

# XP+ – the best performing solution for cyclic operation



XP+

The XP+ with specially designed output and extremely compact design offers new dimensions in the power transmission in cyclic operation that far exceed industry standards. The optimized interfaces on the output can generate much higher torques, tilting moments and rigidity that directly benefit your application.

The XP+ impresses with maximum power density,

- if you require an even more compact drive
- if you wish to enhance the performance of your machine in cyclic operation
- if you require high-performance linear systems

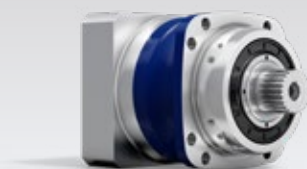
## Produkthighlights

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

**High power density**

**Very smooth running**

**Wide range of output options**

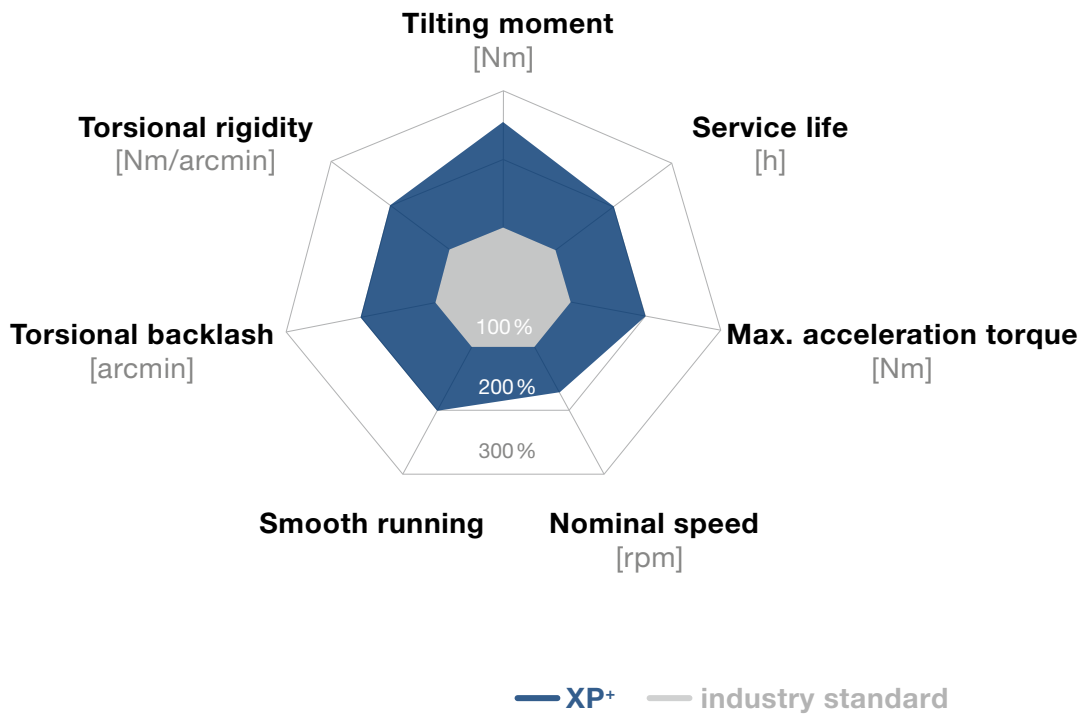


XP+ with splined shaft

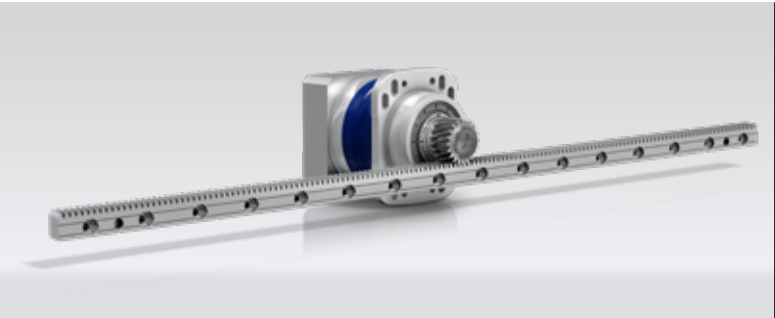


XP+ with pinion and slots

# XP+ compared to industry standard



Planetary gearboxes



XP+ with pinion, slots and rack



premo® XP Line with pinion

# XP+ 010 MF 1-/2-stage

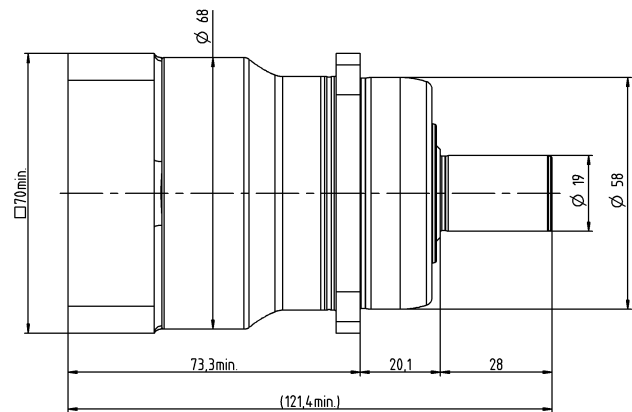
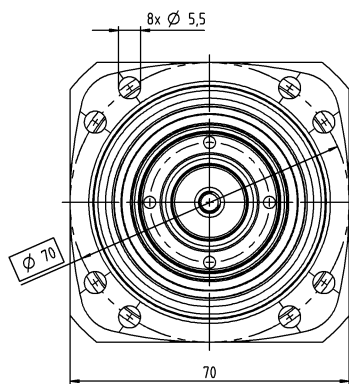
			1-stage	2-stage
Ratio	$i$		3 / 4 / 5 / 7 / 8 / 10	16 / 20 / 25 / 28 / 32 / 35 / 40 / 50 / 64 / 70 / 100
Max. torque <sup>a)</sup>	$T_{2a}$	Nm	56 – 128	50 – 119
		in.lb	496 – 1133	446 – 1051
Max. acceleration torque (max. 1000 cycles per hour)	$T_{2B}$	Nm	42 – 108	42 – 99
		in.lb	372 – 956	372 – 876
Nominal torque (at $n_n$ )	$T_{2N}$	Nm	21 – 27	34 – 53
		in.lb	190 – 239	297 – 467
Emergency stop torque (permitted 1000 times during the service life of the gearbox)	$T_{2Not}$	Nm	110 – 165	110 – 165
		in.lb	974 – 1458	974 – 1458
Thermal speed limit (with 20°C ambient temperature and 10% torque utilization) <sup>b)</sup>	$n_{1T}$	rpm	3300 – 4000	4400 – 5500
Max. input speed	$n_{1Max}$	rpm	7500	8500
Max. torsional backlash	$j_t$	arcmin	Standard $\leq 4$ / Reduced $\leq 2$	Standard $\leq 5$ / Reduced $\leq 3$
Torsional rigidity	$C_{t21}$	Nm/arcmin	5 – 6.5	5 – 6.5
		in.lb/arcmin	44 – 58	44 – 58
Max. tilting moment	$M_{2KMax}$	Nm	339	339
		in.lb	3000	3000
Operating noise <sup>c)</sup>	$L_{PA}$	dB(A)	$\leq 55$	$\leq 53$
Lubrication			Lubricated for life	Lubricated for life
Clamping hub diameter		mm	11 – 19	11 – 14

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

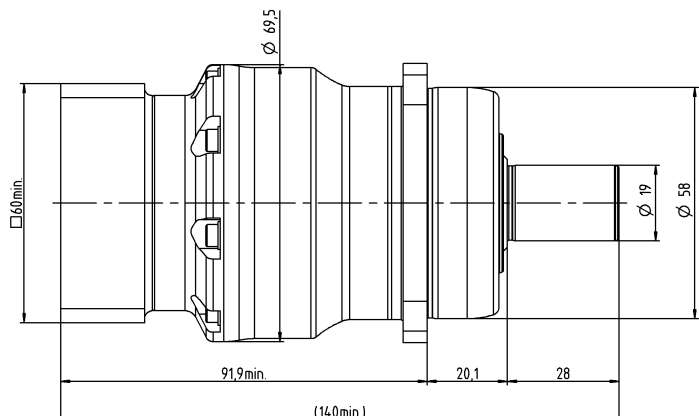
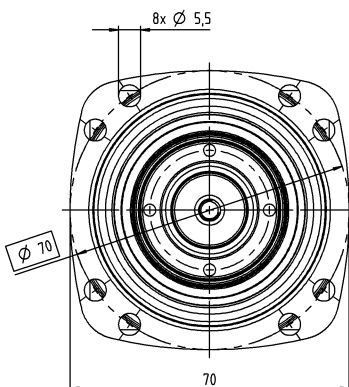
<sup>b)</sup> For higher ambient temperatures, please reduce input speed

