



**SEW**  
**EURODRIVE**

## Revision



Decentralized Drive Controller  
**MOVIFIT® FC**







1

Revisions MOVIFIT® FC

Revisions have been made to the "MOVIFIT® FC" operating instructions, part number 21316996/EN.

Please use the data specified in this revision. This document does not replace the detailed operating instructions.

1.1

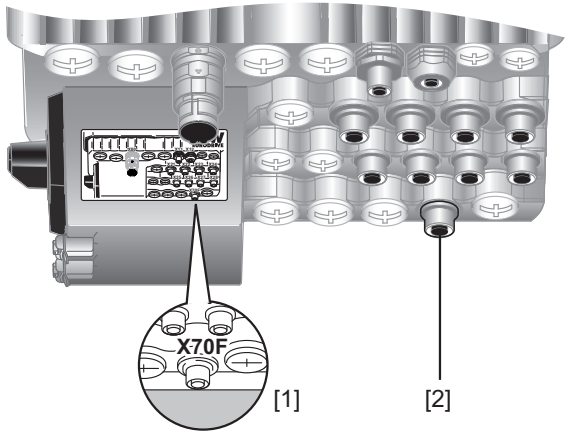
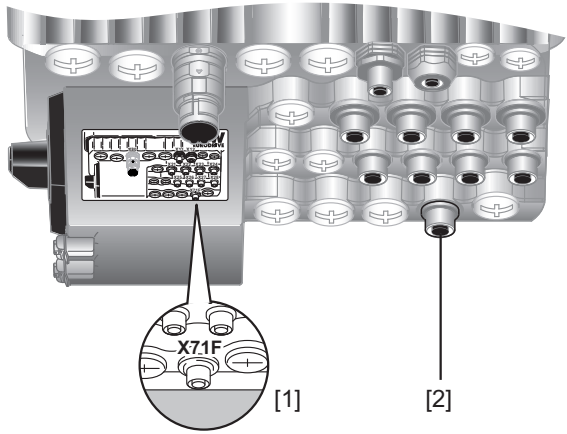
Important information on the X70F, X71F plug connector assignment

As an option, MOVIFIT® FC is available with the X71F plug connector.

MOVIFIT® FC is no longer available with X70F plug connectors.

The X71F plug connector replaces the X70F plug connector. The assignment of the X71F plug connector is different from the assignment of the X70F plug connector.

When connecting the X70F and X71F plug connectors, observe the correct assignment depending on the used ABOX.

ABOX with X70F plug connector	ABOX <sup>1)</sup> with X71F plug connector
 <div>15897010955</div>	 <div>15918932875</div>
[1] Plate with „X70F“ label	[1] Plate with „X71F“ label
[2] Position of the X70F plug connector	[2] Position of the X71F plug connector
Observe the plug connector assignment in chapter "X70F, X71F: STO (optional)" (→ 4).	Observe the plug connector assignment in chapter "X70F, X71F: STO (optional)" (→ 4).
Observe the <b>left columns</b> .	Observe the <b>right columns</b> .

1) In addition to the depicted ABOX, all other ABOXes for MOVIFIT® FC are also available with the X71F plug connector.



## 1.2 Electrical connections

### 1.2.1 X70F, X71F: STO (optional)



#### ▲ WARNING

No safety-related disconnection of the MOVIFIT® drive if the STO jumper plug is plugged in at the X70F, X71F plug connector.

Severe or fatal injuries.

- Do not use the 24 V output (+24V\_C and 0V24\_C) for safety-related applications with MOVIFIT® drives.
- You may only jumper the STO connection with 24 V when the MOVIFIT® drive is not used to fulfill any safety functions.

The STO plug connector is left to the X50 diagnostic interface.

