

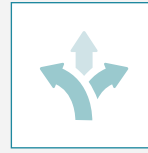
CPK / CPSK – Geared up to Fit

CPK



Economically around the corner. The right-angle gearboxes of the alpha Basic Line are specially designed for applications with medium requirements for positioning accuracy. The extremely compact bevel gear stage enables use in applications with space constraints.

PRODUCT HIGHLIGHTS



High flexibility

Various output variants offer design freedom tailored to individual requirements.



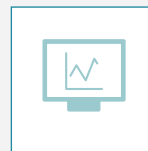
Maximum economy

The alpha Basic Line is extremely economical to purchase and highly efficient in operation.



High power density

The gearboxes offer high power density in the smallest installation space.

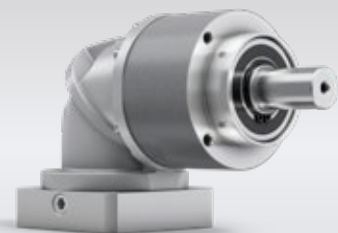


Quick sizing

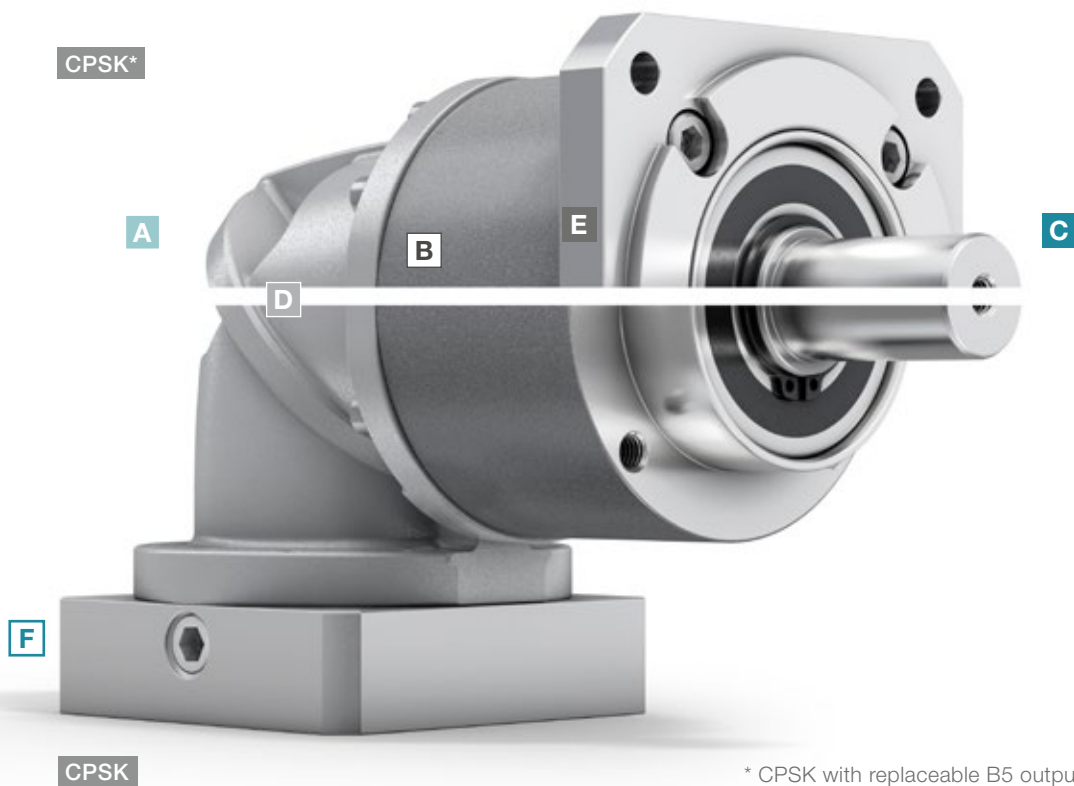
Efficient and innovative online sizing within seconds in cymex® select based on technical and economic suitability.



CPSK – bevel gearbox with replaceable B5 output flange



CPSK – bevel gearbox with long centering



* CPSK with replaceable B5 output flange

- A Variety of sizes**
- CPK available in five different sizes (005 – 045)
 - CPSK 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

- C Available output types**
- Smooth shaft
 - Shaft with key

- D Compactness**
- The extremely compact design of the angle section enables use in very confined installation spaces

- E Variable application connection**
- Shortened installation space and maximum compactness thanks to a long centering
 - Flange attachment for B5 mounting

- F Flexible motor connection**
- As with the planetary gearboxes of the alpha Basic Line, mounting of all common servo motors takes place by means of a flexible and screw-fastened adapter plate
 - Large number of motor shaft diameters connectable



CPK – bevel gearbox with elastomer coupling



cymex® select
BEST SOLUTION WITHIN SECONDS

Efficient gearbox sizing within seconds – online and without login
cymex-select.wittenstein-group.com

CPK 005 MF 2-stage

			2-stage					
Ratio	i		4	5	7	8	10	
Max. torque ^{a) b) e)}	T_{2a}	Nm	14	17	21	20	20	
		in.lb	124	150	186	177	177	
Max. acceleration torque ^{e)} (max. 1000 cycles per hour)	T_{2B}	Nm	6.8	8.5	12	13	13	
		in.lb	60	75	106	115	115	
Emergency stop torque ^{a) b) e)} (permitted 1000 times during the service life of the gearbox)	T_{2Not}	Nm	17	21	26	26	26	
		in.lb	150	186	230	230	230	
Permitted average input speed ^{d)} (at T_{2a} and 20 °C ambient temperature)	n_{1N}	rpm	3800	3800	3800	3800	3800	
Max. input speed	n_{1Max}	rpm	5000	5000	5000	5000	5000	
Mean no load running torque ^{b)} (at $n_1=3000$ rpm and 20 °C gearbox temperature)	T_{012}	Nm	0.25	0.25	0.25	0.25	0.25	
		in.lb	2.2	2.2	2.2	2.2	2.2	
Max. backlash	j_t	arcmin	≤ 17					
Torsional rigidity ^{b)}	C_{t21}	Nm/arcmin	0.5	0.5	0.5	0.5	0.5	
		in.lb/arcmin	4.4	4.4	4.4	4.4	4.4	
Max. axial force ^{c)}	F_{2AMax}	N	240					
		lb _f	54					
Max. lateral force ^{c) 1)}	F_{2OMax}	N	170					
		lb _f	38					
Max. tilting moment	M_{2KMMax}	Nm	4					
		in.lb	35					
Efficiency at full load	η	%	95					
Service life	L_h	h	> 20000					
Weight (incl. standard adapter plate)	m	kg	0.86					
		lb _m	1.9					
Operating noise (at reference ratio and reference speed – ratio-specific values available in cymex®)	L_{PA}	dB(A)	≤ 68					
Max. permitted housing temperature		°C	+90					
		°F	+194					
Ambient temperature		°C	0 to +40					
		°F	+32 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	0.13	0.13	0.13	0.13	0.13
			10 ⁻³ in.lb.s ²	0.12	0.12	0.12	0.12	0.12

