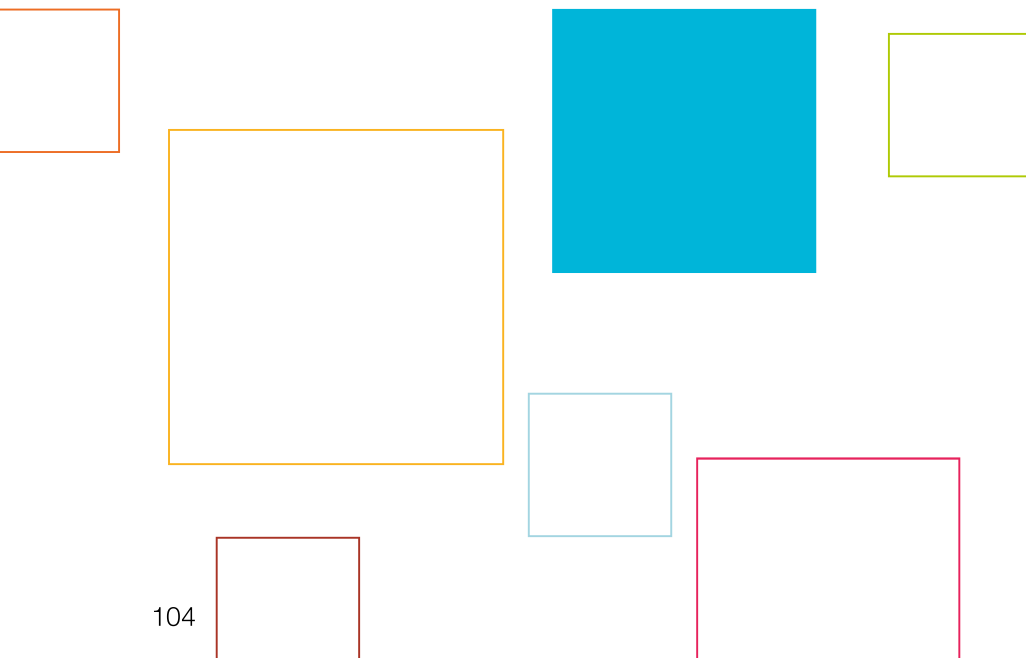


alpha Value Line

PLANETARY GEARBOXES NP / NPL / NPS / NPT / NPR / NTP

The strength of the planetary gearboxes of the alpha Value Line lies in the combination of economy and variety of output variants. Additionally, the gearboxes are suitable for very diverse applications – thanks to the range of ratios and the optimal positioning accuracy.



NPT



NP



NPL



NPS



NPR



NTP



alpha Value Line in action

INDIVIDUAL TALENTS – for trend-setting research

The planetary gearboxes of the alpha Value Line are suitable for universal application and offer the best economical solution for almost every requirement – on each axis and for all industries.

But the NP servo gearbox is also used outside the typical industrial environment: For research purposes, the planetary gearboxes are used in installations for the simulation of tides or tsunamis as well as for coastline and port basin optimization. With the wave simulators, shipyards or research centers can simulate and investigate the behavior of ships at sea or in a port, in ordinary but also in extreme situations.

The low-backlash NP planetary gearboxes of the alpha Value Line drive axes optimally in installations of multi-servo axes in wave tanks worldwide – for example in Great Britain, the USA, China and Italy.

Each wave simulator has a certain number of paddles for generating very special wave types and frequencies. Depending on the size of the simulator and the type of wave to be simulated – deep and shallow water, sea, current and storm conditions or river mouths – a belt drive, ball screw or rack and pinion drive are used. The size of the individual paddles can vary from a few centimeters to several meters.

Technical support, quality and flexibility were the decisive factors for the decision to cooperate with WITTENSTEIN in the simulation system. The NP gearboxes of the alpha Value Line offer the customer the ideal mix of precision, dynamic performance and price.





NP / NPL / NPS / NPT / NPR / NTP

– Individual Talents



The planetary gearboxes of the alpha Value Line are suitable for universal application and offer the best, most economical solution for virtually all requirements – on each axis and for all industries. The various drives and output Interfaces are offered as a compatible extension to the existing portfolio of WITTENSTEIN alpha – for maximum flexibility in design, assembly, and use.

PRODUCT HIGHLIGHTS



Unique modularity in this segment

With five series including five different output interfaces, the NP series offers maximum flexibility. From a simple machine connection using a B5 or B14 output flange to a flange connection or adjustment via slotted holes – the suitable solution for your machine requirements.



High economy

The gearboxes of the alpha Value Line are very economical to purchase, unbeatably efficient in operation, and maintenance free over their entire service life.



High flexibility

Modular configuration of the interfaces to the motor and to the application. The gearboxes are available with different clamping hub diameters, drive stages, design and mounting options.



Highest power density

The HIGH TORQUE version provides gearboxes with the highest power density.



Fast sizing

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



NPS – planetary gearbox with SP⁺ output geometry



NPL – planetary gearbox with reinforced bearings and B14 output geometry



NTP – planetary gearbox with TP⁺ output geometry



More information about the alpha Value Line: simply scan the QR code using your smartphone.

alpha.wittenstein.de/en-en/alpha-value-line



A Two-piece clamping hub system of the high-end segment

- Labeled with the tightening torques for secure, fast motor mounting
- Guarantees best synchronization properties

B Various output shapes

- Five variants of the NP series available: including with B5 flange mounting, output flange, etc.
- Higher external forces possible with NPL, NPS, and NPR

C High ratio variation

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

D Differentiated power density

- The HIGH TORQUE version permits an even higher torque density for sizes 015 – 035



NPR – planetary gearbox with slot holes for optimal rack and pinion mounting



cymex® select
BEST SOLUTION WITHIN SECONDS

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

NP 005 MF 1-stage

				1-stage					
Ratio	i		4	5	7	8	10		
Max. torque ^{a) b) e)}	T_{2a}	Nm	18	22	22	21	21		
		$in.lb$	159	195	195	186	186		
Max. acceleration torque ^{e)} (max. 1000 cycles per hour)	T_{2B}	Nm	11	14	14	13	13		
		$in.lb$	97	124	124	115	115		
Emergency stop torque ^{a) b) e)} (permitted 1000 times during the service life of the gearbox)	T_{2Not}	Nm	26	26	26	26	26		
		$in.lb$	230	230	230	230	230		
Permitted average input speed ^{d)} (at T_{2N} and 20 °C ambient temperature)	n_{1N}	rpm	3800	4000	4300	4400	4600		
Max. input speed	n_{1Max}	rpm	10000	10000	10000	10000	10000		
Mean no load running torque ^{b)} (at n_1 =3000 rpm and 20 °C gearbox temperature)	T_{012}	Nm	0.1	0.09	0.08	0.08	0.08		
		$in.lb$	0.89	0.8	0.71	0.71	0.71		
Max. backlash	j_t	$arcmin$	≤ 10						
Torsional rigidity ^{b)}	C_{t21}	$Nm/arcmin$	1.2	1.2	1.2	0.85	0.85		
		$in.lb/arcmin$	11	11	11	7.5	7.5		
Max. axial force ^{c)}	F_{2AMax}	N	700						
		lb_f	158						
Max. lateral force ^{c)}	F_{2QMMax}	N	800						
		lb_f	180						
Max. tilting moment	M_{2KMMax}	Nm	23						
		$in.lb$	204						
Efficiency at full load	η	%	97						
Service life	L_n	h	> 20000						
Weight (incl. standard adapter plate)	m	kg	0.7						
		lb_m	1.5						
Operating noise (at reference ratio and reference speed – ratio-specific values available in cymex®)	L_{PA}	$dB(A)$	≤ 58						
Max. permitted housing temperature		°C	+90						
		°F	+194						
Ambient temperature		°C	–15 to +40						
		°F	+5 to +104						
Lubrication			Lubricated for life						
Direction of rotation			In- and output same direction						
Protection class			IP 64						
Elastomer coupling (recommended product type – validate sizing with cymex®)			ELC-0005BA012.000-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]	Z	8	J_1	$kgcm^2$	0.03	0.03	0.03	0.02	0.02
				$10^{-3} in.lb.s^2$	0.03	0.03	0.03	0.02	0.02
	A	9	J_1	$kgcm^2$	0.03	0.03	0.03	0.03	0.02
				$10^{-3} in.lb.s^2$	0.03	0.03	0.03	0.03	0.02
	B	11	J_1	$kgcm^2$	0.05	0.05	0.04	0.04	0.04
				$10^{-3} in.lb.s^2$	0.04	0.04	0.04	0.04	0.04
	C	14	J_1	$kgcm^2$	0.14	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

^{a)} Valid for torque transmission only

^{b)} Valid for standard clamping hub diameter

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

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

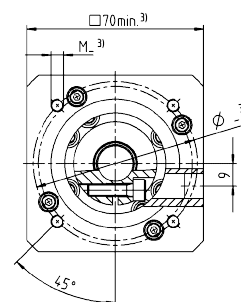
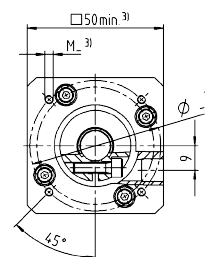
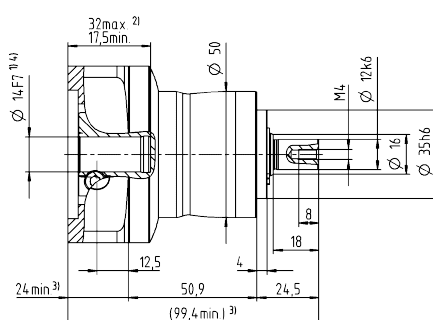
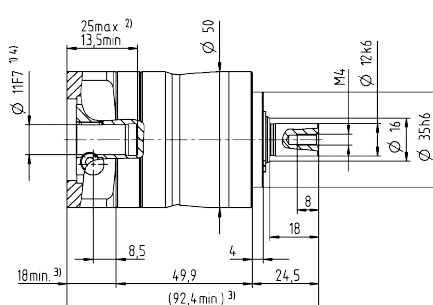
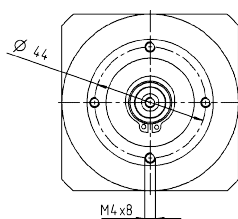
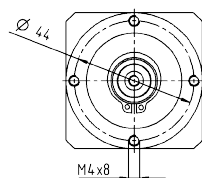
^{e)} Valid for: Smooth shaft

1-stage

up to 11 ⁴⁾ (B) ⁵⁾
clamping hub
diameter

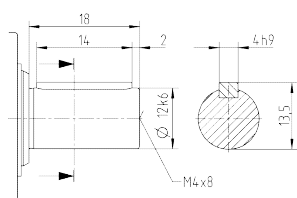
up to 14⁴⁾ (C)
clamping hub
diameter

Motor shaft diameter [mm]

Planetary Gearboxes
Value Line

Other output variants

Shaft with key



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 wall thickness of 1 mm

⁵⁾ Standard clamping hub diameter

NP 005 MF 2-stage

			2-stage									
Ratio	i		16	20	25	28	35	40	50	64	70	100
Max. torque ^{a) b) e)}	T_{2c}	Nm	18	18	22	18	22	18	22	21	22	21
		in.lb	159	159	195	159	195	159	195	186	195	186
Max. acceleration torque ^{e)} (max. 1000 cycles per hour)	T_{2B}	Nm	11	11	14	11	14	11	14	13	14	13
		in.lb	97	97	124	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
		in.lb	230	230	230	230	230	230	230	230	230	230
Permitted average input speed ^{d)} (at T_{2N} and 20 °C ambient temperature)	n_{1N}	rpm	4000	4000	4000	4300	4300	4600	4600	4400	4600	4600
Max. input speed	n_{1Max}	rpm	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000
Mean no load running torque ^{b)} (at $n_1=3000$ rpm and 20 °C gearbox temperature)	T_{012}	Nm	0.11	0.1	0.1	0.09	0.09	0.08	0.08	0.08	0.08	0.08
		in.lb	0.97	0.89	0.89	0.8	0.8	0.71	0.71	0.71	0.71	0.71
Max. backlash	j_t	arcmin	≤ 13									
Torsional rigidity ^{b)}	C_{t21}	Nm/arcmin	1.2	1.2	1.2	1.2	1.2	1.2	1.2	0.85	1.2	0.85
		in.lb/arcmin	11	11	11	11	11	11	11	7.5	11	7.5
Max. axial force ^{c)}	F_{2AMax}	N	700									
		lb _f	158									
Max. lateral force ^{c)}	F_{2QMMax}	N	800									
		lb _f	180									
Max. tilting moment	M_{2KMMax}	Nm	23									
		in.lb	204									
Efficiency at full load	η	%	95									
Service life	L_n	h	> 20000									
Weight (incl. standard adapter plate)	m	kg	0.9									
		lb _m	2									
Operating noise (at reference ratio and reference speed – ratio-specific values available in cymex®)	L_{PA}	dB(A)	≤ 58									
Max. permitted housing temperature		°C	+90									
		°F	+194									
Ambient temperature		°C	-15 to +40									
		°F	+5 to +104									
Lubrication			Lubricated for life									
Direction of rotation			In- and output same direction									
Protection class			IP 64									
Elastomer coupling (recommended product type – validate sizing with cymex®)			ELC-0005BA012.000-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]	Z	8	J_1	kgcm ²	0.03	0.03	0.03	0.03	0.03	0.02	0.02	0.02
				10 ⁻³ in.lb.s ²	0.03	0.03	0.03	0.03	0.03	0.02	0.02	0.02
	A	9	J_1	kgcm ²	0.03	0.03	0.02	0.03	0.03	0.02	0.02	0.02
				10 ⁻³ in.lb.s ²	0.03	0.03	0.02	0.03	0.03	0.02	0.02	0.02
	B	11	J_1	kgcm ²	0.05	0.05	0.04	0.05	0.04	0.04	0.04	0.04
				10 ⁻³ in.lb.s ²	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
	C	14	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

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

^{a)} Valid for torque transmission only

^{b)} Valid for standard clamping hub diameter

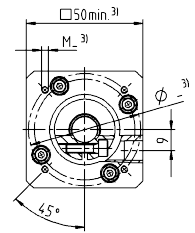
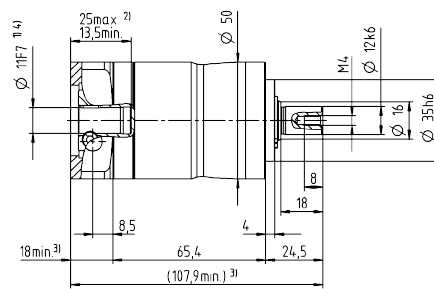
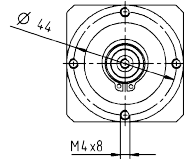
^{c)} Refers to center of the output shaft or flange

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

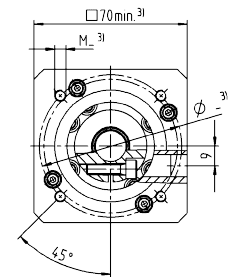
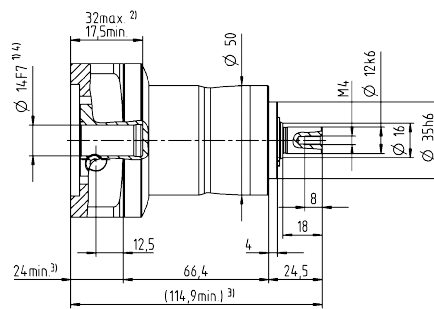
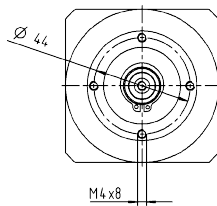
^{e)} Valid for: Smooth shaft

2-stage

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



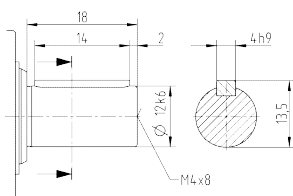
up to 14⁴⁾ (C)
clamping hub
diameter



Motor shaft diameter [mm]

Other output variants

Shaft with key



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

NP 015 MF 1-stage

				1-stage						
Ratio	i			3	4	5	7	8	10	
Max. torque ^{a) b) e)}	T_{2a}		Nm	51	56	64	64	56	56	
			in.lb	451	496	566	566	496	496	
Max. acceleration torque ^{a)} (max. 1000 cycles per hour)	T_{2B}		Nm	32	35	40	40	35	35	
			in.lb	283	310	354	354	310	310	
Emergency stop torque ^{a) b) e)} (permitted 1000 times during the service life of the gearbox)	T_{2Not}		Nm	80	80	80	80	80	80	
			in.lb	708	708	708	708	708	708	
Permitted average input speed ^{d)} (at T_{2N} and 20 °C ambient temperature)	n_{1N}		rpm	3300	3500	3700	4000	4100	4300	
Max. input speed	n_{1Max}		rpm	8000	8000	8000	8000	8000	8000	
Mean no load running torque ^{b)} (at n_1 =3000 rpm and 20 °C gearbox temperature)	T_{012}		Nm	0.24	0.2	0.17	0.14	0.13	0.12	
			in.lb	2.1	1.8	1.5	1.2	1.2	1.1	
Max. backlash	j_t		arcmin	≤ 8						
Torsional rigidity ^{b)}	C_{t21}		Nm/arcmin	3.3	3.3	3.3	3.3	2.8	2.8	
			in.lb/arcmin	29	29	29	29	25	25	
Max. axial force ^{c)}	F_{2AMax}		N	1550						
			lb _f	349						
Max. lateral force ^{c)}	F_{2QMMax}		N	1700						
			lb _f	383						
Max. tilting moment	M_{2KMMax}		Nm	72						
			in.lb	637						
Efficiency at full load	η		%	97						
Service life	L_n		h	> 20000						
Weight (incl. standard adapter plate)	m		kg	1.9						
			lb _m	4.2						
Operating noise (at reference ratio and reference speed – ratio-specific values available in cymex®)	L_{PA}		dB(A)	≤ 59						
Max. permitted housing temperature			°C	+90						
			°F	+194						
Ambient temperature			°C	–15 to +40						
			°F	+5 to +104						
Lubrication				Lubricated for life						
Direction of rotation				In- and output same direction						
Protection class				IP 64						
Elastomer coupling (recommended product type – validate sizing with cymex®)				ELC-0060BA016.000-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]	A	9	J_1	kgcm ²	0.22	0.18	0.16	0.14	0.14	0.13
				10 ⁻³ in.lb.s ²	0.19	0.16	0.14	0.12	0.12	0.12
	B	11	J_1	kgcm ²	0.24	0.19	0.18	0.16	0.15	0.15
				10 ⁻³ in.lb.s ²	0.21	0.17	0.16	0.14	0.13	0.13
	C	14	J_1	kgcm ²	0.32	0.27	0.25	0.23	0.23	0.22
				10 ⁻³ in.lb.s ²	0.28	0.24	0.22	0.2	0.2	0.19
	D	16	J_1	kgcm ²	0.45	0.4	0.38	0.36	0.36	0.35
				10 ⁻³ in.lb.s ²	0.4	0.35	0.34	0.32	0.32	0.31
E	19	J_1	kgcm ²	0.53	0.48	0.46	0.44	0.44	0.43	
			10 ⁻³ in.lb.s ²	0.47	0.42	0.41	0.39	0.39	0.38	

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

^{a)} Valid for torque transmission only

^{b)} Valid for standard clamping hub diameter

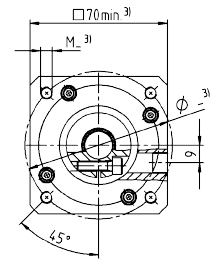
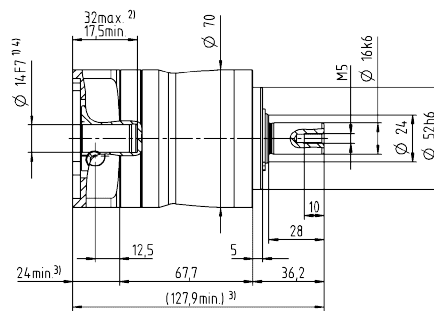
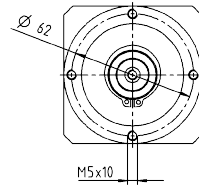
^{c)} Refers to center of the output shaft or flange

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

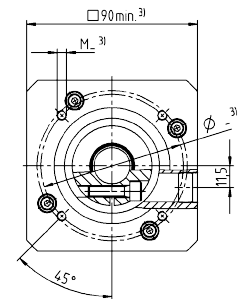
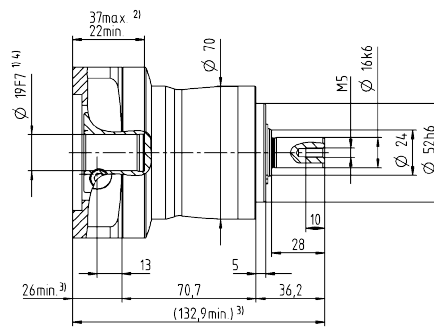
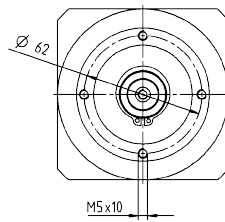
^{e)} Valid for: Smooth shaft

1-stage

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



up to 19⁴⁾ (E)
clamping hub
diameter

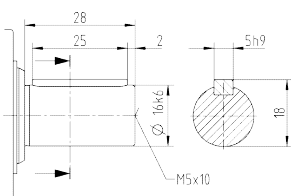


Motor shaft diameter [mm]

Planetary Gearboxes
Value Line

Other output variants

Shaft with key



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

NP 015 MF 2-stage

			2-stage															
Ratio	i			12	15	16	20	25	28	30	32	35	40	50	64	70	100	
Max. torque ^{a) b) e)}	T_{2c}		Nm	51	51	56	56	64	56	51	56	64	56	64	56	64	56	
			in.lb	451	451	496	496	566	496	451	496	566	496	566	496	566	496	
Max. acceleration torque ^{e)} (max. 1000 cycles per hour)	T_{2B}		Nm	32	32	35	35	40	35	32	35	40	35	40	35	40	35	
			in.lb	283	283	310	310	354	310	283	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	80	80	80	80	80	80	80	80	80	80	80	80	80	80	
			in.lb	708	708	708	708	708	708	708	708	708	708	708	708	708	708	
Permitted average input speed ^{d)} (at T_{2N} and 20 °C ambient temperature)	n_{1N}		rpm	3800	4000	3800	4000	4000	4300	4600	4400	4300	4600	4600	4400	4600	4600	
Max. input speed	n_{1Max}		rpm	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	
Mean no load running torque ^{b)} (at n_1 =3000 rpm and 20 °C gearbox temperature)	T_{012}		Nm	0.13	0.11	0.12	0.11	0.1	0.09	0.09	0.09	0.09	0.08	0.08	0.08	0.08	0.08	
			in.lb	1.2	0.97	1.1	0.97	0.89	0.8	0.8	0.8	0.8	0.71	0.71	0.71	0.71	0.71	
Max. backlash	j_t		arcmin	≤ 10														
Torsional rigidity ^{b)}	C_{t21}		Nm/arcmin	3.3	3.3	3.3	3.3	3.3	3.3	4	3.3	3.3	3.3	3.3	2.8	3.3	2.8	
			in.lb/arcmin	29	29	29	29	29	29	35	29	29	29	29	25	29	25	
Max. axial force ^{c)}	F_{2AMax}		N	1550														
			lb _f	349														
Max. lateral force ^{c)}	F_{2QMMax}		N	1700														
			lb _f	383														
Max. tilting moment	M_{2KMMax}		Nm	72														
			in.lb	637														
Efficiency at full load	η		%	95														
Service life	L_h		h	> 20000														
Weight (incl. standard adapter plate)	m		kg	1.9														
			lb _m	4.2														
Operating noise (at reference ratio and reference speed – ratio-specific values available in cymex®)	L_{PA}		dB(A)	≤ 58														
Max. permitted housing temperature			°C	+90														
			°F	+194														
Ambient temperature			°C	−15 to +40														
			°F	+5 to +104														
Lubrication			Lubricated for life															
Direction of rotation			In- and output same direction															
Protection class			IP 64															
Elastomer coupling (recommended product type – validate sizing with cymex®)			ELC-0060BA016.000-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]	Z	8	J_1	kgcm ²	0.04	0.04	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.02	0.02	0.02	0.02
				10 ⁻³ in.lb.s ²	0.04	0.04	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.02	0.02	0.02	0.02
	A	9	J_1	kgcm ²	0.04	0.04	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.02	0.02	0.02	0.02
				10 ⁻³ in.lb.s ²	0.04	0.04	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.02	0.02	0.02	0.02
	B	11	J_1	kgcm ²	0.06	0.05	0.05	0.05	0.05	0.05	0.05	0.04	0.05	0.04	0.04	0.04	0.04	
				10 ⁻³ in.lb.s ²	0.05	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
	C	14	J_1	kgcm ²	0.14	0.14	0.14	0.13	0.13	0.13	0.14	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	0.12	0.12	0.12	0.12

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

^{a)} Valid for torque transmission only

^{b)} Valid for standard clamping hub diameter

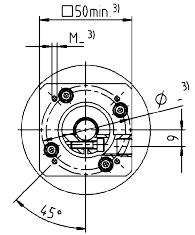
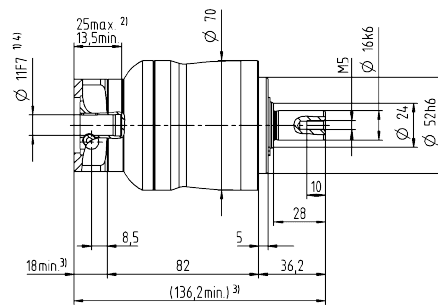
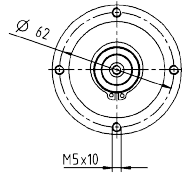
^{c)} Refers to center of the output shaft or flange

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

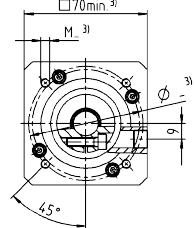
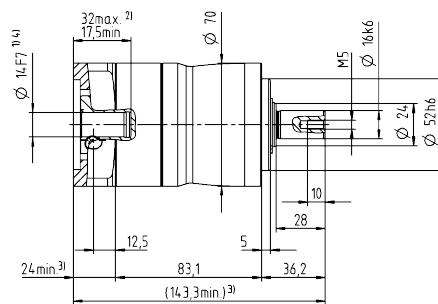
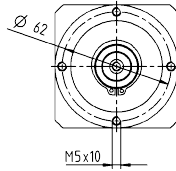
^{e)} Valid for: Smooth shaft

2-stage

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



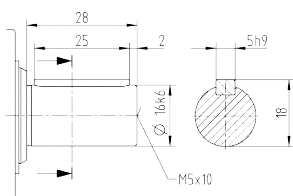
up to 14⁴⁾ (C)
clamping hub
diameter



Motor shaft diameter [mm]

Other output variants

Shaft with key



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

NP 025 MF 1-stage

				1-stage						
Ratio	i			3	4	5	7	8	10	
Max. torque ^{a) b) e)}	T_{2a}		<i>Nm</i>	128	152	160	160	144	144	
			<i>in.lb</i>	1133	1345	1416	1416	1275	1275	
Max. acceleration torque ^{a)} (max. 1000 cycles per hour)	T_{2B}		<i>Nm</i>	80	95	100	100	90	90	
			<i>in.lb</i>	708	841	885	885	797	797	
Emergency stop torque ^{a) b) e)} (permitted 1000 times during the service life of the gearbox)	T_{2Not}		<i>Nm</i>	190	190	190	190	190	190	
			<i>in.lb</i>	1682	1682	1682	1682	1682	1682	
Permitted average input speed ^{d)} (at T_{2N} and 20 °C ambient temperature)	n_{1N}		<i>rpm</i>	3100	3300	3400	3600	3700	3900	
Max. input speed	n_{1Max}		<i>rpm</i>	7000	7000	7000	7000	7000	7000	
Mean no load running torque ^{b)} (at n_1 =3000 rpm and 20 °C gearbox temperature)	T_{012}		<i>Nm</i>	0.38	0.31	0.26	0.21	0.19	0.17	
			<i>in.lb</i>	3.4	2.7	2.3	1.9	1.7	1.5	
Max. backlash	j_t		<i>arcmin</i>	≤ 8						
Torsional rigidity ^{b)}	C_{t21}		<i>Nm/arcmin</i>	9.5	9.5	9.5	9.5	8.5	8.5	
			<i>in.lb/arcmin</i>	84	84	84	84	75	75	
Max. axial force ^{c)}	F_{2AMax}		<i>N</i>	1900						
			<i>lb_f</i>	428						
Max. lateral force ^{c)}	F_{2QMMax}		<i>N</i>	2800						
			<i>lb_f</i>	630						
Max. tilting moment	M_{2KMMax}		<i>Nm</i>	137						
			<i>in.lb</i>	1213						
Efficiency at full load	η		%	97						
Service life	L_n		<i>h</i>	> 20000						
Weight (incl. standard adapter plate)	m		<i>kg</i>	3.8						
			<i>lb_m</i>	8.4						
Operating noise (at reference ratio and reference speed – ratio-specific values available in cymex®)	L_{PA}		<i>dB(A)</i>	≤ 61						
Max. permitted housing temperature			°C	+90						
			°F	+194						
Ambient temperature			°C	–15 to +40						
			°F	+5 to +104						
Lubrication				Lubricated for life						
Direction of rotation				In- and output same direction						
Protection class				IP 64						
Elastomer coupling (recommended product type – validate sizing with cymex®)				ELC-0060BA022.000-X						
Bore diameter of coupling on the application side			<i>mm</i>	X = 012.000 - 032.000						
Mass moment of inertia (relates to the drive) Clamping hub diameter [mm]	C	14	J_1	<i>kgcm²</i>	0.57	0.46	0.37	0.3	0.27	0.25
				<i>10⁻³ in.lb.s²</i>	0.5	0.41	0.33	0.27	0.24	0.22
	D	16	J_1	<i>kgcm²</i>	0.71	0.61	0.52	0.43	0.42	0.4
				<i>10⁻³ in.lb.s²</i>	0.63	0.54	0.46	0.38	0.37	0.35
	E	19	J_1	<i>kgcm²</i>	0.8	0.7	0.61	0.53	0.51	0.49
				<i>10⁻³ in.lb.s²</i>	0.71	0.62	0.54	0.47	0.45	0.43
	G	24	J_1	<i>kgcm²</i>	1.8	1.7	1.6	1.6	1.5	1.5
				<i>10⁻³ in.lb.s²</i>	1.6	1.5	1.4	1.4	1.3	1.3
	H	28	J_1	<i>kgcm²</i>	1.5	1.4	1.3	1.3	1.2	1.2
				<i>10⁻³ in.lb.s²</i>	1.3	1.2	1.2	1.2	1.1	1.1

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

^{a)} Valid for torque transmission only

^{b)} Valid for standard clamping hub diameter

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

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

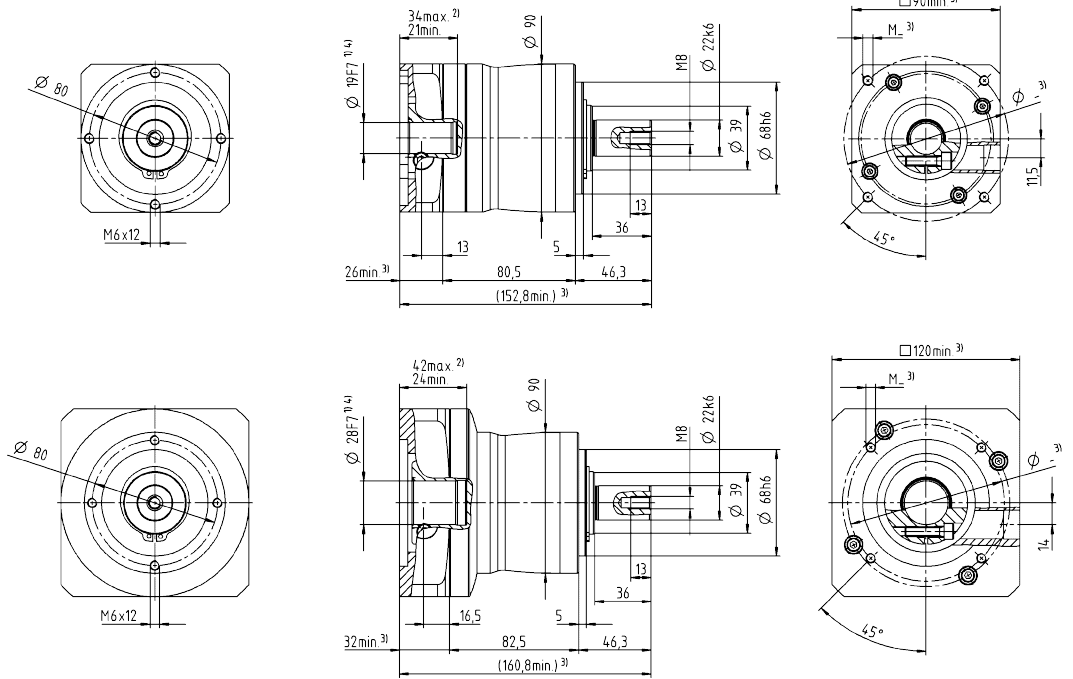
^{e)} Valid for: Smooth shaft

1-stage

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

Motor shaft diameter [mm]

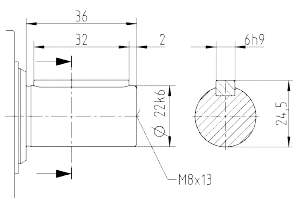
up to 28⁴⁾ (H)
clamping hub
diameter



Planetary Gearboxes
Value Line

Other output variants

Shaft with key



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

NP 025 MF 2-stage

			2-stage														
Ratio	i		9	12	15	16	20	25	28	30	32	35	40	50	64	70	100
Max. torque ^{a) b) e)}	T_{2c}	Nm	128	128	128	152	152	160	152	128	152	160	152	160	144	160	144
		in.lb	1133	1133	1133	1345	1345	1416	1345	1133	1345	1416	1345	1416	1275	1416	1275
Max. acceleration torque ^{a)} (max. 1000 cycles per hour)	T_{2B}	Nm	80	80	80	95	95	100	95	80	95	100	95	100	90	100	90
		in.lb	708	708	708	841	841	885	841	708	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	190	190	190	190	190	190	190	190	190	190	190	190	190	190	190
		in.lb	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682
Permitted average input speed ^{d)} (at T_{2N} and 20 °C ambient temperature)	n_{1N}	rpm	3300	3500	3700	3500	3700	3700	4000	4300	4100	4000	4300	4300	4100	4300	4300
Max. input speed	n_{1Max}	rpm	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000
Mean no load running torque ^{b)} (at $n_1=3000$ rpm and 20 °C gearbox temperature)	T_{012}	Nm	0.22	0.18	0.16	0.16	0.15	0.14	0.12	0.12	0.12	0.12	0.11	0.1	0.1	0.1	0.09
		in.lb	1.9	1.6	1.4	1.4	1.3	1.2	1.1	1.1	1.1	1.1	0.97	0.89	0.89	0.89	0.8
Max. backlash	j_t	arcmin	≤ 10														
Torsional rigidity ^{b)}	C_{t21}	Nm/arcmin	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	8.5	9.5	8.5
		in.lb/arcmin	84	84	84	84	84	84	84	84	84	84	84	84	75	84	75
Max. axial force ^{c)}	F_{2AMax}	N	1900														
		lb _f	428														
Max. lateral force ^{c)}	F_{2QMMax}	N	2800														
		lb _f	630														
Max. tilting moment	M_{2KMMax}	Nm	137														
		in.lb	1213														
Efficiency at full load	η	%	95														
Service life	L_n	h	> 20000														
Weight (incl. standard adapter plate)	m	kg	4.1														
		lb _m	9.1														
Operating noise (at reference ratio and reference speed – ratio-specific values available in cymex®)	L_{PA}	dB(A)	≤ 59														
Max. permitted housing temperature		°C	+90														
		°F	+194														
Ambient temperature		°C	-15 to +40														
		°F	+5 to +104														
Lubrication			Lubricated for life														
Direction of rotation			In- and output same direction														
Protection class			IP 64														
Elastomer coupling (recommended product type – validate sizing with cymex®)			ELC-0060BA022.000-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]	A	9	J_t	kgcm ²	0.26	0.22	0.21	0.21	0.2	0.2	0.19	0.19	0.19	0.19	0.19	0.19	0.19
				10 ⁻³ in.lb.s ²	0.23	0.19	0.19	0.19	0.18	0.18	0.17	0.17	0.17	0.17	0.17	0.17	0.17
	B	11	J_t	kgcm ²	0.28	0.24	0.23	0.23	0.22	0.22	0.21	0.21	0.21	0.21	0.21	0.21	0.21
				10 ⁻³ in.lb.s ²	0.25	0.21	0.2	0.2	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19
	C	14	J_t	kgcm ²	0.35	0.31	0.3	0.3	0.3	0.29	0.29	0.28	0.28	0.28	0.28	0.28	0.28
				10 ⁻³ in.lb.s ²	0.31	0.27	0.27	0.27	0.27	0.26	0.26	0.25	0.25	0.25	0.25	0.25	0.25
	D	16	J_t	kgcm ²	0.48	0.44	0.43	0.43	0.42	0.42	0.41	0.41	0.41	0.41	0.41	0.41	0.41
				10 ⁻³ in.lb.s ²	0.42	0.39	0.38	0.38	0.37	0.37	0.36	0.36	0.36	0.36	0.36	0.36	0.36
	E	19	J_t	kgcm ²	0.56	0.52	0.51	0.51	0.51	0.5	0.5	0.5	0.5	0.49	0.49	0.49	0.49
				10 ⁻³ in.lb.s ²	0.5	0.46	0.45	0.45	0.45	0.44	0.44	0.44	0.44	0.43	0.43	0.43	0.43

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

^{a)} Valid for torque transmission only

^{b)} Valid for standard clamping hub diameter

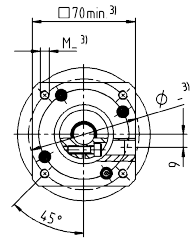
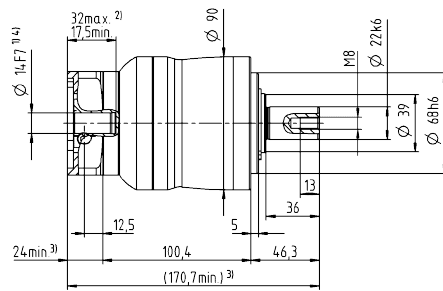
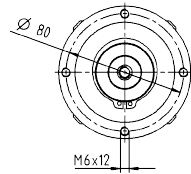
^{c)} Refers to center of the output shaft or flange

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

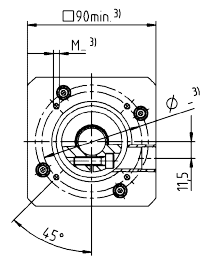
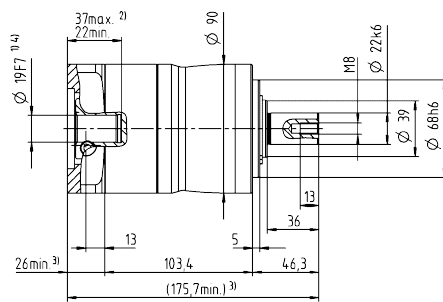
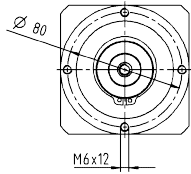
^{e)} Valid for: Smooth shaft

2-stage

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



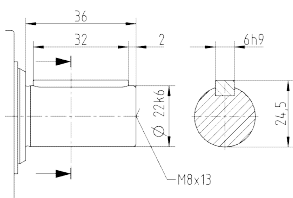
up to 19⁴⁾ (E)
clamping hub
diameter



Motor shaft diameter [mm]

Other output variants

Shaft with key



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

NP 035 MF 1-stage

				1-stage						
Ratio	i			3	4	5	7	8	10	
Max. torque ^{a) b) e)}	T_{2a}		Nm	320	408	400	400	352	352	
			in.lb	2832	3611	3540	3540	3115	3115	
Max. acceleration torque ^{a)} (max. 1000 cycles per hour)	T_{2B}		Nm	200	255	250	250	220	220	
			in.lb	1770	2257	2213	2213	1947	1947	
Emergency stop torque ^{a) b) e)} (permitted 1000 times during the service life of the gearbox)	T_{2Not}		Nm	500	500	500	500	500	500	
			in.lb	4425	4425	4425	4425	4425	4425	
Permitted average input speed ^{d)} (at T_{2N} and 20 °C ambient temperature)	n_{1N}		rpm	2300	2500	2600	2800	2900	3000	
Max. input speed	n_{1Max}		rpm	6000	6000	6000	6000	6000	6000	
Mean no load running torque ^{b)} (at n_1 =3000 rpm and 20 °C gearbox temperature)	T_{012}		Nm	1	0.85	0.76	0.66	0.63	0.58	
			in.lb	8.9	7.5	6.7	5.8	5.6	5.1	
Max. backlash	j_t		arcmin	≤ 8						
Torsional rigidity ^{b)}	C_{t21}		Nm/arcmin	22	25	25	25	22	22	
			in.lb/arcmin	195	221	221	221	195	195	
Max. axial force ^{c)}	F_{2AMax}		N	4000						
			lb _f	900						
Max. lateral force ^{c)}	F_{2QMMax}		N	5000						
			lb _f	1125						
Max. tilting moment	M_{2KMMax}		Nm	345						
			in.lb	3054						
Efficiency at full load	η		%	97						
Service life	L_n		h	> 20000						
Weight (incl. standard adapter plate)	m		kg	9.4						
			lb _m	21						
Operating noise (at reference ratio and reference speed – ratio-specific values available in cymex®)	L_{PA}		dB(A)	≤ 65						
Max. permitted housing temperature			°C	+90						
			°F	+194						
Ambient temperature			°C	–15 to +40						
			°F	+5 to +104						
Lubrication				Lubricated for life						
Direction of rotation				In- and output same direction						
Protection class				IP 64						
Elastomer coupling (recommended product type – validate sizing with cymex®)				ELC-0150BA032.000-X						
Bore diameter of coupling on the application side				X = 019.000 - 036.000						
Mass moment of inertia (relates to the drive) Clamping hub diameter [mm]	E	19	J_1	kgcm ²	2.6	1.7	1.4	1	1	0.9
				10 ⁻³ in.lb.s ²	2.3	1.5	1.2	0.89	0.89	0.8
	G	24	J_1	kgcm ²	3.4	2.5	2.2	1.8	1.7	1.7
				10 ⁻³ in.lb.s ²	3	2.2	1.9	1.6	1.5	1.5
	H	28	J_1	kgcm ²	3.1	2.2	1.9	1.5	1.4	1.4
				10 ⁻³ in.lb.s ²	2.7	1.9	1.7	1.3	1.2	1.2
	I	32	J_1	kgcm ²	7.2	6.3	5.9	5.6	5.5	5.4
				10 ⁻³ in.lb.s ²	6.4	5.6	5.2	5	4.9	4.8
K	38	J_1	kgcm ²	8.3	7.4	7.1	6.8	6.7	6.6	
			10 ⁻³ in.lb.s ²	7.3	6.5	6.3	6	5.9	5.8	

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

^{a)} Valid for torque transmission only

^{b)} Valid for standard clamping hub diameter

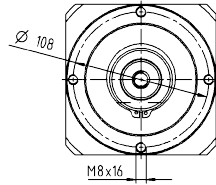
^{c)} Refers to center of the output shaft or flange

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

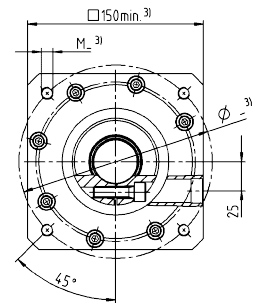
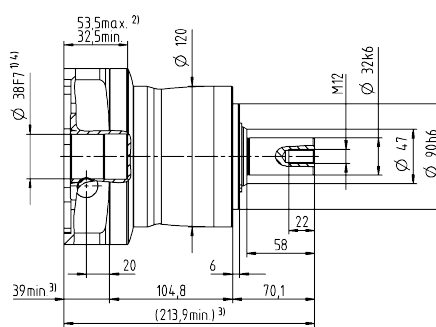
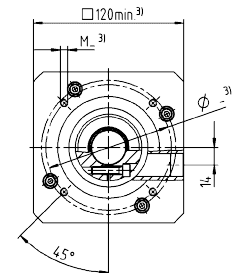
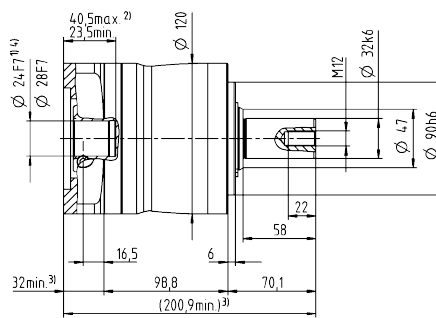
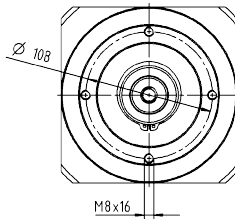
^{e)} Valid for: Smooth shaft

1-stage

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



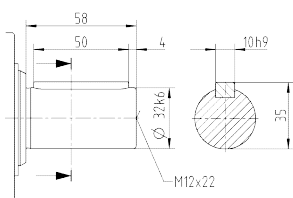
up to 38⁴⁾ (K)
clamping hub
diameter



Motor shaft diameter [mm]

Other output variants

Shaft with key



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

NP 035 MF 2-stage

				2-stage															
Ratio	i			9	12	15	16	20	25	28	30	32	35	40	50	64	70	100	
Max. torque ^{a) b) e)}	T_{2c}		<i>Nm</i>	320	320	320	408	408	400	408	320	408	400	408	400	352	400	352	
			<i>in.lb</i>	2832	2832	2832	3611	3611	3540	3611	2832	3611	3540	3611	3540	3115	3540	3115	
Max. acceleration torque ^{e)} (max. 1000 cycles per hour)	T_{2B}		<i>Nm</i>	200	200	200	255	255	250	255	200	255	250	255	250	220	250	220	
			<i>in.lb</i>	1770	1770	1770	2257	2257	2213	2257	1770	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}		<i>Nm</i>	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	
			<i>in.lb</i>	4425	4425	4425	4425	4425	4425	4425	4425	4425	4425	4425	4425	4425	4425	4425	
Permitted average input speed ^{d)} (at T_{2N} and 20 °C ambient temperature)	n_{1N}		<i>rpm</i>	3100	3300	3400	3300	3400	3400	3600	3900	3700	3600	3900	3900	3700	3900	3900	
Max. input speed	n_{1Max}		<i>rpm</i>	7000	7000	7000	7000	7000	7000	7000	7000	7000	7000	7000	7000	7000	7000	7000	
Mean no load running torque ^{b)} (at n_1 =3000 rpm and 20 °C gearbox temperature)	T_{012}		<i>Nm</i>	0.45	0.36	0.3	0.32	0.27	0.25	0.22	0.19	0.2	0.2	0.18	0.17	0.17	0.16	0.15	
			<i>in.lb</i>	4	3.2	2.7	2.8	2.4	2.2	1.9	1.7	1.8	1.8	1.6	1.5	1.5	1.4	1.3	
Max. backlash	j_t		<i>arcmin</i>	≤ 10															
Torsional rigidity ^{b)}	C_{t21}		<i>Nm/arcmin</i>	22	22	22	25	25	25	25	22	25	25	25	25	22	25	22	
			<i>in.lb/arcmin</i>	195	195	195	221	221	221	221	195	221	221	221	221	195	221	195	
Max. axial force ^{c)}	F_{2AMax}		<i>N</i>	4000															
			<i>lb_f</i>	900															
Max. lateral force ^{c)}	F_{2QMax}		<i>N</i>	5000															
			<i>lb_f</i>	1125															
Max. tilting moment	M_{2KMax}		<i>Nm</i>	345															
			<i>in.lb</i>	3054															
Efficiency at full load	η		%	95															
Service life	L_h		<i>h</i>	> 20000															
Weight (incl. standard adapter plate)	m		<i>kg</i>	9.8															
			<i>lb_m</i>	22															
Operating noise (at reference ratio and reference speed – ratio-specific values available in cymex®)	L_{PA}		<i>dB(A)</i>	≤ 61															
Max. permitted housing temperature			°C	+90															
			°F	+194															
Ambient temperature			°C	−15 to +40															
			°F	+5 to +104															
Lubrication				Lubricated for life															
Direction of rotation				In- and output same direction															
Protection class				IP 64															
Elastomer coupling (recommended product type – validate sizing with cymex®)				ELC-0150BA032.000-X															
Bore diameter of coupling on the application side				X = 019.000 - 036.000															
Mass moment of inertia (relates to the drive) Clamping hub diameter [mm]	C	14	J_1	<i>kgcm²</i>	0.61	0.6	0.6	0.43	0.42	0.36	0.37	0.52	0.38	0.32	0.36	0.31	0.26	0.27	0.24
				<i>10⁻³ in.lb.s²</i>	0.54	0.53	0.53	0.38	0.37	0.32	0.33	0.46	0.34	0.28	0.32	0.27	0.23	0.24	0.21
	D	16	J_1	<i>kgcm²</i>	0.76	0.75	0.75	0.58	0.57	0.5	0.5	0.67	0.52	0.45	0.51	0.46	0.4	0.41	0.39
				<i>10⁻³ in.lb.s²</i>	0.67	0.66	0.66	0.51	0.5	0.44	0.44	0.59	0.46	0.4	0.45	0.41	0.35	0.36	0.35
	E	19	J_1	<i>kgcm²</i>	0.85	0.83	0.83	0.67	0.66	0.59	0.6	0.75	0.61	0.55	0.6	0.54	0.49	0.5	0.48
				<i>10⁻³ in.lb.s²</i>	0.75	0.73	0.73	0.59	0.58	0.52	0.53	0.66	0.54	0.49	0.53	0.48	0.43	0.44	0.42
	G	24	J_1	<i>kgcm²</i>	1.9	1.9	1.9	1.7	1.7	1.6	1.6	1.8	1.6	1.6	1.6	1.6	1.5	1.5	1.5
				<i>10⁻³ in.lb.s²</i>	1.7	1.7	1.7	1.5	1.5	1.4	1.4	1.6	1.4	1.4	1.4	1.4	1.3	1.3	1.3
	H	28	J_1	<i>kgcm²</i>	1.6	1.6	1.6	1.4	1.4	1.3	1.3	1.5	1.4	1.3	1.3	1.3	1.2	1.2	1.2
				<i>10⁻³ in.lb.s²</i>	1.4	1.4	1.4	1.2	1.2	1.2	1.2	1.3	1.2	1.2	1.2	1.2	1.1	1.1	1.1

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

^{a)} Valid for torque transmission only

^{b)} Valid for standard clamping hub diameter

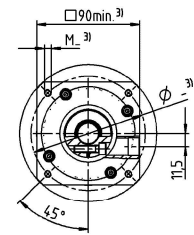
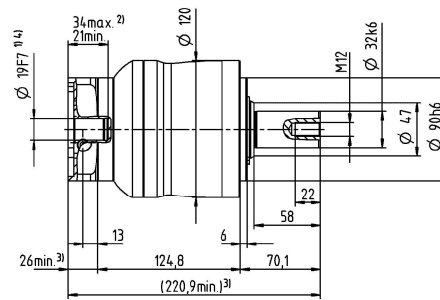
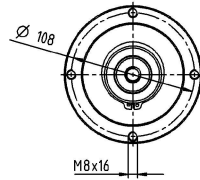
^{c)} Refers to center of the output shaft or flange

