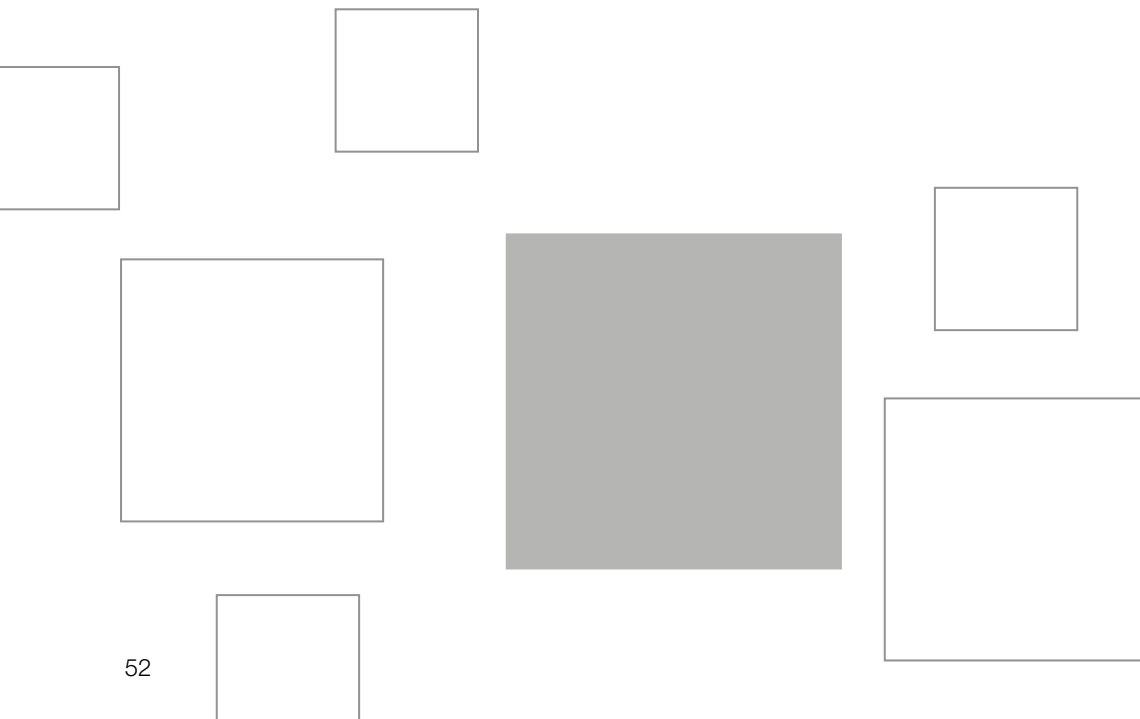


alpha Basic Line

BEVEL GEARBOXES CPK / CPSK

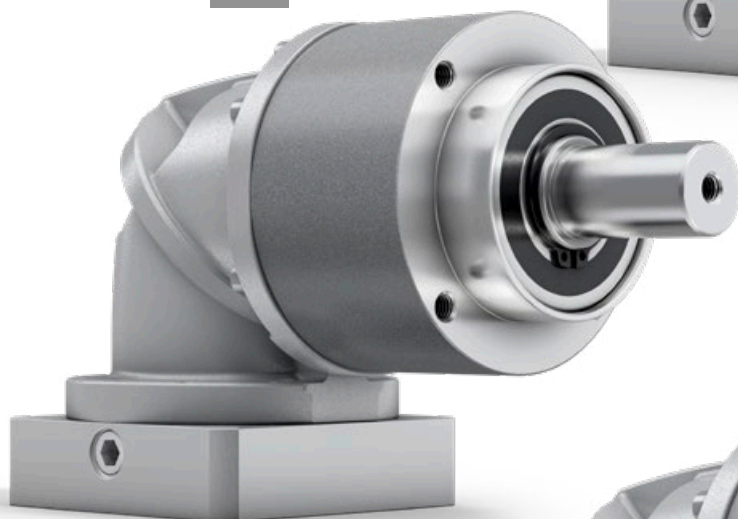
The bevel gearboxes of the alpha Basic Line achieve a high power density thanks to the specially designed toothing. Thus they can optimally combine the benefits of a planetary gearbox and an angle section. The extremely compact design also enables use in confined installation situations.



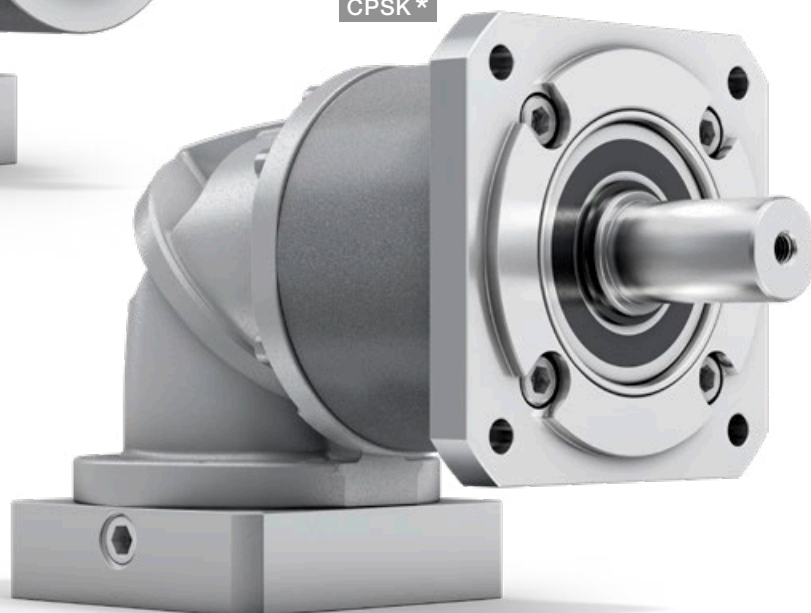
CPK



CPSK



CPSK *



* CPSK with replaceable B5 output flange

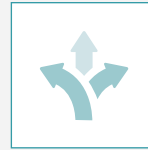
CPK / CPSK – Geared up to Fit

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.

