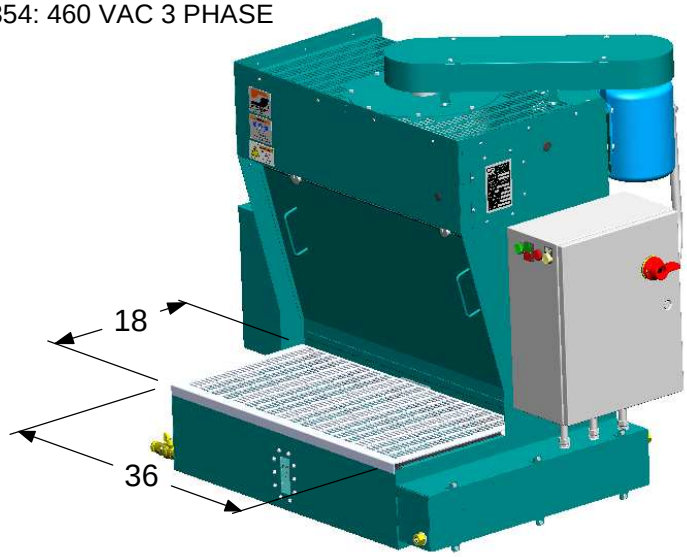
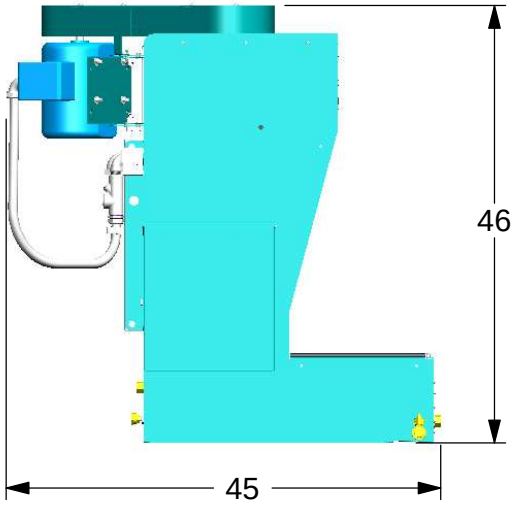
36" Metal Capture Station

Tool Manual - Safety, Operation and Maintenance

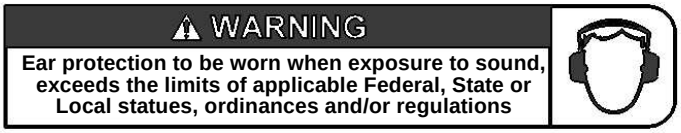
Models:
64300: 230 VAC 3 PHASE
64304: 460 VAC 3 PHASE
64350: 230 VAC 3 PHASE
64354: 460 VAC 3 PHASE

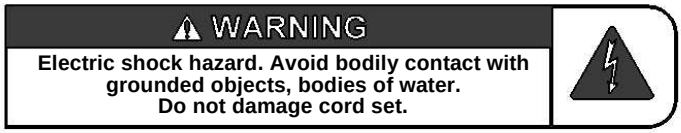
SAVE THIS DOCUMENT, EDUCATE ALL PERSONNEL





SAFETY LEGEND





IMPORTANT SAFETY INSTRUCTIONS

When operating this equipment, basic precautions should always be strictly followed including the instructions listed below:

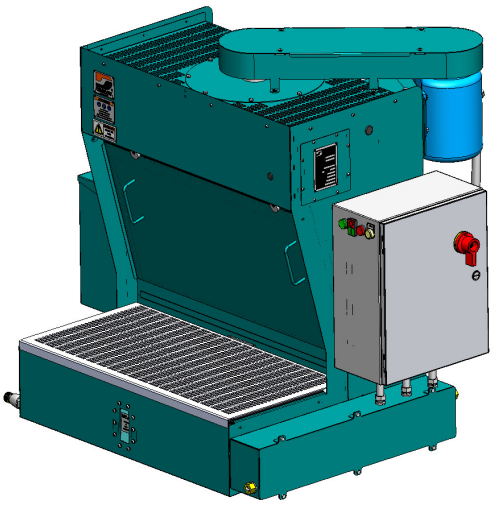
METAL CAPTURE STATION SAFETY INSTRUCTIONS

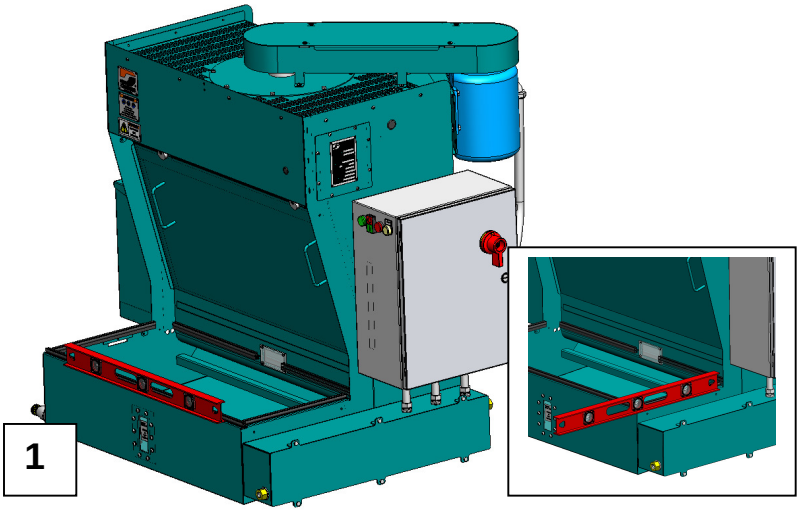
1. Always use a grounded power supply. There is an increased risk of electric shock with an ungrounded power supply.
2. Don't expose to rain or wet conditions. There is an increased risk of electric shock if the switch, cord or motor are wet.
3. Do not abuse the power cord. Never use the cord to move the station. Never use the cord to pull the plug out of the outlet. A damaged cord increases the risk of electric shock.
4. Do not block more than 25% of work surface inlet holes
5. Use caution when opening or closing guards, screens, etc. Switch power off and unplug cord before opening. Remove all work pieces and tools before opening to avoid injury. Keep fingers and hands clear when closing to avoid injury
6. Never use to exhaust chemical vapors
7. Vibration may occur if unit is not level.
8. Unplug power cord when accessing blower compartment area
9. Power lockout disconnect switch must be off when servicing station

