

SERVO-TOP

QE5542

CE

Type

YA321SE

Instruction Manual

Part 3

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Technical updatings reserved!

11. Survey and List of Parameters

11.1 Explanation of Parameter Survey

The parameter survey is designed as an aid for finding parameters quickly. It is a summary of references for the parameter list. Listed behind each reference are all parameters which exert an influence on the function described by the reference.

The parameter survey is divided into five columns:

Column 1 shows the references (functions) to which parameters are assigned.

Column 2 shows the abbreviations of the respective functions.

Column 3 shows all parameters (setting numbers) belonging to the respective reference.

Column 4 shows, for each function (reference) which controls inputs or outputs, the applicable indications such as Ex or Ax which can also be found on the connections diagram.

Column 5 shows, for each function (control inputs (Ex) or control outputs (Ax)), the respective plugs with the number of contacts (see connections diagram).

Example for searching a parameter:

Keyword (function): inverse rotation

The parameter survey shows in column 3 the parameter numbers 618, 623, 801.

Suppose that the inverse rotation function is to be enabled. The parameter list shows this function under parameter number 618.

11.2 Explanation of Parameter List

The parameter list is divided into 5 columns. These comprise, in

column 1: the parameter number,

column 2: is the explanation (meaning) of the parameters and the coding system of row 1 of the keys of the mini operator's panel, used when the parameter concerned can be programmed with the mini operator's panel,

column 3: the programming level (A, B, C) on which the parameter in question can be accessed,

column 4: the range of values within which the parameter in question can be set,

column 5: the value of the parameter in question is set on delivery ex factory.

Parameters having "either/or" validity (software switches) can merely be set to value I or II. In the case of such parameters, column 4 is empty.

Parameter numbers in acute brackets; e.g. <105>, mean the value (content) set for the parameter in question.

Example:

107 Speed for front backtack when <106> = I

I limited by <105>

II limited by <607>

Explanation:

Parameter 107 is valid only the the value (content) of parameter <106> = I.

If parameter 107 is set to I (<107> = I), then the speed for the front backtack is limited by parameter 105, e.g. <105> = 1500. If parameter 107 is set to II (<107> = II), then the speed for the front backtack is limited by the value of parameter 607, e.g. <607> = 4000.

11.3 Parameter survey YA321SE (2A_Y03_6.ENO)

Function	Abbrev'n	Parameter	Input Output	Connection Socket/Contacts
Accelerate	DRZAN	722		
Affichage	ANZ	605		
Auxiliary drive	ZUSAN	805/808/809 892/893/899		
Backtack	RIE	105		
Brake	DRZAB	723/851		
Chopper	MESSER	105		
Control	REG	884/885/886 887/889/890 891/892/893 894		
Control of edge	KST	296		
Defect search	HWT	797		
Delay	VERZ	174/189/190 191/192/193 194/195/196 197/527/730 899/924		
Direction of rotation	DRR	800/805/808 809		
Display	ANZ	605		
Front backtack	AR	105		
Gather setting	RAFF	950/960		
Guiding aid	FUEGEH	923/924		
Hardware test	HWT	797		
Holder	TUPF	527		
Needle position	NAPO	700/701/702 703		
Number of stitches	STZA	131/141/174 294		
ON period	EINZ	175/189/190 191/192/193 194/195/196 197/528/889		
Photocell	LS	161		
Presser foot	PF	729/730		

Program	PR	131/851
Programming level C	EBC	798
Residual brake	STBR	718
Seam start	NA	105
Soft start	SANL	116
Speed	DRZ	105/296/605 606/607/609 676/850
Speed decrease	DRZAB	723/851
Speed increase	DRZAN	722
Speed limitation	DB	676
Stacker	STAP	527/528
Start	START	161
Start delay	STVERZ	729
Stepper motor	SMOT	367/488/489 808/809/855 856/858/859 862/863/870 871/873/950 956/957/960 972/976/977
Stitch condensation	STVD	105
Switch-on stitches	EINST	294
Thread monitor	FW	141
Thread trimming	SN	609
Time needed to switch on	EINZ	175/189/190 191/192/193 194/195/196 197/528/889
Transportation motor	TPM	592/593
Vacuum	SAUG	105

