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Center Distance

$a_o = 32 \text{ mm}$

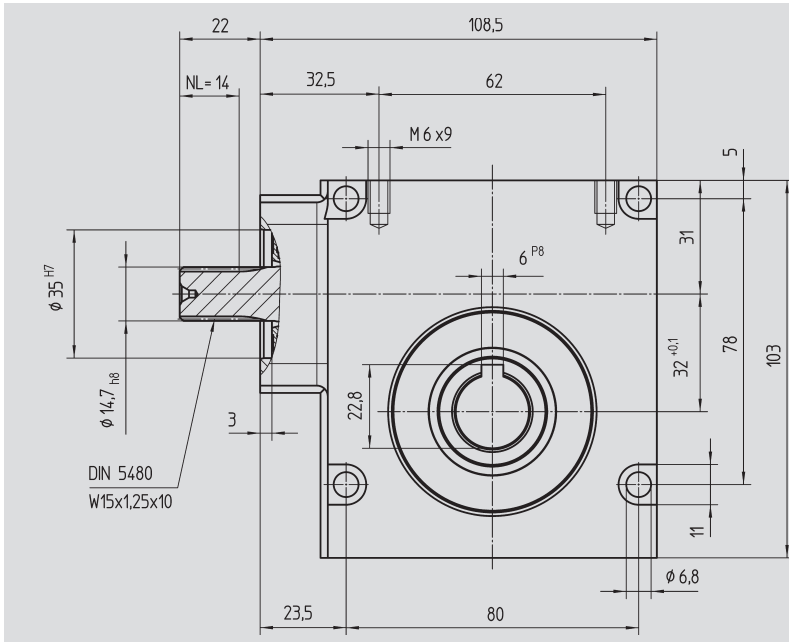


Fig. 1 Output shaft with key connection

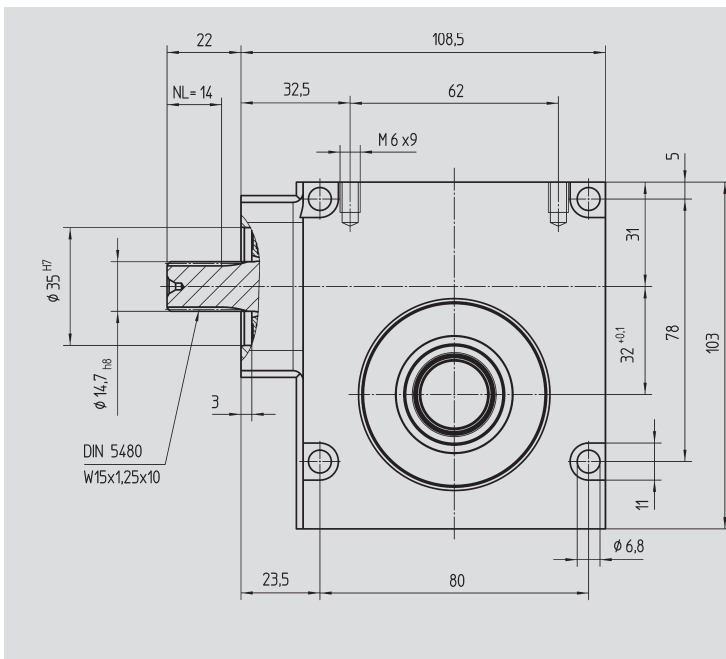
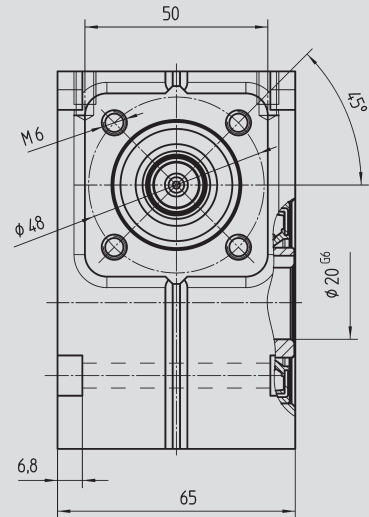
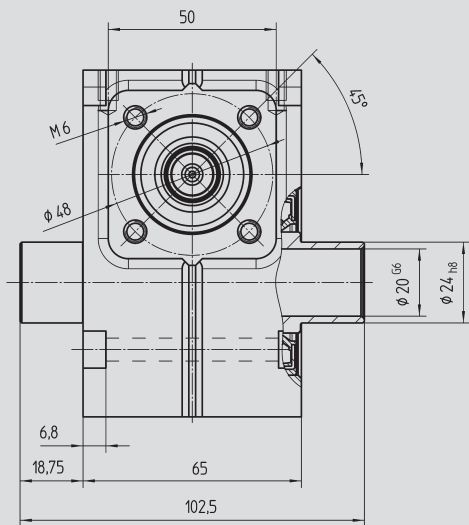


Fig. 2 Output shaft for clamp connection 80 81 024



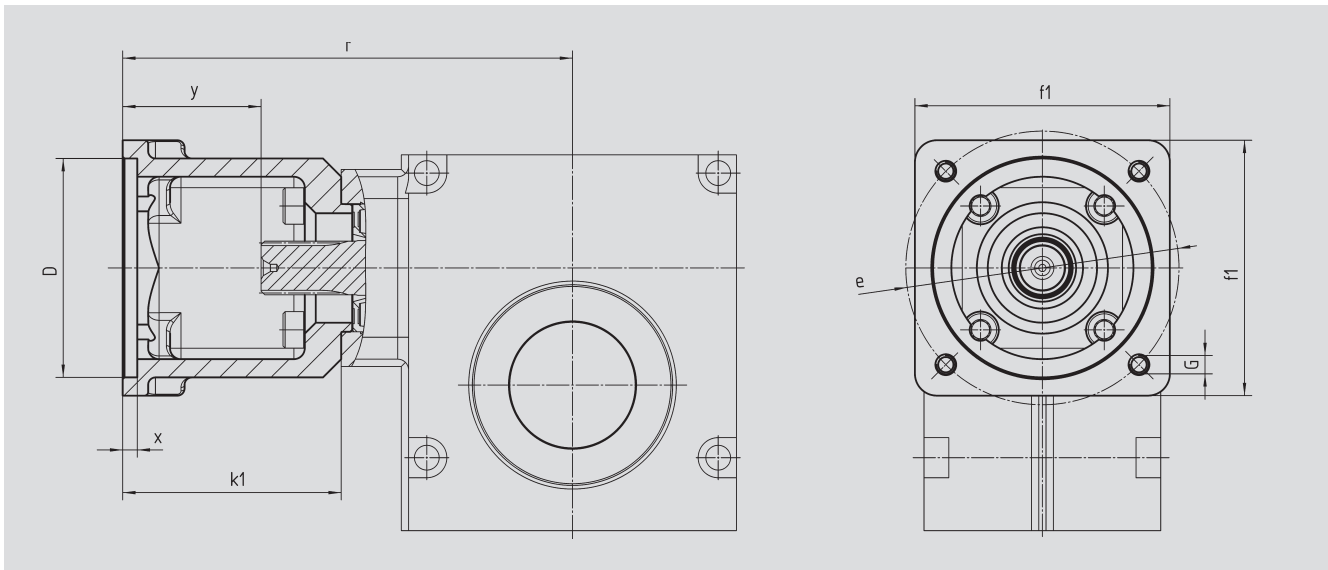
Order Code Fig. 1	Fig. 2	Ratio i	kg	$J_{red} 10^{-5}$ kg m ²
59 01 005	59 11 005	4.75	2	1.110
59 01 007	59 11 007	6.75	2	1.060
59 01 009	59 11 009	9.25	2	0.813
59 01 015	59 11 015	14.50	2	0.840
59 01 020	59 11 020	19.50	2	0.690
59 01 029	59 11 029	29.00	2	0.845
59 01 039	59 11 039	39.00	2	0.703
59 01 050	59 11 050	50.00	2	0.647

With food grade oil, order code 59 01 1xx / 59 11 1xx

With ATEX version with food grade oil, order code 59 01 2xx / 59 11 2xx




Motor Flange



Center Distance

$a_o = 32 \text{ mm}$

Order Code	D^{G7}	k_1	r	x	y	f_1	e	G	 kg
65 59 101	40.0	56.5	120.0	2.5	34.5	60	63	M5	0.26
65 59 102	50.0	64.0	127.5	4.0	42.0	60	70	M5	0.29
65 59 103	60.0	60.0	123.5	3.5	38.0	70	75	M5	0.28
65 59 104	80.0	64.0	127.5	4.5	42.0	85	100	M6	0.30
65 59 105	60.0	64.0	127.5	4.5	42.0	85	90	M5	0.30
65 59 107	40.0	56.5	120.0	2.5	34.5	60	63	M4	0.31
65 59 108	70.0	64.0	127.5	5.0	42.0	85	90	M6	0.26

The order should contain gear box 59 01 0xx / 59 11 0xx and flange 65 59 1xx.



