DOGA®

WIRELESS ADVANCED CURRENT CONTROL TOOLS

BM serie

PRODUCTIVE SOLUTIONS

As an industrial process expert, we help you meet your challenges.

Productivity, safety, quality, industry 4.0 are themes on which we can offer you our expertise and our solutions. Whether in the field of assembly technology, machining or welding, our dedicated and specialized teams accompany your progress and recommend solutions and equipment to reach performance levels in line with your industrial strategy.

Certified quality
From design to commissioning, DOGA guarantees the quality of this equipment and services according to ISO 9001: 2015 certification.

5 Reasons to trust us

Expertise
Our Field experts propose solutions adapted to your environment and specific needs..

Innovation
By developing the products and the services of tomorrow, we offer you new perspectives or prospects.

Performance
Our high added value solutions improve your performance and guarantee the final quality of the production.

Commitment
Aware of your objectives, we commit ourselves to helping you to reach them.

Reliability
Our organization, which has been ISO 9001 certified since 1996, is the guarantee of your satisfaction.

DOGA® | ASSEMBLY TECHNOLOGY

As a world class assembly technology player, we manufacture and market equipment and solutions for the assembly industry which contribute to the improvement of your manufacturing quality and productivity.

Our assembly, ergonomics and traceability solutions contribute to enhancing your productivity, controlling your process quality and meeting the requirements of industry 4.0.

We offer products designed to last and high value-added services by relying on our team's know-how and expertise: design, production, installation, start-up, training and maintenance. We support you locally thanks to our worldwide presence through our subsidiaries and our specialized distribution network.

Contact us   @ international@doga.fr   ☏ +33 1 30 66 41 41

www.dogassembly.com

SUMMARY

WIRELESS ADVANCED CURRENT CONTROL TOOLS
BM serie

A RANGE OF POWERFUL AND CONNECTED WIRELESS SCREWDRIVERS

BM serie battery-powered torque and angle screwdrivers are designed to meet your requirements for productivity, quality and traceability, while giving you great mobility.

Thanks to state-of-the-art on-board technologies, they can be directly connected to your network and 100% communicating. With no intermediate controller, they are resolutely geared to your Industry 4.0 projects.

These screwdrivers combine ergonomics, autonomy, multi-torque, multi-strategy and connectivity.

Their great versatility will meet your most demanding needs as well as classic screwing applications.

These «plug and play» screwdrivers are ready to produce in 1 minute!

Available in pistol version, with angle gear, barcode scanner and torque range from 0.1 to 49.1 Nm, are all equipped with color display and navigation buttons.

Ergonomy

- 2 models available: pistol and angle gear
- Wireless for greater mobility
- Lightweight, well-balanced tool
- 4 multi-function buttons: navigation, selection and interaction,...
- On-board AMOLED color display for fast visualization of results
- Easy setup and programming

Quality

- PREMIUM current control for optimum precision
- 15 screwdriving programs + 2 multi-sequences
- Advanced features (self-tapping, screwing at an angle,...)
- Precise speed control
- Torque-optimized free speed
- Optional integrated barcode reader (cycle selection and traceability)
- Traceability

Industry 4.0

- Integrated Web server for easy remote parameterization
- Real-time monitoring of tightening data and display of tightening curves
- Wi-Fi communication
- Modbus, Profinet, Ethernet IP communication protocols,...

The range

**Wireless pistol screwdrivers
with current control**
BM serie

Ideal for horizontal screwing, our Li-ion wireless pistol-operated screwdrivers combine autonomy, multi-strategy, connectivity and optimal one-handed dexterity.

With their on-board color digital display, you can easily program and view results directly on the tool.

**Wireless angle head screwdrivers
with current control**
BMH serie

Wireless angle head screwdrivers with 360° angle drive can be used independently in hard-to-reach areas.

Their excellent ergonomy and two-handed operation enable them to be used over extender torque ranges.

Thanks to their on-board digital display, programming and results can be viewed directly on the tool.

