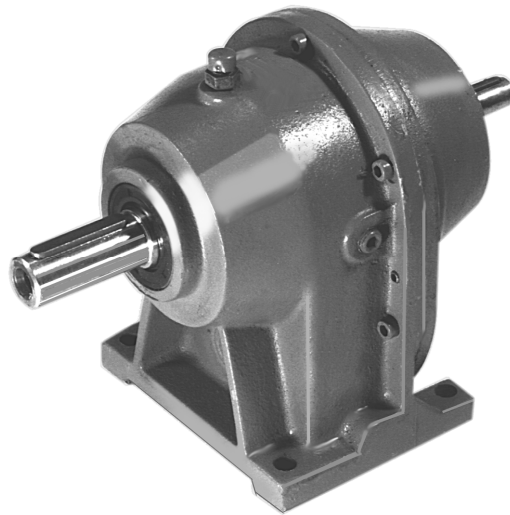




Operating and maintenance instructions

Helical Gearboxes BT/I



Responsible Madler branches according to German Post Code Areas:

PCA 1, 2 and 3
Subsidiary
Mädler GmbH
Brookstieg 16
D-22145 Stapelfeld
Tel. +49 40-60 04 75 10
Fax +49 40-60 04 75 33
hamburg@maedler.de

PCA 0, 4 und 5
Subsidiary
Mädler GmbH
Bublitzer Str. 21
D-40599 Düsseldorf
Tel. +49 211-97 47 1 0
Fax +49 211-97 47 1 33
duesseldorf@maedler.de

PCA 6, 7, 8 und 9
Headquarter
Mädler GmbH
Tränkestr. 6-8
D-70597 Stuttgart
Tel. +49 711-7 20 95 0
Fax +49 711-7 20 95 33
stuttgart@maedler.de

For Switzerland:

Mädler-Norm-Antrieb AG
Postbox 74
Güterstr. 6
CH-8245 Feuerthalen
Tel. +41 52-647 40 40
Fax +41 52-647 40 41
info@maedler.ch
www.maedler.ch

Installation

All gear boxes (except F-types to be mounted with motors according to our work's standard) are filled with lubricant ready for operation. In case of multistage gear box combinations each one is filled separately. For checking loosen the drain plug carefully, oil flows out immediately, grease with a certain delay.

For specified quantities of lubricant filling see table 1.

A slight grease film which may initially appear on shaft and vent valve during operation is of no importance.

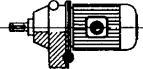
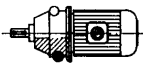

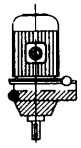

It is essential to install the gear box in the mounting position as manufactured. Changing the mounting position, the lubricant quantity according to table 1, page 5 and position of the vent valve need to be checked and if necessary have to be altered accordingly

Assembly

Unit is to be mounted on a rigid, plane foundation. Clean shafts before start up (remove paint protection cover). Fit pulleys, couplings and other transmission elements to the input and output shafts with utmost care to avoid damage of the bearings. Shafts are machined with center holes according to DIN 322 B. If necessary the transmission elements have to be warmed up for fitting. To guarantee a smooth run even at a high speed align driving parts. In case of direct coupling take care of precise alignment of shafts. In case of indirect power transmission (e. g. chain or belt drives) pay attention to a right angled positioning towards the shaft and the point of load application should be as near as possible to the shaft bearing. Do not use shafts statically pre-stressed or bent. In case of flange design make sure centering edge and shaft are assembled coaxially.

Oil Change

The quantity of lubricant has to be renewed for the first time after approx. 10.000 working hours latest, however, after 3 years. The gear box should be removed and cleaned, the wear and tear parts checked, and the shaft seals replaced for safety's sake. Before reassembly clean the sealing surfaces of the housing and apply flexible sealing compound. Refill the gear box according to the mounting position as per table 1. Never mix mineral with synthetic oil.

