

Performance table

X-Version reinforced design

POWER GEAR

	Abbr	Unit	X54	X75	X90	X110	X140	X170	X210	X240	X280	
Output torque	i=1:1	T _{2N}	Nm	24	87	135	290	625	1020	2050	3350	5200
		T _{2B}	Nm	36	131	203	435	938	1530	3075	5025	7800
		T _{2Not}	Nm	48	174	270	580	1250	2040	4100	6700	10400
Input speed	n _{1nenn}	min ⁻¹	2200	1800	1500	1100	900	850	700	600	500	
Applies at 20% of nominal torque at 20° C ambient temperature	n _{1max} **	min ⁻¹	4000	3000	2500	2000	2000	1500	1200	1200	1000	
**On request, special measures required												
Output backlash	Standard	arcmin	≤ 18	≤ 15	≤ 14	≤ 13	≤ 12	≤ 12	≤ 11	≤ 11	≤ 11	
	Reduced	arcmin	≤ 12	≤ 9	≤ 8	≤ 8	≤ 7	≤ 6	≤ 6	≤ 6	≤ 6	
Permissible radial load	F _{1Rmax} *	N	400	1500	2000	3500	5500	7800	12000	16000	20000	
	F _{2Rmax} *	N	600	2000	2700	4500	7500	11000	16000	21000	30000	
Permissible axial load	F _{1Amax}	N	200	750	1000	1750	2750	3900	6000	8000	10000	
	F _{2Amax}	N	300	1000	1350	2250	3750	5500	8000	10500	15000	
Efficiency at max load	n	%	> 98	> 98	> 98	> 98	> 98	> 98	> 98	> 98	> 98	
Running noise at 1500 min ⁻¹	L _{pa}	db(A)	≤ 70	≤ 70	≤ 74	≤ 76	≤ 77	≤ 78	≤ 80	≤ 82	≤ 83	
Weight approx.	m	kg	1,9	5,0	8,5	13,5	22,5	39,0	71,5	104,0	155,5	
Service life	L _h	h	> 15000	> 15000	> 15000	> 15000	> 15000	> 15000	> 15000	> 15000	> 15000	
Lubrication	Synthetic oil, ISO VG 150, up to size P140 inclusive											
Average oil quantity		litre	0,1	0,1	0,2	0,3	0,4	1,0	2,2	2,6	3,0	
Operating temperature		°C	up to 80									
Paint	Primary coated RAL 9005 – black											
Mass moments of inertia related to input	shaft arrangement 13	kgcm ²	0,34	2,26	5,99	21,4	61,3	142	485	987	2150	

* Centre of shaft

Thermal performance limit

	X54	X75	X90	X110	X140	X170	X210	X240	X280
Thermal performance limit P _{therm} (KW) at 20 °C and duty cycle of 100 %	1,6	2,9	4,1	5,7	9,2	13,2	21,2	28,4	38,4

The gearbox performance is limited by the maximum permissible oil bath temperature. The actual effective performance must not exceed the permissible limit when in continuous operation.

For intermittent operation or in the event of increased ambient temperatures, the following factors can be applied as guide values for determining the permissible thermal performance limit.

As a function of the thermal power limit, higher speeds at a reduced torque are possible. For an optimal design of your application, please contact us.

Please see gearbox selection and installation on page 18+19!

Duty cycle (dc) in %	100	80	60	40	20
Factor	1,00	1,20	1,40	1,60	1,80

Ambient temperature °C	10	20	30	40	50
Factor	1,20	1,00	0,87	0,75	0,62

Example:	Gearbox	dc	Ambient Temperature
P _{therm}	X140	80%	30 °C
Thermal performance limit			
P _{therm} =	9,2	x 1,20	x 0,87 = 9,6 KW

Applicable is: P_{exist} ≤ P_{therm}