Miniature Bevel Gearboxes MKU

Miniature angular gear unit for particularly high loads and long service life. Very robust construction, as with the larger gearboxes KU/I. Gear unit size 035 with housing edge length 35mm is available in ratio i=1:1. The gearbox size 045 with a housing edge length of 45mm provides it in translation i=1:1 to 4:1.

General data: 3 Designs, 6 standard version, and many further variations available as multi-shaft gearboxes, please enquire. **Also Available in corrosion-proof, NO-TOX version for the food processing and pharmaceutic industry and with grease lubrication.**

Housing: Housing and flanges made of aluminium, fully sealed against oil leaks and protected against dust. Due to the cube shape, all 6 sides of the gear box can be used as mounting surfaces. The diameters c, l_1 and l_2 are provided for use as alignment studs.

Gearing: Hardened bevel gears, lapped in pairs , Angular backlash max. 0,5°.

Bearing: Life time min. 15,000h.

Lubrication: The gearboxes are fully enclosed, lubricated for life and maintenance free. The gearboxes have no venting.

Model K: Input side C: Transmission ratio for gearing down.

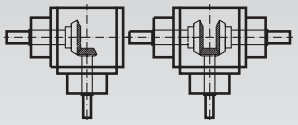
Model L: Straight-through output shaft, slowly turning.

Model H: Straight-through output hollow shaft, slowly turning.

Permiss. Ambient temperature -10°C bis +90°C.

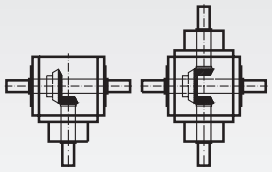
Ordering details: e.g.: Product No., Type, Size, Ratio

Model K



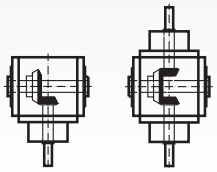
Version 10 Version 20

Model L



Version 30 Version 60

Model H



Version 70 Version 80

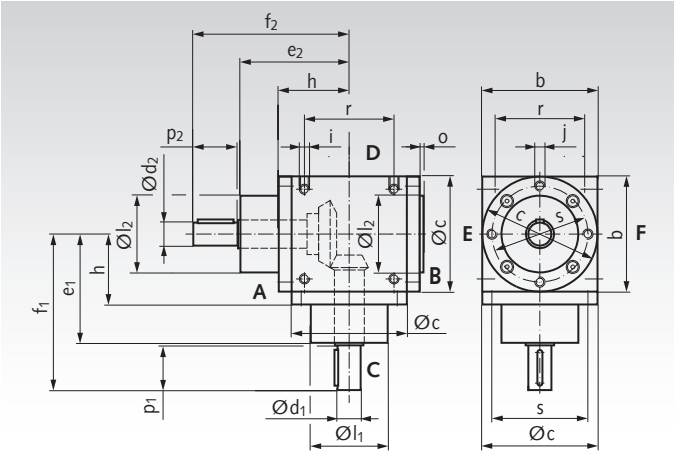
Ratio	Gearbox size	Version 10 Product No.	Weight approx. g*	Version 20 Product No.	Weight approx. g*	Version 30 Product No.	Weight approx. g*
1:1	035	412 035 11	230	412 035 21	290	412 035 31	230
1:1	045	412 045 11	510	412 045 21	700	412 045 31	530
2:1	045	412 045 12	510	412 045 22	700	412 045 32	530
3:1	045	412 045 13	510	412 045 23	700	412 045 33	530
4:1	045	412 045 14	510	412 045 24	700	412 045 34	530

