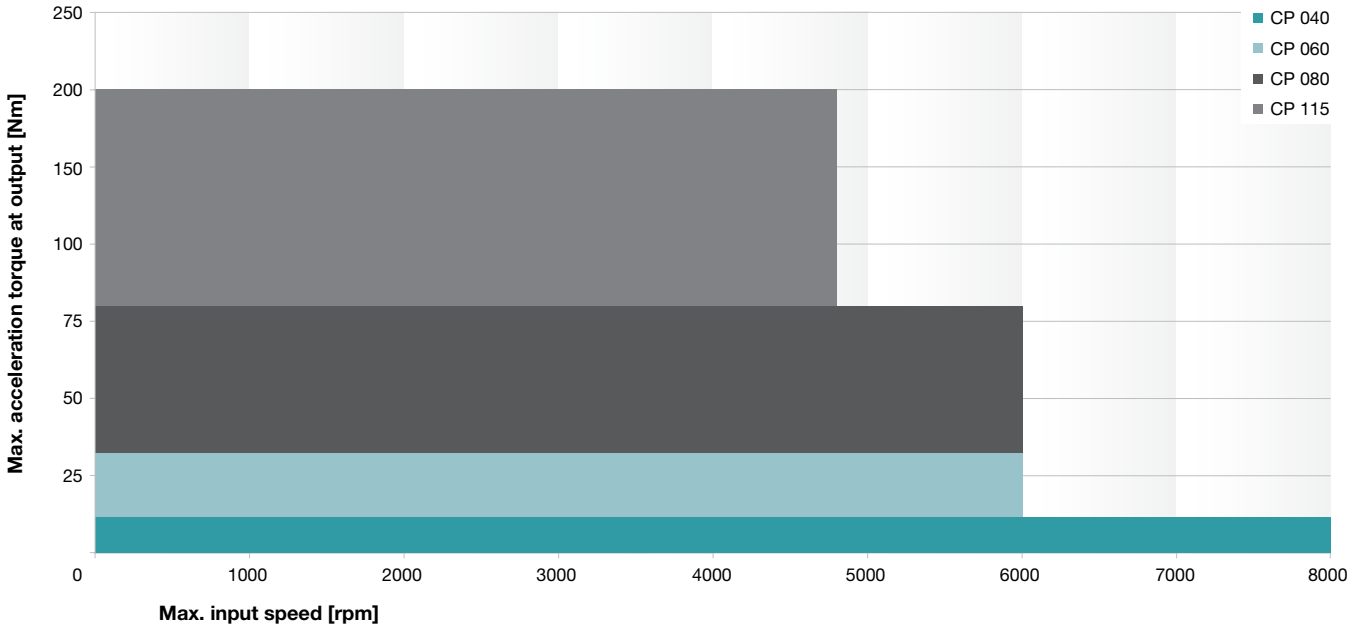
CP – Economical entry-level model

The low backlash planetary gearhead with output shaft. This economical entry level model is suitable for simple applications. The CP impresses through its quality, availability, and reliability.

Quick size selection

CP (example for i = 5)
For applications in cyclic operation (DC ≤ 60%) or continuous operation (DC ≥ 60%)



Versions and Applications

Features	**CP** MO version Catalog page 150
Power density	•
Positioning accuracy	•
High input speeds	• •
Torsional rigidity	•
Space-saving design	• •
Low weight	• • •

Product features

Ratios [c]		4 – 100
Torsional backlash [arcmin] [c]	Standard	≤ 20
	Reduced	–
Output type		
Keywayed output shaft		•
Input type		
Motor mounted version		•
Type		
Food-grade lubrication [a] [b]		•
Accessories		
Coupling		•
B5 flange		•

[a] Power reduction: technical data available upon request [b] Please contact WITTENSTEIN alpha [c] In relation to reference sizes

