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OPERATING INSTRUCTION
EMERGENCY STOP PUSH BUTTON

BESG, BESP, BESY, BESGS, BESPS, BESYS, BESGM, BESPM, BESYM, BESGSM, BESPSM, BESYSM.

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Content

1. Device function:

The emergency stop push button has the basic function of interrupting electric current of the machine in case of an emergency. It is a special push button developed to attend standards requirements of installation ISO 8350 and construction IEC 60947-5-5.

Therefore, this special push button has the following apart characteristics when compared to an ordinary push button:

- It shall actuate one NC contact that must be positively breaking.
- The button shape accepts to be pushed either by an object or by a human palm (Ø42mm).
- The button is red and its base is yellow.
- It has a latch that holds the NC contact opened when the push button is operated and it is not possible to latch it-in without generating a NC contact signal.
- When the push button is directly actuated, it means that the force applied to the button goes to the NC contact without movable parts, such as springs, magnets or similar.

2.

Only authorized qualified personnel who are knowledgeable of the ISO 13850 and IEC 60204-1 standards are allowed to install the emergency stop push button. This operating instruction manual shall be read and understood before the emergency stop push button is installed.

3.

WEG shall accept no liability for damages and malfunctions resulting from defective assembling or failure to comply with this operating instruction manual. Also, no modification of the quoted device or use of any accessories not mentioned in this instruction manual are allowed.

4. Ordering codes:

Emergency stop push button list and others components needs for installation:

CSW - BESG -	Turn right to release.
CSW - BESP -	Pull out to release.
CSW - BESY -	With key to release.
CSW - BESGS -	Turn right to release with a collar in green for signaling when it is released.
CSW - BESPS -	Pull out to release with a collar in green for signaling when it is released.
CSW - BESYS -	Release with key and with a collar in green for signaling when it is released.
CSW - BESGM -	Turn right to release and with a protrusion to monitor the standard NC contact.
CSW - BESPM -	Pull out to release and with protrusion to monitor the standard NC contact.
CSW - BESYM -	With key to release and with a protrusion to monitor the standard NC contact.
CSW - BESGSM -	Turn right to release. With a collar in green for signaling when it is released and with a protrusion to monitor the standard NC contact.
CSW-BESPSM -	Pull out to release with a collar in green for signaling when it is released and with a protrusion to monitor the standard NC contact.
CSW - BESYSM -	With key to release and with a collar in green for signaling when it is released and with a protrusion to monitor the standard NC contact.
AF3F –	Holder for three blocks units. This component allows connecting contacts blocks to the emergency stop push button for use on panel.
BC01F-CSW –	Ordinary normally closed contact block with positively breaking for use on panel.
BC01B-CSW –	Ordinary normally closed contact block with positively breaking for use in control station box.
BCM01F-CSW –	Special normally closed contact block with positively breaking and self-monitoring for use on panel. It has the contacts opened if it is out of the flange for any reason.
BC10B-CSW –	Ordinary normally opened contact block for use in control station box. It is used for monitoring the NC contacts when emergency stop push button is the type CSW-BESGM, CSW – BESPM, CSW – BESYM, CSW –BESGSM, CSW – BESGSM and CSW-BESPSM.
BC10F-CSW –	Ordinary normally opened contact block for use on panel. It is used for monitoring the NC contacts when emergency stop push button is the type CSW-BESGM, CSW – BESPM, CSW – BESYM, CSW – BESGSM, CSW –BESGSM and CSW-BESPSM.

CBCSW-	A yellow holder to keep the NC and NA contacts blocks together when the NC contact is monitored.
PBW-1Y-	Control station box with one hole yellow cover.
PBW-1-	Control station box with one hole cover.
PBW-2-	Control station box with two holes cover.
PBW-3-	Control station box with three holes cover.
PBW-4-	Control station box with for holes cover.
PBW-6-	Control station box with six holes cover.

