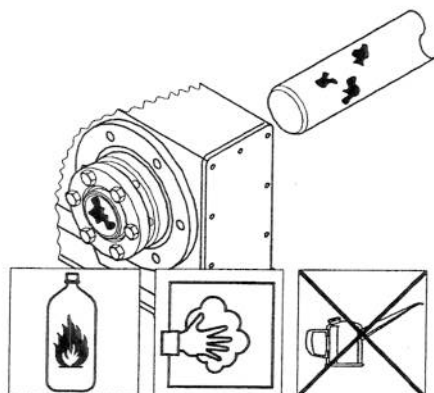


4.8 Installation/removal of shaft-mounted gear units with shrink disc

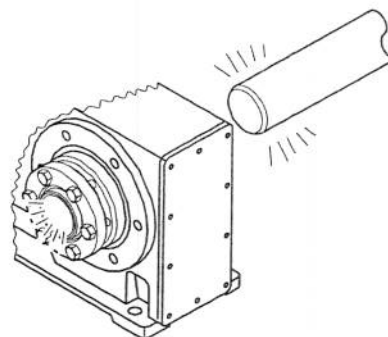
Installation notes

- Do not tighten locking screws unless shaft is installed - hollow shaft could be deformed!

1. Thoroughly remove grease from hollow shaft bore and drive shaft.
2. Degreased hollow shaft/drive shaft

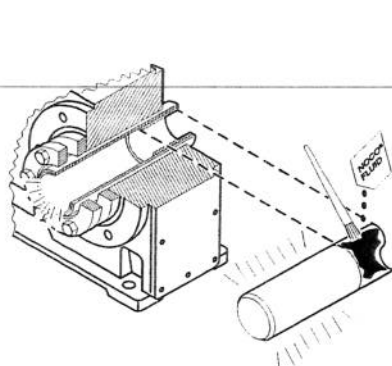


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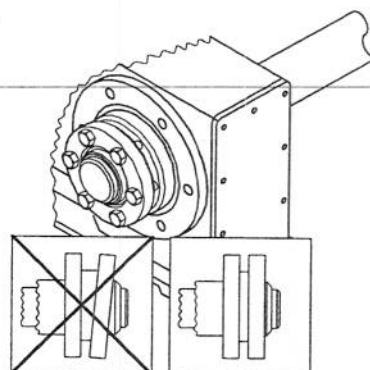


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3. Apply NOCO® fluid in the bushing area onto the input shaft¹⁾.
4. Install shaft, making sure that the locking collars of the shrink disc are evenly spaced²⁾.



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- ¹⁾ The clamping area of the shrink disc must always be kept free from grease! Therefore, never apply NOCO® fluid directly onto the bushing, since the paste can enter the clamping area of the shrink disc when installing the input shaft.
- ²⁾ After installation, grease the outer surface of the hollow shaft in the shrink disc area to protect the shaft against corrosion.



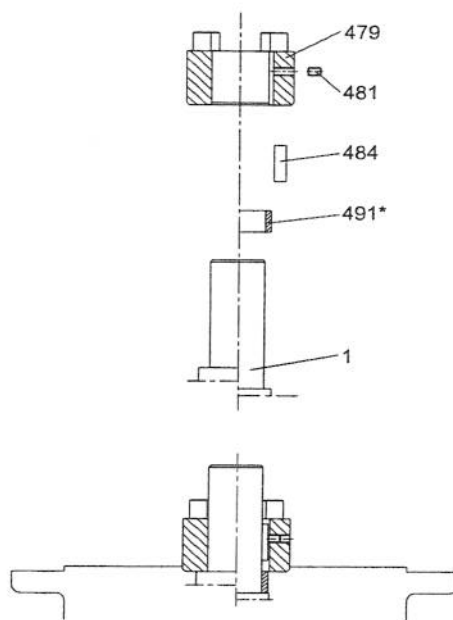
4.9 Installation of the AM adapter coupling

IEC adapters

AM63 - 225 /

NEMA adapters

AM56 - 365



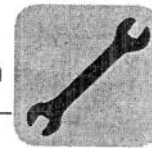
* = NEMA adapters
only
1 = motor shaft

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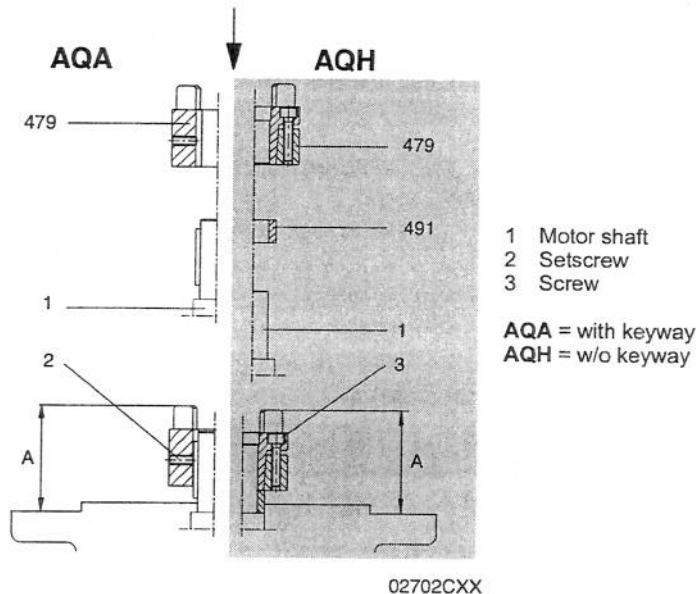
1. Clean motor shaft and flange surfaces of motor and adapter.
2. **IEC adapters:** Remove motor shaft key and replace with supplied key (484).
NEMA adapters: Remove motor shaft key, slide spacer tube (491) on motor shaft and install supplied key (484).
3. Heat coupling half (479) to approx. 80 - 100°C; slide coupling half on motor shaft.
IEC adapters: until rest on motor shaft shoulder.
NEMA adapters: until rest on spacer tube.
4. Secure key and coupling half with setscrew (481) on motor shaft .
5. Mount motor to adapter; the gearing of the coupling half and the geared adapter shaft must enmesh.



Note: We recommend applying Noco® fluid on the motor shaft prior to installation of the coupling half to prevent contact corrosion.



4.10 Installation of the AQ adapter coupling

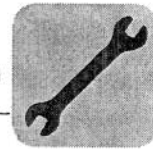


1. Clean motor shaft and flange surfaces of motor and adapter.
2. **AQH design:** Slide spacer tube (491) on motor shaft.
3. **AQH design:** Loosen screws of coupling half (479) and conical connection.
4. Heat coupling half (80° C - 100° C) and slide on motor shaft.
AQH design: until rest on spacer tube (491).
AQA design: until distance "A" (see table).
5. **AQH design:** Fasten screws of coupling half evenly by working round several times in sequence until all screws have been tightened to the TT tightening torque.
AQA design: Secure coupling half with setscrew.
6. Check position of coupling half (distance "A" see table).
 Mount motor to adapter; the jaws of both coupling halves must enmesh. The insertion force required to join the coupling halves. The insertion force required to join the coupling halves is suspended after final assembly thereby causing danger of axial load on the adjacent bearing.

Setting dimensions, tightening torques

Type	Coupling size	Distance "A" [mm]	Bolts DIN 912 ¹⁾	Tightening torque TT ¹⁾ [Nm]
AQA /AQH 80 /1/2/3	19/24	44.5	M4	3
AQA /AQH 100 /1/2		39		
AQA /AQH 100 /3/4		53		
AQA /AQH 115 /1/2		62		
AQA /AQH 115 /3	24/28	62	M5	6
AQA /AQH 140 /1/2		62		
AQA /AQH 140 /3	28/38	74.5	M5	6
AQA /AQH 190 /1/2		76.5		
AQA /AQH 190 /3	38/45	100	M6	10

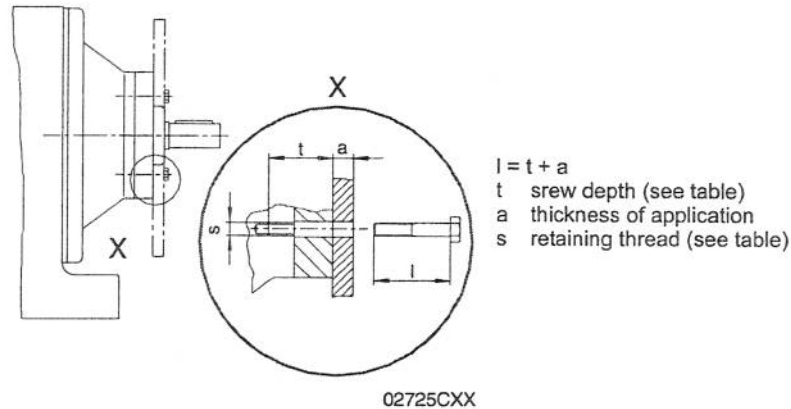
1) in versions without keyway only (AQH)



AD../ZR design with centering shoulder

Installing components on the input shaft assembly with centering shoulder

1. The bolts must be available in the correct length to fasten the installed components.
The length of the new bolts results from:



$$l = t + a$$

t screw depth (see table)
 a thickness of application
 s retaining thread (see table)

The calculated screw length must be rounded down to the next smallest standard length.

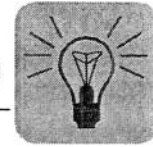
2. Remove retaining screw from centering shoulder.
3. Clean contact surface and centering shoulder.
4. Clean the threads of the new screws and apply an adhesive agent (e.g. Loctite 243) to the first turns on the screw.
5. Set component onto centering shoulder and fasten retaining screws with indicated tightening torque T_t (see table).

Type	Depth of screw t	Retaining thread s	Tightening torque T_A [Nm]
AD2/ZR	25.5	M8	25
AD3/ZR	31.5	M10	48
AD4/ZR	36	M12	86
AD5/ZR	44	M12	86
AD6/ZR	48.5	M16	210
AD7/ZR	49	M20	410
AD8/ZR	42	M12	86

AD../RS version with backstop

Check the direction of rotation prior to installation or startup. In case of the wrong direction of rotation, please consult our technical department.

The backstop is maintenance-free and does not require any additional maintenance work.



