





Thank you for your purchasing this MEMMINGER-IRO product. Please familiarise yourself with the way the unit is operated by reading these Instructions carefully and keep them in a safe place for later reference.

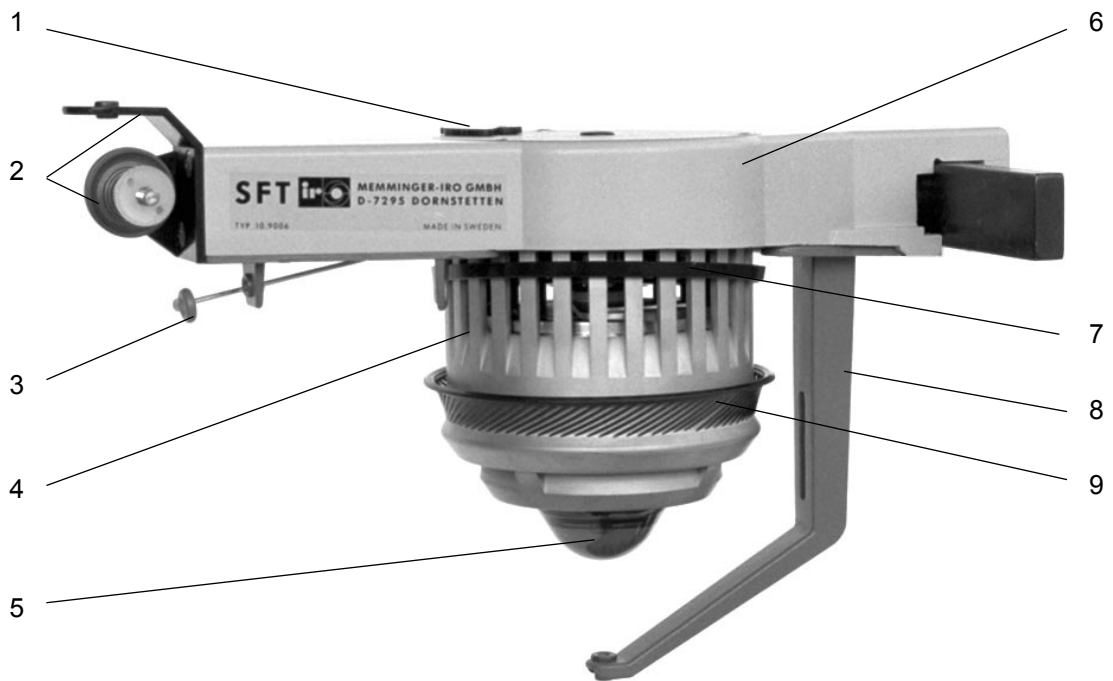


Fig. 1

- 1 = adjusting plate
- 2 = short upper arm with ceramic disc tensioner
- 3 = input detector with stop motion
- 4 = spool
- 5 = pilot lamp
- 6 = SFT housing
- 7 = tilting disc
- 8 = lower arm
- 9 = tension ring



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1 **Safety**

1.1 **Explanation of Symbols**



Important information is given in annotations in the margin.



This symbol indicates that the instruction to which it refers must be followed exactly in order to avoid damage to machinery or personnel.

1.2 **Notes on Safety**



- The SFT must be used exclusively for yarn feeding on textile machinery.
- Before installing and operating the unit, please read the Operating Instructions through carefully.
- We wish to point out that no liability can be accepted for damage or operational breakdown which results from incorrect operation or improper handling of the unit.
- All electrical connections must be carried out by qualified electricians.
- Ensure that the mains voltage is within the unit's permissible range.
- The unconnected end of the contact cable must be well insulated. It must be rendered safe from direct contact and from short circuiting.
- The power unit must not be opened unless it is disconnected.
- SFT's must only be installed with the power switched off. When inserting the contact pins in the contact cable, it is important to ensure that they make a good connection.
- All accessories and spare parts must be kept in their packaging until they are actually fitted.



2 Technical Data

Model:	SFT - 2	SFT - 4	SFT - 6
Yarn feed m/min (at 50 Hz):	0 - 550	0 - 340	0 - 230
Yarn feed m/min (at 60 Hz):	0 - 600	0 - 400	0 - 280
Speed in rpm (at 50 Hz):	2400	1500	1000
Speed in rpm (at 60 Hz):	2800	1800	1200
Power consumption (watt):	55	71	55
Max.current/phase (amps):	0,75	0,98	0,75
Length x width x height:	282,52 mm x 102 mm x 177 mm		
Weight:	approx. 1,6 kg		

3 Function of the SFT

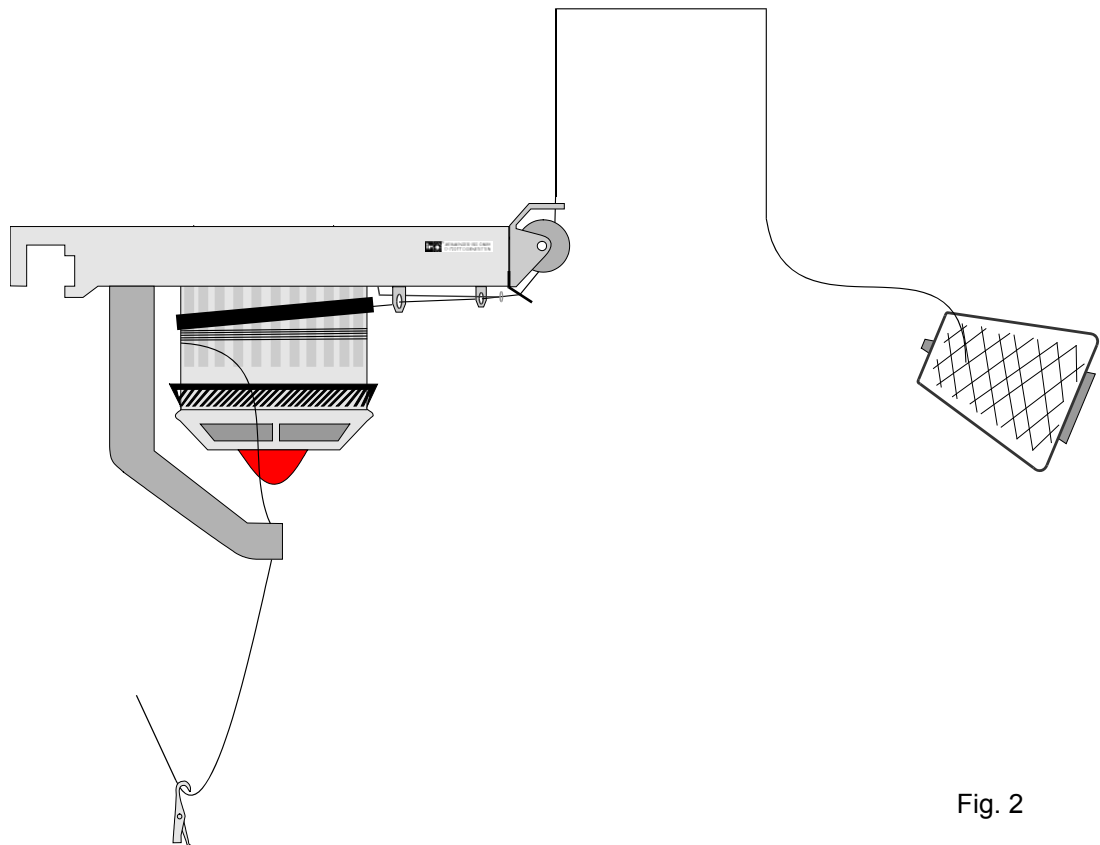


Fig. 2

The SFT storage feeder is a system for feeding yarn under even tension on textile machines where the yarn consumption is irregular.

