

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

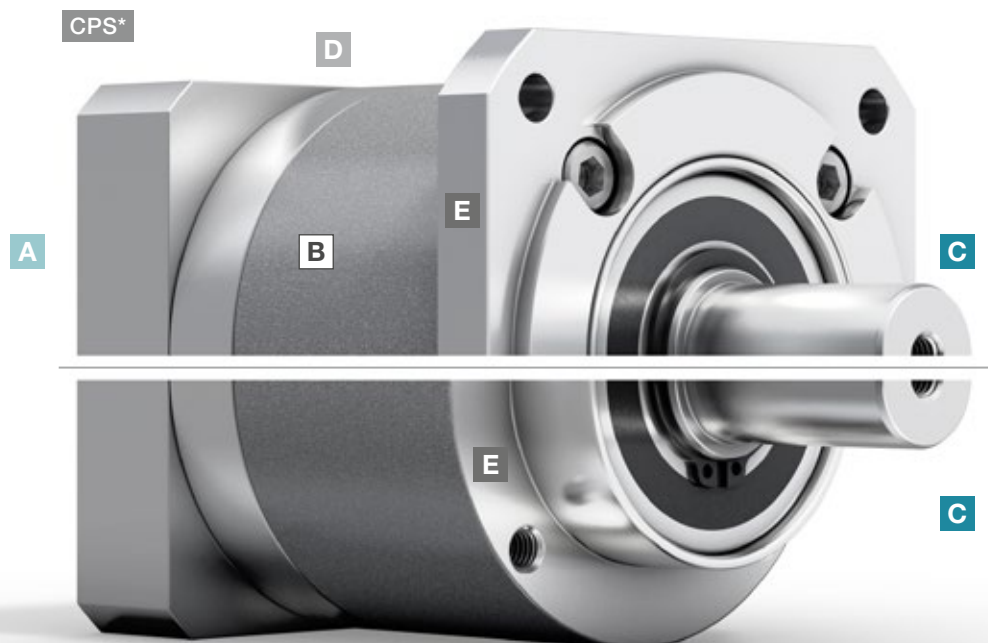
Efficient and innovative online sizing within seconds in cymex® select based on technical and economic suitability.



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

B

High ratio variation

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

C

Available output types

- Smooth shaft
- Shaft with key

D

Variety of sizes

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

E

Variable application connection

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



CPS – planetary gearbox with elastomer coupling



cymex® select
BEST SOLUTION WITHIN SECONDS

Efficient gearbox sizing within seconds – online without login
cymex-select.wittenstein-group.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_{21}	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) f)}		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_h	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

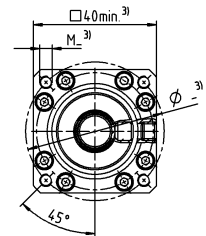
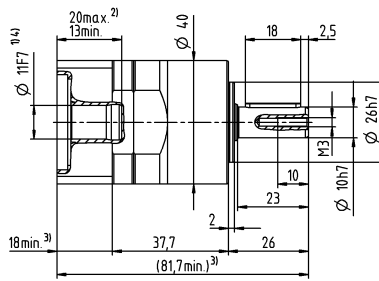
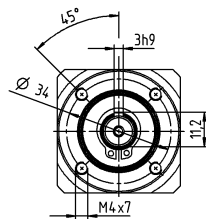
^{e)} Valid for: Smooth shaft

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

Motor shaft diameter [mm]

1-stage

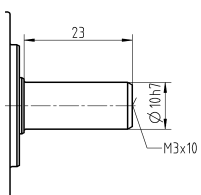
up to 11⁴⁾ (B)⁵⁾
clamping hub
diameter



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 wall thickness of 1 mm

⁵⁾ Standard clamping hub diameter

CP 005 MF 2-stage

			2-stage								
Ratio	i		16	20	25	28	35	40	50	70	100
Max. torque ^{a) b) e)}	T_{2a}	Nm	17	17	21	17	21	17	21	21	20
		in.lb	150	150	186	150	186	150	186	186	177
Max. acceleration torque ^{b)} (max. 1000 cycles per hour)	T_{2B}	Nm	11	11	14	11	14	11	14	14	13
		in.lb	97	97	124	97	124	97	124	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
		in.lb	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
Max. input speed	n_{1Max}	rpm	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	0.06	0.06
		in.lb	0.8	0.71	0.71	0.71	0.62	0.62	0.62	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
		in.lb/arcmin	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	4.6
Max. axial force ^{c)}	F_{2AMax}	N	240								
		lb _f	54								
Max. lateral force ^{c) f)}	F_{2QMMax}	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®) Bore diameter of coupling on the application side			ELC-0005BA010.000-X								
		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	0.03	0.03
			10 ⁻³ in.lb.s ²	0.04	0.04	0.04	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

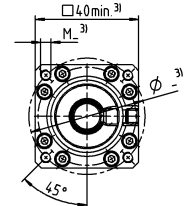
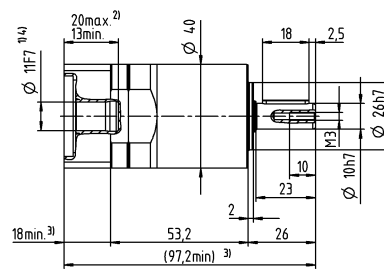
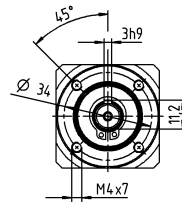
^{e)} Valid for: Smooth shaft

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

Motor shaft diameter [mm]

2-stage

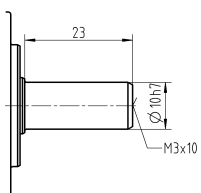
up to 11⁴⁾ (B)⁵⁾
clamping hub
diameter



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 wall 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 ^{e)} (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)}		F_{2QMax}		N	500					
				lb _f	113					
Max. tilting moment		M_{2KMax}		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

