

# MAXXDRIVE® XD & XJ

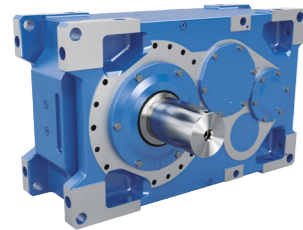
Industrial Gear Units

Parallel and Right-Angle Gear Units

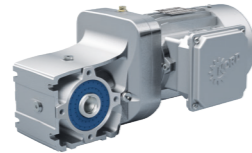


**DRIVESYSTEMS**

Our Solution. Your Success.



Industrial gear units



Geared motors



Frequency inverters and motor starters

- ▶ Headquarters and technology centre in Bargteheide, near Hamburg
- ▶ Innovative drive solutions for more than 100 branches of industry
- ▶ 7 production locations with cutting-edge technology produce gear units, motors and drive electronics for complete drive systems from a single source
- ▶ NORD has 48 subsidiaries in 36 countries and further sales partners in more than 50 countries. They provide local stocks, assembly centres, technical support and customer service
- ▶ With more than 4,900 employees worldwide, we create customised solutions



Headquarters in Bargteheide



Gear unit production



Inverter production



Motor production



Production and assembly



Motor mounting

The new MAXXDRIVE® XD & MAXXDRIVE® XJ series complete NORD's well-proven MAXXDRIVE® industrial gear units range specifically for lifting gear applications.

## MAXXDRIVE® XD

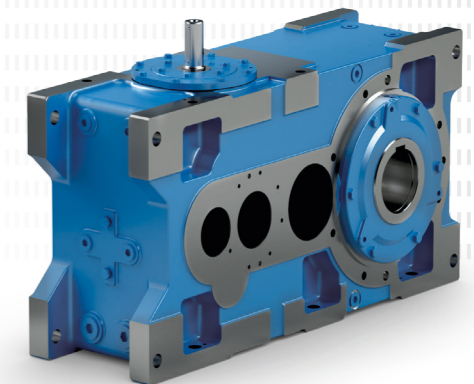
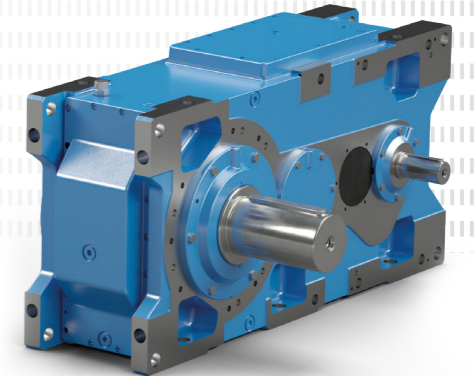
Gear unit	$i_{nom}$	$M_{2,max.}$ [Nm]	$M_{2,max.}$ [lb-in]
SK 2221 / SK 2321 / SK 2421	5.6 - 355	6,800	60,200
SK 5321 / SK 5421	28.0 - 355	15,000	132,800
SK 6321 / SK 6421	31.5 - 400	20,000	177,100
SK 7321 / SK 7421	28.0 - 355	25,000	221,300
SK 8321 / SK 8421	31.5 - 400	30,000	265,600
SK 9321 / SK 9421	28.0 - 355	43,000	380,600
SK 10321 / SK 10421	31.5 - 400	50,000	442,600
SK 11321 / SK 11421	22.4 - 355	76,900	680,600
SK 12321 / SK 12421	22.4 - 355	112,800	998,400
SK 15321 / SK 15421	22.4 - 355	282,000	2,496,000

## MAXXDRIVE® XJ

Gear unit	$i_{nom}$	$M_{2,max.}$ [Nm]	$M_{2,max.}$ [lb-in]
SK 5418	18 - 100	15,000	132,800
SK 6418	20 - 112	20,000	177,100
SK 7418	18 - 100	26,500	234,600
SK 8418	20 - 122	31,490	278,700
SK 9418	18 - 100	42,990	380,500
SK 10418	20 - 122	52,300	462,900
SK 11418	12.5 - 71	75,000	663,800
SK 12418	12.5 - 71	107,000	947,000
SK 15418	12.5 - 71	220,000	1,947,100

## Options

- ▶ Foot-mounting and shaft-mounting (with torque arm) possible
- ▶ Input shaft: Solid input shaft with key groove (single or double extension)
- ▶ NEMA/IEC motor adapter and elastic input couplings available
- ▶ Thruster brake (with brake console) and input flange for flange-mounted brakes available
- ▶ Output shafts: solid shaft with key groove(s), double solid shaft with key groove(s), splined solid shaft DIN5480, keyed hollow shaft, splined hollow shaft DIN5480, hollow shaft with shrink disc
- ▶ Output coupling optionally available: e.g. barrel type (for direct connection to the rope drum)
- ▶ Cast-iron housing optionally available
- ▶ Additional options from our standardised modular system: Oil heater, PT100, Taconite seals, monitoring devices and sensors



## Design features

- ▶ Rigid one-piece UNICASE™ housing (GJL)
- ▶ Inspection cover on the top of the gear unit
- ▶ FEA-optimised housing for overhanging loads (especially downward forces)
- ▶ Calculation and design of all components according to the current international standards
- ▶ Stable nominal torques across the entire ratio range

## MAXXDRIVE® XD

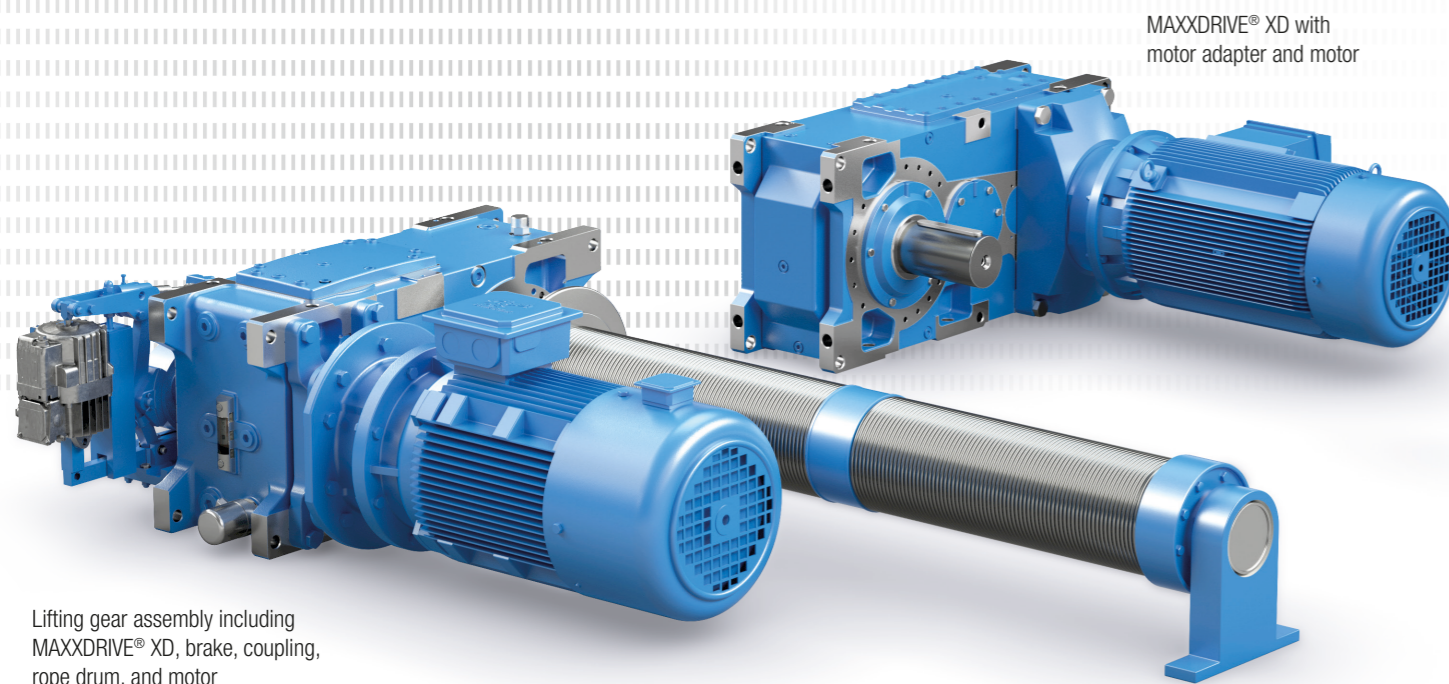
- ▶ Average increase of centre distance by +35% compared to our compact G1050 series
  - ▶ Maximum space for the U-shaped arrangement of motor and cable drum on the same gear unit side
- ▶ Oversized gear units due to geometric restrictions are a thing of the past:
  - ▶ The new MAXXDRIVE® XD series enables a reduction of the drive weight of up to 60%
- ▶ Precise drive dimensioning is the prerequisite for a cost-optimised crane design:
  - ▶ Reduction of moving masses (lower energy consumption)
  - ▶ Material savings in the steel structure of the lifting trolley
- ▶ Selection in accordance with FEM/DIN EN 13001
- ▶ Identical housing dimensions and centre distance for 3-stage and 4-stage reduction
  - ▶ Standardisation and variant reduction of the lifting gear design
- ▶ Drive solutions that are tailored to the customer's requirements with short delivery times
- ▶ Long service life, low maintenance
- ▶ NORD can supply all drives such as travelling drives from a single source

### Advantages

#### Designed for versatility

MAXXDRIVE® XD industrial gear units can be used for a variety of applications in the heavy industry such as:

- ▶ Lifting gear drives
- ▶ Travelling drives
- ▶ Trolley drives
- ▶ Jib crane drives
- ▶ Swivel drives



