



2 Important Information, Tables and Dimension Sheets

2.1 Permitted combinations

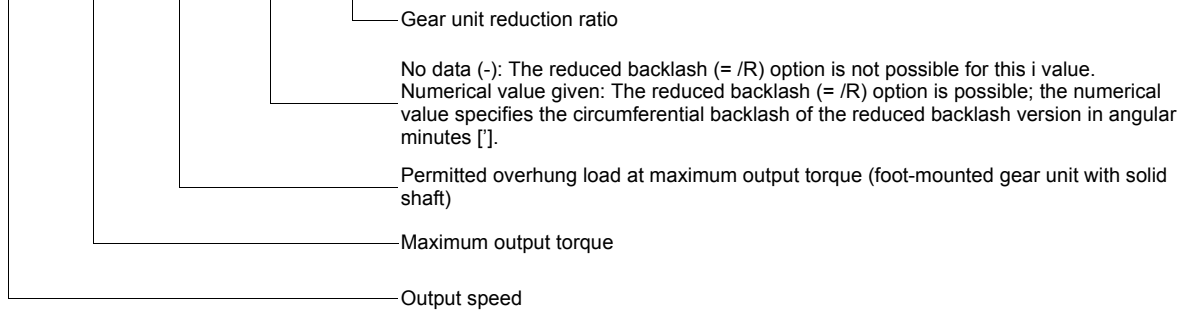
Structure of tables

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

- Output speed (n_o)
- Maximum output torque ($T_{a \max}$)
- 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, $n_e = 1700$ rpm						3980 lb-in				
n_a [rpm]	$T_{a \max}$ [lb-in]	F_{Ra} [lb]	φ (/R) [']	i	DR63 DT71	DT80	DT90	DT100 DV100	DV112	DV132M DV132S
2										
65	3980	980	6	26.31						
68	3980	950	6	24.99*						
78	3980	900	7	21.93						
91	3980	830	7	18.60*						



* 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): Always single-stage
- Helical-worm gear units (S): Always two-stage



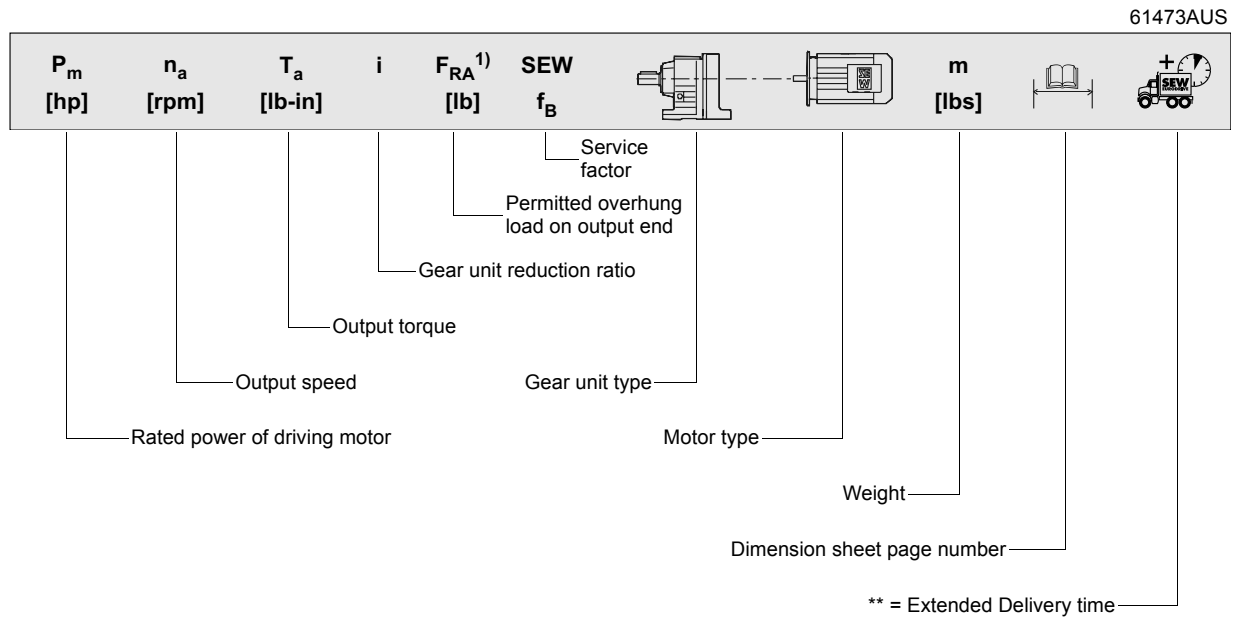
2.2 Selection tables for gearmotors

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 [HP] of the driving motor.
2. For particularly low output speeds, multi-stage gearmotors are always sorted according to the maximum permitted output torque $T_{a\ max}$ [lb-in] (not Spiroplan® (W) gearmotors).

