

SP+ 100 MF 1-stage

					1-stage					
Ratio ^{a)}			<i>i</i>		3	4	5	7	8	10
cymex®-optimized acceleration torque (please contact us regarding the design)			<i>T</i> _{2Bcym}	Nm	–	370	400	330	260	260
				in.lb	–	3275	3540	2921	2301	2301
Max. acceleration torque (max. 1000 cycles per hour)			<i>T</i> _{2B}	Nm	235	315	315	315	235	235
				in.lb	2080	2788	2788	2788	2080	2080
Nominal output torque (with <i>n</i> _{2N})			<i>T</i> _{2N}	Nm	120	180	175	170	120	120
				in.lb	1062	1593	1549	1505	1062	1062
Emergency stop torque (permitted 1000 times during the service life of the gearhead)			<i>T</i> _{2Not}	Nm	500	625	625	625	500	500
				in.lb	4425	5531	5531	5531	4425	4425
Nominal input speed (with <i>T</i> _{2N} and 20°C ambient temperature) ^{b)}			<i>n</i> _{1N}	rpm	2500	2500	2500	2800	2800	2800
Max. input speed			<i>n</i> _{1Max}	rpm	4500	4500	4500	4500	4500	4500
Mean no load running torque (with <i>n</i> ₁ = 3000 rpm and 20°C gearhead temperature) ^{c)}			<i>T</i> ₀₁₂	Nm	3.5	2.7	2.4	1.6	1.4	1.4
				in.lb	31.0	23.9	21.2	14.2	12.4	12.4
Max. torsional backlash			<i>j</i> _t	arcmin	Standard ≤ 3 / Reduced ≤ 1					
Torsional rigidity			<i>C</i> _{t21}	Nm/ arcmin	31					
				in.lb/ arcmin	274					
Max. axial force ^{d)}			<i>F</i> _{2AMax}	N	5650					
				lb _f	1271					
Max. radial force ^{d)}			<i>F</i> _{2RMax}	N	6600					
				lb _f	1485					
Max. tilting moment			<i>M</i> _{2KMax}	Nm	487					
				in.lb	4310					
Efficiency at full load			η	%	97					
Service life (For calculation, see the Chapter "Information")			<i>L</i> _h	h	> 20000					
Weight incl. standard adapter plate			<i>m</i>	kg	7.7					
				lb _m	17.0					
Operating noise (with <i>i</i> =10 and <i>n</i> ₁ = 3000 rpm no load)			<i>L</i> _{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					
Paint					Blue RAL 5002					
Direction of rotation					Motor and gearhead same direction					
Protection class					IP 65					
Moment of inertia (relates to the drive)	E	19	<i>J</i> ₁	kgcm ²	3.29	2.35	1.92	1.60	1.38	1.38
				10 ⁻³ in.lb.s ²	2.91	2.08	1.70	1.42	1.22	1.22
Clamping hub diameter [mm]	G	24	<i>J</i> ₁	kgcm ²	3.99	3.04	2.61	2.29	2.07	2.07
				10 ⁻³ in.lb.s ²	3.53	2.69	2.31	2.03	1.83	1.83
	H	28	<i>J</i> ₁	kgcm ²	3.59	2.65	2.22	1.90	1.68	1.68
				10 ⁻³ in.lb.s ²	3.18	2.35	1.97	1.68	1.49	1.49
	K	38	<i>J</i> ₁	kgcm ²	11.1	10.1	9.68	9.36	9.14	9.14
				10 ⁻³ in.lb.s ²	9.78	8.95	8.57	8.28	8.09	8.09

Reduced mass moments of inertia available on request.

^{a)} Other ratios available on request

^{b)} For higher ambient temperatures, please reduce input speed

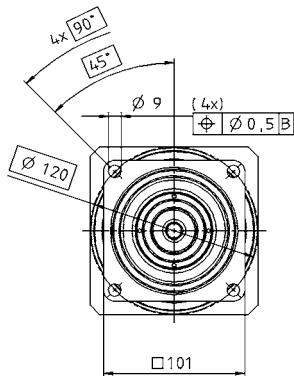
^{c)} Valid for clamping hub diameter of 24 mm