Model designation

B M H 3 2 1 6 / S

- Tool serie
- Housing shape
  BM : pistol grip
  BMH : angle head
- BM serie
- Gear ratio (1/16)
  1, 2, 4, 6, 8, 11, 16, 24, 36, 45, 64
- Option barcode scanner

Ergonomy

Trigger

Forward / Reverse

USB

Pistol type

Forward / Reverse

Trigger

USB

Angle type
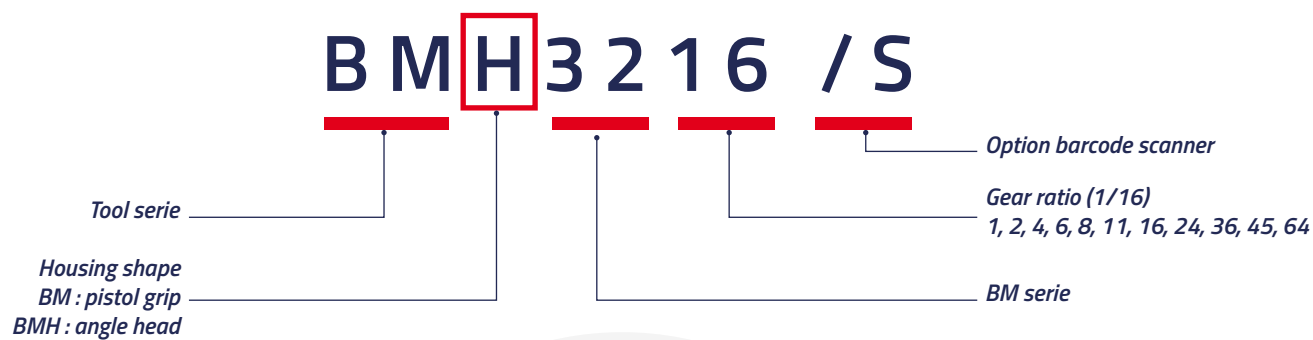
Option 1D and 2D barcode scanner

50 - 470 rpm

s/n 2104190012   04 / 2021

Dimensions

BM & BMH : unit in mm

Specifications

Electric power	DC25.2V, lithium-ion battery
Motor	Swiss DC servo motor
Wi-Fi	IEEE 802.11a/b/g/n 2.4 GHz & 5 GHz dual band
Speed	Auto speed by torque setting
Data memory	65 000 data
USB	Micro USB port
Display	1.29'' AMOLED color display
Number of presets	15 presets programing by USB or Wi-Fi 2 multi-sequences programs

Features

▶ Connected screwdrivers, Wi-Fi wireless communication, no need for box or additional accessories.

▶ « Plug & Play » stand-alone screwdrivers, ready to use in 1 minute.

▶ PREMIUM current-control guarantees precision over the entire torque range of screwdrivers.

▶ Precise closed-loop speed control with integrated digital angle sensor.

▶ Auto-speed setting by torque.

▶ Digital torque and angle program in 15 presets and 2 multi step sequence programs.

▶ Programming directly on the machine, via ParaMon software or web server (PC, tablet or smartphone).

▶ Quality monitoring of your product assembly with tightening strategies, batch counting, assembly visualization and logical input / output management (Job Manager function with ParaMon-Pro X controller).

▶ Detailed display of events.

▶ Real-time torque data and curve displayed via ParaMon software or web server.

▶ Real-time fastening data output by USB and Wi-Fi.

▶ Modbus TCP protocol.

▶ Protocol Profinet, TCP / Ethernet IP... (available as option).

▶ Integrated 1D and 2D barcode scanner (optional) for automatic program selection and traceability of screwdriving results.

Built-in digital display

Pistol type

Angle type

Interconnections

USB connection

PC software
ParaMon
or web browser

▶ Initial network and parameter settings, data monitoring.
▶ Data download from the internal memory (max 65 000).
▶ Easy screwdriver firmware update.

