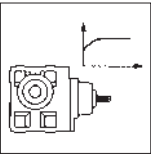


Technical data

Gearboxes



Permissible radial and axial forces – helical bevel gearboxes

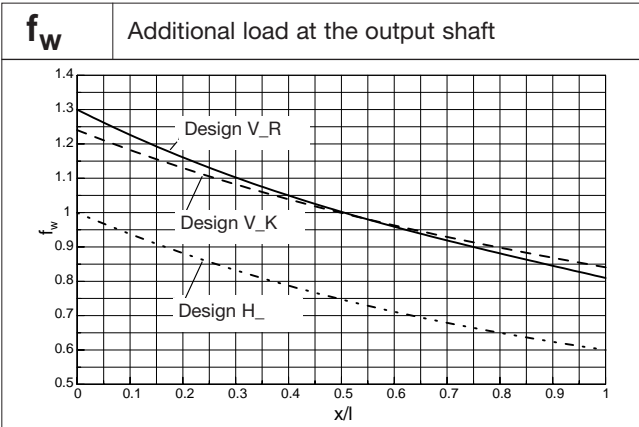
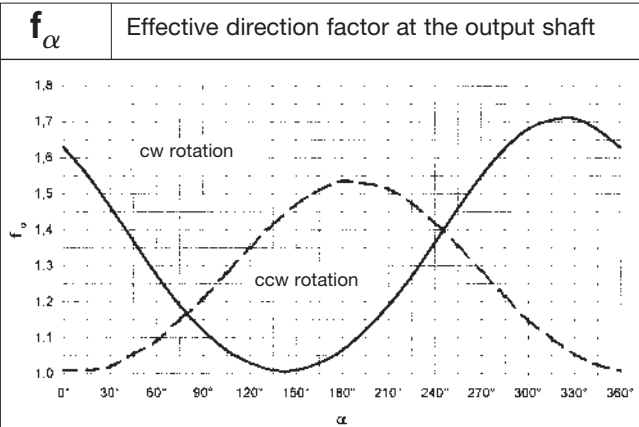
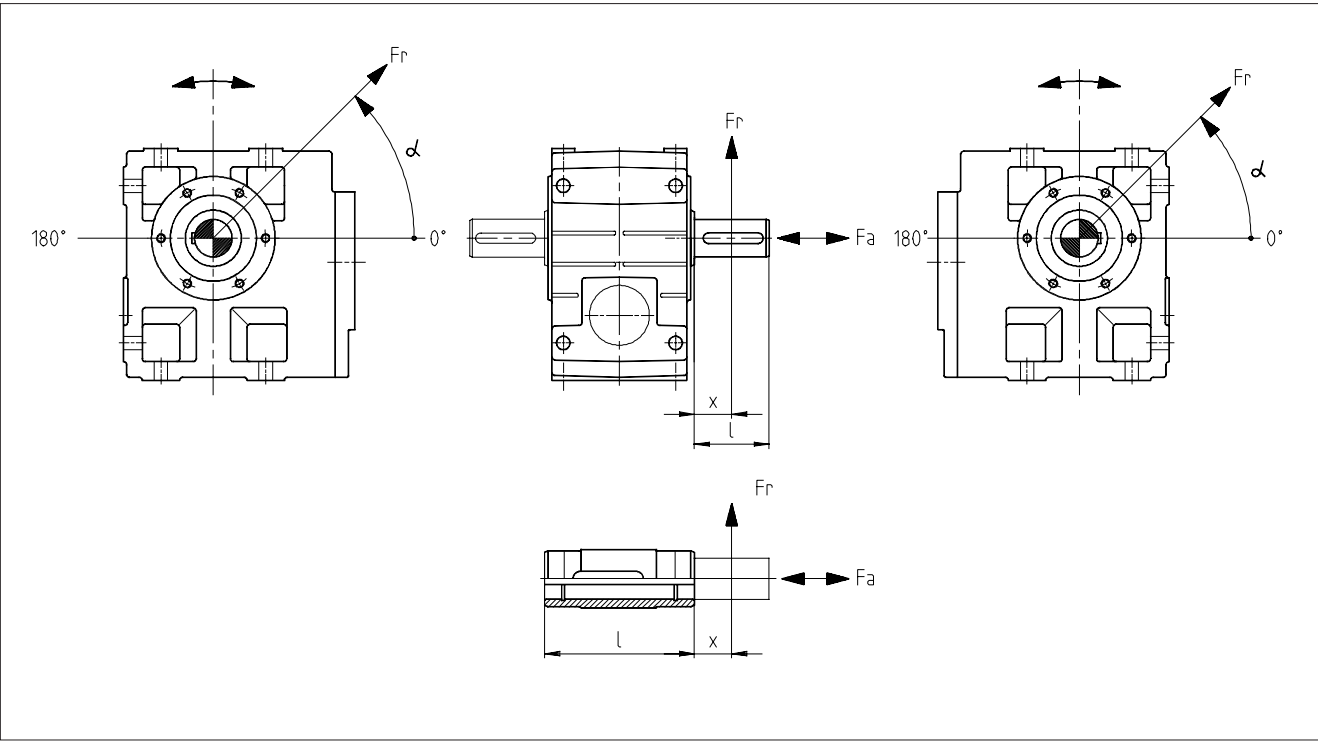
– Permissible radial force

