

# 4 Overview of types and unit designation

Versions and options for the motor series DR..

## 4 Overview of types and unit designation

### 4.1 Versions and options for the motor series DR..

The type designations of the motor series DR.. and the versions and options are listed in the following tables.

#### 4.1.1 Designation of the motors

Design	Description
DRS..	Standard motor, Standard Efficiency IE1
DRE..	Energy-efficient motor, High Efficiency IE2
DRP..	Energy-efficient motor, Premium Efficiency IE3
DRU..	Energy efficient motor, Super Premium Efficiency IE4
DRL..	Asynchronous servomotor
DRK..	Single-phase motor with running capacitor
DRM..	Torque motor: Torque motor for operation at speed $n = 0$
DR..J <sup>1)</sup>	Line start permanent magnet motor
71 – 315	Sizes: 71 / 80 / 90 / 100 / 112 / 132 / 160 / 180 / 200 / 225 / 250 / 280 / 315
K – L, MC, LC	Lengths: K= very short / S = short / M = medium / L = long MC/LC = Rotors with copper cage
2, 4, 6, 8/2, 8/4, 4/2	Number of poles

1) Detailed information about this motor type is provided in a separate document

#### 4.1.2 Output options

Option	Description
/FI	IEC foot-mounted motor with specification of axis height
/FF	IEC flange-mounted motor with bore
/FT	IEC flange-mounted motor with threads
/FL	General flange-mounted motor (other than IEC)
/FG	7-series integral motor, as stand-alone motor
/FM	7 series integral gearmotor with IEC feet, with specification of shaft height if required
/FE	IEC flange-mounted motor with bore holes and IEC feet, with specification of shaft height
/FY	IEC flange-mounted motor with thread and IEC feet, with specification of shaft height if required
/FK	General flange-mounted motor (other than IEC) with feet, with specification of shaft height if required
/FC	C-face flange-mounted motor, dimensions in inch

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Option	Description
/F.A	Universal foot-mounted variant, with specification of shaft height, only DR. 250/280, feet pre-assembled
/F.B	Universal foot-mounted variant, with specification of shaft height, only DR. 250/280, feet included separately

#### 4.1.3 Mechanical attachments

Design	Description
BE..	Spring-loaded brake with specification of size
HR	Manual brake release of the brake, automatic disengaging function
HF	Manual brake release, lockable

Option	Description
/RS	Backstop
/MSW	MOVI-SWITCH®
/MI	Motor identification module for MOVIMOT®
/MM03 – MM40	MOVIMOT®
/MO	One or several MOVIMOT® option(s)

#### 4.1.4 Temperature sensor / temperature detection

Option	Description
/TF	Temperature sensor (positive coefficient thermistor or PTC resistor)
/TH	Thermal switch (bimetallic switch)
/KY	One sensor for temperature detection KTY84 – 130
/PT	One/three sensor(s) for temperature detection PT100

#### 4.1.5 Encoders

Option	Description
/ES7S, /EG7S, /EH7S, /EV7S	Mount-on speed sensor with Sin/Cos interface, /ES., /EG., /EV. with electronic nameplate
/ES7R, /EG7R, /EH7R	Mount-on speed sensor TTL(RS422) interface
/EH7T	Mount-on speed sensor TTL(RS422) interface
/ES7C, /EG7C, /EH7C, /EV7C	Mounted speed sensor with HTL interface
/EI7C	Built-in encoder with HTL interface, 24 periods Also available in a functionally safe design
/EI76, /EI72,	Built-in encoder with HTL interface and 6/2/1 period(s)

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Option	Description
/AS7W /AG7W, /AV7W	Mount-on absolute encoder, RS485 (Multi-Turn) + Sin/Cos output and electronic nameplate
/AS7Y, /AG7Y, /AH7Y, /AV7Y	Mount-on absolute encoder, SSI interface (Multi-Turn) + Sin/Cos output, AH7Y + TTL(RS422) output
/ES7A , /EG7A	Mounting adapter for encoders from the SEW portfolio
/XV.A , /XH.A	Mounting adapter for non-SEW encoders
/XV.. , /XH..	Mounted non-SEW encoders