Wi-Fi connection to a PC, smartphone, tablet, automate or MES via an access point

Wi-Fi   Wi-Fi

Lan

Tool   **Access point**   **PC, tablet, smartphone, automate, MES, PLC (network client)**
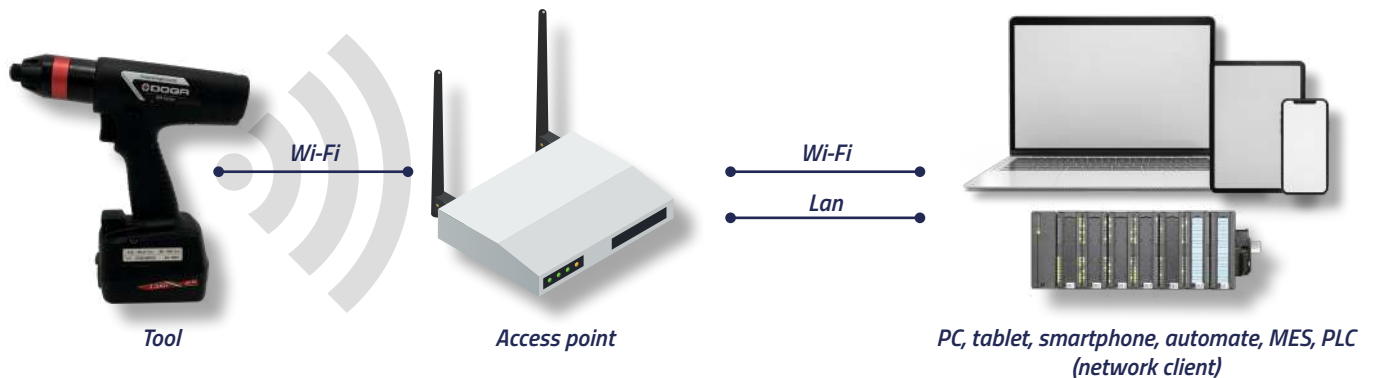
▶ Parameter settings, data monitoring on PC.
▶ Free communication protocol (Modbus TCP) for client application communication (PLC, PC,...).
▶ Profinet, TCP / Ethernet IP protocol... (available as option).

Wi-fi connection to ParaMon-Pro X controller (optional)

Wi-Fi   I/O   Customer PLC

Ethernet   Customer MES

▶ Connect up to 8 BM tools.
▶ Job Manager : product assembly quality control with tightening strategies, batch counting, assembly visualization, I/O logic management and operator assistance.
▶ Simple and user friendly sequence programming interface.
▶ 4 USB 2.0 ports - 1D and 2D barcode scanner (optional) - HDMI port for display extension.

Pistol wireless DC Tools BM serie - Standard models

Designation	Torque (min. Nm)	Torque (max. Nm)	Speed (tr / min.)	Weight* (kg)	Lenght L (mm)	Drive	Code
BM3201-A	0,1	1,2	100 ~ 2 000	0,9	192	Hex 1/4''	**P113269**
BM3203-A	0,2	2,7	150 ~ 1 800	0,9	192	Hex 1/4''	**P207947**
BM3204-A	0,4	4,4	100 ~ 1 800	1	205	Hex 1/4''	**P105789**
BM3206-A	0,6	6,4	100 ~ 1 250	1,1	212	Hex 1/4''	**P102027**
BM3211-A	1,5	11,3	50 ~ 690	1,1	217	Hex 1/4''	**P104366**
BM3216-A	2	15,7	50 ~ 470	1,1	217	Hex 1/4''	**P103895**
BM3224-A	3,9	23,5	50 ~ 310	1,1	227	Hex 1/4''	**P137296**
BM3224-Q 3/8	3,9	23,5	50 ~ 310	1,1	227	SQ 3/8''	**P116809**

Weight without battery.
Square drive with pin socket retainer, square drive with ball available on request for quick change socket.