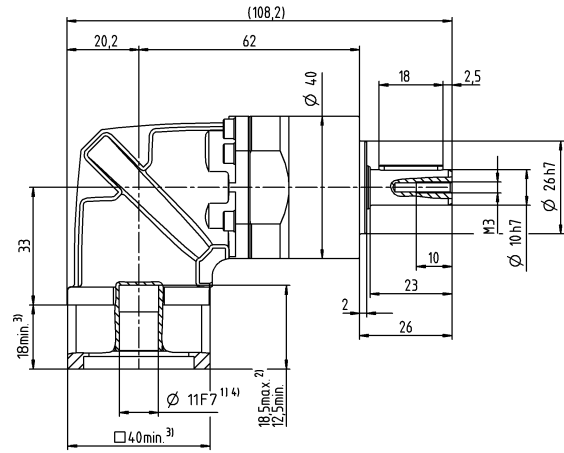
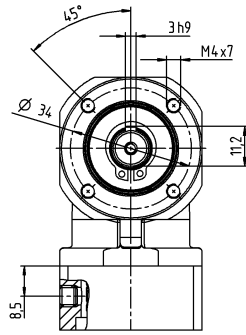
Please use our sizing software cymex® for a detailed sizing – www.wittenstein-cymex.com
Please consider the maximum permissible tilting moment caused by the motor M_{1KMot} – see sizing

- ^{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]

2-stage

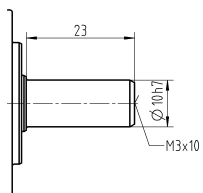
up to 11⁴⁾ (B)⁵⁾
clamping hub
diameter



Bevel 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

CPK 005 MF 3-stage

			3-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 ^{e)} (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	3800	3800	3800	3800	3800	
Max. input speed	n_{1Max}	rpm	5000	5000	5000	5000	5000	5000	5000	5000	5000	
Mean no load running torque ^{b)} (at $n_1=3000$ rpm and 20 °C gearbox temperature)	T_{012}	Nm	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	
		in.lb	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	
Max. backlash	j_t	arcmin	≤ 20									
Torsional rigidity ^{b)}	C_{t21}	Nm/arcmin	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57	
		in.lb/arcmin	5	5	5	5	5	5	5	5	5	
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	%	94									
Service life	L_n	h	> 20000									
Weight (incl. standard adapter plate)	m	kg	0.92									
		lb _m	2.0									
Operating noise (at reference ratio and reference speed – ratio-specific values available in cymex®)	L_{PA}	dB(A)	≤ 68									
Max. permitted housing temperature		°C	+90									
		°F	+194									
Ambient temperature		°C	0 to +40									
		°F	+32 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	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13
				10 ⁻³ in.lb.s ²	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12

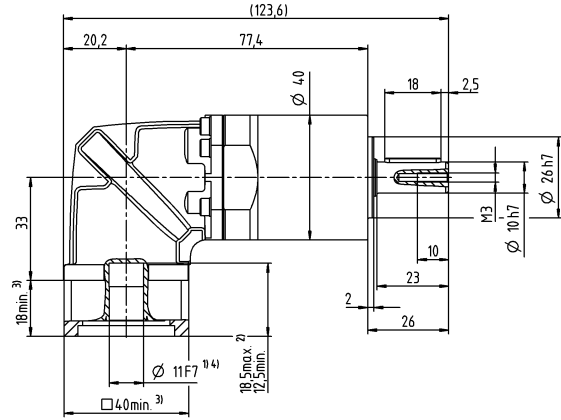
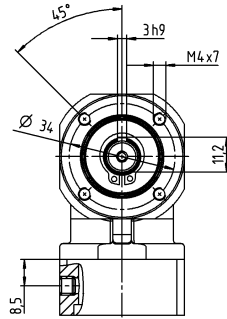
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- ^{d)} Please reduce input speed at higher ambient temperatures
- ^{e)} Valid for: Smooth shaft
- ¹⁾ At increased lateral forces – see glossary

Motor shaft diameter [mm]

3-stage

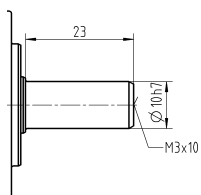
up to 11⁴⁾ (B)⁵⁾
clamping hub diameter



Bevel 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

CPK 015 MF 2-stage

			2-stage							
Ratio	i		3	4	5	7	8	10		
Max. torque ^{a) b) e)}	T_{2a}	Nm	33	44	55	58	56	56		
		in.lb	292	389	487	513	496	496		
Max. acceleration torque ^{b)} (max. 1000 cycles per hour)	T_{2B}	Nm	16	21	27	37	35	35		
		in.lb	142	186	239	327	310	310		
Emergency stop torque ^{a) b) e)} (permitted 1000 times during the service life of the gearbox)	T_{2Not}	Nm	41	55	69	75	75	75		
		in.lb	363	487	611	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		
Max. input speed	n_{1Max}	rpm	5000	5000	5000	5000	5000	5000		
Mean no load running torque ^{b)} (at $n_1=3000$ rpm and 20 °C gearbox temperature)	T_{012}	Nm	0.55	0.55	0.55	0.55	0.55	0.55		
		in.lb	4.9	4.9	4.9	4.9	4.9	4.9		
Max. backlash	j_t	arcmin	≤ 17							
Torsional rigidity ^{b)}	C_{t21}	Nm/arcmin	1.7	1.7	1.7	1.7	1.7	1.7		
		in.lb/arcmin	15	15	15	15	15	15		
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	%	95							
Service life	L_h	h	> 20000							
Weight (incl. standard adapter plate)	m	kg	1.6							
		lb _m	3.5							
Operating noise (at reference ratio and reference speed – ratio-specific values available in cymex®)	L_{PA}	dB(A)	≤ 70							
Max. permitted housing temperature		°C	+90							
		°F	+194							
Ambient temperature		°C	0 to +40							
		°F	+32 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	0.3	0.3	0.3	0.3	0.3	0.3
				10 ⁻³ in.lb.s ²	0.27	0.27	0.27	0.27	0.27	0.27

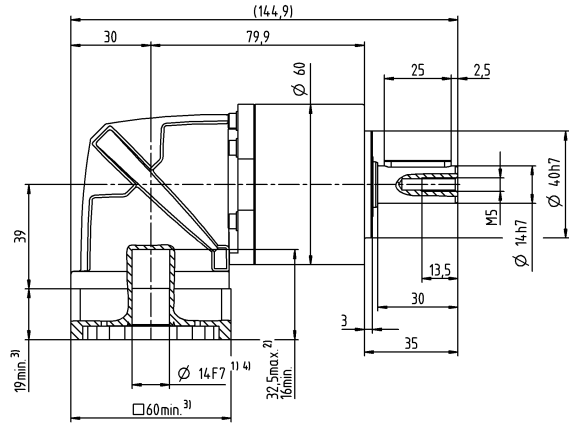
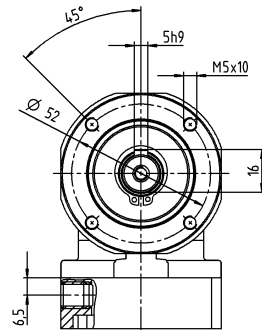
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- ^{e)} Valid for: Smooth shaft
- ¹⁾ At increased lateral forces – see glossary

