kg
(max. 15 kg with basic module)

Usable with ...



TIGHTEN

Firmware 1300 TIGHTEN (free download from the DSM Cloud)
 > For using the MultiPro 3G as a tightening control system

Input / Output

MDW: Torque values in Newton meter [Nm],
 SA: Torque values in percent of the nominal value [%]

Torque unit adjustable (licence)

Nm / dNm / cNm / Nmm / lbf ft / lbf in / ozf ft / ozf in

Measuring signal processing

Torque measurement with digital torque transducer,
 Torque accuracy 0,5%, Torque tolerance better than 5% acc. to ISO 5393,
 Classification of torque measurement acc. to VDI/VDE 2862:1
 Angle of rotation measurement with digital absolute angle encoder,
 Angle of rotation resolution 0,1°
 Angle of rotation measurement via motor sensors,
 Angle of rotation resolution depending on type of nutrunner

Tightening procedures (standard)

Turn in: Torque / Angle of rotation / Initiator,
 Turn out: Torque / Angle of rotation

Additional procedures / functions (licences)

Turn in: Yield strength / Head contact / on external sensor,
 Turn out: Turn out until thread entry is detected
 Linearisation moment, angle / Filter (low pass, smoothing, head contact) / Gradient detection /
 Result selection / Hold torque, hold position / Parameterisation via fieldbus /
 Envelope monitoring / Fracture detection / ...

PRESS-IN

Firmware 3300 PRESS-IN (free download from the DSM Cloud)
 > For using the MultiPro 3G as a press-in control system

Input / Output

Force values in Newton [N] / kilonewton [kN]

Force unit adjustable (licence)

in preparation

Measuring signal processing

Force measurement with digital load cell,
 SMP series: Accuracy 1%,
 QMP series: Accuracy 0,5 %
 XMP series: Accuracy KU 0,5% / KO 1%
 Force measurement based on VDI/VDE 2862,
 Stroke measurement with digital absolute angle encoder,
 Stroke resolution 0,01 mm

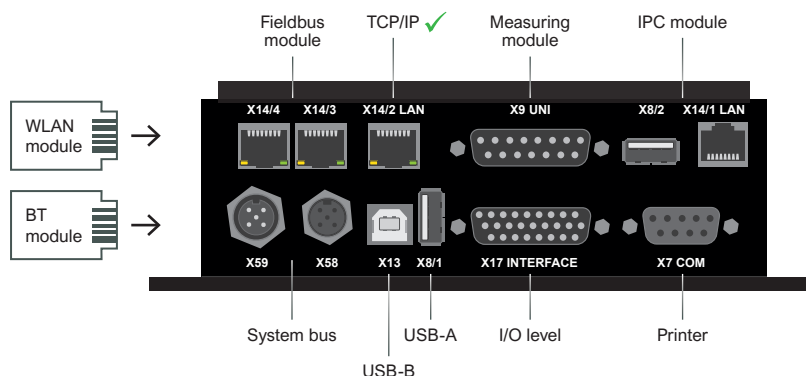
Press-in procedures (standard)

Move to starting position / Move empty /
 Move to force / Move to length / Move to initiator

Additional procedures / functions (licences)

Move to external length / Move to gradient
 Linearisation force, length / Filter (low pass, smoothing) / Gradient detection /
 Result selection / Hold force, hold position / Parameterisation via fieldbus /
 Envelope monitoring / Review window / ...

Connections



System bus	System bus devices, Networking (see p. 82)
Fieldbus	Profinet, EtherCAT, Profibus, further via external gateway devices
TCP/IP USB-B	MPEC software
USB-A	Memory stick
I/O level	8 Inputs / 8 Outputs extendable to 128 I/O

Basic modules

The basic module supplies the MultiPro 3G control module and the connected DSM tool (nutrunner / press-in unit). In addition the basic module regulates and monitors the drive and controls the voltage and status of the hall sensor as well as the temperature, current and voltage of the servomotor.

The basic module is divided into different types due to the different performance requirements and is assigned to the DSM tools in a fixed manner. The unit with the STO (Safe Torque Off) safety function is ready for integration into a customer's protection concept.



BM-S series

Mains voltage 230 VAC

W x H x D (without STO)
201 x 279,5 x 128 mm

W x H x D (with STO)
201 x 279,5 x 231 mm

Weight approx. 5 kg



BM-L series

Mains voltage 230 VAC

W x H x D
201 x 279,5 x 231 mm

Weight max. approx. 14 kg



BM-H series

Mains voltage 230 VAC

W x H x D
201 x 279,5 x 231 mm

Weight approx. 8 kg

Basic module BM-S-1	ML-2000210
Basic module BM-S-1-STO	ML-2001210

for DSH 26 /005; DS 26 /005

Basic module BM-S-2	ML-2000220
Basic module BM-S-2-STO	ML-2001220

for DSH 26 /01/02/04; DS 26 /01/02/04

Basic module BM-S-5	ML-2000250
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for DSH 16 /0025/005

Basic module BM-L-1	ML-2000310
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Basic module BM-L-1-STO	ML-2001310
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for DS 34 /025/05

Basic module BM-L-3	ML-2000330
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Basic module BM-L-3-STO	ML-2001330
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for DS 44 /025/05/10/20; SMP 300 /005/01/02

Basic module BM-L-4	ML-2000340
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Basic module BM-L-4-STO	ML-2001340
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for DSH 34 /05/10/20; DS 34 /10/15; DSH 38 /05/10/15; DSH 44 /20/30/40/60

Basic module BM-L-5	ML-2000350
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Basic module BM-L-5-STO	ML-2001350
--------------------------------	------------

for DS 44 /35

Basic module BM-H-2-STO	ML-2100820
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for SMP 400 /05/10

Basic module BM-H-4	ML-2000840
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Basic module BM-H-4-STO	ML-2001840
--------------------------------	------------

for DS 57 /25/50/70/90/140

Always switch off safely – we equip our press-in systems with basic modules in STO design as standard in accordance with the norm DIN EN ISO 13849.

Flexible in application – the modular system concept not only allows to change the control module (e.g. upgrade to MultiPro 3G), but also allows the basic module to be replaced when process conditions change.



BM-V series
Mains voltage 400 VAC
W x H x D
201 x 279,5 x 231 mm
Weight approx. 8,5 kg

Basic module **BM-H-5-STO** ML-2100850

for XMP 90 /05/12,5/25; QMP 80 /025/05/10/20/25

Basic module **BM-V-4** ML-2000940

Basic module **BM-V-4-STO** ML-2001940

for DS 80 /220/300/420/500/600; DS 80-130 /900/1000/1500/2000/2400

Basic module **BM-V-5-STO** ML-2100950

for QMP 100 /30/40/50/60; QMP 140 /70/100/120; SMP 500 /20/30/50/70

Basic module **BM-V-7-STO** ML-2100960

for XMP 120 /50/75; XMP 300 /250/500

The modular system concept



MPEC offers a multifunctional platform for administration and monitoring of all your MultiPro 3G control systems. To always keep an eye on every assembly process – whether measuring results or graphics, tightening tasks or press-in processes, measured values from external sensors. Side menu bar and pop-up windows allow

a quick parameter input, the creation of sequence programs, the execution of analysis functions and the simulation of processes. Powerful diagnostics with powerful function tools – such as the generation of a curve chart from recorded measured values – for process optimisation and for the identification of trends and the Predictive Maintenance.



Customer download from the DSM cloud



The MPEC freeware version is part of the MultiPro 3G control system and enables parameterisation, programming, data recording as well as analysis and process optimisation. Professional versions and function extensions are optionally available – matched to the assembly process and to the requirements of the MPEC User Interface.

MPEC software, Freeware version MS-2002510

For programming, setting up and parameterisation of MultiPro3G
 - max. 1 online connection to a controller
 - Data recording max. 100 measurands / graphic data

Licence MPEC software, Full version MS-2002500

For programming, setting up and parameterisation of MultiPro3G
 - max. 1 online connection to a controller
 - Data recording unlimited

Licence MPEC: Write CSV files online MS-2002515

Activation of the function Write CSV files online via MPEC software
 Documentation of measuring results as single files in CSV format (file name in form YYYY-MM-DD-HH-MM.csv)

Licence MPEC: Program selection MS-2002520

Activation of the function Program preselection via MPEC software

Licence MPEC: Write results online in database MS-2002525

Activation of the function Write measuring results online in a database (SQL) via the MPEC software

Licence MPEC: Access control MS-2002530

Activation of the function Access control with user administration and role configurator (assign roles and rights to the individual users)

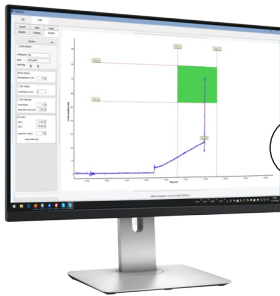
Licence MPEC: Write qs-STAT files online MS-2002535

Activation of the function Write qs-STAT files online via MPEC software (documentation of measuring results in qs-STAT format)

Licence MPEC: Program sequences MS-200xxxx

Use MPEC for selection of several programs to be run step by step in a defined order (info on p. 17)

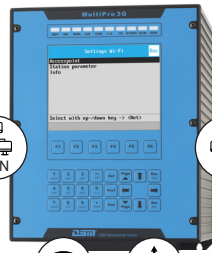
PEC PC in the office
(e.g. offline analysis)



incl. e.g. with the features:

- Results list
- Family of curves
- Process simulation
- Data conversion

DSM control system
MultiPro 3G



PEC Panel PC
at the station



incl. e.g.
with the functions:

- Worker information system
- Program sequences
- Customer-specific numbers

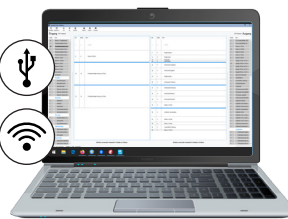
PEC Process monitoring
via Windows tablet



incl. e.g. with:

- Device selection
- and Results display

PEC Service
laptop



incl. e.g. with the features:

- Parameterisation and programming
- Envelope curve
- Dynamic fieldbus

Job management

MPEC stores the parameter image of the control system (settings, programs, etc.) as well as the related results in a job and offers the option of creating an unlimited number of jobs per unit. This enables a simple structuring of the orders according to component variants, products or different processes – tightening / press-in. Your benefit: Time-saving changeover to different product variants and a comfortable organisation of the programmes in relation to a product.

Parameterisation, Programming

Intuitive working environment for the parameterisation of the control system, the connected tool (nutrunner / press-in unit) and for the creation of programs.

Program sequences

Use MPEC to select several programs to be run step by step in a defined order. Doing so, the number of required OK evaluations, which have to be carried out with the respective program, can be set. It is also possible to specify, how many NOK evaluations are allowed in each program. Other behaviours, when certain events occur, can be individually configured.

Product number

Take-over of customer-specific numbers (e.g. part numbers, etc.) and corresponding allocation to the production data / results.

Worker information system

Simple and quick set-up of a worker guidance system. The user interface „Worker Information System“ of the MPEC shows the step-by-step instruction with text, picture and video and provides visual support for the worker for correct execution of complex assembly processes.

Envelope curve

Additional monitoring of the curve shape with a master curve (envelope curve). MPEC offers a comprehensive working environment for the creation of up to 10 master curves. The globally stored envelopes can be used in all programs.

Dynamic fieldbus

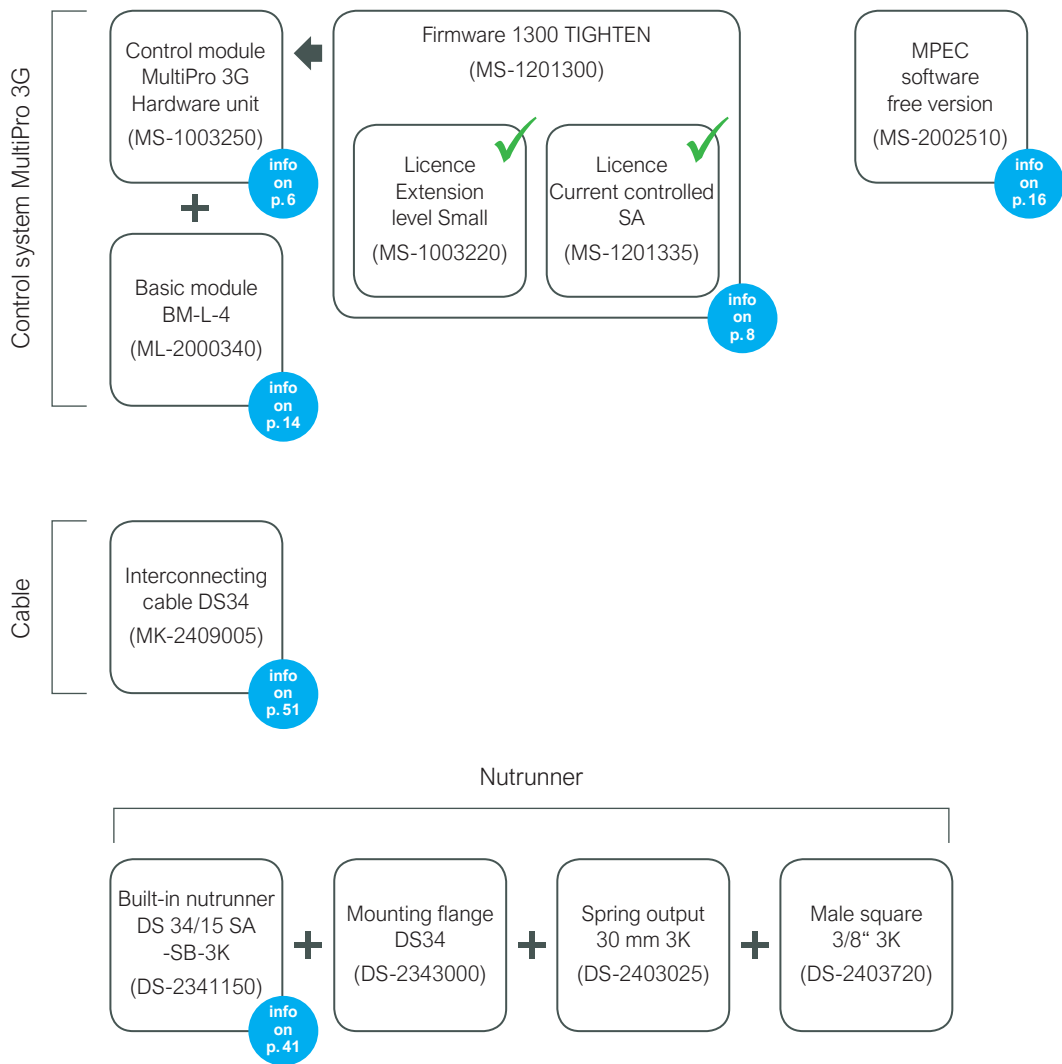
With the Dynamic Fieldbus the MPEC provides a powerful tool for individual and free configuration of the output and input range for the industrial fieldbus communication with a control computer (PLC). Easy and variable configuration of the output and input area via drag & drop with definition blocks (functions, parameters, results ...).

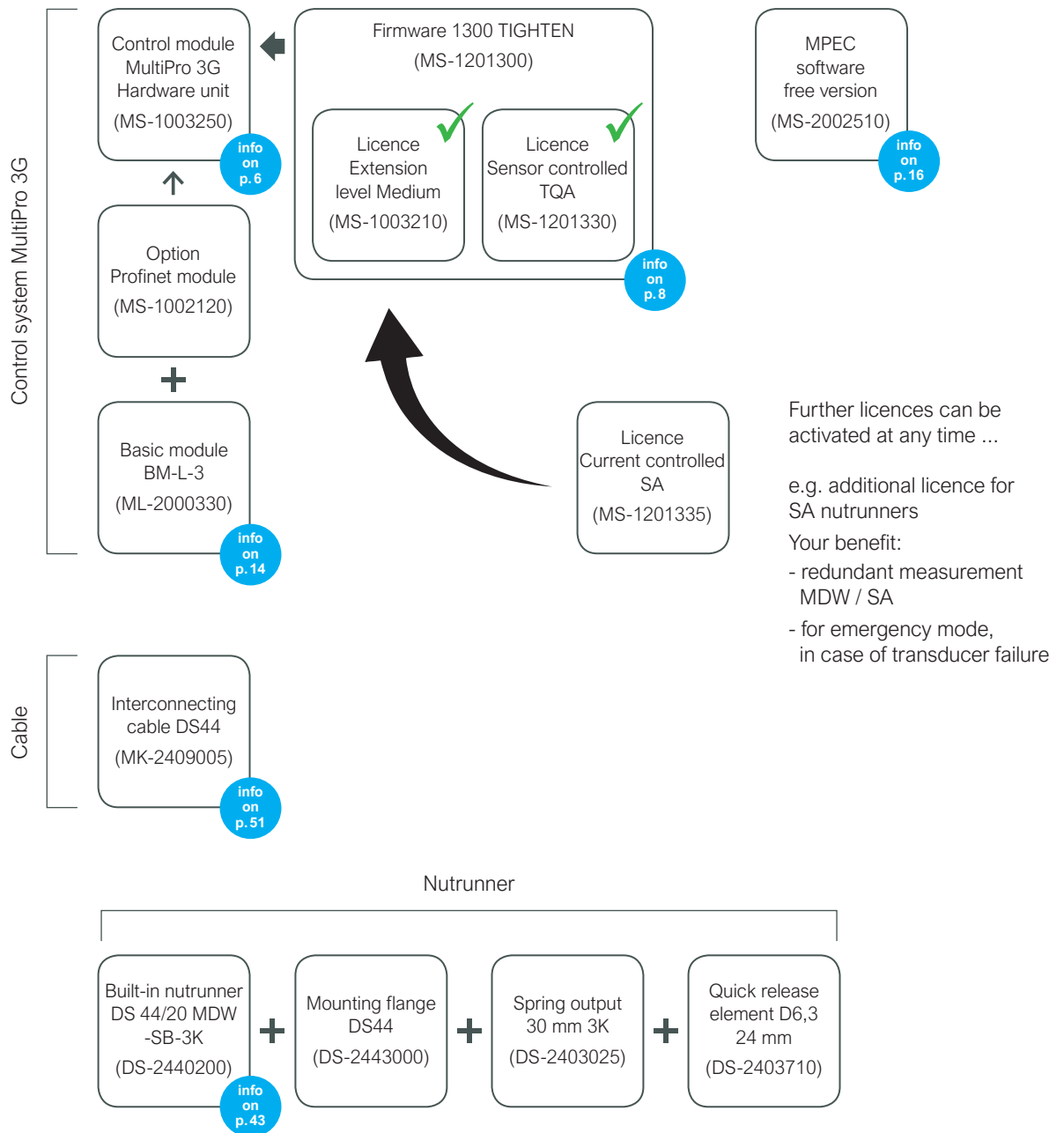
Analysis, Optimisation

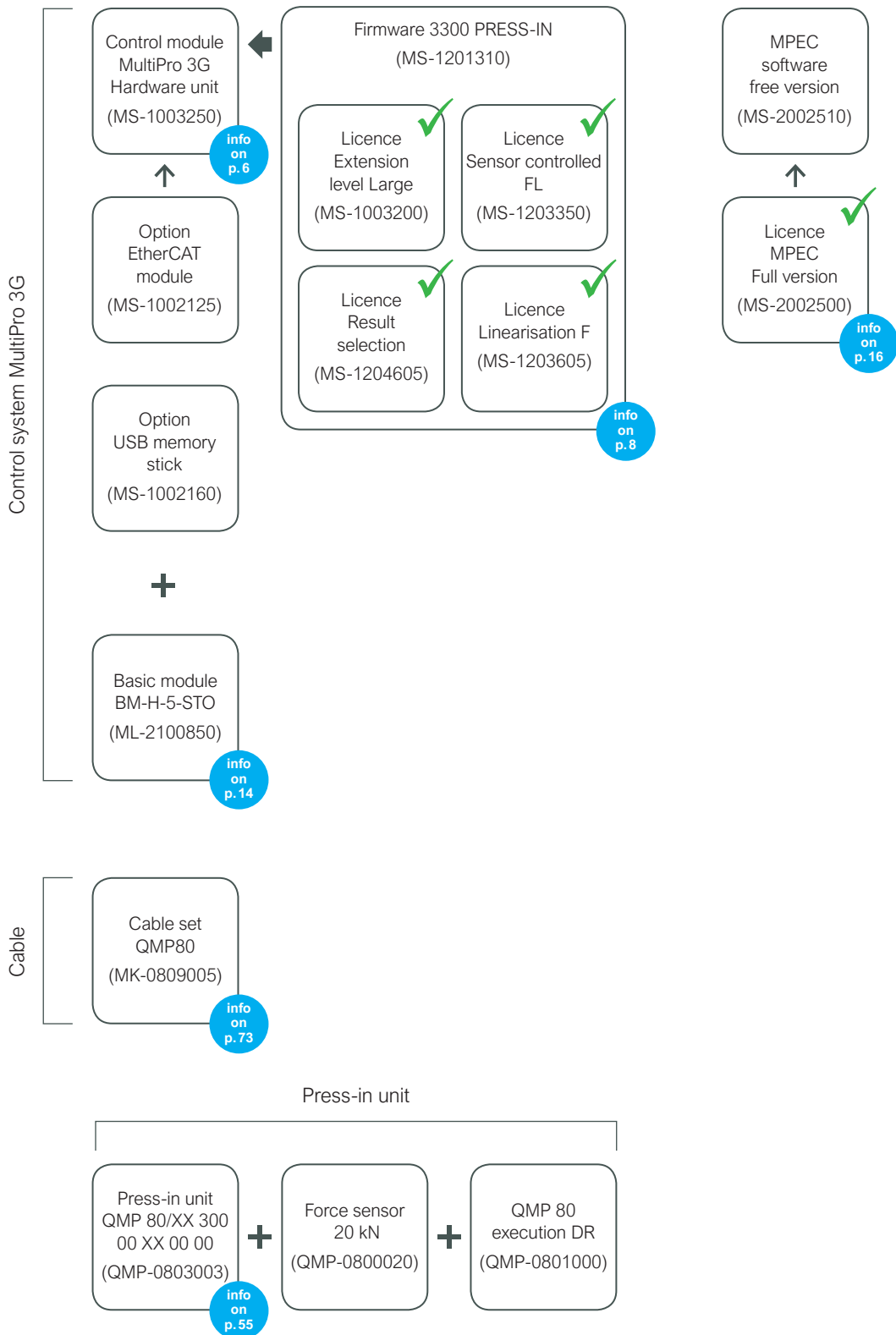
Process data recording and display of all measured values, results, evaluations and curves. Excellent instruments for process analysis, such as curve chart or curve discussion as well as the simulation environment for process optimisation. Quick access to all registered devices and the data stored in the respective job.