## MAXXDRIVE® XJ

### Advantages

- ▶ Special and space-saving "J-arrangement" for travelling drives and crushing plants with large centre distance
- ▶ Suitable for all drive arrangements with narrow installation space due to surrounding peripherals
- ▶ Ratios identical to the 3-stage MAXXDRIVE® XC right-angle gear units
- ▶ Synchronisation via belt drive possible
- ▶ Drive solutions that are tailored to the customer's requirements with short delivery times
- ▶ Long service life, low maintenance
- ▶ NORD can supply all drives, such as travelling drives, from a single source

### Designed for versatility

MAXXDRIVE®XJ industrial gear units can be used for a variety of applications in the heavy industry such as:

- ▶ Travelling drives
- ▶ Trolley drives
- ▶ Crushers
- ▶ Shredders
- ▶ Two-shaft mixers



## Options

Input version		XD	XJ
W	Solid input shaft	●	●
W2	Additional input shaft	●	●
W3	Additional input shaft	–	●
W4	Additional input shaft	–	–
IEC	IEC motor adapter	●	●
NEMA	NEMA motor adapter	●	●
WG	First-stage gear unit	●	On request
MT	Motor mount	●	●
MC	Motor bracket	On request	●

### Output shaft

V	Solid shaft with key	●	●
EV	Splined solid shaft DIN5480	On request	
VB	Solid shaft with two keys	●	●
L	Double solid shaft with key	●	●
A	Hollow shaft with key	●	●
AS	Hollow shaft with shrink disc	●	●
AM	Solid shaft with GRIPMAXX™	○	○
EA	Splined hollow shaft DIN5480	●	●
B	Fixing element	●	●
H	Cover	●	●
H66	IP66 cover	On request	

### Lubrication & thermal options

OT	Oil tank	●	●
SOT	SAFOMI adapter	○	○
LC	Pressure lubrication (bearings)	On request	
LCX	Pressure lubrication (bearings and gearing)	On request	
OSG	Oil inspection glass	●	●
OST	Oil level indicator	●	●
PS	Oil dip-stick	●	●
MG	Magnetic drain screw	●	●
BV	Drain tap	●	●

Lubrication & thermal options		XD	XJ
FAN	Fan	●	○
FAN2	Two fans	On request	–
EFAN	Electrical fan	On request	
CS1	External oil-water cooler	●	●
CS2	External oil-air cooler	●	●
CC/CC2	Cooling coil	●	●
OH	Oil heater	●	●
LTS	Long-term storage	●	●

### Seal options

TAC	Taconite seal	●	●
DRY	TRUE DRYWELL	On request	

### Vent

FV	Metal filter	●	●
EV	Cellulose filter	●	●
DB	Desiccant breather	●	●
DR	Pressure vent / AUTOVENT™	○	○

### Housing design

GJS	Nodular cast iron	●	●
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### Bearing design

VL	Reinforced bearing	○	○
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### Output version

F	Output flange (threaded hole)	●	●
FK	Output flange (through hole)	○	○
VL2/KL2	Extended bearing spacing	On request	
VL3/KL3	Extended bearing spacing with DRYWELL	On request	
VL4/KL4	Extended bearing spacing with TRUE DRYWELL	On request	
VL6/KL6	Extended bearing spacing with TRUE DRYWELL	On request	
VL5	Axial bearing	On request	

Surface treatment		XD	XJ
NSD	Painting	●	●

### Further options

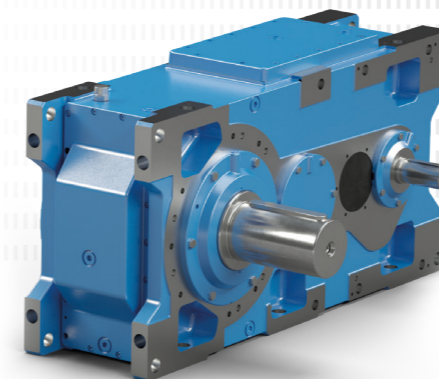
D/ED	Torque arm / elastic torque arm	●	●
R	Back stop	●	●
WX	Auxiliary drive	●	●
F1	Input flange	●	○

● Available ○ Available with restrictions – Not available  
 Further information on the options can be found in the G1050 catalogue.

Monitoring & maintenance		XD	XJ
PT100	PT100	●	●
EP	Endurance Package	On request	

### Additional components

–	Input coupling	●	●
–	Output coupling	●	●
–	Brakes	●	●
BC	Brake console	●	On request
MS	Motor swing base	–	–
MF	Motor base frame	On request	–



**MAXXDRIVE® XD parallel gear unit**

XD = Extended centre distance  
 (Extended centre distance)

**Size:** 2 / 5 / 6 / 7 / 8 / 9 / 10 / 11 / 12 / 15

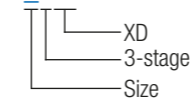
**Torque:** 6.4 - 282 kNm

**Power:** 2.5 - 2300 kW

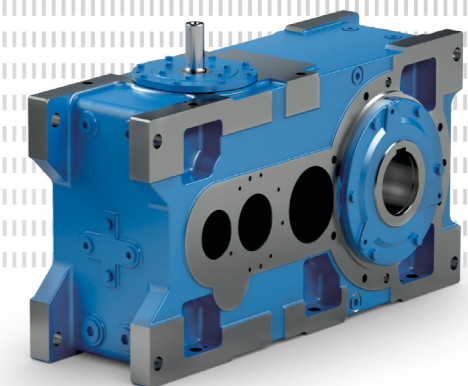
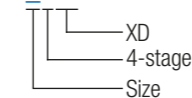
**SK\_221**



**SK\_321**



**SK\_421**



**MAXXDRIVE® XJ right-angle gear unit**

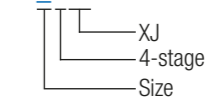
XJ = Extended J-mount  
 (Extended J-mount)

**Size:** 5 / 6 / 7 / 8 / 9 / 10 / 11 / 12 / 15

**Torque:** 15 - 220 kNm

**Power:** 5.5 - 1800 kW

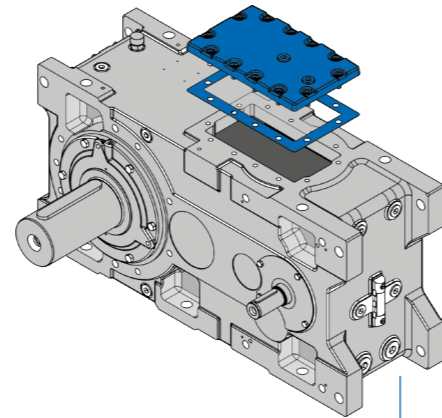
**SK\_418**



## Features & options

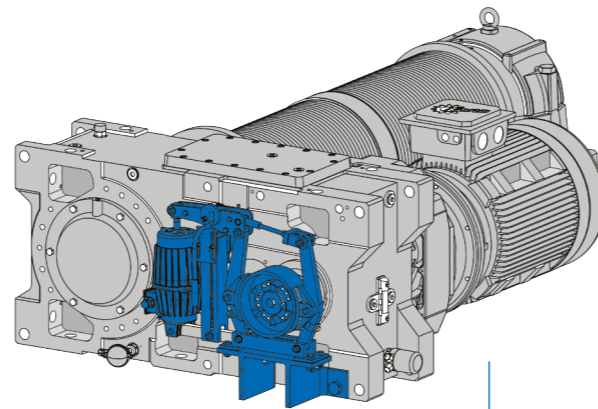
### Inspection cover

The inspection opening on the F2 mounting surface provides an easy way to take a look inside the gear unit. All MAXXDRIVE® XD gear units in sizes 5-15 are available with an inspection cover as standard.



### Brake console [BC] with brake

The brake console for MAXXDRIVE® is mounted to an additional input shaft [W2] directly on the housing. It is suitable for foot-mounted gear units as well as those with hollow shaft and torque arm. The brake mounted on the brake console is aligned and preset to the required braking torque. Thus, you are provided with a ready-to-use brake solution.



### Barrel coupling

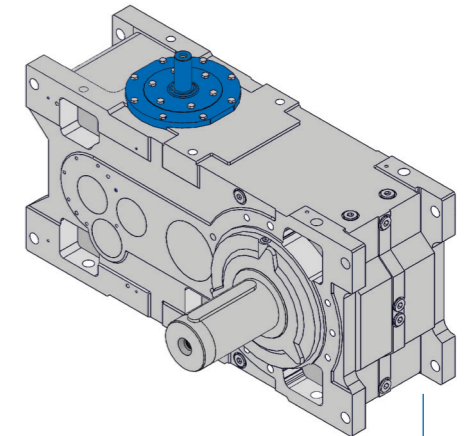
Drum couplings are specifically developed for cable drum drives in lifting equipment and winches. They transfer radial loads and torque with torsional rigidity and compensate misalignments, which prolongs the system's service life.

NORD supplies these couplings with common drum connection dimensions and integrated wear displays – pre-installed and ready to use. The selection is made according to standards such as FEM1.001 and DIN15020.



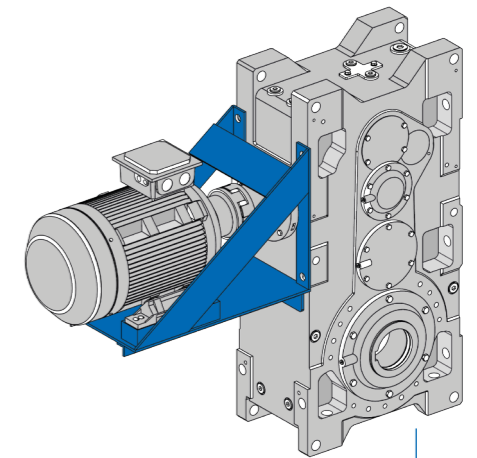
### D1 shaft position

The new D1 input shaft position on the F2 mounting surface provides an alternative drive arrangement option in comparison to the existing MAXXDRIVE® industrial gear units. All MAXXDRIVE® XJ gear units feature a solid input shaft on D1 as standard; additional input shafts on A1 and B1 are optionally available.



