8 Important Information about Tables and Dimension Sheets

8.1 Geometrically possible combinations

Structure of the tables

These tables show combinations of gear units and AC (brake) motors that are geometrically possible. The following data are given for each combination and an input speed n_i = 1400 1/min:

- Output speed (n_a)
- Maximum output torque (M_{amax})
- Permitted overhung load (F_{RA}) at maximum output torque, applies to foot-mounted gear units with solid shaft
- Gear ratio (i)

Torsion angle $\varphi_{(/R)}$**:** If no value is indicated, the gear unit is not available with "reduced backlash (/R)" with this option. If a value is stated, this gear unit is available with "reduced backlash (/R)". The numerical value specifies the circumferential backlash of the reduced backlash version in angular minutes ['].

R57, n_e = 1400 1/min											**450 Nm**
n_a [1/min]	**M_{amax} [Nm]**	**F_{Ra} [N]**	**$\varphi_{(/R)}$ ['] **	**i**	**DR63 DRS71S DRS71M**	**DRS80**	**DRS90M**	**DRS90L DRS100M**	**DRS100LC**	**DRS132S DRS132M**	**DRS132MC**
				 **2**							
53	450	4750	6	26.31							
56	450	4640	6	24.99*							
64	450	4370	7	21.93							
75	450	4050	7	18.60*							

Gear unit reduction ratio

No data (-): The reduced backlash (= /R) option is not possible for this i value.
Numerical value given: The reduced backlash (= /R) option is possible; the numerical value specifies the circumferential backlash of the reduced backlash version in angular minutes ['].

Permitted overhung load at maximum output torque (foot-mounted gear unit with solid shaft)

Maximum output torque

Output speed

* Finite gear unit reduction ratio

	Combination with the motor in the header **is possible**.
	Combination with the motor in the header **is not possible**.

Helical gear units (R), with the exception of the single stage RX gear unit, and parallel-shaft helical gear units (F) have two or three stages, depending on the gear unit reduction ratio. The tables indicate whether the subsequent i ranges are two or three stage. Multi-stage gear units always have a helical gear unit as their primary gear unit; it explains why the number of stages is also given for multi-stage gear units.

 **2** For R and F gear units: Number of stages of the subsequent gear ratios (two or three stage).

 **3**  **3** For multi-stage gear units: Stages of the following ratios (2-2, 3-3, 2-3 or 3-2 stages).
The number of stages of the primary gear unit (= small gear unit) is given on the right; the number of stages of the output gear unit (= large gear unit) is given on the left.

Helical-bevel, Spiroplan® and helical-worm gear units (K, W and S) have a defined number of stages. This means the number of stages does not have to be listed in the tables.

- Helical-bevel gear units (K): Always three-stage
- Spiroplan® gear units (W): W..10 to W..30: always single-stage W..37 and W..47: always two-stage
- Helical-worm gear units (S): always two-stage

8.2 Selection tables for gearmotors

Structure of the selection tables

The two figures below illustrate the structure of the selection tables for gearmotors. There are two types of selection tables:

1. For standard output speeds, sorted according to the rated power P_m [kW] of the driving motor.
2. For extremely low output speeds, multi-stage gearmotors are always sorted according to the maximum permitted output torque $M_{o\ max}$ [Nm].

1. For standard output speeds:

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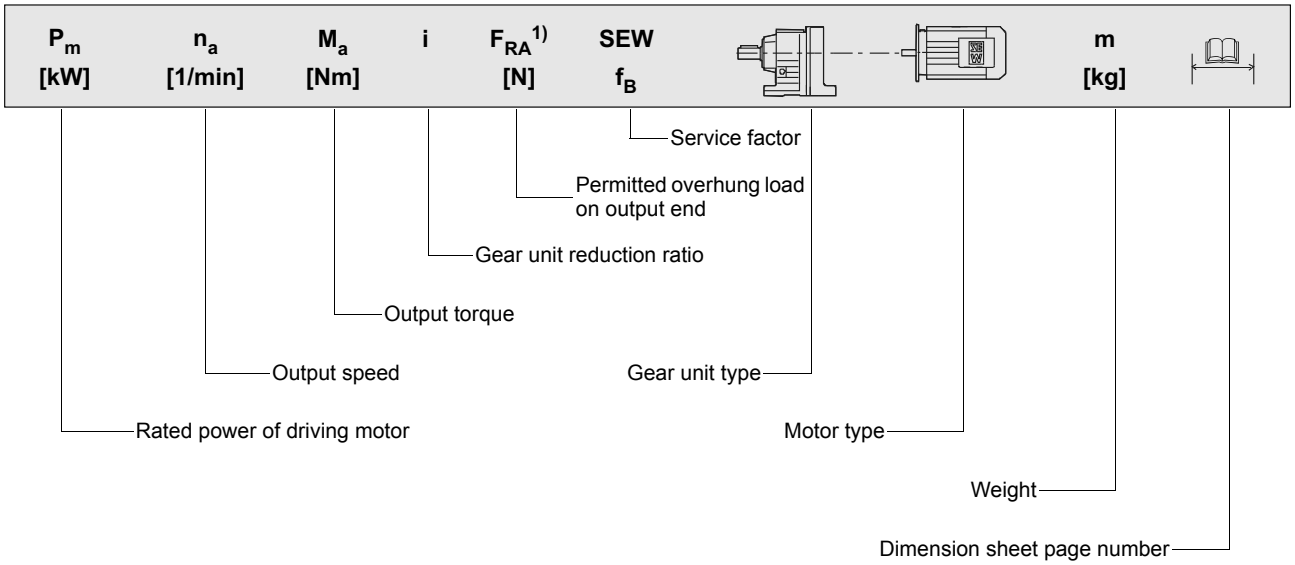