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

1-stage



2-stage



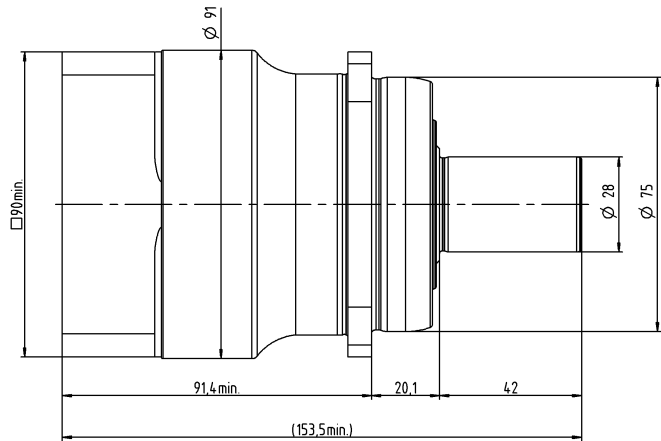
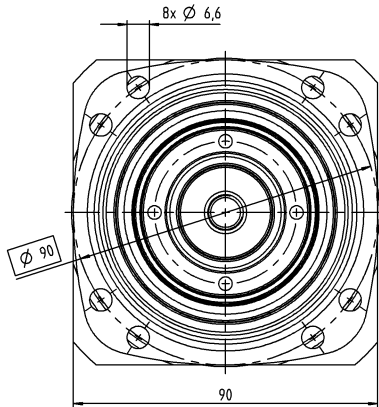
			1-stage	2-stage
<b>Ratio</b>	$i$		<b>3 / 4 / 5 / 7 / 8 / 10</b>	<b>16 / 20 / 25 / 28 / 32 / 35 / 40 / 50 / 64 / 70 / 100</b>
Max. torque <sup>a)</sup>	$T_{2a}$	<i>Nm</i>	168 – 330	139 – 348
		<i>in.lb</i>	1487 – 2921	1227 – 3080
Max. acceleration torque (max. 1000 cycles per hour)	$T_{2B}$	<i>Nm</i>	126 – 275	126 – 303
		<i>in.lb</i>	1115 – 2434	1115 – 2682
Nominal torque (at $n_{2N}$ )	$T_{2N}$	<i>Nm</i>	63 – 81	101 – 145
		<i>in.lb</i>	558 – 720	101 – 145
Emergency stop torque (permitted 1000 times during the service life of the gearbox)	$T_{2Not}$	<i>Nm</i>	325 – 390	325 – 418
		<i>in.lb</i>	2877 – 3452	2877 – 3696
Thermal speed limit (with 20°C ambient temperature and 10% torque utilization) <sup>b)</sup>	$n_{1T}$	<i>rpm</i>	2900 – 3100	3500 – 4500
Max. input speed	$n_{1Max}$	<i>rpm</i>	7500	8500
Max. torsional backlash	$j_t$	<i>arcmin</i>	Standard $\leq 3$ / Reduced $\leq 1$	Standard $\leq 4$ / Reduced $\leq 2$
Torsional rigidity	$C_{21}$	<i>Nm/arcmin</i>	14 – 17	15 – 20
		<i>in.lb/arcmin</i>	124 – 150	133 – 173
Max. tilting moment	$M_{2KMax}$	<i>Nm</i>	675	675
		<i>in.lb</i>	5974	5974
Operating noise <sup>c)</sup>	$L_{PA}$	<i>dB(A)</i>	$\leq 56$	$\leq 53$
Lubrication			Lubricated for life	Lubricated for life
Clamping hub diameter		<i>mm</i>	14 – 24	11 – 19

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

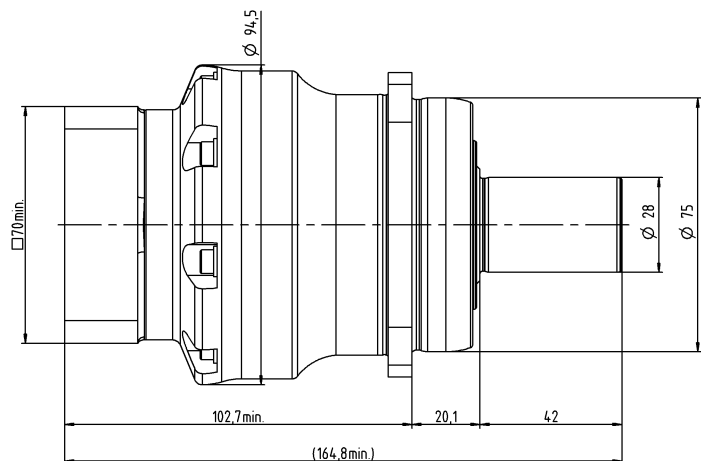
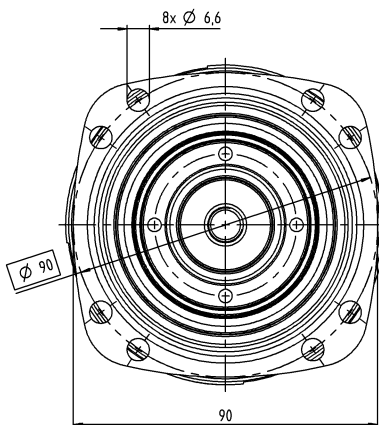
<sup>b)</sup> For higher ambient temperatures, please reduce input speed

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

1-stage



2-stage



# XP+ 030 MF 1-/2-stage

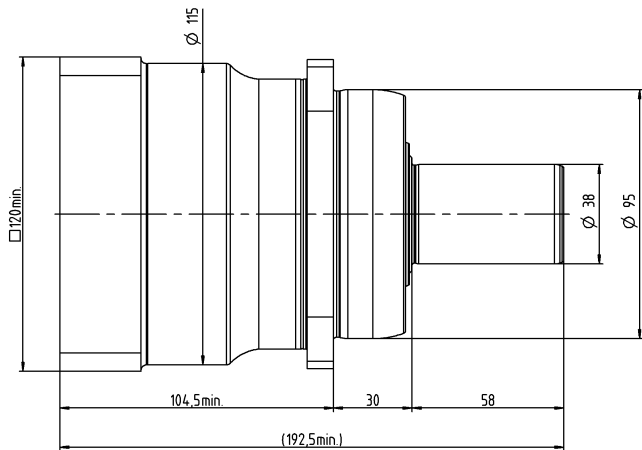
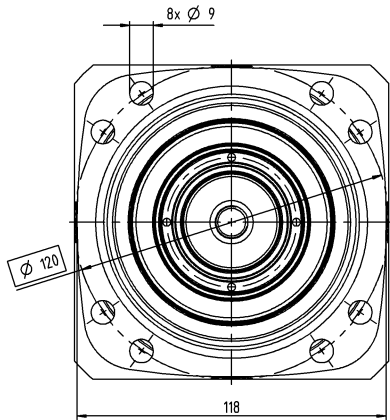
			1-stage	2-stage
<b>Ratio</b>	$i$		<b>3 / 4 / 5 / 7 / 8 / 10</b>	<b>16 / 20 / 25 / 28 / 32 / 35 / 40 / 50 / 64 / 70 / 100</b>
Max. torque <sup>a)</sup>	$T_{2a}$	Nm	388 – 600	363 – 660
		in.lb	3434 – 5310	3213 – 5842
Max. acceleration torque (max. 1000 cycles per hour)	$T_{2B}$	Nm	320 – 550	303 – 550
		in.lb	2832 – 4868	2682 – 4868
Nominal torque (at $n_n$ )	$T_{2N}$	Nm	131 – 174	242 – 319
		in.lb	1157 – 1538	2142 – 2826
Emergency stop torque (permitted 1000 times during the service life of the gearbox)	$T_{2Not}$	Nm	650 – 900	750 – 1125
		in.lb	5753 – 7966	6638 – 9957
Thermal speed limit (with 20°C ambient temperature and 10% torque utilization) <sup>b)</sup>	$n_{1T}$	rpm	2500 – 2800	3100 – 4200
Max. input speed	$n_{1Max}$	rpm	5500	6500
Max. torsional backlash	$j_t$	arcmin	Standard $\leq 3$ / Reduced $\leq 1$	Standard $\leq 4$ / Reduced $\leq 2$
Torsional rigidity	$C_{t21}$	Nm/arcmin	32 – 40	35 – 45
		in.lb/arcmin	283 – 354	310 – 398
Max. tilting moment	$M_{2KMax}$	Nm	1296	1296
		in.lb	11471	11471
Operating noise <sup>c)</sup>	$L_{PA}$	dB(A)	$\leq 59$	$\leq 56$
Lubrication			Lubricated for life	Lubricated for life
Clamping hub diameter		mm	19 – 38	14 – 28

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

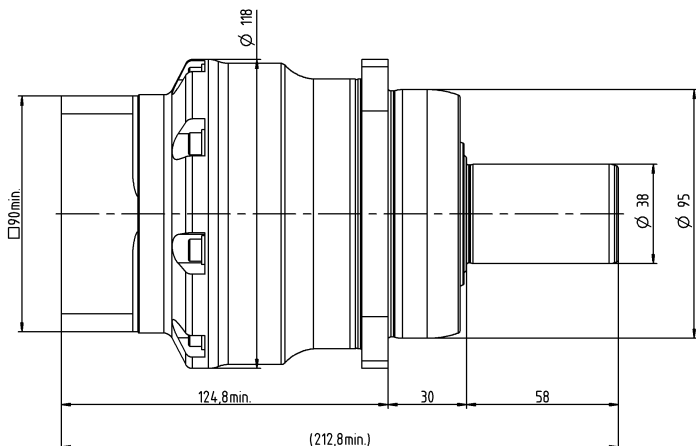
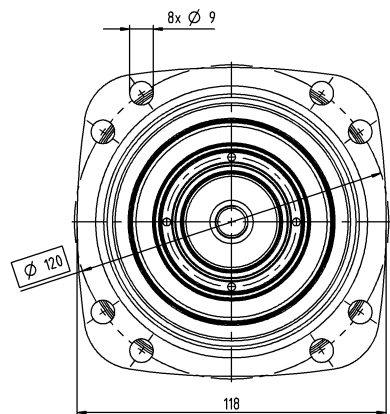
<sup>b)</sup> For higher ambient temperatures, please reduce input speed

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

1-stage



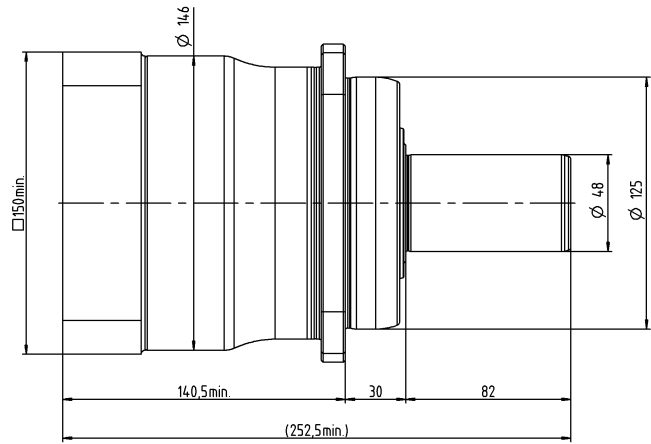
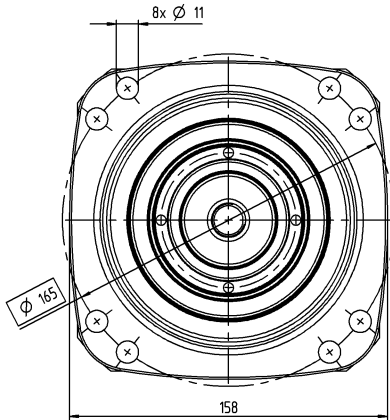
2-stage



