SEW EURODRIVE

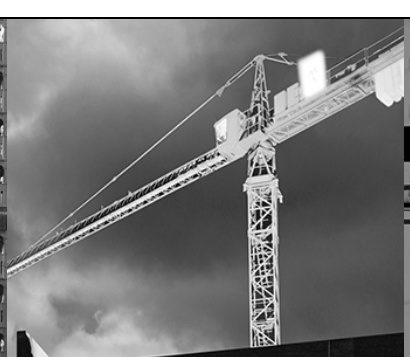
Addendum to the Operating Instructions

DR.71 – 225, 315 AC Motors

For Vibration Stress Level 1

Edition 12/2012

20075340/ EN

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Contents

1 Addendum to the Operating Instructions

INFORMATION

This addendum to the operating instructions contains additional information for DR.71-225, 315 AC motors with "vibrations stress level 1" option.

Please use the data specified in this document. This document does not replace the detailed, applicable operating instructions "DR.71-225, 315 AC Motors".

1.1 AC motors for increased vibration stress

The AC motors for increased vibration stress described here can be used in areas with periodic vibrations of vibration level 1.

Vibration level 1 is defined as follows for the respective motors:

Motor size	Vibration speed V_{eff} in mm/s	Maximum acceleration a_{max} in g
DR.71 – 132	≤ 4.5	10
DR.160 – 315	≤ 7.1	15

AC motors for increased vibration stress may **not** be equipped with any of the following options or accessories:

- Gear unit[1)]
- V forced cooling fan
- DUB brake monitoring
- DUV vibration monitoring
- EI7. built-in encoder
- MOVIMOT units®
- MOVI-SWITCH® units
- Explosion protection of categories 2GD, 3GD[1)]
- LF air filter
- Ambient temperature T_U > 60 °C
- Thermal class 180 (H)
- Motors according to VIK guideline
- Foot motors FI (DR.71 – DR.132)

1) You may only use AC motors with the indicated options in areas subject to vibration, if checked and approved by SEW!

1.2 Vibration stress of level 1

A motor for vibration level 1 is equipped as follows:

1.2.1 Thread locking

Bolts of motors for increased vibration stress of level 1 are locked in the following ways:

- **Safety-relevant screw fittings for opening, if necessary:**

  Are secured against loosening with a high-strength liquid adhesive, which increases the break-free torque to > 80% of the tightening torque.

- **Screw fittings for opening, if necessary:**

  Are secured against loosening with a medium-strength liquid adhesive, which increases the break-free torque to 50 to 80% of the tightening torque.

- **Screws that the customer must be able to loosen:**

  Are secured with a lock washer without adhesive.

NOTICE

Damage to the screws and the drive when loosening screw fittings secured with high-strength threadlocker.

Possible damage to property.

- Remove the high-strength locking compound with heat to loosen the screws.

1.2.2 Bearing pretension

The bearings of motors for increased vibration stress have a higher pretension. Shims are inserted into the bearing endshields for this purpose.

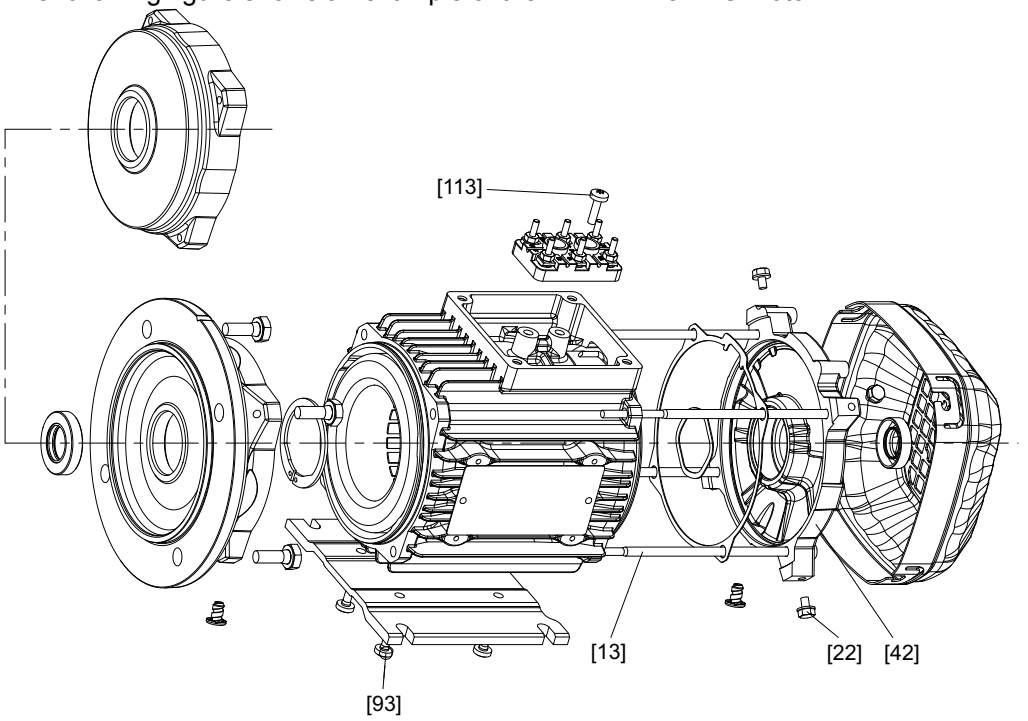
1.2.3 Schematic representation

The illustrations on the following pages show examples of the motors and components with all possible thread locking options.

