

# RP+ – The high-precision powerhouse



RP+

## Product highlights

**Max. torsional backlash [arcmin]  $\leq 1 - 3$**

**High axial and radial forces**

**Easy installation**

**Optimized for rack and pinion applications**

**Available output types**  
Flange, System output

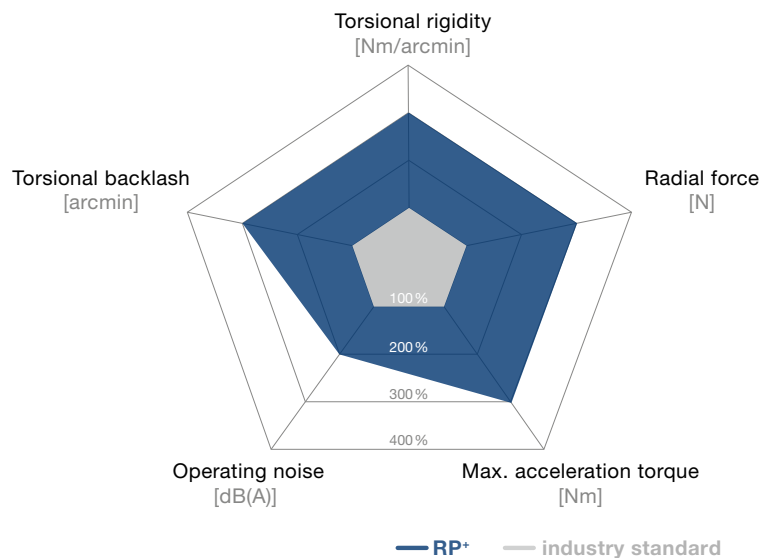
This gearbox series sets standards in terms of power density, modularity and easy installation. It is used in all applications where the individual requirements far exceed what has previously been possible. RP+ gearboxes combine all the advantages of the familiar gearbox series:

- Reduced backlash of  $\leq 1$  arcmin
- Maximum power density
- Extremely smooth-running thanks to helical toothing
- Maximum positioning accuracy and world-class lifespan

The RP+ impresses with maximum power density

- if your drive requires maximum performance
- if you value world-class engineering
- if you require an even more compact system

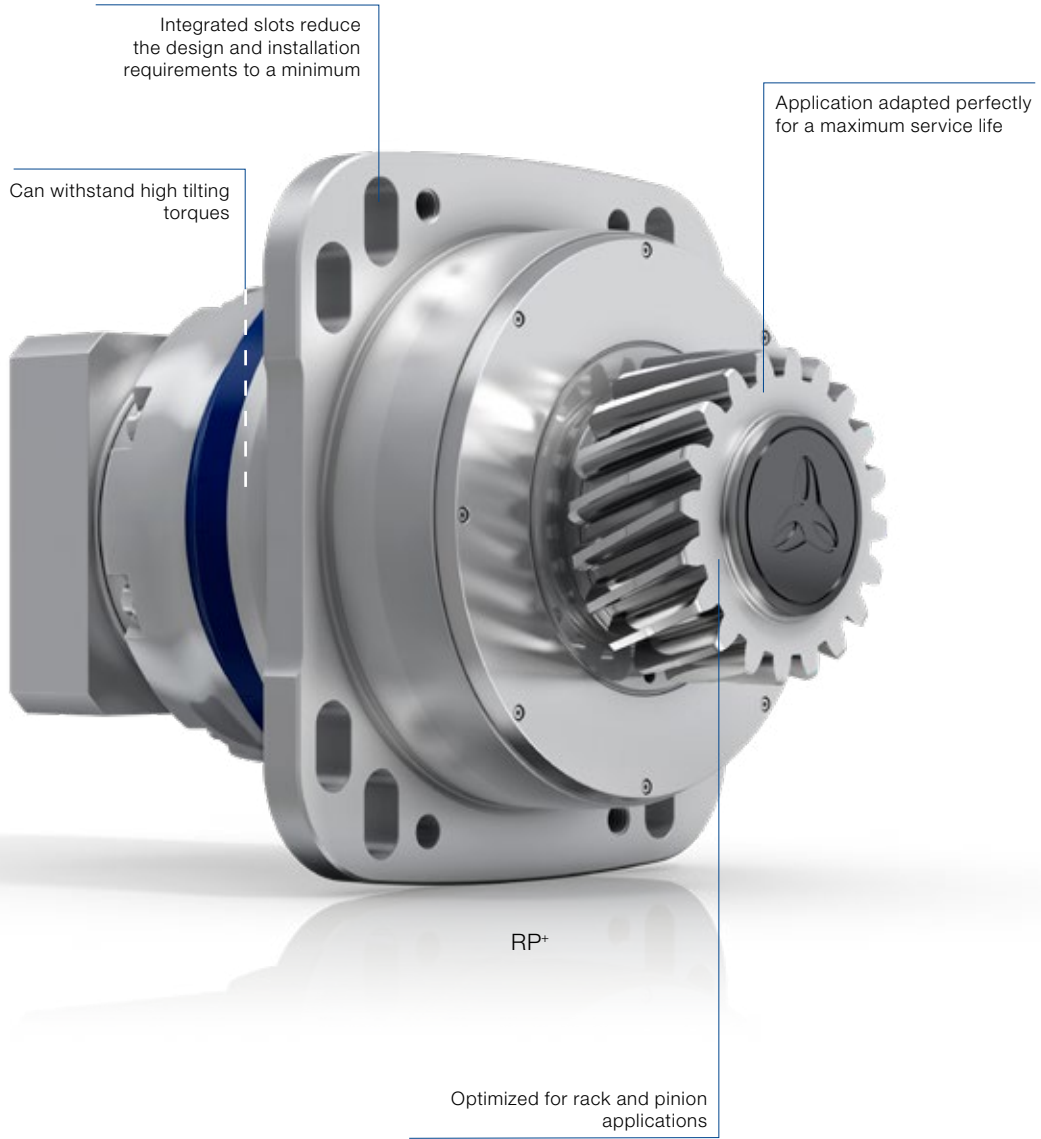
The RP+ compared to the industry standard



RP+ with rack and pinion



RPK+ with hypoid angle section



Further information is available in the „alpha Linear Systems“ catalog or online at [www.wittenstein-alpha.com](http://www.wittenstein-alpha.com)



RP+ available as RPM+ servo actuator version (series in an even more compact design)

