

HDP+ – Cleanliness guaranteed



More information on hygienic design solutions: Simply scan the QR code with your smartphone.



HDP+

Sterile, highly dynamic and outstanding positioning accuracy – the HDP+ meets the strict hygiene requirements of production and packaging facilities. The gearbox in hygienic design not only offers you maximum safety against contamination-related product and process risks, but also guarantees maximum system availability and productivity.

HDP+ is setting new industrial standards in hygienic design

Benefits for system manufacturers

- Integration in a system constructed according to Hygiene Design requirements (certification available)
- Meets legal obligations (machinery directive, food hygiene regulation)
- Reduction of individual parts simplifies production / assembly and allows a more compact machine design
- Greater overall system effectiveness
- Competitive advantage through innovation

Benefits for operators

- Easier, faster cleaning: shorter CIP / SIP times
- Improved reliability and longer life
- Quick and easy disassembly
- Reduced consumption of cleaning materials
- Minimal costs for maintenance and repair
- Cost savings: competitive advantage and lower end user price
- Increased food safety



Smooth rolled surface in hygienic steel 1.4404

Triple sealing concept guarantees optimal reliability

Designed in line with EHEDG guidelines, FDA certified

Seals resistant to cleaning materials have IP69X protection (max. 30 bar)

No dead spaces

Product highlights

Positioning accuracy: Minimal backlash and extreme torsional rigidity ensure maximum positioning accuracy

New freedom in design through direct process integration

Resistance: Resistant against chemical cleaning agents and disinfectants

Cleaning: Fast, efficient and safe cleaning, also suitable for CIP processes

Consistently high performance: Constant backlash throughout the service life of the gearbox ensures a consistently high performance

Max. achievable leak tightness: IP69X (max. 30 bar)



Used for fish processing



Used for filling and packing milk products



Used for portioning meat products



The high-precision HDP+ is ideal for Delta robotics applications

Ratio		i	2-stage					
			22	27.5	38.5	55		
Max. torque ^{a) b)}	T_{2a}	<i>Nm</i>	252	252	252	252		
		<i>in.lb</i>	2230	2230	2230	2230		
Max. acceleration torque ^{b)} (max. 1000 cycles per hour)	T_{2B}	<i>Nm</i>	185	185	185	185		
		<i>in.lb</i>	1637	1637	1637	1637		
Nominal torque (at n_{1N})	T_{2N}	<i>Nm</i>	140	137	139	147		
		<i>in.lb</i>	1242	1213	1230	1303		
Emergency stop torque ^{a) b)} (permitted 1000 times during the service life of the gearbox)	T_{2Not}	<i>Nm</i>	525	525	525	525		
		<i>in.lb</i>	4647	4647	4647	4647		
Permitted average input speed (at T_{2N} and 20 °C ambient temperature) ³⁾	n_{1N}	<i>rpm</i>	4000	4000	4000	4000		
Max. input speed	n_{1Max}	<i>rpm</i>	7500	7500	7500	7500		
Mean no load running torque ^{b)} (at $n_1 = 3000$ rpm and 20 °C gearbox temperature)	T_{012}	<i>Nm</i>	0.52	0.47	0.38	0.38		
		<i>in.lb</i>	4.6	4.2	3.4	3.4		
Max. backlash	j_t	<i>arcmin</i>	≤ 1					
Torsional rigidity ^{b)}	C_{121}	<i>Nm/arcmin</i>	43	43	43	42		
		<i>in.lb/arcmin</i>	381	381	381	372		
Tilting rigidity	C_{2K}	<i>Nm/arcmin</i>	225					
		<i>in.lb/arcmin</i>	1991					
Max. axial force ^{c)}	F_{2AMax}	<i>N</i>	2795					
		<i>lb_f</i>	629					
Max. tilting moment	M_{2KMax}	<i>Nm</i>	400					
		<i>in.lb</i>	3540					
Efficiency at full load	η	<i>%</i>	94					
Service life	L_n	<i>h</i>	> 20000					
		<i>kg</i>	7.3					
Weight (incl. standard adapter plate)	m	<i>lb_m</i>	16.1					
		L_{PA}	<i>dB(A)</i>	≤ 56				
Max. permitted housing temperature		<i>°C</i>	+90					
		<i>F</i>	194					
Ambient temperature		<i>°C</i>	-15 to +40					
		<i>F</i>	5 to 104					
Lubrication			Lubricated for life					
Direction of rotation			In- and output same direction					
Protection class			IP 69X					
Metal bellows coupling (recommended product type – validate sizing with cymex®)			BCT-00150ASX-050.00A					
Bore diameter of coupling on the application side		<i>mm</i>	X = 016.000 - 038.000					
Mass moment of inertia (relates to the drive)	C	14	J_1	<i>kgcm²</i>	0.21	0.18	0.16	0.14
				<i>10⁻³ in.lb.s²</i>	0.19	0.16	0.14	0.12
Clamping hub diameter [mm] Optimized mass inertia version available on request	E	19	J_1	<i>kgcm²</i>	0.52	0.50	0.47	0.46
				<i>10⁻³ in.lb.s²</i>	0.46	0.44	0.42	0.41

