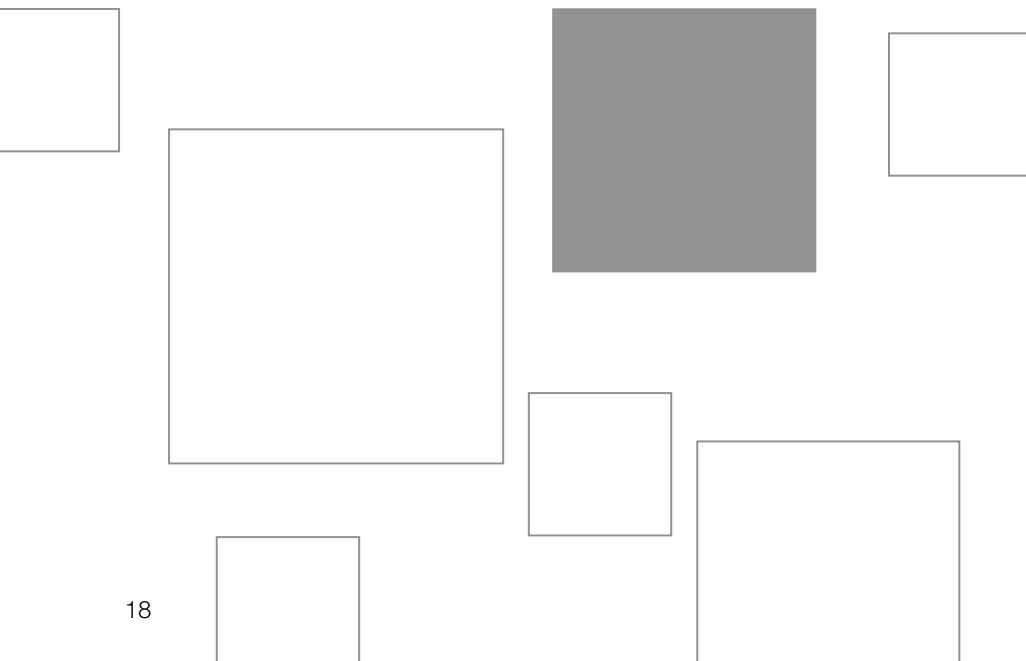


alpha Basic Line

PLANETARY GEARBOXES CP / CPS

The planetary gearboxes of the alpha Basic Line are the ideal choice for cost-oriented solutions. These gearboxes further increase design freedom in machines due to new additional output variants as well as five different sizes.





* CPS with replaceable B5 output flange

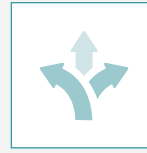
CP / CPS – Geared up to Fit

CP



Tailored to applications in the mid-range and economy segment with low to medium requirements for positioning accuracy, the CP and CPS planetary gearboxes do not fail to impress. The key benefits offered by the gearboxes are high flexibility combined with maximum efficiency.

PRODUCT HIGHLIGHTS



High flexibility

Different output variants offer design freedom tailored to individual requirements. The flexibility on the input side also enables the realization of different motor mounting versions.



Maximum economy

The gearboxes of the alpha Basic Line are extremely economical to purchase and highly efficient in operation.



Fast sizing

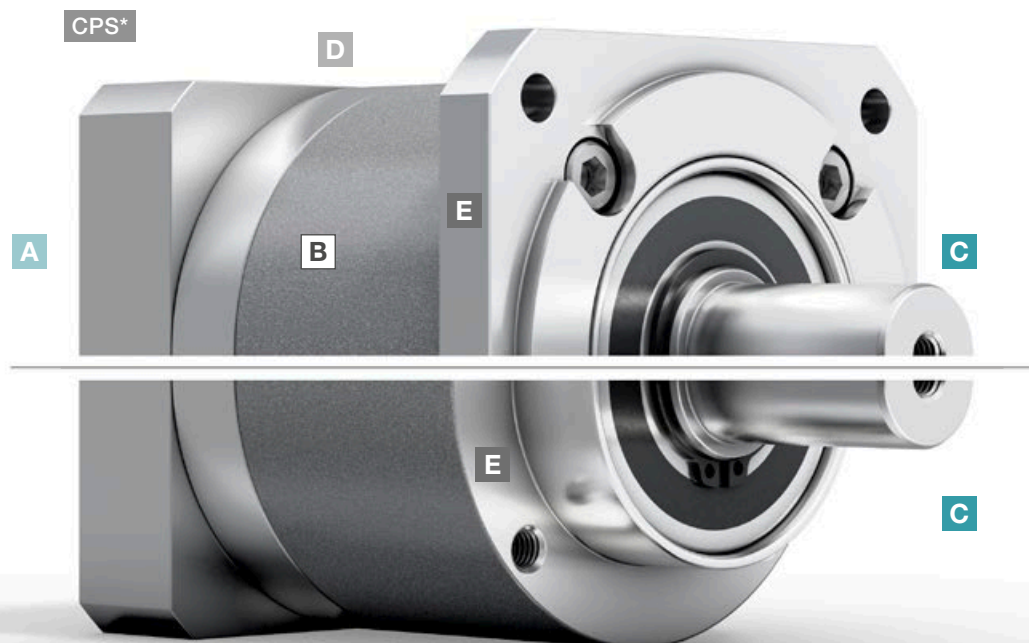
Efficient online sizing within seconds in the SIZING ASSISTANT on the basis of the application data or the motor.



CPS – planetary gearbox with replaceable B5 output flange



CPS – planetary gearbox with long centering



CPS

* CPS with replaceable B5 output flange

A Flexible motor connection

- Mounting of all common servo motors by means of a flexible and screw-fastened adapter plate
- Large number of motor shaft diameters connectable

D Variety of sizes

- CP available in five different sizes (005 – 045)
- CPS available in three different sizes (015 – 035)

B High ratio variation

- Large number of ratios ($i=3$ to $i=100$)
- Available in the common binary ratios

E Variable application connection

- Reduced installation space and maximum compactness thanks to a long centering
- Flange attachment for B5 mounting

C Various output shapes

- With smooth shaft as well as shaft with key



CPS – planetary gearbox with elastomer coupling



SIZING ASSISTANT
YOUR GEARBOX WITHIN SECONDS

Efficient gearbox sizing within seconds – online without login
www.sizing-assistant.com

CP 005 MF 1-stage

			1-stage						
Ratio	i		4	5	7	8	10		
Max. torque ^{a) b) e)}	T_{2a}	Nm	17	21	21	20	20		
		in.lb	150	186	186	177	177		
Max. acceleration torque ^{e)} (max. 1000 cycles per hour)	T_{2B}	Nm	11	14	14	13	13		
		in.lb	97	124	124	115	115		
Emergency stop torque ^{a) b) e)} (permitted 1000 times during the service life of the gearbox)	T_{2Not}	Nm	26	26	26	26	26		
		in.lb	230	230	230	230	230		
Permitted average input speed ^{d)} (at T_{2a} and 20 °C ambient temperature)	n_{1N}	rpm	3800	3800	4300	4300	4300		
Max. input speed	n_{1Max}	rpm	9000	9000	9000	9000	9000		
Mean no load running torque ^{b)} (at $n_1=3000$ rpm and 20 °C gearbox temperature)	T_{012}	Nm	0.07	0.06	0.06	0.06	0.05		
		in.lb	0.62	0.53	0.53	0.53	0.44		
Max. backlash	j_t	arcmin	≤ 12						
Torsional rigidity ^{b)}	C_{t21}	Nm/arcmin	0.58	0.58	0.58	0.52	0.52		
		in.lb/arcmin	5.1	5.1	5.1	4.6	4.6		
Max. axial force ^{c)}	F_{2AMax}	N	240						
		lb _f	54						
Max. lateral force ^{c) 1)}	F_{2QMMax}	N	170						
		lb _f	38						
Max. tilting moment	M_{2KMMax}	Nm	4						
		in.lb	35						
Efficiency at full load	η	%	97						
Service life	L_n	h	> 20000						
Weight (incl. standard adapter plate)	m	kg	0.5						
		lb _m	1.1						
Operating noise (at reference ratio and reference speed – ratio-specific values available in cymex®)	L_{PA}	dB(A)	≤ 59						
Max. permitted housing temperature		°C	+90						
		°F	+194						
Ambient temperature		°C	-15 to +40						
		°F	+5 to +104						
Lubrication			Lubricated for life						
Direction of rotation			In- and output same direction						
Protection class			IP 64						
Elastomer coupling (recommended product type – validate sizing with cymex®)			ELC-0005BA010.000-X						
Bore diameter of coupling on the application side		mm	X = 004.000 - 012.700						
Mass moment of inertia (relates to the drive) Clamping hub diameter [mm]	B	11	J_1	kgcm ²	0.04	0.04	0.04	0.03	0.03
				10 ⁻³ in.lb.s ²	0.04	0.04	0.04	0.03	0.03

Please use our sizing software cymex® for a detailed sizing – www.wittenstein-cymex.com

^{a)} Valid for torque transmission only

^{b)} Valid for standard clamping hub diameter

^{c)} Refers to center of the output shaft or flange

^{d)} Please reduce input speed at higher ambient temperatures

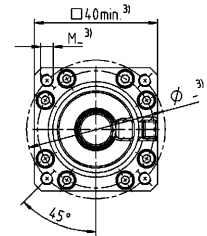
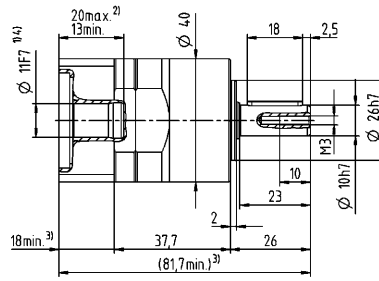
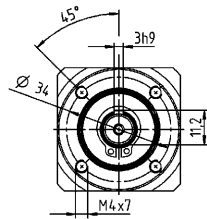
^{e)} Valid for: Smooth shaft

¹⁾ At increased lateral forces – see glossary

Motor shaft diameter [mm]

1-stage

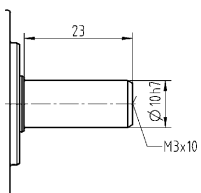
up to 11⁴⁾ (B)⁵⁾
clamping hub
diameter



Planetary Gearboxes
Basic Line

Other output variants

Smooth shaft



Non-tolerated dimensions are nominal dimensions

¹⁾ Check motor shaft fit

²⁾ Min. / Max. permissible motor shaft length

Longer motor shafts are possible, please contact alpha

³⁾ The dimensions depend on the motor

⁴⁾ Smaller motor shaft diameter is compensated

by a bushing with a minimum thickness of 1 mm

⁵⁾ Standard clamping hub diameter

CP 005 MF 2-stage

			2-stage											
Ratio	i		16	20	25	28	32	35	40	50	64	70	100	
Max. torque ^{a) b) e)}	T_{2a}	Nm	17	17	21	17	17	21	17	21	20	21	20	
		in.lb	150	150	186	150	150	186	150	186	177	186	177	
Max. acceleration torque ^{b)} (max. 1000 cycles per hour)	T_{2B}	Nm	11	11	14	11	11	14	11	14	13	14	13	
		in.lb	97	97	124	97	97	124	97	124	115	124	115	
Emergency stop torque ^{a) b) e)} (permitted 1000 times during the service life of the gearbox)	T_{2Not}	Nm	26	26	26	26	26	26	26	26	26	26	26	
		in.lb	230	230	230	230	230	230	230	230	230	230	230	
Permitted average input speed ^{d)} (at T_{2a} and 20 °C ambient temperature)	n_{1N}	rpm	3800	3800	3800	3800	4300	4300	4300	4300	4300	4300	4300	
Max. input speed	n_{1Max}	rpm	9000	9000	9000	9000	9000	9000	9000	9000	9000	9000	9000	
Mean no load running torque ^{b)} (at $n_1=3000$ rpm and 20 °C gearbox temperature)	T_{012}	Nm	0.09	0.08	0.08	0.08	0.07	0.07	0.07	0.07	0.06	0.06	0.06	
		in.lb	0.8	0.71	0.71	0.71	0.62	0.62	0.62	0.62	0.53	0.53	0.53	
Max. backlash	j_t	arcmin	≤ 18											
Torsional rigidity ^{b)}	C_{t21}	Nm/arcmin	0.58	0.58	0.58	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	5.1	5.1	5.1	5.1	5.1	4.6	5.1	4.6	
Max. axial force ^{c)}	F_{2AMax}	N	240											
		lb _f	54											
Max. lateral force ^{c) f)}	F_{2OMax}	N	170											
		lb _f	38											
Max. tilting moment	M_{2KMax}	Nm	4											
		in.lb	35											
Efficiency at full load	η	%	95											
Service life	L_h	h	> 20000											
Weight (incl. standard adapter plate)	m	kg	0.7											
		lb _m	1.5											
Operating noise (at reference ratio and reference speed – ratio-specific values available in cymex®)	L_{PA}	dB(A)	≤ 59											
Max. permitted housing temperature		°C	+90											
		°F	+194											
Ambient temperature		°C	-15 to +40											
		°F	+5 to +104											
Lubrication			Lubricated for life											
Direction of rotation			In- and output same direction											
Protection class			IP 64											
Elastomer coupling (recommended product type – validate sizing with cymex®)			ELC-0005BA010.000-X											
Bore diameter of coupling on the application side		mm	X = 004.000 - 012.700											
Mass moment of inertia (relates to the drive) Clamping hub diameter [mm]	B	11	J_t	kgcm ²	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.03	0.03	0.03
				10 ⁻³ in.lb.s ²	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.03	0.03	0.03