Motor shaft diameter [mm]

2-stage

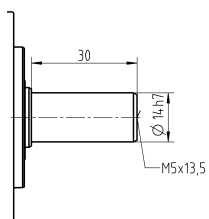
up to 14⁴⁾ (C)⁵⁾
clamping hub
diameter



Bevel 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

CPK 015 MF 3-stage

			3-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 ^{a)} (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	3300	3300
Max. input speed	n_{1Max}	rpm	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000
Mean no load running torque ^{b)} (at $n_1=3000$ rpm and 20 °C gearbox temperature)	T_{012}	Nm	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63
		in.lb	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6
Max. backlash	j_t	arcmin	≤ 17												
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	2.1
		in.lb/arcmin	19	19	19	19	19	19	19	19	19	19	19	19	19
Max. axial force ^{c)}	F_{2AMax}	N	750												
		lb _f	169												
Max. lateral force ^{c) 1)}	F_{2QMax}	N	500												
		lb _f	113												
Max. tilting moment	M_{2KMMax}	Nm	17												
		in.lb	150												
Efficiency at full load	η	%	94												
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)	≤ 70												
Max. permitted housing temperature		°C	+90												
		°F	+194												
Ambient temperature		°C	0 to +40												
		°F	+32 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	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31
				10 ⁻³ in.lb.s ²	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27

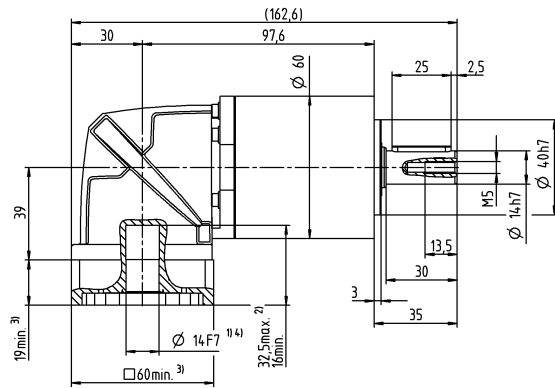
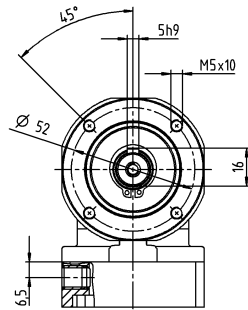
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- ^{d)} Please reduce input speed at higher ambient temperatures
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- ¹⁾ At increased lateral forces – see glossary

Motor shaft diameter [mm]

3-stage

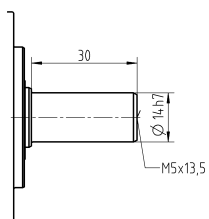
up to 14⁴⁾ (C)⁵⁾
clamping hub diameter



Bevel Gearboxes
Basic Line

Other output variants

Smooth shaft



Non-tolerated dimensions are nominal dimensions

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by a bushing with a minimum wall thickness of 1 mm

⁵⁾ Standard clamping hub diameter

CPK 025 MF 2-stage

			2-stage						
Ratio	i		3	4	5	7	8	10	
Max. torque ^{a) b) e)}	T_{2a}	Nm	60	80	100	140	144	144	
		in.lb	531	708	885	1239	1275	1275	
Max. acceleration torque ^{b)} (max. 1000 cycles per hour)	T_{2B}	Nm	35	47	58	82	90	90	
		in.lb	310	416	513	726	797	797	
Emergency stop torque ^{a) b) e)} (permitted 1000 times during the service life of the gearbox)	T_{2Not}	Nm	90	120	150	187	187	187	
		in.lb	797	1062	1328	1655	1655	1655	
Permitted average input speed ^{d)} (at T_{2a} and 20 °C ambient temperature)	n_{1N}	rpm	3000	3000	3000	3000	3000	3000	
Max. input speed	n_{1Max}	rpm	5000	5000	5000	5000	5000	5000	
Mean no load running torque ^{b)} (at $n_1=3000$ rpm and 20 °C gearbox temperature)	T_{012}	Nm	0.98	0.98	0.98	0.98	0.98	0.98	
		in.lb	8.7	8.7	8.7	8.7	8.7	8.7	
Max. backlash	j_t	arcmin	≤ 17						
Torsional rigidity ^{b)}	C_{t21}	Nm/arcmin	4.5	4.5	4.5	4.5	4.5	4.5	
		in.lb/arcmin	40	40	40	40	40	40	
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	%	95						
Service life	L_h	h	> 20000						
Weight (incl. standard adapter plate)	m	kg	4.2						
		lb _m	9.3						
Operating noise (at reference ratio and reference speed – ratio-specific values available in cymex®)	L_{PA}	dB(A)	≤ 73						
Max. permitted housing temperature		°C	+90						
		°F	+194						
Ambient temperature		°C	0 to +40						
		°F	+32 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	0.86	0.86	0.86	0.86	0.86	0.86
			10 ⁻³ in.lb.s ²	0.76	0.76	0.76	0.76	0.76	0.76

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^{b)} Valid for standard clamping hub diameter

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

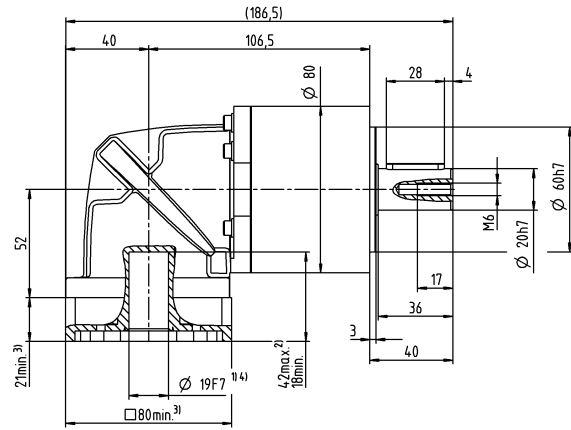
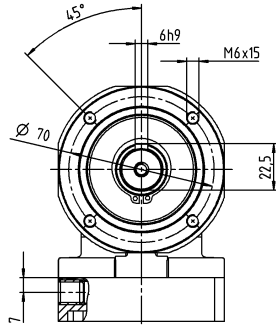
^{d)} Please reduce input speed at higher ambient temperatures

^{e)} Valid for: Smooth shaft

Motor shaft diameter [mm]

