



SEW
EURODRIVE

Addendum to the Operating Instructions



Gear Unit Series R..7, F..7, K..7, S..7, SPIROPLAN® W
R..7, F..7, K..7 Gear Units with Flange Coupling





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1 Addendum to the Operating Instructions

INFORMATION



This addendum provides important additional information to the operating instructions for R..7, F..7, K..7 gear units with flange coupling.

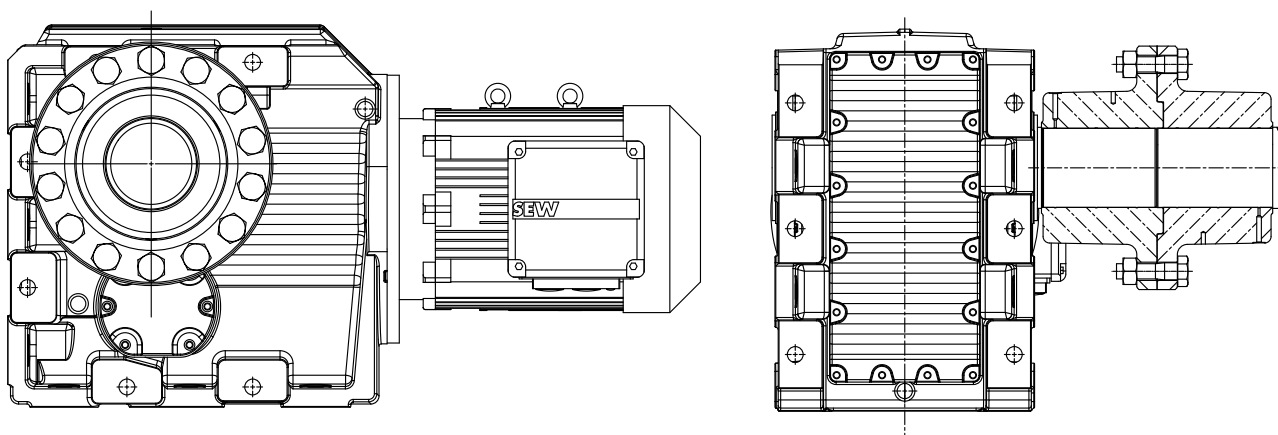
Please use the technical data specified in this document. This document does not replace the "R..7, F..7, K..7, S..7, SPIROPLAN® W Series Gear Units" operating instructions.

1.1 Structure

Flange couplings [1] are rigid couplings for connecting 2 shafts [2].

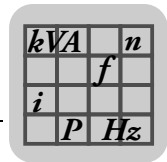
They are suitable for operation in both directions of rotation, but cannot compensate any shaft misalignments.

Torque between shaft and coupling is transmitted via a cylindrical interference fit. The two coupling halves are mounted together at their flanges. The couplings are equipped with several disassembly bores [3] for removing the interference fit hydraulically.



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- [1] Flange coupling
- [2] Customer and gear unit shaft
- [3] Disassembly bores



1.2 Mounting the coupling to the customer shaft



INFORMATION

The coupling half for the gear unit end is already mounted at the factory.



INFORMATION

Prepare mounting tools and the process carefully, so that the coupling can be fitted to the shaft quickly.

1. Clean the shaft and bore of the flange coupling thoroughly and remove any grease. The disassembly bores of the coupling must also be free from dirt.

- **▲ NOTICE** Improper assembly can damage the coupling.

Possible damage to property.

- Make sure that the shaft and bore are completely free from grease to ensure proper functioning of the interference fit. Do not use anti-seize paste for assembly.

2. Heat the flange coupling to a joining temperature of 250 °C as long as no special joining temperature is specified for the order.

- **▲ CAUTION** The required assembly clearance is achieved only by heating the coupling.

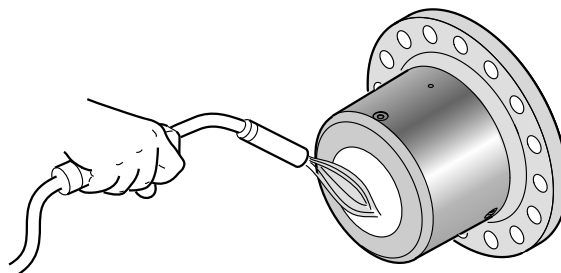
Danger of burns during the entire assembly process!

- Make sure that hot parts cannot be touched unintentionally.

- **▲ NOTICE** Radiant heat from the flange coupling can damage adjacent elements.