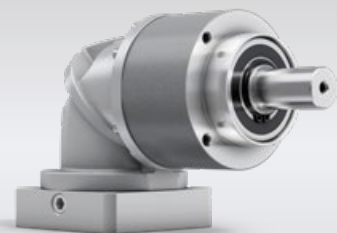


Quick sizing

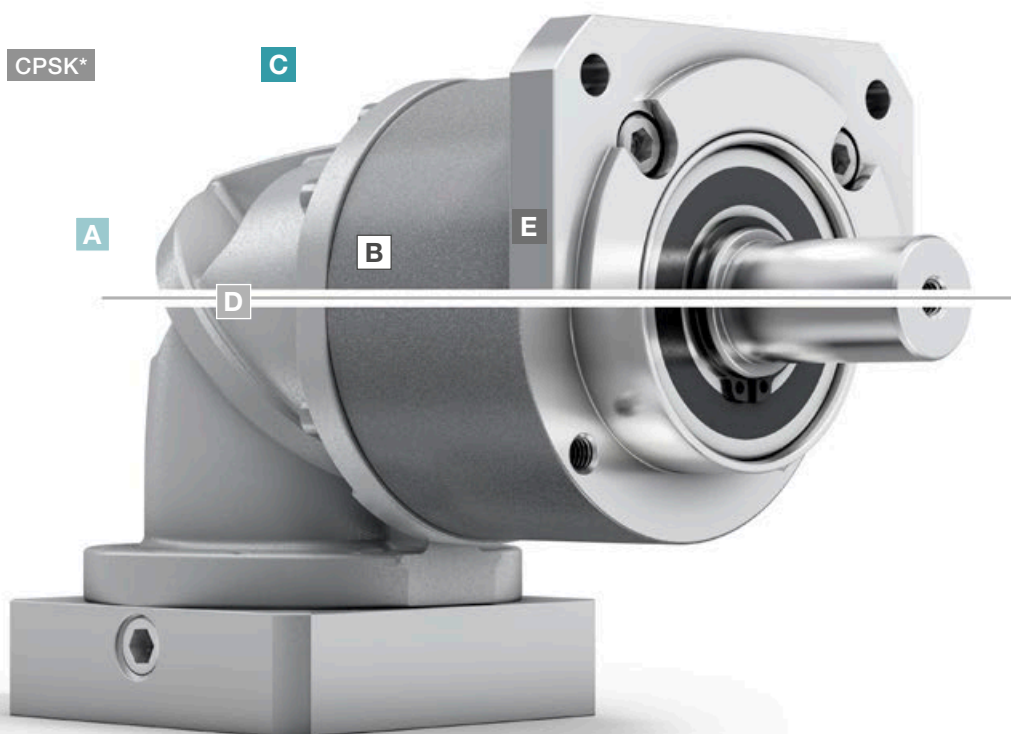
Efficient online sizing within seconds in the SIZING ASSISTANT on the basis of the application data or the motor.



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

Design

- The elegant design underlines the dynamics of the gearbox and sets new standards on the market

D

Compactness

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

E

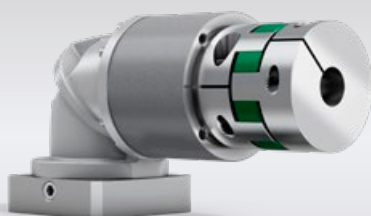
Variable application connection

- 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



SIZING ASSISTANT
YOUR GEARBOX WITHIN SECONDS

Efficient gearbox sizing within seconds – online and without login
www.sizing-assistant.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 ^{b)} (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) f)}	F_{2QMMax}	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
			10 ⁻³ in.lb.s ²	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

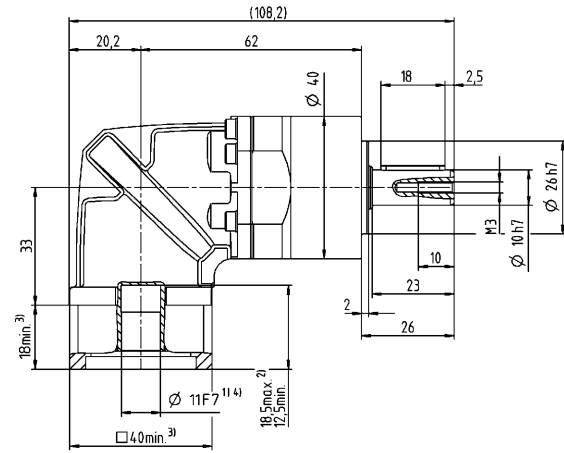
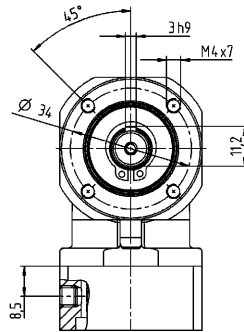
^{e)} Valid for: Smooth shaft

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

Motor shaft diameter [mm]