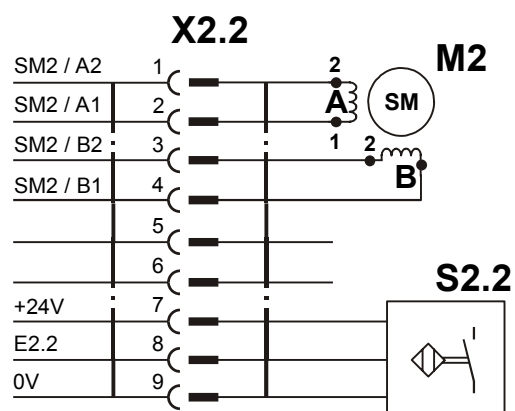
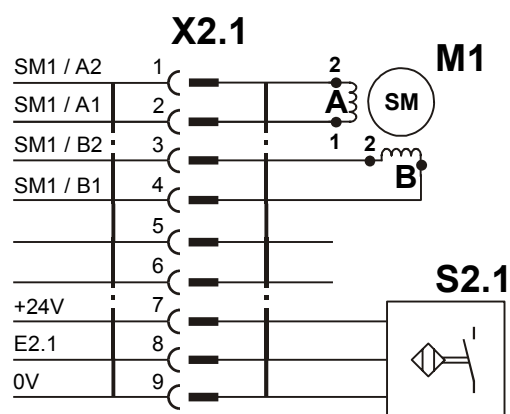
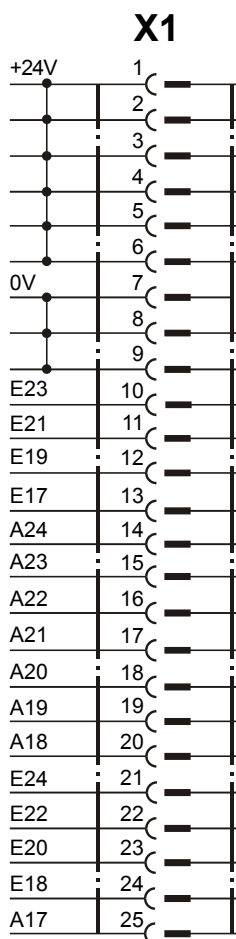
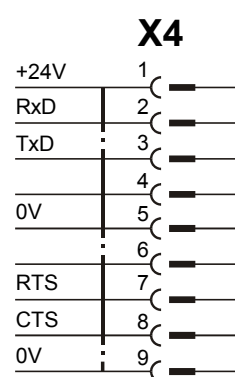
