

# Product data sheet

XP<sup>+</sup>

Low backlash planetary gearbox



Gearbox data	
Designation:	XP020S-MF2-16-1E1-2S
Gearbox type	XP <sup>+</sup>
Gearbox size	020
Design keyword	Standard
Gearbox variation	Motor attachment gearbox
Gearbox stages	2
Gearbox ratio i	16
Output design	Key
Clamping hub diameter	19 mm
Gearbox backlash	Standard
Gearbox material number	20028064

Motor mounting parts (included in delivery)	
Incl. mounting parts for servo motor	TBD
Adapter plate	Configure with provided cymex <sup>®</sup> 5 file

Order designation
XP020S-MF2-16-1E1-2S / Specify your motor P/N here

Confirm motor compatibility with cymex<sup>®</sup> 5. Download your pre-configured file and base 3D model here!<sup>d)</sup>



Don't have cymex<sup>®</sup> 5? Get your Premium license here!



Technical specifications		
Max. output torque (Depending on the specific boundary conditions of the application)	T <sub>2α</sub>	348 Nm
Max. acceleration torque (max. 1000 cycles per hour)	T <sub>2B</sub>	303 Nm
Nominal output torque (with n <sub>IN</sub> )	T <sub>2N</sub>	106 Nm
Emergency stop torque (permitted 1000 times during the service life of the gearbox)	T <sub>2Not</sub>	418 Nm
Nominal input speed (with T <sub>2N</sub> and 20°C ambient temperature) <sup>a)</sup>	n <sub>1N</sub>	3500 min <sup>-1</sup>
Max. input speed	n <sub>1Max</sub>	8500 min <sup>-1</sup>
Mean no load running torque (with n <sub>1</sub> =3000 min <sup>-1</sup> and 20°C gearbox temp.) <sup>b)</sup>	T <sub>012</sub>	0.6 Nm
Max. torsional backlash	j <sub>t</sub>	≤ 4 arcmin
Torsional rigidity <sup>b)</sup>	C <sub>t21</sub>	19.5 Nm/arcmin
Tilting rigidity	C <sub>2K</sub>	200 Nm/arcmin
Max. axial force <sup>c)</sup>	F <sub>2AMax</sub>	4840 N
Max. radial force <sup>c)</sup>	F <sub>2RMax</sub>	6000 N
Max. tilting moment	M <sub>2KMax</sub>	675 Nm
Efficiency at full load	η	94 %
Service life (for calculation, see the Chapter "Information" in our product catalogue)	L <sub>h</sub>	> 20000 h
Weight incl. standard adapter plate	m	3.5 kg
Operating noise (with n <sub>1</sub> =3000 min <sup>-1</sup> no load)	L <sub>PA</sub>	≤ 56 dB(A)
Max. permitted housing temperature		90 °C
Ambient temperature		-15 °C to 40 °C
Lubrication		lubricated for life
Paint		Innovation blue
Protection class		IP 65
Inertia (relates to the drive)	J <sub>1</sub>	0.57 kgcm <sup>2</sup>