2-stage

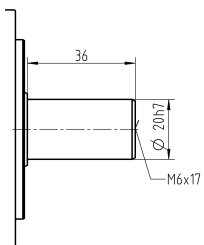
up to 19⁴⁾ (E)⁵⁾
clamping hub
diameter



Bevel 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

CPK 025 MF 3-stage

			3-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	1328
Max. acceleration torque ^{a)} (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	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000
Max. input speed	n_{1Max}	rpm	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000
Mean no load running torque ^{b)} (at $n_1=3000$ rpm and 20 °C gearbox temperature)	T_{012}	Nm	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
		in.lb	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7
Max. backlash	j_t	arcmin	≤ 18												
Torsional rigidity ^{b)}	C_{121}	Nm/arcmin	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9
		in.lb/arcmin	52	52	52	52	52	52	52	52	52	52	52	52	52
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_{2KMMax}	Nm	54												
		in.lb	478												
Efficiency at full load	η	%	94												
Service life	L_n	h	> 20000												
Weight (incl. standard adapter plate)	m	kg	4.5												
		lb _m	9.9												
Operating noise (at reference ratio and reference speed – ratio-specific values available in cymex®)	L_{PA}	dB(A)	≤ 73												
Max. permitted housing temperature		°C	+90												
		°F	+194												
Ambient temperature		°C	0 to +40												
		°F	+32 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	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
				10 ⁻³ in.lb.s ²	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81

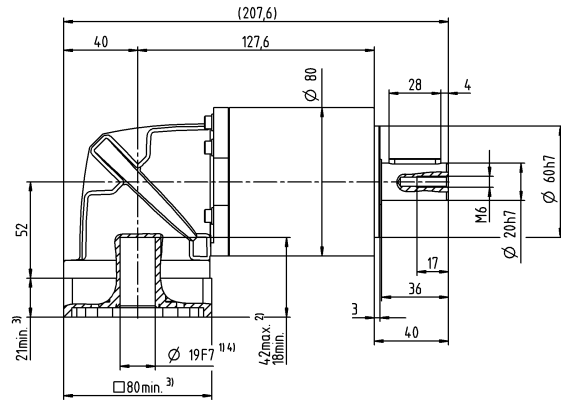
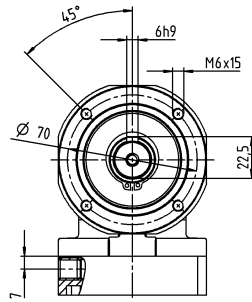
Please use our sizing software cymex® for a detailed sizing – www.wittenstein-cymex.com
Please consider the maximum permissible tilting moment caused by the motor M_{1KMot} – see sizing

- ^{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

Motor shaft diameter [mm]

3-stage

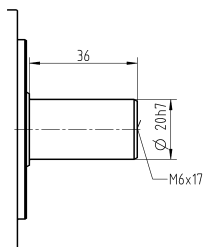
up to 19⁴⁾ (E)⁵⁾
clamping hub
diameter



Bevel 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

CPK 035 MF 2-stage

			2-stage						
Ratio	i		3	4	5	7	8	10	
Max. torque ^{a) b) e)}	T_{2a}	Nm	150	200	250	272	272	272	
		in.lb	1328	1770	2213	2407	2407	2407	
Max. acceleration torque ^{b)} (max. 1000 cycles per hour)	T_{2B}	Nm	93	124	155	217	220	220	
		in.lb	823	1097	1372	1921	1947	1947	
Emergency stop torque ^{a) b) e)} (permitted 1000 times during the service life of the gearbox)	T_{2Not}	Nm	238	318	397	480	477	480	
		in.lb	2106	2815	3514	4248	4222	4248	
Permitted average input speed ^{d)} (at T_{2a} and 20 °C ambient temperature)	n_{1N}	rpm	2000	2000	2000	2000	2000	2000	
Max. input speed	n_{1Max}	rpm	4500	4500	4500	4500	4500	4500	
Mean no load running torque ^{b)} (at $n_1=3000$ rpm and 20 °C gearbox temperature)	T_{012}	Nm	3.5	3.5	3.5	3.5	3.5	3.5	
		in.lb	31	31	31	31	31	31	
Max. backlash	j_t	arcmin	≤ 15						
Torsional rigidity ^{b)}	C_{t21}	Nm/arcmin	13	13	13	13	13	13	
		in.lb/arcmin	115	115	115	115	115	115	
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_{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	8.8						
		lb _m	19						
Operating noise (at reference ratio and reference speed – ratio-specific values available in cymex®)	L_{PA}	dB(A)	≤ 74						
Max. permitted housing temperature		°C	+90						
		°F	+194						
Ambient temperature		°C	0 to +40						
		°F	+32 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]	H 28	J_1	kgcm ²	6.1	6.1	6.1	6.1	6.1	6.1
			10 ⁻³ in.lb.s ²	5.4	5.4	5.4	5.4	5.4	5.4

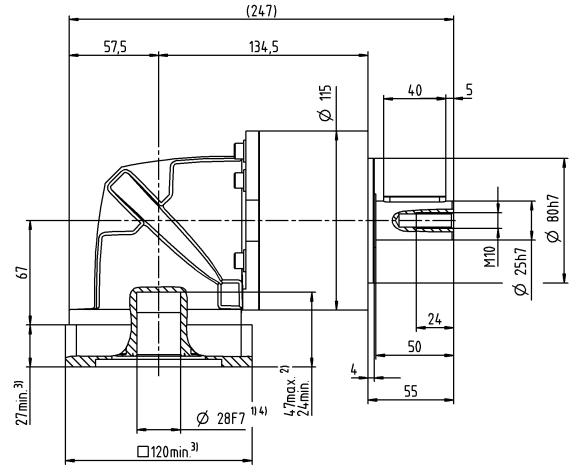
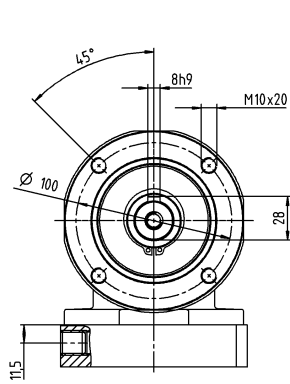
Please use our sizing software cymex® for a detailed sizing – www.wittenstein-cymex.com
Please consider the maximum permissible tilting moment caused by the motor M_{1KMot} – see sizing

- ^{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

Motor shaft diameter [mm]

2-stage

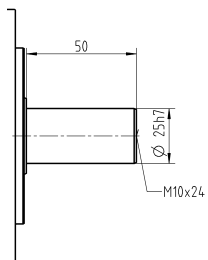
up to 28⁴⁾ (H)⁵⁾
clamping hub
diameter



Bevel 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

CPK 035 MF 3-stage

			3-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
Max. acceleration torque ^{a)} (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	477	480	480
		in.lb	4248	4248	4248	4248	4248	4248	4248	2788	4248	4248	4248	4248	4222	4248	4248
Permitted average input speed ^{d)} (at T_{2a} and 20 °C ambient temperature)	n_{1N}	rpm	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Max. input speed	n_{1Max}	rpm	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500
Mean no load running torque ^{b)} (at $n_1=3000$ rpm and 20 °C gearbox temperature)	T_{012}	Nm	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
		in.lb	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34
Max. backlash	j_t	arcmin	≤ 17														
Torsional rigidity ^{b)}	C_{121}	Nm/arcmin	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16
		in.lb/arcmin	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142
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	%	94														
Service life	L_n	h	> 20000														
Weight (incl. standard adapter plate)	m	kg	10														
		lb _m	22														
Operating noise (at reference ratio and reference speed – ratio-specific values available in cymex®)	L_{PA}	dB(A)	≤ 74														
Max. permitted housing temperature		°C	+90														
		°F	+194														
Ambient temperature		°C	0 to +40														
		°F	+32 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]	H	28	J_1	kgcm ²	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3
				10 ⁻³ in.lb.s ²	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6

