

Helical Geared Motors HR/I

Housing: Aluminium, corrosion-inhibiting coating, with mounting holes for foot and flange mounting and with removable twist cap for easy service.

Gearing: Hardened and ground.

Lubrication: Synthetic oil (lubricated for life).

Motor: Standard three-phase motor with small flange B14, 230/400V, 50 Hz.

Efficiency class:

0.09 kW: IE1

0.12-0.55 kW: IE2

From 0.75 kW: IE3

Other Motor versions (AC Motor, posistor, forced ventilation, break etc.) on request.

Light-weight, high-quality model range with many mounting options.

These maintenance free, geared motors without ventilation can be used in **any mounting position**.

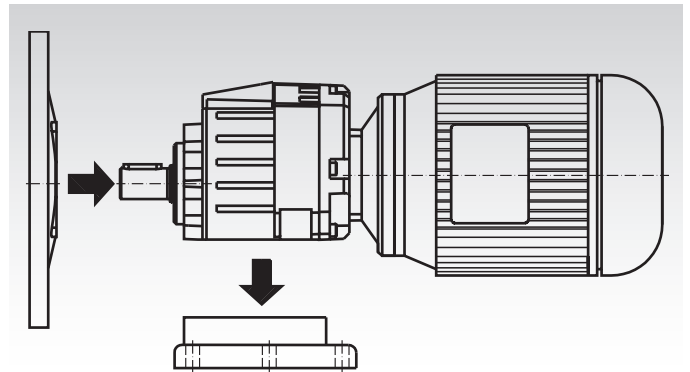
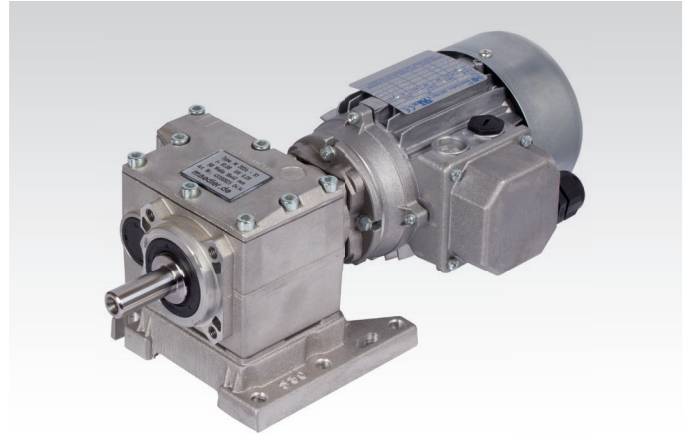
Variable mounting:

These geared motors are supplied with a screwed-on foot mounting. If flange mounting is required or if the motor is to be mounted on an existing base plate, this foot can simply be unscrewed.

Retrofittable flange:

If the motor is to be flange mounted on the output side, a flange can be screwed on by the customer. These flanges B5 are available in several diameters and have to be ordered separately.

Ordering details: e.g.: Prod. No., Type, Motor Power, Output Speed
If required: Output Flange, Prod. No., Diameter