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

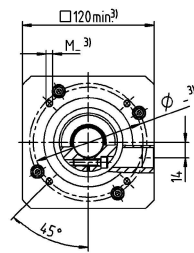
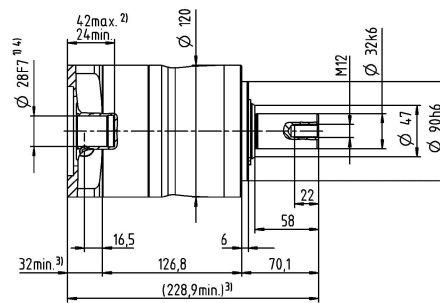
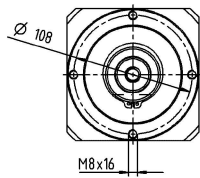
^{e)} Valid for: Smooth shaft

2-stage

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



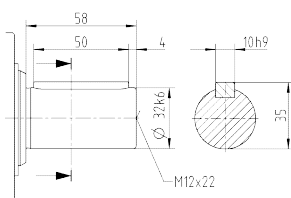
up to 28⁴⁾ (H)
clamping hub
diameter



Motor shaft diameter [mm]

Other output variants

Shaft with key



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

NP 045 MF 1- / 2-stage

				1-stage			2-stage					
Ratio	i			5	8	10	25	32	50	64	100	
Max. torque ^{a) b) e)}	T_{2a}		<i>Nm</i>	800	640	640	700	640	700	640	640	
			<i>in.lb</i>	7081	5665	5665	6196	5665	6196	5665	5665	
Max. acceleration torque ^{a)} (max. 1000 cycles per hour)	T_{2B}		<i>Nm</i>	500	400	400	500	400	500	400	400	
			<i>in.lb</i>	4425	3540	3540	4425	3540	4425	3540	3540	
Emergency stop torque ^{a) b) e)} (permitted 1000 times during the service life of the gearbox)	T_{2Not}		<i>Nm</i>	1000	1000	1000	1000	1000	1000	1000	1000	
			<i>in.lb</i>	8851	8851	8851	8851	8851	8851	8851	8851	
Permitted average input speed ^{d)} (at T_{2N} and 20 °C ambient temperature)	n_{1N}		<i>rpm</i>	2000	2200	2300	2600	2500	3000	2900	3000	
Max. input speed	n_{1Max}		<i>rpm</i>	4000	4000	4000	6000	6000	6000	6000	6000	
Mean no load running torque ^{b)} (at n_1 =3000 rpm and 20 °C gearbox temperature)	T_{012}		<i>Nm</i>	2.4	2	1.9	0.8	0.68	0.6	0.6	0.55	
			<i>in.lb</i>	21	18	17	7.1	6	5.3	5.3	4.9	
Max. backlash	j_t		<i>arcmin</i>	≤ 8			≤ 10					
Torsional rigidity ^{b)}	C_{t21}		<i>Nm/arcmin</i>	55	44	44	55	55	55	44	44	
			<i>in.lb/arcmin</i>	487	389	389	487	487	487	389	389	
Max. axial force ^{c)}	F_{2AMax}		<i>N</i>	6000			6000					
			<i>lb_f</i>	1350			1350					
Max. lateral force ^{c)}	F_{2QMMax}		<i>N</i>	8000			8000					
			<i>lb_f</i>	1800			1800					
Max. tilting moment	M_{2KMax}		<i>Nm</i>	704			704					
			<i>in.lb</i>	6231			6231					
Efficiency at full load	η		%	97			95					
Service life	L_n		<i>h</i>	> 20000			> 20000					
Weight (incl. standard adapter plate)	m		<i>kg</i>	19			20					
			<i>lb_m</i>	42			44					
Operating noise (at reference ratio and reference speed – ratio-specific values available in cymex®)	L_{PA}		<i>dB(A)</i>	≤ 68			≤ 65					
Max. permitted housing temperature			°C	+90			+90					
			°F	+194			+194					
Ambient temperature			°C	–15 to +40			–15 to +40					
			°F	+5 to +104			+5 to +104					
Lubrication				Lubricated for life								
Direction of rotation				In- and output same direction								
Protection class				IP 64								
Elastomer coupling (recommended product type – validate sizing with cymex®) Bore diameter of coupling on the application side				ELC-0300BA040.000-X								
			<i>mm</i>	X = 020.000 - 045.000								
Mass moment of inertia (relates to the drive) Clamping hub diameter [mm]	E	19	J_1	<i>kgcm²</i>	–	–	–	1.2	1.1	1.1	0.88	0.82
				<i>10⁻³ in.lb.s²</i>	–	–	–	1.1	0.97	0.97	0.78	0.73
	G	24	J_1	<i>kgcm²</i>	–	–	–	2	1.9	1.8	1.7	1.6
				<i>10⁻³ in.lb.s²</i>	–	–	–	1.8	1.7	1.6	1.5	1.4
	H	28	J_1	<i>kgcm²</i>	–	–	–	1.7	1.6	1.5	1.4	1.3
				<i>10⁻³ in.lb.s²</i>	–	–	–	1.5	1.4	1.3	1.2	1.2
	I	32	J_1	<i>kgcm²</i>	–	–	–	5.8	5.7	5.6	5.4	5.4
				<i>10⁻³ in.lb.s²</i>	–	–	–	5.1	5	5	4.8	4.8
	K	38	J_1	<i>kgcm²</i>	8.8	7.4	7.2	7	6.9	6.8	6.6	6.5
				<i>10⁻³ in.lb.s²</i>	7.8	6.5	6.4	6.2	6.1	6	5.8	5.8

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

^{a)} Valid for torque transmission only

^{b)} Valid for standard clamping hub diameter

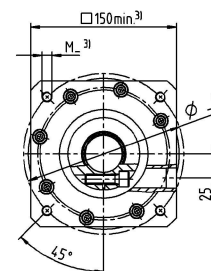
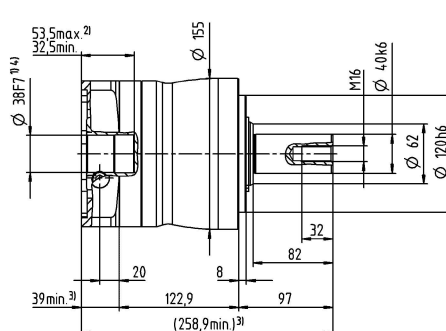
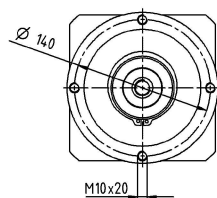
^{c)} Refers to center of the output shaft or flange

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

^{e)} Valid for: Smooth shaft

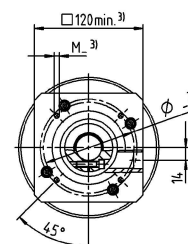
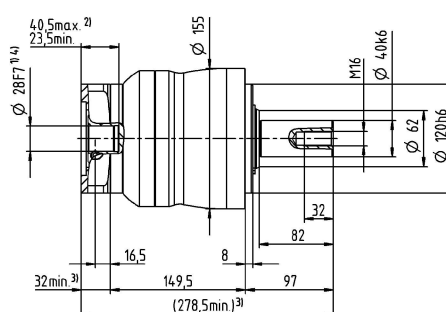
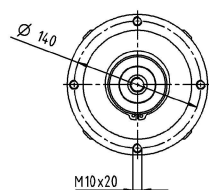
1-stage

up to 38 ⁴⁾ (K) ⁵⁾
clamping hub
diameter



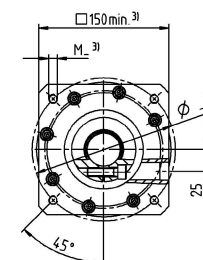
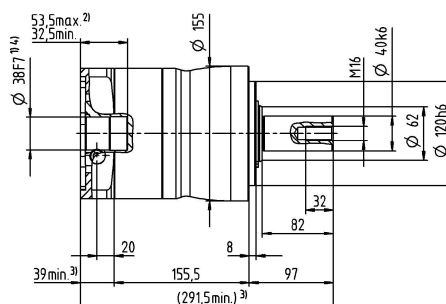
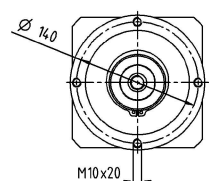
2-stage

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



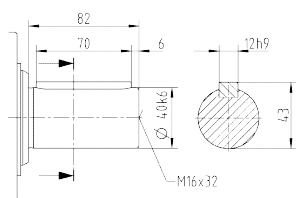
Motor shaft diameter [mm]

up to 38 ⁴⁾ (K)
clamping hub
diameter



Other output variants

Shaft with key



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

NP 015 MA 1- / 2-stage

				1-stage		2-stage							
Ratio	i		3	4	12	15	16	20	28	30	40		
Max. torque ^{a) b) e)}	T_{2a}	Nm	80	67	62	67	67	67	67	62	67		
		$in.lb$	708	593	549	593	593	593	593	549	593		
Max. acceleration torque ^{a)} (max. 1000 cycles per hour)	T_{2B}	Nm	55	42	39	42	42	42	42	39	42		
		$in.lb$	487	372	345	372	372	372	372	345	372		
Emergency stop torque ^{a) b) e)} (permitted 1000 times during the service life of the gearbox)	T_{2Not}	Nm	80	80	80	80	80	80	80	80	80		
		$in.lb$	708	708	708	708	708	708	708	708	708		
Permitted average input speed ^{d)} (at T_{2N} and 20 °C ambient temperature)	n_{1N}	rpm	3300	3500	3800	4000	3800	4000	4300	4600	4600		
Max. input speed	n_{1Max}	rpm	8000	8000	10000	10000	10000	10000	10000	10000	10000		
Mean no load running torque ^{b)} (at n_1 =3000 rpm and 20 °C gearbox temperature)	T_{012}	Nm	0.24	0.2	0.13	0.11	0.12	0.11	0.09	0.09	0.08		
		$in.lb$	2.1	1.8	1.2	0.97	1.1	0.97	0.8	0.8	0.71		
Max. backlash	j_t	$arcmin$	≤ 8		≤ 10								
Torsional rigidity ^{b)}	C_{t21}	$Nm/arcmin$	4	4	4	4	4	4	4	4	4		
		$in.lb/arcmin$	35	35	35	35	35	35	35	35	35		
Max. axial force ^{c)}	F_{2AMax}	N	1550		1550								
		lb_f	349		349								
Max. lateral force ^{c)}	F_{2QMMax}	N	1700		1700								
		lb_f	383		383								
Max. tilting moment	M_{2KMMax}	Nm	72		72								
		$in.lb$	637		637								
Efficiency at full load	η	%	97		95								
Service life	L_h	h	> 20000		> 20000								
Weight (incl. standard adapter plate)	m	kg	1.9		1.9								
		lb_m	4.2		4.2								
Operating noise (at reference ratio and reference speed – ratio-specific values available in cymex®)	L_{PA}	$dB(A)$	≤ 59		≤ 58								
Max. permitted housing temperature		°C	+90		+90								
		°F	+194		+194								
Ambient temperature		°C	−15 to +40		−15 to +40								
		°F	+5 to +104		+5 to +104								
Lubrication			Lubricated for life										
Direction of rotation			In- and output same direction										
Protection class			IP 64										
Elastomer coupling (recommended product type – validate sizing with cymex®)			ELC-0060BA016.000-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]	Z	8	J_1	$kgcm^2$	–	–	0.04	0.04	0.03	0.03	0.03	0.03	
				$10^{-3} in.lb.s^2$	–	–	0.04	0.04	0.03	0.03	0.03	0.03	0.03
	A	9	J_1	$kgcm^2$	0.22	0.18	0.04	0.04	0.03	0.03	0.03	0.03	
				$10^{-3} in.lb.s^2$	0.19	0.16	0.04	0.04	0.03	0.03	0.03	0.03	0.03
	B	11	J_1	$kgcm^2$	0.24	0.19	0.06	0.05	0.05	0.05	0.05	0.05	
				$10^{-3} in.lb.s^2$	0.21	0.17	0.05	0.04	0.04	0.04	0.04	0.04	0.04
	C	14	J_1	$kgcm^2$	0.32	0.27	0.14	0.14	0.14	0.13	0.13	0.14	
				$10^{-3} in.lb.s^2$	0.28	0.24	0.12	0.12	0.12	0.12	0.12	0.12	0.12
	D	16	J_1	$kgcm^2$	0.45	0.4	–	–	–	–	–	–	–
				$10^{-3} in.lb.s^2$	0.4	0.35	–	–	–	–	–	–	–
	E	19	J_1	$kgcm^2$	0.53	0.48	–	–	–	–	–	–	–
				$10^{-3} in.lb.s^2$	0.47	0.42	–	–	–	–	–	–	–

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

^{a)} Valid for torque transmission only

^{b)} Valid for standard clamping hub diameter

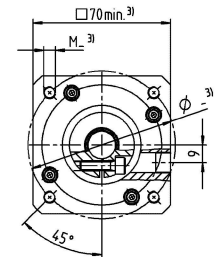
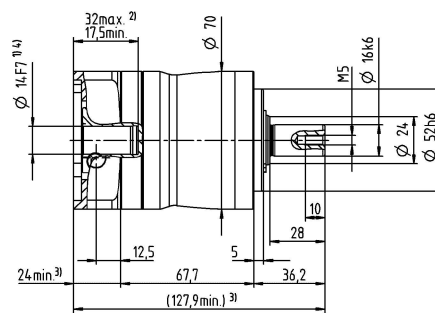
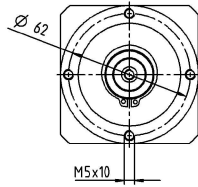
^{c)} Refers to center of the output shaft or flange

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

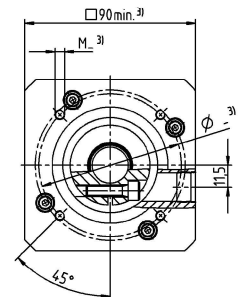
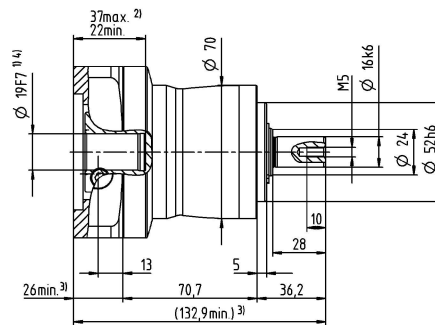
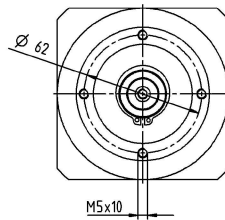
^{e)} Valid for: Smooth shaft

1-stage

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

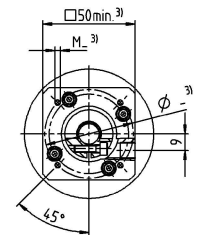
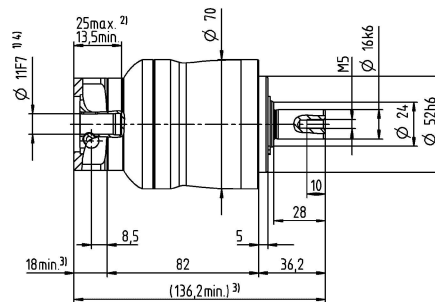
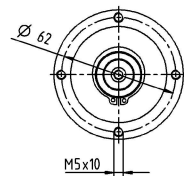


up to 19⁴⁾ (E)
clamping hub
diameter

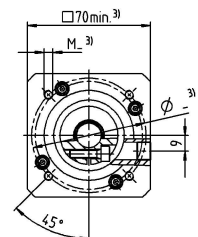
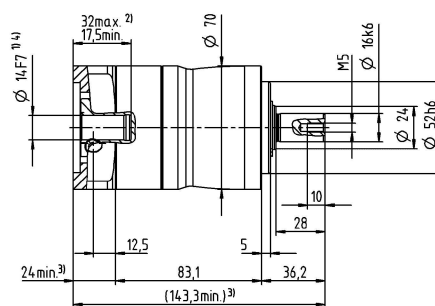
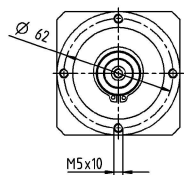


2-stage

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



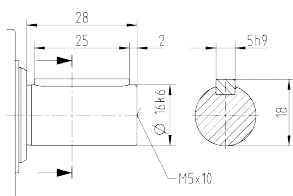
up to 14⁴⁾ (C)
clamping hub
diameter



Motor shaft diameter [mm]

Other output variants

Shaft with key



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

NP 025 MA 1- / 2-stage

				1-stage		2-stage								
Ratio	i		3	4	9	12	15	16	20	28	30	40		
Max. torque ^{a) b) e)}	T_{2c}	Nm	185	185	185	185	185	185	185	185	168	185		
		$in.lb$	1637	1637	1637	1637	1637	1637	1637	1637	1487	1637		
Max. acceleration torque ^{a)} (max. 1000 cycles per hour)	T_{2B}	Nm	125	115	125	125	120	115	115	115	105	115		
		$in.lb$	1106	1018	1106	1106	1062	1018	1018	1018	929	1018		
Emergency stop torque ^{a) b) e)} (permitted 1000 times during the service life of the gearbox)	T_{2Not}	Nm	190	190	190	190	190	190	190	190	190	190		
		$in.lb$	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682		
Permitted average input speed ^{d)} (at T_{2N} and 20 °C ambient temperature)	n_{1N}	rpm	3100	3300	3300	3500	3700	3500	3700	4000	4300	4300		
Max. input speed	n_{1Max}	rpm	7000	7000	8000	8000	8000	8000	8000	8000	8000	8000		
Mean no load running torque ^{b)} (at n_1 =3000 rpm and 20 °C gearbox temperature)	T_{012}	Nm	0.38	0.31	0.22	0.18	0.16	0.16	0.15	0.12	0.12	0.11		
		$in.lb$	3.4	2.7	1.9	1.6	1.4	1.4	1.3	1.1	1.1	0.97		
Max. backlash	j_t	$arcmin$	≤ 8		≤ 10									
Torsional rigidity ^{b)}	C_{t21}	$Nm/arcmin$	12	12	12	12	12	12	12	10	12	12		
		$in.lb/arcmin$	106	106	106	106	106	106	106	89	106	106		
Max. axial force ^{c)}	F_{2AMax}	N	1900		1900									
		lb_f	428		428									
Max. lateral force ^{c)}	F_{2QMax}	N	2800		2800									
		lb_f	630		630									
Max. tilting moment	M_{2KMax}	Nm	137		137									
		$in.lb$	1213		1213									
Efficiency at full load	η	%	97		95									
Service life	L_h	h	> 20000		> 20000									
Weight (incl. standard adapter plate)	m	kg	3.8		4.1									
		lb_m	8.4		9.1									
Operating noise (at reference ratio and reference speed – ratio-specific values available in cymex®)	L_{PA}	$dB(A)$	≤ 61		≤ 59									
Max. permitted housing temperature		°C	+90		+90									
		°F	+194		+194									
Ambient temperature		°C	–15 to +40		–15 to +40									
		°F	+5 to +104		+5 to +104									
Lubrication			Lubricated for life											
Direction of rotation			In- and output same direction											
Protection class			IP 64											
Elastomer coupling (recommended product type – validate sizing with cymex®)			ELC-0060BA022.000-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]	A	9	J_1	$kgcm^2$	–	–	0.26	0.22	0.21	0.21	0.2	0.19	0.19	0.19
				$10^{-3} in.lb.s^2$	–	–	0.23	0.19	0.19	0.19	0.18	0.17	0.17	0.17
	B	11	J_1	$kgcm^2$	–	–	0.28	0.24	0.23	0.23	0.22	0.21	0.21	0.21
				$10^{-3} in.lb.s^2$	–	–	0.25	0.21	0.2	0.2	0.19	0.19	0.19	0.19
	C	14	J_1	$kgcm^2$	0.57	0.46	0.35	0.31	0.3	0.3	0.3	0.29	0.28	0.28
				$10^{-3} in.lb.s^2$	0.5	0.41	0.31	0.27	0.27	0.27	0.27	0.26	0.25	0.25
	D	16	J_1	$kgcm^2$	0.71	0.61	0.48	0.44	0.43	0.43	0.42	0.41	0.41	0.41
				$10^{-3} in.lb.s^2$	0.63	0.54	0.42	0.39	0.38	0.38	0.37	0.36	0.36	0.36
	E	19	J_1	$kgcm^2$	0.8	0.7	0.56	0.52	0.51	0.51	0.51	0.5	0.5	0.49
				$10^{-3} in.lb.s^2$	0.71	0.62	0.5	0.46	0.45	0.45	0.45	0.44	0.44	0.43
	G	24	J_1	$kgcm^2$	1.8	1.7	–	–	–	–	–	–	–	–
				$10^{-3} in.lb.s^2$	1.6	1.5	–	–	–	–	–	–	–	–
	H	28	J_1	$kgcm^2$	1.5	1.4	–	–	–	–	–	–	–	–
				$10^{-3} in.lb.s^2$	1.3	1.2	–	–	–	–	–	–	–	–

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

^{a)} Valid for torque transmission only

^{b)} Valid for standard clamping hub diameter

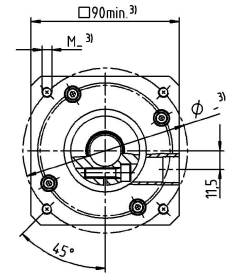
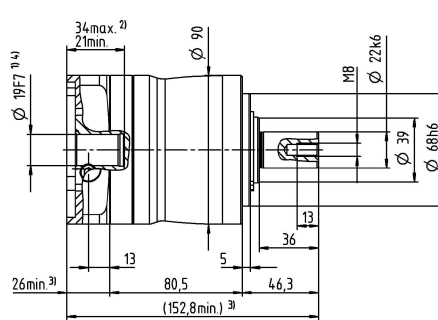
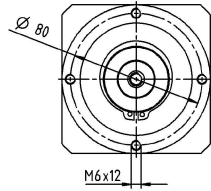
^{c)} Refers to center of the output shaft or flange

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

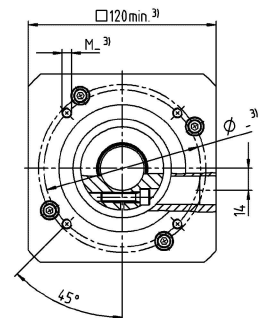
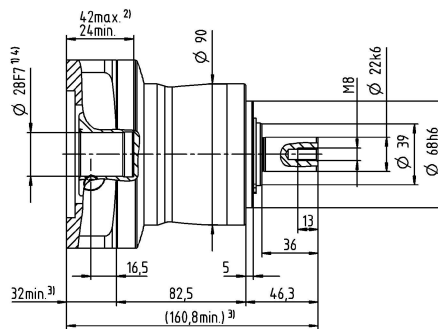
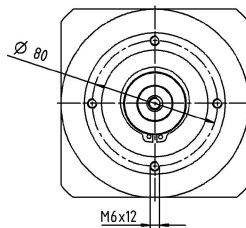
^{e)} Valid for: Smooth shaft

1-stage

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

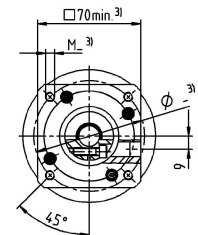
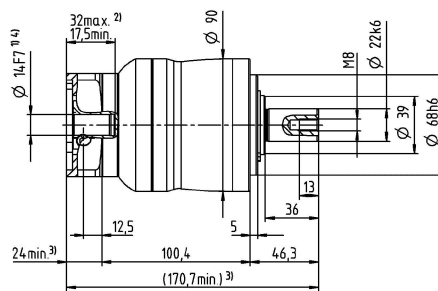
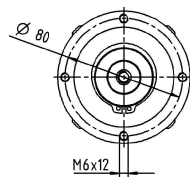


up to 28⁴⁾ (H)
clamping hub
diameter

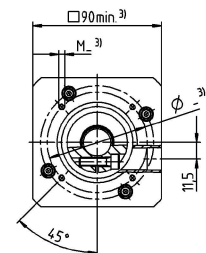
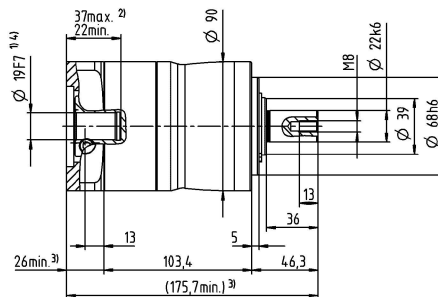
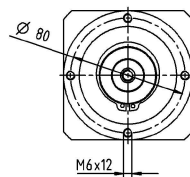


2-stage

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



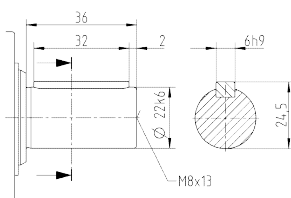
up to 19⁴⁾ (E)
clamping hub
diameter



Motor shaft diameter [mm]

Other output variants

Shaft with key



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

NP 035 MA 1- / 2-stage

				1-stage		2-stage								
Ratio	i		3	4	9	12	15	16	20	28	30	40		
Max. torque ^{a) b) e)}	T_{2c}	Nm	480	480	480	480	480	480	480	480	432	480		
		in.lb	4248	4248	4248	4248	4248	4248	4248	4248	3824	4248		
Max. acceleration torque ^{a)} (max. 1000 cycles per hour)	T_{2B}	Nm	305	305	305	305	300	305	305	305	270	305		
		in.lb	2699	2699	2699	2699	2655	2699	2699	2699	2390	2699		
Emergency stop torque ^{a) b) e)} (permitted 1000 times during the service life of the gearbox)	T_{2Not}	Nm	500	500	500	500	500	500	500	500	500	500		
		in.lb	4425	4425	4425	4425	4425	4425	4425	4425	4425	4425		
Permitted average input speed ^{d)} (at T_{2N} and 20 °C ambient temperature)	n_{1N}	rpm	2300	2500	3100	3300	3400	3300	3400	3600	3900	3900		
Max. input speed	n_{1Max}	rpm	6000	6000	7000	7000	7000	7000	7000	7000	7000	7000		
Mean no load running torque ^{b)} (at n_1 =3000 rpm and 20 °C gearbox temperature)	T_{012}	Nm	1	0.85	0.45	0.36	0.3	0.32	0.27	0.22	0.19	0.18		
		in.lb	8.9	7.5	4	3.2	2.7	2.8	2.4	1.9	1.7	1.6		
Max. backlash	j_t	arcmin	≤ 8		≤ 10									
Torsional rigidity ^{b)}	C_{t21}	Nm/arcmin	30	30	30	30	30	30	30	30	30	30		
		in.lb/arcmin	266	266	266	266	266	266	266	266	266	266		
Max. axial force ^{c)}	F_{2AMax}	N	4000		4000									
		lb _f	900		900									
Max. lateral force ^{c)}	F_{2QMMax}	N	5000		5000									
		lb _f	1125		1125									
Max. tilting moment	M_{2KMMax}	Nm	345		345									
		in.lb	3054		3054									
Efficiency at full load	η	%	97		95									
Service life	L_h	h	> 20000		> 20000									
Weight (incl. standard adapter plate)	m	kg	9.4		9.8									
		lb _m	21		22									
Operating noise (at reference ratio and reference speed – ratio-specific values available in cymex®)	L_{PA}	dB(A)	≤ 65		≤ 61									
Max. permitted housing temperature		°C	+90		+90									
		°F	+194		+194									
Ambient temperature		°C	–15 to +40		–15 to +40									
		°F	+5 to +104		+5 to +104									
Lubrication			Lubricated for life											
Direction of rotation			In- and output same direction											
Protection class			IP 64											
Elastomer coupling (recommended product type – validate sizing with cymex®)			ELC-0150BA032.000-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]	C	14	J_1	kgcm ²	–	–	0.61	0.6	0.6	0.43	0.42	0.37	0.52	0.36
				10 ⁻³ in.lb.s ²	–	–	0.54	0.53	0.53	0.38	0.37	0.33	0.46	0.32
	D	16	J_1	kgcm ²	–	–	0.76	0.75	0.75	0.58	0.57	0.5	0.67	0.51
				10 ⁻³ in.lb.s ²	–	–	0.67	0.66	0.66	0.51	0.5	0.44	0.59	0.45
	E	19	J_1	kgcm ²	2.6	1.7	0.85	0.83	0.83	0.67	0.66	0.6	0.75	0.6
				10 ⁻³ in.lb.s ²	2.3	1.5	0.75	0.73	0.73	0.59	0.58	0.53	0.66	0.53
	G	24	J_1	kgcm ²	3.4	2.5	1.9	1.9	1.9	1.7	1.7	1.6	1.8	1.6
				10 ⁻³ in.lb.s ²	3	2.2	1.7	1.7	1.7	1.5	1.5	1.4	1.6	1.4
	H	28	J_1	kgcm ²	3.1	2.2	1.6	1.6	1.6	1.4	1.4	1.3	0.5	1.3
				10 ⁻³ in.lb.s ²	2.7	1.9	1.4	1.4	1.4	1.2	1.2	1.2	0.44	1.2
	I	32	J_1	kgcm ²	7.2	6.3	–	–	–	–	–	–	–	–
				10 ⁻³ in.lb.s ²	6.4	5.6	–	–	–	–	–	–	–	–
	K	38	J_1	kgcm ²	8.3	7.4	–	–	–	–	–	–	–	–
				10 ⁻³ in.lb.s ²	7.3	6.5	–	–	–	–	–	–	–	–

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

^{a)} Valid for torque transmission only

^{b)} Valid for standard clamping hub diameter

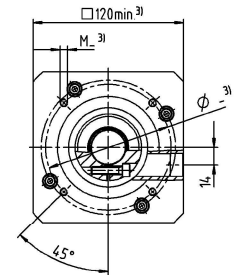
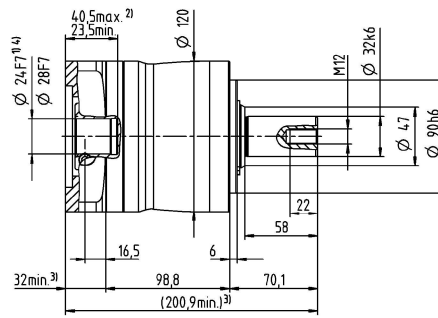
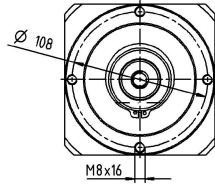
^{c)} Refers to center of the output shaft or flange

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

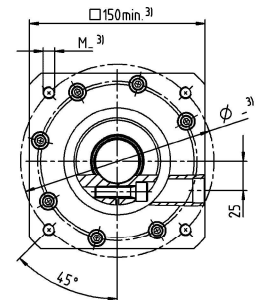
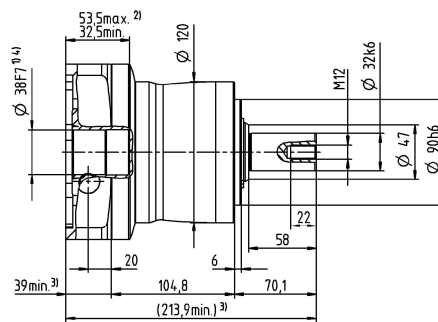
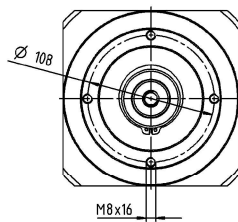
^{e)} Valid for: Smooth shaft

1-stage

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

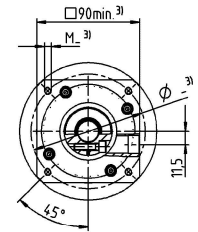
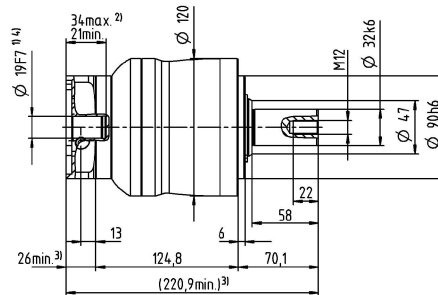
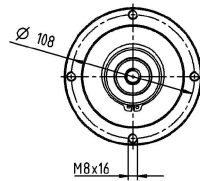


up to 38⁴⁾ (K)
clamping hub
diameter

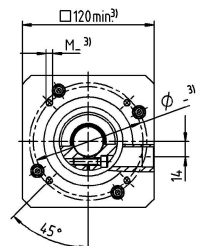
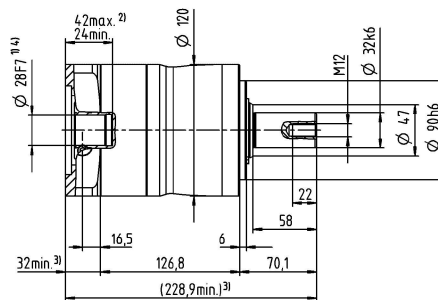
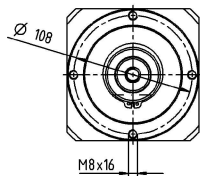


2-stage

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



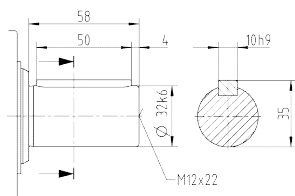
up to 28⁴⁾ (H)
clamping hub
diameter



Motor shaft diameter [mm]

Other output variants

Shaft with key



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

NPL 015 MF 1-stage

				1-stage						
Ratio	i			3	4	5	7	8	10	
Max. torque ^{a) b) e)}	T_{2a}		Nm	51	56	64	64	56	56	
			in.lb	451	496	566	566	496	496	
Max. acceleration torque ^{e)} (max. 1000 cycles per hour)	T_{2B}		Nm	32	35	40	40	35	35	
			in.lb	283	310	354	354	310	310	
Emergency stop torque ^{a) b) e)} (permitted 1000 times during the service life of the gearbox)	T_{2Not}		Nm	80	80	80	80	80	80	
			in.lb	708	708	708	708	708	708	
Permitted average input speed ^{d)} (at T_{2N} and 20 °C ambient temperature)	n_{1N}		rpm	2900	3100	3300	3600	3600	3800	
Max. input speed	n_{1Max}		rpm	8000	8000	8000	8000	8000	8000	
Mean no load running torque ^{b)} (at n_1 =3000 rpm and 20 °C gearbox temperature)	T_{012}		Nm	0.92	0.74	0.62	0.51	0.47	0.41	
			in.lb	8.1	6.5	5.5	4.5	4.2	3.6	
Max. backlash	j_t		arcmin	≤ 8						
Torsional rigidity ^{b)}	C_{t21}		Nm/arcmin	3.3	3.3	3.3	3.3	2.8	2.8	
			in.lb/arcmin	29	29	29	29	25	25	
Max. axial force ^{c)}	F_{2AMax}		N	2400						
			lb _f	540						
Max. lateral force ^{c)}	F_{2QMMax}		N	2800						
			lb _f	630						
Max. tilting moment	M_{2KMMax}		Nm	152						
			in.lb	1345						
Efficiency at full load	η		%	97						
Service life	L_h		h	> 20000						
Weight (incl. standard adapter plate)	m		kg	1.9						
			lb _m	4.2						
Operating noise (at reference ratio and reference speed – ratio-specific values available in cymex®)	L_{PA}		dB(A)	≤ 59						
Max. permitted housing temperature			°C	+90						
			°F	+194						
Ambient temperature			°C	–15 to +40						
			°F	+5 to +104						
Lubrication				Lubricated for life						
Direction of rotation				In- and output same direction						
Protection class				IP 65						
Elastomer coupling (recommended product type – validate sizing with cymex®)				ELC-0060BA016.000-X						
Bore diameter of coupling on the application side				X = 012.000 - 032.000						
Mass moment of inertia (relates to the drive) Clamping hub diameter [mm]	A	9	J_1	kgcm ²	0.25	0.19	0.17	0.14	0.14	0.13
				10 ⁻³ in.lb.s ²	0.22	0.17	0.15	0.12	0.12	0.12
	B	11	J_1	kgcm ²	0.26	0.21	0.18	0.16	0.16	0.15
				10 ⁻³ in.lb.s ²	0.23	0.19	0.16	0.14	0.14	0.13
	C	14	J_1	kgcm ²	0.34	0.28	0.26	0.24	0.23	0.23
				10 ⁻³ in.lb.s ²	0.3	0.25	0.23	0.21	0.2	0.2
	D	16	J_1	kgcm ²	0.47	0.41	0.39	0.36	0.36	0.35
				10 ⁻³ in.lb.s ²	0.42	0.36	0.35	0.32	0.32	0.31
	E	19	J_1	kgcm ²	0.55	0.49	0.47	0.45	0.44	0.44
				10 ⁻³ in.lb.s ²	0.49	0.43	0.42	0.4	0.39	0.39

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

^{a)} Valid for torque transmission only

^{b)} Valid for standard clamping hub diameter

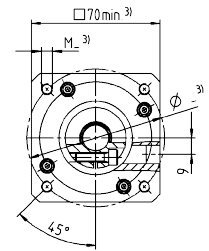
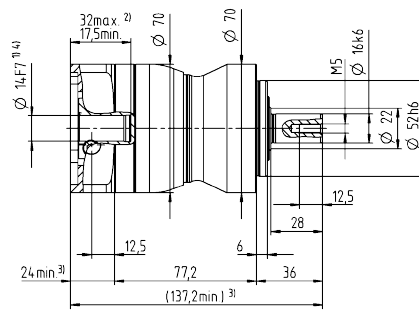
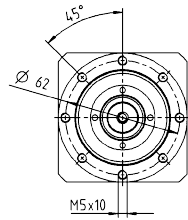
^{c)} Refers to center of the output shaft or flange

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

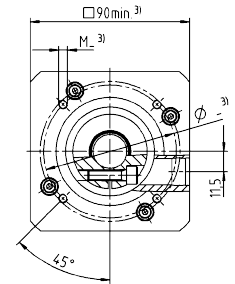
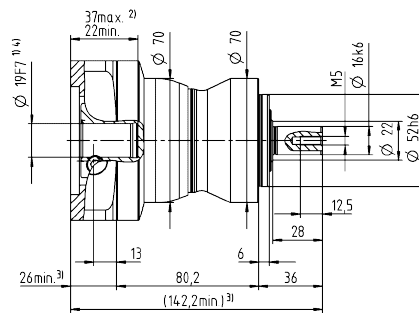
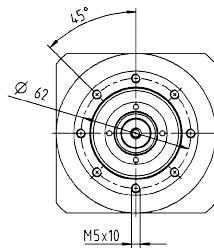
^{e)} Valid for: Smooth shaft

1-stage

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



up to 19⁴⁾ (E)
clamping hub
diameter



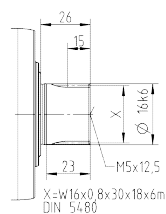
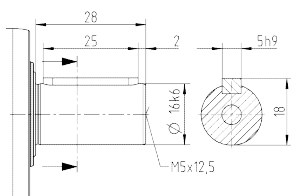
Motor shaft diameter [mm]

Planetary Gearboxes
Value Line

Other output variants

Shaft with key

Splined shaft (DIN 5480)



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

NPL 015 MF 2-stage

			2-stage															
Ratio	i			12	15	16	20	25	28	30	32	35	40	50	64	70	100	
Max. torque ^{a) b) e)}	T_{2c}		Nm	51	51	56	56	64	56	51	56	64	56	64	56	64	56	
			in.lb	451	451	496	496	566	496	451	496	566	496	566	496	566	496	
Max. acceleration torque ^{e)} (max. 1000 cycles per hour)	T_{2B}		Nm	32	32	35	35	40	35	32	35	40	35	40	35	40	35	
			in.lb	283	283	310	310	354	310	283	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	80	80	80	80	80	80	80	80	80	80	80	80	80	80	
			in.lb	708	708	708	708	708	708	708	708	708	708	708	708	708	708	
Permitted average input speed ^{d)} (at T_{2N} and 20 °C ambient temperature)	n_{1N}		rpm	3800	4000	3800	4000	4000	4300	4600	4400	4300	4600	4600	4400	4600	4600	
Max. input speed	n_{1Max}		rpm	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	
Mean no load running torque ^{b)} (at n_1 =3000 rpm and 20 °C gearbox temperature)	T_{012}		Nm	0.34	0.29	0.29	0.25	0.23	0.21	0.21	0.2	0.2	0.19	0.17	0.17	0.16	0.15	
			in.lb	3	2.6	2.6	2.2	2	1.9	1.9	1.8	1.8	1.7	1.5	1.5	1.4	1.3	
Max. backlash	j_t		arcmin	≤ 10														
Torsional rigidity ^{b)}	C_{t21}		Nm/arcmin	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	2.8	3.3	2.8	
			in.lb/arcmin	29	29	29	29	29	29	29	29	29	29	29	25	29	25	
Max. axial force ^{c)}	F_{2AMax}		N	2400														
			lb _f	540														
Max. lateral force ^{c)}	F_{2QMMax}		N	2800														
			lb _f	630														
Max. tilting moment	M_{2KMMax}		Nm	152														
			in.lb	1345														
Efficiency at full load	η		%	95														
Service life	L_h		h	> 20000														
Weight (incl. standard adapter plate)	m		kg	2														
			lb _m	4.4														
Operating noise (at reference ratio and reference speed – ratio-specific values available in cymex®)	L_{PA}		dB(A)	≤ 58														
Max. permitted housing temperature			°C	+90														
			°F	+194														
Ambient temperature			°C	−15 to +40														
			°F	+5 to +104														
Lubrication			Lubricated for life															
Direction of rotation			In- and output same direction															
Protection class			IP 65															
Elastomer coupling (recommended product type – validate sizing with cymex®)			ELC-0060BA016.000-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]	Z	8	J_1	kgcm ²	0.04	0.04	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.02	0.02	0.02	0.02	
				10 ⁻³ in.lb.s ²	0.04	0.04	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.02	0.02	0.02	0.02	
	A	9	J_1	kgcm ²	0.04	0.04	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.02	0.02	0.02	0.02	
				10 ⁻³ in.lb.s ²	0.04	0.04	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.02	0.02	0.02	0.02	
	B	11	J_1	kgcm ²	0.06	0.06	0.05	0.05	0.05	0.05	0.05	0.04	0.05	0.04	0.04	0.04	0.04	
				10 ⁻³ in.lb.s ²	0.05	0.05	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	
	C	14	J_1	kgcm ²	0.14	0.14	0.14	0.13	0.13	0.13	0.14	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	0.12	0.12	0.12	0.12

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

^{a)} Valid for torque transmission only

^{b)} Valid for standard clamping hub diameter

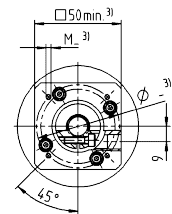
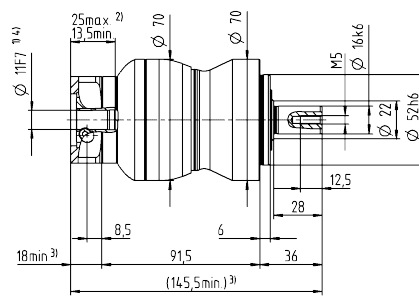
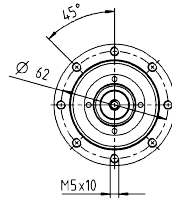
^{c)} Refers to center of the output shaft or flange

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

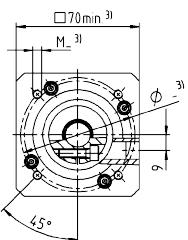
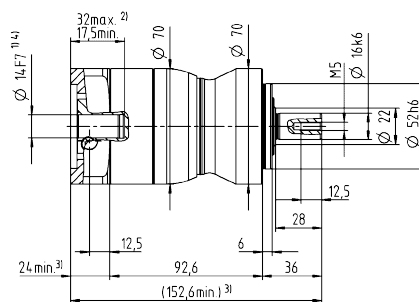
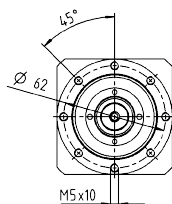
^{e)} Valid for: Smooth shaft

2-stage

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



up to 14⁴⁾ (C)
clamping hub
diameter

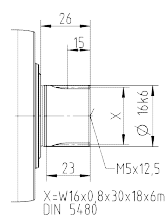
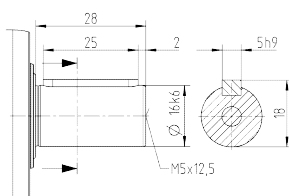


Motor shaft diameter [mm]

Other output variants

Shaft with key

Splined shaft (DIN 5480)



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

NPL 025 MF 1-stage

				1-stage						
Ratio	i			3	4	5	7	8	10	
Max. torque ^{a) b) e)}	T_{2a}		Nm	128	152	160	160	144	144	
			in.lb	1133	1345	1416	1416	1275	1275	
Max. acceleration torque ^{e)} (max. 1000 cycles per hour)	T_{2B}		Nm	80	95	100	100	90	90	
			in.lb	708	841	885	885	797	797	
Emergency stop torque ^{a) b) e)} (permitted 1000 times during the service life of the gearbox)	T_{2Not}		Nm	190	190	190	190	190	190	
			in.lb	1682	1682	1682	1682	1682	1682	
Permitted average input speed ^{d)} (at T_{2N} and 20 °C ambient temperature)	n_{1N}		rpm	2700	2900	3000	3200	3300	3500	
Max. input speed	n_{1Max}		rpm	7000	7000	7000	7000	7000	7000	
Mean no load running torque ^{b)} (at n_1 =3000 rpm and 20 °C gearbox temperature)	T_{012}		Nm	1.8	1.5	1.3	1.1	1	0.94	
			in.lb	16	13	12	9.7	8.9	8.3	
Max. backlash	j_t		arcmin	≤ 8						
Torsional rigidity ^{b)}	C_{t21}		Nm/arcmin	9.5	9.5	9.5	9.5	8.5	8.5	
			in.lb/arcmin	84	84	84	84	75	75	
Max. axial force ^{c)}	F_{2AMax}		N	3350						
			lb _f	754						
Max. lateral force ^{c)}	F_{2QMMax}		N	4200						
			lb _f	945						
Max. tilting moment	M_{2KMMax}		Nm	236						
			in.lb	2089						
Efficiency at full load	η		%	97						
Service life	L_n		h	> 20000						
Weight (incl. standard adapter plate)	m		kg	3.9						
			lb _m	8.6						
Operating noise (at reference ratio and reference speed – ratio-specific values available in cymex®)	L_{PA}		dB(A)	≤ 61						
Max. permitted housing temperature			°C	+90						
			°F	+194						
Ambient temperature			°C	–15 to +40						
			°F	+5 to +104						
Lubrication				Lubricated for life						
Direction of rotation				In- and output same direction						
Protection class				IP 65						
Elastomer coupling (recommended product type – validate sizing with cymex®)				ELC-0060BA022.000-X						
Bore diameter of coupling on the application side				X = 012.000 - 032.000						
Mass moment of inertia (relates to the drive) Clamping hub diameter [mm]	C	14	J_1	kgcm ²	0.58	0.47	0.38	0.3	0.28	0.26
				10 ⁻³ in.lb.s ²	0.51	0.42	0.34	0.27	0.25	0.23
	D	16	J_1	kgcm ²	0.73	0.62	0.53	0.43	0.42	0.4
				10 ⁻³ in.lb.s ²	0.65	0.55	0.47	0.38	0.37	0.35
	E	19	J_1	kgcm ²	0.81	0.71	0.61	0.53	0.51	0.49
				10 ⁻³ in.lb.s ²	0.72	0.63	0.54	0.47	0.45	0.43
	G	24	J_1	kgcm ²	1.8	1.7	1.6	1.6	1.5	1.5
				10 ⁻³ in.lb.s ²	1.6	1.5	1.4	1.4	1.3	1.3
	H	28	J_1	kgcm ²	1.6	1.4	1.4	1.3	1.3	1.2
				10 ⁻³ in.lb.s ²	1.4	1.2	1.2	1.2	1.2	1.1

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

^{a)} Valid for torque transmission only

^{b)} Valid for standard clamping hub diameter

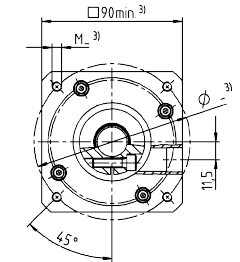
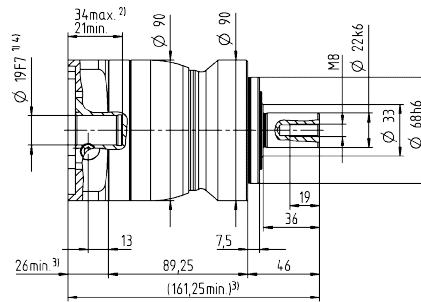
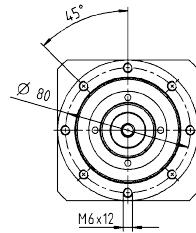
^{c)} Refers to center of the output shaft or flange

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

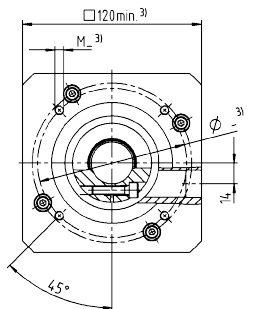
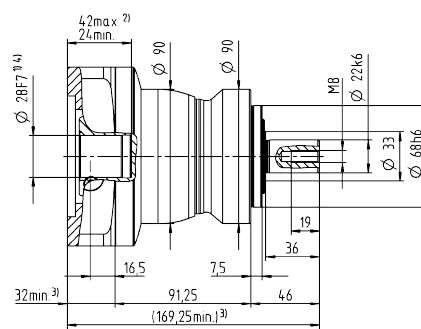
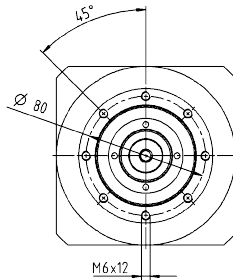
^{e)} Valid for: Smooth shaft

1-stage

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



up to 28⁴⁾ (H)
clamping hub
diameter



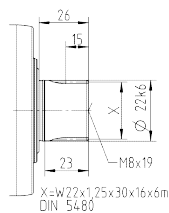
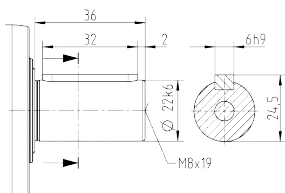
Motor shaft diameter [mm]

Planetary Gearboxes
Value Line

Other output variants

Shaft with key

Splined shaft (DIN 5480)