Pistol wireless DC Tools BM serie - Models with 1D and 2D barcode scanners

Designation	Torque (min. Nm)	Torque (max. Nm)	Speed (tr / min.)	Weight* (kg)	Lenght L (mm)	Drive	Code
BM3201-A/S	0,1	1,2	100 ~ 2 000	0,9	192	Hex 1/4''	**P137313**
BM3203-A/S	0,2	2,7	150 ~ 1 800	0,9	192	Hex 1/4''	**P207951**
BM3204-A/S	0,4	4,4	100 ~ 1 800	1	205	Hex 1/4''	**P107134**
BM3206-A/S	0,6	6,4	100 ~ 1 250	1,1	212	Hex 1/4''	**P105825**
BM3211-A/S	1,5	11,3	50 ~ 690	1,1	217	Hex 1/4''	**P109221**
BM3216-A/S	2	15,7	50 ~ 470	1,1	217	Hex 1/4''	**P113421**
BM3224-A/S	3,9	23,5	50 ~ 310	1,1	227	Hex 1/4''	**P137314**
BM3224-Q/S 3/8	3,9	23,5	50 ~ 310	1,1	227	SQ 3/8''	**P137315**

Weight without battery.
Square drive with pin socket retainer, square drive with ball available on request for quick change socket.

Angle head wireless DC tools BM serie - Standard models

Designation	Torque (min. Nm)	Torque (max. Nm)	Speed (tr / min.)	Weight* (kg)	Dimensions			Drive	Code
					L (mm)	R (mm)	h (mm)		
BMH3204-A	0,4	4,4	100 ~ 1 800	1,4	465	13,5	62	Hex 1/4"	**P113281**
BMH3204-Q 3/8	0,4	4,4	100 ~ 1 800	1,4	465	13,5	57	SQ 3/8"	**P109173**
BMH3206-A	0,8	6,4	100 ~ 1 250	1,4	465	13,5	62	Hex 1/4"	**P109169**
BMH3206-Q 3/8	0,8	6,4	100 ~ 1 250	1,4	465	13,5	57	SQ 3/8"	**P137293**
BMH3211-A	1,5	11,3	50 ~ 690	1,6	479	13,5	62	Hex 1/4"	**P137291**
BMH3211-Q 3/8	1,5	11,3	50 ~ 690	1,6	479	13,5	57	SQ 3/8"	**P116808**
BMH3216-A	2	15,7	50 ~ 470	1,6	479	13,5	62	Hex 1/4"	**P109171**
BMH3216-Q 3/8	2	15,7	50 ~ 470	1,6	479	13,5	57	SQ 3/8"	**P105795**
BMH3224-A	3,9	23,5	50 ~ 310	1,6	479	13,5	62	Hex 1/4"	**P137292**
BMH3224-Q 3/8	3,9	23,5	50 ~ 310	1,6	479	13,5	57	SQ 3/8"	**P103897**
BMH3236-Q 3/8	4,9	31,4	50 ~ 200	1,7	493	17	63	SQ 3/8"	**P113327**
BMH3245-Q 3/8	5,9	39,2	50 ~ 160	1,7	508	17	63	SQ 3/8"	**P104368**
BMH3245-Q 1/2	5,9	39,2	50 ~ 160	1,7	508	17	67	SQ 1/2"	**P137294**
BMH3264-Q 3/8	7,8	49,1	50 ~ 115	1,9	508	17	63	SQ 3/8"	**P104997**
BMH3264-Q 1/2	7,8	49,1	50 ~ 115	1,9	508	17	67	SQ 1/2"	**P137295**

Weight without battery.
Square drive with pin socket retainer, square drive with ball available on request for quick change socket.

