

Star G2

Operating Instructions



IRO AB

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Contents 1

Technical Specifications 2

Main Parts 3

Operating Diagram 4

Installation 5

Mains Connection 6-8

Wiring Diagram 9

Connections 10

Jumper/ Speed settings 11

Yarn Control 12

Yarn Control Recommendations 13

S/Z Adjustment 14

Threading 15

Balloon Adjustment 16

Cat Adjustment 17

Sensor Adjustment 18

Maintenance 19

Fault Finding 20

Declaration of conformity 21

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

ORIGINAL LANGUAGE INSTRUCTION

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 or any other electrical components. The feeder and the transformer cabinet must be fully assembled before the power supply is connected.
- The weft feeder ON/OFF-switch does 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
- 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



WARNING!

- 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.



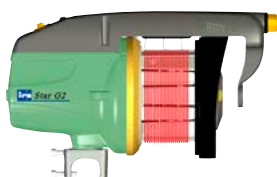
CAUTION!

- 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

Technical specifications



Max 1200 m/min



76 dB (A)



4.7 kg



Max 5 mm



Min 5° C-Max 40° C



5,5 - 7 bar



Max 85 %



Max 2,2 mm

Power Supply



200 - 575V 400VA



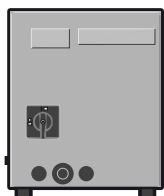
Max T 10A
Fuse

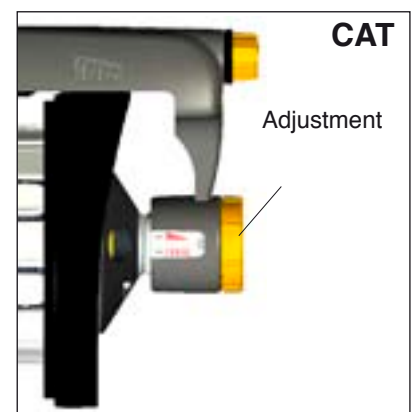
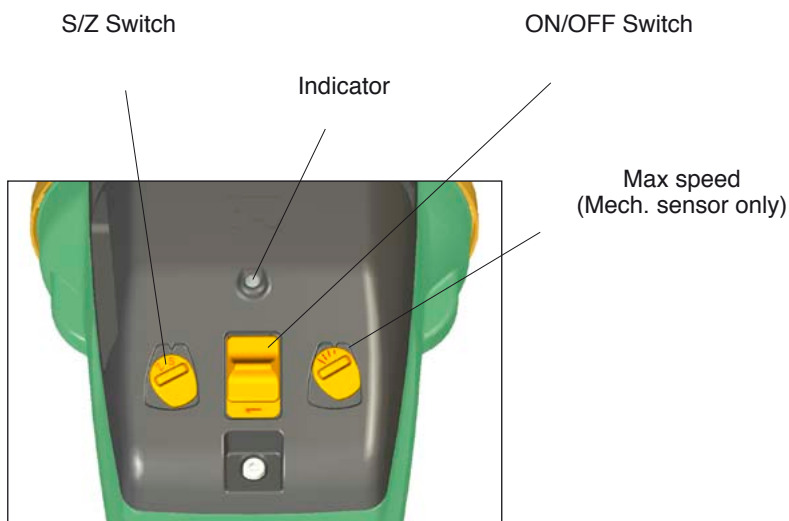
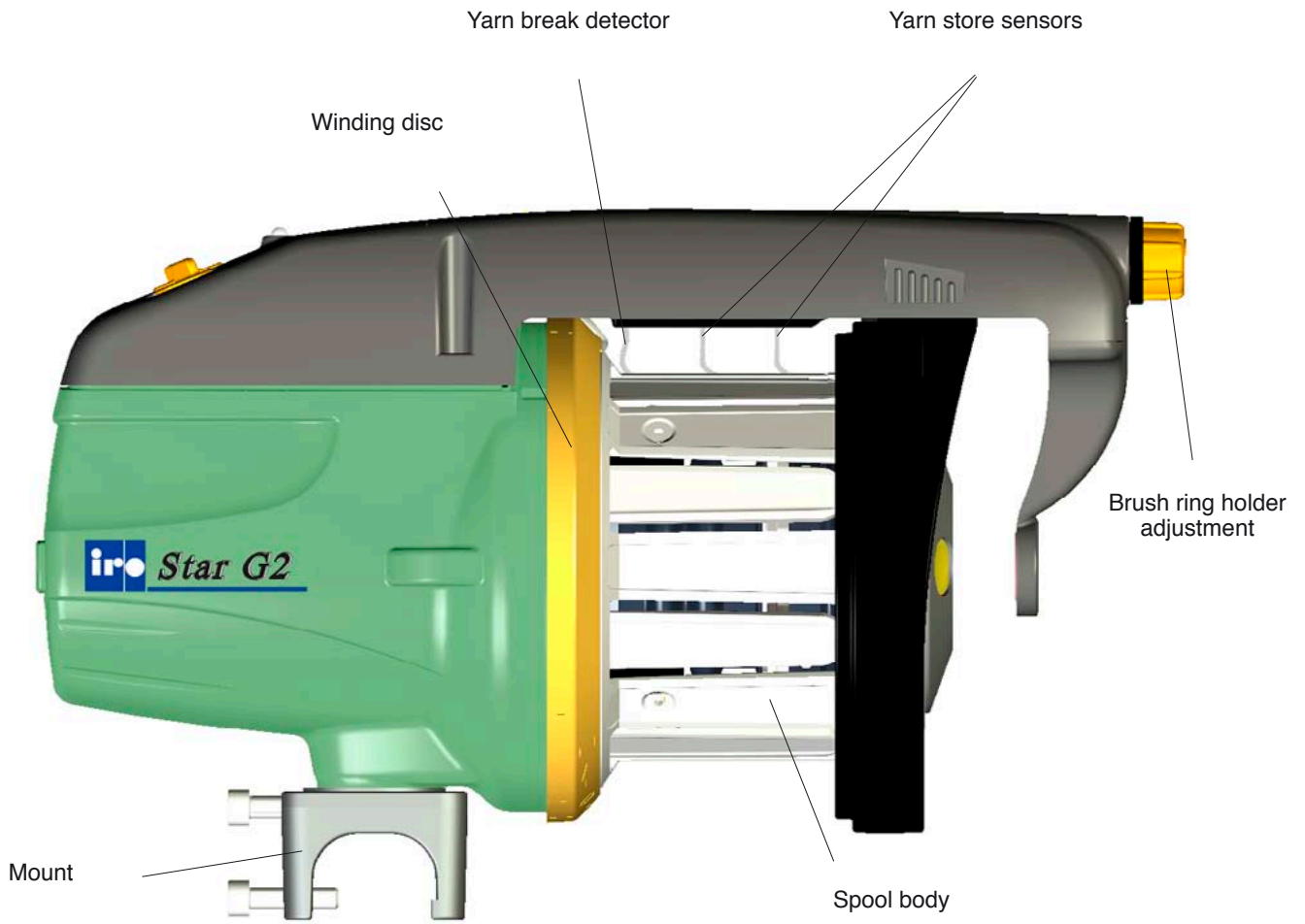


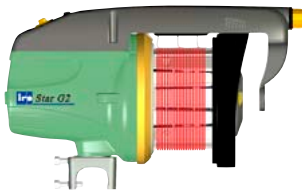
3,3 kg

NOTE

Subject to technical modifications.