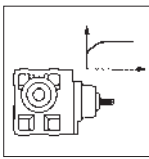
$$F_{r \text{ perm}} = f_w \cdot f_\alpha \cdot F_{r \text{ Tab}} \leq f_w \cdot F_{r \text{ max}}$$

– Permissible axial force

$$F_{a \text{ perm}} = F_{a \text{ Tab}} \quad \text{with } F_r = 0$$

Please contact Lenze if F_r and $F_a < 0$





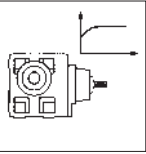
Permissible radial and axial forces – helical-bevel gearboxes

VAK	Solid shaft with flange F_r acts on the middle of the shaft ($x = l/2$) $F_{a\ Tab}$ only valid for $F_r = 0$													
	GKS 04		GKS 05		GKS 06		GKS 07		GKS 09		GKS 11		GKS 14	
n_2 [min ⁻¹]	$F_{r\ Tab}$ [N]	$F_{a\ Tab}$ [N]	$F_{r\ Tab}$ [N]	$F_{a\ Tab}$ [N]	$F_{r\ Tab}$ [N]	$F_{a\ Tab}$ [N]	$F_{r\ Tab}$ [N]	$F_{a\ Tab}$ [N]	$F_{r\ Tab}$ [N]	$F_{a\ Tab}$ [N]	$F_{r\ Tab}$ [N]	$F_{a\ Tab}$ [N]	$F_{r\ Tab}$ [N]	$F_{a\ Tab}$ [N]
400	3800	4200	4640	3630	6400	4660	7000	5700	9900	6000	14500	7000	20500	8400
250	4300	4400	5420	4440	7500	5880	8250	7000	10500	6600	16000	7500	23700	10000
160	4600	4400	6280	5420	8800	7320	9630	8500	12000	7600	17600	8500	27200	11500
100	4600	4400	7000	6600	9800	9230	11000	10400	14000	10000	21000	10500	31300	13000
63	4600	4400	7000	6600	10000	10000	13000	11500	15000	12000	24500	13000	35000	15000
40	4600	4400	7000	6600	10000	10000	14000	11500	15000	15000	28000	17500	41000	19000
25	4600	4400	7000	6600	10000	10000	14000	11500	15000	17000	30000	27000	43000	28000
≤ 16	4600	4400	7000	6600	10000	10000	14000	11500	15000	17000	30000	27000	43000	35000
$F_{r\ max}$	4600	-	7000	-	10000	-	14000	-	15000	-	30000	-	43000	-