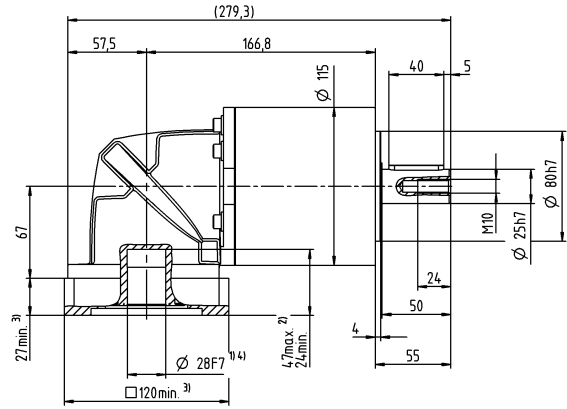
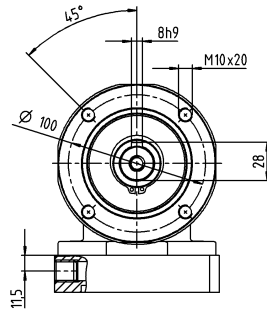
Please use our sizing software cymex® for a detailed sizing – www.wittenstein-cymex.com
Please consider the maximum permissible tilting moment caused by the motor M_{1KMot} – see sizing

- ^{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

Motor shaft diameter [mm]

3-stage

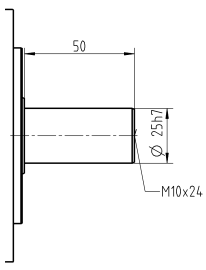
up to 28⁴⁾ (H)⁵⁾
clamping hub
diameter



Bevel 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

CPK 045 MF 3-stage

			3-stage			
Ratio	i		25	50	100	
Max. torque ^{a) b) e)}	T_{2a}	Nm	700	700	640	
		in.lb	6196	6196	5665	
Max. acceleration torque ^{e)} (max. 1000 cycles per hour)	T_{2B}	Nm	500	500	400	
		in.lb	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	
		in.lb	8851	8851	8851	
Permitted average input speed ^{d)} (at T_{2a} and 20 °C ambient temperature)	n_{1N}	rpm	2000	2000	2000	
Max. input speed	n_{1Max}	rpm	4500	4500	4500	
Mean no load running torque ^{b)} (at $n_1=3000$ rpm and 20 °C gearbox temperature)	T_{012}	Nm	3.6	3.6	3.6	
		in.lb	32	32	32	
Max. backlash	j_t	arcmin	≤ 16			
Torsional rigidity ^{b)}	C_{121}	Nm/arcmin	54	54	54	
		in.lb/arcmin	478	478	478	
Max. axial force ^{c)}	F_{2AMax}	N	6000			
		lb _f	1350			
Max. lateral force ^{c)}	F_{2QMMax}	N	8000			
		lb _f	1800			
Max. tilting moment	M_{2KMMax}	Nm	704			
		in.lb	6231			
Efficiency at full load	η	%	94			
Service life	L_h	h	> 20000			
Weight (incl. standard adapter plate)	m	kg	21			
		lb _m	46			
Operating noise (at reference ratio and reference speed – ratio-specific values available in cymex®)	L_{PA}	dB(A)	≤ 78			
Max. permitted housing temperature		°C	+90			
		°F	+194			
Ambient temperature		°C	0 to +40			
		°F	+32 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]	H 28	J_1	kgcm ²	6.8	6.8	6.8
			10 ⁻³ in.lb.s ²	6	6	6

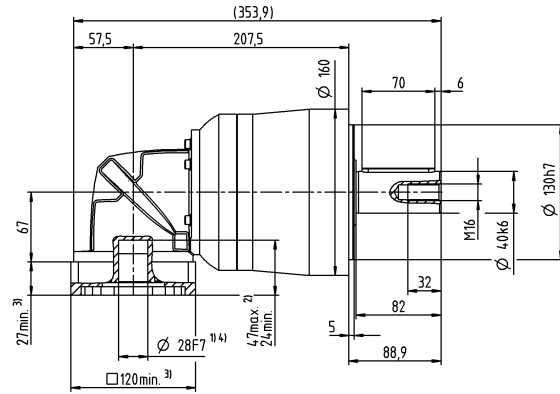
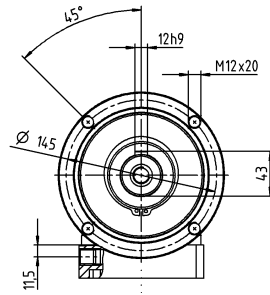
Please use our sizing software cymex® for a detailed sizing – www.wittenstein-cymex.com
Please consider the maximum permissible tilting moment caused by the motor M_{1KMot} – see sizing

- ^{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

Motor shaft diameter [mm]

3-stage

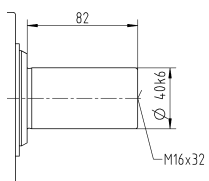
up to 28⁴⁾ (H)⁵⁾
clamping hub diameter



Bevel Gearboxes
Basic Line

Other output variants

Smooth shaft



Non-tolerated dimensions are nominal dimensions

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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

CPSK 015 MF 2-stage

			2-stage						
Ratio	i		3	4	5	7	8	10	
Max. torque ^{a) b) e)}	T_{2a}	Nm	33	44	55	58	56	56	
		in.lb	292	389	487	513	496	496	
Max. acceleration torque ^{b)} (max. 1000 cycles per hour)	T_{2B}	Nm	16	21	27	37	35	35	
		in.lb	142	186	239	327	310	310	
Emergency stop torque ^{a) b) e)} (permitted 1000 times during the service life of the gearbox)	T_{2Not}	Nm	41	55	69	75	75	75	
		in.lb	363	487	611	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	
Max. input speed	n_{1Max}	rpm	5000	5000	5000	5000	5000	5000	
Mean no load running torque ^{b)} (at $n_1=3000$ rpm and 20 °C gearbox temperature)	T_{012}	Nm	0.55	0.55	0.55	0.55	0.55	0.55	
		in.lb	4.9	4.9	4.9	4.9	4.9	4.9	
Max. backlash	j_t	arcmin	≤ 17						
Torsional rigidity ^{b)}	C_{t21}	Nm/arcmin	1.7	1.7	1.7	1.7	1.7	1.7	
		in.lb/arcmin	15	15	15	15	15	15	
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_{2KMMax}	Nm	17						
		in.lb	150						
Efficiency at full load	η	%	95						
Service life	L_n	h	> 20000						
Weight (incl. standard adapter plate)	m	kg	1.6						
		lb _m	3.5						
Operating noise (at reference ratio and reference speed – ratio-specific values available in cymex®)	L_{PA}	dB(A)	≤ 70						
Max. permitted housing temperature		°C	+90						
		°F	+194						
Ambient temperature		°C	0 to +40						
		°F	+32 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	0.3	0.3	0.3	0.3	0.3	0.3
			10 ⁻³ in.lb.s ²	0.27	0.27	0.27	0.27	0.27	0.27