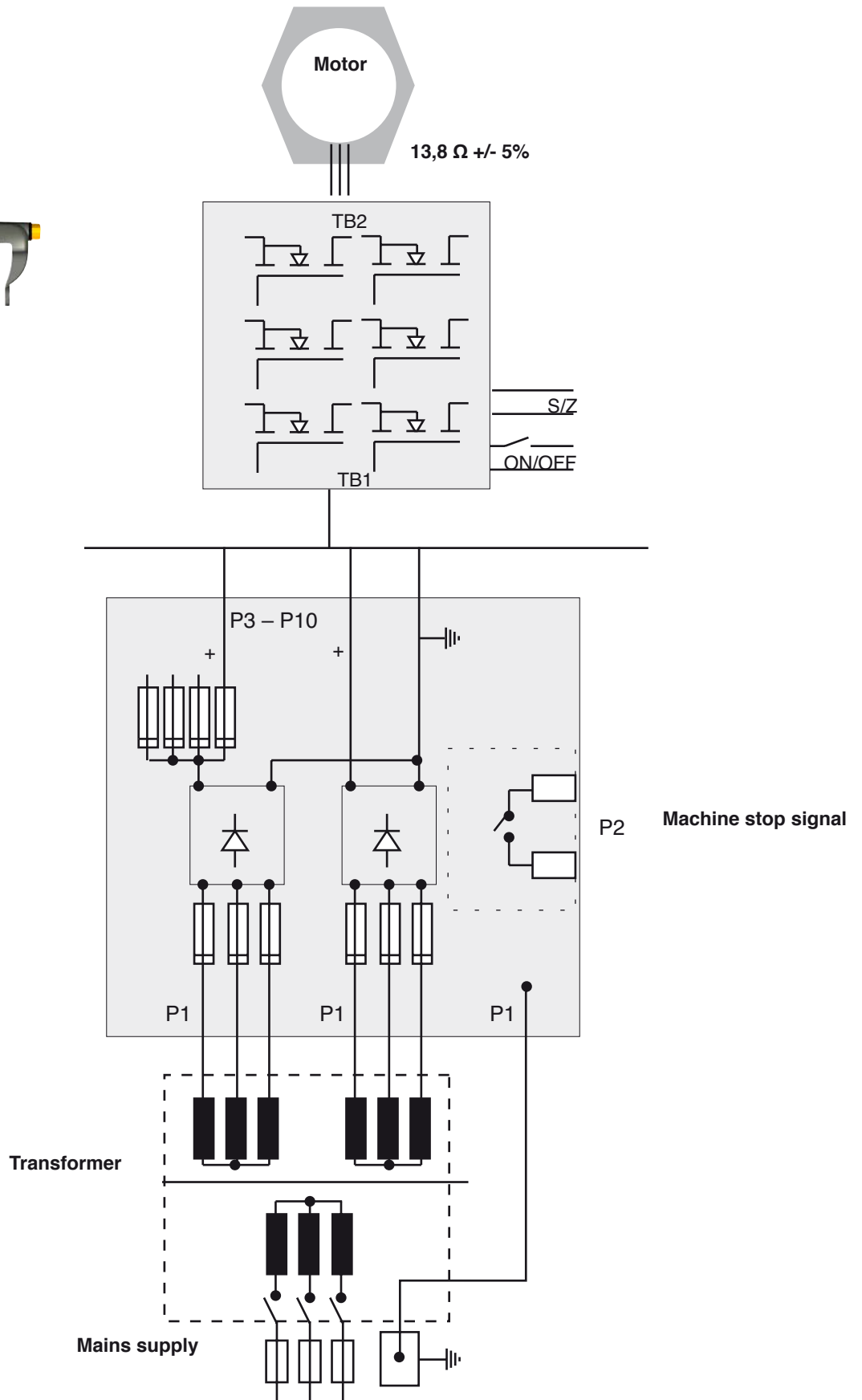




Motor control unit



Fuse panel



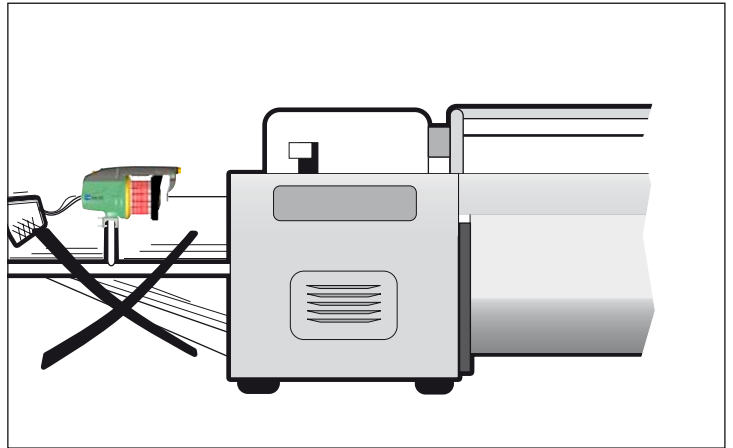
NOTE

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.

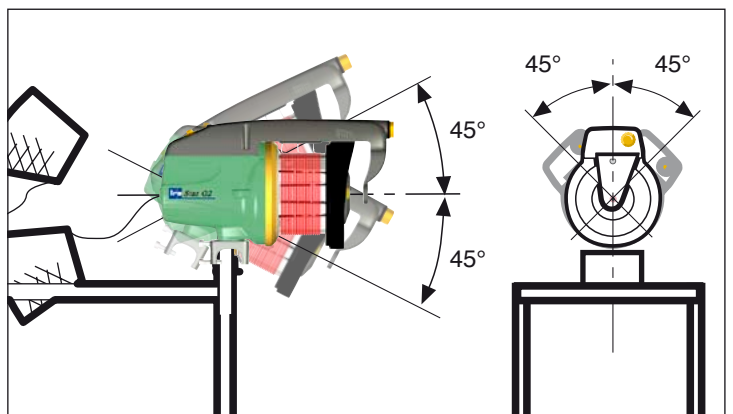
NOTE

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.



Ensure that the mount screws are correctly tightened.