5. Technical data:

Main data testing	IEC 60947-5-5
General designing:	IEC 13850
Installation:	IEC 60204-1
Futures:	Ordinary emergency stop push button, pull or turn to release. With collar in green for signaling release. With key to release. With protrusion to monitor the NC contact block.
Insulated:	Class II - IEC 61140
Pollution:	Degree 3 - IEC 60664-1
Protection:	Degree IP66 - IEC 60529 IP20 for NC/NO contact
Wall hole size:	D22 (Ø22,5mm) IEC 60947-5-1
Wall torque:	2Nm
Wall thickness:	1 … 5.5mm
Materials:	Thermoplastic PA6.6 flame self-extinguishing and steel and/or zamak.
Electric performance:	
Ui, Ue:	690V
Uimp:	4KV
Ith:	10A
Cat. Utilization:	DC13, AC15
Overvolt. Category:	III
Protection of short circuit:	
When using contact block type BC01F- CSW or BC01B - CSW):	10A fuse/690V gL/gG (1kA), 10A miniature Circuit breaker (MDW-B10).
When using contact block type BCM01 – Monitoring contact:	6A fuse/500V gL/gG (0.5kA), 6A miniature Circuit breaker (MDW-B6).
Torque terminal:	0.8Nm
Wire:	(1 or 2x) 0,5 …(1 or 2x) 2,5mm2
Screw drive:	Ø6, type H, N°2 – ISO 4757
Ambient temp:	-25 … +60 °C

Mechanical endurance: B10d = 100.000 cycles.
MTTFd High, from 30 to 100 years. (B10d/0,1/nop)

Safety integrity level: Compatible to SIL3, IEC 61508-1 or PLe, ISO 13849-1 – Warning: Equipment requiring SIL3 or PLe is costly. The redesigning to reach SIL2 or PLd should be considered.
Breakouts for control stations:
Right and left breakouts: M20 - PG13,5 - 1/2”
Top breakouts: M20 - PG13,5 - 1/2”
Bottom breakouts: M16 - PG9

6. IMPORTANT INFORMATION FOR INSTALATION:

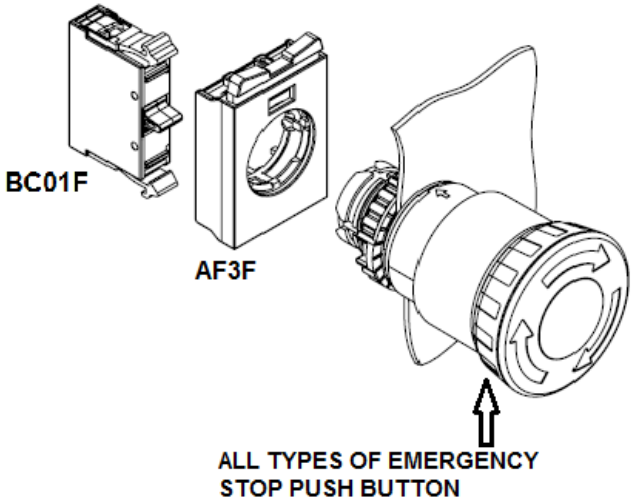
The emergency stop of the equipment shall be manually pushed and released.
It shall never be used as an on-off switch of the equipment i. e, when the open NC contact goes back to the closed position, the equipment shall remain stopped.
Emergency stop push buttons shall have free access and be easily perceived.
Do not add text and/or symbols near the emergency stop push button.
The key shall not be in the emergency stop push button when the device is released, allowing free access in case of emergency.

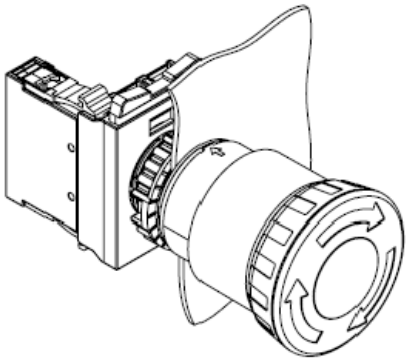
7. Monitoring of emergency stop system.

Contact blocks are connected to the emergency stop push button by snaps. Therefore, there is a risk of disconnecting the NC contact block from the emergency stop push button, which can result in a system failure. A way to avoid this is to monitor the NC contact to ensure that it is in position to operate when the emergency stop push button is triggered. Two ways of monitoring NC contact are available.