Possible damage to property.

- Protect adjacent elements (e.g. oil seals) with suitable heat shields.



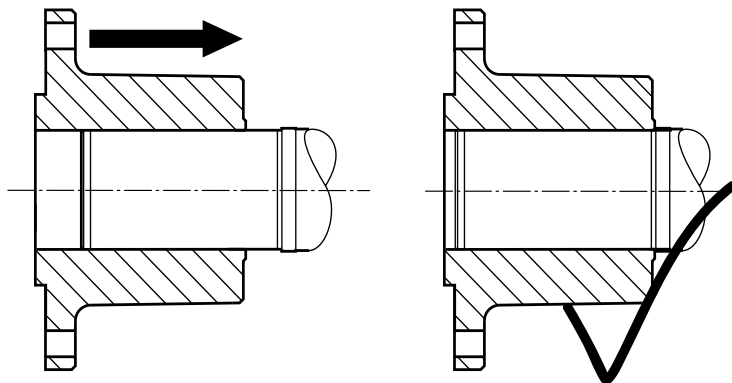
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kVA		n
	f	
i		
P	Hz	

Addendum to the Operating Instructions

Mounting the coupling to the customer shaft

3. Mount the flange coupling quickly onto the shaft up against the shaft shoulder.



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⚠ CAUTION

Risk of crushing due to falling coupling.

Minor injuries.

- During the cooling process, the coupling must be secured on the shaft.

4. Once the coupling has cooled down, spray the disassembly bores with clean mineral oil and close them using the supplied screw plugs.

kVA	n
i	f
P	Hz

1.3 Establishing the flange connection



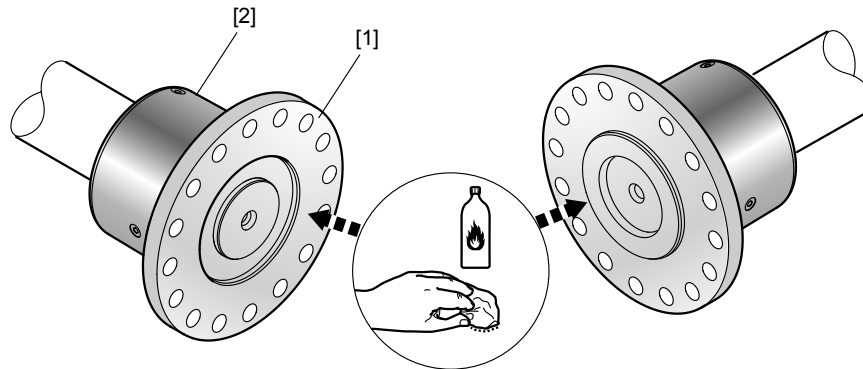
NOTICE

Improper assembly may damage the coupling.

Possible damage to property.

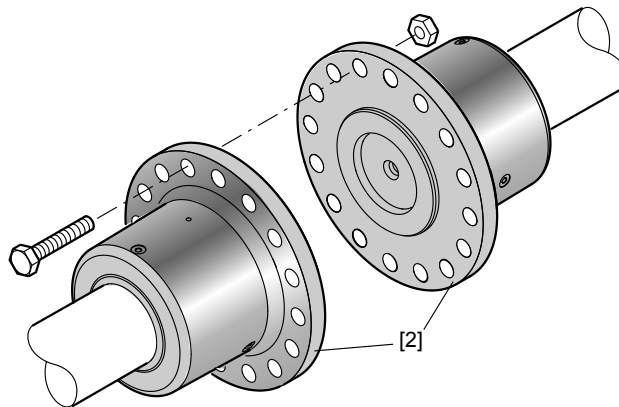
- Note that the flange coupling cannot compensate shaft misalignments.

1. Clean the flange surfaces [1] of the coupling halves [2].

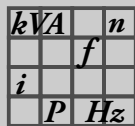


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2. Align the bore patterns of the two coupling halves [2] and join the flange coupling with the bolts and nuts included in the delivery.



