

Ref. no. 40-893A-2001-02/1707

Operating Instructions

STELLA G2, STELLA G2 290, STAR G2

Original language instruction

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This section contains important safety information. Read the manual carefully before installing, using or maintaining the weft feeder.



WARNING

Indicates a possible dangerous situation which could result in serious injury or damage to the unit.



CAUTION

Indicates a possible dangerous situation which could result in minor/moderate injury or damage to the unit.

NOTE

Used in order to draw attention to important information, which facilitates operation or handling.

IRO AB reserve the right to change the contents of the user's guide and technical specifications without prior notification.

**WARNING!**

- The power supply must be switched off at the mains before any work is carried out on the feeder, the transformer/interface or any other electrical components. The feeder and the transformer cabinet and cable covers must be fully assembled before the power supply is connected.
- The weft feeder ON/OFF-switch DO NOT cut off the main power supply. Turn off the main switch before any work is carried out on the electrical circuit.
- The feeder and transformer contain electrical components that retain an electric current up to three minutes after disconnection. DO NOT open or disconnect feeder or interface, including cables, within this time.
- All work on electrical components must be carried out by a qualified electrician.
- This product is not intended for use in potentially explosive atmospheres or in zones classified according to the European directive 94/9/ec. Please contact IRO AB if products for use in a potentially explosive atmosphere are required.
- Always turn off the main switch or isolate the power supply and disconnect the air supply before connecting or disconnecting the feeder, the control board or any of the circuit boards
- Routine checks for damaged or worn parts must be made before operating this equipment. Any part that is worn or damaged should be properly repaired or replaced by authorized personnel. To avoid risk of injury DO NOT operate this equipment if any component does not appear to be functioning correctly.
- Take necessary precautions to avoid injuries when interacting with the product. Use suitable respiratory and eye protection.
- Improper handling at repair, fault finding or similar may damage the feeder/interface mechanical/electrical components including cables and connectors. DO NOT perform measurements on feeder electrical components and parts. Please contact your local IRO AB service station for further information.

**CAUTION!**

- Caution must be taken in the close vicinity of the feeder as it contains moving parts that can cause injuries and, in normal operation, starts without prior warning.
- To comply with C.E. Regulations only replacement parts approved by IRO AB may be used.
- The feeder is an industrial product and therefore not approved to use household environments /in residential areas.

NOTE

- To ensure the selection of the most suitable feeder and associated accessories, it is recommended making weaving tests with the intended yarns.
- Please dispose of obsolete or unwanted equipment responsibly, taking into consideration any local regulations regarding the disposal and / or recycling of materials that are applicable.
- All products in this manual may not be available for your market.
- The performance of a tensioner can be affected by various factors connected to the specific yarns being used. In case of uncertainty it is recommended to carry out a weft insertion test.

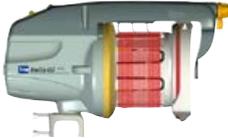
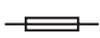
	Stella G2	Star G2	
	Max 1500 m/min	Max 1200 m/min	
	4,9 kg	4,7 kg	
	Min 5° C - Max 40° C	Min 5° C - Max 40° C	
	RH max 85 %	RH max 85 %	
	Sound pressure L _{pa} 76 dB (A),	Sound pressure L _{pa} 76 dB (A),	
	Ø max 5 mm	Ø max 5 mm	
	Input air pressure 5,5 - 7 bar	N/A	
	Max 2,7 mm	Max 2,2 mm	
Power Supply/ Interface			
		200 - 575V 400VA	200 - 575V 400VA
	 Fuse	Max T 10A	Max T 10A
		13.5 kg	13.5 kg

NOTE

Subject to technical modifications.


WARNING!

Hearing protection must be worn when operating this equipment.

Stella G2 290		
		
	Max 1500 m/min	
	4,9 kg	
	Min 5° C - Max 40° C	
	RH max 85 %	
	Sound pressure L_{pa} 76 dB (A),	
	Ø max 5 mm	
	Input air pressure 5,5 - 7 bar	
	Max 2,7 mm	
Power Supply/ Interface		
		200 - 575V 400VA
	 Fuse	Max T 10A
		3,3 kg
Interface		
		Power supply via loom/ weaving machine
		1.4 kg
Extension Interface		
		Power via Power Supply/ Interface connected to extension plug
		1.4 kg

NOTE

Subject to technical modifications.


WARNING!

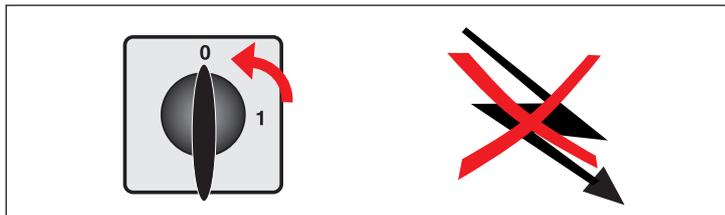
Hearing protection must be worn when operating this equipment.

NOTE

Condensation can form on the weft feeder when it is moved from the cold environment of the warehouse to the warmer environment of the loom room. Make sure that the feeder is dry before switching it on.

 **WARNING!**

Turn off the main switch before any work is carried out on the electrical circuit.

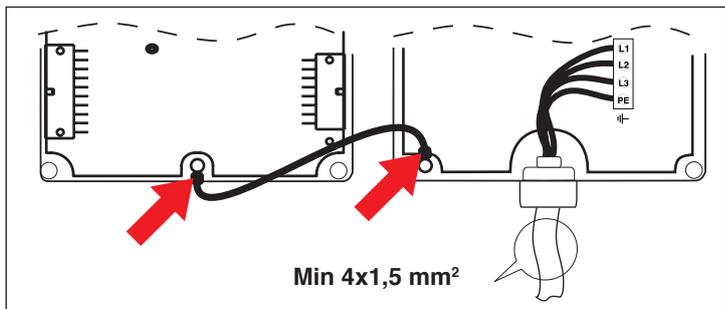


NOTE

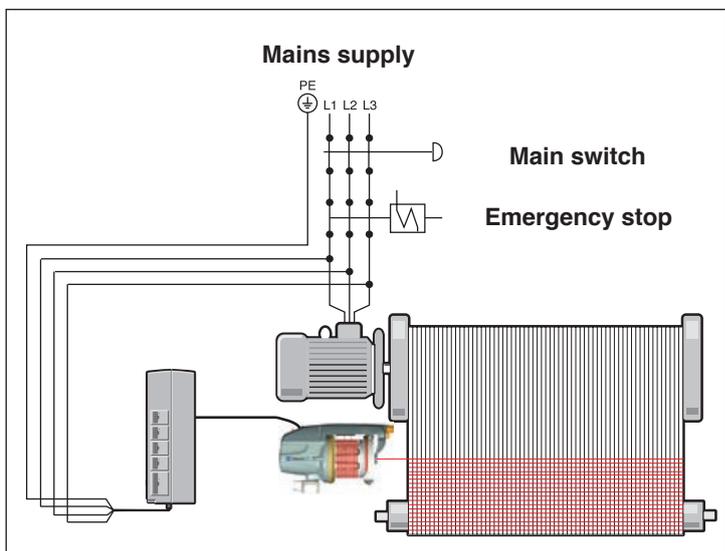
Make sure that the cable covers are tight.



Take the Voltage Supply Box out of the packing. Open the cover and connect the three-phase power cord. (4-wires cable). Make sure that the earth connection is properly made. The section of each wire cannot be less than 1,5 mm².

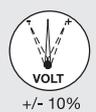


The power supply to the feeder must not be disrupted when the weaving machine stops.

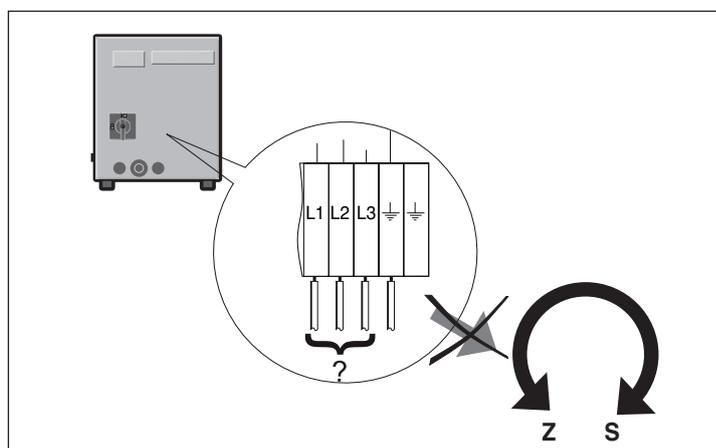


Stella G2, Star G2

Variations in main voltage.

 +/- 10%		
Nominal	Voltage	Frequency
200 - 220 V	190 - 230 V	50/ 60 Hz
260 V	235 - 285 V	50/ 60 Hz
346 V	310 - 380 V	50/ 60 Hz
380 V	340 - 420 V	50/ 60 Hz
400/ 415 V	365 - 445 V	50/ 60 Hz
440/460 V	405 - 495 V	50/ 60 Hz
480/ 500 V	440 - 540 V	50/ 60 Hz
550/ 575/ 600 V	520 - 630 V	50/ 60 Hz

The phase sequence does not effect the direction of rotation.