6 Troubleshooting

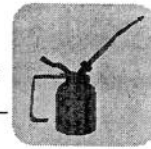
6.1 Gear unit problems

Problem	Possible cause	Remedy
Unusual, regular running noise	A Meshing/grinding noise: bearing damage B Knocking noise: irregularity in the gearing	A Check oil (see Inspection and Maintenance), replace bearing B Call customer service
Unusual, irregular running noise	Foreign bodies in the oil	- Check oil (see Inspection and Maintenance) - Stop the drive, call customer service
Oil leaking ¹⁾ - from the gear unit cover - from the motor flange - from motor oil seal - from gear unit flange - from the output end oil seal	A Defective rubber gasket on gear unit cover B Defective gasket C Gear unit not vented	A Retighten screws on gear unit cover and observe gear unit. Oil still leaking: Call customer service B Call customer service C Vent the gear unit (see Mounting Positions)
Oil leaking from the breather valve	A Too much oil B Drive installed in incorrect mounting position C Frequent cold starts (oil foaming) and / or high oil level	A Correct oil level (see Inspection and Maintenance) B Fit the breather valve correctly (see Mounting Positions) and adjust oil level (see Lubricants)
Output shaft is not rotating although the motor is running or the input shaft is rotating	Shaft hub connection interrupted in the gear unit	Send in gear unit/geared motor for repair

1) It is normal for small amounts of oil/grease to leak out of the oil seal during the running-in period (24 hour running time) (also see DIN 3761).

Please have the following information available if you require assistance of our customer service:

- Nameplate data (complete)
- Type and extent of problem
- Time and circumstances of problem
- Possible cause



7.3 Inspection/maintenance of gear units

Do not mix synthetic lubricants with each other nor with mineral lubricants!
Mineral oil is the standard lubricant.

The position of the oil level plug, oil drain plug and the breather valve is dependent on the mounting position.

Checking the oil level



1. De-energize the drive and secure against unintentional switch-on!

Wait until the gear unit has cooled down – Danger of burns!

2. See section "Setup of gear unit" for change in mounting position!
3. For gear units with oil level plug: remove oil level plug, check fill level and correct if necessary, install oil level plug

Check oil



1. De-energize the drive and secure against unintentional switch-on!

Wait until gear unit has cooled down - Danger of burns!

2. Remove some oil from the oil drain plug
3. Check oil consistency
 - viscosity
 - if the oil is visibly contaminated, it is recommended to change it sooner than recommended by the maintenance intervals listed under the heading "Inspection and maintenance periods" on page 32
4. For gear units with an oil level plug: remove oil level plug, check oil fill level and correct if necessary, install oil level plug

Changing the oil



Only change the oil when the gear unit is at operating temperature.

1. De-energize the drive and secure against unintentional switch-on!

Wait until the gear unit has cooled down – Danger of burns!

Note: Gear unit must still be warm, otherwise the high viscosity of excessively cold oil will make it harder to drain the oil correctly.

2. Place a container underneath the oil drain plug
3. Remove oil level plug, breather plug/valve and oil drain plug
4. Drain oil completely
5. Install oil drain plug
6. Fill new oil of the same type through the breather hole, otherwise consult our service department
 - amount in accordance with the mounting position (see section "Lubricant fill levels") on the nameplate
 - check at the oil level plug
7. Install oil level plug
8. Install breather plug/valve

**Comparison
old/new**

The following table indicates in which way the old SEW mounting position designations are integrated into the new system:

	M1	M2	M3	M4	M5	M6
R, RX	B3	V6	B8	V5	B6	B7
R..F	B35	V36	B85	V15	B65	B75
RF, RXF	B5	V3	B5II	V1	B5I	B5III
F FA..B FH..B FV..B	B6	V6	B6II	V5	B3 B8	B3I B8I
FF	B5	V3	B5II	V1	B5I	B5III
FA FHF FV FVF FAZ FAZ FV FHZ FAF FVZ	H1	H6	H2	H5	H4	H3
K KA..B KH..B KV..B	B3 B6I	B6 B8I	B8	B3I B6II	V5 V5I	V6 V6I
K/KH 166/167 186/187	B3 B5/I			B3I B5/II	V1/	V1/I
KF	B5I B3/B5I	B5 B65	B5III B8/B5III	B5II B6/B5II	V1 V15	V1I V6/V1I
KA KHF KV KVF KH KAZ KV KHZ KAF KVZ	H1	H4	H2	H3	H5	H6
S	B3 B6I B8II (S37)	B6 B8I	B8 B3II	B3I B6II	V5 V5I	V6 V6I V5II (S37)
SF	B5I	B5	B5III	B5II	V1	V1I
SA SH SAF SHF SAZ SHZ	H1	H4	H2	H3	H5	H6

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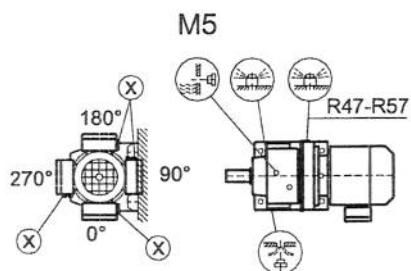
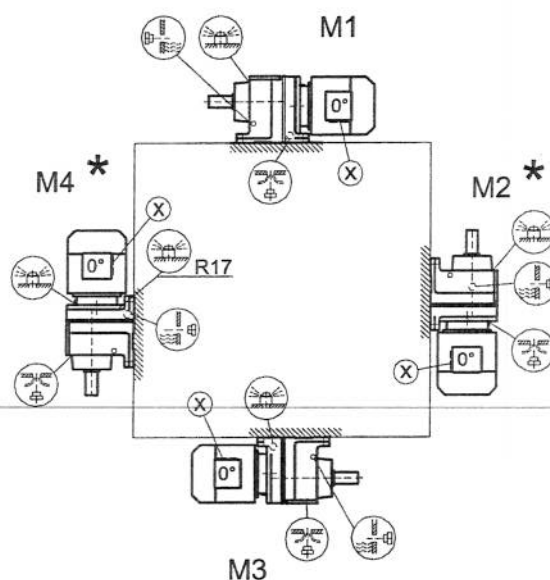
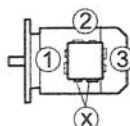
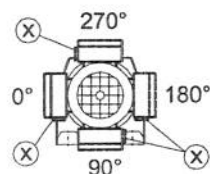
Example

A KA77B helical-bevel gear unit with the old mounting position B3I or B6II, is now referred to with mounting position designation M4.