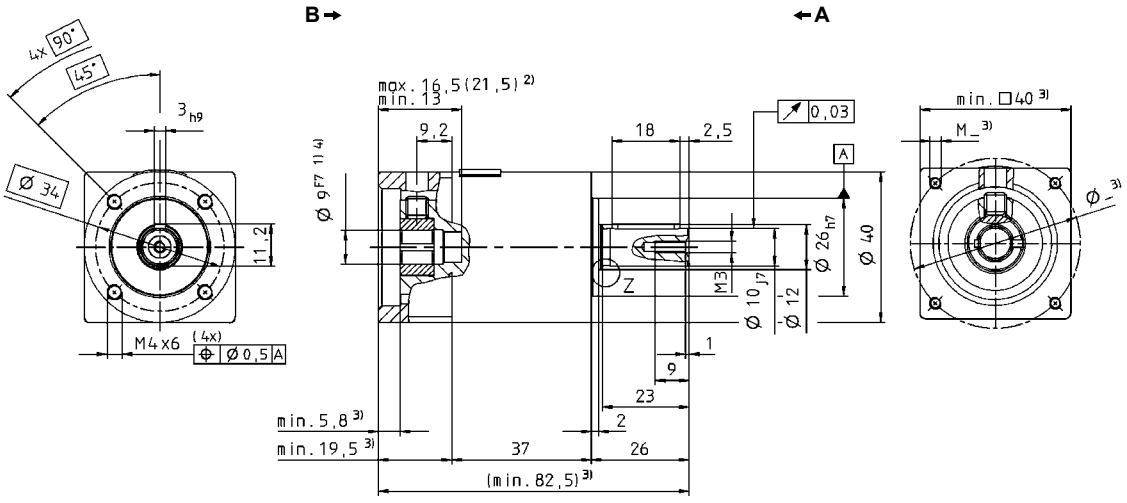
			1-stage					2-stage							
Ratio	***i***		**4**	**5**	**7**	**8**	**10**	**16**	**20**	**25**	**35**	**50**	**64**	**70**	**100**
Max. acceleration torque (max. 1000 cycles per hour)	T_{2B}	Nm	10.5	11.5	11.5	10.5	10.5	10.5	10.5	11.5	11.5	11.5	10.5	11.5	10.5
		in.lb	93	102	102	93	93	93	93	102	102	102	93	102	93
Nominal output torque (with n_{1N})	T_{2N}	Nm	5.2	5.7	5.7	5.2	5.2	5.2	5.2	5.7	5.7	5.7	5.2	5.7	5.2
		in.lb	46	50	50	46	46	46	46	50	50	50	46	50	46
Emergency stop torque (permitted 1000 times during the service life of the gearhead)	T_{2Not}	Nm	26	26	26	26	26	26	26	26	26	26	26	26	26
		in.lb	230	230	230	230	230	230	230	230	230	230	230	230	230
Nominal input speed (with T_{2N} and 20°C ambient temperature) [a]	n_{1N}	rpm	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000
Max. input speed	n_{1Max}	rpm	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000
Mean no load running torque (with n_1 = 3000 rpm and 20°C gearhead temperature)	T_{012}	Nm	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
		in.lb	0.05	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44
Max. torsional backlash	j_t	arcmin	≤ 20					≤ 25							
Torsional rigidity	C_{t21}	Nm/ arcmin	0.58	0.58	0.58	0.52	0.52	0.58	0.58	0.58	0.58	0.58	0.52	0.58	0.52
		in.lb/ arcmin	5.1	5.1	5.1	4.6	4.6	5.1	5.1	5.1	5.1	5.1	4.6	5.1	4.6
Max. axial force [b]	F_{2AMax}	N	230					230							
		lb_f	51					51							
Max. radial force [b]	F_{2RMax}	N	200					200							
		lb_f	45					45							
Efficiency at full load	η	%	97					95							
Service life (For calculation, see the Chapter "Information")	L_h	h	> 20000					> 20000							
Weight incl. standard adapter plate	*m*	kg	0.31					0.52							
		lb_m	0.69					1.15							
Operating noise (with n_1 = 3000 rpm no load)	L_{PA}	dB(A)	≤ 66												
Max. permitted housing temperature		°C	+90												
		F	194												
Ambient temperature		°C	-15 to +40												
		F	5 to 104												
Lubrication			Lubricated for life												
Paint			Aluminum												
Direction of rotation			Motor and gearhead same direction												
Protection class			IP 64												
Moment of inertia (relates to the drive)	J_1	$kgcm^2$	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
		10^{-3} in.lb.s²	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035