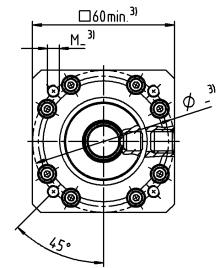
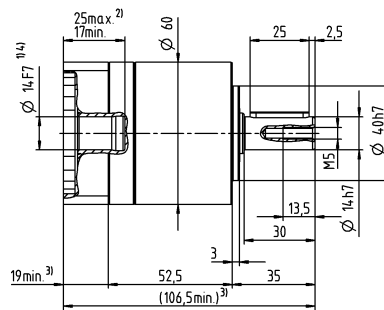
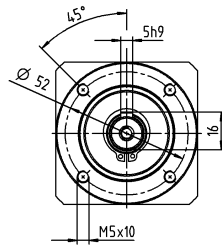
^{d)} Please reduce input speed at higher ambient temperatures

^{e)} Valid for: Smooth shaft

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

1-stage

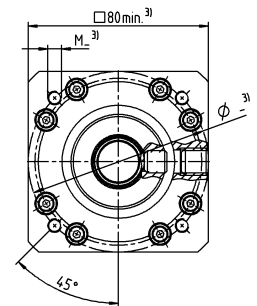
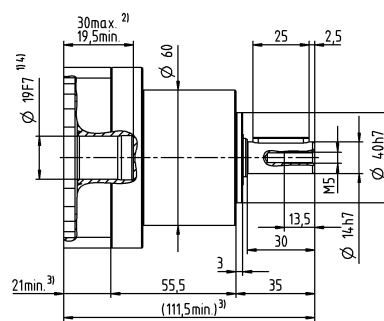
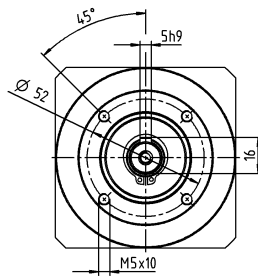
up to 14⁴⁾ (C)⁵⁾
clamping hub
diameter



Planetary Gearboxes
Basic Line

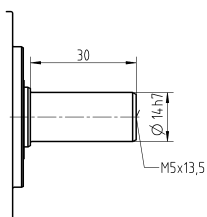
Motor shaft diameter [mm]

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 wall 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	35	40	50	70	100	
Max. torque ^{a) b) e)}		T_{2a}	Nm	48	48	48	56	56	58	56	48	58	56	58	58	56	
			$in.lb$	425	425	425	496	496	513	496	425	513	496	513	513	496	
Max. acceleration torque ^{e)} (max. 1000 cycles per hour)		T_{2B}	Nm	30	30	30	35	35	40	35	30	40	35	40	40	35	
			$in.lb$	266	266	266	310	310	354	310	266	354	310	354	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	
			$in.lb$	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	4000	4000	
Max. input speed		n_{1Max}	rpm	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	0.18	0.17	0.16	0.15	0.14	
			$in.lb$	2.9	2.5	2.3	2.2	1.9	1.9	1.8	1.9	1.6	1.5	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	
			$in.lb/arcmin$	19	19	19	19	19	19	19	19	19	19	19	19	19	17
Max. axial force ^{c)}		F_{2AMax}	N	750													
			lb_f	169													
Max. lateral force ^{c) f)}		F_{2QMax}	N	500													
			lb_f	113													
Max. tilting moment		M_{2KMax}	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®)				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	$kgcm^2$	0.22	0.22	0.21	0.2	0.19	0.18	0.17	0.19	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	0.15	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	0.38	0.38	0.37
				$10^{-3} in.lb.s^2$	0.38	0.37	0.37	0.35	0.35	0.35	0.35	0.36	0.35	0.35	0.34	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

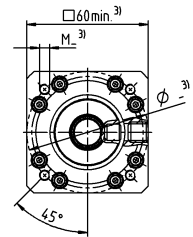
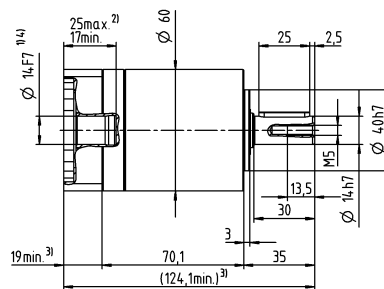
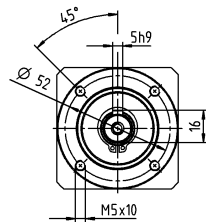
^{d)} Please reduce input speed at higher ambient temperatures

^{e)} Valid for: Smooth shaft

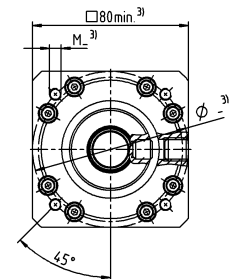
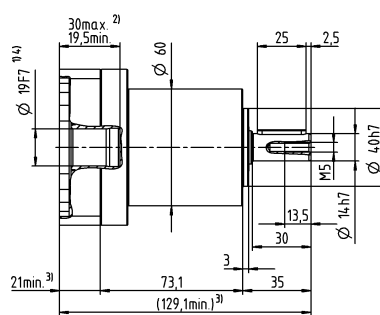
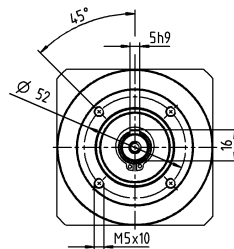
^{f)} At increased lateral forces – see glossary

2-stage

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



up to 19⁴⁾ (E)
clamping hub
diameter

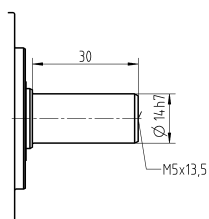


Motor shaft diameter [mm]

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 wall 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 ^{e)} (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_{2QMMax}	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

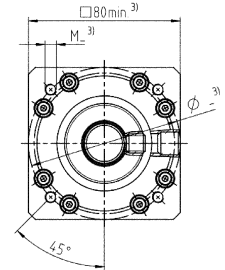
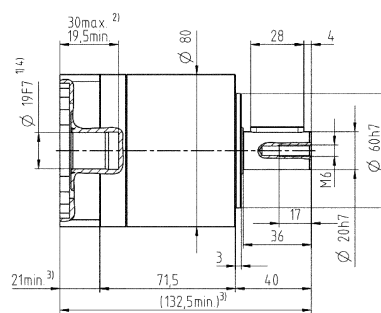
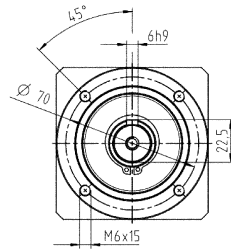
^{c)} Refers to center of the output shaft or flange