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

NPL 025 MF 2-stage

			2-stage														
Ratio	i		9	12	15	16	20	25	28	30	32	35	40	50	64	70	100
Max. torque ^{a) b) e)}	T_{2c}	Nm	128	128	128	152	152	160	152	128	144	160	152	160	144	160	144
		in.lb	1133	1133	1133	1345	1345	1416	1345	1133	1275	1416	1345	1416	1275	1416	1275
Max. acceleration torque ^{a)} (max. 1000 cycles per hour)	T_{2B}	Nm	80	80	80	95	95	100	95	80	90	100	95	100	90	100	90
		in.lb	708	708	708	841	841	885	841	708	797	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	190	190	190	190	190	190	190	190	190	190	190	190	190	190	190
		in.lb	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682
Permitted average input speed ^{d)} (at T_{2N} and 20 °C ambient temperature)	n_{1N}	rpm	2900	3500	3700	3500	3700	3700	4000	4300	4100	4000	4300	4300	4100	4300	4300
Max. input speed	n_{1Max}	rpm	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000
Mean no load running torque ^{b)} (at $n_1=3000$ rpm and 20 °C gearbox temperature)	T_{012}	Nm	0.67	0.55	0.47	0.46	0.4	0.36	0.34	0.33	0.32	0.31	0.29	0.27	0.25	0.25	0.23
		in.lb	5.9	4.9	4.2	4.1	3.5	3.2	3	2.9	2.8	2.7	2.6	2.4	2.2	2.2	2
Max. backlash	j_t	arcmin	≤ 10														
Torsional rigidity ^{b)}	C_{t21}	Nm/arcmin	10	10	10	10	10	9.5	10	10	10	9.5	10	9.5	8.5	9.5	8.5
		in.lb/arcmin	89	89	89	89	89	84	89	89	89	84	89	84	75	84	75
Max. axial force ^{c)}	F_{2AMax}	N	3350														
		lb _f	754														
Max. lateral force ^{c)}	F_{2QMMax}	N	4200														
		lb _f	945														
Max. tilting moment	M_{2KMMax}	Nm	236														
		in.lb	2089														
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)	≤ 59														
Max. permitted housing temperature		°C	+90														
		°F	+194														
Ambient temperature		°C	-15 to +40														
		°F	+5 to +104														
Lubrication			Lubricated for life														
Direction of rotation			In- and output same direction														
Protection class			IP 65														
Elastomer coupling (recommended product type – validate sizing with cymex®)			ELC-0060BA022.000-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]	A	9	J_t	kgcm ²	0.26	0.22	0.21	0.21	0.2	0.2	0.19	0.19	0.19	0.19	0.19	0.19	0.19
				10 ⁻³ in.lb.s ²	0.23	0.19	0.19	0.19	0.18	0.18	0.17	0.17	0.17	0.17	0.17	0.17	0.17
	B	11	J_t	kgcm ²	0.28	0.24	0.23	0.23	0.22	0.22	0.21	0.21	0.21	0.21	0.21	0.21	0.21
				10 ⁻³ in.lb.s ²	0.25	0.21	0.2	0.2	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19
	C	14	J_t	kgcm ²	0.35	0.31	0.3	0.3	0.3	0.29	0.29	0.28	0.28	0.28	0.28	0.28	0.28
				10 ⁻³ in.lb.s ²	0.31	0.27	0.27	0.27	0.27	0.26	0.26	0.25	0.25	0.25	0.25	0.25	0.25
	D	16	J_t	kgcm ²	0.48	0.44	0.43	0.43	0.42	0.42	0.41	0.41	0.41	0.41	0.41	0.41	0.41
				10 ⁻³ in.lb.s ²	0.42	0.39	0.38	0.38	0.37	0.37	0.36	0.36	0.36	0.36	0.36	0.36	0.36
	E	19	J_t	kgcm ²	0.56	0.52	0.51	0.52	0.51	0.5	0.5	0.5	0.5	0.49	0.49	0.49	0.49
				10 ⁻³ in.lb.s ²	0.5	0.46	0.45	0.46	0.45	0.44	0.44	0.44	0.44	0.43	0.43	0.43	0.43

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

^{a)} Valid for torque transmission only

^{b)} Valid for standard clamping hub diameter

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

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

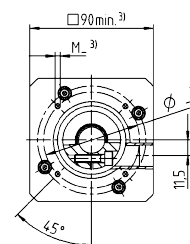
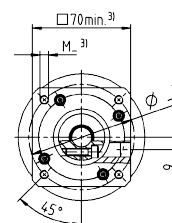
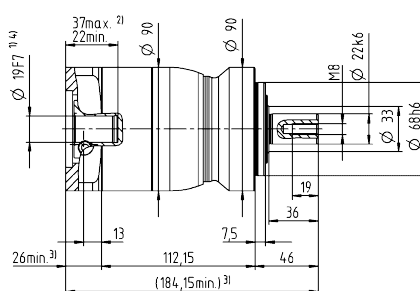
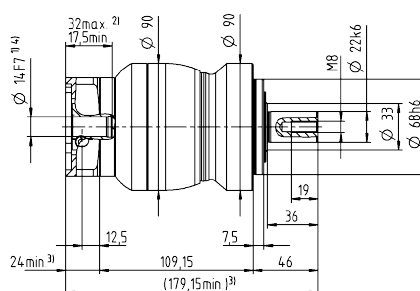
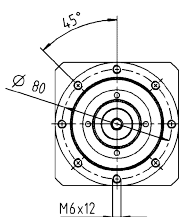
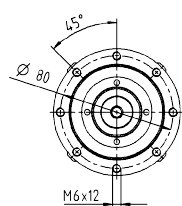
^{e)} Valid for: Smooth shaft

2-stage

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

Motor shaft diameter [mm]

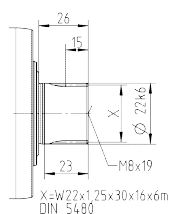
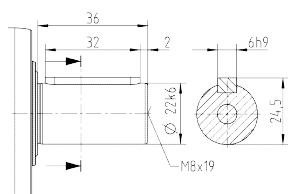
up to 19 ⁴⁾ (E)
clamping hub
diameter



Other output variants

Shaft with key

Splined shaft (DIN 5480)



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

⁵⁾ Standard clamping hub diameter

NPL 035 MF 1-stage

				1-stage						
Ratio	i			3	4	5	7	8	10	
Max. torque ^{a) b) e)}	T_{2a}		Nm	320	408	400	400	352	352	
			in.lb	2832	3611	3540	3540	3115	3115	
Max. acceleration torque ^{a)} (max. 1000 cycles per hour)	T_{2B}		Nm	200	255	250	250	220	220	
			in.lb	1770	2257	2213	2213	1947	1947	
Emergency stop torque ^{a) b) e)} (permitted 1000 times during the service life of the gearbox)	T_{2Not}		Nm	500	500	500	500	500	500	
			in.lb	4425	4425	4425	4425	4425	4425	
Permitted average input speed ^{d)} (at T_{2N} and 20 °C ambient temperature)	n_{1N}		rpm	2000	2200	2300	2500	2600	2700	
Max. input speed	n_{1Max}		rpm	6000	6000	6000	6000	6000	6000	
Mean no load running torque ^{b)} (at n_1 =3000 rpm and 20 °C gearbox temperature)	T_{012}		Nm	3.3	2.7	2.3	1.9	1.7	1.5	
			in.lb	29	24	20	17	15	13	
Max. backlash	j_t		arcmin	≤ 8						
Torsional rigidity ^{b)}	C_{t21}		Nm/arcmin	25	25	25	25	22	22	
			in.lb/arcmin	221	221	221	221	195	195	
Max. axial force ^{c)}	F_{2AMax}		N	5650						
			lb _f	1271						
Max. lateral force ^{c)}	F_{2QMMax}		N	6600						
			lb _f	1485						
Max. tilting moment	M_{2KMMax}		Nm	487						
			in.lb	4310						
Efficiency at full load	η		%	97						
Service life	L_n		h	> 20000						
Weight (incl. standard adapter plate)	m		kg	9.1						
			lb _m	20						
Operating noise (at reference ratio and reference speed – ratio-specific values available in cymex®)	L_{PA}		dB(A)	≤ 65						
Max. permitted housing temperature			°C	+90						
			°F	+194						
Ambient temperature			°C	–15 to +40						
			°F	+5 to +104						
Lubrication				Lubricated for life						
Direction of rotation				In- and output same direction						
Protection class				IP 65						
Elastomer coupling (recommended product type – validate sizing with cymex®)				ELC-0150BA032.000-X						
Bore diameter of coupling on the application side				X = 019.000 - 036.000						
Mass moment of inertia (relates to the drive) Clamping hub diameter [mm]	E	19	J_1	kgcm ²	2.5	1.7	1.3	1	0.94	0.87
				10 ⁻³ in.lb.s ²	2.2	1.5	1.2	0.89	0.83	0.77
	G	24	J_1	kgcm ²	3.3	2.4	2.1	1.8	1.7	1.6
				10 ⁻³ in.lb.s ²	2.9	2.1	1.9	1.6	1.5	1.4
	H	28	J_1	kgcm ²	3	2.2	1.8	1.5	1.4	1.4
				10 ⁻³ in.lb.s ²	2.7	1.9	1.6	1.3	1.2	1.2
	I	32	J_1	kgcm ²	7.1	6.2	5.9	5.6	5.5	5.4
				10 ⁻³ in.lb.s ²	6.3	5.5	5.2	5	4.9	4.8
K	38	J_1	kgcm ²	8.3	7.4	7.1	6.7	6.6	6.6	
			10 ⁻³ in.lb.s ²	7.3	6.5	6.3	5.9	5.8	5.8	

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

^{a)} Valid for torque transmission only

^{b)} Valid for standard clamping hub diameter

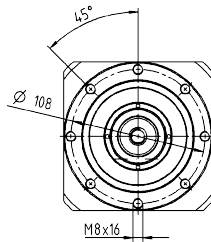
^{c)} Refers to center of the output shaft or flange

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

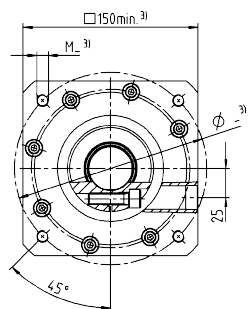
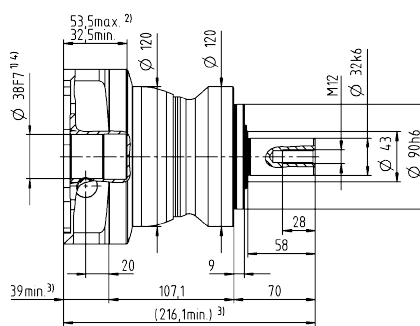
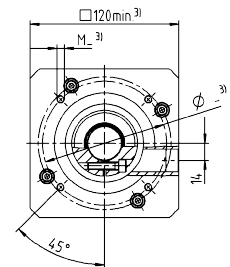
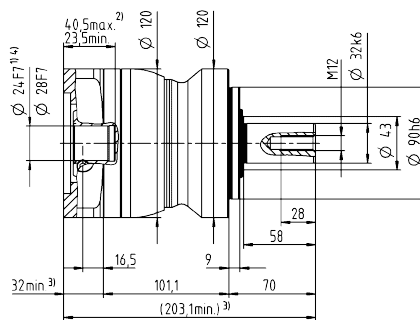
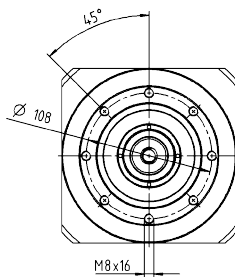
^{e)} Valid for: Smooth shaft

1-stage

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



up to 38⁴⁾ (K)
clamping hub
diameter



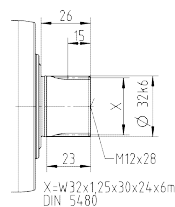
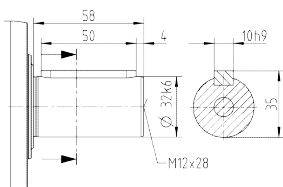
Motor shaft diameter [mm]

Planetary Gearboxes
Value Line

Other output variants

Shaft with key

Splined shaft (DIN 5480)



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

NPL 035 MF 2-stage

				2-stage															
Ratio	i			9	12	15	16	20	25	28	30	32	35	40	50	64	70	100	
Max. torque ^{a) b) e)}	T_{2c}		<i>Nm</i>	320	320	320	408	408	400	408	320	408	400	408	400	352	400	352	
			<i>in.lb</i>	2832	2832	2832	3611	3611	3540	3611	2832	3611	3540	3611	3540	3115	3540	3115	
Max. acceleration torque ^{e)} (max. 1000 cycles per hour)	T_{2B}		<i>Nm</i>	200	200	200	255	255	250	255	200	255	250	255	250	220	250	220	
			<i>in.lb</i>	1770	1770	1770	2257	2257	2213	2257	1770	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}		<i>Nm</i>	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	
			<i>in.lb</i>	4425	4425	4425	4425	4425	4425	4425	4425	4425	4425	4425	4425	4425	4425	4425	
Permitted average input speed ^{d)} (at T_{2N} and 20 °C ambient temperature)	n_{1N}		<i>rpm</i>	2700	3300	3400	3300	3400	3400	3600	3900	3700	3600	3900	3900	3700	3900	3900	
Max. input speed	n_{1Max}		<i>rpm</i>	7000	7000	7000	7000	7000	7000	7000	7000	7000	7000	7000	7000	7000	7000	7000	
Mean no load running torque ^{b)} (at n_1 =3000 rpm and 20 °C gearbox temperature)	T_{012}		<i>Nm</i>	1.7	1.4	1.2	1.2	1.1	1	0.93	0.88	0.88	0.87	0.81	0.77	0.75	0.72	0.68	
			<i>in.lb</i>	15	12	11	11	9.7	8.9	8.2	7.8	7.8	7.7	7.2	6.8	6.6	6.4	6	
Max. backlash	j_t		<i>arcmin</i>	≤ 10															
Torsional rigidity ^{b)}	C_{t21}		<i>Nm/arcmin</i>	25	25	25	25	25	25	25	25	25	25	25	25	22	25	22	
			<i>in.lb/arcmin</i>	221	221	221	221	221	221	221	221	221	221	221	221	221	195	221	195
Max. axial force ^{c)}	F_{2AMax}		<i>N</i>	5650															
			<i>lb_f</i>	1271															
Max. lateral force ^{c)}	F_{2QMMax}		<i>N</i>	6600															
			<i>lb_f</i>	1485															
Max. tilting moment	M_{2KMMax}		<i>Nm</i>	487															
			<i>in.lb</i>	4310															
Efficiency at full load	η		%	95															
Service life	L_h		<i>h</i>	> 20000															
Weight (incl. standard adapter plate)	m		<i>kg</i>	9.5															
			<i>lb_m</i>	21															
Operating noise (at reference ratio and reference speed – ratio-specific values available in cymex®)	L_{PA}		<i>dB(A)</i>	≤ 61															
Max. permitted housing temperature			°C	+90															
			°F	+194															
Ambient temperature			°C	−15 to +40															
			°F	+5 to +104															
Lubrication				Lubricated for life															
Direction of rotation				In- and output same direction															
Protection class				IP 65															
Elastomer coupling (recommended product type – validate sizing with cymex®)				ELC-0150BA032.000-X															
Bore diameter of coupling on the application side				X = 019.000 - 036.000															
Mass moment of inertia (relates to the drive) Clamping hub diameter [mm]	C	14	J_1	<i>kgcm²</i>	0.6	0.59	0.6	0.43	0.42	0.36	0.37	0.52	0.38	0.32	0.36	0.31	0.26	0.27	0.24
				<i>10⁻³ in.lb.s²</i>	0.53	0.52	0.53	0.38	0.37	0.32	0.33	0.46	0.34	0.28	0.32	0.27	0.23	0.24	0.21
	D	16	J_1	<i>kgcm²</i>	0.75	0.74	0.74	0.58	0.57	0.5	0.5	0.67	0.52	0.45	0.51	0.46	0.4	0.41	0.39
				<i>10⁻³ in.lb.s²</i>	0.66	0.65	0.65	0.51	0.5	0.44	0.44	0.59	0.46	0.4	0.45	0.41	0.35	0.36	0.35
	E	19	J_1	<i>kgcm²</i>	0.84	0.83	0.83	0.66	0.65	0.59	0.6	0.75	0.61	0.55	0.6	0.54	0.49	0.5	0.48
				<i>10⁻³ in.lb.s²</i>	0.74	0.73	0.73	0.58	0.58	0.52	0.53	0.66	0.54	0.49	0.53	0.48	0.43	0.44	0.42
	G	24	J_1	<i>kgcm²</i>	1.9	1.9	1.9	1.7	1.7	1.6	1.6	1.8	1.6	1.6	1.6	1.6	1.5	1.5	1.5
				<i>10⁻³ in.lb.s²</i>	1.7	1.6	1.7	1.5	1.5	1.4	1.5	1.6	1.5	1.4	1.4	1.4	1.3	1.4	1.3
	H	28	J_1	<i>kgcm²</i>	1.6	1.6	1.6	1.4	1.4	1.3	1.3	1.5	1.4	1.3	1.3	1.3	1.2	1.2	1.2
				<i>10⁻³ in.lb.s²</i>	1.4	1.4	1.4	1.2	1.2	1.2	1.2	1.3	1.2	1.1	1.2	1.1	1.1	1.1	1.1

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

^{a)} Valid for torque transmission only

^{b)} Valid for standard clamping hub diameter

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

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

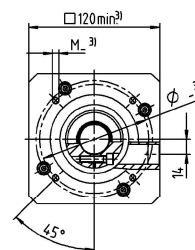
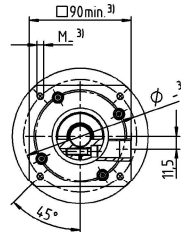
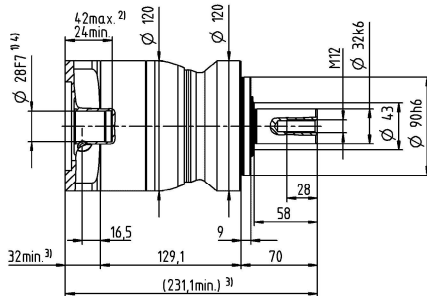
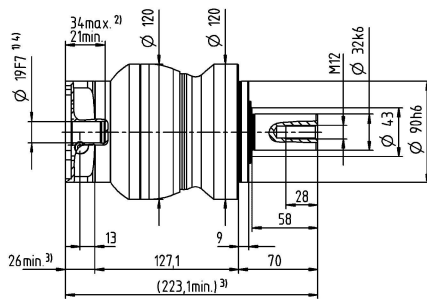
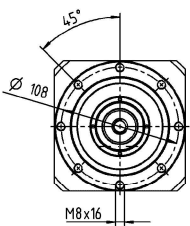
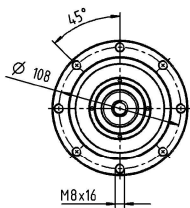
^{e)} Valid for: Smooth shaft

2-stage

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

Motor shaft diameter [mm]

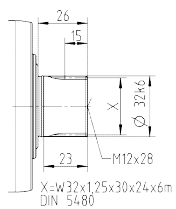
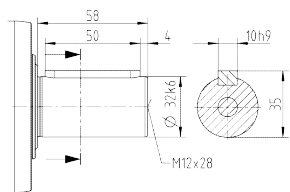
up to 28 ⁴⁾ (H)
clamping hub
diameter



Other output variants

Shaft with key

Splined shaft (DIN 5480)



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

⁵⁾ Standard clamping hub diameter

NPL 045 MF 1- / 2-stage

				1-stage			2-stage					
Ratio	i			5	8	10	25	32	50	64	100	
Max. torque ^{a) b) e)}	T_{2a}		Nm	800	640	640	700	640	700	640	640	
			in.lb	7081	5665	5665	6196	5665	6196	5665	5665	
Max. acceleration torque ^{a)} (max. 1000 cycles per hour)	T_{2B}		Nm	500	400	400	500	400	500	400	400	
			in.lb	4425	3540	3540	4425	3540	4425	3540	3540	
Emergency stop torque ^{a) b) e)} (permitted 1000 times during the service life of the gearbox)	T_{2Not}		Nm	1000	1000	1000	1000	1000	1000	1000	1000	
			in.lb	8851	8851	8851	8851	8851	8851	8851	8851	
Permitted average input speed ^{d)} (at T_{2N} and 20 °C ambient temperature)	n_{1N}		rpm	1800	1900	2000	2600	2500	3000	2900	3000	
Max. input speed	n_{1Max}		rpm	4000	4000	4000	6000	6000	6000	6000	6000	
Mean no load running torque ^{b)} (at n_1 =3000 rpm and 20 °C gearbox temperature)	T_{012}		Nm	4.2	3	2.6	1.6	1.5	1.2	1.1	0.97	
			in.lb	37	27	23	14	13	11	9.7	8.6	
Max. backlash	j_t		arcmin	≤ 8			≤ 10					
Torsional rigidity ^{b)}	C_{t21}		Nm/arcmin	55	44	44	55	44	55	44	44	
			in.lb/arcmin	487	389	389	487	389	487	389	389	
Max. axial force ^{c)}	F_{2AMax}		N	9870			9870					
			lb _f	2221			2221					
Max. lateral force ^{c)}	F_{2QMMax}		N	9900			9900					
			lb _f	2228			2228					
Max. tilting moment	M_{2KMMax}		Nm	952			952					
			in.lb	8426			8426					
Efficiency at full load	η		%	97			95					
Service life	L_n		h	> 20000			> 20000					
Weight (incl. standard adapter plate)	m		kg	20			20					
			lb _m	44			44					
Operating noise (at reference ratio and reference speed – ratio-specific values available in cymex®)	L_{PA}		dB(A)	≤ 68			≤ 65					
Max. permitted housing temperature			°C	+90			+90					
			°F	+194			+194					
Ambient temperature			°C	−15 to +40			−15 to +40					
			°F	+5 to +104			+5 to +104					
Lubrication				Lubricated for life								
Direction of rotation				In- and output same direction								
Protection class				IP 65								
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]	E	19	J_1	kgcm ²	–	–	–	1.2	1.1	1	0.88	0.82
				10 ⁻³ in.lb.s ²	–	–	–	1.1	0.97	0.89	0.78	0.73
	G	24	J_1	kgcm ²	–	–	–	2	1.9	1.8	1.7	1.6
				10 ⁻³ in.lb.s ²	–	–	–	1.8	1.7	1.6	1.5	1.4
	H	28	J_1	kgcm ²	–	–	–	1.7	1.6	1.5	1.4	1.3
				10 ⁻³ in.lb.s ²	–	–	–	1.5	1.4	1.3	1.2	1.2
	I	32	J_1	kgcm ²	–	–	–	5.8	5.7	5.6	5.4	5.4
				10 ⁻³ in.lb.s ²	–	–	–	5.1	5	5	4.8	4.8
	K	38	J_1	kgcm ²	8.7	7.3	7.2	7	6.9	6.8	6.6	6.5
				10 ⁻³ in.lb.s ²	7.7	6.5	6.4	6.2	6.1	6	5.8	5.8

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

^{a)} Valid for torque transmission only

^{b)} Valid for standard clamping hub diameter

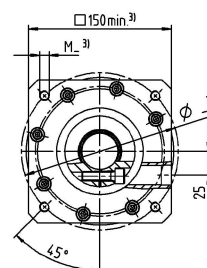
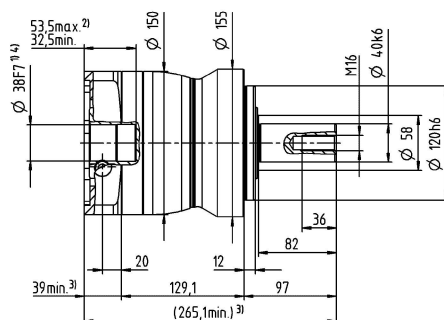
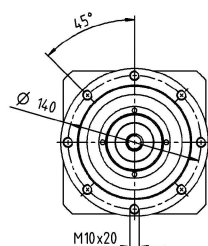
^{c)} Refers to center of the output shaft or flange

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

^{e)} Valid for: Smooth shaft

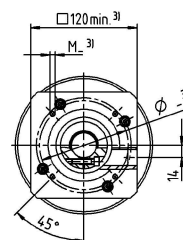
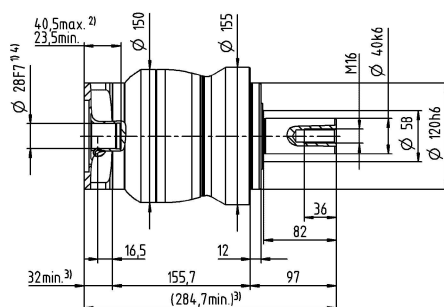
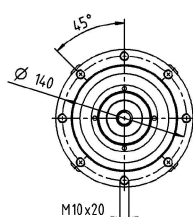
1-stage

up to 38 ⁴⁾ (K) ⁵⁾
clamping hub
diameter



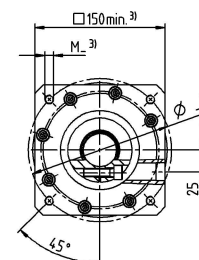
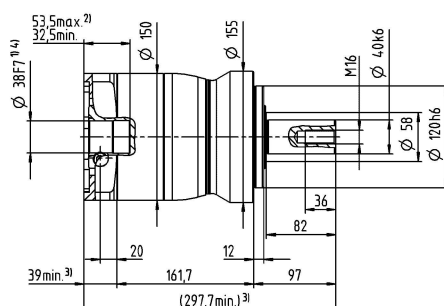
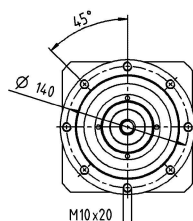
2-stage

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



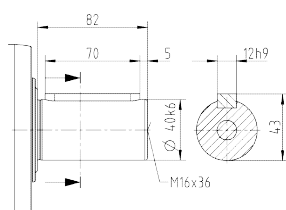
Motor shaft diameter [mm]

up to 38⁴⁾ (K)
clamping hub
diameter

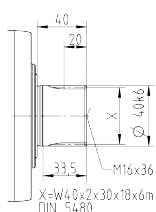


Other output variants

Shaft with key



Splined shaft (DIN 5480)



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 wall thickness of 1 mm

⁵⁾ Standard clamping hub diameter

NPL 015 MA 1-/2-stage

				1-stage		2-stage							
Ratio	i		3	4	12	15	16	20	28	30	40		
Max. torque ^{a) b) e)}	T_{2c}	Nm	80	67	62	67	67	67	67	62	67		
		in.lb	708	593	549	593	593	593	593	549	593		
Max. acceleration torque ^{a)} (max. 1000 cycles per hour)	T_{2B}	Nm	55	42	39	42	42	42	42	39	42		
		in.lb	487	372	345	372	372	372	372	345	372		
Emergency stop torque ^{a) b) e)} (permitted 1000 times during the service life of the gearbox)	T_{2Not}	Nm	80	80	80	80	80	80	80	80	80		
		in.lb	708	708	708	708	708	708	708	708	708		
Permitted average input speed ^{d)} (at T_{2N} and 20 °C ambient temperature)	n_{1N}	rpm	2900	3100	3800	4000	3800	4000	4300	4600	4600		
Max. input speed	n_{1Max}	rpm	8000	8000	10000	10000	10000	10000	10000	10000	10000		
Mean no load running torque ^{b)} (at n_1 =3000 rpm and 20 °C gearbox temperature)	T_{012}	Nm	0.92	0.74	0.34	0.29	0.29	0.25	0.21	0.21	0.19		
		in.lb	8.1	6.5	3	2.6	2.6	2.2	1.9	1.9	1.7		
Max. backlash	j_t	arcmin	≤ 8		≤ 10								
Torsional rigidity ^{b)}	C_{t21}	Nm/arcmin	4	4	4	4	4	4	4	4	4		
		in.lb/arcmin	35	35	35	35	35	35	35	35	35		
Max. axial force ^{c)}	F_{2AMax}	N	2400		2400								
		lb _f	540		540								
Max. lateral force ^{c)}	F_{2QMMax}	N	2800		2800								
		lb _f	630		630								
Max. tilting moment	M_{2KMMax}	Nm	152		152								
		in.lb	1345		1345								
Efficiency at full load	η	%	97		95								
Service life	L_h	h	> 20000		> 20000								
Weight (incl. standard adapter plate)	m	kg	1.9		2								
		lb _m	4.2		4.4								
Operating noise (at reference ratio and reference speed – ratio-specific values available in cymex®)	L_{PA}	dB(A)	≤ 59		≤ 58								
Max. permitted housing temperature		°C	+90		+90								
		°F	+194		+194								
Ambient temperature		°C	−15 to +40		−15 to +40								
		°F	+5 to +104		+5 to +104								
Lubrication			Lubricated for life										
Direction of rotation			In- and output same direction										
Protection class			IP 65										
Elastomer coupling (recommended product type – validate sizing with cymex®)			ELC-0060BA016.000-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]	Z	8	J_1	kgcm ²	–	–	0.04	0.04	0.03	0.03	0.03	0.03	
				10 ⁻³ in.lb.s ²	–	–	0.04	0.04	0.03	0.03	0.03	0.03	0.03
	A	9	J_1	kgcm ²	0.25	0.19	0.04	0.04	0.03	0.03	0.03	0.03	
				10 ⁻³ in.lb.s ²	0.22	0.17	0.04	0.04	0.03	0.03	0.03	0.03	0.03
	B	11	J_1	kgcm ²	0.26	0.21	0.06	0.06	0.05	0.05	0.05	0.05	
				10 ⁻³ in.lb.s ²	0.23	0.19	0.05	0.05	0.04	0.04	0.04	0.04	0.04
	C	14	J_1	kgcm ²	0.34	0.28	0.14	0.14	0.14	0.13	0.13	0.14	
				10 ⁻³ in.lb.s ²	0.3	0.25	0.12	0.12	0.12	0.12	0.12	0.12	0.12
	D	16	J_1	kgcm ²	0.47	0.41	–	–	–	–	–	–	–
				10 ⁻³ in.lb.s ²	0.42	0.36	–	–	–	–	–	–	–
	E	19	J_1	kgcm ²	0.55	0.49	–	–	–	–	–	–	–
				10 ⁻³ in.lb.s ²	0.49	0.43	–	–	–	–	–	–	–

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

^{a)} Valid for torque transmission only

^{b)} Valid for standard clamping hub diameter

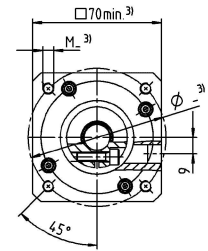
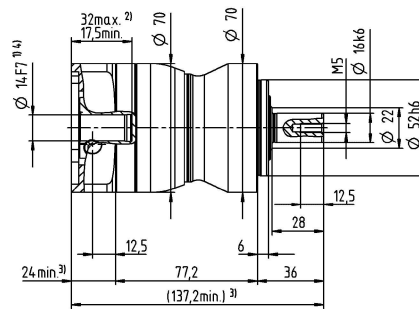
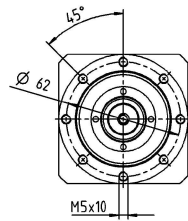
^{c)} Refers to center of the output shaft or flange

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

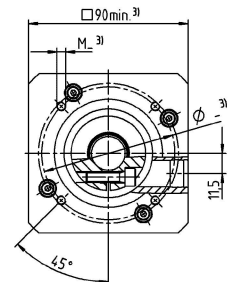
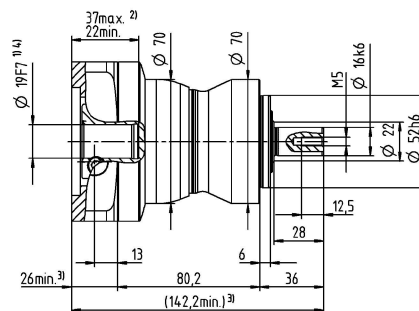
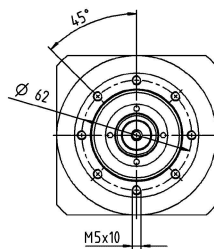
^{e)} Valid for: Smooth shaft

1-stage

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

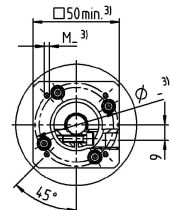
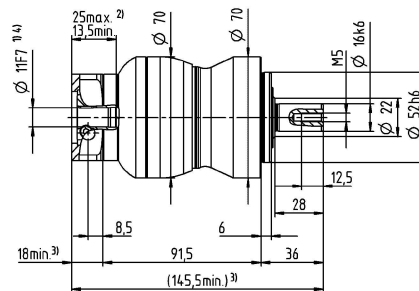
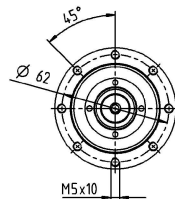


up to 19⁴⁾ (E)
clamping hub
diameter

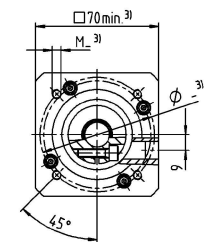
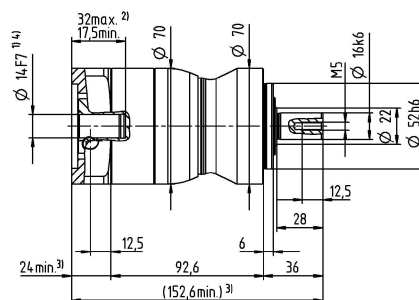
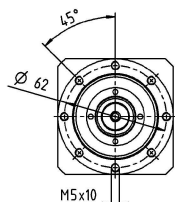


2-stage

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



up to 14⁴⁾ (C)
clamping hub
diameter

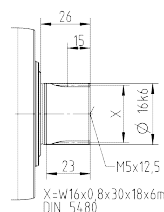
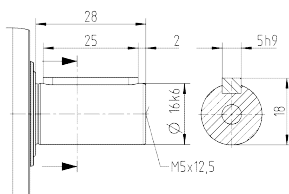


Motor shaft diameter [mm]

Other output variants

Shaft with key

Splined shaft (DIN 5480)



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

NPL 025 MA 1-/2-stage

				1-stage		2-stage								
Ratio	i		3	4	9	12	15	16	20	28	30	40		
Max. torque ^{a) b) e)}	T_{2c}	Nm	185	185	185	185	185	185	185	185	168	185		
		$in.lb$	1637	1637	1637	1637	1637	1637	1637	1637	1637	1487	1637	
Max. acceleration torque ^{a)} (max. 1000 cycles per hour)	T_{2B}	Nm	125	115	125	125	120	115	115	115	105	115		
		$in.lb$	1106	1018	1106	1106	1062	1018	1018	1018	1018	929	1018	
Emergency stop torque ^{a) b) e)} (permitted 1000 times during the service life of the gearbox)	T_{2Not}	Nm	190	190	190	190	190	190	190	190	190	190		
		$in.lb$	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	
Permitted average input speed ^{d)} (at T_{2N} and 20 °C ambient temperature)	n_{1N}	rpm	2700	2900	2900	3500	3700	3500	3700	4000	4300	4300		
Max. input speed	n_{1Max}	rpm	7000	7000	8000	8000	8000	8000	8000	8000	8000	8000		
Mean no load running torque ^{b)} (at n_1 =3000 rpm and 20 °C gearbox temperature)	T_{012}	Nm	1.8	1.5	0.67	0.55	0.47	0.46	0.4	0.34	0.33	0.29		
		$in.lb$	16	13	5.9	4.9	4.2	4.1	3.5	3	2.9	2.6		
Max. backlash	j_t	$arcmin$	≤ 8		≤ 10									
Torsional rigidity ^{b)}	C_{t21}	$Nm/arcmin$	12	12	12	12	12	12	12	12	12	12		
		$in.lb/arcmin$	106	106	106	106	106	106	106	106	106	106		
Max. axial force ^{c)}	F_{2AMax}	N	3350		3350									
		lb_f	754		754									
Max. lateral force ^{c)}	F_{2QMMax}	N	4200		4200									
		lb_f	945		945									
Max. tilting moment	M_{2KMax}	Nm	236		236									
		$in.lb$	2089		2089									
Efficiency at full load	η	%	97		95									
Service life	L_h	h	> 20000		> 20000									
Weight (incl. standard adapter plate)	m	kg	3.9		4.2									
		lb_m	8.6		9.3									
Operating noise (at reference ratio and reference speed – ratio-specific values available in cymex®)	L_{PA}	$dB(A)$	≤ 61		≤ 59									
Max. permitted housing temperature		°C	+90		+90									
		°F	+194		+194									
Ambient temperature		°C	–15 to +40		–15 to +40									
		°F	+5 to +104		+5 to +104									
Lubrication			Lubricated for life											
Direction of rotation			In- and output same direction											
Protection class			IP 65											
Elastomer coupling (recommended product type – validate sizing with cymex®)			ELC-0060BA022.000-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]	A	9	J_1	$kgcm^2$	–	–	0.26	0.22	0.21	0.21	0.2	0.19	0.19	0.19
				$10^{-3} in.lb.s^2$	–	–	0.23	0.19	0.19	0.19	0.18	0.17	0.17	0.17
	B	11	J_1	$kgcm^2$	–	–	0.28	0.24	0.23	0.23	0.22	0.21	0.21	0.21
				$10^{-3} in.lb.s^2$	–	–	0.25	0.21	0.2	0.2	0.19	0.19	0.19	0.19
	C	14	J_1	$kgcm^2$	0.58	0.47	0.35	0.31	0.3	0.3	0.3	0.29	0.28	0.28
				$10^{-3} in.lb.s^2$	0.51	0.42	0.31	0.27	0.27	0.27	0.27	0.26	0.25	0.25
	D	16	J_1	$kgcm^2$	0.73	0.62	0.48	0.44	0.43	0.43	0.42	0.41	0.41	0.41
				$10^{-3} in.lb.s^2$	0.65	0.55	0.42	0.39	0.38	0.38	0.37	0.36	0.36	0.36
	E	19	J_1	$kgcm^2$	0.81	0.71	0.56	0.52	0.51	0.52	0.51	0.5	0.5	0.49
				$10^{-3} in.lb.s^2$	0.72	0.63	0.5	0.46	0.45	0.46	0.45	0.44	0.44	0.43
	G	24	J_1	$kgcm^2$	1.8	1.7	–	–	–	–	–	–	–	–
				$10^{-3} in.lb.s^2$	1.6	1.5	–	–	–	–	–	–	–	–
	H	28	J_1	$kgcm^2$	1.6	1.4	–	–	–	–	–	–	–	–
				$10^{-3} in.lb.s^2$	1.4	1.2	–	–	–	–	–	–	–	–

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

^{a)} Valid for torque transmission only

^{b)} Valid for standard clamping hub diameter

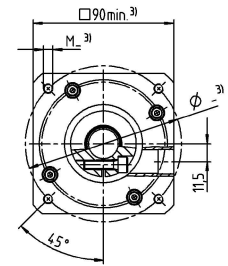
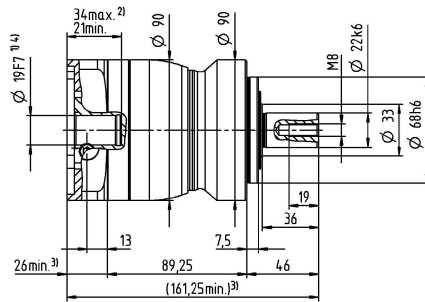
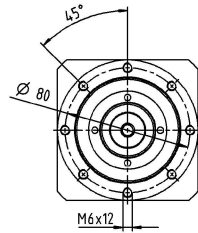
^{c)} Refers to center of the output shaft or flange

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

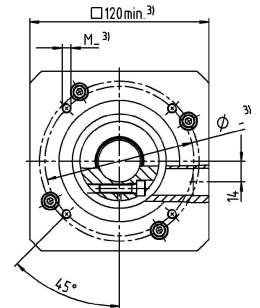
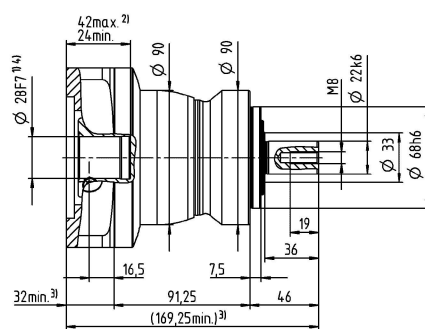
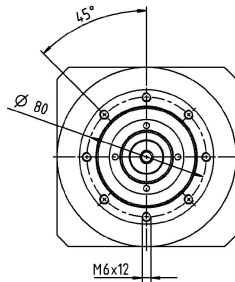
^{e)} Valid for: Smooth shaft

1-stage

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

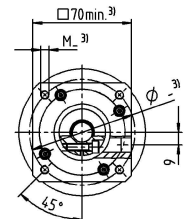
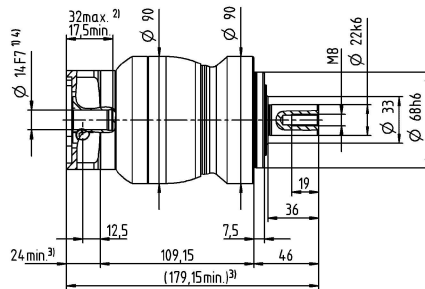
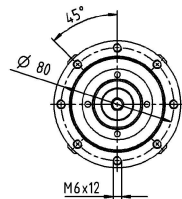


up to 28⁴⁾ (H)
clamping hub
diameter

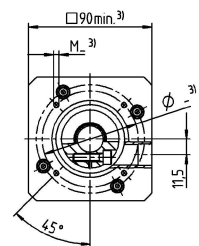
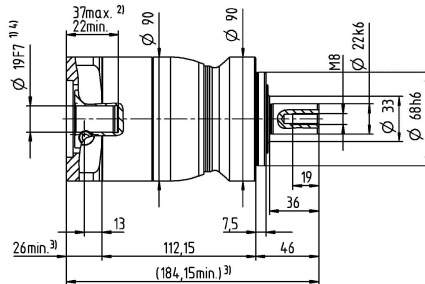
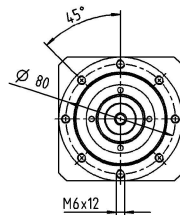


2-stage

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



up to 19⁴⁾ (E)
clamping hub
diameter

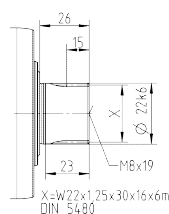
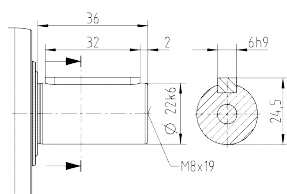


Motor shaft diameter [mm]

Other output variants

Shaft with key

Splined shaft (DIN 5480)



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

NPL 035 MA 1-/2-stage

				1-stage		2-stage								
Ratio	i		3	4	9	12	15	16	20	28	30	40		
Max. torque ^{a) b) e)}	T_{2c}	Nm	480	480	480	480	480	480	480	480	432	480		
		in.lb	4248	4248	4248	4248	4248	4248	4248	4248	3824	4248		
Max. acceleration torque ^{a)} (max. 1000 cycles per hour)	T_{2B}	Nm	305	305	305	305	300	305	305	305	270	305		
		in.lb	2699	2699	2699	2699	2655	2699	2699	2699	2390	2699		
Emergency stop torque ^{a) b) e)} (permitted 1000 times during the service life of the gearbox)	T_{2Not}	Nm	500	500	500	500	500	500	500	500	500	500		
		in.lb	4425	4425	4425	4425	4425	4425	4425	4425	4425	4425		
Permitted average input speed ^{d)} (at T_{2N} and 20 °C ambient temperature)	n_{1N}	rpm	2000	2200	2700	3300	3400	3300	3400	3600	3900	3900		
Max. input speed	n_{1Max}	rpm	6000	6000	7000	7000	7000	7000	7000	7000	7000	7000		
Mean no load running torque ^{b)} (at n_1 =3000 rpm and 20 °C gearbox temperature)	T_{012}	Nm	3.3	2.7	1.7	1.4	1.2	1.2	1.1	0.93	0.88	0.81		
		in.lb	29	24	15	12	11	11	9.7	8.2	7.8	7.2		
Max. backlash	j_t	arcmin	≤ 8		≤ 10									
Torsional rigidity ^{b)}	C_{t21}	Nm/arcmin	30	30	30	30	30	30	30	30	30	30		
		in.lb/arcmin	266	266	266	266	266	266	266	266	266	266		
Max. axial force ^{c)}	F_{2AMax}	N	5650		5650									
		lb _f	1271		1271									
Max. lateral force ^{c)}	F_{2QMMax}	N	6600		6600									
		lb _f	1485		1485									
Max. tilting moment	M_{2KMMax}	Nm	487		487									
		in.lb	4310		4310									
Efficiency at full load	η	%	97		95									
Service life	L_h	h	> 20000		> 20000									
Weight (incl. standard adapter plate)	m	kg	9.1		9.5									
		lb _m	20		21									
Operating noise (at reference ratio and reference speed – ratio-specific values available in cymex®)	L_{PA}	dB(A)	≤ 65		≤ 61									
Max. permitted housing temperature		°C	+90		+90									
		°F	+194		+194									
Ambient temperature		°C	–15 to +40		–15 to +40									
		°F	+5 to +104		+5 to +104									
Lubrication			Lubricated for life											
Direction of rotation			In- and output same direction											
Protection class			IP 65											
Elastomer coupling (recommended product type – validate sizing with cymex®)			ELC-0150BA032.000-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]	C	14	J_1	kgcm ²	–	–	0.6	0.59	0.6	0.43	0.42	0.37	0.52	0.36
				10 ⁻³ in.lb.s ²	–	–	0.53	0.52	0.53	0.38	0.37	0.33	0.46	0.32
	D	16	J_1	kgcm ²	–	–	0.75	0.74	0.74	0.58	0.57	0.5	0.67	0.51
				10 ⁻³ in.lb.s ²	–	–	0.66	0.65	0.65	0.51	0.5	0.44	0.59	0.45
	E	19	J_1	kgcm ²	2.5	1.7	0.84	0.83	0.83	0.66	0.65	0.6	0.75	0.6
				10 ⁻³ in.lb.s ²	2.2	1.5	0.74	0.73	0.73	0.58	0.58	0.53	0.66	0.53
	G	24	J_1	kgcm ²	3.3	2.4	1.9	1.9	1.9	1.7	1.7	1.6	1.8	1.6
				10 ⁻³ in.lb.s ²	2.9	2.1	1.7	1.6	1.7	1.5	1.5	1.5	1.6	1.4
	H	28	J_1	kgcm ²	3	2.2	1.6	1.6	1.6	1.4	1.4	1.3	1.5	1.3
				10 ⁻³ in.lb.s ²	2.7	1.9	1.4	1.4	1.4	1.2	1.2	1.2	1.3	1.2
	I	32	J_1	kgcm ²	7.1	6.2	–	–	–	–	–	–	–	–
				10 ⁻³ in.lb.s ²	6.3	5.5	–	–	–	–	–	–	–	–
	K	38	J_1	kgcm ²	8.3	7.4	–	–	–	–	–	–	–	–
				10 ⁻³ in.lb.s ²	7.3	6.5	–	–	–	–	–	–	–	–

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

^{a)} Valid for torque transmission only

^{b)} Valid for standard clamping hub diameter

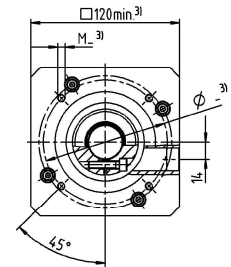
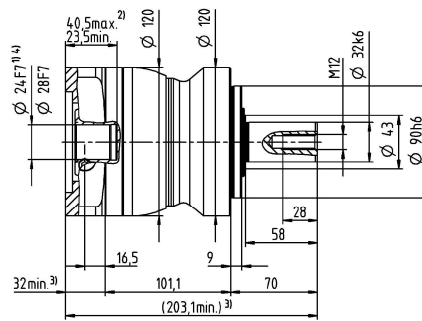
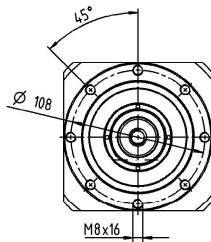
^{c)} Refers to center of the output shaft or flange

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

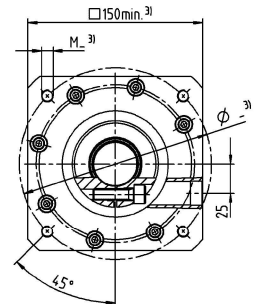
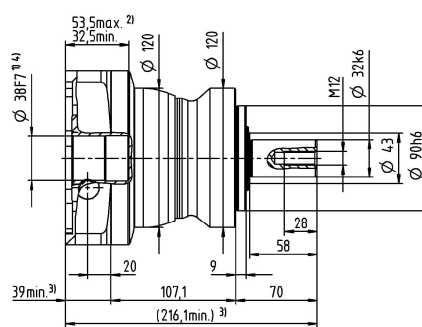
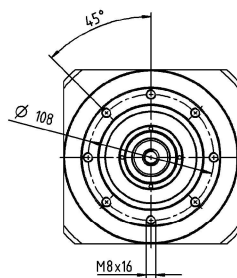
^{e)} Valid for: Smooth shaft

1-stage

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

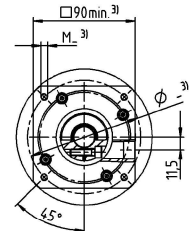
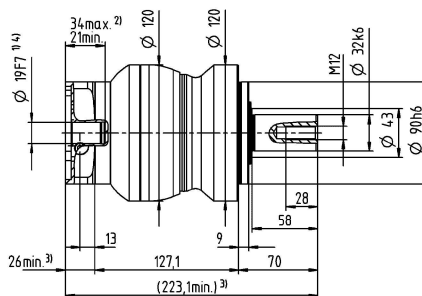
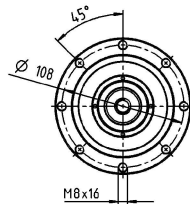


up to 38⁴⁾ (K)
clamping hub
diameter

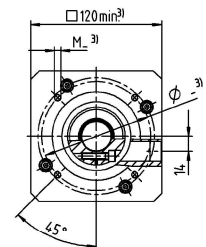
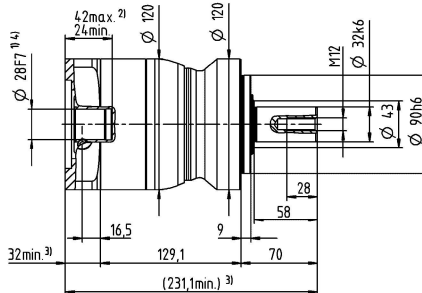
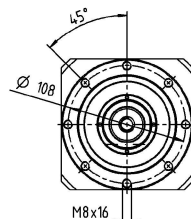


2-stage

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



up to 28⁴⁾ (H)
clamping hub
diameter

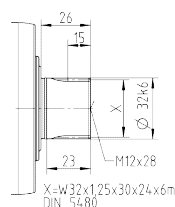
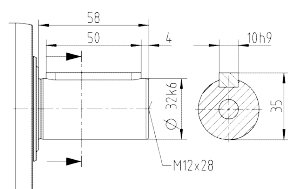


Motor shaft diameter [mm]

Other output variants

Shaft with key

Splined shaft (DIN 5480)



