Please read carefully before starting operation! 2. Installation • 1. Should any damage occur due to disregard of the following instructions the guarantee expires and the manufacturer is free from any obligations. Installation of the device must be carried out with care The device can only be employed under operations parameters in order to prevent damaging of bearing and packing. Any use of not exceeding the nominal capacity of the clutch or brake. force impairs the function. The borehole present should be lightly Maximum torque and highest permissible power loss must be stictly smeared with a rust proofing grease. The system being lubricated observed. The available voltage must correspond to the operation for life, any other lubrication with oil or grease is not admitted voltage indicated on the identification plate. When a clutch of the as it would impair the performance of the device. E(R)AT ... -Type is used, the distance between the brush holders and the slide ring must correspond to the measure indicated 3. Starting operation: Clutches and brakes should be taken into operation by means on the table of dimensions. If a brake is used, there is no slide ring and the connection is of short current pulses to allow proper distribution of the macnetic effectuated directly on the coil. Thereupon it must be checked particles. Thereupon the rotor speed correspond to the use required. that no body contact takes place. 4. Dismounting, Repairs : If a clutch or a brake is operated in an extremely dustladen place (soot, wood chip, paper or cement dust) a dust cover should be provided. Instructions for repair are supplied on request free of obligation. In such a case an additional fan should allow reliable Upon disassembly of clutches and brakes any shock by knocks and shoves dissipation of the heat developped. must be prevented. When removing the rotor a brace can be used. Storage: Clutches and brakes must be stored in a dry place and protected against corrosion. The device can only be stored in its welded plastic hull containing moisture absorbing chips.

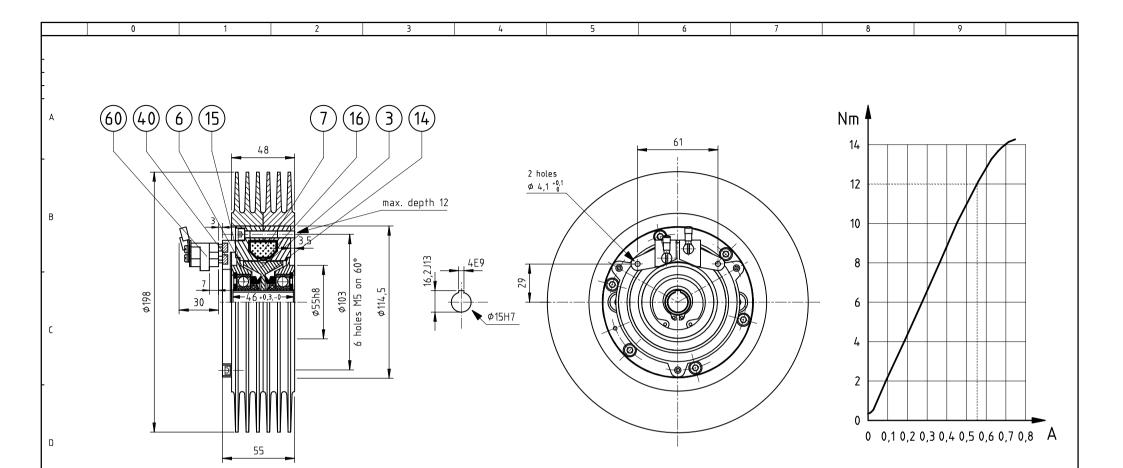
:				Datum	29.12.1993	Zeichnungsnummer/ (drawing number
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operating instructions