[a] For higher ambient temperatures, please reduce input speed

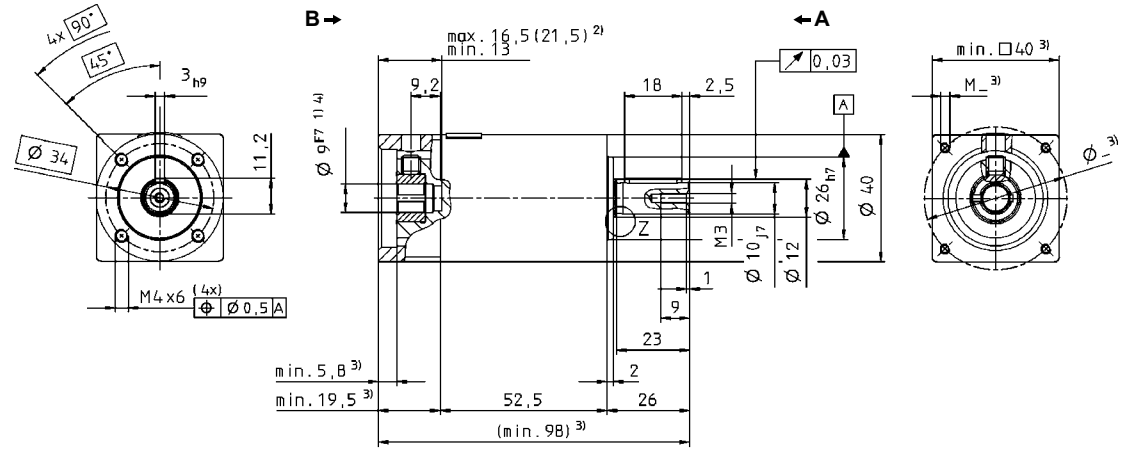
[b] Relates to center of the output shaft or flange, at 100 rpm

View A View B

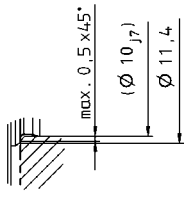
1-stage:



2-stage:



Z:



Non-tolerated dimensions ±1mm

1) Check motor shaft fit.
2) Min./Max. permissible motor shaft length. Longer motor shafts are adaptable, please contact us.
3) The dimensions depend on the motor.
4) Smaller motor shaft diameter is compensated by a bushing.

CAD data is available under www.wittenstein-alpha.com

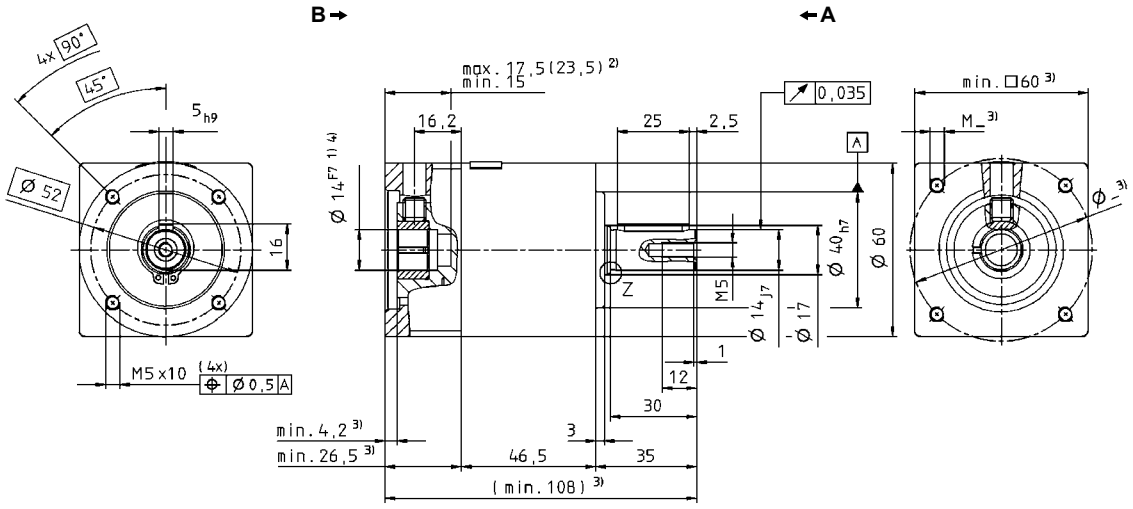
Motor mounting according to operating manual