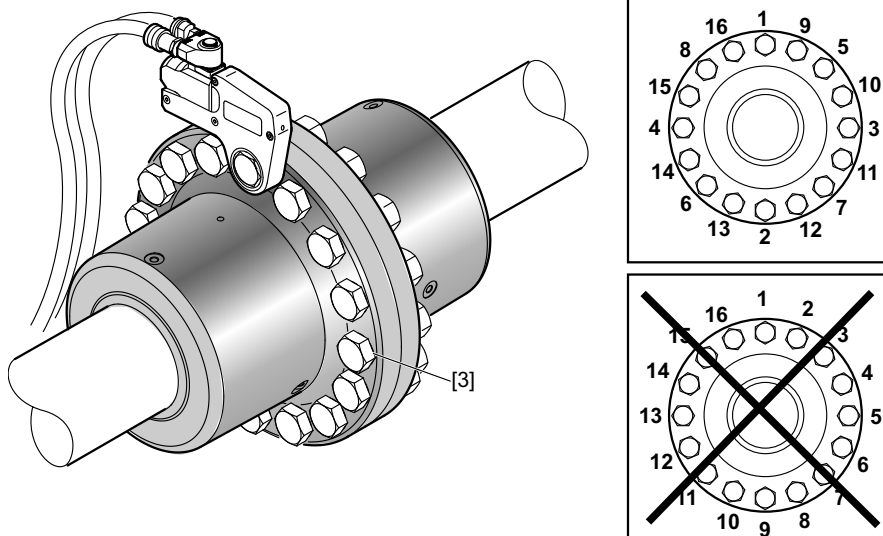
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Addendum to the Operating Instructions

Establishing the flange connection

3. Mount the bolts [3] and tighten them in diametrically opposite sequence with the tightening torques listed in the following table.



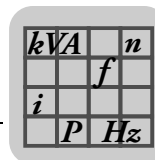
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Size	Bolt size	Tightening torque Strength class 10.9 [Nm]
F107 / K107 / R137	M20	580
F127 / K127 / R147	M24	1000
F157 / K157 / R167	M30	2010
K167	M36	3500
K187		



INFORMATION

Do not lubricate the bolts [3] during assembly.



1.4 Removing the coupling from the shaft

1.4.1 Notes



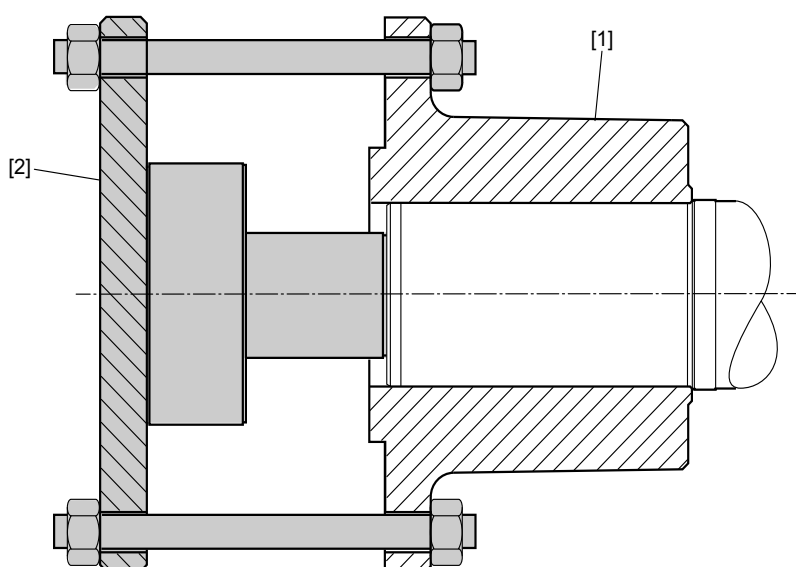
⚠ CAUTION

Risk of jamming and crushing due to improper removal of heavy components.

Risk of injury.

- Disassemble the flange coupling properly.
- Observe the following disassembly instructions.

To remove the coupling [1], the interference fit must first be widened hydraulically. The remaining holding force must then be overcome with a pull-off device [2]. The following figure shows an exemplary design of a hydraulic puller.



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For disassembling the coupling, one oil pump is required per disassembly bore.

The data required for dimensioning the pull-off device is listed in the following table:

Size	Oil pressure required for disassembly [bar]	Number of disassembly bores/number of required oil pumps	Fitting of the pressure oil bores in the flange coupling	Required axial force of the pull-off device [kN]
F107 K107 R137	1600	2	G 1/4"	85
F127 K127 R147		2		115
F157 K157 R167		2		160
K167		2		190
K187		3		220