The spool body draws the yarn off the spool, creates a buffer in the form of a store and feeds it to the knitting system under uniform yarn tension.



The advantages of using SFT's:

- Compensation of tension variations resulting from different spool sizes and types and from different distances between spools and knitting system.
- Constant, uniform yarn tension on all systems with the same yarns and tension rings.
- Adjustable yarn tension by combining or replacing tension rings.
- Machine stopped by input/stop motion in the event of yarn break.
- Spare yarn on the spool body prevents quality being impaired by thrown loops should the yarn break.
- Enclosed yarn feed possible through closed tubes.

3.1 Models and types

Three basic SFT models are available to match the maximum yarn consumption of the machine

Model:	SFT - 2	SFT - 4	SFT - 6
Yarn feed m/min (at 50 Hz):	0 - 550	0 - 340	0 - 230
Yarn feed m/min (at 60 Hz):	0 - 600	0 - 400	0 - 280

The basic models are not supplied with upper arm and yarn input tensioners. The short upper arm with ceramic disc tensioner (10.2406) or a corresponding accessory suitable for the application (see 7, page 15) will always have to be ordered.

All SFT's are fitted with a mechanical yarn monitor at the input point which shuts the machine down if the yarn breaks or if yarn tension is too high.

In addition the SFT can be fitted with an electro-mechanical output stop motion or the electronic

Types:	Article numbers:		
	SFT - 2	SFT - 4	SFT - 6
Standard:	10.9206	10.9106	10.9006
With switch:	10.9206.005	10.9106.005	10.9006.005
With electro-mech.output stop motion:	10.9506	10.9406	10.9306
With electro-mech.output stop motion and switch:	10.9506.005	10.9406.005	10.9306.005
With ELTEX output stop motion:	10.9506.110	10.9406.110	10.9306.110
With ELTEX output stop motion with switch:	10.9506.115	10.9406.115	10.9306.115

4 Electrical connection



The mains supply voltage for all SFT power units is 230/400 volt three-phase.

Two types of connection are available depending upon the machines and the number of SFT's.

With more than 6 SFT's per machine (e.g. for circular or flat-bed knitting machines), the power unit for single machine connection with contact breaker is used. If the yarn breaks, the machine is switched off and the power supply to the SFT's interrupted (see Fig.3). 1 to 4 fused supply circuits from power unit to the machines are required depending upon the number of SFT's.

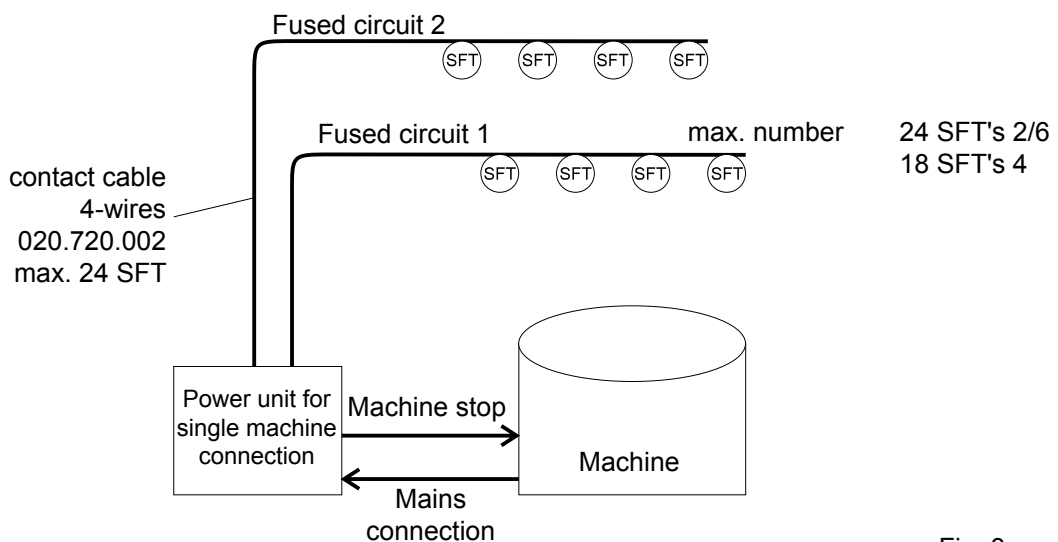


Fig. 3

Where several machines with a maximum of 6 SFT's per machine are used (e.g. automatic stocking and sock machines), it is recommended that the power unit for multiple machine connection without contact breaker be fitted. This arrangement supplies current from the power unit to several SFT cut-out units through a single cable (5 x 2.5 mm²). A maximum of 6 SFT's can be connected per cut-out unit. If the yarn breaks on one machine, only that machine will be switched off by the cut-out and the power supply to the SFT interrupted (see Fig.4).

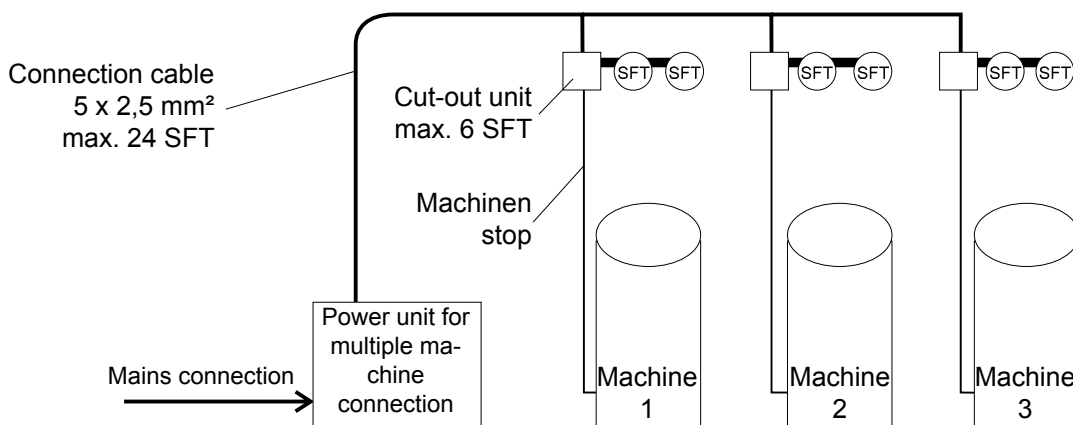


Fig. 4



4.1 Overview of SFT power units

elek. rating

	SFT - 4	SFT 2/6
connection voltage	3x42V ± 10%	50/60 Hz
power	71 VA	55 VA

Maximum number of SFT units		For single machine connection with 24 V contact breaker	For single machine connection with 24 V contact breaker and motherboard	For multiple machine connection without contact breaker	Primary voltage at 50/60 Hz	Power	No. of fused circuits
SFT - 4	SFT - 2 / 6						
5	6	021.000.020		021.000.020.04	230/400V	346 VA	1 (10A)
9	12	021.000.021	021.000.021.05	021.000.021.04	230/400V	638 VA	1 (10A)
28	36	021.000.022	021.000.022.05	021.000.022.04	230/400V	1916 VA	2 (16A)
36	48	021.000.023	021.000.023.05	021.000.023.04	230/400V	2555 VA	2 (20A)
55	72	021.000.024	021.000.024.05	021.000.024.04	230/400V	3833 VA	3 (20A)
74	96	021.000.025	021.000.025.05	021.000.025.04	230/400V	5111 VA	4 (20A)
96	120	021.000.027	021.000.027.05	021.000.027.04	230/400V	6500 VA	4 (20A)

4.2 Connecting the power units

Cable entry screw connections are provided in the housing of the power unit (see Fig.5). Connect the cable as shown in the wiring diagrams on pages 8 and 9.