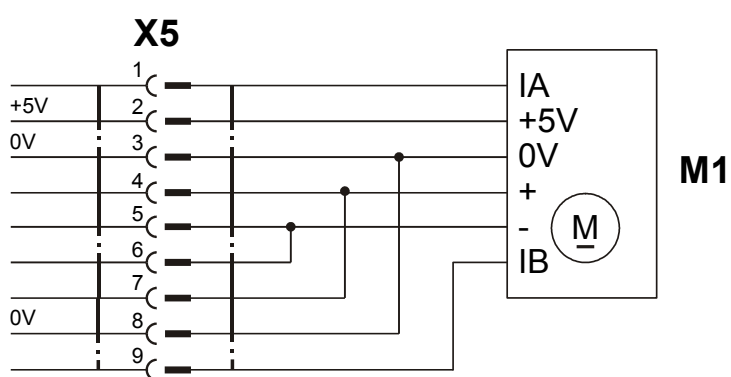
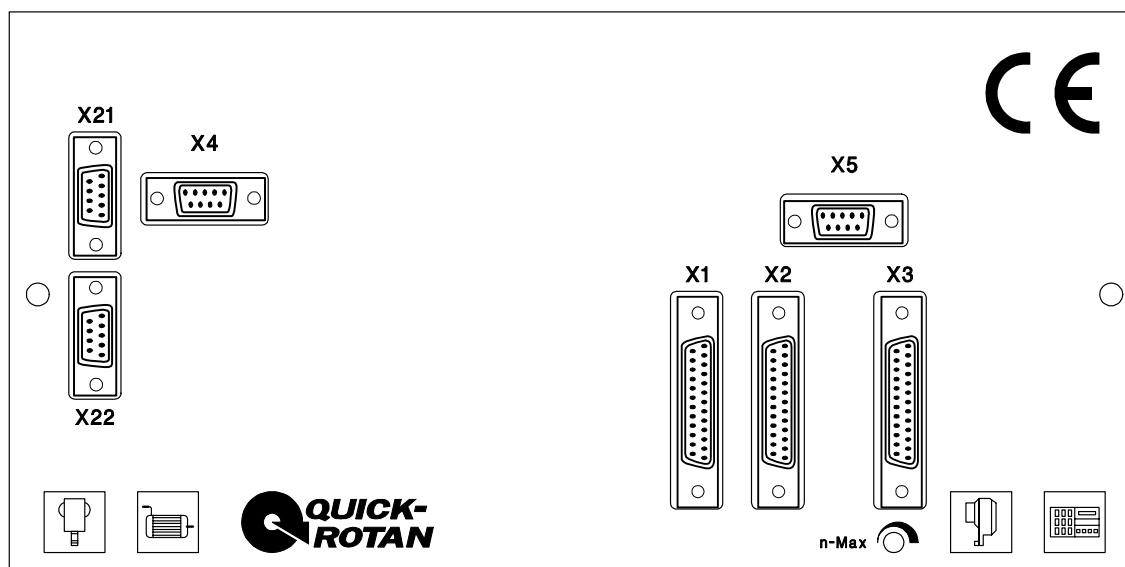
11.4 List of Parameters YA321SE (2A_Y03_6.EN)