a) For higher ambient temperatures, please reduce input speed

b) Depends on clamping hub diameter

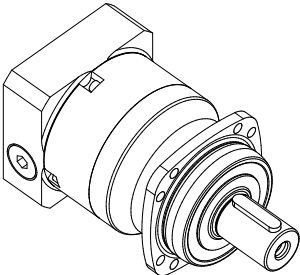
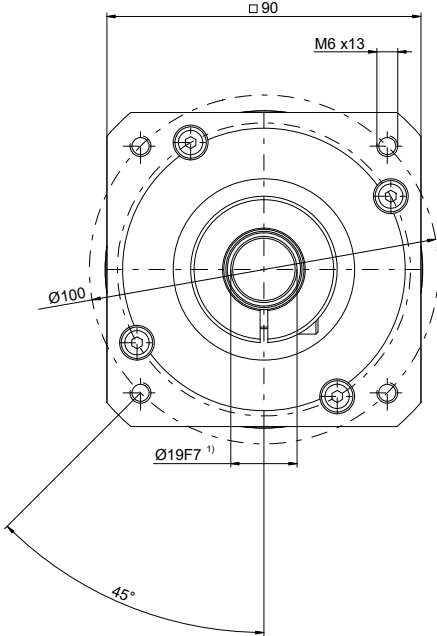
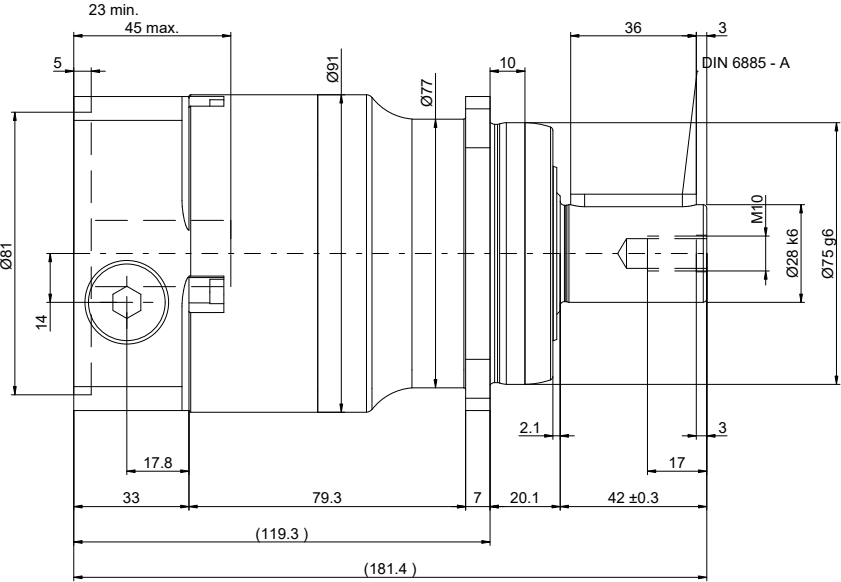
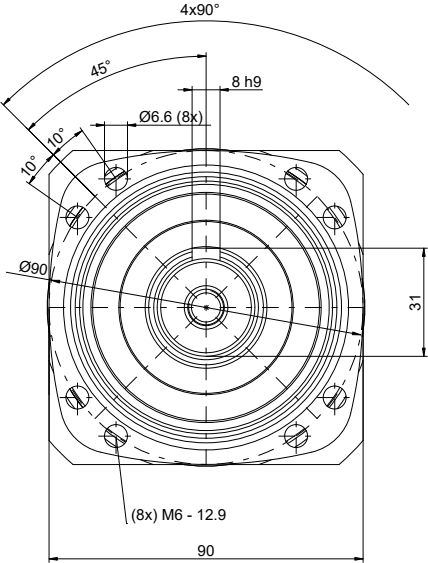
c) Refers to center of the output shaft or flange

d) Use cymex<sup>®</sup> 5 to confirm adapter plate dimensions and motor compatibility

New to cymex<sup>®</sup> 5? Learn how to check motor compatibility quickly with a simple tutorial.



Please note: adapter plate dimensions may vary based on specified motor



1) Motorwellenpassung pruefen / Check motor shaft fit

Technische Aenderungen vorbehalten / Technical modifications reserved

Betriebsanleitung unter [www.wittenstein-alpha.de](http://www.wittenstein-alpha.de) / Operating manual on [www.wittenstein-alpha.de](http://www.wittenstein-alpha.de)

Nicht tolerierte Masse sind Nennmasse / Non-toleranced dimensions are nominal dimensions

gez/draft		Masstab Scale	
Datum/date		auto	
Eigentumsvorbehalt nach DIN 34 beachten !	Observe copyright note according to DIN 34 !		
Benenn. Descr.	XP 020S-MF2- 16-1E1-2S		
Kommentar Note	Motor specified by user - compatibility check required		
MN	20028064	DIN A3	Ursp./Ref-Drwg: CAD-Generator V2.0
			Blatt/Sheet: 1



nicht vertraulich

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Anbauteile / mounting parts		
Adapterplatte adapter plate	MN	TBD
Distanzhülse bushing	MN	