Metal Capture Station Machine Setup

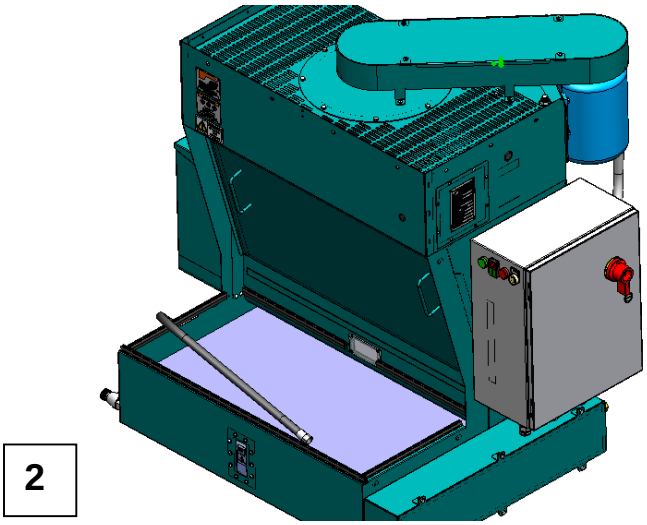
The 64300 & 64350 Series Metal Capture Stations will be pallet shipped to their destination. The following details will describe the steps required for initial machine setup before operation. Read through the entire setup procedure to understand its requirements before trying to run machine.

Warning:
Failure to follow the required steps for machine setup may result in damage to machine or personal injury.

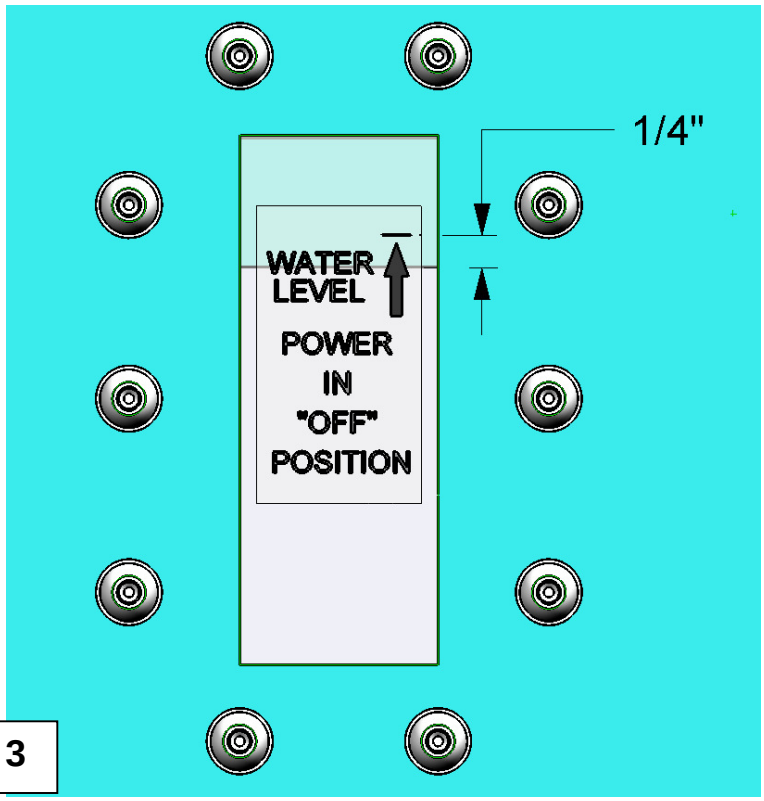




The first step is to level the machine. Having the machine level is crucial for the auto-fill sensor to operate properly, maintaining critical water level for proper filtration. After determining machine location and with work surface removed, utilize a level off the rigid top edges of the machine. Shim where required to provide a level machine on all four sides. Machine to be no more than 1/16” out of level over any 1-foot span.



You must now fill your tank to the proper start up water level. For initial setup, manually filling the tank is suggested. Use a garden hose from your water source and drop to the bottom of the tank before beginning to fill.