The following table shows information about this connection:

Function				
Safety-related digital output F-DO_STO for safe torque off in the drive (STO)				
Connection type				
M12, 5-pin, female, A-coded				
Wiring diagram				
Assignment X70F (no longer available)			Assignment X71F	
No.	Name	Function	Name	Function
1	+24V_C	+24 V supply for digital inputs – continuous voltage	+24V_C	+24 V supply for digital inputs – continuous voltage
2	0V24_C	0V24 reference potential for digital inputs – continuous voltage	F-DO_STO_M	Safety-related digital output F-DO_STO (sinking signal) for safe torque off in the drive (STO)
3	F-DO_STO_M	Safety-related digital output F-DO_STO (sinking signal) for safe torque off in the drive (STO)	0V24_C	0V24 reference potential for digital inputs – continuous voltage
4	F-DO_STO_P	Safety-related digital output F-DO_STO (sourcing signal) for safe torque off in the drive (STO)	F-DO_STO_P	Safety-related digital output F-DO_STO (sourcing signal) for safe torque off in the drive (STO)
5	n.c.	Not connected	n.c.	Not connected



## STO jumper plug

**▲ WARNING**

Safety-related disconnection of the MOVIFIT® drive is not possible when the STO jumper plug is used.

Severe or fatal injuries.

- You may only use the STO jumper plug when the MOVIFIT® drive does not fulfill any safety function.

**▲ WARNING**

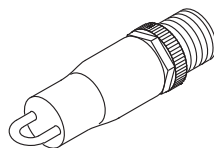
Disabling of safety-related disconnection of other drive units due to parasitic voltages when using an STO jumper.

Severe or fatal injuries.

- You may only use the STO jumper when all incoming and outgoing STO connections have been removed from the drive unit.

The STO jumper plug can be connected to the X70F/X71F STO plug connector of the MOVIFIT® device. The STO jumper plug deactivates the safety functions of the MOVIFIT® device.

The following figure shows the STO jumper plug, part number 11747099:

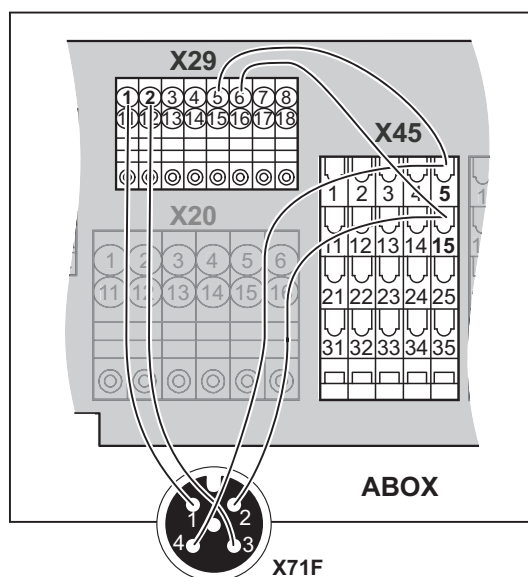


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## Internal wiring X71F

The following figure shows the wiring between the X71F plug connector and the terminals in the ABOX:



15982339595

## INFORMATION



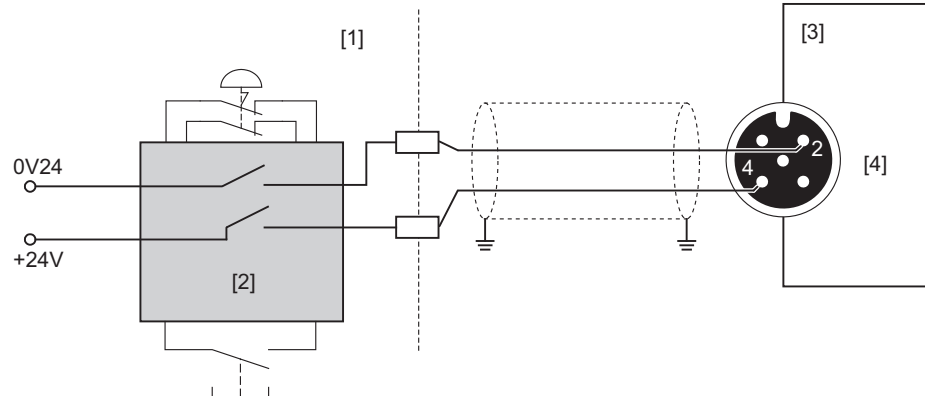
If the MOVIFIT® unit was ordered without S11 or S12 safety option, the terminals X45/5 and X45/15 do not have any function.