Please use our sizing software cymex® for a detailed sizing – www.wittenstein-cymex.com

^{a)} Valid for torque transmission only

^{b)} Valid for standard clamping hub diameter

^{c)} Refers to center of the output shaft or flange

^{d)} Please reduce input speed at higher ambient temperatures

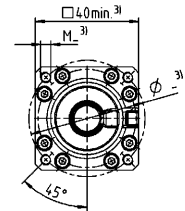
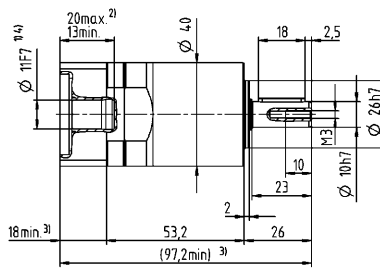
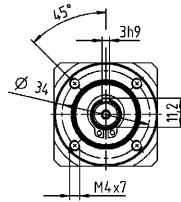
^{e)} Valid for: Smooth shaft

^{f)} At increased lateral forces – see glossary

Motor shaft diameter [mm]

2-stage

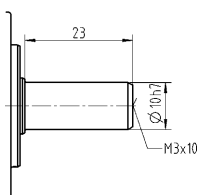
up to 11⁴⁾ (B)⁵⁾
clamping hub
diameter



Planetary Gearboxes
Basic Line

Other output variants

Smooth shaft



Non-tolerated dimensions are nominal dimensions

¹⁾ Check motor shaft fit

²⁾ Min. / Max. permissible motor shaft length

Longer motor shafts are possible, please contact alpha

³⁾ The dimensions depend on the motor

⁴⁾ Smaller motor shaft diameter is compensated by a bushing with a minimum thickness of 1 mm

⁵⁾ Standard clamping hub diameter

CP 015 MF 1-stage

			1-stage							
Ratio	i		3	4	5	7	8	10		
Max. torque ^{a) b) e)}	T_{2a}	Nm	48	56	58	58	56	56		
		in.lb	425	496	513	513	496	496		
Max. acceleration torque ^{b)} (max. 1000 cycles per hour)	T_{2B}	Nm	30	35	40	40	35	35		
		in.lb	266	310	354	354	310	310		
Emergency stop torque ^{a) b) e)} (permitted 1000 times during the service life of the gearbox)	T_{2Not}	Nm	75	75	75	75	75	75		
		in.lb	664	664	664	664	664	664		
Permitted average input speed ^{d)} (at T_{2a} and 20 °C ambient temperature)	n_{1N}	rpm	3300	3300	3300	4000	4000	4000		
Max. input speed	n_{1Max}	rpm	7000	7000	7000	7000	7000	7000		
Mean no load running torque ^{b)} (at $n_1=3000$ rpm and 20 °C gearbox temperature)	T_{012}	Nm	0.25	0.2	0.17	0.15	0.14	0.13		
		in.lb	2.2	1.8	1.5	1.3	1.2	1.2		
Max. backlash	j_t	arcmin	≤ 12							
Torsional rigidity ^{b)}	C_{t21}	Nm/arcmin	2.1	2.1	2.1	2.1	1.9	1.9		
		in.lb/arcmin	19	19	19	19	17	17		
Max. axial force ^{c)}	F_{2AMax}	N	750							
		lb _f	169							
Max. lateral force ^{c) 1)}	F_{2OMax}	N	500							
		lb _f	113							
Max. tilting moment	M_{2KMMax}	Nm	17							
		in.lb	150							
Efficiency at full load	η	%	97							
Service life	L_h	h	> 20000							
Weight (incl. standard adapter plate)	m	kg	1.4							
		lb _m	3.1							
Operating noise (at reference ratio and reference speed – ratio-specific values available in cymex®)	L_{PA}	dB(A)	≤ 60							
Max. permitted housing temperature		°C	+90							
		°F	+194							
Ambient temperature		°C	-15 to +40							
		°F	+5 to +104							
Lubrication			Lubricated for life							
Direction of rotation			In- and output same direction							
Protection class			IP 64							
Elastomer coupling (recommended product type – validate sizing with cymex®)			ELC-0020BA014.000-X							
Bore diameter of coupling on the application side		mm	X = 008.000 - 025.000							
Mass moment of inertia (relates to the drive) Clamping hub diameter [mm]	C	14	J_1	kgcm ²	0.23	0.2	0.18	0.15	0.15	0.15
				10 ⁻³ in.lb.s ²	0.2	0.18	0.16	0.13	0.13	0.13
	E	19	J_1	kgcm ²	0.43	0.4	0.39	0.38	0.38	0.37
				10 ⁻³ in.lb.s ²	0.38	0.35	0.35	0.34	0.34	0.33

Please use our sizing software cymex® for a detailed sizing – www.wittenstein-cymex.com

^{a)} Valid for torque transmission only

^{b)} Valid for standard clamping hub diameter

^{c)} Refers to center of the output shaft or flange

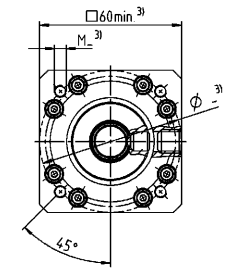
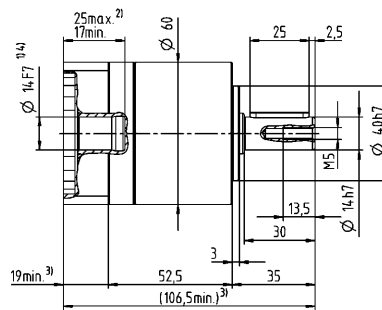
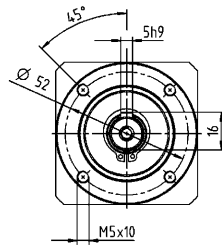
^{d)} Please reduce input speed at higher ambient temperatures

^{e)} Valid for: Smooth shaft

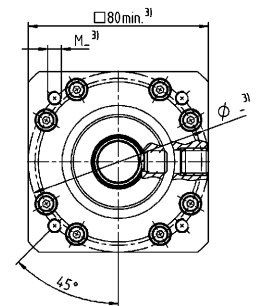
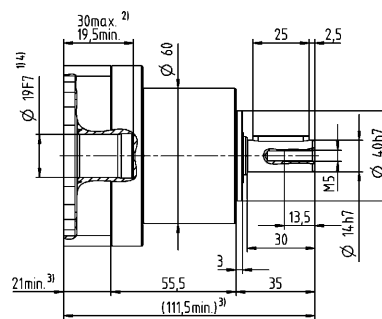
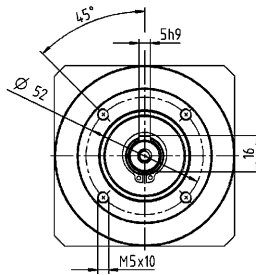
¹⁾ At increased lateral forces – see glossary

1-stage

up to 14⁴⁾ (C)⁵⁾
clamping hub
diameter



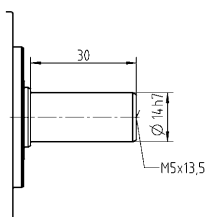
up to 19⁴⁾ (E)
clamping hub
diameter



Motor shaft diameter [mm]

Other output variants

Smooth shaft



Non-tolerated dimensions are nominal dimensions

¹⁾ Check motor shaft fit

²⁾ Min. / Max. permissible motor shaft length

Longer motor shafts are possible, please contact alpha

³⁾ The dimensions depend on the motor

⁴⁾ Smaller motor shaft diameter is compensated

by a bushing with a minimum thickness of 1 mm

⁵⁾ Standard clamping hub diameter

CP 015 MF 2-stage

			2-stage															
Ratio	i		9	12	15	16	20	25	28	30	32	35	40	50	64	70	100	
Max. torque ^{a) b) e)}	T_{2a}	Nm	48	48	48	56	56	58	56	48	56	58	56	58	56	58	56	
		in.lb	425	425	425	496	496	513	496	425	496	513	496	513	496	513	496	
Max. acceleration torque ^{b)} (max. 1000 cycles per hour)	T_{2B}	Nm	30	30	30	35	35	40	35	30	35	40	35	40	35	40	35	
		in.lb	266	266	266	310	310	354	310	266	310	354	310	354	310	354	310	
Emergency stop torque ^{a) b) e)} (permitted 1000 times during the service life of the gearbox)	T_{2Not}	Nm	75	75	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	664	664	
Permitted average input speed ^{d)} (at T_{2a} and 20 °C ambient temperature)	n_{1N}	rpm	3300	3300	3300	3300	3300	3300	3300	3300	3300	3300	3300	3300	4000	4000	4000	
Max. input speed	n_{1Max}	rpm	7000	7000	7000	7000	7000	7000	7000	7000	7000	7000	7000	7000	7000	7000	7000	
Mean no load running torque ^{b)} (at $n_1=3000$ rpm and 20 °C gearbox temperature)	T_{012}	Nm	0.33	0.28	0.26	0.25	0.22	0.21	0.2	0.21	0.19	0.18	0.17	0.16	0.16	0.15	0.14	
		in.lb	2.9	2.5	2.3	2.2	1.9	1.9	1.8	1.9	1.7	1.6	1.5	1.4	1.4	1.3	1.2	
Max. backlash	j_t	arcmin	≤ 15															
Torsional rigidity ^{b)}	C_{121}	Nm/arcmin	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	1.9	2.1	1.9	
		in.lb/arcmin	19	19	19	19	19	19	19	19	19	19	19	19	17	19	17	
Max. axial force ^{c)}	F_{2AMax}	N	750															
		lb _f	169															
Max. lateral force ^{c) 9)}	F_{2OMax}	N	500															
		lb _f	113															
Max. tilting moment	M_{2KMMax}	Nm	17															
		in.lb	150															
Efficiency at full load	η	%	95															
Service life	L_h	h	> 20000															
Weight (incl. standard adapter plate)	m	kg	1.8															
		lb _m	4															
Operating noise (at reference ratio and reference speed – ratio-specific values available in cymex®)	L_{PA}	dB(A)	≤ 60															
Max. permitted housing temperature		°C	+90															
		°F	+194															
Ambient temperature		°C	-15 to +40															
		°F	+5 to +104															
Lubrication			Lubricated for life															
Direction of rotation			In- and output same direction															
Protection class			IP 64															
Elastomer coupling (recommended product type – validate sizing with cymex®) Bore diameter of coupling on the application side			ELC-0020BA014.000-X															
		mm	X = 008.000 - 025.000															
Mass moment of inertia (relates to the drive) Clamping hub diameter [mm]	C	14	J_1	kgcm ²	0.22	0.22	0.21	0.2	0.19	0.18	0.17	0.19	0.16	0.16	0.17	0.16	0.15	0.15
				10 ⁻³ in.lb.s ²	0.19	0.19	0.19	0.18	0.17	0.16	0.15	0.17	0.14	0.14	0.15	0.14	0.13	0.13
	E	19	J_1	kgcm ²	0.43	0.42	0.42	0.4	0.4	0.39	0.39	0.41	0.39	0.39	0.39	0.38	0.37	0.38
				10 ⁻³ in.lb.s ²	0.38	0.37	0.37	0.35	0.35	0.35	0.35	0.36	0.35	0.35	0.35	0.34	0.33	0.34

Please use our sizing software cymex® for a detailed sizing – www.wittenstein-cymex.com