Data handling

Reliable saving of jobs (system settings, parameters, programs, results and curves). Export of the results to a ZIP archive (importable), as a CSV file, in qs-STAT format for evaluation with Q-DAS® products or customised for the customer-specific database.





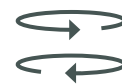


DSM offers a variety of high-performance tightening tools for virtually every field of application.

Regardless of whether it's digital hand-held tightening technique or analogue nutrunners, DSM offers reliable function and excellent quality, first-class ergonomics as well as an enormous range of versions.

High-precision torque transducers and angle of rotation encoders – in combination with the MultiPro 3G – ensure assembly accuracy and complete documentation of the production data.

Thanks to the variability of our tightening procedures, the DSH nutrunners provide you with a high-performance system for error-free tightening in safety and quality-critical assembly.



0,05 Nm
up to
60 Nm

Torque

Hand-held nutrunners



DSH 16

0,25 / 0,5 Nm



DSH 26

0,5 / 1 / 2 / 4 Nm



DSH 34

5 / 10 Nm



DSH 34-WA

5 / 10 / 20 Nm



DS 34-P

2,5 / 5 / 10 / 15 Nm



DSH 38

5 / 10 / 15 Nm



DSH 44

20 / 30 Nm



DSH 44-WA

40 / 60 Nm



DS 44-P

2,5 / 5 / 10 / 20 / 35 Nm

Highest precision, also by the manual assembly

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

Accessories

Crow feet as well as individual technical solutions, suspension elements, balancer, socket boxes, handling equipment.

Programmable function switch / Switching ring

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 PC



The illuminated field on the nutrunner indicates the status of the tightening process.

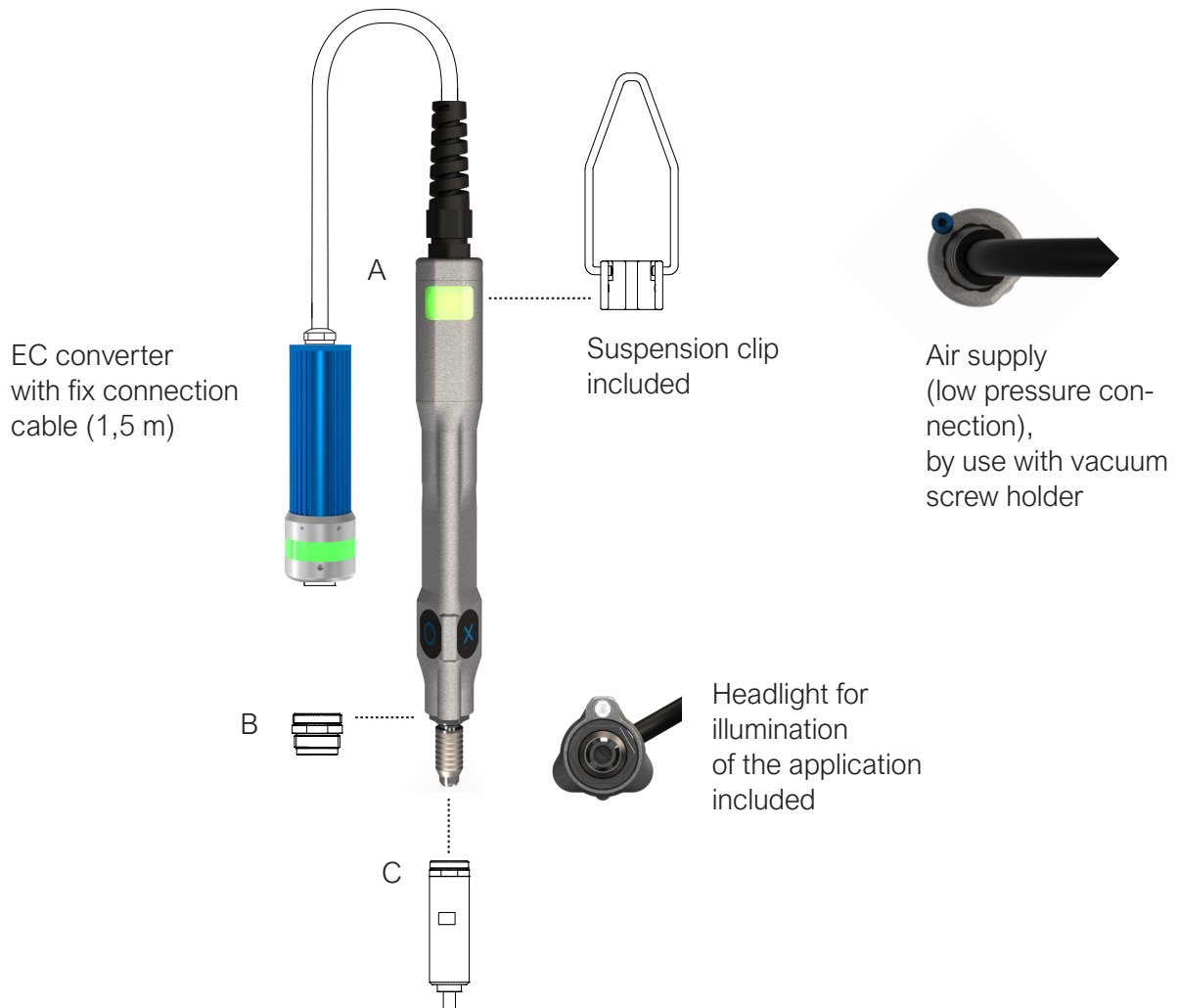
- OK
- RUN
- NOK

MDW or SA – with or without torque transducer

MDW nutrunners have a digital torque transducer. With this, the upcoming torque can be collected very precise. By SA nutrunners, the torque and the angle of rotation are collected via the motor. The accuracy-deviation depends on the adjustment.

DSH 16 series

The miniaturisation of many products is a particular challenge in manufacturing – especially in the process-safe assembly. We therefore have developed the DSH 16 nutrunner for very low torques. The DSH 16 may be used for hand-guided operation as well as for automated processes.



A DSH 16 MDW with torque transducer

Type	Max. torque	Application area	Max. speed	Angle resolution	Article number
DSH 16 / 0025 MDW	0,25 Nm	0,05 - 0,25 Nm	450 rpm	0,89 °	DSH-2160025
DSH 16 / 005 MDW	0,5 Nm	0,1 - 0,5 Nm	450 rpm	0,89 °	DSH-2160005

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

DSH 16 series

B Mounting adapter

Type	Article number
Mounting adapter, external thread M15x1	DSH-216xxxx

C Vacuum screw retainer

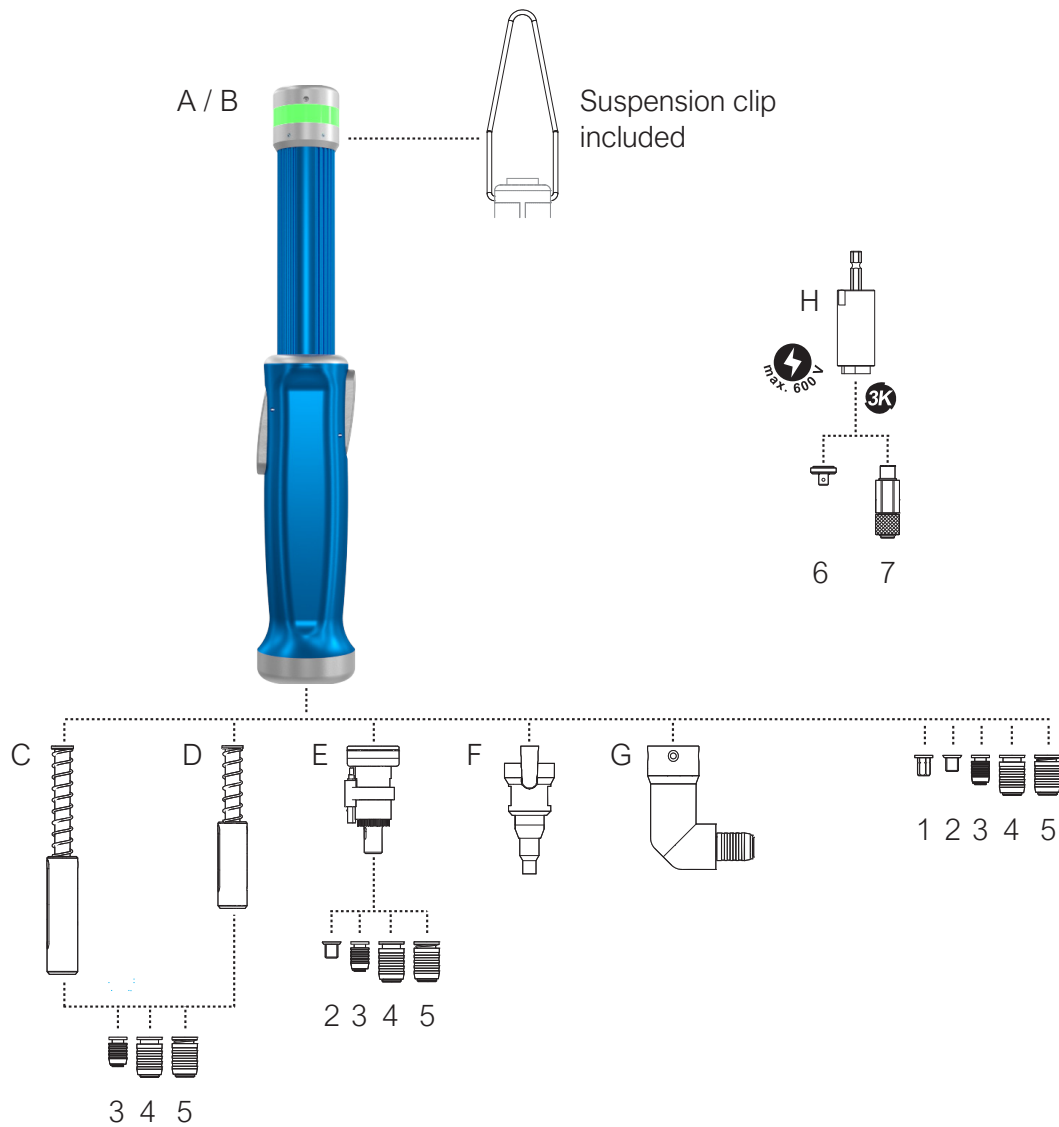
Type	Article number
Vacuum screw retainer VSH16 with 2 mm spring deflexion	DSH-2163895

Cable

Cable for interconnection between nutrunner DSH 16 and control system MultiPro 3G

Type	Cable length	Article number
Interconnecting cable DSH 16 / DSH 26 / DS 26 DSP05	5 m	MK-2269005

DSH 26 series



A DSH 26 MDW with torque transducer

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

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

B DSH 26 SA without torque transducer (current controlled)

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

Torque accuracy depends on the adjustment of the nutrunner

C / D Spring output

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

F Vacuum screw-retainer

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

1 Hexagon drive 1/4"

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

3 Hexagonal quick release element B3

Type	Article number
Hexagonal quick release element B3	DS-2263720

5 Hexagonal quick release element D6,3

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

H Output unit with galvanic isolation

Type	Article number
Output unit 1/4" _24mm-GT-3K	DS-2403735
In: 1/4" hex 24 mm length, DIN3126 - E6,3	
Out: DSM 3K	

6 Square drive 1/4"

Type	Article number
Square drive 1/4" (3K insert)	DS-2403715

E Self start output

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

G Angle head

Type	Article number
Angle head (D6,3)	DS-2263025
Torque tolerance better 8 % acc. to ISO 5393	

2 Square drive 1/4"

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

4 Hexagonal quick release element B5,5

Type	Article number
Hexagonal quick release element B5,5	DS-2263715

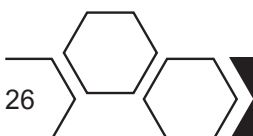
7 Hexagonal quick release element D6,3

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

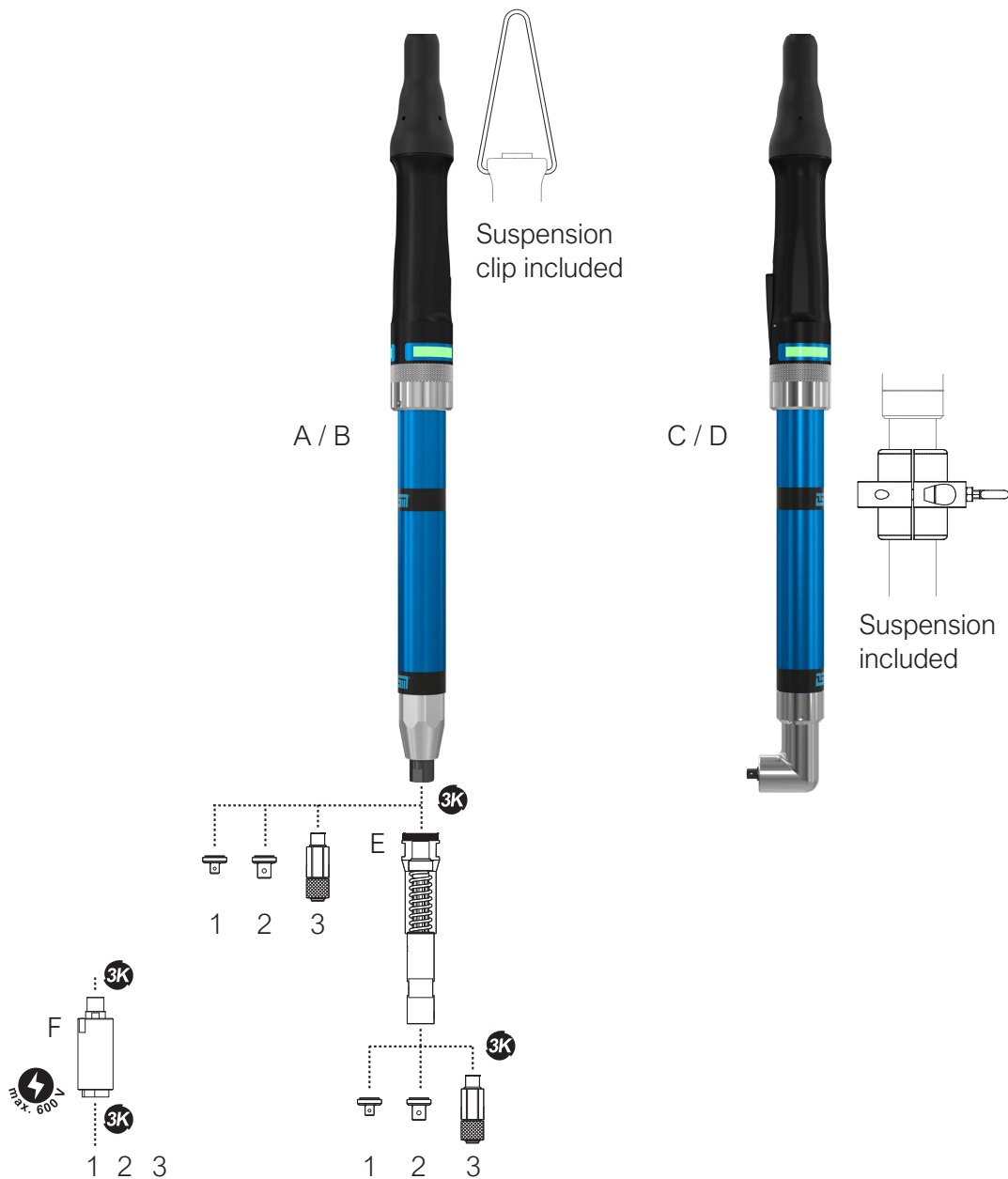
Cable

Cable for interconnection between nutrunner DSH 26 and control system MultiPro 3G

Type	Cable length	Article number
Interconnecting cable DSH 16 / DSH 26 / DS 26 DSP05	5 m	MK-2269005



DSH 34 series



A DSH 34 MDW with torque transducer | Straight output

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

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

B DSH 34 SA without torque transducer (current controlled) | Straight output

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

Torque accuracy depends on the adjustment of the nutrunner

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

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

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

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

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

Torque accuracy depends on the adjustment of the nutrunner

E Spring output

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

F Output unit with galvanic isolation

Type	Article number
Output unit 3K-GT-3K	DS-2403730
In: DSM 3K	
Out: DSM 3K	

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 release element D6,3

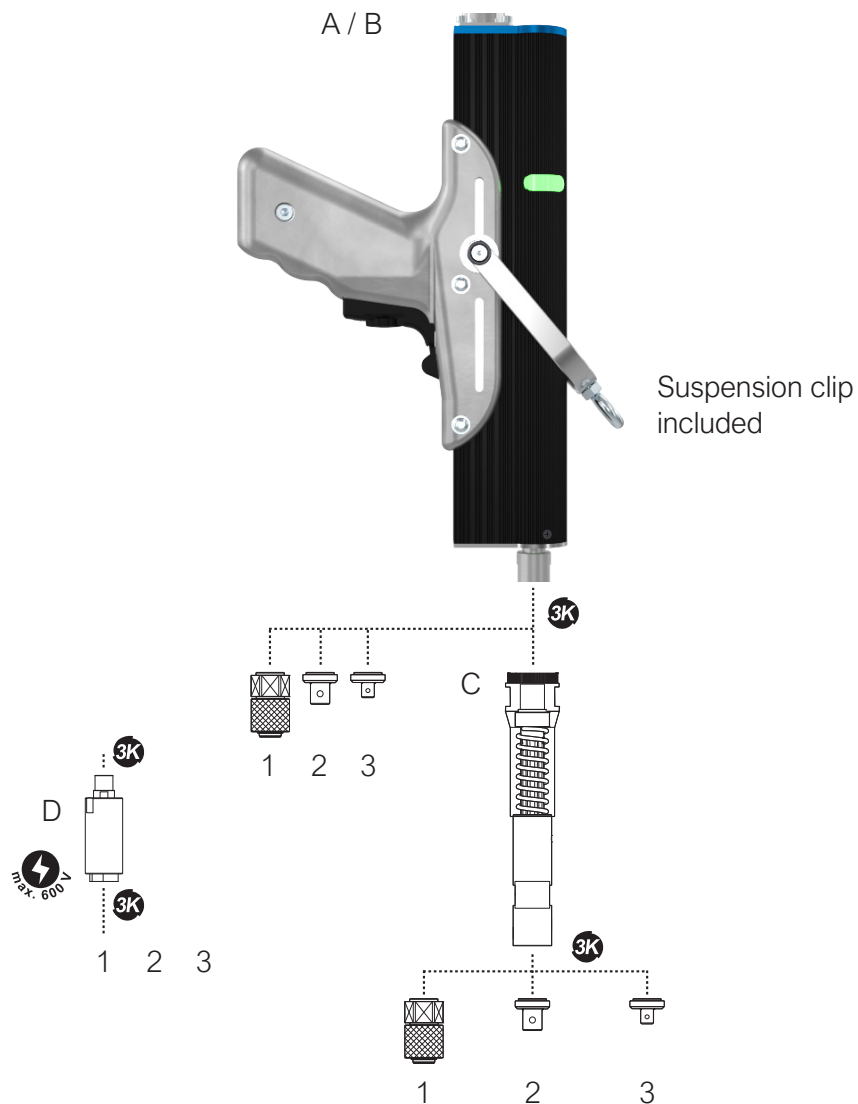
Type	Article number
Bit shaft precision-guide 13 mm	DS-2403705
Bit shaft precision-guide 24 mm	DS-2403710