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

NPS 015 MF 1-stage

				1-stage						
Ratio	i			3	4	5	7	8	10	
Max. torque ^{a) b) e)}	T_{2a}		Nm	51	56	64	64	56	56	
			in.lb	451	496	566	566	496	496	
Max. acceleration torque ^{a)} (max. 1000 cycles per hour)	T_{2B}		Nm	32	35	40	40	35	35	
			in.lb	283	310	354	354	310	310	
Emergency stop torque ^{a) b) e)} (permitted 1000 times during the service life of the gearbox)	T_{2Not}		Nm	80	80	80	80	80	80	
			in.lb	708	708	708	708	708	708	
Permitted average input speed ^{d)} (at T_{2N} and 20 °C ambient temperature)	n_{1N}		rpm	2900	3100	3300	3600	3600	3800	
Max. input speed	n_{1Max}		rpm	8000	8000	8000	8000	8000	8000	
Mean no load running torque ^{b)} (at n_1 =3000 rpm and 20 °C gearbox temperature)	T_{012}		Nm	0.92	0.74	0.62	0.51	0.47	0.41	
			in.lb	8.1	6.5	5.5	4.5	4.2	3.6	
Max. backlash	j_t		arcmin	≤ 8						
Torsional rigidity ^{b)}	C_{t21}		Nm/arcmin	3.3	3.3	3.3	3.3	2.8	2.8	
			in.lb/arcmin	29	29	29	29	25	25	
Max. axial force ^{c)}	F_{2AMax}		N	2400						
			lb _f	540						
Max. lateral force ^{c)}	F_{2QMMax}		N	2800						
			lb _f	630						
Max. tilting moment	M_{2KMMax}		Nm	152						
			in.lb	1345						
Efficiency at full load	η		%	97						
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)	≤ 59						
Max. permitted housing temperature			°C	+90						
			°F	+194						
Ambient temperature			°C	–15 to +40						
			°F	+5 to +104						
Lubrication				Lubricated for life						
Direction of rotation				In- and output same direction						
Protection class				IP 65						
Elastomer coupling (recommended product type – validate sizing with cymex®)				ELC-0060BA016.000-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]	A	9	J_1	kgcm ²	0.25	0.19	0.17	0.14	0.14	0.13
				10 ⁻³ in.lb.s ²	0.22	0.17	0.15	0.12	0.12	0.12
	B	11	J_1	kgcm ²	0.26	0.21	0.18	0.16	0.16	0.15
				10 ⁻³ in.lb.s ²	0.23	0.19	0.16	0.14	0.14	0.13
	C	14	J_1	kgcm ²	0.34	0.28	0.26	0.24	0.23	0.23
				10 ⁻³ in.lb.s ²	0.3	0.25	0.23	0.21	0.2	0.2
	D	16	J_1	kgcm ²	0.47	0.41	0.39	0.36	0.36	0.35
				10 ⁻³ in.lb.s ²	0.42	0.36	0.35	0.32	0.32	0.31
E	19	J_1	kgcm ²	0.55	0.49	0.47	0.45	0.44	0.44	
			10 ⁻³ in.lb.s ²	0.49	0.43	0.42	0.4	0.39	0.39	

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

^{a)} Valid for torque transmission only

^{b)} Valid for standard clamping hub diameter

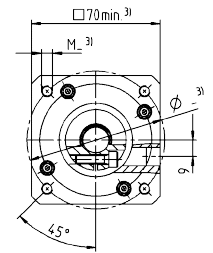
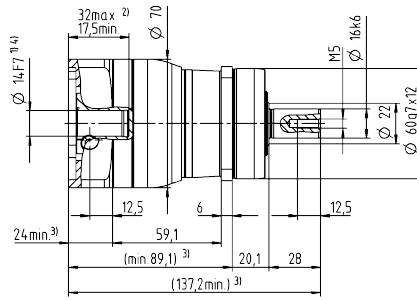
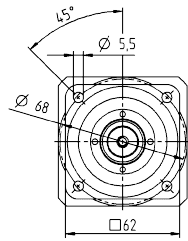
^{c)} Refers to center of the output shaft or flange

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

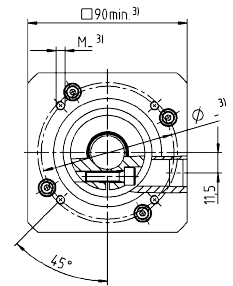
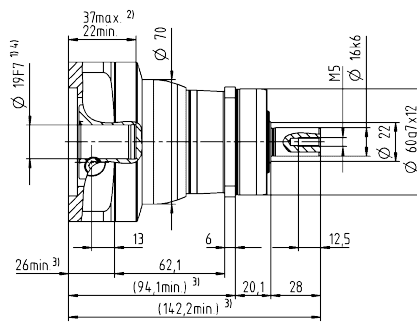
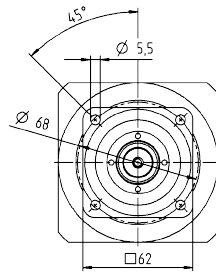
^{e)} Valid for: Smooth shaft

1-stage

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



up to 19⁴⁾ (E)
clamping hub
diameter

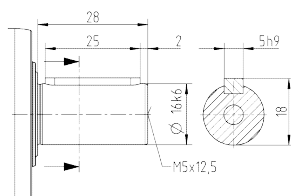


Motor shaft diameter [mm]

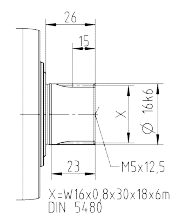
Planetary Gearboxes
Value Line

Other output variants

Shaft with key



Splined shaft (DIN 5480)



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

NPS 015 MF 2-stage

				2-stage														
Ratio		i		12	15	16	20	25	28	30	32	35	40	50	64	70	100	
Max. torque ^{a) b) e)}		T_{2c}	Nm	51	51	56	56	64	56	51	56	64	56	64	56	64	56	
			in.lb	451	451	496	496	566	496	451	496	566	496	566	496	566	496	
Max. acceleration torque ^{e)} (max. 1000 cycles per hour)		T_{2B}	Nm	32	32	35	35	40	35	32	35	40	35	40	35	40	35	
			in.lb	283	283	310	310	354	310	283	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	80	80	80	80	80	80	80	80	80	80	80	80	80	80	
			in.lb	708	708	708	708	708	708	708	708	708	708	708	708	708	708	
Permitted average input speed ^{d)} (at T_{2N} and 20 °C ambient temperature)		n_{1N}	rpm	3800	4000	3800	4000	4000	4300	4600	4400	4300	4600	4600	4400	4600	4600	
Max. input speed		n_{1Max}	rpm	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	
Mean no load running torque ^{b)} (at n_1 =3000 rpm and 20 °C gearbox temperature)		T_{012}	Nm	0.34	0.29	0.29	0.25	0.23	0.21	0.21	0.2	0.2	0.19	0.17	0.17	0.16	0.15	
			in.lb	3	2.6	2.6	2.2	2	1.9	1.9	1.8	1.8	1.7	1.5	1.5	1.4	1.3	
Max. backlash		j_t	arcmin	≤ 10														
Torsional rigidity ^{b)}		C_{t21}	Nm/arcmin	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	2.8	3.3	2.8	
			in.lb/arcmin	29	29	29	29	29	29	29	29	29	29	29	29	25	29	25
Max. axial force ^{c)}		F_{2AMax}	N	2400														
			lb _f	540														
Max. lateral force ^{c)}		F_{2QMax}	N	2800														
			lb _f	630														
Max. tilting moment		M_{2KMax}	Nm	152														
			in.lb	1345														
Efficiency at full load		η	%	95														
Service life		L_n	h	> 20000														
Weight (incl. standard adapter plate)		m	kg	1.9														
			lb _m	4.2														
Operating noise (at reference ratio and reference speed – ratio-specific values available in cymex®)		L_{PA}	dB(A)	≤ 58														
Max. permitted housing temperature			°C	+90														
			°F	+194														
Ambient temperature			°C	−15 to +40														
			°F	+5 to +104														
Lubrication			Lubricated for life															
Direction of rotation			In- and output same direction															
Protection class			IP 65															
Elastomer coupling (recommended product type – validate sizing with cymex®)			ELC-0060BA016.000-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]	Z	8	J_1	kgcm ²	0.04	0.04	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.02	0.02	0.02	0.02	
				10 ^{−3} in.lb.s ²	0.04	0.04	0.03	0.03	0.03	0.03	0.03	0.03	0.02	0.02	0.02	0.02		
	A	9	J_1	kgcm ²	0.04	0.04	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.02	0.02	0.02	0.02	
				10 ^{−3} in.lb.s ²	0.04	0.04	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.02	0.02	0.02	0.02	
	B	11	J_1	kgcm ²	0.06	0.06	0.05	0.05	0.05	0.05	0.05	0.04	0.05	0.04	0.04	0.04	0.04	
				10 ^{−3} in.lb.s ²	0.05	0.05	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	
	C	14	J_1	kgcm ²	0.14	0.14	0.14	0.13	0.13	0.13	0.14	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	0.12	0.12	0.12	0.12

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

^{a)} Valid for torque transmission only

^{b)} Valid for standard clamping hub diameter

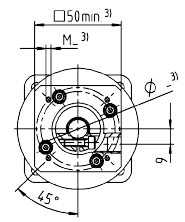
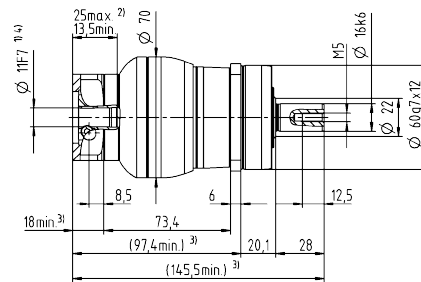
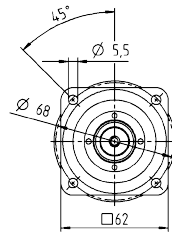
^{c)} Refers to center of the output shaft or flange

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

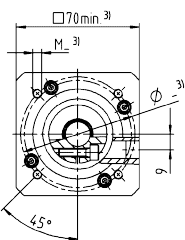
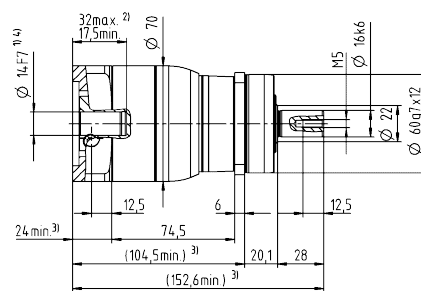
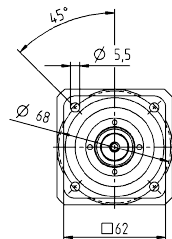
^{e)} Valid for: Smooth shaft

2-stage

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



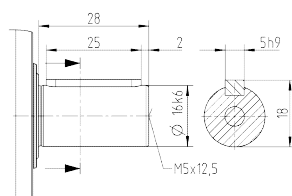
up to 14⁴⁾ (C)
clamping hub
diameter



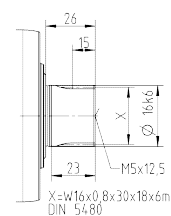
Motor shaft diameter [mm]

Other output variants

Shaft with key



Splined shaft (DIN 5480)



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

NPS 025 MF 1-stage

				1-stage						
Ratio	i			3	4	5	7	8	10	
Max. torque ^{a) b) e)}	T_{2a}		Nm	128	152	160	160	144	144	
			in.lb	1133	1345	1416	1416	1275	1275	
Max. acceleration torque ^{a)} (max. 1000 cycles per hour)	T_{2B}		Nm	80	95	100	100	90	90	
			in.lb	708	841	885	885	797	797	
Emergency stop torque ^{a) b) e)} (permitted 1000 times during the service life of the gearbox)	T_{2Not}		Nm	190	190	190	190	190	190	
			in.lb	1682	1682	1682	1682	1682	1682	
Permitted average input speed ^{d)} (at T_{2N} and 20 °C ambient temperature)	n_{1N}		rpm	2700	2900	3000	3200	3300	3500	
Max. input speed	n_{1Max}		rpm	7000	7000	7000	7000	7000	7000	
Mean no load running torque ^{b)} (at n_1 =3000 rpm and 20 °C gearbox temperature)	T_{012}		Nm	1.8	1.5	1.3	1.1	1	0.94	
			in.lb	16	13	12	9.7	8.9	8.3	
Max. backlash	j_t		arcmin	≤ 8						
Torsional rigidity ^{b)}	C_{t21}		Nm/arcmin	9.5	9.5	9.5	9.5	8.5	8.5	
			in.lb/arcmin	84	84	84	84	75	75	
Max. axial force ^{c)}	F_{2AMax}		N	3350						
			lb _f	754						
Max. lateral force ^{c)}	F_{2QMMax}		N	4200						
			lb _f	945						
Max. tilting moment	M_{2KMMax}		Nm	236						
			in.lb	2089						
Efficiency at full load	η		%	97						
Service life	L_n		h	> 20000						
Weight (incl. standard adapter plate)	m		kg	3.6						
			lb _m	8						
Operating noise (at reference ratio and reference speed – ratio-specific values available in cymex®)	L_{PA}		dB(A)	≤ 61						
Max. permitted housing temperature			°C	+90						
			°F	+194						
Ambient temperature			°C	–15 to +40						
			°F	+5 to +104						
Lubrication				Lubricated for life						
Direction of rotation				In- and output same direction						
Protection class				IP 65						
Elastomer coupling (recommended product type – validate sizing with cymex®)				ELC-0060BA022.000-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]	C	14	J_1	kgcm ²	0.58	0.47	0.38	0.3	0.28	0.26
				10 ⁻³ in.lb.s ²	0.51	0.42	0.34	0.27	0.25	0.23
	D	16	J_1	kgcm ²	0.73	0.62	0.53	0.43	0.42	0.4
				10 ⁻³ in.lb.s ²	0.65	0.55	0.47	0.38	0.37	0.35
	E	19	J_1	kgcm ²	0.81	0.71	0.61	0.53	0.51	0.49
				10 ⁻³ in.lb.s ²	0.72	0.63	0.54	0.47	0.45	0.43
	G	24	J_1	kgcm ²	1.8	1.7	1.6	1.6	1.5	1.5
				10 ⁻³ in.lb.s ²	1.6	1.5	1.4	1.4	1.3	1.3
	H	28	J_1	kgcm ²	1.6	1.4	1.4	1.3	1.3	1.2
				10 ⁻³ in.lb.s ²	1.4	1.2	1.2	1.2	1.2	1.1

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

^{a)} Valid for torque transmission only

^{b)} Valid for standard clamping hub diameter

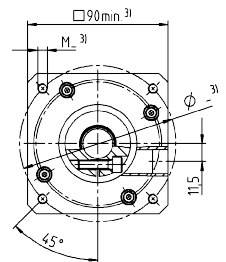
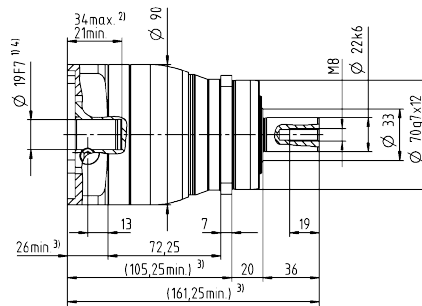
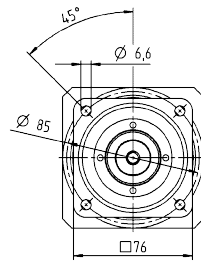
^{c)} Refers to center of the output shaft or flange

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

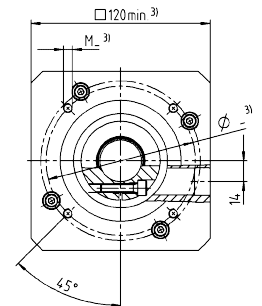
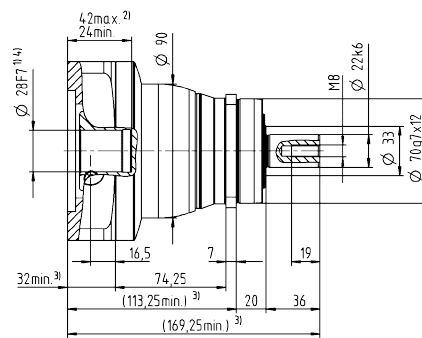
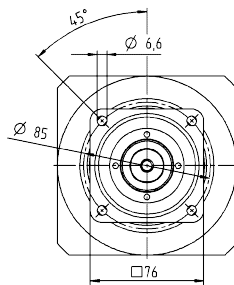
^{e)} Valid for: Smooth shaft

1-stage

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



up to 28⁴⁾ (H)
clamping hub
diameter

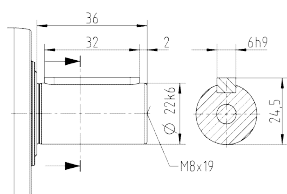


Motor shaft diameter [mm]

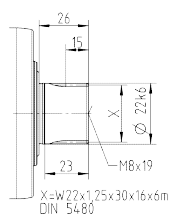
Planetary Gearboxes
Value Line

Other output variants

Shaft with key



Splined shaft (DIN 5480)



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

NPS 025 MF 2-stage

			2-stage														
Ratio	i		9	12	15	16	20	25	28	30	32	35	40	50	64	70	100
Max. torque ^{a) b) e)}	T_{2c}	Nm	128	128	128	152	152	160	152	128	144	160	152	160	144	160	144
		in.lb	1133	1133	1133	1345	1345	1416	1345	1133	1275	1416	1345	1416	1275	1416	1275
Max. acceleration torque ^{a)} (max. 1000 cycles per hour)	T_{2B}	Nm	80	80	80	95	95	100	95	80	90	100	95	100	90	100	90
		in.lb	708	708	708	841	841	885	841	708	797	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	190	190	190	190	190	190	190	190	190	190	190	190	190	190	190
		in.lb	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682
Permitted average input speed ^{d)} (at T_{2N} and 20 °C ambient temperature)	n_{1N}	rpm	2900	3500	3700	3500	3700	3700	4000	4300	4100	4000	4300	4300	4100	4300	4300
Max. input speed	n_{1Max}	rpm	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000
Mean no load running torque ^{b)} (at $n_1=3000$ rpm and 20 °C gearbox temperature)	T_{012}	Nm	0.67	0.55	0.47	0.46	0.4	0.36	0.34	0.33	0.32	0.31	0.29	0.27	0.25	0.25	0.23
		in.lb	5.9	4.9	4.2	4.1	3.5	3.2	3	2.9	2.8	2.7	2.6	2.4	2.2	2.2	2
Max. backlash	j_t	arcmin	≤ 10														
Torsional rigidity ^{b)}	C_{t21}	Nm/arcmin	10	10	10	10	10	9.5	10	10	10	9.5	10	9.5	8.5	9.5	8.5
		in.lb/arcmin	89	89	89	89	89	84	89	89	89	84	89	84	75	84	75
Max. axial force ^{c)}	F_{2AMax}	N	3350														
		lb _f	754														
Max. lateral force ^{c)}	F_{2QMax}	N	4200														
		lb _f	945														
Max. tilting moment	M_{2KMax}	Nm	236														
		in.lb	2089														
Efficiency at full load	η	%	95														
Service life	L_n	h	> 20000														
Weight (incl. standard adapter plate)	m	kg	3.9														
		lb _m	8.6														
Operating noise (at reference ratio and reference speed – ratio-specific values available in cymex®)	L_{PA}	dB(A)	≤ 59														
Max. permitted housing temperature		°C	+90														
		°F	+194														
Ambient temperature		°C	-15 to +40														
		°F	+5 to +104														
Lubrication			Lubricated for life														
Direction of rotation			In- and output same direction														
Protection class			IP 65														
Elastomer coupling (recommended product type – validate sizing with cymex®)			ELC-0060BA022.000-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]	A	9	J_t	kgcm ²	0.26	0.22	0.21	0.21	0.2	0.2	0.19	0.19	0.19	0.19	0.19	0.19	0.19
				10 ⁻³ in.lb.s ²	0.23	0.19	0.19	0.19	0.18	0.18	0.17	0.17	0.17	0.17	0.17	0.17	0.17
	B	11	J_t	kgcm ²	0.28	0.24	0.23	0.23	0.22	0.22	0.21	0.21	0.21	0.21	0.21	0.21	0.21
				10 ⁻³ in.lb.s ²	0.25	0.21	0.2	0.2	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19
	C	14	J_t	kgcm ²	0.35	0.31	0.3	0.3	0.3	0.29	0.29	0.28	0.28	0.28	0.28	0.28	0.28
				10 ⁻³ in.lb.s ²	0.31	0.27	0.27	0.27	0.27	0.26	0.26	0.25	0.25	0.25	0.25	0.25	0.25
	D	16	J_t	kgcm ²	0.48	0.44	0.43	0.43	0.42	0.42	0.41	0.41	0.41	0.41	0.41	0.41	0.41
				10 ⁻³ in.lb.s ²	0.42	0.39	0.38	0.38	0.37	0.37	0.36	0.36	0.36	0.36	0.36	0.36	0.36
	E	19	J_t	kgcm ²	0.56	0.52	0.51	0.52	0.51	0.5	0.5	0.5	0.5	0.49	0.49	0.49	0.49
				10 ⁻³ in.lb.s ²	0.5	0.46	0.45	0.46	0.45	0.44	0.44	0.44	0.44	0.43	0.43	0.43	0.43

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

^{a)} Valid for torque transmission only

^{b)} Valid for standard clamping hub diameter

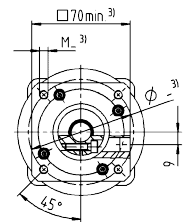
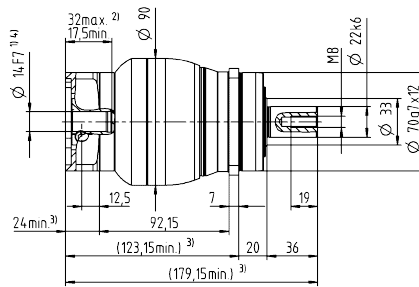
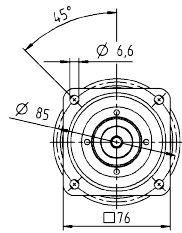
^{c)} Refers to center of the output shaft or flange

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

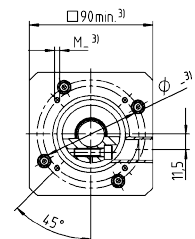
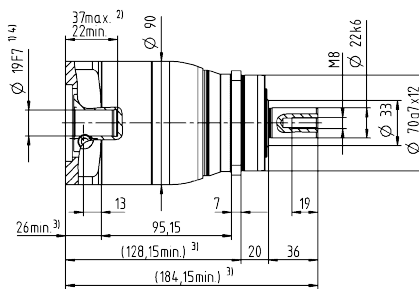
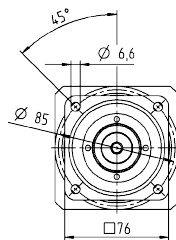
^{e)} Valid for: Smooth shaft

2-stage

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



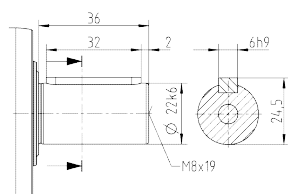
up to 19⁴⁾ (E)
clamping hub
diameter



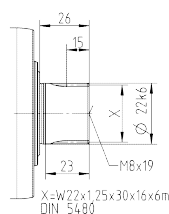
Motor shaft diameter [mm]

Other output variants

Shaft with key



Splined shaft (DIN 5480)



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

NPS 035 MF 1-stage

				1-stage						
Ratio	i			3	4	5	7	8	10	
Max. torque ^{a) b) e)}	T_{2a}		Nm	320	408	400	400	352	352	
			in.lb	2832	3611	3540	3540	3115	3115	
Max. acceleration torque ^{a)} (max. 1000 cycles per hour)	T_{2B}		Nm	200	255	250	250	220	220	
			in.lb	1770	2257	2213	2213	1947	1947	
Emergency stop torque ^{a) b) e)} (permitted 1000 times during the service life of the gearbox)	T_{2Not}		Nm	500	500	500	500	500	500	
			in.lb	4425	4425	4425	4425	4425	4425	
Permitted average input speed ^{d)} (at T_{2N} and 20 °C ambient temperature)	n_{1N}		rpm	2000	2200	2300	2500	2600	2700	
Max. input speed	n_{1Max}		rpm	6000	6000	6000	6000	6000	6000	
Mean no load running torque ^{b)} (at n_1 =3000 rpm and 20 °C gearbox temperature)	T_{012}		Nm	3.3	2.7	2.3	1.9	1.7	1.5	
			in.lb	29	24	20	17	15	13	
Max. backlash	j_t		arcmin	≤ 8						
Torsional rigidity ^{b)}	C_{t21}		Nm/arcmin	25	25	25	25	22	22	
			in.lb/arcmin	221	221	221	221	195	195	
Max. axial force ^{c)}	F_{2AMax}		N	5650						
			lb _f	1271						
Max. lateral force ^{c)}	F_{2QMax}		N	6600						
			lb _f	1485						
Max. tilting moment	M_{2KMax}		Nm	487						
			in.lb	4310						
Efficiency at full load	η		%	97						
Service life	L_n		h	> 20000						
Weight (incl. standard adapter plate)	m		kg	8.4						
			lb _m	19						
Operating noise (at reference ratio and reference speed – ratio-specific values available in cymex®)	L_{PA}		dB(A)	≤ 65						
Max. permitted housing temperature			°C	+90						
			°F	+194						
Ambient temperature			°C	–15 to +40						
			°F	+5 to +104						
Lubrication				Lubricated for life						
Direction of rotation				In- and output same direction						
Protection class				IP 65						
Elastomer coupling (recommended product type – validate sizing with cymex®)				ELC-0150BA032.000-X						
Bore diameter of coupling on the application side				X = 019.000 - 036.000						
Mass moment of inertia (relates to the drive) Clamping hub diameter [mm]	E	19	J_1	kgcm ²	2.5	1.7	1.3	1	0.94	0.87
				10 ⁻³ in.lb.s ²	2.2	1.5	1.2	0.89	0.83	0.77
	G	24	J_1	kgcm ²	3.3	2.4	2.1	1.8	1.7	1.6
				10 ⁻³ in.lb.s ²	2.9	2.1	1.9	1.6	1.5	1.4
	H	28	J_1	kgcm ²	3	2.2	1.8	1.5	1.4	1.4
				10 ⁻³ in.lb.s ²	2.7	1.9	1.6	1.3	1.2	1.2
	I	32	J_1	kgcm ²	7.1	6.2	5.9	5.6	5.5	5.4
				10 ⁻³ in.lb.s ²	6.3	5.5	5.2	5	4.9	4.8
K	38	J_1	kgcm ²	8.3	7.4	7.1	6.7	6.6	6.6	
			10 ⁻³ in.lb.s ²	7.3	6.5	6.3	5.9	5.8	5.8	

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

^{a)} Valid for torque transmission only

^{b)} Valid for standard clamping hub diameter

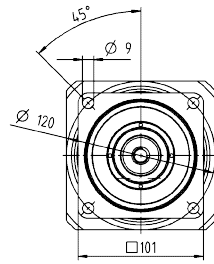
^{c)} Refers to center of the output shaft or flange

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

^{e)} Valid for: Smooth shaft

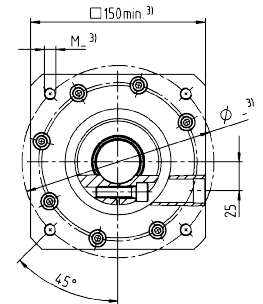
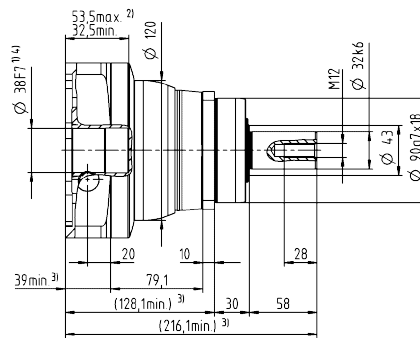
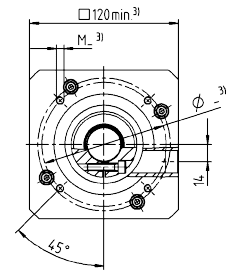
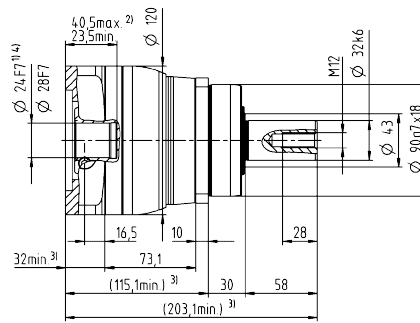
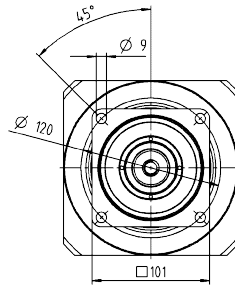
1-stage

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



1-stage

up to 38⁴⁾ (K)
clamping hub
diameter

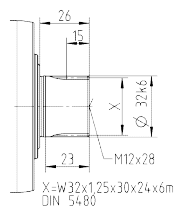
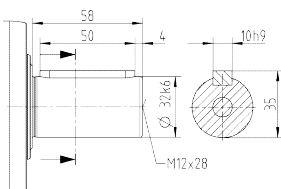


Motor shaft diameter [mm]

Other output variants

Shaft with key

Splined shaft (DIN 5480)



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

NPS 035 MF 2-stage

				2-stage															
Ratio	i			9	12	15	16	20	25	28	30	32	35	40	50	64	70	100	
Max. torque ^{a) b) e)}	T_{2c}		<i>Nm</i>	320	320	320	408	408	400	408	320	408	400	408	400	352	400	352	
			<i>in.lb</i>	2832	2832	2832	3611	3611	3540	3611	2832	3611	3540	3611	3540	3115	3540	3115	
Max. acceleration torque ^{e)} (max. 1000 cycles per hour)	T_{2B}		<i>Nm</i>	200	200	200	255	255	250	255	200	255	250	255	250	220	250	220	
			<i>in.lb</i>	1770	1770	1770	2257	2257	2213	2257	1770	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}		<i>Nm</i>	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	
			<i>in.lb</i>	4425	4425	4425	4425	4425	4425	4425	4425	4425	4425	4425	4425	4425	4425	4425	
Permitted average input speed ^{d)} (at T_{2N} and 20 °C ambient temperature)	n_{1N}		<i>rpm</i>	2700	3300	3400	3300	3400	3400	3600	3900	3700	3600	3900	3900	3700	3900	3900	
Max. input speed	n_{1Max}		<i>rpm</i>	7000	7000	7000	7000	7000	7000	7000	7000	7000	7000	7000	7000	7000	7000	7000	
Mean no load running torque ^{b)} (at n_1 =3000 rpm and 20 °C gearbox temperature)	T_{012}		<i>Nm</i>	1.7	1.4	1.2	1.2	1.1	1	0.93	0.88	0.88	0.87	0.81	0.77	0.75	0.72	0.68	
			<i>in.lb</i>	15	12	11	11	9.7	8.9	8.2	7.8	7.8	7.7	7.2	6.8	6.6	6.4	6	
Max. backlash	j_t		<i>arcmin</i>	≤ 10															
Torsional rigidity ^{b)}	C_{t21}		<i>Nm/arcmin</i>	25	25	25	25	25	25	25	25	25	25	25	25	22	25	22	
			<i>in.lb/arcmin</i>	221	221	221	221	221	221	221	221	221	221	221	221	221	195	221	195
Max. axial force ^{c)}	F_{2AMax}		<i>N</i>	5650															
			<i>lb_f</i>	1271															
Max. lateral force ^{c)}	F_{2QMMax}		<i>N</i>	6600															
			<i>lb_f</i>	1485															
Max. tilting moment	M_{2KMMax}		<i>Nm</i>	487															
			<i>in.lb</i>	4310															
Efficiency at full load	η		%	95															
Service life	L_h		<i>h</i>	> 20000															
Weight (incl. standard adapter plate)	m		<i>kg</i>	8.8															
			<i>lb_m</i>	19															
Operating noise (at reference ratio and reference speed – ratio-specific values available in cymex®)	L_{PA}		<i>dB(A)</i>	≤ 61															
Max. permitted housing temperature			°C	+90															
			°F	+194															
Ambient temperature			°C	−15 to +40															
			°F	+5 to +104															
Lubrication				Lubricated for life															
Direction of rotation				In- and output same direction															
Protection class				IP 65															
Elastomer coupling (recommended product type – validate sizing with cymex®)				ELC-0150BA032.000-X															
Bore diameter of coupling on the application side			<i>mm</i>	X = 019.000 - 036.000															
Mass moment of inertia (relates to the drive) Clamping hub diameter [mm]	C	14	J_1	<i>kgcm²</i>	0.6	0.59	0.6	0.43	0.42	0.36	0.37	0.52	0.38	0.32	0.36	0.31	0.26	0.27	0.24
				<i>10⁻³ in.lb.s²</i>	0.53	0.52	0.53	0.38	0.37	0.32	0.33	0.46	0.34	0.28	0.32	0.27	0.23	0.24	0.21
	D	16	J_1	<i>kgcm²</i>	0.75	0.74	0.74	0.58	0.57	0.5	0.5	0.67	0.52	0.45	0.51	0.46	0.4	0.41	0.39
				<i>10⁻³ in.lb.s²</i>	0.66	0.65	0.65	0.51	0.5	0.44	0.44	0.59	0.46	0.4	0.45	0.41	0.35	0.36	0.35
	E	19	J_1	<i>kgcm²</i>	0.84	0.83	0.83	0.66	0.65	0.59	0.6	0.75	0.61	0.55	0.6	0.54	0.49	0.5	0.48
				<i>10⁻³ in.lb.s²</i>	0.74	0.73	0.73	0.58	0.58	0.52	0.53	0.66	0.54	0.49	0.53	0.48	0.43	0.44	0.42
	G	24	J_1	<i>kgcm²</i>	1.9	1.9	1.9	1.7	1.7	1.6	1.6	1.8	1.6	1.6	1.6	1.6	1.5	1.5	1.5
				<i>10⁻³ in.lb.s²</i>	1.7	1.6	1.7	1.5	1.5	1.4	1.5	1.6	1.5	1.4	1.4	1.4	1.3	1.4	1.3
	H	28	J_1	<i>kgcm²</i>	1.6	1.6	1.6	1.4	1.4	1.3	1.3	1.5	1.4	1.3	1.3	1.3	1.2	1.2	1.2
				<i>10⁻³ in.lb.s²</i>	1.4	1.4	1.4	1.2	1.2	1.2	1.2	1.3	1.2	1.1	1.2	1.1	1.1	1.1	1.1

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

^{a)} Valid for torque transmission only

^{b)} Valid for standard clamping hub diameter

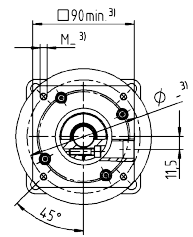
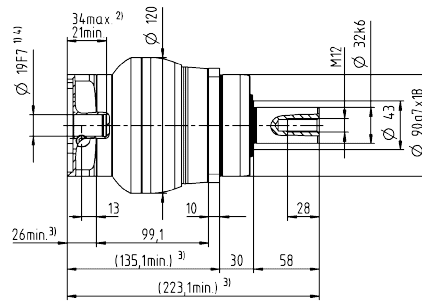
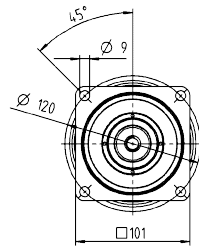
^{c)} Refers to center of the output shaft or flange

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

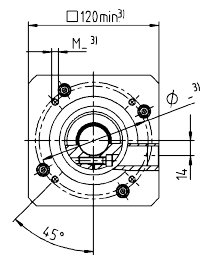
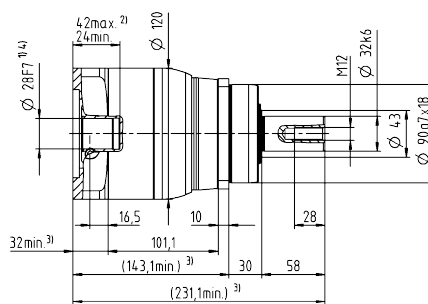
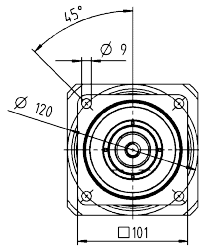
^{e)} Valid for: Smooth shaft

2-stage

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



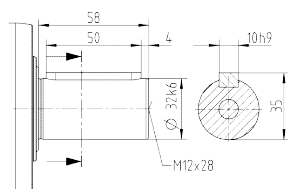
up to 28⁴⁾ (H)
clamping hub
diameter



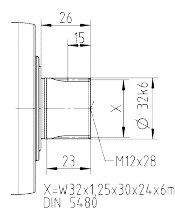
Motor shaft diameter [mm]

Other output variants

Shaft with key



Splined shaft (DIN 5480)



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

NPS 045 MF 1- / 2-stage

				1-stage			2-stage					
Ratio	i			5	8	10	25	32	50	64	100	
Max. torque ^{a) b) e)}	T_{2a}		<i>Nm</i>	800	640	640	700	640	700	640	640	
			<i>in.lb</i>	7081	5665	5665	6196	5665	6196	5665	5665	
Max. acceleration torque ^{a)} (max. 1000 cycles per hour)	T_{2B}		<i>Nm</i>	500	400	400	500	400	500	400	400	
			<i>in.lb</i>	4425	3540	3540	4425	3540	4425	3540	3540	
Emergency stop torque ^{a) b) e)} (permitted 1000 times during the service life of the gearbox)	T_{2Not}		<i>Nm</i>	1000	1000	1000	1000	1000	1000	1000	1000	
			<i>in.lb</i>	8851	8851	8851	8851	8851	8851	8851	8851	
Permitted average input speed ^{d)} (at T_{2N} and 20 °C ambient temperature)	n_{1N}		<i>rpm</i>	1800	1900	2000	2600	2500	3000	2900	3000	
Max. input speed	n_{1Max}		<i>rpm</i>	4000	4000	4000	6000	6000	6000	6000	6000	
Mean no load running torque ^{b)} (at n_1 =3000 rpm and 20 °C gearbox temperature)	T_{012}		<i>Nm</i>	4.2	3	2.6	1.6	1.5	1.2	1.1	0.97	
			<i>in.lb</i>	37	27	23	14	13	11	9.7	8.6	
Max. backlash	j_t		<i>arcmin</i>	≤ 8			≤ 10					
Torsional rigidity ^{b)}	C_{t21}		<i>Nm/arcmin</i>	55	44	44	55	44	55	44	44	
			<i>in.lb/arcmin</i>	487	389	389	487	389	487	389	389	
Max. axial force ^{c)}	F_{2AMax}		<i>N</i>	9870			9870					
			<i>lb_f</i>	2221			2221					
Max. lateral force ^{c)}	F_{2QMMax}		<i>N</i>	9900			9900					
			<i>lb_f</i>	2228			2228					
Max. tilting moment	M_{2KMax}		<i>Nm</i>	952			952					
			<i>in.lb</i>	8426			8426					
Efficiency at full load	η		%	97			95					
Service life	L_n		<i>h</i>	> 20000			> 20000					
Weight (incl. standard adapter plate)	m		<i>kg</i>	19			19					
			<i>lb_m</i>	42			42					
Operating noise (at reference ratio and reference speed – ratio-specific values available in cymex®)	L_{PA}		<i>dB(A)</i>	≤ 68			≤ 65					
Max. permitted housing temperature			°C	+90			+90					
			°F	+194			+194					
Ambient temperature			°C	–15 to +40			–15 to +40					
			°F	+5 to +104			+5 to +104					
Lubrication				Lubricated for life								
Direction of rotation				In- and output same direction								
Protection class				IP 65								
Elastomer coupling (recommended product type – validate sizing with cymex®)				ELC-0300BA040.000-X								
Bore diameter of coupling on the application side			<i>mm</i>	X = 020.000 - 045.000								
Mass moment of inertia (relates to the drive) Clamping hub diameter [mm]	E	19	J_1	<i>kgcm²</i>	–	–	–	1.2	1.1	1	0.88	0.82
				<i>10⁻³ in.lb.s²</i>	–	–	–	1.1	0.97	0.89	0.78	0.73
	G	24	J_1	<i>kgcm²</i>	–	–	–	2	1.9	1.8	1.7	1.6
				<i>10⁻³ in.lb.s²</i>	–	–	–	1.8	1.7	1.6	1.5	1.4
	H	28	J_1	<i>kgcm²</i>	–	–	–	1.7	1.6	1.5	1.4	1.3
				<i>10⁻³ in.lb.s²</i>	–	–	–	1.5	1.4	1.3	1.2	1.2
	I	32	J_1	<i>kgcm²</i>	–	–	–	5.8	5.7	5.6	5.4	5.4
				<i>10⁻³ in.lb.s²</i>	–	–	–	5.1	5	5	4.8	4.8
	K	38	J_1	<i>kgcm²</i>	8.7	7.3	7.2	7	6.9	6.8	6.6	6.5
				<i>10⁻³ in.lb.s²</i>	7.7	6.5	6.4	6.2	6.1	6	5.8	5.8

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

^{a)} Valid for torque transmission only

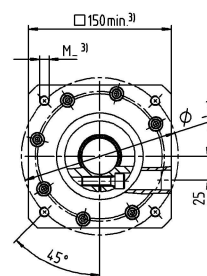
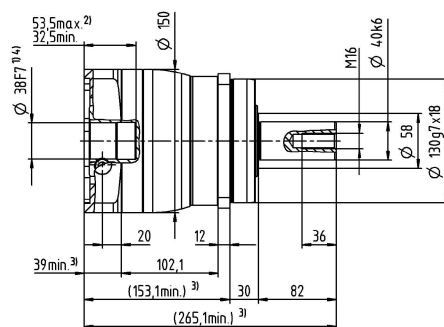
^{b)} Valid for standard clamping hub diameter

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

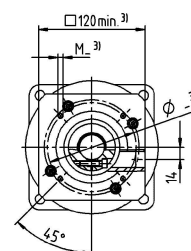
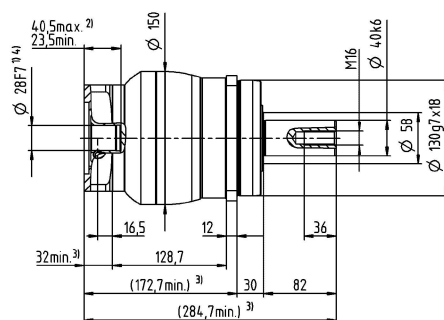
^{d)} Please reduce input speed at higher ambient temperatures

^{e)} Valid for: Smooth shaft

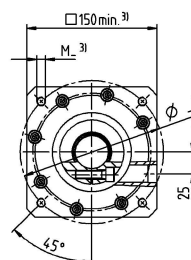
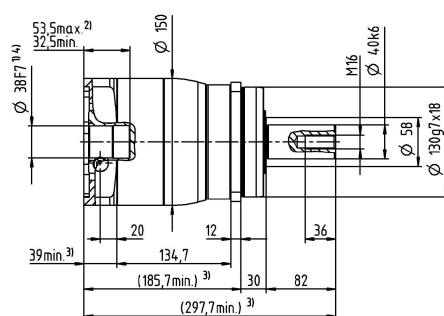
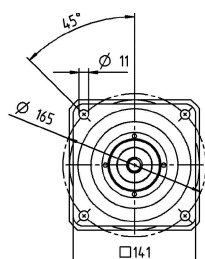
up to 38 ⁴⁾ (K) ⁵⁾
clamping hub
diameter



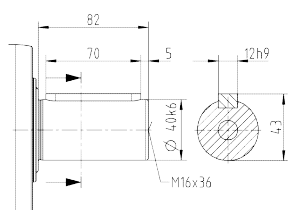
up to 28 ⁴⁾ (H) ⁵⁾
clamping hub
diameter



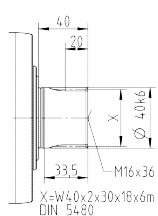
up to 38⁴⁾ (K)
clamping hub
diameter



Shaft with key



Splined shaft (DIN 5480)



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

NPS 015 MA 1-/2-stage

				1-stage		2-stage							
Ratio	i		3	4	12	15	16	20	28	30	40		
Max. torque ^{a) b) e)}	T_{2a}	Nm	80	67	62	67	67	67	67	62	67		
		$in.lb$	708	593	549	593	593	593	593	549	593		
Max. acceleration torque ^{a)} (max. 1000 cycles per hour)	T_{2B}	Nm	55	42	39	42	42	42	42	39	42		
		$in.lb$	487	372	345	372	372	372	372	345	372		
Emergency stop torque ^{a) b) e)} (permitted 1000 times during the service life of the gearbox)	T_{2Not}	Nm	80	80	80	80	80	80	80	80	80		
		$in.lb$	708	708	708	708	708	708	708	708	708		
Permitted average input speed ^{d)} (at T_{2N} and 20 °C ambient temperature)	n_{1N}	rpm	2900	3100	3800	4000	3800	4000	4300	4600	4600		
Max. input speed	n_{1Max}	rpm	8000	8000	10000	10000	10000	10000	10000	10000	10000		
Mean no load running torque ^{b)} (at n_1 =3000 rpm and 20 °C gearbox temperature)	T_{012}	Nm	0.92	0.74	0.34	0.29	0.29	0.25	0.21	0.21	0.19		
		$in.lb$	8.1	6.5	3	2.6	2.6	2.2	1.9	1.9	1.7		
Max. backlash	j_t	$arcmin$	≤ 8		≤ 10								
Torsional rigidity ^{b)}	C_{t21}	$Nm/arcmin$	4	4	4	4	4	4	4	4	4		
		$in.lb/arcmin$	35	35	35	35	35	35	35	35	35		
Max. axial force ^{c)}	F_{2AMax}	N	2400		2400								
		lb_f	540		540								
Max. lateral force ^{c)}	F_{2QMMax}	N	2800		2800								
		lb_f	630		630								
Max. tilting moment	M_{2KMMax}	Nm	152		152								
		$in.lb$	1345		1345								
Efficiency at full load	η	%	97		95								
Service life	L_h	h	> 20000		> 20000								
Weight (incl. standard adapter plate)	m	kg	1.8		1.9								
		lb_m	4		4.2								
Operating noise (at reference ratio and reference speed – ratio-specific values available in cymex®)	L_{PA}	$dB(A)$	≤ 59		≤ 58								
Max. permitted housing temperature		°C	+90		+90								
		°F	+194		+194								
Ambient temperature		°C	−15 to +40		−15 to +40								
		°F	+5 to +104		+5 to +104								
Lubrication			Lubricated for life										
Direction of rotation			In- and output same direction										
Protection class			IP 65										
Elastomer coupling (recommended product type – validate sizing with cymex®)			ELC-0060BA016.000-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]	Z	8	J_1	$kgcm^2$	–	–	0.04	0.04	0.03	0.03	0.03	0.03	
				$10^{-3} in.lb.s^2$	–	–	0.04	0.04	0.03	0.03	0.03	0.03	0.03
	A	9	J_1	$kgcm^2$	0.25	0.19	0.04	0.04	0.03	0.03	0.03	0.03	
				$10^{-3} in.lb.s^2$	0.22	0.17	0.04	0.04	0.03	0.03	0.03	0.03	0.03
	B	11	J_1	$kgcm^2$	0.26	0.21	0.06	0.06	0.05	0.05	0.05	0.05	
				$10^{-3} in.lb.s^2$	0.23	0.19	0.05	0.05	0.04	0.04	0.04	0.04	0.04
	C	14	J_1	$kgcm^2$	0.34	0.28	0.14	0.14	0.14	0.13	0.13	0.14	
				$10^{-3} in.lb.s^2$	0.3	0.25	0.12	0.12	0.12	0.12	0.12	0.12	0.12
	D	16	J_1	$kgcm^2$	0.47	0.41	–	–	–	–	–	–	–
				$10^{-3} in.lb.s^2$	0.42	0.36	–	–	–	–	–	–	–
	E	19	J_1	$kgcm^2$	0.55	0.49	–	–	–	–	–	–	–
				$10^{-3} in.lb.s^2$	0.49	0.43	–	–	–	–	–	–	–

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

^{a)} Valid for torque transmission only

^{b)} Valid for standard clamping hub diameter

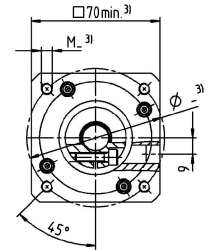
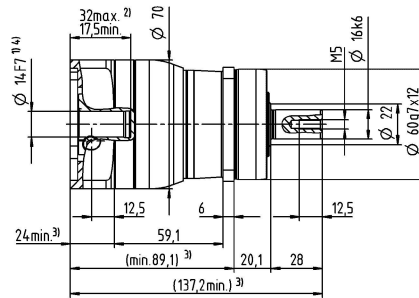
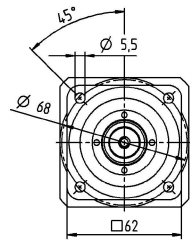
^{c)} Refers to center of the output shaft or flange

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

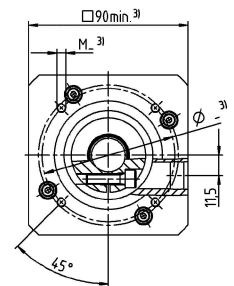
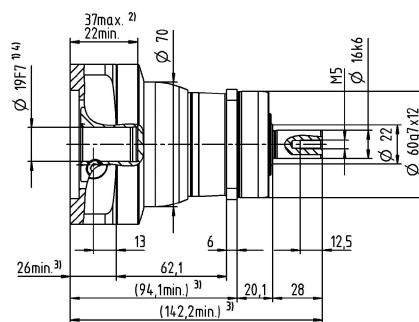
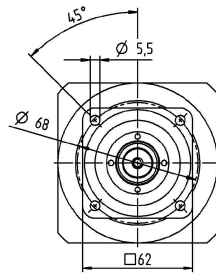
^{e)} Valid for: Smooth shaft

1-stage

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

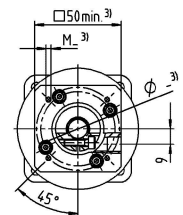
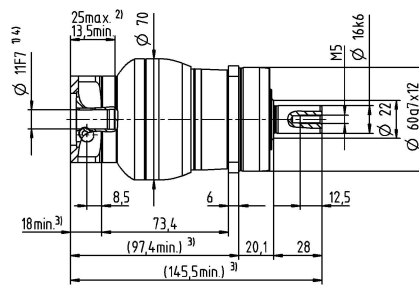
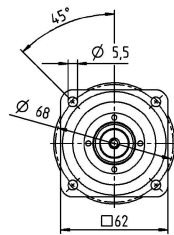


up to 19⁴⁾ (E)
clamping hub
diameter

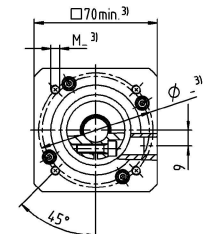
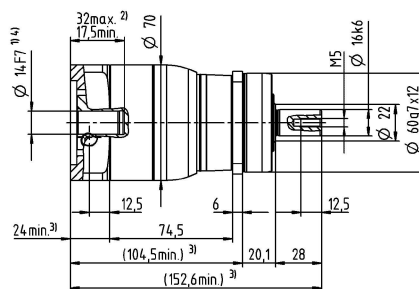
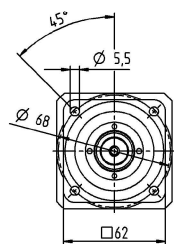


2-stage

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



up to 14⁴⁾ (C)
clamping hub
diameter

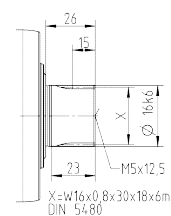
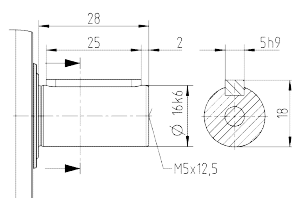


Motor shaft diameter [mm]

Other output variants

Shaft with key

Splined shaft (DIN 5480)