Center Distance

$a_o = 50 \text{ mm}$

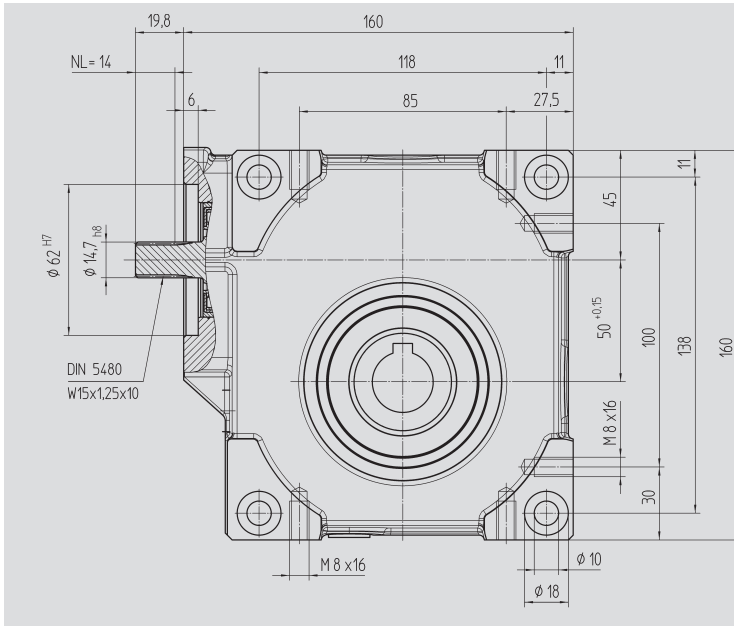


Fig. 1 Output shaft with key connection

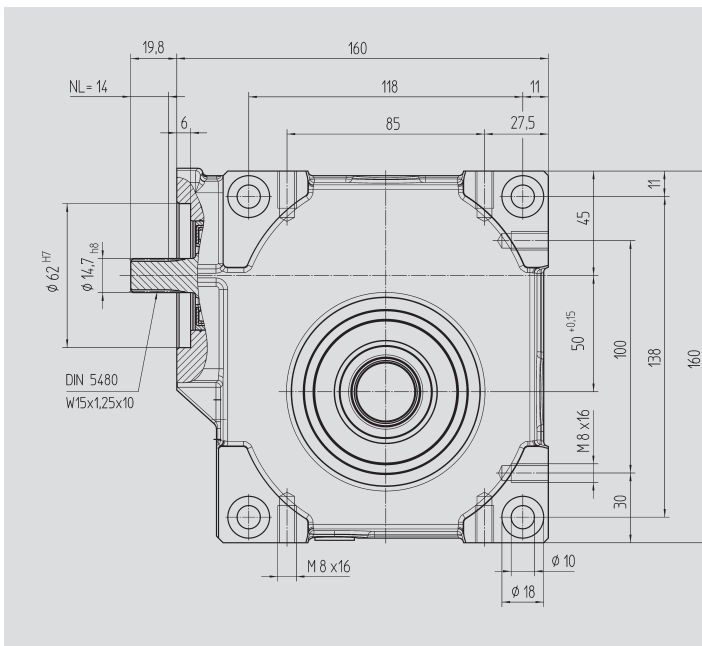
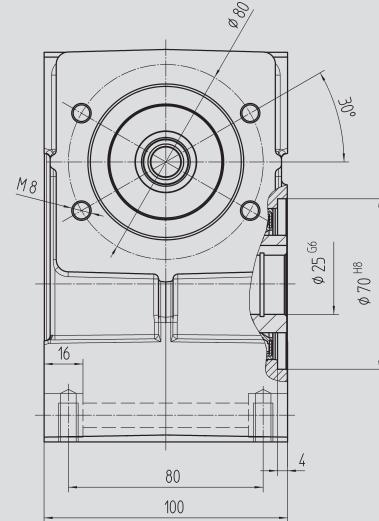
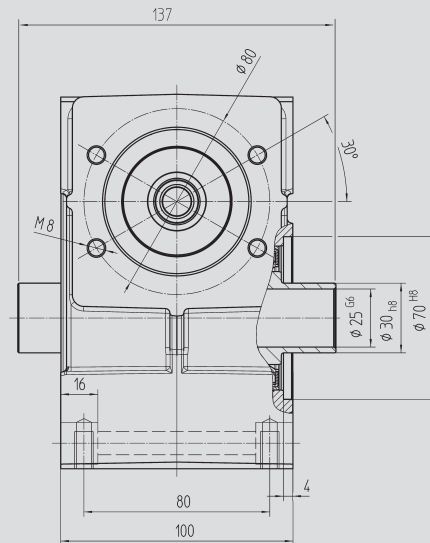


Fig. 2 Output shaft for clamp connection 80 83 030



Order Code
Fig. 1

Fig. 2

Ratio i



J_{red} 10⁻⁴
kg m²

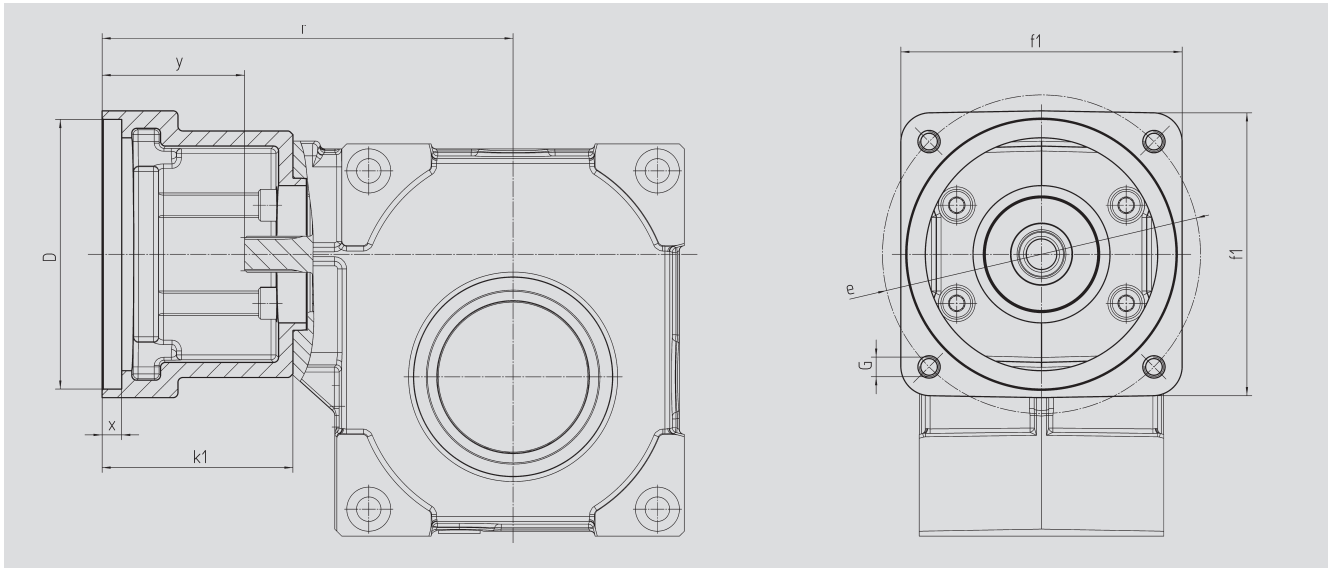
59 03 005	59 13 005	4.75	6.5	0.8280
59 03 007	59 13 007	6.75	6.5	0.4140
59 03 009	59 13 009	9.25	6.5	0.3490
59 03 015	59 13 015	14.50	6.5	0.2800
59 03 020	59 13 020	19.50	6.5	0.1960
59 03 029	59 13 029	29.00	6.5	0.2694
59 03 039	59 13 039	39.00	6.5	0.2310
59 03 050	59 13 050	50.00	6.5	0.2140

With food grade oil, order code 59 03 1xx / 59 13 1xx

With ATEX version with food grade oil, order code 59 03 2xx / 59 13 2xx




Motor Flange



Center Distance

$a_o = 50 \text{ mm}$

Order Code	D ^{G7}	k ₁	r	x	y	f ₁	e	G	 kg
65 59 301	95.0	62	152	12.5	42	100	115	M8	0.60
65 59 302	50.0	62	152	10.0	42	100	70, 95, 115	M4, M6, M8	0.70
65 59 303	80.0	62	152	10.0	42	100	100	M6	0.65
65 59 304	95.0	78	168	10.0	59	115	130	M8	0.80
65 59 305	95.0	72	162	8.0	52	100	115	M8	0.75
65 59 306	60.0	74	164	21.0	54	100	75, 90, 115	M5, M5, M8	0.90
65 59 307	70.0	70	160	21.0	50	100	90, 115	M6, M8	0.80
65 59 401	95.0	73	163	8.0	53	100	115	M8	0.75
65 59 402	110.0	78	168	8.0	59	115	130	M8	0.80
65 59 403	95.0	73	163	12.0	53	115	130	M8	0.75
65 59 404	110.0	73	163	12.0	53	115	130	M8	0.70
65 59 405	95.0	78	168	11.0	59	140	165	M10	1.20
65 59 406	110.0	78	168	11.0	59	140	165	M10	1.15
65 59 407	130.0	78	168	11.0	59	140	165	M10	1.00
65 59 409	130.0	98	188	14.0	78	140	165	M10	1.10
65 59 410	110.0	74	164	8.0	54	120	145	M8	1.00
65 59 411	110.0	84	174	8.0	64	120	145	M8	1.20
65 59 412	114.3	105	195	8.0	85	180	200	M12	3.70
65 59 413	114.3	139	229	8.0	119	180	200	M12	3.35
65 59 414	114.3	91	181	8.0	71	180	200	M12	2.65
65 59 415	110.0	89	179	8.0	69	120	145	M8	1.30

The order should contain gear box 59 03 0xx / 59 13 0xx and flange 65 59 3xx or 4xx.