Cable

Cable for interconnection between nutrunner DSH 34 and control system MultiPro 3G

Type	Cable length	Article number
Interconnecting cable DSH 34 / DSH 44 DSP05 – with plug protection	5 m	MK-2409305
Interconnecting cable DSH 34 / DSH 44 DSP10 – with plug protection	10 m	MK-2409310
Interconnecting cable DSH 34 / DSH 44 DSP15 – with plug protection	15 m	MK-2409315

DS 34-P series



A DS 34 MDW-P (pistol grip) with torque transducer

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

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

B DS 34 SA-P (pistol grip) without torque transducer (current controlled)

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

Torque accuracy depends on the adjustment of the nutrunner

C Spring output

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

D Output unit with galvanic isolation

Type	Article number
Output unit 3K-GT-3K	DS-2403730
In: DSM 3K	
Out: DSM 3K	

1 Hexagonal quick release element D6,3

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

2 Square drive 3/8"

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

3 Square drive 1/4"

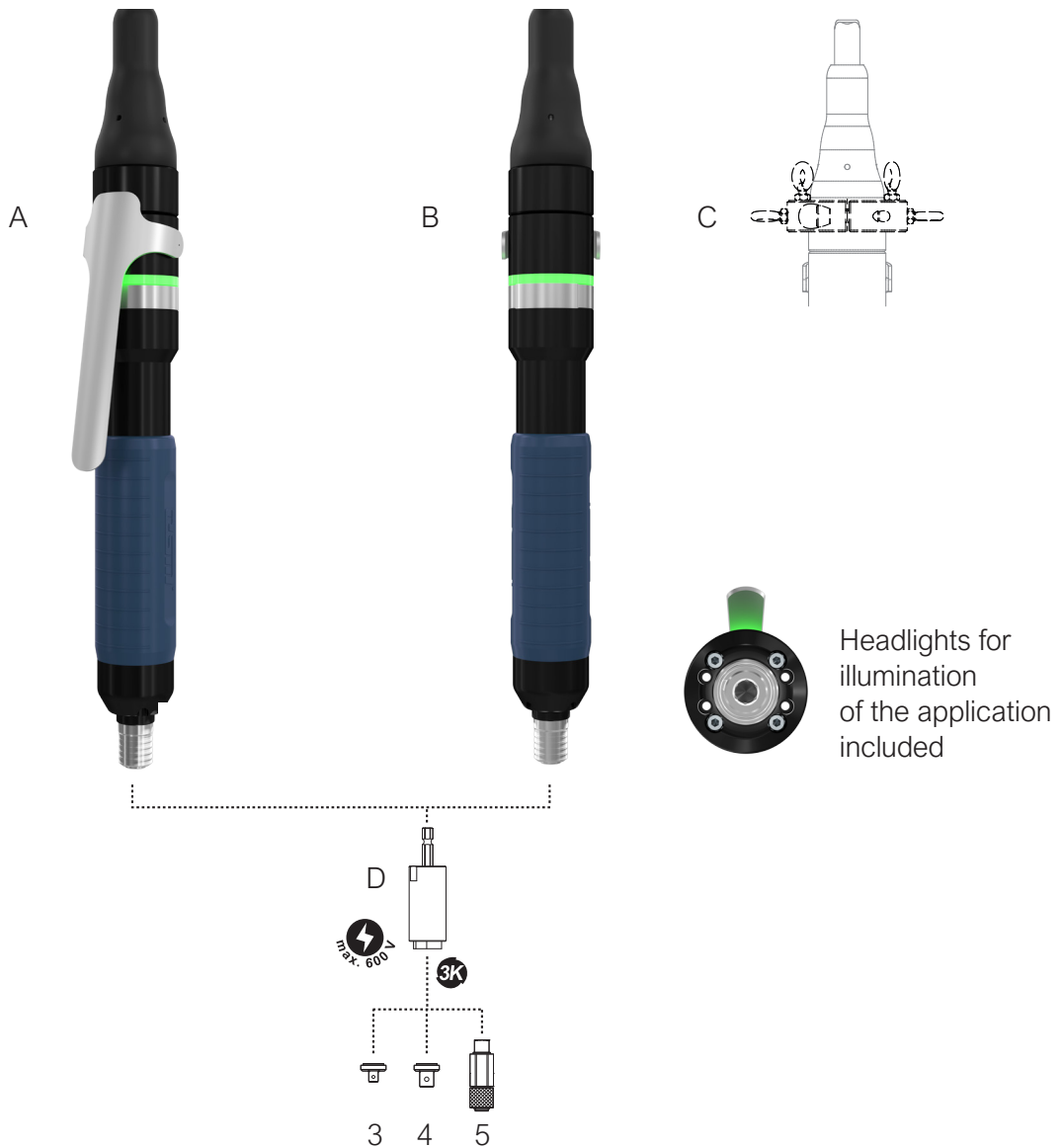
Type	Article number
Square drive 1/4"	DS-2403715

Cable

Cable for interconnection between pistol grip nutrunner DS 34-P and control system MultiPro 3G

Type	Cable length	Article number
Interconnecting cable DS 34 / DSH 38 / DS 44 / SMP 300 DSP05	5 m	MK-2409005
Interconnecting cable DS 34 / DSH 38 / DS 44 / SMP 300 DSP10	10 m	MK-2409010
Interconnecting cable DS 34 / DSH 38 / DS 44 / SMP 300 DSP15	15 m	MK-2409015
Interconnecting cable DS 34 / DSH 38 / DS 44 / SMP 300 DSP05 – angled 90° right	5 m	MK-2409105
Interconnecting cable DS 34 / DSH 38 / DS 44 / SMP 300 DSP10 – angled 90° right	10 m	MK-2409110
Interconnecting cable DS 34 / DSH 38 / DS 44 / SMP 300 DSP15 – angled 90° right	15 m	MK-2409115
Interconnecting cable DS 34 / DSH 38 / DS 44 / SMP 300 DSP05 – angled 90° left	5 m	MK-2409205
Interconnecting cable DS 34 / DSH 38 / DS 44 / SMP 300 DSP10 – angled 90° left	10 m	MK-2409210
Interconnecting cable DS 34 / DSH 38 / DS 44 / SMP 300 DSP15 – angled 90° left	15 m	MK-2409215

DSH 38 series



Headlights for illumination of the application included

A DSH 38 MDW with torque transducer

Type	Max. torque	Application area	Max. speed	Angle resolution	Article number
DSH 38 / 05 MDW-ST-1/4"-F6,3-24mm	5 Nm	1 - 5 Nm	1540 rpm	0,01 °	DSH-2380050
DSH 38 / 10 MDW-ST-1/4"-F6,3-24mm	10 Nm	2 - 10 Nm	1540 rpm	0,01 °	DSH-2380100
DSH 34 / 15 MDW-ST-1/4"-F6,3-24mm	15 Nm	3 - 15 Nm	1540 rpm	0,01 °	DSH-2380150

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

B DSH 38 MDW (push start) with torque transducer

Type	Max. torque	Application area	Max. speed	Angle resolution	Article number
DSH 38 / 05 MDW-ST-S-1/4"-F6,3-24mm	5 Nm	1 - 5 Nm	1540 rpm	0,01 °	DSH-2381050
DSH 38 / 10 MDW-ST-S-1/4"-F6,3-24mm	10 Nm	2 - 10 Nm	1540 rpm	0,01 °	DSH-2381100
DSH 38 / 15 MDW-ST-S-1/4"-F6,3-24mm	15 Nm	3 - 15 Nm	1540 rpm	0,01 °	DSH-2381150

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

C Suspension DSH 38

Type	Article number
Suspension (for use with a balancer)	DSH-2387000

1 Square drive 1/4"

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

3 Hexagonal quick release element D6,3

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

D Output unit with galvanic isolation

Type	Article number
Output unit 1/4" _24mm-GT-3K	DS-2403735
In: 1/4" hex 24 mm length, DIN3126 - E6,3	
Out: DSM 3K	

2 Square drive 3/8"

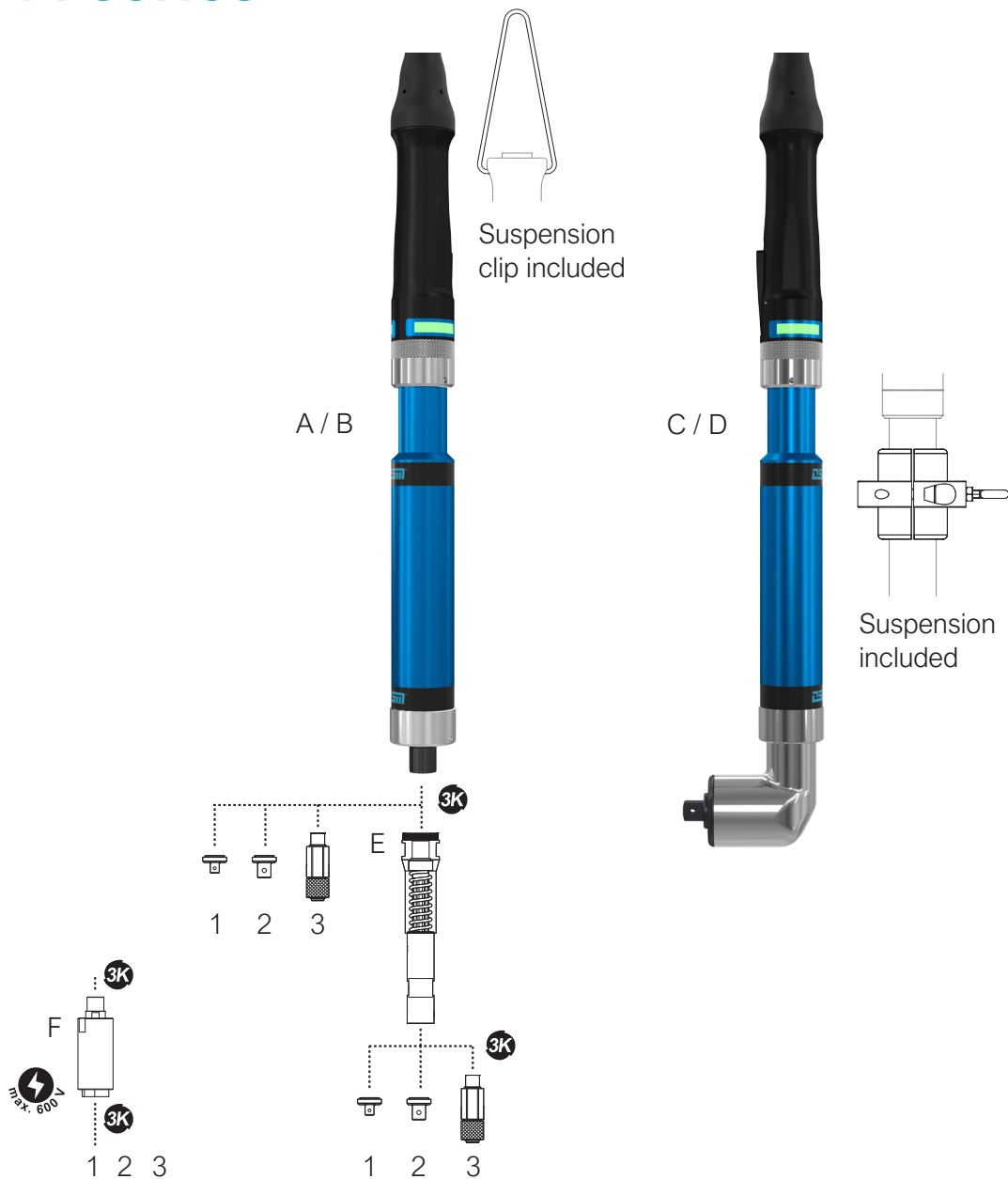
Type	Article number
Square drive 3/8"	DS-2403720

Cable

Cable for interconnection between nutrunner DSH 38 and control system MultiPro 3G

Type	Cable length	Article number
Interconnecting cable DS 34 / DSH 38 / DS 44 / SMP 300 DSP05	5 m	MK-2409005
Interconnecting cable DS 34 / DSH 38 / DS 44 / SMP 300 DSP10	10 m	MK-2409010
Interconnecting cable DS 34 / DSH 38 / DS 44 / SMP 300 DSP15	15 m	MK-2409015
Interconnecting cable DS 34 / DSH 38 / DS 44 / SMP 300 DSP05 – angled 90° right	5 m	MK-2409105
Interconnecting cable DS 34 / DSH 38 / DS 44 / SMP 300 DSP10 – angled 90° right	10 m	MK-2409110
Interconnecting cable DS 34 / DSH 38 / DS 44 / SMP 300 DSP15 – angled 90° right	15 m	MK-2409115
Interconnecting cable DS 34 / DSH 38 / DS 44 / SMP 300 DSP05 – angled 90° left	5 m	MK-2409205
Interconnecting cable DS 34 / DSH 38 / DS 44 / SMP 300 DSP10 – angled 90° left	10 m	MK-2409210
Interconnecting cable DS 34 / DSH 38 / DS 44 / SMP 300 DSP15 – angled 90° left	15 m	MK-2409215

DSH 44 series



A DSH 44 MDW with torque transducer | Straight output

Type	Max. torque	Application area	Max. speed	Angle resolution	Article number
DSH 44 / 20 MDW	20 Nm	4 - 20 Nm	680 rpm	1,0 °	DSH-2440201
DSH 44 / 30 MDW	30 Nm	6 - 30 Nm	680 rpm	1,0 °	DSH-2440301

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

B DSH 44 SA without torque transducer (current controlled) | Straight output

Type	Max. torque	Application area	Max. speed	Angle resolution	Article number
DSH 44 / 20 SA	20 Nm	4 - 20 Nm	680 rpm	1,0 °	DSH-2441201
DSH 44 / 30 SA	30 Nm	6 - 30 Nm	680 rpm	1,0 °	DSH-2441301

Torque accuracy depends on the adjustment of the nutrunner

C DSH 44 MDW-WA with torque transducer | Angle head (1/2" square drive)

Type	Max. torque	Application area	Max. speed	Angle resolution	Article number
DSH 44 / 40 MDW-WA	40 Nm	8 - 40 Nm	350 rpm	1,0 °	DSH-2440400
DSH 44 / 60 MDW-WA	60 Nm	12 - 60 Nm	350 rpm	1,0 °	DSH-2440600

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

D DSH 44 SA-WA without torque transducer (current controlled) | Angle head (1/2" square drive)

Type	Max. torque	Application area	Max. speed	Angle resolution	Article number
DSH 44 / 40 SA-WA	40 Nm	8 - 40 Nm	350 rpm	1,0 °	DSH-2441400
DSH 44 / 60 SA-WA	60 Nm	12 - 60 Nm	350 rpm	1,0 °	DSH-2441600

Torque accuracy depends on the adjustment of the nutrunner

E Spring output

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

F Output unit with galvanic isolation

Type	Article number
Output unit 3K-GT-3K	DS-2403730
In: DSM 3K	
Out: DSM 3K	

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 release element D6,3

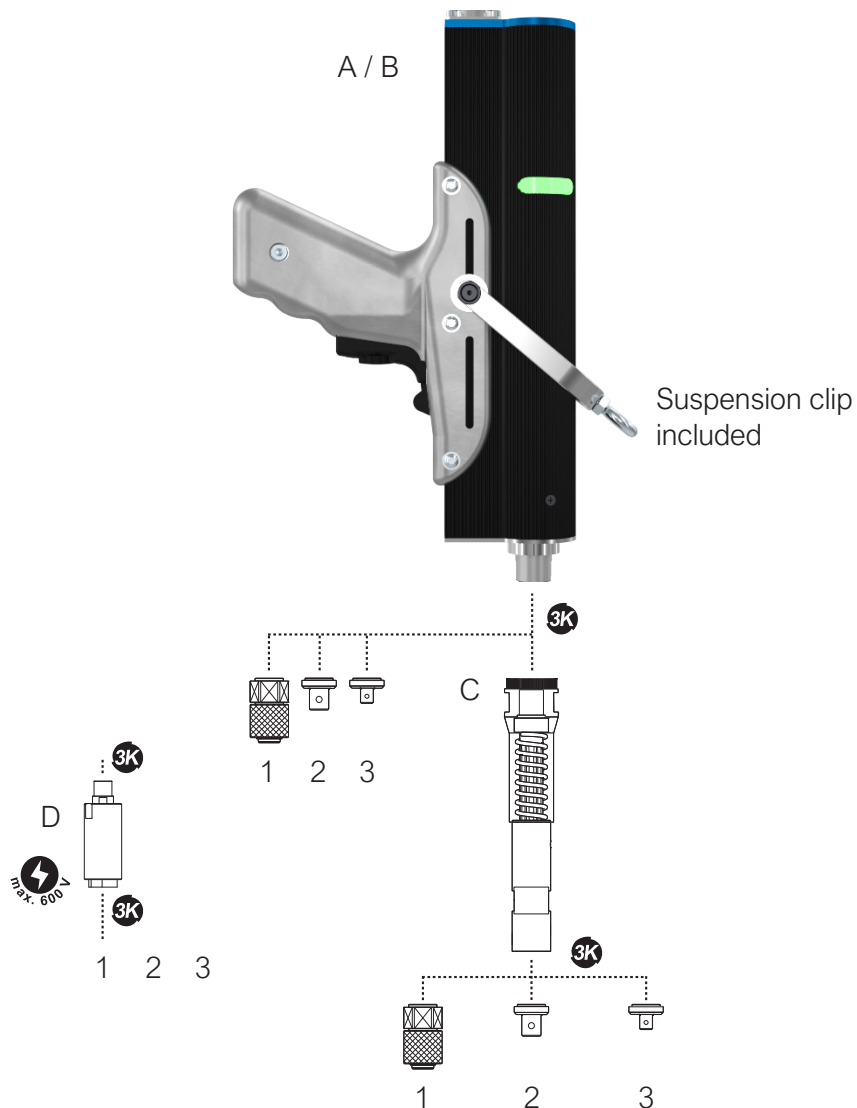
Type	Article number
Bit shaft precision-guide 13 mm	DS-2403705
Bit shaft precision-guide 24 mm	DS-2403710

Cable

Cable for interconnection between nutrunner DSH 44 and control system MultiPro 3G

Type	Cable length	Article number
Interconnecting cable DSH 34 / DSH 44 DSP05 – with plug protection	5 m	MK-2409305
Interconnecting cable DSH 34 / DSH 44 DSP10 – with plug protection	10 m	MK-2409310
Interconnecting cable DSH 34 / DSH 44 DSP15 – with plug protection	15 m	MK-2409315

DS 44-P series



A DS 44 MDW-P (pistol grip) with torque transducer

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

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

B DS 44 SA-P (pistol grip) without torque transducer (current controlled)

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

Torque accuracy depends on the adjustment of the nutrunner

C Spring output

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

D Output unit with galvanic isolation

Type	Article number
Output unit 3K-GT-3K	DS-2403730
In: DSM 3K	
Out: DSM 3K	

1 Hexagonal quick release element D6,3

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

2 Square drive 3/8"

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

3 Square drive 1/4"

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

Cable

Cable for interconnection between pistol grip nutrunner DS 44-P and control system MultiPro 3G

Type	Cable length	Article number
Interconnecting cable DS 34 / DSH 38 / DS 44 / SMP 300 DSP05	5 m	MK-2409005
Interconnecting cable DS 34 / DSH 38 / DS 44 / SMP 300 DSP10	10 m	MK-2409010
Interconnecting cable DS 34 / DSH 38 / DS 44 / SMP 300 DSP15	15 m	MK-2409015
Interconnecting cable DS 34 / DSH 38 / DS 44 / SMP 300 DSP05 – angled 90° right	5 m	MK-2409105
Interconnecting cable DS 34 / DSH 38 / DS 44 / SMP 300 DSP10 – angled 90° right	10 m	MK-2409110
Interconnecting cable DS 34 / DSH 38 / DS 44 / SMP 300 DSP15 – angled 90° right	15 m	MK-2409115
Interconnecting cable DS 34 / DSH 38 / DS 44 / SMP 300 DSP05 – angled 90° left	5 m	MK-2409205
Interconnecting cable DS 34 / DSH 38 / DS 44 / SMP 300 DSP10 – angled 90° left	10 m	MK-2409210
Interconnecting cable DS 34 / DSH 38 / DS 44 / SMP 300 DSP15 – angled 90° left	15 m	MK-2409215

Great products are the result of flawless processes. In the case of industrial manufacturing, perfect production is paramount. Screw connections in particular should not cause product deficiencies. Regardless of whether it is digital or analogue tightening technique – DSM is a solid choice for high quality.