Tabelle 1 Table 1		Schmierstoffmengen für Stirnradgetriebe Quantities of Lubricant Filling for Helical Gear Boxes																					
Einbaulage mounting position Füllhöhe Schmierstoff level for lubricant	Bauform constructional form	Füllmenge (Liter) für Getriebetyp CB ... quantities (litre) for gear box type CB ...																					
		1-stufig (1-stage)				2-stufig (2-stages)							3-stufig (3-stages)										
		100	101	102	103	00	0	1	2	23	3	4	5	7	9	11	09	19	29	239	39	59	79
B 3 B 5 	B 3 mit Motor B 5 with motor	0,2	0,3	0,5	0,8																		
	B 6 mit Motor B 7 with motor	0,3	0,6	1,3	1,4	0,1	0,2	0,3	0,4	0,7	0,8	1,6	2,0	3,0	4,0	8,5	0,3	0,6	0,7	0,9	1,2	4,0	6,5
B 6 B 7 	B 3 mit 2 freien Wellenenden with 2 free shafts	0,2	0,4	0,6	1,0																		
	B 6 mit 2 freien Wellenenden with 2 free shafts	0,4	0,7	1,6	1,9	0,1	0,2	0,4	0,5	0,8	0,9	1,8	2,5	4,2	6,0	8,5	0,25	0,7	0,8	1,0	1,3	4,5	7,0
B 8 	B 8 mit Motor with motor	0,3	0,6	0,9	1,3	0,1	0,2	0,4	0,5	0,8	1,0	2,1	2,3	3,0	4,1	8,0	0,3	0,5	0,6	1,0	1,3	3,0	5,8
	B 8 mit 2 freien Wellenenden with 2 free shafts	0,5	0,8	1,2	1,7	0,1	0,22	0,5	0,6	1,1	1,4	2,5	2,9	4,0	5,7	10,0	0,4	0,5	0,7	2,1	2,6	3,5	6,9
V 1 V 5  V 3 V 6 	V 1 mit Motor V 5 with motor	0,7	1,2	1,9	3,0																		
	V 3 mit Motor V 6 with motor	0,4	0,6	0,8	1,1	0,2	0,3	0,5	0,7	1,5	1,7	—	4,6	6,8	9,5	22,0	0,6	0,9	1,0	2,7	2,9	5,8	10,5
	V 1 mit 2 freien Wellenenden with 2 free shafts	0,7	1,2	1,9	3,0																		
	V 3 mit 2 freien Wellenenden with 2 free shafts	0,6	1,0	1,7	2,5																		

○ Entlüftungsventil vent valve 2 zusätzliche Blindschrauben, wovon eine bei Bedarf je nach Einbaulage als Ablasschraube und die andere zum Austausch gegen das Entlüftungsventil genutzt werden können.
● Ablasschraube drain plug 2 additional dummy plugs, one can be used - if necessary - as drain plug and the other be interchanged against vent valve according to the mounting position.

Tabelle 2 Table 2		Schmierstoff-Tabelle für Stirnradgetriebe Lubricant Table for Helical Gear Boxes									
Temperaturbereich Temperature range [°C]		Ölbasis Oil basis		ARAL	BP	CASTROL	ESSO	MOBIL	SHELL	TEXACO	
-50	0	+50	+100	1. mineralisch 1. mineral	2. synthetisch 2. synthetic	EP-Getriebeöl DIN 51502 EP gear oil DIN 51502					
-10°	+50°	Standard	●	Degol BG 320	Energol GR-XP 320	Alpha SP 320	Spartan EP 320	Mobilgear 632	Omala 320	Meropa 320	
-30°	+130°		●	Degol GS 220	Energol SG-XP 220	Alpha Syn.T 220	Umlauföl S 220	Glygoyle 30	Tivela Oil WB	Synlube CLP 220	
-60°	+50°		●					Aero HF A	Aero Fluid 4		
EP-Getriebefließfette EP semifluid gear grease											
-20°	+60°		●	Aralub FDP 00	Energrease HT-EP 00		Fibrax EP 370	Mobilplex 44	Spezial Getr.fett H	Marfak 00	
-40°	+90°		●		Energrease GSF	CLS Grease	S 420 (EGL 3818 A)	Mobiltemp SHC 100	Tivela Compound A	Multifak EP 00	
-50°	+40°		●				5182 Grease			Texondo F 00	

1. Mineralische Getriebeöle und -fette sind hochwertige Schmiermittel, die Ölwechselintervalle bis zu 10.000 Betriebsstunden zulassen.
Mineral oil and grease are high quality lubricants, allowing lubricant change intervals up to 10.000 operating hours.

2. Synthetische Schmiermittel können 2-5fach längere Wechselintervalle, als unter 1. aufgeführt, ermöglichen.
Synthetic lubricants can permit 2fold-5fold longer change intervals as stated above 1.

Achtung! Niemals mineralische mit synthetischen Ölen mischen.
Attention! Mineral lubricants must not be mixed with synthetic lubricants.