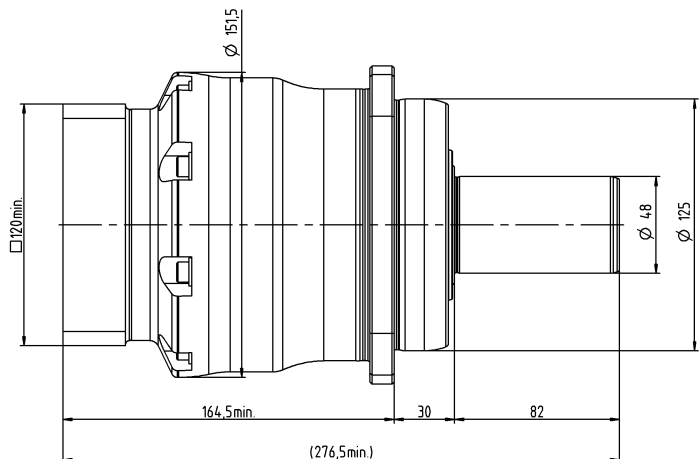
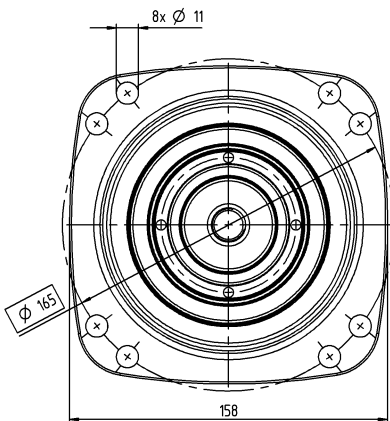
			1-stage	2-stage
<b>Ratio</b>	$i$		<b>3 / 4 / 5 / 7 / 8 / 10</b>	<b>16 / 20 / 25 / 28 / 32 / 35 / 40 / 50 / 64 / 70 / 100</b>
Max. torque <sup>a)</sup>	$T_{2a}$	Nm	792 – 1312	792 – 1188
		in.lb	7010 – 11612	7010 – 10515
Max. acceleration torque (max. 1000 cycles per hour)	$T_{2B}$	Nm	710 – 1080	660 – 990
		in.lb	6284 – 9559	5842 – 8762
Nominal torque (at $n_n$ )	$T_{2N}$	Nm	202 – 335	461 – 607
		in.lb	1786 – 2962	4078 – 5370
Emergency stop torque (permitted 1000 times during the service life of the gearbox)	$T_{2Not}$	Nm	1375 – 2310	1375 – 2310
		in.lb	12170 – 20449	12170 – 20449
Thermal speed limit (with 20°C ambient temperature and 10% torque utilization) <sup>b)</sup>	$n_{TT}$	rpm	2100 – 2600	2900 – 3900
Max. input speed	$n_{1Max}$	rpm	5000	6000
Max. torsional backlash	$j_t$	arcmin	Standard $\leq 3$ / Reduced $\leq 1$	Standard $\leq 4$ / Reduced $\leq 2$
Torsional rigidity	$C_{t21}$	Nm/arcmin	62 – 85	75 – 95
		in.lb/arcmin	549 – 752	664 – 841
Max. tilting moment	$M_{2KMax}$	Nm	1635	1635
		in.lb	14471	14471
Operating noise <sup>c)</sup>	$L_{PA}$	dB(A)	$\leq 60$	$\leq 57$
Lubrication			Lubricated for life	Lubricated for life
Clamping hub diameter		mm	24 – 48	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



2-stage



# XP+ 050 MF 1-/2-stage

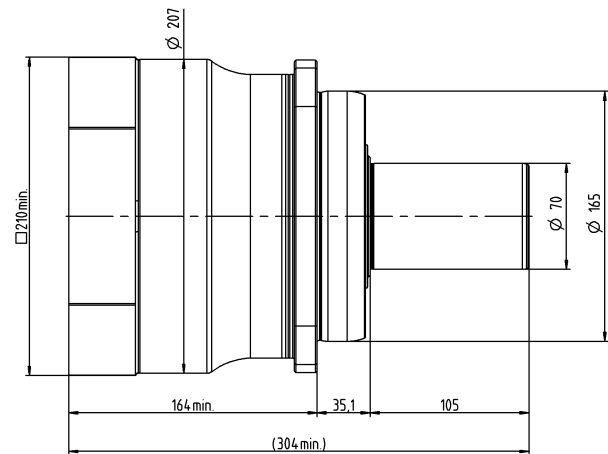
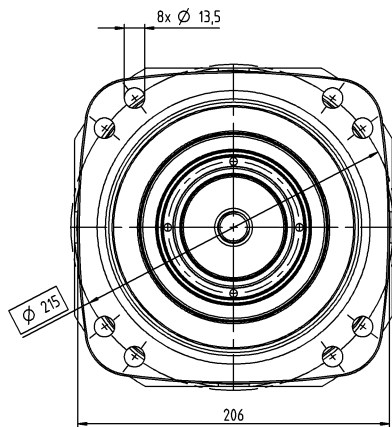
			1-stage	2-stage
<b>Ratio</b>	$i$		<b>3 / 4 / 5 / 7 / 8 / 10</b>	<b>16 / 20 / 25 / 28 / 32 / 35 / 40 / 50 / 64 / 70 / 100</b>
Max. torque <sup>a)</sup>	$T_{2a}$	Nm	2400 – 3840	1980 – 3696
		in.lb	21242 – 33987	17525 – 32713
Max. acceleration torque (max. 1000 cycles per hour)	$T_{2B}$	Nm	1800 – 3360	1650 – 3080
		in.lb	15931 – 29739	14604 – 27260
Nominal torque (at $n_n$ )	$T_{2N}$	Nm	513 – 927	1179 – 1505
		in.lb	4544 – 8203	10426 – 13323
Emergency stop torque (permitted 1000 times during the service life of the gearbox)	$T_{2Not}$	Nm	3445 – 5000	3505 – 5000
		in.lb	30493 – 44254	31022 – 44254
Thermal speed limit (with 20°C ambient temperature and 10% torque utilization) <sup>b)</sup>	$n_{IT}$	rpm	1500 – 2300	2700 – 3400
Max. input speed	$n_{1Max}$	rpm	4500	5000
Max. torsional backlash	$j_t$	arcmin	Standard $\leq 3$ / Reduced $\leq 1$	Standard $\leq 4$ / Reduced $\leq 2$
Torsional rigidity	$C_{t21}$	Nm/arcmin	160 – 250	240 – 290
		in.lb/arcmin	1416 – 2213	2124 – 2567
Max. tilting moment	$M_{2KMax}$	Nm	3256	3256
		in.lb	28818	28818
Operating noise <sup>c)</sup>	$L_{PA}$	dB(A)	$\leq 64$	$\leq 58$
Lubrication			Lubricated for life	Lubricated for life
Clamping hub diameter		mm	38 – 55	24 – 48

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

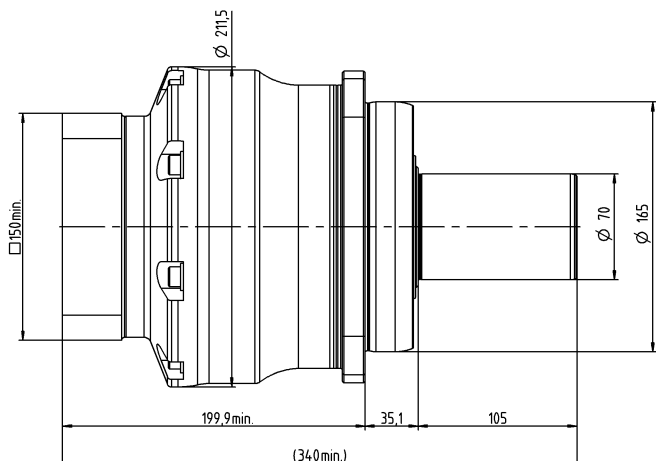
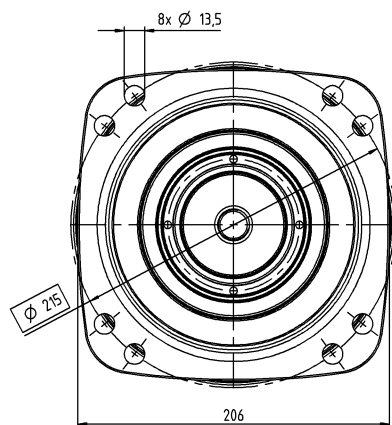
<sup>b)</sup> For higher ambient temperatures, please reduce input speed

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

1-stage



2-stage





Planetary gearboxes



# XP+ HIGH SPEED – for more performance in continuous operation



XP+

The XP+ HIGH SPEED enables new dimensions in power transmission for applications in continuous operation - in the smallest installation space. An optimized drive and lubrication system enables higher nominal speeds and an increased service life of up to 30,000 hours.