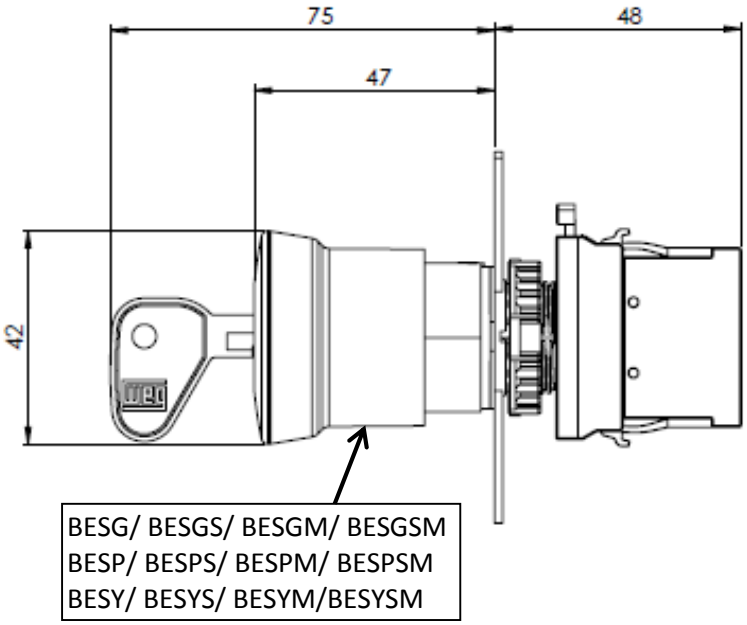
a. Using a special NC contact block type BCM01F-CSW with an ordinary emergency stop push button protrusion free type CSW-BESG, CSW-BESP, CSW-BESY, CSW-BESGS or CSW-BESPS. The special NC contact block has a NO contact inside which is kept open while it is not connected to the emergency stop push button.
b. Using an ordinary NC contact block type BC01F-CSW or BC01B-CSW associated to a NO contact block type BC10F-CSW or BC10B-CSW, respectively mounted to an emergency stop push button provided with protrusion type BESGM-CSW, BESGSM-CSW, BESPM-CSW, BESPSM-CSW, BESYM or BESYSM to keep the NO contact block closed.