1.3 Schematic representations of AC (brake)motors

1.3.1 DR.71 – 132 AC motor

The following figure shows an example of the DR.71 – 132 AC motor:

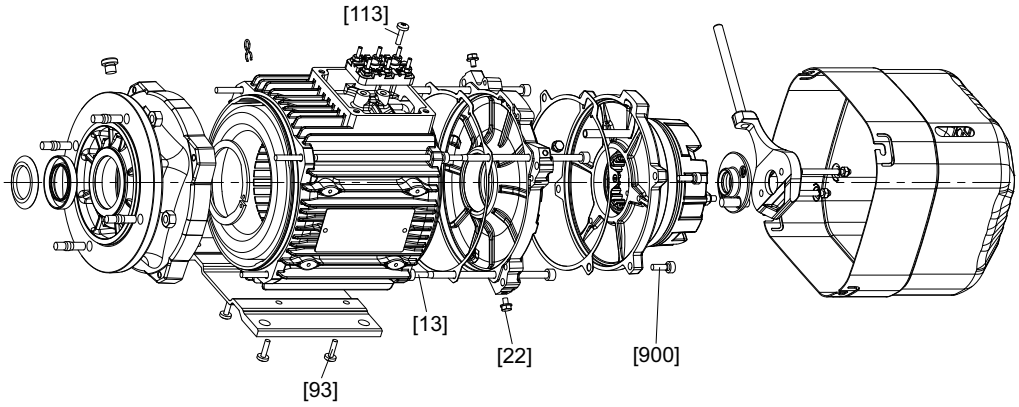


3168754955

No.	Designation	Screw locked with
[13]	Machine screw	High-strength liquid adhesive
[22]	Hex head screw	Medium-strength liquid adhesive
[93]	Pan head screw	High-strength liquid adhesive
[113]	Pan head screw	High-strength liquid adhesive

1.3.2 DR.71 – 132 AC brakemotor

The following figure shows an example of the DR.71 – 132 AC brakemotor:

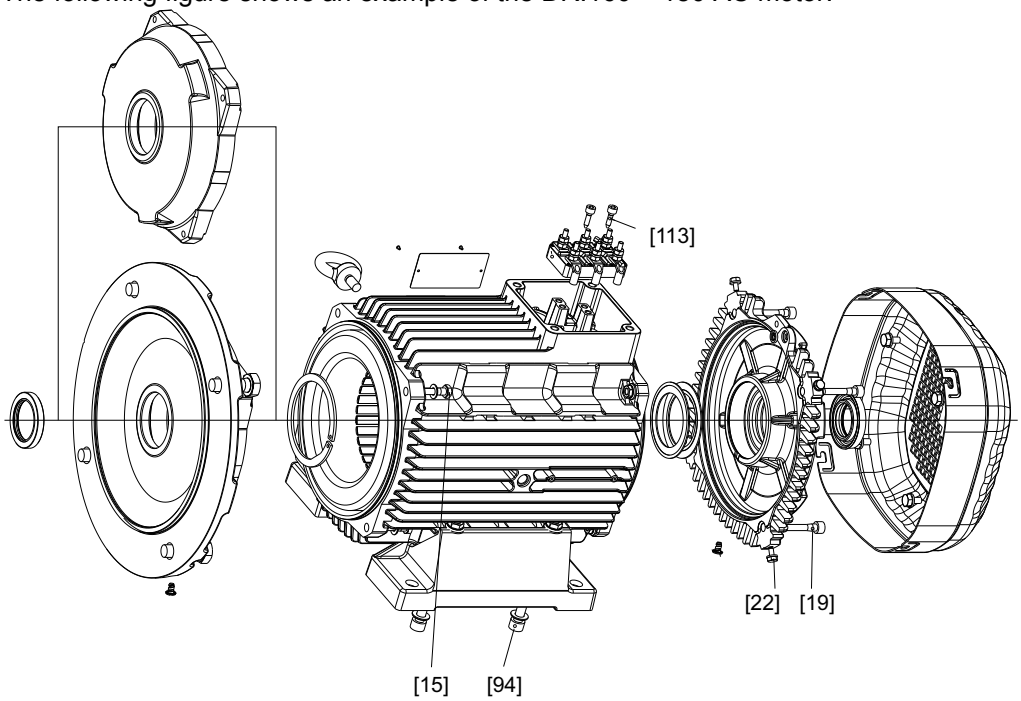


3169417227

No.	Designation	Screw locked with
[13]	Machine screw	High-strength liquid adhesive
[22]	Hex head screw	Medium-strength liquid adhesive
[93]	Pan head screw	High-strength liquid adhesive
[113]	Pan head screw	High-strength liquid adhesive
[900]	Machine screw	High-strength liquid adhesive

1.3.3 DR.160 – 180 AC motor

The following figure shows an example of the DR.160 – 180 AC motor:

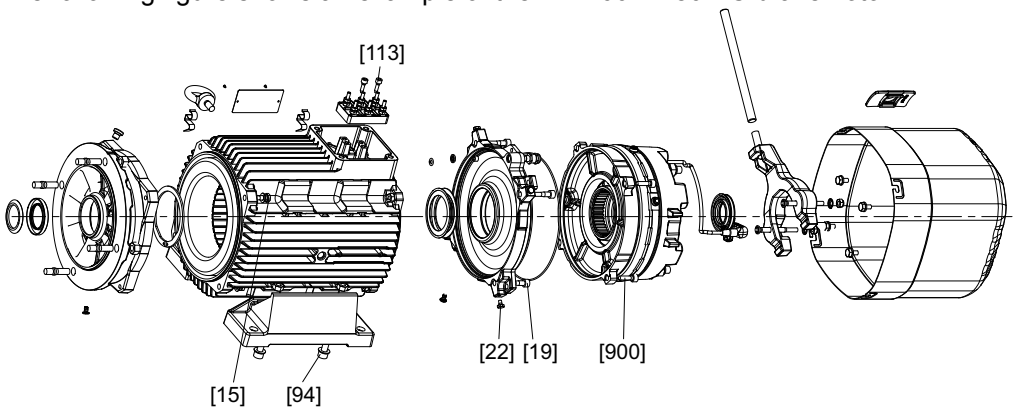


3169563147

No.	Designation	Screw locked with
[15]	Hex head screw	High-strength liquid adhesive
[19]	Machine screw	High-strength liquid adhesive
[22]	Hex head screw	Medium-strength liquid adhesive
[94]	Machine screw	High-strength liquid adhesive
[113]	Pan head screw	High-strength liquid adhesive

1.3.4 DR.160 – 180 AC brakemotor

The following figure shows an example of the DR.160 – 180 AC brakemotor:

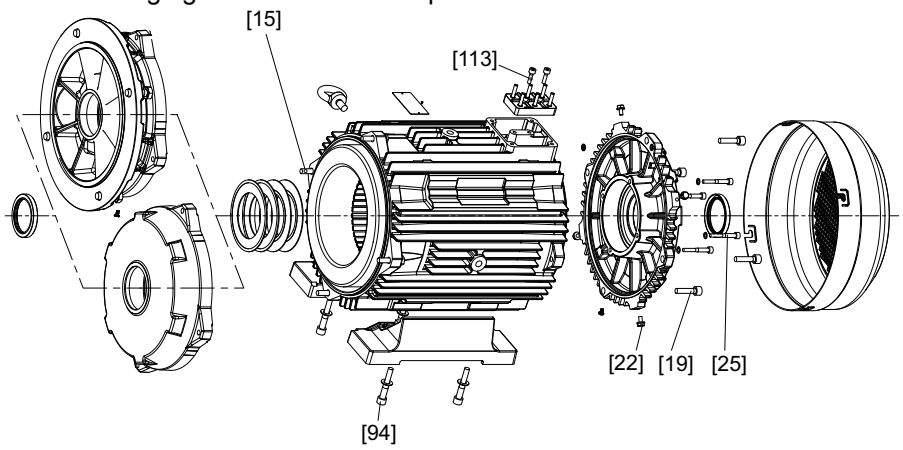


3171217291

No.	Designation	Screw locked with
[15]	Hex head screw	High-strength liquid adhesive
[19]	Machine screw	High-strength liquid adhesive
[22]	Hex head screw	Medium-strength liquid adhesive
[94]	Machine screw	High-strength liquid adhesive
[113]	Pan head screw	High-strength liquid adhesive
[900]	Machine screw	High-strength liquid adhesive

1.3.5 DR.200 – 225 AC motor

The following figure shows an example of the DR.220 – 225 AC motor:

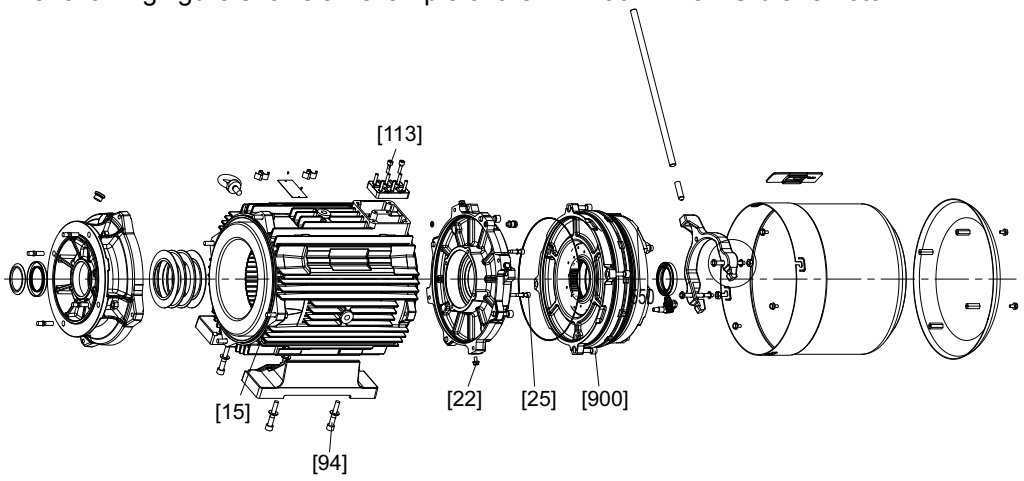


3282559499

No.	Designation	Screw locked with
[15]	Hex head screw	High-strength liquid adhesive
[19]	Machine screw	High-strength liquid adhesive
[22]	Hex head screw	Medium-strength liquid adhesive
[25]	Machine screw	Medium-strength liquid adhesive
[94]	Machine screw	High-strength liquid adhesive
[113]	Pan head screw	High-strength liquid adhesive

1.3.6 DR.220 – 225 AC brakemotor

The following figure shows an example of the DR.200 – 225 AC brakemotor:

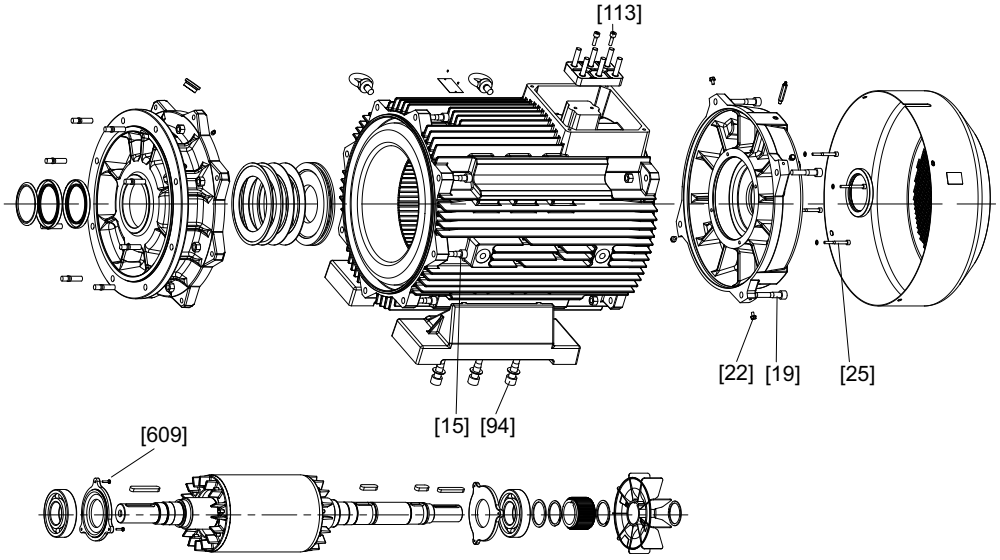


3282557579

No.	Designation	Screw locked with
[15]	Hex head screw	High-strength liquid adhesive
[22]	Hex head screw	Medium-strength liquid adhesive
[25]	Machine screw	Medium-strength liquid adhesive
[94]	Machine screw	High-strength liquid adhesive
[113]	Pan head screw	High-strength liquid adhesive
[900]	Machine screw	High-strength liquid adhesive

1.3.7 DR.315 AC motor

The following figure shows an example of the DR.315 AC motor:

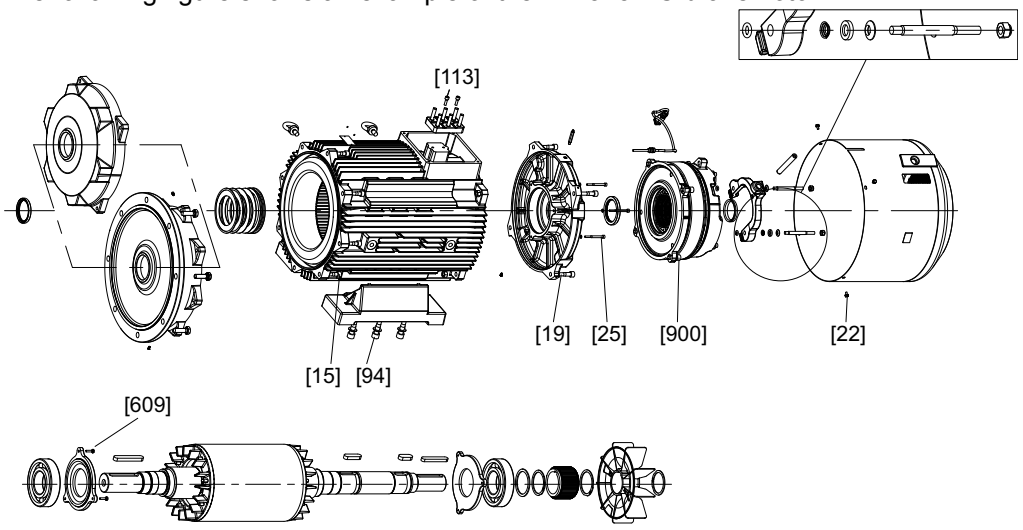


3171219723

No.	Designation	Screw locked with
[15]	Hex head screw	High-strength liquid adhesive
[19]	Machine screw	High-strength liquid adhesive
[22]	Hex head screw	Medium-strength liquid adhesive
[25]	Pan head screw	Medium-strength liquid adhesive
[94]	Machine screw	High-strength liquid adhesive
[113]	Pan head screw	High-strength liquid adhesive
[609]	Hex head screw	Medium-strength liquid adhesive

1.3.8 DR.315 AC brakemotor

The following figure shows an example of the DR.315 AC brakemotor:



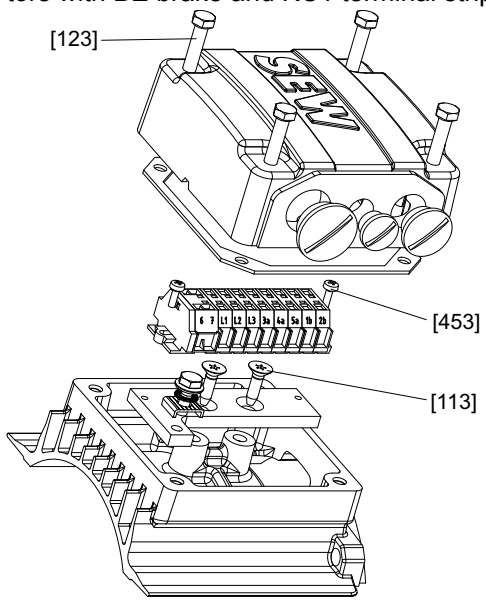
3171219723

No.	Designation	Screw locked with
[15]	Hex head screw	High-strength liquid adhesive
[19]	Machine screw	High-strength liquid adhesive
[22]	Hex head screw	Medium-strength liquid adhesive
[25]	Pan head screw	Medium-strength liquid adhesive
[94]	Machine screw	High-strength liquid adhesive
[113]	Pan head screw	High-strength liquid adhesive
[609]	Hex head screw	Medium-strength liquid adhesive
[900]	Machine screw	High-strength liquid adhesive