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

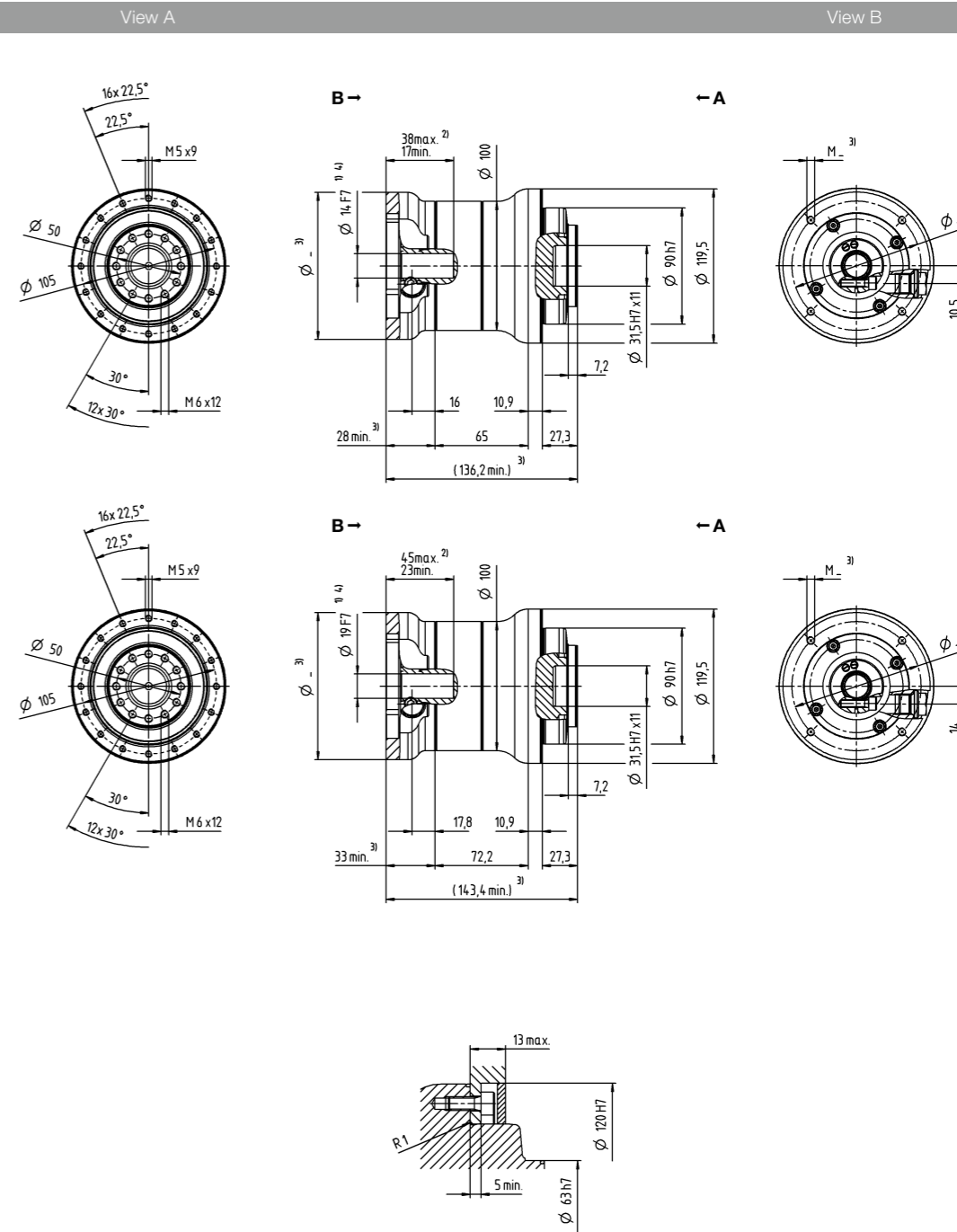
^{a)} At max. 10 % M_{2KMax}
^{b)} Valid for standard clamping hub diameter
^{c)} Refers to center of the output shaft or flange
^{d)} Please reduce input speed at higher ambient temperatures