Center Distance

$a_o = 63 \text{ mm}$

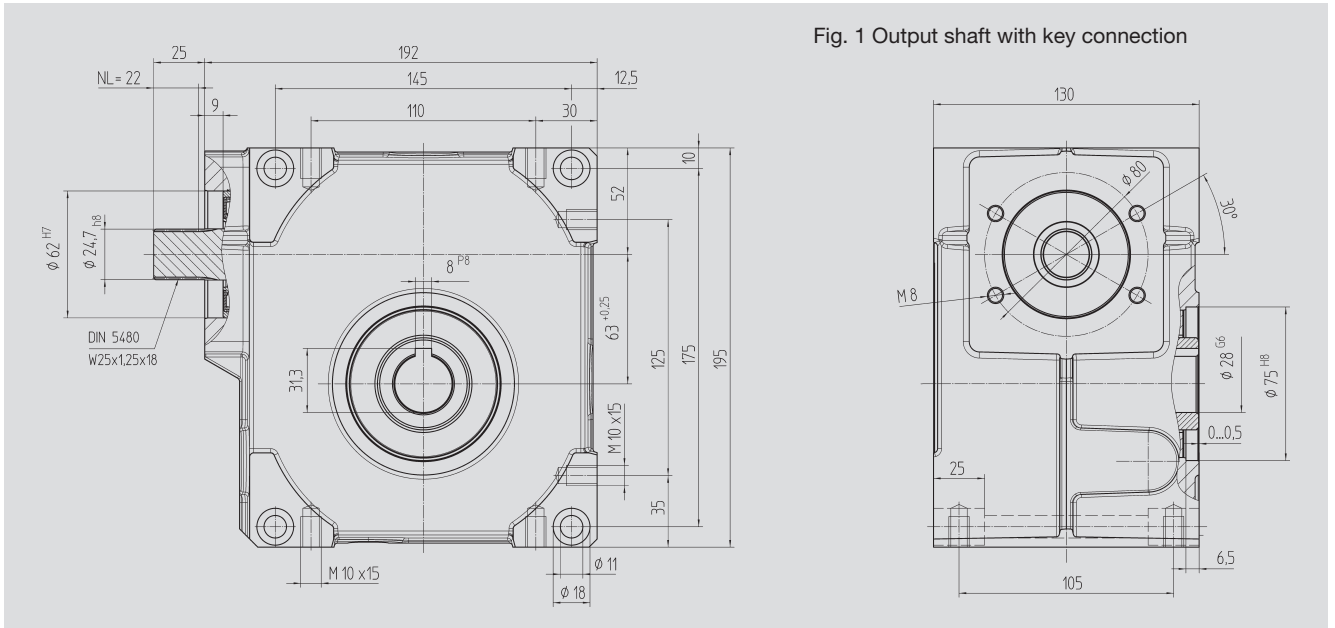


Fig. 1 Output shaft with key connection

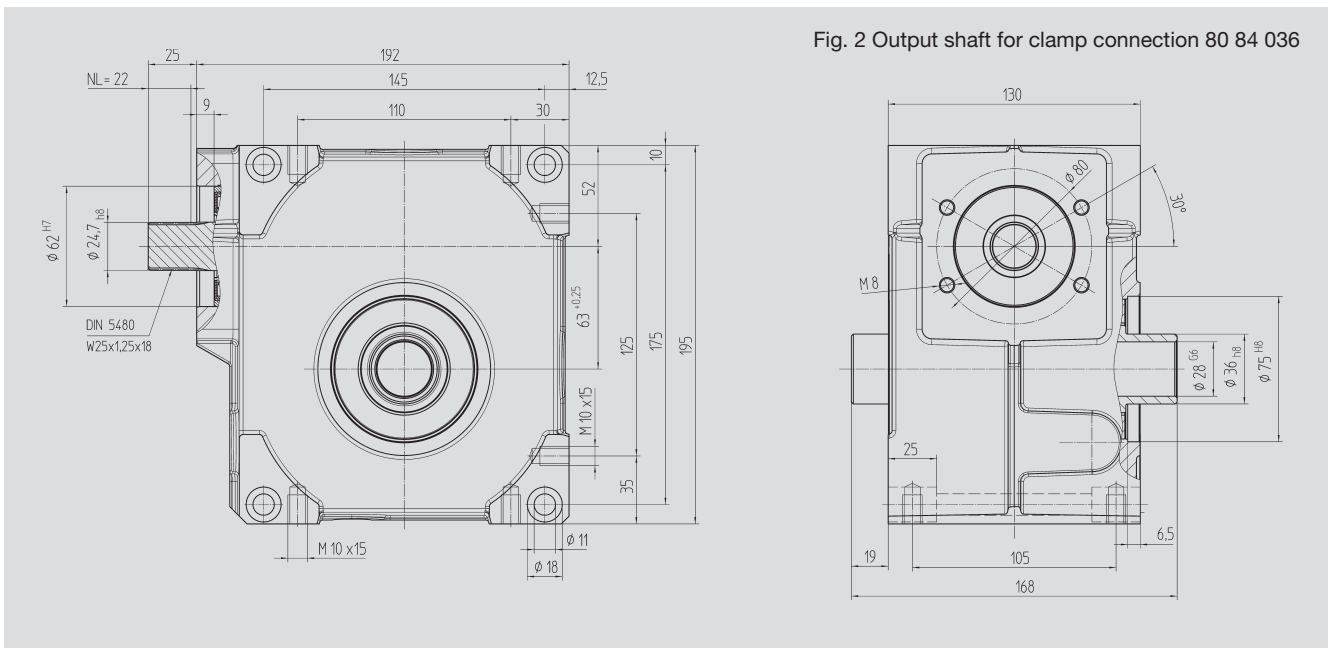


Fig. 2 Output shaft for clamp connection 80 84 036

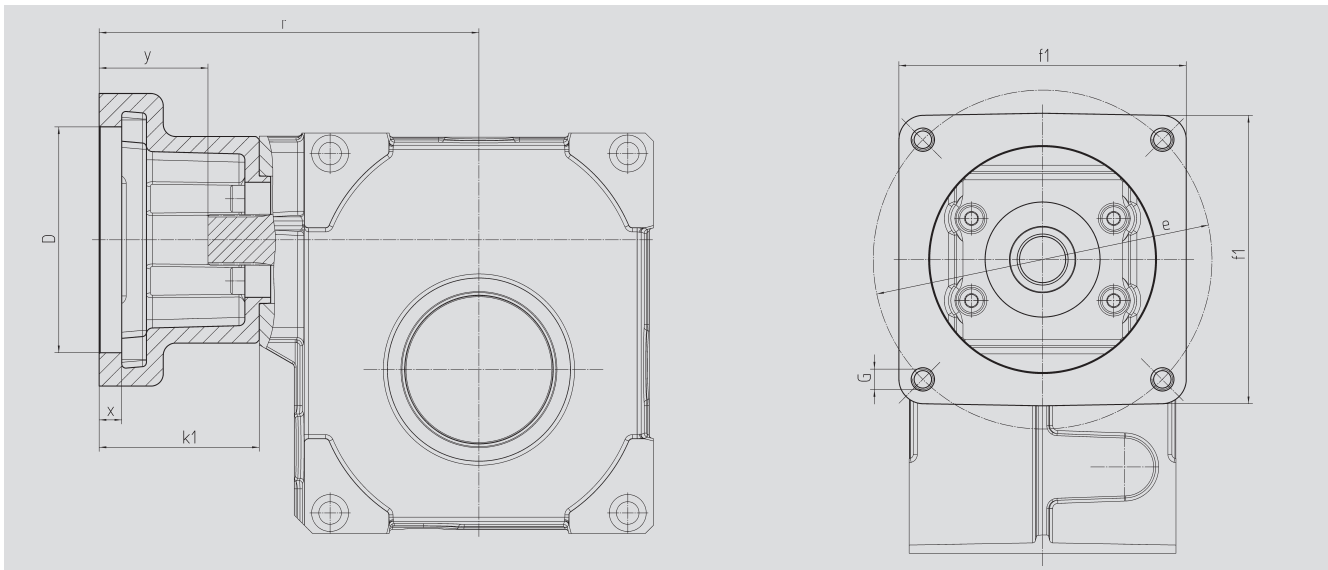
Order Code Fig. 1	Fig. 2	Ratio i		$J_{red} 10^{-4}$ kg m ²
59 04 005	59 14 005	4.75	11.5	2.5350
59 04 007	59 14 007	6.75	11.5	1.3720
59 04 009	59 14 009	9.25	11.5	0.9825
59 04 015	59 14 015	14.50	11.5	0.9590
59 04 020	59 14 020	19.50	11.5	0.6940
59 04 029	59 14 029	29.00	11.5	0.9966
59 04 039	59 14 039	39.00	11.5	1.0100
59 04 052	59 14 052	52.00	11.5	0.5305

With food grade oil, order code 59 04 1xx / 59 14 1xx

With ATEX version with food grade oil, order code 59 04 2xx / 59 14 2xx



Motor Flange



Center Distance

$a_o = 63 \text{ mm}$

Order Code	D ^{G7}	k ₁	r	x	y	f ₁	e	G	kg
65 59 301	95.0	62	169	12.5	37	100	115	M8	0.60
65 59 302	50.0	62	169	10.0	37	100	70, 95, 115	M4, M6, M8	0.70
65 59 303	80.0	62	169	10.0	37	100	100	M6	0.65
65 59 304	95.0	78	185	10.0	53	115	130	M8	0.80
65 59 305	95.0	72	179	8.0	47	100	115	M8	0.75
65 59 306	60.0	74	181	21.0	49	100	75, 90, 115	M5, M5, M8	0.90
65 59 307	70.0	70	177	21.0	45	100	90, 115	M6, M8	0.80
65 59 401	95.0	73	180	8.0	48	100	115	M8	0.75
65 59 402	110.0	78	185	8.0	53	115	130	M8	0.80
65 59 403	95.0	73	180	12.0	48	115	130	M8	0.75
65 59 404	110.0	73	180	12.0	48	115	130	M8	0.70
65 59 405	95.0	78	185	11.0	53	140	165	M10	1.20
65 59 406	110.0	78	185	11.0	53	140	165	M10	1.15
65 59 407	130.0	78	185	11.0	53	140	165	M10	1.00
65 59 409	130.0	98	205	14.0	73	140	165	M10	1.10
65 59 410	110.0	74	181	8.0	49	120	145	M8	1.00
65 59 411	110.0	84	191	8.0	59	120	145	M8	1.20
65 59 412	114.3	105	212	8.0	80	180	200	M12	3.70
65 59 413	114.3	139	246	8.0	114	180	200	M12	3.35
65 59 414	114.3	91	198	8.0	66	180	200	M12	2.65
65 59 415	110.0	89	196	8.0	64	120	145	M8	1.30

The order should contain gear box 59 04 0xx / 59 14 0xx and flange 65 59 3xx or 4xx.