V□R	Solid shaft without shaft F_r acts on the middle of the shaft ($x = l/2$) $F_{a\ Tab}$ only valid for $F_r = 0$													
	GKS 04		GKS 05		GKS 06		GKS 07		GKS 09		GKS 11		GKS 14	
n_2 [min ⁻¹]	$F_{r\ Tab}$ [N]	$F_{a\ Tab}$ [N]	$F_{r\ Tab}$ [N]	$F_{a\ Tab}$ [N]	$F_{r\ Tab}$ [N]	$F_{a\ Tab}$ [N]	$F_{r\ Tab}$ [N]	$F_{a\ Tab}$ [N]	$F_{r\ Tab}$ [N]	$F_{a\ Tab}$ [N]	$F_{r\ Tab}$ [N]	$F_{a\ Tab}$ [N]	$F_{r\ Tab}$ [N]	$F_{a\ Tab}$ [N]
400	3000	4200	2800	3500	3700	4440	4000	4900	6200	6500	7100	7000	57900	35000
250	3400	5000	3200	4240	4300	5580	4900	6230	6400	7400	7500	8000	61000	35000
160	3600	5500	3600	5090	4900	6930	5800	7820	7100	8000	8200	9200	64100	35000
100	3600	5500	4100	6160	5300	8710	6600	9940	8400	10500	10000	12000	65000	35000
63	3600	5500	4900	6600	6200	10000	8000	12600	9500	13000	11200	14500	65000	35000
40	3600	5500	5800	6600	7900	10000	9600	14000	11800	17000	13000	18500	65000	35000
25	3600	5500	5800	6600	9000	10000	12000	14000	16000	21000	19000	27000	65000	35000
≤ 16	3600	5500	5800	6600	9000	10000	12000	14000	18000	21000	23000	27000	65000	35000
$F_{r\ max}$	3600	-	5800	-	9000	-	12000	-	18000	-	23000	-	65000	-

H□□	Hollow shaft F_r acts on the middle of the shaft ($x = 0$) $F_{a\ Tab}$ only valid for $F_r = 0$													
	GKS 04		GKS 05		GKS 06		GKS 07		GKS 09		GKS 11		GKS 14	
n_2 [min ⁻¹]	$F_{r\ Tab}$ [N]	$F_{a\ Tab}$ [N]	$F_{r\ Tab}$ [N]	$F_{a\ Tab}$ [N]	$F_{r\ Tab}$ [N]	$F_{a\ Tab}$ [N]	$F_{r\ Tab}$ [N]	$F_{a\ Tab}$ [N]	$F_{r\ Tab}$ [N]	$F_{a\ Tab}$ [N]	$F_{r\ Tab}$ [N]	$F_{a\ Tab}$ [N]	$F_{r\ Tab}$ [N]	$F_{a\ Tab}$ [N]
400	3900	4200	3500	3500	4600	4440	5400	4900	7500	6500	9000	7000	15000	6000
250	4500	5000	4200	4240	5600	5580	6300	6230	8200	7400	10000	8000	15500	8000
160	5100	5500	4630	5090	6400	6930	7400	7820	9400	8000	11000	9200	16500	10000
100	5900	5500	5000	6160	7000	8710	8700	9940	10600	10500	14000	12000	17500	13000
63	6800	5500	6200	6600	8200	10000	10500	12600	12200	13000	16000	14500	18500	16000
40	7000	5500	7300	6600	10400	10000	12500	14000	15500	17000	18500	18500	21000	20000
25	7000	5500	7300	6600	12000	10000	15100	14000	21000	21000	25000	27000	28000	28000
≤ 16	7000	5500	7300	6600	12000	10000	16000	14000	24000	21000	30000	27000	40000	35000
$F_{r\ max}$	7000	-	7300	-	12000	-	16000	-	24000	-	30000	-	45000	-

For hollow shaft with shrink disc (S□□), radial and axial forces are not permissible.