2-stage

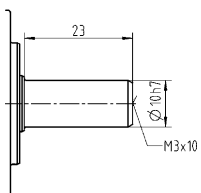
up to 11⁴⁾ (B)⁵⁾
clamping hub
diameter



Bevel Gearboxes Basic Line

Other output variants

Smooth shaft



Non-tolerated dimensions are nominal dimensions

¹⁾ Check motor shaft fit²⁾ Min. / Max. permissible motor shaft length

Longer motor shafts are possible, please contact alpha

³⁾ The dimensions depend on the motor

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

⁵⁾ Standard clamping hub diameter

CPK 005 MF 3-stage

			3-stage										
Ratio	i		16	20	25	28	32	35	40	50	64	70	100
Max. torque ^{a) b) e)}	T_{2a}	Nm	17	17	21	17	17	21	17	21	20	21	20
		in.lb	150	150	186	150	150	186	150	186	177	186	177
Max. acceleration torque ^{b)} (max. 1000 cycles per hour)	T_{2B}	Nm	11	11	14	11	11	14	11	14	13	14	13
		in.lb	97	97	124	97	97	124	97	124	115	124	115
Emergency stop torque ^{a) b) e)} (permitted 1000 times during the service life of the gearbox)	T_{2Not}	Nm	26	26	26	26	26	26	26	26	26	26	26
		in.lb	230	230	230	230	230	230	230	230	230	230	230
Permitted average input speed ^{d)} (at T_{2a} and 20 °C ambient temperature)	n_{1N}	rpm	3800	3800	3800	3800	3800	3800	3800	3800	3800	3800	3800
Max. input speed	n_{1Max}	rpm	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	0.27	0.27	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	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	0.57	0.57
		in.lb/arcmin	5	5	5	5	5	5	5	5	5	5	5
Max. axial force ^{c)}	F_{2AMax}	N	240										
		lb _f	54										
Max. lateral force ^{c) f)}	F_{2QMax}	N	170										
		lb _f	38										
Max. tilting moment	M_{2KMax}	Nm	4										
		in.lb	35										
Efficiency at full load	η	%	94										
Service life	L_h	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	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	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

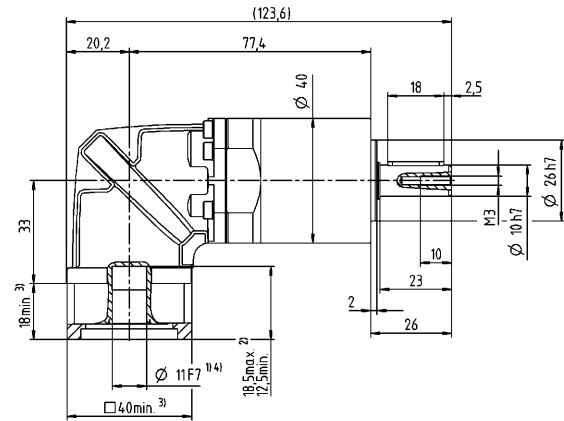
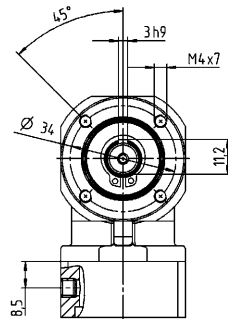
^{d)} Please reduce input speed at higher ambient temperatures

^{e)} Valid for: Smooth shaft

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

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

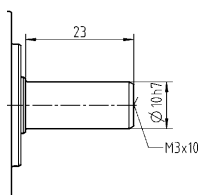
up to 11⁴⁾ (B)⁵⁾
clamping hub
diameter



Bevel Gearboxes Basic Line

Other output variants

Smooth shaft



Non-tolerated dimensions are nominal dimensions

¹⁾ Check motor shaft fit²⁾ Min. / Max. permissible motor shaft length

Longer motor shafts are possible, please contact alpha

³⁾ The dimensions depend on the motor

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

⁵⁾ Standard clamping hub diameter

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) 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	1.6					
		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
			10 ⁻³ in.lb.s ²	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

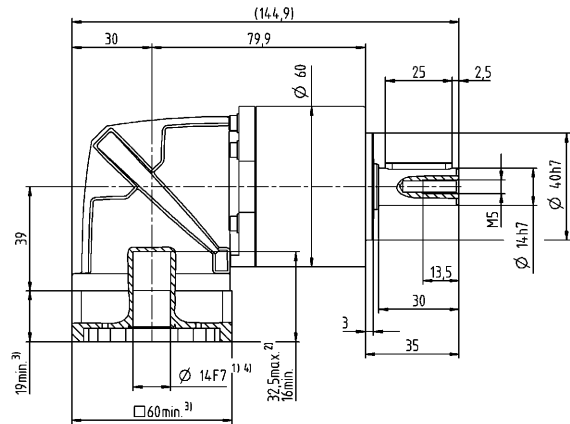
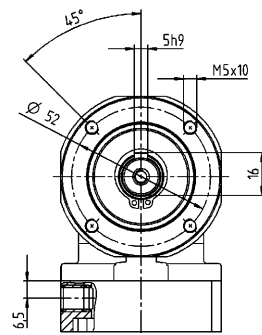
^{e)} Valid for: Smooth shaft

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

Motor shaft diameter [mm]

2-stage

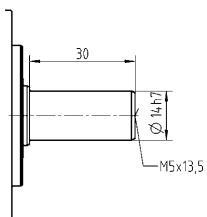
up to 14⁴⁾ (C)⁵⁾
clamping hub
diameter



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 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	32	35	40	50	64	70	100
Max. torque ^{a) b) e)}		T_{2a}	Nm	48	48	48	56	56	58	56	48	56	58	56	58	56	58	56
			in.lb	425	425	425	496	496	513	496	425	496	513	496	513	496	513	496
Max. acceleration torque ^{e)} (max. 1000 cycles per hour)		T_{2B}	Nm	30	30	30	35	35	40	35	30	35	40	35	40	35	40	35
			in.lb	266	266	266	310	310	354	310	266	310	354	310	354	310	354	310
Emergency stop torque ^{a) b) e)} (permitted 1000 times during the service life of the gearbox)		T_{2Not}	Nm	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75
			in.lb	664	664	664	664	664	664	664	664	664	664	664	664	664	664	664
Permitted average input speed ^{d)} (at T_{2a} and 20 °C ambient temperature)		n_{1N}	rpm	3300	3300	3300	3300	3300	3300	3300	3300	3300	3300	3300	3300	3300	3300	3300
Max. input speed		n_{1Max}	rpm	5000	5000	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	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	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	2.1	2.1
			in.lb/arcmin	19	19	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)}		F_{2QMMax}	N	500														
			lb _f	113														
Max. tilting moment		M_{2KMax}	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	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	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