Center Distance

$a_o = 80 \text{ mm}$

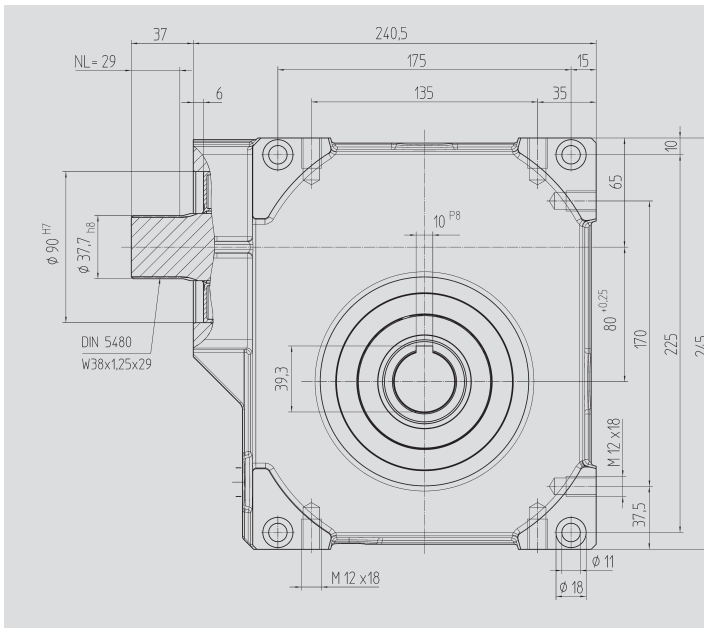


Fig. 1 Output shaft with key connection

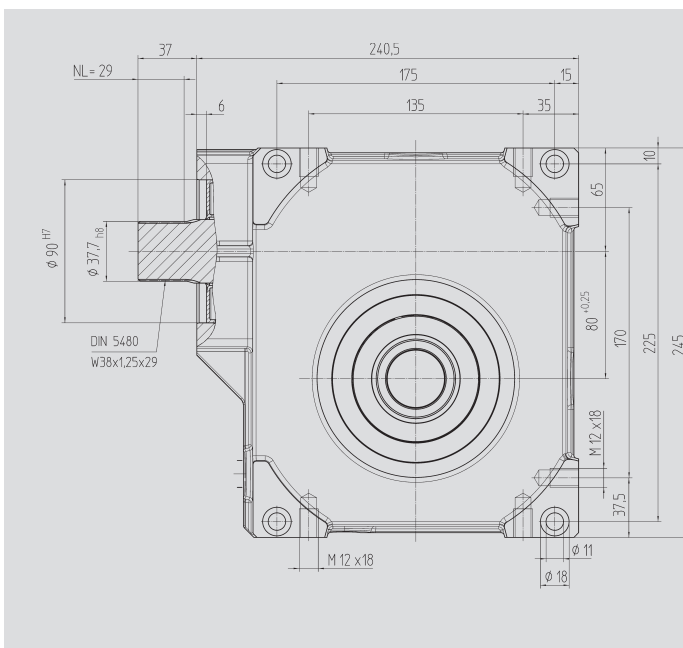
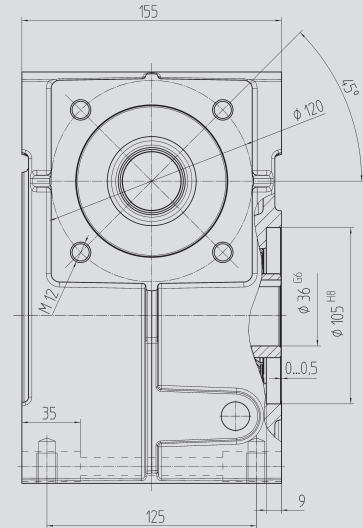
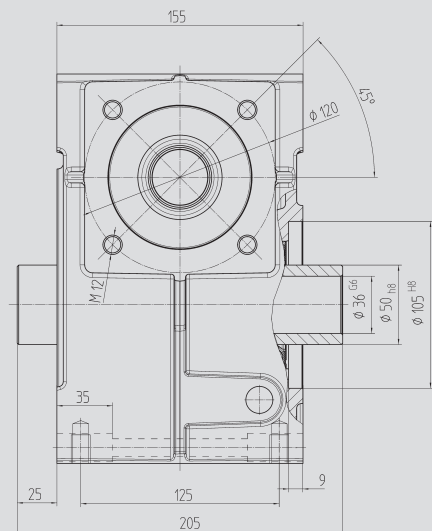


Fig. 2 Output shaft for clamp connection 80 85 050



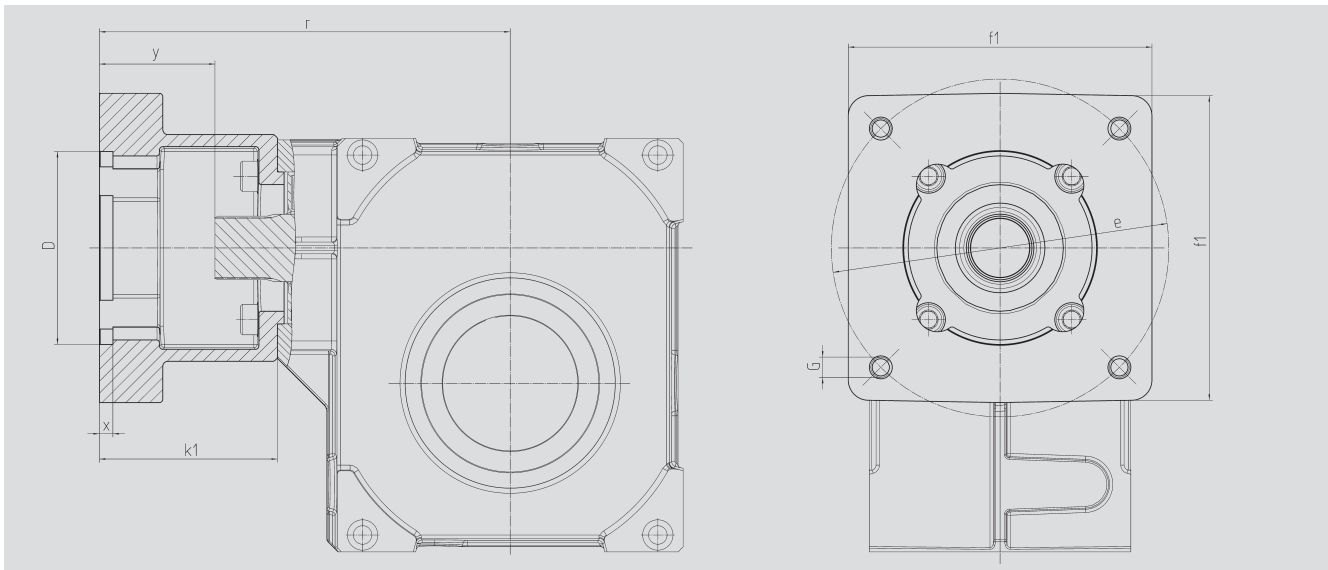
Order Code Fig. 1	Fig. 2	Ratio i	kg	$J_{red} 10^{-4}$ kg m ²
59 05 005	59 15 005	4.75	22	9.6180
59 05 007	59 15 007	6.75	22	6.0910
59 05 009	59 15 009	9.25	22	4.7650
59 05 015	59 15 015	14.50	22	5.3080
59 05 020	59 15 020	19.50	22	3.9350
59 05 029	59 15 029	29.00	22	4.0500
59 05 039	59 15 039	39.00	22	4.1800
59 05 052	59 15 052	52.00	22	3.7140

With food grade oil, order code 59 05 1xx / 59 15 1xx

With ATEX version with food grade oil, order code 59 05 2xx / 59 15 2xx



Motor Flange



Center Distance

$a_o = 80 \text{ mm}$

Order Code	D ^{G7}	k ₁	r	x	y	f ₁	e	G	kg
65 59 501	110.0	92.0	230.0	8.0	55.0	140	165	M10	2.00
65 59 502	130.0	92.0	230.0	8.0	55.0	140	165	M10	1.90
65 59 503	180.0	122.0	260.0	8.0	85.0	192	215	M12	3.40
65 59 504	180.0	127.0	265.0	8.0	90.0	192	215	M12	3.80
65 59 505	180.0	112.0	250.0	10.0	75.0	192	215	M12	2.70
65 59 506	130.0	112.0	250.0	10.0	75.0	192	215	M12	3.00
65 59 507	130.0	112.0	250.0	10.0	75.0	140	165	M10	2.50
65 59 508	110.0	90.0	228.0	8.0	53.0	140	145	M8	2.00
65 59 509	110.0	108.5	246.5	8.0	71.5	140	145	M8	2.50
65 59 510	114.3	129.5	267.5	8.0	92.5	180	200	M12	5.00
65 59 511	114.3	163.5	301.5	8.0	126.5	180	200	M12	4.20
65 59 512	114.3	105.5	243.5	8.0	68.5	180	200	M12	3.50
65 59 513	110.0	113.5	251.5	8.0	76.5	140	145	M8	2.70

The order should contain gear box 59 05 0xx / 59 15 0xx and flange 65 59 5xx.



