

LP+/LPB+ – Economical precision

A reliable and durable player among planetary gearheads



LP+/LPB+

Specifications \ Version	LP+/LPB+		
	+	++	+++
Positioning accuracy	██████████		
Rigidity	██████████		
Smooth-running	██████████		
Speed capacity	██████████		
Power density	██████████		
Max. axial/radial forces	██████████		



NEMA flange



Belt pulley (PLPB)



Output flange (LPB⁺)



Couplings




Shrink disc



Rack / Pinion

Options

Smooth output shaft
Output flange (LPB⁺)
Food-grade grease 

Accessories

Rack / Pinion (see page 310)
Belt pulley (PLPB)
Couplings (see page 342)
Shrink disc (see page 342)
NEMA flange

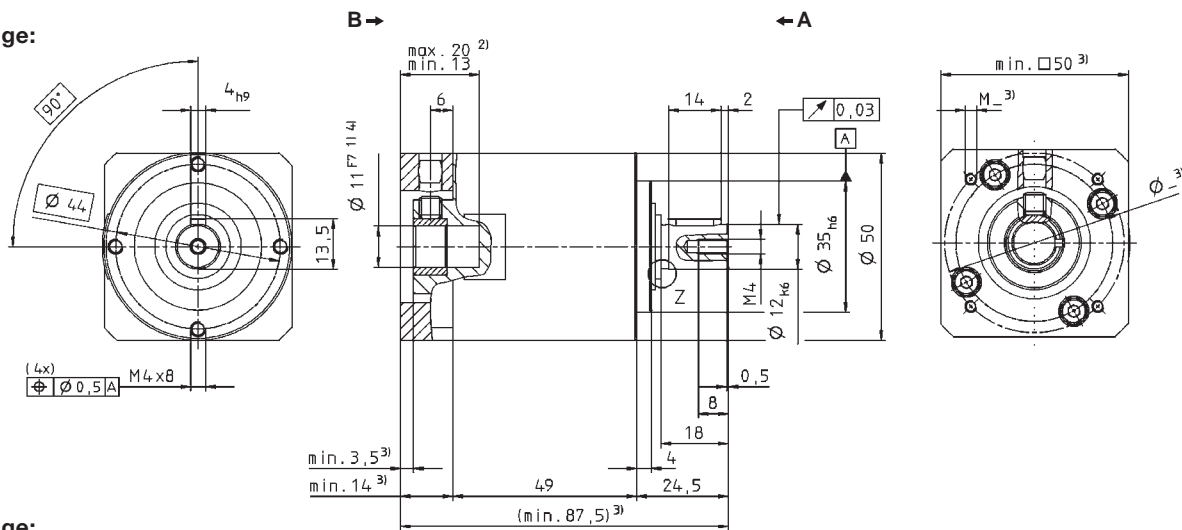
LP+ 050 1/2-stage

			1-stage				2-stage							
Ratio	<i>i</i>		4	5	7	10	16	20	25	35	50	70	100	
Max. acceleration torque (max. 1000 cycles per hour)	T_{2B}	Nm	11	12	12	11	11	11	12	12	12	12	11	
		in.lb	100	110	110	100	100	100	110	110	110	110	100	
Nominal output torque (with n_{2N})	T_{2N}	Nm	5.2	5.7	5.7	5.2	5.2	5.2	5.7	5.7	5.7	5.7	5.2	
		in.lb	46	50	50	46	46	46	50	50	50	50	46	
Emergency stop torque (permitted 1000 times during the service life of the gearhead)	T_{2Not}	Nm	26	26	26	26	26	26	26	26	26	26	26	
		in.lb	230	230	230	230	230	230	230	230	230	230	230	
Nominal input speed (with T_{2N} and 20°C ambient temperature ^{a)})	n_{1N}	rpm	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	
Max. input speed	n_{1Max}	rpm	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000	
Mean no load running torque (with $n_1=3000$ rpm and 20°C gearhead temperature)	T_{012}	Nm	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	
		in.lb	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	
Max. torsional backlash	j_t	arcmin	Standard ≤ 12 / Reduced ≤ 10				Standard ≤ 15 / Reduced ≤ 13							
Torsional rigidity	C_{t21}	Nm/ arcmin	1.2	1.2	1.2	0.9	1.2	1.2	1.2	1.2	1.2	1.2	0.9	
		in lb/ arcmin	11	11	11	8	11	11	11	11	11	11	8	
Max. axial force ^{b)}	F_{2AMax}	N	700				700							
		lb _f	160				160							
Max. radial force ^{b)}	F_{2RMax}	N	650				650							
		lb _f	150				150							
Efficiency at full load	η	%	97				95							
Service life (For calculation, see the Chapter "Information")	L_n	h	> 20000				> 20000							
Weight incl. standard adapter plate	<i>m</i>	kg	0.75				0.95							
		lb _m	1.7				2.1							
Operating noise (with $n_1=3000$ rpm no load)	L_{PA}	dB(A)	≤ 68											
Max. permitted housing temperature	°C		+90											
	F		194											
Ambient temperature	°C		-15 to +40											
	F		5 to 104											
Lubrication	Lubricated for life													
Paint	Blue RAL 5002													
Direction of rotation	Motor and gearhead same direction													
Protection class	IP 64													
Moment of inertia (relates to the drive)	11	J_i	kgcm ²	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
			10 ⁻³ in lb in ²	0.05	0.04	0.04	0.04	0.05	0.04	0.04	0.04	0.04	0.04	0.04
Clamping hub diameter (mm)	14	J_i	kgcm ²	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
			10 ⁻³ in lb in ²	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2

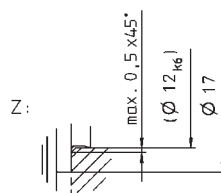
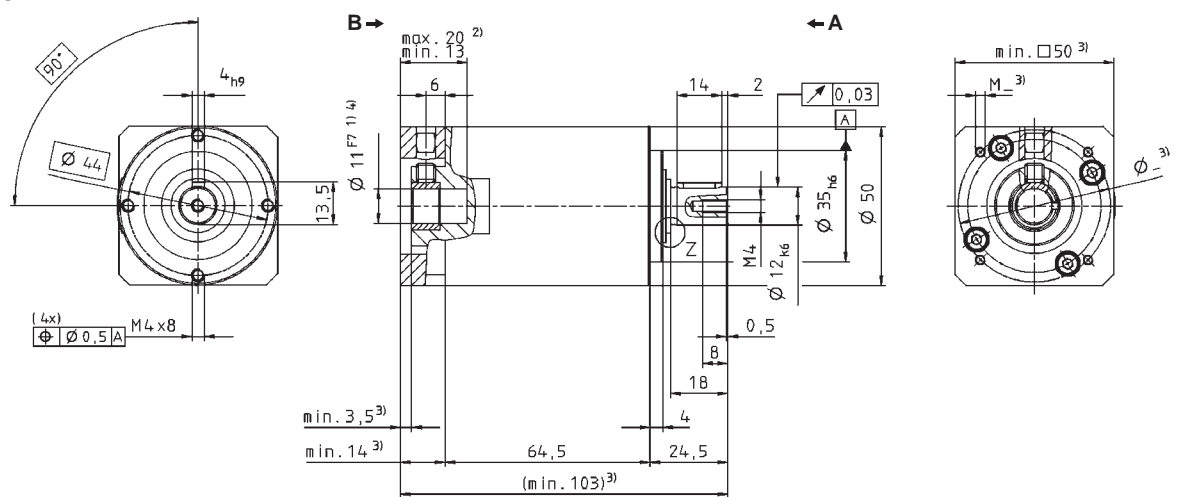
^{a)} For higher ambient temperatures, please contact us

^{b)} Refers to center of the output shaft, if $n_2 = 100$ rpm

LP+ 1-stage:



LP+ 2-stage:



Non-tolerated dimensions $\pm 1\text{mm}$

- 1) Check motor shaft fit.
- 2) Min./Max. permissible motor shaft length. Longer motor shafts are adaptable, please contact us.
- 3) The dimensions depend on the motor.
- 4) Smaller motor shaft diameter is compensated by a bushing.
Motor shaft diameters up to 14mm available – please contact WITTENSTEIN alpha