The housing also contains the main power supply switch and the secondary circuit fuses (see Fig.6).

The power units with built-in contact breakers have a switch (S2) for switching the automatic control on and off (see Fig.6). With the switch set to SFE, the SFT's receive power continuously. Set to SFT, the SFT's only receive power when the machine is in operation, in order to prevent the SFT's

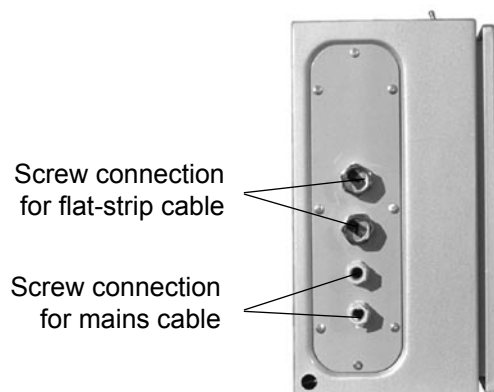


Fig. 5

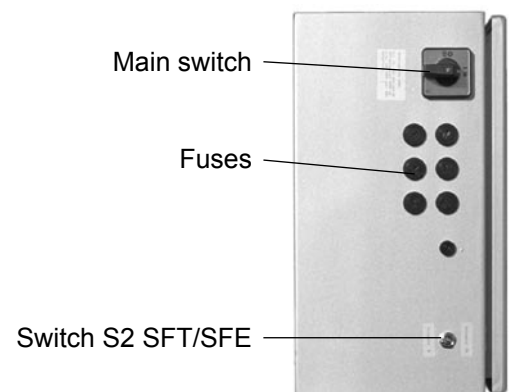
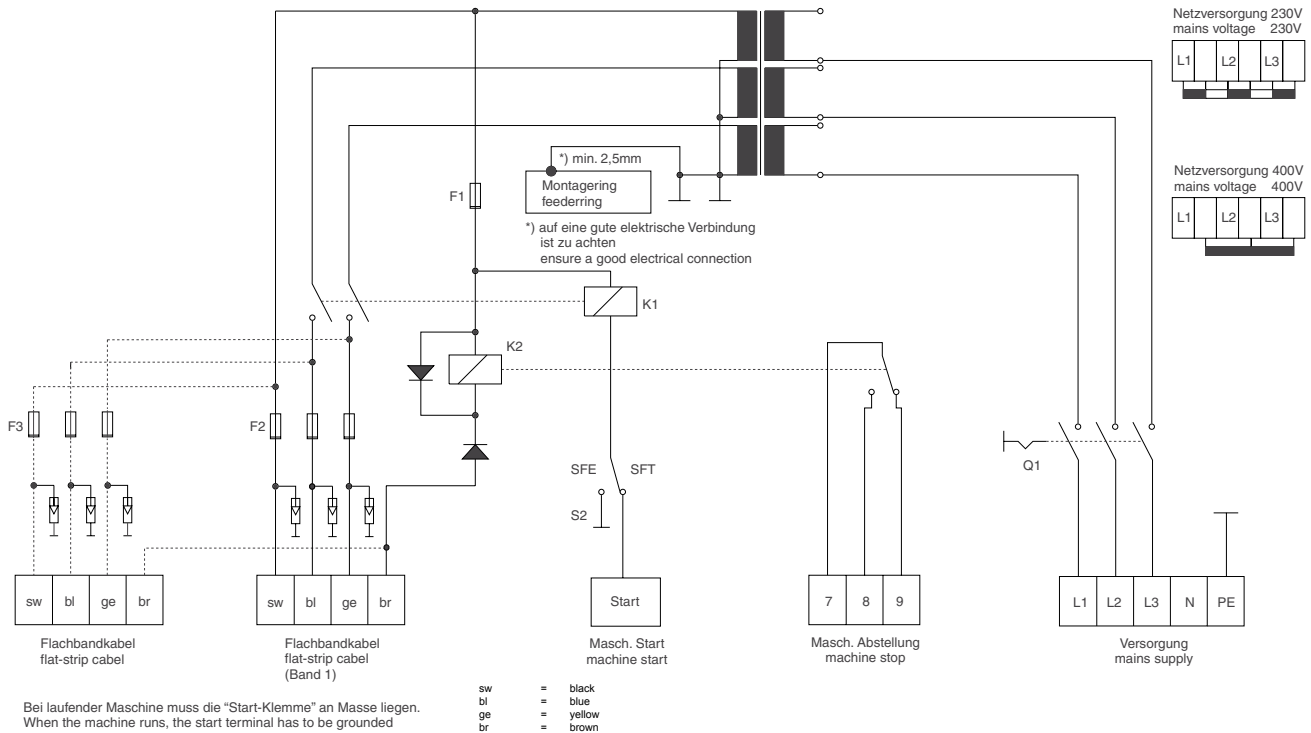
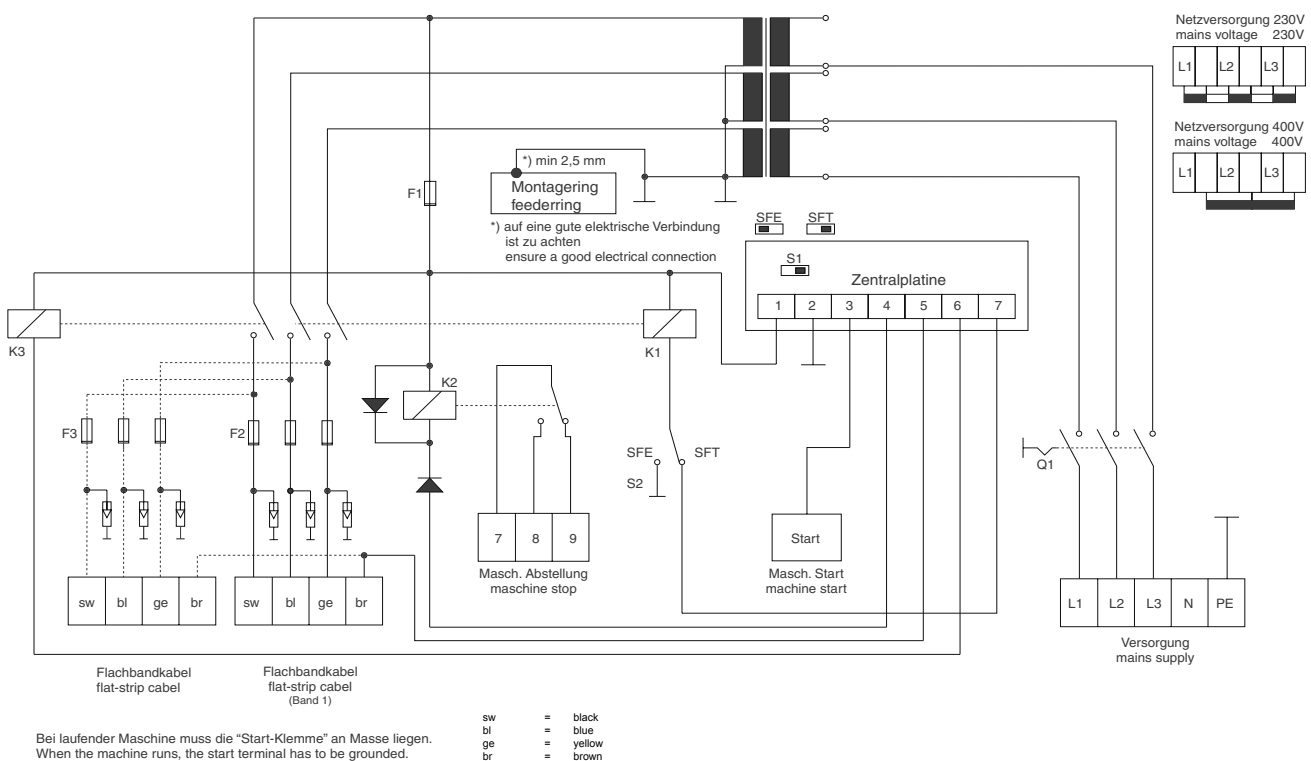