8.3 Mounting positions, helical gear units

R17-R167

04 040 100

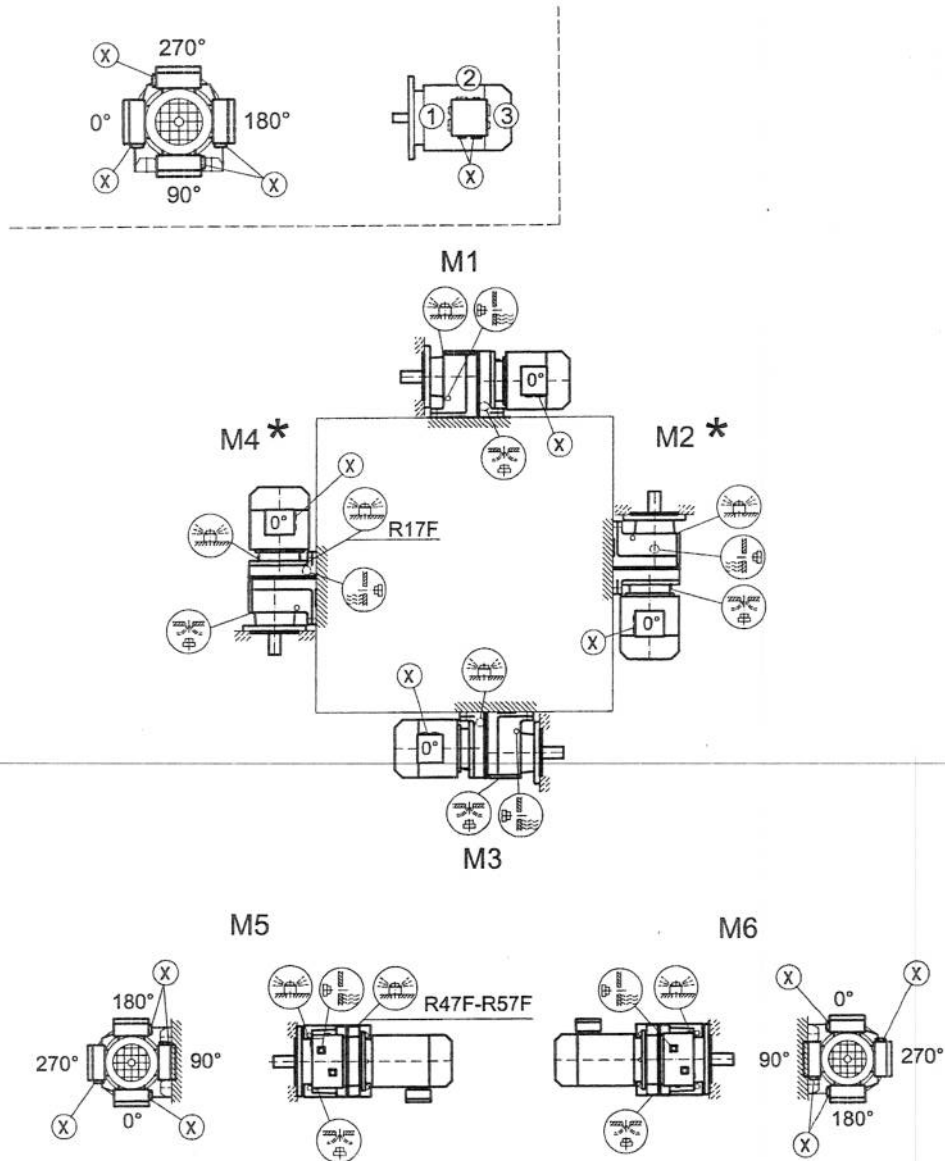


- R17, R27  M1, M3, M5, M6
- R47, R57  M5
- R17, R27  

* → page 36

R17F-R87F

04 042 100



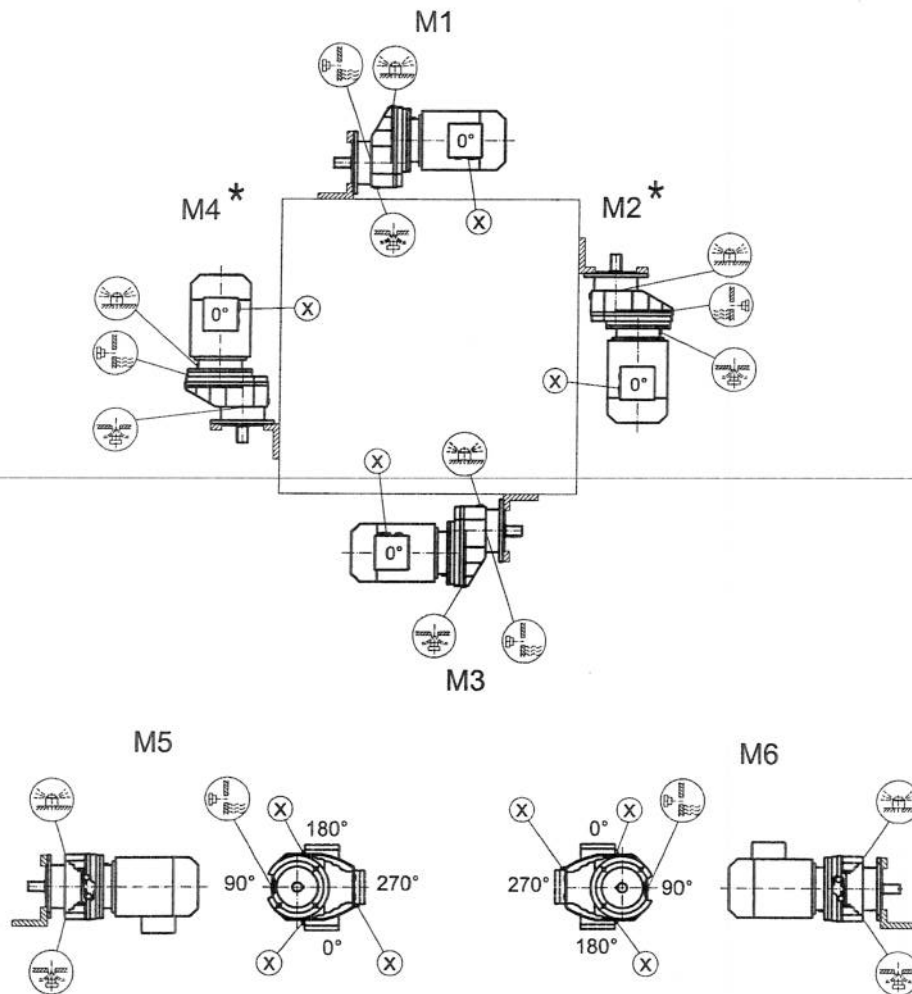
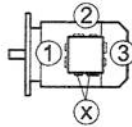
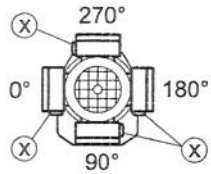
R17F, R27F		M1, M3, M5, M6
R47F, R57F		M5
R17F, R27F		

* → page 36

Caution: Note the notes in the "Geared Motors" catalog, section "Project Planning Gear Units/Overhung and axial loads."

RXF57-RXF107

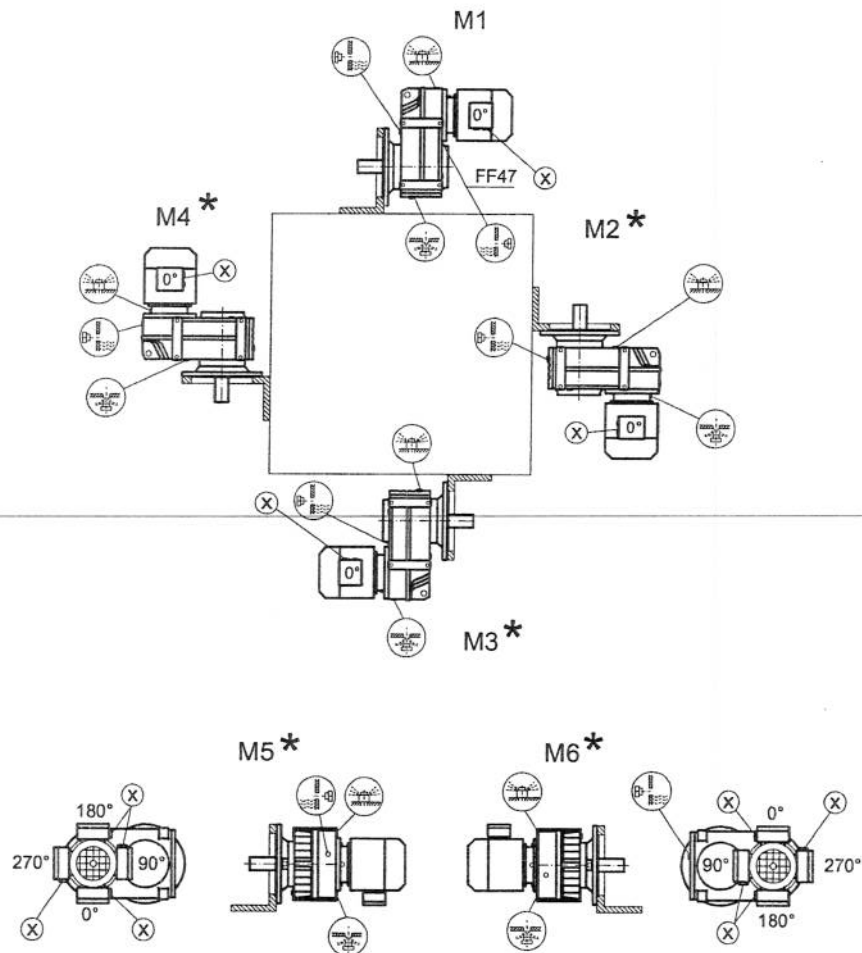
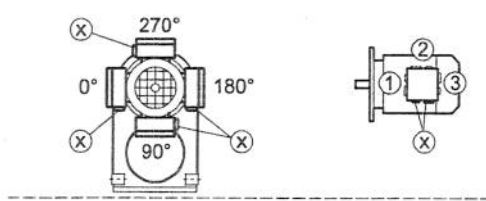
04 044 100