^{a)} Valid for torque transmission only

^{b)} Valid for standard clamping hub diameter

^{c)} Refers to center of the output shaft or flange

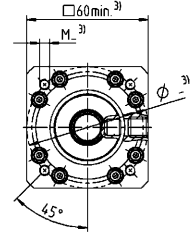
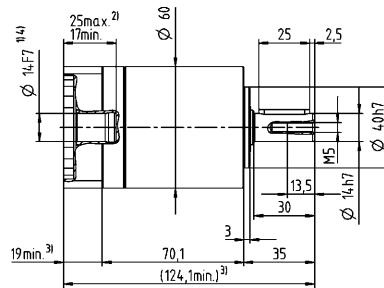
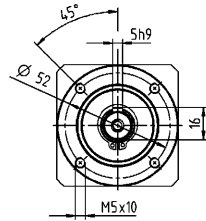
^{d)} Please reduce input speed at higher ambient temperatures

^{e)} Valid for: Smooth shaft

⁹⁾ At increased lateral forces – see glossary

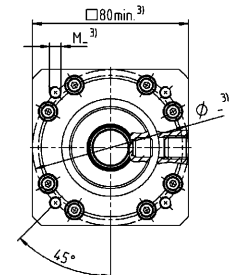
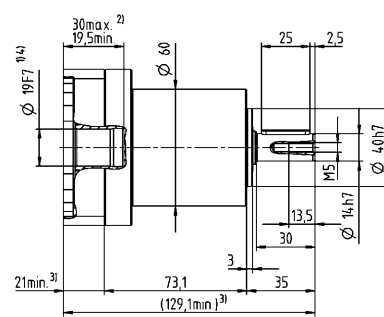
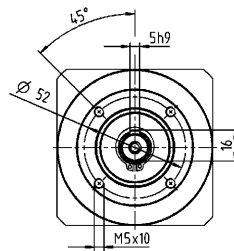
2-stage

up to 14⁴⁾ (C)⁵⁾
clamping hub
diameter



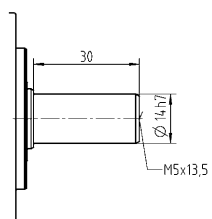
Motor shaft diameter [mm]

up to 19⁴⁾ (E)
clamping hub
diameter



Other output variants

Smooth shaft



Non-tolerated dimensions are nominal dimensions

¹⁾ Check motor shaft fit

²⁾ Min. / Max. permissible motor shaft length

Longer motor shafts are possible, please contact alpha

³⁾ The dimensions depend on the motor

⁴⁾ Smaller motor shaft diameter is compensated

by a bushing with a minimum thickness of 1 mm

⁵⁾ Standard clamping hub diameter

CP 025 MF 1-stage

			1-stage							
Ratio	i		3	4	5	7	8	10		
Max. torque ^{a) b) e)}	T_{2a}	Nm	112	150	150	150	144	144		
		in.lb	991	1328	1328	1328	1275	1275		
Max. acceleration torque ^{b)} (max. 1000 cycles per hour)	T_{2B}	Nm	70	95	100	100	90	90		
		in.lb	620	841	885	885	797	797		
Emergency stop torque ^{a) b) e)} (permitted 1000 times during the service life of the gearbox)	T_{2Not}	Nm	114	152	187	187	187	187		
		in.lb	1009	1345	1655	1655	1655	1655		
Permitted average input speed ^{d)} (at T_{2a} and 20 °C ambient temperature)	n_{1N}	rpm	3100	3100	3100	3600	3600	3600		
Max. input speed	n_{1Max}	rpm	7000	7000	7000	7000	7000	7000		
Mean no load running torque ^{b)} (at $n_1=3000$ rpm and 20 °C gearbox temperature)	T_{012}	Nm	0.38	0.3	0.26	0.23	0.21	0.19		
		in.lb	3.4	2.7	2.3	2	1.9	1.7		
Max. backlash	j_t	arcmin	≤ 12							
Torsional rigidity ^{b)}	C_{t21}	Nm/arcmin	6.1	6.1	6.1	6.1	5.5	5.5		
		in.lb/arcmin	54	54	54	54	49	49		
Max. axial force ^{c)}	F_{2AMax}	N	1600							
		lb _f	360							
Max. lateral force ^{c)}	F_{2OMax}	N	1200							
		lb _f	270							
Max. tilting moment	M_{2KMMax}	Nm	54							
		in.lb	478							
Efficiency at full load	η	%	97							
Service life	L_h	h	> 20000							
Weight (incl. standard adapter plate)	m	kg	2.9							
		lb _m	6.4							
Operating noise (at reference ratio and reference speed – ratio-specific values available in cymex®)	L_{PA}	dB(A)	≤ 62							
Max. permitted housing temperature		°C	+90							
		°F	+194							
Ambient temperature		°C	-15 to +40							
		°F	+5 to +104							
Lubrication			Lubricated for life							
Direction of rotation			In- and output same direction							
Protection class			IP 64							
Elastomer coupling (recommended product type – validate sizing with cymex®)			ELC-0060BA020.000-X							
Bore diameter of coupling on the application side		mm	X = 012.000 - 032.000							
Mass moment of inertia (relates to the drive) Clamping hub diameter [mm]	E	19	J_1	kgcm ²	0.66	0.53	0.48	0.43	0.41	0.4
				10 ⁻³ in.lb.s ²	0.58	0.47	0.42	0.38	0.36	0.35
	G	24	J_1	kgcm ²	1.5	1.4	1.3	1.3	1.3	1.3
				10 ⁻³ in.lb.s ²	1.3	1.2	1.2	1.2	1.2	1.2

Please use our sizing software cymex® for a detailed sizing – www.wittenstein-cymex.com

^{a)} Valid for torque transmission only

^{b)} Valid for standard clamping hub diameter

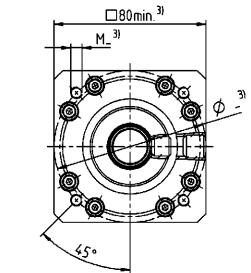
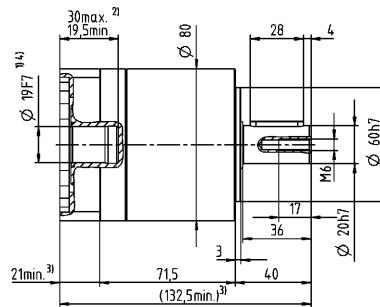
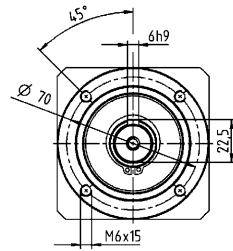
^{c)} Refers to center of the output shaft or flange

^{d)} Please reduce input speed at higher ambient temperatures

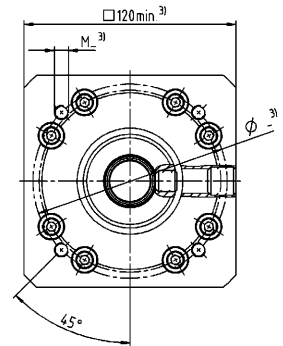
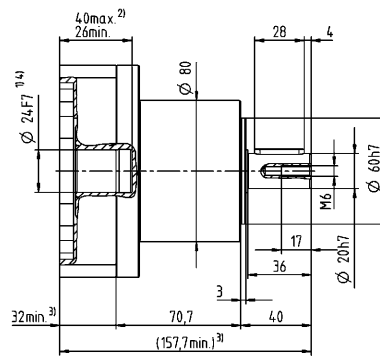
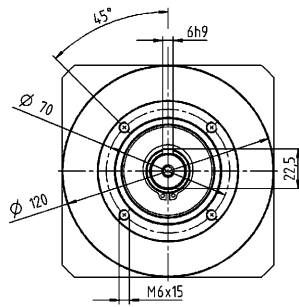
^{e)} Valid for: Smooth shaft

1-stage

up to 19⁴⁾ (E)⁵⁾
clamping hub diameter



up to 24⁴⁾ (G)
clamping hub diameter

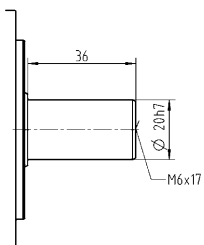


Planetary Gearboxes
Basic Line

Motor shaft diameter [mm]

Other output variants

Smooth shaft



Non-tolerated dimensions are nominal dimensions

¹⁾ Check motor shaft fit

²⁾ Min. / Max. permissible motor shaft length

Longer motor shafts are possible, please contact alpha

³⁾ The dimensions depend on the motor

⁴⁾ Smaller motor shaft diameter is compensated

by a bushing with a minimum thickness of 1 mm

⁵⁾ Standard clamping hub diameter

CP 025 MF 2-stage

			2-stage																
Ratio	i		9	12	15	16	20	25	28	30	32	35	40	50	64	70	100		
Max. torque ^{a) b) e)}	T_{2a}	Nm	112	112	112	150	150	150	150	112	150	150	150	150	144	150	144		
		in.lb	991	991	991	1328	1328	1328	1328	991	1328	1328	1328	1328	1275	1328	1275		
Max. acceleration torque ^{b)} (max. 1000 cycles per hour)	T_{2B}	Nm	70	70	70	95	95	95	95	70	95	100	95	100	90	100	90		
		in.lb	620	620	620	841	841	841	841	620	841	885	841	885	797	885	797		
Emergency stop torque ^{a) b) e)} (permitted 1000 times during the service life of the gearbox)	T_{2Not}	Nm	187	187	187	187	187	187	187	187	187	187	187	187	187	187	187		
		in.lb	1655	1655	1655	1655	1655	1655	1655	1655	1655	1655	1655	1655	1655	1655	1655		
Permitted average input speed ^{d)} (at T_{2a} and 20 °C ambient temperature)	n_{1N}	rpm	3100	3100	3100	3100	3100	3100	3100	3100	3100	3100	3100	3100	3600	3600	3600		
Max. input speed	n_{1Max}	rpm	7000	7000	7000	7000	7000	7000	7000	7000	7000	7000	7000	7000	7000	7000	7000		
Mean no load running torque ^{b)} (at $n_1=3000$ rpm and 20 °C gearbox temperature)	T_{012}	Nm	0.5	0.43	0.39	0.38	0.34	0.32	0.3	0.31	0.28	0.28	0.26	0.24	0.23	0.22	0.21		
		in.lb	4.4	3.8	3.5	3.4	3	2.8	2.7	2.7	2.5	2.5	2.3	2.1	2	1.9	1.9		
Max. backlash	j_t	arcmin	≤ 15																
Torsional rigidity ^{b)}	C_{121}	Nm/arcmin	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	5.5	6.1	5.5		
		in.lb/arcmin	54	54	54	54	54	54	54	54	54	54	54	54	49	54	49		
Max. axial force ^{c)}	F_{2AMax}	N	1600																
		lb _f	360																
Max. lateral force ^{c)}	F_{2OMax}	N	1200																
		lb _f	270																
Max. tilting moment	M_{2KMax}	Nm	54																
		in.lb	478																
Efficiency at full load	η	%	95																
Service life	L_h	h	> 20000																
Weight (incl. standard adapter plate)	m	kg	3.7																
		lb _m	8.2																
Operating noise (at reference ratio and reference speed – ratio-specific values available in cymex®)	L_{PA}	dB(A)	≤ 62																
Max. permitted housing temperature		°C	+90																
		°F	+194																
Ambient temperature		°C	-15 to +40																
		°F	+5 to +104																
Lubrication			Lubricated for life																
Direction of rotation			In- and output same direction																
Protection class			IP 64																
Elastomer coupling (recommended product type – validate sizing with cymex®) Bore diameter of coupling on the application side			ELC-0060BA020.000-X																
		mm	X = 012.000 - 032.000																
Mass moment of inertia (relates to the drive) Clamping hub diameter [mm]	E	19	J_1	kgcm ²	0.66	1.4	1.6	0.98	1.1	0.82	1.2	2.1	1.4	0.88	1.4	1	0.58	0.71	0.54
				10 ⁻³ in.lb.s ²	0.58	1.2	1.4	0.87	0.97	0.73	1.1	1.9	1.2	0.78	1.2	0.89	0.51	0.63	0.48
	G	24	J_1	kgcm ²	1.5	2.3	2.4	1.8	1.9	1.7	2	3	2.2	1.7	2.2	1.9	1.4	1.6	1.4
				10 ⁻³ in.lb.s ²	1.3	2	2.1	1.6	1.7	1.5	1.8	2.7	1.9	1.5	1.9	1.7	1.2	1.4	1.2

Please use our sizing software cymex® for a detailed sizing – www.wittenstein-cymex.com