8. Mounting emergency stop push button on panel.

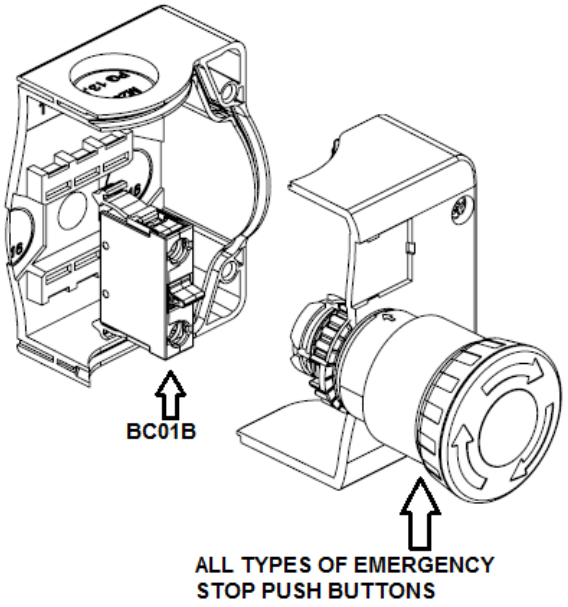


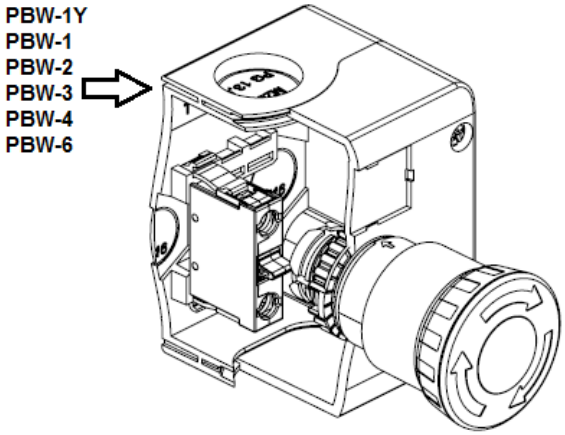


Overall dimensions



9. Mounting emergency stop push button on control station.





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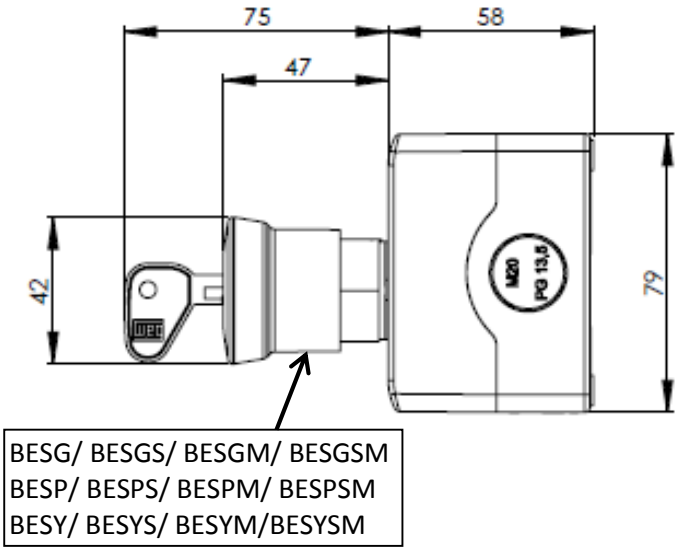
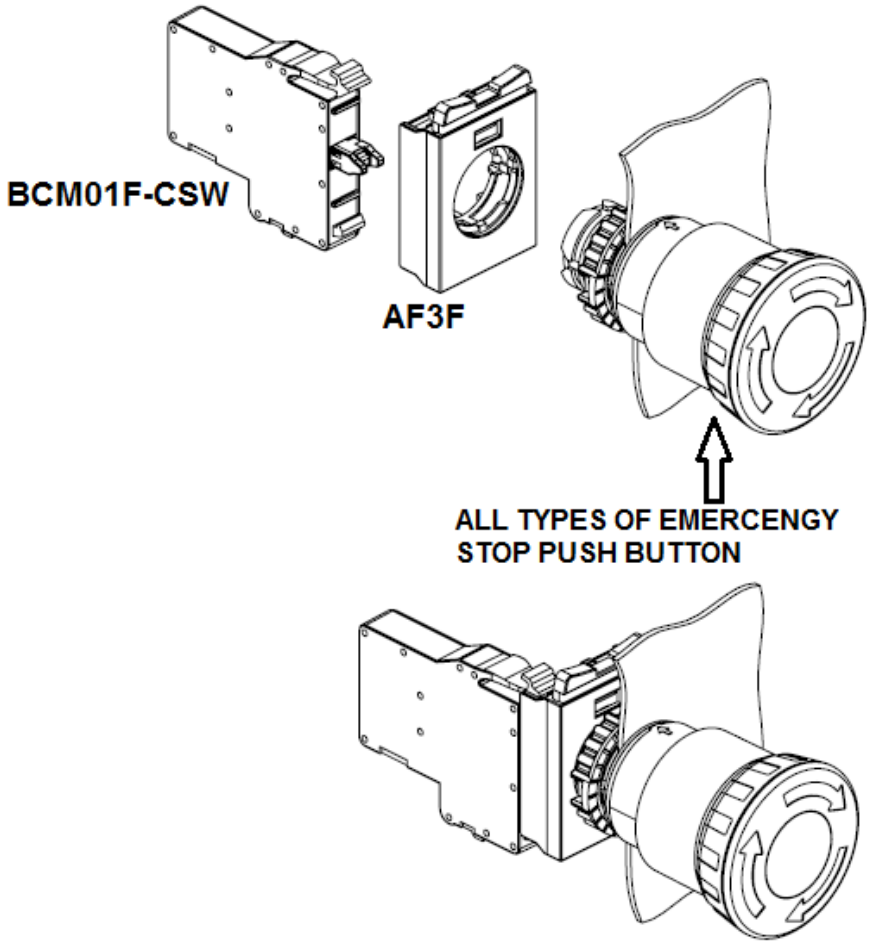