			1-stage					2-stage							
Ratio	***i***		**4**	**5**	**7**	**8**	**10**	**16**	**20**	**25**	**35**	**50**	**64**	**70**	**100**
Max. acceleration torque (max. 1000 cycles per hour)	T_{2B}	Nm	32	32	32	29	29	32	32	32	32	32	29	32	29
		in.lb	283	283	283	257	257	283	283	283	283	283	257	283	257
Nominal output torque (with n_{1N})	T_{2N}	Nm	16	16	16	15	15	16	16	16	16	16	15	16	15
		in.lb	142	142	142	133	133	142	142	142	142	142	133	142	133
Emergency stop torque (permitted 1000 times during the service life of the gearhead)	T_{2Not}	Nm	75	75	75	75	75	75	75	75	75	75	75	75	75
		in.lb	664	664	664	664	664	664	664	664	664	664	664	664	664
Nominal input speed (with T_{2N} and 20°C ambient temperature) [a]	n_{1N}	rpm	3700	3700	3700	3700	3700	3700	3700	3700	3700	3700	3700	3700	3700
Max. input speed	n_{1Max}	rpm	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000
Mean no load running torque (with n_1 = 3000 rpm and 20°C gearhead temperature)	T_{012}	Nm	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
		in.lb	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Max. torsional backlash	j_t	arcmin	≤ 20					≤ 25							
Torsional rigidity	C_{t21}	Nm/ arcmin	2.1	2.1	2.1	1.9	1.9	2.1	2.1	2.1	2.1	2.1	1.9	2.1	1.9
		in.lb/ arcmin	19	19	19	17	17	19	19	19	19	19	17	19	17
Max. axial force [b]	F_{2AMax}	N	750					750							
		lb_f	169					169							
Max. radial force [b]	F_{2RMax}	N	650					650							
		lb_f	146					146							
Efficiency at full load	η	%	97					95							
Service life (For calculation, see the Chapter "Information")	L_h	h	> 20000					> 20000							
Weight incl. standard adapter plate	*m*	kg	0.88					1.1							
		lb_m	1.9					2.4							
Operating noise (with n_1 = 3000 rpm no load)	L_{PA}	dB(A)	≤ 68												
Max. permitted housing temperature		°C	+90												
		F	194												
Ambient temperature		°C	-15 to +40												
		F	5 to 104												
Lubrication			Lubricated for life												
Paint			Aluminum												
Direction of rotation			Motor and gearhead same direction												
Protection class			IP 64												
Moment of inertia (relates to the drive)	J_1	$kgcm^2$	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17
		10^{-3} in.lb.s²	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15