Key

* Finite gear unit reduction ratio

1) Overhung load for foot-mounted gear units with solid shaft; overhung loads for other gear unit types upon request

Only applies to Spiroplan® (W) gearmotors:

- If a lubricant is used for the food industry (food grade), SEW $f_B \geq 1.2$ required.

1. For extremely low output speeds (multi-stage gearmotors):

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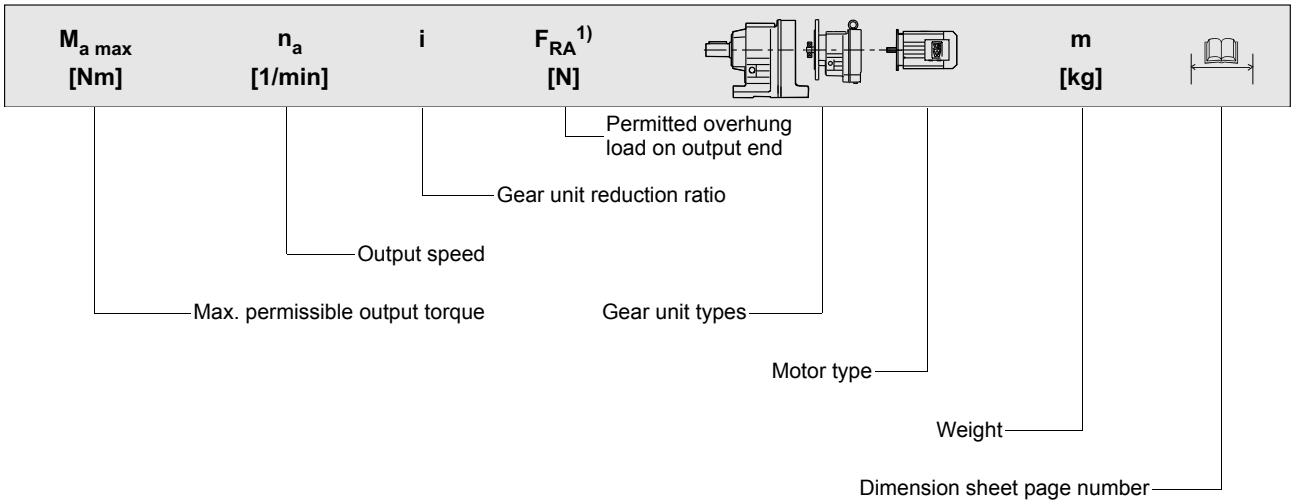

Key

* Finite gear unit reduction ratio

1) Overhung load for foot-mounted gear units with solid shaft; overhung loads for other gear unit types upon request

In drives for extremely low output speeds (multi-stage gearmotors), the motor power must be limited to the maximum permitted output torque of the gear unit.

8.3 Information regarding the dimension sheets

Scope of delivery

= Standard parts supplied by SEW-EURODRIVE.

= Standard parts not supplied by SEW-EURODRIVE.

Tolerances

Shaft heights

The following tolerances apply to the indicated dimensions:

h	≤ 250 mm	→ -0.5 mm
h	> 250 mm	→ -1 mm

Foot-mounted gear units: Check the mounted motor because it may project below the mounting surface.

Shaft ends

Diameter tolerance:

∅	≤ 50 mm	→ ISO k6
∅	> 50 mm	→ ISO m6

Center bores according to DIN 332, shape DR:

∅	= 7...10 mm	→ M3	∅	> 30...38 mm	→ M12
∅	> 10...13 mm	→ M4	∅	> 38...50 mm	→ M16
∅	> 13...16 mm	→ M5	∅	> 50...85 mm	→ M20
∅	> 16...21 mm	→ M6	∅	> 85...130 mm	→ M24
∅	> 21...24 mm	→ M8	∅	> 130 mm	→ M30
∅	> 24...30 mm	→ M10			

Keys: according to DIN 6885 (domed type)

Hollow shafts

Diameter tolerance:

∅ → ISO H7 measured with plug gauge

Keys: according to DIN 6885 (domed type)

Exception: Key for WA37 with shaft ∅ 25 mm according to DIN 6885-3 (low form)

Multiple-spline shafts

Dm	= Measuring roller diameter
Me	= Check gauge

Flanges

Centering shoulder tolerance:

∅	≤ 230 mm (flange sizes A120...A300)	→ ISO j6
∅	> 230 mm (flange sizes A350...A660)	→ ISO h6

Up to 3 different flange dimensions are available for each size of helical gear unit, Spiroplan® gear unit, AC (brake)motor and explosion-proof AC (brake)motor. The dimension sheets show the possible flanges for the respective sizes.