Product No. Model B3	P kW	n_2 min^{-1}	M_a Nm	f_B	i_{ges}	$F_R^{1)}$ N	$F_A^{2)}$ N	Gearbox Size	Motor Size	Weight kg
432 009 05	0,09	5,1	157	1,0	177,09	3000	600	40/3	63A6	11,00
432 009 10	0,09	7,9	101	1,6	177,09	3000	600	40/3	56B4	10,00
432 009 15	0,09	10,3	77	2,1	135,69	3000	600	40/3	56B4	10,00
432 009 20	0,09	14,5	55	2,9	96,85	3000	600	40/3	56B4	10,00
432 009 25	0,09	22,6	36	1,9	61,89	1900	380	20/2	56B4	7,50
432 009 30	0,09	28,1	29	2,4	49,76	1900	380	20/2	56B4	7,50
432 009 35	0,09	37,1	22	3,2	37,69	1900	380	20/2	56B4	7,50
432 009 40	0,09	53,0	16	3,9	26,31	1900	380	20/2	56B4	7,50
432 009 45	0,09	66,0	12	4,8	21,15	1900	380	20/2	56B4	7,50
432 009 50	0,09	75,0	11	5,4	18,78	1700	340	20/2	56B4	7,50
432 009 55	0,09	93,0	9	6,7	15,10	1500	340	20/2	56B4	7,50
432 009 60	0,09	107,0	8	7,8	13,03	1500	340	20/2	56B4	7,50
432 009 65	0,09	123,0	7	8,9	11,42	1500	340	20/2	56B4	7,50
432 012 05	0,12	7,9	146	1,1	177,09	3000	600	40/3	63A4	10,50
432 012 10	0,12	10,3	112	1,4	135,69	3000	600	40/3	63A4	10,50
432 012 15	0,12	13,6	85	2,1	102,89	3000	600	40/3	63A4	10,50
432 012 20	0,12	16,2	72	1,9	86,66	3000	600	40/3	63A4	10,50
432 012 25	0,12	19,1	61	2,9	73,43	3000	600	40/3	63A4	10,50
432 012 30	0,12	22,6	53	1,3	61,89	1900	3800	20/2	63A4	8,00
432 012 35	0,12	28,1	42	1,7	49,76	1900	3800	20/2	63A4	8,00
432 012 40	0,12	37,1	32	2,2	37,69	1900	3800	20/2	63A4	8,00
432 012 45	0,12	48,5	25	2,8	28,88	1900	3800	20/2	63A4	8,00
432 012 50	0,12	53,0	22	2,7	26,31	1900	3800	20/2	63A4	8,00

¹⁾ Radial load F_R max. (on middle of the Output Shaft) for $F_A = 0$.

²⁾ Axial load F_A max. for $F_R = 0$.

Dimensions table page 767.