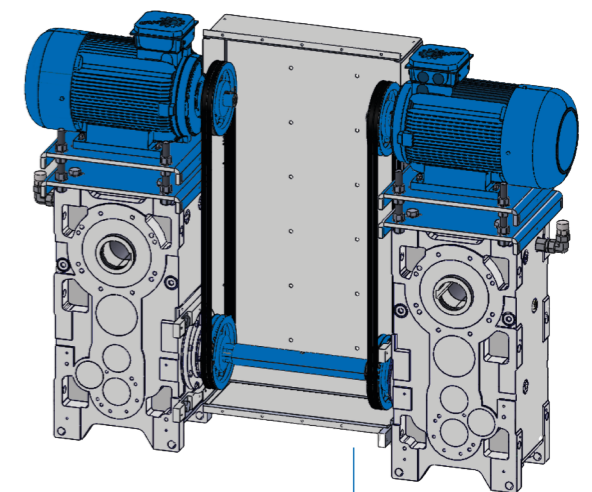
### Motor bracket [MC]

The motor bracket provides a solution for mounting foot-mounted motors. It consists of a robust steel structure and is adjusted to the application's specific requirements. Additional components such as input couplings, drum brakes and protective covers are also available. For example, a MAXXDRIVE® XJ in upright mounting position (M4) can be equipped with a motor bracket for travelling drives.



### Motor mount [MT] with synchronisation option

The motor mount enables easy attachment of foot-mounted motors and in case of tight installation conditions on the gear unit. Force transmission to the input shaft(s) takes place via a belt drive that slips through in the event of overload. The pre-assembled solution includes pulleys, belt, gear unit, motor, cover and the adjustment unit. For MAXXDRIVE® XJ, the motor mount can be used to synchronise the input shafts.



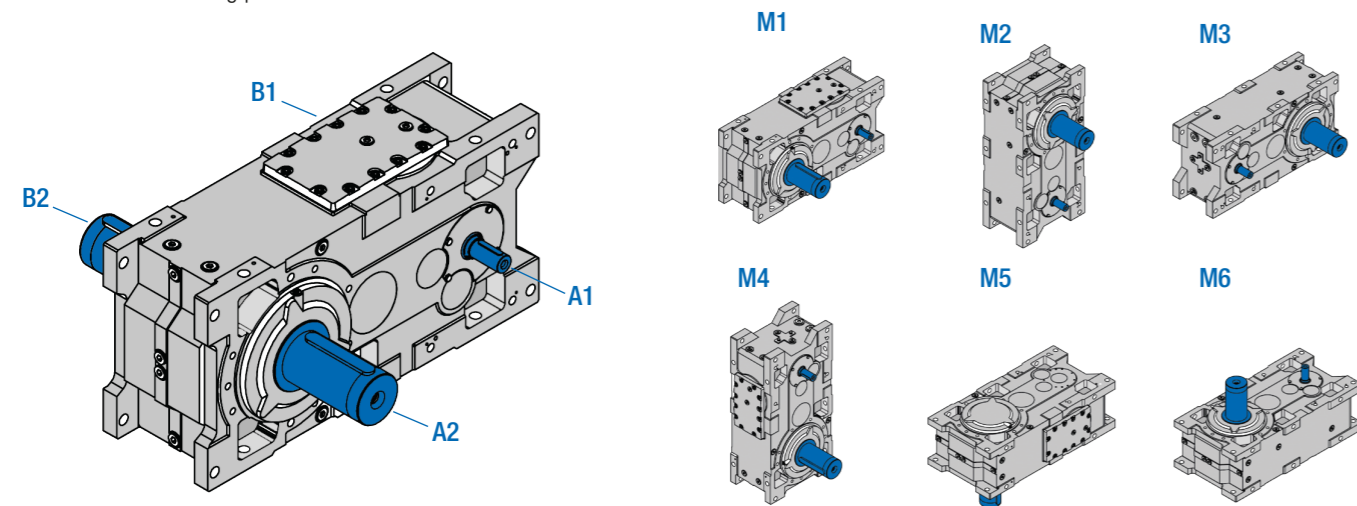
## Mounting positions & shaft arrangement

### Mounting positions

As shown in the illustrations below, NORD distinguishes six mounting positions for industrial gear units: from M1 to M6.

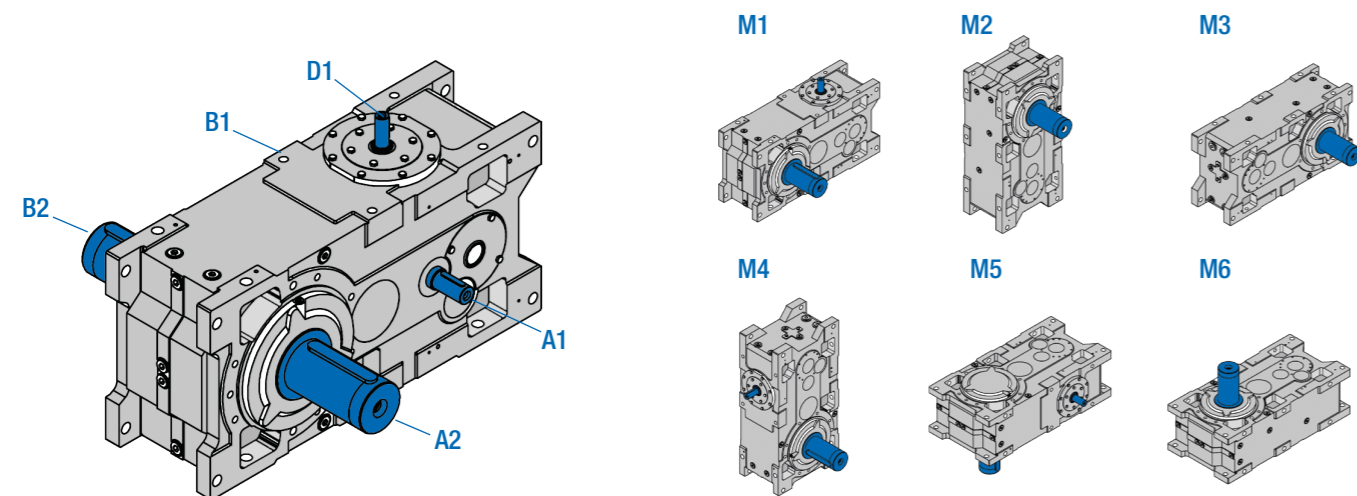
#### MAXXDRIVE® XD

The standard mounting position for SK .221 / SK .321 / SK .421 is M1



#### MAXXDRIVE® XJ

The standard mounting position for SK .418 is M1



### Mounting surfaces

The mounting surface describes the side to which the gear unit is mounted. The mounting surfaces are divided into F1 to F6 and depend on the assembly type and mounting position.

#### Foot-mounting

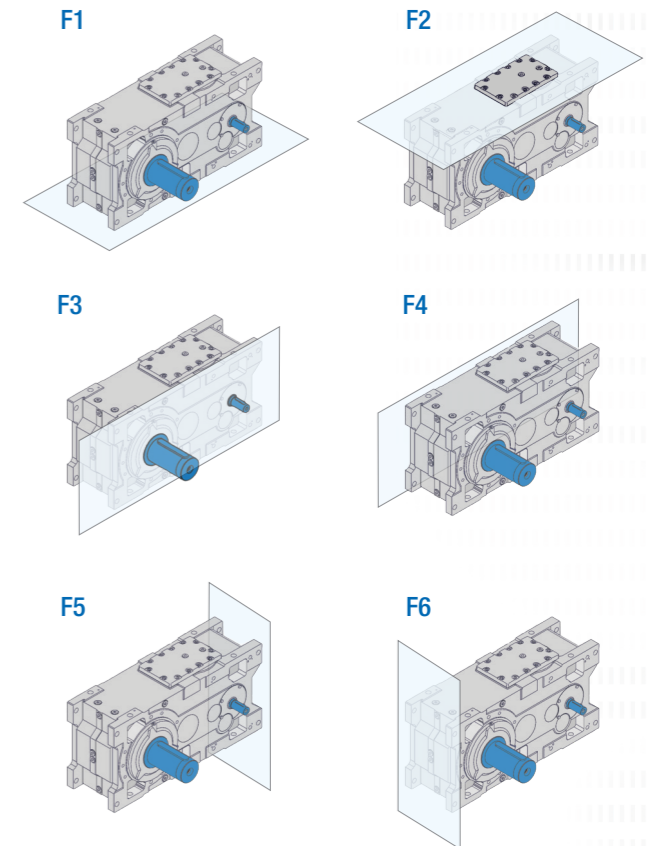
	M1	M2	M3	M4	M5	M6
F1	●	●	●	●	●	●
F2	-	-	-	-	-	-
F3	●	●	●	●	●	●
F4	●	●	●	●	●	●
F5	-	-	-	-	-	-
F6	-	-	-	●	-	-