Technical data

Gearboxes

Permissible radial and axial forces – helical worm gearboxes

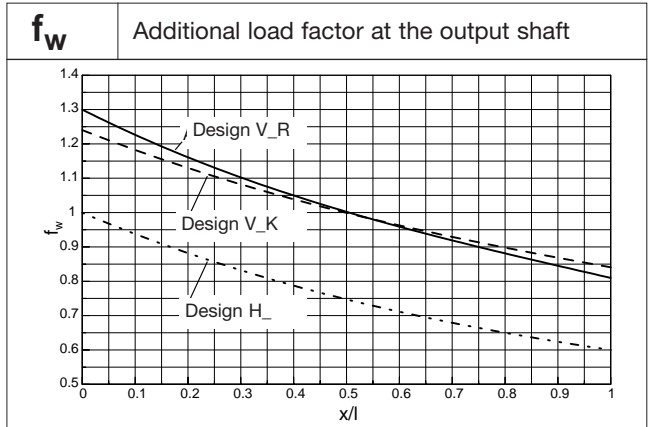
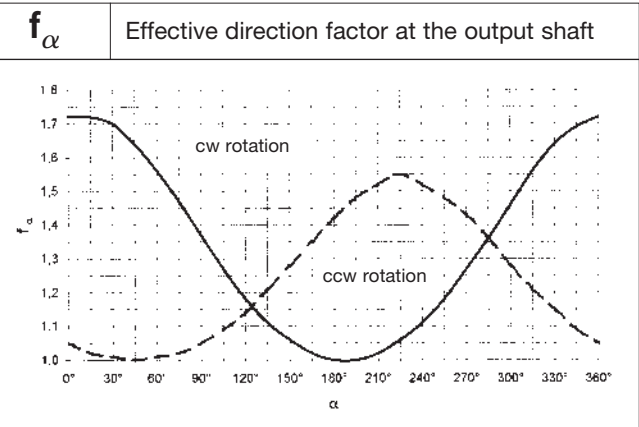
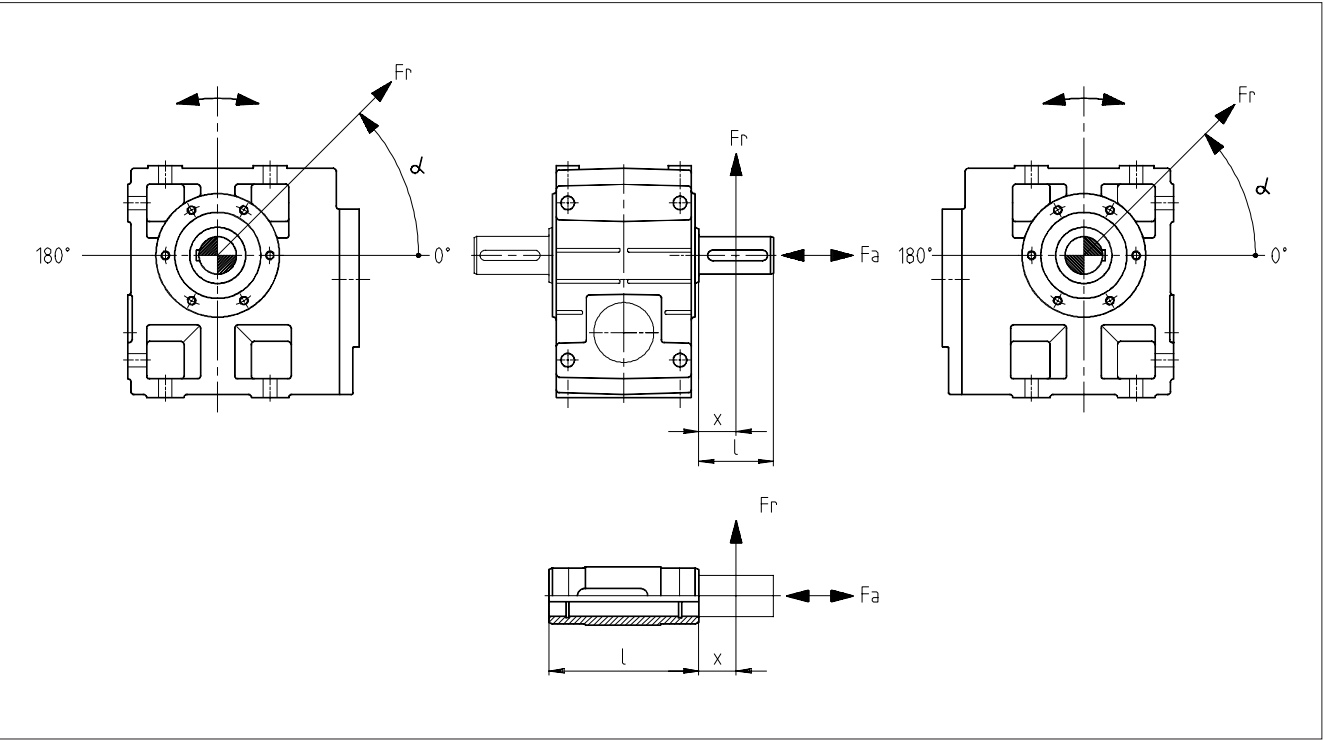
– Permissible radial force