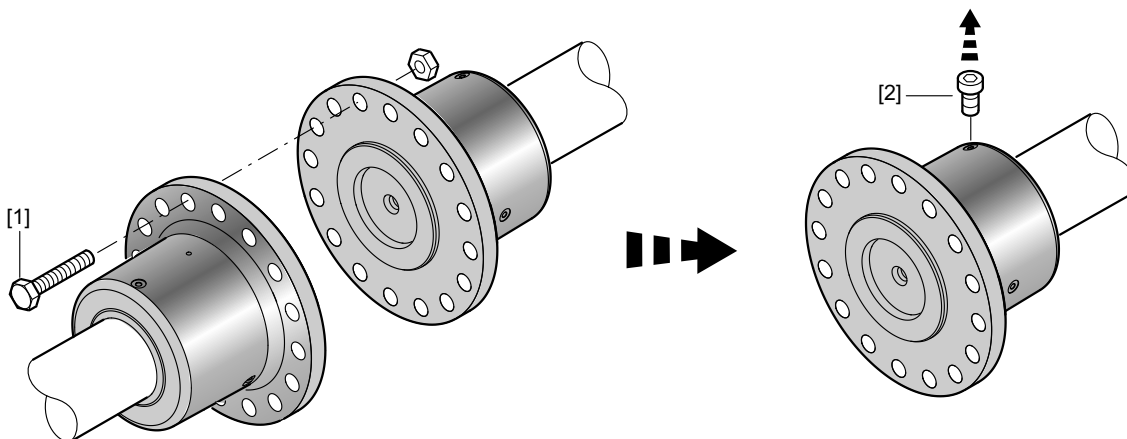
1.4.2 Procedure



INFORMATION

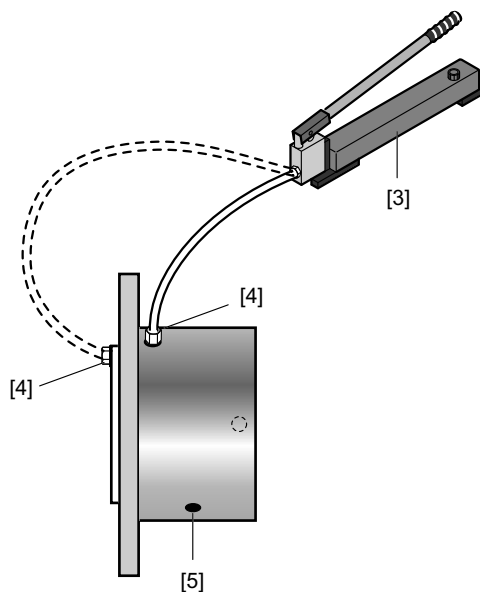
Prepare disassembly tools and the process carefully, so that the coupling can be removed from the shaft quickly.

1. Loosen the bolts [1] and separate the flange coupling. Remove the screw plugs [2] of the disassembly bores.



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2. Connect the first oil pump [3] to the disassembly bore closest to the flange [4] and apply pressure until oil comes out of the second disassembly bore [5]. Depending on the size, this disassembly bore can also be located on the flange surface of the coupling.



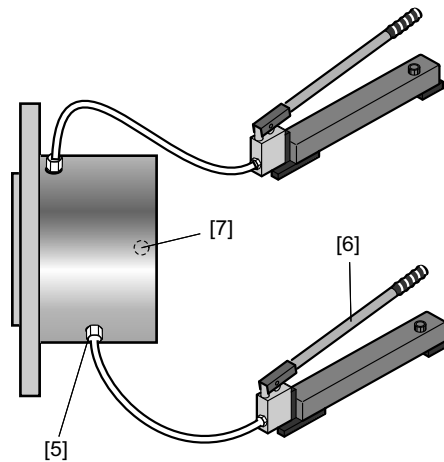
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INFORMATION

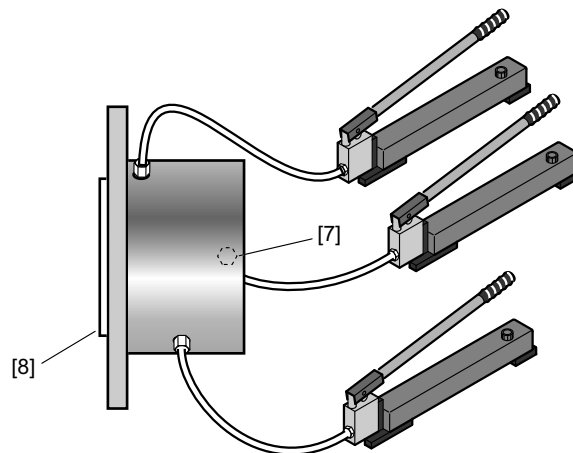
It is essential that you observe the safety notes of the manufacturers of the hydraulic devices during the disassembly process.