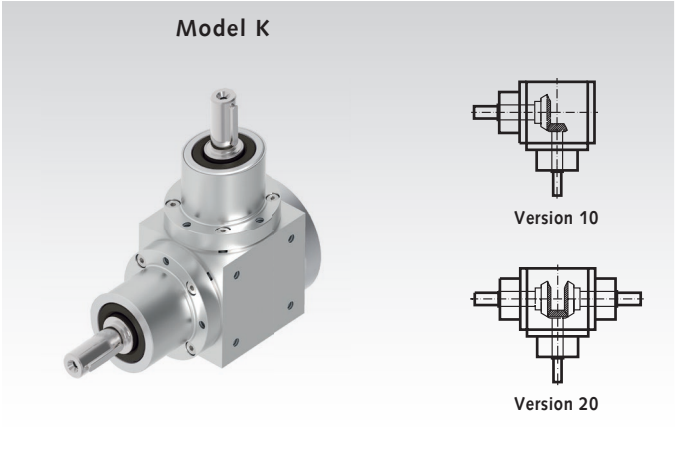
Ratio	Gearbox size	Version 60 Product No.	Weight approx. g*	Version 70 Product No.	Weight approx. g*	Version 80 Product No.	Weight approx. g*
1:1	035	412 035 61	290	412 035 71	210	412 035 81	270
1:1	045	412 045 61	690	412 045 71	460	412 045 81	620
2:1	045	412 045 62	690	412 045 72	460	412 045 82	620
3:1	045	412 045 63	690	412 045 73	460	412 045 83	620
4:1	045	412 045 64	690	412 045 74	460	412 045 84	620

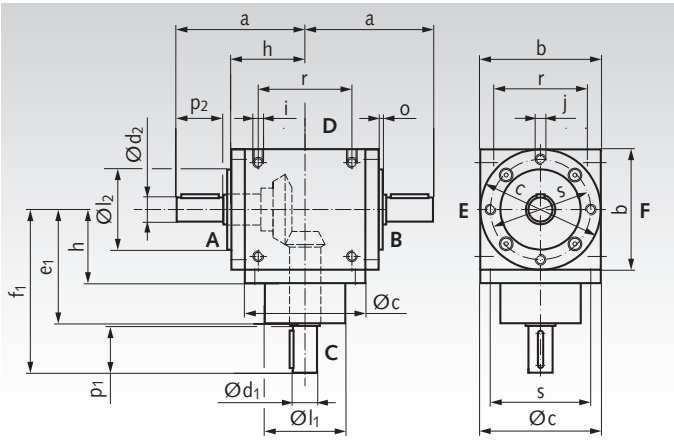
Ratio	Gearbox size	Permissible Input Power P_1 in kW at Input Speed n_1 in min^{-1}**								
1:1	035	n_1	50	250	500	750	1000	1500	2400	3000
		P_1	0,03	0,12	0,22	0,30	0,39	0,50	0,63	0,66
1:1	045	n_1	50	250	500	750	1000	1500	2400	3000
		P_1	0,05	0,25	0,44	0,60	0,77	0,99	1,19	1,32
2:1	045	n_1	50	250	500	750	1000	1500	2400	3000
		P_1	0,02	0,09	0,17	0,24	0,30	0,41	0,63	0,74
3:1	045	n_1	50	250	500	750	1000	1500	2400	3000
		P_1	0,01	0,05	0,08	0,12	0,15	0,19	0,30	0,33
4:1	045	n_1	50	250	500	750	1000	1500	2400	3000
		P_1	0,01	0,03	0,06	0,09	0,11	0,16	0,24	0,29

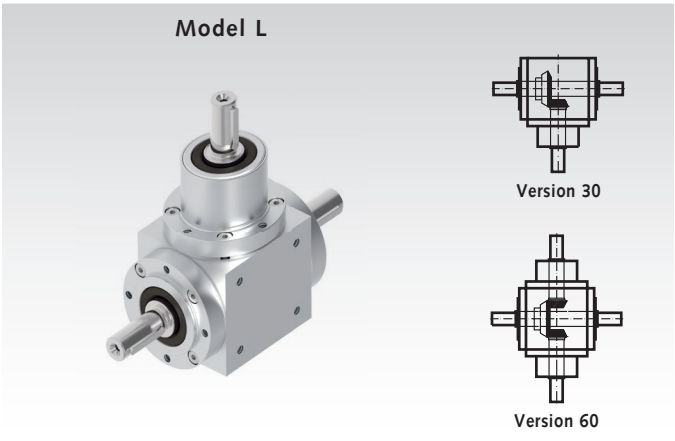
Ratio	Gearbox size	Permissible Output Torque T_2 in Nm at Output Speed n_2 in min^{-1}**								
1:1	035	n_2	50	250	500	750	1000	1500	2400	3000
		T_2	4,5	4,5	4	3,6	3,5	3	2,4	2
1:1	045	n_2	50	250	500	750	1000	1500	2400	3000
		T_2	9	9	8	7,3	7	6	4,5	4
2:1	045	n_2	25	125	250	375	500	750	1200	1500
		T_2	7	6,5	6	5,7	5,5	5	4,8	4,5
3:1	045	n_2	17	83	167	250	333	500	800	1000
		T_2	5,5	5	4,5	4,2	4	3,5	3,4	3
4:1	045	n_2	13	63	125	188	250	375	600	750
		T_2	4,5	4,5	4,3	4,2	4	3,8	3,6	3,5