The XP+ HIGH SPEED impresses with maximum power density

- if you require an even more compact drive
- if you wish to enhance the performance of your machine in continuous operation
- if maximum reliability and service life are required

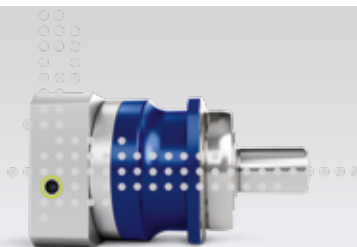
## Produkt highlights

**Max. backlash** [arcmin]  $\leq 2 - 6$

**Lower temperature development**

**Maximum nominal speeds**

**30,000 h service life**

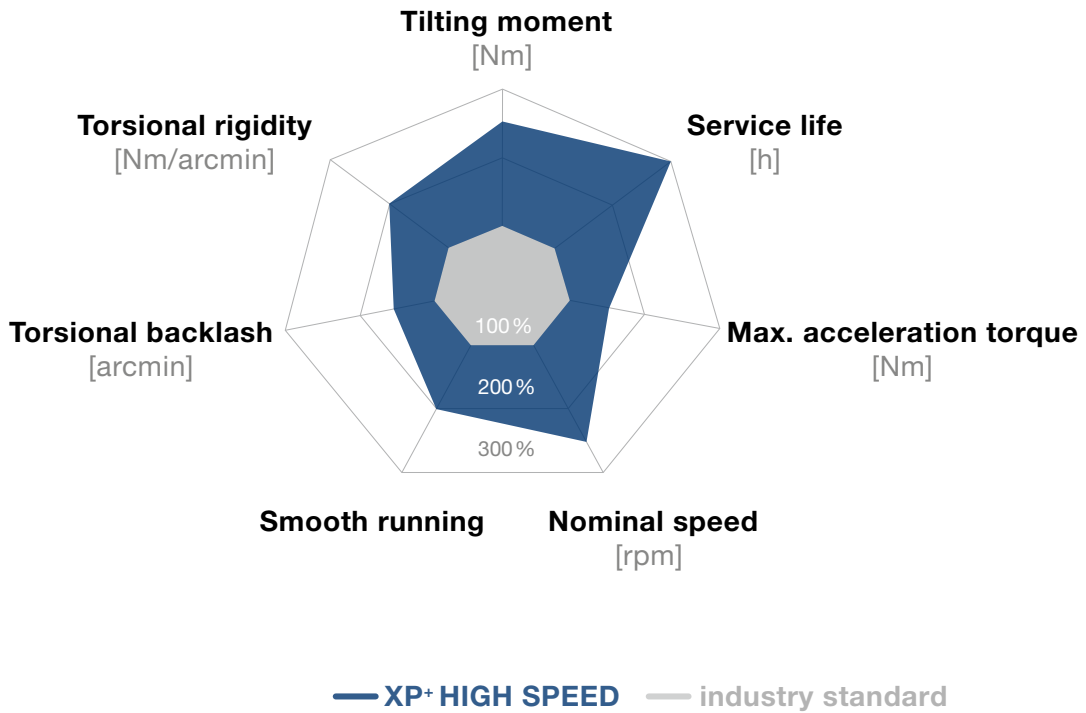


XP+ HIGH SPEED with cynapse

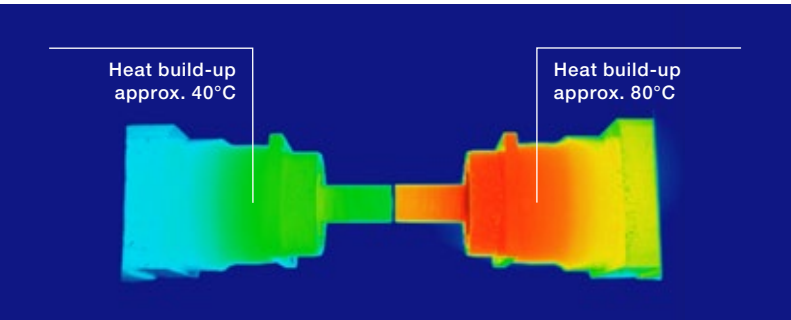


XP+ HIGH SPEED with splined shaft

# XP+ HIGH SPEED compared to industry standard



Planetary gearboxes



XP+ HIGH SPEED  
MC version

Industry standard



Matched accessories for your XP+ gearbox  
You can find more information in the "Accessories" product catalog

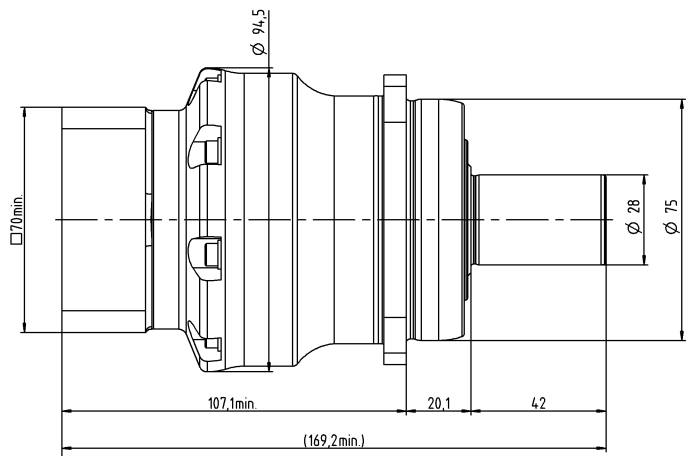
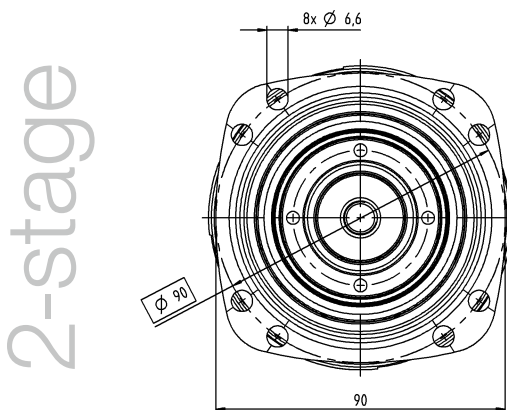
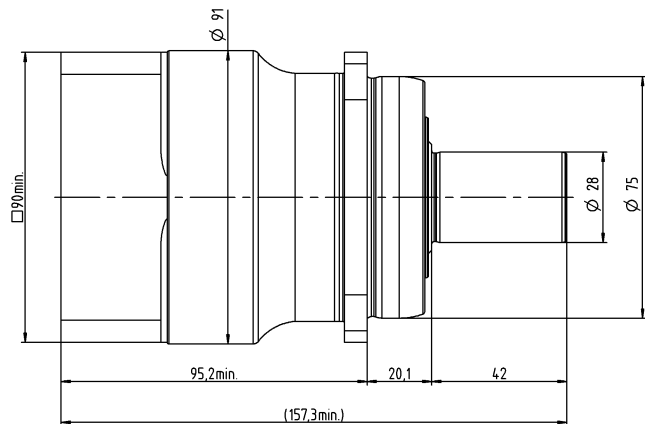
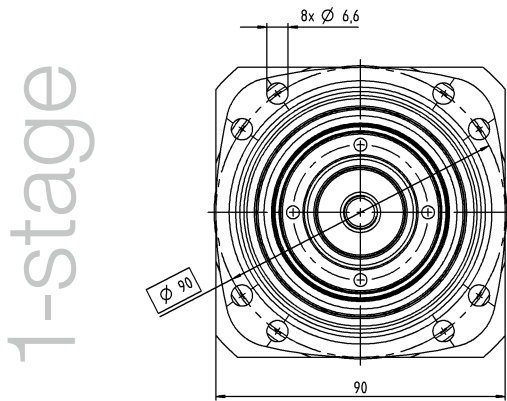
# XP+ 020 MC 1-/2-stage

			1-stage	2-stage
<b>Ratio</b>	$i$		<b>3 / 4 / 5 / 7 / 8 / 10</b>	<b>16 / 20 / 25 / 28 / 32 / 35 / 40 / 50 / 64 / 70 / 100</b>
Max. torque <sup>a)</sup>	$T_{2a}$	Nm	68 – 90	70 – 90
		in.lb	602 – 797	620 – 797
Max. acceleration torque (max. 1000 cycles per hour)	$T_{2B}$	Nm	68 – 90	70 – 90
		in.lb	602 – 797	620 – 797
Nominal torque (at $n_n$ )	$T_{2N}$	Nm	41 – 53	56 – 72
		in.lb	362 – 468	496 – 637
Emergency stop torque (permitted 1000 times during the service life of the gearbox)	$T_{2Not}$	Nm	325 – 390	325 – 418
		in.lb	2877 – 3452	2877 – 3696
Thermal speed limit (with 20°C ambient temperature and 10% torque utilization) <sup>b)</sup>	$n_{1T}$	rpm	4500	4500
Max. input speed	$n_{1Max}$	rpm	6000	6000
Max. torsional backlash	$j_t$	arcmin	Standard $\leq 6$ / Reduced $\leq 4$	Standard $\leq 8$ / Reduced $\leq 6$
Torsional rigidity	$C_{t21}$	Nm/arcmin	14 – 17	15 – 20
		in.lb/arcmin	124 – 150	133 – 177
Max. tilting moment	$M_{2KMax}$	Nm	675	675
		in.lb	5974	5974
Operating noise <sup>c)</sup>	$L_{PA}$	dB(A)	$\leq 56$	$\leq 53$
Lubrication			Lubricated for life	Lubricated for life
Clamping hub diameter		mm	19 – 24	14 – 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®.