Center Distance

$a_o = 100 \text{ mm}$

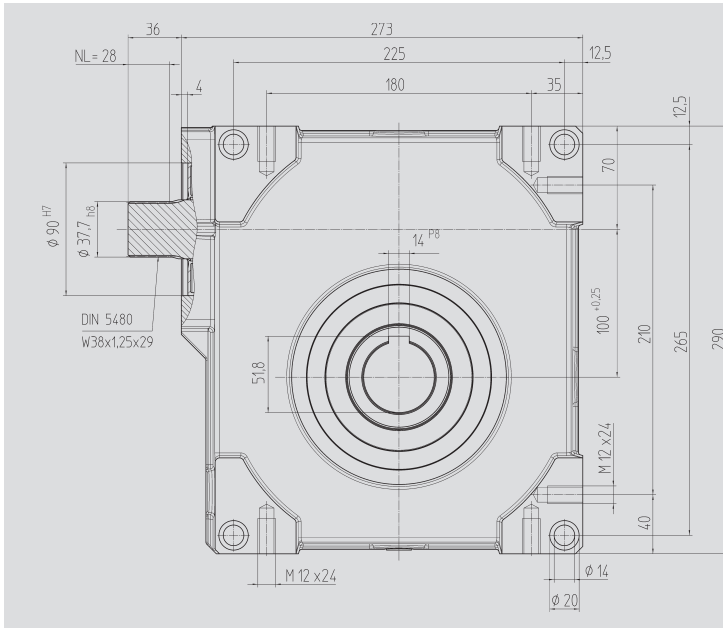


Fig. 1 Output shaft with key connection

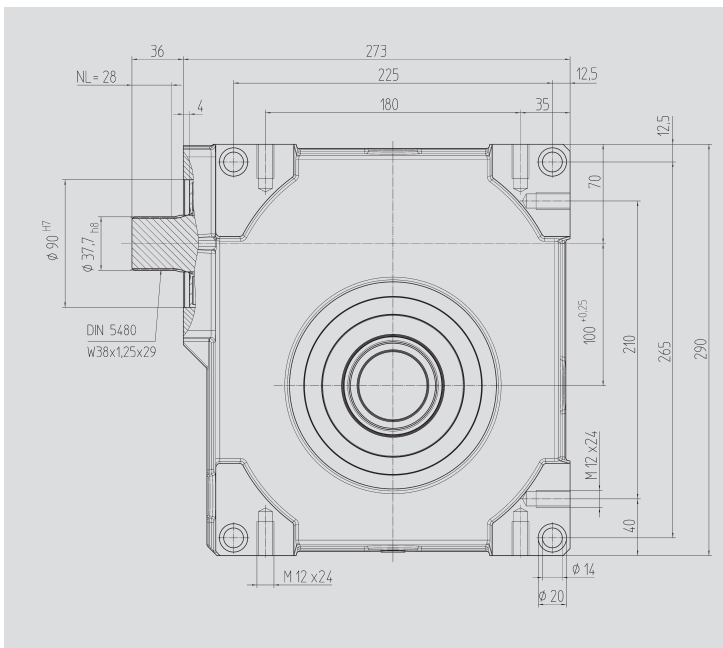
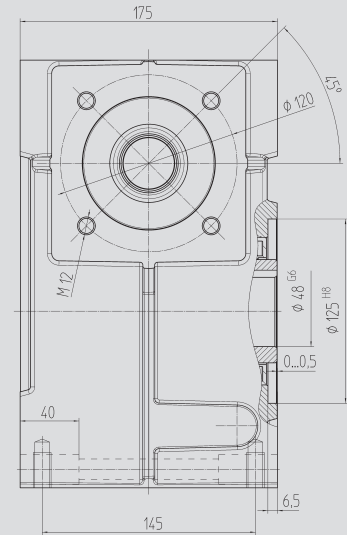
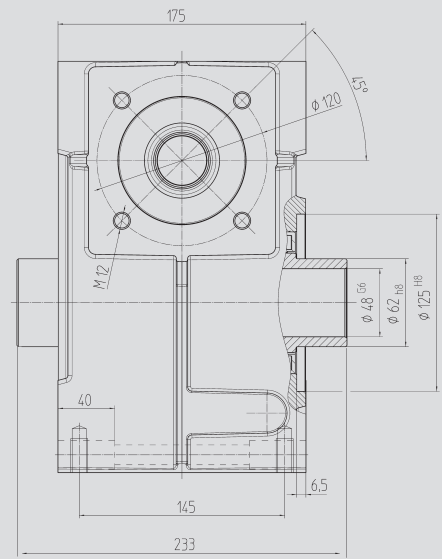


Fig. 2 Output shaft for clamp connection 80 86 062



Order Code
Fig. 1

Fig. 2

Ratio i



$J_{red} 10^{-4}$
kg m²

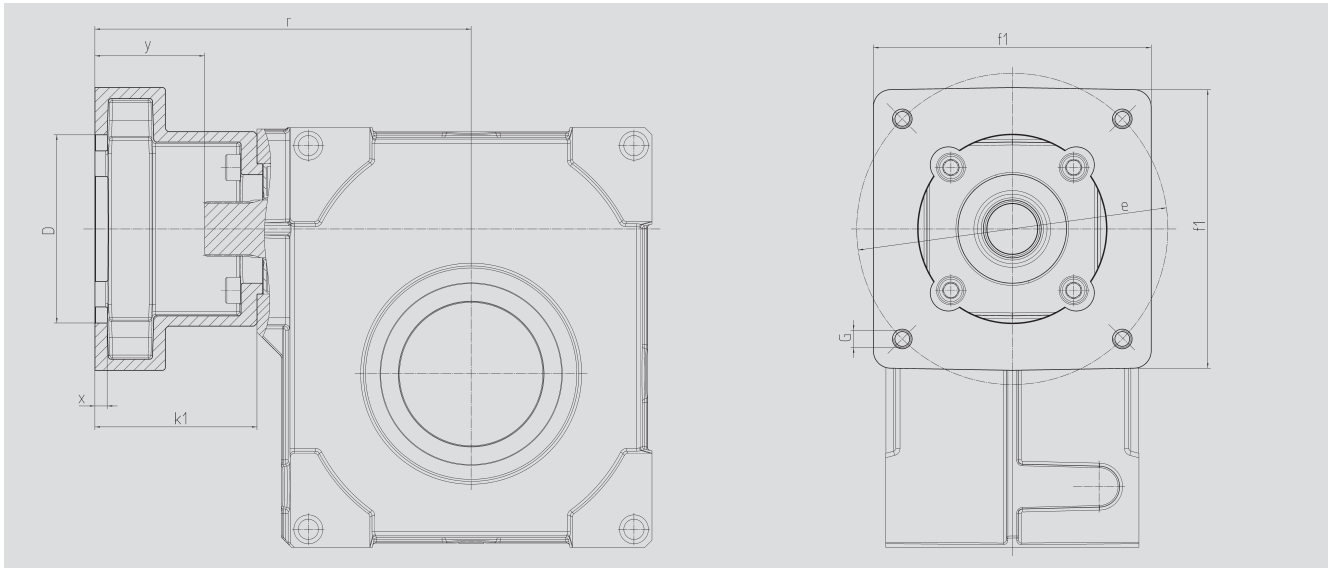
59 06 005	59 16 005	4.75	37	22.9320
59 06 007	59 16 007	6.75	37	12.8835
59 06 009	59 16 009	9.25	37	8.0975
59 06 015	59 16 015	14.50	37	7.2190
59 06 020	59 16 020	19.50	37	5.4030
59 06 029	59 16 029	29.00	37	4.7207
59 06 039	59 16 039	39.00	37	8.4300
59 06 052	59 16 052	52.00	37	9.7400