Motor mounting according to operating manual



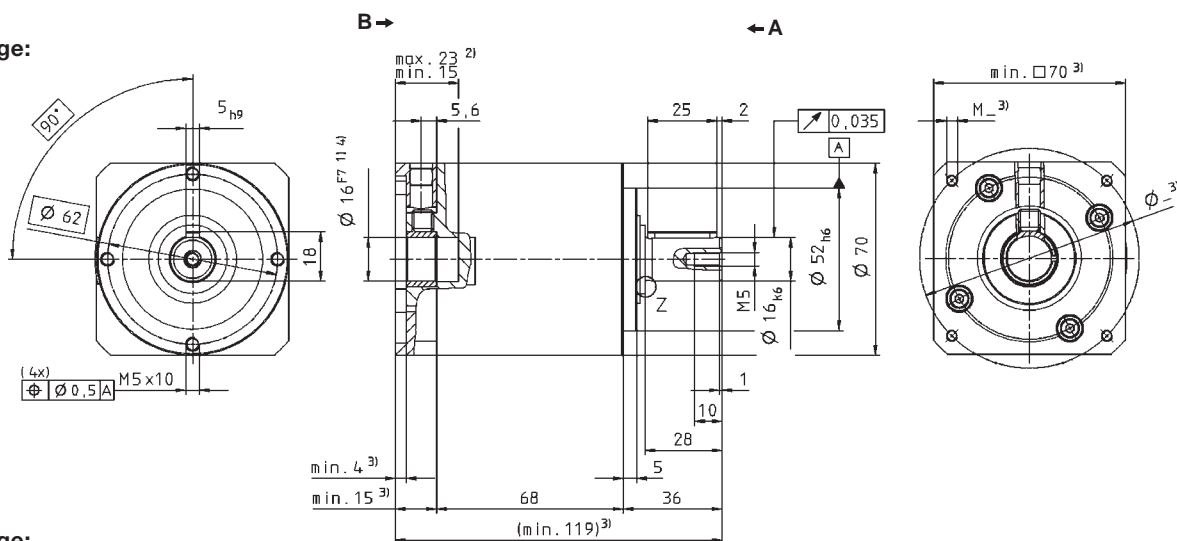
LP+ 070 1/2-stage

			1-stage					2-stage									
Ratio	<i>i</i>		3	4	5	7	10	15	16	20	25	30	35	50	70	100	
Max. acceleration torque (max. 1000 cycles per hour)	T_{2B}	Nm	32	35	35	35	32	32	35	35	35	32	35	35	35	32	
		in.lb	280	310	310	310	280	280	310	310	310	280	310	310	310	310	280
Nominal output torque (with n_{2N})	T_{2N}	Nm	16.5	18	18	18	16.5	16.5	18	18	18	16.5	18	18	18	16.5	
		in.lb	150	160	160	160	150	150	160	160	160	150	160	160	160	160	150
Emergency stop torque (permitted 1000 times during the service life of the gearhead)	T_{2Not}	Nm	65	75	75	75	75	75	75	75	75	75	75	75	75	75	
		in.lb	580	660	660	660	660	660	660	660	660	660	660	660	660	660	660
Nominal input speed (with T_{2N} and 20°C ambient temperature ^{a)})	n_{1N}	rpm	3700	3700	3700	3700	3700	3700	3700	3700	3700	3700	3700	3700	3700	3700	
Max. input speed	n_{1Max}	rpm	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	
Mean no load running torque (with $n_1=3000$ rpm and 20°C gearhead temperature)	T_{012}	Nm	0.3	0.3	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
		in.lb	2.7	2.2	1.8	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	0.9
Max. torsional backlash	j_t	arcmin	Standard ≤ 12 / Reduced ≤ 8					Standard ≤ 15 / Reduced ≤ 10									
Torsional rigidity	C_{d21}	Nm/ arcmin in lb/ arcmin	2.8	3.3	3.3	3.3	2.8	2.8	3.3	3.3	3.3	3.3	2.8	3.3	3.3	3.3	2.8
			25	29	29	29	25	25	29	29	29	29	25	29	29	29	25
Max. axial force ^{b)}	F_{2AMax}	N	1550					1550									
		lb _f	349					349									
Max. radial force ^{b)}	F_{2RMax}	N	1450					1450									
		lb _f	326					326									
Efficiency at full load	η	%	97					95									
Service life (For calculation, see the Chapter "Information")	L_n	h	> 20000					> 20000									
Weight incl. standard adapter plate	<i>m</i>	kg	2.0					2.4									
		lb _m	4.4					5.3									
Operating noise (with $n_1=3000$ rpm no load)	L_{PA}	dB(A)	≤ 70														
Max. permitted housing temperature		°C	+90														
		F	194														
Ambient temperature		°C	-15 to +40														
		F	5 to 104														
Lubrication		Lubricated for life															
Paint		Blue RAL 5002															
Direction of rotation		Motor and gearhead same direction															
Protection class		IP 64															
Moment of inertia (relates to the drive)	16	J_i	kgcm ²	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
			10 ³ in lb s ²	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Clamping hub diameter (mm)	19	J_i	kgcm ²	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
			10 ³ in lb s ²	0.5	0.5	0.5	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.4	0.5	0.4	0.4

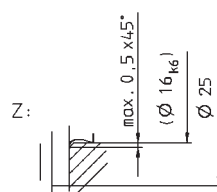
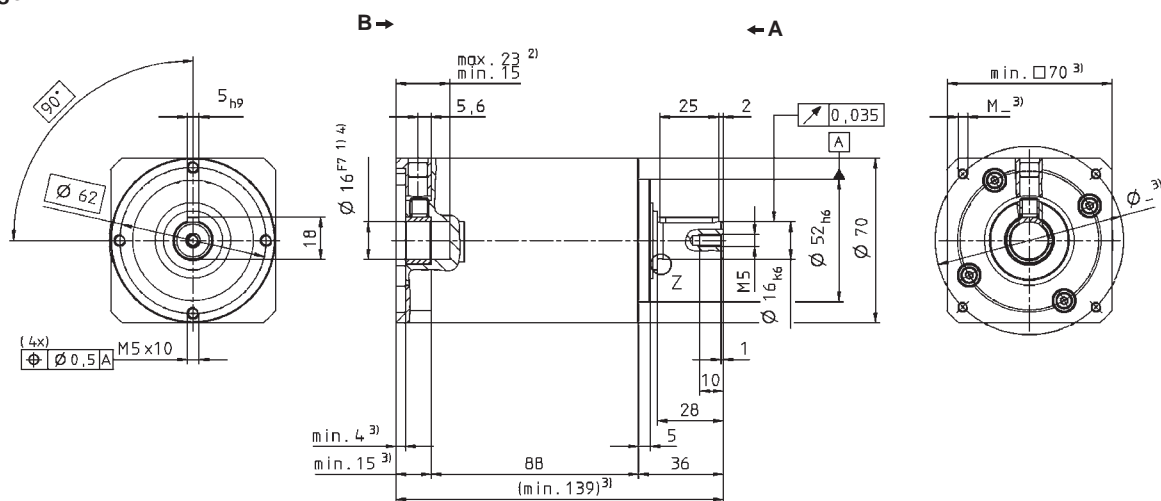
^{a)} For higher ambient temperatures, please contact us

^{b)} Refers to center of the output shaft, if $n_2 = 100$ rpm

LP+ 1-stage:



LP+ 2-stage:



Non-tolerated dimensions $\pm 1\text{mm}$

- 1) Check motor shaft fit.
- 2) Min./Max. permissible motor shaft length. Longer motor shafts are adaptable, please contact us.
- 3) The dimensions depend on the motor.
- 4) Smaller motor shaft diameter is compensated by a bushing. Motor shaft diameters up to 19mm available – please contact WITTENSTEIN alpha