#### Flange mounting

	M1	M2	M3	M4	M5	M6
Flange to F3	-	●	-	●	●	●
Flange to F4	-	●	-	●	●	●

#### Shaft mounting

	M1	M2	M3	M4	M5	M6
Output shaft	●	●	●	●	-	-



### Shaft positions on the drive

	Size	Gear unit	Main input shaft				Additional input shaft				Option
			A1	B1	C1	D1	A1	B1	C1	D1	
MAXXDRIVE® XD	2-15	SK.221 / SK.321 / SK.421	●	-	-	-	-	-	-	-	W
	2-15	SK.221 / SK.321 / SK.421	-	●	-	-	-	-	-	-	W
	2-15	SK.221 / SK.321 / SK.421	●	-	-	-	-	●	-	-	W2
	2-15	SK.221 / SK.321 / SK.421	-	●	-	-	●	-	-	-	W2
MAXXDRIVE® XJ	2-15	SK.418	-	-	-	●	-	-	-	-	W
	2-15	SK.418	-	-	-	●	-	-	-	-	W2
	2-15	SK.418	-	-	-	●	-	●	-	-	W2
	2-15	SK.418	-	-	-	●	●	●	-	-	W3

## MAXXDRIVE® XD

$i_{nom}$	Nominal output torque $M_{2,max}$ [Nm]		
	SK 2.21		
	SK 2221	SK 2321	SK 2421
5.6	6420	–	–
6.3	6420	–	–
7.1	6420	–	–
8.0	6800	–	–
9.0	6800	–	–
10.0	6800	–	–
11.2	6800	–	–
12.5	6800	–	–
14.0	6800	–	–
16.0	6800	–	–
18.0	6800	–	–
20.0	6800	–	–
22.4	6800	–	–
25.0	6800	–	–
28.0	–	6800	–
31.5	–	6800	–
35.5	–	6800	–
40.0	–	6800	–
45.0	–	6800	–
50.0	–	6800	–
56.0	–	6800	–
63.0	–	6800	–
71.0	–	6800	–
80.0	–	6800	–
90.0	–	6800	–
100.0	–	6800	–
112.0	–	6800	–
125.0	–	–	5720
140.0	–	–	6420
160.0	–	–	6420
180.0	–	–	6800
200.0	–	–	6800
224.0	–	–	6800
250.0	–	–	6800
280.0	–	–	6800
315.0	–	–	6800
355.0	–	–	6800
400.0	–	–	6800
450.0	–	–	–

$i_{nom}$	Exact ratio $i_{exact}$		
	SK 2.21		
	SK 2221	SK 2321	SK 2421
5.6	5.73	–	–
6.3	6.65	–	–
7.1	6.91	–	–
8.0	8.02	–	–
9.0	8.68	–	–
10.0	10.07	–	–
11.2	10.87	–	–
12.5	12.61	–	–
14.0	13.71	–	–
16.0	15.91	–	–
18.0	17.31	–	–
20.0	20.09	–	–
22.4	22.24	–	–
25.0	25.81	–	–
28.0	–	27.00	–
31.5	–	31.34	–
35.5	–	36.37	–
40.0	–	41.11	–
45.0	–	42.65	–
50.0	–	49.50	–
56.0	–	57.44	–
63.0	–	64.93	–
71.0	–	69.20	–
80.0	–	80.31	–
90.0	–	86.10	–
100.0	–	93.20	–
112.0	–	108.18	–
125.0	–	–	123.68
140.0	–	–	138.39
160.0	–	–	158.10
180.0	–	–	188.31
200.0	–	–	200.67
224.0	–	–	218.56
250.0	–	–	249.70
280.0	–	–	270.29
315.0	–	–	313.71
355.0	–	–	354.61
400.0	–	–	405.14
450.0	–	–	–



## Our drive solutions for crane systems and cargo handling

Powerful drive systems for efficient lifting and safe transport

- ▶ Lifting application-optimised solution from the wide modular option system
- ▶ Ready-to-install system solution from a single source – correctly dimensioned
- ▶ Reliable due to great production depth with high quality standard

## MAXXDRIVE® XD

Nominal output torque  $M_{2,max}$  [Nm]

$i_{nom}$	SK 5.21		SK 6.21		SK 7.21		SK 8.21	
	SK 5321	SK 5421	SK 6321	SK 6421	SK 7321	SK 7421	SK 8321	SK 8421
20.0	-	-	-	-	-	-	-	-
22.4	-	-	-	-	-	-	-	-
25.0	-	-	-	-	-	-	-	-
28.0	15,000	-	-	-	25,000	-	-	-
31.5	15,000	-	20,000	-	25,000	-	29,000	-
35.5	15,000	-	20,000	-	25,000	-	29,000	-
40.0	15,000	-	20,000	-	25,000	-	29,000	-
45.0	15,000	-	20,000	-	23,600	-	29,000	-
50.0	15,000	-	20,000	-	25,000	-	29,000	-
56.0	15,000	-	20,000	-	25,000	-	29,000	-
63.0	15,000	-	20,000	-	25,000	-	29,000	-
71.0	15,000	-	20,000	-	25,000	-	29,000	-
80.0	15,000	-	20,000	-	25,000	-	29,000	-
90.0	15,000	-	20,000	-	23,600	-	29,000	-
100.0	15,000	15,000	20,000	-	25,000	25,000	29,000	-
112.0	15,000	15,000	20,000	20,000	25,000	25,000	29,000	29,000
125.0	15,000	15,000	20,000	20,000	25,000	25,000	29,000	29,000
140.0	15,000	15,000	20,000	20,000	22,280	25,000	29,000	29,000
160.0	15,000	15,000	20,000	20,000	25,000	22,280	29,000	29,000
180.0	-	15,000	20,000	20,000	-	25,000	29,000	29,000
200.0	-	15,000	-	20,000	-	25,000	-	29,000
224.0	-	15,000	-	20,000	-	25,000	-	29,000
250.0	-	15,000	-	20,000	-	25,000	-	29,000
280.0	-	15,000	-	20,000	-	25,000	-	29,000
315.0	-	15,000	-	20,000	-	23,600	-	29,000
355.0	-	15,000	-	20,000	-	25,000	-	29,000
400.0	-	-	-	20,000	-	-	-	29,000
450.0	-	-	-	-	-	-	-	-

Exact ratio  $i_{exact}$

$i_{nom}$	SK 5.21		SK 6.21		SK 7.21		SK 8.21	
	SK 5321	SK 5421	SK 6321	SK 6421	SK 7321	SK 7421	SK 8321	SK 8421
20.0	-	-	-	-	-	-	-	-
22.4	-	-	-	-	-	-	-	-
25.0	-	-	-	-	-	-	-	-
28.0	28.65	-	-	-	27.89	-	-	-
31.5	31.30	-	31.79	-	30.67	-	31.79	-
35.5	36.27	-	35.03	-	36.21	-	33.77	-
40.0	39.63	-	40.25	-	39.81	-	41.26	-
45.0	45.45	-	44.35	-	44.60	-	43.84	-
50.0	49.67	-	50.44	-	49.04	-	50.82	-
56.0	56.12	-	55.28	-	55.39	-	53.99	-
63.0	61.32	-	62.28	-	60.91	-	63.12	-
71.0	71.05	-	68.62	-	71.91	-	67.07	-
80.0	77.63	-	78.85	-	79.07	-	81.94	-
90.0	89.03	-	86.87	-	88.56	-	87.06	-
100.0	97.29	105.78	98.81	-	97.38	102.86	100.92	-
112.0	113.87	115.58	108.87	117.39	113.97	113.10	107.23	117.21
125.0	124.43	133.92	126.37	129.34	125.31	133.52	129.87	124.53
140.0	142.70	146.33	139.24	148.62	140.37	146.81	137.98	152.15
160.0	155.93	167.82	158.36	163.75	154.34	164.45	159.95	161.65
180.0	-	183.38	174.49	186.24	-	180.82	169.95	187.39
200.0	-	207.21	-	205.21	-	204.27	-	199.10
224.0	-	226.41	-	229.95	-	224.60	-	232.77
250.0	-	262.33	-	253.37	-	265.15	-	247.32
280.0	-	286.64	-	291.12	-	291.55	-	302.15
315.0	-	328.74	-	320.77	-	326.58	-	321.04
355.0	-	359.21	-	364.82	-	359.09	-	372.15
400.0	-	-	-	401.98	-	-	-	395.41
450.0	-	-	-	-	-	-	-	-



## MAXXDRIVE® XD

Nominal output torque  $M_{2,max}$  [Nm]

$i_{nom}$	SK 9.21		SK 10.21		SK 11.21		SK 12.21		SK 15.21	
	SK 9321	SK 9421	SK 10321	SK 10421	SK 11321	SK 11421	SK 12321	SK 12421	SK 15321	SK 15421
20.0	-	-	-	-	-	-	-	-	-	-
22.4	-	-	-	-	73,500	-	110,000	-	270,000	-
25.0	-	-	-	-	76,000	-	103,800	-	273,500	-
28.0	40,600	-	-	-	76,100	-	110,000	-	276,000	-
31.5	40,750	-	50,000	-	76,200	-	103,800	-	276,500	-
35.5	40,900	-	50,000	-	76,300	-	110,000	-	277,000	-
40.0	41,050	-	50,000	-	76,400	-	103,800	-	277,500	-
45.0	41,200	-	50,000	-	76,500	-	110,000	-	278,000	-
50.0	41,350	-	50,000	-	76,600	-	103,800	-	278,500	-
56.0	41,500	-	50,000	-	76,700	-	110,000	-	279,000	-
63.0	41,650	-	50,000	-	76,800	-	103,800	-	279,500	270,000
71.0	41,800	-	50,000	-	76,900	-	110,000	-	280,000	270,000
80.0	41,950	-	50,000	-	77,000	-	103,800	-	280,500	270,000
90.0	42,100	-	50,000	-	77,100	-	110,000	110,000	281,000	270,000
100.0	42,250	45,000	50,000	-	77,200	56,240	110,000	110,000	281,500	270,000
112.0	42,400	45,000	50,000	50,000	77,300	59,570	110,000	110,000	282,000	270,000
125.0	42,550	45,000	50,000	50,000	70,800	70,800	87,300	110,000	-	270,000
140.0	42,700	45,000	50,000	50,000	70,800	75,000	103,800	110,000	-	270,000
160.0	42,850	45,000	50,000	50,000	50,570	75,280	87,300	110,000	-	270,000
180.0	43,000	45,000	50,000	50,000	63,100	75,000	-	110,000	-	270,000
200.0	-	45,000	50,000	50,000	-	75,000	-	110,000	-	270,000
224.0	-	45,000	-	50,000	-	75,000	-	110,000	-	270,000
250.0	-	45,000	-	50,000	-	63,100	-	110,000	-	270,000
280.0	-	45,000	-	50,000	-	70,800	-	110,000	-	270,000
315.0	-	45,000	-	50,000	-	75,000	-	110,000	-	270,000
355.0	-	45,000	-	50,000	-	75,000	-	110,000	-	270,000
400.0	-	-	-	50,000	-	-	-	-	-	-
450.0	-	-	-	-	-	-	-	-	-	-