^{d)} Refers to centre of the output shaft or flange

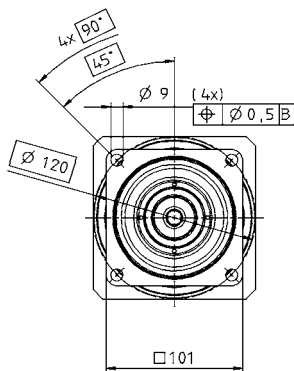
View A

View B

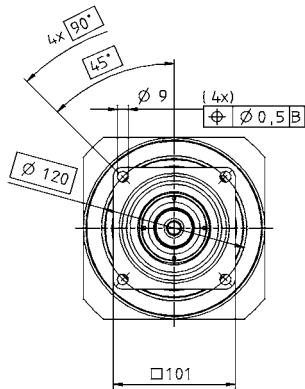
up to 19⁴⁾ (E)
clamping hub
diameter



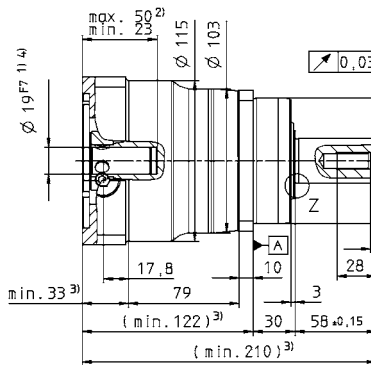
up to 24/28⁴⁾
(G/H) clamping
hub diameter



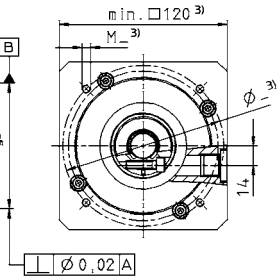
up to 38⁴⁾ (K)
clamping hub
diameter



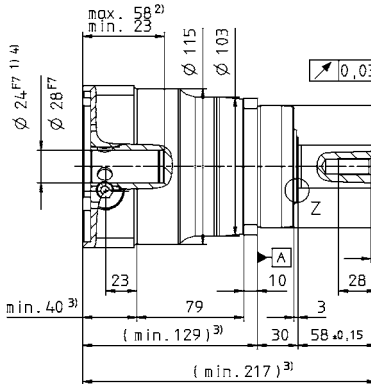
B →



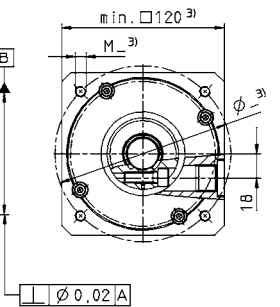
← A



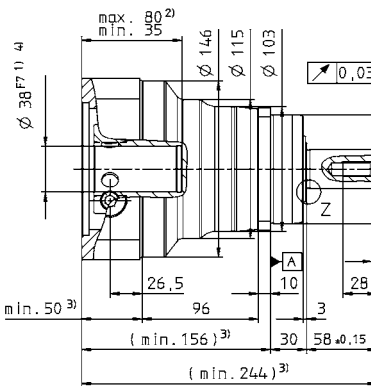
B →



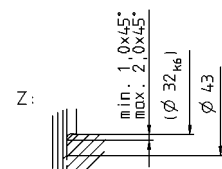
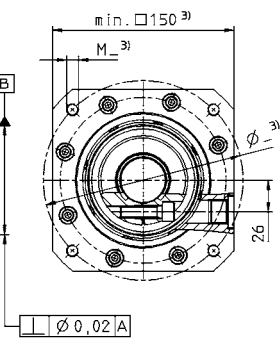
← A



B →

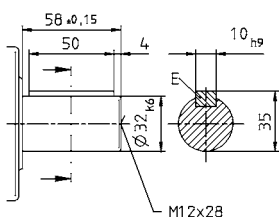


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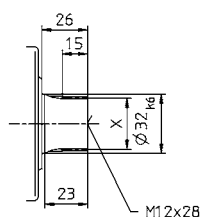


Alternatives: Output shaft variants

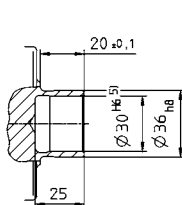
Output shaft with key in mm
E = key as per DIN 6885, sheet 1, form A



Involute gearing DIN 5480 in mm
X = W 32 x 1.25 x 30 x 24 x 6 m, DIN 5480



Shaft mounted
Mounted via shrink disc



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 with a minimum thickness of 1 mm.
- 5) Tolerance h6 for mounted shaft.