With food grade oil, order code 59 06 1xx / 59 16 1xx

With ATEX version with food grade oil, order code 59 06 2xx / 59 16 2xx



Motor Flange



Center Distance

$a_o = 100 \text{ mm}$

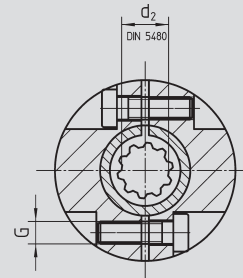
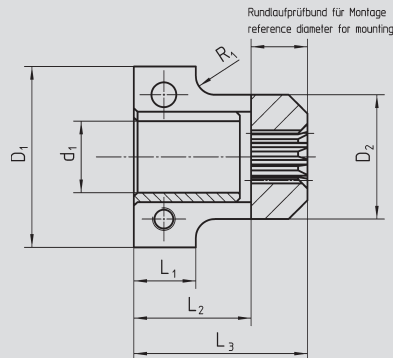
Order Code	D ^{G7}	k ₁	r	x	y	f ₁	e	G	kg
65 59 501	110.0	92.0	240.0	8.0	55.0	140	165	M10	2.00
65 59 502	130.0	92.0	240.0	8.0	55.0	140	165	M10	1.90
65 59 503	180.0	122.0	270.0	8.0	85.0	192	215	M12	3.40
65 59 504	180.0	127.0	275.0	8.0	90.0	192	215	M12	3.80
65 59 505	180.0	112.0	260.0	10.0	75.0	192	215	M12	2.70
65 59 506	130.0	112.0	260.0	10.0	75.0	192	215	M12	3.00
65 59 507	130.0	112.0	260.0	10.0	75.0	140	165	M10	2.50
65 59 508	110.0	90.0	238.0	8.0	53.0	140	145	M8	2.00
65 59 509	110.0	108.5	256.5	8.0	71.5	140	145	M8	2.50
65 59 510	114.3	129.5	277.5	8.0	92.5	180	200	M12	5.00
65 59 511	114.3	163.5	311.5	8.0	126.5	180	200	M12	4.20
65 59 512	114.3	105.5	253.5	8.0	68.5	180	200	M12	3.50
65 59 513	110.0	113.5	261.5	8.0	76.5	140	145	M8	2.70

The order should contain gear box 59 06 0xx / 59 16 0xx and flange 65 59 5xx.



Special Couplings for Motor/Gear Units, rigid model, nitrided, preassembled for motor shafts without key

Bore on gear unit side
low-clearance tooth-hub
profile corresponding to
DIN 5480 for push-fitting



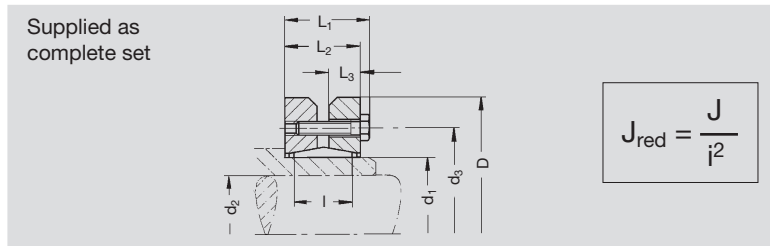
Order Code

Coupling	d ₁	d ₂	D ₁	D ₂	L ₁	L ₃	R ₁	G	L ₂	J _{red} 10 ⁻⁴ kg m ²	kg
65 51 008	8	15x1.25x10	36	23	14.0	46.0	5	M5	31.2	0.236	0.2
65 51 009	9	15x1.25x10	36	23	14.0	46.0	5	M5	31.2	0.246	0.2
65 51 010	10	15x1.25x10	36	23	14.0	46.0	5	M5	31.2	0.244	0.2
65 51 011	11	15x1.25x10	36	23	14.0	46.0	5	M5	31.2	0.243	0.2
65 51 014	14	15x1.25x10	36	23	14.0	46.0	5	M5	31.2	0.234	0.2
65 51 016	16	15x1.25x10	36	23	14.0	46.0	5	M5	31.2	0.225	0.2
65 53 019	19	15x1.25x10	48	33	16.5	46.0	5	M6	31.2	0.704	0.3
65 53 020	20	15x1.25x10	48	33	16.5	46.0	5	M6	31.2	0.704	0.3
65 53 022	22	15x1.25x10	48	33	16.5	46.0	5	M6	31.2	0.704	0.3
65 53 024	24	15x1.25x10	48	33	16.5	46.0	5	M6	31.2	0.647	0.2
65 53 025	25	15x1.25x10	64	51	18.0	55.5	5	M8	41.5	5.946	1.1
65 53 028	28	15x1.25x10	64	51	18.0	55.5	5	M8	41.5	5.871	1.1
65 53 032	32	15x1.25x10	64	51	18.0	55.5	5	M8	41.5	4.158	0.8
65 53 035	35	15x1.25x10	78	51	18.0	55.5	5	M8	41.5	5.605	1.0
65 53 038	38	15x1.25x10	78	51	18.0	55.5	5	M8	41.5	5.432	0.9
65 54 009	9	25x1.25x18	49	35	17.0	68.0	5	M6	43.5	2.306	0.5
65 54 010	10	25x1.25x18	49	35	17.0	68.0	5	M6	43.5	2.300	0.5
65 54 011	11	25x1.25x18	49	35	17.0	68.0	5	M6	43.5	2.381	0.5
65 54 014	14	25x1.25x18	49	35	17.0	68.0	5	M6	43.5	1.161	0.5
65 54 015	15	25x1.25x18	49	35	17.0	68.0	5	M6	43.5	2.328	0.5
65 54 016	16	25x1.25x18	49	35	17.0	68.0	5	M6	43.5	1.161	0.5
65 54 019	19	25x1.25x18	49	35	17.0	68.0	5	M6	43.5	1.112	0.4
65 54 020	20	25x1.25x18	49	35	17.0	68.0	5	M6	43.5	2.268	0.5
65 54 022	22	25x1.25x18	49	35	17.0	68.0	5	M6	43.5	2.179	0.4
65 54 024	24	25x1.25x18	49	35	17.0	68.0	5	M6	43.5	1.007	0.4
65 54 025	25	25x1.25x18	64	51	18.0	68.0	5	M8	43.5	8.165	1.2
65 54 028	28	25x1.25x18	64	51	18.0	68.0	5	M8	43.5	8.061	1.2
65 54 032	32	25x1.25x18	64	51	18.0	68.0	5	M8	43.5	7.751	1.2
65 54 035	35	25x1.25x18	78	51	18.0	68.0	5	M8	43.5	7.690	1.1
65 54 038	38	25x1.25x18	78	51	18.0	68.0	5	M8	43.5	7.348	1.1
65 54 042	42	25x1.25x18	78	51	18.0	65.5	5	M8	43.5	6.595	1.1
65 55 014	14	38x1.25x29	64	51	18.0	72.5	5	M8	41.5	8.056	1.2
65 55 016	16	38x1.25x29	64	51	18.0	72.5	5	M8	41.5	8.029	1.2
65 55 019	19	38x1.25x29	64	51	18.0	72.5	5	M8	41.5	7.978	1.2
65 55 020	20	38x1.25x29	64	51	18.0	72.5	5	M8	41.5	7.945	1.2
65 55 022	22	38x1.25x29	64	51	18.0	72.5	5	M8	41.5	7.911	1.2
65 55 024	24	38x1.25x29	64	51	18.0	72.5	5	M8	41.5	7.860	1.2
65 55 025	25	38x1.25x29	64	51	18.0	72.5	5	M8	41.5	7.818	1.1
65 55 028	28	38x1.25x29	64	51	18.0	72.5	5	M8	41.5	8.105	1.3
65 55 032	32	38x1.25x29	64	51	18.0	72.5	5	M8	41.5	7.863	1.2
65 55 035	35	38x1.25x29	78	51	18.0	72.5	5	M8	41.5	7.610	1.1
65 55 038	38	38x1.25x29	78	51	18.0	72.5	5	M8	41.5	7.284	1.0
65 55 042	42	38x1.25x29	78	51	18.0	70.5	5	M8	41.5	6.547	1.0

Couplings on page GA-10 can be used as well.



Shrink-Disk Clamping Sets for Output Drive Shafts of gear series 59 1. ...



Order Code	a ₀ mm	T _{2max} Nm	d ₁	d ₂	d ₃	D	L ₁	L ₂	L ₃	l	G	J 10 ⁻⁴ kg m ²	kg
80 81 024	32	270	24	20	36	50	23.0	19.5	7.80	14.0	6 x M5	0.780	0.2
80 83 030	50	400	30	25	44	60	25.0	21.5	9.00	16.0	7 x M5	1.756	0.3
80 84 036	63	540	36	28	52	72	27.5	23.5	10.00	18.0	5 x M6	4.029	0.4
80 85 050	80	1180	50	36	70	90	31.5	27.5	12.00	22.5	9 x M6	11.322	0.8
80 86 062	100	2300	62	48	86	110	34.5	30.5	14.00	23.0	12 x M6	27.137	1.3



The values in the tables are based upon wear or maximum flank load at 12,000 hours full load and on servo-operation. With continuous full-load operation it may be necessary to consider temperature limits! (Please ask us if in doubt.)

T_{2max} = static torque to avoid tooth fracture. T_1 = input torque in Nm. T_2 = output torque in Nm.