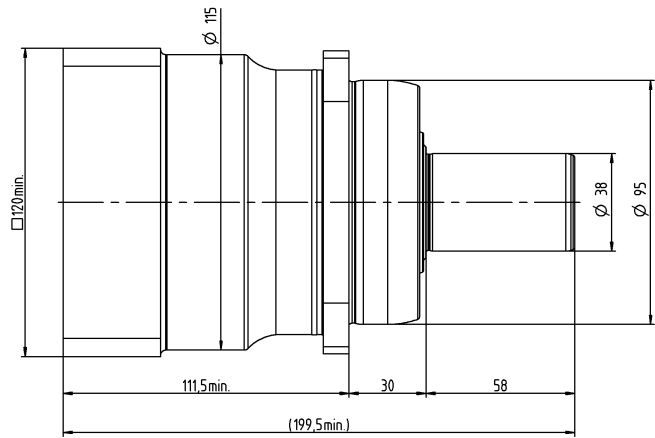
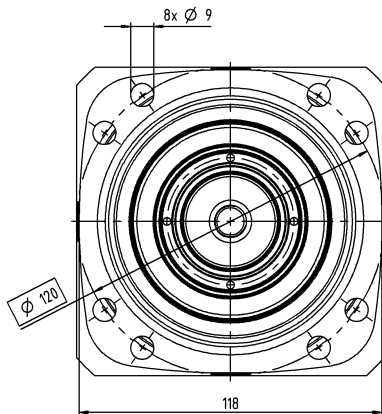
			1-stage	2-stage
<b>Ratio</b>	$i$		<b>3 / 4 / 5 / 7 / 8 / 10</b>	<b>16 / 20 / 25 / 28 / 32 / 35 / 40 / 50 / 64 / 70 / 100</b>
Max. torque <sup>a)</sup>	$T_{2a}$	<i>Nm</i>	180 – 240	180 – 240
		<i>in.lb</i>	1593 – 2124	1593 – 2124
Max. acceleration torque (max. 1000 cycles per hour)	$T_{2B}$	<i>Nm</i>	180 – 240	180 – 240
		<i>in.lb</i>	1593 – 2124	1593 – 2124
Nominal torque (at $n_{2N}$ )	$T_{2N}$	<i>Nm</i>	76 – 97	138 – 189
		<i>in.lb</i>	677 – 861	1221 – 1673
Emergency stop torque (permitted 1000 times during the service life of the gearbox)	$T_{2Not}$	<i>Nm</i>	650 – 900	750 – 1125
		<i>in.lb</i>	5753 – 7966	6638 – 9957
Thermal speed limit (with 20°C ambient temperature and 10% torque utilization) <sup>b)</sup>	$n_{1T}$	<i>rpm</i>	3500 – 4500	4500
Max. input speed	$n_{1Max}$	<i>rpm</i>	6000	6000
Max. torsional backlash	$j_t$	<i>arcmin</i>	Standard $\leq 4$ / Reduced $\leq 2$	Standard $\leq 6$ / Reduced $\leq 4$
Torsional rigidity	$C_{t21}$	<i>Nm/arcmin</i>	32 – 40	35 – 45
		<i>in.lb/arcmin</i>	283 – 354	310 – 398
Max. tilting moment	$M_{2KMax}$	<i>Nm</i>	1296	1296
		<i>in.lb</i>	11471	11471
Operating noise <sup>c)</sup>	$L_{PA}$	<i>dB(A)</i>	$\leq 59$	$\leq 56$
Lubrication			Lubricated for life	Lubricated for life
Clamping hub diameter		<i>mm</i>	24 – 38	19 – 24

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

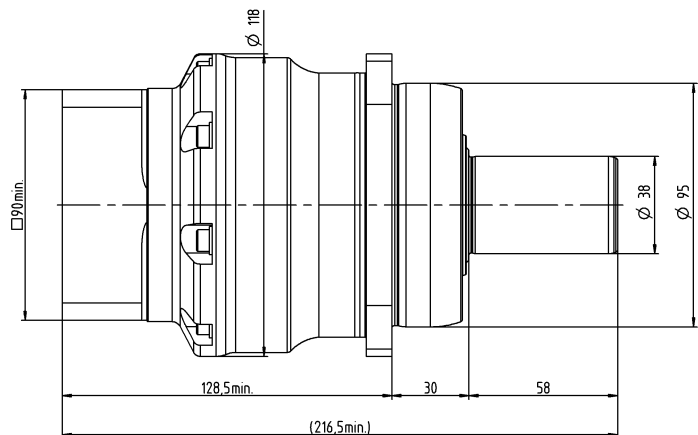
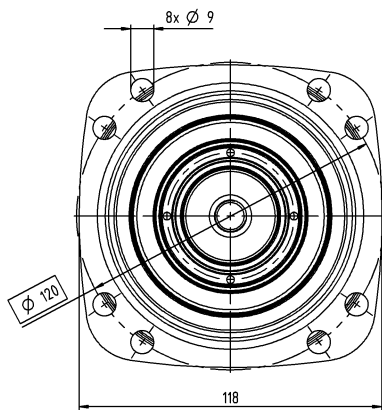
<sup>b)</sup> For higher ambient temperatures, please reduce input speed

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

1-stage



2-stage



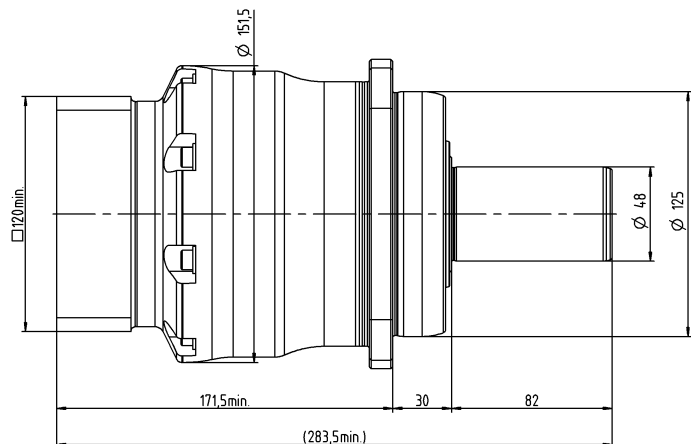
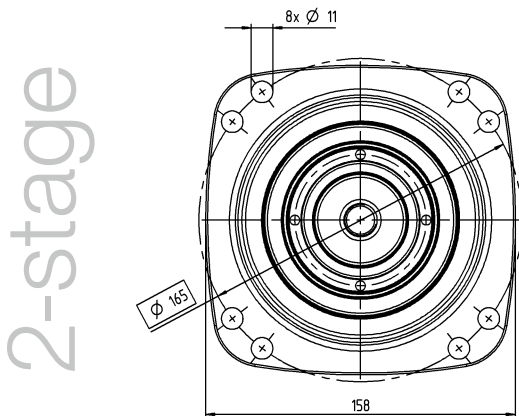
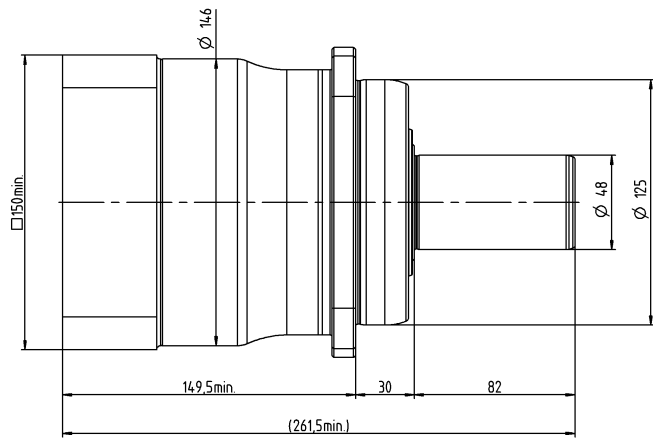
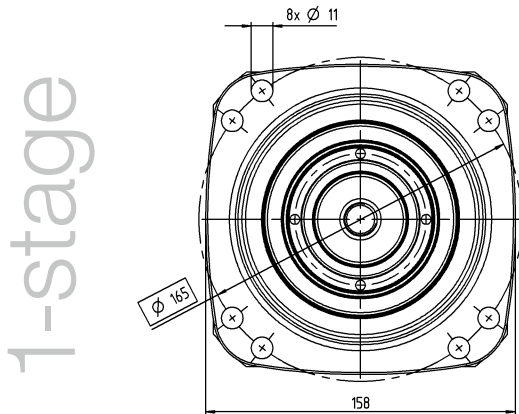
# XP+ 040 MC 1-/2-stage

			1-stage	2-stage
<b>Ratio</b>	$i$		<b>3 / 4 / 5 / 7 / 8 / 10</b>	<b>16 / 20 / 25 / 28 / 32 / 35 / 40 / 50 / 64 / 70 / 100</b>
Max. torque <sup>a)</sup>	$T_{2a}$	Nm	310 – 480	380 – 480
		in.lb	2744 – 4248	3363 – 4248
Max. acceleration torque (max. 1000 cycles per hour)	$T_{2B}$	Nm	310 – 480	380 – 480
		in.lb	2744 – 4248	3363 – 4248
Nominal torque (at $n_n$ )	$T_{2N}$	Nm	127 – 195	277 – 367
		in.lb	1122 – 1730	2447 – 3250
Emergency stop torque (permitted 1000 times during the service life of the gearbox)	$T_{2Not}$	Nm	1375 – 2310	1375 – 2310
		in.lb	12170 – 20445	12170 – 20445
Thermal speed limit (with 20°C ambient temperature and 10% torque utilization) <sup>b)</sup>	$n_{1T}$	rpm	3000 – 4500	4500
Max. input speed	$n_{1Max}$	rpm	6000	6000
Max. torsional backlash	$j_t$	arcmin	Standard $\leq 4$ / Reduced $\leq 2$	Standard $\leq 6$ / Reduced $\leq 4$
Torsional rigidity	$C_{t21}$	Nm/arcmin	62 – 85	75 – 95
		in.lb/arcmin	549 – 752	664 – 841
Max. tilting moment	$M_{2KMax}$	Nm	1635	1635
		in.lb	14471	14471
Operating noise <sup>c)</sup>	$L_{PA}$	dB(A)	$\leq 60$	$\leq 57$
Lubrication			Lubricated for life	Lubricated for life
Clamping hub diameter		mm	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®.