All DSM products are characterised by their perfect integration into new or existing production lines. High-precision torque transducers and absolute angle encoders – in combination with the MultiPro 3G – ensure assembly accuracy and complete documentation of the production data.

Thanks to the variability of our tightening procedures, the DS nutrunners provide you with a high-performance system for error-free tightening in safety and quality-critical assembly.

0,05 Nm
up to
2400 Nm
Torque



Built-in nutrunners



DS 26

0,5 / 1 / 2 / 4 Nm



DS 34

2,5 / 5 / 10 / 15 Nm



DS 44

2,5 / 5 / 10 / 20 / 35 Nm



DS 57

50 / 70 / 90 / 140 Nm



DS 80

220 / 300 / 420 / 500 / 600 Nm



DS 80-130

900 / 1000 / 1500 / 2000 / 2400 Nm

The correct nutrunner for every tightening process

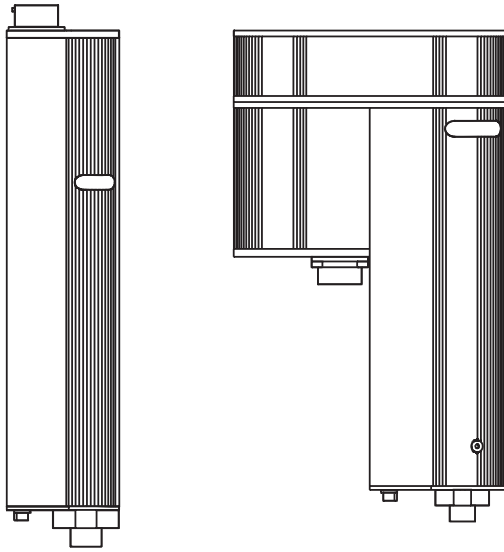
Components of DS nutrunners

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

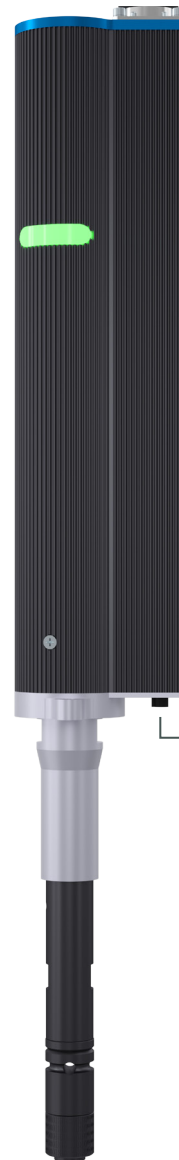
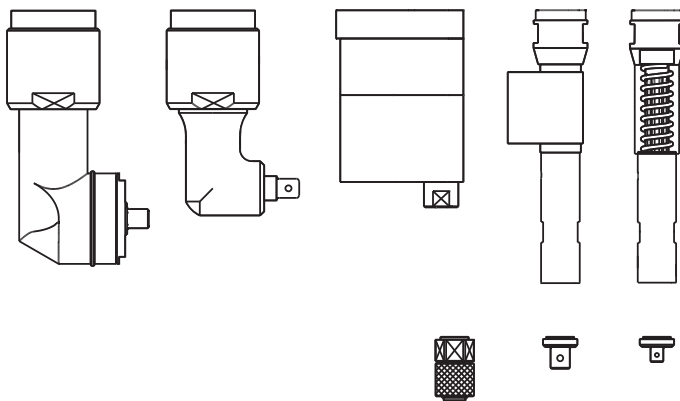
Advantages of DS nutrunners

- 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 PC

Motor modules



Output modules



The illuminated field on the nutrunner indicates the status of the tightening process.

- OK
- RUN
- NOK

Connection possibility for start function

And much more ...

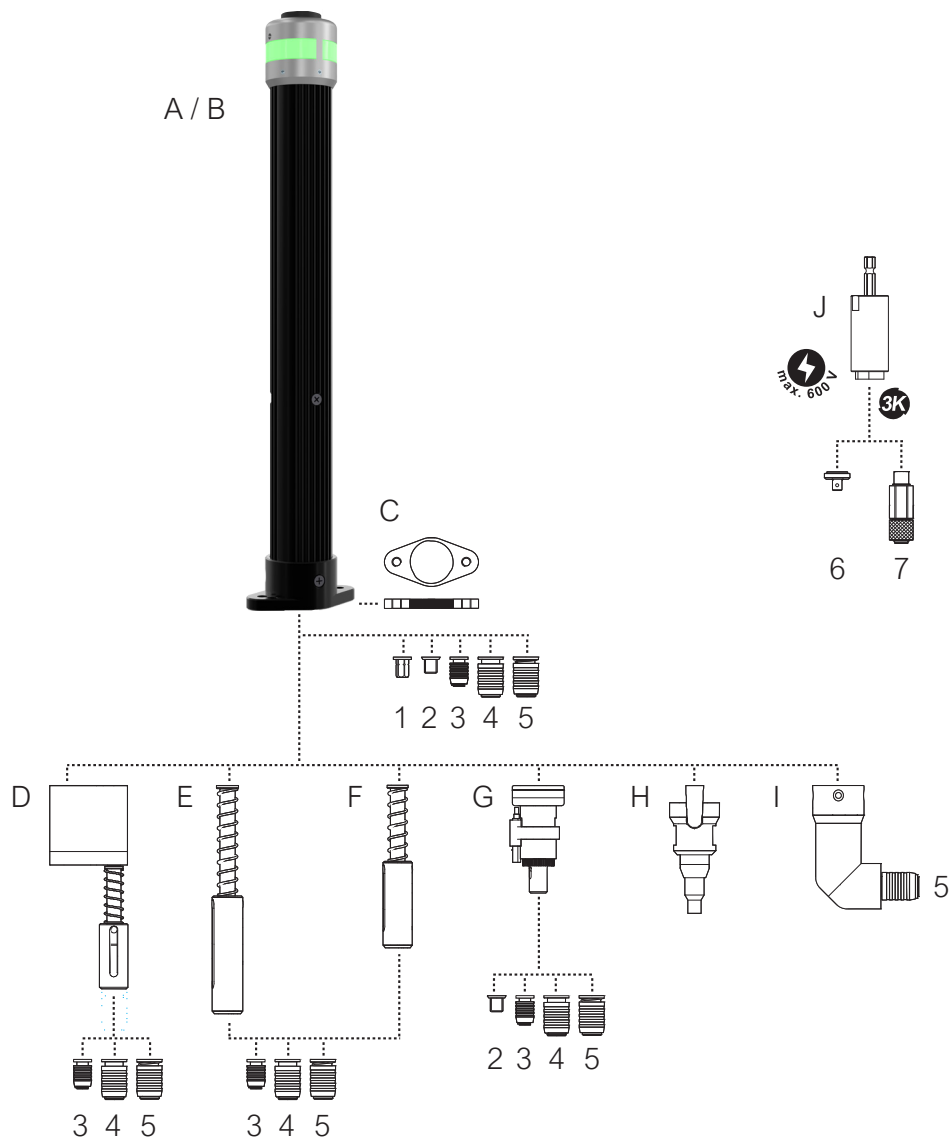
Crow feet as well as individual technical solutions, socket boxes, handling systems, complete workstations.

MDW or SA – with or without torque transducer

MDW nutrunners have a digital torque transducer. With this, the upcoming torque can be collected very precise.

By SA nutrunners, the torque and the angle of rotation are collected via the motor. The accuracy-deviation depends on the adjustment.

DS 26 series



A DS 26 MDW with torque transducer

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

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

B DS 26 SA without torque transducer (current controlled)

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

Torque accuracy depends on the adjustment of the nutrunner

C Mounting flange

Type	Article number
Mounting flange	DS-2263000

E / F Spring output

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

H Vacuum screw-retainer

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

1 Hexagon drive 1/4"

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

3 Hexagonal quick release element B3

Type	Article number
Hexagonal quick release element B3	DS-2263720

5 Hexagonal quick release element D6,3

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

J Output unit with galvanic isolation

Type	Article number
Output unit 1/4" _24mm-GT-3K	DS-2403735
In: 1/4" hex 24 mm length, DIN3126 - E6,3	
Out: DSM 3K	

6 Square drive 1/4"

Type	Article number
Square drive 1/4" (3K insert)	DS-2403715

D Output offset (max. 2 Nm)

Type	Article number
Output offset V1	DS-2263005

G Self start output

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

I Angle head

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

2 Square drive 1/4"

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

4 Hexagonal quick release element B5,5

Type	Article number
Hexagonal quick release element B5,5	DS-2263715

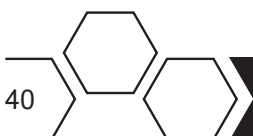
7 Hexagonal quick release element D6,3

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

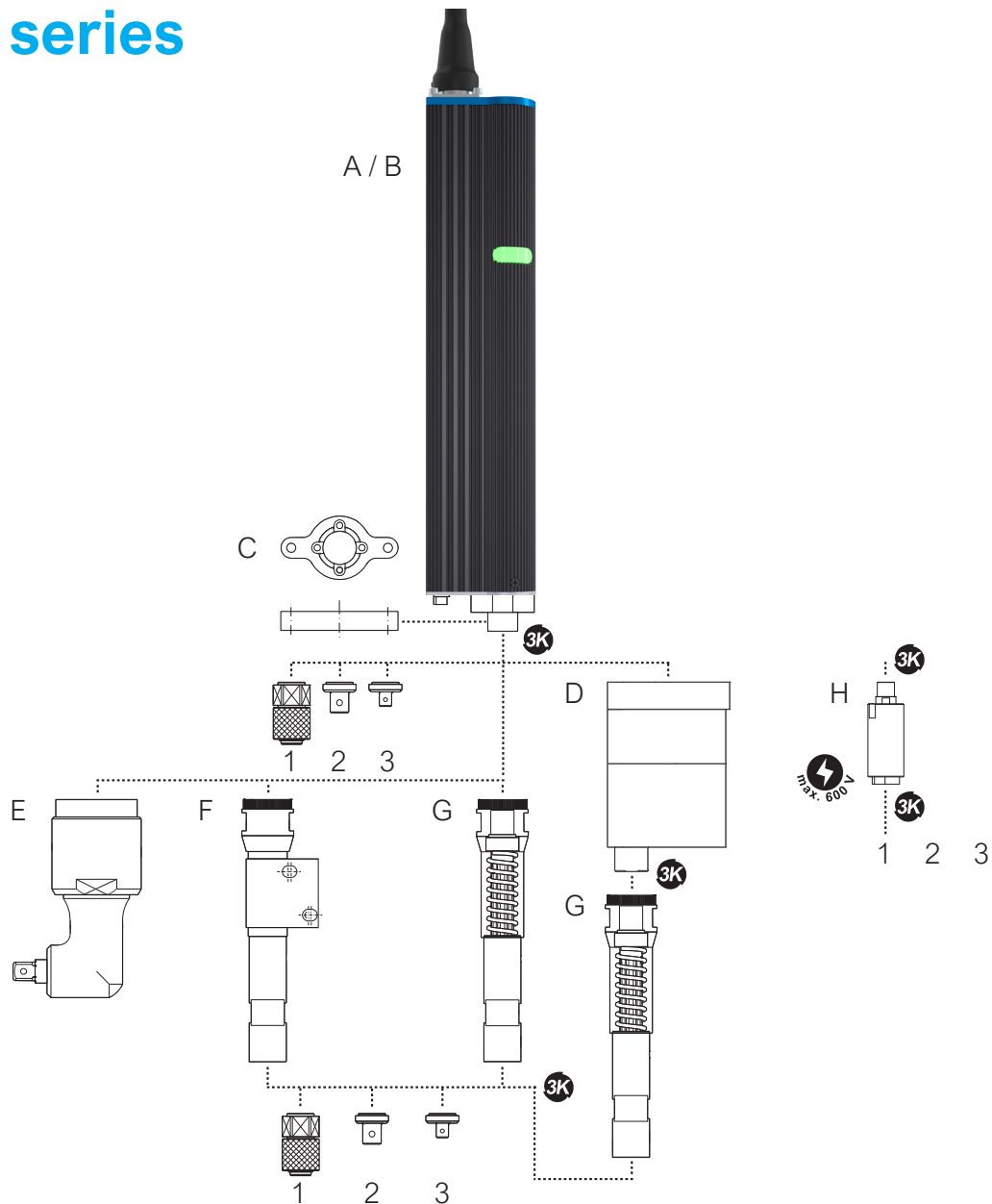
Cable

Cable for interconnection between nutrunner DS 26 and control system MultiPro 3G

See page 51



DS 34 series



A DS 34 MDW with torque transducer

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

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

B DS 34 SA without torque transducer (current controlled)

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

Torque accuracy depends on the adjustment of the nutrunner

C Mounting flange

Type	Article number
Mounting flange	DS-2343000

E Angle head 3/8"

Type	Article number
WA (3/8") Angle head	DS-2343010

F Spring output

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

H Output unit with galvanic isolation

Type	Article number
Output unit 3K-GT-3K	DS-2403730
In: DSM 3K	
Out: DSM 3K	

1 Hexagonal quick release element D6,3

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

2 Square drive 3/8"

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

D Output offset 3K (max. 10 Nm)

Type	Article number
Output offset V1	DS-2343005

Nutrunner MDW / SA	Max. speed
DS 34 / 025 -WA	550 rpm
DS 34 / 05 -WA	550 rpm
DS 34 / 10 -WA	1070 rpm
DS 34 / 15 -WA	1070 rpm

Torque tolerance better 8 % acc. to ISO 5393

G Spring output with self start initiator

Type	Article number
Spring output (30 mm) with self start INI	DS-2403035
Spring output (50 mm) with self start INI	DS-2403040

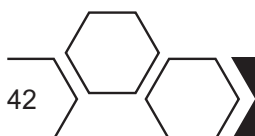
3 Square drive 1/4"

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

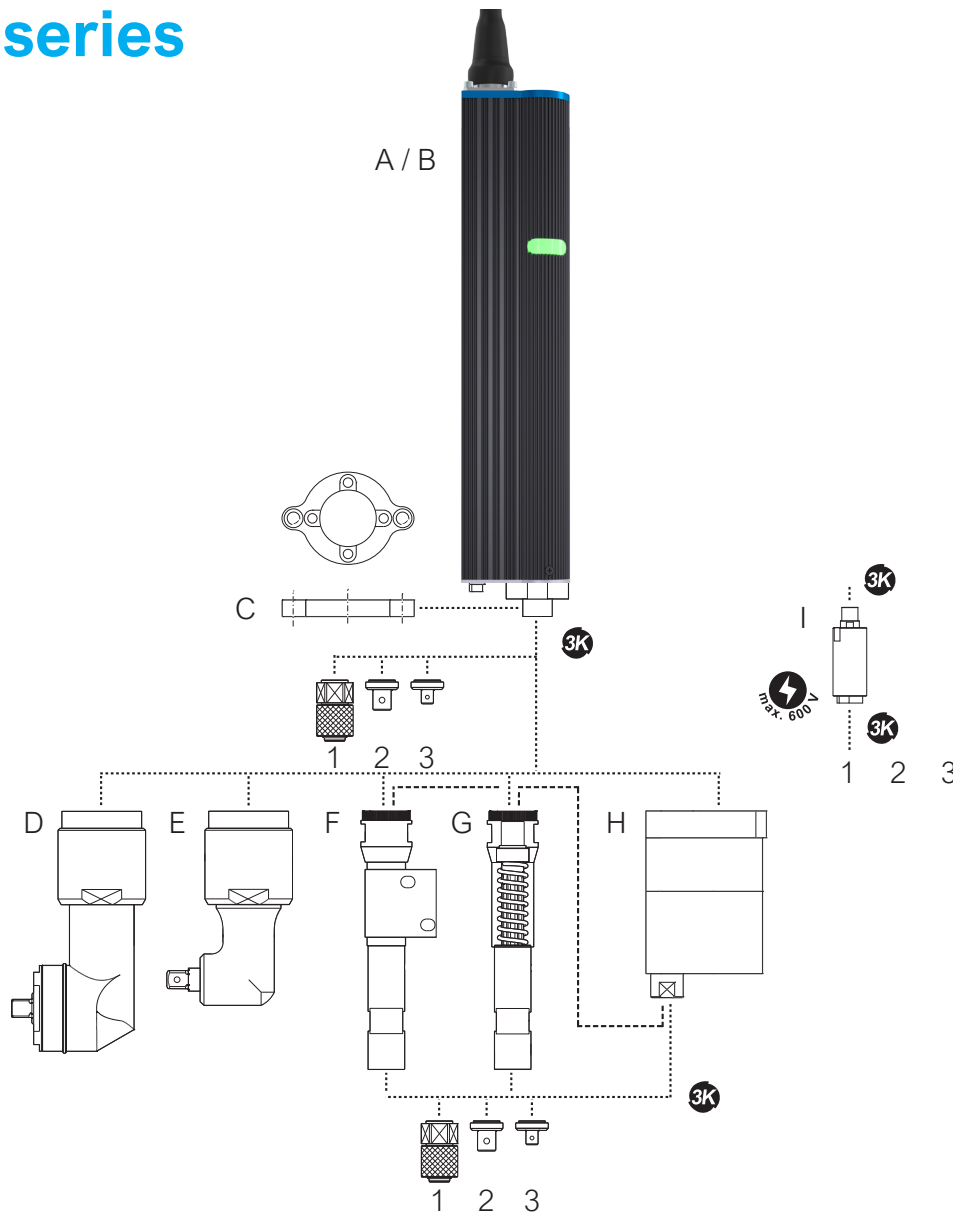
Cable

Cable for interconnection between nutrunner DS 34 and control system MultiPro 3G

See page 51



DS 44 series



A DS 44 MDW with torque transducer

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

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

B DS 44 SA without torque transducer (current controlled)

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

Torque accuracy depends on the adjustment of the nutrunner

C Mounting flange

Type	Article number
Mounting flange	DS-2443000

E Angle head 3/8" (max. 20 Nm)

Type	Article number
WA 20 (3/8") Angle head	DS-2443015

F Spring output with self start initiator

Type	Article number
Spring output (30 mm) with self start INI	DS-2403035
Spring output (50 mm) with self start INI	DS-2403040

H Output unit with galvanic isolation

Type	Article number
Output unit 3K-GT-3K	DS-2403730
In: DSM 3K	
Out: DSM 3K	

1 Hexagonal quick release element D6,3

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

2 Square drive 3/8"

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

D Angle head 3/8" (max. 40 Nm)

Type	Article number
WA 40 (3/8") Angle head	DS-2443020

Nutrunner MDW / SA	Max. speed
DS 44 / 025 -WA 20	620 rpm
DS 44 / 05 -WA 20	620 rpm
DS 44 / 10 -WA 20	370 rpm
DS 44 / 20 -WA 20	370 rpm
DS 44 / 35 -WA 40	250 rpm