* → page 36

FF/FAF/FHF/FAZ/FHZ27-157, FVF/FVZ27-107

42 043 100



F..27  M1, M3, M5, M6

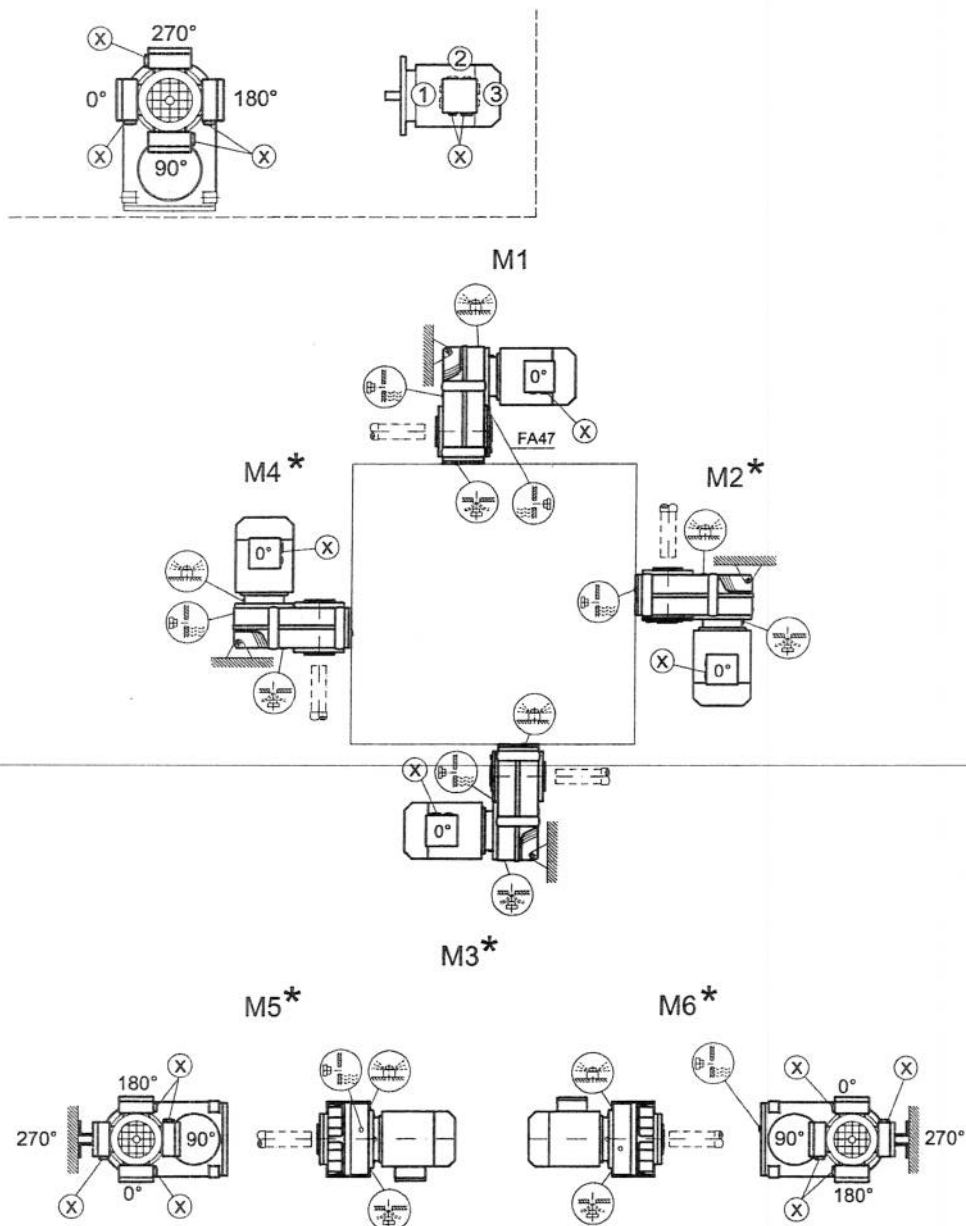
F..27  M1 - M6

F..27  M1, M3, M5, M6

* → page 36

FA/FH27-157, FV27-107

42 044 100



F..27 M1, M3, M5, M6

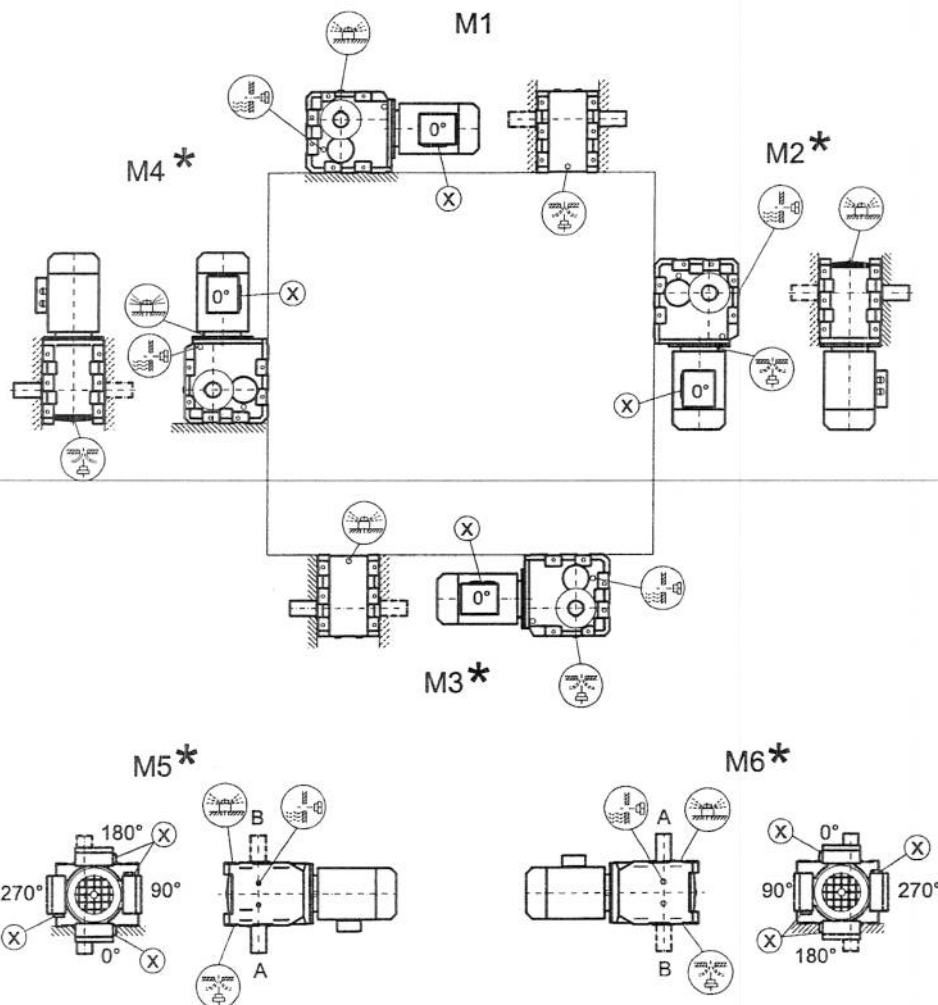
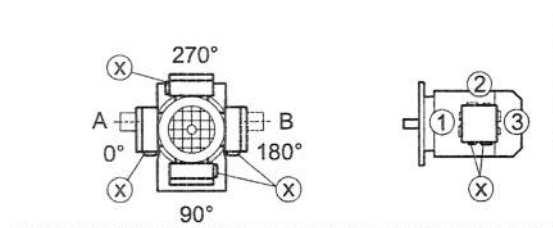
F..27 M1 - M6

F..27 M1, M3, M5, M6

* → page 36

K167-187, KH167B-187B

34 026 100

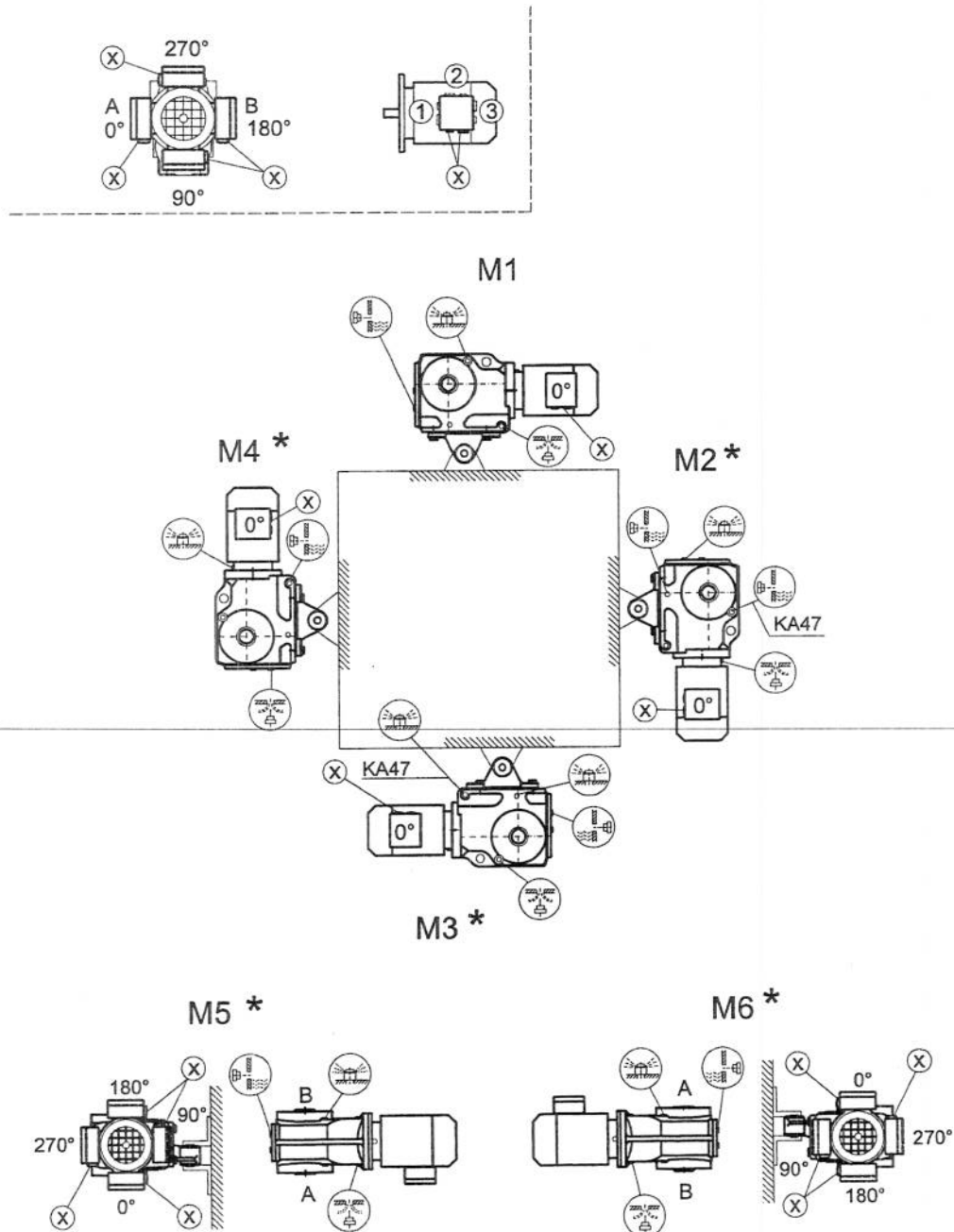


* → page 36

Caution: Note the ⓘ notes in the "Geared Motors" catalog, section "Project Planning Gear Units/Overhung and axial loads."