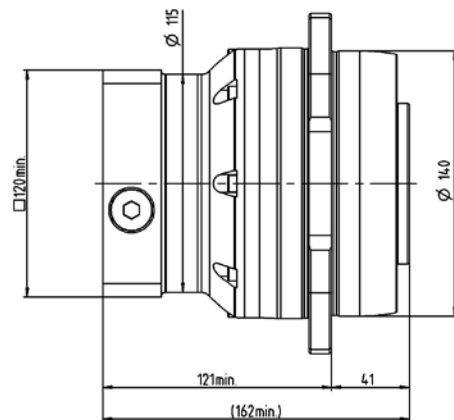
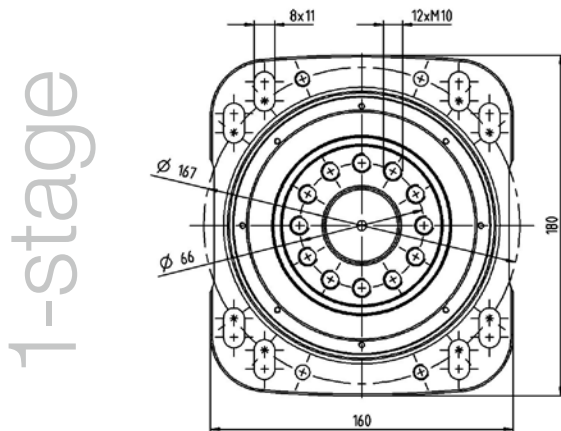
# RP+ 030 MF 1-stage

			1-stage
<b>Ratio</b>	$i$		<b>4 / 5 / 7 / 10</b>
Max. torque <sup>a)</sup>	$T_{2a}$	<i>Nm</i>	352 – 380
		<i>in.lb</i>	3115 – 3363
Max. acceleration torque (max. 1000 cycles per hour)	$T_{2B}$	<i>Nm</i>	318 – 380
		<i>in.lb</i>	2815 – 3363
Nominal torque (at $n_n$ )	$T_{2N}$	<i>Nm</i>	172 – 182
		<i>in.lb</i>	1522 – 1611
Emergency stop torque (permitted 1000 times during the service life of the gearbox)	$T_{2Not}$	<i>Nm</i>	625
		<i>in.lb</i>	5532
Thermal speed limit (with 20°C ambient temperature and 10% torque utilization) <sup>b)</sup>	$n_{1T}$	<i>rpm</i>	2000 – 2800
Max. input speed	$n_{1Max}$	<i>rpm</i>	5500
Max. torsional backlash	$j_t$	<i>arcmin</i>	Standard $\leq 3$ / Reduced $\leq 1$
Torsional rigidity	$C_{t21}$	<i>Nm/arcmin</i>	62 – 86
		<i>in.lb/arcmin</i>	549 – 761
Max. tilting moment	$M_{2KMax}$	<i>Nm</i>	1800
		<i>in.lb</i>	15931
Operating noise <sup>c)</sup>	$L_{PA}$	<i>dB(A)</i>	$\leq 61$
Lubrication			Lubricated for life
Clamping hub diameter		<i>mm</i>	19 – 38

<sup>a)</sup> Application-specific design with cymex® – [www.wittenstein-cymex.com](http://www.wittenstein-cymex.com)

<sup>b)</sup> For higher ambient temperatures, please reduce input speed

<sup>c)</sup> At reference ratio and reference speed. Ratio-specific values available in cymex®.



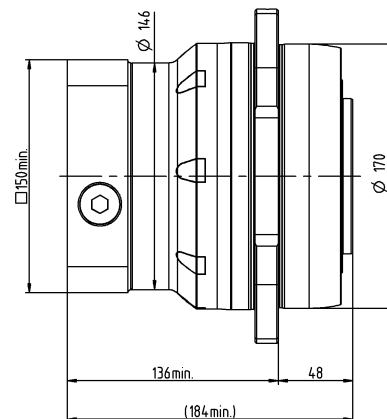
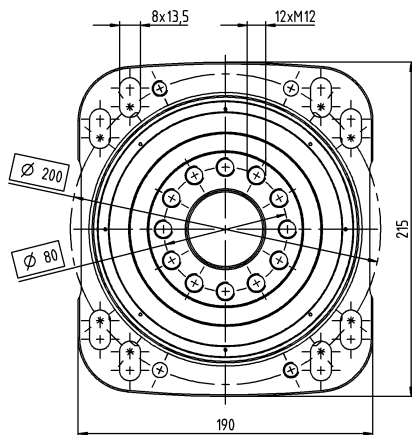
			1-stage
<b>Ratio</b>	$i$		<b>4 / 5 / 7 / 10</b>
Max. torque <sup>a)</sup>	$T_{2a}$	<i>Nm</i>	720 – 1120
		<i>in.lb</i>	6373 – 9913
Max. acceleration torque (max. 1000 cycles per hour)	$T_{2B}$	<i>Nm</i>	540 – 700
		<i>in.lb</i>	4779 – 6196
Nominal torque (at $n_n$ )	$T_{2N}$	<i>Nm</i>	272 – 318
		<i>in.lb</i>	2408 – 2810
Emergency stop torque (permitted 1000 times during the service life of the gearbox)	$T_{2Not}$	<i>Nm</i>	1563
		<i>in.lb</i>	13829
Thermal speed limit (with 20°C ambient temperature and 10% torque utilization) <sup>b)</sup>	$n_{TT}$	<i>rpm</i>	2500 – 3200
Max. input speed	$n_{1Max}$	<i>rpm</i>	5000
Max. torsional backlash	$j_t$	<i>arcmin</i>	Standard $\leq 3$ / Reduced $\leq 1$
Torsional rigidity	$C_{t21}$	<i>Nm/arcmin</i>	123 – 190
		<i>in.lb/arcmin</i>	1089 – 1682
Max. tilting moment	$M_{2KMax}$	<i>Nm</i>	3600
		<i>in.lb</i>	31863
Operating noise <sup>c)</sup>	$L_{PA}$	<i>dB(A)</i>	$\leq 61$
Lubrication			Lubricated for life
Clamping hub diameter		<i>mm</i>	24 – 48

<sup>a)</sup> Application-specific design with cymex® – [www.wittenstein-cymex.com](http://www.wittenstein-cymex.com)

<sup>b)</sup> For higher ambient temperatures, please reduce input speed

<sup>c)</sup> At reference ratio and reference speed. Ratio-specific values available in cymex®.