No.	Function (Meaning)	Level	Range Values	of Value	Standard
105	(AR/RIE/DRZ/MESSER/NA/SAUG/STVD) Speed for front backtack / stitch condensation	A,B,C	100 - 6400	3500	Kl. 1
116	(SANL) Soft start stitches	A,B,C	0 - 255	6	Kl. 1
131	(PR/STZA) Stitches for seam section 4	A,B,C	0 - 255	6	Kl. 1
141	(FW/STZA) Number of stitches until bobbin thread monitor signal becomes active (signal suppression on bobbin thread monitor)	B,C	0 - 255	0	Kl. 1
161	(LS/START) Start delay for start of photocell	A,B,C	0 - 2550	800	Kl. 1
174	(VERZ/STZA) Stitches until output Ax on	A,B,C	0 - 255	20	Kl. 1
175	(EINZ) Time needed to switch on for output Ax	B,C	0 - 255	6	Kl. 1
189	(VERZ/EINZ) Delay/on time t1	A,B,C	0 - 2550	300	Kl. 1
190	(VERZ/EINZ) Delay/on time t2	B,C	0 - 2550	60	Kl. 1
191	(VERZ/EINZ) Delay/on time t3	B,C	0 - 2550	400	Kl. 1
192	(VERZ/EINZ) Delay/on time t4	A,B,C	0 - 2550	1550	Kl. 1
193	(VERZ/EINZ) Delay/on time t5	A,B,C	0 - 2550	300	Kl. 1
194	(VERZ/EINZ) Delay/on time t6	A,B,C	0 - 2550	300	Kl. 1
195	(VERZ/EINZ) Delay/on time t7	B,C	0 - 2550	300	Kl. 1
196	(VERZ/EINZ) Delay/on time t8	B,C	0 - 2550	300	Kl. 1
197	(VERZ/EINZ) Delay/on time t9	A,B,C	0 - 2550	850	Kl. 1
294	(EINST/STZA) ON period (stitches) for the slit edge control (SKS)	A,B,C	0 - 255	16	Kl. 1
296	(DRZ/KST) Speed for control of edge	A,B,C	10 - 2550	200	Kl. 1
367	(SMOT) Limitation for the stepping motor adjustment value	B,C	0 - 100	30	Kl. 1
488	(SMOT) reduction ratio for stepping motor 1	C	0 - 99	2	Kl. 1
489	(SMOT) number of steps after stepping motor 1 zero position	B,C	0 - 100	30	Kl. 1
527	(STAP/TUPF/VERZ) Delay (ms) from stacker on to holder / stopper off	A,B,C	0 - 255	30	Kl. 1
528	(EINZ/STAP) Duration (ms) of stacker function	B,C	0 - 2550	100	Kl. 1
592	(TPM) Transportation motor quick	B,C	1 - 4	1	Kl. 1
593	(TPM) Transportation motor slow	A,B,C	10 - 2550	400	Kl. 1
605	(DRZ/ANZ) Actual speed in display I yes II no	B,C		I	Kl. 1
606	(DRZ) Speed: level 1 (min.)	B,C	30 - 640	200	Kl. 1
607	(DRZ) Speed: level 12 (max.)	B,C	100 - 10000	5800	Kl. 1
609	(SN/DRZ) Trimming speed 1	B,C	30 - 300	200	Kl. 1
676	(DRZ/DB) Speed adjustment via potentiometer possible I yes II no	B,C		I	Kl. 1
700	(NAPO) Needle position 0 (reference position of the needle)	B,C	0 - 239	0	Kl. 1
701	(NAPO) Angular adjustment I with handwheel (teach-in) II by keys (+/-)	B,C		I	Kl. 1
702	(NAPO) Needle position 1 (needle down)	B,C	0 - 239	200	Kl. 1
703	(NAPO) Needle position 2 (thread take-up lever up)	B,C	0 - 239	24	Kl. 1
718	(STBR) Timing of residual brake (0 = brake off)	C	0 - 100	0	Kl. 1
722	(DRZAN) Acceleration ramp 1 gradual 50 steep	C	1 - 50	45	Kl. 1
723	(DRZAB) Brake ramp 1 gradual 50 steep	C	1 - 50	25	Kl. 1
729	(STVERZ/PF) Start delay after lowering presser foot	B,C	0 - 2550	120	Kl. 1
730	(PF/VERZ) Lift delay for presser foot after seam end	C	0 - 2550	30	Kl. 1