Exact ratio  $i_{exact}$

$i_{nom}$	SK 9.21		SK 10.21		SK 11.21		SK 12.21		SK 15.21	
	SK 9321	SK 9421	SK 10321	SK 10421	SK 11321	SK 11421	SK 12321	SK 12421	SK 15321	SK 15421
20.0	-	-	-	-	-	-	-	-	-	-
22.4	-	-	-	-	22.32	-	22.13	-	21.84	-
25.0	-	-	-	-	26.09	-	25.87	-	25.54	-
28.0	28.44	-	-	-	28.56	-	28.22	-	27.86	-
31.5	31.26	-	32.04	-	31.90	-	31.82	-	31.49	-
35.5	36.98	-	35.08	-	34.93	-	34.71	-	34.35	-
40.0	40.65	-	41.66	-	40.83	-	40.58	-	40.18	-
45.0	44.70	-	45.62	-	44.70	-	44.26	-	43.83	-
50.0	49.13	-	50.35	-	50.25	-	50.01	-	50.02	-
56.0	55.56	-	55.14	-	55.01	-	54.56	-	54.56	-
63.0	61.07	-	62.59	-	64.31	-	63.77	-	63.82	62.61
71.0	72.25	-	68.54	-	70.40	-	69.56	-	69.62	73.21
80.0	79.41	-	81.38	-	81.58	85.84	81.18	-	80.10	79.87
90.0	87.32	-	89.12	-	89.30	93.97	88.55	88.52	87.37	90.27
100.0	95.98	104.72	98.36	-	104.39	109.85	103.51	103.48	102.20	99.39
112.0	111.90	115.10	107.71	117.96	114.28	120.26	112.91	112.88	111.48	115.18
125.0	123.04	136.17	125.57	129.17	131.97	134.33	126.57	127.30	-	125.46
140.0	135.24	149.67	138.60	153.39	144.47	147.06	138.06	138.86	-	143.15
160.0	157.18	164.58	151.77	167.96	161.57	171.91	153.56	162.31	-	156.16
180.0	172.76	180.89	177.05	185.38	176.87	188.19	-	177.06	-	182.66
200.0	-	204.57	193.87	203.00	-	211.59	-	200.04	-	199.25
224.0	-	224.85	-	230.44	-	231.64	-	218.21	-	229.24
250.0	-	266.01	-	252.34	-	253.62	-	255.06	-	250.06
280.0	-	292.38	-	299.64	-	277.65	-	278.23	-	292.50
315.0	-	321.50	-	328.11	-	324.56	-	324.54	-	319.07
355.0	-	353.37	-	362.14	-	355.31	-	354.02	-	351.84
400.0	-	-	-	396.56	-	-	-	-	-	-
450.0	-	-	-	-	-	-	-	-	-	-

## MAXXDRIVE® XJ

Nominal output torque  $M_{2,max}$  [Nm]

$i_{nom}$	SK 5418	SK 6418	SK 7418	SK 8418	SK 9418	SK 10418	SK 11418	SK 12418	SK 15321
11.2	-	-	-	-	-	-	-	-	-
12.5	-	-	-	-	-	-	62,250	87,000	144,000
14.0	-	-	-	-	-	-	62,800	94,500	157,000
16.0	-	-	-	-	-	-	70,000	100,000	181,000
18.0	15,000	-	24,000	-	36,200	-	72,000	104,000	195,000
20.0	15,000	16,820	24,200	26,100	38,500	39,220	72,300	105,500	204,000
22.4	15,000	18,340	24,700	27,730	40,000	42,760	72,800	106,500	213,000
25.0	15,000	18,340	24,500	27,230	40,230	44,010	73,500	107,000	218,000
28.0	15,000	16,340	24,600	28,990	40,460	47,100	73,600	107,000	219,500
31.5	15,000	17,820	24,800	23,580	40,690	37,030	73,000	107,000	220,000
35.5	15,000	18,340	25,000	25,050	40,920	40,370	73,800	107,000	220,000
40.0	15,000	20,000	25,100	26,430	41,150	42,760	74,500	107,000	220,000
45.0	15,000	20,000	25,200	28,080	41,380	46,620	74,600	107,000	220,000
50.0	15,000	20,000	25,300	29,640	41,610	47,980	74,700	107,000	220,000
56.0	15,000	18,880	25,500	31,490	41,840	50,100	74,800	107,000	220,000
63.0	15,000	20,000	25,700	26,130	42,070	44,010	74,900	107,000	220,000
71.0	15,000	20,000	26,000	27,820	42,300	47,980	75,000	107,000	225,000
80.0	15,000	20,000	26,450	25,980	42,520	47,980	-	-	-
90.0	15,000	20,000	26,500	27,660	42,760	51,700	-	-	-
100.0	15,000	20,000	26,500	27,130	42,990	52,000	-	-	-
112.0	-	20,000	-	28,890	-	52,300	-	-	-
125.0	-	-	-	-	-	-	-	-	-

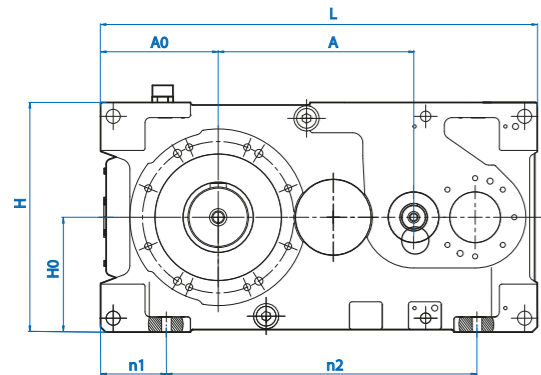
Exact ratio  $i_{exact}$

$i_{nom}$	SK 5418	SK 6418	SK 7418	SK 8418	SK 9418	SK 10418	SK 11418	SK 12418	SK 15321
11.2	-	-	-	-	-	-	-	-	-
12.5	-	-	-	-	-	-	12.74	12.81	12.61
14.0	-	-	-	-	-	-	13.95	13.97	13.76
16.0	-	-	-	-	-	-	16.34	16.33	16.10
18.0	18.00	-	17.52	-	17.72	-	17.89	17.81	17.56
20.0	19.67	19.98	19.26	19.96	19.48	19.96	20.35	20.25	19.98
22.4	21.92	22.01	22.09	21.20	22.35	21.86	22.27	22.09	21.79
25.0	23.96	24.33	24.30	25.18	24.56	25.18	26.04	25.82	25.49
28.0	29.32	26.81	28.53	26.76	28.85	27.56	28.50	28.16	27.81
31.5	32.03	32.53	31.36	32.50	31.72	32.50	31.46	31.31	30.89
35.5	35.70	35.85	35.97	34.53	36.40	35.59	34.45	34.16	33.70
40.0	39.01	39.62	39.57	41.01	40.00	41.01	40.26	39.92	39.42
45.0	44.85	43.66	45.45	43.57	45.95	44.89	44.08	43.55	43.00
50.0	49.01	49.77	49.96	51.78	50.51	51.78	51.25	51.01	50.33
56.0	57.66	54.84	58.09	55.02	58.79	56.70	56.11	55.64	54.90
63.0	63.00	63.98	63.90	66.23	64.60	66.23	65.59	65.04	64.21
71.0	72.43	70.50	73.39	70.36	74.21	72.49	71.80	70.94	70.05
80.0	79.14	80.38	80.67	83.62	81.57	83.62	-	-	-
90.0	93.18	88.56	94.30	88.85	95.36	91.55	-	-	-
100.0	101.82	103.41	103.66	107.43	104.85	107.43	-	-	-
112.0	-	113.94	-	114.14	-	117.65	-	-	-
125.0	-	-	-	-	-	-	-	-	-