1-stage



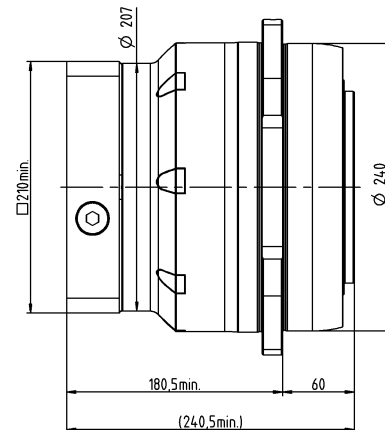
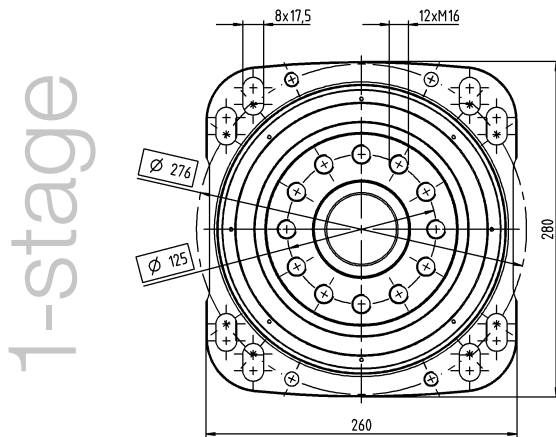
# RP+ 050 MF 1-stage

			1-stage
Ratio	$i$		4 / 5 / 7 / 10
Max. torque <sup>a)</sup>	$T_{2a}$	Nm	2240 – 2560
		in.lb	19826 – 22658
Max. acceleration torque (max. 1000 cycles per hour)	$T_{2B}$	Nm	1400 – 1600
		in.lb	12391 – 14161
Nominal torque (at $n_n$ )	$T_{2N}$	Nm	725 – 927
		in.lb	6419 – 8203
Emergency stop torque (permitted 1000 times during the service life of the gearbox)	$T_{2Not}$	Nm	3204 – 3438
		in.lb	28357 – 30425
Thermal speed limit (with 20°C ambient temperature and 10% torque utilization) <sup>b)</sup>	$n_{1T}$	rpm	1500 – 2300
Max. input speed	$n_{1Max}$	rpm	4500
Max. torsional backlash	$j_t$	arcmin	Standard $\leq 3$ / Reduced $\leq 1$
Torsional rigidity	$C_{t21}$	Nm/arcmin	445 – 610
		in.lb/arcmin	3939 – 5399
Max. tilting moment	$M_{2KMax}$	Nm	11000
		in.lb	97359
Operating noise <sup>c)</sup>	$L_{PA}$	dB(A)	$\leq 66$
Lubrication			Lubricated for life
Clamping hub diameter		mm	38 – 48

<sup>a)</sup> Application-specific design with cymex® – [www.wittenstein-cymex.com](http://www.wittenstein-cymex.com)

<sup>b)</sup> For higher ambient temperatures, please reduce input speed

<sup>c)</sup> At reference ratio and reference speed. Ratio-specific values available in cymex®.





Planetary gearboxes

# RP+ 030 MA 1-/2-stage

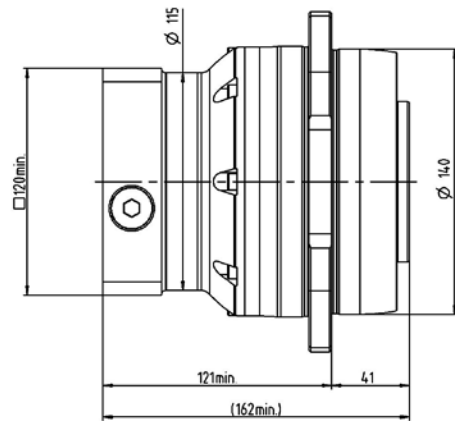
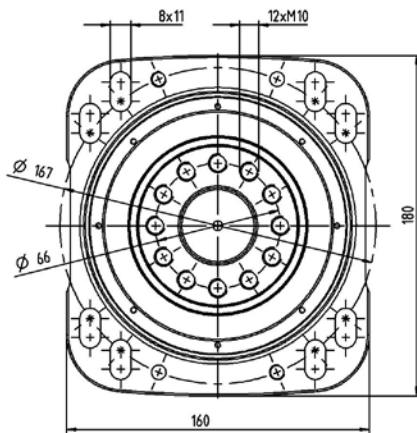
			1-stage	2-stage
<b>Ratio</b>	$i$		<b>5.5</b>	<b>16 / 22 / 27.5 / 38.5 / 55</b>
Max. torque <sup>a)</sup>	$T_{2a}$	<i>Nm</i>	583	583
		<i>in.lb</i>	5160	5160
Max. acceleration torque (max. 1000 cycles per hour)	$T_{2B}$	<i>Nm</i>	530	530
		<i>in.lb</i>	4691	4691
Nominal torque (at $n_n$ )	$T_{2N}$	<i>Nm</i>	243	315 – 432
		<i>in.lb</i>	2150	2788 – 3823
Emergency stop torque (permitted 1000 times during the service life of the gearbox)	$T_{2Not}$	<i>Nm</i>	1200	1200
		<i>in.lb</i>	10621	10621
Thermal speed limit (with 20°C ambient temperature and 10% torque utilization) <sup>b)</sup>	$n_{TT}$	<i>rpm</i>	2000	3000
Max. input speed	$n_{1Max}$	<i>rpm</i>	5500	7500
Max. torsional backlash	$j_t$	<i>arcmin</i>	Standard $\leq 1$	Standard $\leq 1$
Torsional rigidity	$C_{t21}$	<i>Nm/arcmin</i>	105	100 – 105
		<i>in.lb/arcmin</i>	929	885 – 929
Max. tilting moment	$M_{2KMax}$	<i>Nm</i>	1800	1800
		<i>in.lb</i>	15931	15931
Operating noise <sup>c)</sup>	$L_{PA}$	<i>dB(A)</i>	$\leq 65$	$\leq 58$
Lubrication			Lubricated for life	Lubricated for life
Clamping hub diameter		<i>mm</i>	19 – 38	19 – 24

<sup>a)</sup> Application-specific design with cymex® – [www.wittenstein-cymex.com](http://www.wittenstein-cymex.com)

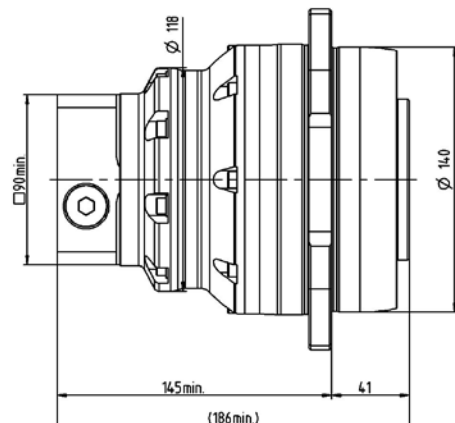
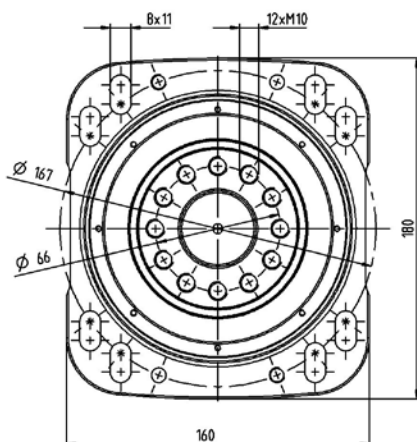
<sup>b)</sup> For higher ambient temperatures, please reduce input speed

<sup>c)</sup> At reference ratio and reference speed. Ratio-specific values available in cymex®.