797	(HWT) Hardware test	B,C	II	Kl. 1
	I yes			
	II no			
798	(EBC) Programming level C	B,C	II	Kl. 1
	I yes			
	II no			
800	(DRR) Direction of motor rotation viewed from belt pulley	B,C	II	Kl. 1
	I left-hand rotation			
	II right-hand rotation			
805	(DRR/ZUSAN) Rotational direction of auxiliary drive	B,C	II	Kl. 1
	I lefthand rotation			
	II righthand rotation			
808	(DRR/ZUSAN/SMOT) Rotation direction stepping motor 1	B,C	II	Kl. 1
	I Anticlockwise			
	II Clockwise			
809	(DRR/ZUSAN/SMOT) Rotation direction stepping motor 2	B,C	II	Kl. 1
	I Anticlockwise			
	II Clockwise			
850	(DRZ) Maximum motor speed	C	4500	Kl. 1
851	(PR/DRZAB) Brake ramp for stitch-count seams	C	I	Kl. 1
	I steep			
	II gradual			
855	(SMOT) maximum speed of stepping motor 2	B,C	100 - 9900	3000 Kl. 1
856	(SMOT) Start-/stopping speed of stepping motor 2	B,C	10 - 2550	350 Kl. 1
858	(SMOT) acceleration of stepping motor 2	B,C	1 - 255	5 Kl. 1
859	(SMOT) reduction ratio of main motor/stepping motor 2	B,C	0 - 99	2 Kl. 1
862	(SMOT) maximum current of stepping motor 2 (255 = 3.6 A)	B,C	1 - 255	160 Kl. 1
863	(SMOT) stationary current of stepping motor 2 (255 = 3.6 A)	B,C	0 - 255	70 Kl. 1
870	(SMOT) maximum speed of stepping motor 1	B,C	100 - 9900	2000 Kl. 1
871	(SMOT) Start-/stopping speed of stepping motor 1	B,C	10 - 990	500 Kl. 1
873	(SMOT) acceleration of stepping motor 1	B,C	0 - 255	4 Kl. 1
884	(REG) Proportional amplification of the speed control (in general)	C	4 - 50	13 Kl. 1
885	(REG) Integral amplification of the speed control	C	0 - 100	30 Kl. 1
886	(REG) Proportional amplification of the order controllers	C	1 - 50	20 Kl. 1
887	(REG) Differential amplification of the order controllers	C	1 - 100	30 Kl. 1
889	(EINZ/REG) Time required for order controlling (0 = always)	C	0 - 1000	200 Kl. 1
890	(REG) Proportional amplification of the superior order controllers for the residual brake	C	1 - 50	25 Kl. 1
891	(REG) Proportional amplification of the lower speed controllers for the residual brake	C	1 - 50	20 Kl. 1
892	(REG/ZUSAN) Proportional amplification of speed control for auxiliary drive	B,C	0 - 50	1 Kl. 1
893	(REG/ZUSAN) Integral amplification of speed control for auxiliary drive	C	0 - 100	4 Kl. 1
894	(REG) Rotational direction of motor and synchronizer	C	I	Kl. 1
	I different			
	II same			
898	(SONST) Number of motor poles	C	II	Kl. 1
	I 4 poles			
	II 6 poles			
899	(VERZ/ZUSAN) Delay of auxiliary drive	B,C	0 - 100	50 Kl. 1