CAD data is available under www.wittenstein-alpha.com



Motor mounting according to operating manual

Planetary gearheads
High End

SP+

MF

SP+ 100 MF 2-stage

				2-stage										
Ratio ^{a)}		<i>i</i>		16	20	25	28	32	35	40	50	70	100	
cymex®-optimized acceleration torque (please contact us regarding the design)		<i>T</i> _{2Bcym}	Nm	370	370	400	370	260	400	370	400	330	260	
			in.lb	3275	3275	3540	3275	2301	3540	3275	3540	2921	2301	
Max. acceleration torque (max. 1000 cycles per hour)		<i>T</i> _{2B}	Nm	315	315	315	315	235	315	315	315	315	235	
			in.lb	2788	2788	2788	2788	2080	2788	2788	2788	2788	2080	
Nominal output torque (with <i>n</i> _{1N})		<i>T</i> _{2N}	Nm	180	180	175	180	180	175	180	175	170	120	
			in.lb	1593	1593	1549	1593	1593	1549	1593	1549	1505	1062	
Emergency stop torque (permitted 1000 times during the service life of the gearhead)		<i>T</i> _{2Not}	Nm	625	625	625	625	625	625	625	625	625	500	
			in.lb	5531	5531	5531	5531	5531	5531	5531	5531	5531	5531	4425
Nominal input speed (with <i>T</i> _{2N} and 20°C ambient temperature) ^{b)}		<i>n</i> _{1N}	rpm	3100	3100	3100	3100	3100	3100	3100	3500	4200	4200	
Max. input speed		<i>n</i> _{1Max}	rpm	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	
Mean no load running torque (with <i>n</i> ₁ = 3000 rpm and 20°C gearhead temperature) ^{c)}		<i>T</i> ₀₁₂	Nm	1.5	1.2	1.1	0.9	0.9	0.8	0.7	0.6	0.5	0.5	
			in.lb	13.3	10.6	9.7	8.8	8.8	7.1	6.2	5.3	4.4	4.4	
Max. torsional backlash		<i>j</i> _t	arcmin	Standard ≤ 5 / Reduced ≤ 3										
Torsional rigidity		<i>C</i> _{t21}	Nm/ arcmin	31										
			in.lb/ arcmin	274										
Max. axial force ^{d)}		<i>F</i> _{2AMax}	N	5650										
			lb _f	1271										
Max. radial force ^{d)}		<i>F</i> _{2RMMax}	N	6600										
			lb _f	1485										
Max. tilting moment		<i>M</i> _{2KMMax}	Nm	487										
			in.lb	4310										
Efficiency at full load		η	%	94										
Service life (For calculation, see the Chapter "Information")		<i>L</i> _h	h	> 20000										
Weight incl. standardadapter plate		<i>m</i>	kg	7.9										
			lb _m	17.5										
Operating noise (with <i>i</i> =100 and <i>n</i> ₁ = 3000 rpm no load)		<i>L</i> _{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										
Paint				Blue RAL 5002										
Direction of rotation				Motor and gearhead same direction										
Protection class				IP 65										
Moment of inertia (relates to the drive)	C	14	<i>J</i> ₁	kgcm²	0.64	0.54	0.52	0.43	0.63	0.43	0.38	0.38	0.37	0.37
				10 ⁻³ in.lb.s²	0.57	0.47	0.46	0.38	0.56	0.38	0.34	0.33	0.33	0.33
	E	19	<i>J</i> ₁	kgcm²	0.81	0.70	0.69	0.60	0.80	0.59	0.55	0.54	0.54	0.54
				10 ⁻³ in.lb.s²	0.72	0.62	0.61	0.53	0.71	0.52	0.48	0.48	0.48	0.47
	G	24	<i>J</i> ₁	kgcm²	2.18	2.07	2.05	1.97	2.23	1.96	1.92	1.91	1.91	1.91
				10 ⁻³ in.lb.s²	1.93	1.83	1.82	1.74	1.97	1.74	1.70	1.69	1.69	1.69
	H	28	<i>J</i> ₁	kgcm²	1,98	1,90	1,88	1,81	2,06	1,80	1,76	1,75	1,75	1,75
				10 ⁻³ in.lb.s²	1,75	1,68	1,66	1,60	1,82	1,59	1,56	1,55	1,55	1,55

Reduced mass moments of inertia available on request.