Angle head wireless DC tools BM serie - Models with 1D and 2D barcode scanners

Designation	Torque (min. Nm)	Torque (max. Nm)	Speed (tr / min.)	Weight* (kg)	Dimensions			Drive	Code
					L (mm)	R (mm)	h (mm)		
BMH3204-A/S	0,4	4,4	100 ~ 1 800	1,4	465	13,5	62	Hex 1/4"	**P137316**
BMH3204-Q/S 3/8	0,4	4,4	100 ~ 1 800	1,4	465	13,5	57	SQ 3/8"	**P137317**
BMH3206-A/S	0,8	6,4	100 ~ 1 250	1,4	465	13,5	62	Hex 1/4"	**P137318**
BMH3206-Q/S 3/8	0,8	6,4	100 ~ 1 250	1,4	465	13,5	57	SQ 3/8"	**P137319**
BMH3211-A/S	1,5	11,3	50 ~ 690	1,6	479	13,5	62	Hex 1/4"	**P137320**
BMH3211-Q/S 3/8	1,5	11,3	50 ~ 690	1,6	479	13,5	57	SQ 3/8"	**P137321**
BMH3216-A/S	2	15,7	50 ~ 470	1,6	479	13,5	62	Hex 1/4"	**P113423**
BMH3216-Q/S 3/8	2	15,7	50 ~ 470	1,6	479	13,5	57	SQ 3/8"	**P137322**
BMH3224-A/S	3,9	23,5	50 ~ 310	1,6	479	13,5	62	Hex 1/4"	**P109223**
BMH3224-Q/S 3/8	3,9	23,5	50 ~ 310	1,6	479	13,5	57	SQ 3/8"	**P137323**
BMH3236-Q/S 3/8	4,9	31,4	50 ~ 200	1,7	493	17	63	SQ 3/8"	**P137324**
BMH3245-Q/S 3/8	5,9	39,2	50 ~ 160	1,7	508	17	63	SQ 3/8"	**P113427**
BMH3245-Q/S 1/2	5,9	39,2	50 ~ 160	1,7	508	17	67	SQ 1/2"	**P137325**
BMH3264-Q/S 3/8	7,8	49,1	50 ~ 115	1,9	508	17	63	SQ 3/8"	**P113429**
BMH3264-Q/S 1/2	7,8	49,1	50 ~ 115	1,9	508	17	67	SQ 1/2"	**P137326**

Weight without battery.
Square drive with pin socket retainer, square drive with ball available on request for quick change socket.

ACCESSORIES

Battery

+ tab
Signal
- tab

80

118

Designation	BL25201
Voltage	25.2 V
Number of cells	3.6 V x 7
Capacity	3 Ah nominal
Dimensions	118 x 80 x 56 mm
Weight	505 gr
Code	**P100254**

▶ Do not use the battery for any other tool or purpose.

Battery charger

114

210

▶ LED display information:

● *Charging*   ● *Complete*
○ *Blink « Battery overheat »*
○ *Blink « Charging not possible »*
○ *Blink « Ready »*

Designation	D25247A
Input	AC220-240 V, 50 / 60 Hz, 1.1 A
Output	DC18-25.2 V, 4.0 A
Fuse	250 VAC T3.15 A
Operating environment	0 ~ 40 / 15 ~ 80 % RH (without dew)
Full charging time	50 minutes
Safety class	Class II
Dimensions	210 x 114 x 72 mm
Weight	620 gr
Code	**P100147**

Protections

Designation	Code
BM protection silicone pistol	**P113515**
RA BMH 3204 ~ 24 protection	**P136947**
RA BMH 3236 protection	**P137297**
RA BMH 3245 ~ 64 protection	**P137298**

USB cable programmation

Designation	Code
Programmation cable 1 m USB A to Mini USB	**P137300**

Communication modules

Designation	Code
Communication module Modbus TCP to Profinet	**P113165**
Communication module Modbus TCP to Ethernet IP	**P117308**
Communication module settings	**P179414**

Others protocols on request. Wi-Fi access point not included.