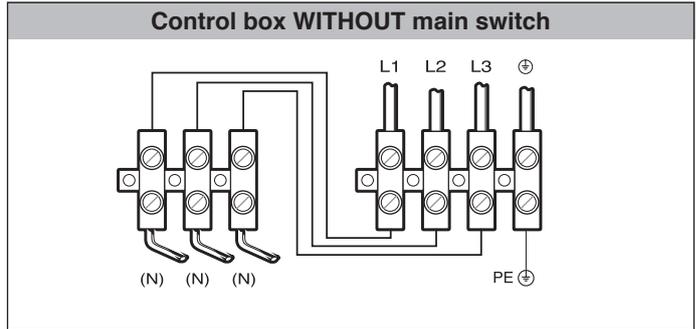
Stella G2 290

Variations in main voltage.

 +/- 10%		
Nominal	Voltage	Frequency
200V - 346V	180V - 380V	50/ 60 Hz
380V - 400V	342V - 440V	50/ 60 Hz
415V - 575V	374V - 632V	50/ 60 Hz

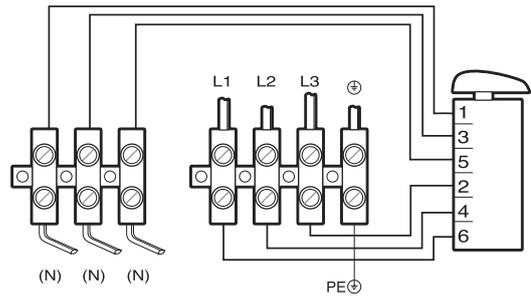
Stella G2, Star G2

Check the wiring diagram before any connections are carried out.

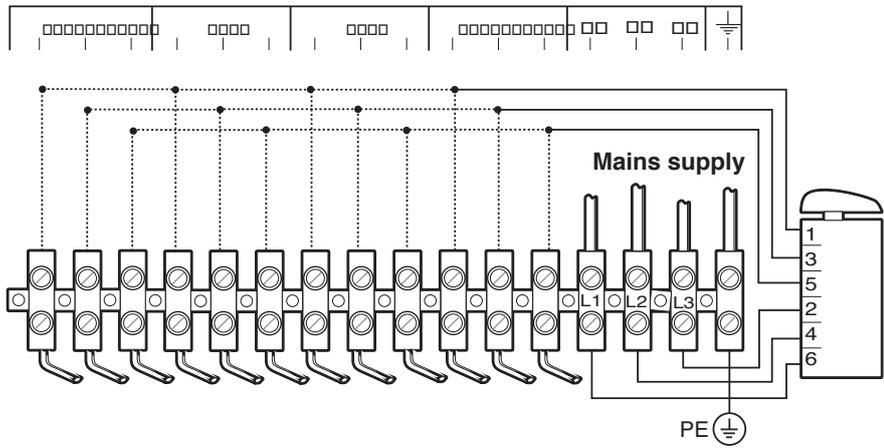
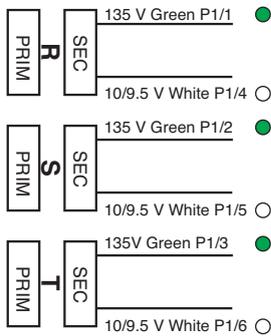


Control box WITH main switch

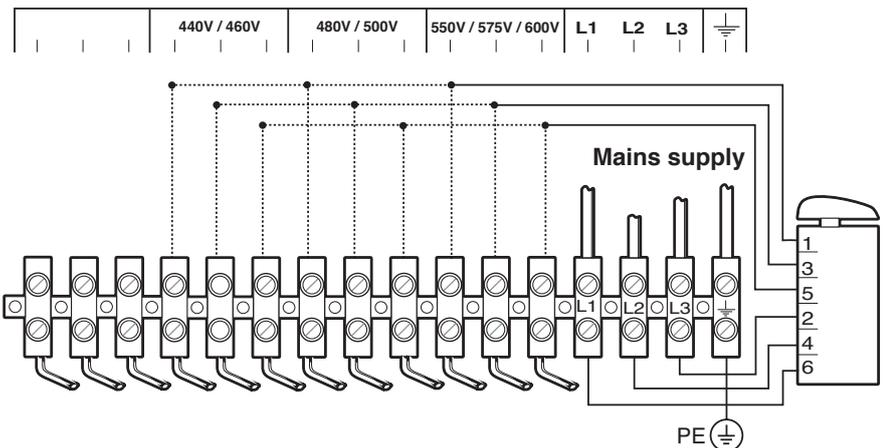
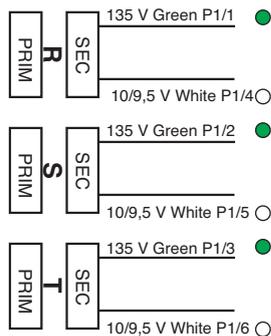
The mains supply shall be connected to L1, L2, L3 and EARTH.



200V/ 220V - 346V - 380V - 400V/ 415V



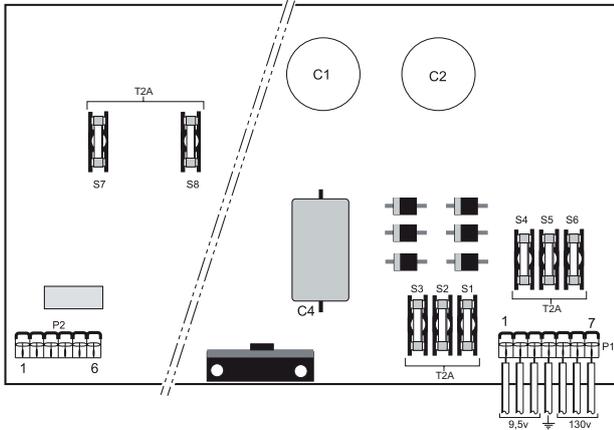
440V/ 460V - 480V/ 500V - 550V/ 575V/ 600V