## 4.1.6 Connection alternatives

Option	Description
/IS	Integrated plug connector
/ISU	Integrated plug connector, only on the motor side
/ASE.	Harting HAN 10ES plug connector on terminal box with single locking latch (cage clamp contacts on the motor side)
/ASB.	Harting HAN 10ES plug connector on terminal box with double locking latch (cage clamp contacts on the motor side)
/ACE.	Harting HAN 10E plug connector on terminal box with single locking latch (crimp contacts on the motor side)
/ACB.	Harting HAN 10E plug connector on terminal box with double locking latch (crimp contacts on the motor side)
/AME. /ABE. /ADE. /AKE.	Harting HAN modular 10B plug connector on terminal box with single locking latch (crimp contacts on the motor side)
/AMB. /ABB. /ADB. /AKB.	Harting HAN modular 10B plug connector on terminal box with double locking latch (crimp contacts on the motor side)
/KCC	6- or 10-pole terminal strip with cage clamp contacts for DR.71 – DR.132, depending on the design
/KC1	C1-profile-compliant connection of the electric monorail drive (VDI guideline 3643) for DR71, 80 Alternatively for DR.90 – 132 for a more compact connection range
/IV	Other industrial plug connectors according to customer specifications

## 4.1.7 Ventilation

Option	Description
/V	Axial forced cooling fan
/Z	Additional inertia (flywheel fan)
/AL	Metal fan
/U	Non-ventilated (without fan)
/OL	Non-ventilated (closed B-side)
/C	Protection canopy for fan guard

Option	Description
/LF	Air filter for DR.71 – 132
/LN	Low-noise fan guard for DR.71 – 132

#### 4.1.8 Storage

Option	Description
/NS	Relubrication device, only for DR.250, 280, 315
/ERF	Reinforced bearing A-side with cylindrical rolling bearing, only for DR.250, 280, 315
/NIB	Insulated bearing B-side, only for DR.250, 280, 315

#### 4.1.9 Explosion-proof motors EDR..

Option	Description
/2GD	Motors according to EU Directive 94/9/EC (ATEX), category 2 (gas/dust)
/2G	Motors according to EU Directive 94/9/EC (ATEX), category 2 (gas)
/3GD	Motors according to EU Directive 94/9/EC (ATEX), category 3 (gas/dust)
/3D	Motors according to EU Directive 94/9/EC (ATEX), category 3 (dust)
/2GD-b	Motors according to IECEx agreement, EPL GD-b
/2G-b	Motors according to IECEx agreement, EPL G-b
/3GD-c	Motors according to IECEx agreement, EPL GD-c
/3D-c	Motors according to IECEx agreement, EPL D-c
/CID2	Motors according to HazLoc-NA®, North America, Class I (gas), Division 2
/CIID2	Motors according to HazLoc-NA®, North America, Class II (dust), Division 2
/CICIID2	Motors according to HazLoc-NA®, North America, Class I (gas) and Class II (dust), Division 2
/VE	Axial forced cooling fan for motors according to EU Directive 94/9/EC (ATEX), category 3 (gas/dust)

For detailed information about explosion-proof motors of the EDR.. series, refer to the "Explosion-Proof AC Motors" catalog.

#### 4.1.10 Additional options

Option	Description
/DH	Condensation drain hole
/RI	Reinforced winding insulation
/RI2	Reinforced winding insulation with increased resistance against partial discharge

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Serial number

Option	Description
/2W	Second shaft end on the motor/brakemotor

## 4.2 Serial number

01.	12212343	01.	0001.	13
Sales organization:	Order number (8-digit)	Order item (2-digit)	Quantities (4-digit)	Final digits of the year of manufacture (2-digit)

This results in:

01.1234567801.01.0001.13

If the design has customer adaptations, an "x" is found between the 16th and 17th digit in place of a point:

01.1234567801.01.0001x13

### 4.3 Example of the type designation

AC motor of the DR.. series		
Series	DR	
Type identifier	S	E, P, U, K
Size	71	80, 90, 100, 112, 132, 160, 180, 200, 225, 250, 280, 315
Mounting position	S	K, M, L, MC, LC, SJ, MJ, LJ
Number of poles	4	2, 6, 12, 4/2, 8/2, 8/4
Output options		
Output options	/FI	/FF, /FT, /FL, /FG, /FM, /FE, /FY, /FC, /F..
Mechanical attachments		
Brakes	-	BE05, BE1, BE2, BE5, BE11, BE20, BE30, BE32, BE60, BE62, BE120, BE122
Manual brake release	-	HF, HR
Backstop	-	/RS
Decentralized installation	-	/MI, /MO, /MSW, /MM03, /MM05, /MM07, /MM11, /MM15, /MM22, /MM30, /MM40
Temperature sensor / temperature detection		
Thermal motor protection	-	/TF, /TH
Temperature measuring	-	/KT, /PT
Encoders		
Built-in encoder	-	/EI7C, /EI76, /EI72, /EI71
Add-on encoder DR71-132	-	/ES7S, /ES7R, /ES7C, /AS7W, /AS7Y, /EV7., /AV7., /XV., /XH..
Add-on encoder DR160-280	-	/EG7S, /EG7R, /EG7C, /AG7W, /AG7Y, /EV7., /AV7., /XV., /XH..
Add-on encoder DR315	-	/EH7S, /AH7Y
Mounting device	-	/ES7A, /EG7A, /XV.A, /XH.A
Storage		
Insulated bearing (only 250, 280, 315)	-	/NIB
Relubrication (only 250, 280, 315)	-	/NS
Increased overhung load (only 250, 280, 315)	-	/ERF
Connection alternatives		
Connection alternatives	-	/IS, /ISU, /AB., /AC., /AD., /AK., /AM., /AS., /KCC, /KC1, /IV
Ventilation		
Low noise fan guard	-	/LN
Fan guard	-	/C, /LF
Fan	-	/Z, /AL, /U, /OL
Forced cooling fan	-	/V, /VE
Additional options		
Condition monitoring	-	/DUB
2 <sup>nd</sup> shaft end	-	/2W
Reinforced winding insulation	-	/RI, /RI2
Condensation drain hole	-	/DH
Explosion-proof motors		
Explosion protection	-	/2G, /2GD, /3GD, /3D, /2G-b, /2GD-b, /3GD-c, /3D-c, /CID2, /CIID2, /CICIID2

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Examples of the type designation motor series DRL..

## 4.4 Examples of the type designation motor series DRL..

AC motor of the DRL.. series		
Series	DR	
Type identifier	L	
Size	71	80, 90, 100, 112, 132, 160, 180, 200, 225
Mounting position	S	M, L, MC, LC
Number of poles	4	
Output options		
Output options	/FI	/FF, /FT, /FL, /FG, /FM, /FE, /FY, /FC
Mechanical attachments		
Brakes	-	BE05, BE1, BE2, BE5, BE11, BE20, BE30, BE32, BE60, BE62
Manual brake release	-	HF, HR
Backstop	-	/RS
Temperature sensor / temperature detection		
Thermal motor protection	-	/TF, /TH
Temperature measuring	-	/KT, /PT
Encoders		
Built-in encoder	-	/EI7C, /EI76, /EI72, /EI71
Add-on encoder DR71-132	-	/ES7S, /ES7R, /ES7C, /AS7W, /AS7Y, /EV7., /AV7., /XV., /XH..
Add-on encoder DR160-225	-	/EG7S, /EG7R, /EG7C, /AG7W, /AG7Y, /EV7., /AV7., /XV., /XH..
Mounting device	-	/ES7A, /EG7A, /XV.A, /XH.A
Connection alternatives		
Connection alternatives	-	/IS, /ISU, /AB., /AC., /AD., /AK., /AM., /AS., /KCC, /KC1, /IV
Ventilation		
Fan guard	-	/C, /LF
Fan	-	/AL
Forced cooling fan	-	/V
Additional options		
Condition monitoring	-	/DUB
2 <sup>nd</sup> shaft end	-	/2W
Reinforced winding insulation	-	/RI
Condensation drain hole	-	/DH