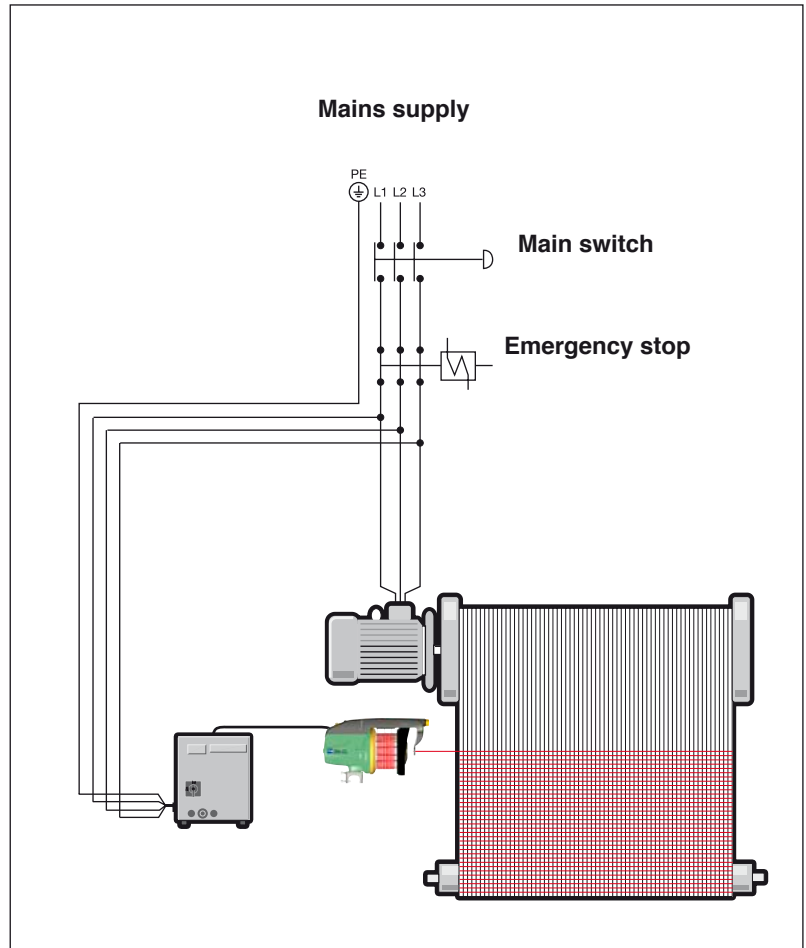




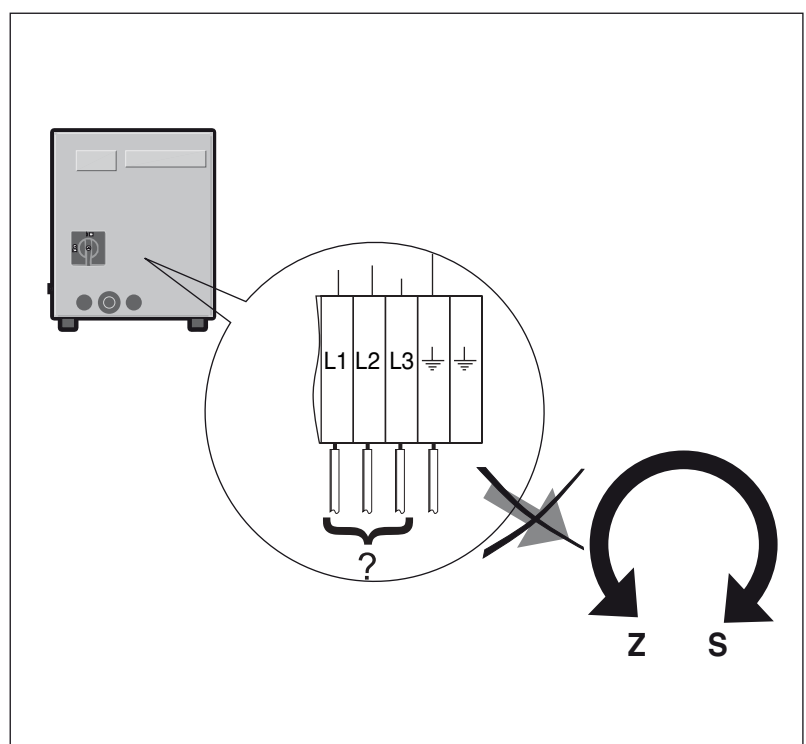
WARNING

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

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

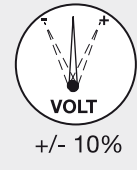


The phase sequence does not effect the direction of rotation.

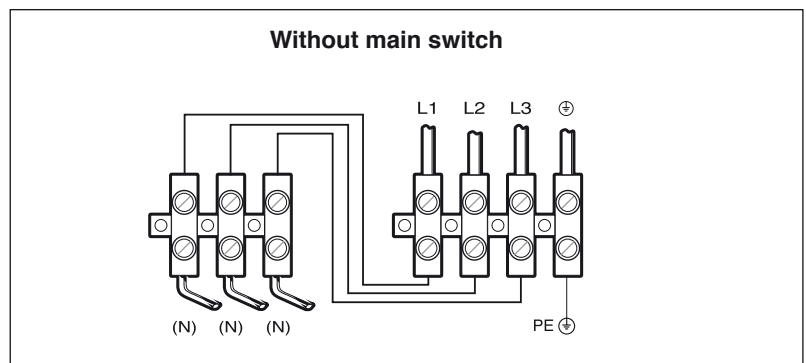
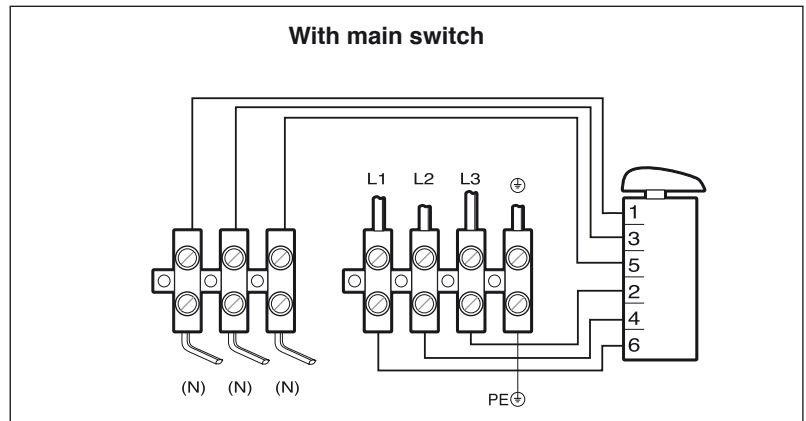


Variations in main voltage.

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



Check the wiring diagram before any connections are carried out.



The wiring diagrams on the following page refer to control boxes equipped with a main switch (as in fig.1 below). The mains supply shall be connected to L1, L2, L3 and EARTH. When the control box is not equipped with a main switch the mains supply shall be connected as in fig.2.

With main switch

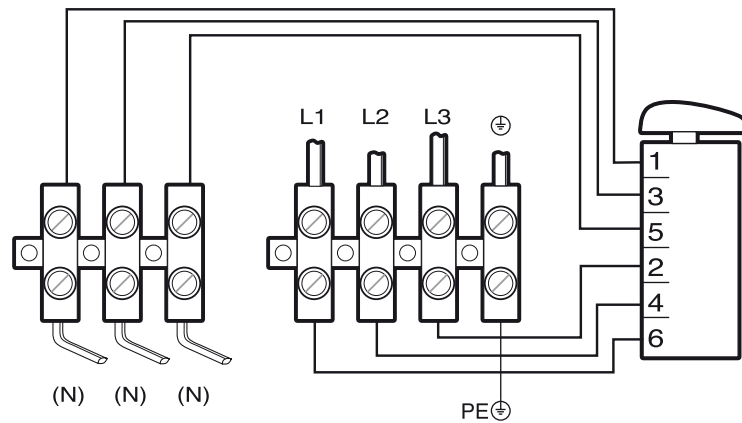


Fig 1

Without main switch

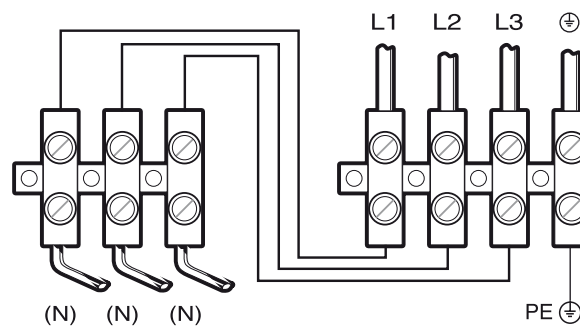
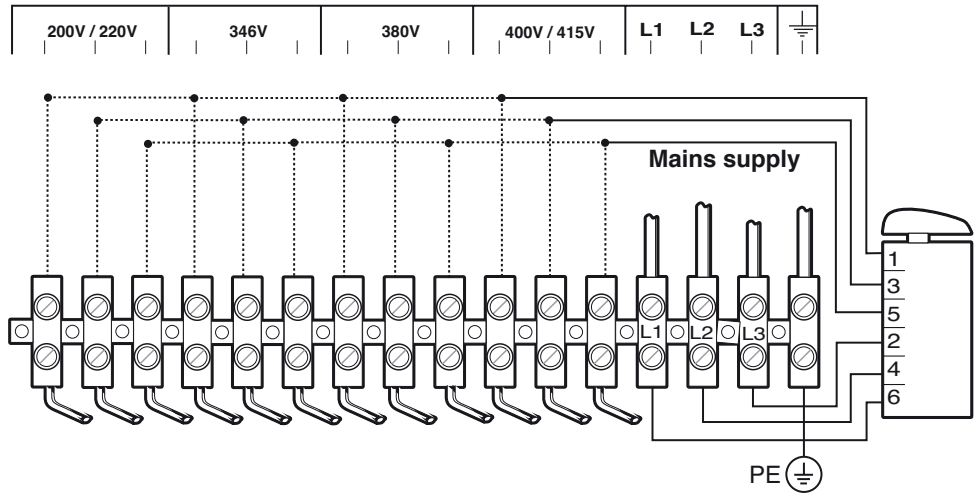
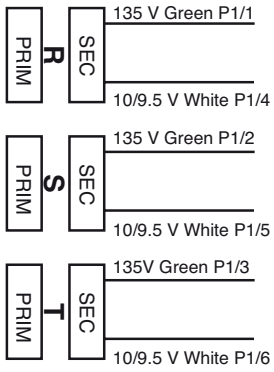
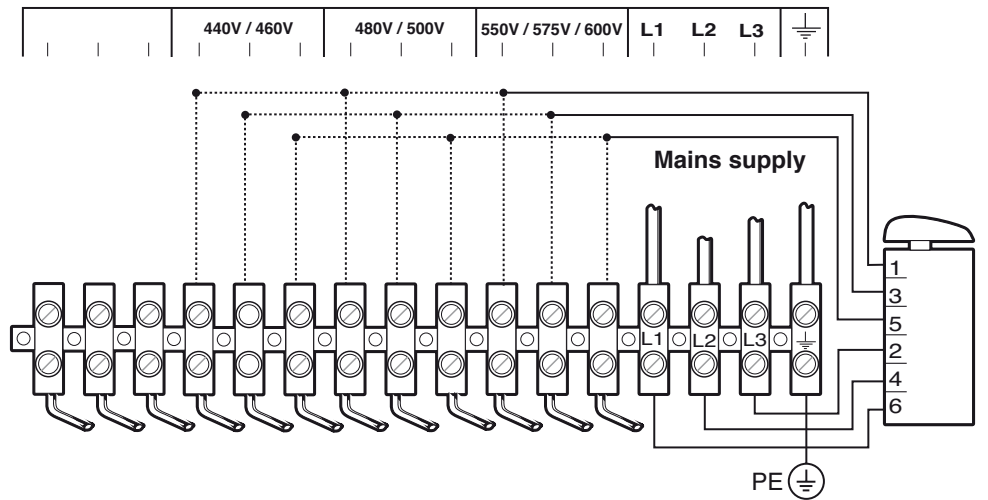
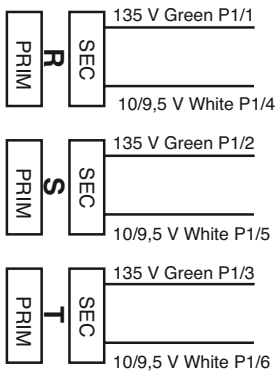