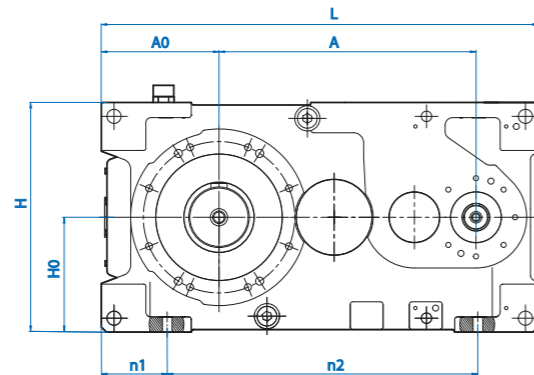
## MAXXDRIVE® XD

### Dimensions

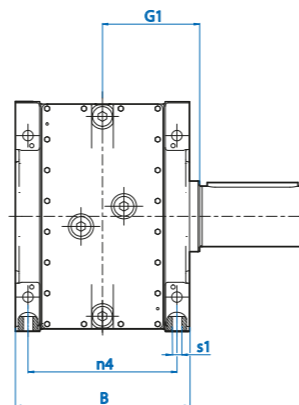
SK 2221



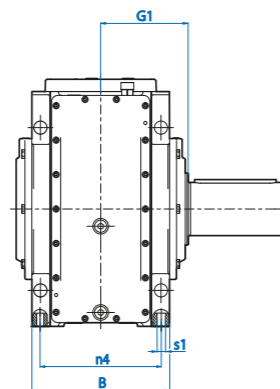
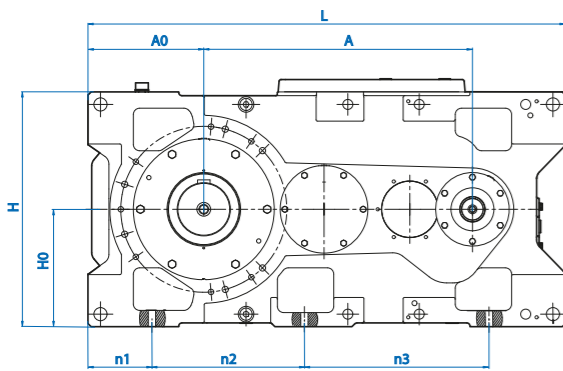
SK 2321 / 2421



SK 2.21



SK 5.21 / 6.21 / 7.21 / 8.21 / 9.21 / 10.21 / 11.21 / 12.21 / 15.21

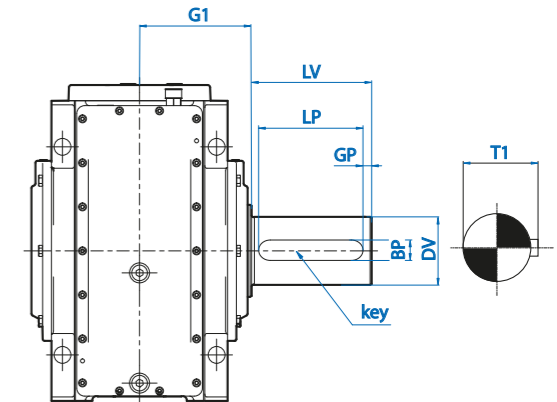


Gear unit	H0 [mm]	H [mm]	A [mm]	A0 [mm]	L [mm]	B [mm]	G1 [mm]	n1 [mm]	n2 [mm]	n3 [mm]	n4 [mm]	øS1 [mm]
SK 2221	185.0	370	310	180	665	285	162.5*	100.0	400.0	-	240	24
SK 2321 / SK 2421	185.0	370	398	180	665	285	162.5*	100.0	400.0	-	240	24
SK 5321 / SK 5421	227.5	455	509	245	949	345	192.5*	140.0*	285.0*	355.0*	295	28
SK 6321 / SK 6421	247.5	495	533	270*	998	345	192.5*	145.0*	305.0*	380.0*	295	28
SK 7321 / SK 7421	265.0	530	592	296	1090	350	197.0	160.0	382.5	372.5	305	28
SK 8321 / SK 8421	295.0	590	616	325*	1144	350	197.0	160.0*	412.5*	396.5*	305	28
SK 9321 / SK 9421	325.0	650	718	330	1315	415	253.0	175.0	427.5	492.5	352	35
SK 10321 / SK 10421	360.0	720	751	365	1383	415	253.0	170.0	467.5	532.5	352	35
SK 11321 / SK 11421	375.0	750	858	370	1525	440	280.0	217.5	477.5	585.5	370	42
SK 12321 / SK 12421	425.0	850	963	406	1720	510	315.0	257.5	482.5	697.5	430	48
SK 15321 / SK 15421	550.0	1100	1281	545	2146	650	395.0	345.0	630.0	945.0	550	65

\*Preliminary design

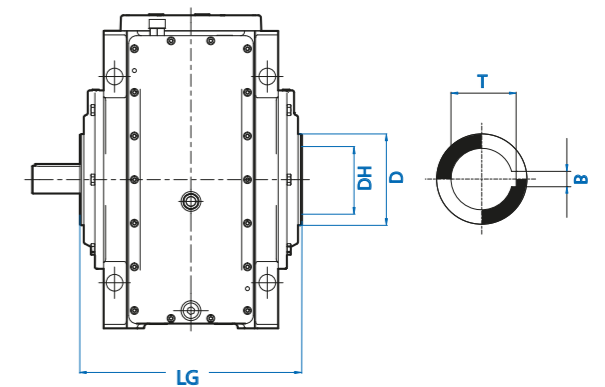
### Solid output shaft

Gear unit	øD1 [mm]	LV [mm]	LP [mm]	BP [mm]	GP [mm]	T1 [mm]	Key
SK 2.21	85	170	150	22	10	90	22 x 14 x 150
SK 5.21	120	210	180	32	15	127	32 x 18 x 180
SK 6.21	120	210	180	32	15	127	32 x 18 x 180
SK 7.21	140	250	200	36	25	148	36 x 20 x 200
SK 8.21	140	250	200	36	25	148	36 x 20 x 200
SK 9.21	160	300	260	40	20	169	40 x 22 x 260
SK 10.21	160	300	260	40	20	169	40 x 22 x 260
SK 11.21	170	300	260	40	20	179	40 x 22 x 260
SK 12.21	200	350	300	45	25	210	45 x 25 x 300
SK 15.21	250	410	360	56	25	262	56 x 32 x 360



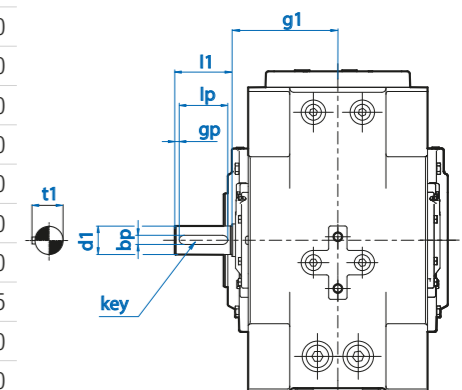
### Hollow output shaft

Gear unit	øDH <sup>H7</sup> [mm]	øD [mm]	LG [mm]	B [mm]	T [mm]
SK 2.21	85	120	325	22	90.4
SK 5.21	105	140	385	28	111.4
SK 6.21	105	140	385	28	111.4
SK 7.21	125	160	394	32	132.4
SK 8.21	125	160	394	32	132.4
SK 9.21	160	220	506	40	169.4
SK 10.21	160	220	506	40	169.4
SK 11.21	170	240	560	40	179.4
SK 12.21	190	250	630	45	200.4
SK 15.21	250	320	790	56	262.4



### Solid input shaft

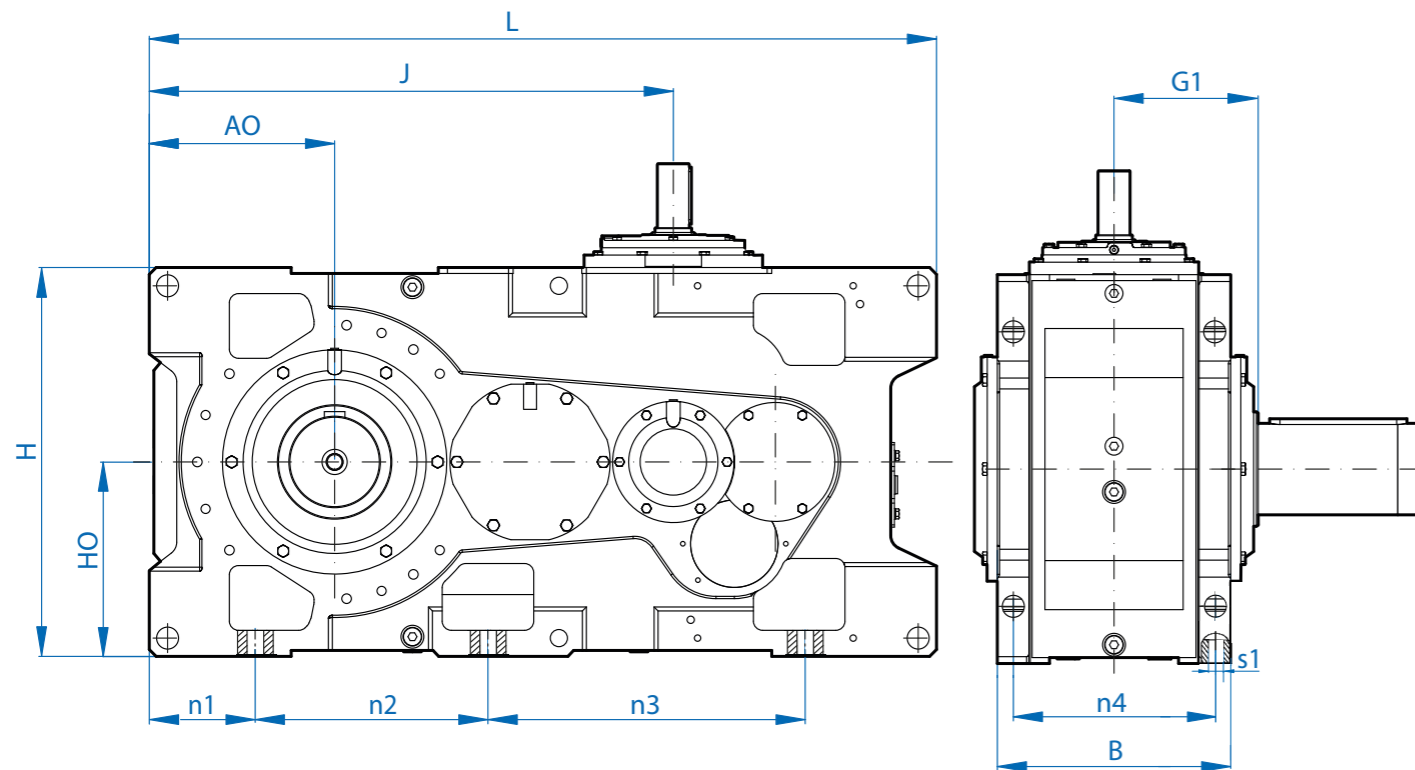
Gear unit	ød1 [mm]	l1 [mm]	g1 [mm]	lp [mm]	bp [mm]	gp [mm]	t1 [mm]	Key
SK 2221	38	80	155.0	70	10	5.0	41.0	10 x 8 x 70
SK 2321 / SK 2421	32	70	155.0	60	10	5.0	35.0	10 x 8 x 60
SK 5.21	48	110	192.5	100	14	5.0	51.5	14 x 9 x 100
SK 6.21	48	110	192.5	100	14	5.0	51.5	14 x 9 x 100
SK 7.21	48	110	194.0	100	14	5.0	51.5	14 x 9 x 100
SK 8.21	48	110	194.0	100	14	5.0	51.5	14 x 9 x 100
SK 9.21	55	110	227.5	90	16	10.0	59.0	16 x 10 x 90
SK 10.21	55	110	227.5	90	16	10.0	59.0	16 x 10 x 90
SK 11321	70	140	260.0	125	20	7.5	74.5	20 x 12 x 125
SK 11421	55	110	260.0	90	16	10.0	59.0	16 x 10 x 90
SK 12321	80	170	294.0	140	22	15.0	85.0	22 x 14 x 140
SK 12421	70	140	294.0	125	20	7.5	74.5	20 x 12 x 125
SK 15321 [i=22.4 - 45]	100	210	371.0	180	28	15.0	106.0	28 x 16 x 180
SK 15321 [i=50 - 112]	80	170	371.0	140	22	15.0	85.0	22 x 14 x 140
SK 15421	80	170	371.0	140	22	15.0	85.0	22 x 14 x 140