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

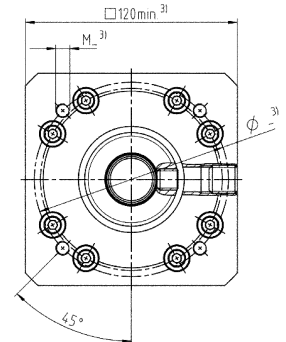
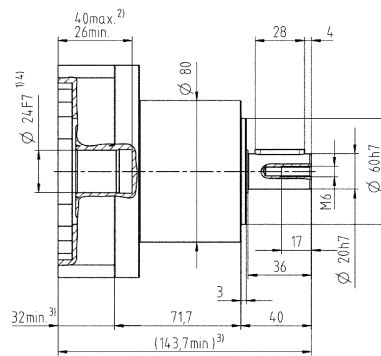
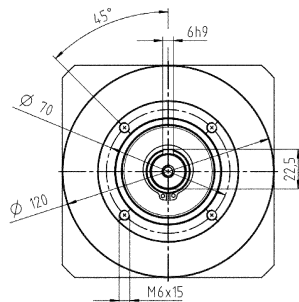
^{e)} Valid for: Smooth shaft

1-stage

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



up to 24⁴⁾ (G)
clamping hub
diameter

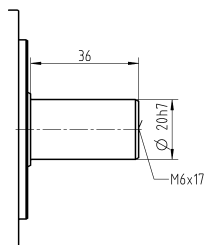


Motor shaft diameter [mm]

Planetary Gearboxes
Basic Line

Other output variants

Smooth shaft



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 wall 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	35	40	50	70	100	
Max. torque ^{a) b) e)}		T_{2a}	Nm	112	112	112	150	150	150	150	112	150	150	150	150	144	
			$in.lb$	991	991	991	1328	1328	1328	1328	991	1328	1328	1328	1328	1275	
Max. acceleration torque ^{e)} (max. 1000 cycles per hour)		T_{2B}	Nm	70	70	70	95	95	95	95	70	100	95	100	100	90	
			$in.lb$	620	620	620	841	841	841	841	620	885	841	885	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	
			$in.lb$	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	3600	3600	
Max. input speed		n_{1Max}	rpm	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	0.26	0.24	0.22	0.21	
			$in.lb$	4.4	3.8	3.5	3.4	3	2.8	2.7	2.7	2.5	2.3	2.1	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	
			$in.lb/arcmin$	54	54	54	54	54	54	54	54	54	54	54	54	49	
Max. axial force ^{c)}		F_{2AMax}	N	1600													
			lb_f	360													
Max. lateral force ^{c)}		F_{2QMax}	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®)				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	1.4	1.6	0.98	1.1	0.82	1.2	2.1	0.88	1.4	1	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	0.78	1.2	0.89	0.63	0.48
	G	24	J_1	$kgcm^2$	1.5	2.3	2.4	1.8	1.9	1.7	2	3	1.7	2.2	1.9	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	1.5	1.9	1.7	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

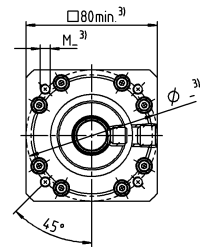
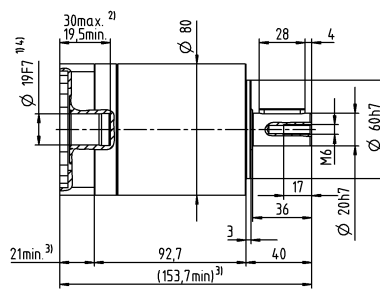
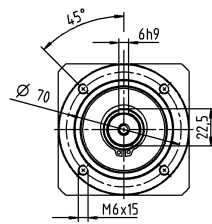
^{c)} Refers to center of the output shaft or flange

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

^{e)} Valid for: Smooth shaft

2-stage

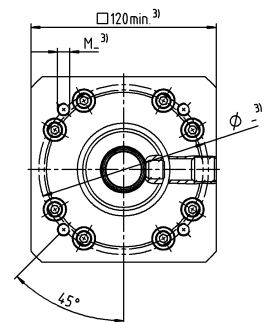
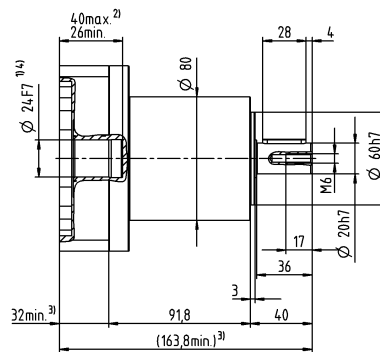
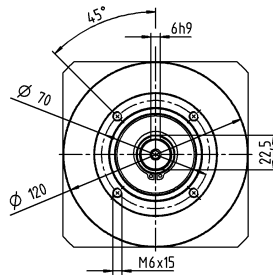
up to 19⁴⁾ (E)⁵⁾
clamping hub
diameter



Planetary Gearboxes
Basic Line

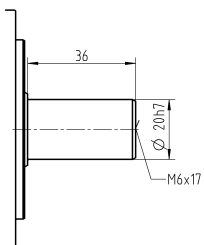
Motor shaft diameter [mm]

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 wall 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 ^{e)} (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_{2QMax}	N	1750						
			lb _f	394						
Max. tilting moment		M_{2KMax}	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

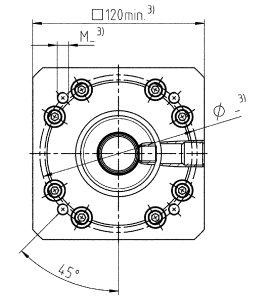
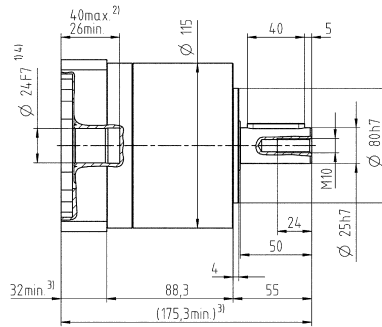
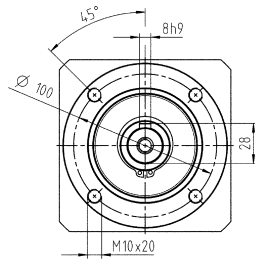
^{c)} Refers to center of the output shaft or flange