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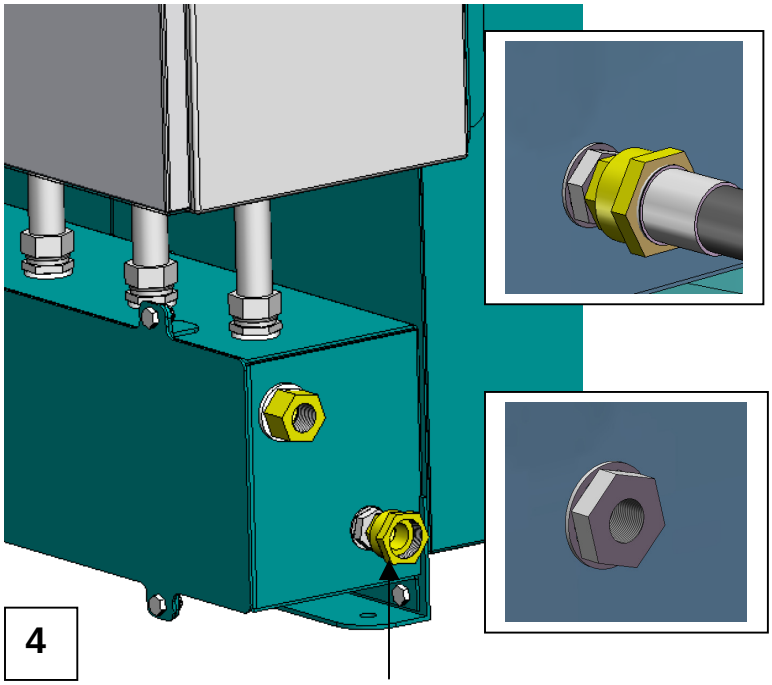
There is a water level window located at the front of the machine, which indicates the proper fill level in the “OFF” position. Continue filling the machine until the water is approximately ¼” short from the Water Level Line as indicated in detail.

Do not allow the water to fill higher than this line. If level is greater than height of the Water Level Line, proceed to remove water from machine until desired height is reached as indicated.

Once the desired level has been reached, remove hose from tank and place your work surface into position.

Note: The machines auto-fill system will bring the water level up to exact run height after the machines disconnect is turned to the “On” position as described in **Step 7** of the **Machine Setup**.



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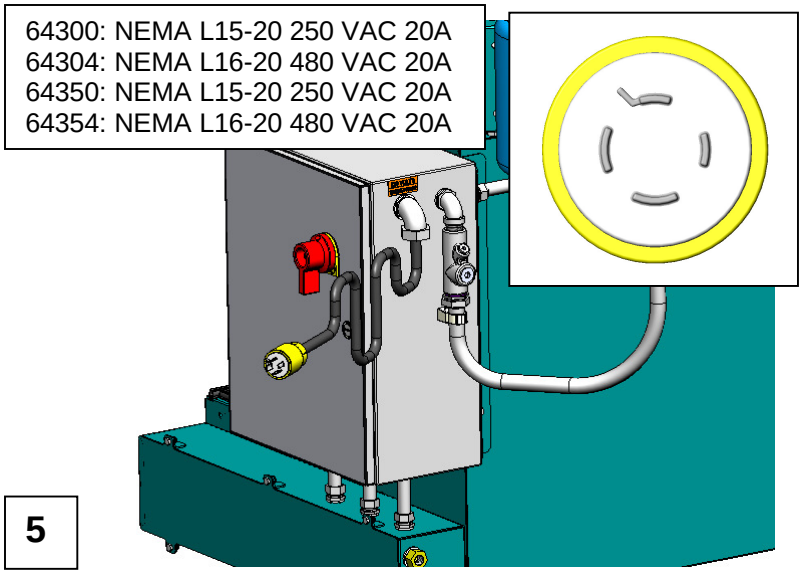
The machine is equipped with a self-filling water level system, which requires a constant water supply. The machine comes with a ¾” female garden hose swivel connect located at the rear of the machine or you can remove the brass garden hose swivel connect and use the ¼” NPT female bulkhead fitting for providing a water source.

64300: NEMA L15-20 250 VAC 20A
64304: NEMA L16-20 480 VAC 20A
64350: NEMA L15-20 250 VAC 20A
64354: NEMA L16-20 480 VAC 20A



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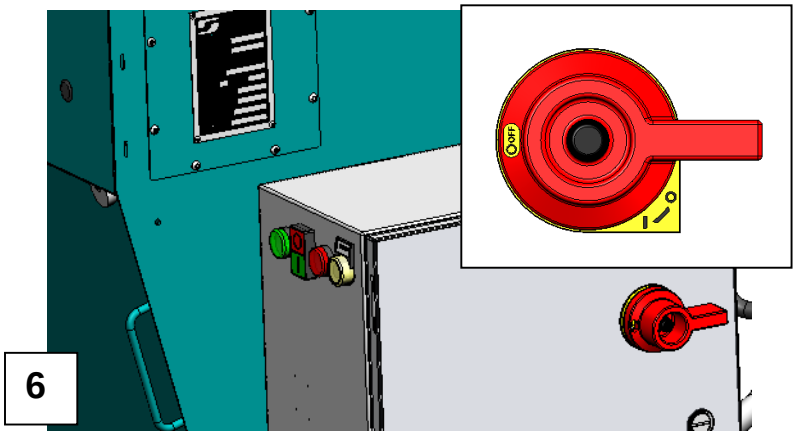
Next you will need to provide a power source for your machine. Refer to the parts page, as the model number will be used for determining the voltage rating for your specific machine.

Warning:
DO NOT attempt to wire the machine for any other voltage other than that stated for your model. There are internal components to the control box that are voltage specific and failure to provide proper voltage can cause damage to your machine and could cause personal injury.