2-stage

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

Motor shaft diameter [mm]

up to 19 ⁴⁾ (E)
clamping hub diameter



Mounting accessories:
Mounting kit comprising seals and O-rings available as an option.

Non-tolerated dimensions are nominal dimensions
¹⁾ Check motor shaft fit
²⁾ Min./Max. permissible motor shaft length. Longer motor shafts are possible, please contact alpha.
³⁾ The dimensions depend on the motor
⁴⁾ Smaller motor shaft diameter is compensated by a bushing with a minimum thickness of 1 mm
⁵⁾ Standard clamping hub diameter

Ratio		<i>i</i>		2-stage			
				22	27.5	38.5	55
Max. torque ^{a) b)}	T_{2a}	<i>Nm</i>	466	466	466	466	
		<i>in.lb</i>	4128	4128	4128	4128	
Max. acceleration torque ^{b)} (max. 1000 cycles per hour)	T_{2B}	<i>Nm</i>	425	425	425	425	
		<i>in.lb</i>	3762	3762	3762	3762	
Nominal torque (at n_{1N})	T_{2N}	<i>Nm</i>	312	314	371	413	
		<i>in.lb</i>	2762	2775	3286	3652	
Emergency stop torque ^{a) b)} (permitted 1000 times during the service life of the gearbox)	T_{2Not}	<i>Nm</i>	1200	1200	1200	1200	
		<i>in.lb</i>	10621	10621	10621	10621	
Permitted average input speed (at T_{2N} and 20 °C ambient temperature) ^{c)}	n_{1N}	<i>rpm</i>	3500	3500	3500	3500	
Max. input speed	n_{1Max}	<i>rpm</i>	7500	7500	7500	7500	
Mean no load running torque ^{b)} (at $n_1 = 3000$ rpm and 20 °C gearbox temperature)	T_{012}	<i>Nm</i>	1.0	0.87	0.78	0.70	
		<i>in.lb</i>	9.2	7.7	6.9	6.2	
Max. backlash	j_t	<i>arcmin</i>	≤ 1				
Torsional rigidity ^{b)}	C_{121}	<i>Nm/arcmin</i>	100	100	100	100	
		<i>in.lb/arcmin</i>	885	885	885	885	
Tilting rigidity	C_{2K}	<i>Nm/arcmin</i>	550				
		<i>in.lb/arcmin</i>	4868				
Max. axial force ^{c)}	F_{2AMax}	<i>N</i>	4800				
		<i>lb_f</i>	1080				
Max. tilting moment	M_{2KMax}	<i>Nm</i>	550				
		<i>in.lb</i>	4868				
Efficiency at full load	η	<i>%</i>	94				
Service life	L_n	<i>h</i>	> 20000				
		<i>kg</i>	11.1				
Weight (incl. standard adapter plate)	m	<i>lb_m</i>	24.5				
		L_{PA}	<i>dB(A)</i>	≤ 58			
Max. permitted housing temperature		<i>°C</i>	+90				
		<i>F</i>	194				
		<i>°C</i>	-15 to +40				
Ambient temperature		<i>°C</i>	-15 to +40				
		<i>F</i>	5 to 104				
Lubrication			Lubricated for life				
Direction of rotation			In- and output same direction				
Protection class			IP 69X				
Metal bellows coupling (recommended product type – validate sizing with cymex®)			BCT-00300ASX-063.00A				
Bore diameter of coupling on the application side		<i>mm</i>	X = 030.000 - 056.000				
Mass moment of inertia (relates to the drive)	E 19	J_1	<i>kgcm²</i>	0.87	0.70	0.60	0.55
			<i>10⁻³ in.lb.s²</i>	0.77	0.62	0.53	0.49
Clamping hub diameter [mm] Optimized mass inertia version available on request	G 24	J_1	<i>kgcm²</i>	2.39	2.22	2.12	2.07
			<i>10⁻³ in.lb.s²</i>	2.12	1.96	1.88	1.83