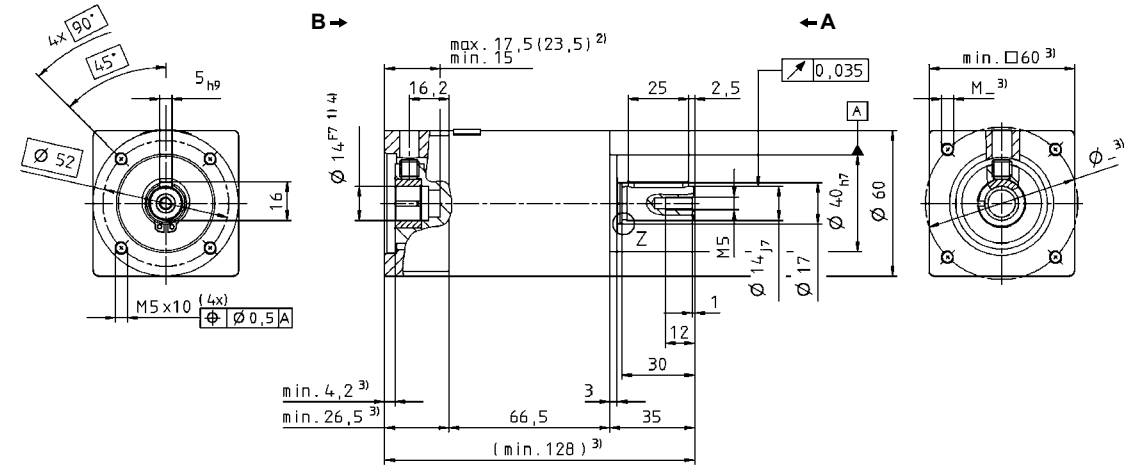
[a] For higher ambient temperatures, please reduce input speed

[b] Relates to center of the output shaft or flange, at 100 rpm

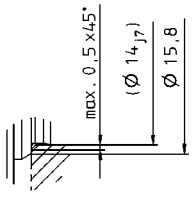
1-stage:



2-stage:



Z:



Non-tolerated dimensions ±1mm

1) Check motor shaft fit.
2) Min./Max. permissible motor shaft length. Longer motor shafts are adaptable, please contact us.
3) The dimensions depend on the motor.
4) Smaller motor shaft diameter is compensated by a bushing.

CAD data is available under www.wittenstein-alpha.com

Motor mounting according to operating manual

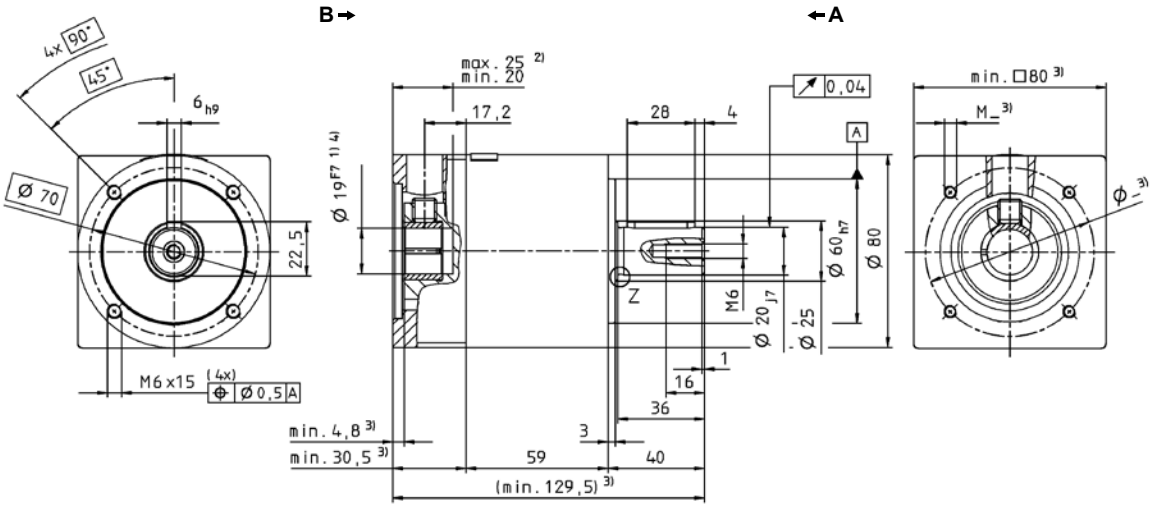
			1-stage					2-stage							
Ratio	***i***		**4**	**5**	**7**	**8**	**10**	**16**	**20**	**25**	**35**	**50**	**64**	**70**	**100**
Max. acceleration torque (max. 1000 cycles per hour)	T_{2B}	Nm	80	80	80	72	72	80	80	80	80	80	72	80	72
		in.lb	708	708	708	637	637	708	708	708	708	708	637	708	637
Nominal output torque (with n_{1N})	T_{2N}	Nm	40	40	40	35	35	40	40	40	40	40	35	40	35
		in.lb	354	354	354	310	310	354	354	354	354	354	310	354	310
Emergency stop torque (permitted 1000 times during the service life of the gearhead)	T_{2Not}	Nm	190	190	190	190	190	190	190	190	190	190	190	190	190
		in.lb	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682
Nominal input speed (with T_{2N} and 20°C ambient temperature) [a]	n_{1N}	rpm	3400	3400	3400	3400	3400	3400	3400	3400	3400	3400	3400	3400	3400
Max. input speed	n_{1Max}	rpm	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000
Mean no load running torque (with n_1 = 3000 rpm and 20°C gearhead temperature)	T_{012}	Nm	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28
		in.lb	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Max. torsional backlash	j_t	arcmin	≤ 20					≤ 25							
Torsional rigidity	C_{t21}	Nm/ arcmin	6.1	6.1	6.1	5.5	5.5	6.1	6.1	6.1	6.1	6.1	5.5	6.1	5.5
		in.lb/ arcmin	54	54	54	49	49	54	54	54	54	54	49	54	49
Max. axial force [b]	F_{2AMax}	N	1600					1600							
		lb_f	360					360							
Max. radial force [b]	F_{2RMax}	N	1200					1200							
		lb_f	270					270							
Efficiency at full load	η	%	97					95							
Service life (For calculation, see the Chapter "Information")	L_h	h	> 20000					> 20000							
Weight incl. standard adapter plate	*m*	kg	2.1					2.8							
		lb_m	4.6					6.2							
Operating noise (with n_1 = 3000 rpm no load)	L_{PA}	dB(A)	≤ 70												
Max. permitted housing temperature		°C	+90												
		F	194												
Ambient temperature		°C	-15 to +40												
		F	5 to 104												
Lubrication			Lubricated for life												
Paint			Aluminum												
Direction of rotation			Motor and gearhead same direction												
Protection class			IP 64												
Moment of inertia (relates to the drive)	J_1	$kgcm^2$	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54
		10^{-3} in.lb.s²	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48