KA/KH37-157, KV37-107

39 025 100

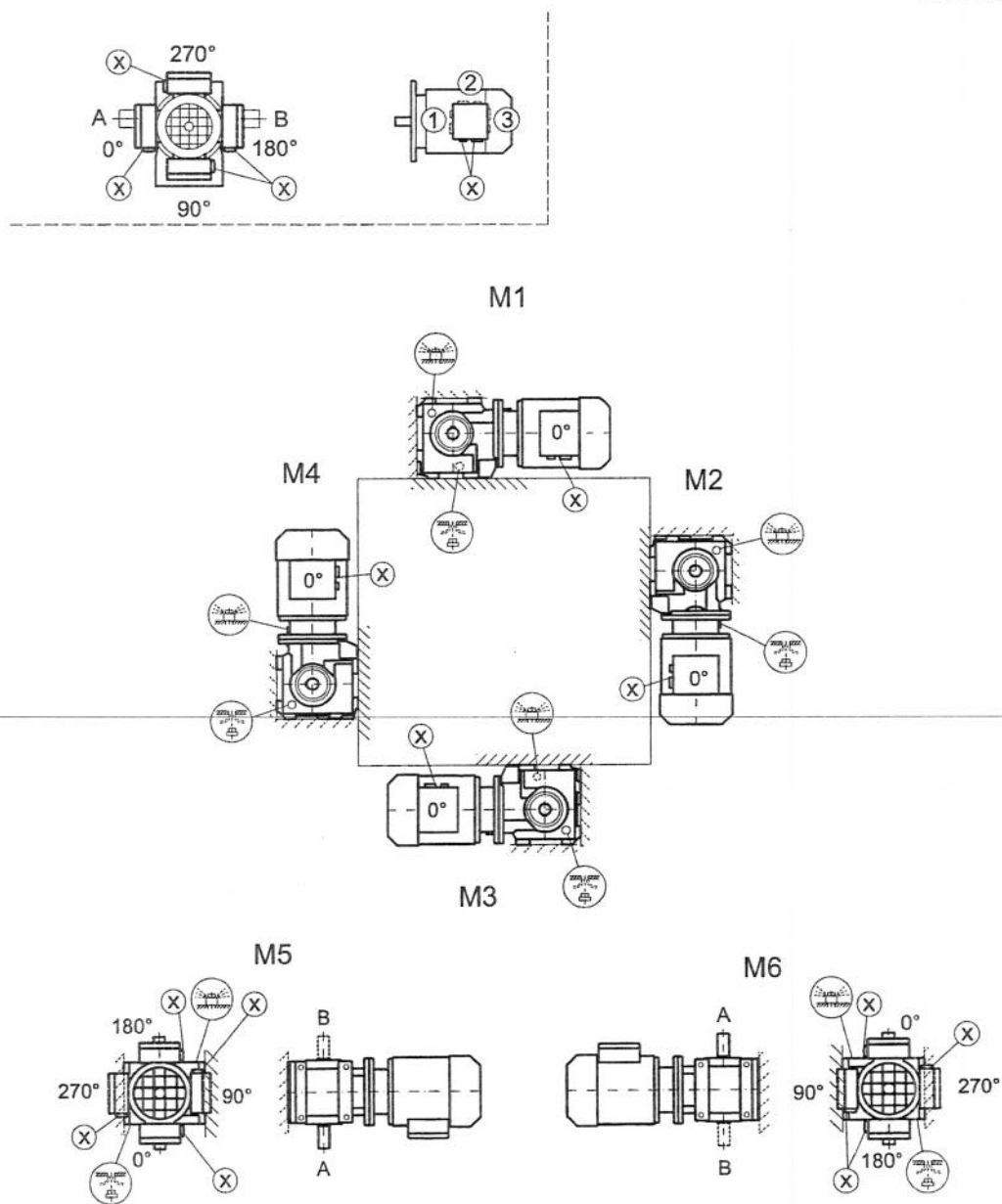


* → page 36

8.6 Mounting positions, helical-worm gear units

S37

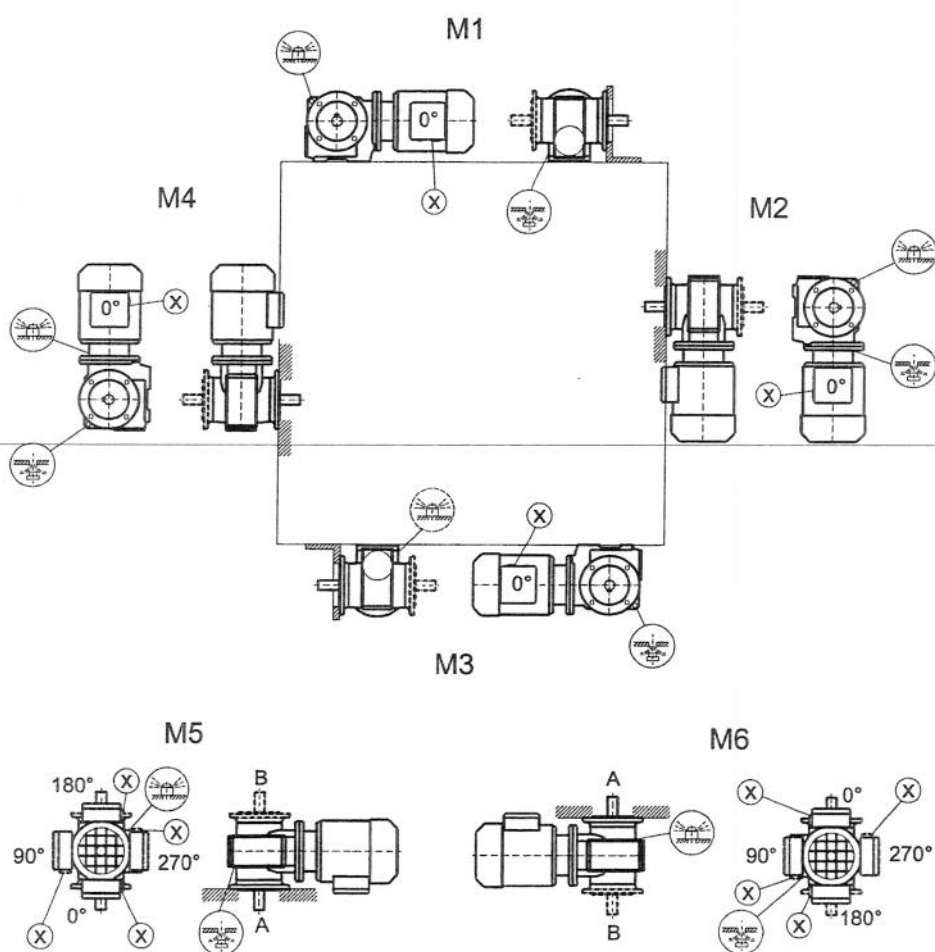
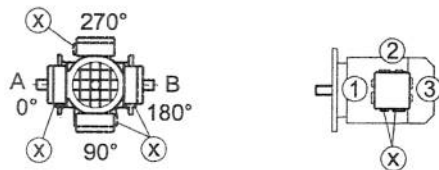
05 025 100



Caution: Note the  notes in the "Geared Motors" catalog, section "Project Planning Gear Units/Overhung and axial loads."

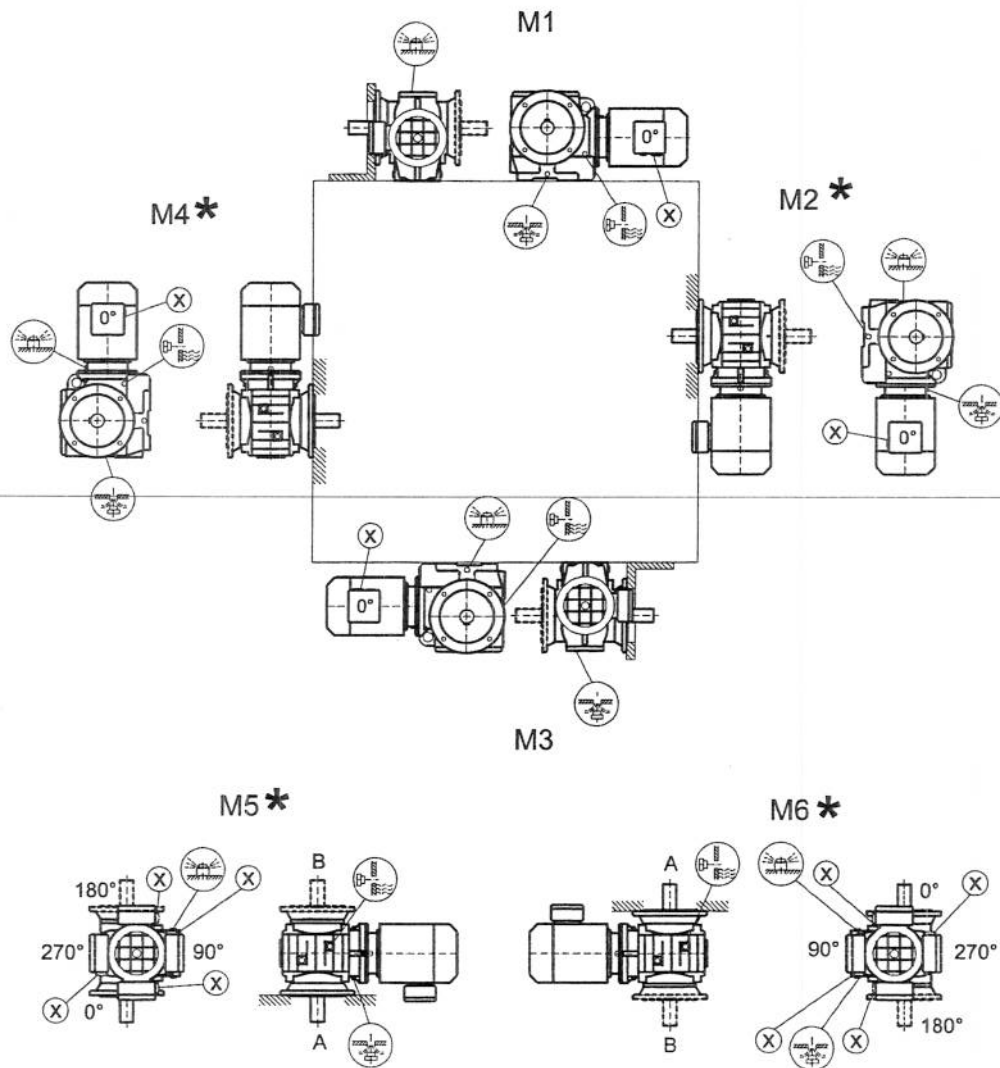
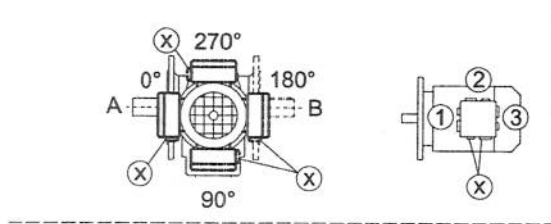
SF/SAF/SHF37