1.4 Schematic representation of the terminal box

1.4.1 Terminal box of DR.71 – 80 with BE brake and KC1 terminal strip

The following figure shows an example of the terminal box of DR.71 – 80 AC brakemotors with BE brake and KC1 terminal strip:

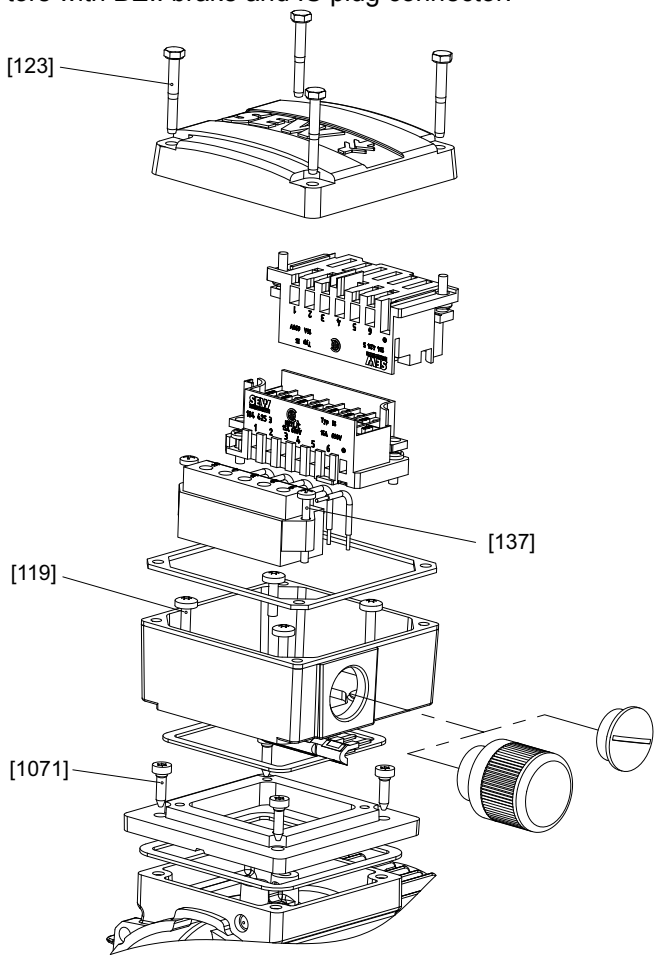


3172633355

No.	Designation	Screw locked with
[113]	Screw	High-strength liquid adhesive
[123]	Hex head screw	M5 lock washer
[453]	Flat head screw	High-strength liquid adhesive

1.4.2 Terminal box of DR.71 – 90 with BE.. brake and IS plug connector

The following figure shows an example of the terminal box of DR.71 – 90 AC brakemotors with BE.. brake and IS plug connector:

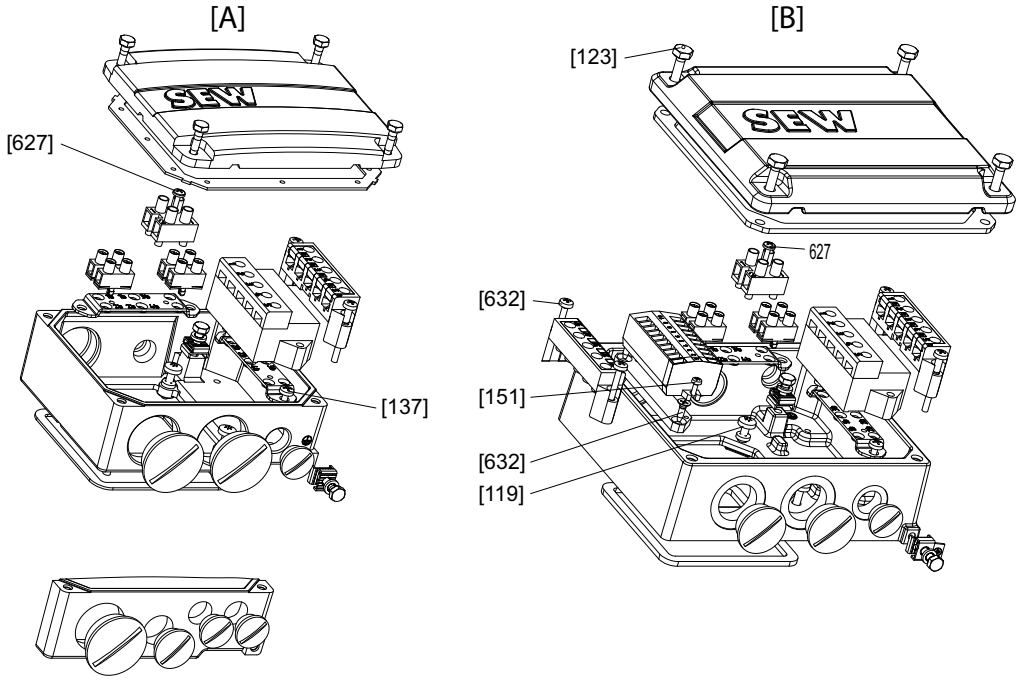


3172420491

No.	Designation	Screw locked with
[119]	Pan head screw	High-strength liquid adhesive
[123]	Hex head screw	M5 lock washer
[137]	Screw	High-strength liquid adhesive
[1071]	Screw	High-strength liquid adhesive