Model: 64300, NEMA L15-20 shown



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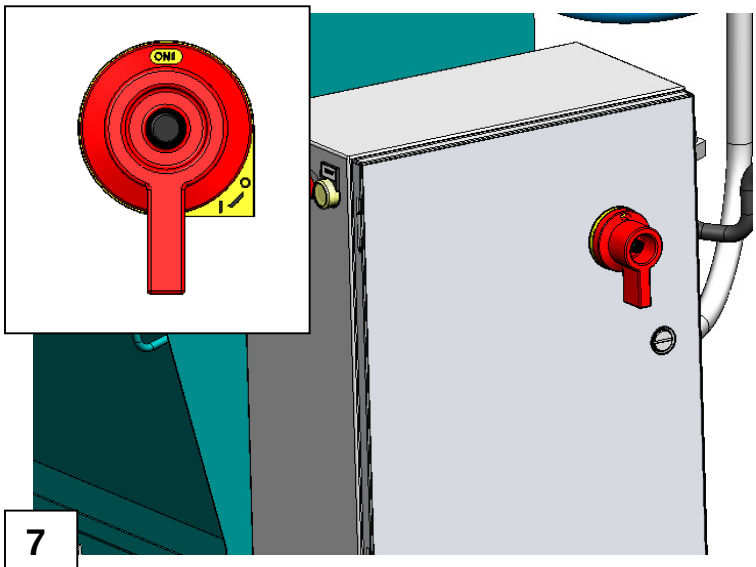
Before plugging in your machine, be sure that the lockout disconnect is in the “Off” position.

Note:
The disconnect is used as a lockout mechanism. For any maintenance required inside the control box, the disconnect will need to be in the off position to open the access door. If the disconnect is in the on position, the access door will remain locked.



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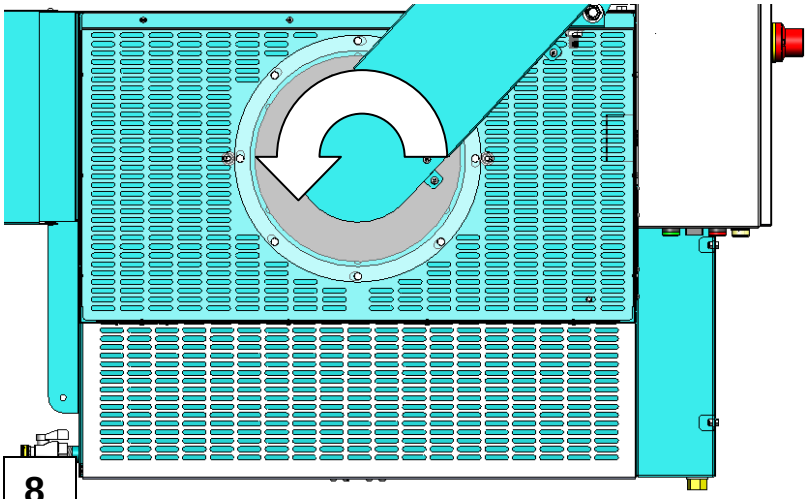
After plugging your machine in, proceed to move the lockout disconnect to the “On” position, providing power to the machine and sensory controls. Once power has been provided, the green pilot light will start a flashing sequence for a 25 second set-up stage. The auto-fill system will take over after the set-up stage is complete and bring the machines water level to the correct height before allowing the operator to turn on the machine. At the time the green pilot light glows solid, the machine is then ready to start.



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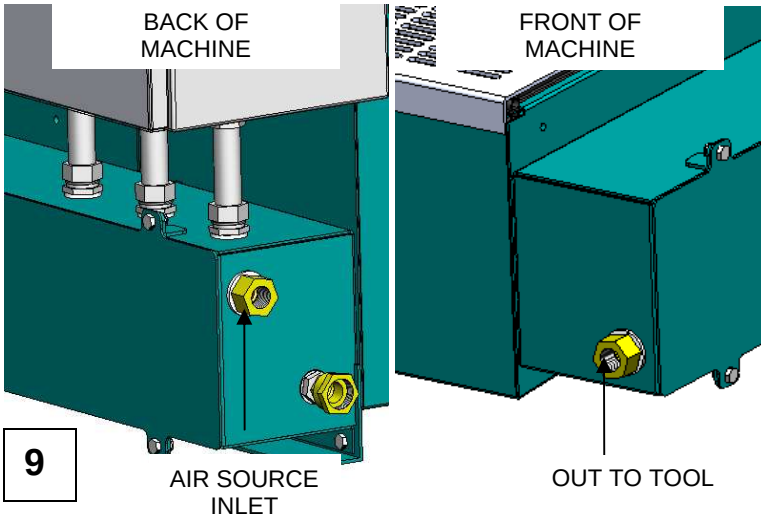
It is also important to recognize when wiring your machine, proper rotation of the impeller is essential for operation. From the top of the machine you can gain viewing access to the blower assembly. Blower should rotate in a counter-clockwise direction from this view of the machine as shown. If blower is rotating clockwise, interchange any two of the main power leads from the 3-phase supply.