^{a)} Valid for torque transmission only

^{b)} Valid for standard clamping hub diameter

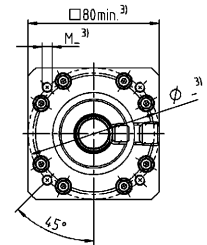
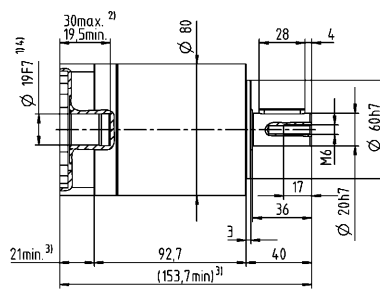
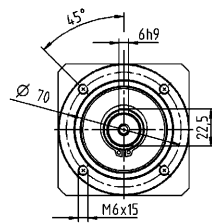
^{c)} Refers to center of the output shaft or flange

^{d)} Please reduce input speed at higher ambient temperatures

^{e)} Valid for: Smooth shaft

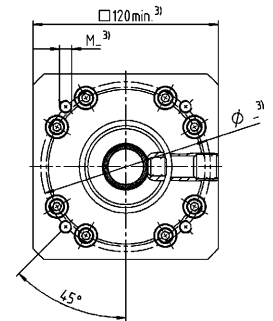
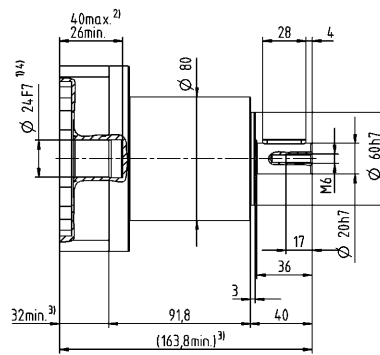
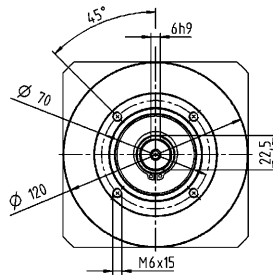
2-stage

up to 19⁴⁾ (E)⁵⁾
clamping hub
diameter



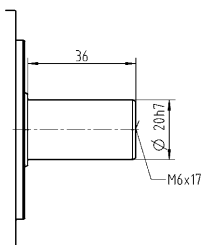
Motor shaft diameter [mm]

up to 24⁴⁾ (G)
clamping hub
diameter



Other output variants

Smooth shaft



Non-tolerated dimensions are nominal dimensions

¹⁾ Check motor shaft fit

²⁾ Min. / Max. permissible motor shaft length

Longer motor shafts are possible, please contact alpha

³⁾ The dimensions depend on the motor

⁴⁾ Smaller motor shaft diameter is compensated

by a bushing with a minimum thickness of 1 mm

⁵⁾ Standard clamping hub diameter

CP 035 MF 1-stage

			1-stage							
Ratio	i		3	4	5	7	8	10		
Max. torque ^{a) b) e)}	T_{2a}	Nm	272	272	272	272	272	272		
		in.lb	2407	2407	2407	2407	2407	2407		
Max. acceleration torque ^{b)} (max. 1000 cycles per hour)	T_{2B}	Nm	175	255	250	250	220	220		
		in.lb	1549	2257	2213	2213	1947	1947		
Emergency stop torque ^{a) b) e)} (permitted 1000 times during the service life of the gearbox)	T_{2Not}	Nm	460	480	480	480	470	480		
		in.lb	4071	4248	4248	4248	4160	4248		
Permitted average input speed ^{d)} (at T_{2a} and 20 °C ambient temperature)	n_{1N}	rpm	2300	2300	2300	2800	2800	2800		
Max. input speed	n_{1Max}	rpm	5500	5500	5500	5500	5500	5500		
Mean no load running torque ^{b)} (at $n_1=3000$ rpm and 20 °C gearbox temperature)	T_{012}	Nm	0.95	0.76	0.66	0.57	0.52	0.48		
		in.lb	8.4	6.7	5.8	5	4.6	4.2		
Max. backlash	j_t	arcmin	≤ 12							
Torsional rigidity ^{b)}	C_{t21}	Nm/arcmin	16	16	16	16	14	14		
		in.lb/arcmin	142	142	142	142	124	124		
Max. axial force ^{c)}	F_{2AMax}	N	2500							
		lb _f	563							
Max. lateral force ^{c)}	F_{2OMax}	N	1750							
		lb _f	394							
Max. tilting moment	M_{2KMMax}	Nm	98							
		in.lb	867							
Efficiency at full load	η	%	97							
Service life	L_h	h	> 20000							
Weight (incl. standard adapter plate)	m	kg	7.5							
		lb _m	17							
Operating noise (at reference ratio and reference speed – ratio-specific values available in cymex®)	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							
Direction of rotation			In- and output same direction							
Protection class			IP 64							
Elastomer coupling (recommended product type – validate sizing with cymex®)			ELC-0150BA025.000-X							
Bore diameter of coupling on the application side		mm	X = 019.000 - 036.000							
Mass moment of inertia (relates to the drive) Clamping hub diameter [mm]	G	24	J_1	kgcm ²	2.6	1.9	1.7	1.5	1.4	1.4
				10 ⁻³ in.lb.s ²	2.3	1.7	1.5	1.3	1.2	1.2
	K	38	J_1	kgcm ²	7.8	7.1	6.9	6.7	6.6	6.5
				10 ⁻³ in.lb.s ²	6.9	6.3	6.1	5.9	5.8	5.8

Please use our sizing software cymex® for a detailed sizing – www.wittenstein-cymex.com

^{a)} Valid for torque transmission only

^{b)} Valid for standard clamping hub diameter

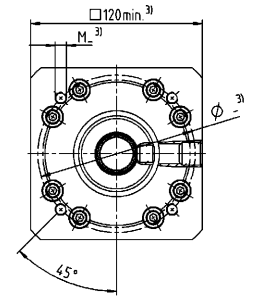
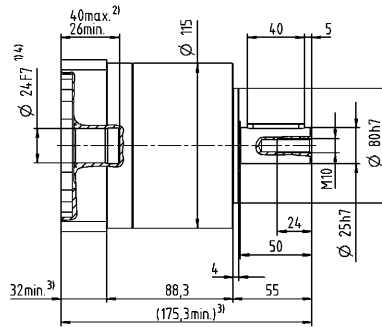
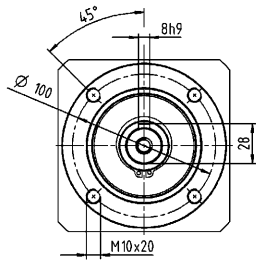
^{c)} Refers to center of the output shaft or flange

^{d)} Please reduce input speed at higher ambient temperatures

^{e)} Valid for: Smooth shaft

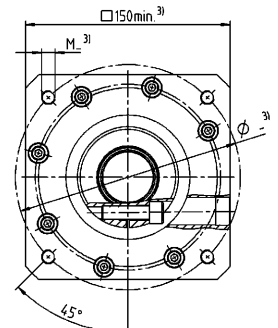
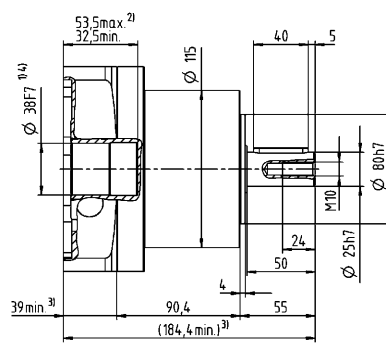
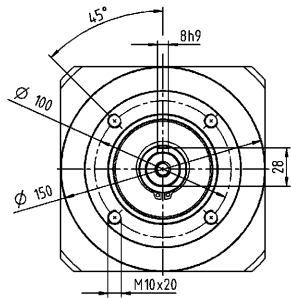
1-stage

up to 24⁴⁾ (G)⁵⁾
clamping hub
diameter



Motor shaft diameter [mm]

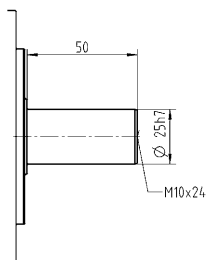
up to 38⁴⁾ (K)
clamping hub
diameter



Planetary Gearboxes
Basic Line

Other output variants

Smooth shaft



Non-tolerated dimensions are nominal dimensions

¹⁾ Check motor shaft fit

²⁾ Min. / Max. permissible motor shaft length

Longer motor shafts are possible, please contact alpha

³⁾ The dimensions depend on the motor

⁴⁾ Smaller motor shaft diameter is compensated

by a bushing with a minimum thickness of 1 mm

⁵⁾ Standard clamping hub diameter

CP 035 MF 2-stage

			2-stage																
Ratio	i		9	12	15	16	20	25	28	30	32	35	40	50	64	70	100		
Max. torque ^{a) b) e)}	T_{2a}	Nm	272	272	272	272	272	272	272	272	272	272	272	272	272	272	272		
		in.lb	2407	2407	2407	2407	2407	2407	2407	2407	2407	2407	2407	2407	2407	2407	2407	2407	
Max. acceleration torque ^{b)} (max. 1000 cycles per hour)	T_{2B}	Nm	175	175	175	255	255	250	255	175	255	250	255	250	220	250	220		
		in.lb	1549	1549	1549	2257	2257	2213	2257	1549	2257	2213	2257	2213	1947	2213	1947		
Emergency stop torque ^{a) b) e)} (permitted 1000 times during the service life of the gearbox)	T_{2Not}	Nm	480	480	480	480	480	480	480	315	480	480	480	480	470	480	480		
		in.lb	4248	4248	4248	4248	4248	4248	4248	2788	4248	4248	4248	4248	4160	4248	4248		
Permitted average input speed ^{d)} (at T_{2a} and 20 °C ambient temperature)	n_{1N}	rpm	2300	2300	2300	2300	2300	2300	2300	2300	2300	2300	2300	2300	2800	2800	2800		
Max. input speed	n_{1Max}	rpm	5500	5500	5500	5500	5500	5500	5500	5500	5500	5500	5500	5500	5500	5500	5500		
Mean no load running torque ^{b)} (at $n_1=3000$ rpm and 20 °C gearbox temperature)	T_{012}	Nm	1.3	1.1	0.98	0.95	0.85	0.8	0.76	0.79	0.71	0.7	0.66	0.61	0.59	0.56	0.52		
		in.lb	12	9.7	8.7	8.4	7.5	7.1	6.7	7	6.3	6.2	5.8	5.4	5.2	5	4.6		
Max. backlash	j_t	arcmin	≤ 15																
Torsional rigidity ^{b)}	C_{121}	Nm/arcmin	16	16	16	16	16	16	16	16	16	16	16	16	14	16	14		
		in.lb/arcmin	142	142	142	142	142	142	142	142	142	142	142	142	124	142	124		
Max. axial force ^{c)}	F_{2AMax}	N	2500																
		lb _f	563																
Max. lateral force ^{c)}	F_{2OMax}	N	1750																
		lb _f	394																
Max. tilting moment	M_{2KMax}	Nm	98																
		in.lb	867																
Efficiency at full load	η	%	95																
Service life	L_h	h	> 20000																
Weight (incl. standard adapter plate)	m	kg	9.6																
		lb _m	21																
Operating noise (at reference ratio and reference speed – ratio-specific values available in cymex®)	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																
Direction of rotation			In- and output same direction																
Protection class			IP 64																
Elastomer coupling (recommended product type – validate sizing with cymex®)			ELC-0150BA025.000-X																
Bore diameter of coupling on the application side		mm	X = 019.000 - 036.000																
Mass moment of inertia (relates to the drive) Clamping hub diameter [mm]	G	24	J_1	kgcm ²	2.7	2.5	2.5	2.3	2.3	2.1	2.4	3.1	2.4	2.2	2.6	2.2	1.8	1.9	1.7
				10 ⁻³ in.lb.s ²	2.4	2.2	2.2	2	2	1.9	2.1	2.7	2.1	1.9	2.3	1.9	1.6	1.7	1.5
	K	38	J_1	kgcm ²	7.9	7.7	7.8	7.5	7.5	7.3	7.5	8.3	7.6	7.4	7.8	7.4	7	7.1	6.9
				10 ⁻³ in.lb.s ²	7	6.8	6.9	6.6	6.6	6.5	6.6	7.3	6.7	6.5	6.9	6.5	6.2	6.3	6.1

Please use our sizing software cymex® for a detailed sizing – www.wittenstein-cymex.com