Rotating suspension rings

Designation	Code
BMH 3204 ~ 24 rotating ring Ø 36.8 mm	**P113217**
BMH 3236 ~ 64 rotating ring Ø 39 mm	**P136949**
BM rotating ring Ø 41 mm	**P136950**

Fixed suspension rings

Designation	Code
BM collar Ø 41 mm	**P136928**
BM fixed suspension ring Ø 41 mm	**P103909**

Side handle

Designation	Code
BM 3204 ~ 24 side handle	**P104374**

Supports

Designation	Code
Pistol holster	**P100140**
Pistol or RA screwdriver support battery side	**P101464**

Wireless bit tray BST-8W LCD Wi-Fi

Designation	Code
Bit tray BST-8W LCD	**P112477**
Wi-Fi access point	**P111954**
Bit holder Ø 18 mm	**P112988**
Bit holder Ø 15 mm	**P137305**
Bit holder Ø 10 mm	**P112712**
Bit holder Ø 7,5 mm	**P101221**
Bit holder pre-drilled Ø 3 mm	**P104894**
Bit holder to be machined	**P100402**

▶ Bit tray 8 positions to BM and BMT series with its Wi-Fi and battery operation (same as screwdrivers).

▶ Assignment a programme to a bit; selection can be made by the screwdriver or by the tray, depending on the desired operating mode.

▶ Simple setup with a button-operated display giving access to all menus.

▶ It doesn't require a controller; communication is direct between the bit tray and the screwdriver, through a Wi-Fi access point (not compatible with ParaMon Pro X).

▶ Mechanical coding and detection of location errors by inductive sensors.

PARAMON-PRO X INTERFACE CONTROLLER (OPTIONAL)

Features


▶ Total 8 tools can be connected, BM / BMT / MD / MDT series.

▶ Management of parameters and programs for all connected screwdrivers.

▶ Data monitoring (visualization of graphs and results).

▶ Creation of screwing jobs (Job manager) : product assembly quality control with tightening strategies, batch counting, assembly visualization, I/O logic management and operator assistance.

▶ Tool remote control.

▶ Fastening data auto saving with file system.

Specifications

Input power	AC220 - 240 V, 50/60 Hz, 0.35 A
Dimensions	300 (L) x 196 (H) x 80 (P) - Wall mount bracket included
Display	10.1'' TFT LCD touch
Communication ports	Ethernet, 4 x USB, barcodes reader, I/O (TOR inputs 16, TOR outputs 16), RS232
Memory	Internal memory: 16 Gb + slot for micro SD card up to 32 Gb (micro SD card not included)
Wi-Fi	USB 2.4 & 5 GHz dual-band Wi-Fi key (external)
Display extension	HDMI
Weight	3.54 kg
Code	**P102478**

Operation mode with job versus multi-screwdrivers mode
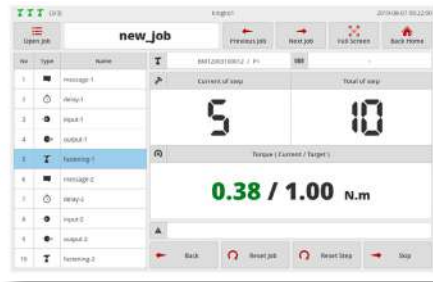
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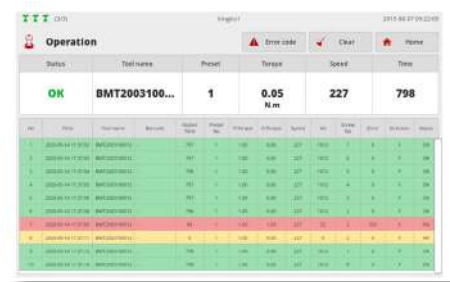
Operation mode	Job Manager (Sequencing mode with logical steps)	Multi-screwdrivers (Multi-tool tightening mode)
Features	- 5 types of steps (fastening / input / output / delay / message) are provided for sequence programming. - Interactive photo management with overlay of screwdriving points. - The combination of steps is called a job. - Up to 1 000 jobs are supported. - Fastening data is auto saved in the file system. - Job pause and resume modes. - Additional screwdriving programs available.	- Not support process control. - Display fastening data receiving from tools in real-time. - Fastening data is auto saved in the file system.
Screwdrivers	- The tool works only in the fastening step. - In the fastening step, only one tool can be assigned. - Two or more tools cannot work simultaneously. - Suitable for single operator environments.	- No restriction on the use of the tool. - All tools can work simultaneously. - Suitable for multiple operator environments
Barcodes scanner	- To load the desired job by scanning barcode. - Components traceability.	- To select the preset torque on the tools.