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Product No. Model B3	P kW	n_2 min ⁻¹	M_a Nm	f_B	i_{ges}	$F_R^{1)}$ N	$F_A^{2)}$ N	Gearbox Size	Motor Size	Weight kg
432 018 05	0,18	10,3	155	1,0	135,69	3000	600	40/3	63B4	11,00
432 018 10	0,18	13,6	117	1,5	102,89	3000	600	40/3	63B4	11,00
432 018 15	0,18	16,2	99	1,4	86,88	3000	600	40/3	63B4	11,00
432 018 20	0,18	19,7	81	2,0	70,95	3000	600	40/3	63B4	11,00
432 018 25	0,18	22,9	70	2,3	61,22	3000	600	40/3	63B4	11,00
432 018 30	0,18	27,6	58	2,8	50,64	3000	600	40/3	63B4	11,00
432 018 35	0,18	32	50	3,0	43,69	3000	600	40/3	63B4	11,00
432 018 40	0,18	39	42	1,7	35,91	1900	380	20/2	63B4	8,50
432 018 45	0,18	48,5	34	2,1	28,88	1900	380	20/2	63B4	8,50
432 018 50	0,18	64	26	2,3	21,84	1900	380	20/2	63B4	8,50
432 018 55	0,18	75	22	2,7	18,78	1700	340	20/2	63B4	8,50
432 018 60	0,18	86	19	3,1	16,20	1500	300	20/2	63B4	8,50
432 018 65	0,18	93	18	3,4	15,10	1500	270	20/2	63B4	8,50
432 018 70	0,18	123	13	4,5	11,42	1350	246	20/2	63B4	8,50
432 025 05	0,25	5,8	384	0,9	241,82	5000	1000	50/3	71A4	17,50
432 025 10	0,25	7,8	286	1,2	180,40	5000	1000	50/3	71A4	17,50
432 025 15	0,25	10,2	217	1,6	136,62	5000	1000	50/3	71A4	17,50
432 025 20	0,25	15,1	147	2,2	92,78	5000	1000	50/3	71A4	17,50
432 025 25	0,25	19,7	113	1,4	70,95	3000	600	40/3	71A4	11,50
432 025 30	0,25	22,9	97	1,6	61,22	3000	600	40/3	71A4	11,50
432 025 35	0,25	27,6	80	2,0	50,64	3000	600	40/3	71A4	11,50
432 025 40	0,25	32	69	2,2	43,69	3000	600	40/3	71A4	11,50
432 025 45	0,25	37,1	62	1,1	37,69	1900	380	20/2	71A4	9,00
432 025 50	0,25	48,5	47	1,5	28,88	1900	380	20/2	71A4	9,00
432 025 55	0,25	64	36	1,7	21,84	1900	380	20/2	71A4	9,00
432 025 60	0,25	75	31	2,0	18,78	1700	340	20/2	71A4	9,00
432 025 65	0,25	107	21	2,8	13,03	1500	300	20/2	71A4	9,00
432 025 70	0,25	123	19	3,2	11,42	1350	270	20/2	71A4	9,00
432 025 75	0,25	142	16	3,7	9,85	1320	246	20/2	71A4	9,00
432 025 80	0,25	194	12	4,2	7,20	1320	185	20/2	71A4	9,00
432 025 85	0,25	257	9	5,6	5,45	756	151	20/2	71A4	9,00
432 037 05	0,37	7,8	423	0,8	180,4	5000	1000	50/3	71B4	18,50
432 037 10	0,37	15,1	218	1,5	92,78	5000	1000	50/3	71B4	18,50
432 037 15	0,37	18,3	180	2,0	76,69	5000	1000	50/3	71B4	18,50
432 037 20	0,37	21,1	155	2,1	66,22	5000	1000	50/3	71B4	18,50
432 037 25	0,37	25,6	128	2,8	54,73	5000	1000	50/3	71B4	18,50
432 037 30	0,37	29,9	114	1,2	46,86	3000	600	40/2	71B4	12,00
432 037 35	0,37	36,5	90	1,9	38,40	3000	600	40/3	71B4	12,50
432 037 40	0,37	39	87	1,2	35,91	1900	380	30/2	71B4	10,50
432 037 45	0,37	48,5	70	1,0	28,88	1900	380	20/2	71B4	10,00
432 037 50	0,37	64	53	1,1	21,84	1900	380	20/2	71B4	10,00
432 037 55	0,37	75	46	1,3	18,78	1700	340	20/2	71B4	10,00
432 037 60	0,37	86	39	1,5	16,20	1500	300	20/2	71B4	10,00
432 037 65	0,37	107	32	1,9	13,03	1500	300	20/2	71B4	10,00
432 037 70	0,37	123	28	2,2	11,42	1350	270	20/2	71B4	10,00
432 037 75	0,37	142	24	2,5	9,85	1320	246	20/2	71B4	10,00
432 037 80	0,37	181	19	2,7	7,74	1320	246	20/2	71B4	10,00
432 055 05	0,55	8,5	577	0,9	165,29	6500	1300	60/3	80A4	23,00
432 055 10	0,55	11,1	442	1,1	126,65	6500	1300	60/3	80A4	23,00
432 055 15	0,55	13,4	365	1,4	104,68	6500	1300	60/3	80A4	23,00
432 055 20	0,55	15,1	324	1,0	92,78	5000	1000	50/3	80A4	20,50
432 055 25	0,55	18,3	268	1,3	76,69	5000	1000	50/3	80A4	20,50
432 055 30	0,55	21,1	231	1,4	66,22	5000	1000	50/3	80A4	20,50
432 055 35	0,55	25,6	191	1,9	54,73	5000	1000	50/3	80A4	20,50
432 055 40	0,55	29,6	165	2,1	47,22	5000	1000	50/3	80A4	20,50
432 055 45	0,55	34,6	146	2,0	40,50	5000	1000	50/2	80A4	20,50
432 055 50	0,55	39	129	1,1	35,91	3000	600	40/2	80A4	14,50
432 055 55	0,55	47,6	106	1,5	29,40	3000	600	40/2	80A4	14,50
432 055 60	0,55	63	80	2,1	22,29	3000	600	40/2	80A4	14,50
432 055 65	0,55	74	68	2,0	18,80	2700	540	40/2	80A4	14,50
432 055 70	0,55	86	58	2,4	16,20	2400	480	40/2	80A4	14,50
432 055 75	0,55	91	55	2,9	15,37	2400	480	40/2	80A4	14,30
432 055 80	0,55	107	47	2,4	13,03	1500	300	30/2	80A4	12,50
432 055 85	0,55	123	41	2,8	11,42	1350	270	30/2	80A4	12,50
432 055 90	0,55	142	35	2,7	9,85	1320	246	30/2	80A4	12,50
432 055 95	0,55	181	28	2,9	7,74	1320	246	30/2	80A4	12,50
432 055 96	0,55	257	20	2,5	5,45	756	151	30/2	80A4	12,50

¹⁾ Radial load F_R max at $F_A = 0$.

