

XPC⁺ / RPC⁺ – High precision and low ratios around the corner

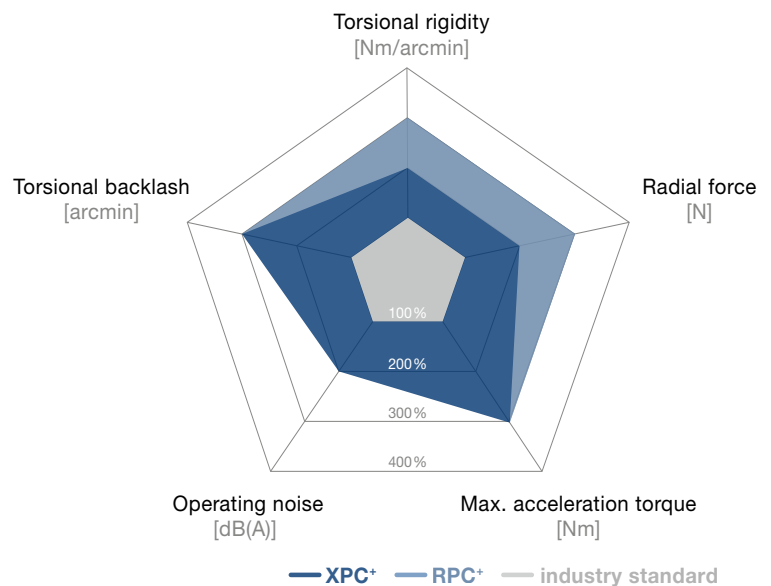


New performance standard, also available in the bevel version

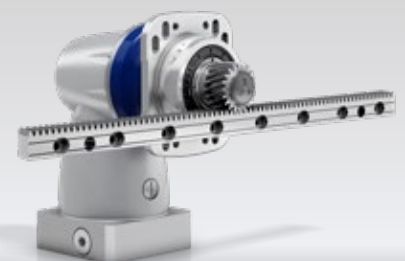
Both the XP⁺ and RP⁺ Premium planetary gearboxes are now available in a right-angle version with bevel toothing. Bevel gearboxes are primarily characterized by low gear ratios (ratio 1 and 2) in the angle section. Consequently, right-angle and planetary gearbox combinations can achieve the same low ratios as planetary gearboxes. The product design has a positive influence on temperature development in the gearbox and reduces overall heat development in the system as a result. The overall system achieves a higher degree of positioning accuracy as a consequence.

XPC⁺ and RPC⁺ compared to industry standard

Product highlights	
Max. torsional backlash	
XPC ⁺	≤ 4 arcmin (Standard) ≤ 2 arcmin (Reduced)
RPC ⁺	≤ 1.3 arcmin
XPC⁺ and RPC⁺:	
Low ratios of $i = 4 - 88$ possible	
Optimized temperature distribution, even at high speeds	
High tilting moments and torsional rigidity	
Optimized for rack and pinion applications	



XPC⁺ with pinion and slots



XPC⁺ with pinion, slots and rack

Specially designed output for transmitting extremely high torques

Intelligent design reduces losses to a minimum

High-quality bevel toothing with low gear ratios of $i = 1 - 2$ in the angle section

Low temperature development, even at high speeds

RPC+

Metal bellows coupling incorporated for thermal length compensation and protection of the motor bearing