1.4.3 Terminal box of DR.71 – 132

The following figure shows an example of the terminal box of DR.71 – 132 AC brakemotors:

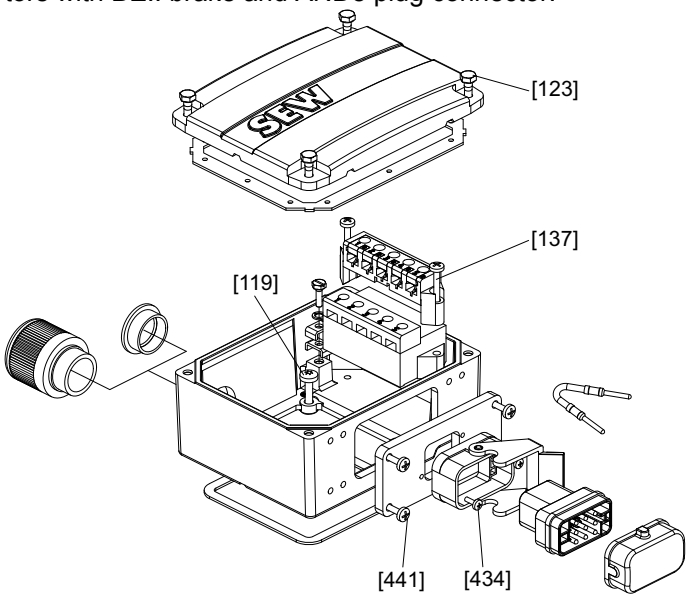


3172364043

No.	Designation	Screw locked with
[A]	Terminal box made of aluminum	
[B]	Terminal box made of gray cast iron	
[119]	Pan head screw	High-strength liquid adhesive
[123]	Hex head screw	M6 lock washer
[137]	Screw	High-strength liquid adhesive
[151]	Flat head screw	High-strength liquid adhesive
[627]	Tapping screw	High-strength liquid adhesive
[632]	Screw	High-strength liquid adhesive

1.4.4 Terminal box of DR.71 – 132 with BE.. brake and AND8 plug connector

The following figure shows an example of the terminal box of DR.71 – 132 AC brakemotors with BE.. brake and AND8 plug connector:

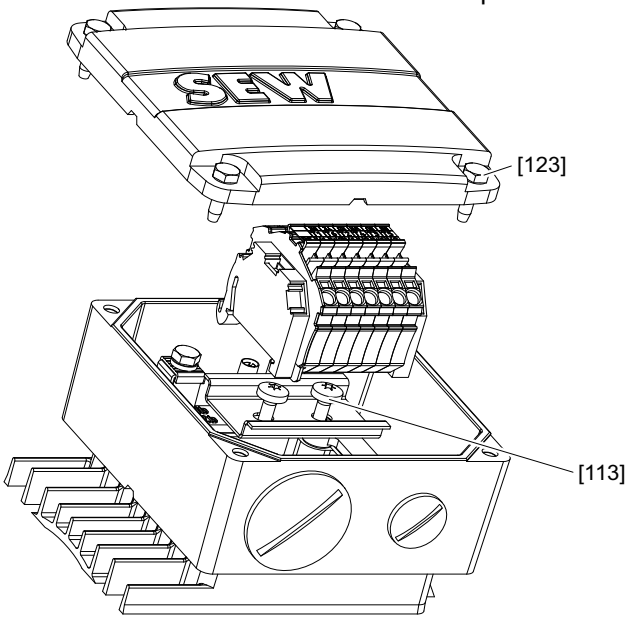


3172728331

No.	Designation	Screw locked with
[119]	Pan head screw	High-strength liquid adhesive
[123]	Hex head screw	M5 lock washer
[137]	Screw	High-strength liquid adhesive
[434]	Screw	High-strength liquid adhesive
[441]	Screw	High-strength liquid adhesive

1.4.5 Terminal box of DR.71 – 132 with BE brake and KCC terminal strip

The following figure shows an example of the terminal box of DR.71 – 132 AC brakemotors with BE brake and KCC terminal strip:

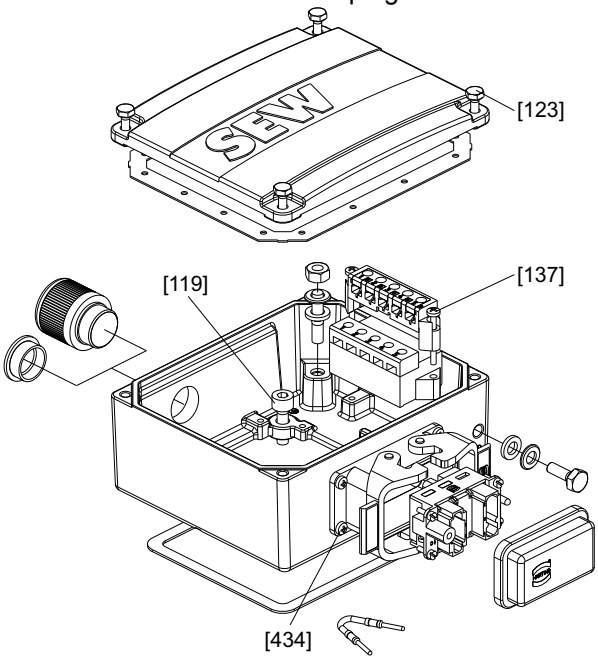


3173694219

No.	Designation	Screw locked with
[113]	Machine screw	High-strength liquid adhesive
[123]	Hex head screw	M5 lock washer