²⁾ Axial load F_A max at $F_R = 0$.

Dimensions table page 767.

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Product No. Model B3	P kW	n_2 min ⁻¹	M_a Nm	f_B	i_{ges}	$F_R^{1)}$ N	$F_A^{2)}$ N	Gearbox Size	Motor Size	Weight kg
432 075 05	0,75	11,4	600	0,9	126,65	6500	1300	60/3	80B4	25,0
432 075 10	0,75	13,8	496	1,0	104,68	6500	1300	60/3	80B4	25,0
432 075 15	0,75	17,2	396	1,1	83,59	6500	1300	60/3	80B4	25,0
432 075 20	0,75	21,7	314	1,0	66,22	5000	1000	50/3	80B4	22,0
432 075 25	0,75	26,3	259	1,3	54,73	5000	1000	50/3	80B4	22,0
432 075 30	0,75	30,5	224	1,6	47,22	5000	1000	50/3	80B4	22,0
432 075 32	0,75	35,6	196	1,5	40,50	5000	1000	50/2	80B4	22,0
432 075 35	0,75	40,5	172	1,9	35,58	5000	1000	50/2	80B4	22,0
432 075 37	0,75	49,0	142	2,5	29,41	4500	900	50/2	80B4	22,0
432 075 40	0,75	58	121	2,0	24,98	4500	900	50/2	80B4	22,0
432 075 42	0,75	65	108	1,5	22,29	3000	600	40/2	80B4	16,0
432 075 45	0,75	77	91	1,5	18,80	2700	540	40/2	80B4	16,0
432 075 47	0,75	89	78	1,7	16,20	2400	480	40/2	80B4	16,0
432 075 50	0,75	109	64	2,5	13,26	2400	480	40/2	80B4	16,0
432 075 52	0,75	123	56	3,0	11,66	2240	448	40/2	80B4	16,0
432 075 55	0,75	143	49	3,0	10,06	2240	448	40/2	80B4	18,0
432 075 57	0,75	174	40	1,0	5,45	1320	246	30/2	90S6	14,0
432 075 60	0,75	200	35	2,0	7,20	1320	246	30/2	80B4	14,0
432 075 65	0,75	231	30	2,3	6,23	924	185	30/2	80B4	14,0
432 075 70	0,75	264	26	1,9	5,45	776	151	30/2	80B4	14,0
432 075 75	0,75	336	21	1,9	4,28	700	140	30/2	80B4	14,0
432 075 80	0,75	419	17	2,1	3,44	700	140	30/2	80B4	14,0
432 110 05	1,1	18,8	529	1,0	76,69	6500	1300	60/3	90S4	27,5
432 110 10	1,1	21,7	457	1,1	66,22	6500	1300	60/3	90S4	27,5
432 110 15	1,1	26,3	378	1,3	54,73	6500	1300	60/3	90S4	27,5
432 110 20	1,1	30,5	326	1,6	47,22	6500	1300	60/3	90S4	27,5
432 110 25	1,1	36,2	275	1,6	39,79	6500	1300	60/3	90S4	27,5
432 110 30	1,1	40,5	251	1,3	35,58	5000	1000	50/2	90S4	24,5
432 110 35	1,1	49,0	207	1,7	29,41	4500	900	50/2	90S4	24,5
432 110 40	1,1	58	176	1,4	24,98	4500	900	50/2	90S4	24,5
432 110 45	1,1	67	152	1,0	21,54	3000	600	40/2	90S4	18,5
432 110 50	1,1	80	127	1,2	18,04	2700	540	40/2	90S4	18,5
432 110 55	1,1	94	108	1,5	15,37	2400	480	40/2	90S4	18,5
432 110 57	1,1	109	93	1,7	13,26	2400	480	40/2	90S4	18,5
432 110 60	1,1	123	82	2,1	11,66	2240	448	40/2	90S4	18,5
432 110 62	1,1	143	71	2,1	10,06	2240	448	40/2	90S4	18,5
432 110 65	1,1	186	55	1,4	7,74	1320	246	30/2	90S4	17,0
432 110 67	1,1	200	51	1,4	7,20	1320	246	30/2	90S4	17,0
432 110 70	1,1	231	44	1,6	6,23	924	185	30/2	90S4	17,0
432 110 75	1,1	264	38	1,3	5,45	756	151	30/2	90S4	17,0
432 110 80	1,1	336	30	1,3	4,28	700	140	30/2	90S4	17,0
432 110 85	1,1	419	24	1,4	3,44	700	140	30/2	90S4	17,0
432 150 05	1,5	26,1	519	1,0	54,73	6500	1300	60/3	90LA4	30,0
432 150 10	1,5	30,3	448	1,1	47,22	6500	1300	60/3	90LA4	30,0
432 150 15	1,5	35,9	377	1,1	39,79	6500	1300	60/3	90LA4	30,0
432 150 20	1,5	40,2	345	0,9	35,58	5000	1000	50/2	90LA4	27,5
432 150 25	1,5	48,6	285	1,2	29,41	4500	900	50/2	90LA4	27,5
432 150 30	1,5	57	242	1,0	24,98	4500	900	50/2	90LA4	27,5
432 150 35	1,5	71	195	1,7	20,10	3900	780	50/2	90LA4	27,5
432 150 40	1,5	86	161	2,2	16,62	3900	780	50/2	90LA4	27,5
432 150 45	1,5	101	138	1,8	14,21	3500	700	50/2	90LA4	27,5
432 150 50	1,5	123	113	1,5	11,66	2240	448	40/2	90LA4	21,1
432 150 55	1,5	142	97	1,5	10,06	2240	448	40/2	90LA4	21,1
432 150 60	1,5	181	76	1,6	7,89	2030	406	40/2	90LA4	21,1
432 150 65	1,5	195	71	1,7	7,33	2030	406	40/2	90LA4	21,1
432 150 70	1,5	225	62	1,5	6,36	1800	360	40/2	90LA4	21,1
432 150 75	1,5	262	53	1,0	5,45	756	151	30/2	90LA4	19,5
432 150 80	1,5	334	41	1,0	4,28	700	140	30/2	90LA4	19,5
432 150 85	1,5	416	33	1,0	3,44	700	140	30/2	90LA4	19,5