Motor mounting according to operating manual



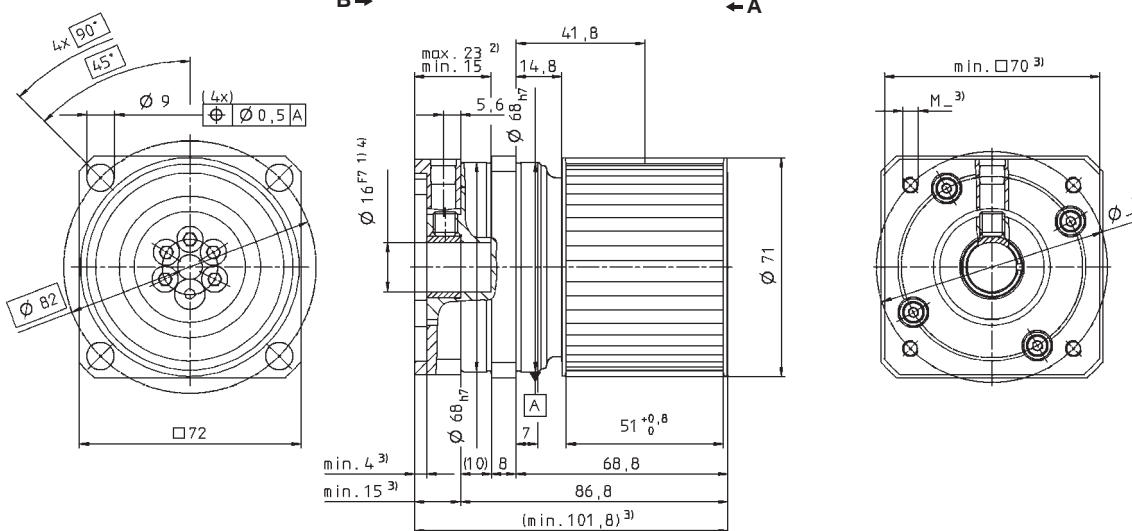
LPB+ 070 1 stage

			1-stage				
Ratio	<i>i</i>		3	4	5	7	10
Max. acceleration torque (max. 1000 cycles per hour)	T_{2B}	Nm	32	35	35	35	32
		in.lb	280	310	310	310	280
Nominal output torque (with n_{2N})	T_{2N}	Nm	16.5	18	18	18	16.5
		in.lb	150	160	160	160	150
Emergency stop torque (permitted 1000 times during the service life of the gearhead)	T_{2Not}	Nm	65	75	75	75	75
		in.lb	580	660	660	660	660
Nominal input speed (with T_{2N} and 20°C ambient temperature ^{a)})	n_{1N}	rpm	3700	3700	3700	3700	3700
Max. input speed	n_{1Max}	rpm	6000	6000	6000	6000	6000
Mean no load running torque (with $n_1=3000$ rpm and 20°C gearhead temperature)	T_{012}	Nm	0.3	0.3	0.2	0.1	0.1
		in.lb	2.7	2.2	1.8	1.2	1.2
Max. torsional backlash	j_t	arcmin	Standard ≤ 12 / Reduced ≤ 8				
Torsional rigidity	C_{t21}	Nm/ arcmin	-	-	-	-	-
		in lb/ arcmin	-	-	-	-	-
Max. axial force ^{b)}	F_{2AMax}	N	1550				
		lb _f	349				
Max. radial force ^{c)}	F_{2RMax}	N	3000				
		lb _f	675				
Efficiency at full load	η	%	97				
Service life (For calculation, see the Chapter "Information")	L_n	h	> 20000				
Weight incl. standard adapter plate	m	kg	1.6				
		lb _m	3.5				
Operating noise (with $n_1=3000$ rpm no load)	L_{PA}	dB(A)	≤ 70				
Max. permitted housing temperature		°C	+90				
		F	194				
Ambient temperature		°C	-15 to +40				
		F	5 to 104				
Lubrication	Lubricated for life						
Paint	Blue RAL 5002						
Direction of rotation	Motor and gearhead same direction						
Protection class	IP 64						
Moment of inertia (relates to the drive)	J_i	kgcm ²	0.3	0.3	0.2	0.2	0.2
		10 ⁻³ in lb s ²	0.3	0.2	0.2	0.2	0.2
Clamping hub diameter (mm)	J_i	kgcm ²	0.6	0.5	0.5	0.5	0.5
		10 ⁻³ in lb s ²	0.5	0.5	0.5	0.4	0.4

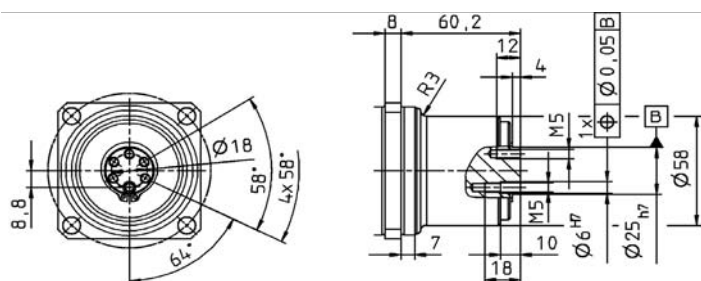
^{a)} For higher ambient temperatures, please contact us

^{b)} Refers to center of the output shaft, if $n_2 = 100$ rpm

^{c)} With mounted PLPB+ belt pulley and 100 rpm

LPB⁺ 1-stage:

Supplement: Belt pulley PLPB⁺ (not in the scope of delivery)



Belt Pulley PLPB+ 070 Profile AT5-0			
Pitch	p	mm	5
Number of teeth	z		43
Circumference	$z * p$	mm/rotation	215
Inertia	J	kgcm ²	3.86
Mass	m	kg	0.48

Non-tolerated dimensions ± 1 mm

- 1) Check motor shaft fit.
- 2) Min./Max. permissible motor shaft length. Longer motor shafts are adaptable, please contact us.
- 3) The dimensions depend on the motor.
- 4) Smaller motor shaft diameter is compensated by a bushing. Motor shaft diameters up to 19mm available – please contact WITTENSTEIN alpha

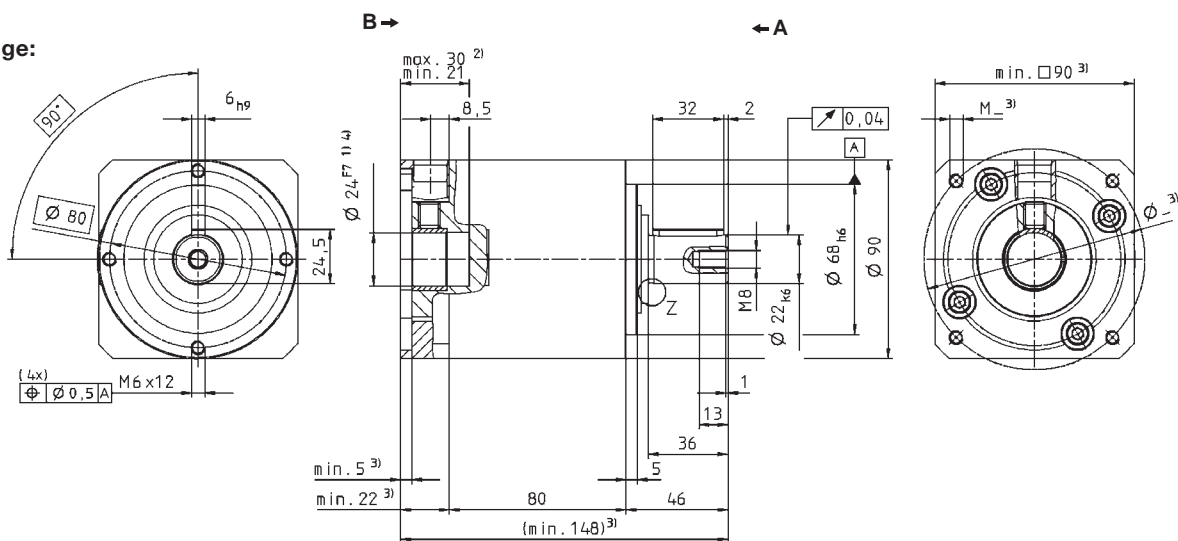
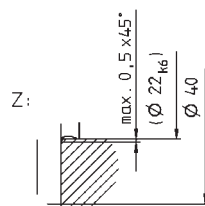
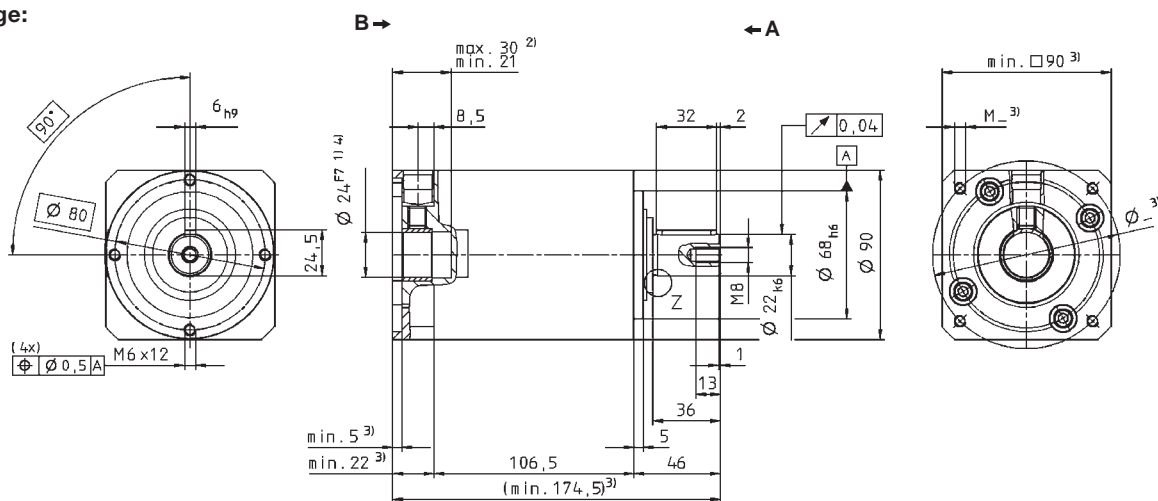