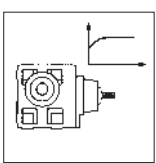
$$F_{r \text{ perm}} = f_w \cdot f_\alpha \cdot F_{r \text{ Tab}} \leq f_w \cdot F_{r \text{ max}}$$

– Permissible axial force

$$F_{a \text{ perm}} = F_{a \text{ Tab}} \quad \text{with } F_r = 0$$

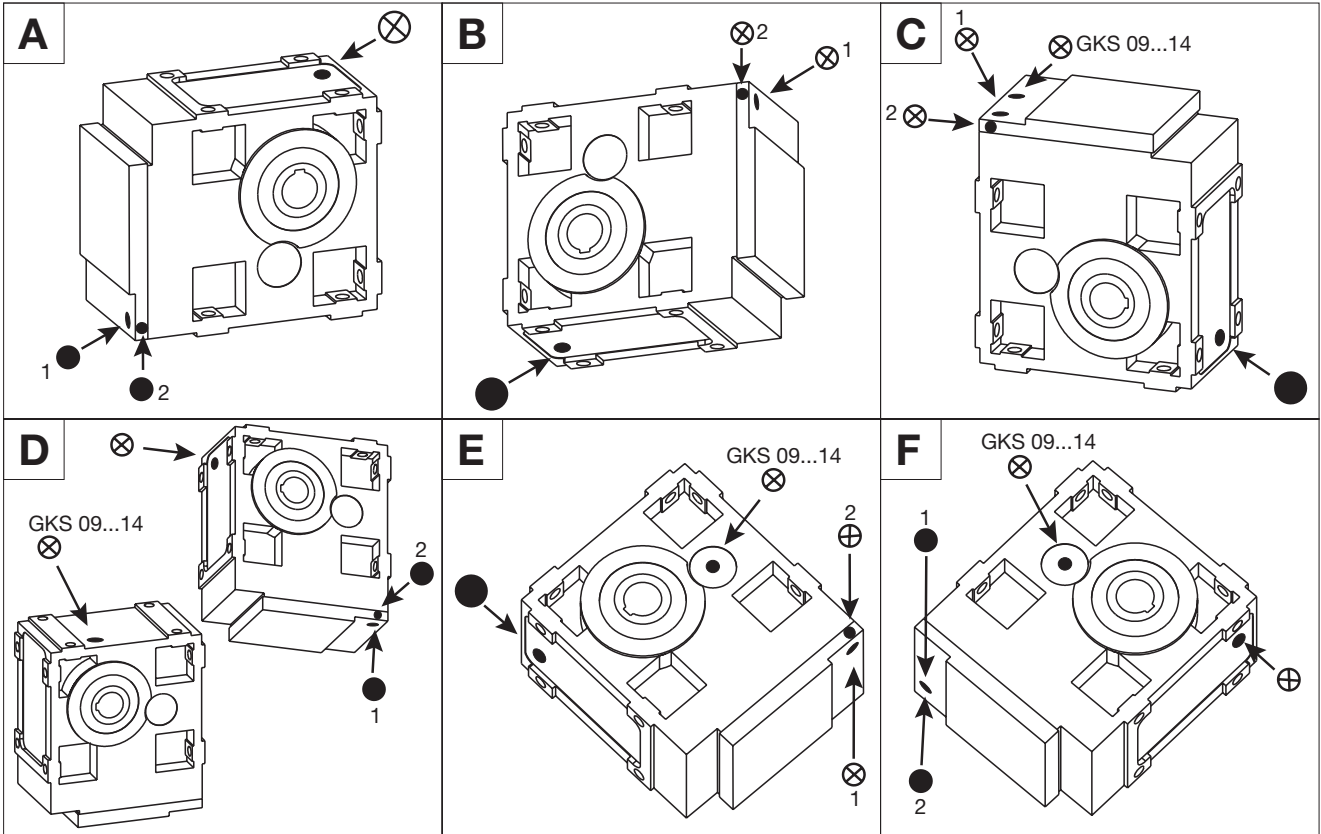
Please contact Lenze if F_r and $F_a < 0$