Fig 2

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

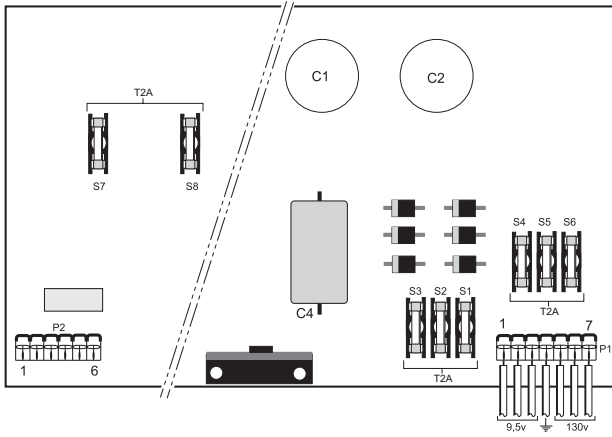


440V/ 460V - 480V/ 500V - 550V/ 575V/ 600V

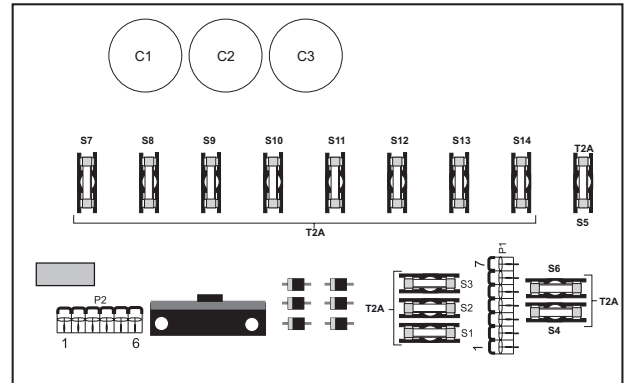


Control box 4129 fuse panel

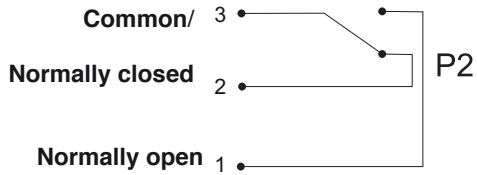
2 and 4 colour



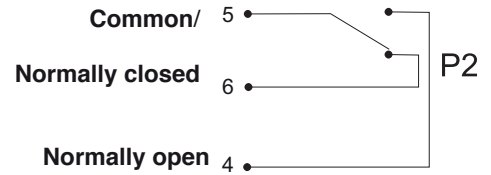
8 colour



Machine stop

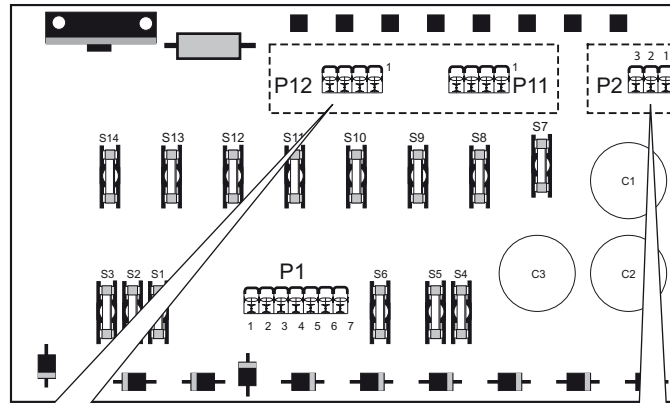


Stop indicator

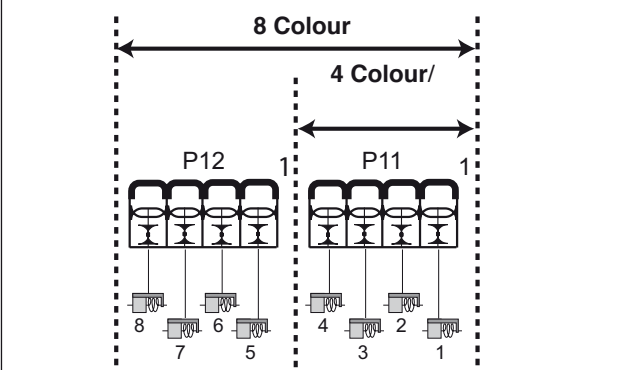


Control box 4729 fuse panel

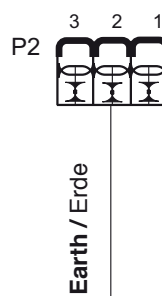
4 and 8 colour



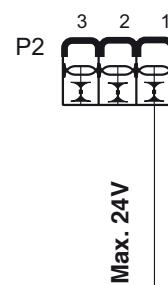
Signal to weaving machine



Opto coupler, low

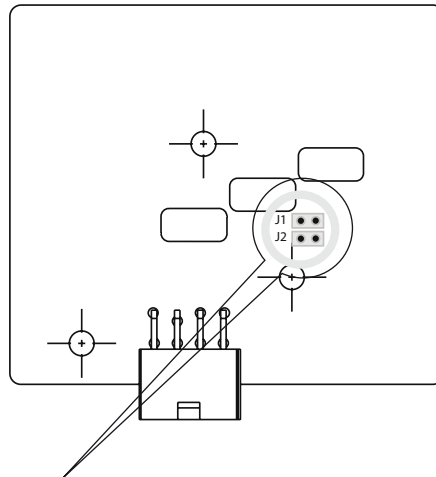


Opto coupler, high



Motor circuit board jumpers

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).

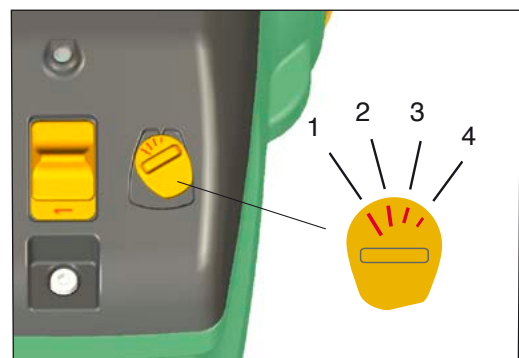


J1		Yarn break sensor filtering - RIGID YARNS
J1		Yarn break sensor filtering- NORMAL
J2		Stand-by mode - ENABLE
J2		Stand-by mode DISABLE