¹⁾ Radial load F_R max at $F_A = 0$.

²⁾ Axial load F_A max at $F_R = 0$.

Dimensions table page 767.

Note for Dimensioning

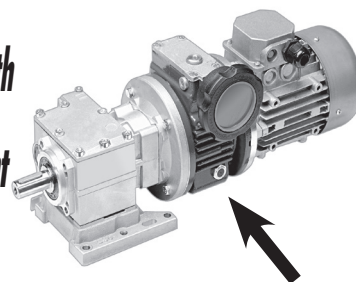
Three-phase motors have a very high starting torque. The max. permissible, stability related torque of the gearbox is the product of output torque and operating factor: $M_{max.} = M_a \times f_B$

This torque must never be exceeded.

Furthermore, depending on kind of operation,

factors for shock load and acceleration must be considered.

*Optionally also available with
additional manual adjustment
mechanism (on request).*



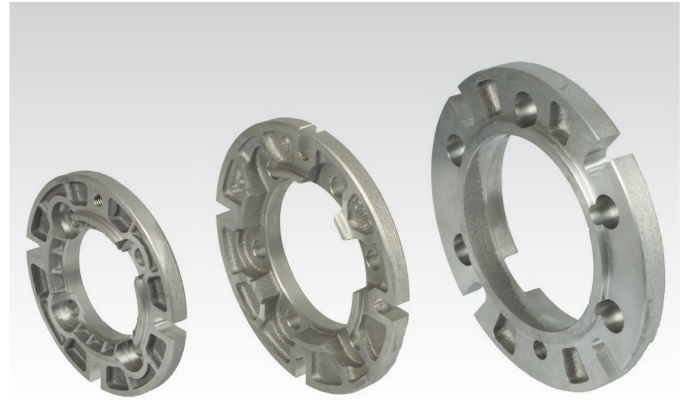
Output Flanges for Helical Geared Motors HR/I

Material: Aluminium.