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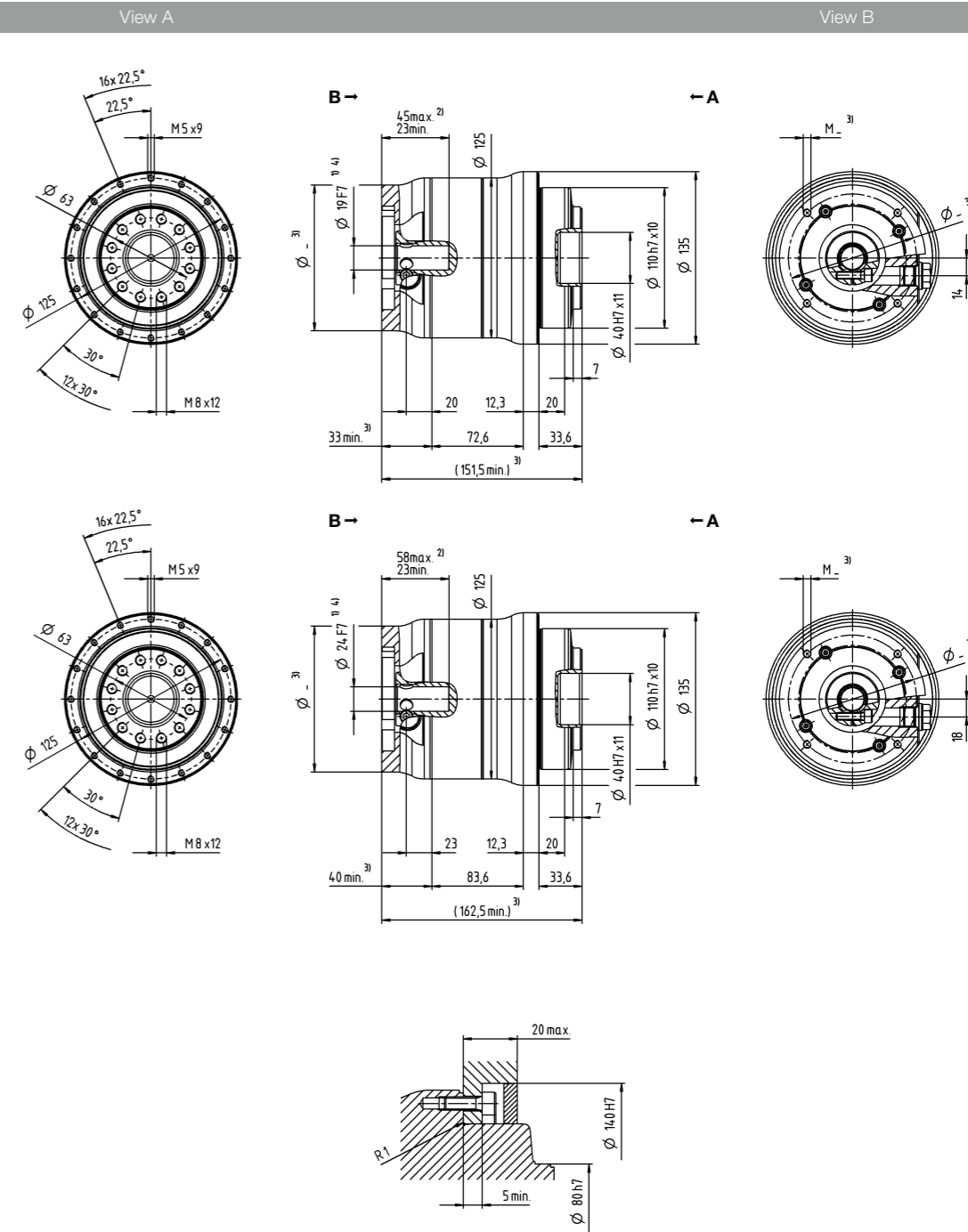
^{a)} At max. 10 % M_{2KMax}
^{b)} Valid for standard clamping hub diameter
^{c)} Refers to center of the output shaft or flange
^{d)} Please reduce input speed at higher ambient temperatures

2-stage

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

Motor shaft diameter [mm]

up to 24 ⁴⁾ (G)
clamping hub diameter



Mounting accessories:
Mounting kit comprising seals and O-rings available as an option.