^{a)} Valid for torque transmission only

^{b)} Valid for standard clamping hub diameter

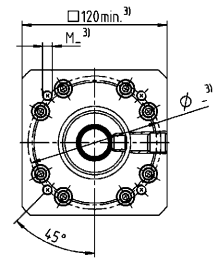
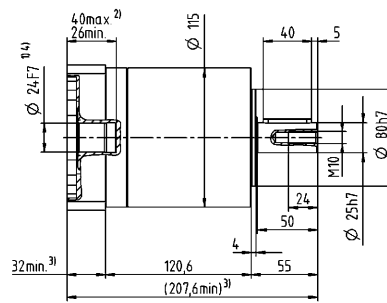
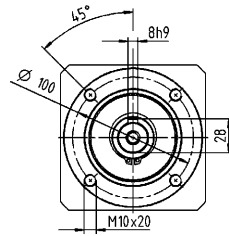
^{c)} Refers to center of the output shaft or flange

^{d)} Please reduce input speed at higher ambient temperatures

^{e)} Valid for: Smooth shaft

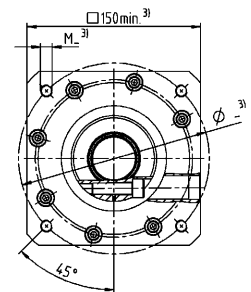
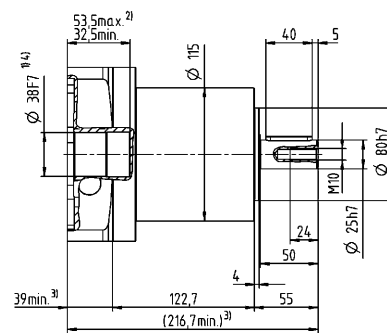
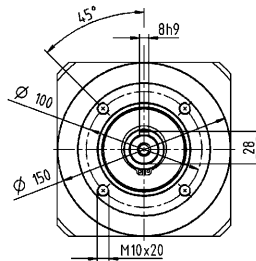
2-stage

up to 24⁴⁾ (G)⁵⁾
clamping hub
diameter



Motor shaft diameter [mm]

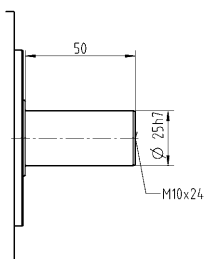
up to 38⁴⁾ (K)
clamping hub
diameter



Planetary Gearboxes
Basic Line

Other output variants

Smooth shaft



Non-tolerated dimensions are nominal dimensions

¹⁾ Check motor shaft fit

²⁾ Min. / Max. permissible motor shaft length

Longer motor shafts are possible, please contact alpha

³⁾ The dimensions depend on the motor

⁴⁾ Smaller motor shaft diameter is compensated

by a bushing with a minimum thickness of 1 mm

⁵⁾ Standard clamping hub diameter

CP 045 MF 1-/2-stage

			1-stage			2-stage						
Ratio	i		5	8	10	25	32	50	64	100		
Max. torque ^{a) b) e)}	T_{2a}	Nm	800	640	640	700	640	700	640	640		
		in.lb	7081	5665	5665	6196	5665	6196	5665	5665		
Max. acceleration torque ^{a)} (max. 1000 cycles per hour)	T_{2B}	Nm	500	400	400	500	400	500	400	400		
		in.lb	4425	3540	3540	4425	3540	4425	3540	3540		
Emergency stop torque ^{a) b) e)} (permitted 1000 times during the service life of the gearbox)	T_{2Not}	Nm	1000	1000	1000	1000	1000	1000	1000	1000		
		in.lb	8851	8851	8851	8851	8851	8851	8851	8851		
Permitted average input speed ^{d)} (at T_{2a} and 20 °C ambient temperature)	n_{1N}	rpm	2000	2200	2300	2600	2500	3000	2900	3000		
Max. input speed	n_{1Max}	rpm	4000	4000	4000	6000	6000	6000	6000	6000		
Mean no load running torque ^{b)} (at $n_1=3000$ rpm and 20 °C gearbox temperature)	T_{012}	Nm	2.4	2	1.9	0.8	0.68	0.6	0.6	0.55		
		in.lb	21	18	17	7.1	6	5.3	5.3	4.9		
Max. backlash	j_t	arcmin	≤ 12			≤ 15						
Torsional rigidity ^{b)}	C_{21}	Nm/arcmin	55	44	44	55	55	55	44	44		
		in.lb/arcmin	487	389	389	487	487	487	389	389		
Max. axial force ^{c)}	F_{2AMax}	N	6000			6000						
		lb _f	6000			6000						
Max. lateral force ^{c)}	F_{2QMax}	N	8000			8000						
		lb _f	8000			8000						
Max. tilting moment	M_{2KMax}	Nm	704			704						
		in.lb	6231			6231						
Efficiency at full load	η	%	97			95						
Service life	L_n	h	> 20000			> 20000						
Weight (incl. standard adapter plate)	m	kg	20			21						
		lb _m	44			46						
Operating noise (at reference ratio and reference speed – ratio-specific values available in cymex®)	L_{PA}	dB(A)	≤ 68			≤ 65						
			≤ 68			≤ 65						
Max. permitted housing temperature		°C	+90			+90						
		°F	+194			+194						
Ambient temperature		°C	-15 to +40			-15 to +40						
		°F	+5 to +104			+5 to +104						
Lubrication			Lubricated for life									
Direction of rotation			In- and output same direction									
Protection class			IP 64									
Elastomer coupling (recommended product type – validate sizing with cymex®)			ELC-0300BA040.000-X									
Bore diameter of coupling on the application side		mm	X = 020.000 - 045.000									
Mass moment of inertia (relates to the drive) Clamping hub diameter [mm]	E	19	J_1	kgcm ²	-	-	-	1.2	1.1	1.1	0.88	0.82
				10 ⁻³ in.lb.s ²	-	-	-	1,1	0,97	0,97	0,78	0,73
	G	24	J_1	kgcm ²	-	-	-	2	1,9	1,8	1,7	1,6
				10 ⁻³ in.lb.s ²	-	-	-	1,8	1,7	1,6	1,5	1,4
	H	28	J_1	kgcm ²	-	-	-	1,7	1,6	1,5	1,4	1,3
				10 ⁻³ in.lb.s ²	-	-	-	1,5	1,4	1,3	1,2	1,2
	I	32	J_1	kgcm ²	-	-	-	5,8	5,7	5,6	5,4	5,4
				10 ⁻³ in.lb.s ²	-	-	-	5,1	5	5	4,8	4,8
	K	38	J_1	kgcm ²	8.8	7.4	7.2	7	6,9	6,8	6,6	6,5
				10 ⁻³ in.lb.s ²	7.8	6.5	6.4	6,2	6,1	6	5,8	5,8

Please use our sizing software cymex® for a detailed sizing – www.wittenstein-cymex.com

^{a)} Valid for torque transmission only

^{b)} Valid for standard clamping hub diameter

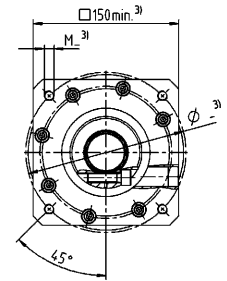
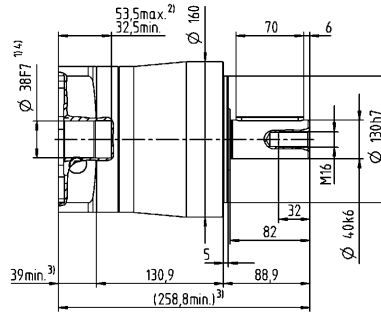
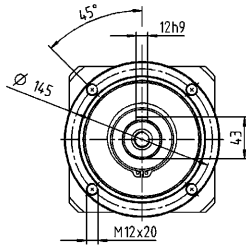
^{c)} Refers to center of the output shaft or flange

^{d)} Please reduce input speed at higher ambient temperatures

^{e)} Valid for: Smooth shaft

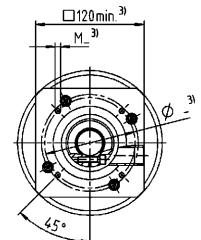
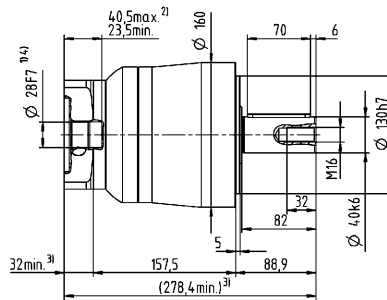
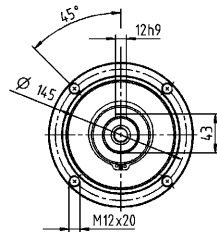
1-stage

up to 38⁴⁾ (K)⁵⁾
clamping hub
diameter

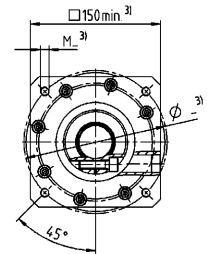
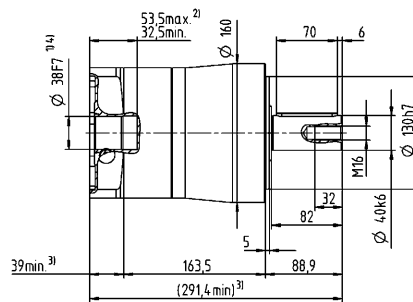
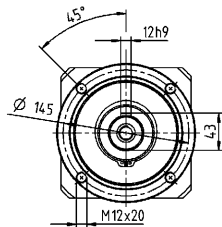


2-stage

up to 19/24/28⁴⁾
(E/G⁵⁾/H)
clamping hub
diameter



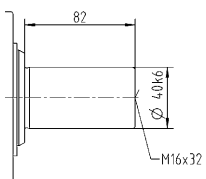
up to 32/38⁴⁾
(I/K)
clamping hub
diameter



Motor shaft diameter [mm]

Other output variants

Smooth shaft



Non-tolerated dimensions are nominal dimensions

¹⁾ Check motor shaft fit

²⁾ Min. / Max. permissible motor shaft length

Longer motor shafts are possible, please contact alpha

³⁾ The dimensions depend on the motor

⁴⁾ Smaller motor shaft diameter is compensated

by a bushing with a minimum thickness of 1 mm

⁵⁾ Standard clamping hub diameter

CPS 015 MF 1-stage

			1-stage							
Ratio	i		3	4	5	7	8	10		
Max. torque ^{a) b) e)}	T_{2a}	Nm	48	56	58	58	56	56		
		in.lb	425	496	513	513	496	496		
Max. acceleration torque ^{b)} (max. 1000 cycles per hour)	T_{2B}	Nm	30	35	40	40	35	35		
		in.lb	266	310	354	354	310	310		
Emergency stop torque ^{a) b) e)} (permitted 1000 times during the service life of the gearbox)	T_{2Not}	Nm	75	75	75	75	75	75		
		in.lb	664	664	664	664	664	664		
Permitted average input speed ^{d)} (at T_{2a} and 20 °C ambient temperature)	n_{1N}	rpm	3300	3300	3300	4000	4000	4000		
Max. input speed	n_{1Max}	rpm	7000	7000	7000	7000	7000	7000		
Mean no load running torque ^{b)} (at $n_1=3000$ rpm and 20 °C gearbox temperature)	T_{012}	Nm	0.25	0.2	0.17	0.15	0.14	0.13		
		in.lb	2.2	1.8	1.5	1.3	1.2	1.2		
Max. backlash	j_t	arcmin	≤ 12							
Torsional rigidity ^{b)}	C_{t21}	Nm/arcmin	2.1	2.1	2.1	2.1	1.9	1.9		
		in.lb/arcmin	19	19	19	19	17	17		
Max. axial force ^{c)}	F_{2AMax}	N	750							
		lb _f	169							
Max. lateral force ^{c)}	F_{2OMax}	N	500							
		lb _f	113							
Max. tilting moment	M_{2KMMax}	Nm	17							
		in.lb	150							
Efficiency at full load	η	%	97							
Service life	L_h	h	> 20000							
Weight (incl. standard adapter plate)	m	kg	1.4							
		lb _m	3.1							
Operating noise (at reference ratio and reference speed – ratio-specific values available in cymex®)	L_{PA}	dB(A)	≤ 60							
Max. permitted housing temperature		°C	+90							
		°F	+194							
Ambient temperature		°C	-15 to +40							
		°F	+5 to +104							
Lubrication			Lubricated for life							
Direction of rotation			In- and output same direction							
Protection class			IP 64							
Elastomer coupling (recommended product type – validate sizing with cymex®)			ELC-0020BA014.000-X							
Bore diameter of coupling on the application side		mm	X = 008.000 - 025.000							
Mass moment of inertia (relates to the drive) Clamping hub diameter [mm]	C	14	J_1	kgcm ²	0.23	0.2	0.18	0.15	0.15	0.15
				10 ⁻³ in.lb.s ²	0.2	0.18	0.16	0.13	0.13	0.13
	E	19	J_1	kgcm ²	0.43	0.4	0.39	0.38	0.38	0.37
				10 ⁻³ in.lb.s ²	0.38	0.35	0.35	0.34	0.34	0.33