### 1.3 Connection variants

#### 1.3.1 Connection of an external safety relay for STO

The following figure shows a connection example with a safety relay and 2-pole disconnection:



16100883211

- [1] Installation space
- [2] Safety relay
- [3] MOVIFIT® ABOX
- [4] X71F: Input for safe disconnection



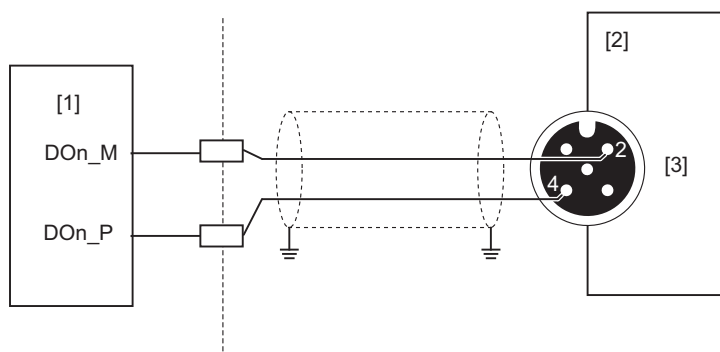
### INFORMATION

When wiring the safety-related voltage supply, possible faults according to EN ISO 13849-2:2013 in plug connectors and cables/lines have to be considered and the installation has to be designed according to the required safety class. The drive controller does not detect short circuits in the supply line. SEW-EURODRIVE thus recommends to connect only the safety-related voltage supply to X71F using a 2-core cable as shown in the figure.



### 1.3.2 Connection of an external safety controller for STO

The following figure shows a connection example with a safety controller and 2-pole disconnection for STO:



16100886539

- [1] F PLC safety controller  
DOn\_M: Ground output  
DOn\_P: Plus output
- [2] MOVIFIT® ABOX
- [3] X71F: Input for safe disconnection

## INFORMATION



When wiring the safety-related voltage supply, possible faults according to EN ISO 13849-2:2013 in plug connectors and cables/lines have to be considered and the installation has to be designed according to the required safety class. The drive controller does not detect short circuits in the supply line. SEW-EURODRIVE thus recommends to connect only the safety-related voltage supply to X71F using a 2-core cable as shown in the figure.



## 1.4 Description of the DIP switches

### 1.4.1 DIP switch S10/5

#### Important information for the assignment tables MTF...-19 and MTF...-20

In the motor series DRN.. motor DRN100L4 was replaced by motor DRN100LM4 in the power range of 2.2 kW.

Therefore assignment tables MTF...-19 and MTF...-20 have been adjusted.

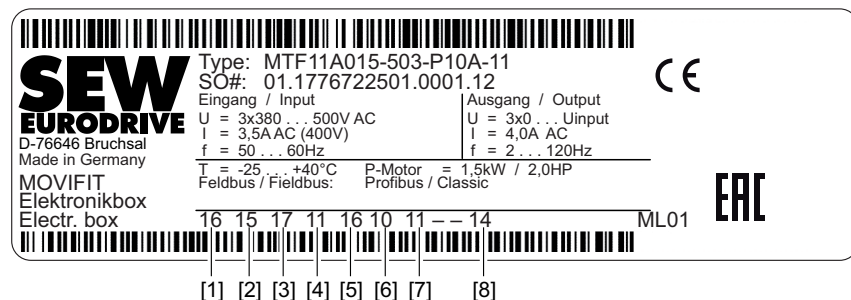
From version 11 of the motor data set, motor DRN100L4 was replaced by motor DRN100LM4 in the assignment tables MTF...-19 and MTF...-20.