3. Connect the next oil pump [6] to this bore [5] and press in oil until it comes out at the next disassembly bore [7].



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4. Repeat this process until all disassembly bores are connected to an oil pump and pressure is applied. At the last disassembly bore [7], the pressure must be increased until at both front faces of the coupling [8] oil comes out in the shape of a ring.



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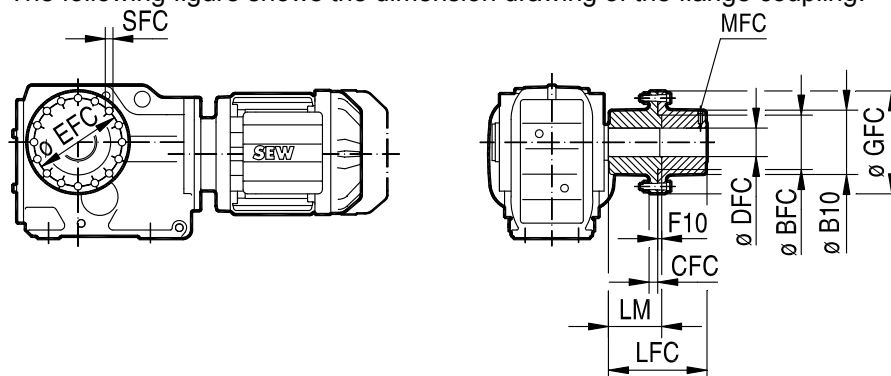
INFORMATION

- The coupling can also be disassembled with only one oil pump. In this case, the individual disassembly bores must be blocked after pressure has been applied. Provide for a consistent pressure throughout the disassembly procedure.
- Before removing the coupling, keep the oil pressure constant for 30 minutes to create an evenly distributed oil film inside the interference fit. The pressure must be kept constant during this time and the remaining disassembly process at all bores.

1.5 Technical data

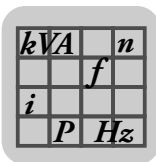
1.5.1 Flange coupling dimension sheet

The following figure shows the dimension drawing of the flange coupling:



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Type		Ø B10	Ø BFC	CFC	Ø DFC	Ø EFC	F10	Ø GFC	LFC	LM	MFC	SFC 10.9	kg
F..107													
K..107	FC290	180	150 js6	25	95 H7	250	10	290	266	143	G1/4" (3x)	M20 (12x)	2x27
R137													
F..127													
K..127	FC345	220	175 js6	30	115 H7	300	10	345	334	177	G1/4" (3x)	M24 (16x)	2x45
R147													
F..157													
K..157	FC415	252	215 js6	38	135 H7	355	12	415	408	216	G1/4" (3x)	M30 (14x)	2x75
R167													
K167	FC505	304	250 js6	45	165 H7	425	12	505	448	236	G1/4" (3x)	M36 (12x)	2x123
K187	FC530	331	280 js6	45	190 H7	455	15	530	510	270	G1/4" (3x)	M36 (16x)	2x165