^{a)} Other ratios available on request

^{b)} For higher ambient temperatures, please reduce input speed

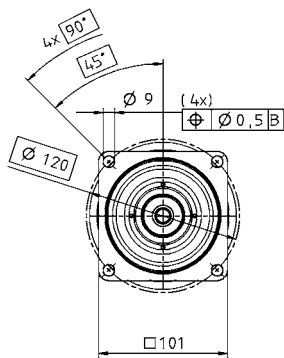
^{c)} Valid for clamping hub diameter of 19 mm

^{d)} Refers to centre of the output shaft or flange

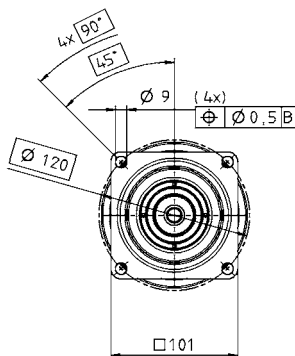
View A

View B

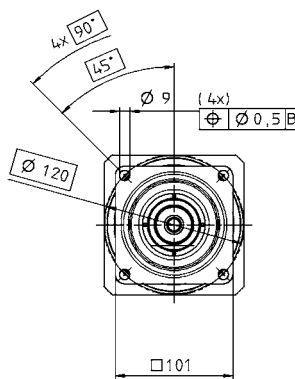
up to 14⁴⁾ (C)
clamping hub
diameter



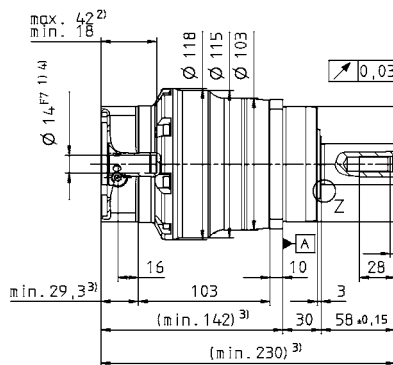
up to 19⁴⁾ (E)
clamping hub
diameter



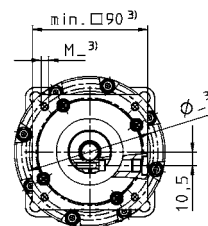
up to 24/28⁴⁾
(G/H)
clamping hub
diameter



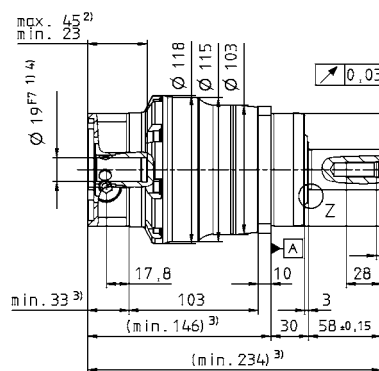
B →



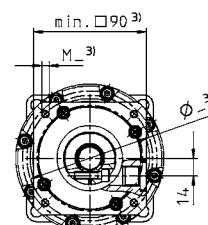
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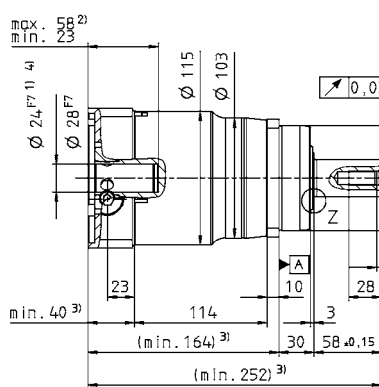
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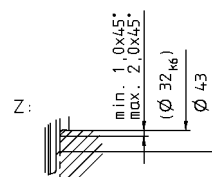
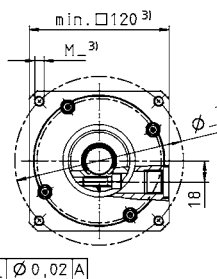
← A



B →

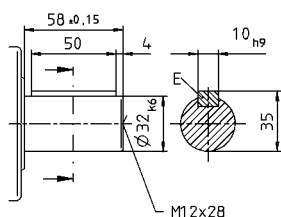


← A

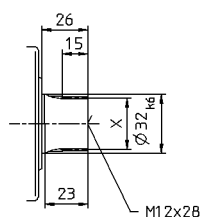


Alternatives: Output shaft variants

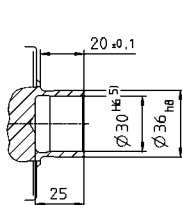
Output shaft with key in mm
E = key as per DIN 6885, sheet 1, form A



Involute gearing DIN 5480 in mm
X = W 32 x 1.25 x 30 x 24 x 6m, DIN 5480



Shaft mounted
Mounted via shrink disc



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 with a minimum thickness of 1 mm.
- 5) Tolerance h6 for mounted shaft.



CAD data is available under www.wittenstein-alpha.com



Motor mounting according to operating manual