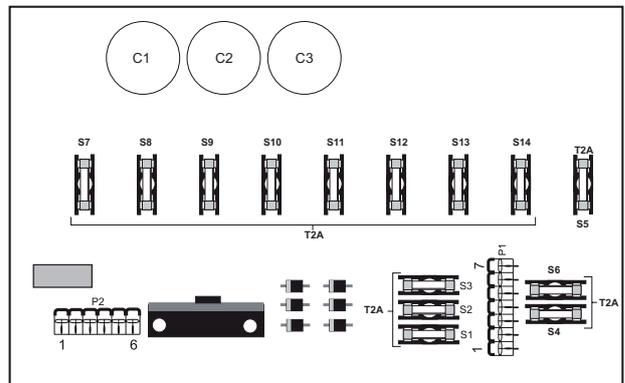
Stella G2, Star G2

Control box 4129 fuse panel

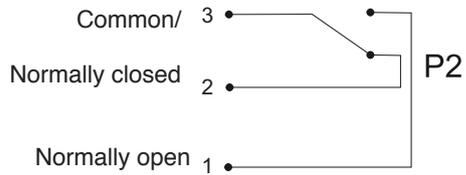
2 and 4 colour



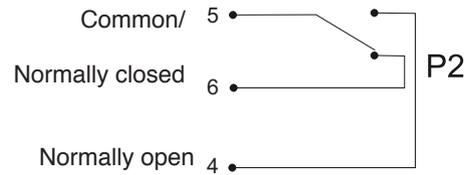
8 colour



Machine stop

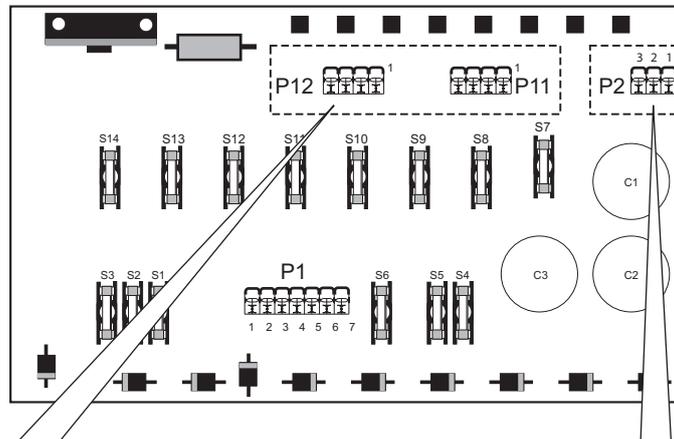


Stop indicator

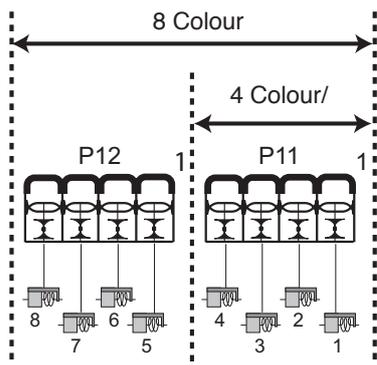


Control box 4729 fuse panel

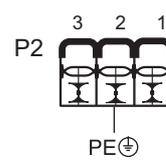
4 and 8 colour



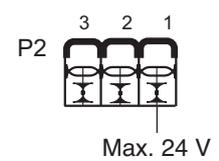
Signal to weaving machine



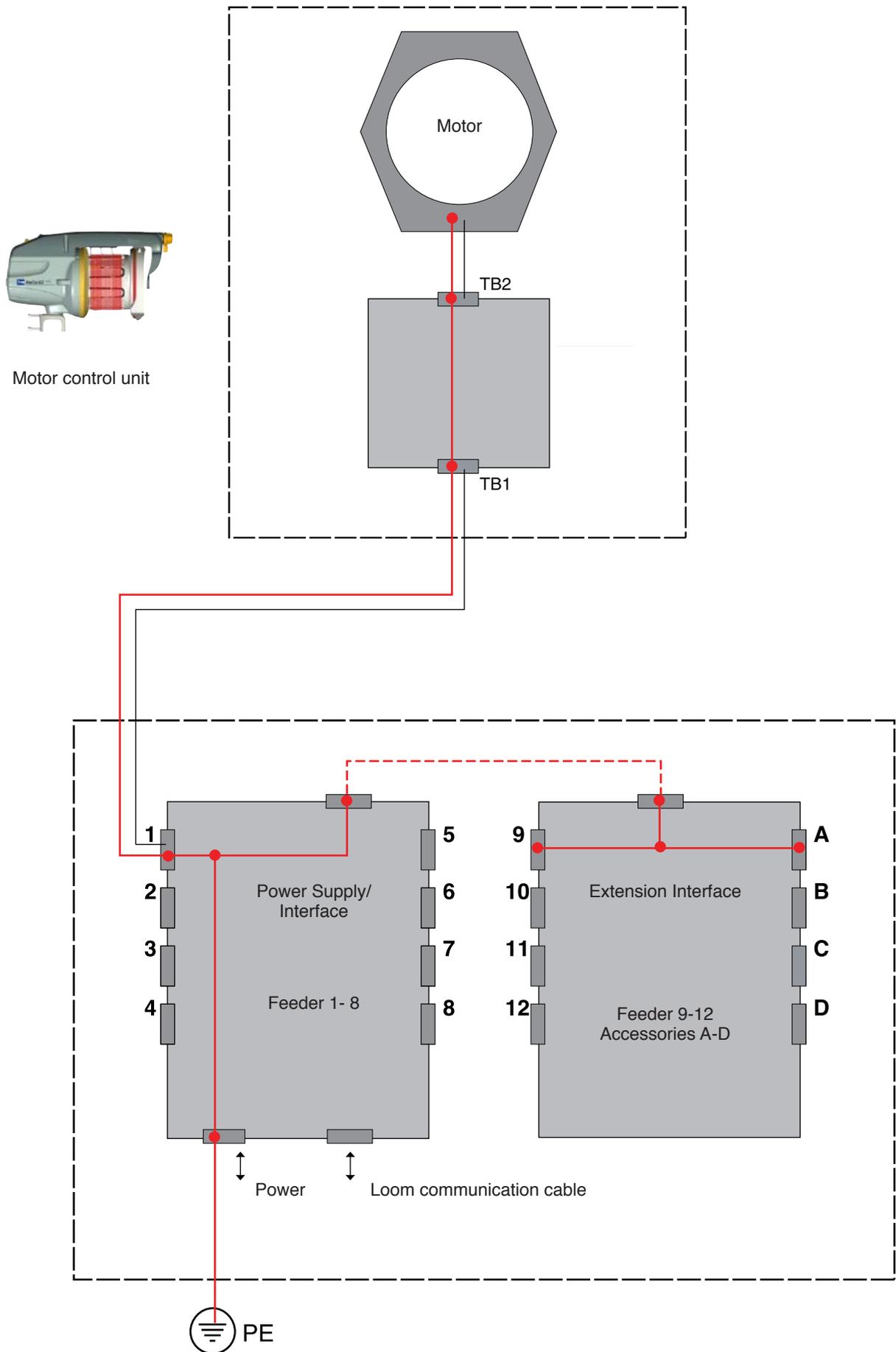
Opto coupler, low



Opto coupler, high



Stella G2 290

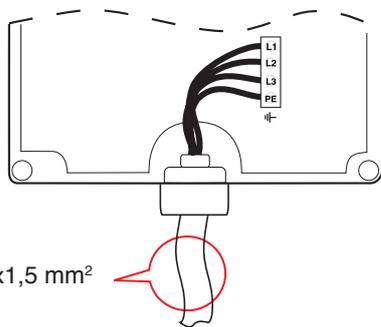


Stella G2 290

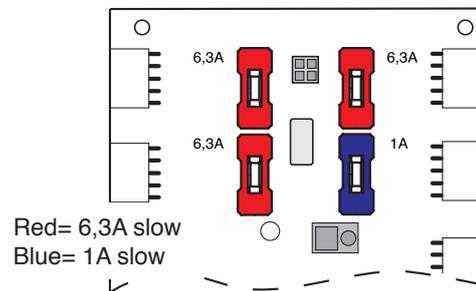


Power Supply/ Interface

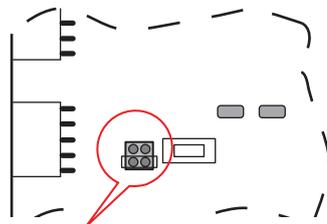
Mains connection



Fuses

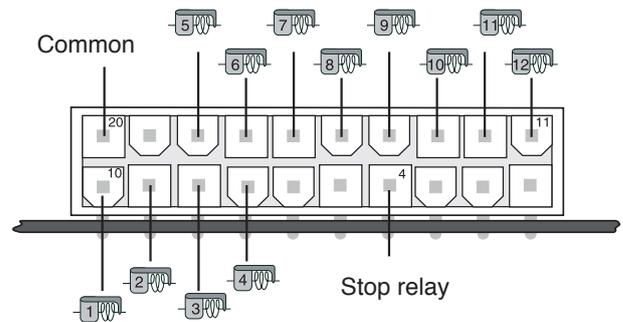


Stop relay jumpers



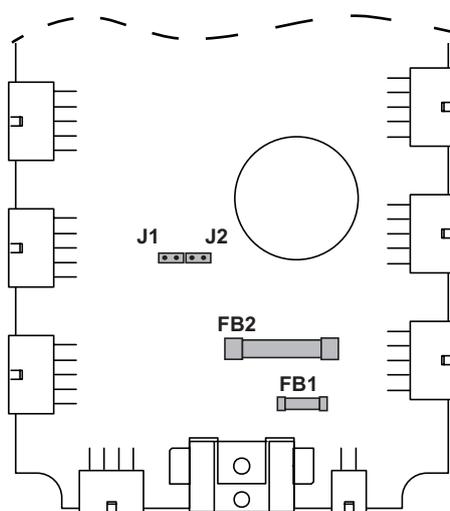
- NO - normally open
- NC - normally closed
- Without stop relay signal

Opto coupler/ stop relay connection





Interface
Power supplied via loom



Fuses	
FB1	T 5 A
FB2	T 3,15 A

Stop relay jumpers	
J1 + J2	Open = Communication bus not terminated Closed = Communication bus terminated

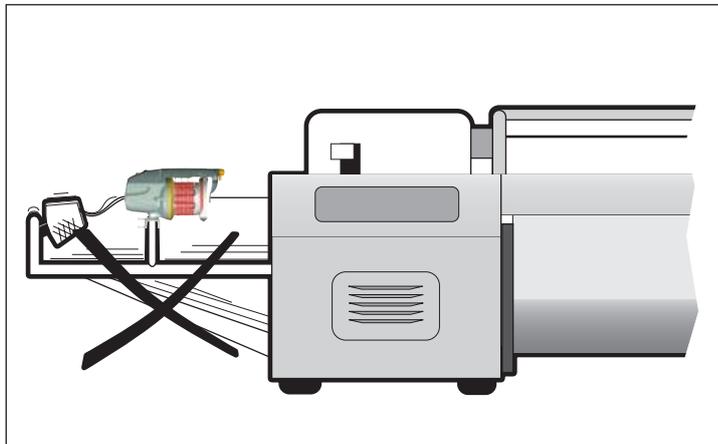
NOTE

Condensation can form on the weft feeder when it is moved from the cold environment of the warehouse to the warmer environment of the loom room. Make sure that the feeder is dry before switching it on.



CAUTION!

The unit should not be mounted directly on the weaving machine.



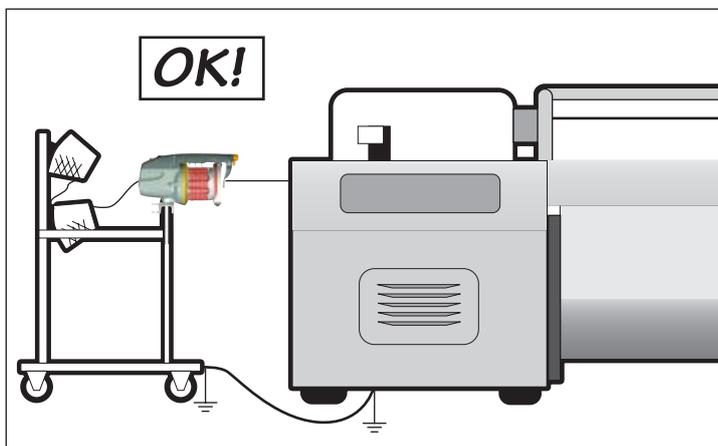
Use a separate floor stand.

NOTE

Feeders' stand and creel must be connected to the earth of the loom.

NOTE

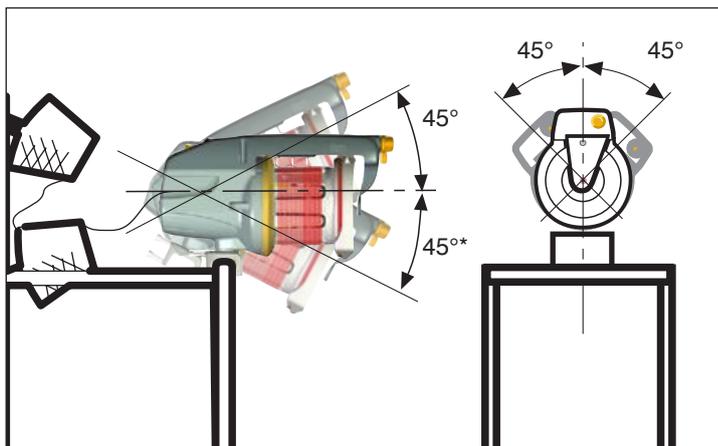
Place the creel behind the feeder's stand avoiding sharp angles to the yarn path from the creel output to the feeders.