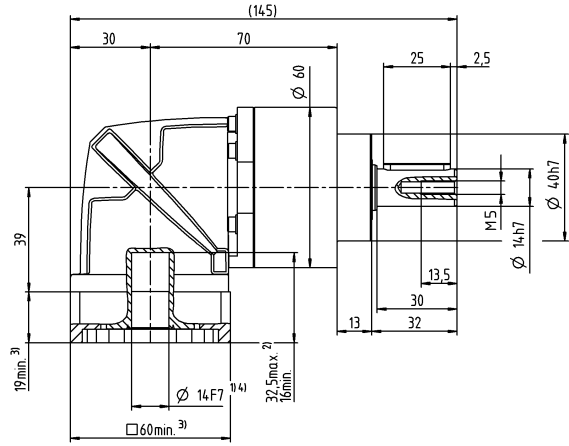
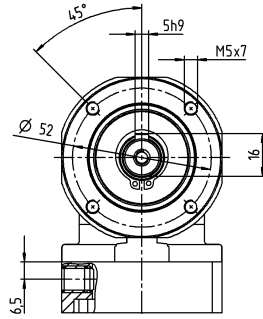
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Please consider the maximum permissible tilting moment caused by the motor M_{1KMot} – see sizing

- ^{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

Motor shaft diameter [mm]

2-stage

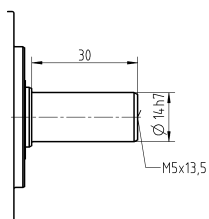
up to 14⁴⁾ (C)⁵⁾
clamping hub
diameter



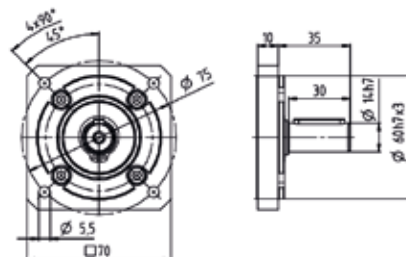
Bevel Gearboxes
Basic Line

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

CPSK 015 MF 3-stage

			3-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 ^{a)} (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	3300	3300
Max. input speed	n_{1Max}	rpm	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000
Mean no load running torque ^{b)} (at $n_1=3000$ rpm and 20 °C gearbox temperature)	T_{012}	Nm	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63
		in.lb	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6
Max. backlash	j_i	arcmin	≤ 17												
Torsional rigidity ^{b)}	C_{221}	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	2.1
		in.lb/arcmin	19	19	19	19	19	19	19	19	19	19	19	19	19
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_{2KMMax}	Nm	17												
		in.lb	150												
Efficiency at full load	η	%	94												
Service life	L_n	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)	≤ 70												
Max. permitted housing temperature		°C	+90												
		°F	+194												
Ambient temperature		°C	0 to +40												
		°F	+32 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	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31
				10 ⁻³ in.lb.s ²	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27

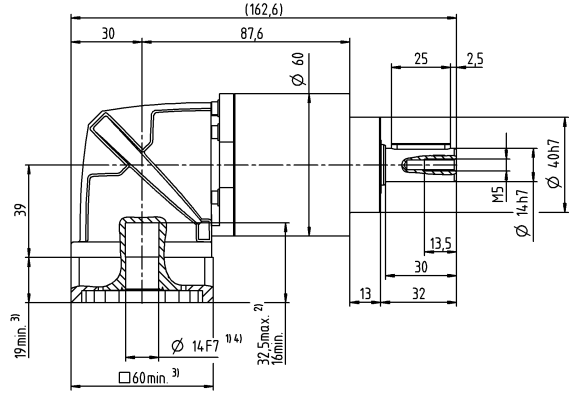
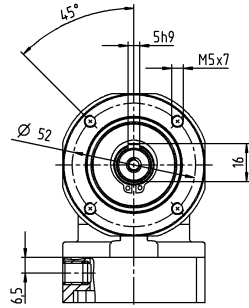
Please use our sizing software cymex® for a detailed sizing – www.wittenstein-cymex.com
Please consider the maximum permissible tilting moment caused by the motor M_{1KMot} – see sizing

- ^{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

Motor shaft diameter [mm]

3-stage

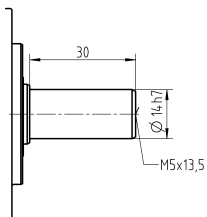
up to 14⁴⁾ (C)⁵⁾
clamping hub
diameter



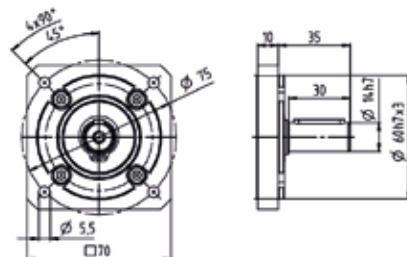
Bevel Gearboxes
Basic Line

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

CPSK 025 MF 2-stage

			2-stage						
Ratio	i		3	4	5	7	8	10	
Max. torque ^{a) b) e)}	T_{2a}	Nm	60	80	100	140	144	144	
		in.lb	531	708	885	1239	1275	1275	
Max. acceleration torque ^{b)} (max. 1000 cycles per hour)	T_{2B}	Nm	35	47	58	82	90	90	
		in.lb	310	416	513	726	797	797	
Emergency stop torque ^{a) b) e)} (permitted 1000 times during the service life of the gearbox)	T_{2Not}	Nm	90	120	150	187	187	187	
		in.lb	797	1062	1328	1655	1655	1655	
Permitted average input speed ^{d)} (at T_{2a} and 20 °C ambient temperature)	n_{1N}	rpm	3000	3000	3000	3000	3000	3000	
Max. input speed	n_{1Max}	rpm	5000	5000	5000	5000	5000	5000	
Mean no load running torque ^{b)} (at $n_1=3000$ rpm and 20 °C gearbox temperature)	T_{012}	Nm	0.98	0.98	0.98	0.98	0.98	0.98	
		in.lb	8.7	8.7	8.7	8.7	8.7	8.7	
Max. backlash	j_t	arcmin	≤ 17						
Torsional rigidity ^{b)}	C_{t21}	Nm/arcmin	4.5	4.5	4.5	4.5	4.5	4.5	
		in.lb/arcmin	40	40	40	40	40	40	
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_{2KMMax}	Nm	54						
		in.lb	478						
Efficiency at full load	η	%	95						
Service life	L_n	h	> 20000						
Weight (incl. standard adapter plate)	m	kg	4.2						
		lb _m	9.3						
Operating noise (at reference ratio and reference speed – ratio-specific values available in cymex®)	L_{PA}	dB(A)	≤ 73						
Max. permitted housing temperature		°C	+90						
		°F	+194						
Ambient temperature		°C	0 to +40						
		°F	+32 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	0.86	0.86	0.86	0.86	0.86	0.86
			10 ⁻³ in.lb.s ²	0.76	0.76	0.76	0.76	0.76	0.76