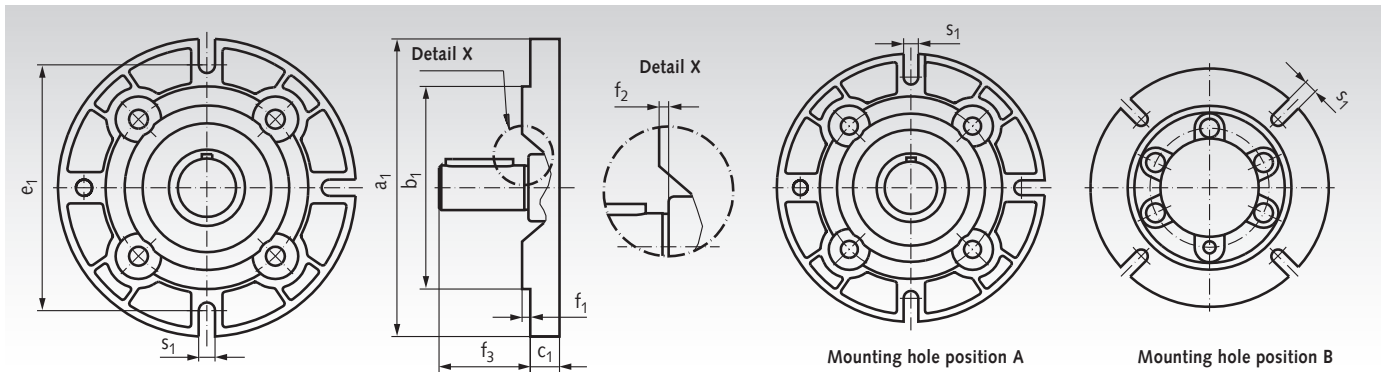
Output-side flange for helical geared motor HR/I to be mounted by the customer, for modification from foot mounting B3 to flange mounting B5.

For every gearbox size there are flanges in several, common diameters available.

The flange is supplied with the required mounting screws and can be easily screwed on. The screwed on foot mounting can be taken off the gearbox, if required.



Ordering details: e.g.: Prod. No. 432 020 12, Output Flange for Gearbox Size 20/2 and 30/2



Output Flange Gearbox Size 20/2 and 30/2

Product No.	a ₁ mm	b ₁ mm	c ₁ mm	e ₁ mm	f ₁ mm	f ₂ mm	f ₃ mm	s ₁ mm	Mount. Hole Position	Weight kg
432 020 12	120	80	11,5	100	3,0	6,5	36,5	9	A	0,23
432 020 14	140	95	11,5	115	3,0	6,5	36,5	9	B	0,32
432 020 16	160	110	11,5	130	3,5	7,0	36,5	9	B	0,41
432 020 20	200	130	11,5	165	3,5	7,0	36,5	11	B	0,61

Output Flange Gearbox Size 40/2 and 40/3

Product No.	a ₁ mm	b ₁ mm	c ₁ mm	e ₁ mm	f ₁ mm	f ₂ mm	f ₃ mm	s ₁ mm	Mount. Hole Position	Weight kg
432 040 12	120	80	10	100	3,0	6,0	47	9	B	0,24
432 040 14	140	95	10	115	3,0	6,0	47	9	B	0,32
432 040 16	160	110	10	130	3,0	6,0	47	9	B	0,42
432 040 20	200	130	11	165	3,5	6,5	47	11	B	0,67