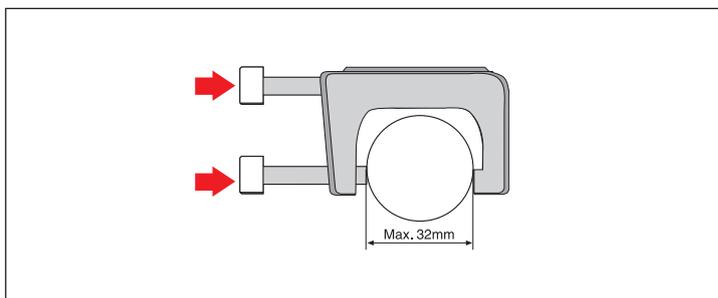
Feeders with Mechanical sensors must be mounted within 45° of the horizontal plane.

*Max 15° with low sensor spring force.(see page 20)

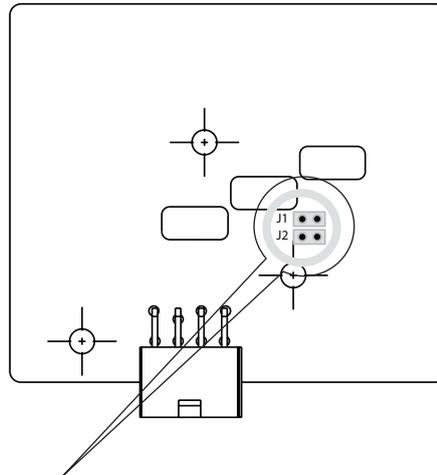
Ska * bara vara när det är mekanisk?
Tror den hänvisar till rätt sida ialla fall.



Ensure that the mount screws are correctly tightened.



The feeder is equipped with jumpers on the motor circuit board that adapt the feeders operation to the characteristics of the weaving process. (Weaving machine settings have priority over jumper settings).

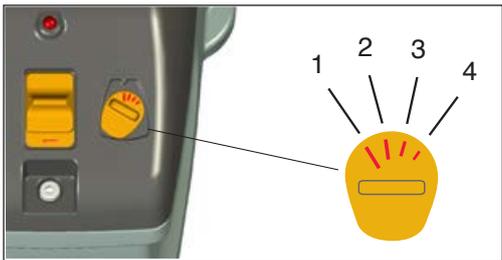


J1		Yarn break sensor filtering- RIGID YARNS
J1		Yarn break sensor filtering- NORMAL
J2		Stand-by mode - ENABLE
J2		Stand-by mode DISABLE

To set the maximum speed rotate the disc to the appropriate position.

NOTE

Normally the switch should be left at position 1 since the feeder automatically calculates the speed according to yarn consumption. However, with very low speeds or wide looms, it could be helpful to reduce the maximum speed in order to avoid unnecessary acceleration

	Stella G2	Star G2	Stella G2 290
	1 = 1500 m/min 2 = 1200 m/min 3 = 800 m/min 4 = 500 m/min	1 = 1200 m/min 2 = 960 m/min 3 = 630 m/min 4 = 400 m/min	1 = 1500 m/min 2 = 1200 m/min 3 = 800 m/min 4 = 500 m/min

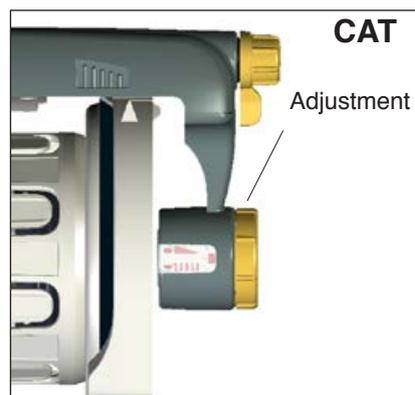
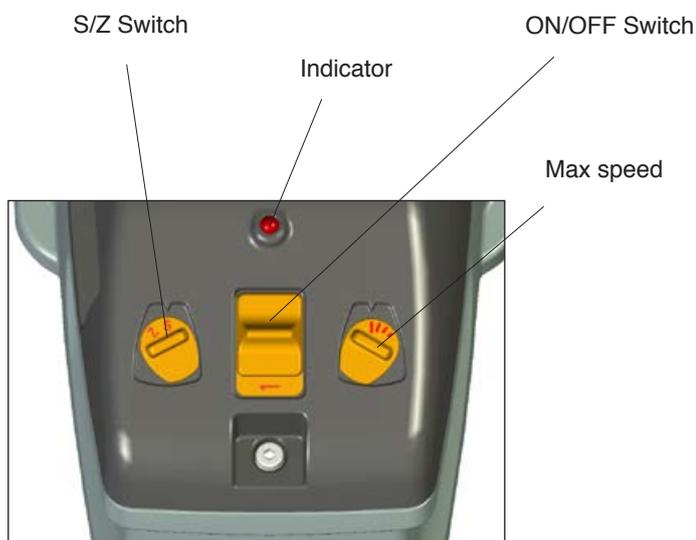
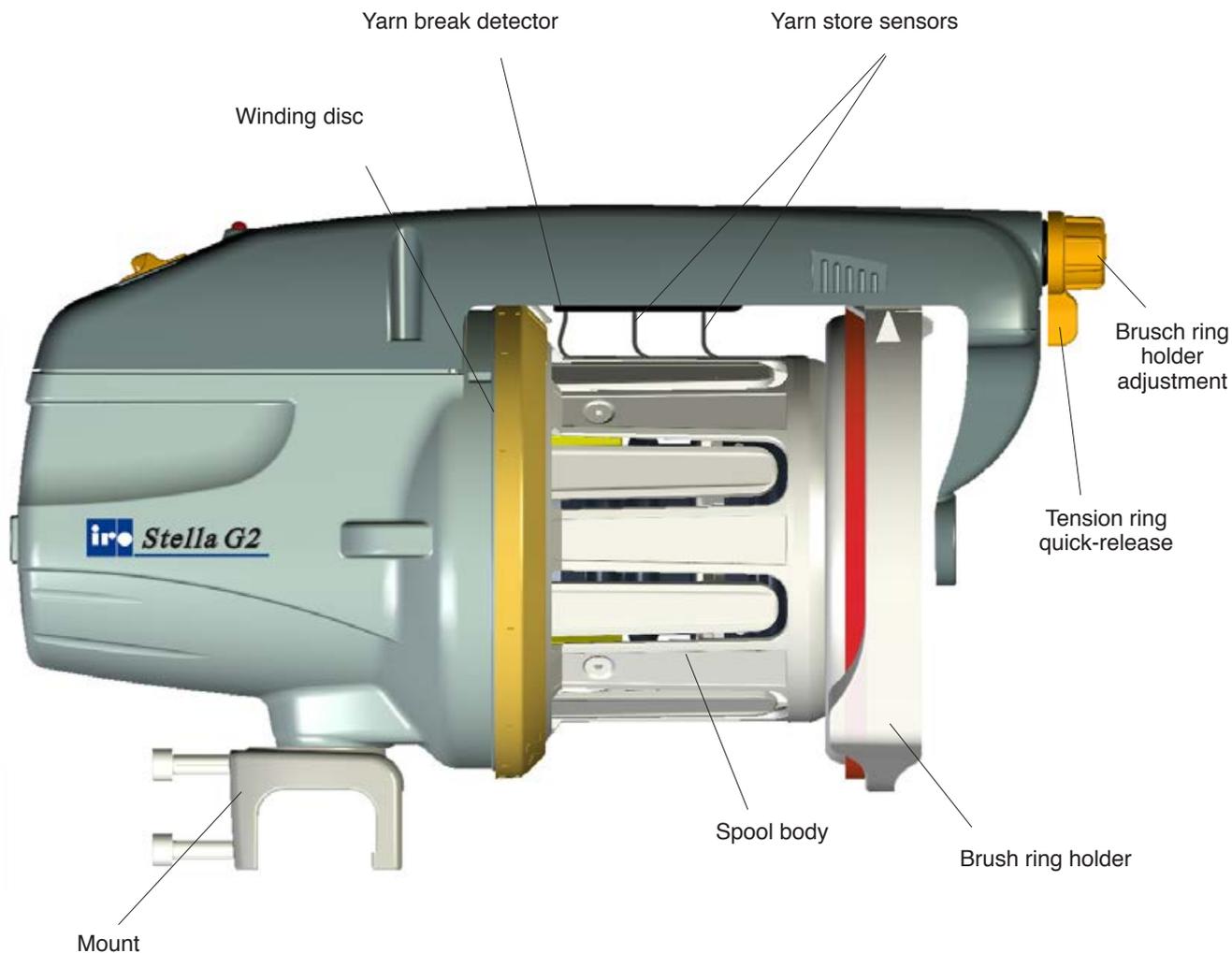
Stella G2, Stella G2 290

NOTE

Do not expose the brush ring holder or the winding disc to external forces as this may cause damage / deformation.

Do not, for instance, carry the feeder by holding it in the brush ring holder.

Store the feeder resting on the back or top cover to avoid damaging / deforming mentioned parts.