Sample job

1 Message

Displays information of the product to be assembled in text or image

2 Barcode reading

Waiting to read barcode 1D and 2D

3 Input

Press the « Start » button to start assembly

4 Fastening

- Select the tool to be used for fastening.
- Set the preset torque of the tool and the number of screws

5 Output

OK and NG are output to the tower lamp according to the assembly result

Assembly process visualization in a Job

Visualize the assembly procedure with just a few clicks

▶ From a picture of the work-piece.

▶ Set position of screw according to the fastening order.

▶ Up to 99 screws can be set per fastening step.

▶ Radius / width of the circle can be adjusted to fit the size of the screw.

▶ Color of the product and color of the circle overlap, you can change the color of the circle.

Below is the screen that is actually performing the job.
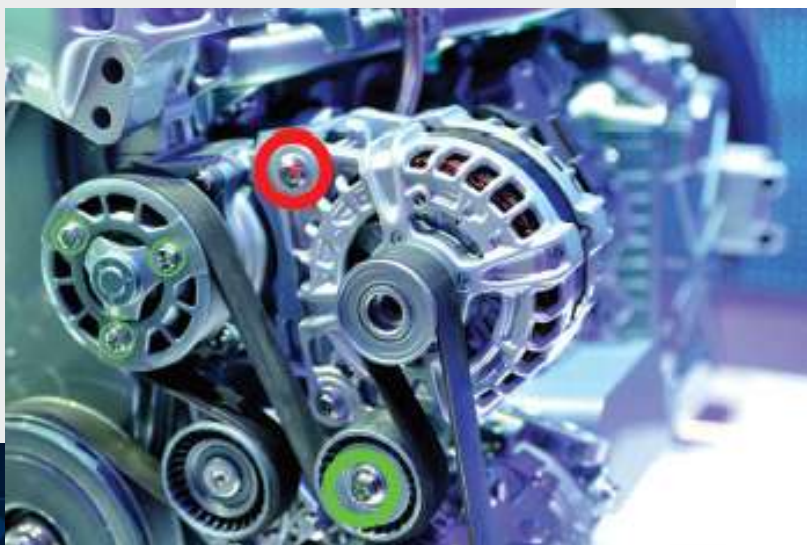
RELATED PRODUCTS

Process management and monitoring

Monitor all production steps and achieve compliance with our IHM and bit socket trays.

- Sequencing and process monitoring interface - DPC Touch
- Bit socket trays
- Socket tray

> Learn more about our solutions for process management and monitoring

Sockets, bits et accessories

We have a wide range of bits, sockets and accessories for your screws and nuts, in all shapes and materials.

- Standard and special impact sockets
- Bits, special bits, bits holders and accessories
- Accessories

> Learn more about our range of sockets, bits and accessories

OUR SERVICES

At DOGA we put at your disposal our reliable, accurate and user-friendly tightening solutions. It is our duty to advise you of the right solution for your application. Our Product Manager and Support engineering teams are here to analyze your manufacturing process and share with you our innovative solutions to improve your assembly process. Thanks to our technical integration service CELPRO, we provide you with turnkey solutions from design to commissioning.

TURNKEY SOLUTIONS

Using all the options of our complete product range, we offer you solutions adapted to your needs.

▶ **Custom Design**
▶ **Adaptation of existing models**
▶ **Integration of automation system**

TECHNICAL ASSISTANCE

To ensure the optimal performance and durability of our tools, we put our technical assistance at your disposal.

▶ **Installation and start-up**
▶ **Maintenance agreement**
▶ **On-site maintenance**
▶ **Maintenance in our workshop**

TRAINING

DOGA offers specialized training courses for our industries:

▶ **Technical & practical**
▶ **Audit & Consulting**

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