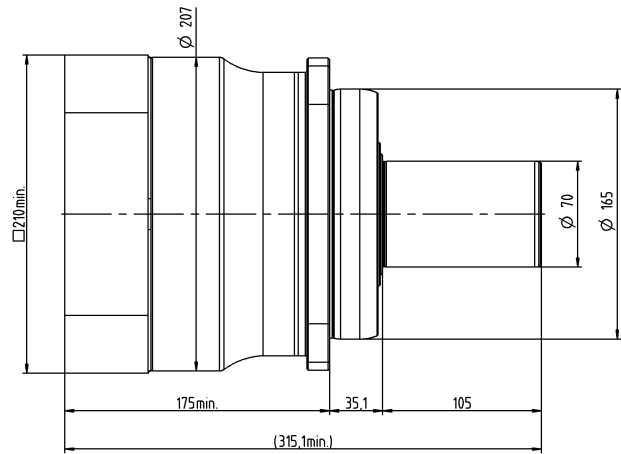
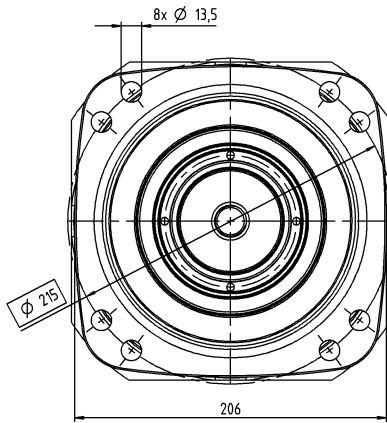
			1-stage	2-stage
<b>Ratio</b>	$i$		<b>3 / 4 / 5 / 7 / 8 / 10</b>	<b>16 / 20 / 25 / 28 / 32 / 35 / 40 / 50 / 64 / 70 / 100</b>
Max. torque <sup>a)</sup>	$T_{2a}$	Nm	700 – 880	700 – 880
		in.lb	6196 – 7789	6196 – 7789
Max. acceleration torque (max. 1000 cycles per hour)	$T_{2B}$	Nm	700 – 880	700 – 880
		in.lb	6196 – 7789	6196 – 7789
Nominal torque (at $n_n$ )	$T_{2N}$	Nm	289 – 492	560 – 704
		in.lb	2554 – 4355	4956 – 6231
Emergency stop torque (permitted 1000 times during the service life of the gearbox)	$T_{2Not}$	Nm	3445 – 5000	3505 – 5000
		in.lb	30493 – 44254	31022 – 44254
Thermal speed limit (with 20°C ambient temperature and 10% torque utilization) <sup>b)</sup>	$n_{TT}$	rpm	3000 – 4500	4500
Max. input speed	$n_{1Max}$	rpm	4500 – 6000	6000
Max. torsional backlash	$j_t$	arcmin	Standard $\leq 4$ / Reduced $\leq 2$	Standard $\leq 6$ / Reduced $\leq 4$
Torsional rigidity	$C_{t21}$	Nm/arcmin	160 – 250	240 – 290
		in.lb/arcmin	1416 – 2213	2124 – 2567
Max. tilting moment	$M_{2KMax}$	Nm	3256	3256
		in.lb	28818	28818
Operating noise <sup>c)</sup>	$L_{PA}$	dB(A)	$\leq 64$	$\leq 58$
Lubrication			Lubricated for life	Lubricated for life
Clamping hub diameter		mm	48	38

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

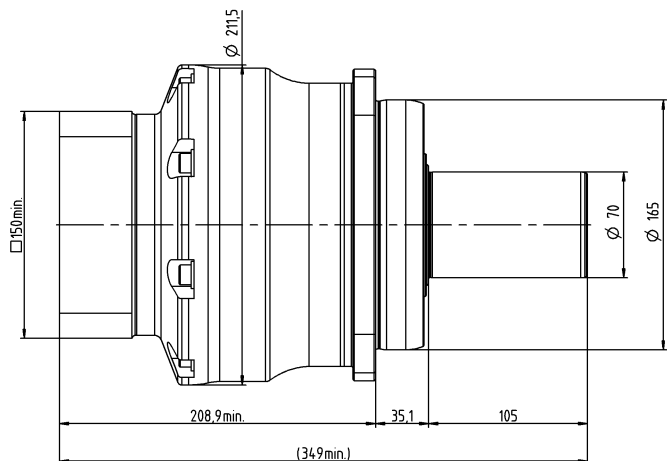
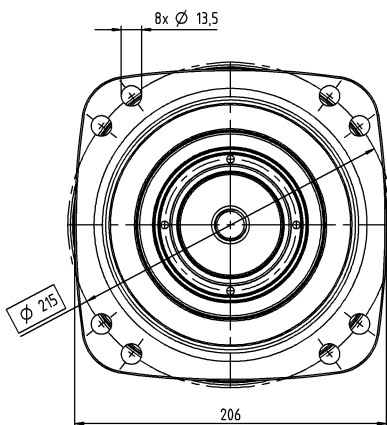
<sup>b)</sup> For higher ambient temperatures, please reduce input speed

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

1-stage



2-stage



# The new XP+ HIGH TORQUE – the highest torque solution on the market



XP+

The new XP+ HIGH TORQUE is the high-performance expansion of our XP+ family. It convinces with the highest torque density on the market and enables the realization of highly dynamic applications for even shorter cycle times with highest positioning accuracy at the same time. In addition, the XP+ HIGH TORQUE creates space for even more compact drive axles.

- The XP+ HIGH TORQUE convinces with highest power density
- if shortest cycle times are essential for you
  - if increased masses and process forces are required
  - if significant savings in installation space and weight are advantageous for your machine

## Produkthighlights

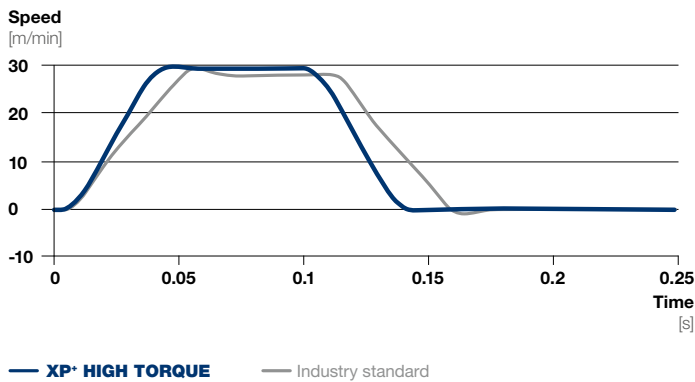
**Max. backlash [arcmin]  $\leq 1$**

**Increase of productivity and more process quality**

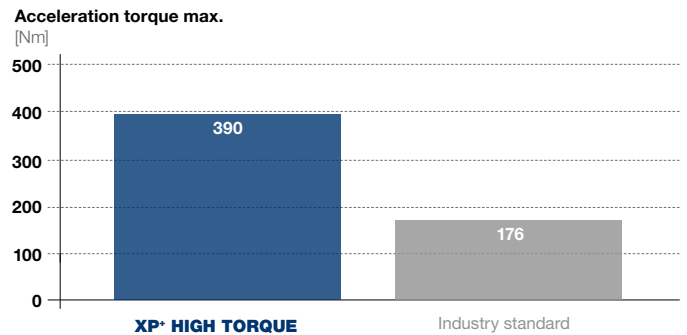
**Increase of productivity as well as more process quality**

**Most compact installation length**

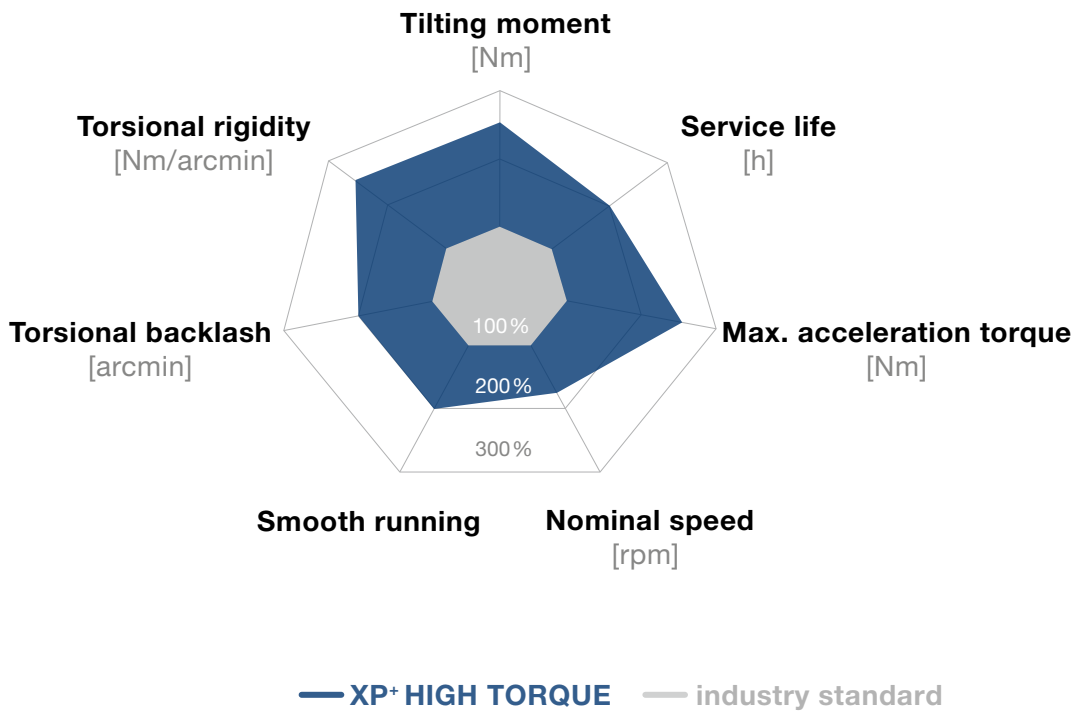
Cycle time reduction in comparison



Torque increase in comparison (size 20)