Maximum speed

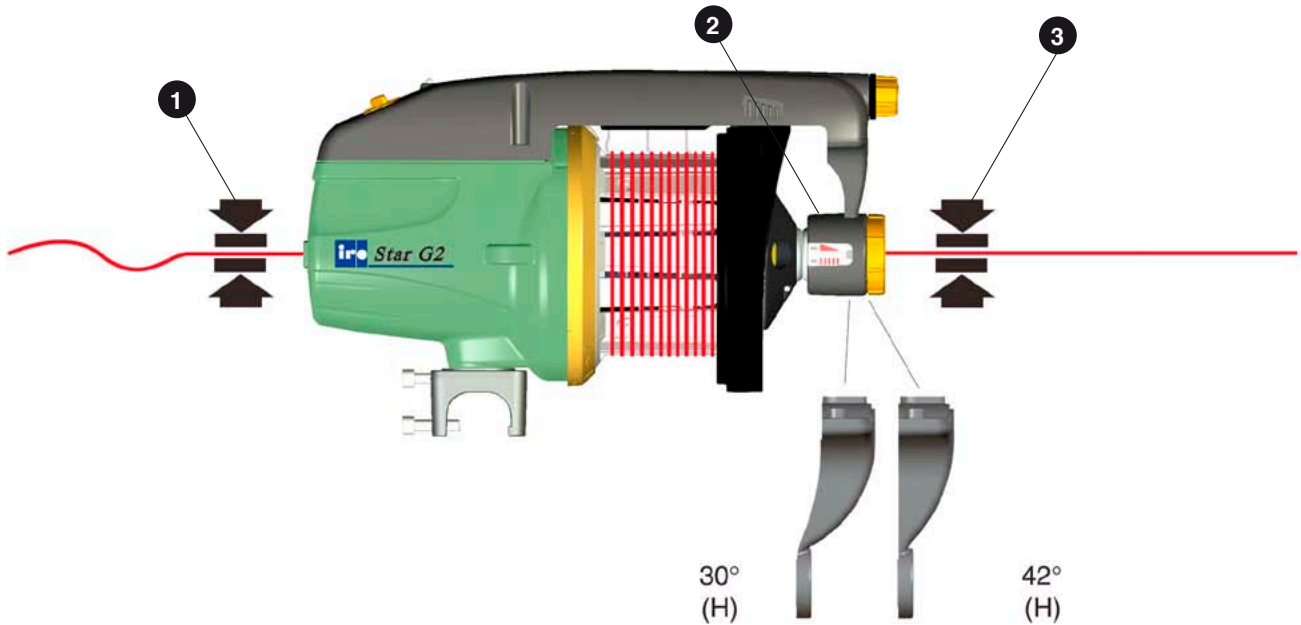
To set the maximum speed rotate the disc to the appropriate position.

- 1 = 1200 m/min
- 2 = 960 m/min
- 3 = 630 m/min
- 4 = 400 m/min



When weaving certain types of yarn and under special weaving conditions it may be necessary to use yarn control elements in positions 1 and 3. The tables below and on the following page describe suitable combinations.

Yarn control element positions



Yarn control element – type and position

ELEMENT TYPE		POSITION	ELEMENT TYPE		POSITION
A		1	F		
B		1 3	G		
C		1	H	Brush	2
D		1	J	(CAT)	3
E			K		3

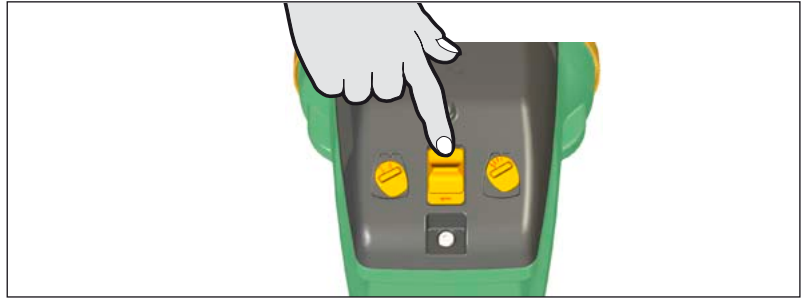
Yarn	Rapier					Projectile				
	YARN COUNT	TENSIONERS			YARN COUNT	TENSIONERS				
		①	②	③		①	②			
Spun cotton and covered elastic	Ne 74 - 35	A	H/ I	J/ I+K	Ne > 35	A	H/ I			
	Ne 59 - 9	A	H/ II	J/ II+K	Ne 59 - 16	A	H/ II			
	Ne 15 - 4	A	H/ III	J/ III+K	Ne 20 - 4	A	H/ III			
	Ne 6 - 1,2	D	H/ IIII	B+B+K	Ne 6 - 1,2	D	H/ IIII			
Wool	Nm 120 - 60	A	H/ I	B+B+K	Nm > 60	A	H/ I			
	Nm 100 - 14	A	H/ II	B+B+K	Nm 100 - 27	A	H/ II			
	Nm 25 - 7	A	H/ III	B+B+K	Nm 33 - 7	A	H/ III			
	Nm 10 - 2	D	H/ IIII	B+B+K	Nm 10 - 2	D	H/ IIII			
Stiff yarns, Jute and Flax (linen)	Nm 120 - 30	A	H/ II	B+B+K	Nm 120 - 27	A	H/ II			
	Nm 35 - 20	A	H/ III	B+B+K	Nm 33 - 7	D	H/ III			
	Nm 26 - 7	A	H/ III	B+B+K	Nm 10 - 2	D	H/ IIII			
	Nm 10 - 2	D	H/ IIII	K						
Chenille	Nm 120 - 20	A	H/ II	J/ II+K	Nm 120 - 50	A	H/ I			
	Nm 25 - 7	A	H/ III	K	Nm 67 - 7	A	H/ II			
	Nm 10 - 2	D	H/ IIII	B+B+K	Nm 10 - 2	D	H/ III			
Fancy yarns, Slub and Nub	Nm 120 - 50	B	H/ I	B+B+K	Nm 120 - 50	B	H/ I			
	Nm 67 - 7	B	H/ II	B+B+K	Nm 67 - 7	B	H/ II			
	Nm 10 - 2	B	H/ III	B+B+K	Nm 10 - 2	B	H/ III			
High Twist	Tex 4 - 20	C	H/ I	B+B+K	Tex 4 - 20	C	H/ I			
	Tex 15 - 50	C	H/ II	B+B+K	Tex 15 - 100	C	H/ II			
	Tex 40 - 100	C	H/ III	B+B+K	Tex 80 - 400	C	H/ III			
Endless Filament	Tex 4 - 20	C	H/ I	J/ I+K	Tex 4 - 20	C	H/ I			
	Tex 15 - 40	C	H/ II	J/ II+K	Tex 15 - 100	C	H/ II			
	Tex 30 - 100	A	H/ II	J/ III+K	Tex 80 - 400	A	H/ III			
	Tex 80 - 400	A	H/III	B+B+K						

Tension rating: I=soft, II=medium, III=stiff, IIII=extra stiff

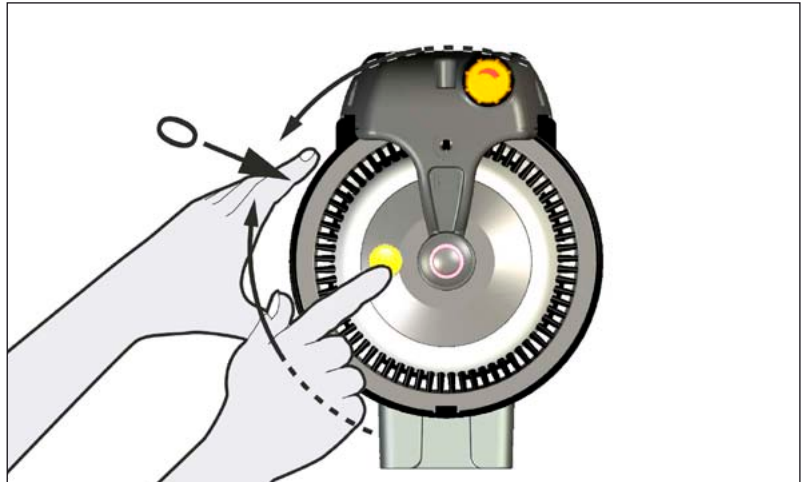
NOTE

As tensioner performance can be affected by various factors connected to the specific yarns being used the above recommendations are intended purely as a guide. In case of any uncertainty it is recommended that a weft insertion test be carried out.

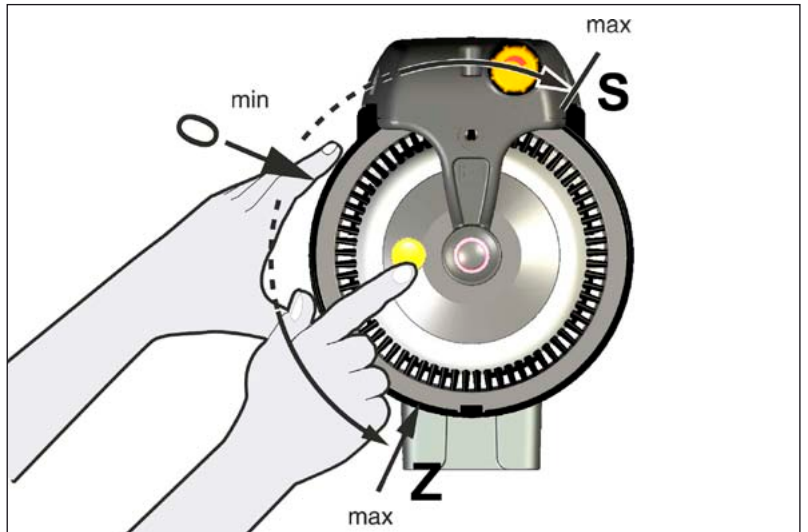
Switch off the feeder.