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

NPS 025 MA 1-/2-stage

				1-stage		2-stage								
Ratio		i		3	4	9	12	15	16	20	28	30	40	
Max. torque ^{a) b) e)}		T_{2a}	Nm	185	185	185	185	185	185	185	185	168	185	
			$in.lb$	1637	1637	1637	1637	1637	1637	1637	1637	1637	1487	1637
Max. acceleration torque ^{a)} (max. 1000 cycles per hour)		T_{2B}	Nm	125	115	125	125	120	115	115	115	105	115	
			$in.lb$	1106	1018	1106	1106	1062	1018	1018	1018	1018	929	1018
Emergency stop torque ^{a) b) e)} (permitted 1000 times during the service life of the gearbox)		T_{2Not}	Nm	190	190	190	190	190	190	190	190	190	190	
			$in.lb$	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682
Permitted average input speed ^{d)} (at T_{2N} and 20 °C ambient temperature)		n_{1N}	rpm	2700	2900	2900	3500	3700	3500	3700	4000	4300	4300	
Max. input speed		n_{1Max}	rpm	7000	7000	8000	8000	8000	8000	8000	8000	8000	8000	
Mean no load running torque ^{b)} (at n_1 =3000 rpm and 20 °C gearbox temperature)		T_{012}	Nm	1.8	1.5	0.67	0.55	0.47	0.46	0.4	0.34	0.33	0.29	
			$in.lb$	16	13	5.9	4.9	4.2	4.1	3.5	3	2.9	2.6	
Max. backlash		j_t	$arcmin$	≤ 8		≤ 10								
Torsional rigidity ^{b)}		C_{t21}	$Nm/arcmin$	12	12	12	12	12	12	12	12	12	12	
			$in.lb/arcmin$	106	106	106	106	106	106	106	106	106	106	106
Max. axial force ^{c)}		F_{2AMax}	N	3350		3350								
			lb_f	754		754								
Max. lateral force ^{c)}		F_{2QMMax}	N	4200		4200								
			lb_f	945		945								
Max. tilting moment		M_{2KMMax}	Nm	236		236								
			$in.lb$	2089		2089								
Efficiency at full load		η	%	97		95								
Service life		L_h	h	> 20000		> 20000								
Weight (incl. standard adapter plate)		m	kg	3.6		3.9								
			lb_m	8		8.6								
Operating noise (at reference ratio and reference speed – ratio-specific values available in cymex®)		L_{PA}	$dB(A)$	≤ 61		≤ 59								
Max. permitted housing temperature			°C	+90		+90								
			°F	+194		+194								
Ambient temperature			°C	−15 to +40		−15 to +40								
			°F	+5 to +104		+5 to +104								
Lubrication				Lubricated for life										
Direction of rotation				In- and output same direction										
Protection class				IP 65										
Elastomer coupling (recommended product type – validate sizing with cymex®) Bore diameter of coupling on the application side				ELC-0060BA022.000-X										
			mm	X = 012.000 - 032.000										
Mass moment of inertia (relates to the drive) Clamping hub diameter [mm]	A	9	J_1	$kgcm^2$	–	–	0.26	0.22	0.21	0.21	0.2	0.19	0.19	0.19
				$10^{-3} in.lb.s^2$	–	–	0.23	0.19	0.19	0.19	0.18	0.17	0.17	0.17
	B	11	J_1	$kgcm^2$	–	–	0.28	0.24	0.23	0.23	0.22	0.21	0.21	0.21
				$10^{-3} in.lb.s^2$	–	–	0.25	0.21	0.2	0.2	0.19	0.19	0.19	0.19
	C	14	J_1	$kgcm^2$	0.58	0.47	0.35	0.31	0.3	0.3	0.3	0.29	0.28	0.28
				$10^{-3} in.lb.s^2$	0.51	0.42	0.31	0.27	0.27	0.27	0.27	0.26	0.25	0.25
	D	16	J_1	$kgcm^2$	0.73	0.62	0.48	0.44	0.43	0.43	0.42	0.41	0.41	0.41
				$10^{-3} in.lb.s^2$	0.65	0.55	0.42	0.39	0.38	0.38	0.37	0.36	0.36	0.36
	E	19	J_1	$kgcm^2$	0.81	0.71	0.56	0.52	0.51	0.52	0.51	0.5	0.5	0.49
				$10^{-3} in.lb.s^2$	0.72	0.63	0.5	0.46	0.45	0.46	0.45	0.44	0.44	0.43
	G	24	J_1	$kgcm^2$	1.8	1.7	–	–	–	–	–	–	–	–
				$10^{-3} in.lb.s^2$	1.6	1.5	–	–	–	–	–	–	–	–
	H	28	J_1	$kgcm^2$	1.6	1.4	–	–	–	–	–	–	–	–
				$10^{-3} in.lb.s^2$	1.4	1.2	–	–	–	–	–	–	–	–

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

^{a)} Valid for torque transmission only

^{b)} Valid for standard clamping hub diameter

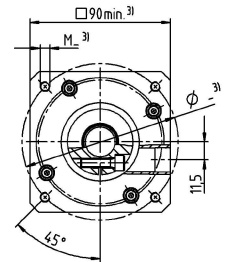
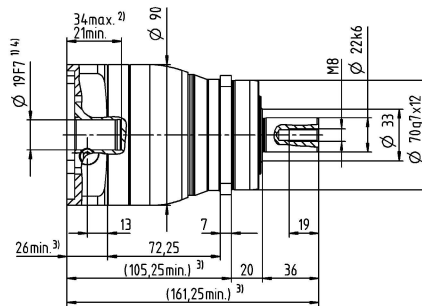
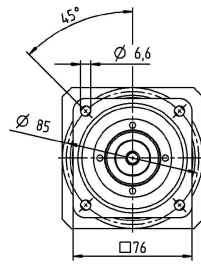
^{c)} Refers to center of the output shaft or flange

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

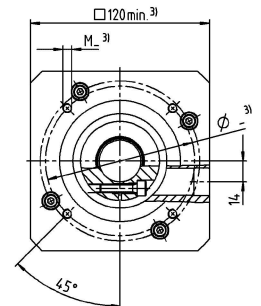
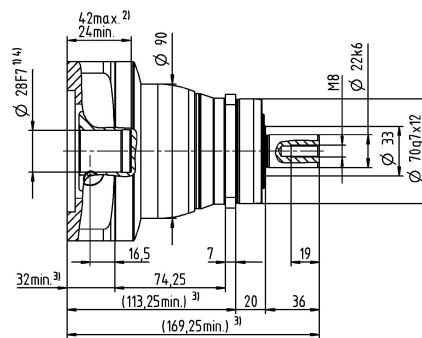
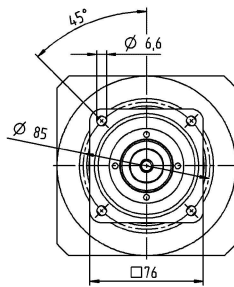
^{e)} Valid for: Smooth shaft

1-stage

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

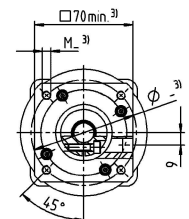
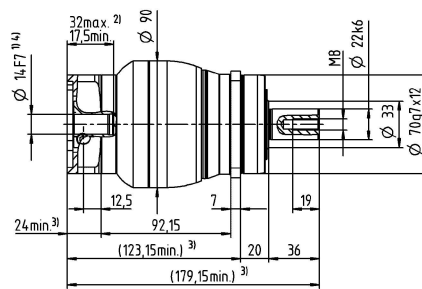
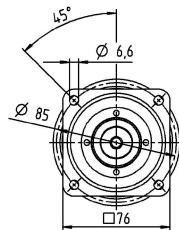


up to 28⁴⁾ (H)
clamping hub
diameter

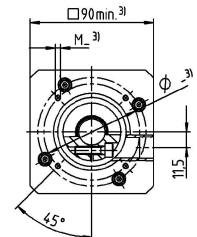
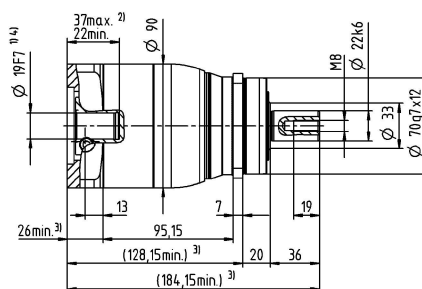
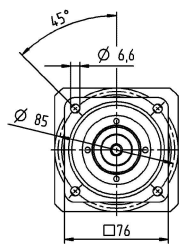


2-stage

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



up to 19⁴⁾ (E)
clamping hub
diameter

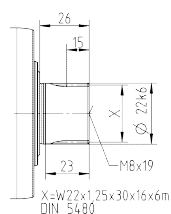
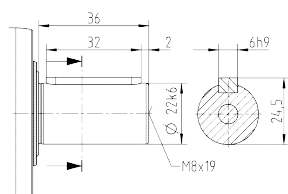


Motor shaft diameter [mm]

Other output variants

Shaft with key

Splined shaft (DIN 5480)



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

NPS 035 MA 1-/2-stage

				1-stage		2-stage								
Ratio	i			3	4	9	12	15	16	20	28	30	40	
Max. torque ^{a) b) e)}	T_{2c}		<i>Nm</i>	480	480	480	480	480	480	480	480	432	480	
			<i>in.lb</i>	4248	4248	4248	4248	4248	4248	4248	4248	3824	4248	
Max. acceleration torque ^{a)} (max. 1000 cycles per hour)	T_{2B}		<i>Nm</i>	305	305	305	305	300	305	305	305	270	305	
			<i>in.lb</i>	2699	2699	2699	2699	2655	2699	2699	2699	2390	2699	
Emergency stop torque ^{a) b) e)} (permitted 1000 times during the service life of the gearbox)	T_{2Not}		<i>Nm</i>	500	500	500	500	500	500	500	500	500	500	
			<i>in.lb</i>	4425	4425	4425	4425	4425	4425	4425	4425	4425	4425	
Permitted average input speed ^{d)} (at T_{2N} and 20 °C ambient temperature)	n_{1N}		<i>rpm</i>	2000	2200	2700	3300	3400	3300	3400	3600	3900	3900	
Max. input speed	n_{1Max}		<i>rpm</i>	6000	6000	7000	7000	7000	7000	7000	7000	7000	7000	
Mean no load running torque ^{b)} (at n_1 =3000 rpm and 20 °C gearbox temperature)	T_{012}		<i>Nm</i>	3.3	2.7	1.7	1.4	1.2	1.2	1.1	0.93	0.88	0.81	
			<i>in.lb</i>	29	24	15	12	11	11	9.7	8.2	7.8	7.2	
Max. backlash	j_t		<i>arcmin</i>	≤ 8		≤ 10								
Torsional rigidity ^{b)}	C_{t21}		<i>Nm/arcmin</i>	30	30	30	30	30	30	30	30	30	30	
			<i>in.lb/arcmin</i>	266	266	266	266	266	266	266	266	266	266	
Max. axial force ^{c)}	F_{2AMax}		<i>N</i>	5650		5650								
			<i>lb_f</i>	1271		1271								
Max. lateral force ^{c)}	F_{2QMMax}		<i>N</i>	6600		6600								
			<i>lb_f</i>	1485		1485								
Max. tilting moment	M_{2KMMax}		<i>Nm</i>	487		487								
			<i>in.lb</i>	4310		4310								
Efficiency at full load	η		%	97		95								
Service life	L_h		<i>h</i>	> 20000		> 20000								
Weight (incl. standard adapter plate)	m		<i>kg</i>	8.4		8.8								
			<i>lb_m</i>	19		19								
Operating noise (at reference ratio and reference speed – ratio-specific values available in cymex®)	L_{PA}		<i>dB(A)</i>	≤ 65		≤ 61								
Max. permitted housing temperature			°C	+90		+90								
			°F	+194		+194								
Ambient temperature			°C	–15 to +40		–15 to +40								
			°F	+5 to +104		+5 to +104								
Lubrication			Lubricated for life											
Direction of rotation			In- and output same direction											
Protection class			IP 65											
Elastomer coupling (recommended product type – validate sizing with cymex®)			ELC-0150BA032.000-X											
Bore diameter of coupling on the application side			X = 019.000 - 036.000											
Mass moment of inertia (relates to the drive) Clamping hub diameter [mm]	C	14	J_1	<i>kgcm²</i>	–	–	0.6	0.59	0.6	0.43	0.42	0.37	0.52	0.36
				<i>10⁻³ in.lb.s²</i>	–	–	0.53	0.52	0.53	0.38	0.37	0.33	0.46	0.32
	D	16	J_1	<i>kgcm²</i>	–	–	0.75	0.74	0.74	0.58	0.57	0.5	0.67	0.51
				<i>10⁻³ in.lb.s²</i>	–	–	0.66	0.65	0.65	0.51	0.5	0.44	0.59	0.45
	E	19	J_1	<i>kgcm²</i>	2.5	1.7	0.84	0.83	0.83	0.66	0.65	0.6	0.75	0.6
				<i>10⁻³ in.lb.s²</i>	2.2	1.5	0.74	0.73	0.73	0.58	0.58	0.53	0.66	0.53
	G	24	J_1	<i>kgcm²</i>	3.3	2.4	1.9	1.9	1.9	1.7	1.7	1.6	1.8	1.6
				<i>10⁻³ in.lb.s²</i>	2.9	2.1	1.7	1.6	1.7	1.5	1.5	1.5	1.6	1.4
	H	28	J_1	<i>kgcm²</i>	3	2.2	1.6	1.6	1.6	1.4	1.4	1.3	1.5	1.3
				<i>10⁻³ in.lb.s²</i>	2.7	1.9	1.4	1.4	1.4	1.2	1.2	1.2	1.3	1.2
	I	32	J_1	<i>kgcm²</i>	7.1	6.2	–	–	–	–	–	–	–	–
				<i>10⁻³ in.lb.s²</i>	6.3	5.5	–	–	–	–	–	–	–	–
	K	38	J_1	<i>kgcm²</i>	8.3	7.4	–	–	–	–	–	–	–	–
				<i>10⁻³ in.lb.s²</i>	7.3	6.5	–	–	–	–	–	–	–	–

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

^{a)} Valid for torque transmission only

^{b)} Valid for standard clamping hub diameter

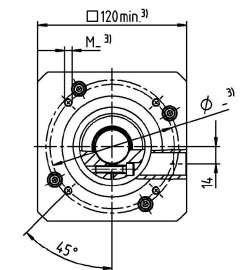
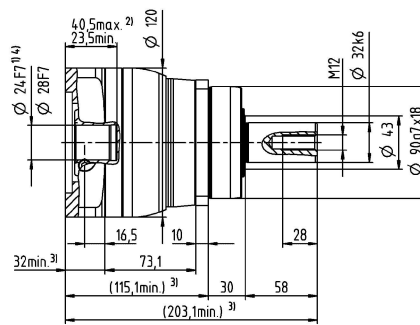
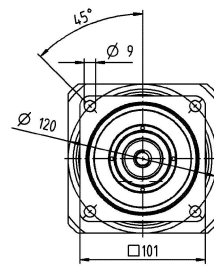
^{c)} Refers to center of the output shaft or flange

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

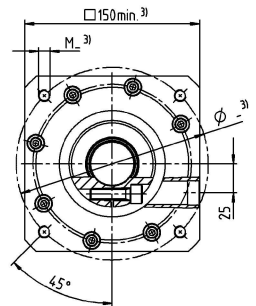
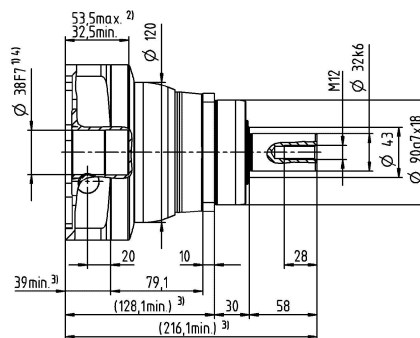
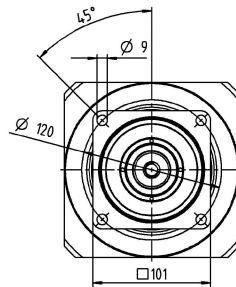
^{e)} Valid for: Smooth shaft

1-stage

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

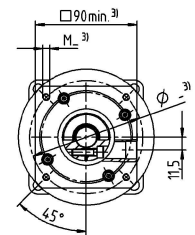
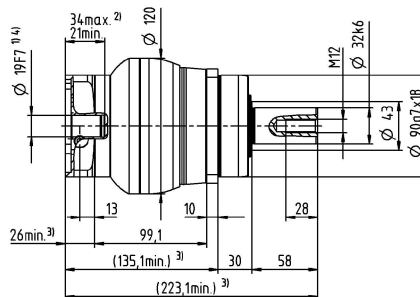
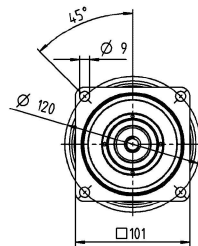


up to 38⁴⁾ (K)
clamping hub
diameter

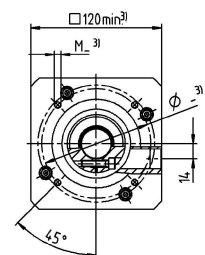
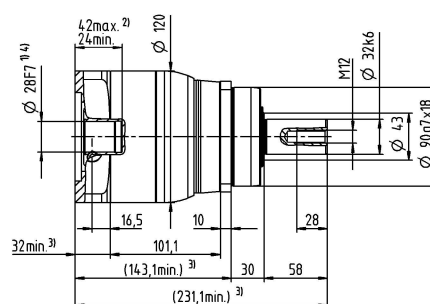
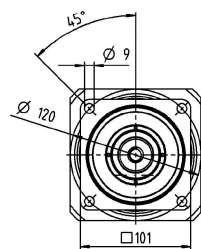


2-stage

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



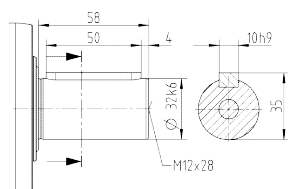
up to 28⁴⁾ (H)
clamping hub
diameter



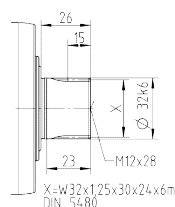
Motor shaft diameter [mm]

Other output variants

Shaft with key



Splined shaft (DIN 5480)



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

NPT 005 MF 1-stage

				1-stage					
Ratio	i			4	5	7	8	10	
Max. torque ^{a) b)}	T_{2a}		Nm	18	22	22	21	21	
			in.lb	159	195	195	186	186	
Max. acceleration torque (max. 1000 cycles per hour)	T_{2B}		Nm	11	14	14	13	13	
			in.lb	97	124	124	115	115	
Emergency stop torque ^{a) b)} (permitted 1000 times during the service life of the gearbox)	T_{2Not}		Nm	26	26	26	26	26	
			in.lb	230	230	230	230	230	
Permitted average input speed ^{d)} (at T_{2a} and 20 °C ambient temperature)	n_{1N}		rpm	3800	4000	4300	4400	4600	
Max. input speed	n_{1Max}		rpm	10000	10000	10000	10000	10000	
Mean no load running torque ^{b)} (at n_1 =3000 rpm and 20 °C gearbox temperature)	T_{012}		Nm	0.08	0.07	0.05	0.05	0.05	
			in.lb	0.71	0.62	0.44	0.44	0.44	
Max. backlash	j_t		arcmin	≤ 10					
Torsional rigidity ^{b)}	C_{t21}		Nm/arcmin	1.2	1.2	1.2	0.85	0.85	
			in.lb/arcmin	11	11	11	7.5	7.5	
Max. axial force ^{c)}	F_{2AMax}		N	600					
			lb _f	135					
Max. tilting moment	M_{2KMax}		Nm	17					
			in.lb	150					
Efficiency at full load	η		%	97					
Service life	L_h		h	> 20000					
Weight (incl. standard adapter plate)	m		kg	0.9					
			lb _m	2					
Operating noise (at reference ratio and reference speed – ratio-specific values available in cymex®)	L_{PA}		dB(A)	≤ 58					
Max. permitted housing temperature			°C	+90					
			°F	+194					
Ambient temperature			°C	−15 to +40					
			°F	+5 to +104					
Lubrication				Lubricated for life					
Direction of rotation				In- and output same direction					
Protection class				IP 64					
Elastomer coupling (recommended product type – validate sizing with cymex®)				ELT-00020BAX-025.00					
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]	Z	8	J_1	kgcm ²	0.04	0.03	0.03	0.03	0.02
				10 ⁻³ in.lb.s ²	0.04	0.03	0.03	0.03	0.02
	A	9	J_1	kgcm ²	0.04	0.03	0.03	0.03	0.02
				10 ⁻³ in.lb.s ²	0.04	0.03	0.03	0.03	0.02
	B	11	J_1	kgcm ²	0.06	0.05	0.05	0.04	0.04
				10 ⁻³ in.lb.s ²	0.05	0.04	0.04	0.04	0.04
	C	14	J_1	kgcm ²	0.14	0.14	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

^{a)} Valid for torque transmission only

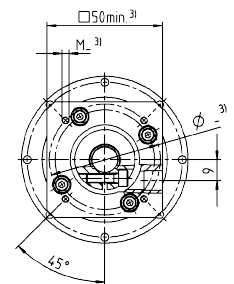
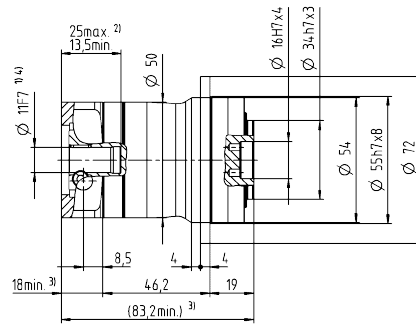
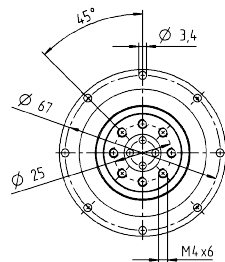
^{b)} Valid for standard clamping hub diameter

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

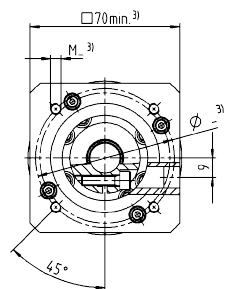
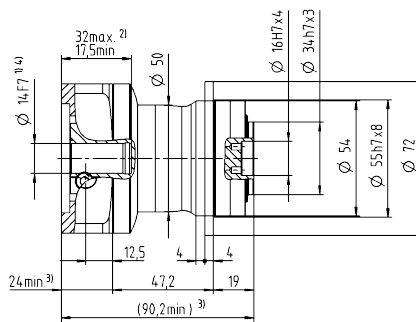
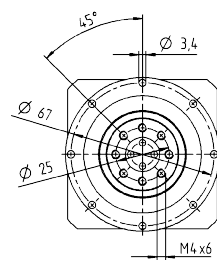
^{d)} Please reduce input speed at higher ambient temperatures

1-stage

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



up to 14⁴⁾ (C)
clamping hub
diameter



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

NPT 005 MF 2-stage

				2-stage										
Ratio	i			16	20	25	28	35	40	50	64	70	100	
Max. torque ^{a) b)}	T_{2a}		Nm	18	18	22	18	22	18	22	21	22	21	
			in.lb	159	159	195	159	195	159	195	186	195	186	
Max. acceleration torque (max. 1000 cycles per hour)	T_{2B}		Nm	11	11	14	11	14	11	14	13	14	13	
			in.lb	97	97	124	97	124	97	124	115	124	115	
Emergency stop torque ^{a) b)} (permitted 1000 times during the service life of the gearbox)	T_{2Not}		Nm	26	26	26	26	26	26	26	26	26	26	
			in.lb	230	230	230	230	230	230	230	230	230	230	
Permitted average input speed ^{d)} (at T_{2N} and 20 °C ambient temperature)	n_{1N}		rpm	4000	4000	4000	4300	4300	4600	4600	4400	4600	4600	
Max. input speed	n_{1Max}		rpm	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	
Mean no load running torque ^{b)} (at n_1 =3000 rpm and 20 °C gearbox temperature)	T_{012}		Nm	0.04	0.04	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	
			in.lb	0.35	0.35	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	
Max. backlash	j_t		arcmin	≤ 13										
Torsional rigidity ^{b)}	C_{t21}		Nm/arcmin	1.2	1.2	1.2	1.2	1.2	1.2	1.2	0.85	1.2	0.85	
			in.lb/arcmin	11	11	11	11	11	11	11	7.5	11	7.5	
Max. axial force ^{c)}	F_{2AMax}		N	600										
			lb _f	135										
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	1.1										
			lb _m	2.4										
Operating noise (at reference ratio and reference speed – ratio-specific values available in cymex®)	L_{PA}		dB(A)	≤ 58										
Max. permitted housing temperature			°C	+90										
			°F	+194										
Ambient temperature			°C	−15 to +40										
			°F	+5 to +104										
Lubrication				Lubricated for life										
Direction of rotation				In- and output same direction										
Protection class				IP 64										
Elastomer coupling (recommended product type – validate sizing with cymex®)				ELT-00020BAX-025.00										
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]	Z	8	J_1	kgcm ²	0.03	0.03	0.03	0.03	0.03	0.02	0.02	0.02	0.02	0.03
				10 ⁻³ in.lb.s ²	0.03	0.03	0.03	0.03	0.03	0.02	0.02	0.02	0.02	0.03
	A	9	J_1	kgcm ²	0.03	0.03	0.03	0.03	0.03	0.02	0.02	0.02	0.02	0.03
				10 ⁻³ in.lb.s ²	0.03	0.03	0.03	0.03	0.03	0.02	0.02	0.02	0.02	0.03
	B	11	J_1	kgcm ²	0.05	0.05	0.04	0.05	0.04	0.04	0.04	0.04	0.04	0.05
				10 ⁻³ in.lb.s ²	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
	C	14	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

^{a)} Valid for torque transmission only

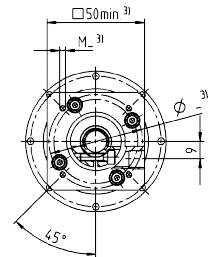
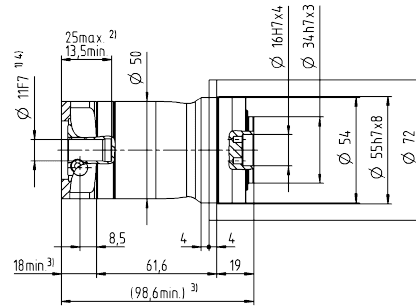
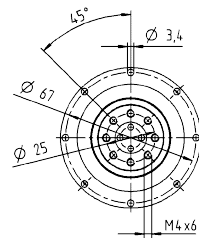
^{b)} Valid for standard clamping hub diameter

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

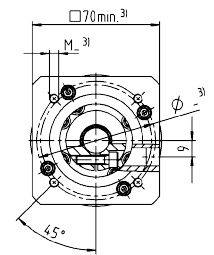
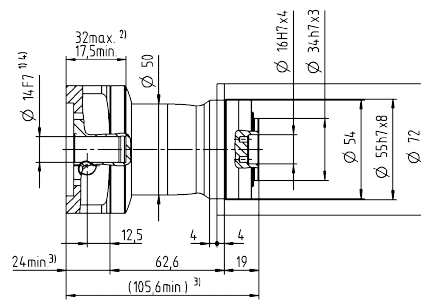
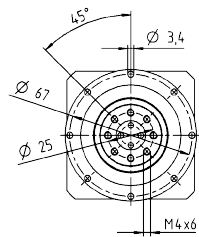
^{d)} Please reduce input speed at higher ambient temperatures

2-stage

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



up to 14⁴⁾ (C)
clamping hub
diameter



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

NPT 015 MF 1-stage

				1-stage						
Ratio	i			3	4	5	7	8	10	
Max. torque ^{a) b)}	T_{2a}		Nm	51	56	60	60	56	56	
			in.lb	451	496	531	531	496	496	
Max. acceleration torque (max. 1000 cycles per hour)	T_{2B}		Nm	32	35	40	40	35	35	
			in.lb	283	310	354	354	310	310	
Emergency stop torque ^{a) b)} (permitted 1000 times during the service life of the gearbox)	T_{2Not}		Nm	75	75	75	75	75	75	
			in.lb	664	664	664	664	664	664	
Permitted average input speed ^{d)} (at T_{2N} and 20 °C ambient temperature)	n_{1N}		rpm	3300	3500	3700	4000	4100	4300	
Max. input speed	n_{1Max}		rpm	8000	8000	8000	8000	8000	8000	
Mean no load running torque ^{b)} (at n_1 =3000 rpm and 20 °C gearbox temperature)	T_{012}		Nm	0.25	0.2	0.17	0.14	0.13	0.11	
			in.lb	2.2	1.8	1.5	1.2	1.2	0.97	
Max. backlash	j_t		arcmin	≤ 8						
Torsional rigidity ^{b)}	C_{t21}		Nm/arcmin	3.3	3.3	3.3	3.3	2.8	2.8	
			in.lb/arcmin	29	29	29	29	25	25	
Max. axial force ^{c)}	F_{2AMax}		N	1380						
			lb _f	311						
Max. tilting moment	M_{2KMax}		Nm	42						
			in.lb	372						
Efficiency at full load	η		%	97						
Service life	L_h		h	> 20000						
Weight (incl. standard adapter plate)	m		kg	2						
			lb _m	4.4						
Operating noise (at reference ratio and reference speed – ratio-specific values available in cymex®)	L_{PA}		dB(A)	≤ 59						
Max. permitted housing temperature			°C	+90						
			°F	+194						
Ambient temperature			°C	–15 to +40						
			°F	+5 to +104						
Lubrication				Lubricated for life						
Direction of rotation				In- and output same direction						
Protection class				IP 64						
Elastomer coupling (recommended product type – validate sizing with cymex®)				ELT-00060BAX-031.50						
Bore diameter of coupling on the application side			mm	X = 018.000 - 032.000						
Mass moment of inertia (relates to the drive) Clamping hub diameter [mm]	A	9	J_1	kgcm ²	0.31	0.23	0.19	0.16	0.15	0.14
				10 ⁻³ in.lb.s ²	0.27	0.2	0.17	0.14	0.13	0.12
	B	11	J_1	kgcm ²	0.33	0.24	0.21	0.17	0.17	0.16
				10 ⁻³ in.lb.s ²	0.29	0.21	0.19	0.15	0.15	0.14
	C	14	J_1	kgcm ²	0.41	0.32	0.28	0.25	0.24	0.23
				10 ⁻³ in.lb.s ²	0.36	0.28	0.25	0.22	0.21	0.2
	D	16	J_1	kgcm ²	0.53	0.45	0.41	0.38	0.37	0.36
				10 ⁻³ in.lb.s ²	0.47	0.4	0.36	0.34	0.33	0.32
	E	19	J_1	kgcm ²	0.62	0.53	0.49	0.46	0.45	0.44
				10 ⁻³ in.lb.s ²	0.55	0.47	0.43	0.41	0.4	0.39

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

^{a)} Valid for torque transmission only

^{b)} Valid for standard clamping hub diameter

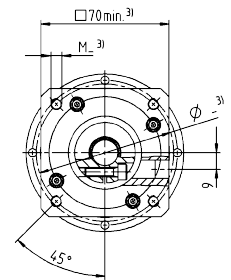
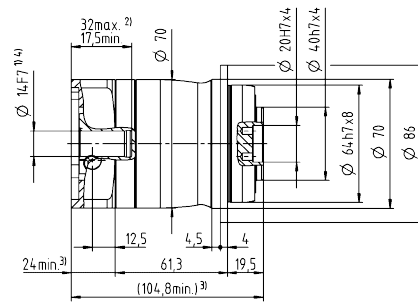
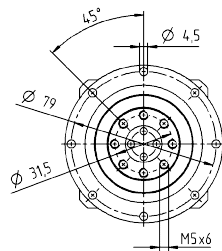
^{c)} Refers to center of the output shaft or flange

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

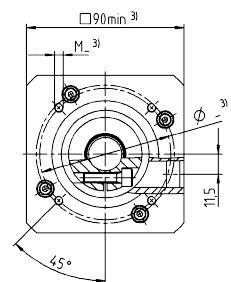
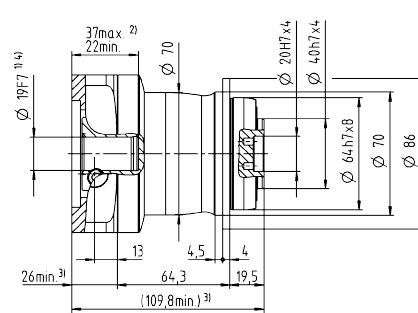
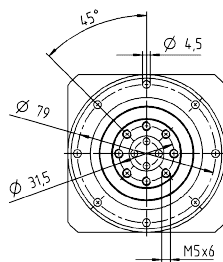
1-stage

Motor shaft diameter [mm]

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



up to 19⁴⁾ (E)
clamping hub
diameter



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

NPT 015 MF 2-stage

				2-stage													
Ratio	i			12	15	16	20	25	28	30	32	35	40	50	64	70	100
Max. torque ^{a) b)}	T_{2a}		Nm	51	51	56	56	60	56	51	56	60	56	60	56	60	56
			in.lb	451	451	496	496	531	496	451	496	531	496	531	496	531	496
Max. acceleration torque (max. 1000 cycles per hour)	T_{2B}		Nm	32	32	35	35	40	35	32	35	40	35	40	35	40	35
			in.lb	283	283	310	310	354	310	283	310	354	310	354	310	354	310
Emergency stop torque ^{a) b)} (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
			in.lb	664	664	664	664	664	664	664	664	664	664	664	664	664	664
Permitted average input speed ^{d)} (at T_{2N} and 20 °C ambient temperature)	n_{1N}		rpm	3800	4000	3800	4000	4000	4300	4600	4400	4300	4600	4600	4400	4600	4600
Max. input speed	n_{1Max}		rpm	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000
Mean no load running torque ^{b)} (at n_1 =3000 rpm and 20 °C gearbox temperature)	T_{012}		Nm	0.08	0.07	0.06	0.06	0.05	0.05	0.05	0.04	0.04	0.04	0.04	0.03	0.03	0.03
			in.lb	0.71	0.62	0.53	0.53	0.44	0.44	0.44	0.35	0.35	0.35	0.35	0.27	0.27	0.27
Max. backlash	j_t		arcmin	≤ 10													
Torsional rigidity ^{b)}	C_{t21}		Nm/arcmin	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	2.8	3.3	2.8
			in.lb/arcmin	29	29	29	29	29	29	29	29	29	29	29	25	29	25
Max. axial force ^{c)}	F_{2AMax}		N	1380													
			lb _f	311													
Max. tilting moment	M_{2KMax}		Nm	42													
			in.lb	372													
Efficiency at full load	η		%	95													
Service life	L_n		h	> 20000													
Weight (incl. standard adapter plate)	m		kg	2.1													
			lb _m	4.6													
Operating noise (at reference ratio and reference speed – ratio-specific values available in cymex®)	L_{PA}		dB(A)	≤ 58													
Max. permitted housing temperature			°C	+90													
			°F	+194													
Ambient temperature			°C	−15 to +40													
			°F	+5 to +104													
Lubrication				Lubricated for life													
Direction of rotation				In- and output same direction													
Protection class				IP 64													
Elastomer coupling (recommended product type – validate sizing with cymex®)				ELT-00060BAX-031.50													
Bore diameter of coupling on the application side			mm	X = 018.000 - 032.000													
Mass moment of inertia (relates to the drive) Clamping hub diameter [mm]	Z	8	J_1	kgcm ²	0.04	0.04	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.02	0.02	0.02
				10 ⁻³ in.lb.s ²	0.04	0.04	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.02	0.02	0.02
	A	9	J_1	kgcm ²	0.04	0.04	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.02	0.02	0.02
				10 ⁻³ in.lb.s ²	0.04	0.04	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.02	0.02	0.02
	B	11	J_1	kgcm ²	0.06	0.06	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.04	0.04	0.04
				10 ⁻³ in.lb.s ²	0.05	0.05	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
C	14	J_1	kgcm ²	0.15	0.14	0.14	0.14	0.13	0.13	0.14	0.13	0.13	0.13	0.13	0.13	0.13	0.13
			10 ⁻³ in.lb.s ²	0.13	0.12	0.12	0.12	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

^{a)} Valid for torque transmission only

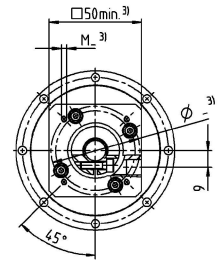
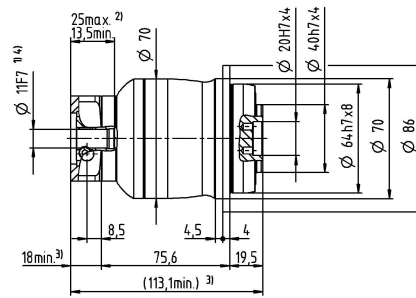
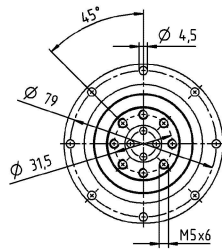
^{b)} Valid for standard clamping hub diameter

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

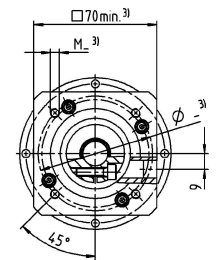
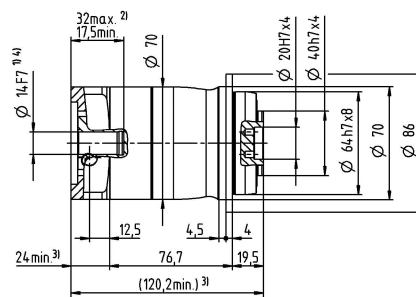
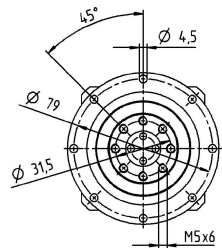
^{d)} Please reduce input speed at higher ambient temperatures

2-stage

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



up to 14⁴⁾ (C)
clamping hub
diameter



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

NPT 025 MF 1-stage

				1-stage						
Ratio	i			3	4	5	7	8	10	
Max. torque ^{a) b)}	T_{2a}		Nm	128	152	160	160	144	144	
			in.lb	1133	1345	1416	1416	1275	1275	
Max. acceleration torque (max. 1000 cycles per hour)	T_{2B}		Nm	80	95	100	100	90	90	
			in.lb	708	841	885	885	797	797	
Emergency stop torque ^{a) b)} (permitted 1000 times during the service life of the gearbox)	T_{2Not}		Nm	190	190	190	190	190	190	
			in.lb	1682	1682	1682	1682	1682	1682	
Permitted average input speed ^{d)} (at T_{2N} and 20 °C ambient temperature)	n_{1N}		rpm	3100	3300	3400	3600	3700	3900	
Max. input speed	n_{1Max}		rpm	7000	7000	7000	7000	7000	7000	
Mean no load running torque ^{b)} (at n_1 =3000 rpm and 20 °C gearbox temperature)	T_{012}		Nm	0.43	0.35	0.3	0.24	0.23	0.2	
			in.lb	3.8	3.1	2.7	2.1	2	1.8	
Max. backlash	j_t		arcmin	≤ 8						
Torsional rigidity ^{b)}	C_{t21}		Nm/arcmin	9.5	9.5	9.5	9.5	8.5	8.5	
			in.lb/arcmin	84	84	84	84	75	75	
Max. axial force ^{c)}	F_{2AMax}		N	1900						
			lb _f	428						
Max. tilting moment	M_{2KMax}		Nm	79						
			in.lb	699						
Efficiency at full load	η		%	97						
Service life	L_n		h	> 20000						
Weight (incl. standard adapter plate)	m		kg	4.4						
			lb _m	9.7						
Operating noise (at reference ratio and reference speed – ratio-specific values available in cymex®)	L_{PA}		dB(A)	≤ 61						
Max. permitted housing temperature			°C	+90						
			°F	+194						
Ambient temperature			°C	–15 to +40						
			°F	+5 to +104						
Lubrication				Lubricated for life						
Direction of rotation				In- and output same direction						
Protection class				IP 64						
Elastomer coupling (recommended product type – validate sizing with cymex®)				ELT-00150BAX-050.00						
Bore diameter of coupling on the application side			mm	X = 024.000 - 036.000						
Mass moment of inertia (relates to the drive) Clamping hub diameter [mm]	C	14	J_1	kgcm ²	0.75	0.57	0.44	0.33	0.3	0.27
				10 ⁻³ in.lb.s ²	0.66	0.5	0.39	0.29	0.27	0.24
	D	16	J_1	kgcm ²	0.9	0.72	0.59	0.46	0.45	0.42
				10 ⁻³ in.lb.s ²	0.8	0.64	0.52	0.41	0.4	0.37
	E	19	J_1	kgcm ²	0.99	0.8	0.67	0.56	0.53	0.5
				10 ⁻³ in.lb.s ²	0.88	0.71	0.59	0.5	0.47	0.44
	G	24	J_1	kgcm ²	2	1.8	1.7	1.6	1.6	1.5
				10 ⁻³ in.lb.s ²	1.8	1.6	1.5	1.4	1.4	1.3
H	28	J_1	kgcm ²	1.7	1.5	1.4	1.3	1.3	1.2	
			10 ⁻³ in.lb.s ²	1.5	1.3	1.2	1.2	1.2	1.1	

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

^{a)} Valid for torque transmission only

^{b)} Valid for standard clamping hub diameter

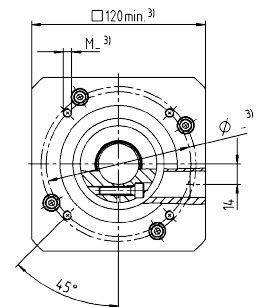
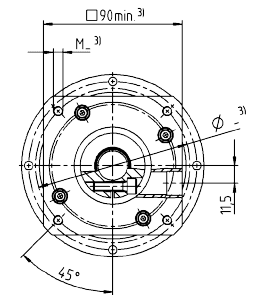
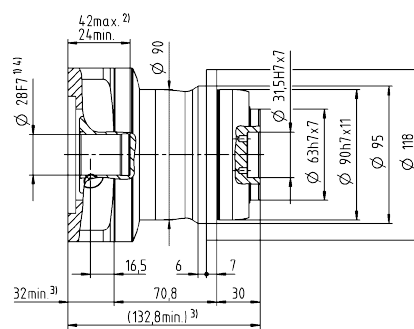
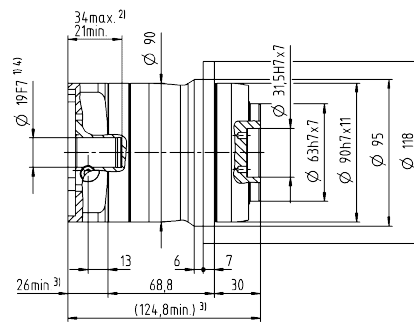
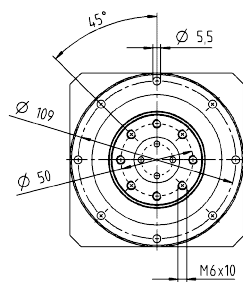
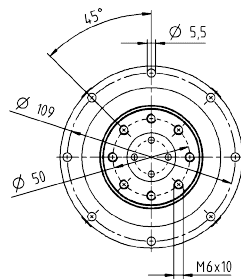
^{c)} Refers to center of the output shaft or flange

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

1-stage

Motor shaft diameter [mm]

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



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

NPT 025 MF 2-stage

			2-stage														
Ratio	i		9	12	15	16	20	25	28	30	32	35	40	50	64	70	100
Max. torque ^{a) b)}	T_{2a}	Nm	128	128	128	152	152	160	152	128	152	160	152	160	144	160	144
		in.lb	1133	1133	1133	1345	1345	1416	1345	1133	1345	1416	1345	1416	1275	1416	1275
Max. acceleration torque (max. 1000 cycles per hour)	T_{2B}	Nm	80	80	80	95	95	100	95	80	95	100	95	100	90	100	90
		in.lb	708	708	708	841	841	885	841	708	841	885	841	885	797	885	797
Emergency stop torque ^{a) b)} (permitted 1000 times during the service life of the gearbox)	T_{2Not}	Nm	190	190	190	190	190	190	190	190	190	190	190	190	190	190	190
		in.lb	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682
Permitted average input speed ^{d)} (at T_{2N} and 20 °C ambient temperature)	n_{1N}	rpm	3300	3500	3700	3500	3700	3700	4000	4300	4100	4000	4300	4300	4100	4300	4300
Max. input speed	n_{1Max}	rpm	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000
Mean no load running torque ^{b)} (at $n_1=3000$ rpm and 20 °C gearbox temperature)	T_{012}	Nm	0.16	0.13	0.12	0.11	0.1	0.09	0.09	0.08	0.08	0.08	0.08	0.07	0.07	0.06	0.06
		in.lb	1.4	1.2	1.1	0.97	0.89	0.8	0.8	0.71	0.71	0.71	0.71	0.62	0.62	0.53	0.53
Max. backlash	j_t	arcmin	≤ 10														
Torsional rigidity ^{b)}	C_{t21}	Nm/arcmin	10	10	10	10	10	9.5	10	10	10	9.5	10	9.5	8.5	9.5	8.5
		in.lb/arcmin	89	89	89	89	89	84	89	89	89	84	89	84	75	84	75
Max. axial force ^{c)}	F_{2AMax}	N	1900														
		lb _f	428														
Max. tilting moment	M_{2KMax}	Nm	79														
		in.lb	699														
Efficiency at full load	η	%	95														
Service life	L_n	h	> 20000														
Weight (incl. standard adapter plate)	m	kg	4.7														
		lb _m	10														
Operating noise (at reference ratio and reference speed – ratio-specific values available in cymex®)	L_{PA}	dB(A)	≤ 59														
Max. permitted housing temperature		°C	+90														
		°F	+194														
Ambient temperature		°C	-15 to +40														
		°F	+5 to +104														
Lubrication			Lubricated for life														
Direction of rotation			In- and output same direction														
Protection class			IP 64														
Elastomer coupling (recommended product type – validate sizing with cymex®)			ELT-00150BAX-050.00														
Bore diameter of coupling on the application side		mm	X = 024.000 - 036.000														
Mass moment of inertia (relates to the drive) Clamping hub diameter [mm]	A	9	J_1	kgcm ²	0.28	0.23	0.22	0.22	0.21	0.2	0.2	0.19	0.19	0.19	0.19	0.19	0.19
				10 ⁻³ in.lb.s ²	0.25	0.2	0.19	0.19	0.19	0.18	0.18	0.17	0.17	0.17	0.17	0.17	0.17
	B	11	J_1	kgcm ²	0.3	0.25	0.23	0.24	0.23	0.22	0.21	0.21	0.21	0.21	0.21	0.21	0.21
				10 ⁻³ in.lb.s ²	0.27	0.22	0.2	0.21	0.2	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19
	C	14	J_1	kgcm ²	0.37	0.32	0.31	0.31	0.3	0.29	0.29	0.29	0.29	0.29	0.28	0.28	0.28
				10 ⁻³ in.lb.s ²	0.33	0.28	0.27	0.27	0.27	0.26	0.26	0.26	0.26	0.26	0.25	0.25	0.25
	D	16	J_1	kgcm ²	0.5	0.45	0.44	0.44	0.43	0.42	0.42	0.41	0.41	0.41	0.41	0.41	0.41
				10 ⁻³ in.lb.s ²	0.44	0.4	0.39	0.39	0.38	0.37	0.37	0.36	0.36	0.36	0.36	0.36	0.36
	E	19	J_1	kgcm ²	0.58	0.53	0.52	0.52	0.51	0.51	0.5	0.5	0.5	0.5	0.49	0.49	0.49
				10 ⁻³ in.lb.s ²	0.51	0.47	0.46	0.46	0.45	0.45	0.44	0.44	0.44	0.43	0.43	0.43	0.43

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

^{a)} Valid for torque transmission only

^{b)} Valid for standard clamping hub diameter

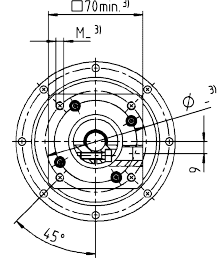
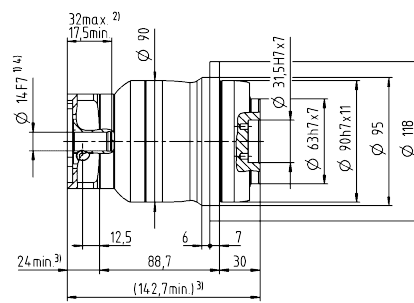
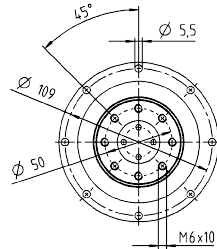
^{c)} Refers to center of the output shaft or flange

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

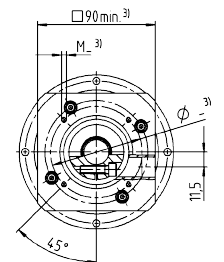
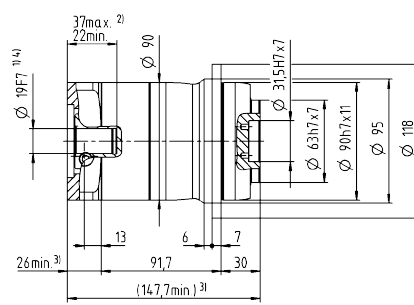
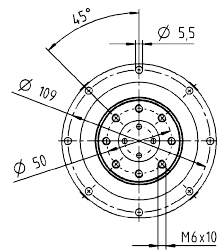
2-stage

Motor shaft diameter [mm]

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



up to 19⁴⁾ (E)
clamping hub
diameter



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

NPT 035 MF 1-stage

				1-stage						
Ratio	i			3	4	5	7	8	10	
Max. torque ^{a) b)}	T_{2a}	Nm		320	365	365	365	352	352	
		$in.lb$		2832	3231	3231	3231	3115	3115	
Max. acceleration torque (max. 1000 cycles per hour)	T_{2B}	Nm		200	255	250	250	220	220	
		$in.lb$		1770	2257	2213	2213	1947	1947	
Emergency stop torque ^{a) b)} (permitted 1000 times during the service life of the gearbox)	T_{2Not}	Nm		480	480	480	480	480	480	
		$in.lb$		4248	4248	4248	4248	4248	4248	
Permitted average input speed ^{d)} (at T_{2N} and 20 °C ambient temperature)	n_{1N}	rpm		2300	2500	2600	2800	2900	3000	
Max. input speed	n_{1Max}	rpm		6000	6000	6000	6000	6000	6000	
Mean no load running torque ^{b)} (at n_1 =3000 rpm and 20 °C gearbox temperature)	T_{012}	Nm		1.7	1.3	1.1	0.79	0.71	0.6	
		$in.lb$		15	12	9.7	7	6.3	5.3	
Max. backlash	j_t	$arcmin$	≤ 8							
Torsional rigidity ^{b)}	C_{t21}	$Nm/arcmin$		25	25	25	25	22	22	
		$in.lb/arcmin$		221	221	221	221	195	195	
Max. axial force ^{c)}	F_{2AMax}	N	3500							
		lb_f	788							
Max. tilting moment	M_{2KMax}	Nm	134							
		$in.lb$	1186							
Efficiency at full load	η	%	97							
Service life	L_h	h	> 20000							
Weight (incl. standard adapter plate)	m	kg	9.4							
		lb_m	21							
Operating noise (at reference ratio and reference speed – ratio-specific values available in cymex®)	L_{PA}	$dB(A)$	≤ 65							
Max. permitted housing temperature		°C	+90							
		°F	+194							
Ambient temperature		°C	–15 to +40							
		°F	+5 to +104							
Lubrication			Lubricated for life							
Direction of rotation			In- and output same direction							
Protection class			IP 64							
Elastomer coupling (recommended product type – validate sizing with cymex®)			ELT-00300BAX-063.00							
Bore diameter of coupling on the application side		mm	X = 035.000 - 045.000							
Mass moment of inertia (relates to the drive) Clamping hub diameter [mm]	E	19	J_1	$kgcm^2$	3.2	2	1.6	1.2	1	0.93
				$10^{-3} in.lb.s^2$	2.8	1.8	1.4	1.1	0.89	0.82
	G	24	J_1	$kgcm^2$	4	2.8	2.4	1.9	1.8	1.7
				$10^{-3} in.lb.s^2$	3.5	2.5	2.1	1.7	1.6	1.5
	H	28	J_1	$kgcm^2$	3.7	2.5	2.1	1.6	1.5	1.4
				$10^{-3} in.lb.s^2$	3.3	2.2	1.9	1.4	1.3	1.2
	I	32	J_1	$kgcm^2$	7.7	6.6	6.1	5.7	5.6	5.5
				$10^{-3} in.lb.s^2$	6.8	5.8	5.4	5	5	4.9
K	38	J_1	$kgcm^2$	8.9	7.8	7.3	6.9	6.7	6.6	
			$10^{-3} in.lb.s^2$	7.9	6.9	6.5	6.1	5.9	5.8	

