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Bucket Elevator and Conveyor Drives

Controlled by Static Inverters

The Bucket Elevator and Belt Drives in version **Motox®-N** and **Motox®-G**, controlled by **Static Frequency Inverters** combines full - load mode and maintenance with helical bevel geared motor in one unit.

Advantages:

- no need for hydraulic coupling
- auxiliary drive not necessary
- integrated, adjustable torque limiter for ramps and constant speed
- start-up and brake ramp
- full-load ratio range up to 2:1
- maintenance mode at reduced output torque up to ratio range of 20:1
- various additional possibilities e.g. thermistor
- up to 7,5 kW motor power inverter is available as motorintegrated version built- in inverter covers all motor capacities

Geared Motor

Bevel helical geared motor

backstop avalable at motor B.side or integrated at bevel gear

IP 55 enclosure

Insulation class F

ambient temperature of –20°C up to +40°C

quadrilipseal at output shaft

solid shaft, hollow shaft or schrink-disc

foot-, flange- or torque arm mounting

motorintegrated brake, controlled by inverter

PTC controlled by inverter

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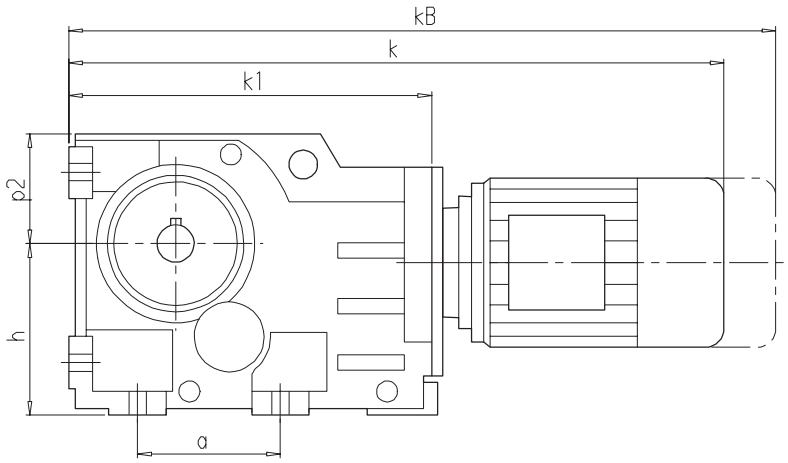
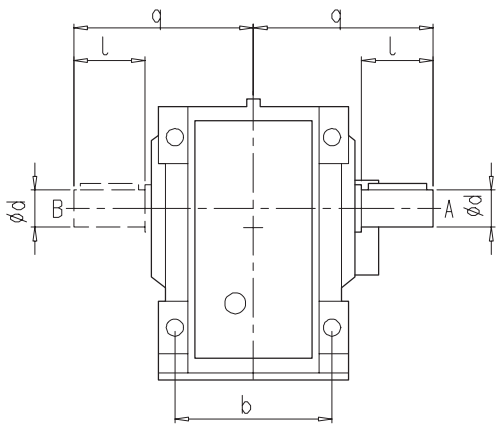
	MOTOX®-N Bevel Helical Gear Motors								
Gear motor	K38-M80M4	K48-M90S4	K68-M100L4	K88-M112M4	K108-M132M4	K128-M160M4	K148-G180M4	K168-AM225SP4	K188-AM250MV4
Rated gear unit torque [Nm]	250	450	820	1650	3000	4700	8000	13500	20000
Output torque	166	300	547	1100	2000	3133	5333	9000	13333
f_B	1,5								
i gear unit	39,73	45,41	39,39	49,8	44,44	48,14	47,91	45,15	42,43
P_{motor} **at 50 Hz** [kW]	0,75	1,1	2,2	4	7,5	11	18,5	37	55
n_2 **load mode** [1/min]	20 - 40	17 - 34	18 - 36	17 - 34	17 - 34	16 - 32	16 - 32	19 - 38	19 - 38
T_2 **= constant** [Nm]	166	300	547	1100	2000	3133	5333	9000	13333
$n_{2min.}$ **(maintenance)** [1/min]	3	3	3	3	3	3	3	3	3
$T_{2'}$ **at** $n_{min.}$ [Nm]	20	50	100	200	350	500	900	1500	2500
max. attach. brake [Nm]	L8	L16	L32	L60	L150	L260	L400	KFB63	KFB63
$f_{min.}$/$f_{min.}$- $f_{max./cut-off\ frequency}$	4,5/28-56/50	4,8/27-55/50	4,5/25-51/50	5,3/30-60/50	4,6/26-52/50	4,9/26-53/50	4,9/26-52/50	4,6/29-58/50	4,3/27-55/50
Frequency inverter MD440 power rating	0,75	1,5	2,2	4	7,5	11	18,5	37	55
MOTOX®-Master IFI...	A-0,75-3Ph-A	A-1,1-3Ph-A	B-2,2-3Ph-A	B-4-3Ph-A	B-7,5-3Ph-A	–	–	–	–
Control panel with cable	OMP2					–	–	–	–