1-stage



2-stage

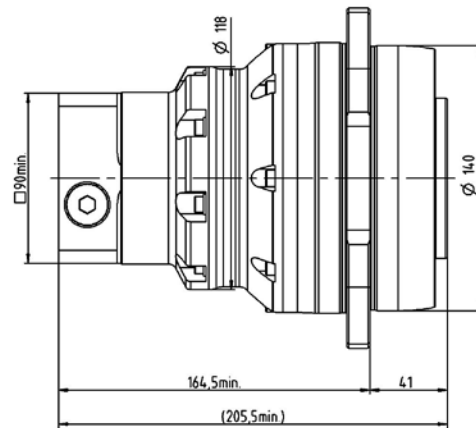
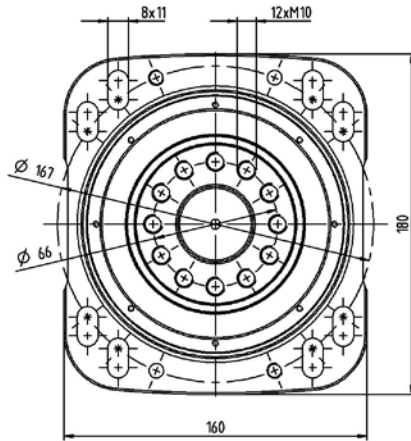




			<b>3-stage</b>
<b>Ratio</b>	$i$		<b>66 / 88 / 110 / 154 / 220</b>
Max. torque <sup>a)</sup>	$T_{2a}$	$Nm$	583
		$in.lb$	5160
Max. acceleration torque (max. 1000 cycles per hour)	$T_{2B}$	$Nm$	530
		$in.lb$	4691
Nominal torque (at $n_n$ )	$T_{2N}$	$Nm$	284 – 397
		$in.lb$	2513 – 3513
Emergency stop torque (permitted 1000 times during the service life of the gearbox)	$T_{2Not}$	$Nm$	1200
		$in.lb$	10621
Thermal speed limit (with 20°C ambient temperature and 10% torque utilization) <sup>b)</sup>	$n_{1T}$	$rpm$	3000
Max. input speed	$n_{1Max}$	$rpm$	7500
Max. torsional backlash	$j_t$	$arcmin$	Standard $\leq 1$
Torsional rigidity	$C_{t21}$	$Nm/arcmin$	95
		$in.lb/arcmin$	841
Max. tilting moment	$M_{2KMax}$	$Nm$	1800
		$in.lb$	15931
Operating noise <sup>c)</sup>	$L_{PA}$	$dB(A)$	$\leq 56$
Lubrication			Lubricated for life
Clamping hub diameter		$mm$	19

<sup>a)</sup> Application-specific design with cymex® – [www.wittenstein-cymex.com](http://www.wittenstein-cymex.com)  
<sup>b)</sup> For higher ambient temperatures, please reduce input speed  
<sup>c)</sup> At reference ratio and reference speed. Ratio-specific values available in cymex®.

3-stage





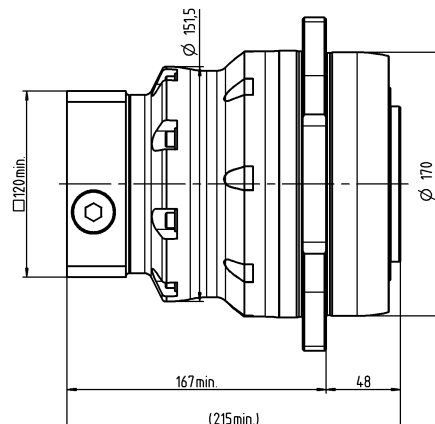
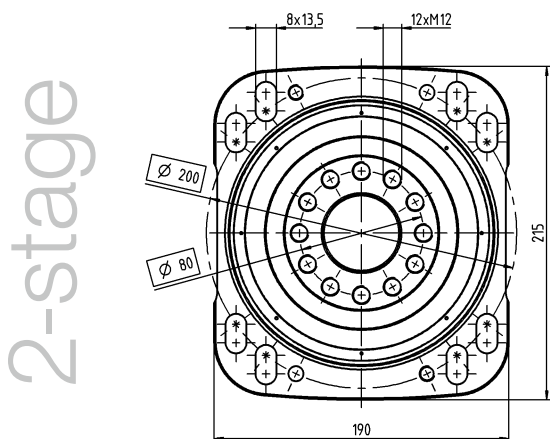
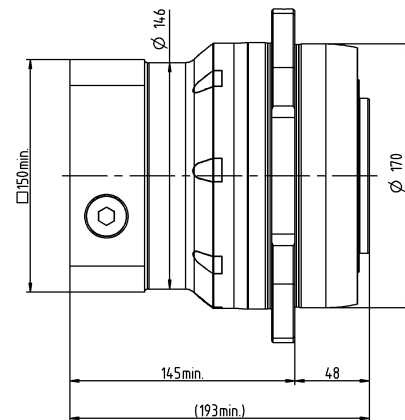
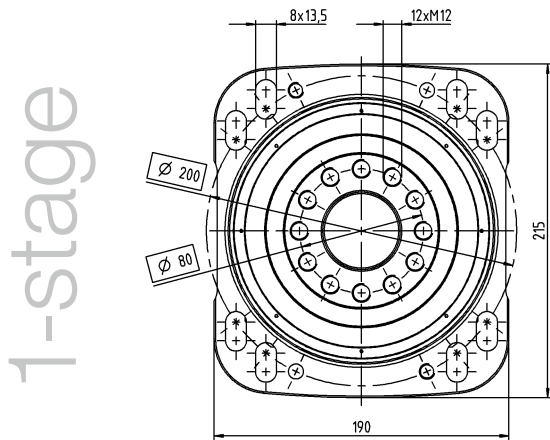
# RP+ 040 MA 1-/2-stage