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

^{a)} Valid for torque transmission only

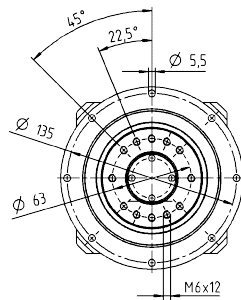
^{b)} Valid for standard clamping hub diameter

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

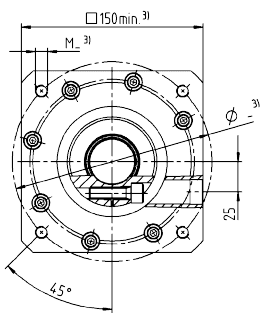
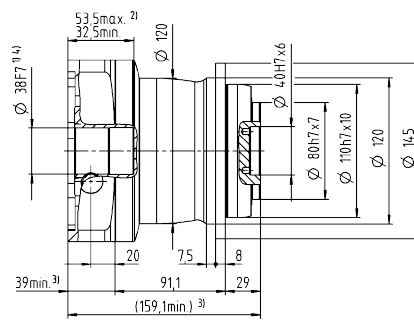
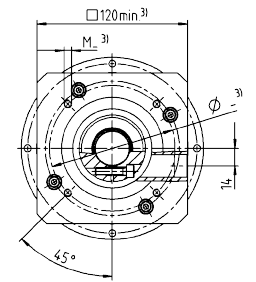
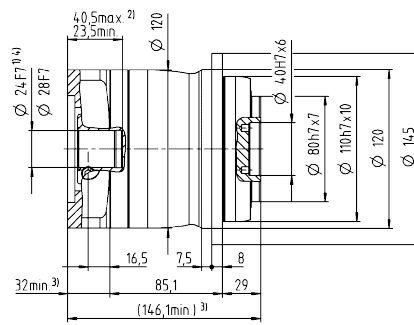
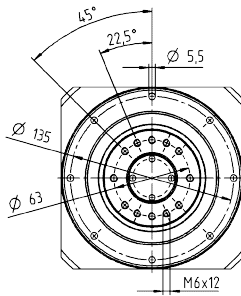
^{d)} Please reduce input speed at higher ambient temperatures

1-stage

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



up to 38⁴⁾ (K)
clamping hub
diameter



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

NPT 035 MF 2-stage

				2-stage															
Ratio			i		9	12	15	16	20	25	28	30	32	35	40	50	64	70	100
Max. torque ^{a) b)}			T_{2a}	Nm	320	320	320	365	365	365	320	365	365	365	365	352	365	352	
				in.lb	2832	2832	2832	3231	3231	3231	3231	2832	3231	3231	3231	3231	3231	3115	3231
Max. acceleration torque (max. 1000 cycles per hour)			T_{2B}	Nm	200	200	200	255	255	250	255	200	255	250	255	250	220	250	220
				in.lb	1770	1770	1770	2257	2257	2213	2257	1770	2257	2213	2257	2213	1947	2213	1947
Emergency stop torque ^{a) b)} (permitted 1000 times during the service life of the gearbox)			T_{2Not}	Nm	480	480	480	480	480	480	480	480	480	480	480	480	480	480	480
				in.lb	4248	4248	4248	4248	4248	4248	4248	4248	4248	4248	4248	4248	4248	4248	4248
Permitted average input speed ^{d)} (at T_{2N} and 20 °C ambient temperature)			n_{1N}	rpm	3100	3300	3400	3300	3400	3400	3600	3900	3700	3600	3900	3900	3700	3900	3900
Max. input speed			n_{1Max}	rpm	7000	7000	7000	7000	7000	7000	7000	7000	7000	7000	7000	7000	7000	7000	7000
Mean no load running torque ^{b)} (at n_1 =3000 rpm and 20 °C gearbox temperature)			T_{012}	Nm	0.6	0.48	0.4	0.38	0.33	0.28	0.26	0.25	0.24	0.23	0.21	0.19	0.17	0.16	0.15
				in.lb	5.3	4.2	3.5	3.4	2.9	2.5	2.3	2.2	2.1	2	1.9	1.7	1.5	1.4	1.3
Max. backlash			j_t	arcmin	≤ 10														
Torsional rigidity ^{b)}			C_{t21}	Nm/arcmin	25	25	25	25	25	25	25	25	25	25	25	25	22	25	22
				in.lb/arcmin	221	221	221	221	221	221	221	221	221	221	221	221	221	195	221
Max. axial force ^{c)}			F_{2AMax}	N	3500														
				lb _f	788														
Max. tilting moment			M_{2KMax}	Nm	134														
				in.lb	1186														
Efficiency at full load			η	%	95														
Service life			L_n	h	> 20000														
Weight (incl. standard adapter plate)			m	kg	9.8														
				lb _m	22														
Operating noise (at reference ratio and reference speed – ratio-specific values available in cymex®)			L_{PA}	dB(A)	≤ 61														
Max. permitted housing temperature				°C	+90														
				°F	+194														
Ambient temperature				°C	−15 to +40														
				°F	+5 to +104														
Lubrication					Lubricated for life														
Direction of rotation					In- and output same direction														
Protection class					IP 64														
Elastomer coupling (recommended product type – validate sizing with cymex®)					ELT-00300BAX-063.00														
Bore diameter of coupling on the application side				mm	X = 035.000 - 045.000														
Mass moment of inertia (relates to the drive) Clamping hub diameter [mm]	C	14	J_1	kgcm ²	0.68	0.63	0.62	0.45	0.44	0.37	0.38	0.52	0.38	0.32	0.37	0.31	0.26	0.27	0.24
				10 ^{−3} in.lb.s ²	0.6	0.56	0.55	0.4	0.39	0.33	0.34	0.46	0.34	0.28	0.33	0.27	0.23	0.24	0.21
	D	16	J_1	kgcm ²	0.82	0.78	0.77	0.6	0.58	0.51	0.51	0.67	0.53	0.45	0.52	0.46	0.4	0.41	0.39
				10 ^{−3} in.lb.s ²	0.73	0.69	0.68	0.53	0.51	0.45	0.45	0.59	0.47	0.4	0.46	0.41	0.35	0.36	0.35
	E	19	J_1	kgcm ²	0.91	0.87	0.86	0.69	0.67	0.6	0.61	0.76	0.61	0.55	0.6	0.55	0.49	0.5	0.48
				10 ^{−3} in.lb.s ²	0.81	0.77	0.76	0.61	0.59	0.53	0.54	0.67	0.54	0.49	0.53	0.49	0.43	0.44	0.42
	G	24	J_1	kgcm ²	1.9	1.9	1.9	1.7	1.7	1.6	1.6	1.8	1.7	1.6	1.6	1.6	1.5	1.5	1.5
				10 ^{−3} in.lb.s ²	1.7	1.7	1.7	1.5	1.5	1.4	1.4	1.6	1.5	1.4	1.4	1.4	1.3	1.3	1.3
	H	28	J_1	kgcm ²	1.7	1.6	1.6	1.4	1.4	1.3	1.4	1.5	1.4	1.3	1.3	1.3	1.2	1.2	1.2
				10 ^{−3} in.lb.s ²	1.5	1.4	1.4	1.2	1.2	1.2	1.2	1.3	1.2	1.2	1.2	1.2	1.1	1.1	1.1

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

^{a)} Valid for torque transmission only

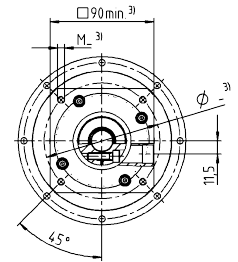
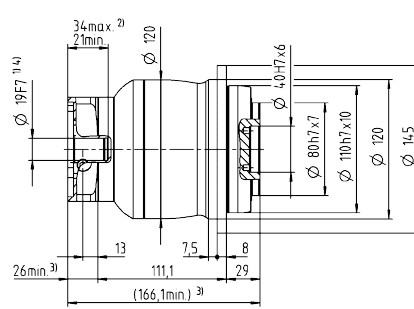
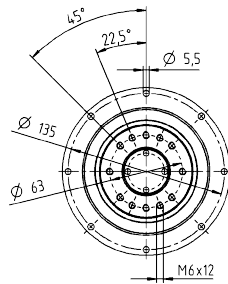
^{b)} Valid for standard clamping hub diameter

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

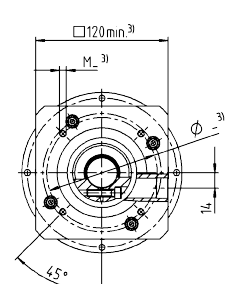
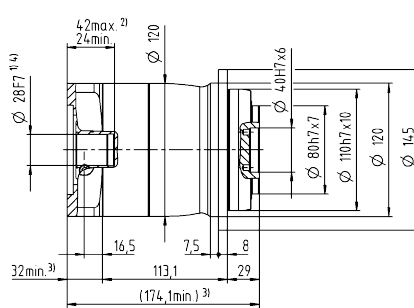
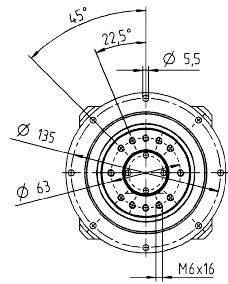
^{d)} Please reduce input speed at higher ambient temperatures

2-stage

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



up to 28⁴⁾ (H)
clamping hub
diameter



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

NPT 045 MF 1-/2-stage

				1-stage			2-stage					
Ratio	i			5	8	10	25	32	50	64	100	
Max. torque ^{a) b)}	T _{2a}		Nm	700	640	640	700	640	700	640	640	
			in.lb	6196	5665	5665	6196	5665	6196	5665	5665	
Max. acceleration torque (max. 1000 cycles per hour)	T _{2B}		Nm	500	400	400	500	400	500	400	400	
			in.lb	4425	3540	3540	4425	3540	4425	3540	3540	
Emergency stop torque ^{a) b)} (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 _{2N} and 20 °C ambient temperature)	n _{1N}		rpm	2000	2200	2300	2600	2500	3000	2900	3000	
Max. input speed	n _{1Max}		rpm	4000	4000	4000	6000	6000	6000	6000	6000	
Mean no load running torque ^{b)} (at n ₁ = 3000 rpm and 20 °C gearbox temperature)	T ₀₁₂		Nm	1.5	1.1	0.9	0.39	0.34	0.27	0.24	0.21	
			in.lb	13	9.7	8	3.5	3	2.4	2.1	1.9	
Max. backlash	j _t		arcmin	≤ 8			≤ 10					
Torsional rigidity ^{b)}	C _{t21}		Nm/arcmin	55	44	44	55	44	55	44	44	
			in.lb/arcmin	487	389	389	487	389	487	389	389	
Max. axial force ^{c)}	F _{2AMax}		N	3800			3800					
			lb _f	855			855					
Max. tilting moment	M _{2KMax}		Nm	256			256					
			in.lb	2266			2266					
Efficiency at full load	η		%	97			95					
Service life	L _n		h	> 20000			> 20000					
Weight (incl. standard adapter plate)	m		kg	19			20					
			lb _m	42			44					
Operating noise (at reference ratio and reference speed – ratio-specific values available in cymex®)	L _{PA}		dB(A)	≤ 68			≤ 65					
Max. permitted housing temperature			°C	+90			+90					
			°F	+194			+194					
Ambient temperature			°C	−15 to +40			−15 to +40					
			°F	+5 to +104			+5 to +104					
Lubrication				Lubricated for life								
Direction of rotation				In- and output same direction								
Protection class				IP 64								
Elastomer coupling (recommended product type – validate sizing with cymex®)				ELT-00450BAX-080.00								
Bore diameter of coupling on the application side				X = 042.000 - 060.000								
Mass moment of inertia (relates to the drive) Clamping hub diameter [mm]	E	19	J ₁	kgcm ²	–	–	–	1.3	1.1	1.1	0.88	0.83
				10 ⁻³ in.lb.s ²	–	–	–	1.2	0.97	0.97	0.78	0.73
	G	24	J ₁	kgcm ²	–	–	–	2	1.9	1.8	1.7	1.6
				10 ⁻³ in.lb.s ²	–	–	–	1.8	1.7	1.6	1.5	1.4
	H	28	J ₁	kgcm ²	–	–	–	1.8	1.6	1.6	1.4	1.3
				10 ⁻³ in.lb.s ²	–	–	–	1.6	1.4	1.4	1.2	1.2
	I	32	J ₁	kgcm ²	–	–	–	5.8	5.7	5.6	5.4	5.4
				10 ⁻³ in.lb.s ²	–	–	–	5.1	5	5	4.8	4.8
	K	38	J ₁	kgcm ²	9.8	7.8	7.4	7	6.9	6.8	6.6	6.5
				10 ⁻³ in.lb.s ²	8.7	6.9	6.5	6.2	6.1	6	5.8	5.8

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

^{a)} Valid for torque transmission only

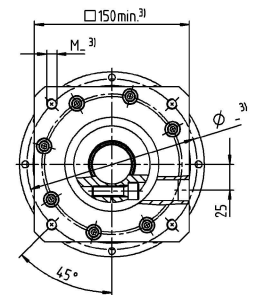
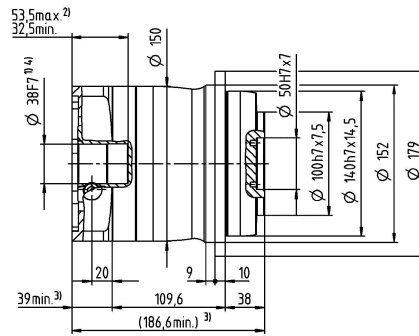
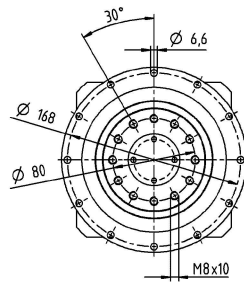
^{b)} Valid for standard clamping hub diameter

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

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

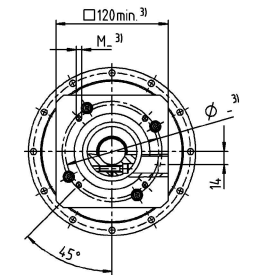
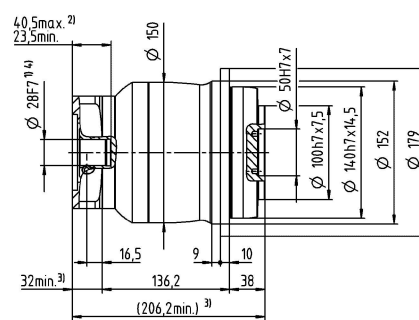
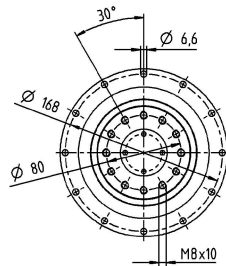
1-stage

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



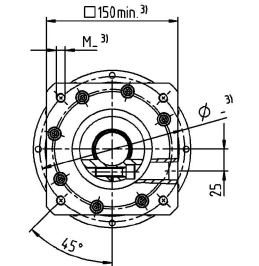
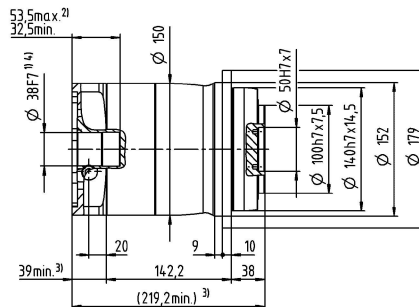
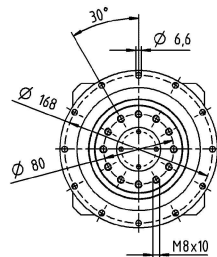
2-stage

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



Motor shaft diameter [mm]

up to 38⁴⁾ (K)
clamping hub
diameter



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

NPT 015 MA 1-/2-stage

				1-stage			2-stage						
Ratio	i			3	4	12	15	16	20	28	30	40	
Max. torque ^{a) b)}	T _{2a}		Nm	62	62	62	62	62	62	62	62	62	
			in.lb	549	549	549	549	549	549	549	549	549	
Max. acceleration torque (max. 1000 cycles per hour)	T _{2B}		Nm	55	42	39	42	42	42	42	39	42	
			in.lb	487	372	345	372	372	372	372	345	372	
Emergency stop torque ^{a) b)} (permitted 1000 times during the service life of the gearbox)	T _{2Not}		Nm	75	75	75	75	75	75	75	75	75	
			in.lb	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	3500	3800	4000	3800	4000	4300	4600	4600	
Max. input speed	n _{1Max}		rpm	8000	8000	10000	10000	10000	10000	10000	10000	10000	
Mean no load running torque ^{b)} (at n ₁ =3000 rpm and 20 °C gearbox temperature)	T ₀₁₂		Nm	0.25	0.2	0.08	0.07	0.06	0.06	0.05	0.05	0.04	
			in.lb	2.2	1.8	0.71	0.62	0.53	0.53	0.44	0.44	0.35	
Max. backlash	j _t		arcmin	≤ 8		≤ 10							
Torsional rigidity ^{b)}	C _{t21}		Nm/arcmin	4	4	4	4	4	4	4	4	4	
			in.lb/arcmin	35	35	35	35	35	35	35	35	35	
Max. axial force ^{c)}	F _{2AMax}		N	1380		1380							
			lb _f	311		311							
Max. tilting moment	M _{2KMax}		Nm	42		42							
			in.lb	372		372							
Efficiency at full load	η		%	97		95							
Service life	L _n		h	> 20000		> 20000							
Weight (incl. standard adapter plate)	m		kg	2		2.1							
			lb _m	4.4		4.6							
Operating noise (at reference ratio and reference speed – ratio-specific values available in cymex®)	L _{PA}		dB(A)	≤ 59		≤ 58							
Max. permitted housing temperature			°C	+90		+90							
			°F	+194		+194							
Ambient temperature			°C	−15 to +40		−15 to +40							
			°F	+5 to +104		+5 to +104							
Lubrication				Lubricated for life									
Direction of rotation				In- and output same direction									
Protection class				IP 64									
Elastomer coupling (recommended product type – validate sizing with cymex®)				ELT-00060BAX-031.50									
Bore diameter of coupling on the application side			mm	X = 018.000 - 032.000									
Mass moment of inertia (relates to the drive) Clamping hub diameter [mm]	Z	8	J ₁	kgcm ²	–	–	0.04	0.04	0.03	0.03	0.03	0.03	0.03
				10 ⁻³ in.lb.s ²	–	–	0.04	0.04	0.03	0.03	0.03	0.03	0.03
	A	9	J ₁	kgcm ²	0.31	0.23	0.04	0.04	0.03	0.03	0.03	0.03	0.03
				10 ⁻³ in.lb.s ²	0.27	0.2	0.04	0.04	0.03	0.03	0.03	0.03	0.03
	B	11	J ₁	kgcm ²	0.33	0.24	0.06	0.06	0.05	0.05	0.05	0.05	0.05
				10 ⁻³ in.lb.s ²	0.29	0.21	0.05	0.05	0.04	0.04	0.04	0.04	0.04
	C	14	J ₁	kgcm ²	0.41	0.32	0.15	0.14	0.14	0.14	0.13	0.14	0.13
				10 ⁻³ in.lb.s ²	0.36	0.28	0.13	0.12	0.12	0.12	0.12	0.12	0.12
	D	16	J ₁	kgcm ²	0.53	0.45	–	–	–	–	–	–	–
				10 ⁻³ in.lb.s ²	0.47	0.4	–	–	–	–	–	–	–
	E	19	J ₁	kgcm ²	0.62	0.53	–	–	–	–	–	–	–
				10 ⁻³ in.lb.s ²	0.55	0.47	–	–	–	–	–	–	–

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

^{a)} Valid for torque transmission only

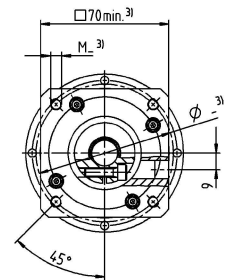
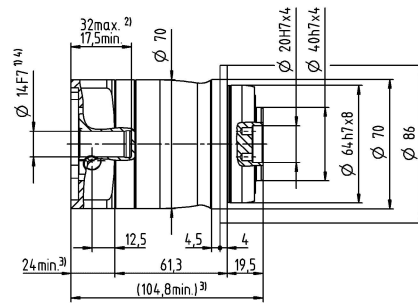
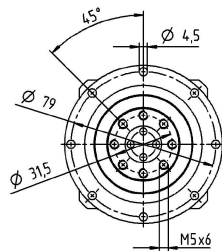
^{b)} Valid for standard clamping hub diameter

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

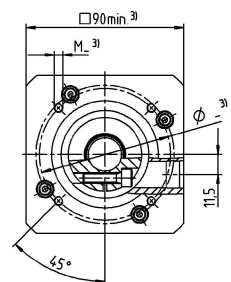
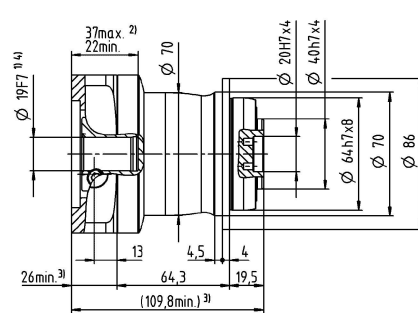
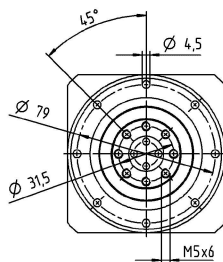
^{d)} Please reduce input speed at higher ambient temperatures

1-stage

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

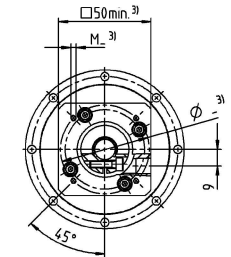
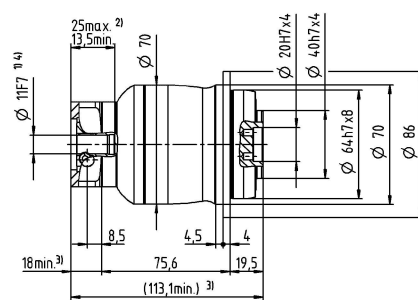
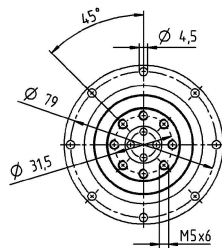


up to 19⁴⁾ (E)
clamping hub
diameter

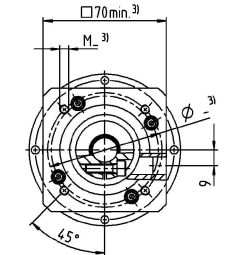
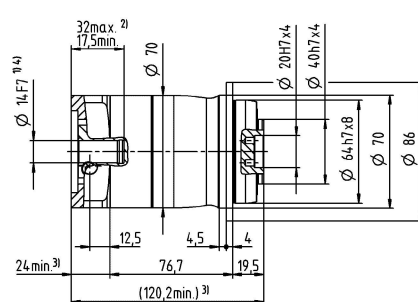
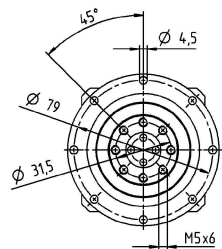


2-stage

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



up to 14⁴⁾ (C)
clamping hub
diameter



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

NPT 025 MA 1-/2-stage

				1-stage		2-stage								
Ratio	i		3	4	9	12	15	16	20	28	30	40		
Max. torque ^{a) b)}	T_{2a}	<i>Nm</i>	185	185	185	185	185	185	185	185	168	185		
		<i>in.lb</i>	1637	1637	1637	1637	1637	1637	1637	1637	1637	1487	1637	
Max. acceleration torque (max. 1000 cycles per hour)	T_{2B}	<i>Nm</i>	125	115	125	125	120	115	115	115	105	115		
		<i>in.lb</i>	1106	1018	1106	1106	1062	1018	1018	1018	929	1018		
Emergency stop torque ^{a) b)} (permitted 1000 times during the service life of the gearbox)	T_{2Not}	<i>Nm</i>	190	190	190	190	190	190	190	190	190	190		
		<i>in.lb</i>	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682		
Permitted average input speed ^{d)} (at T_{2N} and 20 °C ambient temperature)	n_{1N}	<i>rpm</i>	3100	3300	3300	3500	3700	3500	3700	4000	4300	4300		
Max. input speed	n_{1Max}	<i>rpm</i>	7000	7000	8000	8000	8000	8000	8000	8000	8000	8000		
Mean no load running torque ^{b)} (at n_1 =3000 rpm and 20 °C gearbox temperature)	T_{012}	<i>Nm</i>	0.43	0.35	0.16	0.13	0.12	0.11	0.1	0.09	0.08	0.08		
		<i>in.lb</i>	3.8	3.1	1.4	1.2	1.1	0.97	0.89	0.8	0.71	0.71		
Max. backlash	j_t	<i>arcmin</i>	≤ 8		≤ 10									
Torsional rigidity ^{b)}	C_{t21}	<i>Nm/arcmin</i>	12	12	12	12	12	12	12	12	12	12		
		<i>in.lb/arcmin</i>	106	106	106	106	106	106	106	106	106	106		
Max. axial force ^{c)}	F_{2AMax}	<i>N</i>	1900		1900									
		<i>lb_f</i>	428		428									
Max. tilting moment	M_{2KMax}	<i>Nm</i>	79		79									
		<i>in.lb</i>	699		699									
Efficiency at full load	η	%	97		95									
Service life	L_n	<i>h</i>	> 20000		> 20000									
Weight (incl. standard adapter plate)	m	<i>kg</i>	4.4		4.7									
		<i>lb_m</i>	9.7		10									
Operating noise (at reference ratio and reference speed – ratio-specific values available in cymex®)	L_{PA}	<i>dB(A)</i>	≤ 61		≤ 59									
Max. permitted housing temperature		°C	+90		+90									
		°F	+194		+194									
Ambient temperature		°C	−15 to +40		−15 to +40									
		°F	+5 to +104		+5 to +104									
Lubrication			Lubricated for life											
Direction of rotation			In- and output same direction											
Protection class			IP 64											
Elastomer coupling (recommended product type – validate sizing with cymex®)			ELT-00150BAX-050.00											
Bore diameter of coupling on the application side		<i>mm</i>	X = 024.000 - 036.000											
Mass moment of inertia (relates to the drive) Clamping hub diameter [mm]	A	9	J_1	<i>kgcm²</i>	–	–	0.28	0.23	0.22	0.22	0.21	0.20	0.19	0.19
				<i>10⁻³ in.lb.s²</i>	–	–	0.25	0.2	0.19	0.19	0.19	0.18	0.17	0.17
	B	11	J_1	<i>kgcm²</i>	–	–	0.3	0.25	0.23	0.24	0.23	0.21	0.21	0.21
				<i>10⁻³ in.lb.s²</i>	–	–	0.27	0.22	0.2	0.21	0.2	0.19	0.19	0.19
	C	14	J_1	<i>kgcm²</i>	0.75	0.57	0.37	0.32	0.31	0.31	0.3	0.29	0.29	0.28
				<i>10⁻³ in.lb.s²</i>	0.66	0.5	0.33	0.28	0.27	0.27	0.27	0.26	0.26	0.25
	D	16	J_1	<i>kgcm²</i>	0.9	0.72	0.5	0.45	0.44	0.44	0.43	0.42	0.41	0.41
				<i>10⁻³ in.lb.s²</i>	0.8	0.64	0.44	0.4	0.39	0.39	0.38	0.37	0.36	0.36
	E	19	J_1	<i>kgcm²</i>	0.99	0.8	0.58	0.53	0.52	0.52	0.51	0.5	0.5	0.49
				<i>10⁻³ in.lb.s²</i>	0.88	0.71	0.51	0.47	0.46	0.46	0.45	0.44	0.44	0.43
	G	24	J_1	<i>kgcm²</i>	2	1.8	–	–	–	–	–	–	–	–
				<i>10⁻³ in.lb.s²</i>	1.8	1.6	–	–	–	–	–	–	–	–
	H	28	J_1	<i>kgcm²</i>	1.7	1.5	–	–	–	–	–	–	–	–
				<i>10⁻³ in.lb.s²</i>	1.5	1.3	–	–	–	–	–	–	–	–

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

^{a)} Valid for torque transmission only

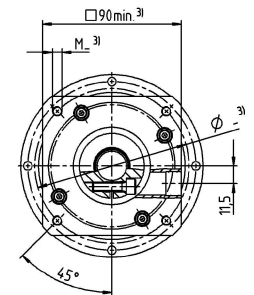
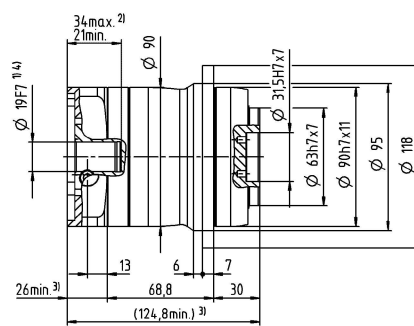
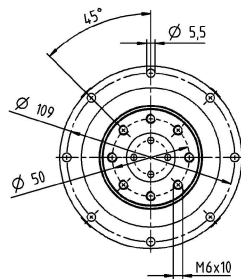
^{b)} Valid for standard clamping hub diameter

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

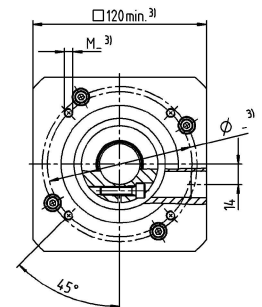
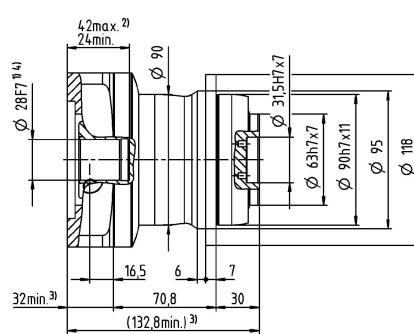
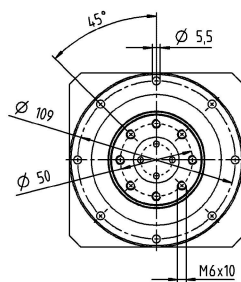
^{d)} Please reduce input speed at higher ambient temperatures

1-stage

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

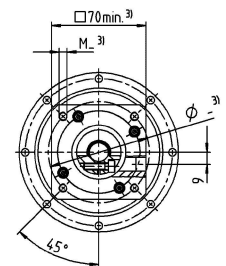
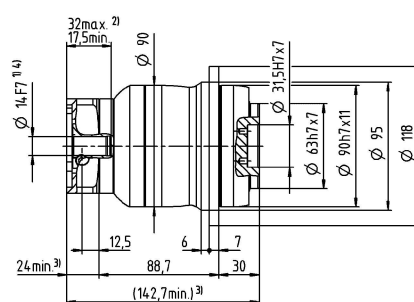
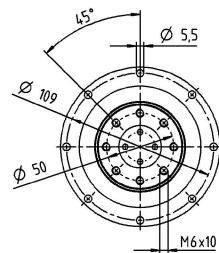


up to 28⁴⁾ (H)
clamping hub
diameter

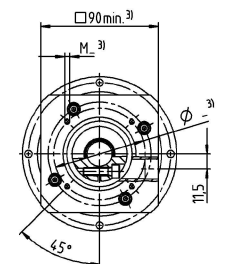
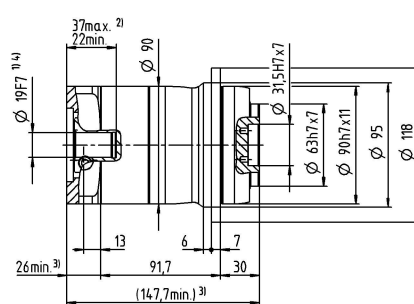
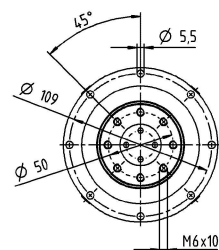


2-stage

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



up to 19⁴⁾ (E)
clamping hub
diameter



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

NPT 035 MA 1-/2-stage

				1-stage		2-stage								
Ratio	i			3	4	9	12	15	16	20	28	30	40	
Max. torque ^{a) b)}	T_{2a}		Nm	380	380	380	380	380	380	380	380	370	380	
			in.lb	3363	3363	3363	3363	3363	3363	3363	3363	3363	3275	3363
Max. acceleration torque (max. 1000 cycles per hour)	T_{2B}		Nm	305	305	305	305	300	305	305	305	270	305	
			in.lb	2699	2699	2699	2699	2655	2699	2699	2699	2699	2390	2699
Emergency stop torque ^{a) b)} (permitted 1000 times during the service life of the gearbox)	T_{2Not}		Nm	480	480	480	480	480	480	480	480	480	480	
			in.lb	4248	4248	4248	4248	4248	4248	4248	4248	4248	4248	4248
Permitted average input speed ^{d)} (at T_{2N} and 20 °C ambient temperature)	n_{1N}		rpm	2300	2500	3100	3300	3400	3300	3400	3600	3900	3900	
Max. input speed	n_{1Max}		rpm	6000	6000	7000	7000	7000	7000	7000	7000	7000	7000	
Mean no load running torque ^{b)} (at n_1 =3000 rpm and 20 °C gearbox temperature)	T_{012}		Nm	1.7	1.3	0.6	0.48	0.4	0.38	0.33	0.26	0.25	0.21	
			in.lb	15	12	5.3	4.2	3.5	3.4	2.9	2.3	2.2	1.9	
Max. backlash	j_t		arcmin	≤ 8		≤ 10								
Torsional rigidity ^{b)}	C_{t21}		Nm/arcmin	30	30	30	30	30	30	30	30	30	30	
			in.lb/arcmin	266	266	266	266	266	266	266	266	266	266	266
Max. axial force ^{c)}	F_{2AMax}		N	3500		3500								
			lb _f	788		788								
Max. tilting moment	M_{2KMax}		Nm	134		134								
			in.lb	1186		1186								
Efficiency at full load	η		%	97		95								
Service life	L_n		h	> 20000		> 20000								
Weight (incl. standard adapter plate)	m		kg	9.4		9.8								
			lb _m	21		22								
Operating noise (at reference ratio and reference speed – ratio-specific values available in cymex®)	L_{PA}		dB(A)	≤ 65		≤ 61								
Max. permitted housing temperature			°C	+90		+90								
			°F	+194		+194								
Ambient temperature			°C	−15 to +40		−15 to +40								
			°F	+5 to +104		+5 to +104								
Lubrication				Lubricated for life										
Direction of rotation				In- and output same direction										
Protection class				IP 64										
Elastomer coupling (recommended product type – validate sizing with cymex®)				ELT-00300BAX-063.00										
Bore diameter of coupling on the application side			mm	X = 035.000 - 045.000										
Mass moment of inertia (relates to the drive) Clamping hub diameter [mm]	C	14	J_1	kgcm ²	–	–	0.68	0.63	0.62	0.45	0.44	0.38	0.52	0.37
				10 ⁻³ in.lb.s ²	–	–	0.6	0.56	0.55	0.4	0.39	0.34	0.46	0.33
	D	16	J_1	kgcm ²	–	–	0.82	0.78	0.77	0.6	0.58	0.51	0.67	0.52
				10 ⁻³ in.lb.s ²	–	–	0.73	0.69	0.68	0.53	0.51	0.45	0.59	0.46
	E	19	J_1	kgcm ²	3.2	2	0.91	0.87	0.86	0.69	0.67	0.61	0.76	0.6
				10 ⁻³ in.lb.s ²	2.8	1.8	0.81	0.77	0.76	0.61	0.59	0.54	0.67	0.53
	G	24	J_1	kgcm ²	4	2.8	1.9	1.9	1.9	1.7	1.7	1.6	1.8	1.6
				10 ⁻³ in.lb.s ²	3.5	2.5	1.7	1.7	1.7	1.5	1.5	1.4	1.6	1.4
	H	28	J_1	kgcm ²	3.7	2.5	1.7	1.6	1.6	1.4	1.4	1.4	1.5	1.3
				10 ⁻³ in.lb.s ²	3.3	2.2	1.5	1.4	1.4	1.2	1.2	1.2	1.3	1.2
	I	32	J_1	kgcm ²	7.7	6.6	–	–	–	–	–	–	–	–
				10 ⁻³ in.lb.s ²	6.8	5.8	–	–	–	–	–	–	–	–
	K	38	J_1	kgcm ²	8.9	7.8	–	–	–	–	–	–	–	–
				10 ⁻³ in.lb.s ²	7.9	6.9	–	–	–	–	–	–	–	–

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

^{a)} Valid for torque transmission only

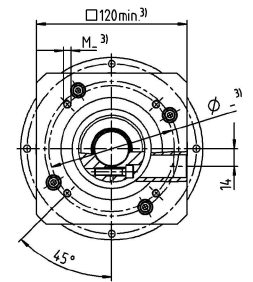
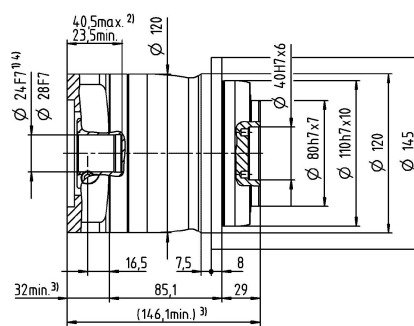
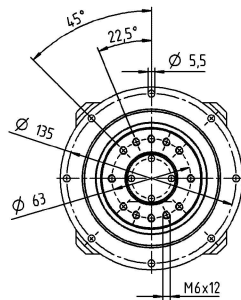
^{b)} Valid for standard clamping hub diameter

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

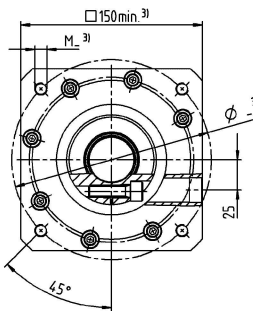
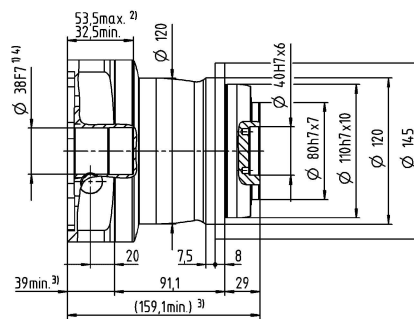
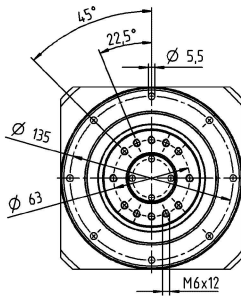
^{d)} Please reduce input speed at higher ambient temperatures

1-stage

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

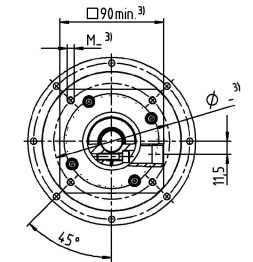
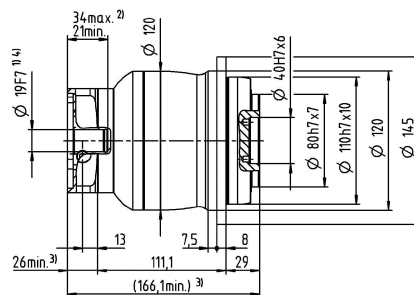
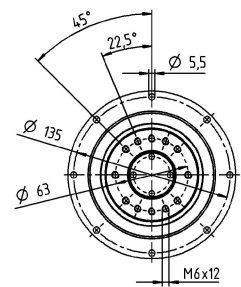


up to 38⁴⁾ (K)
clamping hub
diameter

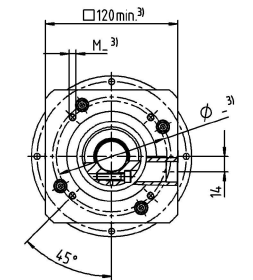
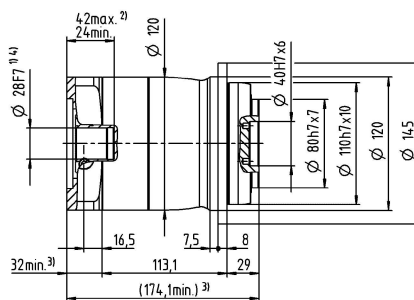
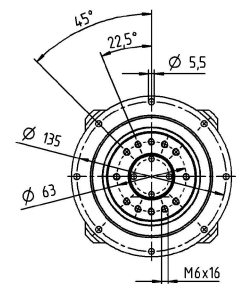


2-stage

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



up to 28⁴⁾ (H)
clamping hub
diameter



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

NPR 015 MF 1-stage

				1-stage						
Ratio	i			3	4	5	7	8	10	
Max. torque ^{a) b) e)}	T_{2a}		Nm	51	56	64	64	56	56	
			in.lb	451	496	566	566	496	496	
Max. acceleration torque ^{a)} (max. 1000 cycles per hour)	T_{2B}		Nm	32	35	40	40	35	35	
			in.lb	283	310	354	354	310	310	
Emergency stop torque ^{a) b) e)} (permitted 1000 times during the service life of the gearbox)	T_{2Not}		Nm	80	80	80	80	80	80	
			in.lb	708	708	708	708	708	708	
Permitted average input speed ^{d)} (at T_{2N} and 20 °C ambient temperature)	n_{1N}		rpm	2600	2800	2900	3400	3400	3600	
Max. input speed	n_{1Max}		rpm	8000	8000	8000	8000	8000	8000	
Mean no load running torque ^{b)} (at n_1 =3000 rpm and 20 °C gearbox temperature)	T_{012}		Nm	0.98	0.78	0.66	0.52	0.48	0.42	
			in.lb	8.7	6.9	5.8	4.6	4.2	3.7	
Max. backlash	j_t		arcmin	≤ 8						
Torsional rigidity ^{b)}	C_{t21}		Nm/arcmin	3.3	3.3	3.3	3.3	2.8	2.8	
			in.lb/arcmin	29	29	29	29	25	25	
Max. axial force ^{c)}	F_{2AMax}		N	2400						
			lb _f	540						
Max. lateral force ^{c)}	F_{2QMMax}		N	2800						
			lb _f	630						
Max. tilting moment	M_{2KMMax}		Nm	152						
			in.lb	1345						
Efficiency at full load	η		%	97						
Service life	L_n		h	> 20000						
Weight (incl. standard adapter plate)	m		kg	1.9						
			lb _m	4.2						
Operating noise (at reference ratio and reference speed – ratio-specific values available in cymex®)	L_{PA}		dB(A)	≤ 59						
Max. permitted housing temperature			°C	+90						
			°F	+194						
Ambient temperature			°C	–15 to +40						
			°F	+5 to +104						
Lubrication				Lubricated for life						
Direction of rotation				In- and output same direction						
Protection class				IP 65						
Elastomer coupling (recommended product type – validate sizing with cymex®)				ELC-0060BA016.000-X						
Bore diameter of coupling on the application side				X = 012.000 - 032.000						
Mass moment of inertia (relates to the drive) Clamping hub diameter [mm]	A	9	J_1	kgcm ²	0.25	0.19	0.17	0.14	0.14	0.13
				10 ⁻³ in.lb.s ²	0.22	0.17	0.15	0.12	0.12	0.12
	B	11	J_1	kgcm ²	0.26	0.21	0.18	0.16	0.16	0.15
				10 ⁻³ in.lb.s ²	0.23	0.19	0.16	0.14	0.14	0.13
	C	14	J_1	kgcm ²	0.34	0.28	0.26	0.24	0.23	0.23
				10 ⁻³ in.lb.s ²	0.3	0.25	0.23	0.21	0.2	0.2
	D	16	J_1	kgcm ²	0.47	0.41	0.39	0.36	0.36	0.35
				10 ⁻³ in.lb.s ²	0.42	0.36	0.35	0.32	0.32	0.31
E	19	J_1	kgcm ²	0.55	0.49	0.47	0.45	0.44	0.44	
			10 ⁻³ in.lb.s ²	0.49	0.43	0.42	0.4	0.39	0.39	

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

^{a)} Valid for torque transmission only

^{b)} Valid for standard clamping hub diameter

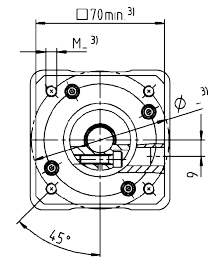
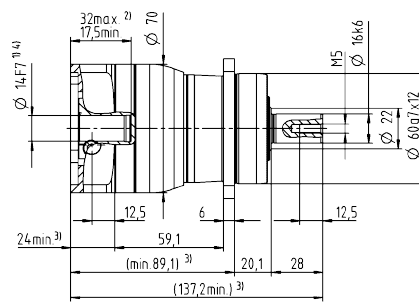
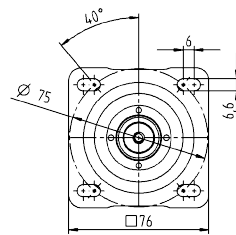
^{c)} Refers to center of the output shaft or flange

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

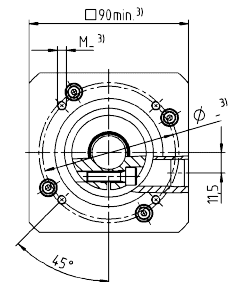
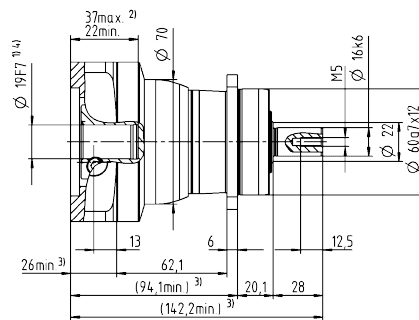
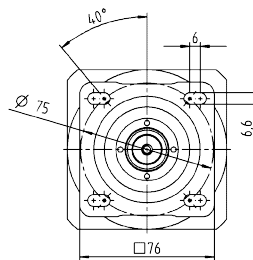
^{e)} Valid for: Smooth shaft

1-stage

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



up to 19⁴⁾ (E)
clamping hub
diameter



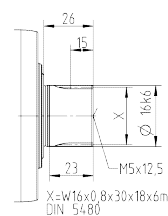
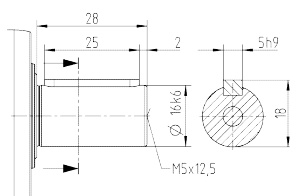
Motor shaft diameter [mm]

Planetary Gearboxes
Value Line

Other output variants

Shaft with key

Splined shaft (DIN 5480)



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

NPR 015 MF 2-stage

			2-stage														
Ratio	i			12	15	16	20	25	28	30	32	35	40	50	64	70	100
Max. torque ^{a) b) e)}	T_{2c}		Nm	51	51	56	56	64	56	51	56	64	56	64	56	64	56
			in.lb	451	451	496	496	566	496	451	496	566	496	566	496	566	496
Max. acceleration torque ^{e)} (max. 1000 cycles per hour)	T_{2B}		Nm	32	32	35	35	40	35	32	35	40	35	40	35	40	35
			in.lb	283	283	310	310	354	310	283	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	80	80	80	80	80	80	80	80	80	80	80	80	80	80
			in.lb	708	708	708	708	708	708	708	708	708	708	708	708	708	708
Permitted average input speed ^{d)} (at T_{2N} and 20 °C ambient temperature)	n_{1N}		rpm	3800	4000	3800	4000	4000	4300	4600	4400	4300	4600	4600	4400	4600	4600
Max. input speed	n_{1Max}		rpm	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000
Mean no load running torque ^{b)} (at n_1 =3000 rpm and 20 °C gearbox temperature)	T_{012}		Nm	0.34	0.29	0.29	0.25	0.23	0.21	0.21	0.2	0.2	0.19	0.17	0.17	0.16	0.15
			in.lb	3	2.6	2.6	2.2	2	1.9	1.9	1.8	1.8	1.7	1.5	1.5	1.4	1.3
Max. backlash	j_t		arcmin	≤ 10													
Torsional rigidity ^{b)}	C_{t21}		Nm/arcmin	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	2.8	3.3	2.8
			in.lb/arcmin	29	29	29	29	29	29	29	29	29	29	29	25	29	25
Max. axial force ^{c)}	F_{2AMax}		N	2400													
			lb _f	540													
Max. lateral force ^{c)}	F_{2QMMax}		N	2800													
			lb _f	630													
Max. tilting moment	M_{2KMMax}		Nm	152													
			in.lb	1345													
Efficiency at full load	η		%	95													
Service life	L_h		h	> 20000													
Weight (incl. standard adapter plate)	m		kg	2													
			lb _m	4.4													
Operating noise (at reference ratio and reference speed – ratio-specific values available in cymex®)	L_{PA}		dB(A)	≤ 58													
Max. permitted housing temperature			°C	+90													
			°F	+194													
Ambient temperature			°C	−15 to +40													
			°F	+5 to +104													
Lubrication			Lubricated for life														
Direction of rotation			In- and output same direction														
Protection class			IP 65														
Elastomer coupling (recommended product type – validate sizing with cymex®)			ELC-0060BA016.000-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]	Z	8	J_1	kgcm ²	0.04	0.04	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.02	0.02	0.02	0.02
				10 ⁻³ in.lb.s ²	0.04	0.04	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.02	0.02	0.02	0.02
	A	9	J_1	kgcm ²	0.04	0.04	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.02	0.02	0.02	0.02
				10 ⁻³ in.lb.s ²	0.04	0.04	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.02	0.02	0.02	0.02
	B	11	J_1	kgcm ²	0.06	0.06	0.05	0.05	0.05	0.05	0.05	0.04	0.05	0.04	0.04	0.04	0.04
				10 ⁻³ in.lb.s ²	0.05	0.05	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
	C	14	J_1	kgcm ²	0.14	0.14	0.14	0.13	0.13	0.13	0.14	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	0.12	0.12	0.12