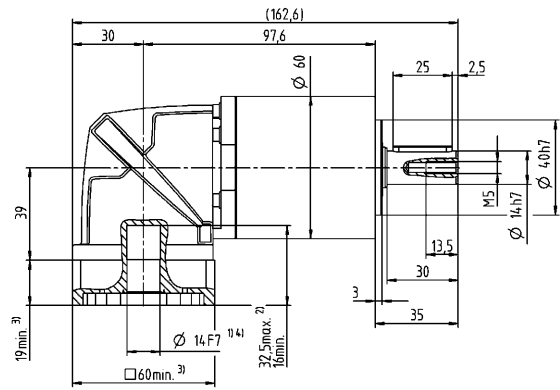
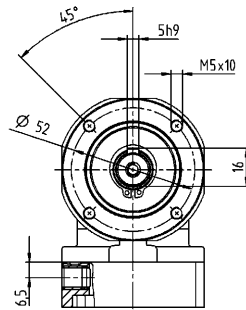
^{e)} Valid for: Smooth shaft

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

Motor shaft diameter [mm]

3-stage

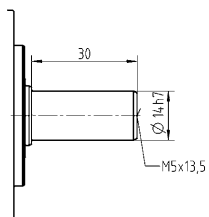
up to 14 ⁴⁾ (C) ⁵⁾
clamping hub
diameter



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 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_{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	4.2					
		lb _m	9.3					
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-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
			10 ⁻³ in.lb.s ²	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

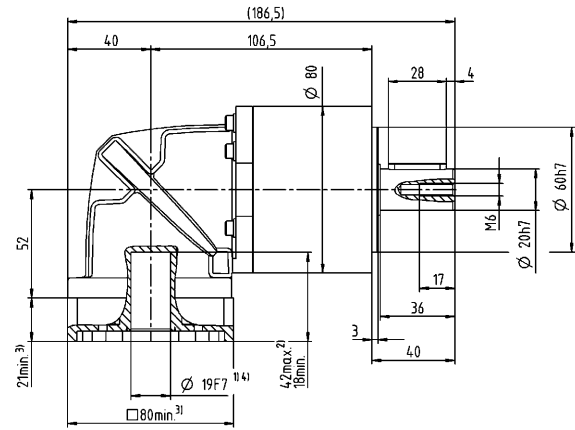
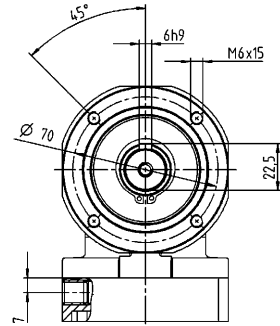
^{d)} Please reduce input speed at higher ambient temperatures

^{e)} Valid for: Smooth shaft

Motor shaft diameter [mm]

2-stage

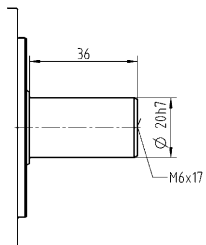
up to 19 ⁴⁾ (E) ⁵⁾
clamping hub
diameter



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 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	32	35	40	50	64	70	100
Max. torque ^{a) b) e)}		T _{2a}	Nm	112	112	112	150	150	150	150	112	150	150	150	150	144	150	144
			in.lb	991	991	991	1328	1328	1328	1328	991	1328	1328	1328	1328	1275	1328	1275
Max. acceleration torque ^{e)} (max. 1000 cycles per hour)		T _{2B}	Nm	70	70	70	95	95	95	95	70	95	100	95	100	90	100	90
			in.lb	620	620	620	841	841	841	841	620	841	885	841	885	797	885	797
Emergency stop torque ^{a) b) e)} (permitted 1000 times during the service life of the gearbox)		T _{2Not}	Nm	187	187	187	187	187	187	187	187	187	187	187	187	187	187	187
			in.lb	1655	1655	1655	1655	1655	1655	1655	1655	1655	1655	1655	1655	1655	1655	1655
Permitted average input speed ^{d)} (at T _{2a} and 20 °C ambient temperature)		n _{1N}	rpm	3000	3000	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	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	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	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	5.9	5.9
			in.lb/arcmin	52	52	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 _{2KMax}	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)	≤ 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-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	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	0.81	0.81	0.81

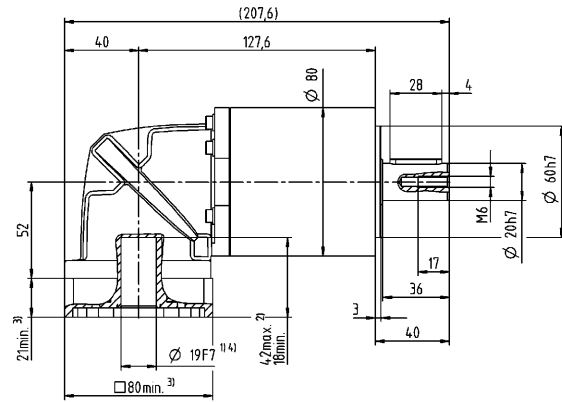
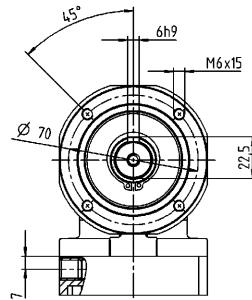
Please use our sizing software cymex® for a detailed sizing – www.wittenstein-cymex.com
Please consider the maximum permissible tilting moment caused by the motor M_{1KMot} – see sizing

- ^{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

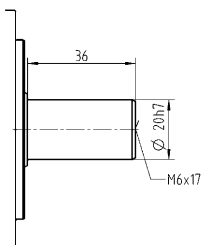
up to 19⁴⁾ (E)⁵⁾
clamping hub
diameter



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 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_{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	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
			10 ⁻³ in.lb.s ²	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