LP+ 090 1/2-stage

Ratio		i	1-stage					2-stage									
			3	4	5	7	10	15	16	20	25	30	35	50	70	100	
Max. acceleration torque (max. 1000 cycles per hour)	T_{2B}	Nm	80	90	90	90	80	80	90	90	90	90	80	90	90	80	
		in.lb	710	800	800	800	710	710	800	800	800	800	710	800	800	800	710
Nominal output torque (with n_{2N})	T_{2N}	Nm	40	45	45	45	40	40	45	45	45	45	40	45	45	40	
		in.lb	350	400	400	400	350	350	400	400	400	400	350	400	400	400	350
Emergency stop torque (permitted 1000 times during the service life of the gearhead)	T_{2Not}	Nm	185	190	190	190	190	190	190	190	190	190	190	190	190	190	
		in.lb	1640	1680	1680	1680	1680	1680	1680	1680	1680	1680	1680	1680	1680	1680	
Nominal input speed (with T_{2N} and 20°C ambient temperature ^{a)})	n_{1N}	rpm	3400	3400	3400	3400	3400	3400	3400	3400	3400	3400	3400	3400	3400		
Max. input speed	n_{1Max}	rpm	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000		
Mean no load running torque (with $n_1=3000$ rpm and 20°C gearhead temperature)	T_{012}	Nm	0.6	0.6	0.5	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	
		in.lb	5.3	4.9	4.4	3.5	3.4	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.2	2.2	2.2
Max. torsional backlash	j_t	arcmin	Standard ≤ 12 / Reduced ≤ 8					Standard ≤ 15 / Reduced ≤ 10									
Torsional rigidity	C_{d21}	Nm/ arcmin in lb/ arcmin	8.5	9.5	9.5	9.5	8.5	8.5	9.5	9.5	9.5	9.5	8.5	9.5	9.5	9.5	8.5
			75	84	84	84	75	75	84	84	84	84	75	84	84	84	75
Max. axial force ^{b)}	F_{2AMax}	N	1900					1900									
		lb _f	428					428									
Max. radial force ^{b)}	F_{2RMax}	N	2400					2400									
		lb _f	540					540									
Efficiency at full load	η	%	97					95									
Service life (For calculation, see the Chapter "Information")	L_n	h	> 20000					> 20000									
Weight incl. standard adapter plate	m	kg	4.0					5.0									
		lb _m	8.8					11.1									
Operating noise (with $n_1=3000$ rpm no load)	L_{PA}	dB(A)	≤ 72														
Max. permitted housing temperature		°C	+90														
		F	194														
Ambient temperature		°C	-15 to +40														
		F	5 to 104														
Lubrication			Lubricated for life														
Paint			Blue RAL 5002														
Direction of rotation			Motor and gearhead same direction														
Protection class			IP 64														
Moment of inertia (relates to the drive)	24	J_1	kgcm ²	1.8	1.6	1.6	1.5	1.4	1.5	1.6	1.6	1.5	1.4	1.5	1.4	1.4	1.4
			10 ³ in lb s ²	1.6	1.4	1.4	1.3	1.3	1.3	1.4	1.4	1.3	1.3	1.3	1.3	1.3	1.3
Clamping hub diameter (mm)	28	J_1	kgcm ²	2.1	1.9	1.9	1.8	1.7	1.8	1.9	1.9	1.8	1.7	1.8	1.7	1.7	1.7
			10 ³ in lb s ²	1.9	1.7	1.6	1.6	1.5	1.6	1.6	1.6	1.6	1.5	1.6	1.5	1.5	1.5

^{a)} For higher ambient temperatures, please contact us

^{b)} Refers to center of the output shaft, if $n_2 = 100$ rpm

LP+ 1-stage:

LP+ 2-stage:

 Non-tolerated dimensions $\pm 1\text{mm}$

- 1) Check motor shaft fit.
- 2) Min./Max. permissible motor shaft length. Longer motor shafts are adaptable, please contact us.
- 3) The dimensions depend on the motor.
- 4) Smaller motor shaft diameter is compensated by a bushing. Motor shaft diameters up to 28mm available – please contact WITTENSTEIN alpha