Please use our sizing software cymex® for a detailed sizing – www.wittenstein-cymex.com

^{a)} Valid for torque transmission only

^{b)} Valid for standard clamping hub diameter

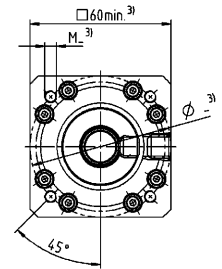
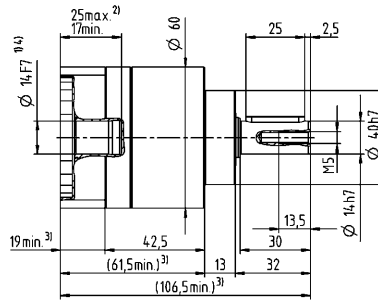
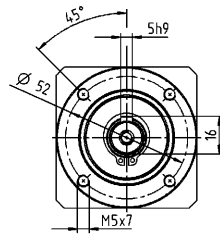
^{c)} Refers to center of the output shaft or flange

^{d)} Please reduce input speed at higher ambient temperatures

^{e)} Valid for: Smooth shaft

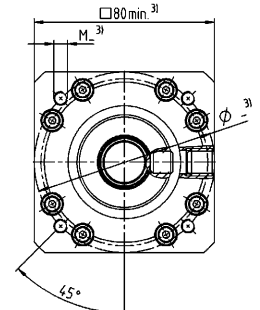
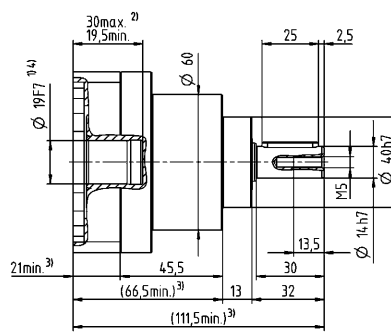
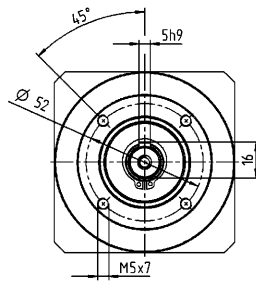
1-stage

up to 14⁴⁾ (C)⁵⁾
clamping hub
diameter



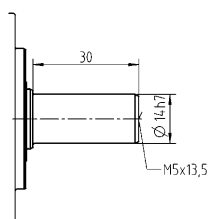
Motor shaft diameter [mm]

up to 19⁴⁾ (E)
clamping hub
diameter

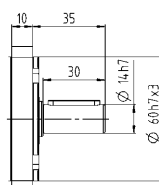
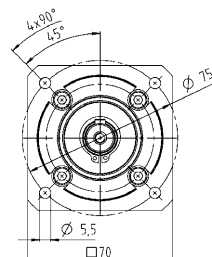


Other output variants

Smooth shaft



Replaceable B5 output flange



Non-tolerated dimensions are nominal dimensions

¹⁾ Check motor shaft fit

²⁾ Min. / Max. permissible motor shaft length

Longer motor shafts are possible, please contact alpha

³⁾ The dimensions depend on the motor

⁴⁾ Smaller motor shaft diameter is compensated

by a bushing with a minimum thickness of 1 mm

⁵⁾ Standard clamping hub diameter

CPS 015 MF 2-stage

			2-stage															
Ratio	i		9	12	15	16	20	25	28	30	32	35	40	50	64	70	100	
Max. torque ^{a) b) e)}	T_{2a}	Nm	48	48	48	56	56	58	56	48	56	58	56	58	56	58	56	
		in.lb	425	425	425	496	496	513	496	425	496	513	496	513	496	513	496	496
Max. acceleration torque ^{b)} (max. 1000 cycles per hour)	T_{2B}	Nm	30	30	30	35	35	40	35	30	35	40	35	40	35	40	35	
		in.lb	266	266	266	310	310	354	310	266	310	354	310	354	310	354	310	
Emergency stop torque ^{a) b) e)} (permitted 1000 times during the service life of the gearbox)	T_{2Not}	Nm	75	75	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	664	664	
Permitted average input speed ^{d)} (at T_{2a} and 20 °C ambient temperature)	n_{1N}	rpm	3300	3300	3300	3300	3300	3300	3300	3300	3300	3300	3300	3300	4000	4000	4000	
Max. input speed	n_{1Max}	rpm	7000	7000	7000	7000	7000	7000	7000	7000	7000	7000	7000	7000	7000	7000	7000	
Mean no load running torque ^{b)} (at $n_1=3000$ rpm and 20 °C gearbox temperature)	T_{012}	Nm	0.33	0.28	0.26	0.25	0.22	0.21	0.2	0.21	0.19	0.18	0.17	0.16	0.16	0.15	0.14	
		in.lb	2.9	2.5	2.3	2.2	1.9	1.9	1.8	1.9	1.7	1.6	1.5	1.4	1.4	1.3	1.2	
Max. backlash	j_t	arcmin	≤ 15															
Torsional rigidity ^{b)}	C_{t21}	Nm/arcmin	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	1.9	2.1	1.9	
		in.lb/arcmin	19	19	19	19	19	19	19	19	19	19	19	19	17	19	17	
Max. axial force ^{c)}	F_{2AMax}	N	750															
		lb _f	169															
Max. lateral force ^{c)}	F_{2OMax}	N	500															
		lb _f	113															
Max. tilting moment	M_{2KMMax}	Nm	17															
		in.lb	150															
Efficiency at full load	η	%	95															
Service life	L_h	h	> 20000															
Weight (incl. standard adapter plate)	m	kg	1.8															
		lb _m	4															
Operating noise (at reference ratio and reference speed – ratio-specific values available in cymex®)	L_{PA}	dB(A)	≤ 60															
Max. permitted housing temperature		°C	+90															
		°F	+194															
Ambient temperature		°C	-15 to +40															
		°F	+5 to +104															
Lubrication			Lubricated for life															
Direction of rotation			In- and output same direction															
Protection class			IP 64															
Elastomer coupling (recommended product type – validate sizing with cymex®) Bore diameter of coupling on the application side			ELC-0020BA014.000-X															
		mm	X = 008.000 - 025.000															
Mass moment of inertia (relates to the drive) Clamping hub diameter [mm]	C	14	J_1	kgcm ²	0.22	0.22	0.21	0.2	0.19	0.18	0.17	0.19	0.16	0.16	0.17	0.16	0.15	0.15
				10 ⁻³ in.lb.s ²	0.19	0.19	0.19	0.18	0.17	0.16	0.15	0.17	0.14	0.14	0.15	0.14	0.13	0.13
	E	19	J_1	kgcm ²	0.43	0.42	0.42	0.4	0.4	0.39	0.39	0.41	0.39	0.39	0.39	0.38	0.37	0.38
				10 ⁻³ in.lb.s ²	0.38	0.37	0.37	0.35	0.35	0.35	0.35	0.36	0.35	0.35	0.35	0.34	0.33	0.34

Please use our sizing software cymex® for a detailed sizing – www.wittenstein-cymex.com

^{a)} Valid for torque transmission only

^{b)} Valid for standard clamping hub diameter

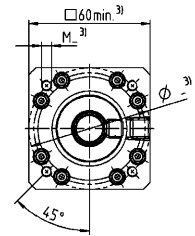
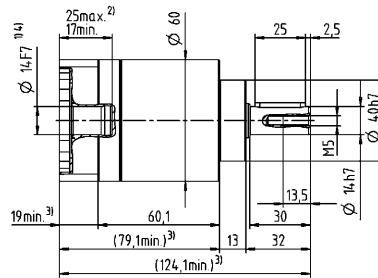
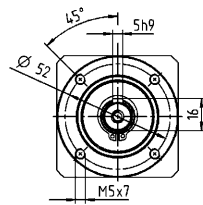
^{c)} Refers to center of the output shaft or flange

^{d)} Please reduce input speed at higher ambient temperatures

^{e)} Valid for: Smooth shaft

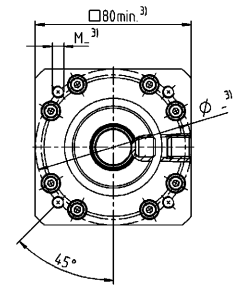
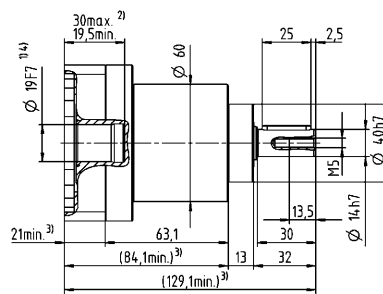
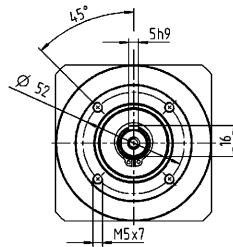
2-stage

up to 14⁴⁾ (C)⁵⁾
clamping hub
diameter



Motor shaft diameter [mm]

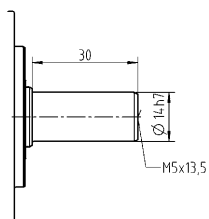
up to 19⁴⁾ (E)
clamping hub
diameter



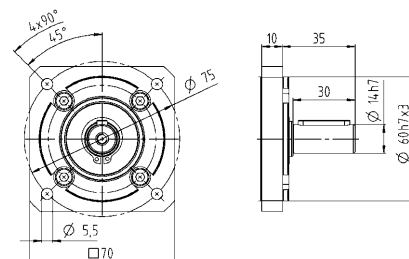
Planetary Gearboxes
Basic Line

Other output variants

Smooth shaft



Replaceable B5 output flange



Non-tolerated dimensions are nominal dimensions

¹⁾ Check motor shaft fit

²⁾ Min. / Max. permissible motor shaft length

Longer motor shafts are possible, please contact alpha

³⁾ The dimensions depend on the motor

⁴⁾ Smaller motor shaft diameter is compensated

by a bushing with a minimum thickness of 1 mm

⁵⁾ Standard clamping hub diameter

CPS 025 MF 1-stage

			1-stage							
Ratio	i		3	4	5	7	8	10		
Max. torque ^{a) b) e)}	T_{2a}	Nm	112	150	150	150	144	144		
		in.lb	991	1328	1328	1328	1275	1275		
Max. acceleration torque ^{b)} (max. 1000 cycles per hour)	T_{2B}	Nm	70	95	100	100	90	90		
		in.lb	620	841	885	885	797	797		
Emergency stop torque ^{a) b) e)} (permitted 1000 times during the service life of the gearbox)	T_{2Not}	Nm	114	152	187	187	187	187		
		in.lb	1009	1345	1655	1655	1655	1655		
Permitted average input speed ^{d)} (at T_{2a} and 20 °C ambient temperature)	n_{1N}	rpm	3100	3100	3100	3600	3600	3600		
Max. input speed	n_{1Max}	rpm	7000	7000	7000	7000	7000	7000		
Mean no load running torque ^{b)} (at $n_1=3000$ rpm and 20 °C gearbox temperature)	T_{012}	Nm	0.38	0.3	0.26	0.23	0.21	0.19		
		in.lb	3.4	2.7	2.3	2	1.9	1.7		
Max. backlash	j_t	arcmin	≤ 12							
Torsional rigidity ^{b)}	C_{t21}	Nm/arcmin	6.1	6.1	6.1	6.1	5.5	5.5		
		in.lb/arcmin	54	54	54	54	49	49		
Max. axial force ^{c)}	F_{2AMax}	N	1600							
		lb _f	360							
Max. lateral force ^{c)}	F_{2OMax}	N	1200							
		lb _f	270							
Max. tilting moment	M_{2KMMax}	Nm	54							
		in.lb	478							
Efficiency at full load	η	%	97							
Service life	L_h	h	> 20000							
Weight (incl. standard adapter plate)	m	kg	2.9							
		lb _m	6.4							
Operating noise (at reference ratio and reference speed – ratio-specific values available in cymex®)	L_{PA}	dB(A)	≤ 62							
Max. permitted housing temperature		°C	+90							
		°F	+194							
Ambient temperature		°C	-15 to +40							
		°F	+5 to +104							
Lubrication			Lubricated for life							
Direction of rotation			In- and output same direction							
Protection class			IP 64							
Elastomer coupling (recommended product type – validate sizing with cymex®)			ELC-0060BA020.000-X							
Bore diameter of coupling on the application side		mm	X = 012.000 - 032.000							
Mass moment of inertia (relates to the drive) Clamping hub diameter [mm]	E	19	J_1	kgcm ²	0.66	0.53	0.48	0.43	0.41	0.4
				10 ⁻³ in.lb.s ²	0.58	0.47	0.42	0.38	0.36	0.35
	G	24	J_1	kgcm ²	1.5	1.4	1.3	1.3	1.3	1.3
				10 ⁻³ in.lb.s ²	1.3	1.2	1.2	1.2	1.2	1.2