RPC+ with pinion and slots



RPC+ with pinion, slots and rack

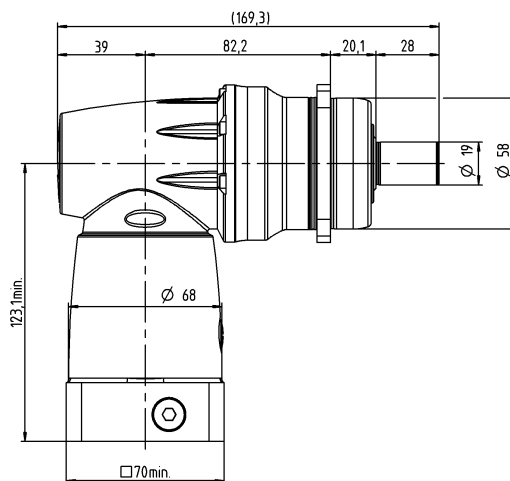
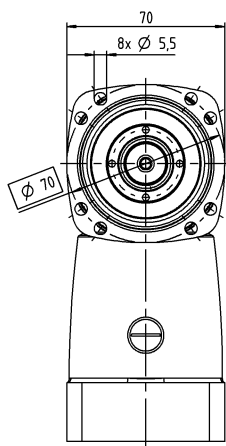
XPC+ 010 MF 2-stage

			2-stage
Ratio	i		4 / 5 / 7 / 8 / 10 / 14 / 20
Max. torque ^{a)}	T_{2a}	Nm	48 – 84
		$in.lb$	425 – 743
Max. acceleration torque (max. 1000 cycles per hour)	T_{2B}	Nm	40 – 70
		$in.lb$	354 – 620
Nominal torque (at n_n)	T_{2N}	Nm	27 – 28
		$in.lb$	239 – 248
Emergency stop torque (permitted 1000 times during the service life of the gearbox)	T_{2Not}	Nm	100 – 165
		$in.lb$	885 – 1460
Thermal speed limit (with 20°C ambient temperature and 10% torque utilization) ^{b)}	n_{1T}	rpm	3300 – 3750
Max. input speed	n_{1Max}	rpm	6000
Max. torsional backlash	j_t	$arcmin$	Standard ≤ 5 / Reduced ≤ 3
Torsional rigidity	C_{t21}	$Nm/arcmin$	3.1 – 5,5
		$in.lb/arcmin$	27 – 49
Max. tilting moment	M_{2KMax}	Nm	339
		$in.lb$	3000
Operating noise ^{c)}	L_{PA}	$dB(A)$	≤ 68
Lubrication			Lubricated for life
Clamping hub diameter		mm	14 – 19

^{a)} Application-specific design with cymex® – www.wittenstein-cymex.com

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

^{c)} At reference ratio and reference speed. Ratio-specific values available in cymex®.

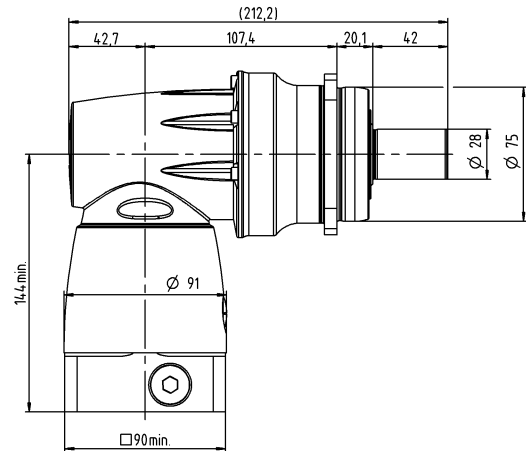
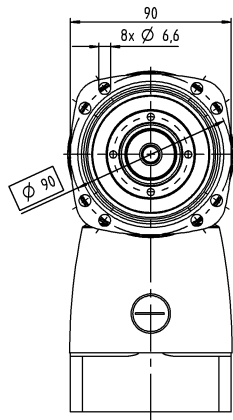