Motor mounting according to operating manual



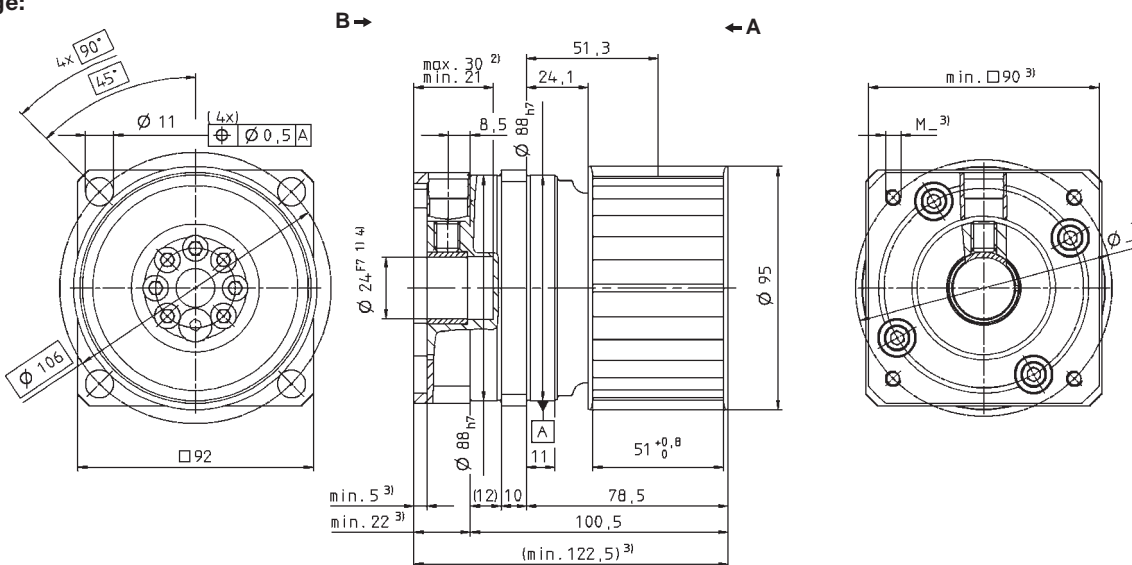
LPB+ 090 1-stage

			1-stage					
Ratio	<i>i</i>		3	4	5	7	10	
Max. acceleration torque (max. 1000 cycles per hour)	T_{2B}	Nm	80	90	90	90	80	
		in.lb	710	800	800	800	710	
Nominal output torque (with n_{2N})	T_{2N}	Nm	40	45	45	45	40	
		in.lb	350	400	400	400	350	
Emergency stop torque (permitted 1000 times during the service life of the gearhead)	T_{2Not}	Nm	185	190	190	190	190	
		in.lb	1640	1680	1680	1680	1680	
Nominal input speed (with T_{2N} and 20°C ambient temperature ^{a)})	n_{1N}	rpm	3400	3400	3400	3400	3400	
Max. input speed	n_{1Max}	rpm	6000	6000	6000	6000	6000	
Mean no load running torque (with $n_1=3000$ rpm and 20°C gearhead temperature)	T_{012}	Nm	0.6	0.6	0.5	0.4	0.4	
		in.lb	5.3	4.9	4.4	3.5	3.4	
Max. torsional backlash	j_t	arcmin	Standard ≤ 12 / Reduced ≤ 8					
Torsional rigidity	C_{d21}	Nm/ arcmin	-	-	-	-	-	
		in lb/ arcmin	-	-	-	-	-	
Max. axial force ^{b)}	F_{2AMax}	N	1900					
		lb _f	428					
Max. radial force ^{c)}	F_{2RMax}	N	4300					
		lb _f	967.5					
Efficiency at full load	η	%	97					
Service life (For calculation, see the Chapter "Information")	L_n	h	> 20000					
Weight incl. standard adapter plate	m	kg	3.3					
		lb _m	7.3					
Operating noise (with $n_1=3000$ rpm no load)	L_{PA}	dB(A)	≤ 72					
Max. permitted housing temperature		°C	+90					
		F	194					
Ambient temperature		°C	-15 to +40					
		F	5 to 104					
Lubrication			Lubricated for life					
Paint			Blue RAL 5002					
Direction of rotation			Motor and gearhead same direction					
Protection class			IP 64					
Moment of inertia (relates to the drive)	24	J_i	kgcm ²	1.8	1.6	1.5	1.5	1.4
			10 ³ in lb s ²	1.6	1.4	1.4	1.3	1.3
Clamping hub diameter (mm)	28	J_i	kgcm ²	2.1	1.9	1.8	1.8	1.7
			10 ³ in lb s ²	1.9	1.7	1.6	1.6	1.5

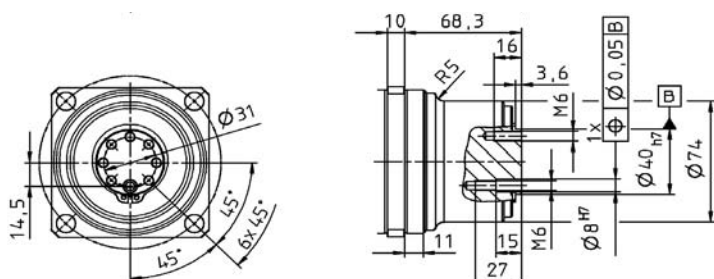
^{a)} For higher ambient temperatures, please contact us

^{b)} Refers to center of the output shaft, if $n_2 = 100$ rpm

^{c)} With mounted PLPB+ belt pulley and 100 rpm

LPB⁺ 1-stage:

Supplement: Belt pulley PLPB⁺ (not in the scope of delivery)



Belt Pulley PLPB ⁺ 090 Profile AT10-0			
Pitch	p	mm	10
Number of teeth	z		28
Circumference	$z * p$	mm/rotation	280
Inertia	J	kgcm ²	10.95
Mass	m	kg	0.82

Non-tolerated dimensions ± 1 mm

- 1) Check motor shaft fit.
- 2) Min./Max. permissible motor shaft length. Longer motor shafts are adaptable, please contact us.
- 3) The dimensions depend on the motor.
- 4) Smaller motor shaft diameter is compensated by a bushing. Motor shaft diameters up to 28mm available – please contact WITTENSTEIN alpha

Motor mounting according to operating manual



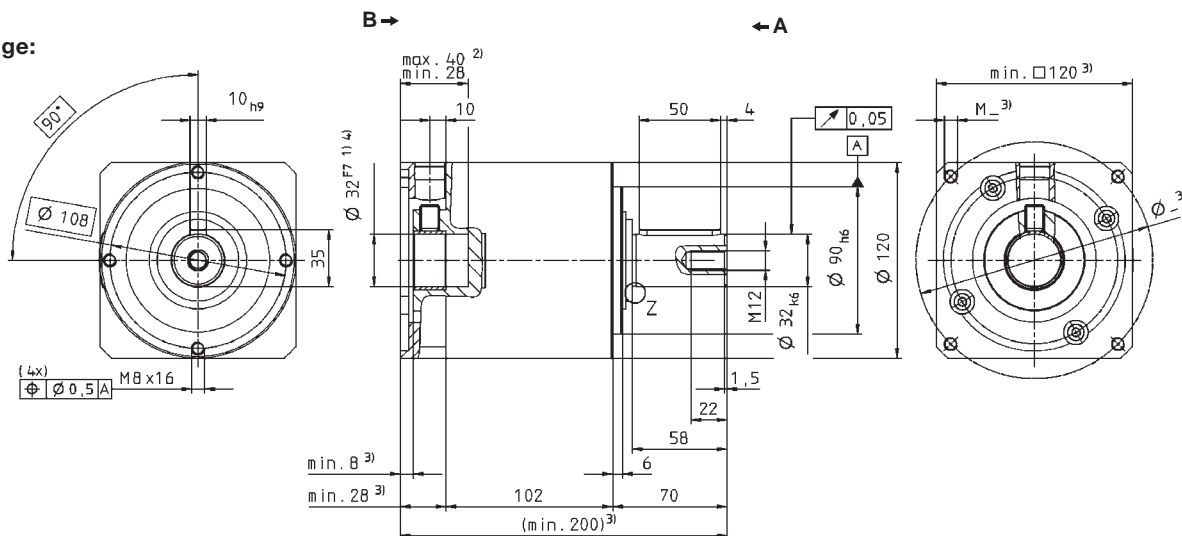
LP+ 120 1/2-stage

			1-stage					2-stage									
Ratio	<i>i</i>		3	4	5	7	10	15	16	20	25	30	35	50	70	100	
Max. acceleration torque (max. 1000 cycles per hour)	T_{2B}	Nm	200	220	220	220	200	200	220	220	220	200	220	220	220	200	
		in.lb	1770	1950	1950	1950	1770	1770	1950	1950	1950	1770	1950	1950	1950	1770	
Nominal output torque (with n_{2N})	T_{2N}	Nm	100	110	110	110	100	100	110	110	110	100	110	110	110	100	
		in.lb	890	970	970	970	890	890	970	970	970	890	970	970	970	890	
Emergency stop torque (permitted 1000 times during the service life of the gearhead)	T_{2Not}	Nm	400	480	480	480	480	480	480	480	480	480	480	480	480	480	
		in.lb	3540	4250	4250	4250	4250	4250	4250	4250	4250	4250	4250	4250	4250	4250	
Nominal input speed (with T_{2N} and 20°C ambient temperature ^{a)})	n_{1N}	rpm	2600	2600	2600	2600	2600	2600	2600	2600	2600	2600	2600	2600	2600	2600	
Max. input speed	n_{1Max}	rpm	4800	4800	4800	4800	4800	4800	4800	4800	4800	4800	4800	4800	4800	4800	
Mean no load running torque (with $n_1=3000$ rpm and 20°C gearhead temperature)	T_{012}	Nm	1.1	1.0	0.9	0.8	0.8	0.6	0.6	0.5	0.5	0.4	0.4	0.4	0.4	0.4	
		in.lb	9.7	8.9	8.0	7.1	7.1	5.3	4.9	4.4	4.4	3.5	3.5	3.5	3.5	3.5	
Max. torsional backlash	j_t	arcmin	Standard ≤ 12 / Reduced ≤ 8					Standard ≤ 15 / Reduced ≤ 10									
Torsional rigidity	C_{d21}	Nm/ arcmin in lb/ arcmin	22	25	25	25	22	22	25	25	25	22	25	25	25	22	
			190	220	220	220	190	190	220	220	220	190	220	220	220	190	
Max. axial force ^{b)}	F_{2AMax}	N	4000					4000									
		lb _f	900					900									
Max. radial force ^{b)}	F_{2RMax}	N	4600					4600									
		lb _f	1035					1035									
Efficiency at full load	η	%	97					95									
Service life (For calculation, see the Chapter "Information")	L_n	h	> 20000					> 20000									
Weight incl. standard adapter plate	m	kg	8.6					11.0									
		lb _m	19.0					24.3									
Operating noise (with $n_1=3000$ rpm no load)	L_{PA}	dB(A)	≤ 74														
Max. permitted housing temperature		°C	+90														
		F	194														
Ambient temperature		°C	-15 to +40														
		F	5 to 104														
Lubrication			Lubricated for life														
Paint			Blue RAL 5002														
Direction of rotation			Motor and gearhead same direction														
Protection class			IP 64														
Moment of inertia (relates to the drive)	32	J_i	kgcm ²	6.9	5.9	5.6	5.2	5.1	5.4	5.5	5.5	5.3	5.0	5.3	5.0	5.0	5.0
			10 ³ in lb s ²	6.1	5.3	4.9	4.6	4.5	4.7	4.9	4.9	4.7	4.4	4.7	4.4	4.4	4.4
Clamping hub diameter (mm)	38	J_i	kgcm ²	7.8	6.8	6.4	6.1	5.9	6.2	6.4	6.4	6.2	5.9	6.2	5.9	5.9	5.9
			10 ³ in lb s ²	6.9	6.0	5.7	5.4	5.2	5.5	5.7	5.7	5.5	5.2	5.5	5.2	5.2	5.2