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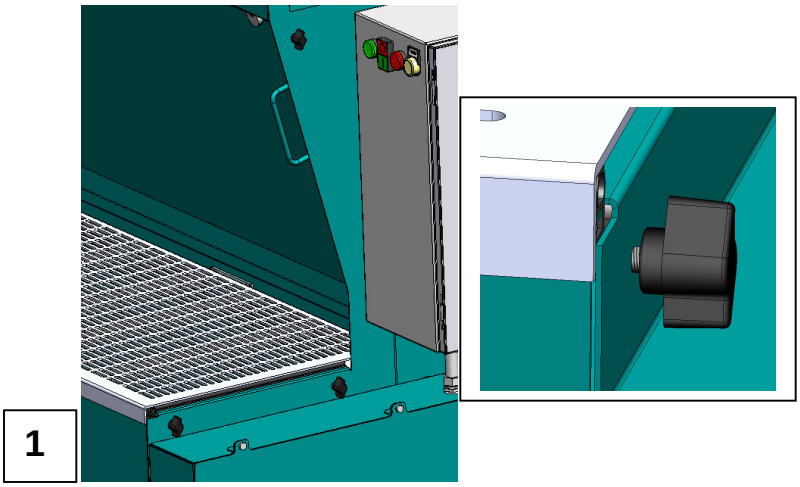
The machine is provided with a pneumatic interlock. The interlock will only provide air to the working tool after the machine has reached optimal run speed.

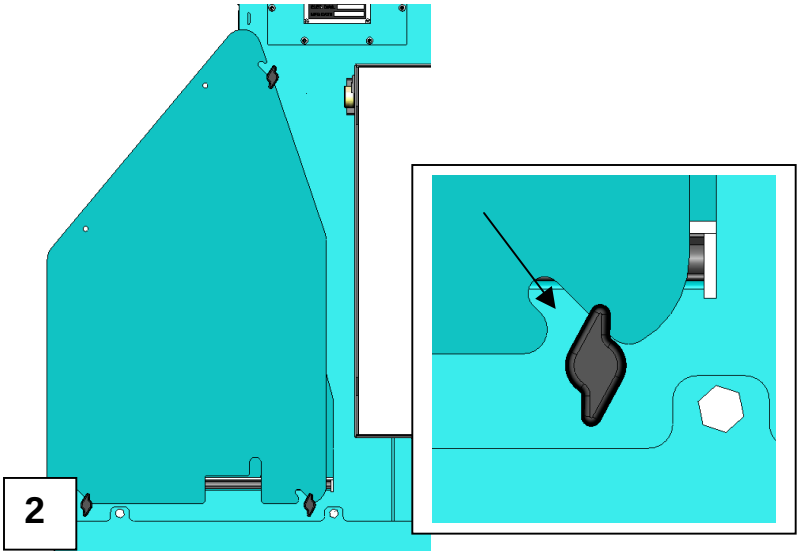
Maximum airflow: 95 SCFM

Metal Capture Station

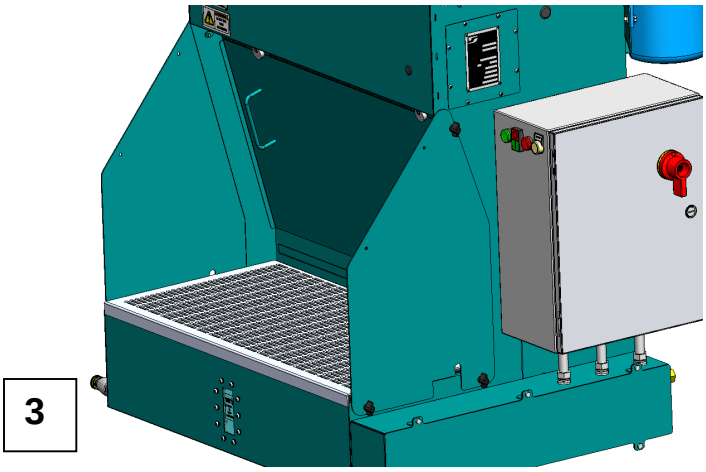
Optional Shield Installation



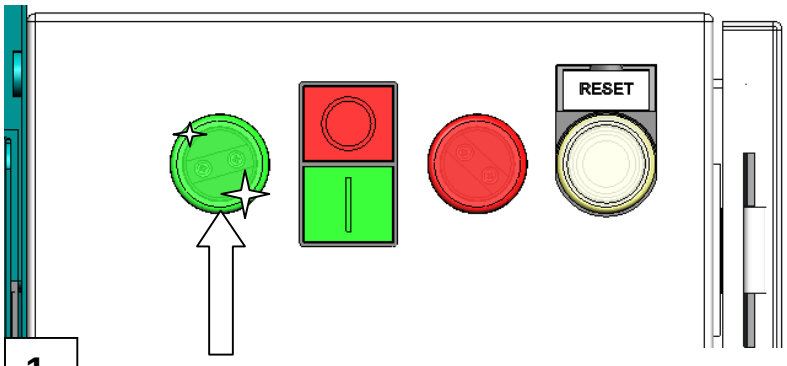
To begin installing the machines shielding assembly, screw qty 6 locking knobs into the threaded holes located around the perimeter of the main tank. Leave a 1/8” gap as shown at all 6 locations, to allow for the installing of the panels.



Slide the each panel into place, consistent With the angle of the slots in shield.



Compete installation by tightening down all 6 locking knobs hand tight.