Please use our sizing software cymex® for a detailed sizing – www.wittenstein-cymex.com
Please consider the maximum permissible tilting moment caused by the motor M_{1KMot} – see sizing

^{a)} Valid for torque transmission only

^{b)} Valid for standard clamping hub diameter

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

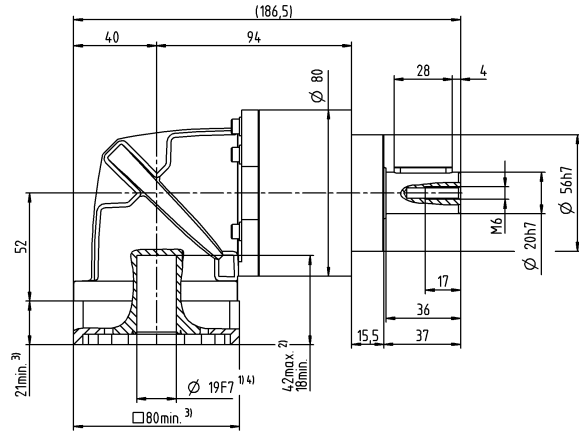
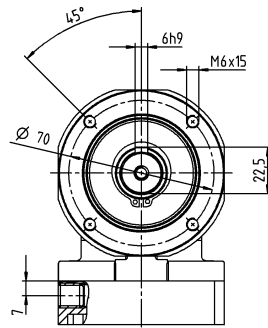
^{d)} Please reduce input speed at higher ambient temperatures

^{e)} Valid for: Smooth shaft

Motor shaft diameter [mm]

2-stage

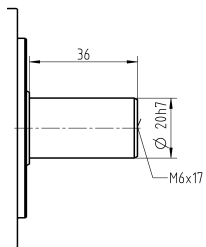
up to 19⁴⁾ (E)⁵⁾
clamping hub
diameter



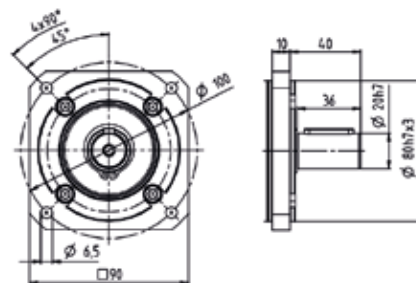
Bevel Gearboxes
Basic Line

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

CPSK 025 MF 3-stage

			3-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	1328
Max. acceleration torque ^{a)} (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	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000
Max. input speed	n_{1Max}	rpm	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000
Mean no load running torque ^{b)} (at $n_1=3000$ rpm and 20 °C gearbox temperature)	T_{012}	Nm	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
		in.lb	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7
Max. backlash	j_t	arcmin	≤ 18												
Torsional rigidity ^{b)}	C_{t21}	Nm/arcmin	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9
		in.lb/arcmin	52	52	52	52	52	52	52	52	52	52	52	52	52
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_{2KMMax}	Nm	54												
		in.lb	478												
Efficiency at full load	η	%	94												
Service life	L_h	h	> 20000												
Weight (incl. standard adapter plate)	m	kg	4.5												
		lb _m	9.9												
Operating noise (at reference ratio and reference speed – ratio-specific values available in cymex®)	L_{PA}	dB(A)	≤ 73												
Max. permitted housing temperature		°C	+90												
		°F	+194												
Ambient temperature		°C	0 to +40												
		°F	+32 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	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
				10 ⁻³ in.lb.s ²	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81

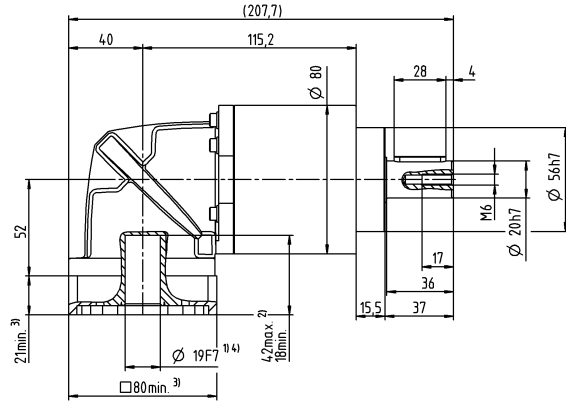
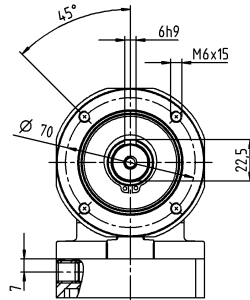
Please use our sizing software cymex® for a detailed sizing – www.wittenstein-cymex.com
Please consider the maximum permissible tilting moment caused by the motor M_{1KMot} – see sizing

- ^{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

Motor shaft diameter [mm]

3-stage

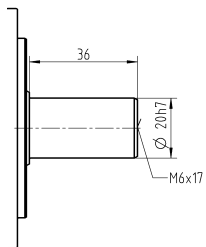
up to 19⁴⁾ (E)⁵⁾
clamping hub diameter



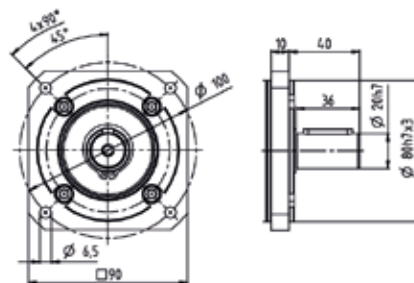
Bevel Gearboxes
Basic Line

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

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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