Assignment table	Motor power	Motor data set	Permitted motor
MTF...-19 and MTF...-20	2.2 kW	Up to version 10	DRN100L4
		As of version 11	DRN100LM4

- Check latest version of the motor data set before installation. You find this version on the inner nameplate of the EBOX (→ 9).
- Install only permitted motors on MOVIFIT® FC according to the assignment tables depending on the latest version of the motor data set (see gray shaded cells).

#### Inner nameplate EBOX

The following figure shows an example of an **inner** nameplate of the EBOX of MOVIFIT® FC:



36028797831543307

- [1] Firmware status control unit
- [2] Hardware status control unit
- [3] Firmware status power section
- [4] Version of data set power section
- [5] Hardware status power section
- [6] Firmware status safety option
- [7] Hardware status safety option
- [8] Motor data set version



## MTF...-19

DRN.. V = AC 3 x 460 V, 60 Hz												
MOVIFIT®	Assigned motor and brake <sup>1)</sup>											
	S10/5 = OFF						S10/5 = ON					
	Λconnection			Δconnection			Λconnection			Δconnection		
	Motor	Brake		Motor	Brake		Motor	Brake		Motor	Brake	
		Stand-ard	Op-tion		Stand-ard	Op-tion		Stand-ard	Op-tion		Stand-ard	Op-tion
MTF..003...-19	-	-	-	-	-	-	-	-	-	-	-	-
MTF..005...-19	-	-	-	-	-	-	-	-	-	-	-	-
MTF..007...-19	DRN80M4	BE1	BE05	-	-	-	-	-	-	-	-	-
MTF..011...-19	DRN90S4	BE2	BE1	DRN80M4	BE1	BE05	DRN80M4	BE1	BE05	-	-	-
MTF..015...-19	DRN90L4	BE2	BE1	DRN90S4	BE2	BE1	DRN90S4	BE2	BE1	DRN80M4	BE1	BE05
MTF..022...-19	DRN100L4 <sup>2)</sup> DRN100LM4 <sup>3)</sup> 2.2 kW	BE5	BE2	DRN90L4	BE2	BE1	DRN90L4	BE2	BE1	DRN90S4	BE2	BE1
MTF..030...-19	DRN100L4 3.7 kW	BE5	BE2	DRN100L4 <sup>2)</sup> DRN100LM4 <sup>3)</sup> 2.2 kW	BE5	BE2	DRN100L4 <sup>2)</sup> DRN100LM4 <sup>3)</sup> 2.2 kW	BE5	BE2	DRN90 L4	BE2	BE1
MTF..040...-19	DRN112M4	BE5	BE11	DRN100L4 3.7 kW	BE5	BE2	DRN100L4 3.7 kW	BE5	BE2	DRN100L4 <sup>2)</sup> DRN100LM4 <sup>3)</sup> 2.2 kW	BE5	BE2