Fig. 6

4.2.1 Wiring diagram for power units for single machine connection with 24 volt contact breaker

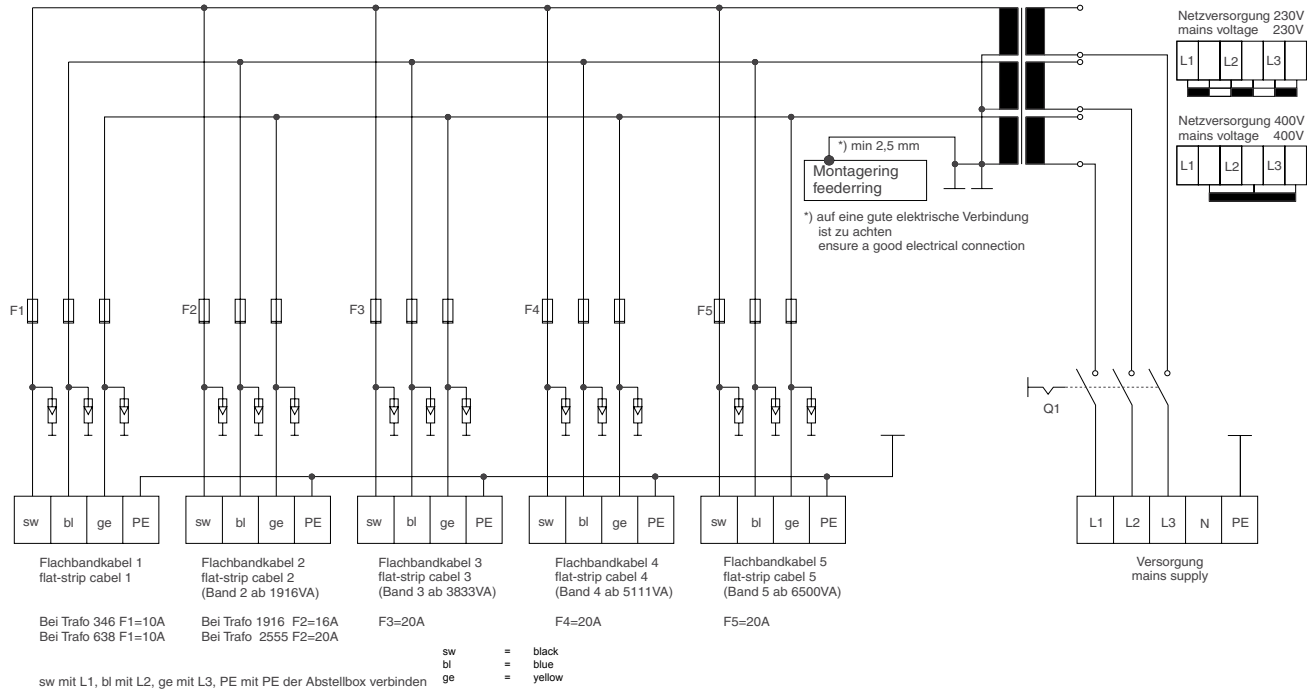


4.2.2 Wiring diagram for power units for single machine connection with 24v contact breaker and motherboard



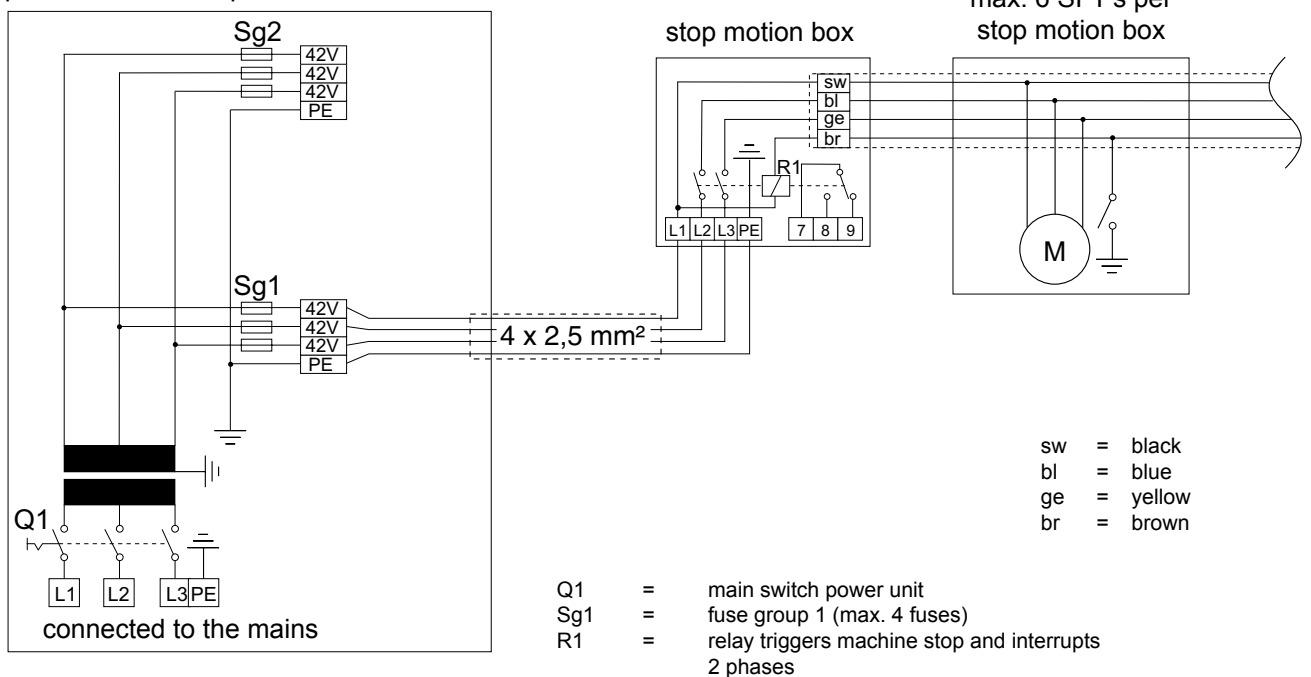


4.2.3 Wiring diagram for power units for multiple machine connection without contact breaker



4.3 Wiring diagram for SFT-stop relay box

power unit for multiple machine connection

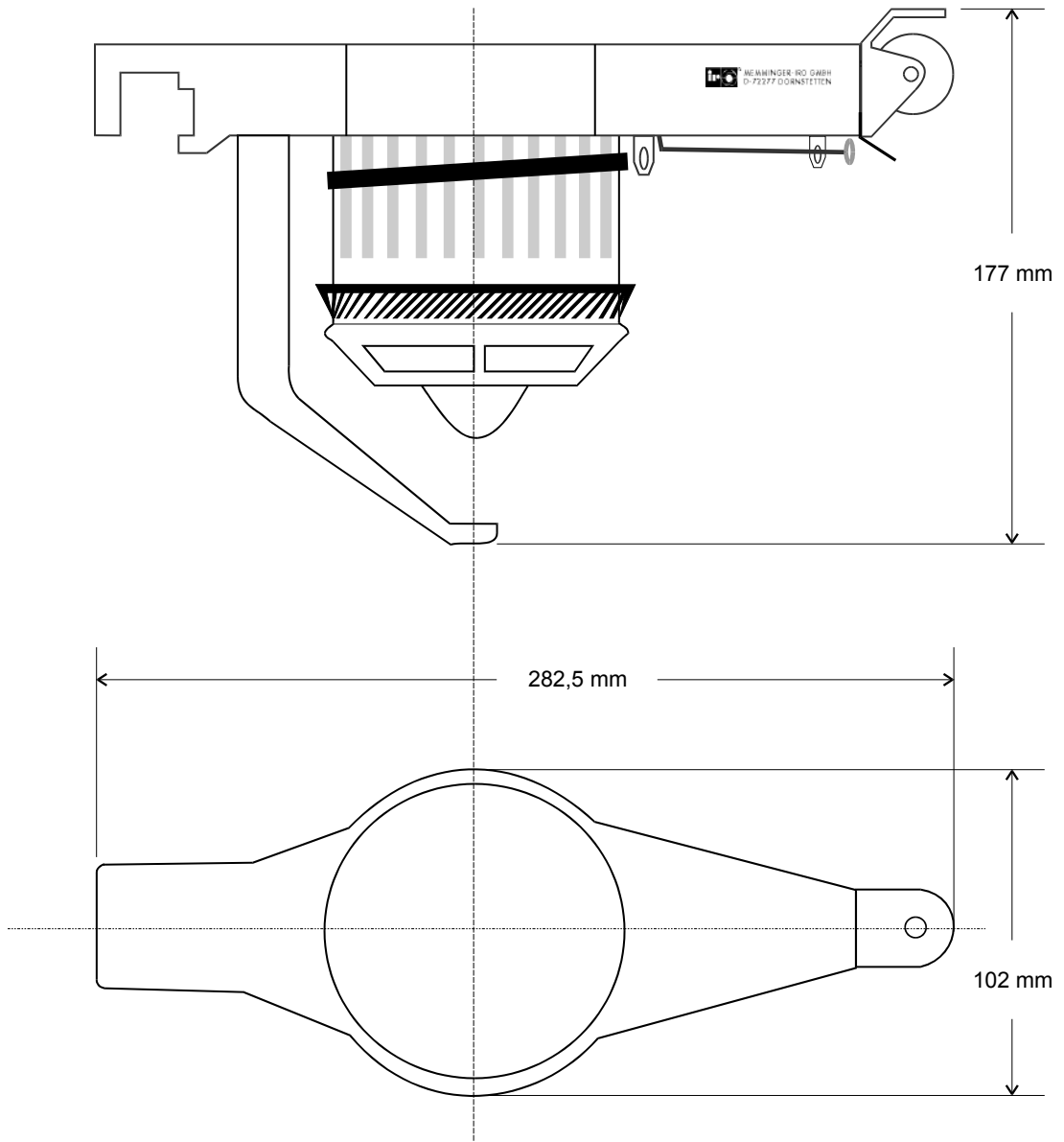


Connection cable between power unit and SFT cut-out unit on multiple machine layouts: 4 x 2.5mm²



5 Installation

5.1 Dimensioned drawing SFT



Space requirement, unit centre to centre:
Ring diameter difference with two rings:

150 mm
300 mm



5.2 Installing the SFT



- Only use original MEMMINGER-IRO contact cable.
- Fit the contact cable so that the marking can be read (black lead uppermost).
- The unconnected end of the cable must be well insulated. It must be rendered safe from direct contact and from short circuiting (see Fig.7).
- The SFT may only be fitted with the power switched off.

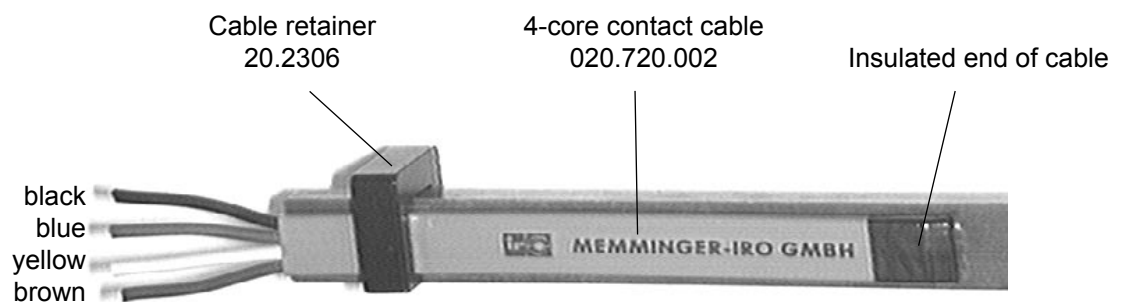


Fig. 7

- Depending upon the machine, either a ring or a straight rail made of flat steel 25 x 10 mm is required for fitting the SFT.
- Having fitted the ring or the rail, attach the 4-core contact cable with the cable retainer or cable ties - black lead uppermost (see Fig.7).
- See 4, page 6 for connecting the contact cable.
- First install one SFT with the power unit switched off. Ensure that the contact pins of the SFT are inserted into the leads of the contact cable exactly.