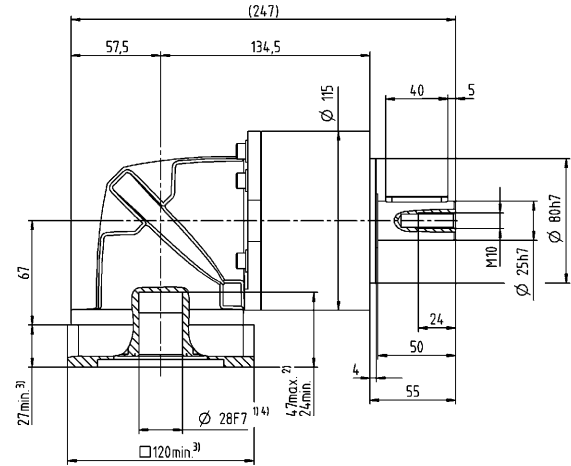
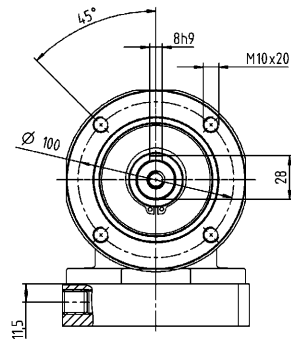
^{d)} Please reduce input speed at higher ambient temperatures

^{e)} Valid for: Smooth shaft

Motor shaft diameter [mm]

2-stage

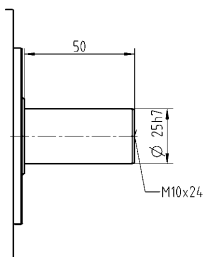
up to 28⁴⁾ (H)⁵⁾
clamping hub
diameter



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 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 ^{e)} (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_{t21}	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_{2QMMax}	N	1750														
			lb _f	394														
Max. tilting moment		M_{2KMax}	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	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	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

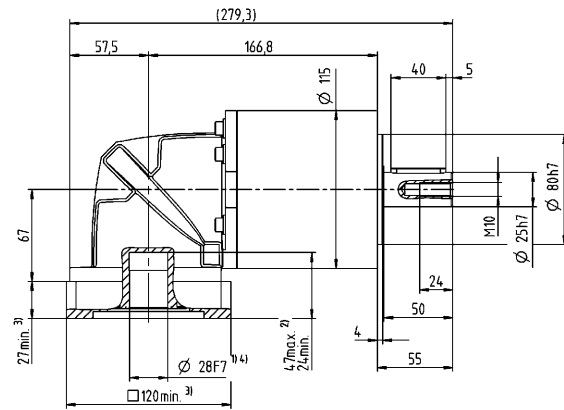
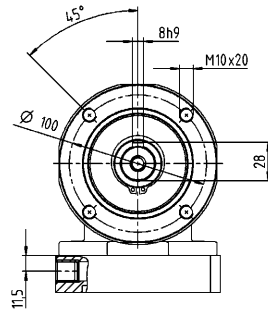
^{d)} Please reduce input speed at higher ambient temperatures

^{e)} Valid for: Smooth shaft

Motor shaft diameter [mm]

3-stage

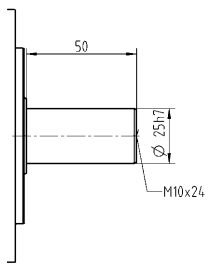
up to 28⁴⁾ (H)⁵⁾
clamping hub
diameter



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 thickness of 1 mm

⁵⁾ Standard clamping hub diameter

CPK 045 MF 2- / 3-stage

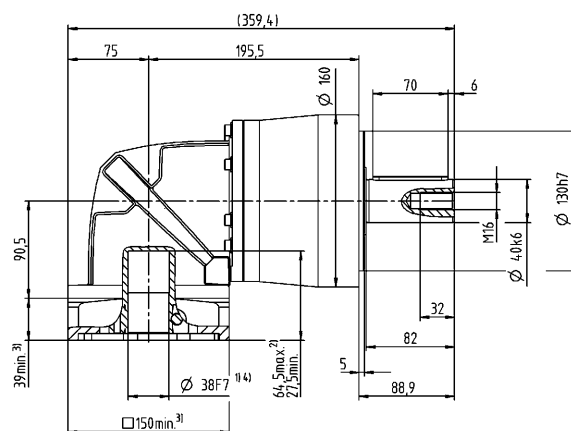
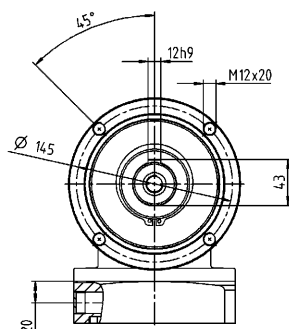
			2-stage			3-stage						
Ratio	i			5	8	10	25	32	50	64	100	
Max. torque ^{a) b) e)}		T_{2a}	Nm	500	640	640	700	640	700	640	640	
			in.lb	4425	5665	5665	6196	5665	6196	5665	5665	
Max. acceleration torque ^{e)} (max. 1000 cycles per hour)		T_{2B}	Nm	399	400	400	500	400	500	400	400	
			in.lb	3531	3540	3540	4425	3540	4425	3540	3540	
Emergency stop torque ^{a) b) e)} (permitted 1000 times during the service life of the gearbox)		T_{2Not}	Nm	1000	1000	1000	1000	1000	1000	1000	1000	
			in.lb	8851	8851	8851	8851	8851	8851	8851	8851	
Permitted average input speed ^{d)} (at T_{2a} and 20 °C ambient temperature)		n_{1N}	rpm	1600	1600	1600	2000	2000	2000	2000	2000	
Max. input speed		n_{1Max}	rpm	4000	4000	4000	4500	4500	4500	4500	4500	
Mean no load running torque ^{b)} (at n_1 =3000 rpm and 20 °C gearbox temperature)		T_{012}	Nm	6.9	6.9	6.9	3.6	3.6	3.6	3.6	3.6	
			in.lb	61	61	61	32	32	32	32	32	
Max. backlash		j_t	arcmin	≤ 13			≤ 16					
Torsional rigidity ^{b)}		C_{t21}	Nm/arcmin	48	48	48	54	54	54	54	54	
			in.lb/arcmin	425	425	425	478	478	478	478	478	
Max. axial force ^{c)}		F_{2AMax}	N	6000			6000					
			lb _f	1350			1350					
Max. lateral force ^{c)}		F_{2QMMax}	N	8000			8000					
			lb _f	1800			1800					
Max. tilting moment		M_{2KMax}	Nm	704			704					
			in.lb	6231			6231					
Efficiency at full load		η	%	95			94					
Service life		L_h	h	> 20000			> 20000					
Weight (incl. standard adapter plate)		m	kg	24			21					
			lb _m	53			46					
Operating noise (at reference ratio and reference speed – ratio-specific values available in cymex®)		L_{PA}	dB(A)	≤ 74			≤ 78					
Max. permitted housing temperature			°C	+90			+90					
			°F	+194			+194					
Ambient temperature			°C	0 to +40			0 to +40					
			°F	+32 to +104			+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				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	6.8	6.8
				10 ⁻³ in.lb.s ²	–	–	–	6	6	6	6	6
	K	38	J_1	kgcm ²	17	17	17	–	–	–	–	–
				10 ⁻³ in.lb.s ²	15	15	15	–	–	–	–	–