[a] For higher ambient temperatures, please reduce input speed

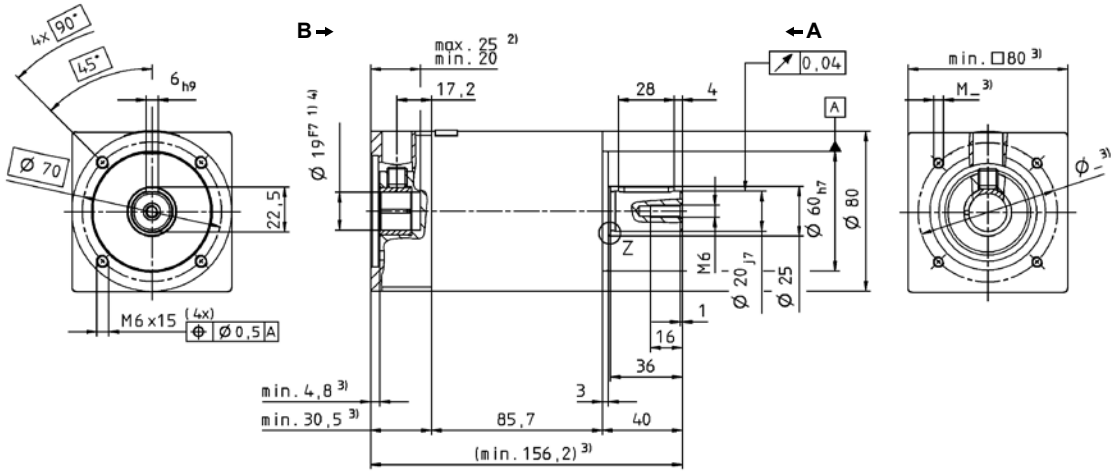
[b] Relates to center of the output shaft or flange, at 100 rpm

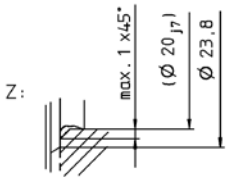
View A View B

1-stage:



2-stage:





Non-tolerated dimensions ±1mm

1) Check motor shaft fit.
2) Min./Max. permissible motor shaft length. Longer motor shafts are adaptable, please contact us.
3) The dimensions depend on the motor.
4) Smaller motor shaft diameter is compensated by a bushing.