Torque tolerance better 8 % acc. to ISO 5393

G Spring output

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

Cable

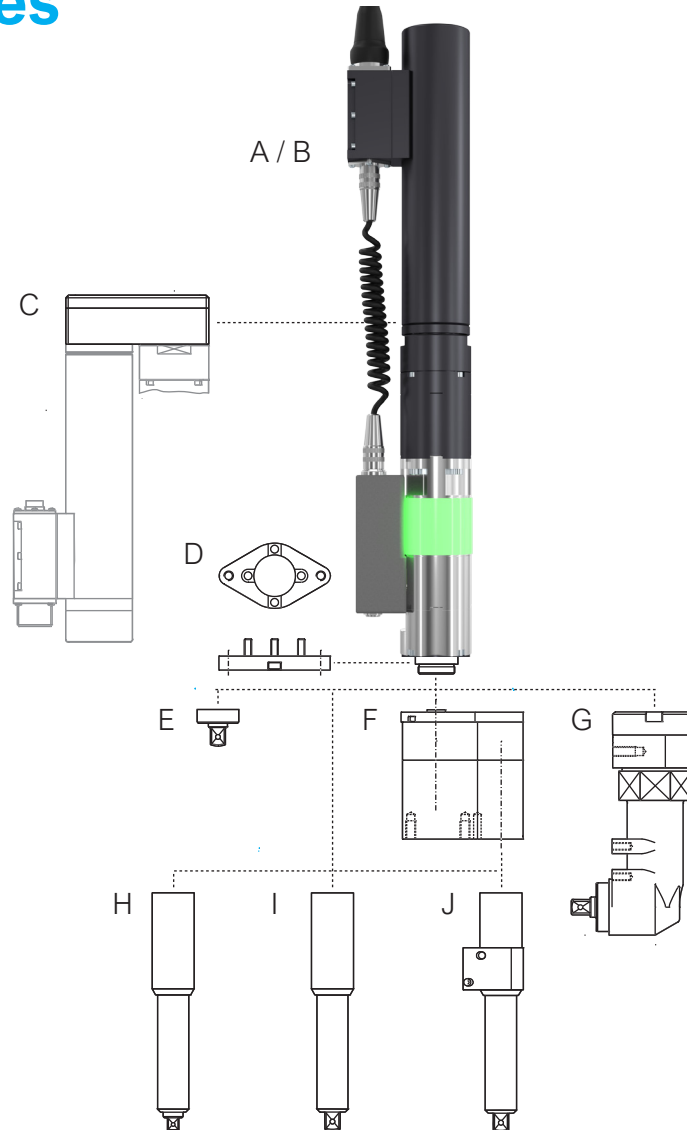
Cable for interconnection between nutrunner DS 44 and control system MultiPro 3G

See page 51

3 Square drive 1/4"

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

DS 57 series



A DS 57 MDW with torque transducer

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

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

B DS 57 SA without torque transducer (current controlled)

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

Torque accuracy depends on the adjustment of the nutrunner

C Motor offset

Type	Article number
Motor offset V2	DS-2573010

E Stump output

Type	Article number
Stump output ST, square drive 1/2"	DS-2573020

G Angle head 1/2" (max. 130 Nm)

Type	Article number
WA (1/2") Angle head	DS-2573015

H 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 self start initiator

Type	Article number
Spring output, square 1/2" with self start INI	DS-2573045
Spring output, square 3/8" with self start INI	DS-2573050

Cable set

Motor cable and C-HS cable for interconnection between nutrunner DS 57 and control system MultiPro 3G

See page 51

D Mounting flange

Type	Article number
Mounting flange*	DS-2573000

* Not compatible with the variant output offset (F) and angle head (G)

F Output offset

Type	Article number
Output offset V1	DS-2573005

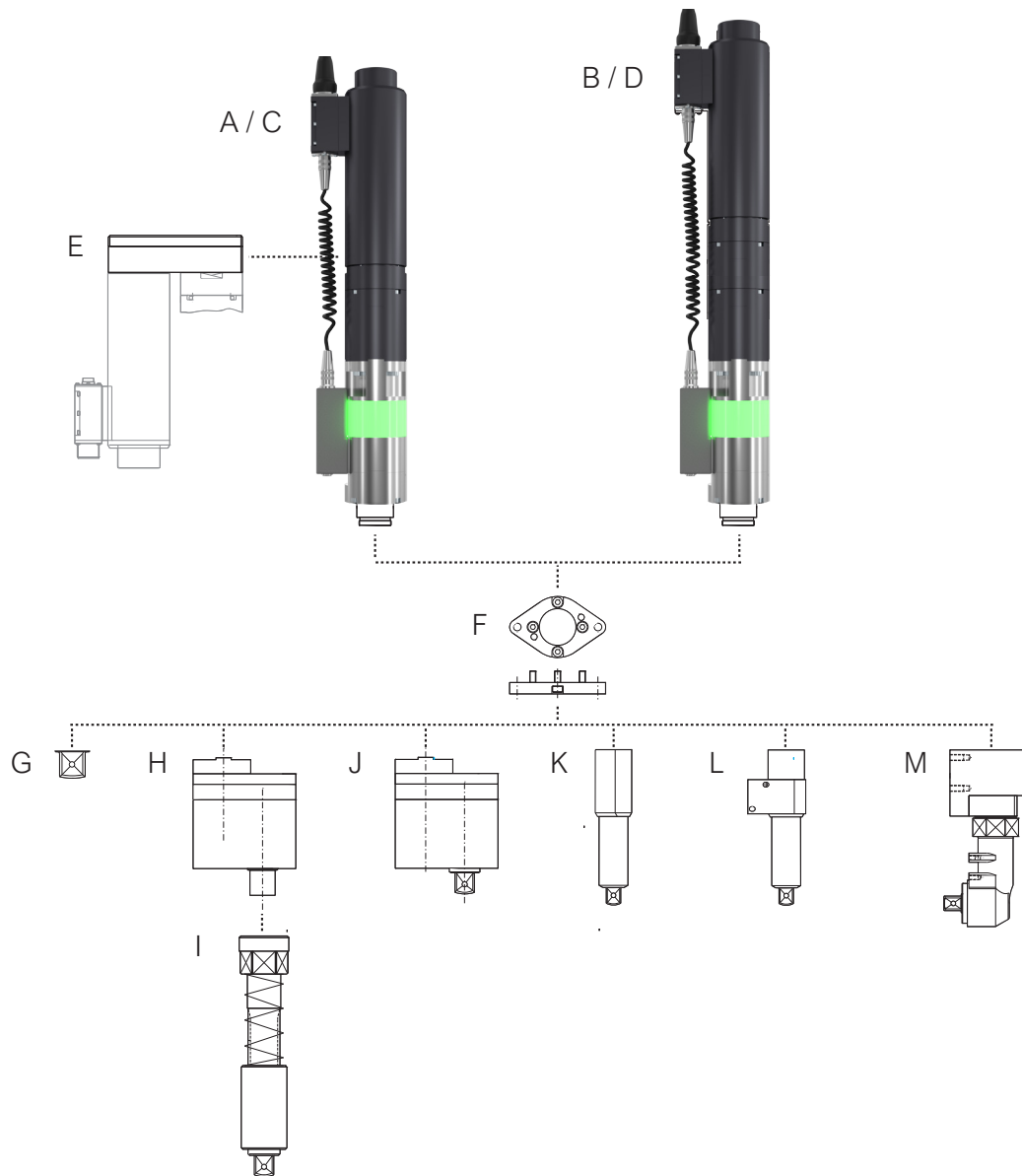
Nutrunner MDW / SA	Max. speed
DS 57 / 50 WA	760 rpm
DS 57 / 70 WA	760 rpm
DS 57 / 140 WA	400 rpm

Torque tolerance better 8 % acc. to ISO 5393

I Spring output, square drive 1/2"

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

DS 80 series



A DS 80 MDW with torque transducer

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

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

B DS 80 MDW (Booster gear unit) with torque transducer

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

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

C DS 80 SA without torque transducer (current controlled)

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

Torque accuracy depends on the adjustment of the nutrunner

D DS 80 SA (Booster gear unit) without torque transducer (current controlled)

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

Torque accuracy depends on the adjustment of the nutrunner

E Motor offset

Type	Article number
Motor offset V2	DS-2803005

F Mounting flange

Type	Article number
Mounting flange	DS-2803000

G Stump output

Type	Article number
Stump output ST, square drive 3/4"	DS-2803025

H Output offset (for spring output)

Type	Article number
Output offset V1 3K	DS-2803020

I Spring output (for output offset)

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

J Output offset with stump output

Type	Article number
Output offset V1 ST, square drive 1"	DS-2803015

K Spring output, square 3/4"

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

L Spring output with self start initiator, square 3/4"

Type	Article number
Spring output 50 mm with self start INI	DS-2803050
Spring output 100 mm with self start INI	DS-2803065
Spring output 150 mm with self start INI	DS-2803070

M Angle head 3/4" (max. 220 Nm)

Type	Article number
WA (3/4") Angle head equipped with fastening flange	DS-2803010

Nutrunner MDW / SA	Max. speed
DS 80 / 220 WA	200 rpm

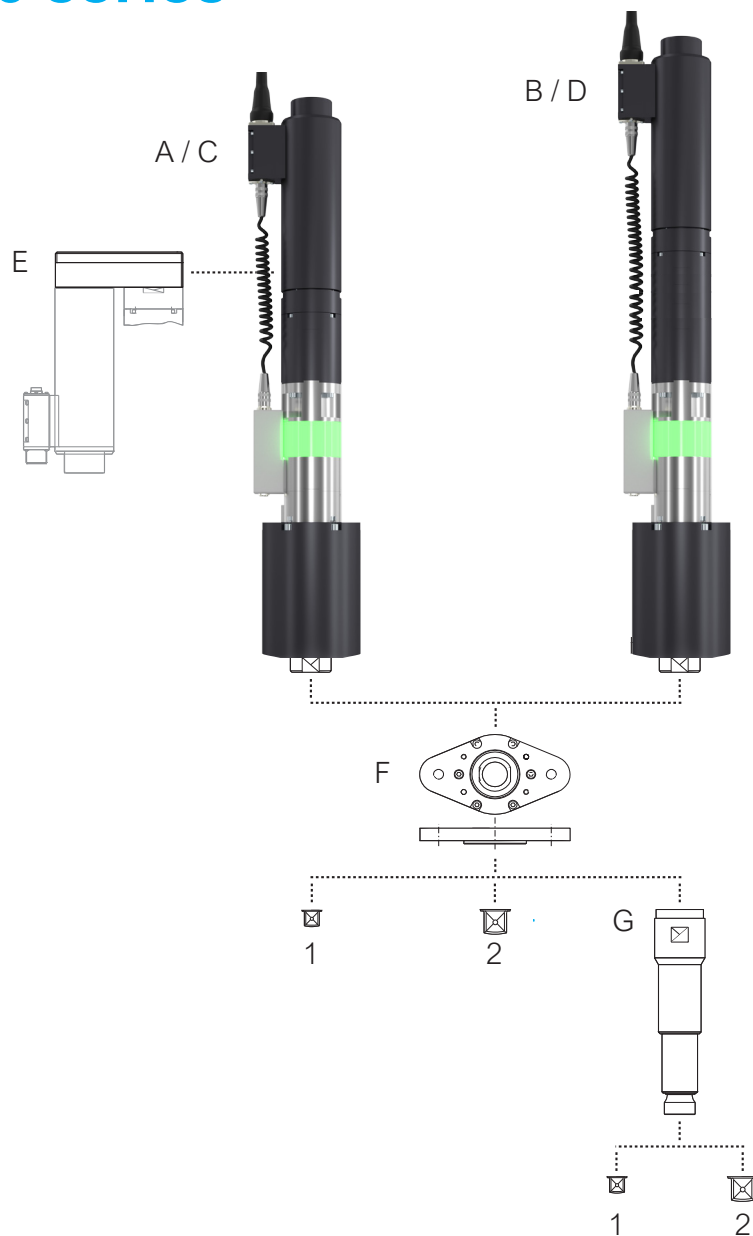
Torque tolerance better 8 % acc. to ISO 5393

Cable set

Motor cable and C-HS cable for interconnection between nutrunner DS 80 and control system MultiPro 3G

See page 51

DS 80-130 series



A DS 80-130 MDW with torque transducer

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

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

B DS 80-130 MDW (Booster gear unit) with torque transducer

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

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

C DS 80-130 SA without torque transducer (current controlled)

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

Torque accuracy depends on the adjustment of the nutrunner

D DS 80-130 SA (Booster gear unit) without torque transducer (current controlled)

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

Torque accuracy depends on the adjustment of the nutrunner

E Motor offset

Type	Article number
Motor offset V2	DS-2803005

F Mounting flange

Type	Article number
Mounting flange	DS-2803001

G Spring output

Type	Article number
Spring output 50 mm	DS-2803080

1 Square drive 1"

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

2 Square drive 1,5"

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

Cable set

Motor cable and C-HS cable for interconnection between nutrunner DS 80-130 and control system MultiPro 3G

See page 51

Cables

DS 26 Cable

Cable for interconnection between nutrunner and control system MultiPro 3G (basic module)

Type	Cable length	Article number
Interconnecting cable DSH 16 / DSH 26 / DS 26 DSP05	5 m	MK-2269005
Interconnecting cable DS 26 DSP05 – heavy duty version	5 m	MK-2269105
Interconnecting cable DS 26 DSP10 – heavy duty version	10 m	MK-2269110
Interconnecting cable DS 26 DSP15 – heavy duty version	15 m	MK-2269115
Interconnecting cable DS 26 DSP05 – heavy duty version, angled 90° right	5 m	MK-2269205
Interconnecting cable DS 26 DSP10 – heavy duty version, angled 90° right	10 m	MK-2269210
Interconnecting cable DS 26 DSP15 – heavy duty version, angled 90° right	15 m	MK-2269215
Interconnecting cable DS 26 DSP05 – heavy duty version, angled 90° left	5 m	MK-2269305
Interconnecting cable DS 26 DSP10 – heavy duty version, angled 90° left	10 m	MK-2269310
Interconnecting cable DS 26 DSP15 – heavy duty version, angled 90° left	15 m	MK-2269315

DS 34 / DS 44 Cable

Cable for interconnection between nutrunner and control system MultiPro 3G (basic module)

Type	Cable length	Article number
Interconnecting cable DS 34 / DSH 38 / DS 44 / SMP 300 DSP05	5 m	MK-2409005
Interconnecting cable DS 34 / DSH 38 / DS 44 / SMP 300 DSP10	10 m	MK-2409010
Interconnecting cable DS 34 / DSH 38 / DS 44 / SMP 300 DSP15	15 m	MK-2409015
Interconnecting cable DS 34 / DSH 38 / DS 44 / SMP 300 DSP05 – angled 90° right	5 m	MK-2409105
Interconnecting cable DS 34 / DSH 38 / DS 44 / SMP 300 DSP10 – angled 90° right	10 m	MK-2409110
Interconnecting cable DS 34 / DSH 38 / DS 44 / SMP 300 DSP15 – angled 90° right	15 m	MK-2409115
Interconnecting cable DS 34 / DSH 38 / DS 44 / SMP 300 DSP05 – angled 90° left	5 m	MK-2409205
Interconnecting cable DS 34 / DSH 38 / DS 44 / SMP 300 DSP10 – angled 90° left	10 m	MK-2409210
Interconnecting cable DS 34 / DSH 38 / DS 44 / SMP 300 DSP15 – angled 90° left	15 m	MK-2409215

DS 57 Cable set

Motor cable and C-HS cable for interconnection between nutrunner and control system MultiPro 3G (basic module)

Type	Cable length	Article number
Cable set DS 57 / QMP 80 / QMP 100 MZ / SMP 400 / XMP 90 DSP05	5 m	MK-0809005
Cable set DS 57 / QMP 80 / QMP 100 MZ / SMP 400 / XMP 90 DSP10	10 m	MK-0809010
Cable set DS 57 / QMP 80 / QMP 100 MZ / SMP 400 / XMP 90 DSP15	15 m	MK-0809015
Cable set DS 57 / QMP 80 / QMP 100 MZ / SMP 400 / XMP 90 DSP05 - with shielding	5 m	MK-0809105
Cable set DS 57 / QMP 80 / QMP 100 MZ / SMP 400 / XMP 90 DSP10 - with shielding	10 m	MK-0809110
Cable set DS 57 / QMP 80 / QMP 100 MZ / SMP 400 / XMP 90 DSP15 - with shielding	15 m	MK-0809115

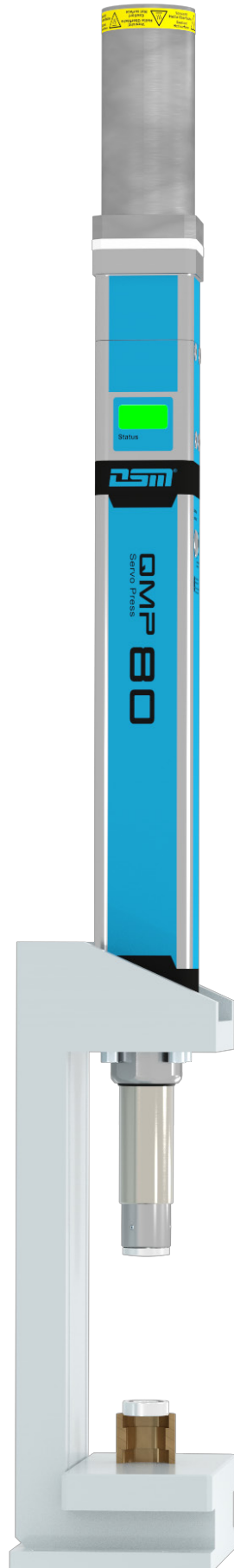
DS 80 Cable set

Motor cable and C-HS cable for interconnection between nutrunner and control system MultiPro 3G (basic module)

Type	Cable length	Article number
Cable set DS 80 / QMP 100 / QMP 140 / SMP 500 DSP05	5 m	MK-1009005
Cable set DS 80 / QMP 100 / QMP 140 / SMP 500 DSP10	10 m	MK-1009010
Cable set DS 80 / QMP 100 / QMP 140 / SMP 500 DSP15	15 m	MK-1009015
Cable set DS 80 / QMP 100 / QMP 140 / SMP 500 DSP05 - with shielding	5 m	MK-1009105
Cable set DS 80 / QMP 100 / QMP 140 / SMP 500 DSP10 - with shielding	10 m	MK-1009110
Cable set DS 80 / QMP 100 / QMP 140 / SMP 500 DSP15 - with shielding	15 m	MK-1009115

Fields of application of DSM press-in technology

- Precision press-in
- Press-in to end stop
- Clinch
- Bending
- Embossing / Forming
- Testing / Measuring
- Caulking
- Clipping
- Test switch / snap-in point
- Calibration
- ...



Press-in units of the QMP series are designed for press and pull forces and have a very slim design in a square stainless steel housing.

The digital load cell, which is protected against overload, is located directly in the plunger.

The stroke is measured via an absolute stroke measuring system. LED status displays on the press-in unit show the operating status and the processing result.

With the QMP series, high-performance press-in units are available for almost any application.

Compressive forces, tensile forces, different stroke variants, electromechanical brake as well as backstop are just some of the reasons why DSM press-in technique is so versatile.

High-precision force transducers and an absolute displacement measuring system – in combination with the MultiPro 3G – ensure assembly accuracy and complete documentation of the production data.

Thanks to the variability of our press-in processes, the DSM press-in units provide you with a high-performance system for use in quality-critical assembly.