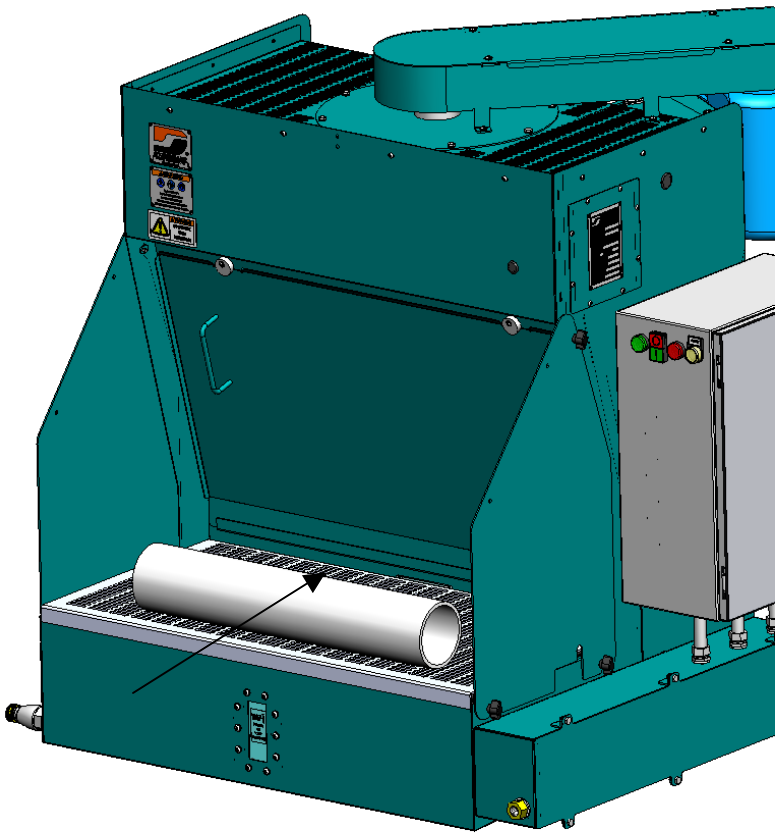


1

"Start" Button

Once the green pilot light glows constant, you can then turn on the machine.

Press and release the "Start" button. The machines impeller will reach its optimal operating speed in approximately 10 seconds and air filtration will begin. You can now begin to grind your work piece.



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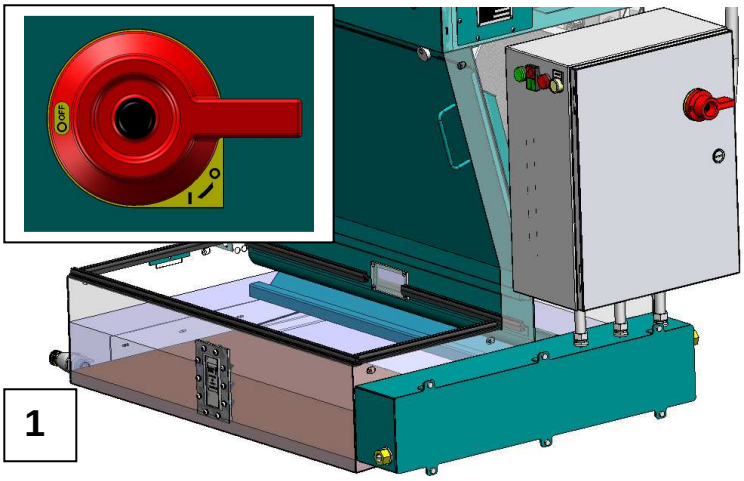
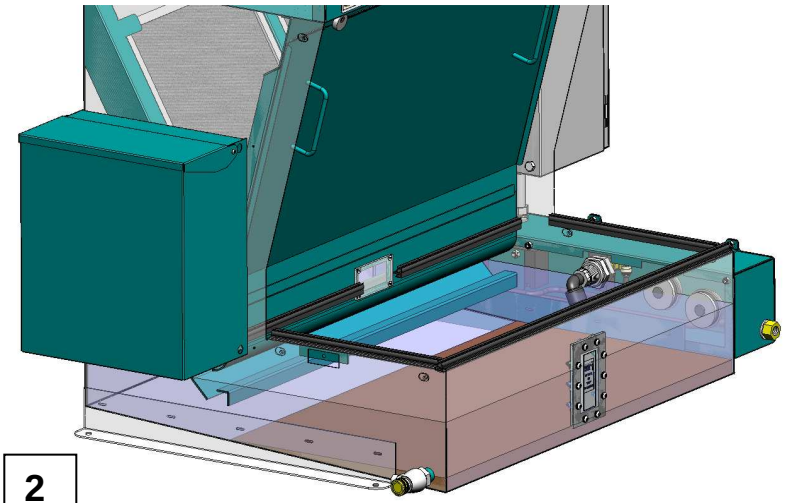
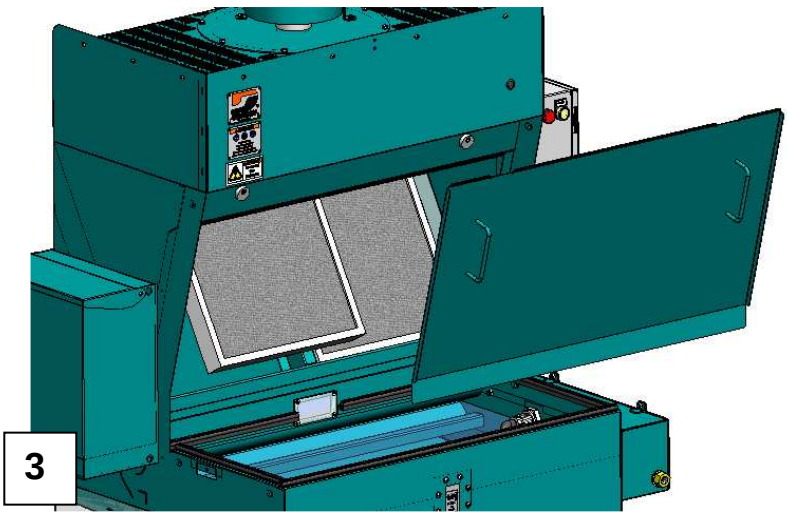
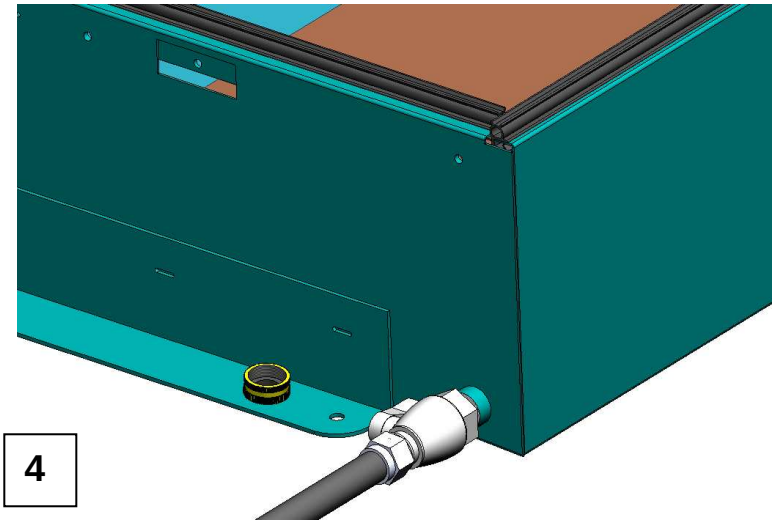
Direction of grind is very important when speaking to maximum dust collection. Be sure to manipulate both your work piece and tool to insure that the table is capturing the highest percentage of both metal fillings and small metal particles or dust.