- **Briefly switch the power unit on and check whether the spool body turns. If the spool body tries to turn against the built-in lock, two phases on the primary side of the power unit must be changed over.**
- Switch the power unit on again (on power units with contact breakers, set the switch S2 to „SFE“) to check that both SFT and switch-off units are working properly. Next thread the SFT and wind on until the spool body stops (see 6, page 12).
- With the power unit turned off, install about 6 SFT's at a time. Then switch the power unit on. Check that the SFT's are working properly and wind the spool bodies on until the SFT's stop.



Fitted SFT's with built-in switches do not have to be kept winding on until the spool body stops. They can be switched off once they have been checked for correct operation.



6 Starting the SFT

When first starting the machine up, proceed as follows (see Fig.8):

- Main switch on power unit to „OFF“.
- Feed the yarn through to the second guide eyelet on the SFT.
- Feed the yarn through the tension ring and fit the ring on to the spool body.
- Set the adjusting plate to the maximum storage volume (to „+“ Fig.8).
- Main switch on power unit to „ON“.
 - On power units for single machine connection, set switch S2 to „SFE“.
 - On SFT's with switch, turn the unit on.
- Allow the SFT to wind up until it stops with the spool body full.
 - On power units for single machine connection, set switch S2 to „SFT“.
- Start the machine.
- Adjust the feed tension on the ceramic disc tensioner on each SFT in turn so that the yarn loops are tight and as even as possible on the spool body.
- Set the adjusting plate so that the spool body is practically turning all the time the yarn is being drawn off.
- If SFT units fitted with ELTEX output stop motions are in use, they must also be adjusted (see 7.2, page 15).