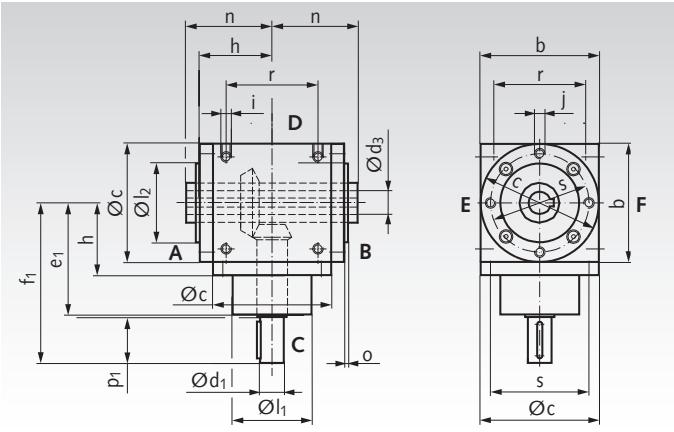
* The weight of the gearbox deviates slightly depending on the ratio.
** The values of the performance tables apply at an ambient temperature of 20°C.

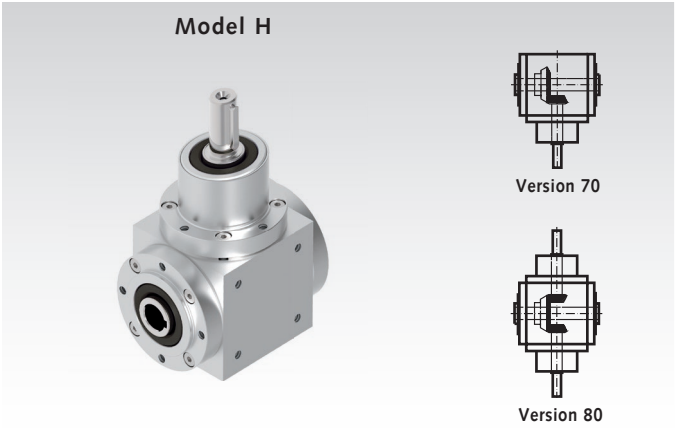












The dimensions of the versions not shown arise by the reflection of the existing dimensions.

Gearbox Size	a mm	b mm	c^{f7} mm	$d_1{}^{j6}$ mm	$d_2{}^{j6}$ mm	$d_3{}^{H7}$ mm	e_1 mm	e_2 mm	f_1 mm	f_2 mm	h mm	i mm	j mm
035	40	35	35	6	6	6	43	43	59	59	23	M3 x 8	M3 x 5
045	57,5	45	45	10	10	10	53	53	78	78	30,5	M4 x 8	M4 x 8

Gearbox Size	$l_1{}^{f7}$ mm	$l_2{}^{f7}$ mm	n mm	o mm	p_1 mm	p_2 mm	r mm	s mm	Feather Key Size at d_1; d_2 mm	Feather Key Size at d_3 mm
035	22	22	26,5	1,5	15	15	25	29	2 x 10	2 x 53
045	32	32	34,5	2	23	23	30	39	3 x 18	3 x 69

Gearbox Size	Permissible Radial and Axial Loads at shaft Ød$_1$ F_R in N at Input Speed n_1 = min^{-1} 3000	1000	500	250	100	50	Permissible Radial and Axial Loads at shaft Ød$_2$; Ød$_3$ F_R in N at Output Speed n_2 = min^{-1} 3000	1000	500	250	100	50
035	10	20	30	50	70	90	30	50	80	120	150	220
045	80	100	120	150	200	250	100	170	220	300	400	500

The maximum permissible radial forces stated in the table are calculated for the centre of the output shaft end, depending on the speed. The Axial loads F_A can be absorbed, without need for further calculation, up to about 50% of the permissible radial forces. If the axial load exceeds this value considerably or if combined loads of FR and FA occur – please ask us.