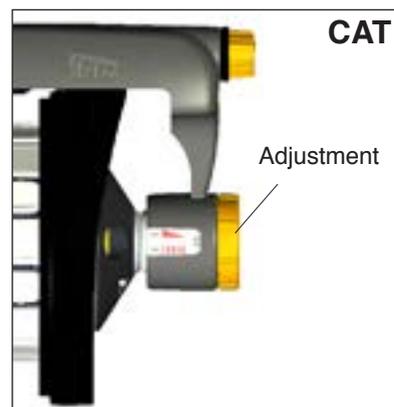
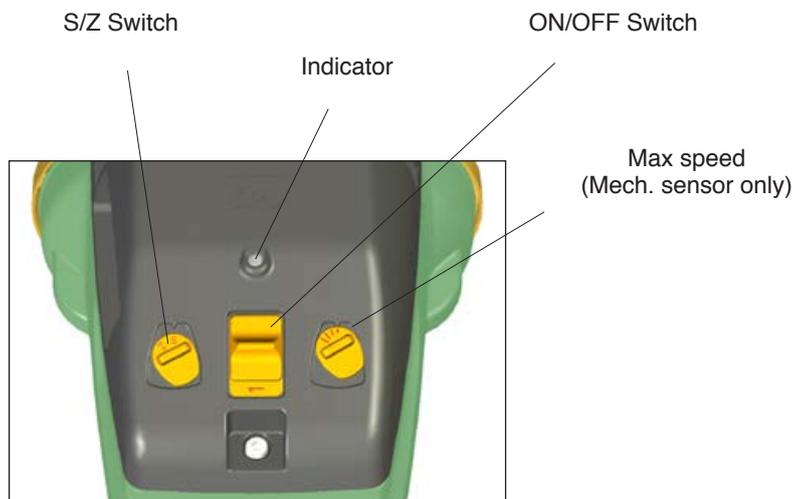
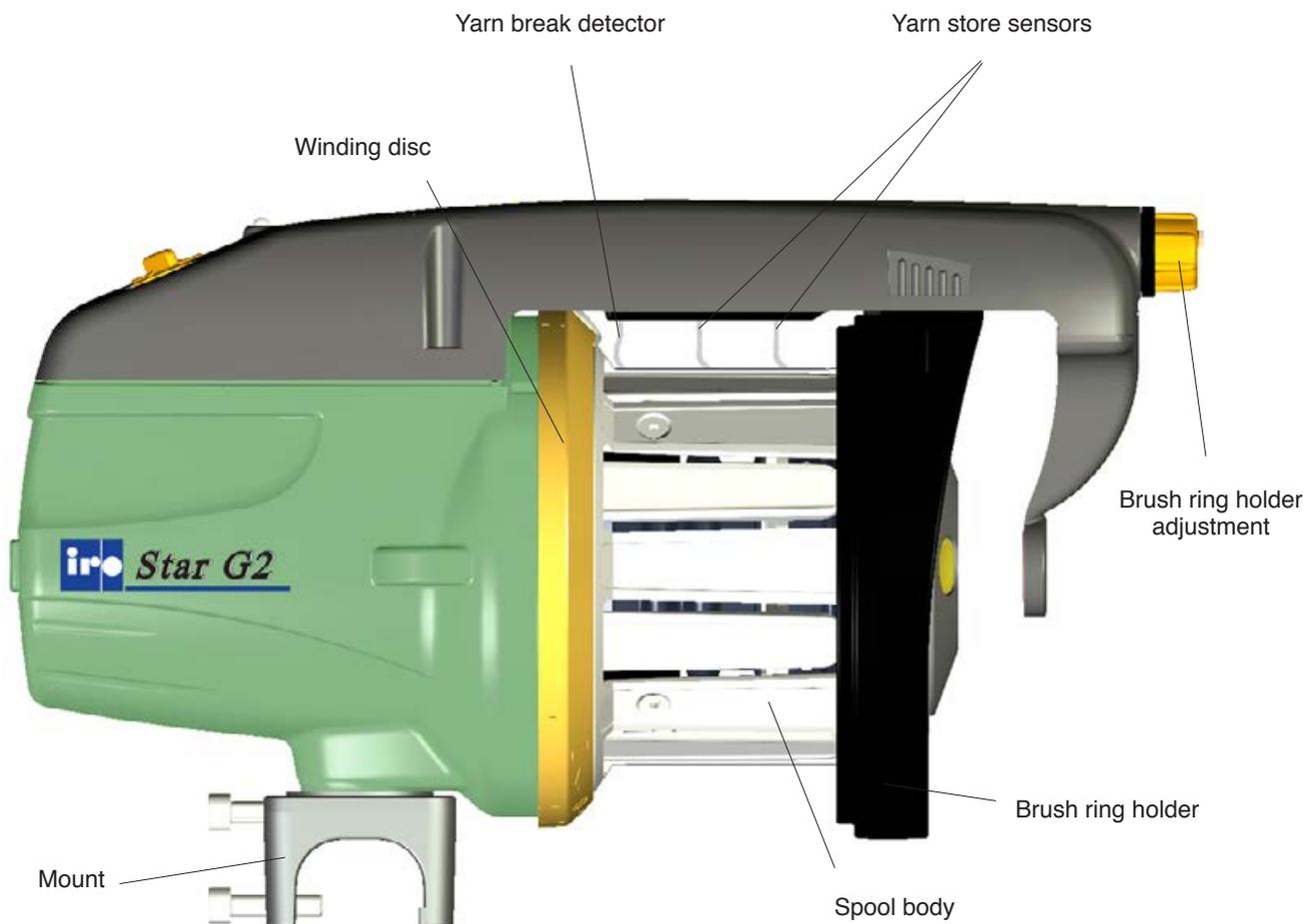
Star G2

NOTE

Do not expose the brush ring holder or the winding disc to external forces as this may cause damage / deformation.

Do not, for instance, carry the feeder by holding it in the brush ring holder.

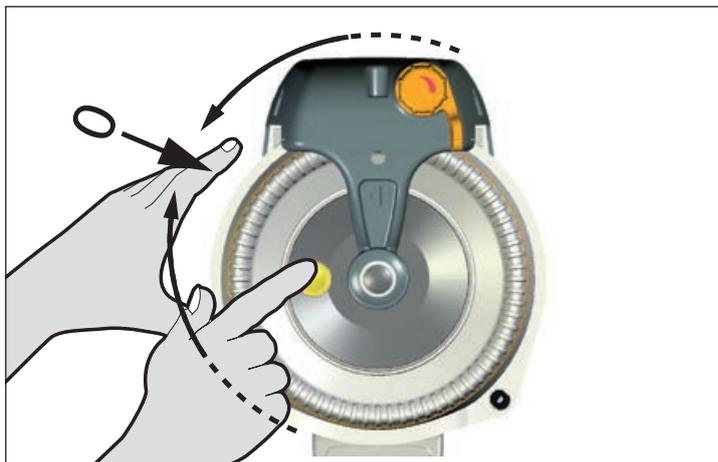
Store the feeder resting on the back or top cover to avoid damaging / deforming mentioned parts.



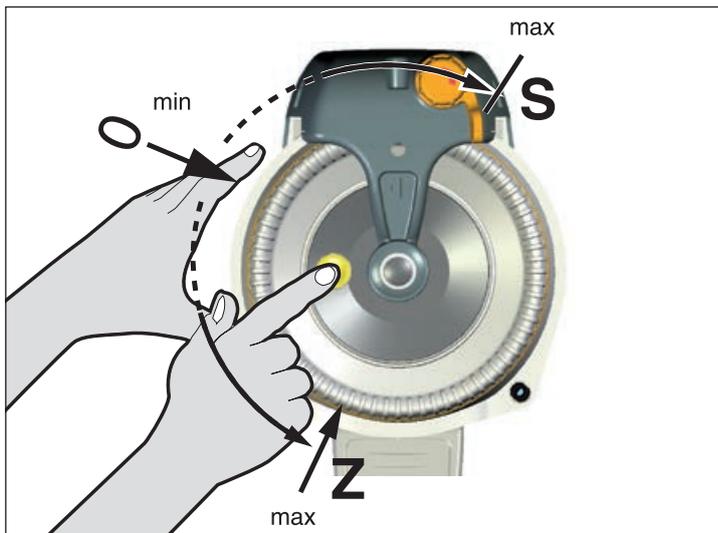
Switch off the feeder.



Grip the winding disc and, whilst pressing the orange button on the front of the spool body, rotate the disc until the button is felt to locate. Aligning the mark on the winding disc with the line on the motor house gives the zero separation position.



To adjust, press in the button and revolve the winding disc in the appropriate direction.



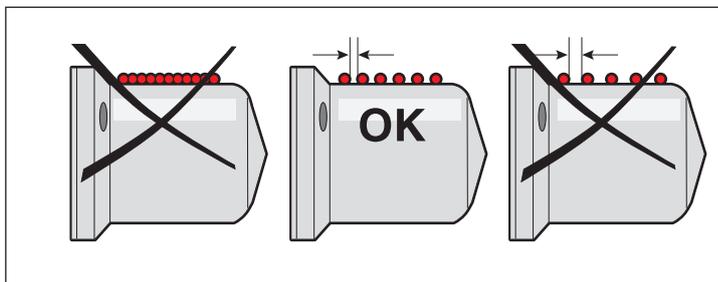
Stella G2, Stella G2 290

The separation increases from 0 to 2.7 mm the more the disc is rotated.

Star G2

The separation increases from 0 to 2.2 mm the more the disc is rotated.