Please use our sizing software cymex® for a detailed sizing – www.wittenstein-cymex.com

^{a)} Valid for torque transmission only

^{b)} Valid for standard clamping hub diameter

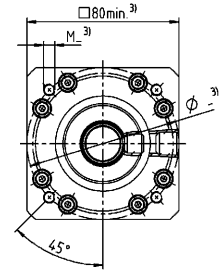
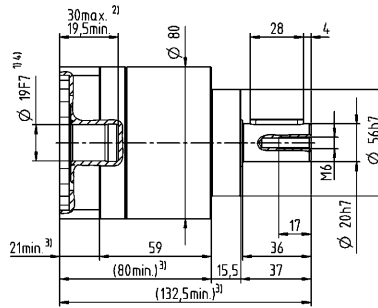
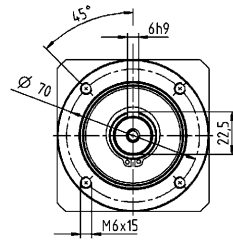
^{c)} Refers to center of the output shaft or flange

^{d)} Please reduce input speed at higher ambient temperatures

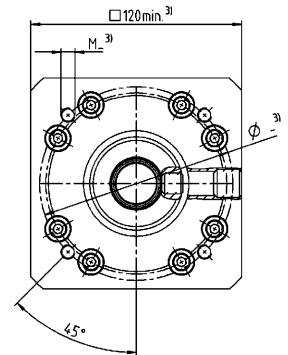
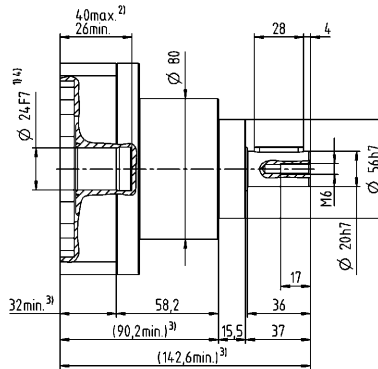
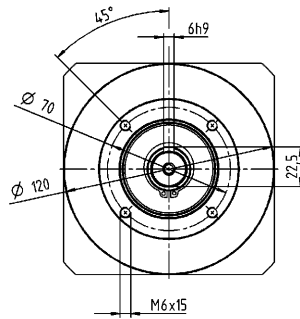
^{e)} Valid for: Smooth shaft

1-stage

up to 19⁴⁾ (E)⁵⁾
clamping hub
diameter



up to 24⁴⁾ (G)
clamping hub
diameter

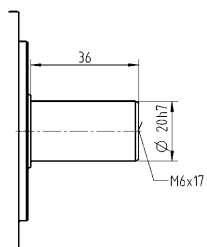


Motor shaft diameter [mm]

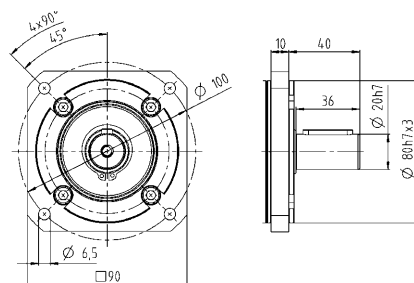
Planetary Gearboxes
Basic Line

Other output variants

Smooth shaft



Replaceable B5 output flange



Non-tolerated dimensions are nominal dimensions

¹⁾ Check motor shaft fit

²⁾ Min. / Max. permissible motor shaft length

Longer motor shafts are possible, please contact alpha

³⁾ The dimensions depend on the motor

⁴⁾ Smaller motor shaft diameter is compensated

by a bushing with a minimum thickness of 1 mm

⁵⁾ Standard clamping hub diameter

CPS 025 MF 2-stage

			2-stage																
Ratio	i		9	12	15	16	20	25	28	30	32	35	40	50	64	70	100		
Max. torque ^{a) b) e)}	T_{2a}	Nm	112	112	112	150	150	150	150	112	150	150	150	150	144	150	144		
		in.lb	991	991	991	1328	1328	1328	1328	991	1328	1328	1328	1328	1275	1328	1275		
Max. acceleration torque ^{b)} (max. 1000 cycles per hour)	T_{2B}	Nm	70	70	70	95	95	95	95	70	95	100	95	100	90	100	90		
		in.lb	620	620	620	841	841	841	841	620	841	885	841	885	797	885	797		
Emergency stop torque ^{a) b) e)} (permitted 1000 times during the service life of the gearbox)	T_{2Not}	Nm	187	187	187	187	187	187	187	187	187	187	187	187	187	187	187		
		in.lb	1655	1655	1655	1655	1655	1655	1655	1655	1655	1655	1655	1655	1655	1655	1655		
Permitted average input speed ^{d)} (at T_{2a} and 20 °C ambient temperature)	n_{1N}	rpm	3100	3100	3100	3100	3100	3100	3100	3100	3100	3100	3100	3100	3600	3600	3600		
Max. input speed	n_{1Max}	rpm	7000	7000	7000	7000	7000	7000	7000	7000	7000	7000	7000	7000	7000	7000	7000		
Mean no load running torque ^{b)} (at $n_1=3000$ rpm and 20 °C gearbox temperature)	T_{012}	Nm	0.5	0.43	0.39	0.38	0.34	0.32	0.3	0.31	0.28	0.28	0.26	0.24	0.23	0.22	0.21		
		in.lb	4.4	3.8	3.5	3.4	3	2.8	2.7	2.7	2.5	2.5	2.3	2.1	2	1.9	1.9		
Max. backlash	j_t	arcmin	≤ 15																
Torsional rigidity ^{b)}	C_{t21}	Nm/arcmin	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	5.5	6.1	5.5		
		in.lb/arcmin	54	54	54	54	54	54	54	54	54	54	54	54	49	54	49		
Max. axial force ^{c)}	F_{2AMax}	N	1600																
		lb _f	360																
Max. lateral force ^{c)}	F_{2OMax}	N	1200																
		lb _f	270																
Max. tilting moment	M_{2KMax}	Nm	54																
		in.lb	478																
Efficiency at full load	η	%	95																
Service life	L_h	h	> 20000																
Weight (incl. standard adapter plate)	m	kg	3.7																
		lb _m	8.2																
Operating noise (at reference ratio and reference speed – ratio-specific values available in cymex®)	L_{PA}	dB(A)	≤ 62																
Max. permitted housing temperature		°C	+90																
		°F	+194																
Ambient temperature		°C	-15 to +40																
		°F	+5 to +104																
Lubrication			Lubricated for life																
Direction of rotation			In- and output same direction																
Protection class			IP 64																
Elastomer coupling (recommended product type – validate sizing with cymex®) Bore diameter of coupling on the application side			ELC-0060BA020.000-X																
		mm	X = 012.000 - 032.000																
Mass moment of inertia (relates to the drive) Clamping hub diameter [mm]	E	19	J_1	kgcm ²	0.66	1.4	1.6	0.98	1.1	0.82	1.2	2.1	1.4	0.88	1.4	1	0.58	0.71	0.54
				10 ⁻³ in.lb.s ²	0.58	1.2	1.4	0.87	0.97	0.73	1.1	1.9	1.2	0.78	1.2	0.89	0.51	0.63	0.48
	G	24	J_1	kgcm ²	1.5	2.3	2.4	1.8	1.9	1.7	2	3	2.2	1.7	2.2	1.9	1.4	1.6	1.4
				10 ⁻³ in.lb.s ²	1.3	2	2.1	1.6	1.7	1.5	1.8	2.7	1.9	1.5	1.9	1.7	1.2	1.4	1.2

Please use our sizing software cymex® for a detailed sizing – www.wittenstein-cymex.com

^{a)} Valid for torque transmission only

^{b)} Valid for standard clamping hub diameter

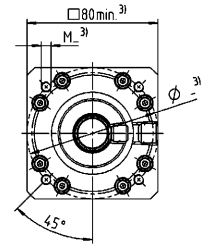
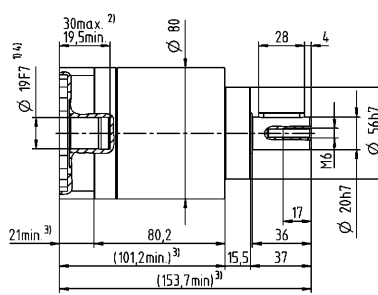
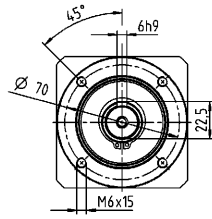
^{c)} Refers to center of the output shaft or flange

^{d)} Please reduce input speed at higher ambient temperatures

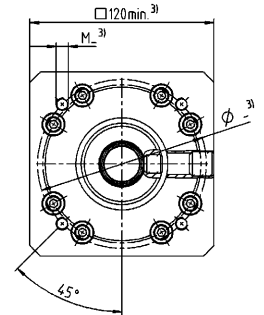
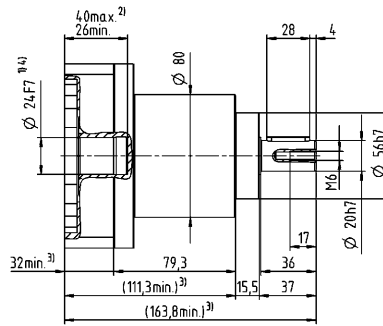
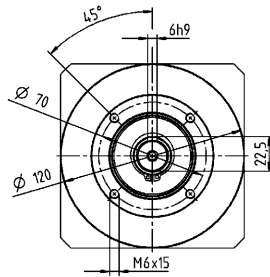
^{e)} Valid for: Smooth shaft

2-stage

up to 19⁴⁾ (E)⁵⁾
clamping hub diameter



up to 24⁴⁾ (G)
clamping hub diameter

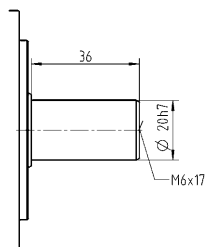


Motor shaft diameter [mm]