Order Code	a_0 (mm)	i	T_{2max}	Input Speed n_1 (rpm)												
				250		500		750		1000		1500		2000		
				T_1 (Nm)	T_2 (Nm)	T_1 (Nm)	T_2 (Nm)	T_1 (Nm)	T_2 (Nm)	T_1 (Nm)	T_2 (Nm)	T_1 (Nm)	T_2 (Nm)	T_1 (Nm)	T_2 (Nm)	
59 01 003 59 11 003	32	3.00*														
59 01 005 59 11 005		4.75	135	3.2	12	4.2	16	4.1	16	4.4	17	3.8	17	4.3	17	
59 01 007 59 11 007		6.75	100	2.0	10	2.6	14	2.8	15	2.9	16	2.8	17	3.0	17	
59 01 009 59 11 009		9.25	65	1.3	9	1.8	12	1.8	13	2.0	14	1.8	15	2.1	16	
59 01 015 59 11 015		14.50	85	1.0	10	1.3	14	1.4	15	1.5	16	1.4	17	1.5	17	
59 01 020 59 11 020		19.50	55	0.7	9	0.9	12	0.9	12	1.0	13	0.9	14	1.1	15	
59 01 029 59 11 029		29.00	70	0.5	9	0.7	12	0.7	13	0.8	14	0.7	15	0.8	16	
59 01 039 59 11 039		39.00	50	0.5	10	0.6	13	0.7	14	0.7	15	0.6	16	0.7	17	
59 01 050 59 11 050		50.00	35	0.4	8	0.5	11	0.5	11	0.6	12	0.4	13	0.6	14	
59 03 003 59 13 003	50	3.00*														
59 03 005 59 13 005		4.75	550	11.6	48	15.1	65	15.1	65	16.3	70	16.4	70	16.5	70	
59 03 007 59 13 007		6.75	400	7.2	42	9.4	56	9.9	59	10.5	63	11.4	69	11.4	69	
59 03 009 59 13 009		9.25	275	4.8	35	6.3	48	6.5	51	6.9	54	7.4	58	7.9	62	
59 03 015 59 13 015		14.50	350	3.7	42	4.8	57	5.0	60	5.3	65	5.8	70	5.9	72	
59 03 020 59 13 020		19.50	250	2.4	33	3.1	45	3.3	48	3.4	50	3.7	55	3.9	58	
59 03 029 59 13 029		29.00	300	1.9	36	2.4	48	2.6	52	2.7	55	2.9	60	3.1	63	
59 03 039 59 13 039		39.00	200	1.8	39	2.3	52	2.4	56	2.5	60	2.7	65	2.8	68	
59 03 050 59 13 050		50.00	150	1.5	31	1.9	42	1.9	44	2.0	47	2.1	50	2.2	53	
59 04 003 59 14 003	63	3.00*														
59 04 005 59 14 005		4.75	1000	37.6	163	38.9	170	41.2	180	41.3	180	39.2	170	37.4	162	
59 04 007 59 14 007		6.75	750	21.5	129	27.9	170	29.4	180	29.4	180	27.9	170	26.6	162	
59 04 009 59 14 009		9.25	500	10.8	85	14.2	115	15.3	125	15.9	130	16.4	135	16.4	135	
59 04 015 59 14 015		14.50	600	11.1	132	13.6	165	14.7	180	14.7	180	14.7	180	14.5	177	
59 04 020 59 14 020		19.50	500	5.6	87	7.2	115	7.7	125	8.0	130	8.3	135	9.0	145	
59 04 029 59 14 029		29.00	650	6.9	137	8.4	175	9.1	190	9.7	205	10.5	220	10.1	212	
59 04 039 59 14 039		39.00	450	4.2	106	5.2	140	5.5	150	5.8	160	6.4	175	6.6	180	
59 04 052 59 14 052		52.00	300	2.4	71	3.0	95	3.3	105	3.5	115	3.8	125	4.0	133	
59 05 003 59 15 003	80	3.00*														
59 05 005 59 15 005		4.75	2000	102.9	453	94.9	420	85.9	380	81.5	360	75.0	330	71.5	313	
59 05 007 59 15 007		6.75	1400	65.2	402	67.6	420	61.1	380	57.8	360	53.2	330	50.7	313	
59 05 009 59 15 009		9.25	1100	37.5	310	44.2	370	44.1	370	42.9	360	39.3	330	37.5	313	
59 05 015 59 15 015		14.50	1300	34.9	431	35.9	450	35.8	450	33.4	420	29.4	370	27.5	345	
59 05 020 59 15 020		19.50	1000	21.9	353	22.5	370	24.2	400	24.1	400	21.7	360	20.9	347	
59 05 029 59 15 029		29.00	1200	22.9	498	23.3	520	24.5	550	23.6	530	21.8	490	20.8	467	
59 05 039 59 15 039		39.00	850	15.0	412	15.1	430	16.0	460	17.0	490	16.7	480	15.9	457	
59 05 052 59 15 052		52.00	600	6.3	216	6.6	240	7.1	260	7.5	275	8.2	300	8.5	310	
59 06 005 59 16 005	100	4.75	3300	234.2	1043	197.3	880	179.6	800	169.1	750	154.3	685	147.1	650	
59 06 007 59 16 007		6.75	2300	127.2	797	131.8	830	119.1	750	114.8	720	105.3	660	101.3	633	
59 06 009 59 16 009		9.25	1900	94.3	794	97.6	830	88.1	750	84.8	720	77.7	660	74.8	633	
59 06 015 59 16 015		14.50	2050	70.0	892	72.2	930	68.2	880	62.9	810	55.9	720	53.5	687	
59 06 020 59 16 020		19.50	1800	51.8	861	53.3	900	51.3	870	47.8	810	42.5	720	40.6	687	
59 06 029 59 16 029		29.00	2300	48.7	1103	49.9	1150	46.1	1070	43.7	1010	36.8	850	36.2	833	
59 06 039 59 16 039		39.00	1650	35.2	1034	35.8	1080	34.0	1030	33.0	1000	29.7	900	28.5	860	
59 06 052 59 16 052		52.00	1100	20.7	759	20.0	760	21.5	820	22.3	850	20.6	785	19.7	750	