1) Possible brake voltages: 120 V, 230 V, 400 V

2) Only for motor data set up to version 10

3) Only for motor data set up to version 11

## MTF...-20

DRN.. V = AC 3 x 400 V, 50 Hz or AC 3 x 460 V, 60 Hz												
MOVIFIT®	Assigned motor and brake <sup>1)</sup>											
	S10/5 = OFF						S10/5 = ON					
	Λconnection			Δconnection			Λconnection			Δconnection		
	Motor	Brake		Motor	Brake		Motor	Brake		Motor	Brake	
		Stand-ard	Op-tion		Stand-ard	Op-tion		Stand-ard	Op-tion		Stand-ard	Op-tion
MTF..003...-20	DRS71S4	BE05	BE1	DR63L4 <sup>2)</sup>	BR03	BR03	DR63L4 <sup>2)</sup>	BR03	BR03	-	-	-
MTF..005...-20	DRS71M4	BE1	BE05	DRS71S4	BE05	BE1	DRS71S4	BE05	BE1	DR63L4 <sup>2)</sup>	BR03	BR03
MTF..007...-20	DRN80M4	BE1	BE05	DRS71M4	BE1	BE05	DRS71M4	BE1	BE05	DRS71S4	BE05	BE1
MTF..011...-20	DRN90S4	BE2	BE1	DRN80M4	BE1	BE05	DRN80M4	BE1	BE05	DRS71M4	BE1	BE05
MTF..015...-20	DRN90L4	BE2	BE1	DRN90S4	BE2	BE1	DRN90S4	BE2	BE1	DRN80M4	BE1	BE05
MTF..022...-20	DRN100L4 <sup>3)</sup> DRN100LM4 <sup>4)</sup> 2.2 kW	BE5	BE2	DRN90L4	BE2	BE1	DRN90L4	BE2	BE1	DRN90S4	BE2	BE1
MTF..030...-20	DRN100L4 3.0 kW	BE5	BE2	DRN100L4 <sup>3)</sup> DRN100LM4 <sup>4)</sup> 2.2 kW	BE5	BE2	DRN100L4 <sup>3)</sup> DRN100LM4 <sup>4)</sup> 2.2 kW	BE5	BE2	DRN90L4	BE2	BE1
MTF..040...-20	DRN112M4	BE5	BE11	DRN100L4 3.0 kW	BE5	BE2	DRN100L4 3.0 kW	BE5	BE2	DRN100L4 <sup>3)</sup> DRN100LM4 <sup>4)</sup> 2.2 kW	BE5	BE2

1) Possible brake voltages: 120 V, 230 V, 400 V

2) This motor is included in the data set. The motor is only available as IEC motor with V = 3 x 400 V, 50 Hz (no motor with 50/60 Hz voltage range).

3) Only for motor data set up to version 10

4) Only for motor data set up to version 11



2 Declaration of conformity

EU Declaration of Conformity

SEW  
EURODRIVE

900070210/EN

Translation of the original text

SEW-EURODRIVE GmbH & Co. KG  
Ernst-Blickle-Straße 42, D-76646 Bruchsal  
declares under sole responsibility that the following products

Units of the product series

MOVIFIT® MTF..A...-...A-..  
MOVIFIT® MTM..A...-...A-..

are in conformity with

Machinery Directive

2006/42/EC  
(L 157, 09.06.2006, 24-86)

This includes the fulfillment of the protection targets for "electrical power supply" in accordance with annex I No. 1.5.1 according to the Low Voltage Directive 73/23/EEC -- Note: 2006/95/EC (until 19 Apr 2016) and 2014/35/EU (as of 20 Apr 2016) are currently valid.

EMC Directive

2004/108/EC (valid until April 19, 2016) 4)  
2014/30/EU (valid as of April 20, 2016) 4)  
(L 96, 29.03.2014, 79-106)

Applied harmonized standards:

EN ISO 13849-1:2008/AC:2009  
EN 61800-5-1:2007  
EN 61800-3:2004/A1:2012

4) According to the EMC Directive, the listed products are not independently operable products. EMC assessment is only possible after these products have been integrated in an overall system. For the assessment, the product was installed in a typical plant configuration.

Bruchsal

18.04.2016



Place

Date

Johann Soder  
Managing Director Technology

a) b)

a) Authorized representative for issuing this declaration on behalf of the manufacturer

b) Authorized representative for compiling the technical documents

23470054/EN – 02/2017



## EU Declaration of Conformity



Translation of the original text

900080210/EN

**SEW-EURODRIVE GmbH & Co. KG****Ernst-Blickle-Straße 42, D-76646 Bruchsal**

declares under sole responsibility that the following products

**Units of the product series**                      **MOVIFIT® MTF..A...-...A-..**  
**MOVIFIT® MTM..A...-...A-..**

**With built-in**                                      **S11 with PROFIsafe**  
**are in conformity with**

**Machinery Directive**                              **2006/42/EC**  
**(L 157, 09.06.2006, 24-86)**

This includes the fulfillment of the protection targets for "electrical power supply" in accordance with annex I No. 1.5.1 according to the Low Voltage Directive 73/23/EEC -- Note: 2006/95/EC (until 19 Apr 2016) and 2014/35/EU (as of 20 Apr 2016) are currently valid.