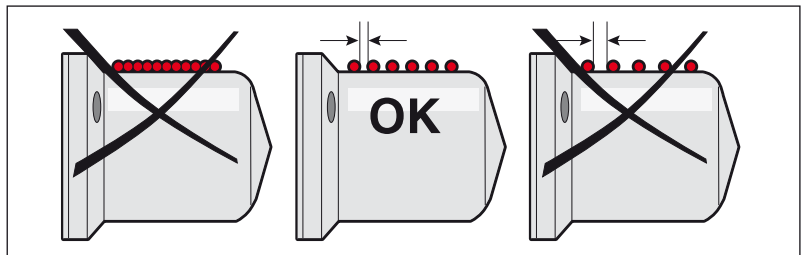
Grip the winding disc and, whilst pressing the orange button on the front of the spool body, rotate the disc until the button is felt to locate. Aligning the mark on the winding disc with the line on the motor house gives the zero separation position.



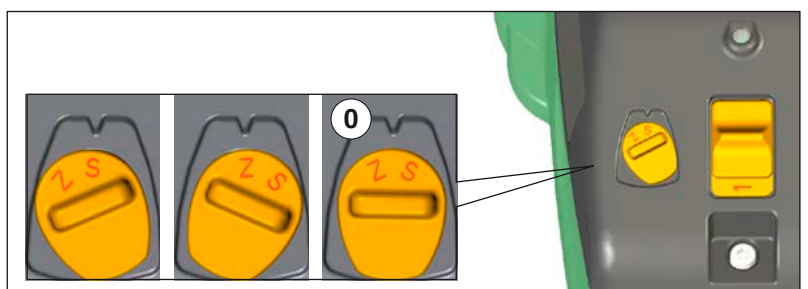
To adjust, press in the button and revolve the winding disc in the appropriate direction. The separation increases from 0 to 2,2 mm the more the disc is rotated.



The separation must be distinct, but not excessive.

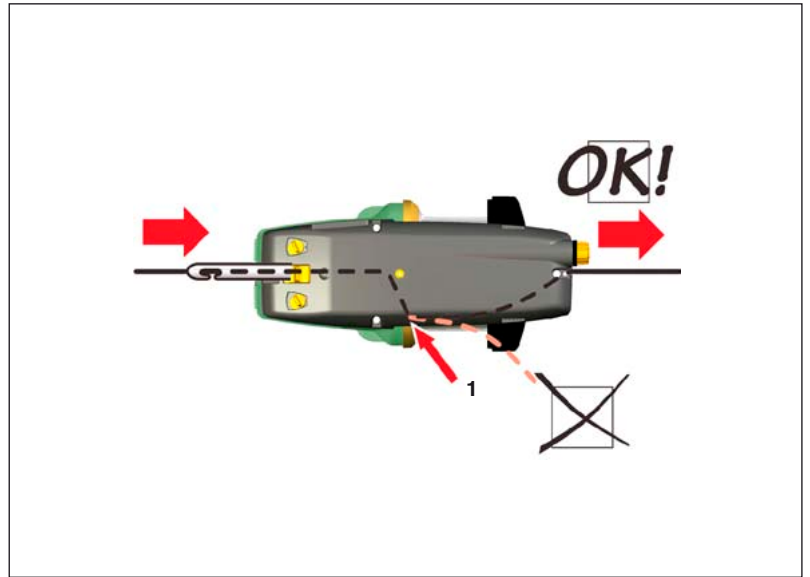


Set the direction of rotation with the switch. (The feeder is deactivated in the standby position (0))



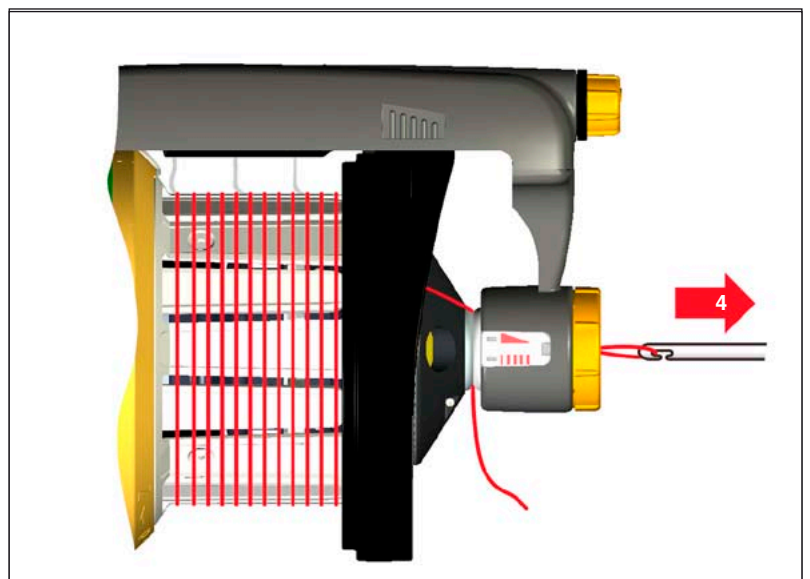
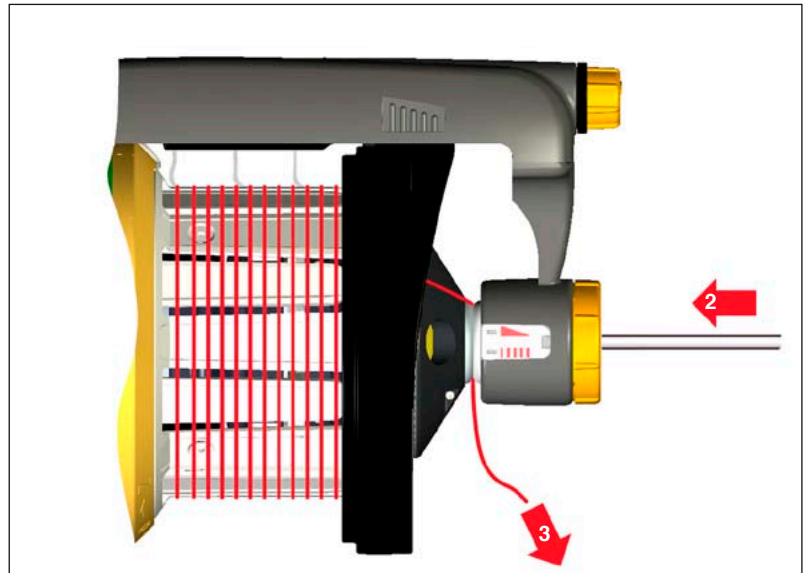
WITHOUT CAT

- Switch off the feeder.
- Align the winding disc eyelet (1).
- Open the brush holder (see page 16).
- Thread the needle all the way through the feeder and output eyelet.
- Pull the yarn through.
- Restart the feeder.



WITH CAT

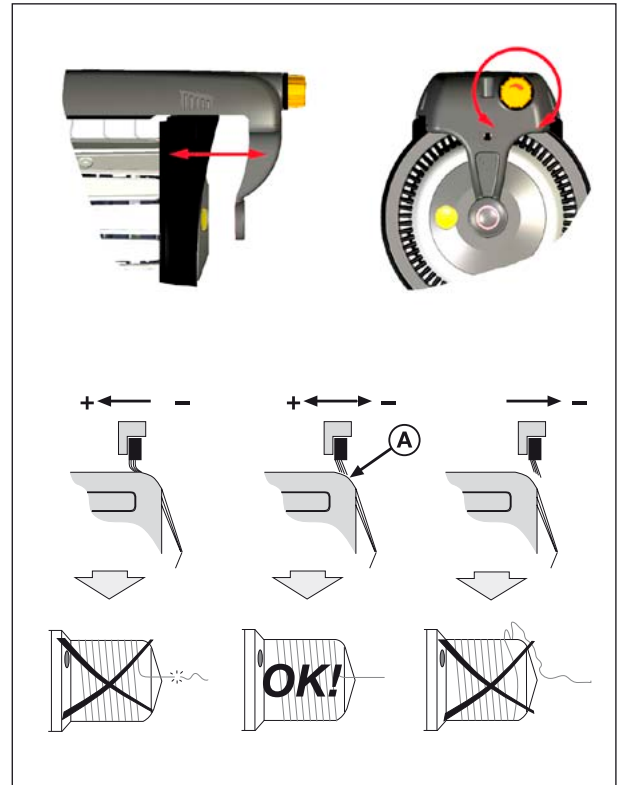
- Switch off the feeder.
- Align the winding disc eyelet.
- Thread the needle through the feeder and balloon control brush.
- Start the feeder and fill the yarn store.
- Insert the threading needle into the CAT (2) as far as possible.
- Pulling the yarn (3) will cause it to wrap around the threading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



Adjust the balloon control.