			2-stage
Ratio	i		4 / 5 / 7 / 8 / 10 / 14 / 20
Max. torque ^{a)}	T_{2a}	Nm	144 – 240
		$in.lb$	1275 – 2124
Max. acceleration torque (max. 1000 cycles per hour)	T_{2B}	Nm	120 – 180
		$in.lb$	1062 – 1593
Nominal torque (at n_{90})	T_{2N}	Nm	60 – 75
		$in.lb$	531 – 664
Emergency stop torque (permitted 1000 times during the service life of the gearbox)	T_{2Not}	Nm	192 – 418
		$in.lb$	1699 – 3700
Thermal speed limit (with 20°C ambient temperature and 10% torque utilization) ^{b)}	n_{1T}	rpm	2600 – 3050
Max. input speed	n_{1Max}	rpm	6000
Max. torsional backlash	j_t	$arcmin$	Standard ≤ 4 / Reduced ≤ 2
Torsional rigidity	C_{t21}	$Nm/arcmin$	9.1 – 14
		$in.lb/arcmin$	81 – 124
Max. tilting moment	M_{2KMax}	Nm	675
		$in.lb$	5974
Operating noise ^{c)}	L_{PA}	$dB(A)$	≤ 68
Lubrication			Lubricated for life
Clamping hub diameter		mm	19 – 28

^{a)} Application-specific design with cymex® – www.wittenstein-cymex.com

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

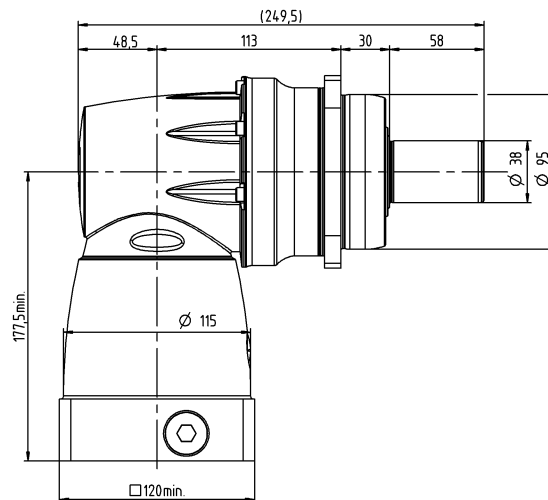
^{c)} At reference ratio and reference speed. Ratio-specific values available in cymex®.



2-stage

2-stage

a) Application-specific design with cymex® – www.wittenstein-cymex.com
b) For higher ambient temperatures, please reduce input speed
c) At reference ratio and reference speed. Ratio-specific values available in cymex®.

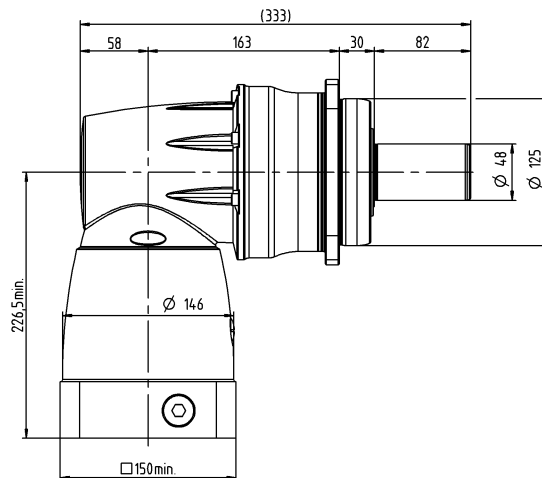
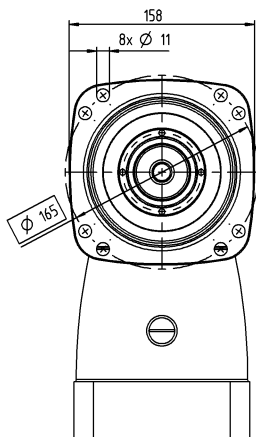