Press-in units QMP series



QMP 80
2,5 / 5 / 10 / 20 kN
200 / 300 / 500 mm stroke
200 mm/s



QMP 100
30 / 40 / 50 / 60 kN
200 / 300 / 500 mm stroke
200 mm/s



QMP 140
70 / 100 / 120 kN
200 / 300 / 500 mm stroke
100 mm/s

The correct press-in unit for press-in, joining and forming operations

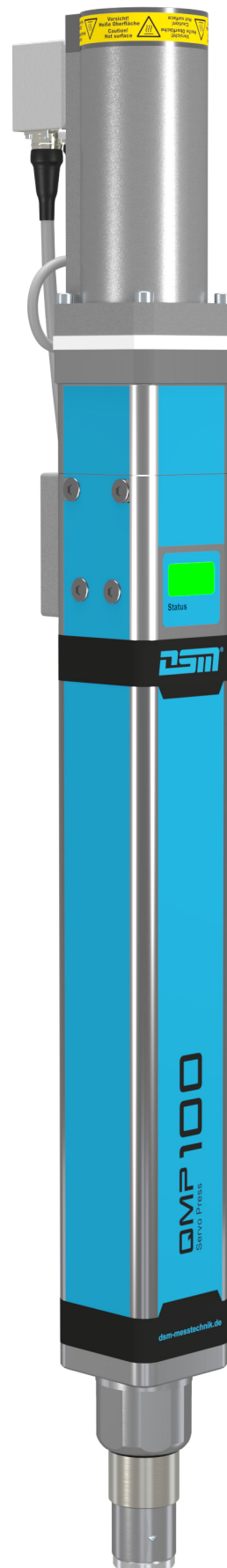
Components of QMP press-in units

- Maintenance-free brushless servo motor
- Robust square-cut stainless steel case
- Optimisation of the frame size by the use of a motor offset
- Hold force with electromechanical brake, backstop and force control
- Sealing air connection for preventing the ingress of dirt particles into the press-in unit
- Ventilator unit for cooling the motor

Advantages of QMP press-in units

- Insensitive against electro-magnetic radiation due to digital data transfer
- Designed for press forces and pull forces
- Absolut measuring system eliminates the need for a reference run
- Illuminated field for indication of the joining status
- Simple programmable at the control unit or via PC

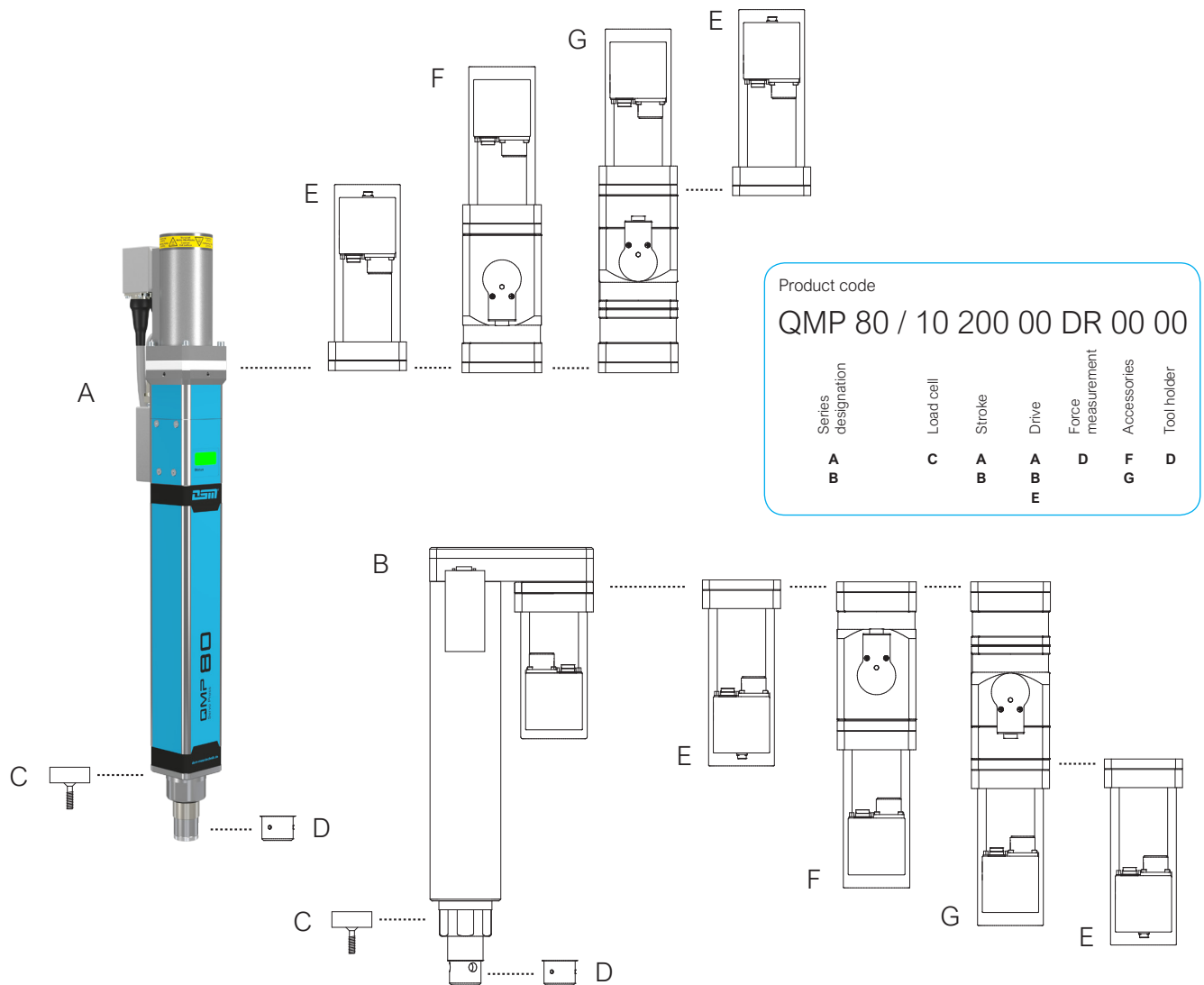
200 mm, 300 mm
or 500 mm
stroke distance



The illuminated field on the press-in unit indicates the status of the joining process.

- OK
- RUN
- NOK

QMP 80 series



A QMP 80 Press-in unit

Type	Stroke	Max. speed	Article number
QMP 80 / XX 200 00 XX 00 00	200 mm	200 mm/s	QMP-0803002
QMP 80 / XX 300 00 XX 00 00	300 mm	200 mm/s	QMP-0803003
QMP 80 / XX 500 00 XX 00 00	500 mm	200 mm/s	QMP-0803005

Resolution stroke measurement system 0,003 mm, stroke repeat accuracy under force 0,01 mm by about 20 mm/s

B QMP 80 Press-in unit with motor offset (V2Z)

Type	Stroke	Max. speed	Article number
QMP 80 / XX 200 V2Z XX 00 00	200 mm	200 mm/s	QMP-0803202
QMP 80 / XX 300 V2Z XX 00 00	300 mm	200 mm/s	QMP-0803203
QMP 80 / XX 500 V2Z XX 00 00	500 mm	200 mm/s	QMP-0803205

Resolution stroke measurement system 0,003 mm, stroke repeat accuracy under force 0,01 mm by about 20 mm/s

C Execution load cell

Type	Max. force	Application area	Article number
Load cell 2,5 kN for QMP 80	2,5 kN	0,4 - 2,5 kN	QMP-0800002
Load cell 5 kN for QMP 80	5 kN	0,8 - 5 kN	QMP-0800005
Load cell 10 kN for QMP 80	10 kN	2 - 10 kN	QMP-0800010
Load cell 20 kN for QMP 80	20 kN	4 - 20 kN	QMP-0800020

Force accuracy 0,5 % of the final value

D Execution force measurement

Type	Force measurement	Tool bracket	Article number
Execution DR for QMP 80	in direction press	DIN810 A20, Ø20H7 45 deep	QMP-0801000
Execution ZU for QMP 80	in direction pull	M20 x 1,5 40 deep	QMP-0801005
Execution DZ for QMP 80	in direction press and pull	M20 x 1,5 40 deep	QMP-0801010

E Motor holding brake

Type	Article number
Motor holding brake MHB	QMP-0803112

F Holding brake

Type	Article number
Holding brake HB	QMP-0803110

G Backstop

Type	Article number
Backstop RS-L without V2Z (motor offset)	QMP-0803116
Backstop RS-R with V2Z (motor offset)	QMP-0803117

Accessories

Ventilator unit (for cooling the motor)

Type	Article number
Ventilator unit – right (assembly on right side)	DSM-305903
Ventilator unit – left (assembly on left side)	DSM-305904

Sealing air connection

Type	Article number
Sealing air connection (avoids the ingresson of dirt particles into the press-in unit)	QMP-3000100

Service package – Lubrication set

Type	Article number
Lubrication set (grease gun, armoured hose, grease cartridge and lubrication tube set)	DSM-281990

Frames for QMP 80 (acc. to customers specification)

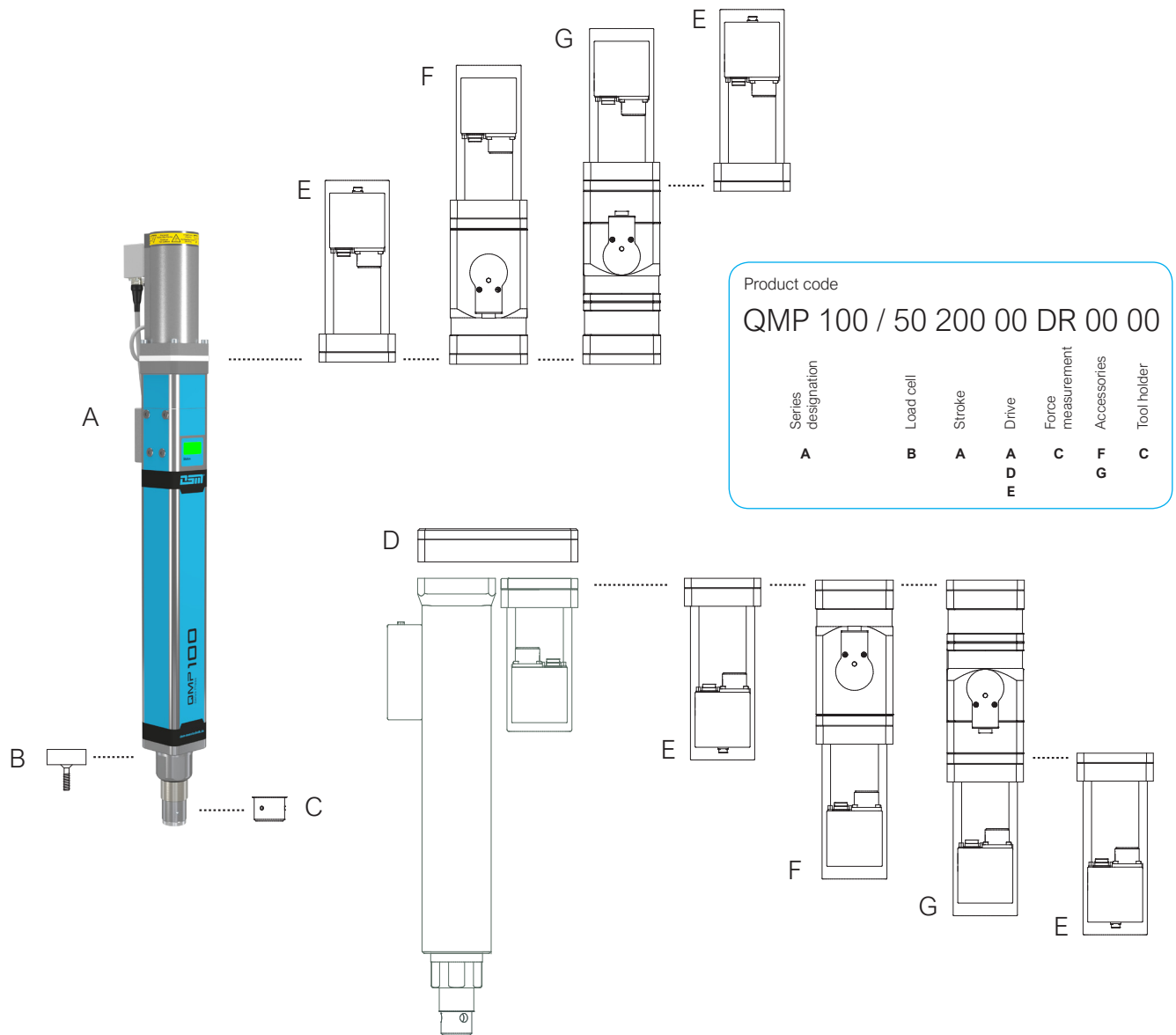
Type	Article number
Portal frame for QMP 80	QMP-0808000
C-frame for QMP 80	QMP-0808500

Cable set

Motor cable and C-HS cable for interconnection between press-in unit QMP 80 and control system MultiPro 3G

See page 73

QMP 100 series



Product code

QMP 100 / 50 200 00 DR 00 00

Series designation	Load cell	Stroke	Drive	Force measurement	Accessories	Tool holder
A	B	A	A D E	C	F G	C

A QMP 100 Press-in unit

Type	Stroke	Max. speed	Article number
QMP 100 / XX 200 00 XX 00 00	200 mm	200 mm/s	QMP-1003002
QMP 100 / XX 300 00 XX 00 00	300 mm	200 mm/s	QMP-1003003
QMP 100 / XX 500 00 XX 00 00	500 mm	200 mm/s	QMP-1003005

Resolution stroke measurement system 0,003 mm, stroke repeat accuracy under force 0,01 mm by about 20 mm/s

B Execution load cell

Type	Max. force	Application area	Article number
Load cell 30 kN for QMP 100	30 kN	6 - 30 kN	QMP-1000030
Load cell 40 kN for QMP 100	40 kN	8 - 40 kN	QMP-1000040
Load cell 50 kN for QMP 100	50 kN	10 - 50 kN	QMP-1000050
Load cell 60 kN for QMP 100	60 kN	12 - 60 kN	QMP-1000060

Force accuracy 0,5 % of the final value

C Execution force measurement

Type	Force measurement	Tool bracket	Article number
Execution DR for QMP 100	in direction press	DIN810 A25, Ø25H7 50 deep	QMP-1001000
Execution ZU for QMP 100	in direction pull	M24 x 1,5 55 deep	QMP-1001005
Execution DZ for QMP 100	in direction press and pull	M24 x 1,5 55 deep	QMP-1001010

D Motor offset

Type	Article number
Motor offset V2	QMP-1003105

E Motor holding brake

Type	Article number
Motor holding brake MHB	QMP-1003112

F Holding brake

Type	Article number
Holding brake HB	QMP-1003110

G Backstop

Type	Article number
Backstop RS-L without V2 (motor offset)	QMP-1003116
Backstop RS-R with V2 (motor offset)	QMP-1003117

Accessories

Ventilator unit (for cooling the motor)

Type	Article number
Ventilator unit – right (assembly on right side)	DSM-305903
Ventilator unit – left (assembly on left side)	DSM-305904

Sealing air connection

Type	Article number
Sealing air connection (avoids the ingress of dirt particles into the press-in unit)	QMP-3000100

Service package – Lubrication set

Type	Article number
Lubrication set (grease gun, armoured hose, grease cartridge and lubrication tube set)	DSM-281990

Frames for QMP 100 (acc. to customers specification)

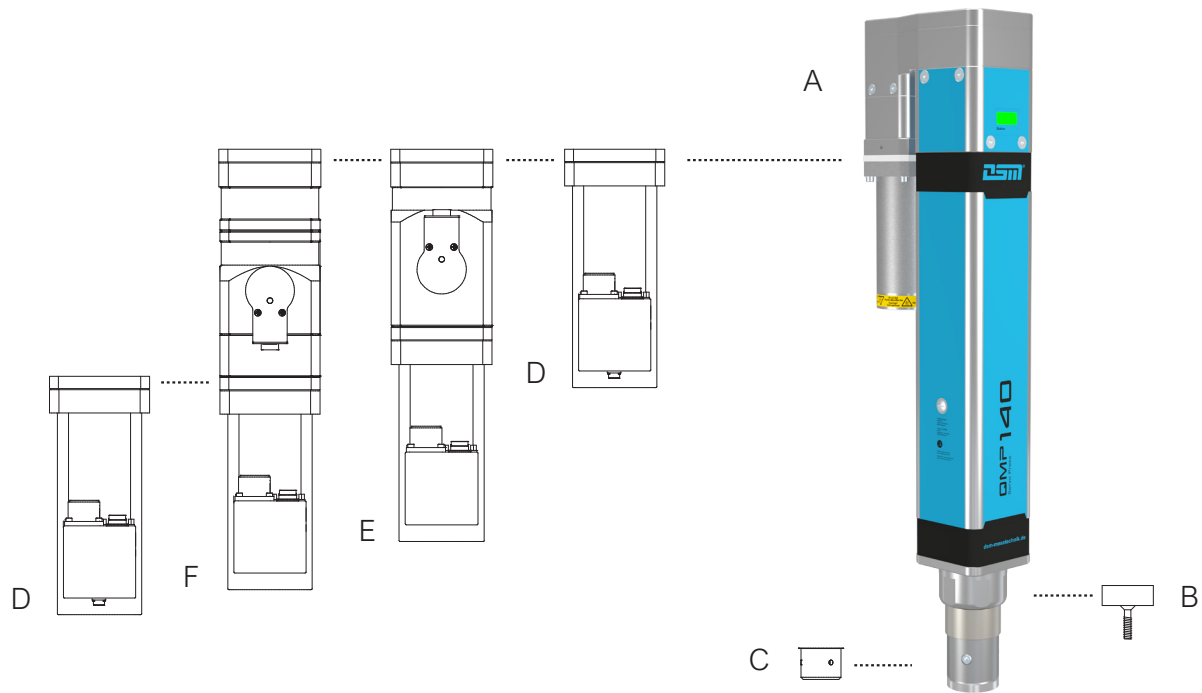
Type	Article number
Portal frame for QMP 100	QMP-1008000
C-frame for QMP 100	QMP-1008500

Cable set

Motor cable and C-HS cable for interconnection between press-in unit QMP 100 and control system MultiPro 3G

See page 73

QMP 140 series



Product code
QMP 140 / 70 200 V2 DR 00 00

Series designation	Load cell	Stroke	Drive	Force measurement	Accessories	Tool holder
A	B	A	A	C	F	C

A QMP 140 Press-in unit with motor offset (V2)

Type	Stroke	Max. speed	Article number
QMP 140 / XX 200 V2 XX 00 00	200 mm	100 mm/s	QMP-1403002
QMP 140 / XX 300 V2 XX 00 00	300 mm	100 mm/s	QMP-1403003
QMP 140 / XX 500 V2 XX 00 00	500 mm	100 mm/s	QMP-1403005

Resolution stroke measurement system 0,003 mm, stroke repeat accuracy under force 0,01 mm by about 20 mm/s

B Execution load cell

Type	Max. force	Application area	Article number
Load cell 70 kN for QMP 140	70 kN	10 - 70 kN	QMP-1400070
Load cell 100 kN for QMP 140	100 kN	20 - 100 kN	QMP-1400100
Load cell 120 kN for QMP 140	120 kN	24 - 120 kN	QMP-1400120

Force accuracy 0,5 % of the final value

C Execution force measurement

Type	Force measurement	Tool bracket	Article number
Execution DR for QMP 140	in direction press	DIN810 A50, Ø50H7 85 deep	QMP-1401000
Execution ZU for QMP 140	in direction pull	M36 x 3 50 deep	QMP-1401005
Execution DZ for QMP 140	in direction press and pull	M36 x 3 50 deep	QMP-1401010

D Motor holding brake

Type	Article number
Motor holding brake MHB	QMP-1403112

E Holding brake

Type	Article number
Holding brake HB	QMP-1403110

F Backstop

Type	Article number
Backstop RS-R	QMP-1403115

Accessories

Ventilator unit (for cooling the motor)

Type	Article number
Ventilator unit for QMP 140	DSM-305906

Sealing air connection

Type	Article number
Sealing air connection (avoids the ingress of dirt particles into the press-in unit)	QMP-3000100

Service package – Lubrication set

Type	Article number
Lubrication set (grease gun, armoured hose, grease cartridge and lubrication tube set)	DSM-281990

Frames for QMP 140 (acc. to customers specification)

Type	Article number
Portal frame for QMP 140	QMP-1408000
C-frame for QMP 140	QMP-1408500

Cable set

Motor cable and C-HS cable for interconnection between press-in unit QMP 140 and control system MultiPro 3G

See page 73

Press-in units of the SMP series are only designed for press forces and have a very robust and low-maintenance construction.

The simple construction convinced in the rough industrial environment.

The load cell is located in the direct vicinity of the plunger. The stroke is measured via an absolute stroke measuring system.

No optional accessories are available for the SMP series.

High-precision force transducers and an absolute displacement measuring system – in combination with the MultiPro 3G – ensure assembly accuracy and complete documentation of the production data.

Thanks to the variability of our press-in processes, the DSM press-in units provide you with a high-performance system for use in quality-critical assembly.