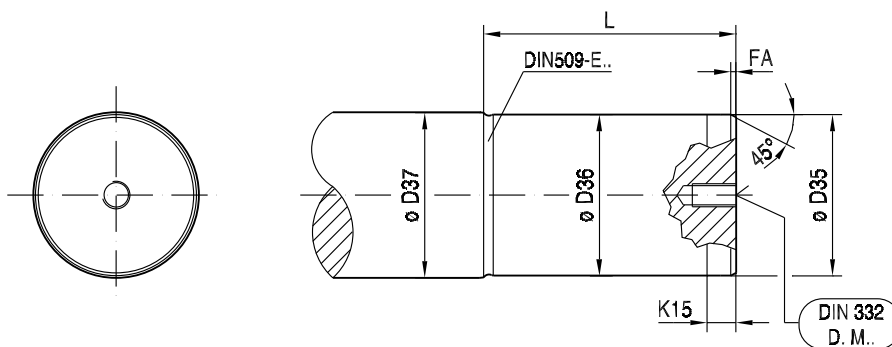


1.5.2 Customer shaft dimension sheet



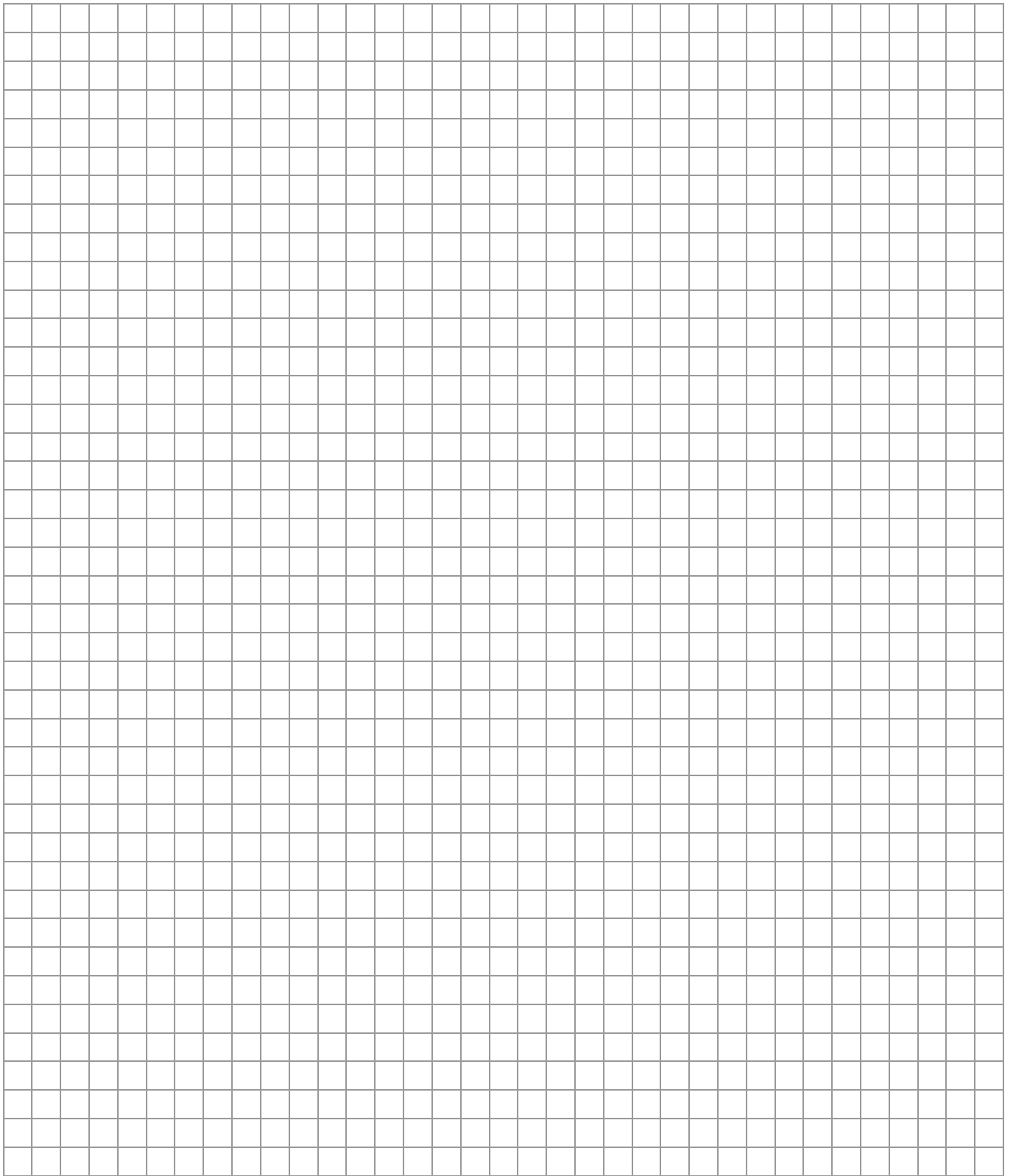
INFORMATION

Ensure that the dimensions of the customer shaft correspond to SEW specifications.



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	$\varnothing D35$	$\varnothing D36$	$\varnothing D37$	FA	K15	L	DIN 332 D.M..	DIN 509
F107 K107 R137	95 _{h9}	95 _{v6}	100	2	9	131	M20	E2.5x0.4
F127 K127 R147	115 _{h9}	115 _{v6}	120	2	9	165	M24	E2.5x0.4
F157 K157 R167	135 _{h9}	135 _{v6}	170	3	11	202	M30	E2.5x0.4
K167	165 _{h9}	165 _{v6}	90	2	9	222	M20	E2.5x0.4
K187	190 _{h9}	190 _{v6}	200	3	14	283	M30	E2.5x0.4





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