Non-tolerated dimensions are nominal dimensions
¹⁾ Check motor shaft fit
²⁾ Min./Max. permissible motor shaft length. Longer motor shafts are possible, please contact alpha.
³⁾ The dimensions depend on the motor
⁴⁾ Smaller motor shaft diameter is compensated by a bushing with a minimum thickness of 1 mm
⁵⁾ Standard clamping hub diameter

Ratio		i	2-stage				
			22	27.5	38.5	55	
Max. torque ^{a) b)}	T_{2a}	<i>Nm</i>	1121	1121	1121	1121	
		<i>in.lb</i>	9925	9925	9925	9925	
Max. acceleration torque ^{b)} (max. 1000 cycles per hour)	T_{2B}	<i>Nm</i>	795	795	795	795	
		<i>in.lb</i>	7036	7036	7036	7036	
Nominal torque (at n_{1N})	T_{2N}	<i>Nm</i>	523	566	638	717	
		<i>in.lb</i>	4632	5005	5649	6348	
Emergency stop torque ^{a) b)} (permitted 1000 times during the service life of the gearbox)	T_{2Not}	<i>Nm</i>	2375	2375	2375	2375	
		<i>in.lb</i>	21021	21021	21021	21021	
Permitted average input speed (at T_{2N} and 20 °C ambient temperature) ³⁾	n_{1N}	<i>rpm</i>	3000	3000	3000	3000	
Max. input speed	n_{1Max}	<i>rpm</i>	6250	6250	6250	6250	
Mean no load running torque ^{b)} (at $n_1 = 3000$ rpm and 20 °C gearbox temperature)	T_{012}	<i>Nm</i>	2.7	2.4	2.1	1.7	
		<i>in.lb</i>	23.9	21.2	18.9	15.0	
Max. backlash	j_t	<i>arcmin</i>	≤ 1				
Torsional rigidity ^{b)}	C_{121}	<i>Nm/arcmin</i>	210	210	210	210	
		<i>in.lb/arcmin</i>	1859	1859	1859	1859	
Tilting rigidity	C_{2K}	<i>Nm/arcmin</i>	560				
		<i>in.lb/arcmin</i>	4956				
Max. axial force ^{c)}	F_{2AMax}	<i>N</i>	6130				
		<i>lb_f</i>	1379				
Max. tilting moment	M_{2KMax}	<i>Nm</i>	1335				
		<i>in.lb</i>	11816				
Efficiency at full load	η	<i>%</i>	94				
Service life	L_n	<i>h</i>	> 20000				
		<i>kg</i>	21.9				
Weight (incl. standard adapter plate)	m	<i>lb_m</i>	48.4				
		L_{PA}	<i>dB(A)</i>	≤ 60			
Max. permitted housing temperature		<i>°C</i>	+90				
		<i>F</i>	194				
		<i>°C</i>	-15 to +40				
Ambient temperature		<i>°C</i>	-15 to +40				
		<i>F</i>	5 to 104				
Lubrication			Lubricated for life				
Direction of rotation			In- and output same direction				
Protection class			IP 69X				
Metal bellows coupling (recommended product type – validate sizing with cymex®)			BCT-00300ASX-080.00A				
Bore diameter of coupling on the application side		<i>mm</i>	X = 045.000 - 056.000				
Mass moment of inertia (relates to the drive)	G 24	J_1	<i>kgcm²</i>	3.80	3.33	3.00	2.80
			<i>10⁻³ in.lb.s²</i>	3.36	2.95	2.66	2.48
Clamping hub diameter [mm] Optimized mass inertia version available on request	K 38	J_1	<i>kgcm²</i>	10.7	10.3	9.90	9.70
			<i>10⁻³ in.lb.s²</i>	9.47	9.12	8.76	8.58