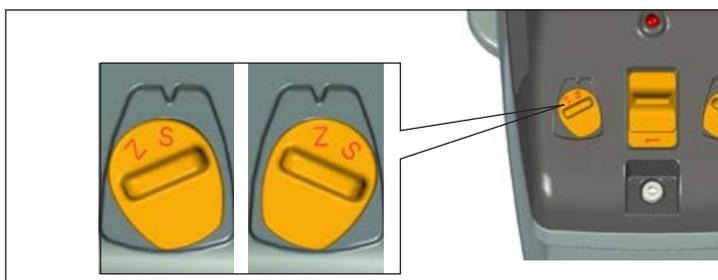
The separation must be distinct, but not excessive.



Set the direction of rotation with the switch.

NOTE

On feeders with brush, choose the correct type of brush (S, Z or Straight) depending on the direction of the rotation. See page: 21



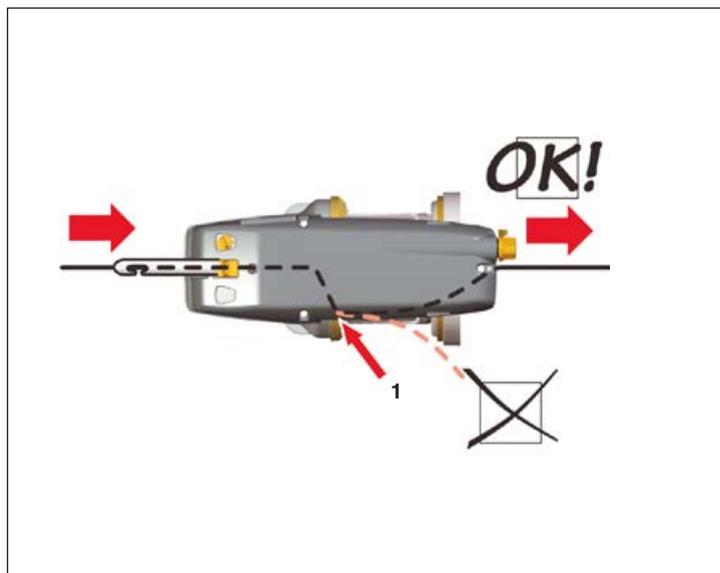
WITHOUT CAT

- Switch off the feeder.
- Align the winding disc eyelet (1).
- Open the brush holder (see page 32).
- Thread the needle all the way through the feeder and output eyelet.
- Pull the yarn through.
- Restart the feeder.



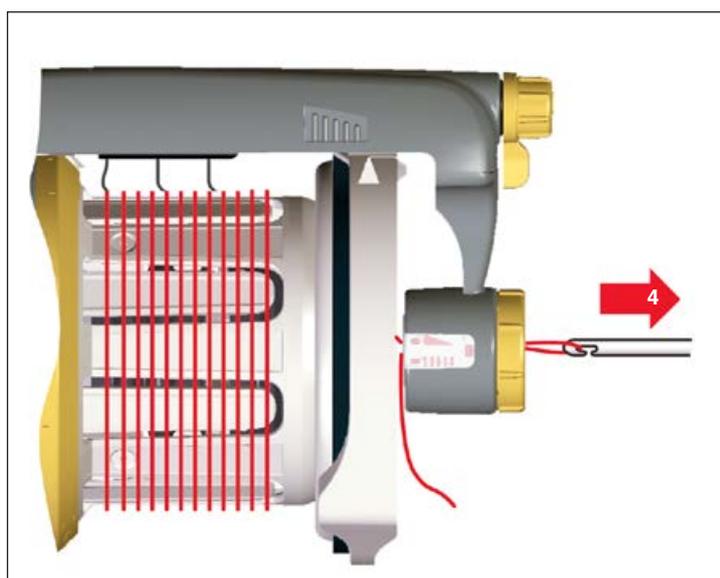
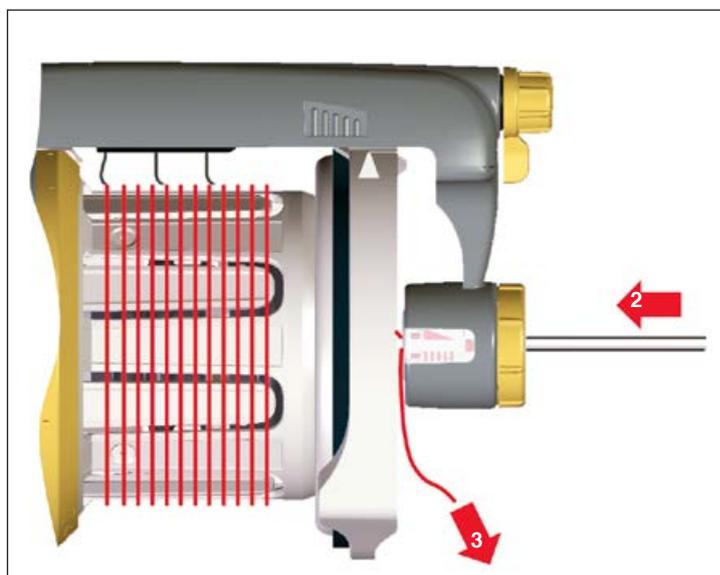
WARNING

When using a threading needle, care must be taken to avoid damaging the Flex Brake. Ensure that the flex holder is in the forward position before threading.



WITH CAT

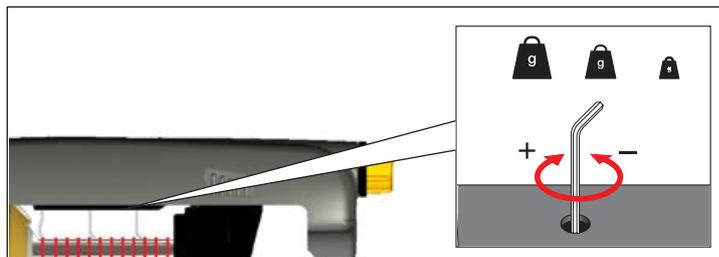
- Switch off the feeder.
- Align the winding disc eyelet.
- Thread the needle through the feeder and balloon control brush.
- Start the feeder and fill the yarn store.
- Insert the threading needle into the CAT (2) as far as possible.
- Pulling the yarn (3) will cause it to wrap around the threading needle.
- When the threading needle is pulled out (4) the yarn will follow.



SENSOR ADJUSTMENT

The sensors are adjustable in three stages:

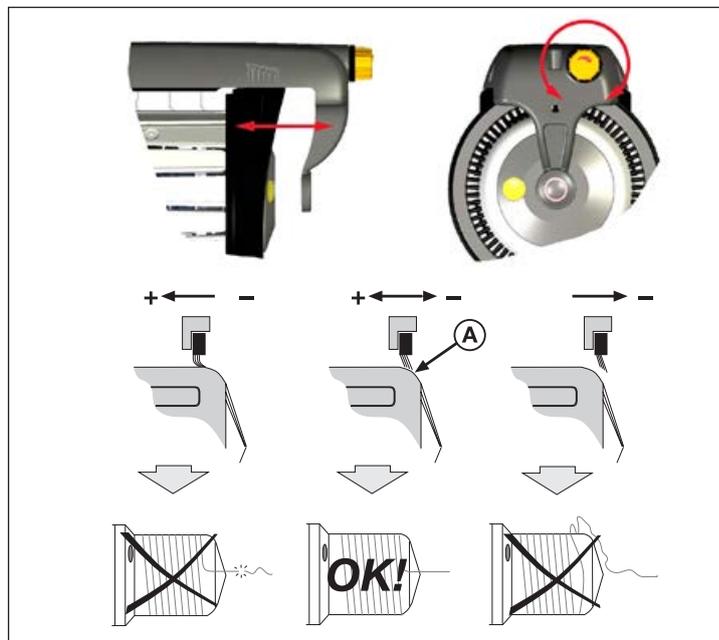
- Level 1 - Very fine yarns
- Level 2 - Normal setting
- Level 3 - Very heavy yarns



ADJUST THE BALLOON CONTROL

NOTE

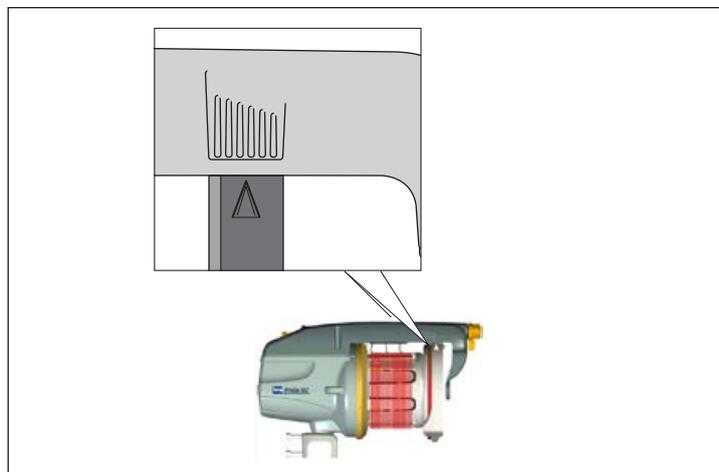
Excessive brush tension will cause abnormal wear.



TENSION SETTINGS

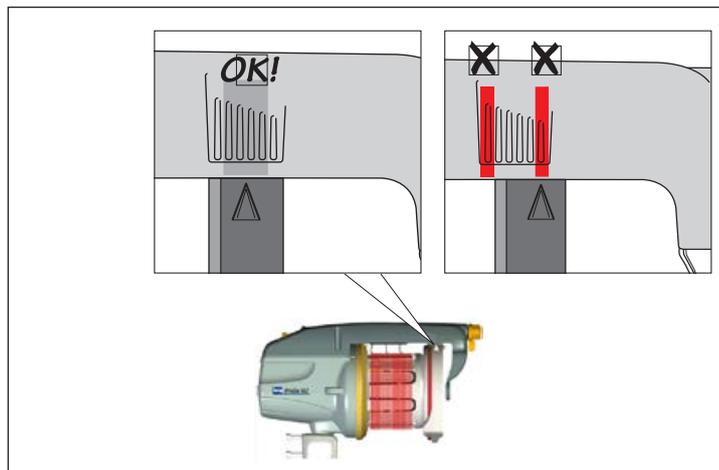
BRUSH

When using a brush it is possible to use the whole setting area of the brush holder ring.