			2-stage
Ratio	<i>i</i>		4 / 5 / 7 / 8 / 10 / 14 / 20
Max. torque ^{a)}	T_{2a}	<i>Nm</i>	792 – 1050
		<i>in.lb</i>	7010 – 9293
Max. acceleration torque (max. 1000 cycles per hour)	T_{2B}	<i>Nm</i>	700 – 875
		<i>in.lb</i>	6196 – 7744
Nominal torque (at n_{n0})	T_{2N}	<i>Nm</i>	240 – 370
		<i>in.lb</i>	2124 – 3275
Emergency stop torque (permitted 1000 times during the service life of the gearbox)	T_{2Not}	<i>Nm</i>	960 – 2170
		<i>in.lb</i>	8497 – 19206
Thermal speed limit (with 20°C ambient temperature and 10% torque utilization) ^{b)}	n_{1T}	<i>rpm</i>	1550 – 1900
Max. input speed	n_{1Max}	<i>rpm</i>	4500
Max. torsional backlash	j_t	<i>arcmin</i>	Standard ≤ 4 / Reduced ≤ 2
Torsional rigidity	C_{t21}	<i>Nm/arcmin</i>	50 – 74
		<i>in.lb/arcmin</i>	443 – 655
Max. tilting moment	M_{2KMax}	<i>Nm</i>	1635
		<i>in.lb</i>	14471
Operating noise ^{c)}	L_{PA}	<i>dB(A)</i>	≤ 70
Lubrication			Lubricated for life
Clamping hub diameter		<i>mm</i>	38

^{a)} Application-specific design with cymex® – www.wittenstein-cymex.com

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

^{c)} At reference ratio and reference speed. Ratio-specific values available in cymex®.



2-stage

Bevel gearboxes

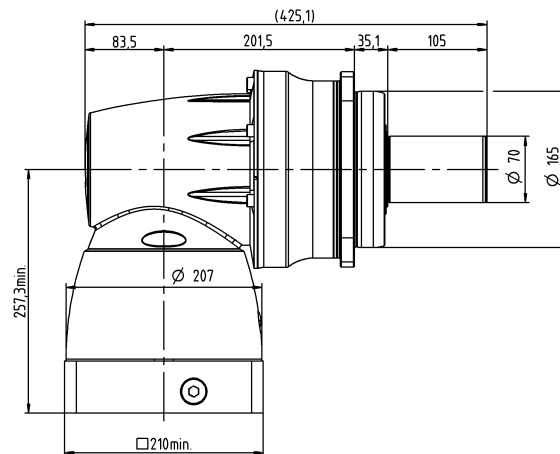
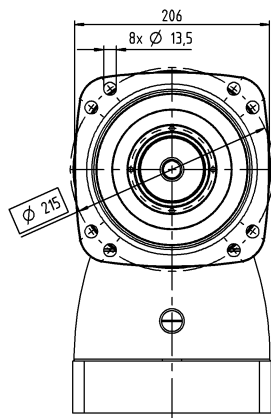
XPC+ 050 MF 2-stage

			2-stage
Ratio	i		4 / 5 / 7 / 8 / 10 / 14 / 20
Max. torque ^{a)}	T_{2a}	Nm	1512 – 2646
		$in.lb$	13382 – 23419
Max. acceleration torque (max. 1000 cycles per hour)	T_{2B}	Nm	1260 – 2205
		$in.lb$	11152 – 19516
Nominal torque (at n_n)	T_{2N}	Nm	700 – 750
		$in.lb$	6196 – 6638
Emergency stop torque (permitted 1000 times during the service life of the gearbox)	T_{2Not}	Nm	1560 – 4795
		$in.lb$	13807 – 42440
Thermal speed limit (with 20°C ambient temperature and 10% torque utilization) ^{b)}	n_{1T}	rpm	1050 – 1550
Max. input speed	n_{1Max}	rpm	4000
Max. torsional backlash	j_t	$arcmin$	Standard ≤ 4 / Reduced ≤ 2
Torsional rigidity	C_{t21}	$Nm/arcmin$	127 – 215
		$in.lb/arcmin$	1124 – 1903
Max. tilting moment	M_{2KMax}	Nm	3256
		$in.lb$	28818
Operating noise ^{c)}	L_{PA}	$dB(A)$	≤ 70
Lubrication			Lubricated for life
Clamping hub diameter		mm	48

^{a)} Application-specific design with cymex® – www.wittenstein-cymex.com

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

^{c)} At reference ratio and reference speed. Ratio-specific values available in cymex®.