05 027 100



SF/SAF/SHF/SAZ/SHZ47-97

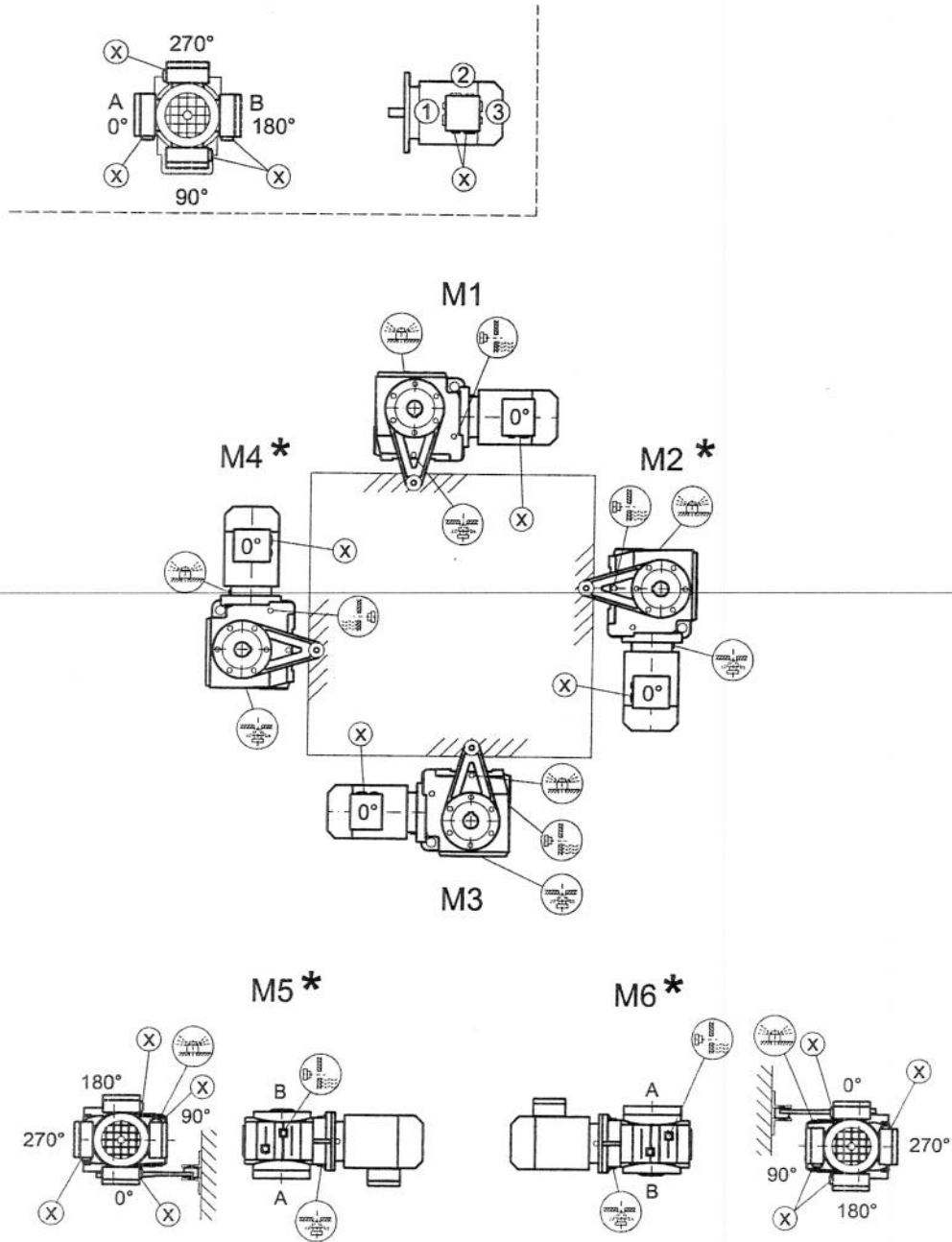
05 028 100



* → page 36

SA/SH47-97

28 021 100



* -> page 36



Table of lubricants

01 805 692

			ISO, NLGI	bil								
R...	Standard -10 +40	CLP(CC)	VG 220	Mobilgear 630	Shell Omala 220	Kilberoil GEM 1-220	Aral Degol BG 220	BP Energol GR-XP 220	Tribol 1100/220	Meropa 220	Optigear BM 220	Renolin CLP 220
K...(HK...)	-25 +80	CLP PG	VG 220	Mobil Glygoyle 30	Shell Tivela WB	Kilbersynth GH 6-220	Aral Degol GS 220	BP Energol SG-XP 220	Tribol 800/220	Synlube CLP 220	Optiflex A 220	
F...	-40 +80	CLP HC	VG 220	Mobilgear SHC 630	Shell Omala 220 HD	Kilbersynth EG 4-220	Aral Degol PAS 220		Tribol 1510/220	Pinnacle EP 220	Optigear Synthetic A 220	Renolin Unisyn CLP 220
	-40 +40		VG 150	Mobil SHC 629		Kilbersynth EG 4-150				Pinnacle EP 150		
	-20 +25	CLP (CC)	VG 150	Mobilgear 629	Shell Omala 100	Kilberoil GEM 1-150	Aral Degol BG 100	BP Energol GR-XP 100	Tribol 1100/100	Meropa 150	Optigear BM 100	Renolin CLP 150
	-30 +10	HLP (HM)	VG 68-46	Mobil D.T.E. 15M	Shell Tellus T 32	Kilberoil GEM 1-68	Aral Degol BG 46		Tribol 1100/68	Rando EP Ashless 46	Optigear 32	Renolin B 46 HVI
	-40 +10	CLP HC	VG 32	Mobil SHC 624		Kilber-Summit HySyn FG-32				Cetus PAO 46		
	-40 -20	HLP (HM)	VG 22	Mobil D.T.E. 11M	Shell Tellus T 15	Isotex		BP Energol HLP-HM 10		Rando HDZ 15		
	-40 -20		VG 15									
	Standard 0 +40	CLP (CC)	VG 680	Mobilgear 636	Shell Omala 680	Kilberoil GEM 1-680	Aral Degol BG 680	BP Energol GR-XP 680	Tribol 1100/680	Meropa 680	Optigear BM 680	Renolin CLP 680
S...(HS...)	-20 +60	CLP PG	VG 680 ¹⁾	Mobil Glygoyle HE 680		Kilbersynth GH 6-680		BP Energol SG-XP 680	Tribol 800/680	Synlube CLP 680		
	-30 +80	CLP HC	VG 460	Mobil SHC 634	Shell Omala 460 HD	Kilbersynth EG 4-460				Pinnacle EP 460		
	-40 +10		VG 150	Mobil SHC 629		Kilbersynth EG 4-150				Pinnacle EP 150		
	-20 +10	CLP (CC)	VG 150	Mobil D.T.E. 18M	Shell Omala 100	Kilberoil GEM 1-150	Aral Degol BG 100	BP Energol GR-XP 100	Tribol 1100/100	Meropa 100	Optigear BM 100	Renolin CLP 150
	-25 +20	CLP PG	VG 220 ¹⁾	Mobil Glygoyle 30		Kilbersynth GH 6-220			Tribol 800/220	Synlube CLP 220	Optiflex A 220	
	-40 0	CLP HC	VG 32	Mobil SHC 624		Kilber-Summit HySyn FG-32				Cetus PAO 46		
R..., K...(HK...), F..., S...(HS...)	-30 +40	HCE	VG 460		Shell Cassida Fluid GL 460	Kilberoil 4UH1-460	Aral Eural Gear 460				Optileb GT 460	
	-20 +40	E	VG 460			Kilberbio CA2-460	Aral Degol BAB 460				Optisyn BS 460	
W...(HW...)	Standard -20 +40	SEW PG	VG 460 ²⁾			Kilber SEW HT-460-5						
	-40 +10	API GL5	SAE 75W/90 (~VG 100)	Mobil SHC 75 W90-LS								
	-20 +40	CLP PG	VG 460 ³⁾			Kilbersynth UH1 6-460						
	-25 +60		00	Glygoyle Grease 00	Shell Tivela Compound A	Kilbersynth GE 46-1200						
R32 R302	Standard -15 +40	DIN 51 818 ⁵⁾	000 - 0	Mobilux EP 004	Shell Alvania GL 00	Kilbersynth GE 46-1200	Aralub MFL 00	BP Energol LS-EP 00		Multifak 6833 EP 00	Longtime PD 00	Renolin SF 7 - 041

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Lubricant fill quantities

The indicated fill quantities are **recommended values**. The specific values vary depending on number of stages and ratio. Pay close attention to the **oil level plug to serve as indicator for the correct amount of oil**.

The following tables list the recommended values for the lubricant fill quantities in reference to mounting positions M1...M6.

Helical (R-) gear units

Gear units R.., R..F	Fill quantity in liters					
	M1 ¹⁾	M2 ¹⁾	M3	M4	M5	M6
R17/R17F	0.25	0.6	0.35	0.6	0.35	0.35
R27/R27F	0.25/0.4	0.7	0.4	0.7	0.4	0.4
R37/R37F	0.3/1	0.9	1	1.1	0.8	1
R47/R47F	0.7/1.5	1.6	1.5	1.7	1.5	1.5
R57/R57F	0.8/1.7	1.9	1.7	2.1	1.7	1.7
R67/R67F	1.1/2.3	2.6/3.5	2.8	3.2	1.8	2
R77/R77F	1.2 / 3	3.8 / 4.3	3.6	4.3	2.5	3.4
R87/R87F	2.3 / 6	6.7 / 8.4	7.2	7.7	6.3	6.5
R97	4.6/9.8	11.7/14	11.7	13.4	11.3	11.7
R107	6/13.7	16.3	16.9	19.2	13.2	15.9
R137	10/25	28	29.5	31.5	25	25
R147	15.4/40	46.5	48	52	39.5	41
R167	27/70	82	78	88	66	69
Gear units RF..	Fill quantity in liters					
	M1 ¹⁾	M2 ¹⁾	M3	M4	M5	M6
RF17	0.25	0.6	0.35	0.6	0.35	0.35
RF27	0.25/0.4	0.7	0.4	0.7	0.4	0.4
RF37	0.4/1	0.9	1	1.1	0.8	1
RF47	0.7/1.5	1.6	1.5	1.7	1.5	1.5
RF/RM57	0.8/1.7	1.8	1.7	2	1.7	1.7
RF/RM67	1.2/2.5	2.7/3.6	2.7	3.1	1.9	2.1
RF/RM77	1.2 / 2.6	3.8/4.1	3.3	4.1	2.4	3
RF/RM87	2.4 / 6	6.8/7.9	7.1	7.7	6.3	6.4
RF/RM97	5.1/10.2	11.9/14	11.2	14	11.2	11.8
RF/RM107	6.3/14.9	15.9	17	19.2	13.1	15.9
RF/RM137	9.5/25	27	29	32.5	25	25
RF/RM147	16.4/42	47	48	52	42	42
RF/RM167	26/70	82	78	88	65	71

1) The larger gear unit in multi-stage gear units must be filled with the larger oil quantity.

Gear units RX..	Fill quantity in liters					
	M1	M2	M3	M4	M5	M6
RX57	0.6	0.8	1.3	1.3	0.9	0.9
RX67	0.8	0.8	1.7	1.9	1.1	1.1
RX77	1.1	1.5	2.6	2.7	1.6	1.6
RX87	1.7	2.5	4.8	4.8	2.9	2.9
RX97	2.1	3.4	7.4	7	4.8	4.8
RX107	3.9	5.6	11.6	11.9	7.7	7.7
Gear units RXF..	Fill quantity in liters					
	M1	M2	M3	M4	M5	M6
RXF57	0.5	0.8	1.1	1.1	0.7	0.7
RXF67	0.7	0.8	1.5	1.7	1	1
RXF77	0.9	1.5	2.4	2.5	1.6	1.6
RXF87	1.6	2.5	4.9	4.7	2.9	2.9
RXF97	2.1	3.6	7.1	7	4.8	4.8
RXF107	3.1	5.9	11.2	10.5	7.2	7.2



Helical-bevel (K-)
gear units

K., KA..B, KH..B, KV..B:

Gear units	Fill quantity in liters					
	M1	M2	M3	M4	M5	M6
K..37	0.5	1	1	1.3	1	1
K..47	0.8	1.3	1.5	2	1.6	1.6
K..57	1.2	2.3	2.5	3	2.6	2.4
K..67	1.1	2.4	2.6	3.4	2.6	2.6
K..77	2.2	4.1	4.4	5.9	4.2	4.4
K..87	3.7	8	8.7	10.9	7.8	8
K..97	7	14	15.7	20	15.7	15.5
K..107	10	21	25.5	33.5	24	24
K..127	21	41.5	44	54	40	41
K..157	31	62	65	90	58	62
K..167	35	100	100	125	85	85
K..187	60	170	170	205	130	130

KF..:

Gear units	Fill quantity in liters					
	M1	M2	M3	M4	M5	M6
KF37	0.5	1.1	1.1	1.5	1	1
KF47	0.8	1.3	1.7	2.2	1.6	1.6
KF57	1.3	2.3	2.7	3	2.9	2.7
KF67	1.1	2.4	2.8	3.6	2.7	2.7
KF77	2.1	4.1	4.4	6	4.5	4.5
KF87	3.7	8.2	9	11.9	8.4	8.4
KF97	7	14.7	17.3	21.5	15.7	16.5
KF107	10	22	26	35	25	25
KF127	21	41.5	46	55	41	41
KF157	31	66	69	92	62	62

KA..., KH..., KV..., KAF..., KHF..., KVF..., KAZ..., KHZ..., KVZ...:

Gear units	Fill quantity in liters					
	M1	M2	M3	M4	M5	M6
K..37	0.5	1	1	1.4	1	1
K..47	0.8	1.3	1.6	2.1	1.6	1.6
K..57	1.3	2.3	2.7	3	2.9	2.7
K..67	1.1	2.4	2.7	3.6	2.6	2.6
K..77	2.1	4.1	4.6	6	4.4	4.4
K..87	3.7	8.2	8.8	11.1	8	8
K..97	7	14.7	15.7	20	15.7	15.7
K..107	10	20.5	24	32	24	24
K..127	21	41.5	43	52	40	40
K..157	31	66	67	87	62	62
KH167	35	100	100	125	85	85
KH187	60	170	170	205	130	130