10. Mounting emergency stop push button on panel with special NC contact block monitored.



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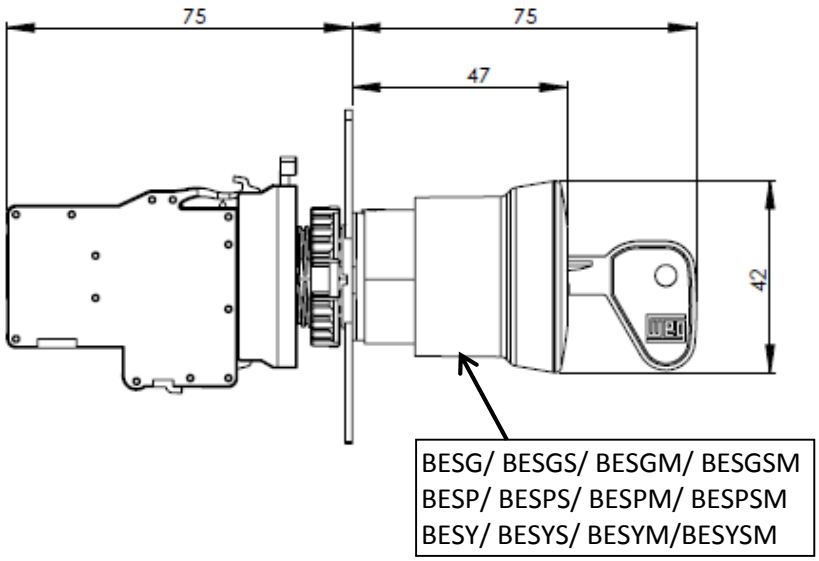
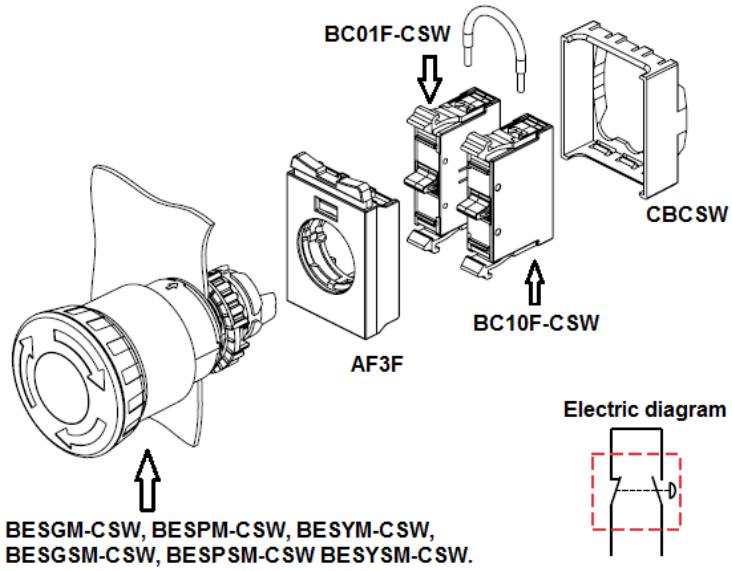
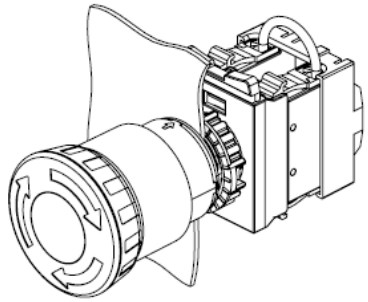
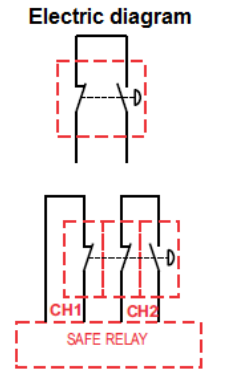


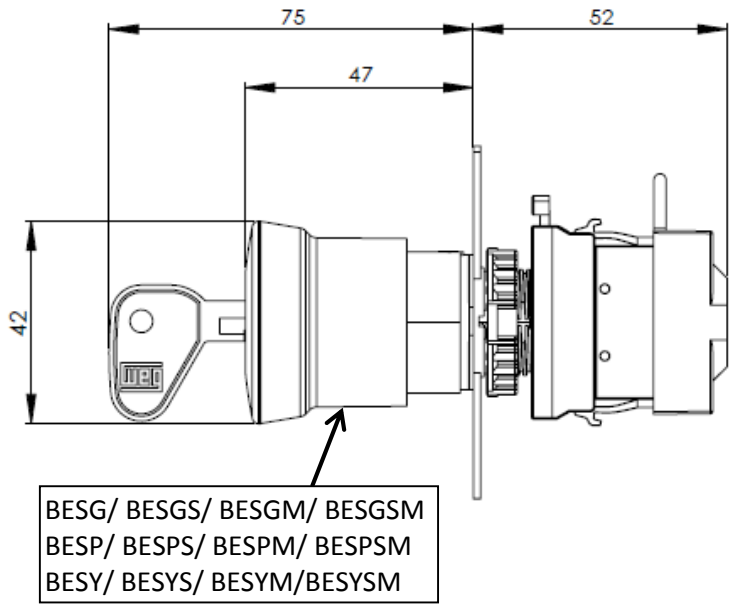
11. Mounting emergency stop push button on panel with NC contact monitored by an ordinary NO contact.



