7 Important Information, Tables and Dimension Sheets

7.1 Possible geometrical 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_e = 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 unit reduction ratio (i)

Torsion angle $\varphi_{(/R)}$: If no value is specified, then the gear unit is not available with the "reduced backlash (/R)" option in this gear unit reduction ratio. If a numerical value is given, this gear unit is also available with the "reduced backlash (/R)" option. 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 DT71	DT80	DT90	DV100	DV112	DV132M DV132S
				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: Number of stages of the subsequent gear ratios (2/2, 3/3, 2/3 or 3/2 stage). 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.

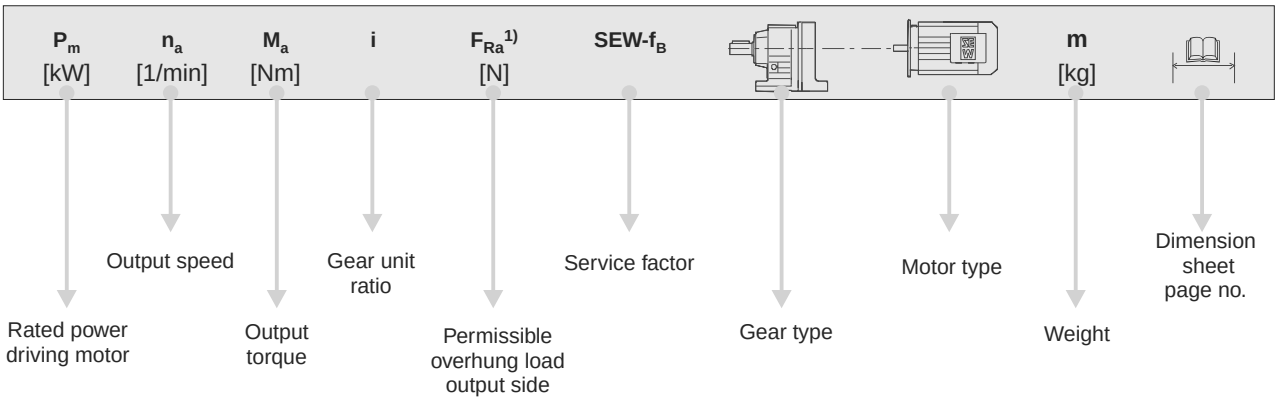
Helical-bevel, Spiroplan® and helical-worm gear units (K, W and S) have a defined number of stages. As a result, the number of stages does not have to be given in the tables.
- Helical-bevel gear units (K): Always three-stage
- Spiroplan® gear units (W): Always single-stage
- Helical-worm gear units (S): Always two-stage

7.2 Selection tables for R, F, K and S gearmotors

Structure of the selection tables

The following figure shows the structure of the selection tables for R, F, K and S gearmotors. The selection tables are divided into two types:

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



For particularly low output speeds:

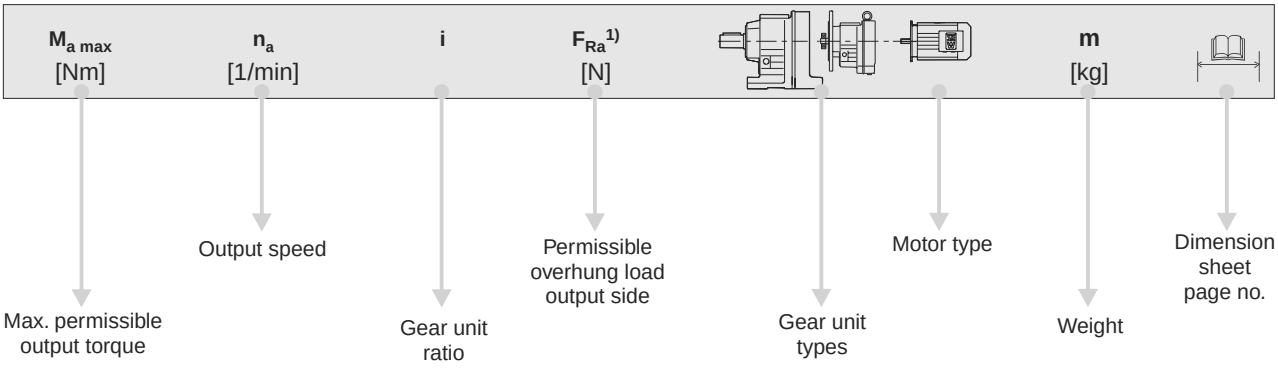


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Figure 27: Structure of the selection tables for R, F, K and S gearmotors

Legend

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

7.3 Selection table for W gearmotors

Structure of the selection table

The following figure shows the structure of the selection table for W (Spiroplan®) gearmotors.