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

^{a)} Valid for torque transmission only

^{b)} Valid for standard clamping hub diameter

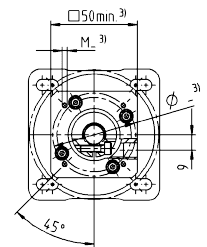
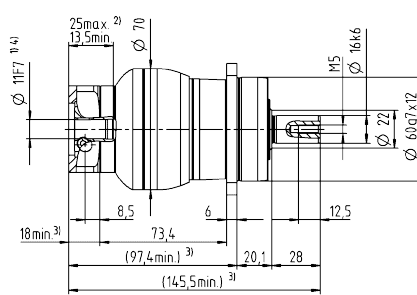
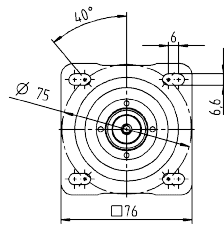
^{c)} Refers to center of the output shaft or flange

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

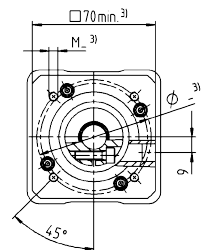
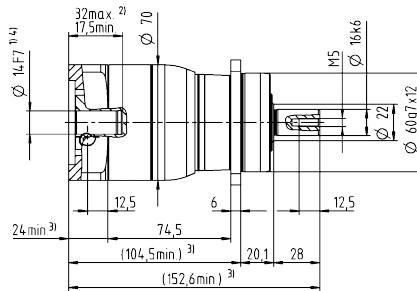
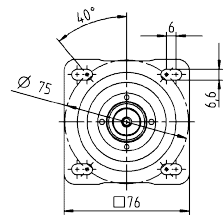
^{e)} Valid for: Smooth shaft

2-stage

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



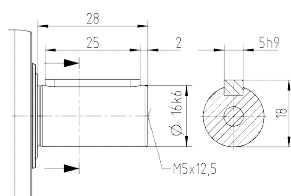
up to 14⁴⁾ (C)
clamping hub
diameter



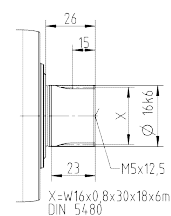
Motor shaft diameter [mm]

Other output variants

Shaft with key



Splined shaft (DIN 5480)



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

NPR 025 MF 1-stage

				1-stage						
Ratio	i			3	4	5	7	8	10	
Max. torque ^{a) b) e)}	T_{2a}		Nm	128	152	160	160	144	144	
			in.lb	1133	1345	1416	1416	1275	1275	
Max. acceleration torque ^{a)} (max. 1000 cycles per hour)	T_{2B}		Nm	80	95	100	100	90	90	
			in.lb	708	841	885	885	797	797	
Emergency stop torque ^{a) b) e)} (permitted 1000 times during the service life of the gearbox)	T_{2Not}		Nm	190	190	190	190	190	190	
			in.lb	1682	1682	1682	1682	1682	1682	
Permitted average input speed ^{d)} (at T_{2N} and 20 °C ambient temperature)	n_{1N}		rpm	2400	2600	2700	3000	3100	3300	
Max. input speed	n_{1Max}		rpm	7000	7000	7000	7000	7000	7000	
Mean no load running torque ^{b)} (at n_1 =3000 rpm and 20 °C gearbox temperature)	T_{012}		Nm	1.9	1.6	1.4	1.1	1.1	0.96	
			in.lb	17	14	12	9.7	9.7	8.5	
Max. backlash	j_t		arcmin	≤ 8						
Torsional rigidity ^{b)}	C_{t21}		Nm/arcmin	9.5	9.5	9.5	9.5	8.5	8.5	
			in.lb/arcmin	84	84	84	84	75	75	
Max. axial force ^{c)}	F_{2AMax}		N	3350						
			lb _f	754						
Max. lateral force ^{c)}	F_{2QMax}		N	4200						
			lb _f	945						
Max. tilting moment	M_{2KMax}		Nm	236						
			in.lb	2089						
Efficiency at full load	η		%	97						
Service life	L_n		h	> 20000						
Weight (incl. standard adapter plate)	m		kg	3.7						
			lb _m	8.2						
Operating noise (at reference ratio and reference speed – ratio-specific values available in cymex®)	L_{PA}		dB(A)	≤ 61						
Max. permitted housing temperature			°C	+90						
			°F	+194						
Ambient temperature			°C	–15 to +40						
			°F	+5 to +104						
Lubrication				Lubricated for life						
Direction of rotation				In- and output same direction						
Protection class				IP 65						
Elastomer coupling (recommended product type – validate sizing with cymex®)				ELC-0060BA022.000-X						
Bore diameter of coupling on the application side				X = 012.000 - 032.000						
Mass moment of inertia (relates to the drive) Clamping hub diameter [mm]	C	14	J_1	kgcm ²	0.58	0.47	0.38	0.3	0.28	0.26
				10 ⁻³ in.lb.s ²	0.51	0.42	0.34	0.27	0.25	0.23
	D	16	J_1	kgcm ²	0.73	0.62	0.53	0.43	0.42	0.4
				10 ⁻³ in.lb.s ²	0.65	0.55	0.47	0.38	0.37	0.35
	E	19	J_1	kgcm ²	0.81	0.71	0.61	0.53	0.51	0.49
				10 ⁻³ in.lb.s ²	0.72	0.63	0.54	0.47	0.45	0.43
	G	24	J_1	kgcm ²	1.8	1.7	1.6	1.6	1.5	1.5
				10 ⁻³ in.lb.s ²	1.6	1.5	1.4	1.4	1.3	1.3
	H	28	J_1	kgcm ²	1.6	1.4	1.4	1.3	1.3	1.2
				10 ⁻³ in.lb.s ²	1.4	1.2	1.2	1.2	1.2	1.1

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

^{a)} Valid for torque transmission only

^{b)} Valid for standard clamping hub diameter

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

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

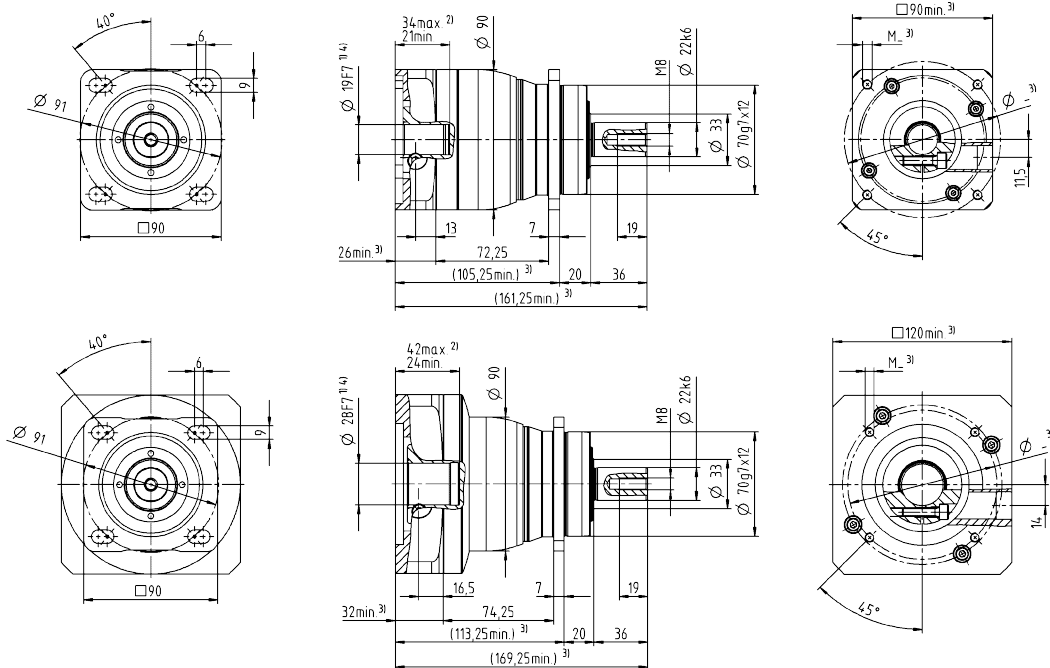
^{e)} Valid for: Smooth shaft

1-stage

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

Motor shaft diameter [mm]

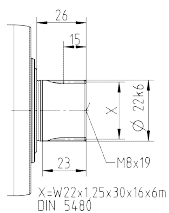
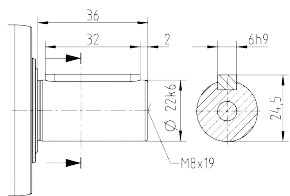
up to 28 ⁴⁾ (H)
clamping hub
diameter

Planetary Gearboxes
Value Line

Other output variants

Shaft with key

Splined shaft (DIN 5480)



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

⁵⁾ Standard clamping hub diameter

NPR 025 MF 2-stage

			2-stage														
Ratio	i		9	12	15	16	20	25	28	30	32	35	40	50	64	70	100
Max. torque ^{a) b) e)}	T_{2c}	Nm	128	128	128	152	152	160	152	128	144	160	152	160	144	160	144
		in.lb	1133	1133	1133	1345	1345	1416	1345	1133	1275	1416	1345	1416	1275	1416	1275
Max. acceleration torque ^{a)} (max. 1000 cycles per hour)	T_{2B}	Nm	80	80	80	95	95	100	95	80	90	100	95	100	90	100	90
		in.lb	708	708	708	841	841	885	841	708	797	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	190	190	190	190	190	190	190	190	190	190	190	190	190	190	190
		in.lb	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682
Permitted average input speed ^{d)} (at T_{2N} and 20 °C ambient temperature)	n_{1N}	rpm	2800	3500	3700	3500	3700	3700	4000	4300	4100	4000	4300	4300	4100	4300	4300
Max. input speed	n_{1Max}	rpm	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000
Mean no load running torque ^{b)} (at $n_1=3000$ rpm and 20 °C gearbox temperature)	T_{012}	Nm	0.67	0.55	0.47	0.46	0.4	0.36	0.34	0.33	0.32	0.31	0.29	0.27	0.25	0.25	0.23
		in.lb	5.9	4.9	4.2	4.1	3.5	3.2	3	2.9	2.8	2.7	2.6	2.4	2.2	2.2	2
Max. backlash	j_t	arcmin	≤ 10														
Torsional rigidity ^{b)}	C_{t21}	Nm/arcmin	10	10	10	10	10	9.5	10	10	10	9.5	10	9.5	8.5	9.5	8.5
		in.lb/arcmin	89	89	89	89	89	84	89	89	89	84	89	84	75	84	75
Max. axial force ^{c)}	F_{2AMax}	N	3350														
		lb _f	754														
Max. lateral force ^{c)}	F_{2QMMax}	N	4200														
		lb _f	945														
Max. tilting moment	M_{2KMMax}	Nm	236														
		in.lb	2089														
Efficiency at full load	η	%	95														
Service life	L_n	h	> 20000														
Weight (incl. standard adapter plate)	m	kg	4														
		lb _m	8.8														
Operating noise (at reference ratio and reference speed – ratio-specific values available in cymex®)	L_{PA}	dB(A)	≤ 59														
Max. permitted housing temperature		°C	+90														
		°F	+194														
Ambient temperature		°C	-15 to +40														
		°F	+5 to +104														
Lubrication			Lubricated for life														
Direction of rotation			In- and output same direction														
Protection class			IP 65														
Elastomer coupling (recommended product type – validate sizing with cymex®)			ELC-0060BA022.000-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]	A	9	J_t	kgcm ²	0.26	0.22	0.21	0.21	0.2	0.2	0.19	0.19	0.19	0.19	0.19	0.19	0.19
				10 ⁻³ in.lb.s ²	0.23	0.19	0.19	0.19	0.18	0.18	0.17	0.17	0.17	0.17	0.17	0.17	0.17
	B	11	J_t	kgcm ²	0.28	0.24	0.23	0.23	0.22	0.22	0.21	0.21	0.21	0.21	0.21	0.21	0.21
				10 ⁻³ in.lb.s ²	0.25	0.21	0.2	0.2	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19
	C	14	J_t	kgcm ²	0.35	0.31	0.3	0.3	0.3	0.29	0.29	0.28	0.28	0.28	0.28	0.28	0.28
				10 ⁻³ in.lb.s ²	0.31	0.27	0.27	0.27	0.27	0.26	0.26	0.25	0.25	0.25	0.25	0.25	0.25
	D	16	J_t	kgcm ²	0.48	0.44	0.43	0.43	0.42	0.42	0.41	0.41	0.41	0.41	0.41	0.41	0.41
				10 ⁻³ in.lb.s ²	0.42	0.39	0.38	0.38	0.37	0.37	0.36	0.36	0.36	0.36	0.36	0.36	0.36
	E	19	J_t	kgcm ²	0.56	0.52	0.51	0.52	0.51	0.5	0.5	0.5	0.5	0.49	0.49	0.49	0.49
				10 ⁻³ in.lb.s ²	0.5	0.46	0.45	0.46	0.45	0.44	0.44	0.44	0.44	0.43	0.43	0.43	0.43

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

^{a)} Valid for torque transmission only

^{b)} Valid for standard clamping hub diameter

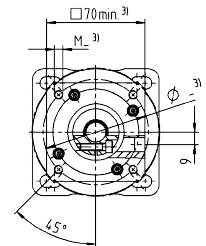
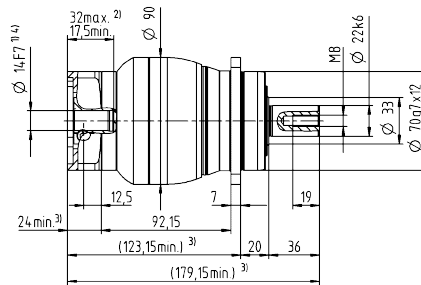
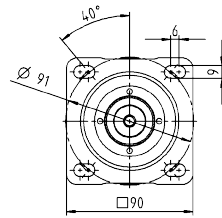
^{c)} Refers to center of the output shaft or flange

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

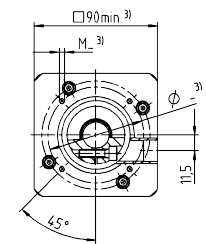
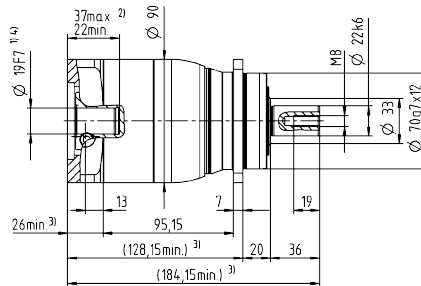
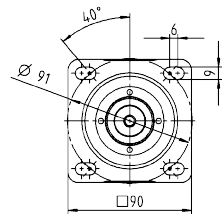
^{e)} Valid for: Smooth shaft

2-stage

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



up to 19⁴⁾ (E)
clamping hub
diameter

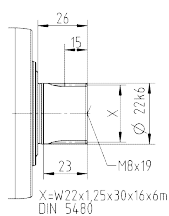
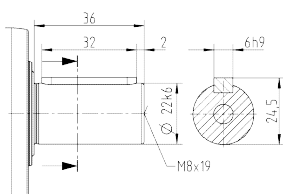


Motor shaft diameter [mm]

Other output variants

Shaft with key

Splined shaft (DIN 5480)



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

NPR 035 MF 1-stage

				1-stage						
Ratio	i			3	4	5	7	8	10	
Max. torque ^{a) b) e)}	T_{2a}		Nm	320	408	400	400	352	352	
			in.lb	2832	3611	3540	3540	3115	3115	
Max. acceleration torque ^{a)} (max. 1000 cycles per hour)	T_{2B}		Nm	200	255	250	250	220	220	
			in.lb	1770	2257	2213	2213	1947	1947	
Emergency stop torque ^{a) b) e)} (permitted 1000 times during the service life of the gearbox)	T_{2Not}		Nm	500	500	500	500	500	500	
			in.lb	4425	4425	4425	4425	4425	4425	
Permitted average input speed ^{d)} (at T_{2N} and 20 °C ambient temperature)	n_{1N}		rpm	1800	2000	2000	2300	2400	2500	
Max. input speed	n_{1Max}		rpm	6000	6000	6000	6000	6000	6000	
Mean no load running torque ^{b)} (at n_1 =3000 rpm and 20 °C gearbox temperature)	T_{012}		Nm	3.5	2.8	2.4	1.9	1.8	1.6	
			in.lb	31	25	21	17	16	14	
Max. backlash	j_t		arcmin	≤ 8						
Torsional rigidity ^{b)}	C_{t21}		Nm/arcmin	25	25	25	25	22	22	
			in.lb/arcmin	221	221	221	221	195	195	
Max. axial force ^{c)}	F_{2AMax}		N	5650						
			lb _f	1271						
Max. lateral force ^{c)}	F_{2QMax}		N	6600						
			lb _f	1485						
Max. tilting moment	M_{2KMax}		Nm	487						
			in.lb	4310						
Efficiency at full load	η		%	97						
Service life	L_n		h	> 20000						
Weight (incl. standard adapter plate)	m		kg	8.6						
			lb _m	19						
Operating noise (at reference ratio and reference speed – ratio-specific values available in cymex®)	L_{PA}		dB(A)	≤ 65						
Max. permitted housing temperature			°C	+90						
			°F	+194						
Ambient temperature			°C	–15 to +40						
			°F	+5 to +104						
Lubrication				Lubricated for life						
Direction of rotation				In- and output same direction						
Protection class				IP 65						
Elastomer coupling (recommended product type – validate sizing with cymex®)				ELC-0150BA032.000-X						
Bore diameter of coupling on the application side				X = 019.000 - 036.000						
Mass moment of inertia (relates to the drive) Clamping hub diameter [mm]	E	19	J_1	kgcm ²	2.5	1.7	1.3	1	0.94	0.87
				10 ⁻³ in.lb.s ²	2.2	1.5	1.2	0.89	0.83	0.77
	G	24	J_1	kgcm ²	3.3	2.4	2.1	1.8	1.7	1.6
				10 ⁻³ in.lb.s ²	2.9	2.1	1.9	1.6	1.5	1.4
	H	28	J_1	kgcm ²	3	2.2	1.8	1.5	1.4	1.4
				10 ⁻³ in.lb.s ²	2.7	1.9	1.6	1.3	1.2	1.2
	I	32	J_1	kgcm ²	7.1	6.2	5.9	5.6	5.5	5.4
				10 ⁻³ in.lb.s ²	6.3	5.5	5.2	5	4.9	4.8
K	38	J_1	kgcm ²	8.3	7.4	7.1	6.7	6.6	6.6	
			10 ⁻³ in.lb.s ²	7.3	6.5	6.3	5.9	5.8	5.8	

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

^{a)} Valid for torque transmission only

^{b)} Valid for standard clamping hub diameter

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

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

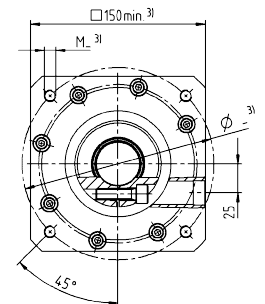
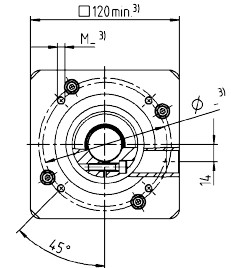
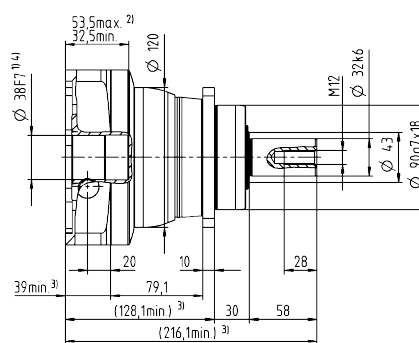
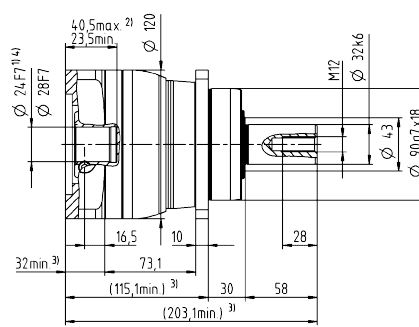
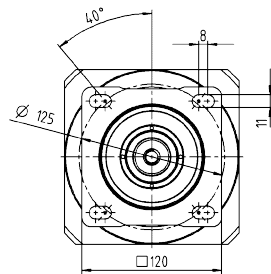
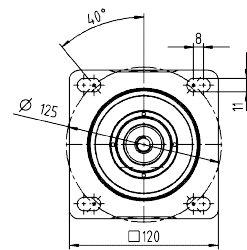
^{e)} Valid for: Smooth shaft

1-stage

up to 24/28 ⁴⁾
(G ⁵⁾/H)
clamping hub
diameter

Motor shaft diameter [mm]

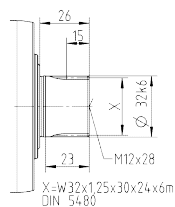
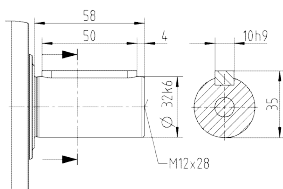
up to 38 ⁴⁾ (K)
clamping hub
diameter

Planetary Gearboxes
Value Line

Other output variants

Shaft with key

Splined shaft (DIN 5480)



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

⁵⁾ Standard clamping hub diameter

NPR 035 MF 2-stage

				2-stage															
Ratio	i			9	12	15	16	20	25	28	30	32	35	40	50	64	70	100	
Max. torque ^{a) b) e)}	T_{2c}		<i>Nm</i>	320	320	320	408	408	400	408	320	408	400	408	400	352	400	352	
			<i>in.lb</i>	2832	2832	2832	3611	3611	3540	3611	2832	3611	3540	3611	3540	3115	3540	3115	
Max. acceleration torque ^{e)} (max. 1000 cycles per hour)	T_{2B}		<i>Nm</i>	200	200	200	255	255	250	255	200	255	250	255	250	220	250	220	
			<i>in.lb</i>	1770	1770	1770	2257	2257	2213	2257	1770	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}		<i>Nm</i>	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	
			<i>in.lb</i>	4425	4425	4425	4425	4425	4425	4425	4425	4425	4425	4425	4425	4425	4425	4425	
Permitted average input speed ^{d)} (at T_{2N} and 20 °C ambient temperature)	n_{1N}		<i>rpm</i>	2600	3300	3400	3300	3400	3400	3600	3900	3700	3600	3900	3900	3700	3900	3900	
Max. input speed	n_{1Max}		<i>rpm</i>	7000	7000	7000	7000	7000	7000	7000	7000	7000	7000	7000	7000	7000	7000	7000	
Mean no load running torque ^{b)} (at n_1 =3000 rpm and 20 °C gearbox temperature)	T_{012}		<i>Nm</i>	1.7	1.4	1.2	1.2	1.1	1	0.93	0.88	0.88	0.87	0.81	0.77	0.75	0.72	0.68	
			<i>in.lb</i>	15	12	11	11	9.7	8.9	8.2	7.8	7.8	7.7	7.2	6.8	6.6	6.4	6	
Max. backlash	j_t		<i>arcmin</i>	≤ 10															
Torsional rigidity ^{b)}	C_{t21}		<i>Nm/arcmin</i>	25	25	25	25	25	25	25	25	25	25	25	25	22	25	22	
			<i>in.lb/arcmin</i>	221	221	221	221	221	221	221	221	221	221	221	221	221	195	221	195
Max. axial force ^{c)}	F_{2AMax}		<i>N</i>	5650															
			<i>lb_f</i>	1271															
Max. lateral force ^{c)}	F_{2QMMax}		<i>N</i>	6600															
			<i>lb_f</i>	1485															
Max. tilting moment	M_{2KMMax}		<i>Nm</i>	487															
			<i>in.lb</i>	4310															
Efficiency at full load	η		%	95															
Service life	L_h		<i>h</i>	> 20000															
Weight (incl. standard adapter plate)	m		<i>kg</i>	9															
			<i>lb_m</i>	20															
Operating noise (at reference ratio and reference speed – ratio-specific values available in cymex®)	L_{PA}		<i>dB(A)</i>	≤ 61															
Max. permitted housing temperature			°C	+90															
			°F	+194															
Ambient temperature			°C	−15 to +40															
			°F	+5 to +104															
Lubrication				Lubricated for life															
Direction of rotation				In- and output same direction															
Protection class				IP 65															
Elastomer coupling (recommended product type – validate sizing with cymex®)				ELC-0150BA032.000-X															
Bore diameter of coupling on the application side			<i>mm</i>	X = 019.000 - 036.000															
Mass moment of inertia (relates to the drive) Clamping hub diameter [mm]	C	14	J_1	<i>kgcm²</i>	0.6	0.59	0.6	0.43	0.42	0.36	0.37	0.52	0.38	0.32	0.36	0.31	0.26	0.27	0.24
				<i>10⁻³ in.lb.s²</i>	0.53	0.52	0.53	0.38	0.37	0.32	0.33	0.46	0.34	0.28	0.32	0.27	0.23	0.24	0.21
	D	16	J_1	<i>kgcm²</i>	0.75	0.74	0.74	0.58	0.57	0.5	0.5	0.67	0.52	0.45	0.51	0.46	0.4	0.41	0.39
				<i>10⁻³ in.lb.s²</i>	0.66	0.65	0.65	0.51	0.5	0.44	0.44	0.59	0.46	0.4	0.45	0.41	0.35	0.36	0.35
	E	19	J_1	<i>kgcm²</i>	0.84	0.83	0.83	0.66	0.65	0.59	0.6	0.75	0.61	0.55	0.6	0.54	0.49	0.5	0.48
				<i>10⁻³ in.lb.s²</i>	0.74	0.73	0.73	0.58	0.58	0.52	0.53	0.66	0.54	0.49	0.53	0.48	0.43	0.44	0.42
	G	24	J_1	<i>kgcm²</i>	1.9	1.9	1.9	1.7	1.7	1.6	1.6	1.8	1.6	1.6	1.6	1.6	1.5	1.5	1.5
				<i>10⁻³ in.lb.s²</i>	1.7	1.6	1.7	1.5	1.5	1.4	1.5	1.6	1.5	1.4	1.4	1.4	1.3	1.4	1.3
	H	28	J_1	<i>kgcm²</i>	1.6	1.6	1.6	1.4	1.4	1.3	1.3	1.5	1.4	1.3	1.3	1.3	1.2	1.2	1.2
				<i>10⁻³ in.lb.s²</i>	1.4	1.4	1.4	1.2	1.2	1.2	1.2	1.3	1.2	1.1	1.2	1.1	1.1	1.1	1.1

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

^{a)} Valid for torque transmission only

^{b)} Valid for standard clamping hub diameter

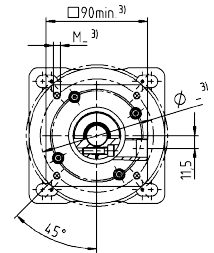
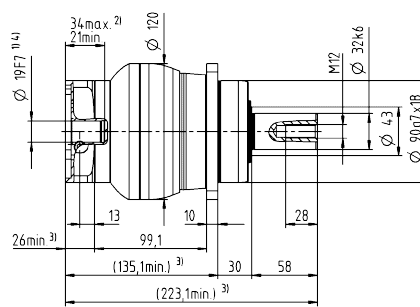
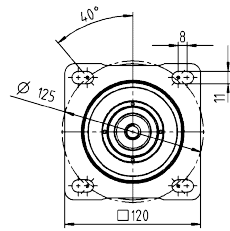
^{c)} Refers to center of the output shaft or flange

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

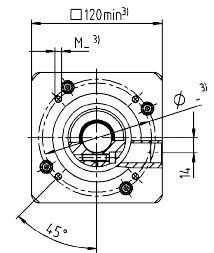
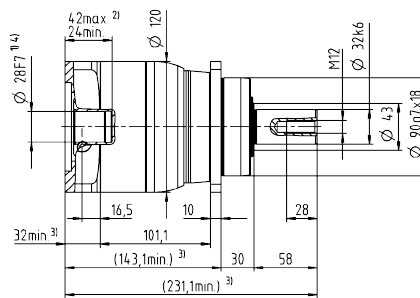
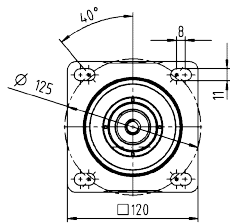
^{e)} Valid for: Smooth shaft

2-stage

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



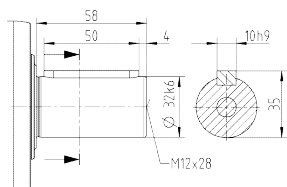
up to 28⁴⁾ (H)
clamping hub
diameter



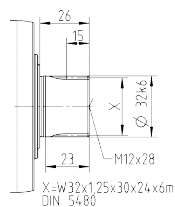
Motor shaft diameter [mm]

Other output variants

Shaft with key



Splined shaft (DIN 5480)



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

NPR 045 MF 1-/2-stage

				1-stage			2-stage					
Ratio	i			5	8	10	25	32	50	64	100	
Max. torque ^{a) b) e)}	T_{2a}		Nm	800	640	640	700	640	700	640	640	
			in.lb	7081	5665	5665	6196	5665	6196	5665	5665	
Max. acceleration torque ^{a)} (max. 1000 cycles per hour)	T_{2B}		Nm	500	400	400	500	400	500	400	400	
			in.lb	4425	3540	3540	4425	3540	4425	3540	3540	
Emergency stop torque ^{a) b) e)} (permitted 1000 times during the service life of the gearbox)	T_{2Not}		Nm	1000	1000	1000	1000	1000	1000	1000	1000	
			in.lb	8851	8851	8851	8851	8851	8851	8851	8851	
Permitted average input speed ^{d)} (at T_{2N} and 20 °C ambient temperature)	n_{1N}		rpm	1600	1800	1900	2600	2500	3000	2900	3000	
Max. input speed	n_{1Max}		rpm	4000	4000	4000	6000	6000	6000	6000	6000	
Mean no load running torque ^{b)} (at n_1 =3000 rpm and 20 °C gearbox temperature)	T_{012}		Nm	4.6	3.1	2.6	1.6	1.5	1.2	1.1	0.97	
			in.lb	41	27	23	14	13	11	9.7	8.6	
Max. backlash	j_t		arcmin	≤ 8			≤ 10					
Torsional rigidity ^{b)}	C_{t21}		Nm/arcmin	55	44	44	55	44	55	44	44	
			in.lb/arcmin	487	389	389	487	389	487	389	389	
Max. axial force ^{c)}	F_{2AMax}		N	9870			9870					
			lb _f	2221			2221					
Max. lateral force ^{c)}	F_{2QMax}		N	9900			9900					
			lb _f	2228			2228					
Max. tilting moment	M_{2KMax}		Nm	952			952					
			in.lb	8426			8426					
Efficiency at full load	η		%	97			95					
Service life	L_n		h	> 20000			> 20000					
Weight (incl. standard adapter plate)	m		kg	19			20					
			lb _m	42			44					
Operating noise (at reference ratio and reference speed – ratio-specific values available in cymex®)	L_{PA}		dB(A)	≤ 68			≤ 65					
Max. permitted housing temperature			°C	+90			+90					
			°F	+194			+194					
Ambient temperature			°C	−15 to +40			−15 to +40					
			°F	+5 to +104			+5 to +104					
Lubrication				Lubricated for life								
Direction of rotation				In- and output same direction								
Protection class				IP 65								
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]	E	19	J_1	kgcm ²	–	–	–	1.2	1.1	1	0.88	0.82
				10 ⁻³ in.lb.s ²	–	–	–	1.1	0.97	0.89	0.78	0.73
	G	24	J_1	kgcm ²	–	–	–	2	1.9	1.8	1.7	1.6
				10 ⁻³ in.lb.s ²	–	–	–	1.8	1.7	1.6	1.5	1.4
	H	28	J_1	kgcm ²	–	–	–	1.7	1.6	1.5	1.4	1.3
				10 ⁻³ in.lb.s ²	–	–	–	1.5	1.4	1.3	1.2	1.2
	I	32	J_1	kgcm ²	–	–	–	5.8	5.7	5.6	5.4	5.4
				10 ⁻³ in.lb.s ²	–	–	–	5.1	5	5	4.8	4.8
K	38	J_1	kgcm ²	8.7	7.3	7.2	7	6.9	6.8	6.6	6.5	
			10 ⁻³ in.lb.s ²	7.7	6.5	6.4	6.2	6.1	6	5.8	5.8	

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

^{a)} Valid for torque transmission only

^{b)} Valid for standard clamping hub diameter

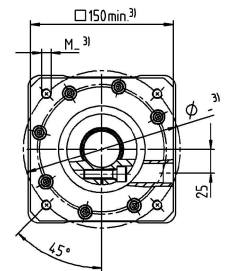
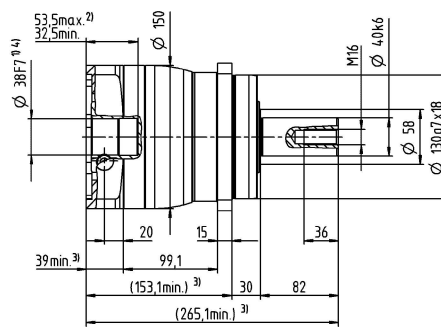
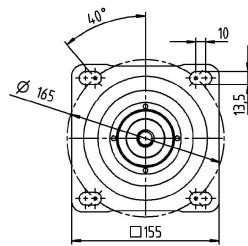
^{c)} Refers to center of the output shaft or flange

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

^{e)} Valid for: Smooth shaft

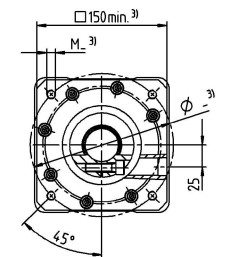
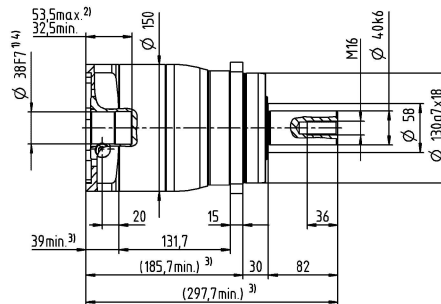
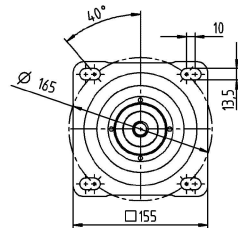
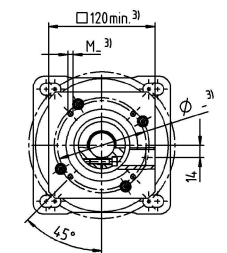
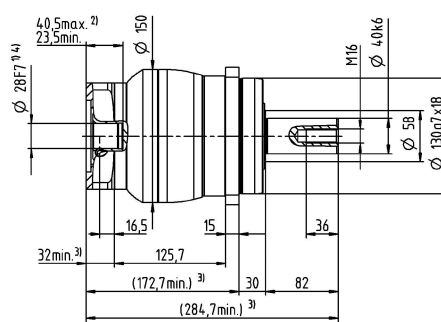
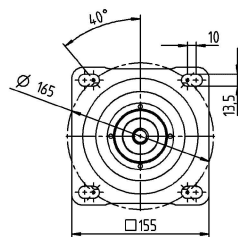
1-stage

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



2-stage

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



Motor shaft diameter [mm]

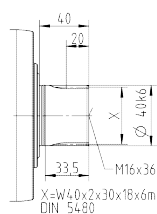
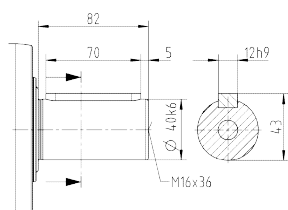
up to 38⁴⁾ (K)
clamping hub
diameter

Planetary Gearboxes
Value Line

Other output variants

Shaft with key

Splined shaft (DIN 5480)



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

NPR 015 MA 1- / 2-stage

				1-stage		2-stage							
Ratio	i			3	4	12	15	16	20	28	30	40	
Max. torque ^{a) b) e)}	T_{2a}	Nm		80	67	62	67	67	67	67	62	67	
		$in.lb$		708	593	549	593	593	593	593	549	593	
Max. acceleration torque ^{a)} (max. 1000 cycles per hour)	T_{2B}	Nm		55	42	39	42	42	42	42	39	42	
		$in.lb$		487	372	345	372	372	372	372	345	372	
Emergency stop torque ^{a) b) e)} (permitted 1000 times during the service life of the gearbox)	T_{2Not}	Nm		80	80	80	80	80	80	80	80	80	
		$in.lb$		708	708	708	708	708	708	708	708	708	
Permitted average input speed ^{d)} (at T_{2N} and 20 °C ambient temperature)	n_{1N}	rpm		2600	2800	3800	4000	3800	4000	4300	4600	4600	
Max. input speed	n_{1Max}	rpm		8000	8000	10000	10000	10000	10000	10000	10000	10000	
Mean no load running torque ^{b)} (at n_1 =3000 rpm and 20 °C gearbox temperature)	T_{012}	Nm		0.98	0.78	0.34	0.29	0.29	0.25	0.21	0.21	0.19	
		$in.lb$		8.7	6.9	3	2.6	2.6	2.2	1.9	1.9	1.7	
Max. backlash	j_t	$arcmin$		≤ 8		≤ 10							
Torsional rigidity ^{b)}	C_{t21}	$Nm/arcmin$		4	4	4	4	4	4	4	4	4	
		$in.lb/arcmin$		35	35	35	35	35	35	35	35	35	
Max. axial force ^{c)}	F_{2AMax}	N		2400		2400							
		lb_f		540		540							
Max. lateral force ^{c)}	F_{2QMMax}	N		2800		2800							
		lb_f		630		630							
Max. tilting moment	M_{2KMMax}	Nm		152		152							
		$in.lb$		1345		1345							
Efficiency at full load	η	%		97		95							
Service life	L_h	h		> 20000		> 20000							
Weight (incl. standard adapter plate)	m	kg		1.9		2							
		lb_m		4.2		4.4							
Operating noise (at reference ratio and reference speed – ratio-specific values available in cymex®)	L_{PA}	$dB(A)$		≤ 59		≤ 58							
Max. permitted housing temperature		°C		+90		+90							
		°F		+194		+194							
Ambient temperature		°C		−15 to +40		−15 to +40							
		°F		+5 to +104		+5 to +104							
Lubrication				Lubricated for life									
Direction of rotation				In- and output same direction									
Protection class				IP 65									
Elastomer coupling (recommended product type – validate sizing with cymex®)				ELC-0060BA016.000-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]	Z	8	J_1	$kgcm^2$	–	–	0.04	0.04	0.03	0.03	0.03	0.03	0.03
				$10^{-3} in.lb.s^2$	–	–	0.04	0.04	0.03	0.03	0.03	0.03	0.03
	A	9	J_1	$kgcm^2$	0.25	0.19	0.04	0.04	0.03	0.03	0.03	0.03	0.03
				$10^{-3} in.lb.s^2$	0.22	0.17	0.04	0.04	0.03	0.03	0.03	0.03	0.03
	B	11	J_1	$kgcm^2$	0.26	0.21	0.06	0.06	0.05	0.05	0.05	0.05	0.05
				$10^{-3} in.lb.s^2$	0.23	0.19	0.05	0.05	0.04	0.04	0.04	0.04	0.04
	C	14	J_1	$kgcm^2$	0.34	0.28	0.14	0.14	0.14	0.13	0.13	0.14	0.13
				$10^{-3} in.lb.s^2$	0.3	0.25	0.12	0.12	0.12	0.12	0.12	0.12	0.12
	D	16	J_1	$kgcm^2$	0.47	0.41	–	–	–	–	–	–	–
				$10^{-3} in.lb.s^2$	0.42	0.36	–	–	–	–	–	–	–
	E	19	J_1	$kgcm^2$	0.55	0.49	–	–	–	–	–	–	–
				$10^{-3} in.lb.s^2$	0.49	0.43	–	–	–	–	–	–	–

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

^{a)} Valid for torque transmission only

^{b)} Valid for standard clamping hub diameter

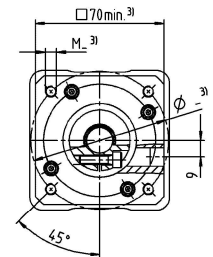
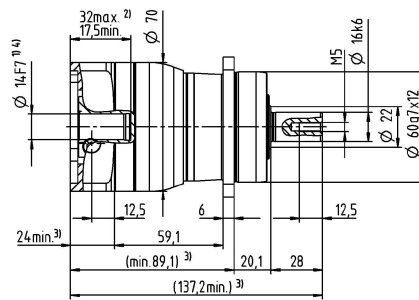
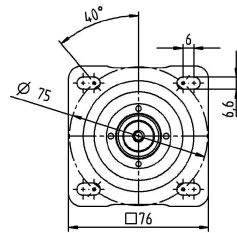
^{c)} Refers to center of the output shaft or flange

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

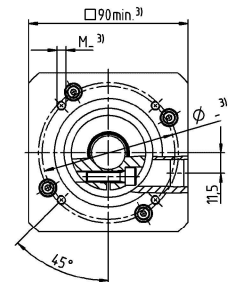
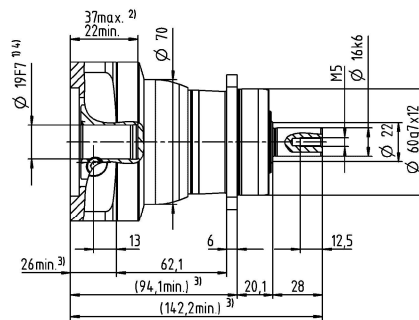
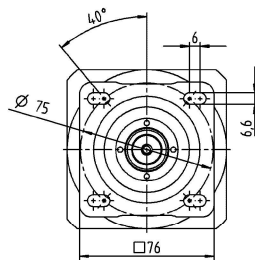
^{e)} Valid for: Smooth shaft

1-stage

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

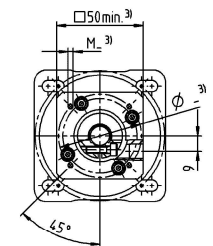
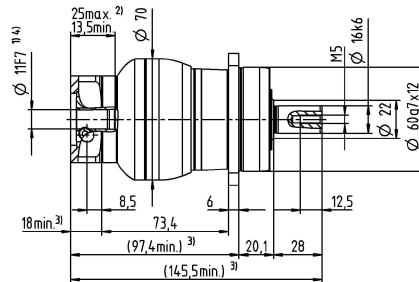
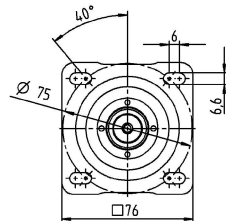


up to 19⁴⁾ (E)
clamping hub
diameter

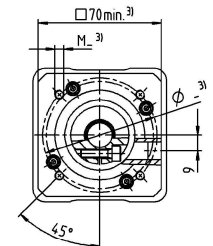
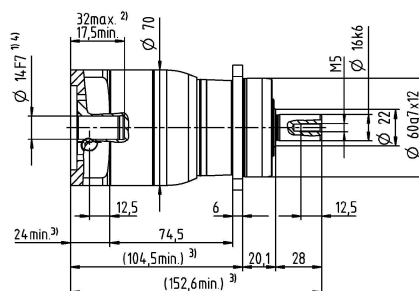
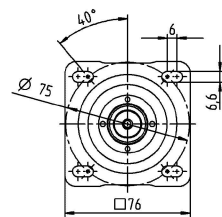


2-stage

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



up to 14⁴⁾ (C)
clamping hub
diameter

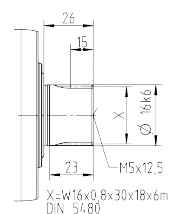
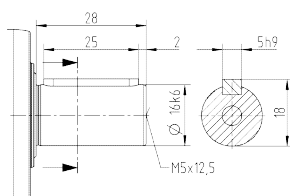


Motor shaft diameter [mm]

Other output variants

Shaft with key

Splined shaft (DIN 5480)



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

NPR 025 MA 1- / 2-stage

				1-stage		2-stage								
Ratio	i		3	4	9	12	15	16	20	28	30	40		
Max. torque ^{a) b) e)}	T_{2c}	Nm	185	185	185	185	185	185	185	185	168	185		
		$in.lb$	1637	1637	1637	1637	1637	1637	1637	1637	1637	1487	1637	
Max. acceleration torque ^{a)} (max. 1000 cycles per hour)	T_{2B}	Nm	125	115	125	125	120	115	115	115	105	115		
		$in.lb$	1106	1018	1106	1106	1062	1018	1018	1018	1018	929	1018	
Emergency stop torque ^{a) b) e)} (permitted 1000 times during the service life of the gearbox)	T_{2Not}	Nm	190	190	190	190	190	190	190	190	190	190		
		$in.lb$	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	1682	
Permitted average input speed ^{d)} (at T_{2N} and 20 °C ambient temperature)	n_{1N}	rpm	2400	2600	2800	3500	3700	3500	3700	4000	4300	4300		
Max. input speed	n_{1Max}	rpm	7000	7000	8000	8000	8000	8000	8000	8000	8000	8000		
Mean no load running torque ^{b)} (at n_1 =3000 rpm and 20 °C gearbox temperature)	T_{012}	Nm	1.8	1.5	0.67	0.55	0.47	0.46	0.4	0.34	0.33	0.29		
		$in.lb$	16	13	5.9	4.9	4.2	4.1	3.5	3	2.9	2.6		
Max. backlash	j_t	$arcmin$	≤ 8		≤ 10									
Torsional rigidity ^{b)}	C_{t21}	$Nm/arcmin$	12	12	12	12	12	12	12	12	12	12		
		$in.lb/arcmin$	106	106	106	106	106	106	106	106	106	106	106	
Max. axial force ^{c)}	F_{2AMax}	N	3350		3350									
		lb_f	754		754									
Max. lateral force ^{c)}	F_{2QMMax}	N	4200		4200									
		lb_f	945		945									
Max. tilting moment	M_{2KMax}	Nm	236		236									
		$in.lb$	2089		2089									
Efficiency at full load	η	%	97		95									
Service life	L_h	h	> 20000		> 20000									
Weight (incl. standard adapter plate)	m	kg	3.7		4									
		lb_m	8.2		8.8									
Operating noise (at reference ratio and reference speed – ratio-specific values available in cymex®)	L_{PA}	$dB(A)$	≤ 61		≤ 59									
Max. permitted housing temperature		°C	+90		+90									
		°F	+194		+194									
Ambient temperature		°C	–15 to +40		–15 to +40									
		°F	+5 to +104		+5 to +104									
Lubrication			Lubricated for life											
Direction of rotation			In- and output same direction											
Protection class			IP 65											
Elastomer coupling (recommended product type – validate sizing with cymex®)			ELC-0060BA022.000-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]	A	9	J_1	$kgcm^2$	–	–	0.26	0.22	0.21	0.21	0.2	0.19	0.19	0.19
				$10^{-3} in.lb.s^2$	–	–	0.23	0.19	0.19	0.19	0.18	0.17	0.17	0.17
	B	11	J_1	$kgcm^2$	–	–	0.28	0.24	0.23	0.23	0.22	0.21	0.21	0.21
				$10^{-3} in.lb.s^2$	–	–	0.25	0.21	0.2	0.2	0.19	0.19	0.19	0.19
	C	14	J_1	$kgcm^2$	0.58	0.47	0.35	0.31	0.3	0.3	0.3	0.29	0.28	0.28
				$10^{-3} in.lb.s^2$	0.51	0.42	0.31	0.27	0.27	0.27	0.27	0.26	0.25	0.25
	D	16	J_1	$kgcm^2$	0.73	0.62	0.48	0.44	0.43	0.43	0.42	0.41	0.41	0.41
				$10^{-3} in.lb.s^2$	0.65	0.55	0.42	0.39	0.38	0.38	0.37	0.36	0.36	0.36
	E	19	J_1	$kgcm^2$	0.81	0.71	0.56	0.52	0.51	0.52	0.51	0.5	0.5	0.49
				$10^{-3} in.lb.s^2$	0.72	0.63	0.5	0.46	0.45	0.46	0.45	0.44	0.44	0.43
	G	24	J_1	$kgcm^2$	1.8	1.7	–	–	–	–	–	–	–	–
				$10^{-3} in.lb.s^2$	1.6	1.5	–	–	–	–	–	–	–	–
	H	28	J_1	$kgcm^2$	1.6	1.4	–	–	–	–	–	–	–	–
				$10^{-3} in.lb.s^2$	1.4	1.2	–	–	–	–	–	–	–	–

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

^{a)} Valid for torque transmission only

^{b)} Valid for standard clamping hub diameter

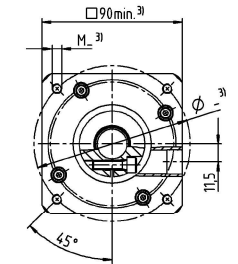
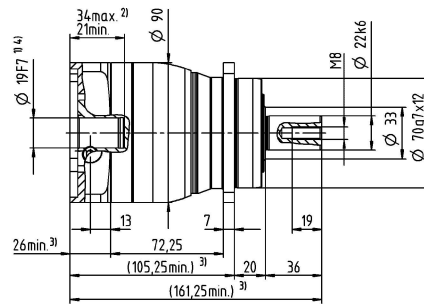
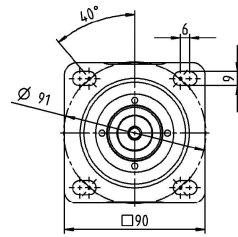
^{c)} Refers to center of the output shaft or flange

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

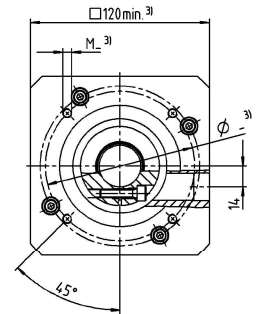
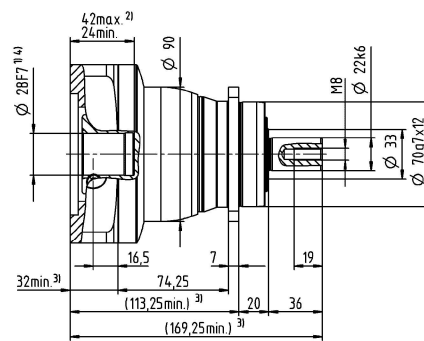
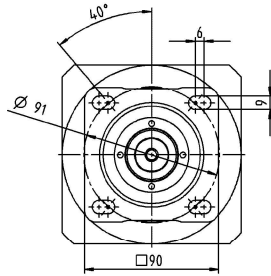
^{e)} Valid for: Smooth shaft

1-stage

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

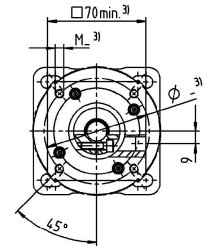
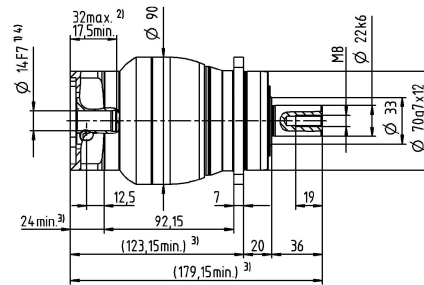
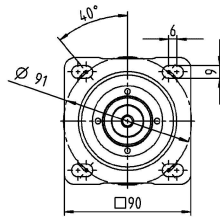


up to 28⁴⁾ (H)
clamping hub
diameter

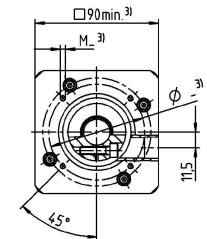
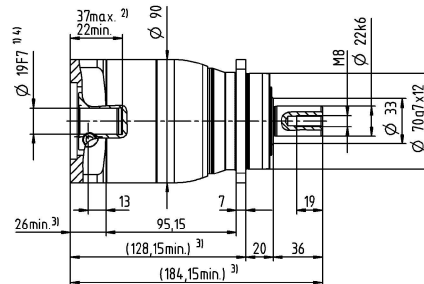
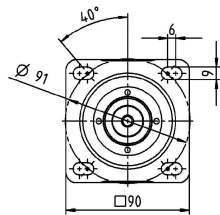