			1-stage	2-stage
<b>Ratio</b>	$i$		<b>5.5</b>	<b>16 / 22 / 27.5 / 38.5 / 55</b>
<b>Max. torque <sup>a)</sup></b>	$T_{2a}$	<i>Nm</i>	1402	1270 – 1402
		<i>in.lb</i>	12406	11243 – 12406
<b>Max. acceleration torque</b> (max. 1000 cycles per hour)	$T_{2B}$	<i>Nm</i>	950	950
		<i>in.lb</i>	8408	8408
<b>Nominal torque</b> (at $n_n$ )	$T_{2N}$	<i>Nm</i>	417	476 – 653
		<i>in.lb</i>	3695	4217 – 5779
<b>Emergency stop torque</b> (permitted 1000 times during the service life of the gearbox)	$T_{2Not}$	<i>Nm</i>	2865	2420 – 2613
		<i>in.lb</i>	25358	21416 – 25358
<b>Thermal speed limit</b> (with 20°C ambient temperature and 10% torque utilization <sup>b)</sup> )	$n_{1T}$	<i>rpm</i>	2500	4000 – 4100
<b>Max. input speed</b>	$n_{1Max}$	<i>rpm</i>	5000	6250
<b>Max. torsional backlash</b>	$j_t$	<i>arcmin</i>	Standard $\leq 1$	Standard $\leq 1$
<b>Torsional rigidity</b>	$C_{t21}$	<i>Nm/arcmin</i>	220	220
		<i>in.lb/arcmin</i>	1947	1947
<b>Max. tilting moment</b>	$M_{2KMax}$	<i>Nm</i>	3600	3600
		<i>in.lb</i>	31863	31863
<b>Operating noise <sup>c)</sup></b>	$L_{PA}$	<i>dB(A)</i>	$\leq 63$	$\leq 61$
<b>Lubrication</b>			Lubricated for life	Lubricated for life
<b>Clamping hub diameter</b>		<i>mm</i>	38 – 48	24 – 38

<sup>a)</sup> Application-specific design with cymex® – [www.wittenstein-cymex.com](http://www.wittenstein-cymex.com)

<sup>b)</sup> For higher ambient temperatures, please reduce input speed

<sup>c)</sup> At reference ratio and reference speed. Ratio-specific values available in cymex®.



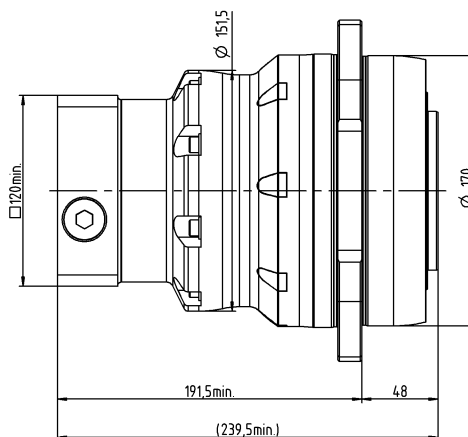
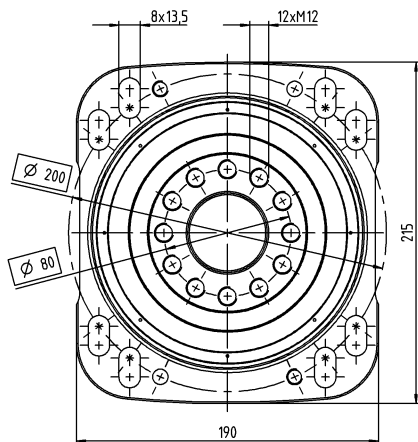
			3-stage
<b>Ratio</b>	$i$		<b>66 / 88 / 110 / 154 / 220</b>
Max. torque <sup>a)</sup>	$T_{2a}$	<i>Nm</i>	1402
		<i>in.lb</i>	12406
Max. acceleration torque (max. 1000 cycles per hour)	$T_{2B}$	<i>Nm</i>	950
		<i>in.lb</i>	8408
Nominal torque (at $n_n$ )	$T_{2N}$	<i>Nm</i>	690 – 760
		<i>in.lb</i>	6103 – 6727
Emergency stop torque (permitted 1000 times during the service life of the gearbox)	$T_{2Not}$	<i>Nm</i>	2865
		<i>in.lb</i>	25358
Thermal speed limit (with 20°C ambient temperature and 10% torque utilization) <sup>b)</sup>	$n_{TT}$	<i>rpm</i>	4100
Max. input speed	$n_{1Max}$	<i>rpm</i>	6250
Max. torsional backlash	$j_t$	<i>arcmin</i>	Standard $\leq 1$
Torsional rigidity	$C_{t21}$	<i>Nm/arcmin</i>	205
		<i>in.lb/arcmin</i>	1814
Max. tilting moment	$M_{2KMax}$	<i>Nm</i>	3600
		<i>in.lb</i>	31863
Operating noise <sup>c)</sup>	$L_{PA}$	<i>dB(A)</i>	$\leq 58$
Lubrication			Lubricated for life
Clamping hub diameter		<i>mm</i>	24

<sup>a)</sup> Application-specific design with cymex® – [www.wittenstein-cymex.com](http://www.wittenstein-cymex.com)

<sup>b)</sup> For higher ambient temperatures, please reduce input speed

<sup>c)</sup> At reference ratio and reference speed. Ratio-specific values available in cymex®.

3-stage



# RP+ 050 MA 1-/2-stage

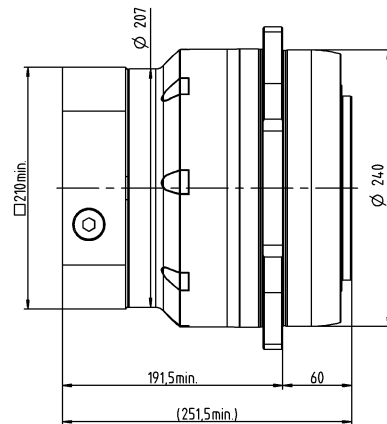
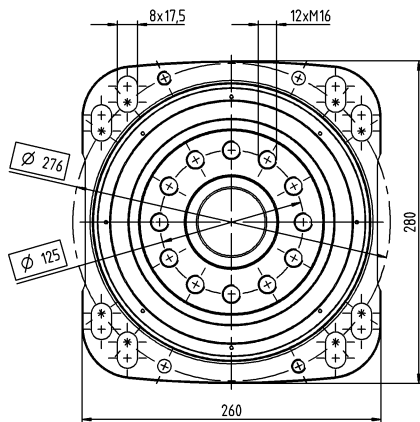
			1-stage	2-stage
<b>Ratio</b>	$i$		<b>5.5</b>	<b>16 / 22 / 27.5 / 38.5 / 55</b>
<b>Max. torque <sup>a)</sup></b>	$T_{2a}$	<i>Nm</i>	3822	3518 – 3822
		<i>in.lb</i>	33826	28323 – 33826
<b>Max. acceleration torque</b> (max. 1000 cycles per hour)	$T_{2B}$	<i>Nm</i>	3100	2000 – 3100
		<i>in.lb</i>	27437	17702 – 27437
<b>Nominal torque</b> (at $n_n$ )	$T_{2N}$	<i>Nm</i>	1167	1174 – 1977
		<i>in.lb</i>	10326	10387 – 17501
<b>Emergency stop torque</b> (permitted 1000 times during the service life of the gearbox)	$T_{2Not}$	<i>Nm</i>	6250	7150
		<i>in.lb</i>	55318	63283
<b>Thermal speed limit</b> (with 20°C ambient temperature and 10% torque utilization <sup>b)</sup> )	$n_{1T}$	<i>rpm</i>	1500	3100 – 3300
<b>Max. input speed</b>	$n_{1Max}$	<i>rpm</i>	4500	5625
<b>Max. torsional backlash</b>	$j_t$	<i>arcmin</i>	Standard $\leq 1$	Standard $\leq 1$
<b>Torsional rigidity</b>	$C_{t21}$	<i>Nm/arcmin</i>	730	670 – 730
		<i>in.lb/arcmin</i>	6461	5930 – 6461
<b>Max. tilting moment</b>	$M_{2KMax}$	<i>Nm</i>	11000	11000
		<i>in.lb</i>	97359	97359
<b>Operating noise <sup>c)</sup></b>	$L_{PA}$	<i>dB(A)</i>	$\leq 66$	$\leq 64$
<b>Lubrication</b>			Lubricated for life	Lubricated for life
<b>Clamping hub diameter</b>		<i>mm</i>	48	38 – 48