0,05 kN
up to
70 kN
Force



Press-in units SMP series



SMP 300

0,25 / 0,5 kN

100 / 200 / 400 mm stroke

350 mm/s



SMP 300

1 / 2 kN

100 / 200 / 400 mm stroke

350 mm/s



SMP 400

5 / 10 kN

100 / 200 / 400 mm stroke

200 mm/s



SMP 500

20 / 30 / 50 / 70 kN

100 / 200 / 400 mm stroke

150 mm/s

The correct press-in unit for press-in, joining and forming operations

Components of SMP press-in units

Maintenance-free brushless servo motor

Housing out of stainless steel and aluminium

Compact design by the use of a motor offset

Sealing air connection for preventing the ingress of dirt particles into the press-in unit

Ventilator unit for cooling the motor

Advantages of SMP press-in units

Simple construction for the rough industrial environment

Insensitive against electromagnetic radiation due to digital data transfer

Absolut measuring system eliminates the need for a reference run

Simple programmable at the control unit or via PC



100 mm, 200 mm
or 400 mm
stroke distance

SMP 300 in the execution with externally located digital load cell.

SMP 300 series



Product code

SMP 300 / 01 200 V2 DR 00 00

Series designation	Load cell	Stroke	Drive	Force measurement	Accessories	Tool holder
A	B C	A	A	A	A	A
Standard						

A SMP 300 Press-in unit

Type	Stroke	Max. speed	Article number
SMP 300 / XX 100 V2 DR 00 00	100 mm	350 mm/s	SMP-303001
SMP 300 / XX 200 V2 DR 00 00	200 mm	350 mm/s	SMP-303002
SMP 300 / XX 400 V2 DR 00 00	400 mm	350 mm/s	SMP-303004

Resolution stroke measurement system 0,003 mm, stroke repeat accuracy under force 0,01 mm by about 20 mm/s
 V2: Motor offset DR: Force measurement in direction press, Tool holder DIN 810 A8

B Execution external load cell

Type	Max. force	Application area	Article number
Load cell 0,25 kN for SMP 300	0,25 kN	0,05 - 0,25 kN	SMP-300002
Load cell 0,5 kN for SMP 300	0,5 kN	0,1 - 0,5 kN	SMP-300005

Force accuracy 0,5 % of the final value

C Execution load cell

Type	Max. force	Application area	Article number
Load cell 1 kN for SMP 300	1 kN	0,2 - 1 kN	SMP-300010
Load cell 2 kN for SMP 300	2 kN	0,4 - 2 kN	SMP-300020

Force accuracy 1 % of the final value

Accessories

Sealing air connection

Type	Article number
Sealing air connection (avoids the ingress of dirt particles into the press-in unit)	QMP-3000100

Service package – Lubrication set

Type	Article number
Lubrication set (grease gun, armoured hose, grease cartridge and lubrication tube set)	DSM-281990

Frames for SMP 300 (acc. to customers specification)

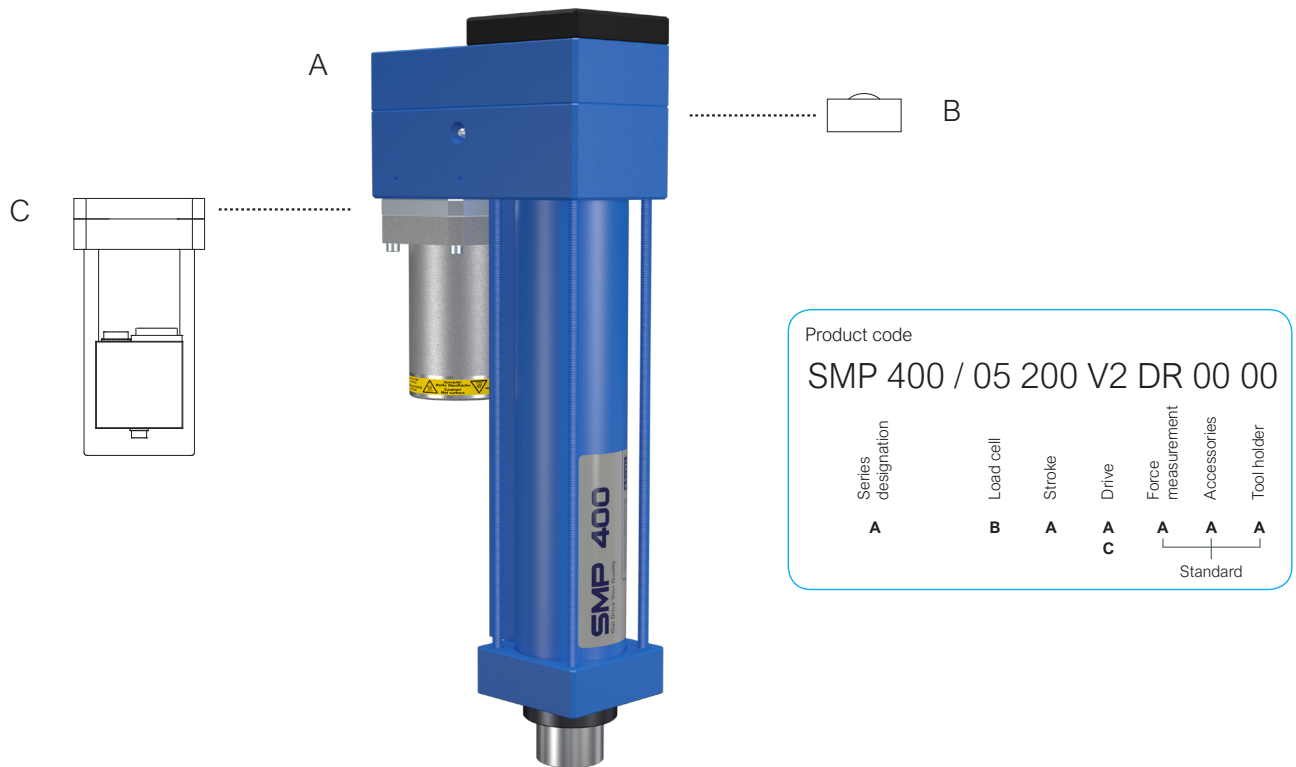
Type	Article number
Portal frame for SMP 300	SMP-3008000
C-frame for SMP 300	SMP-3008500

Cable

Cable for interconnection between press-in unit SMP 300 and control system MultiPro 3G

See page 73

SMP 400 series



A SMP 400 Press-in unit

Type	Stroke	Max. speed	Article number
SMP 400 / XX 100 V2 DR 00 00	100 mm	200 mm/s	SMP-403001
SMP 400 / XX 200 V2 DR 00 00	200 mm	200 mm/s	SMP-403002
SMP 400 / XX 400 V2 DR 00 00	400 mm	200 mm/s	SMP-403004

Resolution stroke measurement system 0,003 mm, stroke repeat accuracy under force 0,01 mm by about 20 mm/s
 V2: Motor offset DR: Force measurement in direction press, Tool holder with mounting drill holes

B Execution load cell

Type	Max. force	Application area	Article number
Load cell 5 kN for SMP 400	5 kN	1 - 5 kN	SMP-400005
Load cell 10 kN for SMP 400	10 kN	2 - 10 kN	SMP-400010

Force accuracy 1 % of the final value

C Motor holding brake

Type	Article number
Motor holding brake MHB	SMP-3008820

Accessories

Ventilator unit (for cooling the motor)

Type	Article number
Ventilator unit – right (assembly on right side)	DSM-305903
Ventilator unit – left (assembly on left side)	DSM-305904

Service package – Lubrication set

Type	Article number
Lubrication set (grease gun, armoured hose, grease cartridge and lubrication tube set)	DSM-281990

Sealing air connection

Type	Article number
Sealing air connection (avoids the ingress of dirt particles into the press-in unit)	QMP-3000100

Frames for SMP 400 (acc. to customers specification)

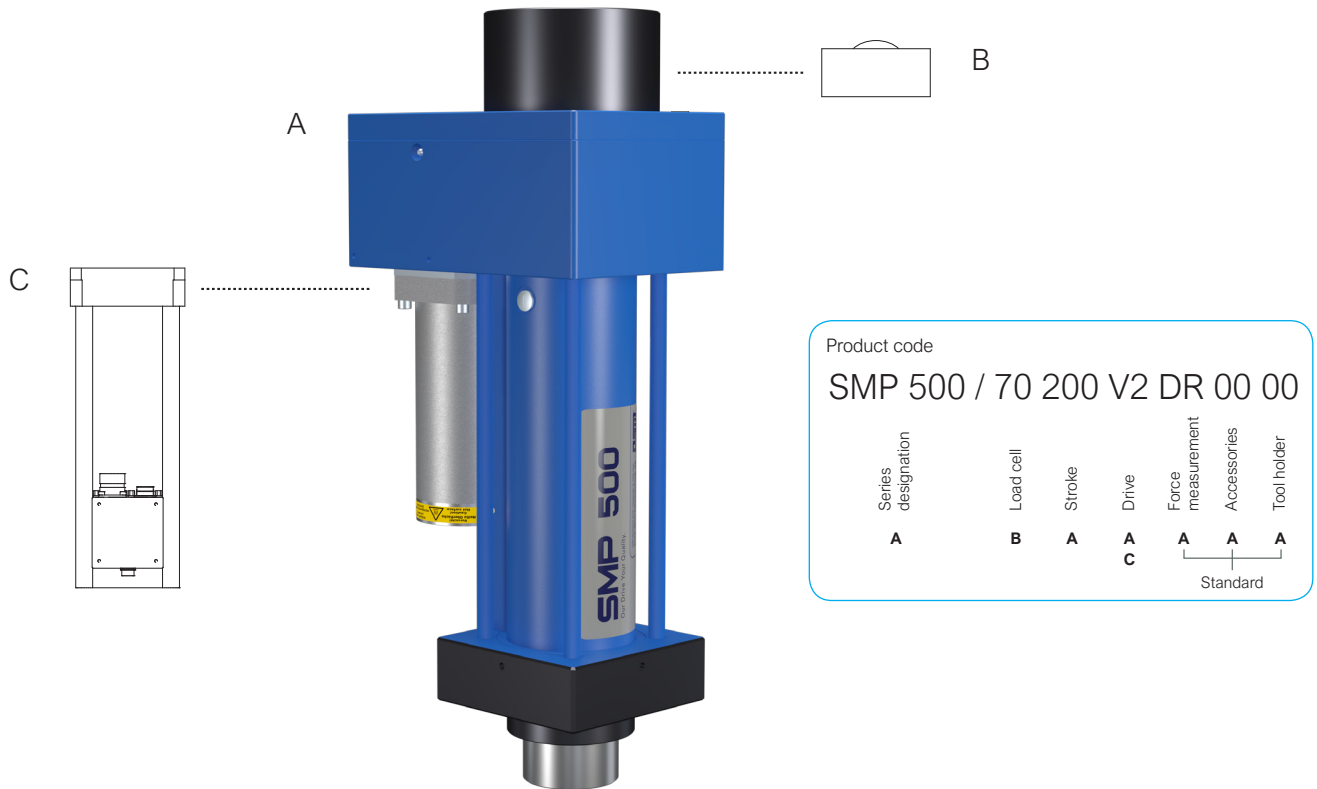
Type	Article number
Portal frame for SMP 400	SMP-4008000
C-frame for SMP 400	SMP-4008500

Cable set

Motor cable and C-HS cable for interconnection between press-in unit SMP 400 and control system MultiPro 3G

See page 73

SMP 500 series



A SMP 500 Press-in unit

Type	Stroke	Max. speed	Article number
SMP 500 / XX 100 V2 DR 00 00	100 mm	150 mm/s	SMP-503001
SMP 500 / XX 200 V2 DR 00 00	200 mm	150 mm/s	SMP-503002
SMP 500 / XX 400 V2 DR 00 00	400 mm	150 mm/s	SMP-503004

Resolution stroke measurement system 0,003 mm, stroke repeat accuracy under force 0,01 mm by about 20 mm/s
 V2: Motor offset DR: Force measurement in direction press, Tool holder with mounting drill holes

B Execution load cell

Type	Max. force	Application area	Article number
Load cell 20 kN for SMP 500	20 kN	4 - 20 kN	SMP-500020
Load cell 30 kN for SMP 500	30 kN	6 - 30 kN	SMP-500030
Load cell 50 kN for SMP 500	50 kN	10 - 50 kN	SMP-500050
Load cell 70 kN for SMP 500	70 kN	14 - 70 kN	SMP-500070

Force accuracy 1 % of the final value

C Motor holding brake

Type	Article number
Motor holding brake MHB	SMP-5003112

Accessories

Ventilator unit (for cooling the motor)

Type	Article number
Ventilator unit for SMP 500	DSM-305905

Service package – Lubrication set

Type	Article number
Lubrication set (grease gun, armoured hose, grease cartridge and lubrication tube set)	DSM-281990

Sealing air connection

Type	Article number
Sealing air connection (avoids the ingress of dirt particles into the press-in unit)	QMP-3000100

Frames for SMP 500 (acc. to customers specification)

Type	Article number
Portal frame for SMP 500	SMP-5008000
C-frame for SMP 500	SMP-5008500

Cable set

Motor cable and C-HS cable for interconnection between press-in unit SMP 500 and control system MultiPro 3G

See page 73

The XMP, which is designed from standardised components, is based on a modular principle and provides a flexible solution for your assembly process for simple as well as for complex tasks.

XMP, the electromechanical press-in unit with the „X“ – the crossover of experience and innovation combines the best of the QMP and SMP series with future-oriented press-in technology.

A press-in unit with huge modularity:

Execution load cell, press force, press and pull force, redundant or diversely redundant force measurement, gear variants ...

High-precision force transducers and an absolute displacement measuring system – in combination with the MultiPro 3G – ensure assembly accuracy and complete documentation of the production data. Thanks to the variability of our press-in processes, the DSM press-in units provide you with a high-performance system for use in quality-critical assembly.

0,1 kN
up to
500 kN
Force



Press-in units XMP series

<p>Available from 09 / 2021</p>	<p>New</p> 	<p>Available from 07 / 2021</p>	<p>Available from 01 / 2022</p>
<p>XMP 60 0,5 / 1 / 2 kN</p>	<p>XMP 90 5 / 12,5 / 25 kN 200 / 400 mm stroke 800 / 400 / 200 mm/s</p>	<p>XMP 120 50 / 75 kN</p>	<p>XMP 300 250 / 500 kN</p>

The correct press-in unit for press-in, joining and forming operations

Sealing air connection for preventing the ingress of dirt particles into the press-in unit and ventilator unit for cooling the motor are also available.

Gear modules for a process optimized movement speed.

Offers many possibilities like e.g. mounting of a customer's motor and configuration with motor holding brake, holding brake or backstop.

Absolute stroke / length measuring system makes a reference movement unnecessary.

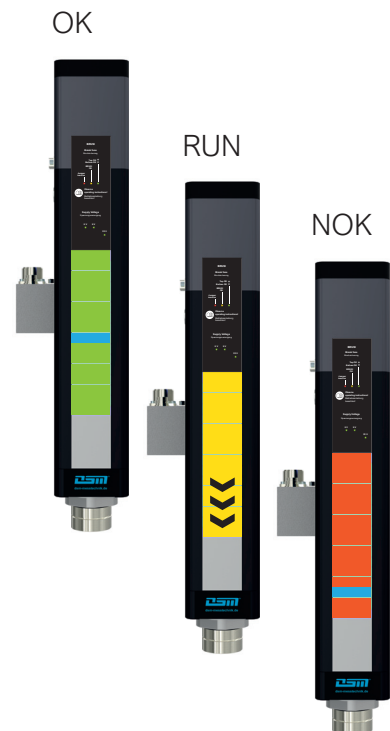
Different installation options and variants of the load cell. The load cell is also available as redundant or diversely redundant version.



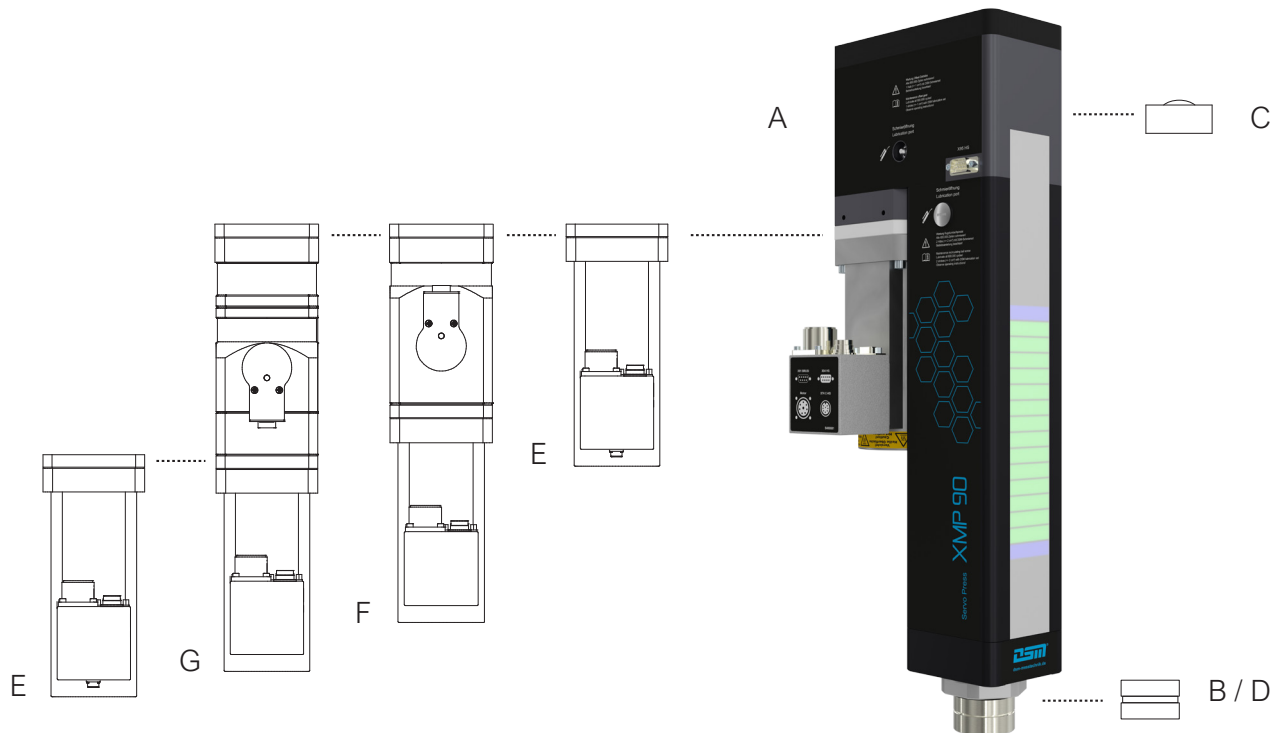
Fast system integration and error-free setup. The decentralised intelligence of the XMP transmits the characteristic data via Plug-and-Play.

For a visual support during the assembly the large illuminated field shows the process status, the direction of movement and the position of the plunger.