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

^{e)} Valid for: Smooth shaft

1-stage

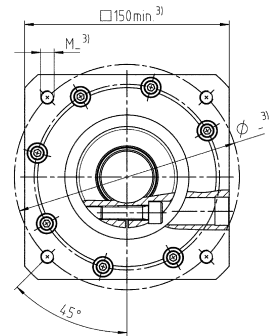
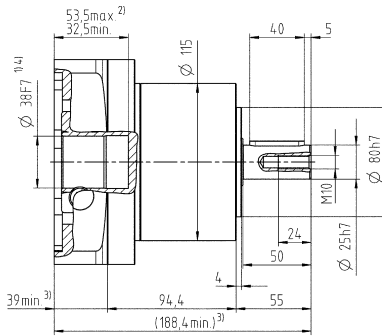
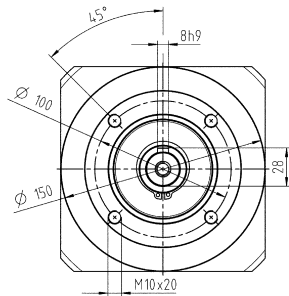
up to 24⁴⁾ (G)⁵⁾
clamping hub
diameter



Planetary Gearboxes
Basic Line

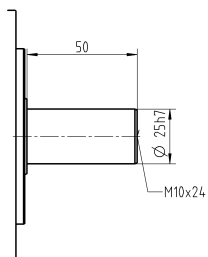
Motor shaft diameter [mm]

up to 38⁴⁾ (K)
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 wall 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	35	40	50	70	100	
Max. torque ^{a) b) e)}		T_{2a}	Nm	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
Max. acceleration torque ^{e)} (max. 1000 cycles per hour)		T_{2B}	Nm	175	175	175	255	255	250	255	175	250	255	250	250	220	
			$in.lb$	1549	1549	1549	2257	2257	2213	2257	1549	2213	2257	2213	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	480	
			$in.lb$	4248	4248	4248	4248	4248	4248	4248	2788	4248	4248	4248	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	2800	2800	
Max. input speed		n_{1Max}	rpm	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	0.7	0.66	0.61	0.56	0.52	
			$in.lb$	12	9.7	8.7	8.4	7.5	7.1	6.7	7	6.2	5.8	5.4	5	4.6	
Max. backlash		j_t	$arcmin$	≤ 15													
Torsional rigidity ^{b)}		C_{t21}	$Nm/arcmin$	16	16	16	16	16	16	16	16	16	16	16	16	14	
			$in.lb/arcmin$	142	142	142	142	142	142	142	142	142	142	142	142	124	
Max. axial force ^{c)}		F_{2AMax}	N	2500													
			lb_f	563													
Max. lateral force ^{c)}		F_{2QMMax}	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	2.2	2.6	2.2	1.9	1.7
				$10^{-3} in.lb.s^2$	2.4	2.2	2.2	2	2	1.9	2.1	2.7	1.9	2.3	1.9	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	7.4	7.8	7.4	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	6.5	6.9	6.5	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

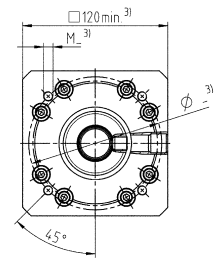
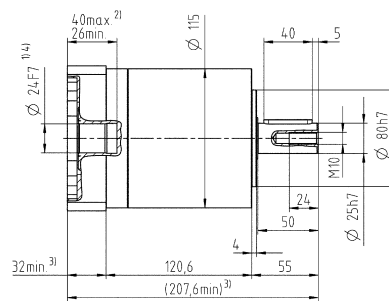
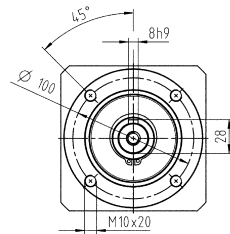
^{c)} Refers to center of the output shaft or flange

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

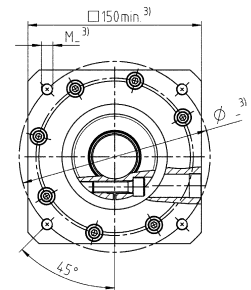
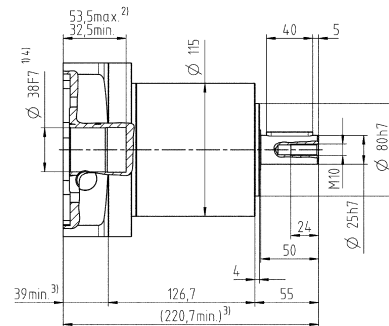
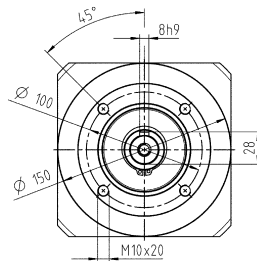
^{e)} Valid for: Smooth shaft

2-stage

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



up to 38⁴⁾ (K)
clamping hub
diameter

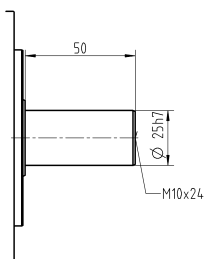


Motor shaft diameter [mm]