<sup>a)</sup> Application-specific design with cymex® – [www.wittenstein-cymex.com](http://www.wittenstein-cymex.com)

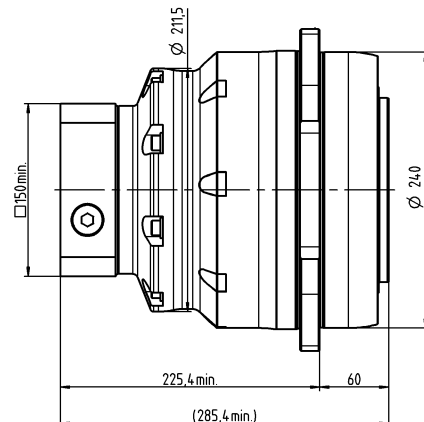
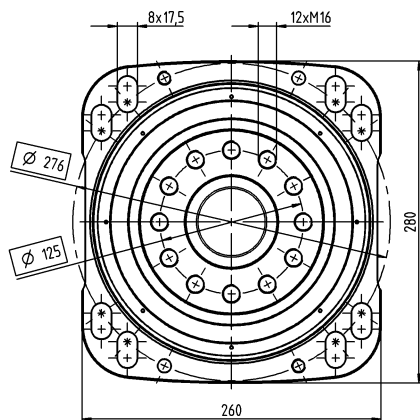
<sup>b)</sup> For higher ambient temperatures, please reduce input speed

<sup>c)</sup> At reference ratio and reference speed. Ratio-specific values available in cymex®.

1-stage



2-stage



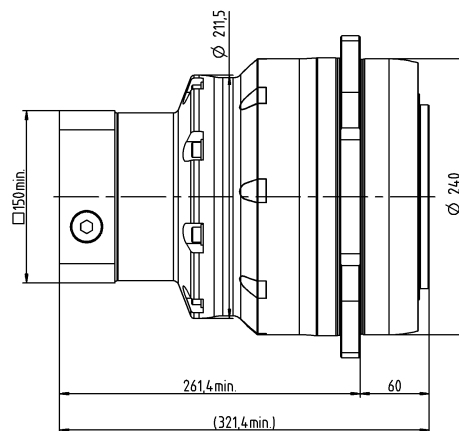
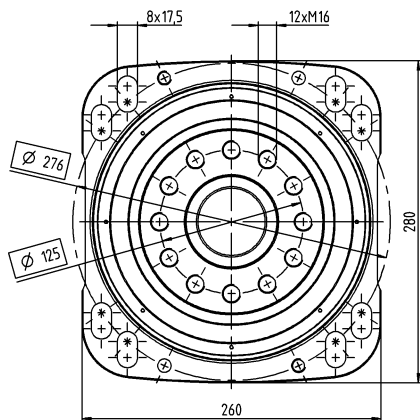
			3-stage
<b>Ratio</b>	$i$		<b>66 / 88 / 110 / 154 / 220</b>
Max. torque <sup>a)</sup>	$T_{2a}$	<i>Nm</i>	3023
		<i>in.lb</i>	26757
Max. acceleration torque (max. 1000 cycles per hour)	$T_{2B}$	<i>Nm</i>	2600
		<i>in.lb</i>	23012
Nominal torque (at $n_n$ )	$T_{2N}$	<i>Nm</i>	1602 – 2080
		<i>in.lb</i>	14182 – 18410
Emergency stop torque (permitted 1000 times during the service life of the gearbox)	$T_{2Not}$	<i>Nm</i>	8125
		<i>in.lb</i>	71913
Thermal speed limit (with 20°C ambient temperature and 10% torque utilization) <sup>b)</sup>	$n_{TT}$	<i>rpm</i>	3300
Max. input speed	$n_{1Max}$	<i>rpm</i>	5625
Max. torsional backlash	$j_t$	<i>arcmin</i>	Standard $\leq 1$
Torsional rigidity	$C_{t21}$	<i>Nm/arcmin</i>	650
		<i>in.lb/arcmin</i>	5753
Max. tilting moment	$M_{2KMax}$	<i>Nm</i>	11000
		<i>in.lb</i>	97359
Operating noise <sup>c)</sup>	$L_{PA}$	<i>dB(A)</i>	$\leq 59$
Lubrication			Lubricated for life
Clamping hub diameter		<i>mm</i>	38

<sup>a)</sup> Application-specific design with cymex® – [www.wittenstein-cymex.com](http://www.wittenstein-cymex.com)

<sup>b)</sup> For higher ambient temperatures, please reduce input speed

<sup>c)</sup> At reference ratio and reference speed. Ratio-specific values available in cymex®.