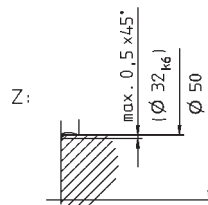
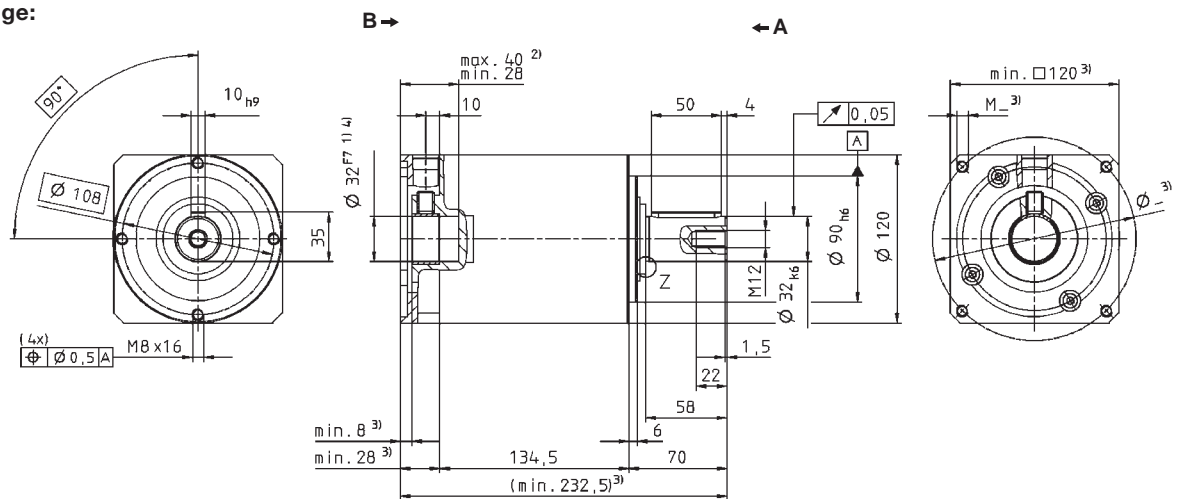
^{a)} For higher ambient temperatures, please contact us

^{b)} Refers to center of the output shaft, if $n_2 = 100$ rpm

LP+ 1-stage:



LP+ 2-stage:



Non-tolerated dimensions $\pm 1\text{mm}$

- 1) Check motor shaft fit.
- 2) Min./Max. permissible motor shaft length. Longer motor shafts are adaptable, please contact us.
- 3) The dimensions depend on the motor.
- 4) Smaller motor shaft diameter is compensated by a bushing. Motor shaft diameters up to 38mm available – please contact WITTENSTEIN alpha



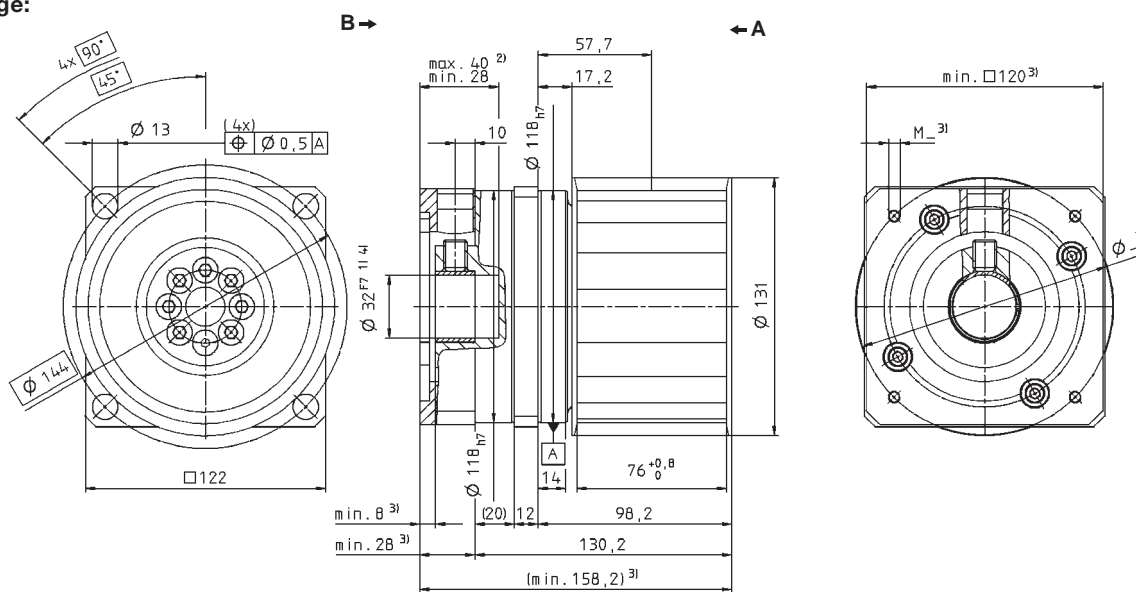
LPB+ 120 1-stage

		1-stage						
Ratio	<i>i</i>		3	4	5	7	10	
Max. acceleration torque (max. 1000 cycles per hour)	T_{2B}	Nm	200	220	220	220	200	
		in.lb	1770	1950	1950	1950	1770	
Nominal output torque (with n_{2N})	T_{2N}	Nm	100	110	110	110	100	
		in.lb	890	970	970	970	890	
Emergency stop torque (permitted 1000 times during the service life of the gearhead)	T_{2Not}	Nm	400	480	480	480	480	
		in.lb	3540	4250	4250	4250	4250	
Nominal input speed (with T_{2N} and 20°C ambient temperature ^{a)})	n_{1N}	rpm	2600	2600	2600	2600	2600	
Max. input speed	n_{1Max}	rpm	4800	4800	4800	4800	4800	
Mean no load running torque (with $n_1=3000$ rpm and 20°C gearhead temperature)	T_{012}	Nm	1.1	1.0	0.9	0.8	0.8	
		in.lb	9.7	8.9	8.0	7.1	7.1	
Max. torsional backlash	j_t	arcmin	Standard ≤ 12 / Reduced ≤ 8					
Torsional rigidity	C_{d21}	Nm/ arcmin	-	-	-	-	-	
		in lb/ arcmin	-	-	-	-	-	
Max. axial force ^{b)}	F_{2AMax}	N	4000					
		lb _f	900					
Max. radial force ^{c)}	F_{2RMax}	N	9500					
		lb _f	2138					
Efficiency at full load	η	%	97					
Service life (For calculation, see the Chapter "Information")	L_n	h	> 20000					
Weight incl. standard adapter plate	m	kg	7.3					
		lb _m	16.1					
Operating noise (with $n_1=3000$ rpm no load)	L_{PA}	dB(A)	≤ 74					
Max. permitted housing temperature		°C	+90					
		F	194					
Ambient temperature		°C	-15 to +40					
		F	5 to 104					
Lubrication			Lubricated for life					
Paint			Blue RAL 5002					
Direction of rotation			Motor and gearhead same direction					
Protection class			IP 64					
Moment of inertia (relates to the drive)	32	J_i	kgcm ²	6.8	5.9	5.6	5.2	5.1
			10 ³ in lb s ²	6.1	5.2	4.9	4.6	4.5
Clamping hub diameter (mm)	38	J_i	kgcm ²	7.7	6.8	6.4	6.1	5.9
			10 ³ in lb s ²	6.8	6.0	5.7	5.4	5.2