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

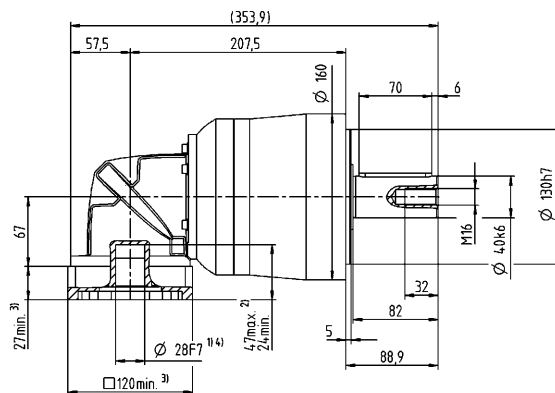
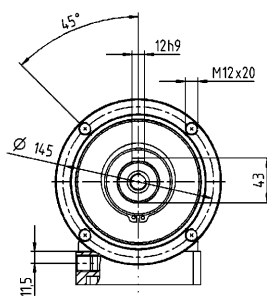
2-stage

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



3-stage

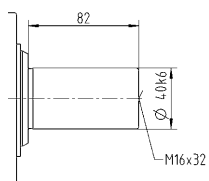
up to 28⁴⁾ (H)⁵⁾
clamping hub
diameter



Motor shaft diameter [mm]

Other output variants

Smooth shaft



Non-tolerated dimensions are nominal dimensions

¹⁾ Check motor shaft fit

²⁾ Min. / Max. permissible motor shaft length

Longer motor shafts are possible, please contact alpha

³⁾ The dimensions depend on the motor

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

⁵⁾ Standard clamping hub diameter

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_{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	1.6					
		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
			10 ⁻³ in.lb.s ²	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

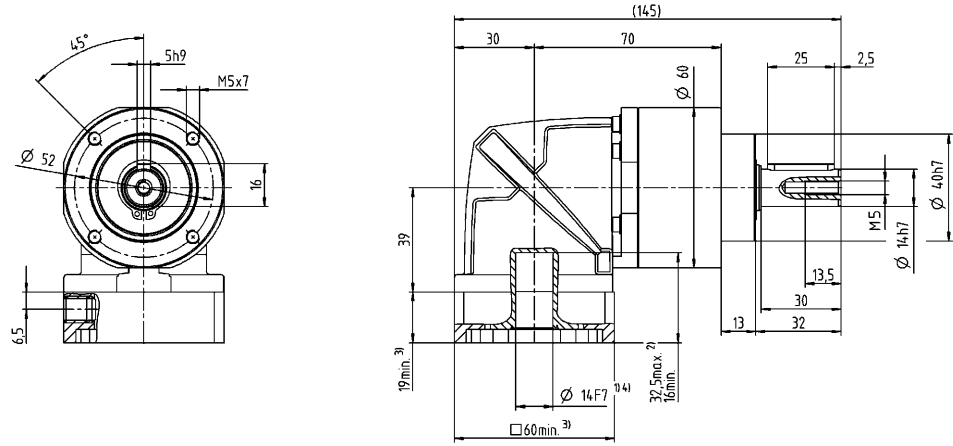
^{d)} Please reduce input speed at higher ambient temperatures

^{e)} Valid for: Smooth shaft

Motor shaft diameter [mm]

2-stage

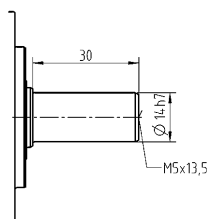
up to 14⁴⁾ (C)⁵⁾
clamping hub
diameter



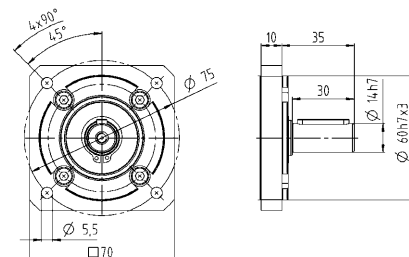
Bevel Gearboxes
Basic Line

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 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	32	35	40	50	64	70	100
Max. torque ^{a) b) e)}		T_{2a}		Nm	48	48	48	56	56	58	56	48	56	58	56	58	56	58	56
				in.lb	425	425	425	496	496	513	496	425	496	513	496	513	496	513	496
Max. acceleration torque ^{e)} (max. 1000 cycles per hour)		T_{2B}		Nm	30	30	30	35	35	40	35	30	35	40	35	40	35	40	35
				in.lb	266	266	266	310	310	354	310	266	310	354	310	354	310	354	310
Emergency stop torque ^{a) b) e)} (permitted 1000 times during the service life of the gearbox)		T_{2Not}		Nm	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75
				in.lb	664	664	664	664	664	664	664	664	664	664	664	664	664	664	664
Permitted average input speed ^{d)} (at T_{2a} and 20 °C ambient temperature)		n_{1N}		rpm	3300	3300	3300	3300	3300	3300	3300	3300	3300	3300	3300	3300	3300	3300	3300
Max. input speed		n_{1Max}		rpm	5000	5000	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	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	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	2.1	2.1
				in.lb/arcmin	19	19	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_{2KMax}		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	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	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