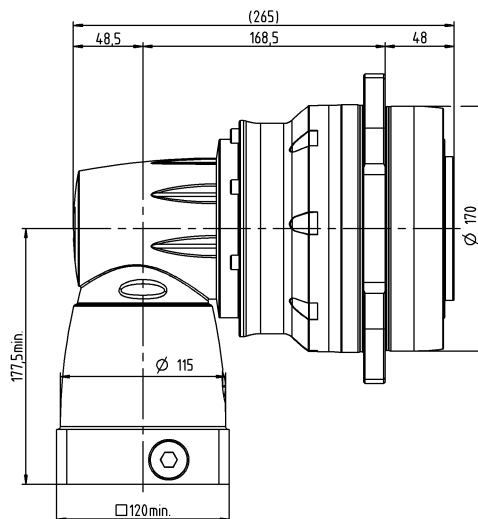
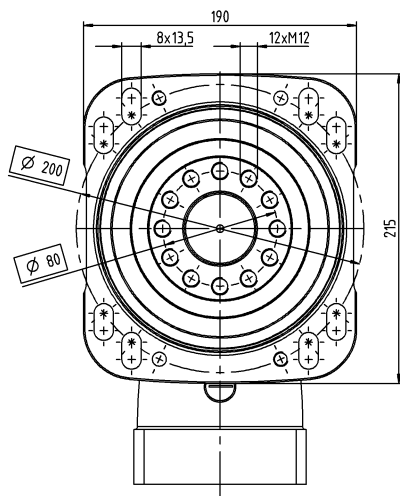
			3-stage
Ratio	i		22 / 27.5 / 38.5 / 44 / 55
Max. torque ^{a)}	T_{2a}	Nm	1402
		$in.lb$	12409
Max. acceleration torque (max. 1000 cycles per hour)	T_{2Not}	Nm	2613
		$in.lb$	23127
Nominal torque (at n_{n0})	T_{2B}	Nm	950
		$in.lb$	8408
Emergency stop torque (permitted 1000 times during the service life of the gearbox)	T_{2N}	Nm	675
		$in.lb$	5974
Thermal speed limit (with 20°C ambient temperature and 10% torque utilization) ^{b)}	n_{1T}	rpm	1800 – 2500
Max. input speed	n_{1Max}	rpm	4500
Max. torsional backlash	j_t	$arcmin$	Standard $\leq 1,3$
Torsional rigidity	C_{t21}	$Nm/arcmin$	194 – 215
		$in.lb/arcmin$	1717 – 1903
Max. tilting moment	M_{2KMax}	Nm	3600
		$in.lb$	31863
Operating noise ^{c)}	L_{PA}	$dB(A)$	≤ 70
Lubrication			Lubricated for life
Clamping hub diameter		mm	28 – 38

^{a)} Application-specific design with cymex® – www.wittenstein-cymex.com

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

^{c)} At reference ratio and reference speed. Ratio-specific values available in cymex®.