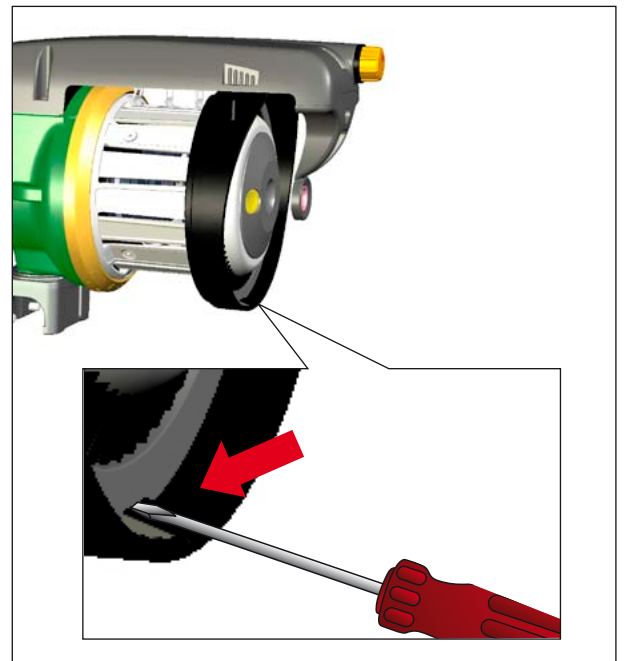
NOTE

Excessive brush tension will cause abnormal wear.



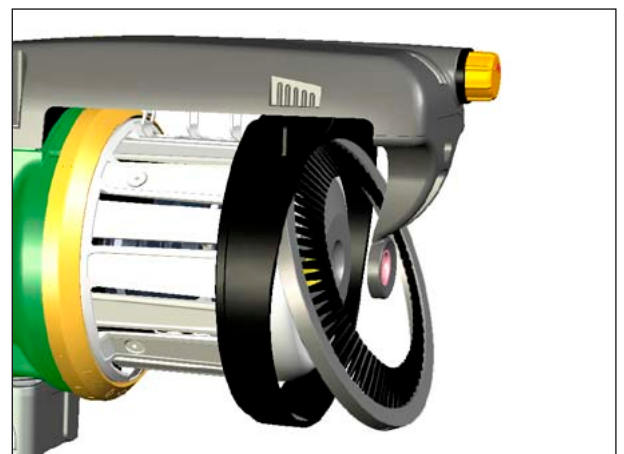
REMOVE THE BRUSH RING

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



REPLACE THE BRUSH RING

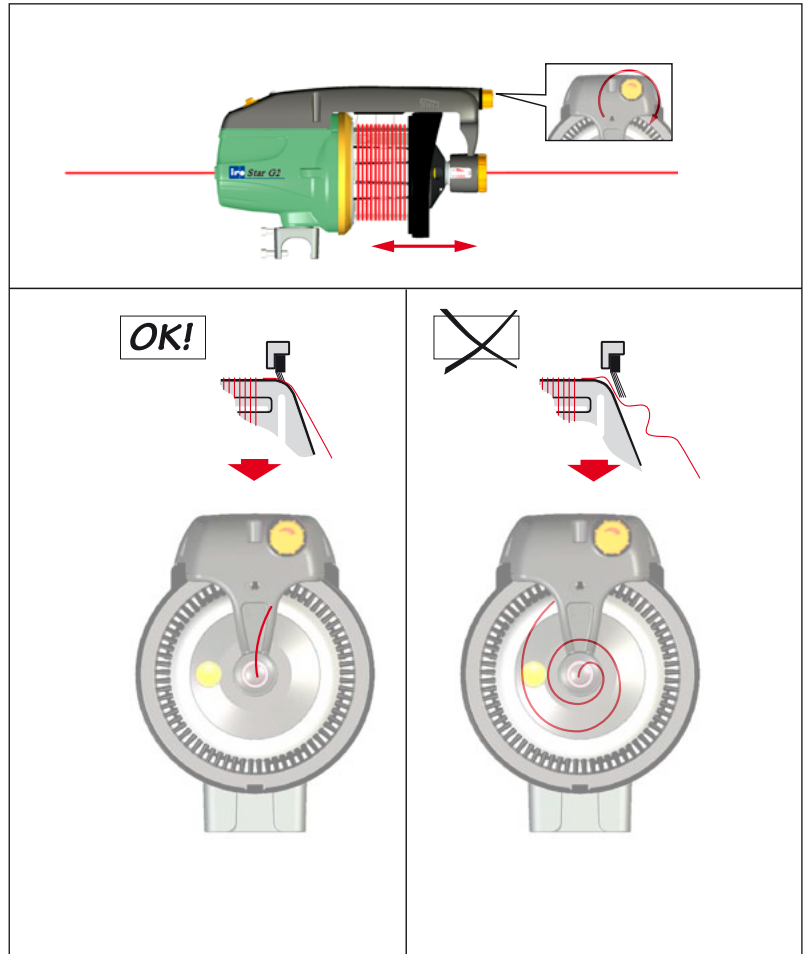
Press the brush ring on to the slide. The 'click' ensures that the brush ring is properly positioned.



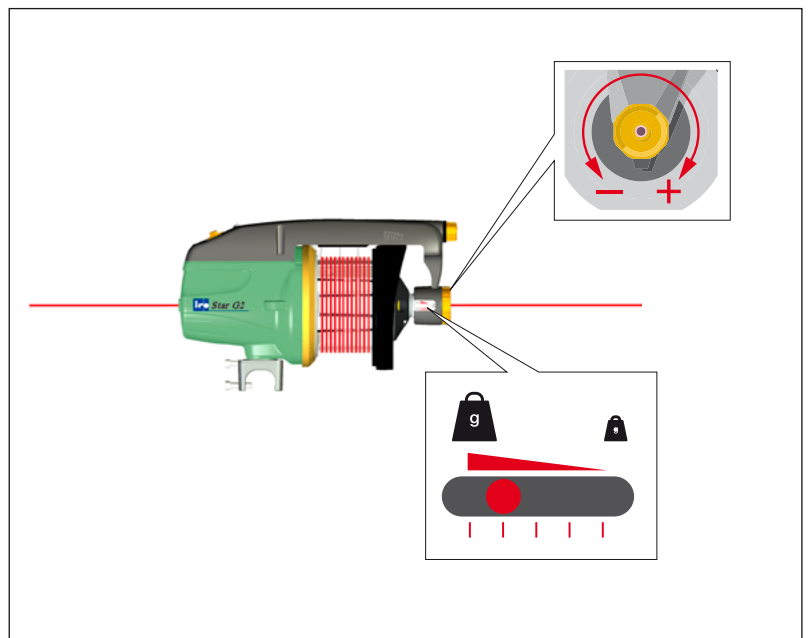
Control input yarn tension to the CAT.

NOTE

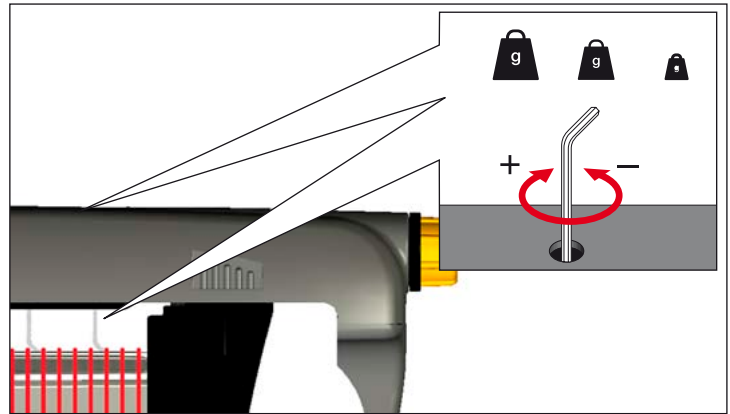
The brush ring shall only be used for balloon control.