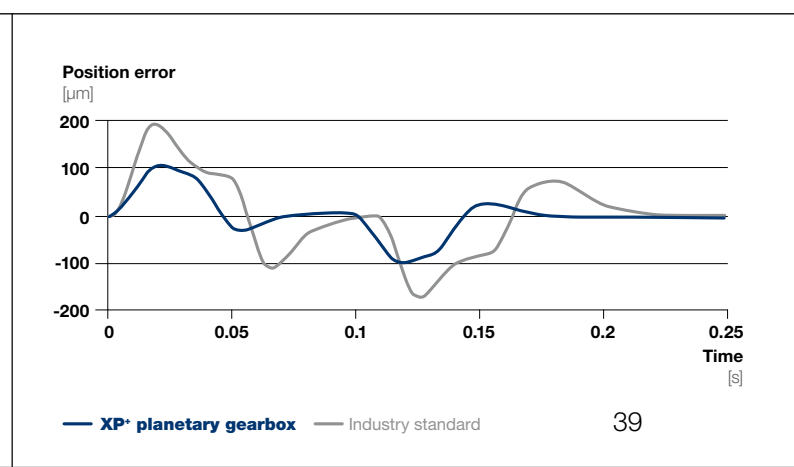
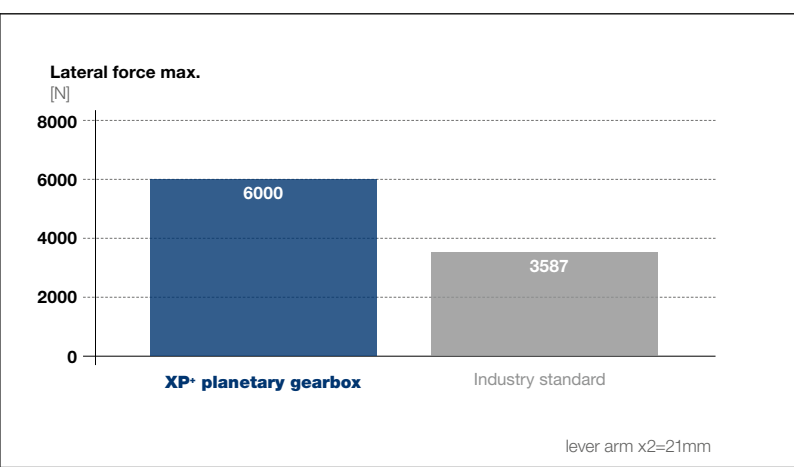
# XP+ HIGH TORQUE compared to industry standard



Planetary gearboxes

Lateral forces with lever arm in comparison (size 20)

Positioning in comparison





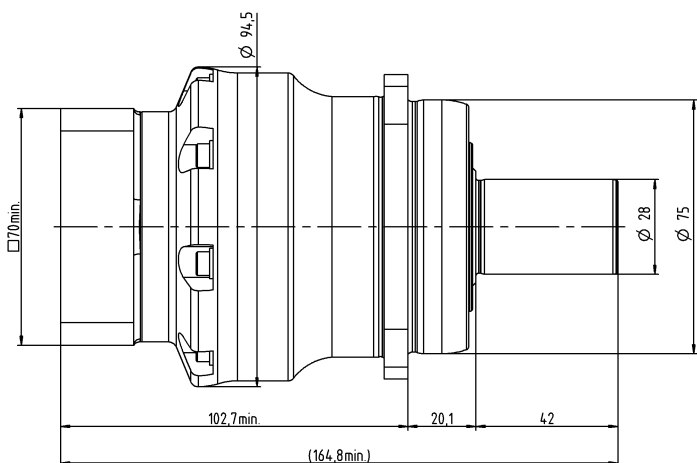
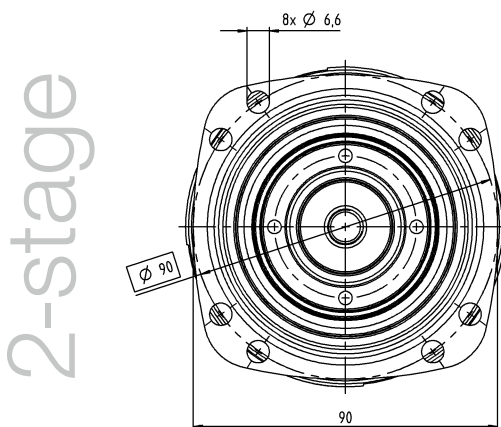
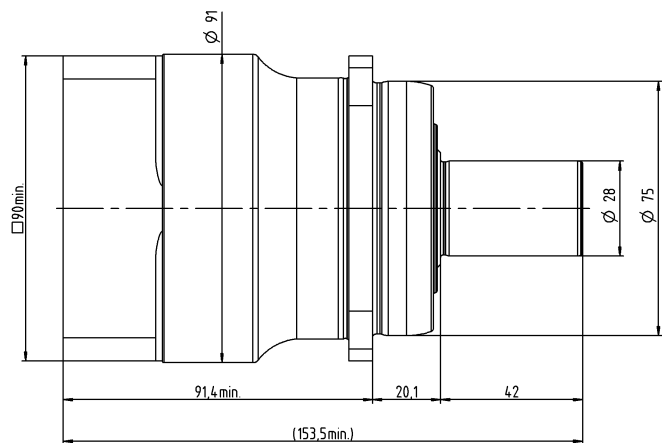
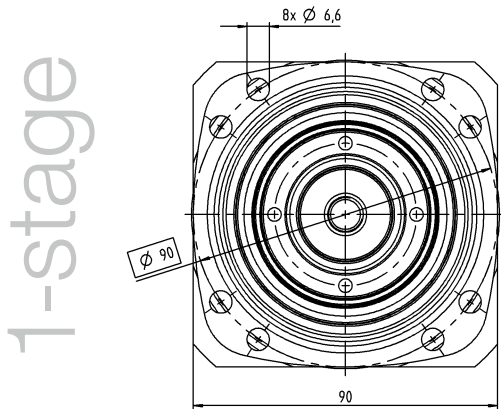
# XP+ 020 MA 1-/2-stage

			1-stage	2-stage
<b>Ratio</b>	$i$		<b>5.5</b>	<b>22 / 27.5</b>
<b>Max. torque <sup>a)</sup></b>	$T_{2a}$	<i>Nm</i>	390	410
		<i>in.lb</i>	3452	3629
<b>Max. acceleration torque</b> (max. 1000 cycles per hour)	$T_{2B}$	<i>Nm</i>	365	365
		<i>in.lb</i>	3231	3231
<b>Nominal torque</b> (at $n_n$ )	$T_{2N}$	<i>Nm</i>	105	120 – 145
		<i>in.lb</i>	929	1062 – 1283
<b>Emergency stop torque</b> (permitted 1000 times during the service life of the gearbox)	$T_{2Not}$	<i>Nm</i>	390	418
		<i>in.lb</i>	3452	3700
<b>Thermal speed limit</b> (with 20°C ambient temperature and 10% torque utilization <sup>b)</sup> )	$n_{IT}$	<i>rpm</i>	2900	3500
<b>Max. input speed</b>	$n_{1Max}$	<i>rpm</i>	7500	8500
<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>	20	24
		<i>in.lb/arcmin</i>	177	212
<b>Max. tilting moment</b>	$M_{2KMax}$	<i>Nm</i>	675	675
		<i>in.lb</i>	5974	5974
<b>Operating noise <sup>c)</sup></b>	$L_{PA}$	<i>dB(A)</i>	$\leq 56$	$\leq 53$
<b>Lubrication</b>			Lubricated for life	Lubricated for life
<b>Clamping hub diameter</b>		<i>mm</i>	19 – 24	14 – 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®.



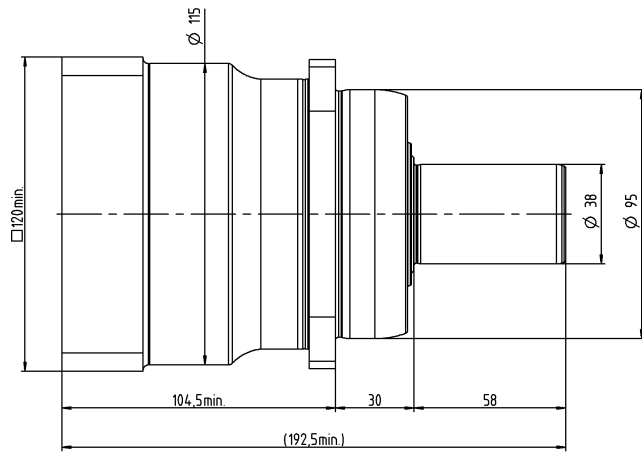
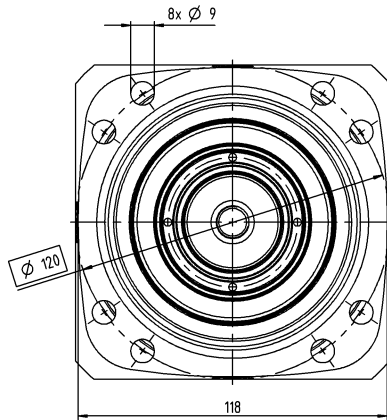
			1-stage	2-stage
<b>Ratio</b>	$i$		<b>5.5</b>	<b>22 / 27.5 / 38.5 / 55</b>
Max. torque <sup>a)</sup>	$T_{2a}$	<i>Nm</i>	730	660 – 730
		<i>in.lb</i>	6461	5842 – 6461
Max. acceleration torque (max. 1000 cycles per hour)	$T_{2B}$	<i>Nm</i>	660	600 – 660
		<i>in.lb</i>	5842	5310 – 5842
Nominal torque (at $n_n$ )	$T_{2N}$	<i>Nm</i>	220	320 – 410
		<i>in.lb</i>	1947	2832 – 1125
Emergency stop torque (permitted 1000 times during the service life of the gearbox)	$T_{2Not}$	<i>Nm</i>	900	1125
		<i>in.lb</i>	7966	9957
Thermal speed limit (with 20°C ambient temperature and 10% torque utilization) <sup>b)</sup>	$n_{TT}$	<i>rpm</i>	2500	3100 – 3500
Max. input speed	$n_{1Max}$	<i>rpm</i>	5500	6500
Max. torsional backlash	$j_t$	<i>arcmin</i>	Standard $\leq 1$	Standard $\leq 1$
Torsional rigidity	$C_{t21}$	<i>Nm/arcmin</i>	48	54
		<i>in.lb/arcmin</i>	425	478
Max. tilting moment	$M_{2KMax}$	<i>Nm</i>	1296	1296
		<i>in.lb</i>	11470	11470
Operating noise <sup>c)</sup>	$L_{PA}$	<i>dB(A)</i>	$\leq 59$	$\leq 56$
Lubrication			Lubricated for life	Lubricated for life
Clamping hub diameter		<i>mm</i>	24 – 38	19 – 28