* On request

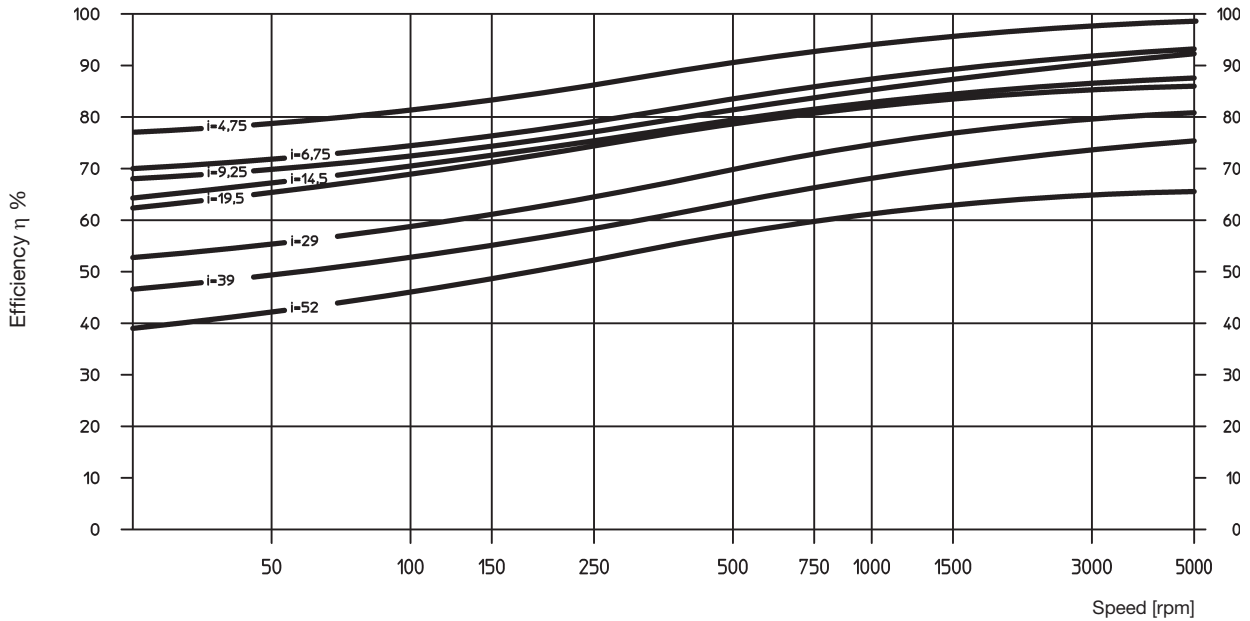


< 5 arcmin

Input Speed n_1 (rpm)															
2500		3000		3500		4000		4500		5000		5500		6000	
T_1 (Nm)	T_2 (Nm)	T_1 (Nm)	T_2 (Nm)	T_1 (Nm)	T_2 (Nm)	T_1 (Nm)	T_2 (Nm)	T_1 (Nm)	T_2 (Nm)	T_1 (Nm)	T_2 (Nm)	T_1 (Nm)	T_2 (Nm)	T_1 (Nm)	T_2 (Nm)
4.3	17	4.3	17	4.4	18	4.5	18	4.5	18	4.5	18	4.3	17	4.1	16
3.0	17	3.0	17	3.1	18	3.1	18	3.1	18	3.1	18	3.3	19	3.4	19
2.2	16	2.3	17	2.3	18	2.4	18	2.3	18	2.4	18	2.5	19	2.6	19
1.6	18	1.6	18	1.6	18	1.6	18	1.5	18	1.6	18	1.6	19	1.7	19
1.1	15	1.1	16	1.1	16	1.1	16	1.1	16	1.1	16	1.1	17	1.2	17
0.9	16	0.9	17	0.9	17	0.9	17	0.9	17	0.9	17	0.9	18	1.0	18
0.8	17	0.8	18	0.8	18	0.8	18	0.8	18	0.8	18	0.8	19	0.8	19
0.6	14	0.6	15	0.6	16	0.7	16	0.7	17	0.7	18	0.8	19	0.8	19
25.0	70	16.8	70	16.3	67	15.8	65	15.5	63	15.1	61	14.3	57	13.6	53
17.2	69	11.6	69	11.3	67	11.0	65	10.7	63	10.5	61	9.9	57	9.4	54
12.6	66	8.9	70	8.9	70	8.9	70	8.7	67	8.4	65	8.0	61	7.6	58
9.1	73	6.2	75	6.2	75	6.3	75	6.3	75	6.4	75	6.1	70	5.8	67
6.1	61	4.3	65	4.3	65	4.3	65	4.3	65	4.4	65	4.2	61	4.0	58
4.9	67	3.5	70	3.5	70	3.5	70	3.4	67	3.3	65	3.2	61	3.0	57
4.4	71	3.1	75	3.1	75	3.1	75	3.1	75	3.1	75	3.0	70	2.9	66
3.4	57	2.4	60	2.4	60	2.4	60	2.4	60	2.4	60	2.5	62	2.5	64
53.4	153	34.0	145	32.9	140	31.9	135	29.6	124	27.5	115				
38.1	153	24.1	145	23.4	140	22.7	135	21.1	125	19.8	116	18.6	109		
24.6	135	16.5	135	16.0	130	15.6	126	14.6	117	13.8	110	13.0	104	12.4	98
21.4	173	14.1	170	13.7	165	13.4	160	12.5	148	11.7	138	11.1	130		
14.4	155	10.3	165	9.9	160	9.7	155	9.1	144	8.6	136	8.2	128	7.8	121
14.6	203	9.4	195	9.3	190	9.1	185	8.5	171	8.0	159	7.6	149		
10.2	185	7.0	190	7.0	190	7.1	190	6.7	177	6.3	166	6.0	156	5.7	148
6.5	142	4.6	150	4.8	155	5.0	160	4.8	155	4.6	145	4.4	137	4.2	129
102.2	297	64.6	280	58.9	254	53.2	228								
72.4	297	45.7	280	42.0	256	38.2	232	35.3	213	32.9	198				
53.5	297	33.8	280	31.2	257	28.5	234	26.6	217	24.8	202	23.3	189		
38.5	320	23.8	295	21.9	270	20.0	245	18.5	226	17.3	210				
30.3	333	19.5	320	18.0	295	16.6	269	15.4	250	14.5	233	13.6	218		
29.9	443	19.0	420	17.5	384	16.0	348	14.9	322						
22.8	433	14.5	410	13.4	377	12.4	345	11.5	319	10.8	297	10.2	278		
13.2	320	9.1	330	9.1	330	9.2	330	8.6	308	8.2	288	7.8	271		
209.5	615	132.3	580												
146.1	607	93.5	580	84.3	521	69.2	426								
107.9	607	69.0	580	62.9	526	52.2	436	53.2	442	49.6	410				
76.6	653	48.6	620	44.0	559	40.2	509								
58.2	653	37.0	620	33.7	564	31.1	516	28.8	477	26.8	442				
53.6	817	35.2	800	31.9	721										
41.0	820	26.1	780	23.9	708	19.9	587	20.4	597						
28.2	715	18.0	680	16.5	621	15.3	570	14.3	528	12.6	461				

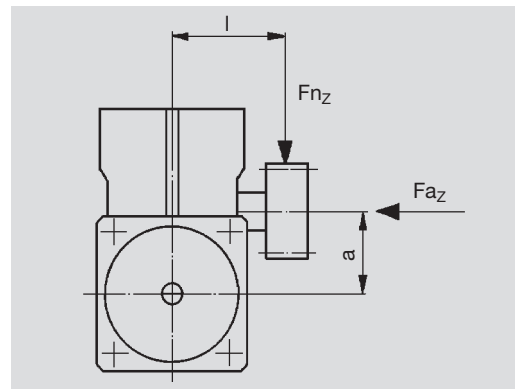


Gearing efficiency of servo worm gear units with driving worm and under full load.



Additional loads on output drive

The data given are reference values. You should consider the values arising from the choice of the tooth system. It is assumed that the point of action of the force is the center of the shaft. In cases where additional axial forces occur, over and above high transverse forces, please ask for advice.



Center Distance	a (mm)		32		50		63		80		100	
Dimension center of casing to center of pinion	l (mm)		70	100	90	140	110	160	125	175	140	190
Max. additional load												
radial F_{n_z}	[N]		2250	1600	3600	2300	5000	3500	8400	6000	10000	7500
axial F_{a_z}	[N]		1500	1500	1800	1800	2500	2500	4000	4000	5000	5000



Short Description

ATLANTA E-servo worm gear units have been specially developed for use with the latest three-phase and DC servo-motors. Like all other components in this catalog, they are usually available ex stock or, at least, within a very short time.

The following are typical features of our E-servo gear units:

- the same dimensions as our HP Servo-Worm Gear Units
- low-clearance gearing (backlash < 5'),
- the same load values as our servo worm gear units serie 58
- casing of light metal for optimal heat dissipation
- robust bearings for the output drive hollow shaft, permitting greater additional forces.

Center distances, gear ratios and tooth systems have been chosen in accordance with DIN 3975/76.

The use of ground, right-hand worms, a worm gear of special worm-gear bronze and dip-feed lubrication (synthetic special oil) ensures a high degree of efficiency and also smooth running in both directions and a long service life. The casing with its many fixing bores and tapped holes permits mounting in any position.

The drive, i.e. the connection with the driving motor, is achieved with a special clutch. Its internal gearing, together with the barrelled profile of the driving shaft of our worm gear unit ensures transmission of the power with no free play.

For the output drive you can choose from quite a number of output drive shafts with straight and helical tooth systems and various numbers of teeth. Apart from pinion shafts there is a multitude of gearwheels with different numbers of teeth from our S & L gearwheel program which can be combined and used together with suitable special output drive shafts.

For emergency stops, the maximum transmittable torque of the gear unit (see page GC-14) and shrink disk (see page GH-1) has to be checked. The output keyway has to be calculated separately.





Mounting Instructions

Worm Gear Units

Five mounting faces with sufficiently dimensioned tapped holes are provided for mounting in any position. In order to accommodate all supplementary forces (see page GC-15) we recommend mounting at the largest contact faces., i.e. at one of the two cap sides. Putting the worm shaft (input shaft) in a lateral or inferior position is ideal for lubrication. Mounting the shaft in a top position will reduce the driving capacity by about 10 %.

Coupling

The coupling is supplied pre-assembled. All contact surfaces must be cleaned and protected by a thin oil film before attaching it to the motor shaft. An important dimension for mounting is the value „X1” (compare pages GI – 5 to GI –9).

Recommended procedure:

- Carefully clean the contact surfaces and protect them with a thin oil film.
- Place the coupling onto the motor shaft at the distance given by the measurement “X1” (see pages GI – 5 to GI –9); a depth gauge is helpful for determining the measurement.
- Slightly tighten the clamping screws and check the clutch for true running
- Tighten the screws alternately and uniformly.
- The correct tightening torque can be seen from the operation and maintenance instructions. The gap in the coupling must be equally wide on both sides.
- It is recommended to make another final check for true running at the appropriate reference diameter!

A mounting guide can be found on page GI-5 to GI-9

Motor

Insert the motor with coupling mounted into the gear centering piece and bolt it to the gearbox.

Output Pinion Shaft

Unless the output pinion shaft comes already fully assembled, we recommend to proceed as follows:

Clean pinion shaft and hollow shaft extension and then oil them. For the special output drive shaft we recommend tolerance h6 (DIN ISO286). the material must have a minimum yield point of 385 N/mm². A recalculation of the strength is necessary.

Output Drive Shaft for Shrink-Disk Connection

Slide shrink disk onto the hollow shaft extension of the gear unit (please do not tighten the screws beforehand!). Insert the output shaft from the desired side into the hollow shaft fully up to the stop. Make the transverse pressure connection by evenly tightening the clamping screws. Tighten the screws one after the other (not crosswise) in several passes to the torque indicated in the operation and maintenance instructions.

Output Drive Shaft for Key Connection

The retaining ring, the disk and the screw supplied with the output drive shaft serve for locking the output shaft in axial direction. For this purpose insert the retaining ring in the applicable recess of the hollow shaft and slide the output drive shaft from the desired side into the hollow shaft up to the stop. Disk and screw are screwed to the output shaft from the other side of the gear unit. The retaining ring must be clamped between disk and pinion shaft.





Maintenance

Lubricant Change

ATLANTA servo worm-gear units are filled with synthetic polyglycol oil.

Under the following conditions this means lifetime lubrication:

The layout of the gear unit is made strictly in conformance with the guidelines specified in the ATLANTA catalog and the gear unit is operated exclusively within the permissible characteristic values and limits. The operator checks the gear unit regularly (every 4 weeks) for oil leakage. The surface temperature does not exceed max. 80° C. Experience has shown that this temperature is not reached with servo-operation (intermittent operation).

In the case of an operation with mainly low input speeds (circumferential speed of the worm $v < 0.5$ m/s) we recommend to change the lubricant every two years.



Center Distance	Oil Quantity
a = 32 mm	0.07 l
a = 50 mm	0.40 l
a = 63 mm	0.70 l
a = 80 mm	1.70 l
a = 100 mm	2.00 l

We recommend the following synthetic gear lubricant:

Klübersynth GH 6 - 220

Order code: 65 90 010 (1 liter)

Alternative:

SHELL Tivela S 220, BP Enersyn SG-XP 220, ARAL Degol GS 220

Degree of Protection

Degree of protection: IP65/67 according to ISO 20653
(Corrosion has to be verified separately).