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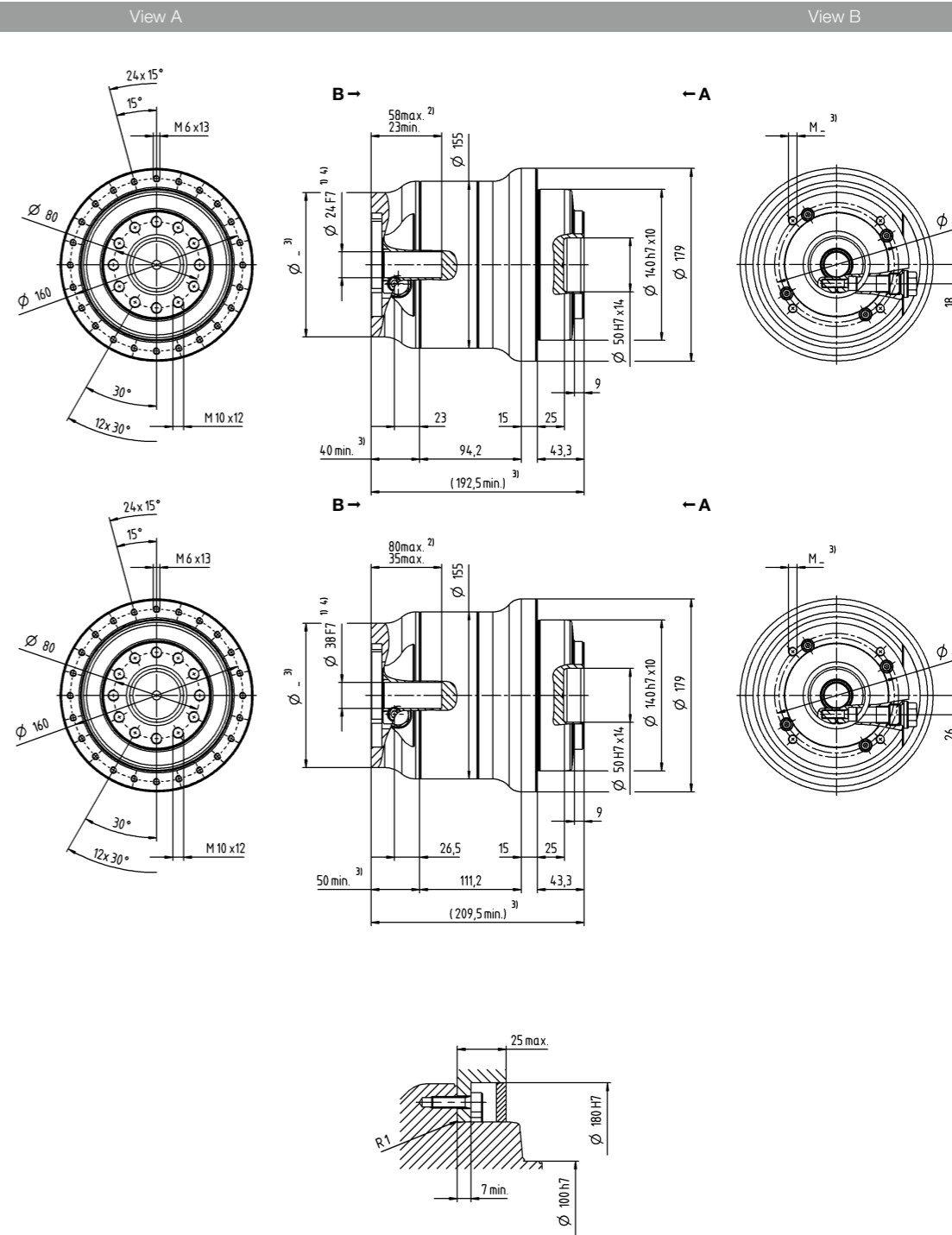
^{a)} At max. 10 % M_{2KMax}
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^{d)} Please reduce input speed at higher ambient temperatures

2-stage

up to 24 ⁴⁾ (G) ⁵⁾
clamping hub diameter

Motor shaft diameter [mm]

up to 38 ⁴⁾ (K)
clamping hub diameter



Mounting accessories:
Mounting kit comprising seals and O-rings available as an option.

Non-tolerated dimensions are nominal dimensions
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³⁾ The dimensions depend on the motor
⁴⁾ Smaller motor shaft diameter is compensated by a bushing with a minimum thickness of 1 mm
⁵⁾ Standard clamping hub diameter