Eyebolts, lifting eyes

R07...R27 helical gear units, motors up to DR100 and the Spiroplan® gearmotors W..10 to W..30 are delivered without special transportation fixtures. All other gear units and motors are equipped with cast-on suspension eye lugs, screw-on suspension eye lugs or screw-on lifting eyebolts.

Gear unit/motor type	screw-on,		cast-on eyebolts
	lifting eyebolts	eyebolts	
R..37-R..57	-	•	-
R..67-R..107	•	-	-
RX57-RX67	-	•	-
RX77-RX107	•	-	-
F..27-F..157	-	-	•
K..37-K..157	-	-	•
K..167-K..187	•	-	-
S..37-S..47	-	•	-
S..57-S..97	-	-	•
W37-W47	-	•	-
≥ **DR112**	•	-	-

Breather valves

The gear unit dimension drawings are shown with screw plugs. As standard, the corresponding screw plug is replaced with an activated breather valve depending on the ordered mounting position M1...M6. Contour dimensions might be slightly different as a result.

Shrink disk connection

Hollow shaft gear unit with shrink disk connection: If required, please request a detailed data sheet on shrink disks, data sheet no. 33 753 ..95.

Splined hollow shaft

FV.. hollow shaft gear units in sizes 27 ... 107 and KV.. in sizes 37 ... 107 are delivered with a splined hollow shaft according to DIN 5480 (tooth space tolerance 9H).

Rubber buffer for FA/FH/FV/FT

Preload rubber buffer by the indicated value ΔL. The characteristic curve of spring for the rubber buffers is available at SEW-EURODRIVE on request.

Torque arm position

The following illustration shows the possible torque arm positions for helical-worm gear units and Spiroplan® gear units as well as the respective angles:

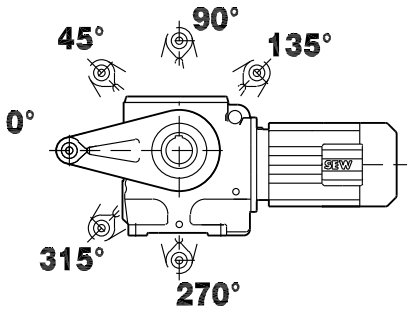

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Figure 28: Torque arm position

Dimensions for motors

Motor options

The motor dimensions may change due to motor options. Refer to the dimension drawings of the motor options.

Special designs

The dimensions of the terminal box on special designs such as KS, CSA, VIK, low voltage or voltage changeover may deviate from the standard dimensions.

EN 50347

European standard EN 50347 became effective in August 2001. This standard adopts the dimension designations for three-phase AC motors of size 56 to 315M and flange size 65 to 740 from the IEC 72-1 standard.

The new dimension designations given in EN 50347 / IEC 72-1 are used for the relevant dimensions in the dimension sheet tables.

Dimension designations for motors

The dimension designations for the motors are described below:

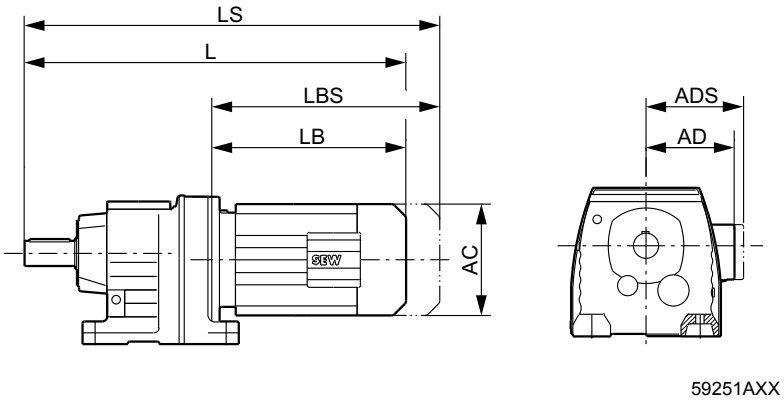

Figure 29: Dimension designations for the motors

L	= Total length of the gearmotor
LS	= Total length of the gearmotor including the brake
LB	= Length of the motor
LBS	= Length of the brakemotor
AC	= Diameter of the motor
AD	= Distance between the center of the motor shaft and the top part of the terminal box
ADS	= Distance between the center of the brakemotor shaft and the top part of the terminal box