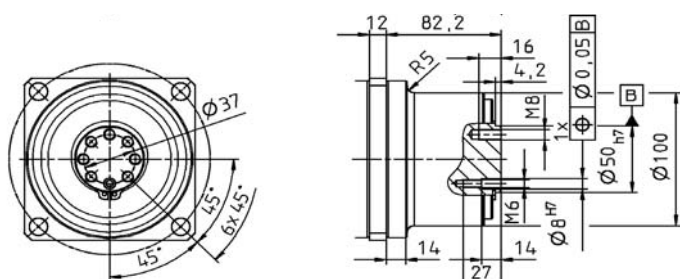
^{a)} For higher ambient temperatures, please contact us

^{b)} Refers to center of the output shaft, if $n_2 = 100$ rpm

^{c)} With mounted PLPB+ belt pulley and 100 rpm

LPB⁺ 1-stage:

Supplement: Belt pulley PLPB⁺ (not in the scope of delivery)



Belt Pulley PLPB ⁺ 120 Profile AT20-0			
Pitch	p	mm	20
Number of teeth	z		19
Circumference	$z \cdot p$	mm/rotation	380
Inertia	J	kgcm ²	50.62
Mass	m	kg	2.61

Non-tolerated dimensions ± 1 mm

- 1) Check motor shaft fit.
- 2) Min./Max. permissible motor shaft length. Longer motor shafts are adaptable, please contact us.
- 3) The dimensions depend on the motor.
- 4) Smaller motor shaft diameter is compensated by a bushing. Motor shaft diameters up to 38mm available – please contact WITTENSTEIN alpha

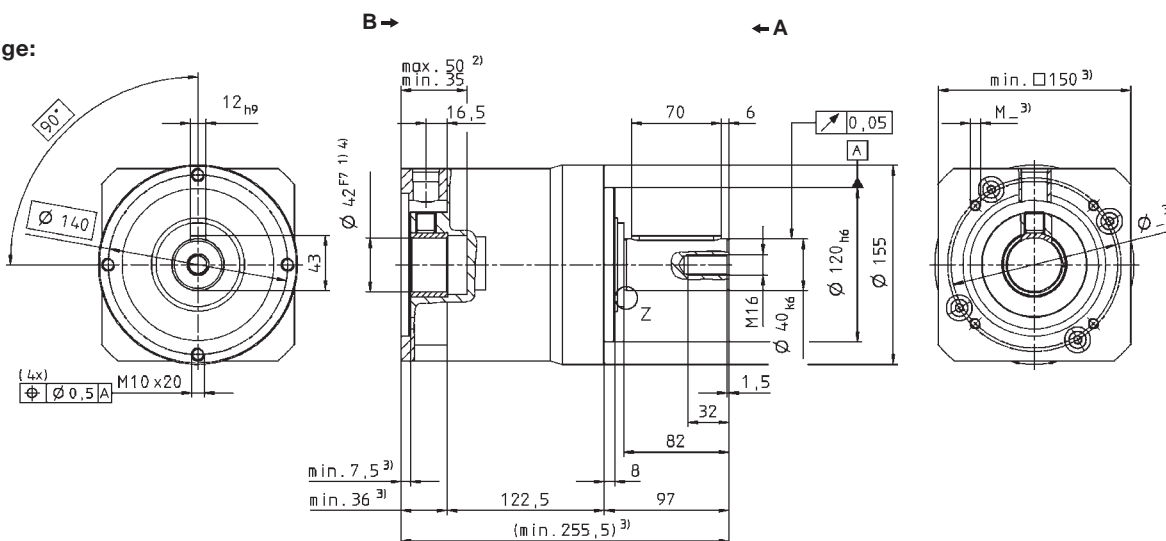
LP+ 155 1/2-stage

			1-stage		2-stage			
Ratio	<i>i</i>		5	10	25	50	100	
Max. acceleration torque (max. 1000 cycles per hour)	T_{2B}	Nm	450	350	450	450	350	
		in.lb	3980	3100	3980	3980	3100	
Nominal output torque (with n_{2N})	T_{2N}	Nm	320	190	320	320	190	
		in.lb	2830	1680	2830	2830	1680	
Emergency stop torque (permitted 1000 times during the service life of the gearhead)	T_{2Not}	Nm	1000	1000	1000	1000	1000	
		in.lb	8850	8850	8850	8850	8850	
Nominal input speed (with T_{2N} and 20°C ambient temperature ^{a)})	n_{1N}	rpm	2000	2000	2000	2000	2000	
Max. input speed	n_{1Max}	rpm	3600	3600	3600	3600	3600	
Mean no load running torque (with $n_1=3000$ rpm and 20°C gearhead temperature)	T_{012}	Nm	2.8	2.5	1.0	0.8	0.7	
		in.lb	25	22	8.9	7.1	6.2	
Max. torsional backlash	j_t	arcmin	Standard ≤ 12 / Reduced ≤ 8		Standard ≤ 15 / Reduced ≤ 10			
Torsional rigidity	C_{t21}	Nm/arcmin	55	44	55	55	44	
		in.lb/arcmin	490	390	490	490	390	
Max. axial force ^{b)}	F_{2AMax}	N	6000		6000			
		lb _f	1350		1350			
Max. radial force ^{b)}	F_{2RMax}	N	7500		7500			
		lb _f	1688		1688			
Efficiency at full load	η	%	97		95			
Service life (For calculation, see the Chapter "Information")	L_n	h	> 20000		> 20000			
Weight incl. standard adapter plate	<i>m</i>	kg	17.0		21.0			
		lb _m	37.6		46.4			
Operating noise (with $n_1=3000$ rpm no load)	L_{PA}	dB(A)	≤ 75					
Max. permitted housing temperature			°C					
			°F					
Ambient temperature			°C					
			°F					
Lubrication	Lubricated for life							
Paint	Blue RAL 5002							
Direction of rotation	Motor and gearhead same direction							
Protection class	IP 64							
Moment of inertia (relates to the drive)	1-stage: 42	J_i	kgcm ²	17	16	–	–	–
			10 ³ in lb s ²	15	14	–	–	–
Clamping hub diameter (mm)	2-stage: 32	J_i	kgcm ²	–	–	5.4	5.0	5.0
			10 ³ in lb s ²	–	–	4.8	4.4	4.4
	2-stage: 38	J_i	kgcm ²	–	–	6.3	5.9	5.9
			10 ³ in lb s ²	–	–	5.5	5.2	5.2

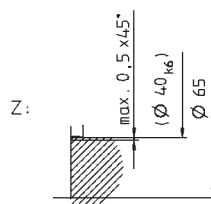
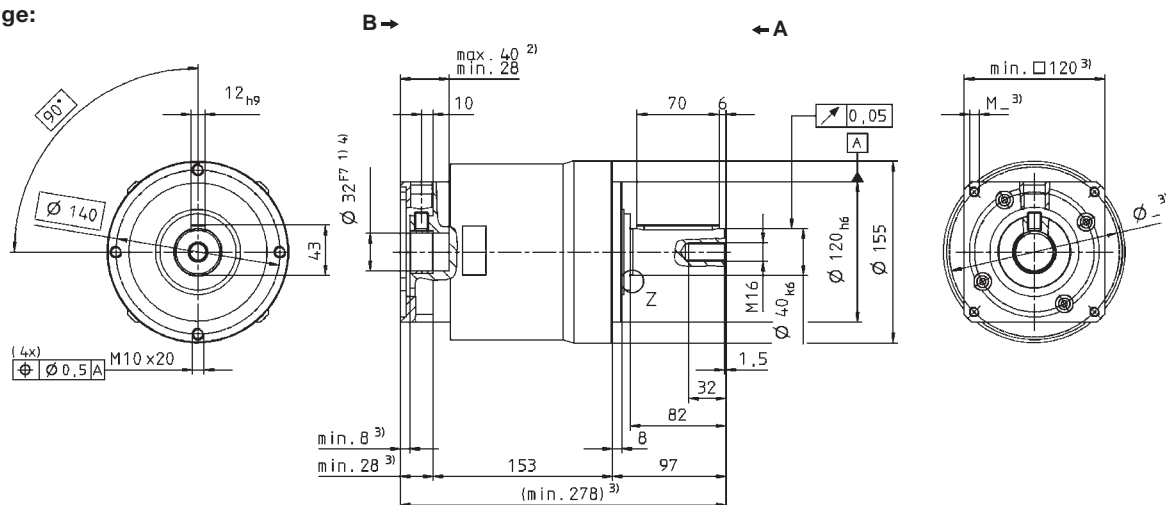
^{a)} For higher ambient temperatures, please contact us