FLEX

When using a flex it is important to keep the settings in the center of the setting area, to ensure proper tension and longer life time of the flex. Avoid to set the brush ring in the outer areas.

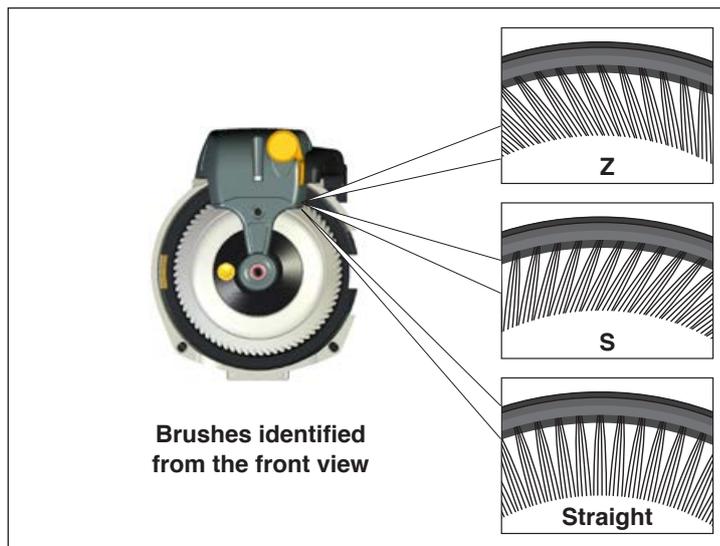


BRUSH RING ALTERNATIVE

Z for Z-rotation

S for S-rotation

Straight for Z and S rotation



FLEX/BRUSH MOUNTING

Rotating the slide shift lever (1) will detach the brush holder (2) from the spool body.



Ensure that the brush ring is correctly positioned (3).

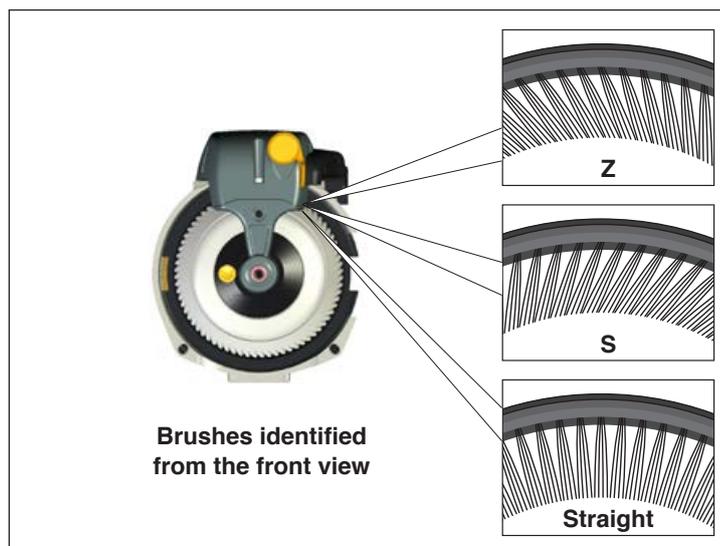


BRUSH RING ALTERNATIVE

Z for Z-rotation

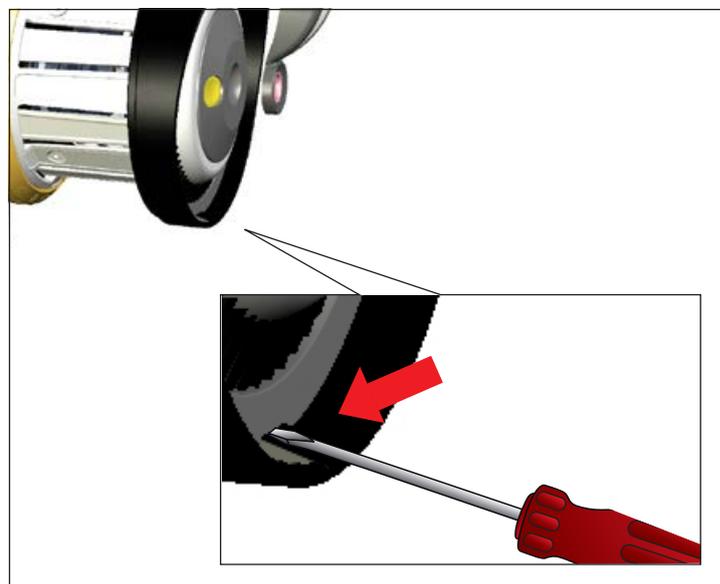
S for S-rotation

Straight for Z and S rotation



REMOVE THE BRUSH RING

Press down the lip on the slide with a screwdriver.
Pull off the brush ring.



REPLACE THE BRUSH RING

Press the brush ring on to the slide. The 'click' ensures that the brush ring is properly positioned.

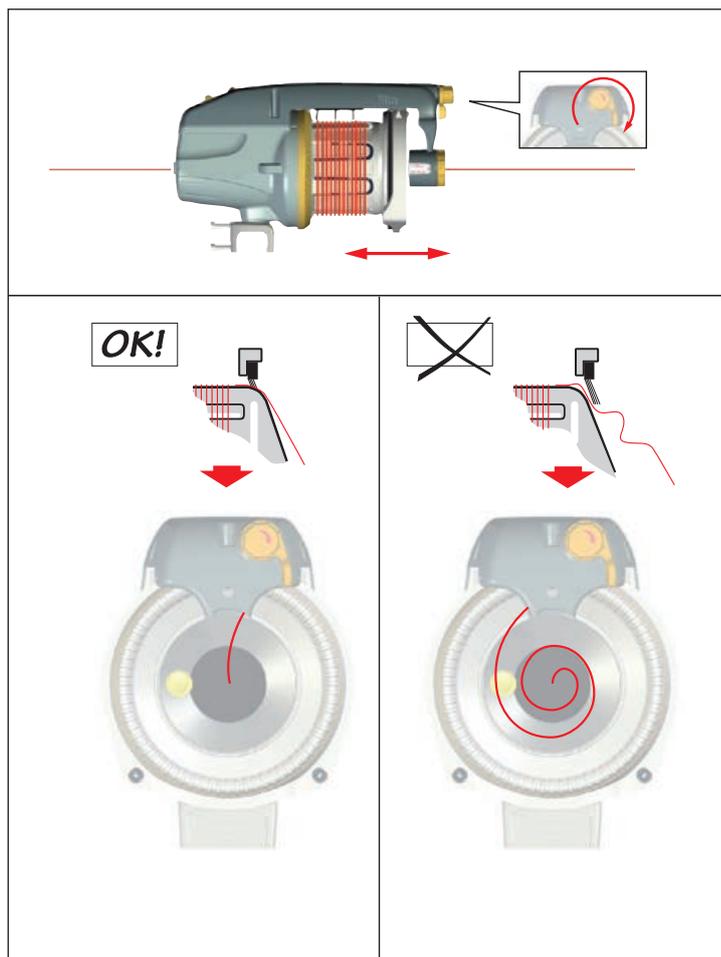


INPUT TENSION

Control input yarn tension to the CAT.

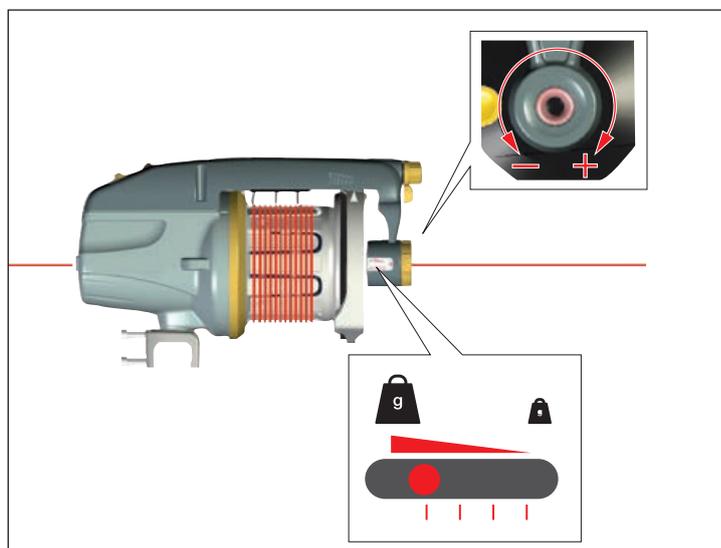
NOTE

The brush ring should only be used for balloon control.



OUTPUT TENSION

Adjustment of the output tension.