3-stage



# RP+ 060 MA 1-/2-stage

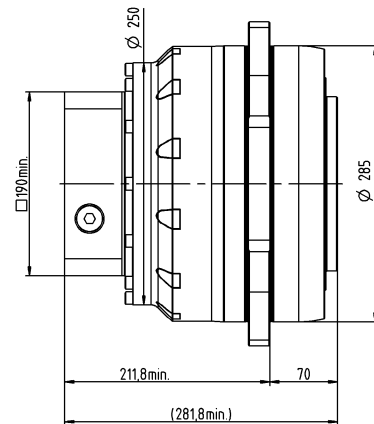
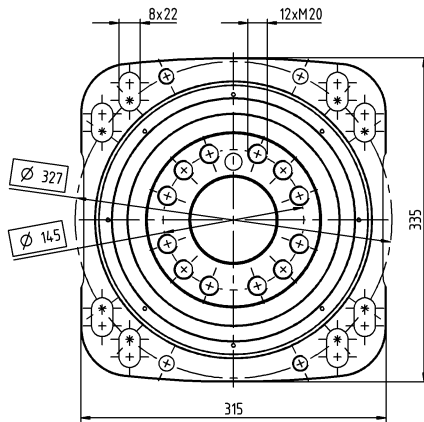
			1-stage	2-stage
<b>Ratio</b>	$i$		<b>5.5</b>	<b>22 / 27.5 / 38.5 / 55</b>
<b>Max. torque <sup>a)</sup></b>	$T_{2a}$	<i>Nm</i>	7360	6240 – 7535
		<i>in.lb</i>	65142	55229 – 66691
<b>Max. acceleration torque</b> (max. 1000 cycles per hour)	$T_{2B}$	<i>Nm</i>	4600	3900 – 5500
		<i>in.lb</i>	40714	34518 – 48679
<b>Nominal torque</b> (at $n_n$ )	$T_{2N}$	<i>Nm</i>	2829	3120 – 3530
		<i>in.lb</i>	25035	27614 – 31243
<b>Emergency stop torque</b> (permitted 1000 times during the service life of the gearbox)	$T_{2Not}$	<i>Nm</i>	10938	15296 – 15333
		<i>in.lb</i>	96806	135377 – 135709
<b>Thermal speed limit</b> (with 20°C ambient temperature and 10% torque utilization <sup>b)</sup> )	$n_{IT}$	<i>rpm</i>	1000	2750
<b>Max. input speed</b>	$n_{IMax}$	<i>rpm</i>	3125	4375
<b>Max. torsional backlash</b>	$j_t$	<i>arcmin</i>	Standard $\leq 1$	Standard $\leq 1,5$
<b>Torsional rigidity</b>	$C_{t21}$	<i>Nm/arcmin</i>	1200	1200
		<i>in.lb/arcmin</i>	10621	10621
<b>Max. tilting moment</b>	$M_{2KMax}$	<i>Nm</i>	21000	21000
		<i>in.lb</i>	185867	185867
<b>Operating noise <sup>c)</sup></b>	$L_{PA}$	<i>dB(A)</i>	$\leq 68$	$\leq 64$
<b>Lubrication</b>			Lubricated for life	Lubricated for life
<b>Clamping hub diameter</b>		<i>mm</i>	55	48

<sup>a)</sup> Application-specific design with cymex® – [www.wittenstein-cymex.com](http://www.wittenstein-cymex.com)

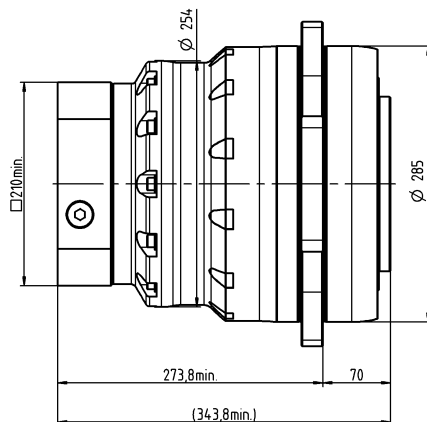
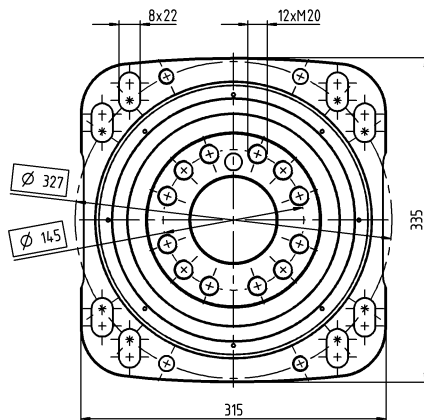
<sup>b)</sup> For higher ambient temperatures, please reduce input speed

<sup>c)</sup> At reference ratio and reference speed. Ratio-specific values available in cymex®.

1-stage



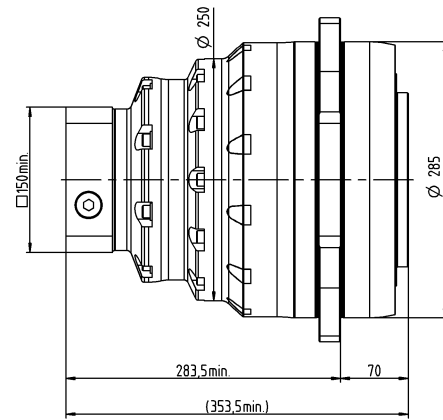
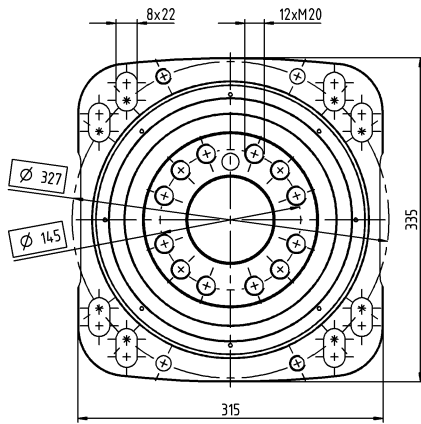
2-stage



			3-stage
<b>Ratio</b>	$i$		<b>66 / 88 / 110 / 154 / 220</b>
Max. torque <sup>a)</sup>	$T_{2a}$	<i>Nm</i>	6987
		<i>in.lb</i>	61838
Max. acceleration torque (max. 1000 cycles per hour)	$T_{2B}$	<i>Nm</i>	5500
		<i>in.lb</i>	48679
Nominal torque (at $n_n$ )	$T_{2N}$	<i>Nm</i>	2923 – 4196
		<i>in.lb</i>	25869 – 37136
Emergency stop torque (permitted 1000 times during the service life of the gearbox)	$T_{2Not}$	<i>Nm</i>	15333
		<i>in.lb</i>	135709
Thermal speed limit (with 20°C ambient temperature and 10% torque utilization) <sup>b)</sup>	$n_{TT}$	<i>rpm</i>	2750
Max. input speed	$n_{1Max}$	<i>rpm</i>	4375
Max. torsional backlash	$j_t$	<i>arcmin</i>	Standard $\leq 1,5$
Torsional rigidity	$C_{t21}$	<i>Nm/arcmin</i>	1200
		<i>in.lb/arcmin</i>	10621
Max. tilting moment	$M_{2KMax}$	<i>Nm</i>	21000
		<i>in.lb</i>	185867
Operating noise <sup>c)</sup>	$L_{PA}$	<i>dB(A)</i>	$\leq 59$
Lubrication			Lubricated for life
Clamping hub diameter		<i>mm</i>	38

<sup>a)</sup> Application-specific design with cymex® – [www.wittenstein-cymex.com](http://www.wittenstein-cymex.com)  
<sup>b)</sup> For higher ambient temperatures, please reduce input speed  
<sup>c)</sup> At reference ratio and reference speed. Ratio-specific values available in cymex®.

