MÄDLER®
GEGRÜNDET 1882

Power transmission for your success

Operating Instructions

Helical geared motors NR/I

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Caution
It is presumed that fundamental project work as well as all work with regard to transport, assembly, installation, starting-up, maintenance and repair is performed by qualified personnel or supervised by skilled labour taking overall responsibility. Make absolutely sure that no voltage is applied at all while work is being done on the geared motor. Drive must also be secured against switching on.

Caution
Any deviation from normal operating conditions (increased power consumption, temperature, vibrations, noise etc.) or warning signals by monitoring equipment suggest malfunction. Inform the responsible maintenance personnel at once to prevent the trouble from getting worse and causing, directly or indirectly, serious physical injury or material damage.
In case of doubt disconnect the machine immediately!

Preparing and performing Installation
- Transport lateches on drive are designed to carry the drive weight
- the foundation (base) should be of adequate size and vibration-proof
- install gear unit or geared motor rigid and braceless ensure sufficient ventilation
- make use of tapped hole (DIN 332) to suit fastening to the shaft end
- avoid shocks on shafts (bearing damage!)
- preferably use flexible coupling between output shaft and driven machine
- fit output elements to shaft end or secure feather key before start ng the motor

Connection of motor
- connect motor according to diagramm
- make sure that mains voltage/frequency are in accordance with nameplate information
- make secure protective conductor connection
- if motor is running in reverse direction, interchange two phases
- close unused cable entrances holes and the box itself in a dust- and watertight manner
- install protective switches to prevent overload and phase failure
- set motor protection switch to nominal current
- wiring diagrams on the last page

Starting up
- in case of long-time storage take special precautions (as provided in works standard sheet "Extended Storage")
- check position of oil-level plug with help of mounting position tables in applicable catalogue
- check oil-level
- prior to starting-up, remove vent plug form vent screw if necessary
- if not specified otherwise, first oil filling as shown in list of lubricants
- air-cooled motors are designed for ambient temperatures between –20°C and +40°C and for installation at attitudes <= 1.000 m above M.S.L.
- their use in hazardous areas is prohibited unless they are expressly intended for such use (follow additional instructions)

Maintenance
MOTOR
- remove dust deposit (overheating)
- dismount anti-friction bearings for cleaning and refill with grease
- ensure that the bearing cage is packed to about 1/3 with grease, distribute evenly
- select proper type of lubricating grease from following table

GEARBOX
- regular oil level check
- change lubricant every 10.000 working hours or after two years at the latest
- combine the lubrication change with thorough cleaning of gear unit
- lubricant changing intervals will be twice as long if synthetic products are used
- extreme. working conditions (high air humidity, aggressive media and large temperature variations) call for reduced lubricant changing intervals

Synthetic and mineral lubricants must not be mixed either for filling or for disposal!

Schmierstoffsorten / Type of lubricant / Type de lubrifiant											
Schmierstoffart Type of lubricant Type de lubrifiant	Umgebungstemp. Ambient temp. Temp. ambiante °C	Viskosität Viscosity Viscosité	ARAL	BP	Castrol	DEA	Esso	KLÜBER LUBRICATION	Mobil	Shell	TRIBOL
Mineralöl Mineral oil Huile minérale	- 5... 40 (normal)	ISO VG 220	Degol BG 220	Energol GR-XP 220	Alpha SP 220 Alpha MW 220	Deagear DX SAE 85W-90 Falcon CLP 220	Spartan EP 220	Klüberoil GEM 1-220	Mobil-gear 630	Shell Omala Oel 220	Tribol 1100 / 220
	- 15... 25	ISO VG 100	Degol BG 100	Energol GR-XP 100	Alpha SP 100 Alpha MW 100	Deagear DX SAE 80W Falcon CLP 150	Spartan EP 100	Klüberoil GEM 1-100	Mobil-gear 629	Shell Omala Oel 100	Tribol 1100 / 100
	* - 50... -15	ISO VG 15	Vitamol 1010	Bartran HV15	Hyspin AWS 15 Hyspin SP 15	Airkraft Hydraulic Oil 15	Univis J 13	Isoflex MT 30 rot	Mobil DTE 11 M	Shell Tellus Oel T 15	Tribol 770
Synthetisches Öl Synthetic Oil Huile synthétique	-10... 80	ISO VG 680						Klübersynth GH 6-680			Tribol 800 / 680
	-20... 60	ISO VG 220	Degol GS 220	Enersyn SG-XP 220	Alphasyn T 220 Alphasyn EP220	Polydea PGLP 220	Umlauföl S 220	Klübersynth GH 6-220	Glygoyle 30	Shell Tivela Oel WB	Tribol 800 / 220
	-40... -10	ISO VG 32						Klübersynth GH 6-32			
Fließfett (Mineralölbasis) Fluid grease (mineral oil base) Graisse fluide (base huile minérale)	- 20... 50 (normal)		Aralub FDP 00	Energrese FG-00 EP	CLS Grease	Orona GF 1464-00	Fibrax EP 370	Microlube GB 00	Mobi-lex 44	Shell Spezial-Getriebefett H Shell Grease S. 3655	Molub-Alloy Fett 00
Sythetisches Fließfett Synthetic fluid grease Graisse fluide synthétique	- 35... 60		Aralub SKA 00	Enersyn GSF		Glissando 6833 EP 00	Fließfett S 420	Klübersynth GE 46 - 1200	Glygoyle Grease 00	Shell Tivela compound A	Tribol 800 / 1000
Wälzlager / Anti friction bearings / Roulements à rouleaux											
Fett (Mineralölbasis)	- 30... 60		Aralub HL 3	Energrease LS 3	LZV - EP	Glissando 30	Mehrzweck-fett Beacon 3	Centoplex 3	Mobilux 3	Shell Alvania Fett G3 o. R 3	Tribol 3030
Grease (mineral oil base)			Aralub HL 2	Energrease LS 2		Glissando 20	Mehrzweck-fett Beacon 2	Centoplex 2	Mobilux 2	Shell Alvania Fett G2 o. R 2	Tribol 4020/220-2
Graisse (base huile minérale)	* - 50... 110		Aralub BAB EP2			Glissando FT 3	Unirex Lotemp EP				Molub-Alloy 3780
Sythetisches Fett Synthetic grease Graisse synthétique	* - 50... 110		Aralub SKL 2		Product 783/46	Discor 8 - EP 2	Beacon 325	Isoflex Topas NB52	Mobiltemp SHC 32	Aero Shell Grease 16 oder 7	Tribol 4747 / 220 - 2