## MAXXDRIVE® XJ

### Dimensions

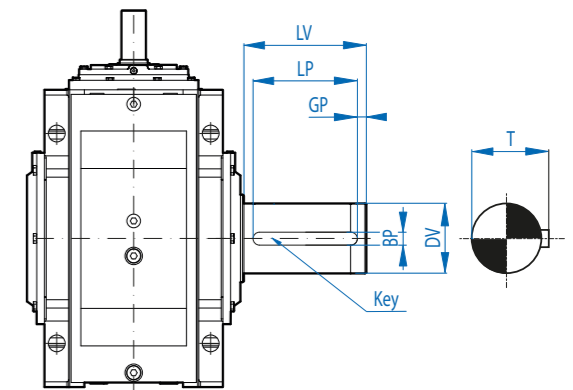
SK 5418 / 6418 / 7418 / 8418 / 9418 / 10418 / 11418 / 12418 / 15418



Gear unit	HO [mm]	H [mm]	A [mm]	J [mm]	L [mm]	B [mm]	G1 [mm]	n1 [mm]	n2 [mm]	n3 [mm]	n4 [mm]	øS1 [mm]
SK 5418	227.5	455	509	387	949	345	192.5	140.0	285.0	355.0	295	28
SK 6418	247.5	495	533	410	998	345	192.5	145.0	305.0	380.0	295	28
SK 7418	265.0	530	592	456	1090	350	197.0	160.0	382.5	372.5	305	28
SK 8418	295.0	590	616	478	1144	350	197.0	160.0	412.5	396.5	305	28
SK 9418	325.0	650	718	560	1315	415	253.0	175.0	427.5	492.5	352	35
SK 10418	360.0	720	751	590	1383	415	253.0	170.0	467.5	532.5	352	35
SK 11418	375.0	750	858	658	1525	440	280.0	217.5	477.5	585.5	370	42
SK 12418	425.0	850	963	740	1720	510	315.0	257.5	482.5	697.5	430	48
SK 15418	550.0	1100	1281	981	2146	650	395.0	345.0	630.0	945.0	550	65

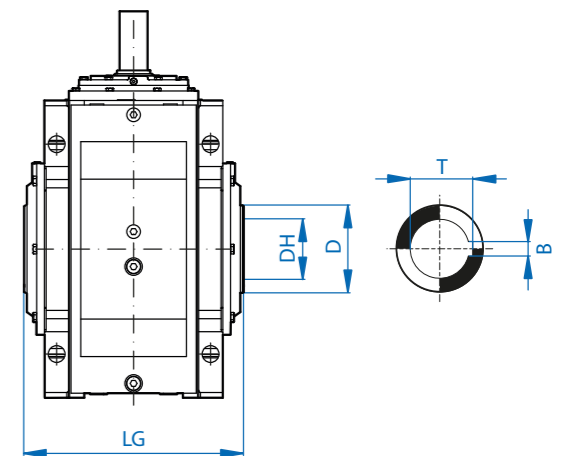
### Solid output shaft

Gear unit	øDV [mm]	LV [mm]	LP [mm]	BP [mm]	GP [mm]	T1 [mm]	Key
SK 5418	120	210	180	32	15	127	32 x 18 x 180
SK 6418	120	210	180	32	15	127	32 x 18 x 180
SK 7418	140	250	200	36	25	148	36 x 20 x 200
SK 8418	140	250	200	36	25	148	36 x 20 x 200
SK 9418	160	300	260	40	20	169	40 x 22 x 260
SK 10418	160	300	260	40	20	169	40 x 22 x 260
SK 11418	170	300	260	40	20	179	40 x 22 x 260
SK 12418	200	350	300	45	25	210	45 x 25 x 300
SK 15418	250	410	360	56	25	262	56 x 32 x 360



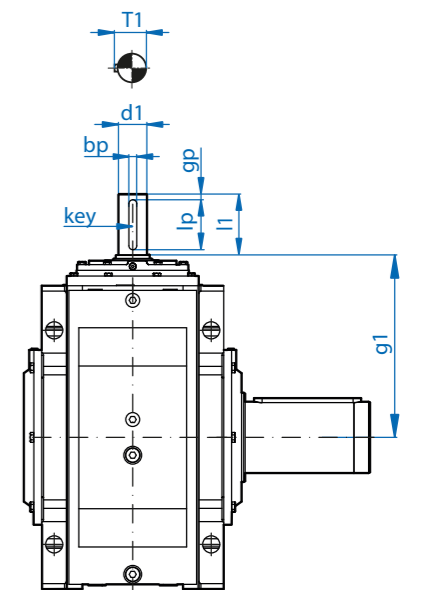
### Hollow output shaft

Gear unit	øDH <sup>H7</sup> [mm]	øD [mm]	LG [mm]	B [mm]	T [mm]
SK 5418	105	140	385	28	111.4
SK 6418	105	140	385	28	111.4
SK 7418	125	160	394	32	132.4
SK 8418	125	160	394	32	132.4
SK 9418	160	220	506	40	169.4
SK 10418	160	220	506	40	169.4
SK 11418	170	240	560	40	179.4
SK 12418	190	250	630	45	200.4
SK 15418	250	320	790	56	262.4



### Solid input shaft

Gear unit	i	ød1 [mm]	l1 [mm]	g1 [mm]	lp [mm]	bp [mm]	gp [mm]	t1 [mm]	Key
SK 5418	18 - 100	38	80	155	70	10	5	41.0	10 x 8 x 70
SK 6418	20 - 112	38	80	309	70	10	5	41.0	10 x 8 x 70
SK 7418	18 - 56	48	110	322	100	14	5	51.5	14 x 9 x 100
	63 - 100	38	80	322	70	10	5	41.0	10 x 8 x 70
SK 8418	20 - 56	48	110	352	100	14	5	51.5	14 x 9 x 100
	63 - 112	38	80	352	70	10	5	41.0	10 x 8 x 70
SK 9418	18 - 56	50	110	352	90	14	10	53.5	14 x 9 x 90
	63 - 100	40	100	352	80	12	10	43.0	12 x 8 x 80
SK 10418	20 - 56	50	110	387	90	14	10	53.5	14 x 9 x 90
	63 - 112	40	100	387	80	12	10	43.0	12 x 8 x 80
SK 11418	12.5 - 45	70	140	424	125	20	7.5	74.5	20 x 12 x 125
	50 - 71	50	110	424	90	14	10	53.5	14 x 9 x 90
SK 12418	12.5 - 45	80	170	512	140	22	7.5	85.0	22 x 14 x 140
	50 - 71	70	140	512	125	20	7.5	74.5	20 x 12 x 125
SK 15418	12.5 - 50	100	240	612	180	28	15	105.0	28 x 16 x 180
	56 - 71	80	170	612	140	22	7.5	85.0	20 x 12 x 125