**EMC Directive**                                      **2004/108/EC (valid until April 19, 2016)**                      **4)**  
**2014/30/EU (valid as of April 20, 2016)**                      **4)**  
**(L 96, 29.03.2014, 79-106)**

**Applied harmonized standards:**                      **EN ISO 13849-1:2008/AC:2009**  
**EN 61800-5-1:2007**  
**EN 61800-3:2004/A1:2012**

**Other applied standards:**                              **EN 61508:2001 (part 1-7)**  
**EN 62061:2005**

4) According to the EMC Directive, the listed products are not independently operable products. EMC assessment is only possible after these products have been integrated in an overall system. For the assessment, the product was installed in a typical plant configuration.

Bruchsal                      **18.04.2016**

Place                      Date

Johann Soder  
 Managing Director Technology

a) b)

- a) Authorized representative for issuing this declaration on behalf of the manufacturer  
 b) Authorized representative for compiling the technical documents



EU Declaration of Conformity



Translation of the original text 902070113/EN

**SEW-EURODRIVE GmbH & Co. KG**  
**Ernst-Blickle-Straße 42, D-76646 Bruchsal**  
declares under sole responsibility that the following products

**Units of the product series** MOVIFIT® MTF..A...-...A-..  
MOVIFIT® MTM..A...-...A-..  
**With integrated DriveSafety option** S12A / S12B  
**are in conformity with**

**Machinery Directive** 2006/42/EC  
(L 157, 09.06.2006, 24-86)

This includes the fulfillment of the protection targets for "electrical power supply" in accordance with annex I No. 1.5.1 according to the Low Voltage Directive 73/23/EEC -- Note: 2006/95/EC (until 19 Apr 2016) and 2014/35/EU (as of 20 Apr 2016) are currently valid.