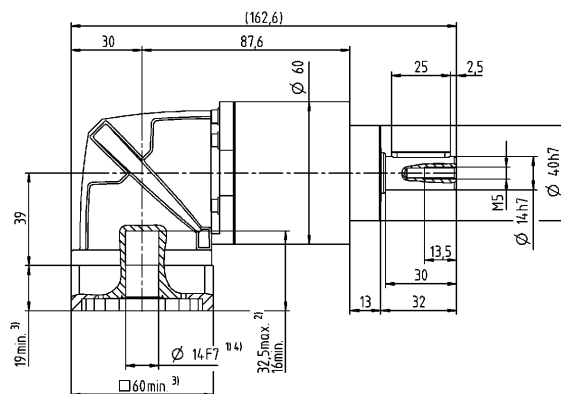
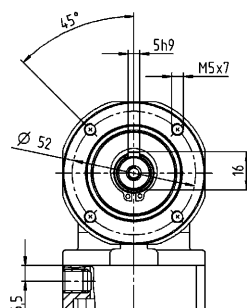
^{d)} Please reduce input speed at higher ambient temperatures

^{e)} Valid for: Smooth shaft

Motor shaft diameter [mm]

3-stage

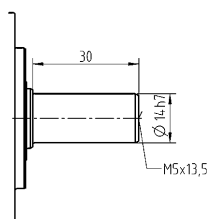
up to 14 ⁴⁾ (C) ⁵⁾
clamping hub
diameter



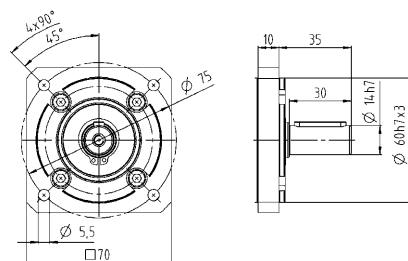
Bevel Gearboxes Basic Line

Other output variants

Smooth shaft



Replaceable B5 output flange



Non-tolerated dimensions are nominal dimensions

¹⁾ Check motor shaft fit²⁾ 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

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_{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	4.2					
		lb _m	9.3					
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-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
			10 ⁻³ in.lb.s ²	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

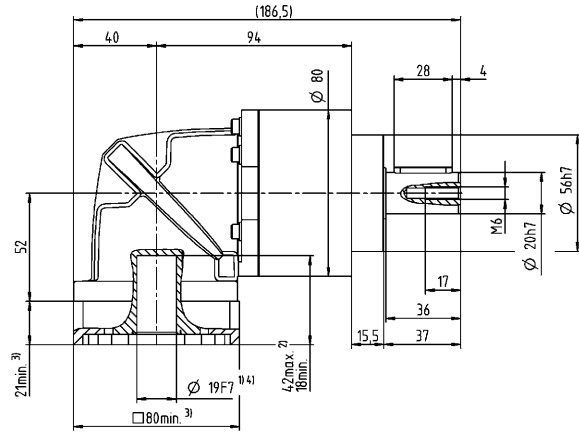
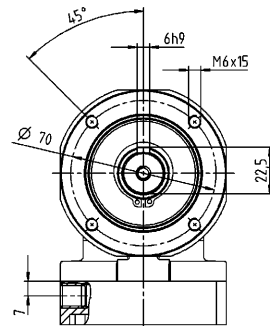
^{d)} Please reduce input speed at higher ambient temperatures

^{e)} Valid for: Smooth shaft

Motor shaft diameter [mm]

2-stage

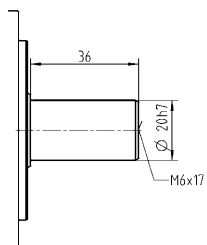
up to 19⁴⁾ (E)⁵⁾
clamping hub
diameter



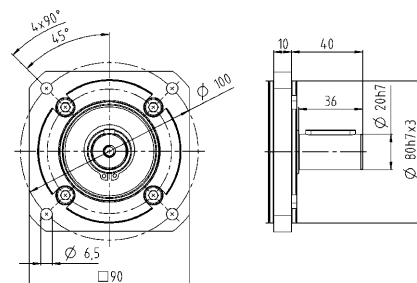
Bevel Gearboxes
Basic Line

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 thickness of 1 mm

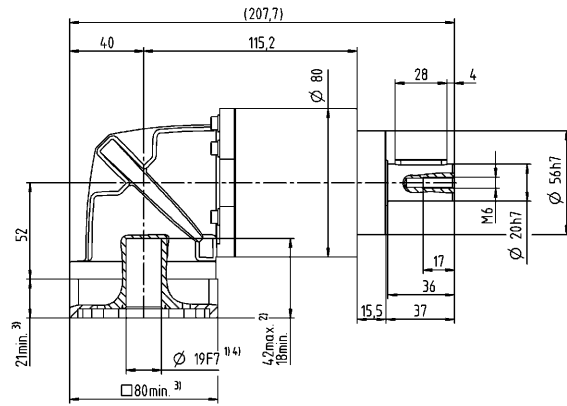
⁵⁾ Standard clamping hub diameter

CPSK 025 MF 3-stage

			3-stage														
Ratio	i		9	12	15	16	20	25	28	30	32	35	40	50	64	70	100
Max. torque ^{a) b) e)}	T_{2a}	Nm	112	112	112	150	150	150	150	112	150	150	150	150	144	150	144
		in.lb	991	991	991	1328	1328	1328	1328	991	1328	1328	1328	1328	1275	1328	1275
Max. acceleration torque ^{a)} (max. 1000 cycles per hour)	T_{2B}	Nm	70	70	70	95	95	95	95	70	95	100	95	100	90	100	90
		in.lb	620	620	620	841	841	841	841	620	841	885	841	885	797	885	797
Emergency stop torque ^{a) b) e)} (permitted 1000 times during the service life of the gearbox)	T_{2Not}	Nm	187	187	187	187	187	187	187	187	187	187	187	187	187	187	187
		in.lb	1655	1655	1655	1655	1655	1655	1655	1655	1655	1655	1655	1655	1655	1655	1655
Permitted average input speed ^{d)} (at T_{2a} and 20 °C ambient temperature)	n_{1N}	rpm	3000	3000	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	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	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	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	5.9	5.9
		in.lb/arcmin	52	52	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_{2KMax}	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)	≤ 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-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	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	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