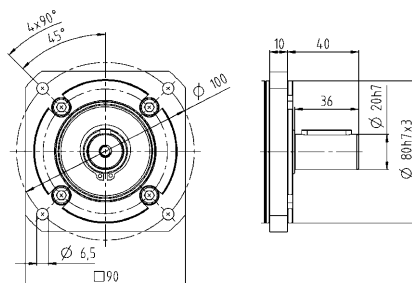
Planetary Gearboxes
Basic Line

Other output variants

Smooth shaft



Replaceable B5 output flange



Non-tolerated dimensions are nominal dimensions

¹⁾ Check motor shaft fit

²⁾ Min. / Max. permissible motor shaft length

Longer motor shafts are possible, please contact alpha

³⁾ The dimensions depend on the motor

⁴⁾ Smaller motor shaft diameter is compensated

by a bushing with a minimum thickness of 1 mm

⁵⁾ Standard clamping hub diameter

CPS 035 MF 1-stage

			1-stage							
Ratio	i		3	4	5	7	8	10		
Max. torque ^{a) b) e)}	T_{2a}	Nm	272	272	272	272	272	272		
		in.lb	2407	2407	2407	2407	2407	2407		
Max. acceleration torque ^{b)} (max. 1000 cycles per hour)	T_{2B}	Nm	175	255	250	250	220	220		
		in.lb	1549	2257	2213	2213	1947	1947		
Emergency stop torque ^{a) b) e)} (permitted 1000 times during the service life of the gearbox)	T_{2Not}	Nm	460	480	480	480	470	480		
		in.lb	4071	4248	4248	4248	4160	4248		
Permitted average input speed ^{d)} (at T_{2a} and 20 °C ambient temperature)	n_{1N}	rpm	2300	2300	2300	2800	2800	2800		
Max. input speed	n_{1Max}	rpm	5500	5500	5500	5500	5500	5500		
Mean no load running torque ^{b)} (at $n_1=3000$ rpm and 20 °C gearbox temperature)	T_{012}	Nm	0.95	0.76	0.66	0.57	0.52	0.48		
		in.lb	8.4	6.7	5.8	5	4.6	4.2		
Max. backlash	j_t	arcmin	≤ 12							
Torsional rigidity ^{b)}	C_{t21}	Nm/arcmin	16	16	16	16	14	14		
		in.lb/arcmin	142	142	142	142	124	124		
Max. axial force ^{c)}	F_{2AMax}	N	2500							
		lb _f	563							
Max. lateral force ^{c)}	F_{2OMax}	N	1750							
		lb _f	394							
Max. tilting moment	M_{2KMMax}	Nm	98							
		in.lb	867							
Efficiency at full load	η	%	97							
Service life	L_h	h	> 20000							
Weight (incl. standard adapter plate)	m	kg	7.5							
		lb _m	17							
Operating noise (at reference ratio and reference speed – ratio-specific values available in cymex®)	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							
Direction of rotation			In- and output same direction							
Protection class			IP 64							
Elastomer coupling (recommended product type – validate sizing with cymex®)			ELC-0150BA025.000-X							
Bore diameter of coupling on the application side		mm	X = 019.000 - 036.000							
Mass moment of inertia (relates to the drive) Clamping hub diameter [mm]	G	24	J_1	kgcm ²	2.6	1.9	1.7	1.5	1.4	1.4
				10 ⁻³ in.lb.s ²	2.3	1.7	1.5	1.3	1.2	1.2
	K	38	J_1	kgcm ²	7.8	7.1	6.9	6.7	6.6	6.5
				10 ⁻³ in.lb.s ²	6.9	6.3	6.1	5.9	5.8	5.8

Please use our sizing software cymex® for a detailed sizing – www.wittenstein-cymex.com

^{a)} Valid for torque transmission only

^{b)} Valid for standard clamping hub diameter

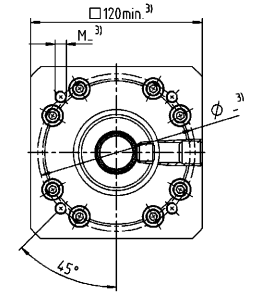
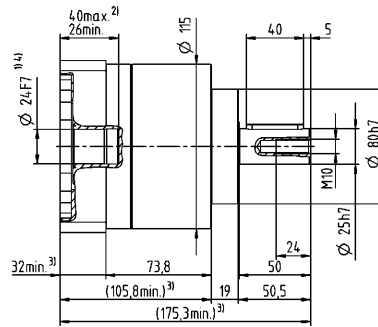
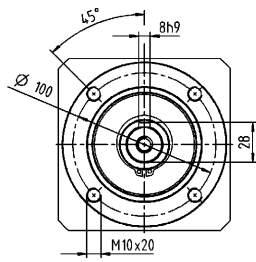
^{c)} Refers to center of the output shaft or flange

^{d)} Please reduce input speed at higher ambient temperatures

^{e)} Valid for: Smooth shaft

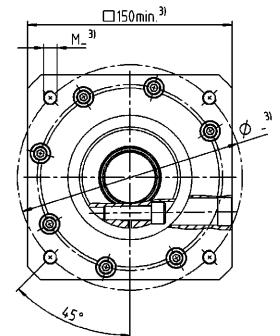
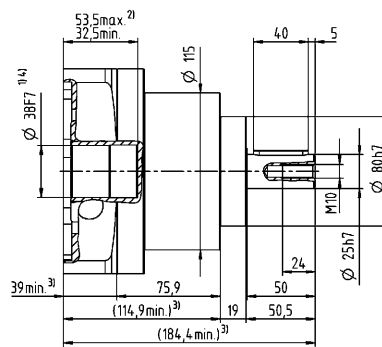
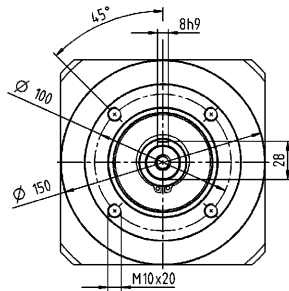
1-stage

up to 24⁴⁾ (G)⁵⁾
clamping hub
diameter



Motor shaft diameter [mm]

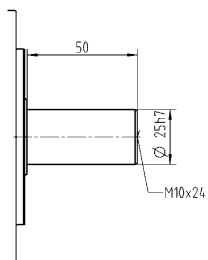
up to 38⁴⁾ (K)
clamping hub
diameter



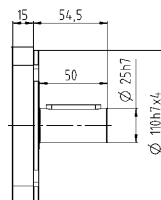
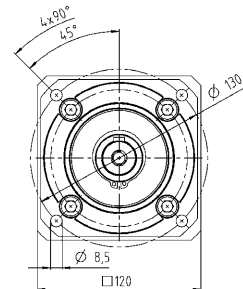
Planetary Gearboxes
Basic Line

Other output variants

Smooth shaft



Replaceable B5 output flange



Non-tolerated dimensions are nominal dimensions

¹⁾ Check motor shaft fit

²⁾ Min. / Max. permissible motor shaft length

Longer motor shafts are possible, please contact alpha

³⁾ The dimensions depend on the motor

⁴⁾ Smaller motor shaft diameter is compensated

by a bushing with a minimum thickness of 1 mm

⁵⁾ Standard clamping hub diameter

CPS 035 MF 2-stage

			2-stage																
Ratio	i		9	12	15	16	20	25	28	30	32	35	40	50	64	70	100		
Max. torque ^{a) b) e)}	T_{2a}	Nm	272	272	272	272	272	272	272	272	272	272	272	272	272	272	272		
		in.lb	2407	2407	2407	2407	2407	2407	2407	2407	2407	2407	2407	2407	2407	2407	2407	2407	
Max. acceleration torque ^{b)} (max. 1000 cycles per hour)	T_{2B}	Nm	175	175	175	255	255	250	255	175	255	250	255	250	220	250	220		
		in.lb	1549	1549	1549	2257	2257	2213	2257	1549	2257	2213	2257	2213	1947	2213	1947		
Emergency stop torque ^{a) b) e)} (permitted 1000 times during the service life of the gearbox)	T_{2Not}	Nm	480	480	480	480	480	480	480	315	480	480	480	480	470	480	480		
		in.lb	4248	4248	4248	4248	4248	4248	4248	2788	4248	4248	4248	4248	4160	4248	4248		
Permitted average input speed ^{d)} (at T_{2a} and 20 °C ambient temperature)	n_{1N}	rpm	2300	2300	2300	2300	2300	2300	2300	2300	2300	2300	2300	2300	2800	2800	2800		
Max. input speed	n_{1Max}	rpm	5500	5500	5500	5500	5500	5500	5500	5500	5500	5500	5500	5500	5500	5500	5500		
Mean no load running torque ^{b)} (at $n_1=3000$ rpm and 20 °C gearbox temperature)	T_{012}	Nm	1.3	1.1	0.98	0.95	0.85	0.8	0.76	0.79	0.71	0.7	0.66	0.61	0.59	0.56	0.52		
		in.lb	12	9.7	8.7	8.4	7.5	7.1	6.7	7	6.3	6.2	5.8	5.4	5.2	5	4.6		
Max. backlash	j_t	arcmin	≤ 15																
Torsional rigidity ^{b)}	C_{121}	Nm/arcmin	16	16	16	16	16	16	16	16	16	16	16	16	14	16	14		
		in.lb/arcmin	142	142	142	142	142	142	142	142	142	142	142	142	124	142	124		
Max. axial force ^{c)}	F_{2AMax}	N	2500																
		lb _f	563																
Max. lateral force ^{c)}	F_{2OMax}	N	1750																
		lb _f	394																
Max. tilting moment	M_{2KMax}	Nm	98																
		in.lb	867																
Efficiency at full load	η	%	95																
Service life	L_h	h	> 20000																
Weight (incl. standard adapter plate)	m	kg	9.6																
		lb _m	21																
Operating noise (at reference ratio and reference speed – ratio-specific values available in cymex®)	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																
Direction of rotation			In- and output same direction																
Protection class			IP 64																
Elastomer coupling (recommended product type – validate sizing with cymex®)			ELC-0150BA025.000-X																
Bore diameter of coupling on the application side		mm	X = 019.000 - 036.000																
Mass moment of inertia (relates to the drive) Clamping hub diameter [mm]	G	24	J_1	kgcm ²	2.7	2.5	2.5	2.3	2.3	2.1	2.4	3.1	2.4	2.2	2.6	2.2	1.8	1.9	1.7
				10 ⁻³ in.lb.s ²	2.4	2.2	2.2	2	2	1.9	2.1	2.7	2.1	1.9	2.3	1.9	1.6	1.7	1.5
	K	38	J_1	kgcm ²	7.9	7.7	7.8	7.5	7.5	7.3	7.5	8.3	7.6	7.4	7.8	7.4	7	7.1	6.9
				10 ⁻³ in.lb.s ²	7	6.8	6.9	6.6	6.6	6.5	6.6	7.3	6.7	6.5	6.9	6.5	6.2	6.3	6.1

Please use our sizing software cymex® for a detailed sizing – www.wittenstein-cymex.com

^{a)} Valid for torque transmission only

^{b)} Valid for standard clamping hub diameter

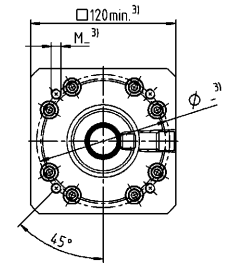
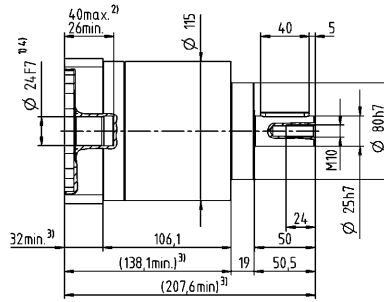
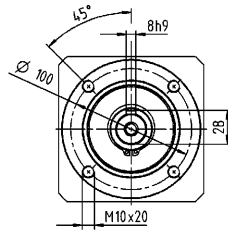
^{c)} Refers to center of the output shaft or flange

^{d)} Please reduce input speed at higher ambient temperatures

^{e)} Valid for: Smooth shaft

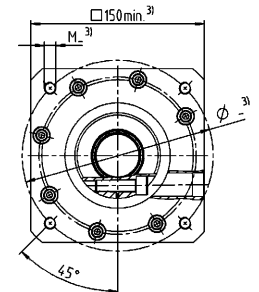
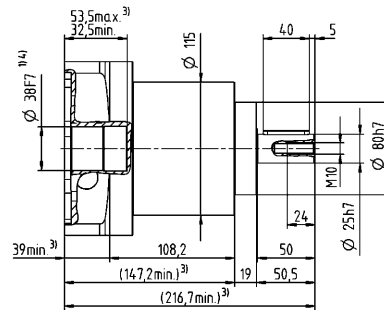
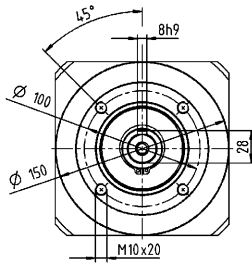
2-stage

up to 24⁴⁾ (G)⁵⁾
clamping hub
diameter



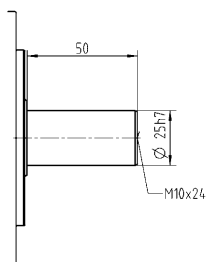
Motor shaft diameter [mm]

up to 38⁴⁾ (K)
clamping hub
diameter

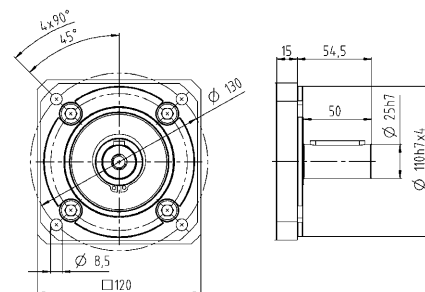


Other output variants

Smooth shaft



Replaceable B5 output flange



Non-tolerated dimensions are nominal dimensions

¹⁾ Check motor shaft fit

²⁾ Min. / Max. permissible motor shaft length

Longer motor shafts are possible, please contact alpha

³⁾ The dimensions depend on the motor

⁴⁾ Smaller motor shaft diameter is compensated

by a bushing with a minimum thickness of 1 mm

⁵⁾ Standard clamping hub diameter