Direct grind towards shielding for maximum capture rate.

 1	Before beginning any maintenance to your machine, first make sure the lockout disconnect is in the off position. Remove work surface to gain access to the interior of the tank.
 2	After machine use, sludge will collect at the bottom of the tank. It is required that sludge be removed daily. Remove sludge with a non-sparking scoop. Adhere to local codes to properly dispose of contaminated liquids/sludge.
 3	Continue by removing access panel and mist traps. This will allow you to clean the back of the machine.

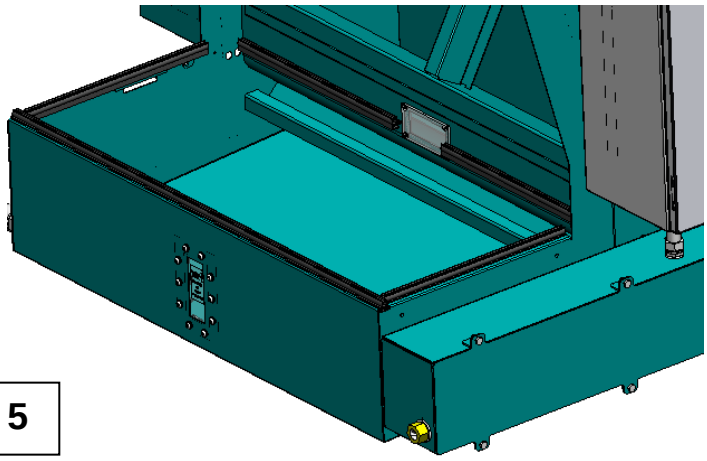


4

To change water:

Remove cap from drain valve and connect a garden hose, open valve and remove all water from tank.

When tank is completely empty of water, remove garden hose, re-install cap on drain valve and lock valve in the closed position.



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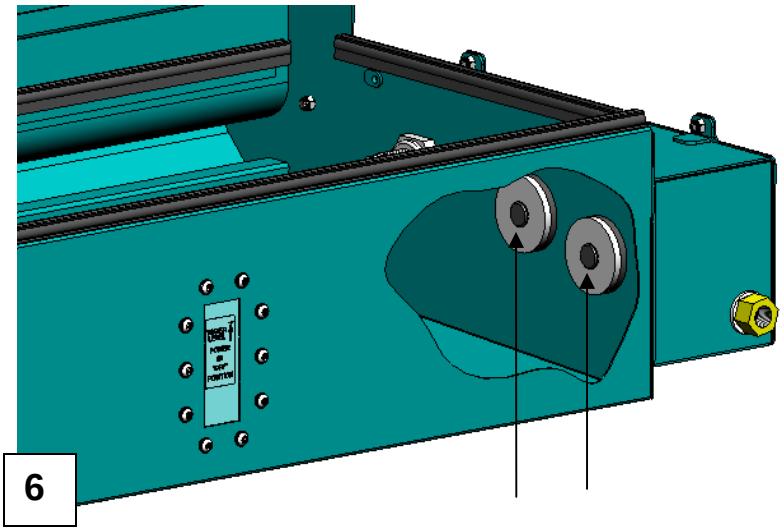
After draining all water, remove the sludge with a non-sparking scoop.

Adhere to local codes to properly dispose contaminated liquids/sludge.

Hose clean and re-install mist traps back into machine and lock down access panel.