200 mm or 400 mm stroke distance



XMP 90 series



Product code

XMP 90 / 25 200 4Z DR 00 KU 00 00

Series designation	Load cell	Stroke	Gear module	Measuring direction	Accessories	Force measuring	Accessories (to combine)	Plunger
A	B C D	A	A	B C D	E F G	B C D	E F G	A

A XMP 90 Press-in unit

Type	Stroke	Max. speed	Article number
XMP 90 / XX 200 4Z XX 00 XX 00 00	200 mm	200 mm/s (max. 25 kN)	XMP-0903002
XMP 90 / XX 400 4Z XX 00 XX 00 00	400 mm	200 mm/s (max. 25 kN)	XMP-0903004
XMP 90 / XX 200 2Z XX 00 XX 00 00	200 mm	400 mm/s (max. 12,5 kN)	XMP-0903102
XMP 90 / XX 400 2Z XX 00 XX 00 00	400 mm	400 mm/s (max. 12,5 kN)	XMP-0903104
XMP 90 / XX 200 1Z XX 00 XX 00 00	200 mm	800 mm/s (max. 5 kN)	XMP-0903202
XMP 90 / XX 400 1Z XX 00 XX 00 00	400 mm	800 mm/s (max. 5 kN)	XMP-0903204

Resolution stroke measurement system 0,003 mm, stroke repeat accuracy under force 0,01 mm by about 20 mm/s

B Load cell, execution DR – for installation option KU and OU

Type	Max. force	Application area	Article number
Load cell 5 kN for XMP 90 KU / OU	5 kN	1 - 5 kN	XMP-0900005
Load cell 12,5 kN for XMP 90 KU / OU	12,5 kN	2,5 - 12,5 kN	XMP-0900012
Load cell 25 kN for XMP 90 KU / OU	25 kN	5 - 25 kN	XMP-0900025

DR: Force measurement in direction press; Force accuracy 0,5 % of the final value

This load cell execution is installed in the plunger (bottom) for both installation variants (KU: Force bottom OU: Force top / bottom)

C Load cell, execution DR – for installation option KO and OU

Type	Max. force	Application area	Article number
Load cell 5 kN for XMP 90 KO / OU	5 kN	1 - 5 kN	XMP-090xxxx
Load cell 12,5 kN for XMP 90 KO / OU	12,5 kN	2,5 - 12,5 kN	XMP-090xxxx
Load cell 25 kN for XMP 90 KO / OU	25 kN	5 - 25 kN	XMP-090xxxx

DR: Force measurement in direction press; Force accuracy 1 % of the final value
 This load cell execution is installed at the counter bearing (top) for both installation variants (KO: Force top OU: Force top / bottom)

D Load cell, execution DR – for installation option RU

Type	Max. force	Application area	Article number
Load cell redundant 5 kN for XMP 90 RU	5 kN	1 - 5 kN	XMP-090xxxx
Load cell redundant 12,5 kN for XMP 90 RU	12,5 kN	2,5 - 12,5 kN	XMP-090xxxx
Load cell redundant 25 kN for XMP 90 RU	25 kN	5 - 25 kN	XMP-090xxxx

DR: Force measurement in direction press; Force accuracy 0,5 % of the final value
 This load cell execution has a redundant design and is installed in the plunger (RU: Force bottom redundant)

Execution force measurement DZ – for installation option KU

Load cell calibration for execution DZ (press and pull)	XMP-0901000
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E Motor holding brake

Type	Article number
Motor holding brake MB	QMP-0803112

F Holding brake

Type	Article number
Holding brake HB	QMP-0803110

G Backstop

Type	Article number
Backstop RS	QMP-0803117

Accessories

Ventilator unit (for cooling the motor)

Type	Article number
Ventilator unit for XMP 90	DSM-305906

Sealing air connection

Type	Article number
Sealing air connection (avoids the ingresson of dirt particles into the press-in unit)	QMP-3000100

Service package – Lubrication set

Type	Article number
Lubrication set (grease gun, armoured hose, grease cartridge and lubrication tube set)	DSM-281990

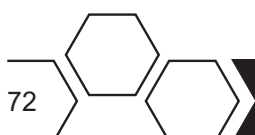
Frames for XMP 90 (acc. to customers specification)

Type	Article number
Portal frame for XMP 90	XMP-0908000
C-frame for XMP 90	XMP-0908500

Cable set

Motor cable and C-HS cable for interconnection between press-in unit XMP 90 and control system MultiPro 3G

See page 73



Cables

SMP 300 Cable

Cable for interconnection between press-in unit and control system MultiPro 3G (basic module)

Type	Cable length	Article number
Interconnecting cable DS 34 / DSH 38 / DS 44 / SMP 300 DSP05	5 m	MK-2409005
Interconnecting cable DS 34 / DSH 38 / DS 44 / SMP 300 DSP10	10 m	MK-2409010
Interconnecting cable DS 34 / DSH 38 / DS 44 / SMP 300 DSP15	15 m	MK-2409015
Interconnecting cable DS 34 / DSH 38 / DS 44 / SMP 300 DSP05 – angled 90° right	5 m	MK-2409105
Interconnecting cable DS 34 / DSH 38 / DS 44 / SMP 300 DSP10 – angled 90° right	10 m	MK-2409110
Interconnecting cable DS 34 / DSH 38 / DS 44 / SMP 300 DSP15 – angled 90° right	15 m	MK-2409115
Interconnecting cable DS 34 / DSH 38 / DS 44 / SMP 300 DSP05 – angled 90° left	5 m	MK-2409205
Interconnecting cable DS 34 / DSH 38 / DS 44 / SMP 300 DSP10 – angled 90° left	10 m	MK-2409210
Interconnecting cable DS 34 / DSH 38 / DS 44 / SMP 300 DSP15 – angled 90° left	15 m	MK-2409215

QMP 80 / QMP 100 MZ / SMP 400 / XMP 90 Cable set

Motor cable and C-HS cable for interconnection between press-in unit and control system MultiPro 3G (basic module)

Type	Cable length	Article number
Cable set DS 57 / QMP 80 / QMP 100 MZ / SMP 400 / XMP 90 DSP05	5 m	MK-0809005
Cable set DS 57 / QMP 80 / QMP 100 MZ / SMP 400 / XMP 90 DSP10	10 m	MK-0809010
Cable set DS 57 / QMP 80 / QMP 100 MZ / SMP 400 / XMP 90 DSP15	15 m	MK-0809015
Cable set DS 57 / QMP 80 / QMP 100 MZ / SMP 400 / XMP 90 DSP05 - with shielding	5 m	MK-0809105
Cable set DS 57 / QMP 80 / QMP 100 MZ / SMP 400 / XMP 90 DSP10 - with shielding	10 m	MK-0809110
Cable set DS 57 / QMP 80 / QMP 100 MZ / SMP 400 / XMP 90 DSP15 - with shielding	15 m	MK-0809115

QMP 100 / QMP 140 / SMP 500 Cable set

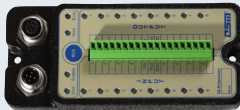
Motor cable and C-HS cable for interconnection between press-in unit and control system MultiPro 3G (basic module)

Type	Cable length	Article number
Cable set DS 80 / QMP 100 / QMP 140 / SMP 500 DSP05	5 m	MK-1009005
Cable set DS 80 / QMP 100 / QMP 140 / SMP 500 DSP10	10 m	MK-1009010
Cable set DS 80 / QMP 100 / QMP 140 / SMP 500 DSP15	15 m	MK-1009015
Cable set DS 80 / QMP 100 / QMP 140 / SMP 500 DSP05 - with shielding	5 m	MK-1009105
Cable set DS 80 / QMP 100 / QMP 140 / SMP 500 DSP10 - with shielding	10 m	MK-1009110
Cable set DS 80 / QMP 100 / QMP 140 / SMP 500 DSP15 - with shielding	15 m	MK-1009115

With the accessories for the MultiPro 3G you expand the functionality of your tightening / press-in system.

Inputs and Outputs

I/O Extension



I/O Expander



[On page 76 >](#)

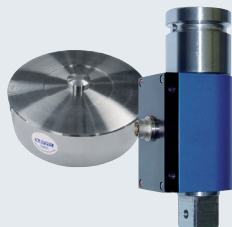
ToolControl

Processor
monitored tool removal



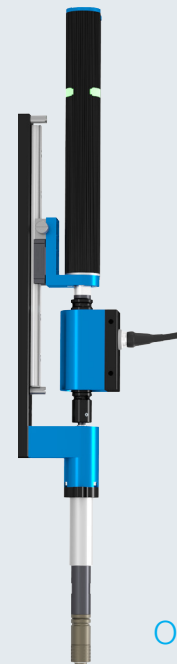
[On page 77 >](#)

**Reference measuring system
QS Box**



[On page 78 >](#)

**Linear modules for tool-free
assembly of measuring equipment**



[On page 80 >](#)

I/O Extension

The IO Extension is used to expand the standard inputs and outputs of the MultiPro 3G.

The device is selected via the DSM system bus interface with 24 V.

The inputs and outputs can be used for any

control tasks in the sequence programming of the control system. Special commands are available for the setting and resetting of outputs as well as for querying inputs. Up to 16 extension modules can be managed at a control unit.



8/8S



8/8C

I/O Extension 4/4S

MS-1003044

4 inputs, 4 outputs – I/O connection via terminal block
Connection to the MultiPro 3G via DSM system bus

I/O Extension 4/4C

MS-1003144

4 inputs, 4 outputs – I/O connection via M8 circular plug-in connector
Connection to the MultiPro 3G via DSM system bus

I/O Extension 8/8S

MS-1003088

8 inputs, 8 outputs – I/O connection via terminal block
Connection to the MultiPro 3G via DSM system bus

I/O Extension 8/8C

MS-1003188

8 inputs, 8 outputs – I/O connection via M8 circular plug-in connector
Connection to the MultiPro 3G via DSM system bus

[System bus accessories on page 82 >](#)

I/O Expander

The distributor box „I/O Expander“ is used for fast, flexible and reliable signal connection with the MultiPro 3G. The I/O Expander is connected to the interface (X17) with its permanently fixed connection cable.

This makes it possible – instead of costly individual wiring – to connect external components and DSM options comfortably to the distributor box with sensor actuator cables and so to connect them to the MultiPro 3G.



4/4 single

I/O Expander 4/4

MS-1002204

I/O Expander for comfortable connection via I/O cables
4 ports, single incl. cable (2,5 m) – for the options RS, HB, MB

I/O Expander 8/8

MS-1002208

I/O Expander for comfortable connection via I/O cables
8 ports, dual incl. cable (2,5 m) – 8 inputs, 8 outputs

ToolControl

The intelligent socket box 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 MultiPro 3G 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.

- Processor monitored tool removal
- Status reports via LCD plain text display
- Status indication for each tool
- Cast aluminium housing with mounting brackets
- Customised tool inserts
- Cascatable up to 32 tools



TC



TC-E

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 on page 82 >](#)

QS Box

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-in 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.

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. 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 PC, in the offline mode, the QS Box records the measurands. The data are written onto CF card and analysed later on at the PC.



Measuring equipment for monitoring and calibration
 Measurements possible in online and offline mode
 Measurement value recording and graphic monitoring
 Data storage directly on CF card or PC
 Test equipment monitoring with integrated measuring system

Plug-in modules

Digital

The QS Box unfolds its complete potential with DSM-Digital:
 Insensible signal transfer
 Direct status report at the measuring sensor
 Automatic recording of the sensor data's
 Automatic adjustment of the measuring parameters

Further modules:

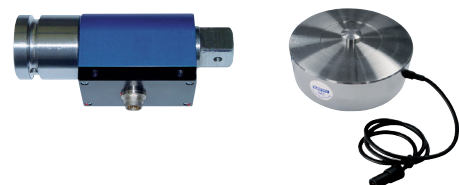
± 1 mV/V	± 5 V
± 2 mV/V	± 10 V
4-20 mA	± 15 V

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: force load cell, length sensors, torque transducers and temperature sensors



Exchangeable
plug-in modules
for analogue and
digital measuring
signals



SCI module



The converter is fix connected to the transducer, as the data of the connected transducer are stored in the parameter module of the SCI.

QS Box	DSM-161000
QS measurement box, basic device with slot for measuring module	
QS Box AC adapter (1,5 m)	DSM-600640
QS Box AC adapter (plug-in power supply) 230 VAC / 50 Hz 24 DC / 1 A	
DSM digital	DSM-161110
QS plug-in module DSM digital	
±1 mV/V	DSM-161111
QS plug-in module ±1 mV/V	
±2 mV/V	DSM-161112
QS plug-in module ±2 mV/V	
4-20 mA	DSM-161113
QS plug-in module 4-20 mA	
±5 V	DSM-161114
QS plug-in module ±5 V	
±10 V	DSM-161115
QS plug-in module ±10 V	
QS Center software	DSM-161901
QS Box analysis software Pro	
USB cable (1,8 m)	MK-1001702
USB cable, hi-speed, type A plug / type B plug	
SCI module (Signal converter intelligent)	DSM-161200
QS SCI module	
SCI connection cable (5 m)	DSM-910050
SCI connection cable	
Digital torque transducer / Digital load cell	
Upon your request	

[System bus accessories on page 82 >](#)

Linear module

DSM linear modules for tool-free assembly of measuring equipment¹ on a nutrunner without long process interruptions.

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.

¹ rotating torque transducer

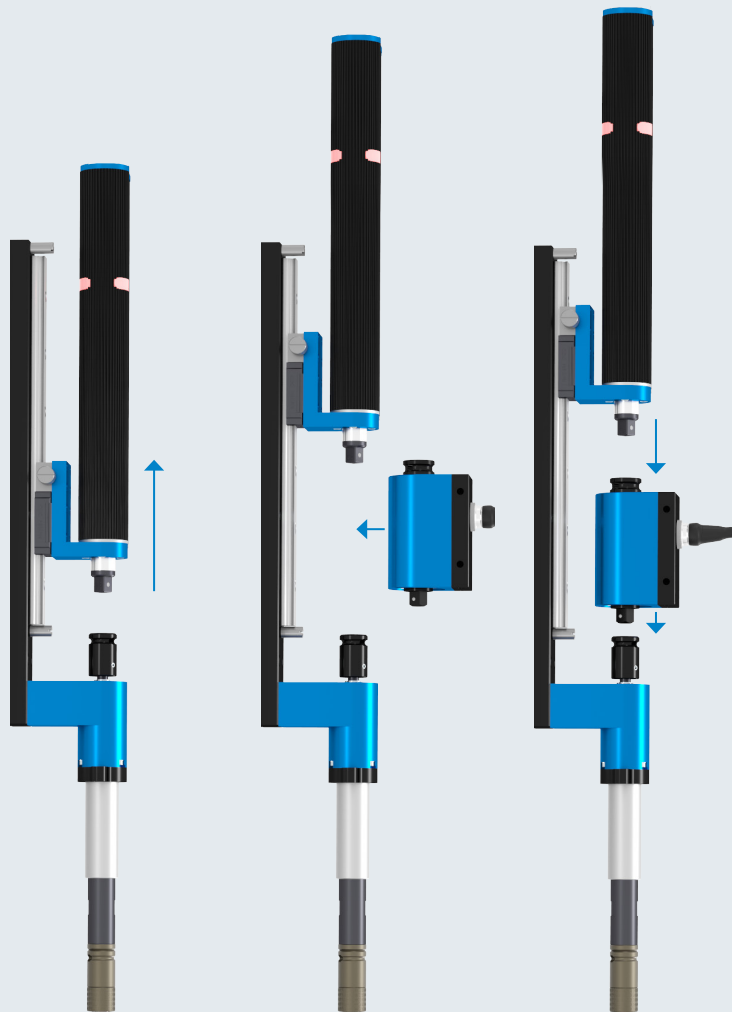
Normal operation

Standard use of the nutrunner in the assembly process.



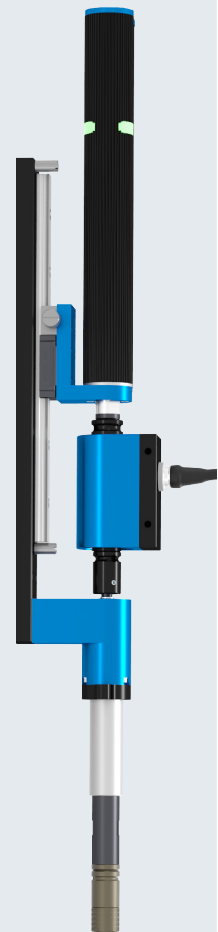
Tool-free assembly of the torque transducer

Move the nutrunner manually with the linear slide and fix it at a snap-in point for the integration of the measuring sensor. Assemble the torque transducer without tools.



Measuring mode

Measure during production and record the data with the QS Box.



Linear unit LM 26 1/4" hexagon

Type	Article number
LM26 for nutrunners of the DS 26 series up to 4 Nm, suitable for transducers with hexagon socket DIN 3126 D6,3 1/4" input / output features	DS-2263910

Linear unit LM 34 1/4" hexagon

Type	Article number
LM34 for nutrunners of the DS 34 series up to 15 Nm, suitable for transducers with hexagon socket DIN 3126 D6,3 1/4" input / output features + Adapter 3/8" square drive onto 1/4" bit + Adapter 1/4" bit onto 3/8" square drive	DS-2343920

Linear unit LM 34 3/8" square

Type	Article number
LM34 for nutrunners of the DS 34 series up to 15 Nm, suitable for transducers with DIN 3121 F10 3/8" input / output features	DS-2343910

Linear unit LM 44 1/4" hexagon

Type	Article number
LM44 for nutrunners of the DS 44 series up to 35 Nm, suitable for transducers with hexagon socket DIN 3126 D6,3 1/4" input / output features + Adapter 3/8" square drive onto 1/4" bit + Adapter 1/4" bit onto 3/8" square drive	DS-2443920

Linear unit LM 44 3/8" square

Type	Article number
LM44 for nutrunners of the DS 44 series up to 35 Nm, suitable for transducers with DIN 3121 F10 3/8" input / output features	DS-2443910

Linear unit LM 26 1/4" square

Type	Article number
LM26 for nutrunners of the DS 26 series up to 4 Nm, suitable for transducers with 1/4" square input / output features + adapter inner square onto hexagon socket	DS-2263915

Linear unit LM 34 1/4" square

Type	Article number
LM34 for nutrunners of the DS 34 series up to 15 Nm, suitable for transducers with DIN 3112 F10 1/4" square input / output features + Adapter 3/8" onto 1/4" + Adapter 1/4" onto 3/8"	DS-2343915

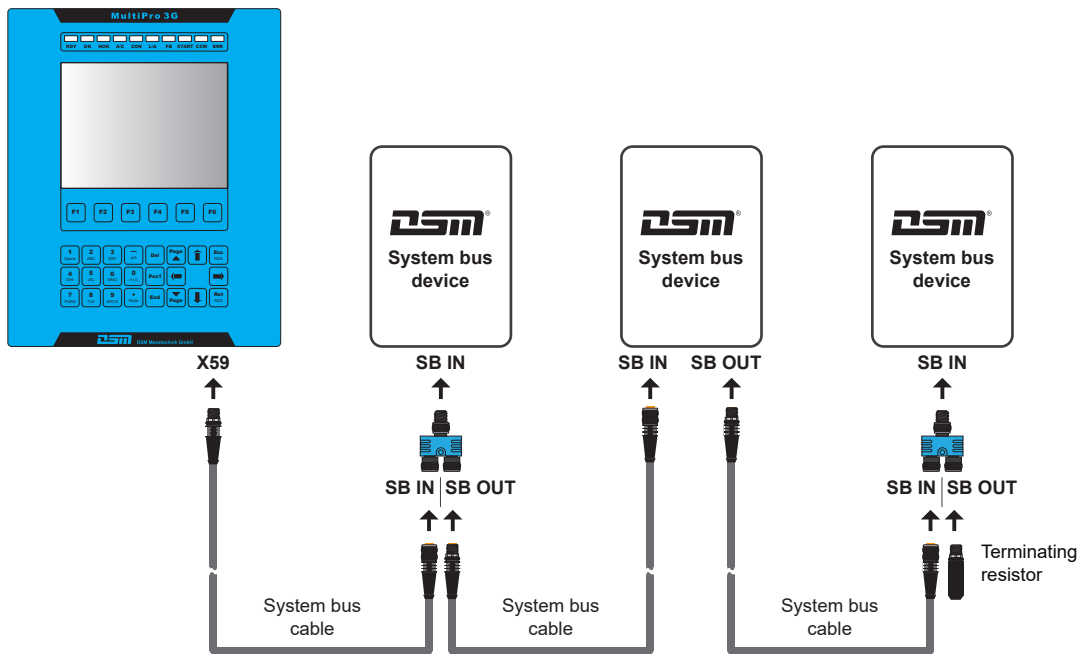
Linear unit LM 44 1/4" square

Type	Article number
LM44 for nutrunners of the DS 44 series up to 35 Nm, suitable for transducers with DIN 3112 F10 1/4" square input / output features + Adapter 3/8" onto 1/4" + Adapter 1/4" onto 3/8"	DS-2443915

System bus

The DSM system bus is designed as a linear bus system and is used for communication between control system and system bus devices. System bus devices with only one connector always require a T-piece or Y-piece for the connection to the system bus. The end of the system bus must be equipped with a terminating resistor.

Networking of MultiPro 3G control systems also is done via the system bus. It allows linking up to 15 devices. In addition, a QS box connected to an external sensor can be connected to the MultiPro 3G via the system bus.



System bus accessories

Type	Usage	Article number
System bus terminating resistor	Bus termination at the system bus end (last unit in the system bus)	MS-1003030
T-piece	System bus connection	DSM-200722
Y-piece	System bus connection	DSM-200724
System bus cable 1 m	Interconnection between the bus devices	MS-1003001
System bus cable 2 m	Interconnection between the bus devices	MS-1003002
System bus cable 5 m	Interconnection between the bus devices	MS-1003005

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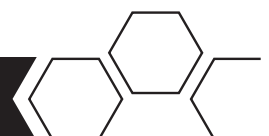
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