The SFT settings must be checked and if necessary re-adjusted if the machine speed is changed or a different yarn used.

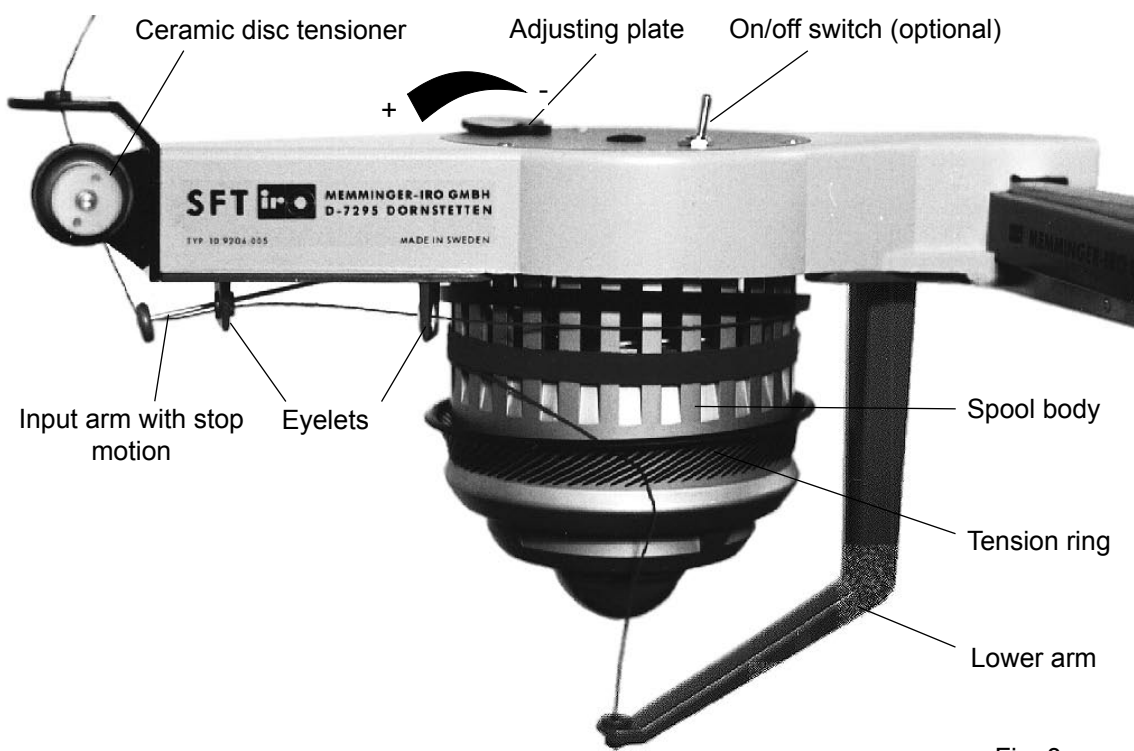


Fig. 8



6.1 Adjusting the stop motion at the yarn entry

The force of the stop motion can be adjusted by turning the screw with a 1.5 mm socket head key (Fig.9).

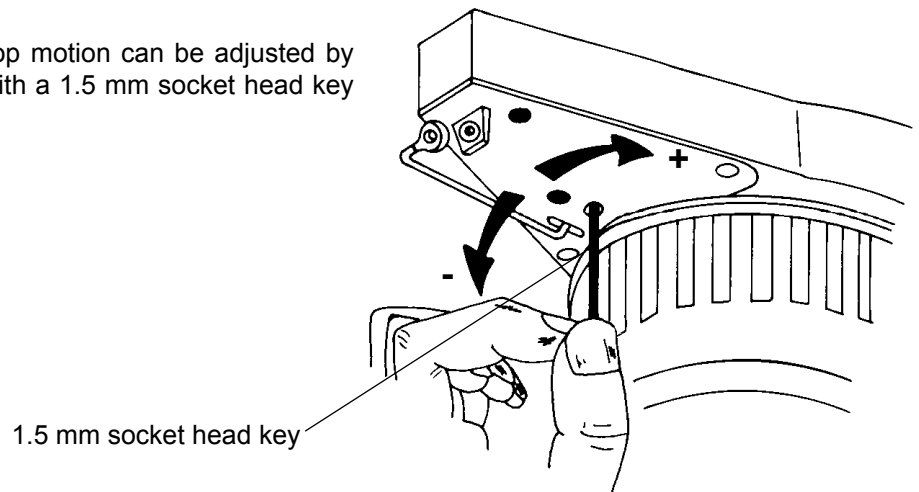


Fig. 9

6.2 Adjusting the amount of take-up on the spool body

The size of the store of yarn taken up by the spool body is adjusted by the interaction between tilting disc pre-tension and yarn feed tension, as follows (see Fig.10):

- Adjust the tensioner (2) so that a tight store is formed around the spool body with the loops as parallel to each other as possible.
- Next adjust the tilting disc pre-tension by turning the adjusting plate (1). Increasing pre-tension increases the size of the store. Reducing the pre-tension reduces it. Adjust the arrangement of the store on the spool body so that the spool rotates practically all the time the machine is running.

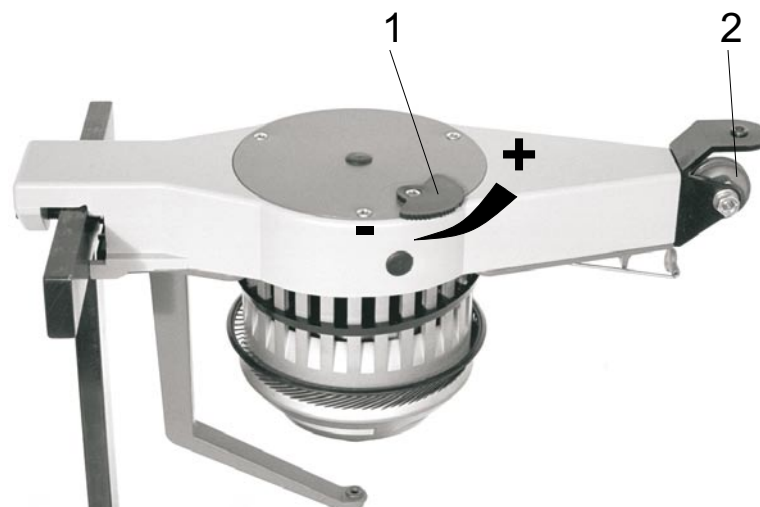


Fig. 10



If the yarn loops slip down, the feed tension is too low. If the yarn tension is too high, the yarn could be damaged or the stop motion will be triggered.



6.3 Changing yarn tension

Colour	Brake effect / yarn tension	Article number:
RED	higher than black	10.106.1812
BLACK	standard	10.106.1805
BROWN	lower than black	10.106.1808
GREEN	lower than brown	10.106.1810
YELLOW	lower than green	10.106.1809



In order to achieve other yarn tensions, two tension rings can be fitted. The tension ring with the shorter ribs is fitted first. We recommend that you use a 90 mm diameter cardboard tube for storing tension rings when not in use. Special tension rings are available for special applications upon request.

6.4 Cleaning the SFT

- Clean the SFT of lint using a compressed air jet.
- Heavy wax deposits can be washed off with a combined cleaner/lubricant or with purified paraffin (kerosene)

7 Special fittings and accessories

7.1 **Electro-mechanical output stop motions**

For stopping the machine in the event of yarn break between SFT and yarn guide on large circular knitting machines capable of knitting jacquards (see Fig.11).