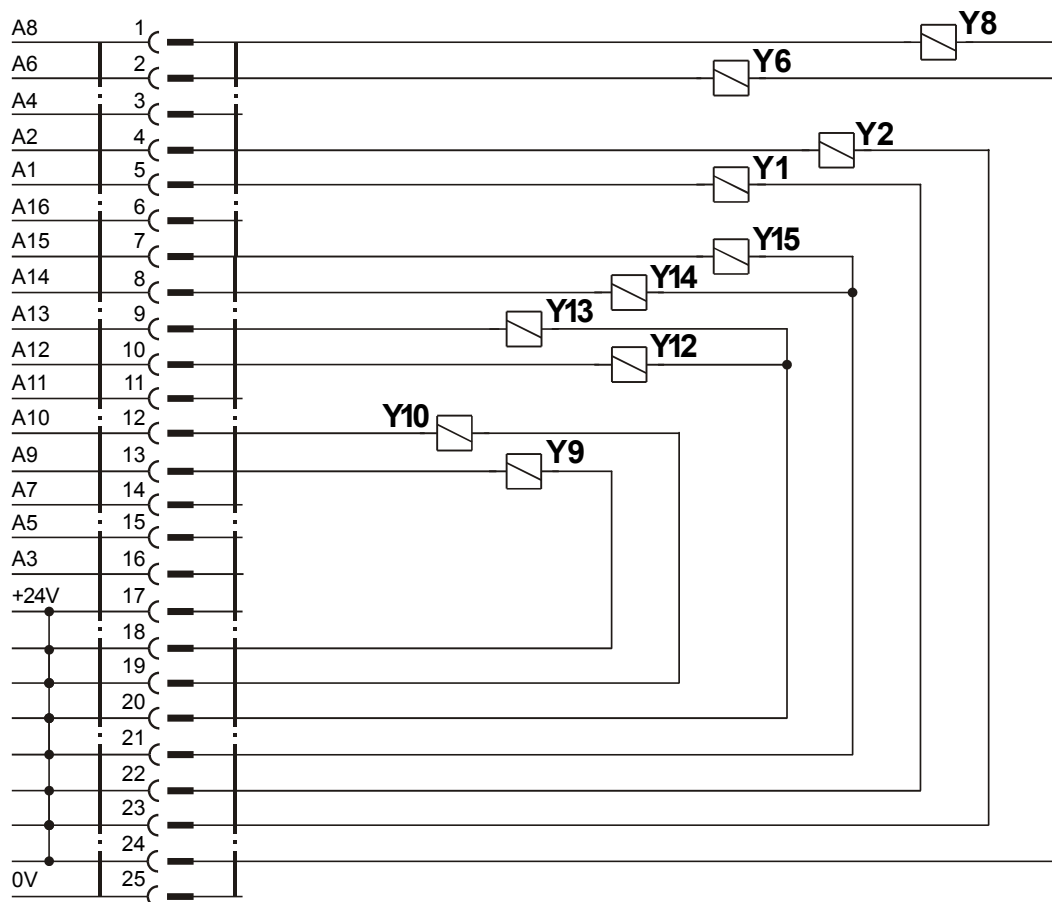
923	(FUEGEH) guiding aid always on I yes II no	A,B,C		II	Kl. 1
924	(FUEGEH/VERZ) delay for guiding aid closure	B,C	0 - 2550	800	Kl. 1
950	(SMOT/RAFF) gathering value 1 of stepping motor axis 1	A,B,C	0 - 90	0	Kl. 1
956	(SMOT) maximum current of stepping motor 1 (255 = 3.6 A)	B,C	0 - 255	150	Kl. 1
957	(SMOT) stationary current of stepping motor 1 (255 = 3.6 A)	B,C	0 - 255	70	Kl. 1
960	(RAFF/SMOT) gathering value 1 of stepping motor axis 2	A,B,C	0 - 90	0	Kl. 1
972	(SMOT) number of stepping motor axes 0 none 1 one (only the first) 2 one (only the second) 3 two	B,C	0 - 3	0	Kl. 1
976	(SMOT) stepping motor 1 - mode 1 full step 2 half step 3 quarter step 4 eighth step	A,B,C	1 - 3	2	Kl. 1
977	(SMOT) stepping motor 2 - mode 1 full step 2 half step 3 quarter step 4 eighth step	B,C	1 - 3	2	Kl. 1