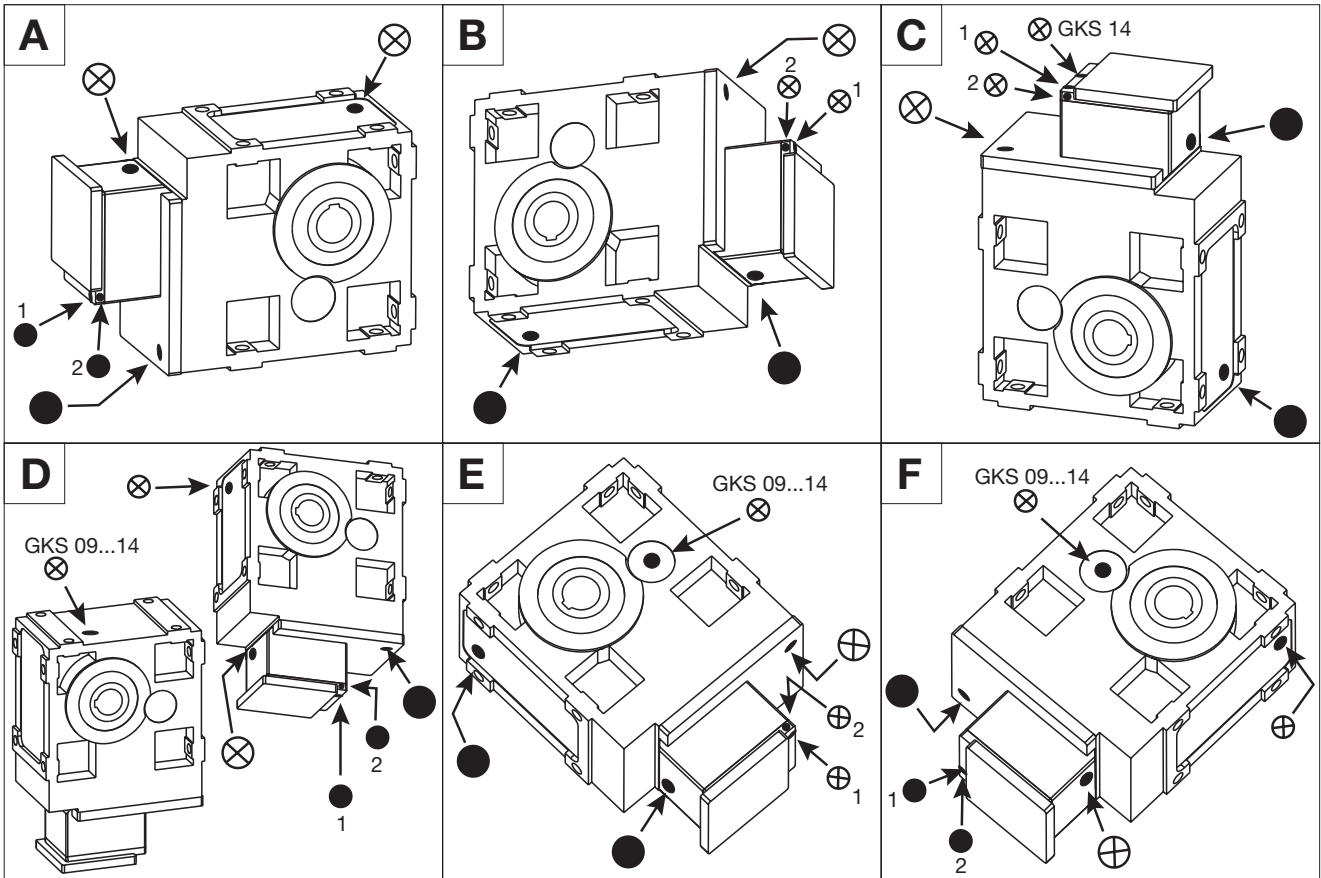


Position of breather, oil filler plug and oil drain plug

Helical-bevel gearboxes GKS 05...14 - 3



Helical-bevel gearboxes GKS 05...14 - 4



Mounting position (A...F) ⊗ Breather/oil filler plug ● Oil drain plug

Pos. 1 or 2 depending on the type of gearbox used (see table on page 23)