^{b)} Refers to center of the output shaft, if $n_2 = 100$ rpm

LP+ 1-stage:



LP+ 2-stage:



Non-tolerated dimensions ± 1 mm

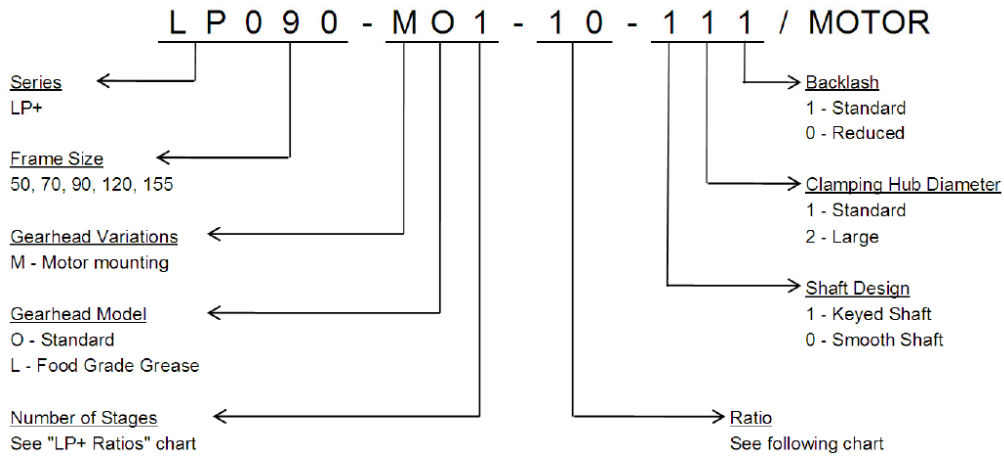
- 1) Check motor shaft fit.
- 2) Min./Max. permissible motor shaft length. Longer motor shafts are adaptable, please contact us.
- 3) The dimensions depend on the motor.
- 4) Smaller motor shaft diameter is compensated by a bushing.
LP+ 2-stage: Motor shaft diameters up to 38mm available – please contact WITTENSTEIN alpha

Motor mounting according to operating manual





alpha LP+ & LPB+



LP+ Ratios

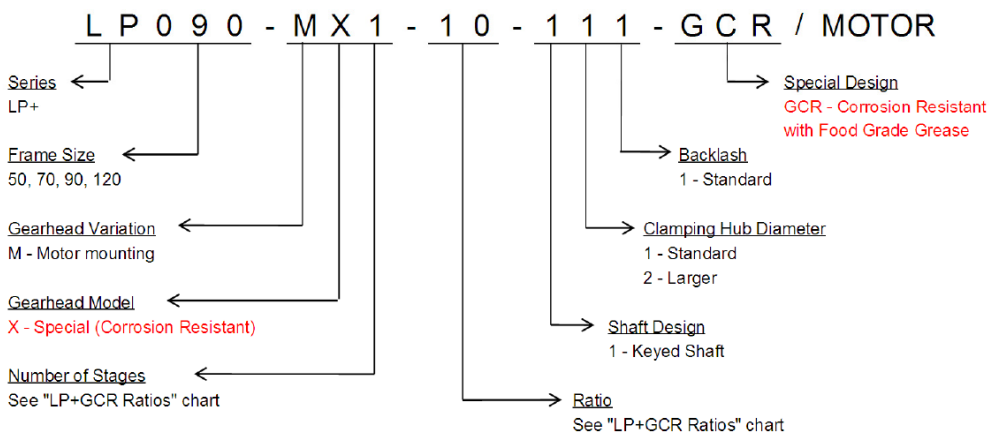
Frame Sizes	1-Stage				2-Stage							
LP050	4	5	7	10	16	20	25	30	35	50	70	100

Frame Sizes	1-Stage				2-Stage									
070 thru 120	3	4	5	7	10	15	16	20	25	30	35	50	70	100

Frame Sizes	1-Stage	2-Stage			
LP155	5	10	25	50	100

Clamping Hub Diameters

Size	Standard	Large
050	11	14
070	16	19
090	24	28
120	32	38
155-MO1	42	
155-MO2	32	38



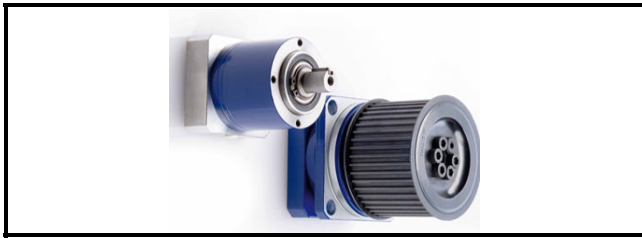
LP+ GCR Ratios

Frame Sizes	1-Stage				2-Stage							
LP050	4	5	7	10	16	20	25	30	35	50	70	100

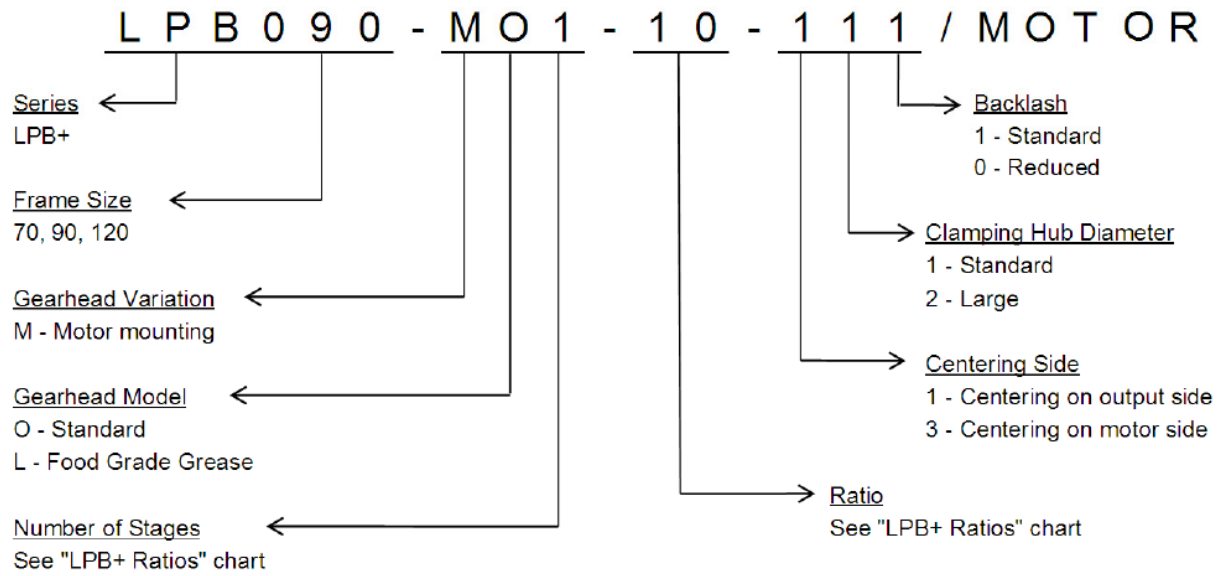
Frame Sizes	1-Stage				2-Stage									
070 thru 120	3	4	5	7	10	15	16	20	25	30	35	50	70	100

Clamping Hub Diameters

Size	Standard	Large
050	11	14
070	16	19
090	24	28
120	32	38



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LPB+ Ratios

Stages	1-Stage				
Ratios	3	4	5	7	10

Clamping Hub Diameters

Size	Standard	Large
070	16	19
090	24	28
120	32	38