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

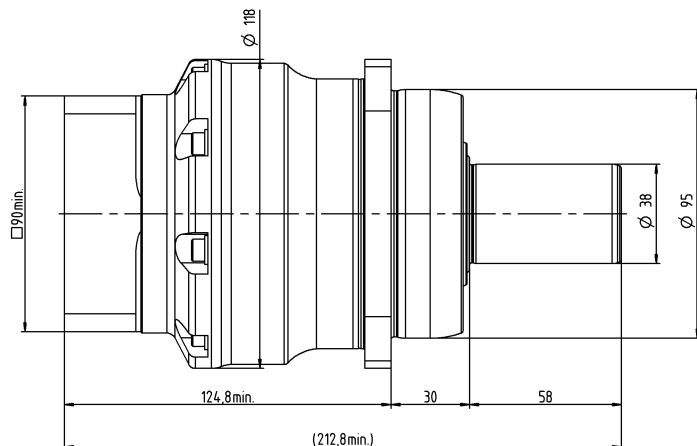
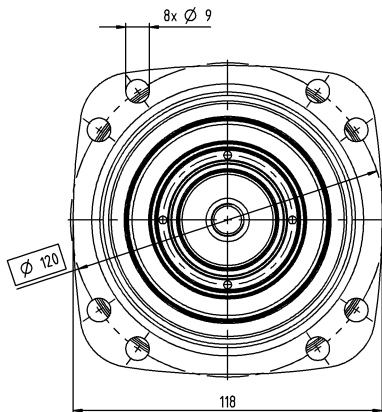
<sup>b)</sup> For higher ambient temperatures, please reduce input speed

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

1-stage



2-stage



# XP+ 040 MA 1-/2-stage

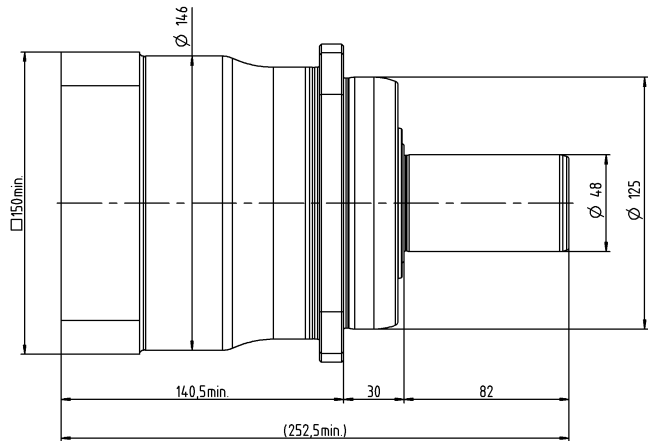
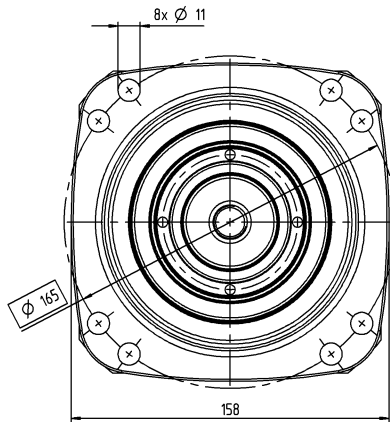
			1-stage	2-stage
<b>Ratio</b>	$i$		<b>5.5</b>	<b>22 / 27.5 / 38.5 / 55</b>
<b>Max. torque <sup>a)</sup></b>	$T_{2a}$	<i>Nm</i>	1485	1485
		<i>in.lb</i>	13143	13143
<b>Max. acceleration torque</b> (max. 1000 cycles per hour)	$T_{2B}$	<i>Nm</i>	1350	1350
		<i>in.lb</i>	11949	11949
<b>Nominal torque</b> (at $n_n$ )	$T_{2N}$	<i>Nm</i>	440	490 – 585
		<i>in.lb</i>	3894	4337 – 5178
<b>Emergency stop torque</b> (permitted 1000 times during the service life of the gearbox)	$T_{2Not}$	<i>Nm</i>	2300	2300
		<i>in.lb</i>	20357	20357
<b>Thermal speed limit</b> (with 20°C ambient temperature and 10% torque utilization <sup>b)</sup> )	$n_{1T}$	<i>rpm</i>	2100	2900 – 3200
<b>Max. input speed</b>	$n_{1Max}$	<i>rpm</i>	5000	6000
<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>	102	105
		<i>in.lb/arcmin</i>	903	929
<b>Max. tilting moment</b>	$M_{2KMax}$	<i>Nm</i>	1635	1635
		<i>in.lb</i>	14470	14470
<b>Operating noise <sup>c)</sup></b>	$L_{PA}$	<i>dB(A)</i>	$\leq 60$	$\leq 57$
<b>Lubrication</b>			Lubricated for life	Lubricated for life
<b>Clamping hub diameter</b>		<i>mm</i>	32 – 48	24 – 38

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

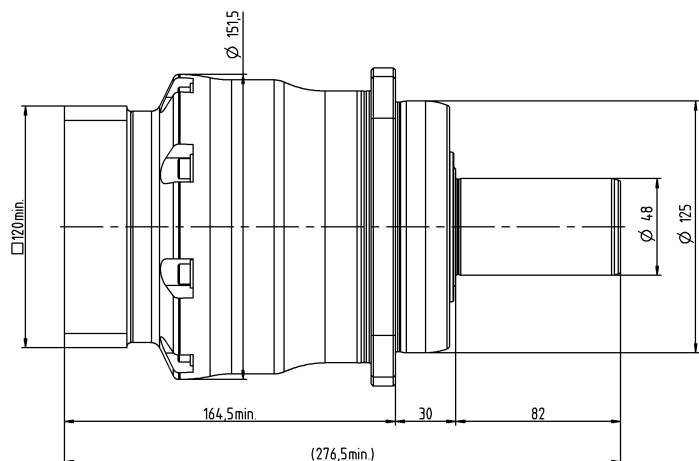
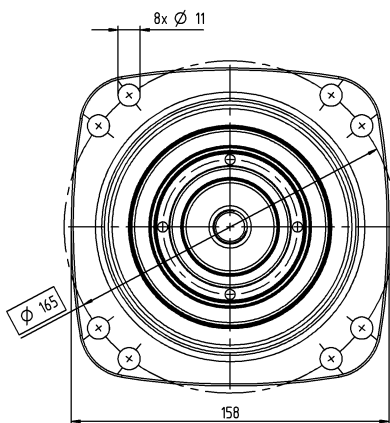
<sup>b)</sup> For higher ambient temperatures, please reduce input speed

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

1-stage



2-stage



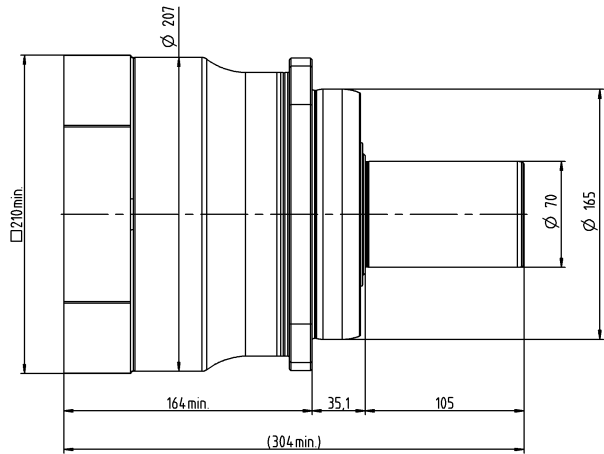
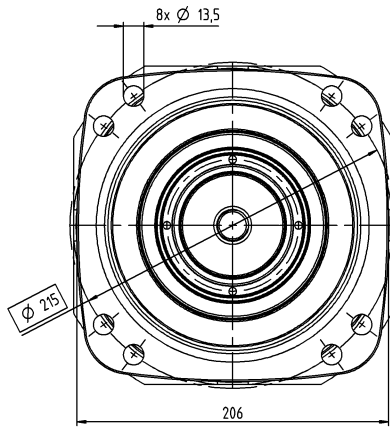
			1-stage	2-stage
<b>Ratio</b>	$i$		<b>5.5</b>	<b>22 / 27.5 / 38.5 / 55</b>
Max. torque <sup>a)</sup>	$T_{2a}$	Nm	4400	3800 – 4400
		in.lb	38944	33633 – 38944
Max. acceleration torque (max. 1000 cycles per hour)	$T_{2B}$	Nm	4000	3200 – 4000
		in.lb	35403	28322 – 35403
Nominal torque (at $n_n$ )	$T_{2N}$	Nm	1200	1370 – 1760
		in.lb	10621	12126 – 15577
Emergency stop torque (permitted 1000 times during the service life of the gearbox)	$T_{2Not}$	Nm	5000	5000
		in.lb	44254	44254
Thermal speed limit (with 20°C ambient temperature and 10% torque utilization) <sup>b)</sup>	$n_{TT}$	rpm	1500	2700 – 2900
Max. input speed	$n_{1Max}$	rpm	4500	5000
Max. torsional backlash	$j_t$	arcmin	Standard $\leq 1$	Standard $\leq 1$
Torsional rigidity	$C_{t21}$	Nm/arcmin	300	350
		in.lb/arcmin	2655	3098
Max. tilting moment	$M_{2KMax}$	Nm	3256	3256
		in.lb	28816	28816
Operating noise <sup>c)</sup>	$L_{PA}$	dB(A)	$\leq 64$	$\leq 58$
Lubrication			Lubricated for life	Lubricated for life
Clamping hub diameter		mm	48 – 65	32 – 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