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 wall 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	50	100		
Max. torque ^{a) b) e)}	T_{2a}	Nm	800	640	640	700	700	640		
		in.lb	7081	5665	5665	6196	6196	5665		
Max. acceleration torque ^{d)} (max. 1000 cycles per hour)	T_{2B}	Nm	500	400	400	500	500	400		
		in.lb	4425	3540	3540	4425	4425	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		
		in.lb	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	3000	3000		
Max. input speed	n_{1Max}	rpm	4000	4000	4000	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	0.6	0.55		
		in.lb	21	18	17	7.1	5.3	4.9		
Max. backlash	j_t	arcmin	≤ 12			≤ 15				
Torsional rigidity ^{b)}	C_{t21}	Nm/arcmin	55	44	44	55	55	44		
		in.lb/arcmin	487	389	389	487	487	389		
Max. axial force ^{c)}	F_{2AMax}	N	6000			6000				
		lb _f								
Max. lateral force ^{c)}	F_{2QMMax}	N	8000			8000				
		lb _f								
Max. tilting moment	M_{2KMMax}	Nm	704			704				
		in.lb	6231			6231				
Efficiency at full load	η	%	97			95				
Service life	L_h	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				
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	0.82
				10 ⁻³ in.lb.s ²	–	–	–	1,1	0,97	0,73
	G	24	J_1	kgcm ²	–	–	–	2	1,8	1,6
				10 ⁻³ in.lb.s ²	–	–	–	1,8	1,6	1,4
	H	28	J_1	kgcm ²	–	–	–	1,7	1,5	1,3
				10 ⁻³ in.lb.s ²	–	–	–	1,5	1,3	1,2
	I	32	J_1	kgcm ²	–	–	–	5,8	5,6	5,4
				10 ⁻³ in.lb.s ²	–	–	–	5,1	5	4,8
	K	38	J_1	kgcm ²	8.8	7.4	7.2	7	6,8	6,5
				10 ⁻³ in.lb.s ²	7.8	6.5	6.4	6,2	6	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

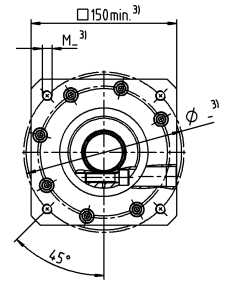
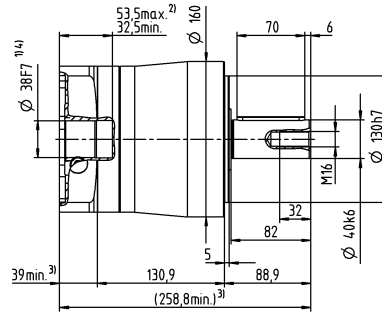
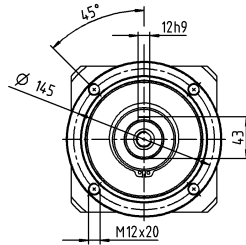
^{c)} Refers to center of the output shaft or flange

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

^{e)} Valid for: Smooth shaft

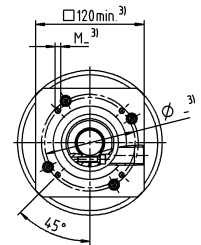
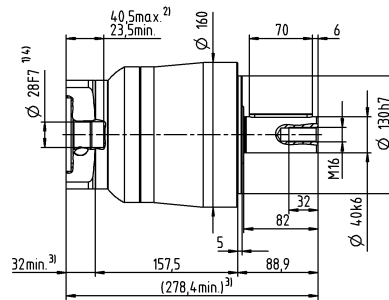
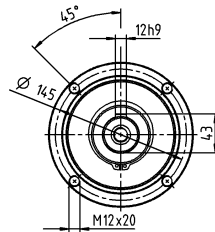
1-stage

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

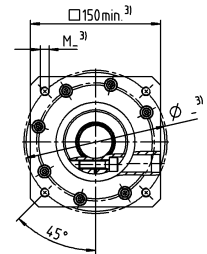
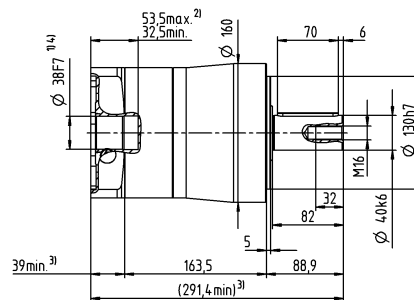
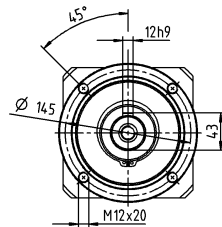


2-stage

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



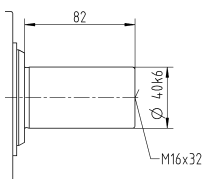
up to 32/38⁴⁾
(I/K)
clamping hub
diameter



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 wall 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 ^{e)} (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_{2QMax}		N	500					
				lb _f	113					
Max. tilting moment		M_{2KMax}		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

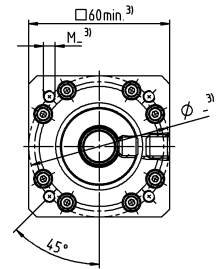
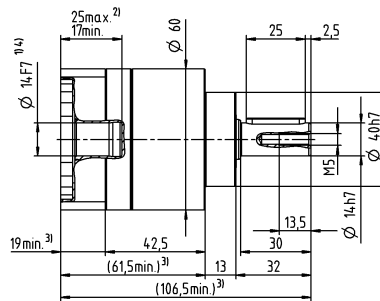
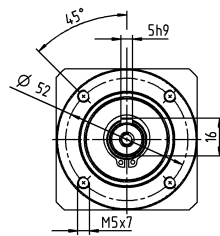
^{c)} Refers to center of the output shaft or flange

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

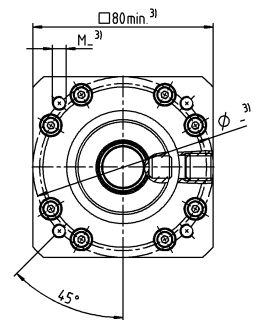
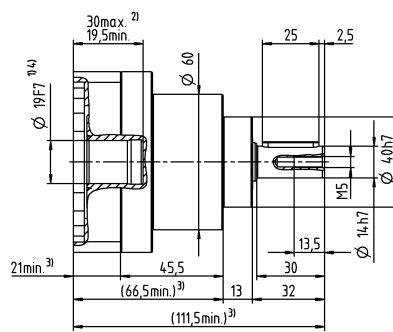
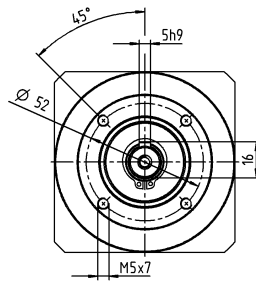
^{e)} Valid for: Smooth shaft

1-stage

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



up to 19⁴⁾ (E)
clamping hub
diameter

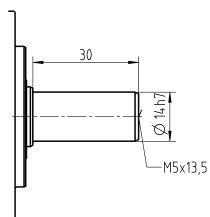


Motor shaft diameter [mm]