12. Electrical Connections Diagram YA321SE

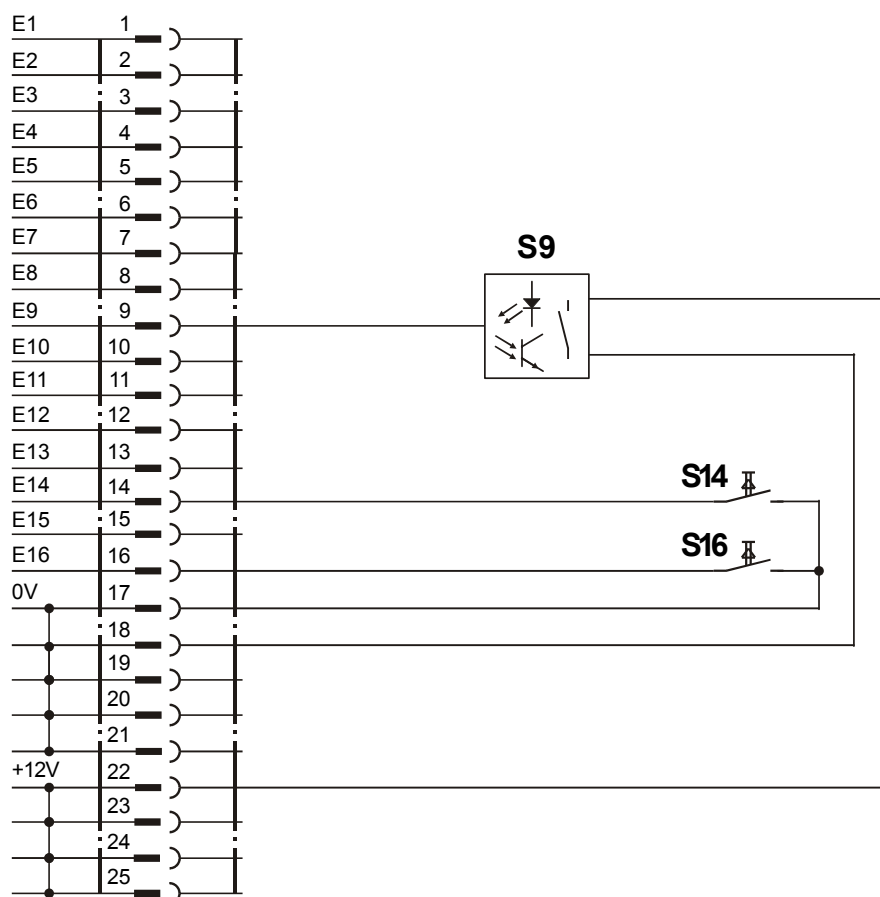


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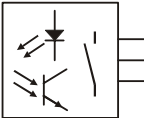
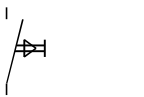
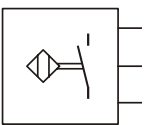
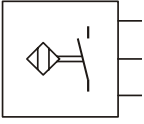
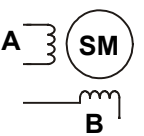
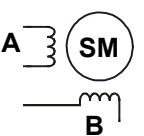
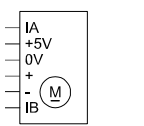
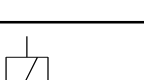
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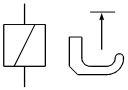
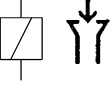
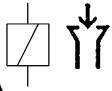
X3



Bedeutung der Magnete bzw. Magnetventile, Taster / Meaning of magnets and/or solenoids and keys
 Signification des aimants resp. solenoides et touches / Significação dos ímãs e/ou as solenoidas e teclas
 Significato dei magneti, delle valvole magnetiche e dei tasti / Significación de los imanes y/o los solenoides
 y pulsadores / Betekenis van de magneten resp. magneetkleppen, toetsen

S9		Start - stopp / start - stop / start - stop / arranque - paragem / start - stop / arranque - parada / start - stop
S14		Stopp / stop / stop / paragem / stop / parada / stop
S16		Start manuell / start manuell
S2.1		Sensor für Referenzposition des Schrittmotors 1 / reference position sensor of the stepping motor 1 / senseur du moteur pas á pas 1 / sensor do motor de passo 1 / sensore del motore step 1 / sensor del motor de pasos 1 / sensor van de stappen motor 1
S2.2		Sensor für Referenzposition des Schrittmotors 2 / reference position sensor of the stepping motor 2 / senseur du moteur pas á pas 2 / sensor do motor de passo 2 / sensore del motore step 2 / sensor del motor de pasos 2 / sensor van de stappen motor 2
M1		Schrittmotor 1 / stepping motor 1 / moteur pas á pas 1 / motor de passo 1 / motore step 1 motor de pasos 1 / stappen motor 1
M2		Schrittmotor 2 / stepping motor 2 / moteur pas á pas 2 / motor de passo 2 / motore step 2 motor de pasos 2 / stappen motor 2
M3		Bandantrieb / tape feed / transport de ruban / transporte de cinta / trasporto nastro / transportador de cinta / bandtransport
Y1		Stapler / stacker / empileur / empilhadeira / impilatore / apiladora / hefinstrument
Y2		Stoffniederhalter / material down holder
Y6		Maus Rückholung / moving back mouse
Y8		Transport anheben / lift transport