1. For standard output speeds:



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



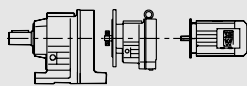

Only applies to Spiroplan® (W) gearmotors:

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



2. For particularly low output speeds (multi-stage gearmotors):

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$T_{a \max}$ [lb-in]	n_a [rpm]	i	$F_{RA}^{1)}$ [lb]		m [lbs]	
Max. permitted output torque	Output speed	Gear unit reduction ratio	Permitted overhung load on output end	Gear unit types	Motor type	Weight
						Dimension sheet page number

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



2.3 Notes on 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:

$h \leq 9.84$ in $\rightarrow -0.02$ in

$h > 9.84$ in $\rightarrow -0.04$ in

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

Shaft ends

Diameter tolerance:

	inch		mm	
\varnothing	$> 0.500 \dots 1.375$	$+0 \rightarrow -0.0005$	≤ 50 mm	\rightarrow ISO k6
\varnothing	$> 1.375 \dots 7.5$	$+0 \rightarrow -0.0010$	> 50 mm	\rightarrow ISO m6

Center bores according to DIN 332, shape DR:

	inch		mm	
\varnothing	0.75	1/4 - 20 x 0.63	$= 7 \dots 10$ mm	\rightarrow M3
\varnothing	1	3/8 - 16 x 0.87	$> 10 \dots 13$ mm	\rightarrow M4
\varnothing	1.25...1.375	1/2 - 13 x 1.12	$> 13 \dots 16$ mm	\rightarrow M5
\varnothing	1.625...1.75	5/8 - 11 x 1.38	$> 16 \dots 21$ mm	\rightarrow M6
\varnothing	2...2.875	3/4 - 10 x 1.61	$> 21 \dots 24$ mm	\rightarrow M8
\varnothing	3.625...4.75	1 - 8 x 2.13	$> 24 \dots 30$ mm	\rightarrow M10
\varnothing	6.25...7.5	1-1/8 - 7 x 2.13	$> 30 \dots 38$ mm	\rightarrow M12
\varnothing			$> 38 \dots 50$ mm	\rightarrow M16
\varnothing			$> 50 \dots 85$ mm	\rightarrow M20
\varnothing			$> 85 \dots 130$ mm	\rightarrow M24
\varnothing			> 130 mm	\rightarrow M30

Keys: according to DIN 6885.

Hollow shafts

Diameter tolerance:

	inch		mm	
\varnothing	$> 0.500 \dots 0.875$	$+0.0007 \rightarrow -0$	\rightarrow ISO H7 measured with plug gauge	
\varnothing	$> 0.875 \dots 1.9375$	$+0.0010 \rightarrow -0$		
\varnothing	$> 1.9375 \dots 2.9375$	$+0.0011 \rightarrow -0$		
\varnothing	$> 2.9375 \dots 4$	$+0.0013 \rightarrow -0$		
\varnothing	$> 4 \dots 4.5$	$+0.0018 \rightarrow -0$		

Multiple-spline shafts

Dm = Measuring roller diameter
Me = Check size



Flange

Centering shoulder tolerance:

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

Up to two different flange dimensions are available for each size of helical gear unit, Spiroplan® gear unit and AC (brake) motor. The respective dimension drawings will show the flanges approved for each size.

Eyebolts, lifting eyes

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	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	-	-	•
≥ DV112	•	-	-

Breather valves

The gear unit dimension drawings are 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. The result may be slightly altered contour dimensions.

Shrink disc connection

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

Splined hollow shaft

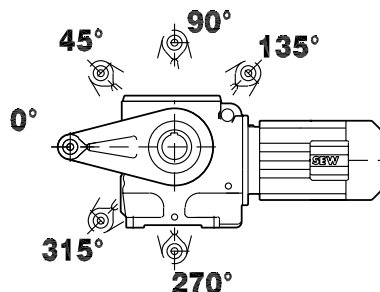
FV.. hollow shaft gear units in sizes 27 ... 107 and KV.. in sizes 37 ... 107 are delivered with a splined hollow shaft according to DIN 5480.

Rubber buffer for FA/FH/FV/FT

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

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 1: Torque arm position



Motor dimensions

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

>280 There can be some slight changes for dimensions of motors of size >280. Have your dimensions confirmed when placing your order or request a certified dimension drawing.

Motor options The motor dimensions may change when installing motor options. Refer to the dimension drawings of the motor options.

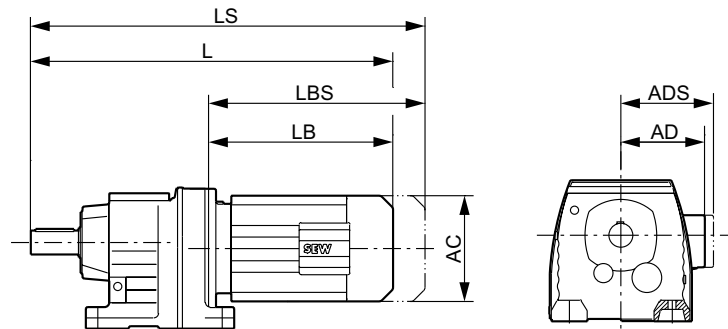
Special designs The dimensions of the terminal box on special designs such as KS, CSA, VIK, low voltage or voltage changeover may deviate from the standard dimensions.

EN 50347 European standard EN 50347 became effective in August 2001. This standard adopts the dimension designations for three-phase AC motors for 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.

Dimension designations of motors

The following is an overview of the motor dimension designations:



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Figure 2: Dimension designation of motors

- L = Total length of gearmotor
- LS = Total length of gearmotor including brake
- LB = Length of motor
- LBS = Length of brake motor
- AC = Diameter of motor
- AD = Center of motor shaft to top part of terminal box
- ADS = Center of brake motor shaft to top part of terminal box