CAD data is available under www.wittenstein-alpha.com

Motor mounting according to operating manual

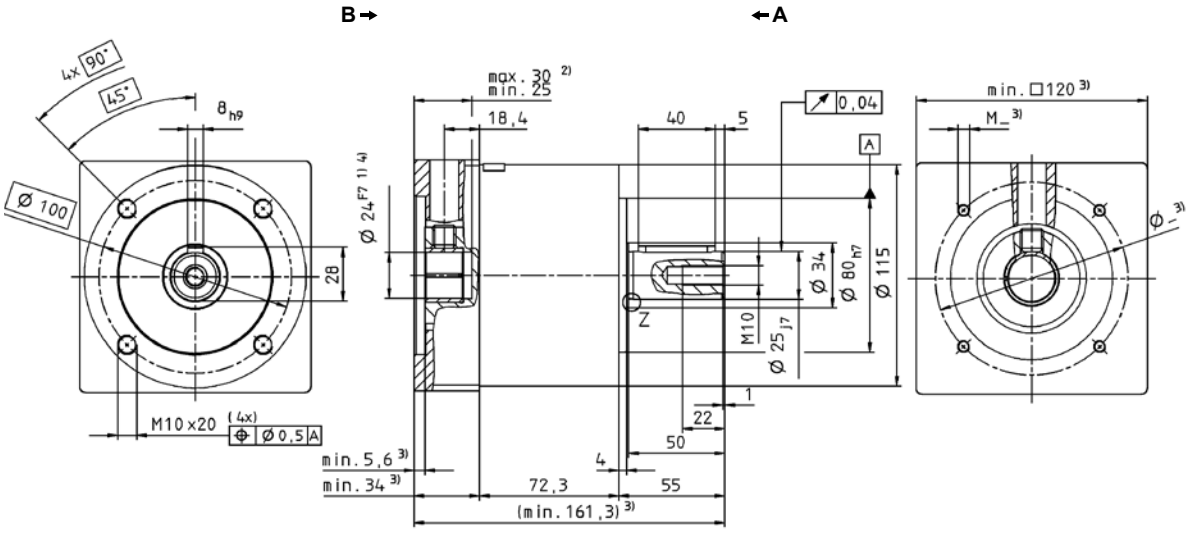
			1-stage					2-stage							
Ratio	***i***		**4**	**5**	**7**	**8**	**10**	**16**	**20**	**25**	**35**	**50**	**64**	**70**	**100**
Max. acceleration torque (max. 1000 cycles per hour)	T_{2B}	Nm	200	200	200	180	180	200	200	200	200	200	180	200	180
		in.lb	1770	1770	1770	1593	1593	1770	1770	1770	1770	1770	1593	1770	1593
Nominal output torque (with n_{1N})	T_{2N}	Nm	100	100	100	90	90	100	100	100	100	100	90	100	90
		in.lb	885	885	885	797	797	885	885	885	885	885	797	885	797
Emergency stop torque (permitted 1000 times during the service life of the gearhead)	T_{2Not}	Nm	480	480	480	480	480	480	480	480	480	480	480	480	480
		in.lb	4248	4248	4248	4248	4248	4248	4248	4248	4248	4248	4248	4248	4248
Nominal input speed (with T_{2N} and 20°C ambient temperature) [a]	n_{1N}	rpm	2600	2600	2600	2600	2600	2600	2600	2600	2600	2600	2600	2600	2600
Max. input speed	n_{1Max}	rpm	4800	4800	4800	4800	4800	4800	4800	4800	4800	4800	4800	4800	4800
Mean no load running torque (with n_1 = 3000 rpm and 20°C gearhead temperature)	T_{012}	Nm	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
		in.lb	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4
Max. torsional backlash	j_t	arcmin	≤ 20					≤ 25							
Torsional rigidity	C_{t21}	Nm/ arcmin	16.5	16.5	16.5	14.5	14.5	16.5	16.5	16.5	16.5	16.5	14.5	16.5	14.5
		in.lb/ arcmin	146	146	146	128	128	146	146	146	146	146	128	146	128
Max. axial force [b]	F_{2AMax}	N	2100					2100							
		lb_f	472					472							
Max. radial force [b]	F_{2RMax}	N	1550					1550							
		lb_f	349					349							
Efficiency at full load	η	%	97					95							
Service life (For calculation, see the Chapter "Information")	L_h	h	> 20000					> 20000							
Weight incl. standard adapter plate	*m*	kg	5.2					6.9							
		lb_m	11.5					15.2							
Operating noise (with n_1 = 3000 rpm no load)	L_{PA}	dB(A)	≤ 72												
Max. permitted housing temperature		°C	+90												
		F	194												
Ambient temperature		°C	-15 to +40												
		F	5 to 104												
Lubrication			Lubricated for life												
Paint			Aluminum												
Direction of rotation			Motor and gearhead same direction												
Protection class			IP 64												
Moment of inertia (relates to the drive)	J_1	$kgcm^2$	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
		10^{-3} in.lb.s²	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6