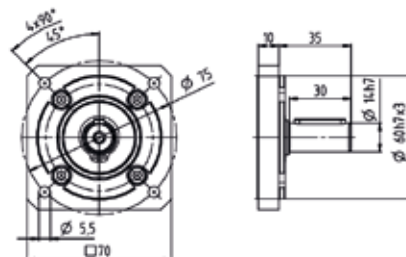
Planetary Gearboxes
Basic Line

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 wall 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	35	40	50	70	100	
Max. torque ^{a) b) e)}		T_{2a}	Nm	48	48	48	56	56	58	56	48	58	56	58	58	56	
			$in.lb$	425	425	425	496	496	513	496	425	513	496	513	513	496	
Max. acceleration torque ^{e)} (max. 1000 cycles per hour)		T_{2B}	Nm	30	30	30	35	35	40	35	30	40	35	40	40	35	
			$in.lb$	266	266	266	310	310	354	310	266	354	310	354	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	
			$in.lb$	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	4000	4000	
Max. input speed		n_{1Max}	rpm	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	0.18	0.17	0.16	0.15	0.14	
			$in.lb$	2.9	2.5	2.3	2.2	1.9	1.9	1.8	1.9	1.6	1.5	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	
			$in.lb/arcmin$	19	19	19	19	19	19	19	19	19	19	19	19	19	17
Max. axial force ^{c)}		F_{2AMax}	N	750													
			lb_f	169													
Max. lateral force ^{c)}		F_{2QMax}	N	500													
			lb_f	113													
Max. tilting moment		M_{2KMax}	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®)				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	$kgcm^2$	0.22	0.22	0.21	0.2	0.19	0.18	0.17	0.19	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	0.15	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	0.38	0.38	0.37
				$10^{-3} in.lb.s^2$	0.38	0.37	0.37	0.35	0.35	0.35	0.35	0.36	0.35	0.35	0.34	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

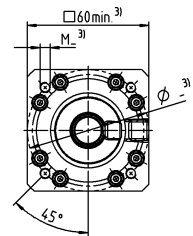
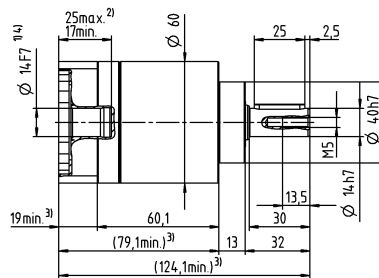
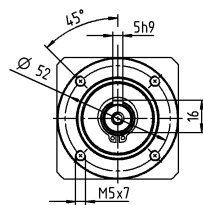
^{c)} Refers to center of the output shaft or flange

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

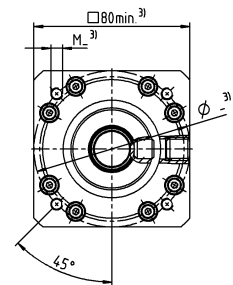
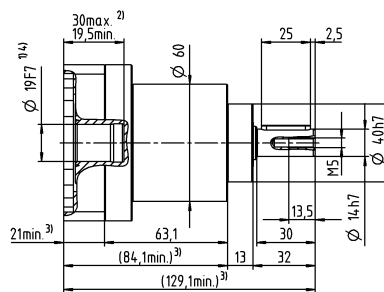
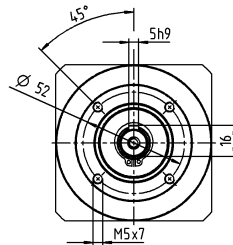
^{e)} Valid for: Smooth shaft

2-stage

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



up to 19⁴⁾ (E)
clamping hub
diameter

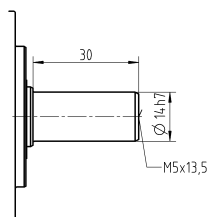


Motor shaft diameter [mm]

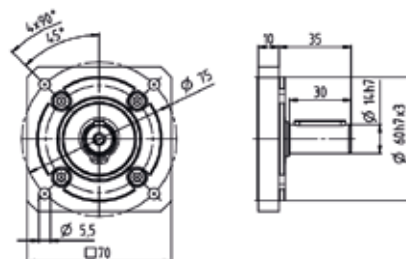
Planetary Gearboxes
Basic Line

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 wall 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 ^{e)} (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_{2QMMax}	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

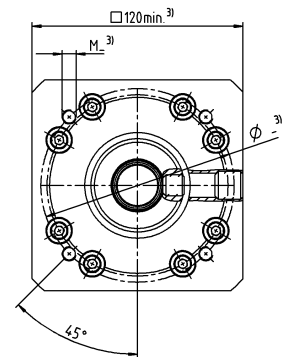
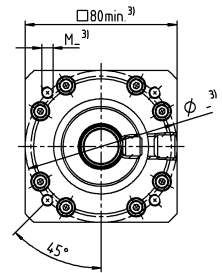
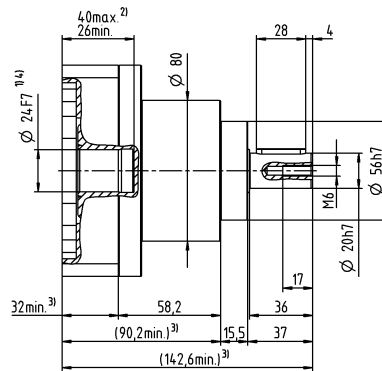
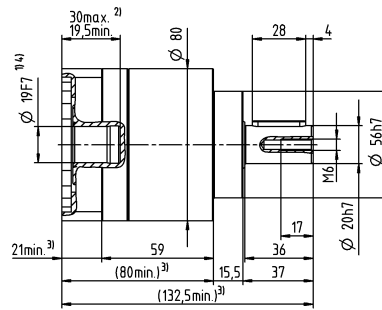
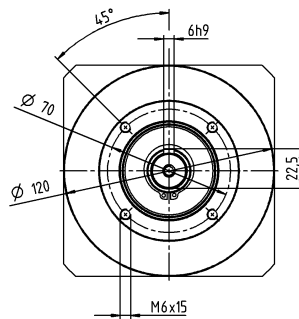
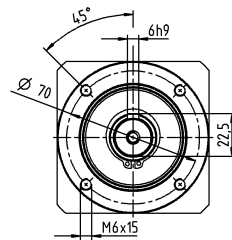
^{c)} Refers to center of the output shaft or flange