Output Flange Gearbox Size 50/2, 50/3 und 60/3

Product No.	a ₁ mm	b ₁ mm	c ₁ mm	e ₁ mm	f ₁ mm	f ₂ mm	f ₃ Size 50 mm	f ₃ Size 60 mm	s ₁ mm	Mount. Hole Position	Weight kg
432 050 16	160	110	14,0	130	3,5	6,0	57,5	67,5	9	B	0,52
432 050 20	200	130	13,0	165	3,5	6,0	57,5	67,5	11	B	0,71
432 050 25	250	180	15,5	215	4,0	6,5	57,5	67,5	14	B	1,24

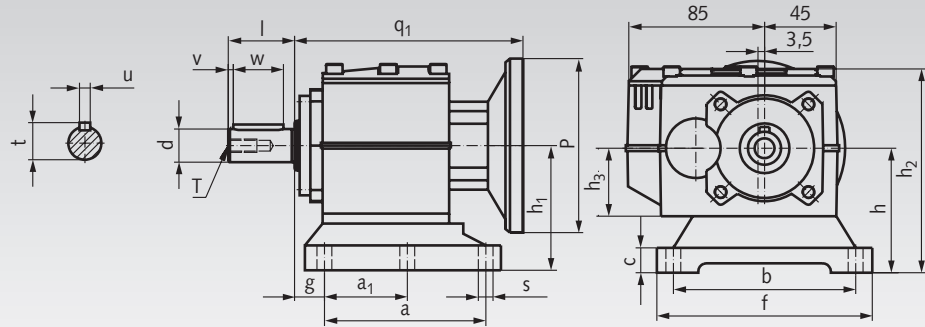
Lubricant Volume in Litre (dm³)

The gearbox is lubricated for life, using synthetic oil. At normal operating conditions, no change is required. The lubricant volume is the same for all mounting positions.

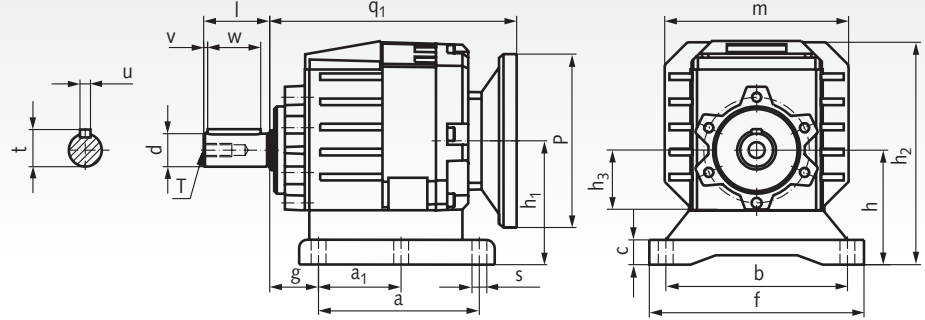
Size	20/2	30/2	40/2	40/3	50/2	50/3	60/3
Oil volume	0.15	0.15	0.40	0.45	1.10	1.15	1.25