Bedeutung der Magnete bzw. Magnetventile, Taster / Meaning of magnets and/or solenoids and keys
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Y9  I max 100 mA	Presserfuß heben / presser foot up / pied presseur en haut / calcador em cima/ alzapiedino su / prensatelas arriba / drukvoet optillen
Y10  I max 100 mA	Apparat ein-/ausfahren / moving in-/out attachment
Y12  I max 100 mA	Blasen Apparat / blowing attachment
Y13  I max 100 mA	Stoffabfall saugen / material waste vacuuming / aspiration de déchets / aspirar de descida / aspirare immondizie / aspirar de desechos / afval zuigen
Y14  I max 100 mA	Kette saugen / chain vacuuming / aspiration de chaînette / aspirar de cadeia / aspirare catenella / aspirar cadeneta / zuigen van een ketting
Y15  I max 100 mA	Apparat-Verschluß / attachment lock

13. Maintenance and Repair



!! Before starting maintenance or repair work, switch off the SERVO-TOP, separate the drive system from mains power (for instance by pulling out the mains plug) and wait for the motor to come to a complete stop.

General maintenance work must only be done by specially trained personnel paying close attention to the operating instructions.

The SERVO-TOP is largely maintenance-free.

However, make sure to perform the following maintenance work:

Depending on the operating conditions, clean the drive system regularly, at least once a week, from any dust or lint. Make sure in particular that the ventilation louvres and cooling fins of the motor, especially the cooling fins between the motor and the control box, are perfectly clean (Fig. 13).

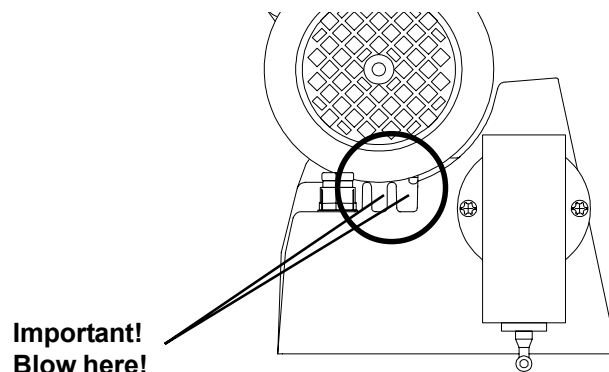


Fig. 13

Remove any threads caught on the synchronizer shaft or on the belt pulley and/or motor shaft.

Check if the drive system is perfectly secured to the stand and that the accessories (synchronizer on machine shaft, speed control unit on control box) are safely mounted in their respective positions.

Check the drive belt for any wear and for correct tension.
Incorrect belt tension can increase noise and vibrations.



When opening covers or removing parts, apart from those removable by hand, live elements can be exposed.
Connections can also be electrically live.

If you require to open the drive system before starting maintenance or repair work or before replacing any parts, disconnect the drive system from any and all power sources.

If maintenance or repair work on the open unit is unavoidable, this may only be done by qualified personnel familiar with the risks involved. Observe all regulations as per EN 50110.

There can still be capacitors carrying a charge in the power electronics system, even when the drive system has been disconnected from all power sources. To avoid injury by electrical shock, it is therefore essential to wait at least 10 minutes between mains power shutoff and opening the control box.

In order to protect semi-conductor components from overvoltage, use only high-resistivity measuring equipment when making checks on the control system.

Any repair or servicing work requiring skilled knowhow may only be done by qualified personnel authorized by Quick-Rotan.

We emphasize that in accordance with the product liability law we are under no responsibility for damages caused by our products if these are due to

- unqualified repair
- the use of components not authorized by us
- actions made by any persons not authorized by us.

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