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

^{e)} Valid for: Smooth shaft

1-stage

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



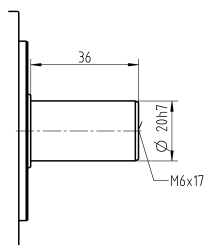
Planetary Gearboxes
Basic Line

Motor shaft diameter [mm]

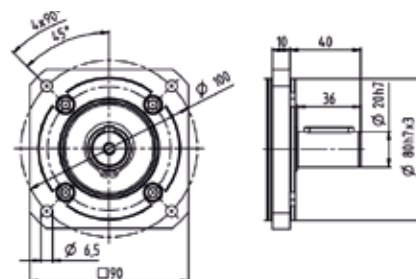
up to 24⁴⁾ (G)
clamping hub
diameter

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 wall 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	35	40	50	70	100	
Max. torque ^{a) b) e)}		T_{2a}	Nm	112	112	112	150	150	150	150	112	150	150	150	150	144	
			$in.lb$	991	991	991	1328	1328	1328	1328	991	1328	1328	1328	1328	1275	
Max. acceleration torque ^{e)} (max. 1000 cycles per hour)		T_{2B}	Nm	70	70	70	95	95	95	95	70	100	95	100	100	90	
			$in.lb$	620	620	620	841	841	841	841	620	885	841	885	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	
			$in.lb$	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	3600	3600	
Max. input speed		n_{1Max}	rpm	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	0.26	0.24	0.22	0.21	
			$in.lb$	4.4	3.8	3.5	3.4	3	2.8	2.7	2.7	2.5	2.3	2.1	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	
			$in.lb/arcmin$	54	54	54	54	54	54	54	54	54	54	54	54	49	
Max. axial force ^{c)}		F_{2AMax}	N	1600													
			lb_f	360													
Max. lateral force ^{c)}		F_{2QMax}	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®)				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	1.4	1.6	0.98	1.1	0.82	1.2	2.1	0.88	1.4	1	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	0.78	1.2	0.89	0.63	0.48
	G	24	J_1	$kgcm^2$	1.5	2.3	2.4	1.8	1.9	1.7	2	3	1.7	2.2	1.9	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	1.5	1.9	1.7	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

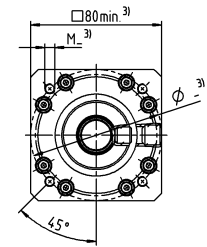
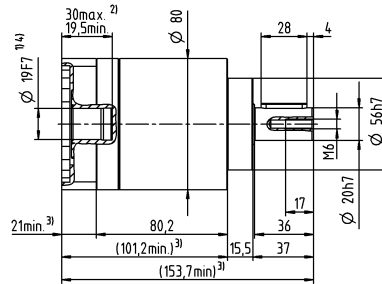
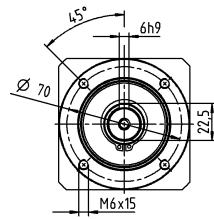
^{c)} Refers to center of the output shaft or flange

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

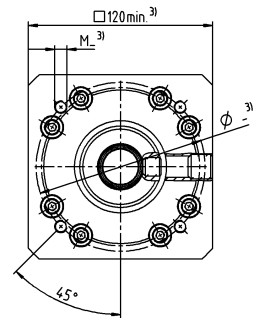
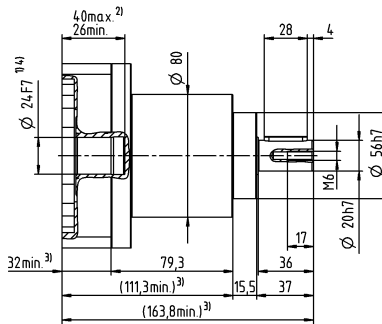
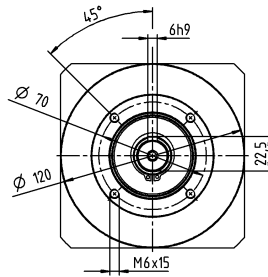
^{e)} Valid for: Smooth shaft

2-stage

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



up to 24⁴⁾ (G)
clamping hub
diameter

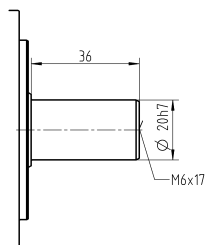


Motor shaft diameter [mm]

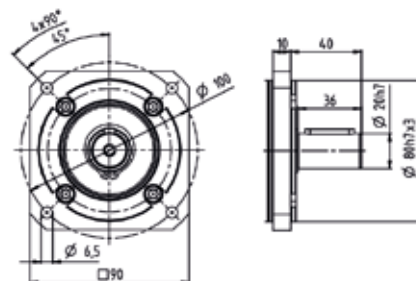
Planetary Gearboxes
Basic Line

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 wall 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 ^{e)} (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_{2QMax}	N	1750						
			lb _f	394						
Max. tilting moment		M_{2KMax}	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

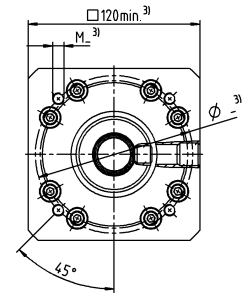
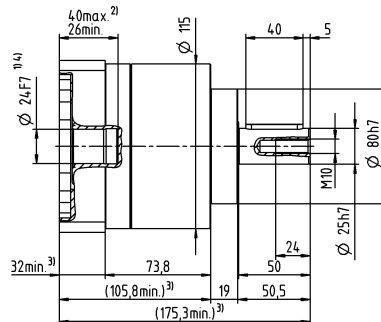
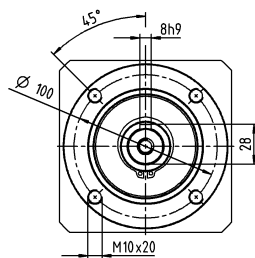
^{c)} Refers to center of the output shaft or flange