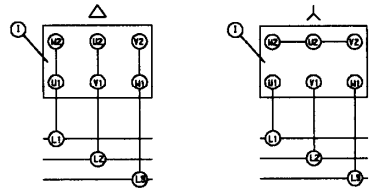
* Bei Umgebungstemperaturen unterhalb -30°C und oberhalb ca. 60°C sind Wellendichtringe in besonderer Werkstoffqualität einzusetzen.

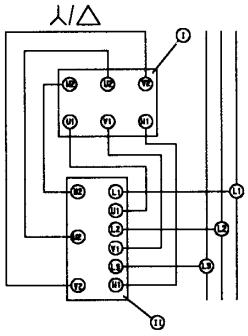
* With ambient temperatures below -30°C and above approx. 60°C shaft sealing rings of a special material quality must be used.

* Lors d'une température ambiante inférieure à -30°C ou supérieure à environ 60°C, il y lieu d'utiliser des joints d'étanchéité spéciaux.

Wiring diagrams

Drehstrom-Motor mit Kurzschlußanker
Three phase squirrel-cage motor
Moteur triphasé à cage d'écureuil

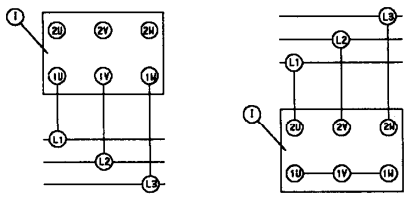




I) Klemmbrett
Terminal board
Plaque à bornes

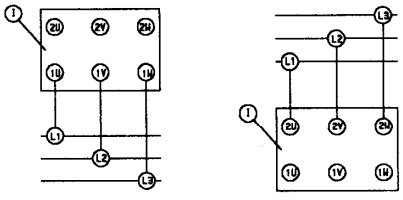
II) Schalter
Switch
Démarreur

Drehstrom-Motor mit Kurzschlußanker, in Dahlander-Schaltung
Three phase squirrel-cage motor, Dahlander connection
Moteur triphasé à cage d'écureuil, couplage Dahlander



niedrige - Drehzahl - hohe
low - speed - high
inférieure - vitesse - supérieure

Drehstrom-Motor polumschaltbar, zwei getrennte Wicklungen, zwei Drehzahlen
Three phase motor, polechanging, two separate windings, two speeds
Moteur triphasé à commutation de pôles, deux bobinages séparés, deux vitesses



niedrige - Drehzahl - hohe
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Capacity [cm³]

		Horizontal poition								Vertical position			
Art.-Nr.	**Type**	**B3**	**B6**	**B7**	**B8**	**B5**	**B5I**	**B5II**	**B5III**	**V1**	**V3**	**V5**	**V6**
431003xx 431014xx 431025xx 431038xx 431048xx 431059xx	SK 02	150	400	400	700	250	600	500	500	600	600	600	600
431024xx 431047xx 431058xx 431070xx 431081xx	SK 12	250	500	500	850	350	900	600	600	900	850	750	750
431002xx	SK 13	600	700	700	1100	850	1200	950	950	1200	1200	1200	1250
431036xx 431046xx 431069xx 431080xx	SK 22	500	1350	1350	2000	700	2000	1550	1550	1800	2000	1800	1800
431011xx 431034xx 431044xx	SK 23	1300	1600	1600	2300	2500	1500	2800	2800	2800	2600	2350	2400
431010xx	SK 33N	1600	2300	2300	3200	1900	3500	2600	2600	4400	3400	4200	2900

Standard lubricant for the gearboxes is mineral oil. Synthetic oil is available at surchcharge.