1.4.6 Terminal box of DR.160 – 225 with BE brake and IV plug connector

The following figure shows an example of the terminal box of DR.160 – 225 AC brake-motors with BE brake and IV plug connector:

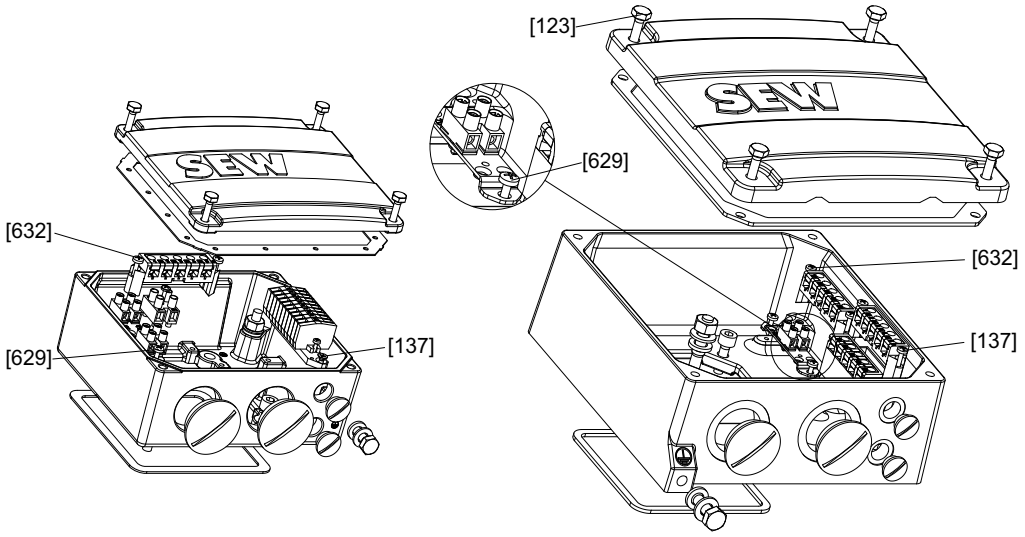


3172792203

No.	Designation	Screw locked with
[119]	Machine screw	High-strength liquid adhesive
[123]	Hex head screw	M6 lock washer
[137]	Screw	High-strength liquid adhesive
[434]	Flat head screw	High-strength liquid adhesive

1.4.7 Terminal box of DR.160 – 225 with BE brake

The following figure shows an example of the terminal box of DR.160 – 225 AC brakemotors with BE brake:

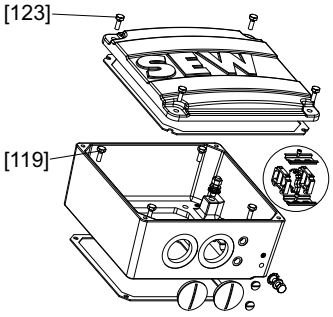


3173698827

No.	Designation	Screw locked with
[123]	Machine screw	M8 lock washer
[137]	Screw	High-strength liquid adhesive
[629]	Flat head screw	High-strength liquid adhesive
[632]	Screw	High-strength liquid adhesive

1.4.8 Terminal box of DR.315

The following figure shows an example of the terminal box of DR.315 AC brakemotors in standard design:

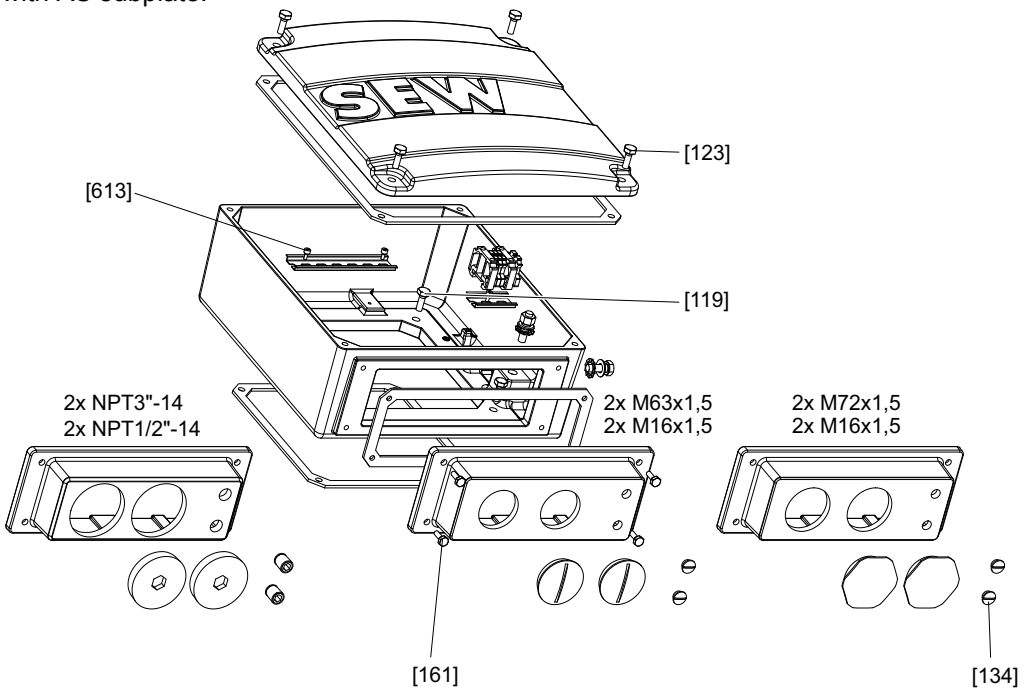


3173703563

No.	Designation	Screw locked with
[119]	Machine screw	High-strength liquid adhesive
[123]	Screw	M10 lock washer