[a] For higher ambient temperatures, please reduce input speed

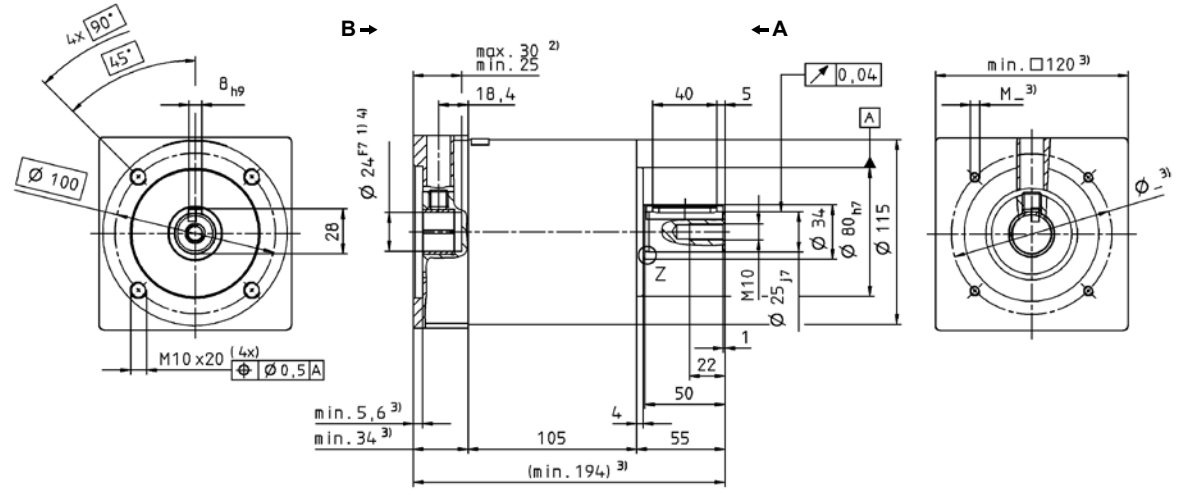
[b] Relates to center of the output shaft or flange, at 100 rpm

View A View B

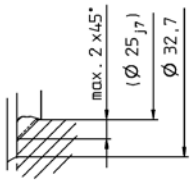
1-stage:



2-stage:



Z:



Non-tolerated dimensions ±1mm

1) Check motor shaft fit.
2) Min./Max. permissible motor shaft length. Longer motor shafts are adaptable, please contact us.
3) The dimensions depend on the motor.
4) Smaller motor shaft diameter is compensated by a bushing.

CAD data is available under www.wittenstein-alpha.com

Motor mounting according to operating manual