CPSK 035 MF 2-stage

			2-stage						
Ratio	i		3	4	5	7	8	10	
Max. torque ^{a) b) e)}	T_{2a}	Nm	150	200	250	272	272	272	
		in.lb	1328	1770	2213	2407	2407	2407	
Max. acceleration torque ^{a)} (max. 1000 cycles per hour)	T_{2B}	Nm	93	124	155	217	220	220	
		in.lb	823	1097	1372	1921	1947	1947	
Emergency stop torque ^{a) b) e)} (permitted 1000 times during the service life of the gearbox)	T_{2Not}	Nm	238	318	397	480	477	480	
		in.lb	2106	2815	3514	4248	4222	4248	
Permitted average input speed ^{d)} (at T_{2a} and 20 °C ambient temperature)	n_{1N}	rpm	2000	2000	2000	2000	2000	2000	
Max. input speed	n_{1Max}	rpm	4500	4500	4500	4500	4500	4500	
Mean no load running torque ^{b)} (at $n_1=3000$ rpm and 20 °C gearbox temperature)	T_{012}	Nm	3.5	3.5	3.5	3.5	3.5	3.5	
		in.lb	31	31	31	31	31	31	
Max. backlash	j_t	arcmin	≤ 15						
Torsional rigidity ^{b)}	C_{t21}	Nm/arcmin	13	13	13	13	13	13	
		in.lb/arcmin	115	115	115	115	115	115	
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	%	95						
Service life	L_h	h	> 20000						
Weight (incl. standard adapter plate)	m	kg	8.8						
		lb _m	19						
Operating noise (at reference ratio and reference speed – ratio-specific values available in cymex®)	L_{PA}	dB(A)	≤ 74						
Max. permitted housing temperature		°C	+90						
		°F	+194						
Ambient temperature		°C	0 to +40						
		°F	+32 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]	H 28	J_1	kgcm ²	6.1	6.1	6.1	6.1	6.1	6.1
			10 ⁻³ in.lb.s ²	5.4	5.4	5.4	5.4	5.4	5.4

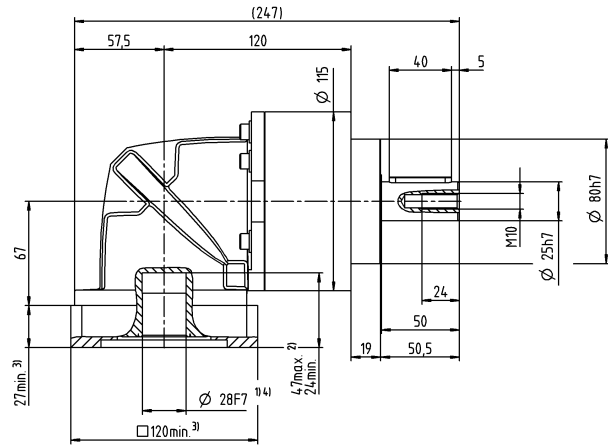
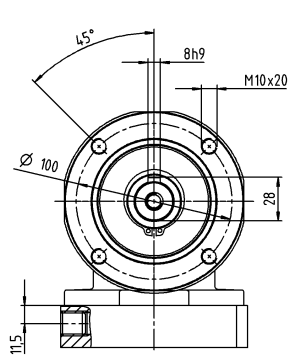
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Please consider the maximum permissible tilting moment caused by the motor M_{1KMot} – see sizing

- ^{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

Motor shaft diameter [mm]

2-stage

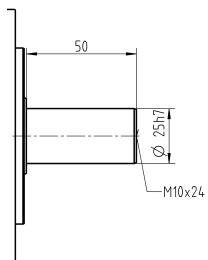
up to 28⁴⁾ (H)⁵⁾
clamping hub
diameter



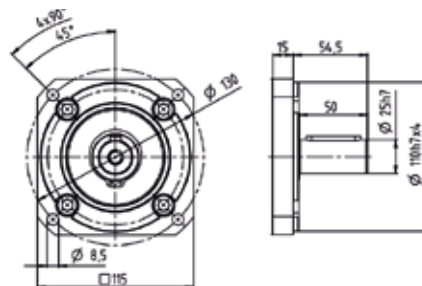
Bevel Gearboxes
Basic Line

Other output variants

Smooth shaft



Replaceable B5 output flange



Non-tolerated dimensions are nominal dimensions

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- ²⁾ Min. / Max. permissible motor shaft length
Longer motor shafts are possible, please contact alpha
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- ⁴⁾ Smaller motor shaft diameter is compensated by a bushing with a minimum wall thickness of 1 mm
- ⁵⁾ Standard clamping hub diameter

CPSK 035 MF 3-stage

			3-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
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	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Max. input speed	n_{1Max}	rpm	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500
Mean no load running torque ^{b)} (at $n_1=3000$ rpm and 20 °C gearbox temperature)	T_{012}	Nm	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
		in.lb	34	34	34	34	34	34	34	34	34	34	34	34	34
Max. backlash	j_t	arcmin	≤ 17												
Torsional rigidity ^{b)}	C_{t21}	Nm/arcmin	16	16	16	16	16	16	16	16	16	16	16	16	16
		in.lb/arcmin	142	142	142	142	142	142	142	142	142	142	142	142	142
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_{2KMMax}	Nm	98												
		in.lb	867												
Efficiency at full load	η	%	94												
Service life	L_h	h	> 20000												
Weight (incl. standard adapter plate)	m	kg	10												
		lb _m	22												
Operating noise (at reference ratio and reference speed – ratio-specific values available in cymex®)	L_{PA}	dB(A)	≤ 74												
Max. permitted housing temperature		°C	+90												
		°F	+194												
Ambient temperature		°C	0 to +40												
		°F	+32 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]	H	28	J_1	kgcm ²	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3
				10 ⁻³ in.lb.s ²	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6

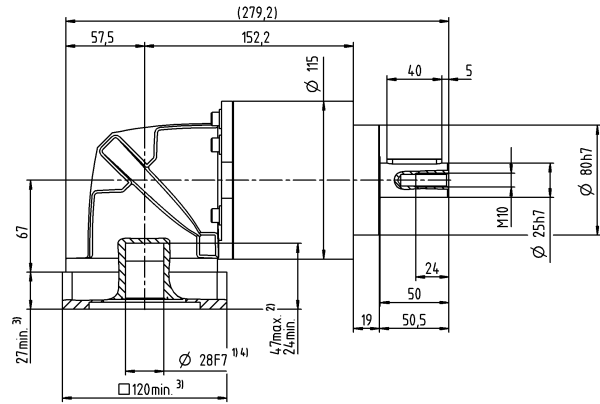
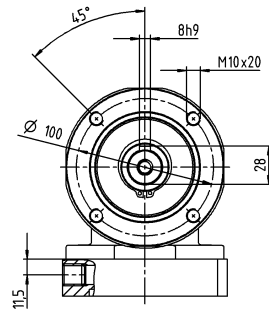
Please use our sizing software cymex® for a detailed sizing – www.wittenstein-cymex.com
Please consider the maximum permissible tilting moment caused by the motor M_{1KMot} – see sizing

- ^{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

Motor shaft diameter [mm]

3-stage

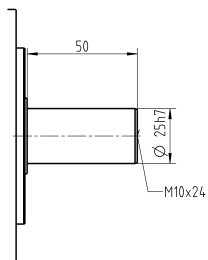
up to 28⁴⁾ (H)⁵⁾
clamping hub
diameter



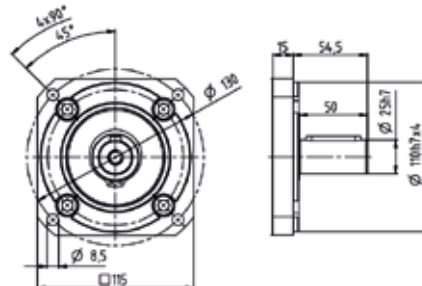
Bevel Gearboxes
Basic Line

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