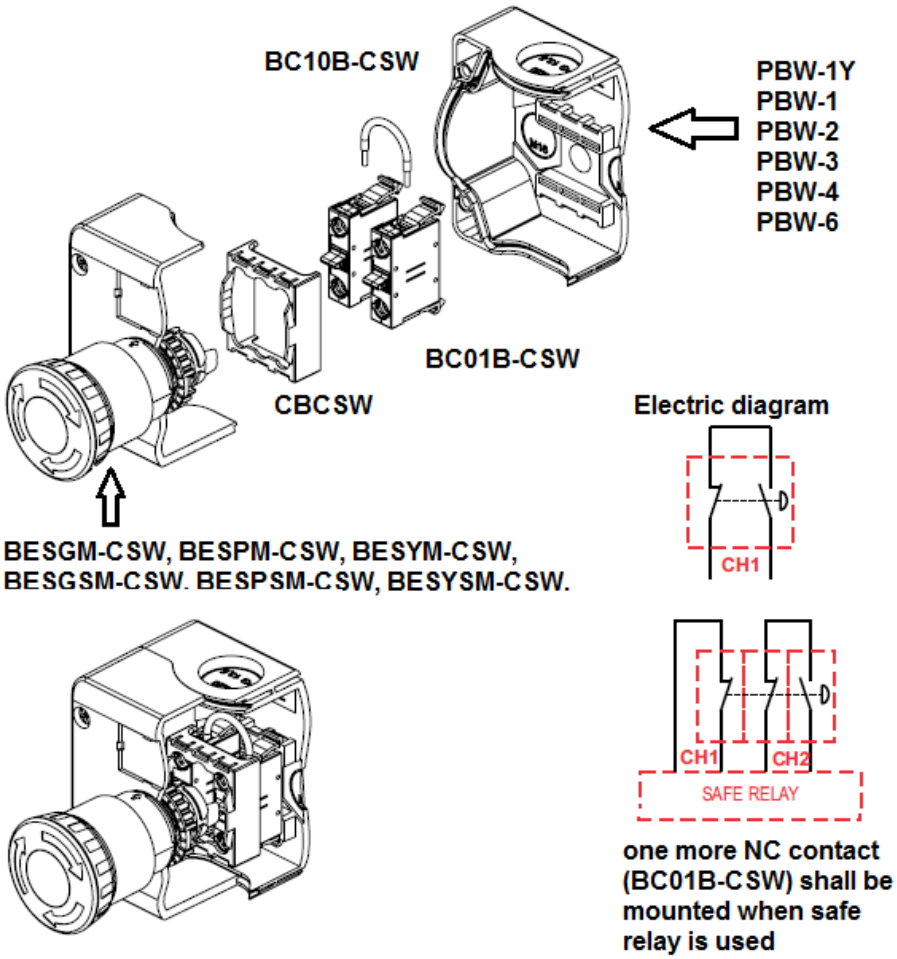




Overall dimensions



12. Mounting emergency stop push button on control station with NC contact monitored by an ordinary NO contact.



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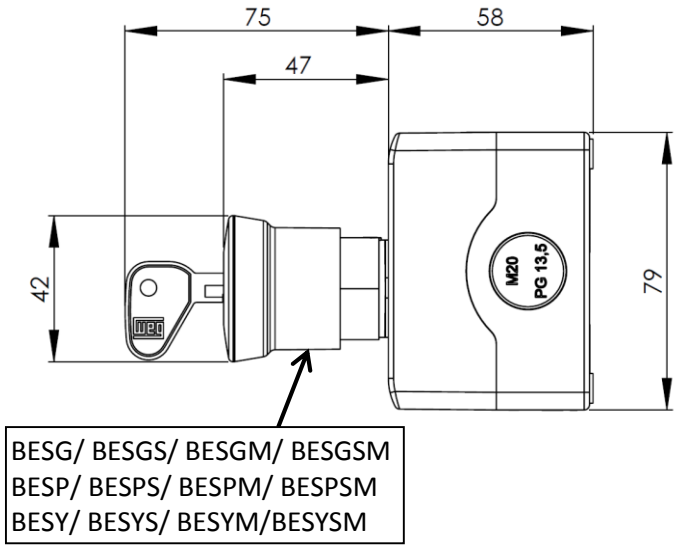

13. Functional testing
- See if all fitted components are correctly secured in place.
- Check electric connections pulling cables slightly from their terminals
- Punch the emergency stop push button, the machine shall stop.
- Release de emergency stop push button, the machine shall remain off.

14. Disassemble and disposal
Shall be done according to instructions in the Product End-of-Life instructions – COMPLETE EMERGENCY PUSHBUTTONS. It is located in the web site WWW.WEG.NET,