3-stage



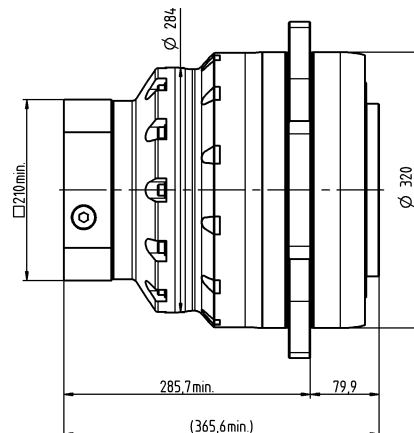
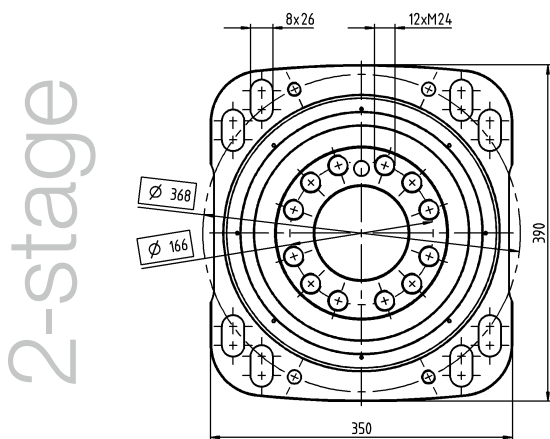
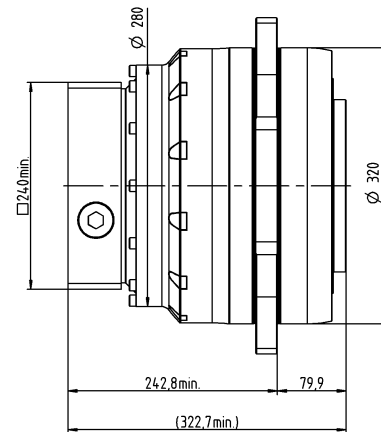
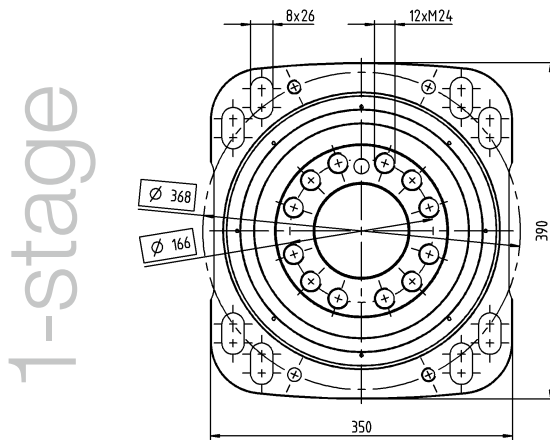
# RP+ 080 MA 1-/2-stage

			1-stage	2-stage
<b>Ratio</b>	$i$		<b>5.5</b>	<b>22 / 27.5 / 38.5 / 55</b>
<b>Max. torque <sup>a)</sup></b>	$T_{2a}$	<i>Nm</i>	10450	10450
		<i>in.lb</i>	92491	92491
<b>Max. acceleration torque</b> (max. 1000 cycles per hour)	$T_{2B}$	<i>Nm</i>	8000	7200 – 10000
		<i>in.lb</i>	70806	63726 – 88508
<b>Nominal torque</b> (at $n_n$ )	$T_{2N}$	<i>Nm</i>	4313	4602 – 4921
		<i>in.lb</i>	38174	40736 – 43558
<b>Emergency stop torque</b> (permitted 1000 times during the service life of the gearbox)	$T_{2Not}$	<i>Nm</i>	18750	25000
		<i>in.lb</i>	165953	221270
<b>Thermal speed limit</b> (with 20°C ambient temperature and 10% torque utilization <sup>b)</sup> )	$n_{1T}$	<i>rpm</i>	900	1950
<b>Max. input speed</b>	$n_{1Max}$	<i>rpm</i>	3125	4375
<b>Max. torsional backlash</b>	$j_t$	<i>arcmin</i>	Standard $\leq 1$	Standard $\leq 1,5$
<b>Torsional rigidity</b>	$C_{t21}$	<i>Nm/arcmin</i>	2000	2000
		<i>in.lb/arcmin</i>	17702	17702
<b>Max. tilting moment</b>	$M_{2KMax}$	<i>Nm</i>	34000	34000
		<i>in.lb</i>	300927	300927
<b>Operating noise <sup>c)</sup></b>	$L_{PA}$	<i>dB(A)</i>	$\leq 68$	$\leq 65$
<b>Lubrication</b>			Lubricated for life	Lubricated for life
<b>Clamping hub diameter</b>		<i>mm</i>	60	48

<sup>a)</sup> Application-specific design with cymex® – [www.wittenstein-cymex.com](http://www.wittenstein-cymex.com)

<sup>b)</sup> For higher ambient temperatures, please reduce input speed

<sup>c)</sup> At reference ratio and reference speed. Ratio-specific values available in cymex®.





			3-stage
<b>Ratio</b>	$i$		<b>66 / 88 / 110 / 154 / 220</b>
Max. torque <sup>a)</sup>	$T_{2a}$	<i>Nm</i>	10450
		<i>in.lb</i>	92491
Max. acceleration torque (max. 1000 cycles per hour)	$T_{2B}$	<i>Nm</i>	10000
		<i>in.lb</i>	88508
Nominal torque (at $n_n$ )	$T_{2N}$	<i>Nm</i>	4567 – 7308
		<i>in.lb</i>	40418 – 64684
Emergency stop torque (permitted 1000 times during the service life of the gearbox)	$T_{2Not}$	<i>Nm</i>	25000
		<i>in.lb</i>	221270
Thermal speed limit (with 20°C ambient temperature and 10% torque utilization) <sup>b)</sup>	$n_{TT}$	<i>rpm</i>	1950
Max. input speed	$n_{1Max}$	<i>rpm</i>	4375
Max. torsional backlash	$j_t$	<i>arcmin</i>	Standard $\leq 1,5$
Torsional rigidity	$C_{t21}$	<i>Nm/arcmin</i>	1800
		<i>in.lb/arcmin</i>	15931
Max. tilting moment	$M_{2KMax}$	<i>Nm</i>	34000
		<i>in.lb</i>	300927
Operating noise <sup>c)</sup>	$L_{PA}$	<i>dB(A)</i>	$\leq 62$
Lubrication			Lubricated for life
Clamping hub diameter		<i>mm</i>	38 – 48

<sup>a)</sup> Application-specific design with cymex® – [www.wittenstein-cymex.com](http://www.wittenstein-cymex.com)  
<sup>b)</sup> For higher ambient temperatures, please reduce input speed  
<sup>c)</sup> At reference ratio and reference speed. Ratio-specific values available in cymex®.

3-stage