2-stage

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



up to 19⁴⁾ (E)
clamping hub
diameter

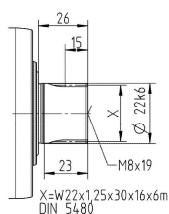
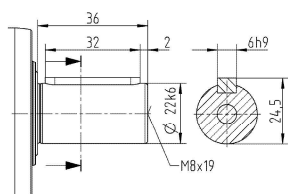


Motor shaft diameter [mm]

Other output variants

Shaft with key

Splined shaft (DIN 5480)



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

NPR 035 MA 1- / 2-stage

				1-stage		2-stage								
Ratio	i		3	4	9	12	15	16	20	28	30	40		
Max. torque ^{a) b) e)}	T_{2c}	Nm	480	480	480	480	480	480	480	480	432	480		
		$in.lb$	4248	4248	4248	4248	4248	4248	4248	4248	3824	4248		
Max. acceleration torque ^{a)} (max. 1000 cycles per hour)	T_{2B}	Nm	305	305	305	305	300	305	305	305	270	305		
		$in.lb$	2699	2699	2699	2699	2655	2699	2699	2699	2390	2699		
Emergency stop torque ^{a) b) e)} (permitted 1000 times during the service life of the gearbox)	T_{2Not}	Nm	500	500	500	500	500	500	500	500	500	500		
		$in.lb$	4425	4425	4425	4425	4425	4425	4425	4425	4425	4425		
Permitted average input speed ^{d)} (at T_{2N} and 20 °C ambient temperature)	n_{1N}	rpm	1800	2000	2600	3300	3400	3300	3400	3600	3900	3900		
Max. input speed	n_{1Max}	rpm	6000	6000	7000	7000	7000	7000	7000	7000	7000	7000		
Mean no load running torque ^{b)} (at n_1 =3000 rpm and 20 °C gearbox temperature)	T_{012}	Nm	3.5	2.8	1.7	1.4	1.2	1.2	1.1	0.93	0.88	0.81		
		$in.lb$	31	25	15	12	11	11	9.7	8.2	7.8	7.2		
Max. backlash	j_t	$arcmin$	≤ 8		≤ 10									
Torsional rigidity ^{b)}	C_{t21}	$Nm/arcmin$	30	30	30	30	30	30	30	30	30	30		
		$in.lb/arcmin$	266	266	266	266	266	266	266	266	266	266		
Max. axial force ^{c)}	F_{2AMax}	N	5650		5650									
		lb_f	1271		1271									
Max. lateral force ^{c)}	F_{2QMMax}	N	6600		6600									
		lb_f	1485		1485									
Max. tilting moment	M_{2KMMax}	Nm	487		487									
		$in.lb$	4310		4310									
Efficiency at full load	η	%	97		95									
Service life	L_h	h	> 20000		> 20000									
Weight (incl. standard adapter plate)	m	kg	8.6		9									
		lb_m	19		20									
Operating noise (at reference ratio and reference speed – ratio-specific values available in cymex®)	L_{PA}	$dB(A)$	≤ 65		≤ 61									
Max. permitted housing temperature		°C	+90		+90									
		°F	+194		+194									
Ambient temperature		°C	–15 to +40		–15 to +40									
		°F	+5 to +104		+5 to +104									
Lubrication			Lubricated for life											
Direction of rotation			In- and output same direction											
Protection class			IP 65											
Elastomer coupling (recommended product type – validate sizing with cymex®)			ELC-0150BA032.000-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]	C	14	J_1	$kgcm^2$	–	–	0.6	0.59	0.6	0.43	0.42	0.37	0.52	0.36
				$10^{-3} in.lb.s^2$	–	–	0.53	0.52	0.53	0.38	0.37	0.33	0.46	0.32
	D	16	J_1	$kgcm^2$	–	–	0.75	0.74	0.74	0.58	0.57	0.5	0.67	0.51
				$10^{-3} in.lb.s^2$	–	–	0.66	0.65	0.65	0.51	0.5	0.44	0.59	0.45
	E	19	J_1	$kgcm^2$	2.5	1.7	0.84	0.83	0.83	0.66	0.65	0.6	0.75	0.6
				$10^{-3} in.lb.s^2$	2.2	1.5	0.74	0.73	0.73	0.58	0.58	0.53	0.66	0.53
	G	24	J_1	$kgcm^2$	3.3	2.4	1.9	1.9	1.9	1.7	1.7	1.6	1.8	1.6
				$10^{-3} in.lb.s^2$	2.9	2.1	1.7	1.6	1.7	1.5	1.5	1.5	1.6	1.4
	H	28	J_1	$kgcm^2$	3	2.2	1.6	1.6	1.6	1.4	1.4	1.3	1.5	1.3
				$10^{-3} in.lb.s^2$	2.7	1.9	1.4	1.4	1.4	1.2	1.2	1.2	1.3	1.2
	I	32	J_1	$kgcm^2$	7.1	6.2	–	–	–	–	–	–	–	–
				$10^{-3} in.lb.s^2$	6.3	5.5	–	–	–	–	–	–	–	–
	K	38	J_1	$kgcm^2$	8.3	7.4	–	–	–	–	–	–	–	–
				$10^{-3} in.lb.s^2$	7.3	6.5	–	–	–	–	–	–	–	–

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

^{a)} Valid for torque transmission only

^{b)} Valid for standard clamping hub diameter

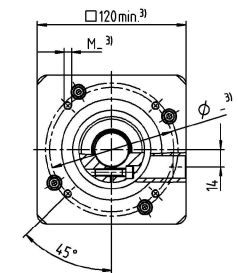
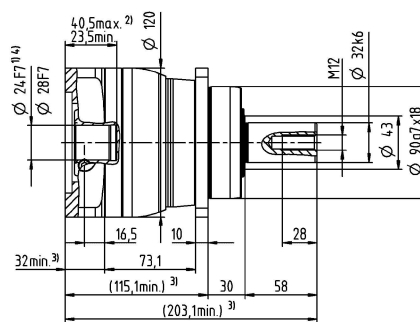
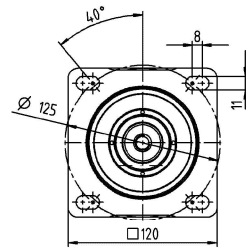
^{c)} Refers to center of the output shaft or flange

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

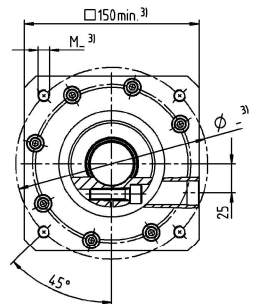
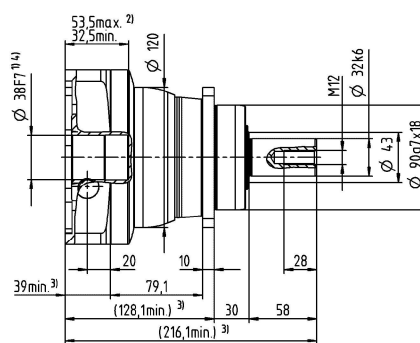
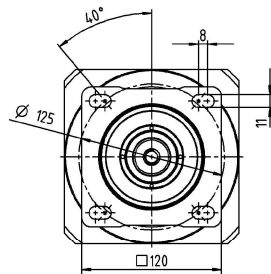
^{e)} Valid for: Smooth shaft

1-stage

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

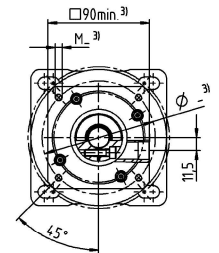
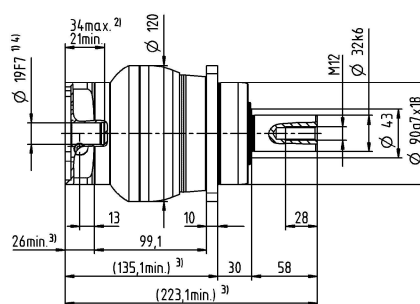
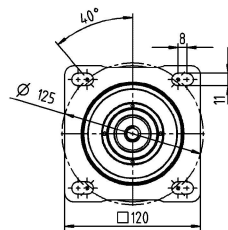


up to 38⁴⁾ (K)
clamping hub
diameter

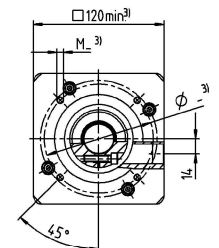
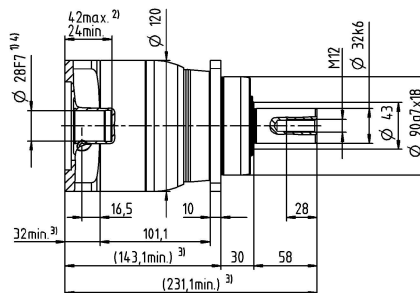
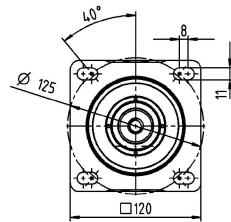


2-stage

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



up to 28⁴⁾ (H)
clamping hub
diameter

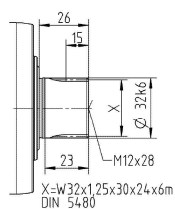
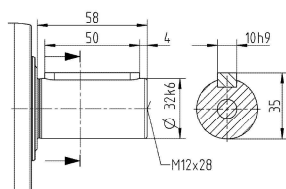


Motor shaft diameter [mm]

Other output variants

Shaft with key

Splined shaft (DIN 5480)



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

NTP 015 MQ 1-stage

			1-stage					
Ratio	i			4	5	7	10	
Max. torque ^{a) b)}	T_{2a}		Nm	56	64	64	56	
			in.lb	496	566	566	496	
Max. acceleration torque (max. 1000 cycles per hour)	T_{2B}		Nm	35	40	40	35	
			in.lb	310	354	354	310	
Emergency stop torque ^{a) b)} (permitted 1000 times during the service life of the gearbox)	T_{2Not}		Nm	80	80	80	80	
			in.lb	708	708	708	708	
Permitted average input speed ^{d)} (at T_{2N} and 20 °C ambient temperature)	n_{1N}		rpm	3100	3300	3600	3800	
Max. input speed	n_{1Max}		rpm	8000	8000	8000	8000	
Mean no load running torque ^{b)} (at n_1 =3000 rpm and 20 °C gearbox temperature)	T_{012}		Nm	0.78	0.66	0.52	0.42	
			in.lb	6.9	5.8	4.6	3.7	
Max. backlash	j_t		arcmin	≤ 7				
Torsional rigidity ^{b)}	C_{t21}		Nm/arcmin	7	7	7	5.5	
			in.lb/arcmin	62	62	62	49	
Max. axial force ^{c)}	F_{2AMax}		N	1900				
			lb _f	428				
Max. tilting moment	M_{2KMax}		Nm	91				
			in.lb	805				
Efficiency at full load	η		%	97				
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)	≤ 58				
Max. permitted housing temperature			°C	+90				
			°F	+194				
Ambient temperature			°C	−15 to +40				
			°F	+5 to +104				
Lubrication				Lubricated for life				
Direction of rotation				In- and output same direction				
Protection class				IP 65				
Elastomer coupling (recommended product type – validate sizing with cymex®)				ELT-00060BAX-031.50				
Bore diameter of coupling on the application side			mm	X = 018.000 - 032.000				
Mass moment of inertia (relates to the drive) Clamping hub diameter [mm]	A	9	J_1	kgcm ²	0.22	0.19	0.15	0.14
				10 ⁻³ in.lb.s ²	0.19	0.17	0.13	0.12
	B	11	J_1	kgcm ²	0.24	0.20	0.17	0.16
				10 ⁻³ in.lb.s ²	0.21	0.18	0.15	0.14
	C	14	J_1	kgcm ²	0.31	0.28	0.25	0.23
				10 ⁻³ in.lb.s ²	0.27	0.25	0.22	0.20

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

^{a)} Valid for torque transmission only

^{b)} Valid for standard clamping hub diameter

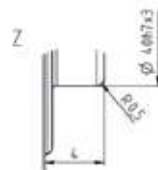
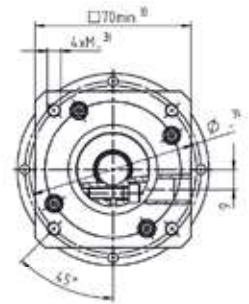
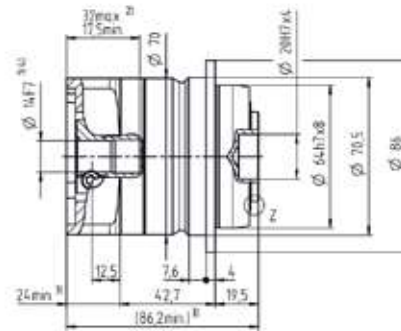
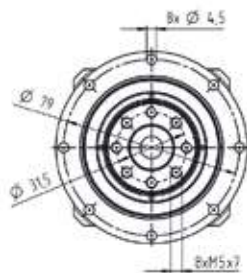
^{c)} Refers to center of the output shaft or flange

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

Motor shaft diameter [mm]

1-stage

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



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

NTP 015J MQ 2-stage

			2-stage										
Ratio	i		16	20	25	28	35	40	50	70	100		
Max. torque ^{a) b)}	T_{2a}	Nm	56	56	64	56	64	56	64	64	56		
		in.lb	496	496	566	496	566	496	566	566	496		
Max. acceleration torque (max. 1000 cycles per hour)	T_{2B}	Nm	35	35	40	35	40	35	40	40	35		
		in.lb	310	310	354	310	354	310	354	354	310		
Emergency stop torque ^{a) b)} (permitted 1000 times during the service life of the gearbox)	T_{2Not}	Nm	80	80	80	80	80	80	80	80	80		
		in.lb	708	708	708	708	708	708	708	708	708		
Permitted average input speed ^{d)} (at T_{2n} and 20 °C ambient temperature)	n_{1N}	rpm	3100	3300	3300	3600	3300	3800	3800	3800	3800		
Max. input speed	n_{1Max}	rpm	8000	8000	8000	8000	8000	8000	8000	8000	8000		
Mean no load running torque ^{b)} (at n_1 =3000 rpm and 20 °C gearbox temperature)	T_{012}	Nm	0.35	0.31	0.29	0.27	0.26	0.25	0.23	0.22	0.21		
		in.lb	3.1	2.7	2.6	2.4	2.3	2.2	2.0	1.9	1.9		
Max. backlash	j_t	arcmin	≤ 8										
Torsional rigidity ^{b)}	C_{t21}	Nm/arcmin	7	7	7	7	7	7	7	7	5.5		
		in.lb/arcmin	62	62	62	62	62	62	62	62	49		
Max. axial force ^{c)}	F_{2AMax}	N	1900										
		lb _f	428										
Max. tilting moment	M_{2KMax}	Nm	91										
		in.lb	805										
Efficiency at full load	η	%	95										
Service life	L_h	h	> 20000										
Weight (incl. standard adapter plate)	m	kg	2.1										
		lb _m	4.6										
Operating noise (at reference ratio and reference speed – ratio-specific values available in cymex®)	L_{PA}	dB(A)	≤ 58										
Max. permitted housing temperature		°C	+90										
		°F	+194										
Ambient temperature		°C	−15 to +40										
		°F	+5 to +104										
Lubrication			Lubricated for life										
Direction of rotation			In- and output same direction										
Protection class			IP 65										
Elastomer coupling (recommended product type – validate sizing with cymex®)			ELT-00060BAX-031.50										
Bore diameter of coupling on the application side		mm	X = 018.000 - 032.000										
Mass moment of inertia (relates to the drive) Clamping hub diameter [mm]	A	9	J_1	kgcm ²	0.17	0.17	0.15	0.16	0.15	0.16	0.14	0.13	0.13
				10 ⁻³ in.lb.s ²	0.15	0.15	0.13	0.14	0.13	0.14	0.12	0.12	0.12
	B	11	J_1	kgcm ²	0.19	0.18	0.17	0.18	0.16	0.17	0.16	0.15	0.15
				10 ⁻³ in.lb.s ²	0.17	0.16	0.15	0.16	0.14	0.15	0.14	0.13	0.13
	C	14	J_1	kgcm ²	0.26	0.26	0.25	0.25	0.24	0.25	0.24	0.23	0.22
				10 ⁻³ in.lb.s ²	0.23	0.23	0.22	0.22	0.21	0.22	0.21	0.20	0.19

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

^{a)} Valid for torque transmission only

^{b)} Valid for standard clamping hub diameter

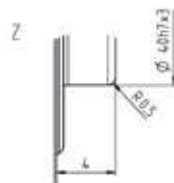
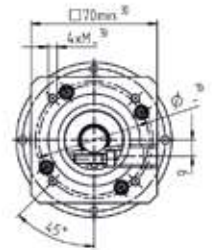
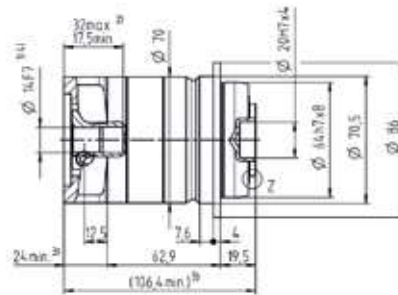
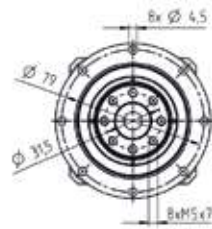
^{c)} Refers to center of the output shaft or flange

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

Motor shaft diameter [mm]

2-stage

up to 14⁴⁾ (C)
clamping hub
diameter



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

NTP 025 MQ 1-stage

				1-stage				
Ratio	i			4	5	7	10	
Max. torque ^{a) b)}	T_{2a}		Nm	152	160	160	144	
			in.lb	1345	1416	1416	1275	
Max. acceleration torque (max. 1000 cycles per hour)	T_{2B}		Nm	95	100	100	90	
			in.lb	841	885	885	797	
Emergency stop torque ^{a) b)} (permitted 1000 times during the service life of the gearbox)	T_{2Not}		Nm	190	190	190	190	
			in.lb	1682	1682	1682	1682	
Permitted average input speed ^{d)} (at T_{2n} and 20 °C ambient temperature)	n_{1N}		rpm	2900	3000	3200	3500	
Max. input speed	n_{1Max}		rpm	7000	7000	7000	7000	
Mean no load running torque ^{b)} (at n_1 =3000 rpm and 20 °C gearbox temperature)	T_{012}		Nm	1.6	1.4	1.1	0.96	
			in.lb	14	12	9.7	8.5	
Max. backlash	j_t		arcmin	≤ 6				
Torsional rigidity ^{b)}	C_{t21}		Nm/arcmin	18	18	18	14	
			in.lb/arcmin	159	159	159	124	
Max. axial force ^{c)}	F_{2AMax}		N	2500				
			lb _f	563				
Max. tilting moment	M_{2KMax}		Nm	220				
			in.lb	1947				
Efficiency at full load	η		%	97				
Service life	L_h		h	> 20000				
Weight (incl. standard adapter plate)	m		kg	3.7				
			lb _m	8.2				
Operating noise (at reference ratio and reference speed – ratio-specific values available in cymex®)	L_{PA}		dB(A)	≤ 61				
Max. permitted housing temperature			°C	+90				
			°F	+194				
Ambient temperature			°C	–15 to +40				
			°F	+5 to +104				
Lubrication				Lubricated for life				
Direction of rotation				In- and output same direction				
Protection class				IP 65				
Elastomer coupling (recommended product type – validate sizing with cymex®)				ELT-00150BAX-050.00				
Bore diameter of coupling on the application side			mm	X = 024.000 - 036.000				
Mass moment of inertia (relates to the drive) Clamping hub diameter [mm]	C	14	J_1	kgcm ²	0.68	0.51	0.4	0.29
				10 ⁻³ in.lb.s ²	0.6	0.45	0.35	0.26
	D	16	J_1	kgcm ²	0.82	0.66	0.5	0.4
				10 ⁻³ in.lb.s ²	0.73	0.58	0.44	0.35
	E	19	J_1	kgcm ²	0.91	0.74	0.6	0.52
				10 ⁻³ in.lb.s ²	0.81	0.65	0.53	0.46
	G	24	J_1	kgcm ²	1.9	1.8	1.6	1.6
				10 ⁻³ in.lb.s ²	1.7	1.6	1.4	1.4
	H	28	J_1	kgcm ²	1.7	1.5	1.3	1.3
				10 ⁻³ in.lb.s ²	1.5	1.3	1.2	1.2

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

^{a)} Valid for torque transmission only

^{b)} Valid for standard clamping hub diameter

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

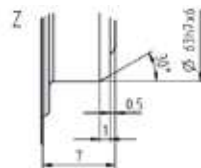
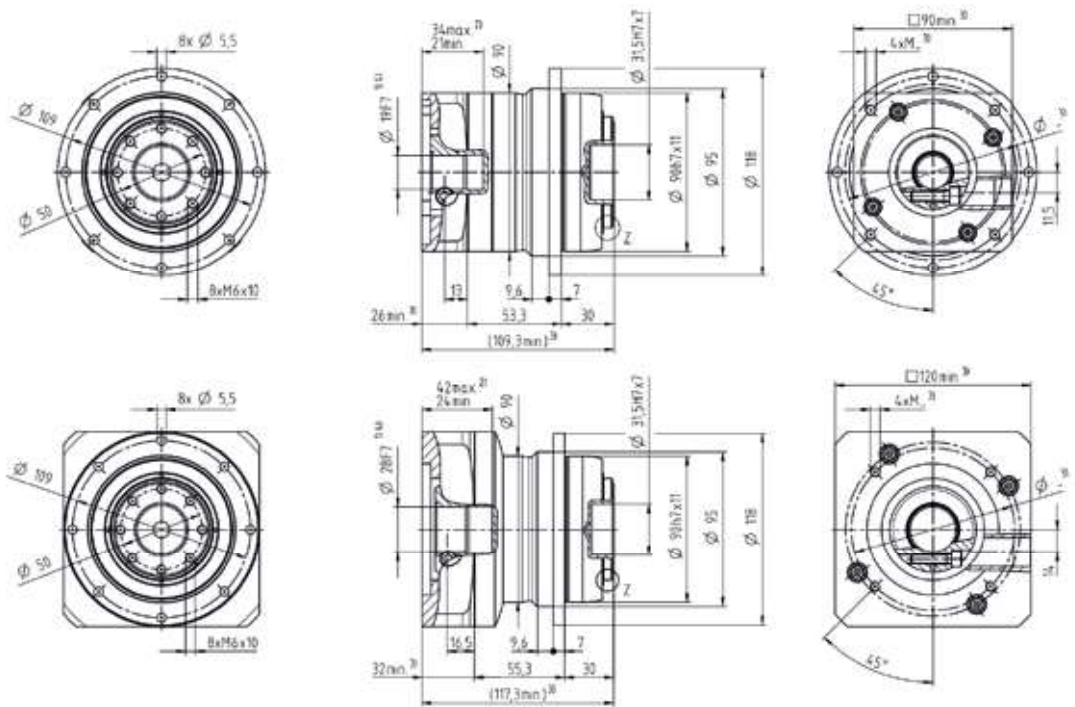
^{d)} Please reduce input speed at higher ambient temperatures

1-stage

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

up to 28⁴⁾ (H)
clamping hub
diameter

Motor shaft diameter [mm]



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

NTP 025 MQ 2-stage

				2-stage									
Ratio	i			16	20	25	28	35	40	50	70	100	
Max. torque ^{a) b)}	T_{2a}		Nm	152	152	160	152	160	152	160	160	144	
			in.lb	1345	1345	1416	1345	1416	1345	1416	1416	1275	
Max. acceleration torque (max. 1000 cycles per hour)	T_{2B}		Nm	95	95	100	95	100	95	100	100	90	
			in.lb	841	841	885	841	885	841	885	885	797	
Emergency stop torque ^{a) b)} (permitted 1000 times during the service life of the gearbox)	T_{2Not}		Nm	190	190	190	190	190	190	190	190	190	
			in.lb	1682	1682	1682	1682	1682	1682	1682	1682	1682	
Permitted average input speed ^{d)} (at T_{2N} and 20 °C ambient temperature)	n_{1N}		rpm	3500	3700	3700	4000	4000	4300	4300	4300	4300	
Max. input speed	n_{1Max}		rpm	8000	8000	8000	8000	8000	8000	8000	8000	8000	
Mean no load running torque ^{b)} (at n_1 =3000 rpm and 20 °C gearbox temperature)	T_{012}		Nm	0.46	0.4	0.36	0.34	0.31	0.29	0.27	0.25	0.23	
			in.lb	4.1	3.5	3.2	3.0	2.7	2.6	2.4	2.2	2.0	
Max. backlash	j_t		arcmin	≤ 7									
Torsional rigidity ^{b)}	C_{t21}		Nm/arcmin	18	18	18	18	18	18	18	18	14	
			in.lb/arcmin	159	159	159	159	159	159	159	159	124	
Max. axial force ^{c)}	F_{2AMax}		N	2500									
			lb _f	563									
Max. tilting moment	M_{2KMax}		Nm	220									
			in.lb	1947									
Efficiency at full load	η		%	95									
Service life	L_n		h	> 20000									
Weight (incl. standard adapter plate)	m		kg	4									
			lb _m	8.8									
Operating noise (at reference ratio and reference speed – ratio-specific values available in cymex®)	L_{PA}		dB(A)	≤ 58									
Max. permitted housing temperature			°C	+90									
			°F	+194									
Ambient temperature			°C	−15 to +40									
			°F	+5 to +104									
Lubrication				Lubricated for life									
Direction of rotation				In- and output same direction									
Protection class				IP 65									
Elastomer coupling (recommended product type – validate sizing with cymex®)				ELT-00150BAX-050.00									
Bore diameter of coupling on the application side			mm	X = 024.000 - 036.000									
Mass moment of inertia (relates to the drive) Clamping hub diameter [mm]	A	9	J_1	kgcm ²	0.22	0.2	0.2	0.2	0.19	0.19	0.19	0.19	0.19
				10 ⁻³ in.lb.s ²	0.19	0.18	0.18	0.18	0.17	0.17	0.17	0.17	0.17
	B	11	J_1	kgcm ²	0.24	0.23	0.22	0.22	0.21	0.21	0.21	0.21	0.21
				10 ⁻³ in.lb.s ²	0.21	0.2	0.19	0.19	0.19	0.19	0.19	0.19	0.19
	C	14	J_1	kgcm ²	0.3	0.3	0.3	0.29	0.29	0.29	0.28	0.28	0.28
				10 ⁻³ in.lb.s ²	0.27	0.27	0.27	0.26	0.26	0.26	0.25	0.25	0.25
	D	16	J_1	kgcm ²	0.45	0.43	0.43	0.42	0.41	0.41	0.41	0.41	0.41
				10 ⁻³ in.lb.s ²	0.4	0.38	0.38	0.37	0.36	0.36	0.36	0.36	0.36
E	19	J_1	kgcm ²	0.53	0.51	0.5	0.5	0.5	0.5	0.49	0.49	0.49	
			10 ⁻³ in.lb.s ²	0.47	0.45	0.44	0.44	0.44	0.44	0.43	0.43	0.43	

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

^{a)} Valid for torque transmission only

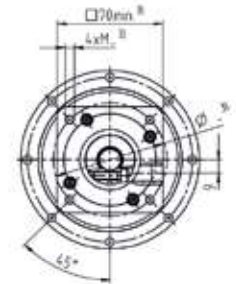
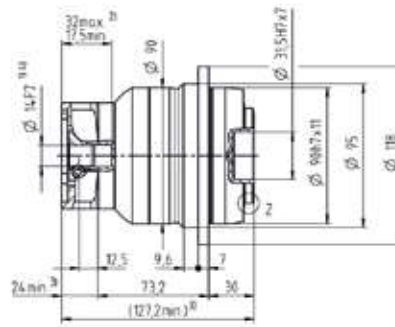
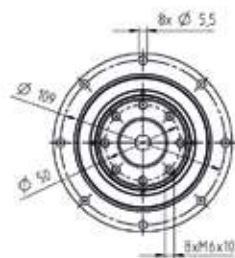
^{b)} Valid for standard clamping hub diameter

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

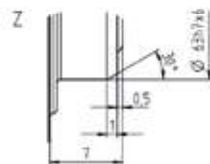
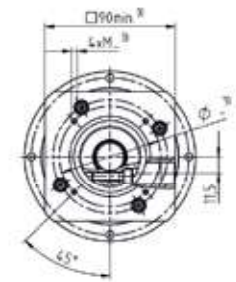
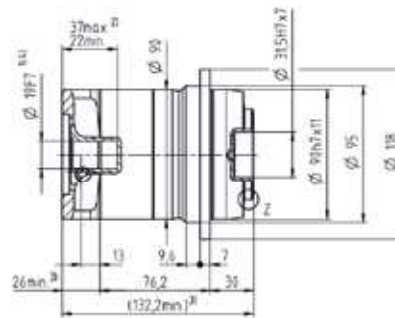
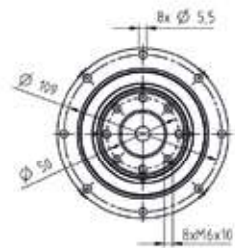
^{d)} Please reduce input speed at higher ambient temperatures

2-stage

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



up to 19⁴⁾ (E)
clamping hub
diameter



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

NTP 035 MQ 1-stage

				1-stage				
Ratio	i		4	5	7	10		
Max. torque ^{a) b)}	T_{2a}	Nm	408	400	400	352		
		in.lb	3611	3540	3540	3115		
Max. acceleration torque (max. 1000 cycles per hour)	T_{2B}	Nm	255	250	250	220		
		in.lb	2257	2213	2213	1947		
Emergency stop torque ^{a) b)} (permitted 1000 times during the service life of the gearbox)	T_{2Not}	Nm	500	500	500	500		
		in.lb	4425	4425	4425	4425		
Permitted average input speed ^{d)} (at T_{2N} and 20 °C ambient temperature)	n_{1N}	rpm	2200	2300	2500	2700		
Max. input speed	n_{1Max}	rpm	6000	6000	6000	6000		
Mean no load running torque ^{b)} (at n_1 =3000 rpm and 20 °C gearbox temperature)	T_{012}	Nm	2.8	2.4	1.9	1.6		
		in.lb	25	21	17	14		
Max. backlash	j_t	arcmin	≤ 5					
Torsional rigidity ^{b)}	C_{t21}	Nm/arcmin	40	40	40	30		
		in.lb/arcmin	354	354	354	266		
Max. axial force ^{c)}	F_{2AMax}	N	4300					
		lb _f	968					
Max. tilting moment	M_{2KMax}	Nm	360					
		in.lb	3186					
Efficiency at full load	η	%	97					
Service life	L_h	h	> 20000					
Weight (incl. standard adapter plate)	m	kg	7.8					
		lb _m	17					
Operating noise (at reference ratio and reference speed – ratio-specific values available in cymex®)	L_{PA}	dB(A)	≤ 64					
Max. permitted housing temperature		°C	+90					
		°F	+194					
Ambient temperature		°C	–15 to +40					
		°F	+5 to +104					
Lubrication			Lubricated for life					
Direction of rotation			In- and output same direction					
Protection class			IP 65					
Elastomer coupling (recommended product type – validate sizing with cymex®)			ELT-00300BAX-063.00					
Bore diameter of coupling on the application side		mm	X = 035.000 - 045.000					
Mass moment of inertia (relates to the drive) Clamping hub diameter [mm]	E	19	J_1	kgcm ²	2.3	1.7	1.0	0.97
				10 ⁻³ in.lb.s ²	2.0	1.5	0.89	0.86
	G	24	J_1	kgcm ²	3.1	2.5	2.0	1.7
				10 ⁻³ in.lb.s ²	2.7	2.2	1.8	1.5
	H	28	J_1	kgcm ²	2.8	2.2	1.7	1.5
				10 ⁻³ in.lb.s ²	2.5	1.9	1.5	1.3
	I	32	J_1	kgcm ²	6.9	6.3	5.8	5.5
				10 ⁻³ in.lb.s ²	6.1	5.6	5.1	4.9
	K	38	J_1	kgcm ²	8.0	7.5	6.9	6.7
				10 ⁻³ in.lb.s ²	7.1	6.6	6.1	5.9

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

^{a)} Valid for torque transmission only

^{b)} Valid for standard clamping hub diameter

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

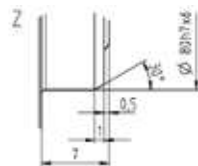
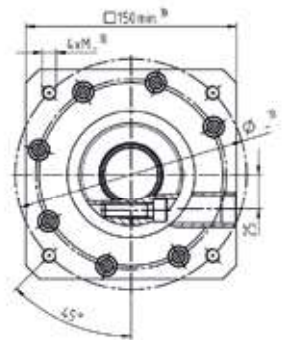
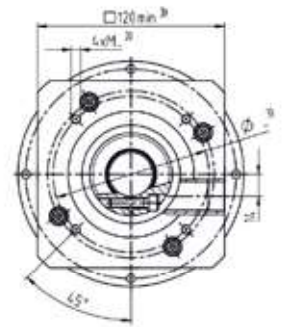
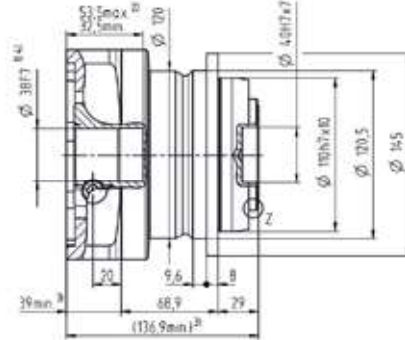
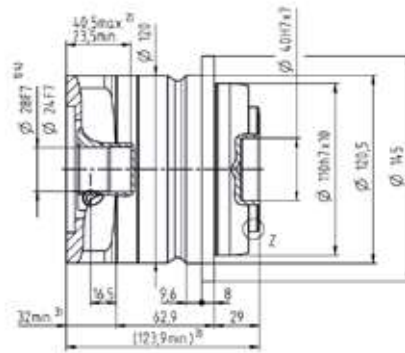
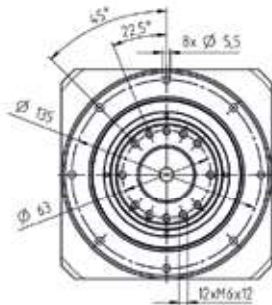
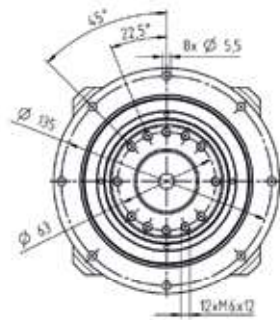
^{d)} Please reduce input speed at higher ambient temperatures

1-stage

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

up to 38⁴⁾ (K)
clamping hub
diameter

Motor shaft diameter [mm]



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

NTP 035 MQ 2-stage

				2-stage									
Ratio	i			16	20	25	28	35	40	50	70	100	
Max. torque ^{a) b)}	T _{2a}		Nm	408	408	400	408	400	408	400	400	352	
			in.lb	3611	3611	3540	3611	3540	3611	3540	3540	3115	
Max. acceleration torque (max. 1000 cycles per hour)	T _{2B}		Nm	255	255	250	255	250	255	250	250	220	
			in.lb	2257	2257	2213	2257	2213	2257	2213	2213	1947	
Emergency stop torque ^{a) b)} (permitted 1000 times during the service life of the gearbox)	T _{2Not}		Nm	500	500	500	500	500	500	500	500	500	
			in.lb	4425	4425	4425	4425	4425	4425	4425	4425	4425	
Permitted average input speed ^{d)} (at T _{2N} and 20 °C ambient temperature)	n _{1N}		rpm	3300	3400	3400	3600	3600	3900	3900	3900	3900	
Max. input speed	n _{1Max}		rpm	7000	7000	7000	7000	7000	7000	7000	7000	7000	
Mean no load running torque ^{b)} (at n ₁ =3000 rpm and 20 °C gearbox temperature)	T ₀₁₂		Nm	1.2	1.1	1	0.93	0.87	0.81	0.77	0.72	0.68	
			in.lb	11	9.7	8.9	8.2	7.7	7.2	6.8	6.4	6.0	
Max. backlash	j _t		arcmin	≤ 6									
Torsional rigidity ^{b)}	C _{t21}		Nm/arcmin	40	40	40	40	40	40	40	40	30	
			in.lb/arcmin	354	354	354	354	354	354	354	354	266	
Max. axial force ^{c)}	F _{2AMax}		N	4300									
			lb _f	968									
Max. tilting moment	M _{2KMax}		Nm	360									
			in.lb	3186									
Efficiency at full load	η		%	95									
Service life	L _n		h	> 20000									
Weight (incl. standard adapter plate)	m		kg	8.2									
			lb _m	18									
Operating noise (at reference ratio and reference speed – ratio-specific values available in cymex®)	L _{PA}		dB(A)	≤ 60									
Max. permitted housing temperature			°C	+90									
			°F	+194									
Ambient temperature			°C	–15 to +40									
			°F	+5 to +104									
Lubrication				Lubricated for life									
Direction of rotation				In- and output same direction									
Protection class				IP 65									
Elastomer coupling (recommended product type – validate sizing with cymex®)				ELT-00300BAX-063.00									
Bore diameter of coupling on the application side			mm	X = 035.000 - 045.000									
Mass moment of inertia (relates to the drive) Clamping hub diameter [mm]	C	14	J ₁	kgcm ²	0.47	0.45	0.37	0.38	0.32	0.37	0.31	0.27	0.24
				10 ⁻³ in.lb.s ²	0.42	0.4	0.33	0.34	0.28	0.33	0.27	0.24	0.21
	D	16	J ₁	kgcm ²	0.62	0.59	0.5	0.5	0.46	0.52	0.46	0.42	0.39
				10 ⁻³ in.lb.s ²	0.55	0.52	0.44	0.44	0.41	0.46	0.41	0.37	0.35
	E	19	J ₁	kgcm ²	0.7	0.68	0.61	0.6	0.56	0.6	0.55	0.5	0.48
				10 ⁻³ in.lb.s ²	0.62	0.6	0.54	0.53	0.5	0.53	0.49	0.44	0.42
	G	24	J ₁	kgcm ²	1.7	1.7	1.6	1.7	1.6	1.6	1.6	1.5	1.5
				10 ⁻³ in.lb.s ²	1.5	1.5	1.4	1.5	1.4	1.4	1.4	1.3	1.3
	H	28	J ₁	kgcm ²	1.4	1.4	1.3	1.4	1.3	1.3	1.3	1.2	1.2
				10 ⁻³ in.lb.s ²	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.1	1.1

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

^{a)} Valid for torque transmission only

^{b)} Valid for standard clamping hub diameter

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

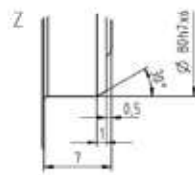
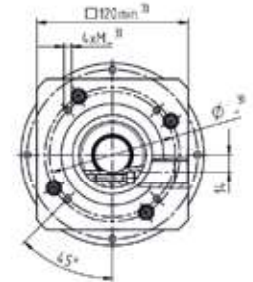
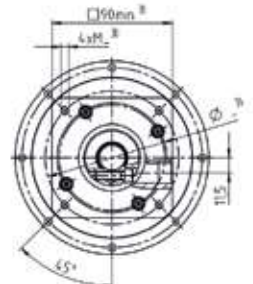
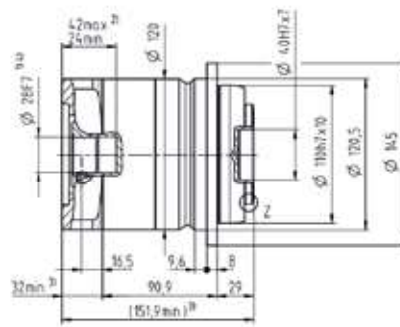
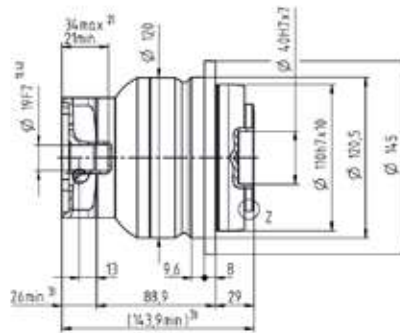
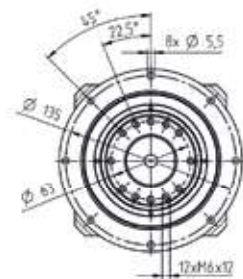
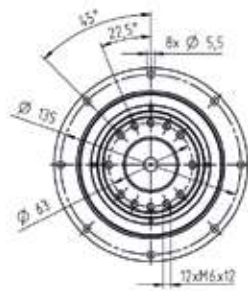
^{d)} Please reduce input speed at higher ambient temperatures

2-stage

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

Motor shaft diameter [mm]

up to 28⁴⁾ (H)
clamping hub
diameter



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

NTP 045 MQ 1-stage

			1-stage			
Ratio	i		4	5	7	10
Max. torque ^{a) b)}	T_{2a}	Nm	800	800	800	640
		in.lb	7081	7081	7081	5665
Max. acceleration torque (max. 1000 cycles per hour)	T_{2B}	Nm	500	500	500	400
		in.lb	4425	4425	4425	3540
Emergency stop torque ^{a) b)} (permitted 1000 times during the service life of the gearbox)	T_{2Not}	Nm	1000	1000	1000	1000
		in.lb	8851	8851	8851	8851
Permitted average input speed ^{d)} (at T_{2N} and 20 °C ambient temperature)	n_{1N}	rpm	1800	1800	1800	2000
Max. input speed	n_{1Max}	rpm	4000	4000	4000	4000
Mean no load running torque ^{b)} (at $n_1=3000$ rpm and 20 °C gearbox temperature)	T_{012}	Nm	5.5	4.6	3.5	2.6
		in.lb	49	41	31	23
Max. backlash	j_t	arcmin	≤ 5			
Torsional rigidity ^{b)}	C_{t21}	Nm/arcmin	110	110	110	80
		in.lb/arcmin	974	974	974	708
Max. axial force ^{c)}	F_{2AMax}	N	5500			
		lb _f	1238			
Max. tilting moment	M_{2KMax}	Nm	1070			
		in.lb	9470			
Efficiency at full load	η	%	97			
Service life	L_n	h	> 20000			
Weight (incl. standard adapter plate)	m	kg	16			
		lb _m	35			
Operating noise (at reference ratio and reference speed – ratio-specific values available in cymex®)	L_{PA}	dB(A)	≤ 67			
Max. permitted housing temperature		°C	+90			
		°F	+194			
Ambient temperature		°C	-15 to +40			
		°F	+5 to +104			
Lubrication			Lubricated for life			
Direction of rotation			In- and output same direction			
Protection class			IP 65			
Elastomer coupling (recommended product type – validate sizing with cymex®)			ELT-00450BAX-080.00			
Bore diameter of coupling on the application side		mm	X = 042.000 - 060.000			
Mass moment of inertia (relates to the drive) Clamping hub diameter [mm]	K 38 J_1	kgcm ²	11.2	9.8	8.2	7.4
		10 ⁻³ in.lb.s ²	9.9	8.7	7.3	6.5

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

^{a)} Valid for torque transmission only

^{b)} Valid for standard clamping hub diameter

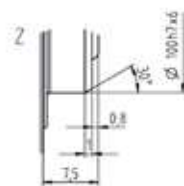
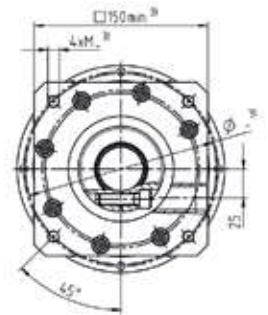
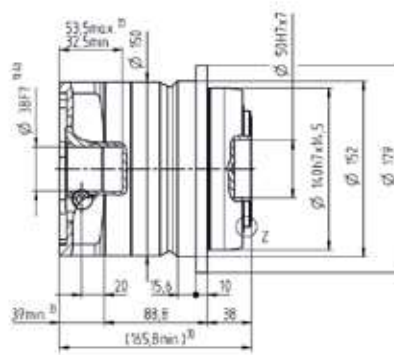
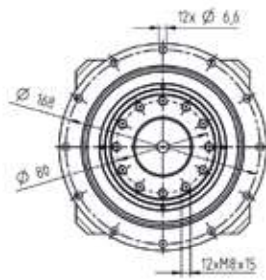
^{c)} Refers to center of the output shaft or flange

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

Motor shaft diameter [mm]

1-stage

up to 38 ⁴⁾ (K)
clamping hub
diameter



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

NTP 045 MQ 2-stage

				2-stage									
Ratio	i			16	20	25	28	35	40	50	70	100	
Max. torque ^{a) b)}		T_{2a}	Nm	700	700	700	700	700	700	700	700	640	
			in.lb	6196	6196	6196	6196	6196	6196	6196	6196	6196	5665
Max. acceleration torque (max. 1000 cycles per hour)		T_{2B}	Nm	500	500	500	500	500	500	500	500	400	
			in.lb	4425	4425	4425	4425	4425	4425	4425	4425	4425	3540
Emergency stop torque ^{a) b)} (permitted 1000 times during the service life of the gearbox)		T_{2Not}	Nm	1000	1000	1000	1000	1000	1000	1000	1000	1000	
			in.lb	8851	8851	8851	8851	8851	8851	8851	8851	8851	8851
Permitted average input speed ^{d)} (at T_{2n} and 20 °C ambient temperature)		n_{1N}	rpm	2500	2600	2600	2800	2800	3000	3000	3000	3000	
Max. input speed		n_{1Max}	rpm	6000	6000	6000	6000	6000	6000	6000	6000	6000	
Mean no load running torque ^{b)} (at n_1 =3000 rpm and 20 °C gearbox temperature)		T_{012}	Nm	2.1	1.8	1.6	1.5	1.4	1.3	1.2	1.1	0.97	
			in.lb	19	16	14	13	12	12	11	9.7	8.6	
Max. backlash		j_t	arcmin	≤ 6									
Torsional rigidity ^{b)}		C_{t21}	Nm/arcmin	110	110	110	110	110	110	110	110	80	
			in.lb/arcmin	974	974	974	974	974	974	974	974	974	708
Max. axial force ^{c)}		F_{2AMax}	N	5500									
			lb _f	1238									
Max. tilting moment		M_{2KMax}	Nm	1070									
			in.lb	9470									
Efficiency at full load		η	%	95									
Service life		L_h	h	> 20000									
Weight (incl. standard adapter plate)		m	kg	17									
			lb _m	38									
Operating noise (at reference ratio and reference speed – ratio-specific values available in cymex®)		L_{PA}	dB(A)	≤ 64									
Max. permitted housing temperature			°C	+90									
			°F	+194									
Ambient temperature			°C	–15 to +40									
			°F	+5 to +104									
Lubrication				Lubricated for life									
Direction of rotation				In- and output same direction									
Protection class				IP 65									
Elastomer coupling (recommended product type – validate sizing with cymex®)				ELT-00450BAX-080.00									
Bore diameter of coupling on the application side			mm	X = 042.000 - 060.000									
Mass moment of inertia (relates to the drive) Clamping hub diameter [mm]	E	19	J_1	kgcm ²	1.6	1.5	1.4	1.3	1.1	1.2	1.0	0.87	0.83
				10 ⁻³ in.lb.s ²	1.4	1.3	1.2	1.2	0.97	1.1	0.89	0.77	0.73
	G	24	J_1	kgcm ²	2.4	2.3	2.0	2.0	1.9	2.0	2.1	1.6	1.6
				10 ⁻³ in.lb.s ²	2.1	2.0	1.8	1.8	1.7	1.8	1.9	1.4	1.4
	H	28	J_1	kgcm ²	2.1	2.0	1.9	1.8	1.6	1.7	1.8	1.4	1.3
				10 ⁻³ in.lb.s ²	1.9	1.8	1.7	1.6	1.4	1.5	1.6	1.2	1.2
	I	32	J_1	kgcm ²	6.2	6.0	6.0	5.9	5.7	5.8	5.9	5.4	5.4
				10 ⁻³ in.lb.s ²	5.5	5.3	5.3	5.2	5.0	5.1	5.2	4.8	4.8
K	38	J_1	kgcm ²	7.4	7.2	7.0	7.0	6.8	6.9	7.0	6.6	6.5	
			10 ⁻³ in.lb.s ²	6.5	6.4	6.2	6.2	6.0	6.1	6.2	5.8	5.8	

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

^{a)} Valid for torque transmission only

^{b)} Valid for standard clamping hub diameter

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

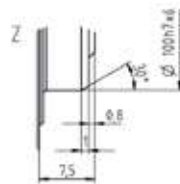
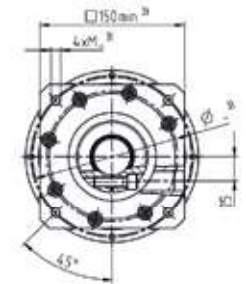
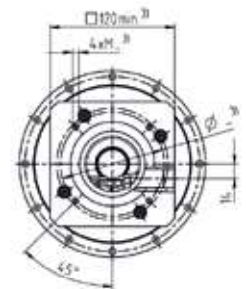
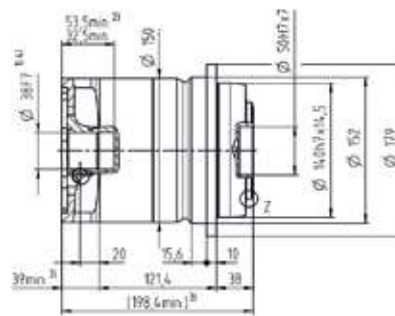
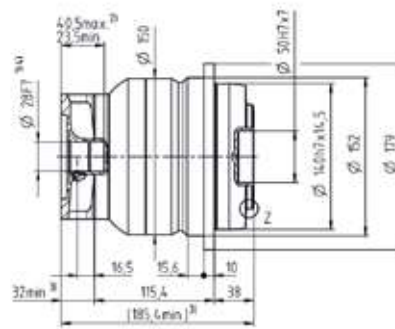
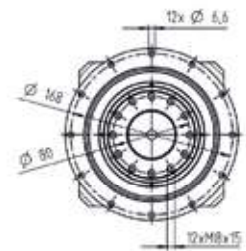
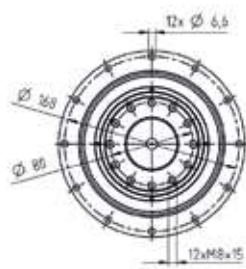
^{d)} Please reduce input speed at higher ambient temperatures

2-stage

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

up to 38 ⁴⁾ (K)
clamping hub
diameter

Motor shaft diameter [mm]



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

^{a)} Smaller motor shaft diameter is compensated by a bushing with a minimum wall thickness of 1 mm

⁵⁾ Standard clamping hub diameter