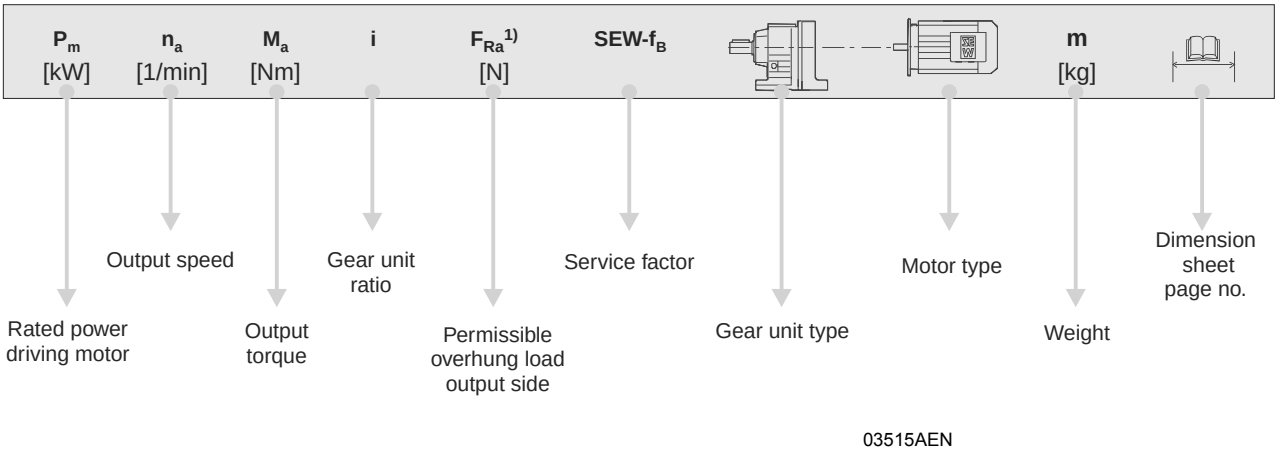

Figure 28: Structure of the selection table for W gearmotors

Legend

* 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

7.4 Notes on dimension sheets

Scope of delivery

= Standard parts are supplied by SEW-EURODRIVE.

= Standard parts are not supplied by SEW-EURODRIVE.

Tolerances

Shaft heights

The following tolerances apply to the dimensions given:

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

Keys: according to DIN 6885 (domed type).

Hollow shafts

Diameter tolerance:

∅	→ ISO H7 measured with plug gauge

Multiple-spline shafts

Dm	= Measuring roller diameter
Me	= Check size

Flanges

Centering shoulder tolerance:

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

Up to three 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 possible flanges per size are indicated in the relevant dimension sheets.

Lifting eyebolts, suspension eye lugs

R07...R27 helical gear units, motors up to DV100 and Spiroplan® gearmotors 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 suspension eye lugs
	Lifting eyebolts	Suspension eye lugs	
R..37-R..57	-	•	-
R..67-R..167	•	-	-
RX57-RX67	-	•	-
RX77-RX107	•	-	-
F..27-F..157	-	-	•
K..37-K..157	-	-	•
K..167-K..187	•	-	-
S..37-S..47	-	•	-
S..57-S..97	-	-	•
≥ **DV112**	•	-	-

Breather valves

The gear unit dimension drawings are always shown with screw plugs. The corresponding screw plug is replaced by an activated breather valve at the factory depending on the ordered mounting position M1...M6. This means the contour dimensions may be slightly different.

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.

Rubber buffer for FA/FH/FV

f = Spring travel at $M_{a\ max}$

Motor dimensions

SDT, SDV

SDT and SDV motors are the same size as the corresponding DT and DV motors.

≥280

Some motors of size ≥ 280M may have different dimensions. Please ask for specific confirmation of the dimensions when you place your order, or alternatively ask for a binding dimension drawing.

Brake motors

In brake motors, dimensions ADS apply instead of AD and LBS instead of LB.

Motor options

The motor dimensions may differ as a result of motor options. Please 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 sizes 56 to 315M and flange sizes 65 to 740 from the IEC 72-1 standard.

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