Dimensions Table Helical Geared Motors HR/I

Gearbox Size
20/2
30/2

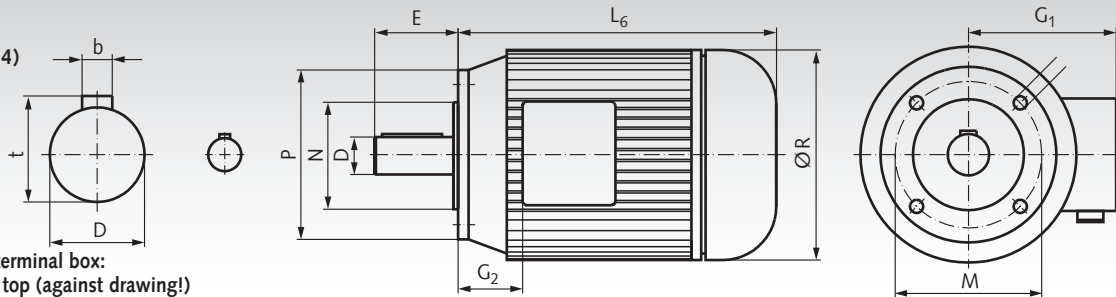


Gearbox Size
40/2
40/3
50/2
50/3
60/3



Gear Size	Motor Size	Output Shaft							Gearbox Housing and Foot													
		d mm	l mm	t mm	T mm	u mm	v mm	w mm	a mm	a ₁ mm	b mm	c mm	f mm	g mm	h mm	h ₁ mm	h ₂ mm	h ₃ mm	m mm	P mm	q ₁ mm	s mm
20/2	56	16	40	18,0	M6	5	3	30	110	50	110	15	130	18	75	75,0	115,5	41	-	78	137,5	9,0
20/2	63	16	40	18,0	M6	5	3	30	110	50	110	15	130	18	75	75,0	115,5	41	-	90	133,5	9,0
20/2	71	16	40	18,0	M6	5	3	30	110	50	110	15	130	18	75	75,0	115,5	41	-	105	133,0	9,0
30/2	71	20	40	22,5	M8	6	3	30	110	50	110	15	130	18	75	75,0	115,5	41	-	105	149,5	9,0
30/2	80	20	40	22,5	M8	6	3	30	110	50	110	15	130	18	75	75,0	115,5	41	-	120	150,5	9,0
30/2	90	20	40	22,5	M8	6	3	30	110	50	110	15	130	18	75	75,0	115,5	41	-	140	151,5	9,0
40/2	71	25	50	28,0	M8	8	3	40	90	50	110	15	145	18	75	82,0	155,0	45,5	139	105	178,5	9,0
40/2	80	25	50	28,0	M8	8	3	40	90	50	110	15	145	18	75	82,0	155,0	45,5	139	120	179,5	9,0
40/2	90	25	50	28,0	M8	8	3	40	90	50	110	15	145	18	75	82,0	155,0	45,5	139	140	180,5	9,0
40/3	56	25	50	28,0	M8	8	3	40	90	50	110	15	145	18	75	78,2	155,0	45,5	139	78	186,5	9,0
40/3	63	25	50	28,0	M8	8	3	40	90	50	110	15	145	18	75	78,2	155,0	45,5	139	90	181,5	9,0
40/3	71	25	50	28,0	M8	8	3	40	90	50	110	15	145	18	75	78,2	155,0	45,5	139	105	182,0	9,0
50/2	80	30	60	33,0	M10	8	5	50	165	-	135	24	170	30	115	120,3	216,5	69,5	178	120	226,0	13,5
50/2	90	30	60	33,0	M10	8	5	50	165	-	135	24	170	30	115	120,3	216,5	69,5	178	140	226,0	13,5
50/3	71	30	60	33,0	M10	8	5	50	165	-	135	24	170	30	115	130,0	216,5	69,5	178	105	234,5	13,5
50/3	80	30	60	33,0	M10	8	5	50	165	-	135	24	170	30	115	130,0	216,5	69,5	178	120	235,5	13,5
60/3	80	35	70	38,0	M10	10	5	60	165	-	135	24	170	30	115	130,5	218,0	69,5	202	120	254,0	13,5
60/3	90	35	70	38,0	M10	10	5	60	165	-	135	24	170	30	115	130,5	218,0	69,5	202	140	255,0	13,5

Motor (Model B14)



Position of terminal box:
standard on top (against drawing!)

Motor Size	D mm	b mm	t mm	E mm	f mm	G ₁ mm	G ₂ mm	L ₆ mm	M mm	N mm	P mm	Q mm	R mm	Weight kg
56B	9	3	10,2	20	M5	112	13	179	65	50	80	2,5	108	2,9
63A	11	4	12,5	23	M5	113	19	185	75	60	90	2,5	120	3,8
63B	11	4	12,5	23	M5	113	19	185	75	60	90	2,5	120	4,2
71A	14	5	16	30	M6	125	24	206	85	70	105	2,5	130	5,9
71B	14	5	16	30	M6	125	24	225	85	70	105	2,5	141	6,5
80A	19	6	21,5	40	M6	133	23	256	100	80	120	3	159	8,5
80B	19	6	21,5	40	M6	133	23	256	100	80	120	3	159	10,8
90S	24	8	27	50	M8	148	28	255	115	95	140	3	170	13,0
90L	24	8	27	50	M8	148	28	280	115	95	140	3	170	15,4