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

^{e)} Valid for: Smooth shaft

1-stage

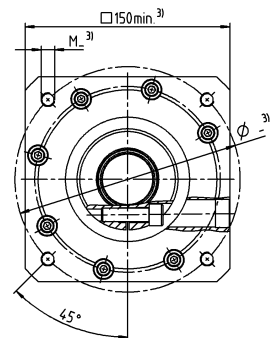
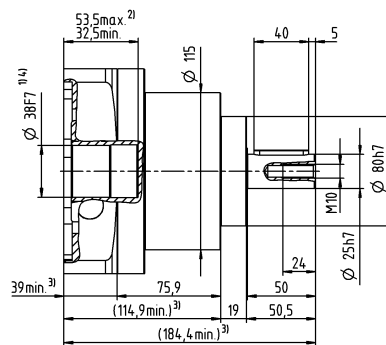
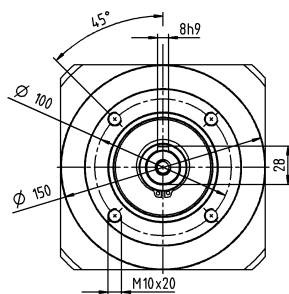
up to 24⁴⁾ (G)⁵⁾
clamping hub
diameter



Planetary Gearboxes
Basic Line

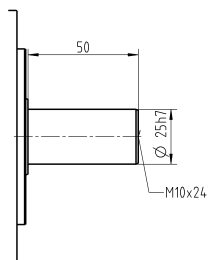
Motor shaft diameter [mm]

up to 38⁴⁾ (K)
clamping hub
diameter

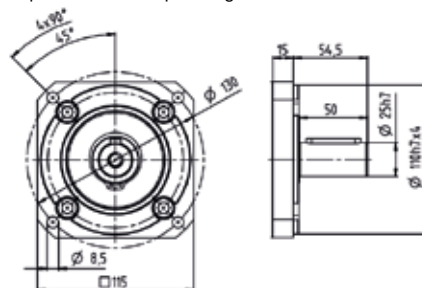


Other output variants

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 wall 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	35	40	50	70	100	
Max. torque ^{a) b) e)}		T_{2a}	Nm	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
Max. acceleration torque ^{e)} (max. 1000 cycles per hour)		T_{2B}	Nm	175	175	175	255	255	250	255	175	250	255	250	250	220	
			in.lb	1549	1549	1549	2257	2257	2213	2257	1549	2213	2257	2213	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	480	
			in.lb	4248	4248	4248	4248	4248	4248	4248	2788	4248	4248	4248	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	2800	2800	
Max. input speed		n_{1Max}	rpm	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	0.7	0.66	0.61	0.56	0.52	
			in.lb	12	9.7	8.7	8.4	7.5	7.1	6.7	7	6.2	5.8	5.4	5	4.6	
Max. backlash		j_t	arcmin	≤ 15													
Torsional rigidity ^{b)}		C_{t21}	Nm/arcmin	16	16	16	16	16	16	16	16	16	16	16	16	14	
			in.lb/arcmin	142	142	142	142	142	142	142	142	142	142	142	142	124	
Max. axial force ^{c)}		F_{2AMax}	N	2500													
			lb _f	563													
Max. lateral force ^{c)}		F_{2QMMax}	N	1750													
			lb _f	394													
Max. tilting moment		M_{2KMMax}	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	2.2	2.6	2.2	1.9	1.7
				10 ⁻³ in.lb.s ²	2.4	2.2	2.2	2	2	1.9	2.1	2.7	1.9	2.3	1.9	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	7.4	7.8	7.4	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	6.5	6.9	6.5	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

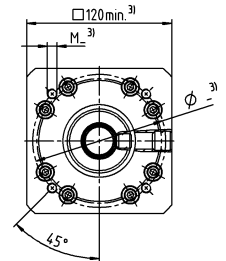
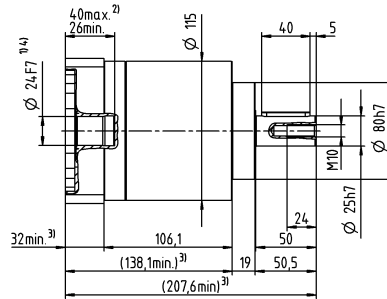
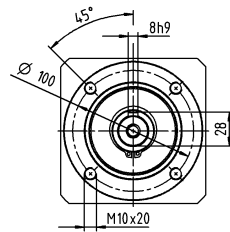
^{c)} Refers to center of the output shaft or flange

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

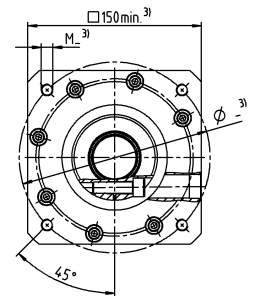
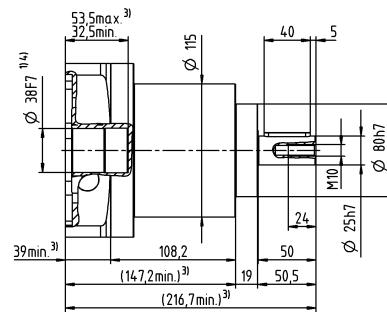
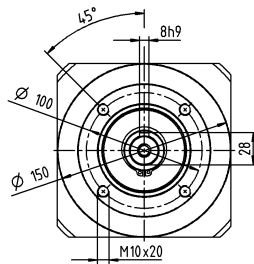
^{e)} Valid for: Smooth shaft

2-stage

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



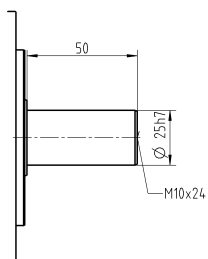
up to 38⁴⁾ (K)
clamping hub
diameter



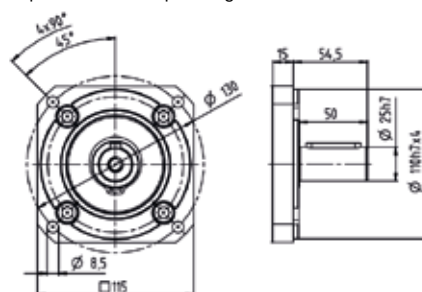
Motor shaft diameter [mm]

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 wall thickness of 1 mm

⁵⁾ Standard clamping hub diameter