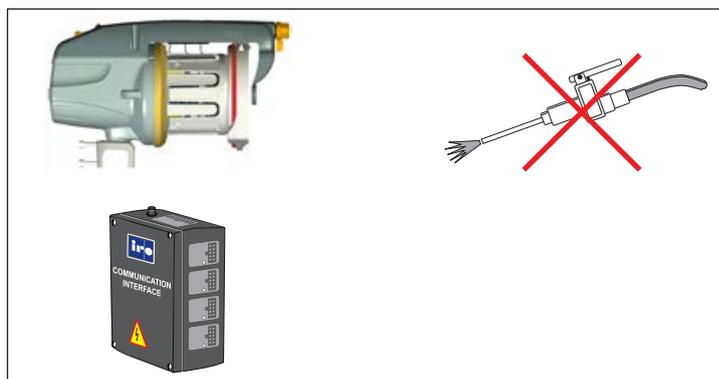


CLEANING

It is recommended to carry out a periodical cleaning of any lint or dust accumulation on the feeder and the control box.

NOTE

Avoid the use of compressed air when cleaning the feeder.



LUBRICATION

The unit requires no extra lubrication.

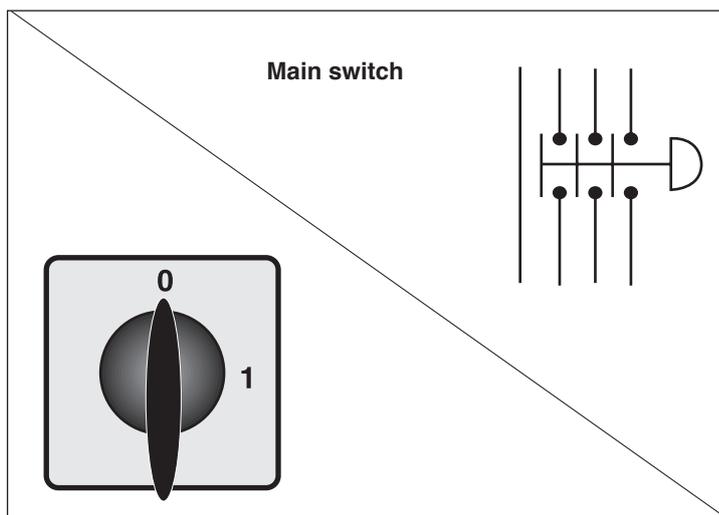


CONNECTIONS



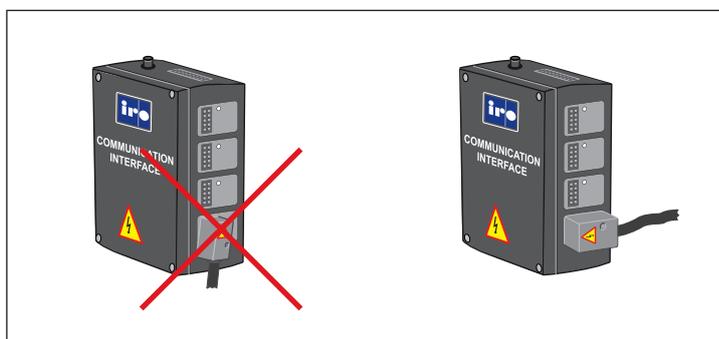
WARNING

Always turn off the main switch or isolate the power supply and disconnect the air supply before connecting or disconnecting the feeder, the control board or any of the circuit boards.



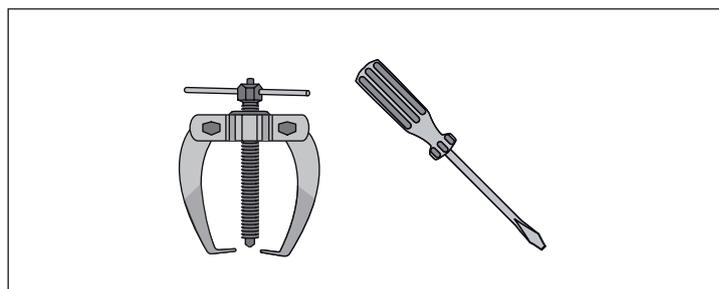
NOTE

The connector cover must be assembled before re-start.



IRO/ ROJ TOOL KIT

It is recommended to use an IRO tool kit, with specialised tools, to ensure easy and correct disassembly/ assembly of IRO feeders during maintenance work. Please contact your local IRO service station for further information.



Stella G2, Star G2

Fault	Check in the following order
Feeder will not start	2 - 3 - 5 - 6 - 14 - 7 - 8 - 24 - 25 - 26
Feeder will not stop	9 - 13 - 5 - 15 - 24 - 25
Low or empty yarn store	17 - 3 - 5 - 16 - 13 - 9 - 8 - 21 - 24 - 25 - 27 - 26
Input yarn breaks frequently	22 - 10 - 18 - 14
Output yarn breaks frequently	11 - 20 - 12 - 19 - 23
Fuses blow repeatedly	25 - 28
Feeder warning light flashes rapidly	3 - 9 - 8 - 27
Feeder warning light continuously on	29

No	Possible causes	Remedies	See page
2.	Incorrect spoolbody position	Ensure the sensor unit is positioned upwards	20
3.	Winding disc jammed	Free and clean the winding disc	24
5.	Sensor arms jammed	Free the arms and clean the sensing unit	24
6.	Faulty cable connections	Check and rectify	6-9
7.	Fuses blown	Replace the relevant fuse	4, 9
8.	Mains supply / primary voltage fault	Check the mains supply and connections	6-9
9.	Insufficient input tension	Increase the input tension	-
10.	Excessive input tension	Reduce the input tension	-
11.	Insufficient balloon control	Increase the balloon control	20, 23
12.	Excessive output tension	Reduce the output tension	20, 23
13.	Excessive yarn separation	Reduce the yarn separation	18
14.	Incorrect jumper J1 setting	Reposition jumper	14
15.	Excessive pressure on max sensor arm	Reduce the spring pressure	20
16.	Max sensor bouncing	Increase the spring pressure	20
17.	Insufficient max speed setting	Increase the max speed setting	15
18.	Excessive max speed setting	Reduce the max speed setting	15
19.	Insufficient yarn store	See "low or empty yarn store" under "fault"	-
20.	Damaged balloon control	Repair/replace all defective parts	20, 23
21.	Stop signal fault between control box and weaving M/C	Check all connections/cable	9
22.	Misalignment between the bobbin and the feeder	Realign the bobbin/feeder	-
23.	Misalignment between the feeder and the machine	Realign the feeder/machine	-
24.	Defect yarn store sensor unit	Replace the relevant sensor unit	16
25.	Defective motor circuit board	Replace the relevant circuit board	10
26.	Defective fuse panel	Replace the relevant fuse panel	9
27.	Defective control box interface	Replace the relevant interface	9
28.	Defective feeder connection cable	Replace the relevant connection cable	-
29.	Yarn break	Re-thread the feeder	19

Stella G2 290

Fault	Check in the following order
Feeder will not start	2 - 3 - 5 - 6 - 14 - 7 - 8 - 24 - 25 - 26
Feeder will not stop	9 - 13 - 5 - 15 - 24 - 25
Low or empty yarn store	17 - 3 - 5 - 16 - 13 - 9 - 8 - 21 - 24 - 25 - 27 - 26
Input yarn breaks frequently	22 - 10 - 18 - 14
Output yarn breaks frequently	11 - 20 - 12 - 19 - 23
Fuses blow repeatedly	25 - 28
Feeder warning light flashes rapidly	3 - 9 - 8 - 27
Feeder warning light continuously on	29

No	Possible causes	Remedies	See page
2.	Incorrect spoolbody position	Ensure the sensor unit is positioned upwards	20
3.	Winding disc jammed	Free and clean the winding disc	24
5.	Sensor arms jammed	Free the arms and clean the sensing unit	24
6.	Faulty cable connections	Check and rectify	6-7, 10-12
7.	Fuses blown	Replace the relevant fuse	5,11-12
8.	Mains supply / primary voltage fault	Check the mains supply and connections	6, 10-12
9.	Insufficient input tension	Increase the input tension	-
10.	Excessive input tension	Reduce the input tension	-
11.	Insufficient balloon control	Increase the balloon control	20, 23
12.	Excessive output tension	Reduce the output tension	20, 23
13.	Excessive yarn separation	Reduce the yarn separation	18
14.	Incorrect jumper J1 setting	Reposition jumper	14
15.	Excessive pressure on max sensor arm	Reduce the spring pressure	20
16.	Max sensor bouncing	Increase the spring pressure	20
17.	Insufficient max speed setting	Increase the max speed setting	15
18.	Excessive max speed setting	Reduce the max speed setting	15
19.	Insufficient yarn store	See "low or empty yarn store" under "fault"	-
20.	Damaged balloon control	Repair/replace all defective parts	20, 23
21.	Stop signal fault between control box and weaving M/C	Check all connections/cable	10-12
22.	Misalignment between the bobbin and the feeder	Realign the bobbin/feeder	-
23.	Misalignment between the feeder and the machine	Realign the feeder/machine	-
24.	Defect yarn store sensor unit	Replace the relevant sensor unit	17
25.	Defective motor circuit board	Replace the relevant circuit board	-
26.	Defective fuse panel	Replace the relevant fuse panel	11-12
27.	Defective control box interface	Replace the relevant interface	11-12
28.	Defective feeder connection cable	Replace the relevant connection cable	-
29.	Yarn break	Re-thread the feeder	19



EC DECLARATION OF CONFORMITY

IRO AB

Box 54

SE-523 22 Ulricehamn

Guarantee that machine type:

Stella G2, Star G2, Stella G2 290

is manufactured in conformity with the provisions of the following
EC directives and applicable amendments:

Safety of machinery	2006/42/EC	EN ISO 111 11-1
Low voltage equipment	2014/35/EC	EN ISO 111 11-1
Electromagnetic compatibility	2014/30/EC	EN ISO 111 11-1

Pär Josefsson, Manager Product and Development department, 2007-12-01