The yarn is monitored by a stop motion arm which swings out to trigger a machine stop if the yarn breaks.

The arc through which the arm swings before switching the machine off can be adjusted with a 1.5 mm socket head key (A).

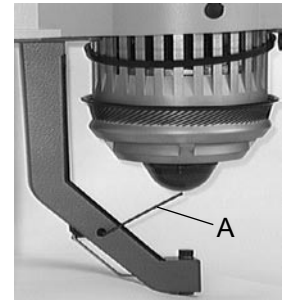


Fig. 11

7.2 **ELTEX output stop motion**

For stopping the machine in the event of yarn break between SFT and yarn guide on large circular knitting machines capable of knitting jacquards (see Fig.12).

- With the ELTEX output stop motion, the yarn path is electronically monitored with no mechanical interaction.
- The machine is switched off if the yarn stops or breaks.
- The switch (1-0) for switching the function on and off is accommodated in the ELTEX arm (Fig.13).



Fig. 12



The yarn speed must be greater than 50 m/min. The output angle of the yarn should be approximately 30° (Fig.14).

7.2.1 **Adjusting the ELTEX output stop motion**

The lower arm of the ELTEX is factory set to switch the machine off when the output angle of the yarn reaches about 15° (Fig.14). The sensitivity of the ELTEX output stop motion can be adjusted by turning the potentiometer (Fig.13).



Fig. 13

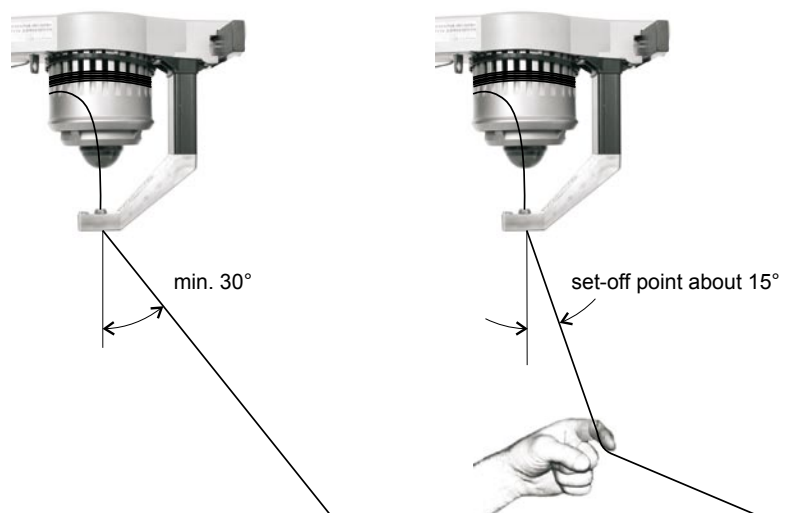


Fig. 14

7.2.2 Adjusting the ELTEX delayed action

When the machine is started up, activation of the electronic ELTEX must be delayed until the machine has reached operating speed.

A potentiometer for adjusting the duration of the delay from 0.1 to 10 seconds is located on the motherboard in the power unit (see Fig.15).

The mode switch must be set to SFT.



Fig. 15

7.3 Tube holder for covered yarn feed

The holder for the yarn guide tube is fitted in place of the short upper arm (see Fig.16).

Tube dia.	Article number:
d 8 mm	10.260.001
d 10 mm	10.260.002



Fig. 16

7.4 Knot catcher

The function of the knot catcher (10.106.2082) is to stop thickened parts of the yarn, multiple yarn loops from the spool, and excessively large knots. The broken end of the yarn is retained in the knot catcher and can be tied back on the spool body without having to be re-threaded.

The knot catcher is mounted between the short upper arm and the SFT (see Fig.17) and manually set at about 60°. The width of the slot can be varied by bending the two side sections.

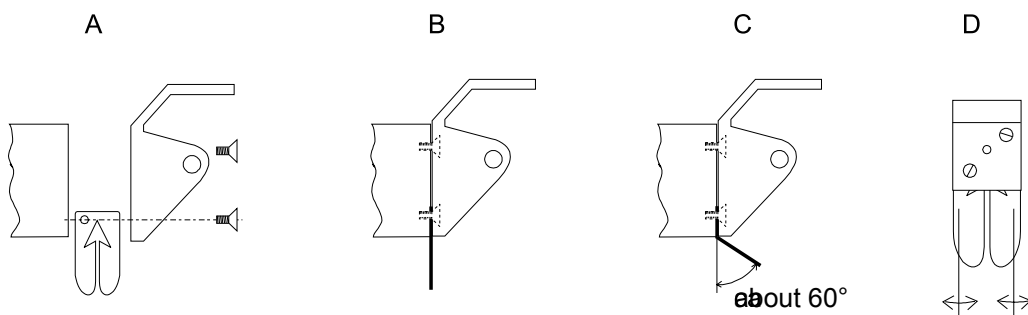


Fig. 17



7.5 Waxing device

By using the waxing unit (20.106.1463), separate re-winding and waxing of poorly running yarns can be avoided.

The waxing unit is fitted to the SFT in place of the short upper arm (see Fig.19).

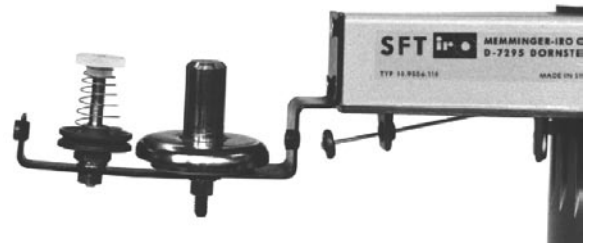


Fig. 19

7.6 Lower arm with tension ring holder

If very rough yarns are processed or the SFT is fitted at an angle or horizontally, it may be necessary to use the lower arm with a tension ring holder (10.106.1357). This holds the tension ring in the correct position, preventing it from dropping.

In order to fit the tension ring holder (A) the standard lower arm must be replaced by the lower arm for tension ring holder (B) (see Fig.20).

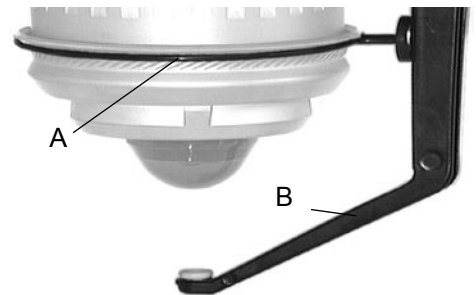


Fig. 20



The tension ring holder can only be fitted together with the lower arm designed for it.

7.7 Yarn return for flat-bed knitting machines

The SFT's are ideally fitted to flat-bed knitting machines using a special adapter set (see Fig.21).

The yarn return with its integrated stop motion guarantees a neat fabric edge and shuts the machine off in the event of the yarn breaking.

Each adapter set is manufactured specifically for the flat-bed machine in question and for the number of SFT's fitted.