Address list

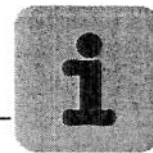
Addresses

Germany			
Headquarters Production Sales Service	Bruchsal	SEW-EURODRIVE GmbH & Co Ernst-Blickle-Straße 42 D-76646 Bruchsal P.O. Box Postfach 3023 · D-76642 Bruchsal	Tel. (0 72 51) 75-0 Fax (0 72 51) 75-19 70 http://www.SEW-EURODRIVE.de sew@sew-eurodrive.de
Production	Graben	SEW-EURODRIVE GmbH & Co Ernst-Blickle-Straße 1 D-76676 Graben-Neudorf P.O. Box Postfach 1220 · D-76671 Graben-Neudorf	Tel. (0 72 51) 75-0 Fax (0 72 51) 75-29 70 Telex 7 822 276
Assembly Service	Garbsen (near Hannover)	SEW-EURODRIVE GmbH & Co Alte Ricklinger Straße 40-42 D-30823 Garbsen P.O. Box Postfach 110453 · D-30804 Garbsen	Tel. (0 51 37) 87 98-30 Fax (0 51 37) 87 98-55
	Kirchheim (near München)	SEW-EURODRIVE GmbH & Co Domagkstraße 5 D-85551 Kirchheim	Tel. (0 89) 90 95 52-10 Fax (0 89) 90 95 52-50
	Langenfeld (near Düsseldorf)	SEW-EURODRIVE GmbH & Co Siemensstraße 1 D-40764 Langenfeld	Tel. (0 21 73) 85 07-30 Fax (0 21 73) 85 07-55
	Meerane (near Zwickau)	SEW-EURODRIVE GmbH & Co Dankritzer Weg 1 D-08393 Meerane	Tel. (0 37 64) 76 06-0 Fax (0 37 64) 76 06-30
Additional addresses for service in Germany provided on request!			
France			
Production Sales Service	Haguenau	SEW-USOCOME SAS 48-54, route de Soufflenheim B. P. 185 F-67506 Haguenau Cedex	Tel. 03 88 73 67 00 Fax 03 88 73 66 00 http://www.usocom.com sew@usocom.com
Assembly Sales Service	Bordeaux	SEW-USOCOME SAS Parc d'activités de Magellan 62, avenue de Magellan - B. P. 182 F-33607 Pessac Cedex	Tel. 05 57 26 39 00 Fax 05 57 26 39 09
	Lyon	SEW-USOCOME SAS Parc d'Affaires Roosevelt Rue Jacques Tati F-69120 Vaulx en Velin	Tel. 04 72 15 37 00 Fax 04 72 15 37 15
	Paris	SEW-USOCOME SAS Zone industrielle 2, rue Denis Papin F-77390 Verneuil l'Etang	Tel. 01 64 42 40 80 Fax 01 64 42 40 88
Additional addresses for service in France provided on request!			
Argentina			
Assembly Sales Service	Buenos Aires	SEW EURODRIVE ARGENTINA S.A. Centro Industrial Garin, Lote 35 Ruta Panamericana Km 37,5 1619 Garin	Tel. (3327) 45 72 84 Fax (3327) 45 72 21 sewar@sew-eurodrive.com.ar
Australia			
Assembly Sales Service	Melbourne	SEW-EURODRIVE PTY. LTD. 27 Beverage Drive Tullamarine, Victoria 3043	Tel. (03) 99 33 10 00 Fax (03) 99 33 10 03
	Sydney	SEW-EURODRIVE PTY. LTD. 9, Sleigh Place, Wetherill Park New South Wales, 2164	Tel. (02) 97 25 99 00 Fax (02) 97 25 99 05
Austria			
Assembly Sales Service	Wien	SEW-EURODRIVE Ges.m.b.H. Richard-Strauss-Strasse 24 A-1230 Wien	Tel. (01) 6 17 55 00-0 Fax (01) 6 17 55 00-30 sew@sew-eurodrive.at



Address list

Finland			
Assembly Sales Service	Lahti	SEW-EURODRIVE OY Vesimäentie 4 FIN-15860 Hollola 2	Tel. (3) 589 300 Fax (3) 780 6211
Great Britain			
Assembly Sales Service	Normanton	SEW-EURODRIVE Ltd. Beckbridge Industrial Estate P.O. Box No.1 GB-Normanton, West- Yorkshire WF6 1QR	Tel. 19 24 89 38 55 Fax 19 24 89 37 02
Greece			
Sales Service	Athen	Christ. Boznos & Son S.A. 12, Mavromichali Street P.O. Box 80136, GR-18545 Piraeus	Tel. 14 22 51 34 Fax 14 22 51 59 Boznos@otenet.gr
Hong Kong			
Assembly Sales Service	Hong Kong	SEW-EURODRIVE LTD. Unit No. 801-806, 8th Floor Hong Leong Industrial Complex No. 4, Wang Kwong Road Kowloon, Hong Kong	Tel. 2-7 96 04 77 + 79 60 46 54 Fax 2-7 95-91 29sew@sewhk.com
Hungary			
Sales Service	Budapest	SEW-EURODRIVE Kft. H-1037 Budapest Kunigunda u. 18	Tel. +36 1 437 06 58 Fax +36 1 437 06 50
India			
Assembly Sales Service	Baroda	SEW-EURODRIVE India Pvt. Ltd. Plot No. 4, Gidc Por Ramangamdi - Baroda - 391 243 Gujarat	Tel. 0 265-83 10 86 Fax 0 265-83 10 87 sew.baroda@gecsl.com
Ireland			
Sales Service	Dublin	Alpertan Engineering Ltd. 48 Moyle Road Dublin Industrial Estate Glasnevin, Dublin 11	Tel. (01) 8 30 62 77 Fax (01) 8 30 64 58
Italy			
Assembly Sales Service	Milano	SEW-EURODRIVE di R. Blicke & Co.s.a.s. Via Bernini,14 I-20020 Solaro (Milano)	Tel. (02) 96 98 01 Fax (02) 96 79 97 81
Japan			
Assembly Sales Service	Toyoda-cho	SEW-EURODRIVE JAPAN CO., LTD 250-1, Shimoman-no, Toyoda-cho, Iwata gun Shizuoka prefecture, P.O. Box 438-0818	Tel. (0 53 83) 7 3811-13 Fax (0 53 83) 7 3814
Korea			
Assembly Sales Service	Ansan-City	SEW-EURODRIVE KOREA CO., LTD. B 601-4, Banweol Industrial Estate Unit 1048-4, Shingil-Dong Ansan 425-120	Tel. (031) 4 92-80 51 Fax (031) 4 92-80 56
Luxembourg			
Assembly Sales Service	Brüssel	CARON-VECTOR S.A. Avenue Eiffel 5 B-1300 Wavre	Tel. (010) 23 13 11 Fax (010) 2313 36 http://www.caron-vector.be info@caron-vector.be
Macedonia			
Sales	Skopje	SGS-Skopje / Macedonia "Teodosij Sinactski" 6691000 Skopje / Macedonia	Tel. (0991) 38 43 90 Fax (0991) 38 43 90
Malaysia			
Assembly Sales Service	Johore	SEW-EURODRIVE SDN BHD No. 95, Jalan Seroja 39, Taman Johor Jaya 81000 Johor Bahru, Johor West Malaysia	Tel. (07) 3 54 57 07 + 3 54 94 09 Fax (07) 3 5414 04



Netherlands			
Assembly Sales Service	Rotterdam	VECTOR Aandrijftechniek B.V. Industrieweg 175 NL-3044 AS Rotterdam Postbus 10085 NL-3004 AB Rotterdam	Tel. +31 10 44 63 700 Fax +31 10 41 55 552 http://www.vector.nu info@vector.nu
New Zealand			
Assembly Sales Service	Auckland	SEW-EURODRIVE NEW ZEALAND LTD. P.O. Box 58-428 82 Greenmount drive East Tamaki Auckland	Tel. 0064-9-2 74 56 27 Fax 0064-9-2 74 01 65 sales@sew-eurodrive.co.nz
	Christchurch	SEW-EURODRIVE NEW ZEALAND LTD. 10 Settlers Crescent, Ferryhead Christchurch	Tel. (09) 3 84 62 51 Fax (09) 3 84 64 55 sales@sew-eurodrive.co.nz
Norway			
Assembly Sales Service	Moss	SEW-EURODRIVE A/S Solgaard skog 71 N-1599 Moss	Tel. (69) 2410 20 Fax (69) 2410 40 sew@sew-eurodrive.no
Peru			
Assembly Sales Service	Lima	SEW DEL PERU MOTORES REDUCTORES S.A.C. Los Calderos # 120-124 Urbanizacion Industrial Vulcano, ATE, Lima	Tel. (511) 349-52 80 Fax (511) 349-30 02 sewperu@terra.com.pe
Poland			
Sales	Lodz	SEW-EURODRIVE Polska Sp.z.o.o. ul. Pojezierska 63 91-338 Lodz	Tel. (042) 6 16 22 00 Fax (042) 6 16 22 10 sew@sew-eurodrive.pl
Portugal			
Assembly Sales Service	Coimbra	SEW-EURODRIVE, LDA. Apartado 15 P-3050-901 Mealhada	Tel. (0231) 20 96 70 Fax (0231) 20 36 85 infosew@sew-eurodrive.pt
Romania			
Sales Service	Bucuresti	Sialco Trading SRL str. Madrid nr.4 71222 Bucuresti	Tel. (01) 2 30 13 28 Fax (01) 2 30 71 70 sialco@mediasat.ro
Russia			
Sales	St. Petersburg	ZAO SEW-EURODRIVE P.O. Box 193 193015 St. Petersburg	Tel. (812) 3 26 09 41 + 5 35 04 30 Fax (812) 5 35 22 87 sewrus@post.spbnet.ru
Singapore			
Assembly Sales Service		SEW-EURODRIVE PTE. LTD. No 9, Tuas Drive 2 Jurong Industrial Estate Singapore 638644	Tel. 8 62 17 01-705 Fax 8 61 28 27 Telex 38 659
Slovenia			
Sales Service	Celje	Pakman - Pogonska Tehnika d.o.o. Ul. XIV. divizije 14 SLO - 3000 Celje	Tel. 00386 3 490 83 20 Fax 00386 3 490 83 21 pakman@siol.net



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Ontario 210 Walker Drive, Bramalea, ON L6T 3W1 Tel : (905) 791-1553 Fax : (905) 791-2999
Wats: (800) 387-2461 (from 905 area) Wats: (800) 387-2420 (from other areas)
Website: www.sew-eurodrive.com

Quebec 2555 Rue Leger, LaSalle, PQ H8N 2V9

Tel : (514) 367-1124 Wats: (800) 972-5481 Fax : (514) 367-3677

British Columbia Tilbury Industrial Park, 7188 Honeyman Street, Delta, BC V4G 1E2
Tel: (604) 946-5535 Wats: (800) 972-5481 Fax: (604) 946-2513

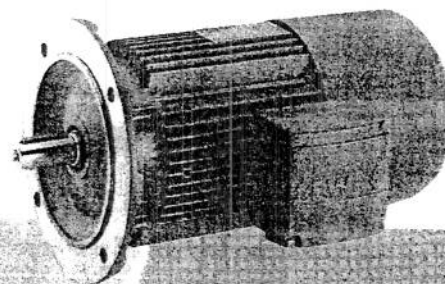
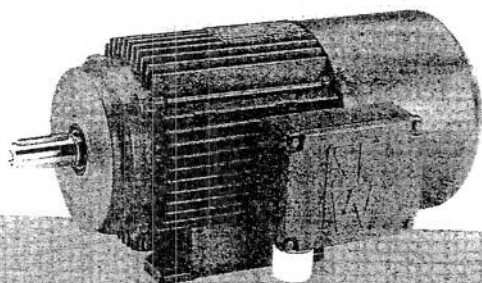


SEW
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**AC Motors
Asynchronous Servomotors**

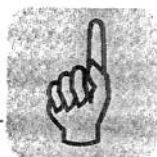
Edition

10/2002



Operating Instructions

1052 7613 / EN



1 Important Notes

Safety and warning instructions

Always follow the safety and warning instructions contained in this publication!