3-stage



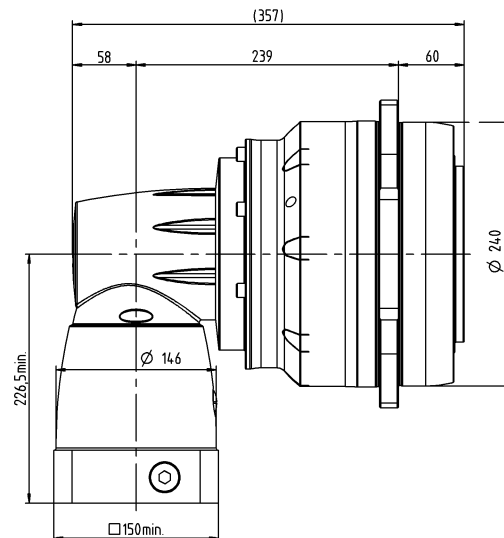
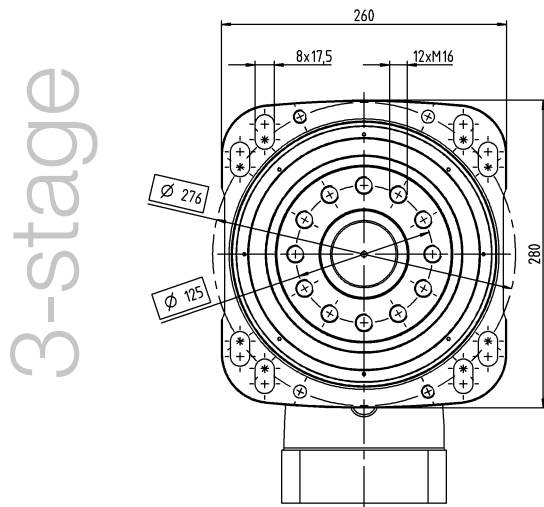
RPC+ 050 MA 3-stage

			3-stage
Ratio	i		22 / 27.5 / 38.5 / 44 / 55
Max. torque ^{a)}	T_{2a}	Nm	3822
		$in.lb$	33828
Max. acceleration torque (max. 1000 cycles per hour)	T_{2B}	Nm	3100
		$in.lb$	27437
Nominal torque (at n_n)	T_{2N}	Nm	1650
		$in.lb$	14604
Emergency stop torque (permitted 1000 times during the service life of the gearbox)	T_{2Not}	Nm	5280 – 7150
		$in.lb$	46732 – 63283
Thermal speed limit (with 20°C ambient temperature and 10% torque utilization) ^{b)}	n_{1T}	rpm	1300 – 1700
Max. input speed	n_{1Max}	rpm	4500
Max. torsional backlash	j_t	$arcmin$	Standard $\leq 1,3$
Torsional rigidity	C_{t21}	$Nm/arcmin$	607 – 671
		$in.lb/arcmin$	5372 – 5939
Max. tilting moment	M_{2KMax}	Nm	11000
		$in.lb$	97359
Operating noise ^{c)}	L_{PA}	$dB(A)$	≤ 71
Lubrication			Lubricated for life
Clamping hub diameter		mm	38

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

^{c)} At reference ratio and reference speed. Ratio-specific values available in cymex®.



			3-stage
Ratio	i		22 / 27.5 / 38.5 / 44 / 55
Max. torque ^{a)}	T_{2a}	Nm	7535
		$in.lb$	66691
Max. acceleration torque (max. 1000 cycles per hour)	T_{2B}	Nm	5500
		$in.lb$	48679
Nominal torque (at n_{n0})	T_{2N}	Nm	3500
		$in.lb$	30978
Emergency stop torque (permitted 1000 times during the service life of the gearbox)	T_{2Not}	Nm	8580 – 14575
		$in.lb$	75940 – 129000
Thermal speed limit (with 20°C ambient temperature and 10% torque utilization) ^{b)}	n_{1T}	rpm	850 – 1350
Max. input speed	n_{1Max}	rpm	4000
Max. torsional backlash	j_t	$arcmin$	Standard $\leq 1,8$
Torsional rigidity	C_{t21}	$Nm/arcmin$	1039 – 1171
		$in.lb/arcmin$	9196 – 10364
Max. tilting moment	M_{2KMax}	Nm	21000
		$in.lb$	185867
Operating noise ^{c)}	L_{PA}	$dB(A)$	≤ 71
Lubrication			Lubricated for life
Clamping hub diameter		mm	48

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

^{c)} At reference ratio and reference speed. Ratio-specific values available in cymex®.

3-stage