Adjustment of the output tension.

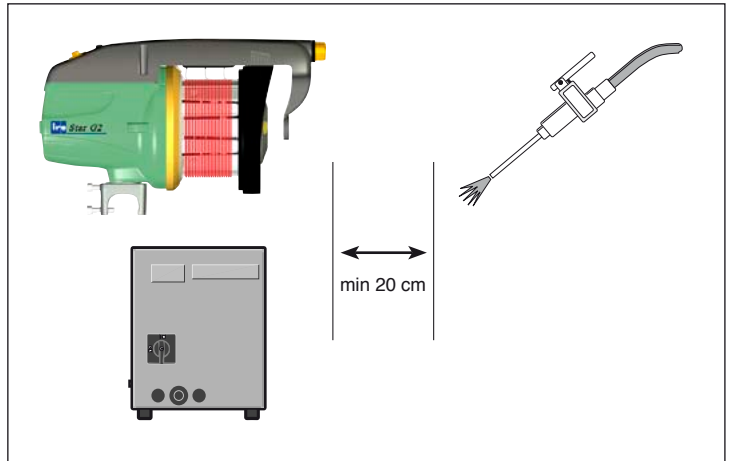


The sensors are adjustable in three stages:
Level 1 - Very fine yarns
Level 2 - Normal setting
Level 3 - Very heavy yarns



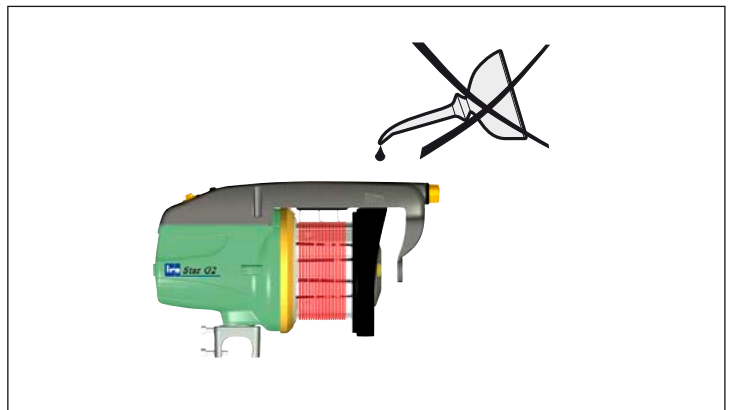
CLEANING

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



LUBRICATION

The unit requires no extra lubrication.

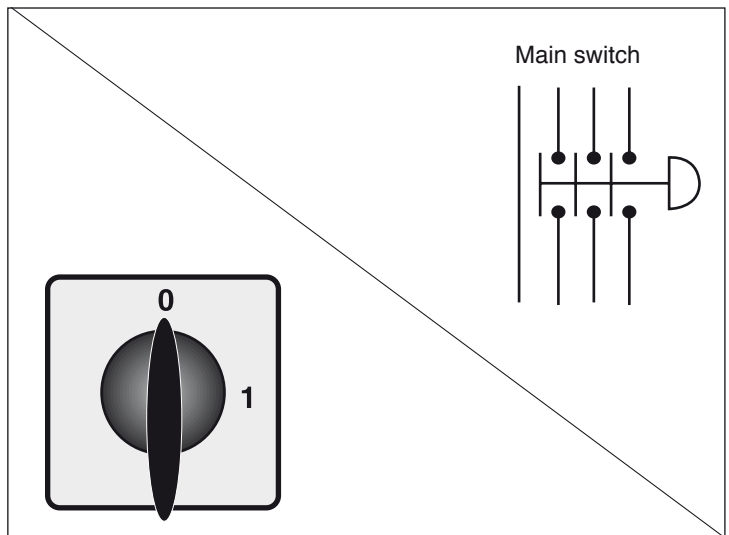


CONNECTIONS



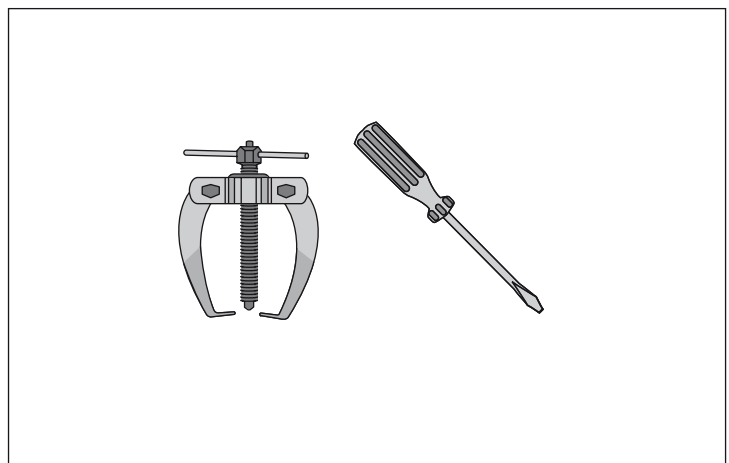
WARNING

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.



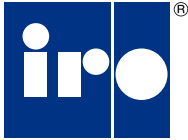
IRO/ ROJ TOOL KIT

It is recommended to use 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.



Fault	No
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	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	18
3.	Winding disc jammed	Free and clean the winding disc	19
5.	Sensor arms jammed	Free the arms and clean the sensing unit	18
6.	Faulty cable connections	Check and rectify	6-10
7.	Fuses blown	Replace the relevant fuse	1, 10
8.	Mains supply / primary voltage fault	Check the mains supply and connections	6-10
9.	Insufficient input tension	Increase the input tension	11-12
10.	Excessive input tension	Reduce the input tension	12-13
11.	Insufficient balloon control	Increase the balloon control	16-17
12.	Excessive output tension	Reduce the output tension	16-17
13.	Excessive yarn separation	Reduce the yarn separation	14
14.	Incorrect jumper setting	Reposition jumper	11
15.	Excessive pressure on max sensor arm	Reduce the spring pressure	18
16.	Max sensor bouncing	Increase the spring pressure	18
17.	Insufficient max speed setting	Increase the max speed setting	11
18.	Excessive max speed setting	Reduce the max speed setting	11
19.	Insufficient yarn store	See "low or empty yarn store" under "fault"	-
20.	Damaged balloon control	Repair/replace all defective parts	16
21.	Stop signal fault between control box and weaving M/C	Check all connections/cable	10
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	3
25.	Defective motor circuit board	Replace the relevant circuit board	-
26.	Defective fuse panel	Replace the relevant fuse panel	10
27.	Defective control box interface	Replace the relevant interface	10
28.	Defective feeder connection cable	Replace the relevant connection cable	-
29.	Yarn break	Rethread the feeder	15-16



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EC DECLARATION OF CONFORMITY
 EG-KONFORMITÄTSEKLRUNG
 DECLARATION CE DE CONFORMITE
 DICHIARAZIONE CE DI CONFORMITA'
 DECLARACIÓN DE CONFORMIDAD CE
 DECLARAÇÃO CE DE CONFORMIDADE

Guarantee that machine type:
 Versichert dass der Maschinentyp:.....
 Garantie pour machine type: **Star G2**
 Garantisce che il tipo di macchina:.....
 Garantia que é o tipo de máquina:
 Garantiza de que os tipos de máquinas:.....

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

Ist gemäss der folgenden für Maschinen geltenden EG-Richtlinien hergestellt worden (damit auch alle zusätzliche Änderungen)

Est fabriqué en conformité aux dispositions des directives CE suivantes (y compris tous les amendements):

E' costruito in conformità a quanto previsto dalle seguenti direttive UE e successive modifiche:

Està fabricado conforme con las disposiciones de las debajo mencionadas directivas CE (y sucesivas modificaciones):

Està fabricado em conformidade como o estabelecido nas seguintes directivas CE (incluido alterações):

Safety of machinery	2006/42/EC	EN ISO 111 11-1
Low voltage equipment	2006/95/EC	EN ISO 111 11-1
Electromagnetic compatibility	2004/108/EC	EN ISO 111 11-1

Pär Josefsson, Manager Product and Development department, 2009-05-10