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Repair instructions: Clutches Brakes EAT 120 321 500 00 ERAT 120 321 600 00 **FAT 120** 321 300 00 FRAT 120 321 400 00 FAT 120 RR 321 340 00 FRAT 120 RR 321 620 00 FAT 120 RR 321 330 00 FRAT 120 RR 321 440 00 FRATO 120 321 420 00 "R" = heat sink "RR"= remnant rotor "O" = watercooling В The magnetic particle clutch / brake should be Important note! disassembled in the following order: The magnetic powder must be poured into the air gap / space between the internal rotor and the external rotor During assembly, refer to the sectional drawing. (not into the hollow space in which the field coil is located). Be sure to use only the amount and particle size of magnetic powder 1. To disassemble, place the clutch / brake on a workbench approved for the particular type of clutch / brake. with the slipring or coil connectors up. Disconnect the slipring from the coil, and remove the screws The old magnetic powder must not be re-used. С to lift the slipring from the housing. Then insert the coil and brass ring, replace the second 2. Remove the circlip rings from the internal rotor, remove housing half and screw it down. Then insert the circlip ring the screws, and take apart the housing. This leaves the on the opposite side, secure the slipring assembly and housing halves, the coil, the brass ring and the make the connections with the coil. internal rotor as separate parts. 3. After removing the circlip rings from the ball bearing, Spare parts: *) Only available as a complete repair kit lift the ball bearings and seals from the housing half. D Item Pcs Type 120 Stock-No. 4. Clean the inner sides of the housing halves and the internal rotor carefully of magnetic powder. 3 1 Internal rotor 315 300 03 Field coil 24 VDC 321 300 07 5. Fit the new seals and ball bearings in the housing 807 275 02 60 1 Brush holder assy. halves and fix them using circlip rings. 315 300 40 40 Slipring Then slide the seals (V-ring) on the hollow shaft Carbon brush with connecting tag 3x4x13mm 130 518 189 of the internal rotor. Push the internal rotor into the ball bearing of a housing half and fix it in position 15 2 Ball bearing using a circlip ring. 2 V- ring seal 14 812 010 00 *) 2 6 Felt ring seal 6. Housings fitted with heat sink, e.g. Type ERAT ... FRAT... have the heat sinks shrunk on. 16 Magnetic powder 15 gr / 50µ 321 500 16 Heat them slightly if they need to be pulled off. As clutches are balanced with the heat sink fitted, be sure to re-fit it in exactly the same position. Datum 30.09.2003 Zeichnungsnummer/ drawing number Repair instructions Bearb. PAR 1.1228F Clutches / Brakes Antriebstechnik 03.03.2011 PAR Gepr. Magnetic-particle clutch/brake-120 Type 120 Datum Name Norm Ersatz fuer: Urspruna: 24.08,2011



Only applicable for horizontal shaft position!

In order to avoid magnetic leakage flux and to achieve a good heat removal, non-ferrous metals should be used for installation or attachment of auxiliary components (not for drive shaft).

dimensions	and	specifications	subjekt	to	change	

dimensions a	nd specificati	ons subjekt	to change		axial force is inadmissible			admissible max. radial force; I					
rated	residual	field values		;	resistance				max. admissible power loss			mass moment of inertia	
torque	torque	maximun	n values	rated current	at 20°C	operating times		0 min ⁻¹	1000 min ⁻¹	2000 min ⁻¹	ext. rotor	int. rotor	weight
M _{max} [Nm]	M _{res} [Nm]	P[W]	U[V]	I _N [A]	R[Ω]	t _{on} [ms]	t _{off} [ms]	P _v [W]	P _v [W]	P _v [W]	J [kgm²]	J [kgm²]	m [kg]
12	0,27	24	24	0,55	23	240	150	70 150*	190 600*	310 1050 *	5,2·10 ⁻³ 14,0·10 ⁻³ *	0,25-10 ⁻³	2,8 4,6 *

*) heat sink "R"

item	amount	parts
3 6 7 14 15 16 40	1 2 1 2 2 - 1 1 1	internal rotor felt gasket field coil 24VDC V ring gasket ball bearing air gap for magnetic powder slipring brush holder assy.

С		Datum	30.09.1993	Zeichnungsnummer/ d	drawing number	-3/N/// ■	IENTKE	Type : EAT 120	321 500 00	Komm.Nr			
b		Bearb	. PAR	7 10	85E		IEDTKE htriebstechnik	* FRAT 120	321 600 00				
a	07.07.2010 PA	R Gepr.		7.10	שנטי	V = Ar	ntriebstechnik	* EI(/() 120	321 000 00	Magneti	c-particle clutch-ER) A T12A	Blatt 3
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