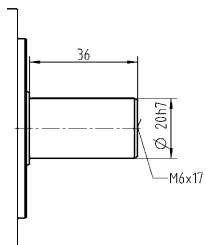
- ^{a)} Valid for torque transmission only
- ^{b)} Valid for standard clamping hub diameter
- ^{c)} Refers to center of the output shaft or flange
- ^{d)} Please reduce input speed at higher ambient temperatures
- ^{e)} Valid for: Smooth shaft



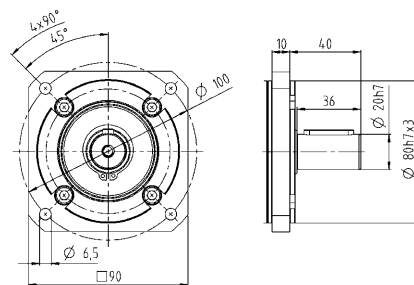
Bevel Gearboxes Basic Line

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 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 ^{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_{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	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
			10 ⁻³ in.lb.s ²	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

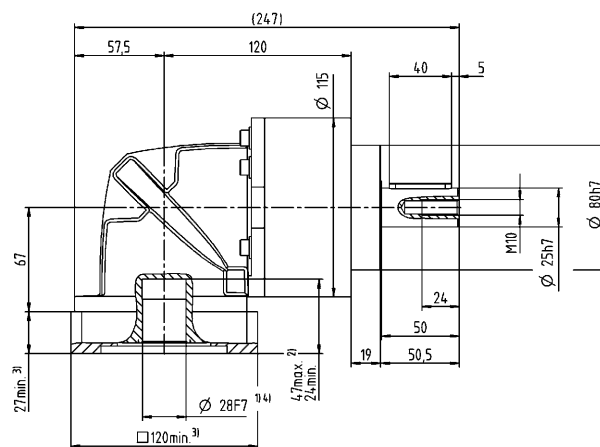
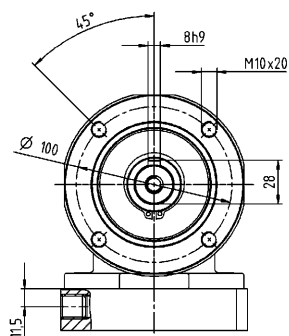
^{d)} Please reduce input speed at higher ambient temperatures

^{e)} Valid for: Smooth shaft

Motor shaft diameter [mm]

2-stage

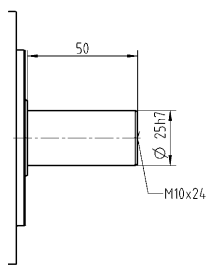
up to 28 ⁴⁾ (H) ⁵⁾
clamping hub
diameter



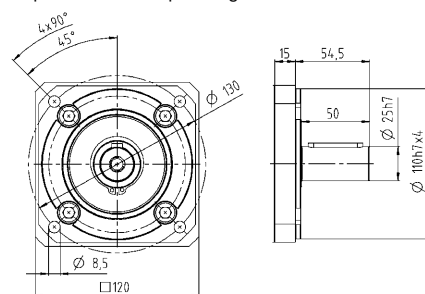
Bevel Gearboxes Basic Line

Other output variants

Smooth shaft



Replaceable B5 output flange



Non-tolerated dimensions are nominal dimensions

¹⁾ Check motor shaft fit²⁾ 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

⁵⁾ Standard clamping hub diameter

CPSK 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 ^{e)} (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_{t21}	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_{2QMMax}	N	1750														
			lb _f	394														
Max. tilting moment		M_{2KMax}	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	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	5.6

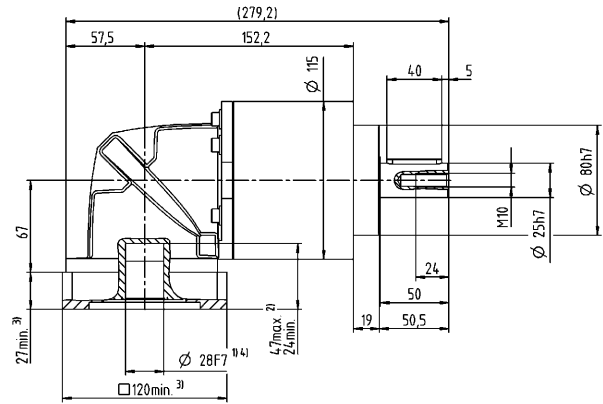
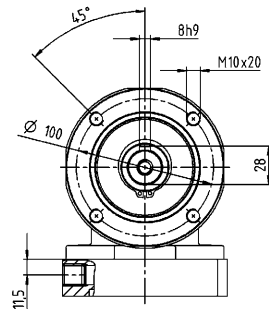
Please use our sizing software cymex® for a detailed sizing – www.wittenstein-cymex.com
Please consider the maximum permissible tilting moment caused by the motor M_{1KMot} – see sizing

- ^{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]

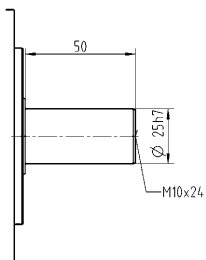
3-stage

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

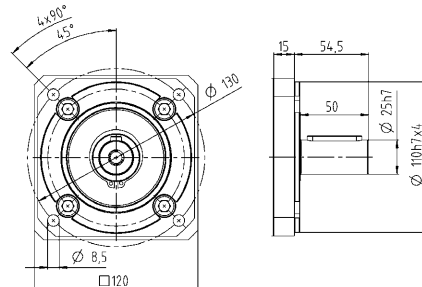
Bevel Gearboxes
Basic Line

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 thickness of 1 mm

⁵⁾ Standard clamping hub diameter