## MAXXDRIVE® XD

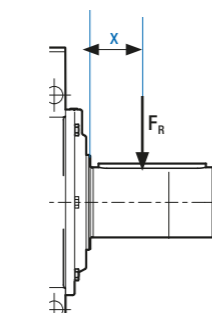
### Technical data

#### Motor adapter

Gear unit	IEC		NEMA	
SK 2.21	IEC 132		–	–
SK 5.21	IEC 100 - IEC 280		N250 TC - N360 TC	N360LP
SK 6.21	IEC 100 - IEC 280		N250 TC - N440 TC	N360LP - N440LP
SK 7.21	IEC 132 - IEC 280		N250 TC - N440 TC	N360LP - N440LP
SK 8.21	IEC 132 - IEC 280		N250 TC - N440 TC	N360LP - N440LP
SK 9.21	IEC 132 - IEC 315 (A660)		N250 TC - N440 TC	N360LP - N440LP
SK 10.21	IEC 132 - IEC 315 (A660)		N250 TC - N440 TC	N360LP - N440LP
SK 11.21	IEC 180 - IEC 315 (A800)		N280 TC - N440 TC	N360LP - N440LP
SK 12.21	IEC 225 - IEC 355 (A900)		N320 TC - N440 TC	N360LP - N440LP
SK 15.21	IEC 315 (A660) - IEC 355 (A900)		N400 TC - N440 TC	N400LP - N440LP

#### Radial load

Gear unit	X [mm]	FR <sub>max</sub>	
		[kN]	[lbf]
SK 2.21		On request	
SK 5.21	105	40	9000
SK 6.21	105	40	9000
SK 7.21	125	60	13500
SK 8.21	125	60	13500
SK 9.21	150	85	19200
SK 10.21	150	85	19200
SK 11.21	150	120*	27000*
SK 12.21	175	150*	33700*
SK 15.21	205	180*	40500*



**Note:**  
 Specified forces apply to:  
 ✓ M1 mounting position  
 ✓ Standard bearings and housing material  
 ✓ Service factor = 1.3 or higher  
 ✓ No additional axial loads

#### Oil quantity

Gear unit	M1 [l]	M2 [l]	M3 [l]	M4 [l]	M5 [l]	M6 [l]
SK 2.21	15*	26*	15*	28*	33*	33*
SK 5321	33*	33*	–	45*	45*	44*
SK 6321	36*	43*	–	57*	51*	51*
SK 7321	44*	52*	–	67*	104*	104*
SK 8321	53*	63*	–	83*	119*	119*
SK 9321	77*	96*	–	114*	170*	170*
SK 10321	99*	119*	–	141*	208*	208*
SK 11321	102*	141*	–	148*	222*	222*
SK 12321	164*	213*	–	220*	312*	312*
SK 15321	346*	478*	–	518*	633*	633*

#### Oil quantity

Gear unit	M1 [l]	M2 [l]	M3 [l]	M4 [l]	M5 [l]	M6 [l]
SK 5421	29*	32*	–	45*	44*	43*
SK 6421	35*	42*	–	56*	50*	50*
SK 7421	44*	51*	–	66*	102*	102*
SK 8421	52*	62*	–	82*	117*	117*
SK 9421	79*	94*	–	112*	167*	167*
SK 10421	98*	117*	–	138*	205*	205*
SK 11421	98*	138*	–	145*	219*	219*
SK 12421	158*	210*	–	216*	307*	307*
SK 15421	325*	469*	–	509*	622*	622*

\*Preliminary values (solid output shaft without additional options); actual values may vary!

## MAXXDRIVE® XJ

### Technical data

#### Motor adapter

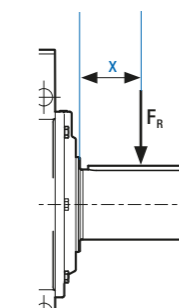
Gear unit	IEC		NEMA	
SK 5418	IEC 160 - IEC 280		N250 TC - N440 TC	N360LP - N440LP
SK 6418	IEC 160 - IEC 280		N250 TC - N440 TC	N360LP - N440LP
SK 7418	IEC 160 - IEC 315		N250 TC - N440 TC	N360LP - N440LP
SK 8418	IEC 160 - IEC 315		N250 TC - N440 TC	N360LP - N440LP
SK 9418	IEC 180 - IEC 315 (A660)		N250 TC - N440 TC	N360LP - N440LP
SK 10418	IEC 180 - IEC 315 (A660)		N280 TC - N440 TC	N360LP - N440LP
SK 11418	IEC 225 - IEC 315 (A900)		N320 TC - N440 TC	N360LP - N440LP
SK 12418	IEC 280 - IEC 355 (A900)		N360 TC - N440 TC	N360LP - N440LP
SK 15418*	IEC 315 (A660) - IEC 355 (A900)		N400 TC	N440LP

#### Weight

Gear unit	m[kg]
SK 5418	470*
SK 6418	530*
SK 7418	640*
SK 8418	760*
SK 9418	1170*
SK 10418	1340*
SK 11418	1720*
SK 12418	2520*
SK 15418	56400*

#### Radial load

Gear unit	X [mm]	FR <sub>max</sub>	
		[kN]	[lbf]
SK 5418	105	40	9000
SK 6418	105	40	9000
SK 7418	125	60	13500
SK 8418	125	60	13500
SK 9418	150	85	19200
SK 10418	150	85	19200
SK 11418	150	120*	27000*
SK 12418	175	150*	33700*
SK 15418	205	180*	40500*



**Note:**  
 Specified forces apply to:  
 ✓ M1 mounting position  
 ✓ Standard bearings and housing material  
 ✓ Service factor = 1.3 or higher  
 ✓ No additional axial loads

#### Oil quantity

Gear unit	M1 [l]	M2 [l]	M3 [l]	M4 [l]	M5 [l]	M6 [l]
SK 5418	30*	33*	–	47*	48*	48*
SK 6418	35*	46*	–	53*	53*	53*
SK 7418	47*	52*	–	55*	100*	100*
SK 8418	53*	63*	–	69*	119*	119*
SK 9418	77*	96*	–	88*	171*	171*
SK 10418	97*	119*	–	112*	185*	185*
SK 11418	113*	141*	–	162*	227*	227*
SK 12418	164*	225*	–	235*	339*	339*
SK 15418	352*	505*	–	522*	624*	624*

\*Preliminary values (solid output shaft without additional options); actual values may vary!

Special drives with integrated brakes and frequency inverter technology for smooth starts and regenerative braking via defined, adjustable ramps are required to enable cranes to pick up loads and set them down gently and precisely. Smooth motion sequences with high positioning accuracy are essential and are often required for parallel movement of the crane and trolley as well as for control and synchronous operation of travelling drives.

**Efficient** – NORD drive solutions are environmentally friendly and help minimise CO<sub>2</sub> emissions.

- ▶ NORD motors with low inertia are designed for inverter operation and meet the latest international energy requirements
- ▶ Frequency inverters ensure efficient operation, improved process control and optimised motor power
- ▶ Easy to service and maintain: NORD drives reduce standstill times and thus contribute to an increased efficiency and availability of the entire system.

**Reliable** – It is vital to prevent breakdowns in crane systems. For this reason, reliability is our main focus when developing drive solutions. All of our system components are precisely matched to each other and ensure smooth operation.

- ▶ Gear units with UNICASE housings provide precise positioning of bearings and drive shafts
- ▶ Precisely machined gear wheels with minimum wear are used
- ▶ Exceptionally robust and quiet-running gear unit with particularly long service life
- ▶ FIs protect the drive system electronically and are able to visualise the operating data

**Tried and tested** – NORD's special solutions for crane systems have proven themselves worldwide.

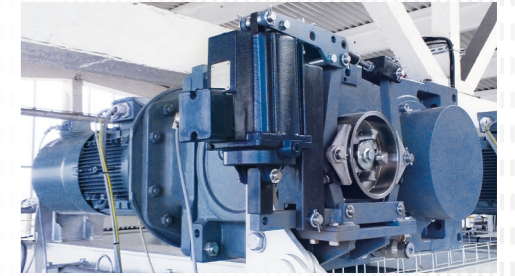
The reasons for this include:

- ▶ The gear units withstand a wide range of ambient conditions. They function both in dusty environments as well as in environments with high humidity, heat and large temperature differences
- ▶ We provide our customers with individual solutions that are tailored to their requirements so that functionality is ensured in all situations



## Lifting gear drives

- ▶ Industrial gear units for heavy-duty lifting gears
- ▶ MAXXDRIVE® XD and MAXXDRIVE® G1050 series with output torques of up to 282,000 Nm/2,500,000 lb-in
- ▶ Housing with increased centre distance and in compact design available – according to your requirements
- ▶ Wide range of options including input and output couplings, NEMA/IEC motor adapter and thruster brakes (with console)
- ▶ Modular and flexible design for optimum adaptation to your lifting gear configuration
- ▶ Various solid shaft and hollow shaft designs with different shaft configurations available
- ▶ For smaller lifting gears, NORD's comprehensive geared motor portfolio offers the perfect product for all demands:
  - ▶ Parallel shaft gear unit
  - ▶ Bevel gear unit
  - ▶ Helical gear unit



## Travelling drives (crane travelling & trolley travelling)

- ▶ Comprehensive portfolio of NORD gear units for all assembly and torque requirements
  - ▶ Parallel shaft gear unit
  - ▶ Bevel gear unit
  - ▶ Helical gear unit
- ▶ Reliable, maintenance-friendly UNICASE housing
- ▶ Premium Efficiency motors according to international standards
- ▶ Motor options
  - ▶ Encoder
  - ▶ External ventilation (IC416)
  - ▶ Brake
- ▶ Painting and sealing systems for harsh environmental conditions
- ▶ Frequency inverter for control cabinet installation and decentralised motor integration
  - ▶ Precise vector regulation with high overload capability
  - ▶ Closed-loop performance and master-follower synchronisation
  - ▶ S-ramp acceleration and deceleration for smooth motion sequences



## EN

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