Electrical hazard

Possible consequences: Severe or fatal injuries.



Hazard

Possible consequences: Severe or fatal injuries.



Hazardous situation

Possible consequences: Slight or minor injuries.



Harmful situation

Possible consequences: Damage to the unit and the environment.



Tips and information



A requirement of fault-free operation and fulfillment of any rights to claim under guarantee is that the information in the operating instructions is adhered to. Consequently, read the operating instructions before you start working with the unit!

The operating instructions contain important information about servicing; as a result, they should be kept in the vicinity of the unit.

Waste disposal



This product consists of

- Iron
- Aluminum
- Copper
- Plastic
- Electronics components

Please dispose of the parts in accordance with the applicable regulations.

Modifications to the 03/2001 edition are indicated by a gray bar in the margin.

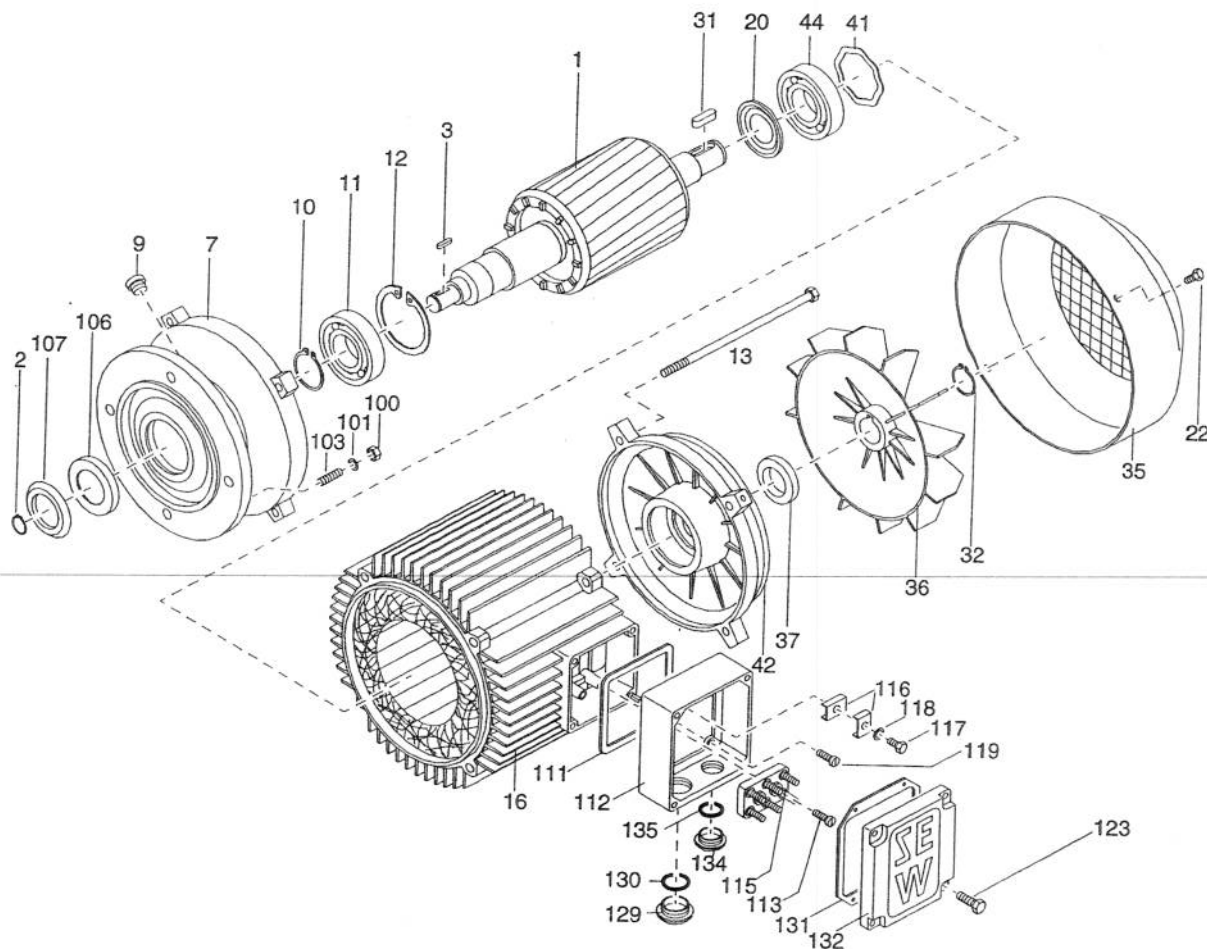


3 Motor Design



The following illustration is a representation of the principle design of the motors. It is intended to serve as a support for the identification of the parts when referring to the Spare Parts Lists. Some differences may occur depending on the motor size and design.

3.1 Design principle of the AC motor



Legend

02969AXX

1 Rotor, cpl.	31 Key	107 Oil flinger	131 Gasket
2 Circlip	32 Circlip	111 Gasket	132 Terminal box cover
3 Key	35 Fan guard	112 Terminal box lower part	134 Screw plug
7 Flanged end shield	36 Fan	113 Slotted cheese head screw	135 Sealing washer
9 Screw plug	37 V-ring	115 Terminal board	
10 Circlip	41 Equalizing ring	116 Terminal yoke	
11 Grooved ball bearing	42 Non drive-end bearing shield	117 Hex head screw	
12 Circlip	44 Grooved ball bearing	118 Lock washer	
13 Hex head screw (tie rod)	100 Hex nut	119 Slotted cheese head screw	
16 Stator, cpl.	101 Lock washer	123 Hex head screw	
20 Nilos ring	103 Stud	129 Screw plug	
22 Hex head screw	106 Oil seal	130 Gasket	



Nameplate, unit designation

Nameplate

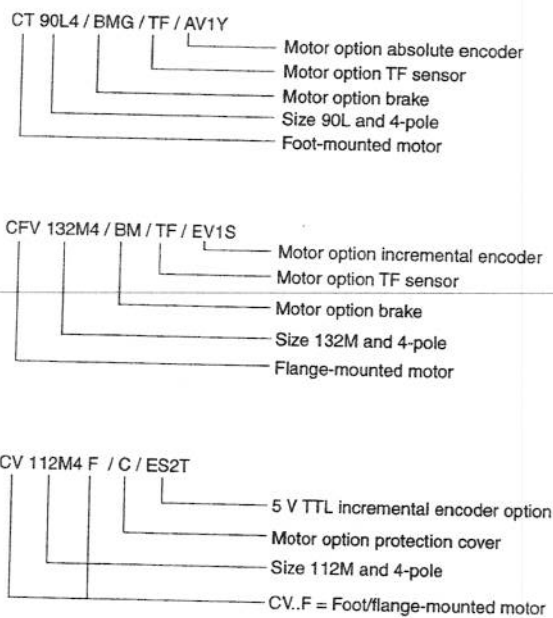
Example: Servo brake motor CT90L4 / BMG / TF

SEW-EURODRIVE		Bruchsal / Germany		CE	
Typ	CT90L4 BMG TF				
Nr.	01.3410069302.0001.00				
Nm	30.5	max. Motor	i	:1	
Nm	10.5	r/min	3000		
		Hz	103	V	345
				A	7.9
IM	B5	kg	28	IP	54
				Iso. KL	F
Bremse	V	230~	Nm	20	Gleichrichter BGE 1.5
Schmierstoff					
Made in Germany 186 475 0.13					

50473AXX

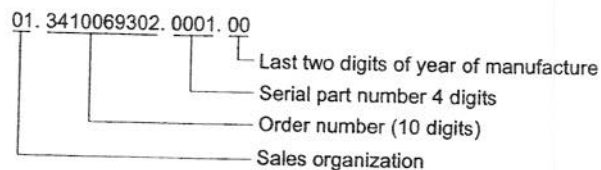
Type designation

Example: Servo (brake) motor CT/CV



05158AEN

Example: Fabrication number

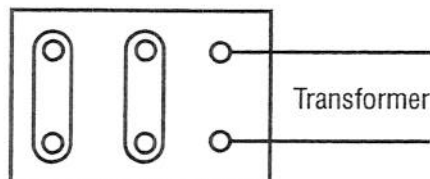


05161AEN

**Drying the motor**

Heat up the motor

- with hot air or
- using an isolation transformer
 - Connect the windings in series (→ following illustration)
 - Auxiliary AC voltage supply max. 10 % of the rated voltage with max. 20 % of the rated current



01730AEN

The drying process must be ended when the minimum insulation resistance has been attained.

Check the terminal box to see whether

- the inside is clean and dry,
- the connections and fixing parts are free from corrosion,
- the joint seals are OK,
- the cable screw fittings are sound, otherwise clean or replace them.

4.3 Installing the motor

The motor or geared motor may only be mounted or installed in the specified mounting position on a level and torsionally rigid support structure which is not subject to shocks.

Carefully align the motor and the driven machine, to avoid placing any unacceptable strain on the output shafts (observe permissible overhung load and axial thrust data!).

Do not butt or hammer the shaft extension.

Use an appropriate cover to protect motors in vertical mounting positions from objects or fluids entering! (Protection cowl C)

Ensure an unobstructed cooling air supply and that air heated by other apparatus cannot be drawn in or reused.

Balance components for subsequent mounting on the shaft with a half key (motor shafts are balanced with a half key).

Any condensation drain holes will be sealed by plastic plugs and should only be opened when necessary; open condensation drain holes are not permissible, as this would invalidate higher classes of enclosure.

Brake motors with manual brake release:

Screw in either the hand lever (with self-reengaging manual brake release) or the setscrew (with locked manual brake release).

Important encoder information:

Foot-mounted motors CT/DT71, CT/DT90, CV/DV132M, CV/DV160L must be mounted on supports because the radius of the cover is greater than the shaft height.