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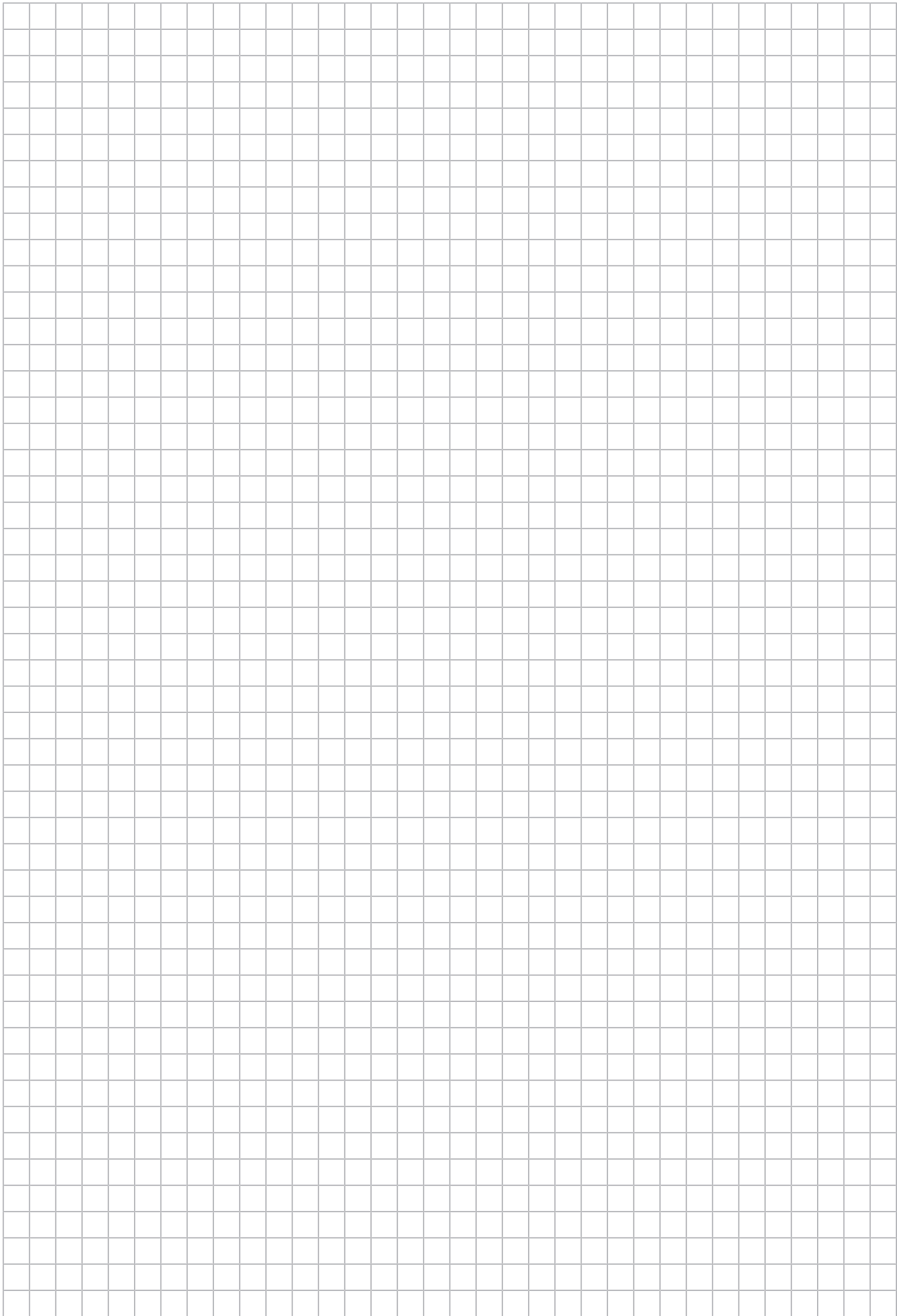
a) b)

a) Authorized representative for issuing this declaration on behalf of the manufacturer

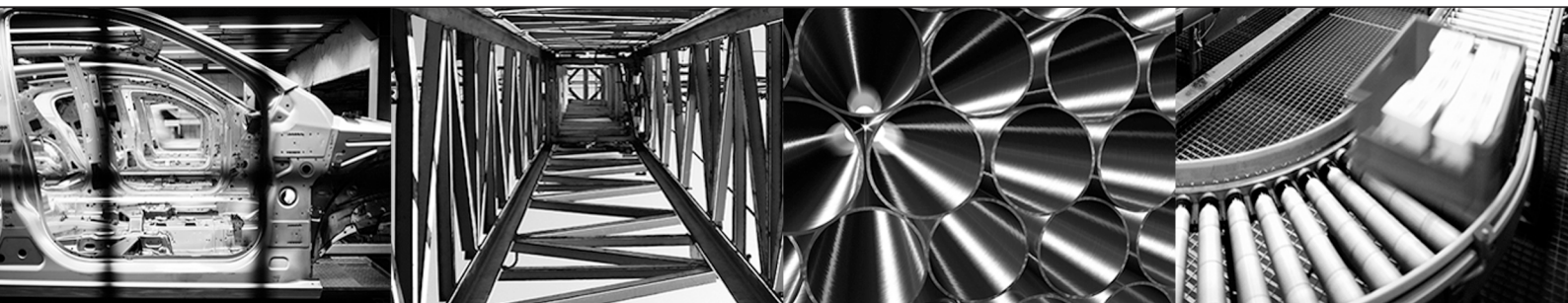
b) Authorized representative for compiling the technical documents

23470054/EN – 02/2017













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Driving the world

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