1.4.9 Terminal box of DR.315 with AS subplate

The following figure shows an example of the terminal box of DR.315 AC brakemotors with AS subplate:



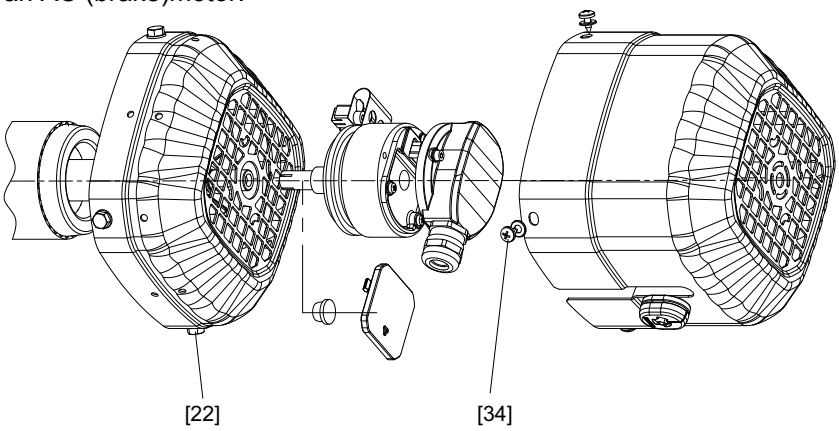
3175257611

No.	Designation	Screw locked with
[119]	Machine screw	High-strength liquid adhesive
[123]	Hex head screw	M10 lock washer
[134]	Screw plug	Medium-strength liquid adhesive
[161]	Hex head screw	M8 lock washer
[613]	Machine screw	High-strength liquid adhesive

1.5 Schematic representations of mounting options

1.5.1 AC (brake)motor with ES7., AS7. encoder

The following figure shows an example of how ES7. and AS7. encoders are mounted to an AC (brake)motor:

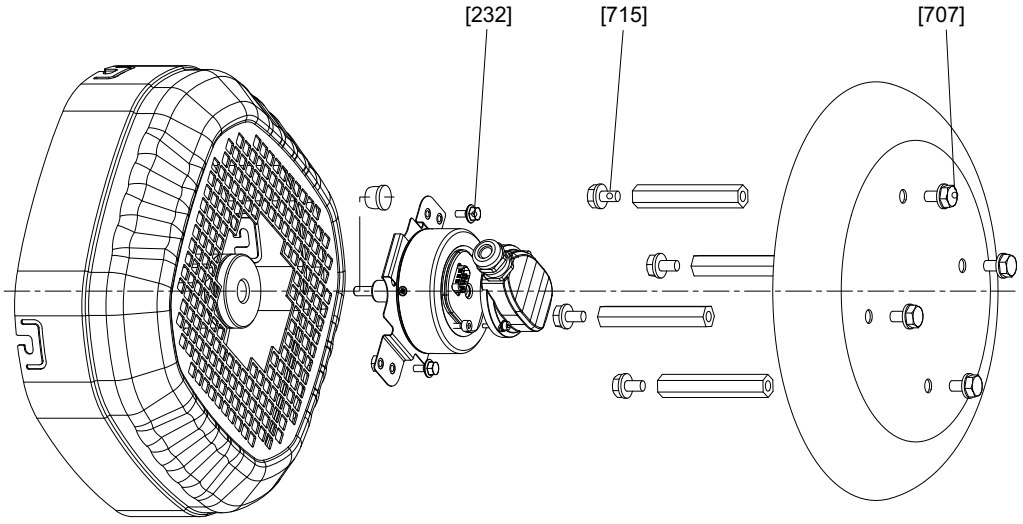


3175489547

No.	Designation	Screw locked with
[22]	Hex head screw	Medium-strength liquid adhesive
[34]	Tapping screw	M5 lock washer

1.5.2 DR.160 – 315 AC (brake)motor with /C canopy and encoders EG7. and AG7.

The following figure shows an example of how the canopy /C and the encoders ES7. and AS7. are mounted to an AC (brake)motor:



3175700363

No.	Designation	Screw locked with
[232]	Hex head screw	Medium-strength liquid adhesive
[715]	Hex head screw	High-strength liquid adhesive
[707]	Hex head screw	M8 lock washer

1.6 Bearing pretension

Size	Position of shim	Shim in mm	Quantity
DR.71	B-side endshield	30x38x0.5	1
DR.80		40x50x0.5	1
DR.90 – 100		40x50x0.5	1
DR.112 – 132		55x68x0.5	1
DR.160		–	–
DR.180		100x110x0.5	1
DR.200 – 225	A-side endshield / flange	125x140x0.5	1
DR.315 IEC; k+s Rz		213x230x0.4	1
DR.315 M/L Rz		185x200x0.4	1

The shim is always mounted as the first component, either in the B-side endshield or in the A-side endshield/flange.

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