#### 4.5 Examples of the type designation torque motors DRM..

AC motor of the DRM.. series		
Series	DR	
Type identifier	M	
Size	71	80, 90, 100, 112, 132
Mounting position	S	M, L
Number of poles	12	
Output options		
Output options	/FI	/FF, /FT, /FL, /FG, /FM, /FE, /FY, /FC
Mechanical attachments		
Brakes	-	BE05, BE1, BE2, BE5, BE11
Manual brake release	-	HF, HR
Temperature sensor / temperature detection		
Thermal motor protection	-	/TF, /TH
Temperature measuring	-	/KT, /PT
Encoders		
Built-in encoder	-	/EI7C, /EI76, /EI72, /EI71
Add-on encoder DR71-132	-	/ES7S, /ES7R, /ES7C, /AS7W, /AS7Y, /EV7., /AV7., /XV., /XH..
Mounting device	-	/ES7A, /XV.A, /XH.A
Connection alternatives		
Connection alternatives	-	/IS, /ISU, /AS., /AC., /AM., /AD., /AK., /AB., /KCC, /KC1, /IV
Ventilation		
Low noise fan guard	-	/LN,
Fan guard	-	/C, /LF
Fan	-	/AL, /U, /OL
Forced cooling fan	-	/V
Additional options		
2 <sup>nd</sup> shaft end	-	/2W
Condensation drain hole	-	/DH



# 4 Overview of types and unit designation

Example of a nameplate for the global motor

## 4.6 Example of a nameplate for the global motor

Using the example of the DRE90L4 with 15 kW, the nameplate of the complete "Global Motor and China" is shown below and the individual logos and certification marks are noted.



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- [1] UR certification mark of fire insurance for the USA
- [2] ee energy efficiency certification mark for the USA
- [3] Declaration of conformity CE for Europe
- [4] CSAe energy efficiency certification mark and CSA market approval for Canada
- [5] CEL energy efficiency certification mark – separate sticker for China

Please note the following:

- Three supply voltages are common in Brazil at a frequency of 60 Hz. In addition to 3 x 230 V and 3 x 380 V, there are supply systems with 3 x 440 V. The global motor can only be used for 440 V, see Nameplate (→ 49).
- The time-consuming certification process in South Korea does not recognize any motors that were designed for one voltage range. SEW-EURODRIVE is currently in discussions with the certification body as to how the extension of fixed voltage to voltage range can be designed. At present, the global motor can only be supplied to South Korea by making use of one of the exceptions according to REELS.

## 4.7 Mounting position designation of motors

### 4.7.1 Position of motor terminal box and cable entry

The product standard EN 60034 specifies that the following designations have to be used for terminal box positions:

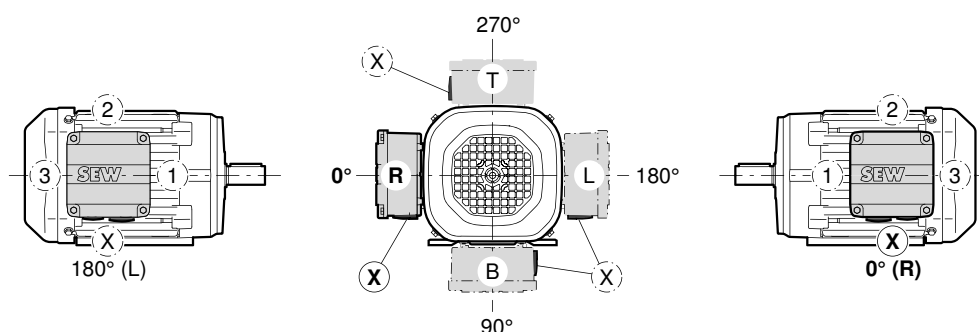
- As viewed onto the output shaft = A-side
- Designation as R (right), B (bottom), L (left) and T (top)

This new designation applies to motors without a gear unit in mounting position B3 (= M1). The previous designation is retained for gearmotors.

The position of the motor terminal box has so far been specified indicated with 0°, 90°, 180° or 270° as viewed onto the fan guard = B-side.

The following figure shows both designations. Where the mounting position of the motor changes, "R", "B", "L" and "T" are rotated accordingly.

The cable entry position is specified with x, 1, 2, 3.



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## INFORMATION



Unless other information is provided regarding the terminal box, the 270° design with "x" cable entry will be supplied (see figure below).

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Mounting position designation of motors

## 4.7.2 Mounting positions for AC motors

<b>B3</b> 	<b>B6</b> 	<b>B7</b> 
<b>B8</b> 	<b>V5</b> 	<b>V6</b> 
<b>B5</b>  <b>B35</b> 	<b>V1</b>  <b>V15</b> 	<b>V3</b>  <b>V36</b> 
<b>B14</b>  <b>B34</b> 	<b>V18</b>  <b>V17</b> 	<b>V19</b>  <b>V37</b> 
<b>B65</b> 	<b>B75</b> 	<b>B85</b> 

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