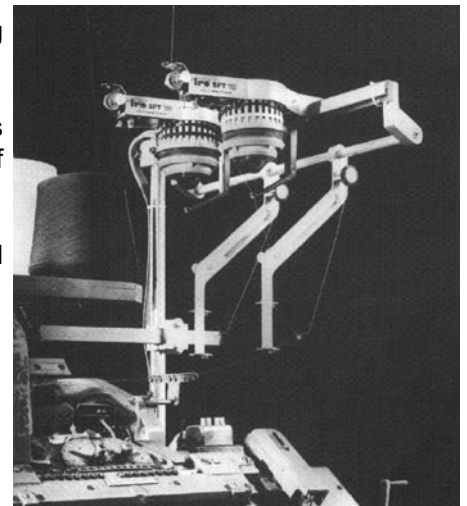


Fig. 21



7.8 Slip ring contact box

If the power supply to the SFT's on machines with rotating cam rings cannot be conducted through existing slip rings, the slip ring box must be fitted. This is mounted in the centre of the machine and transmits power via the built-in slip ring contacts from the stationary to the moving part (Fig.22).

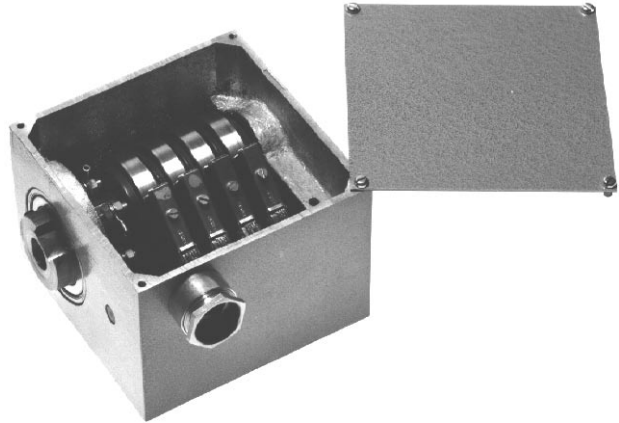
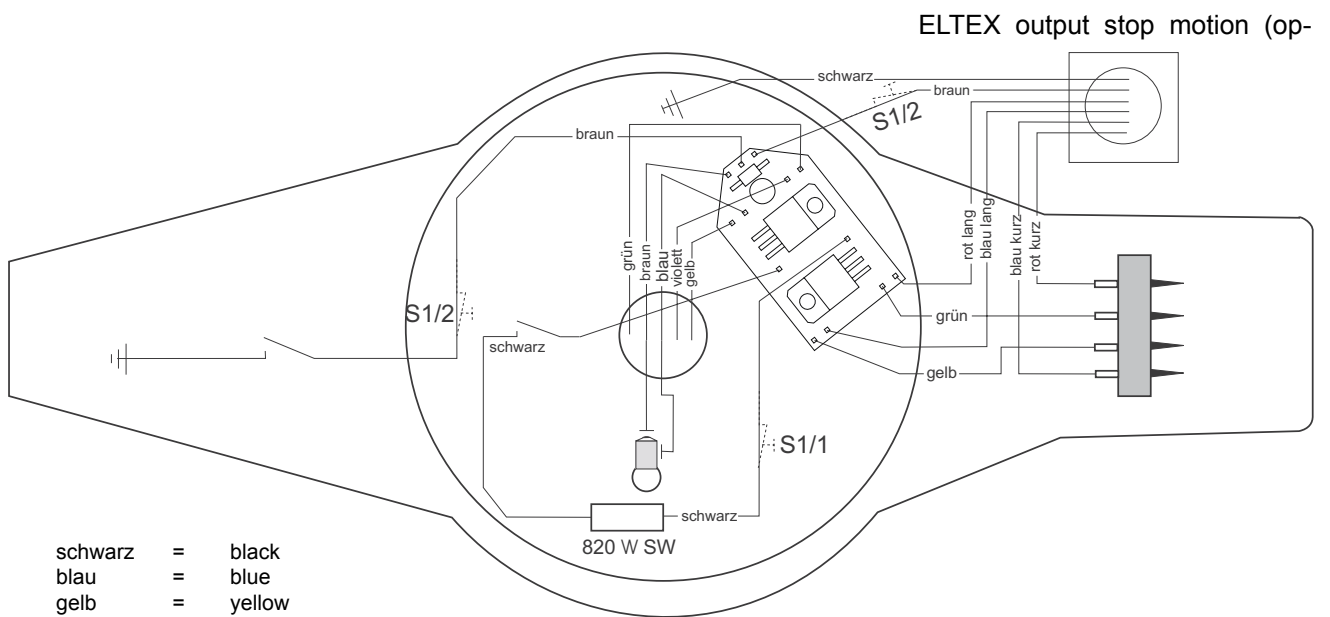
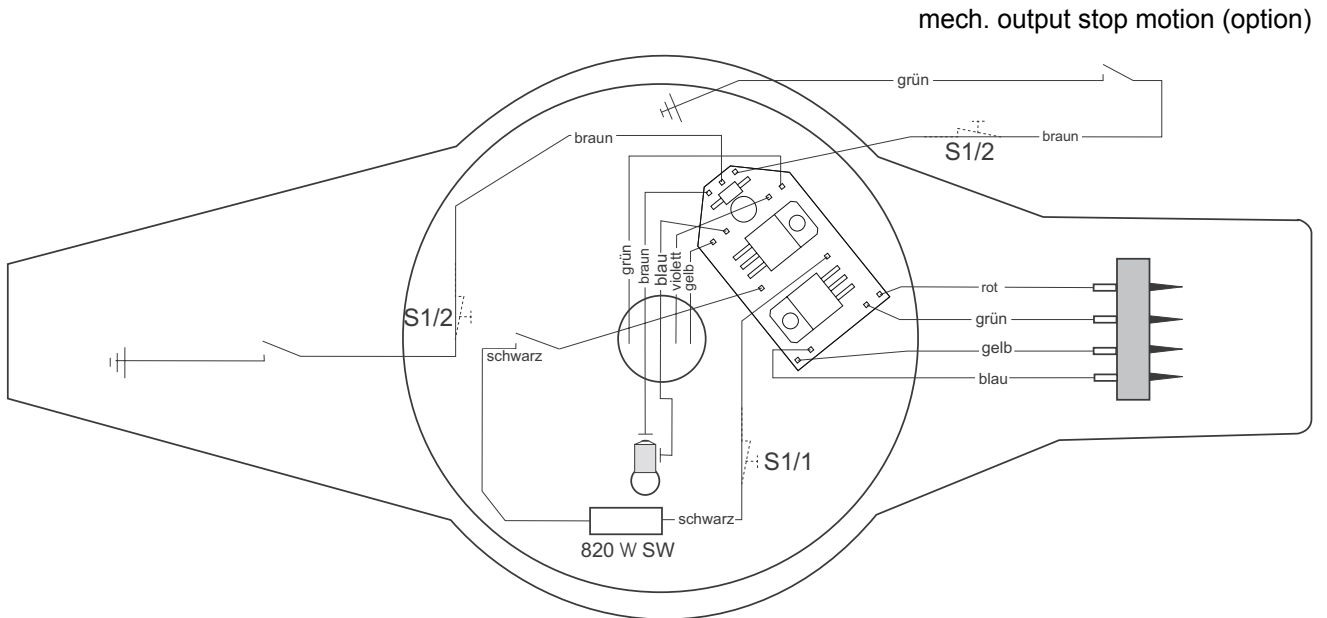


Fig. 22



8 **SFT Wiring Diagrams**



- | | | |
|---------|---|--------|
| schwarz | = | black |
| blau | = | blue |
| gelb | = | yellow |
| braun | = | brown |
| grün | = | green |
| rot | = | red |
| violett | = | violet |



Opening the switch S1 (optional) cuts out the motor control and the stop motion.

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