Gear motor	h	p2	k1	k	kB	d	l	q	a	b
K38-M80M4	100	67	227	500	555	25	50	110	110	100
						35	70	130		
K48-M90S4	112	75	257	574	640	30	60	135	130	120
						40	80	155		
K68-M100L4	140	91	310	666,5	738,5	40	80	170	120	140
						50	100	190		
K88-M112M4	180	115	374	774	855	50	100	205	150	165
						70	140	245		
K108-M132M4	212	133	460	932	1032	60	120	240	180	180
						80	170	290		
K128-M160M4	265	158	531	1077	1194	70	140	290	240	240
						90	170	320		
K148-G180M4	315	188	622	1174	1319	90	170	345	280	270
						100	210	385		
K168-AM225SP4	375	225	723	1517,5	1756,5	110	210	415	350	330
						120	210	415		
K188-AM250MV4	450	255,5	816	1700,5	1907,5	120	210	460	380	420
						140	250	500		

Subject to change due to further development.

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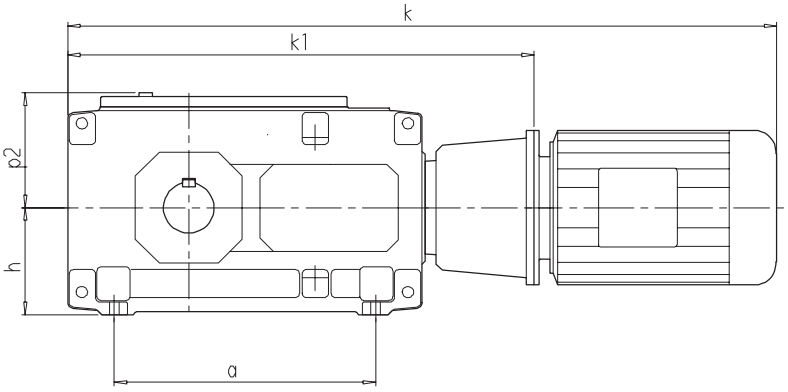
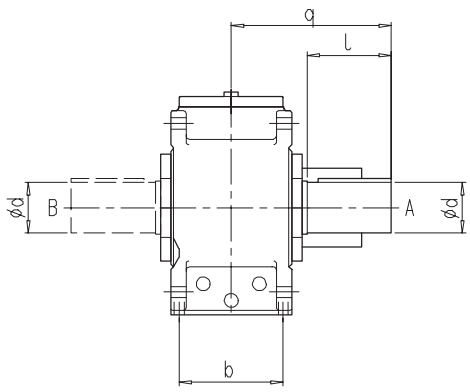
	MOTOX®-G Bevel Helical Gear Motors				
Gear unit/motor	K208-280S4	K228-280M4	K248-280M4	K288-315M4a	K328-315M4b
Rated gear unit torque [Nm]	25500	34000	43000	60000	75000
Output torque	16666	22666	28666	37500	44000
f_b	1,5	1,5	1,5	1,6	1,7
i gear unit	40	45	45	45	40
P_{motor} **at 50 Hz** [kW]	75	90	110	160	200
n_2 **load mode** [1/min]	20 - 40	18 - 36	17 - 34	18 - 36	18,5 - 37
T_2 **= constant** [Nm]	16666	22666	28666	37500	50000
$n_{2min.}$ **(maintenance)** [1/min]	3	3	3	3	3
$T_{2'}$ **at** $n_{min.}$ [Nm]	2800	3500	5000	8000	11000
Brake [Nm]	800 / 1000	800 / 1000	800 / 1000	1000	1000
$f_{min.}$/$f_{min.}$-$f_{max./cut-off\ frequency}$	4,1/27,1-54,2//50	4,5/27,4-54,7//50	4,6/28-51,7//50	4,5/27,3-54,4//50	4,5/25,8-51,5//50
Frequency inverter MD440 power rating	75	90	110	160	200





Gear motor	h	p2	k1	k	d	l	q	a	b
K208-280S4	280	302	1326	2186	130	250	445	650	260
K228-280M4	320	342	1396	2307	140	250	485	635	320
K248-280M4	320	342	1496	2407	160	300	535	725	320
K288-315M4a	380	402	1661	1666,5	170	300	570	775	370
K328-315M4b	380	410	1816	2821,5	180	300	570	930	370

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MOTOX®-N and **MOTOX®-G-bevel-gear motors** are part of the **MOTOX®**-modular system and are designed for heavy-duty continuous operation. The grey cast iron housings are robust and vibration-damping. All gears are milled and surface-hardened and the tooth flanks crowned and profile-corrected by grinding, honing or lapping.
Oil loss and the ingress of dust and water are prevented by special cassette shaft sealing rings. The output shafts are available as a solid shaft, a hollow shaft with parallel keyway, with shrink disk connection or splines.

These drives have proved themselves in heavy-duty industrial operation for years. Their use **in combination with frequency inverter as belt or bucket conveyor drives** is a logical complement to the conventional drive solution comprising gear unit, auxiliary drive, hydraulic starting clutch and separate main motor, where care of the driven machine used, process optimisation and cost saving are concerned.

The drive solutions shown are only some of the possible combinations based on a common output speed range of bucket conveyor drives. At your request **we would be pleased to design other drive variants to suit your special applications**, optimally combine mechanical and electronic components and prepare a qualified quotation.

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