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Keeping the liquid level sensors clean from sludge and debris is very important in maintaining the machines proper water level both in “On” and “Off” mode. Located in the wall of the tank as shown, gently clean the black sensor faces with water of any grind build-up or foreign debris.

These sensors should be monitored and kept clean through the usage of the machine on a daily basis.

Follow the **Machine Setup** for re-filling your machine and start-up.

Maintenance Schedule	Daily	Every 30 Days of use	Every 180 Days of use
Check Water Level	✓		
Remove sludge from collection tank	✓		
Remove any accumulated dust	✓		
Rinse mist traps with clean water	✓		
Replace water in collection tank		✓	
Inspect mist traps		✓	
Inspect V-Belt			✓

Check Water Level:
Insure that water in main collection tank is at the proper height before beginning operation of machine.

Remove sludge from Collection Tank:
Sludge should be transported in a covered, vented steel container for storage or disposal in accordance with federal, state and local regulations- sludge containing aluminum should be mixed with inert material (dry clay) in the ratio 5 parts inert material to 1 part sludge.

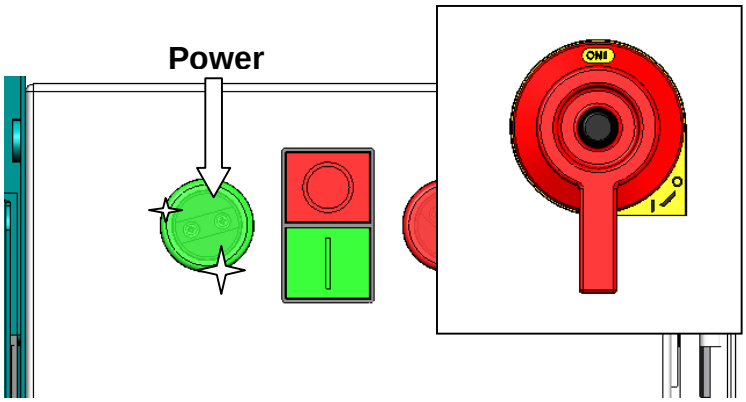
Remove any accumulated dust:
Inspect the Metal Capture Station or Table exhaust vent, internal and external surfaces and surrounding work area for any fugitive dust accumulation exceeding 1/32" thickness- remove with non-sparking, conductive dustpans and natural bristle brushes.

Rinse Mist traps with clean water:
Remove mist traps from Metal Capture Station or Table and rinse with clean water to remove any trapped sludge or debris. Once clean re-install mist traps before operation of machine.

Replace water in collection tank:
Replace the water in the collection tank with clean water-Dispose of used water in accordance with federal, state and local regulations.

Inspect Mist Traps:
Inspect mist traps for signs of corrosion or damage. Replace if any corrosion or damage is found.

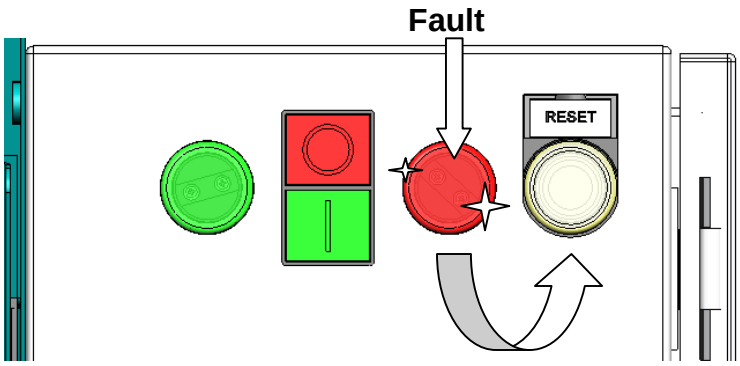
Inspect V-Belt:
Inspect V-Belt and replace if worn or damaged



Ready to Start:

After plugging your machine in, proceed to move the lockout disconnect lever to the on position, providing power to the machine and sensory controls. Once power has been provided, the green pilot light will start a flashing sequence for a 25 second setup stage. Be aware, you will not be able to power up the machine during this flashing stage. Once the green pilot light illuminates solid, you can then power up the machine.

Note: Clean sensors are critical for the proper operation of this machines auto-fill system. Be sure to monitor and wash down sensors as required. Refer to Maintenance section for proper machine care.



WARNING

If reset is required, proper water height is not being sensed. Check to make sure that water source is providing sufficient supply. Water level sensors may also require cleaning. Refer to manual on proper care and maintenance of machine. If machine continues to shut down, consult factory for further assistance.

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The red pilot light is used to signal different fault messages, depending upon its flash pattern.

A) Solid illumination:

Indicates that the water level is not sufficient for the Start-up of the machine. With proper water source connected, the machine will auto-fill to the correct sensory height. Once sensor is met, the solid red pilot light will dismiss and the green pilot light will illuminate solid, indicating it is back to the ***Ready to Start*** mode as indicated above.

B) Flash Pattern 1:
"ON" 4 seconds, "Off" 1 second:

During the above ***Ready to Start*** mode, the machine will allow the solenoid valve to open and fill the machine for a maximum of 10-minutes. If the ***Ready to Start*** sensor is not met in this 10-minute window, the machine will go into lockdown and will require a reset. Press the reset button briefly until it illuminates and then release. At this time, the machine will go back to the ***Ready to Start*** mode as indicated above.

B) Flash Pattern 2:
"ON" 1 second, "Off" 1 second:

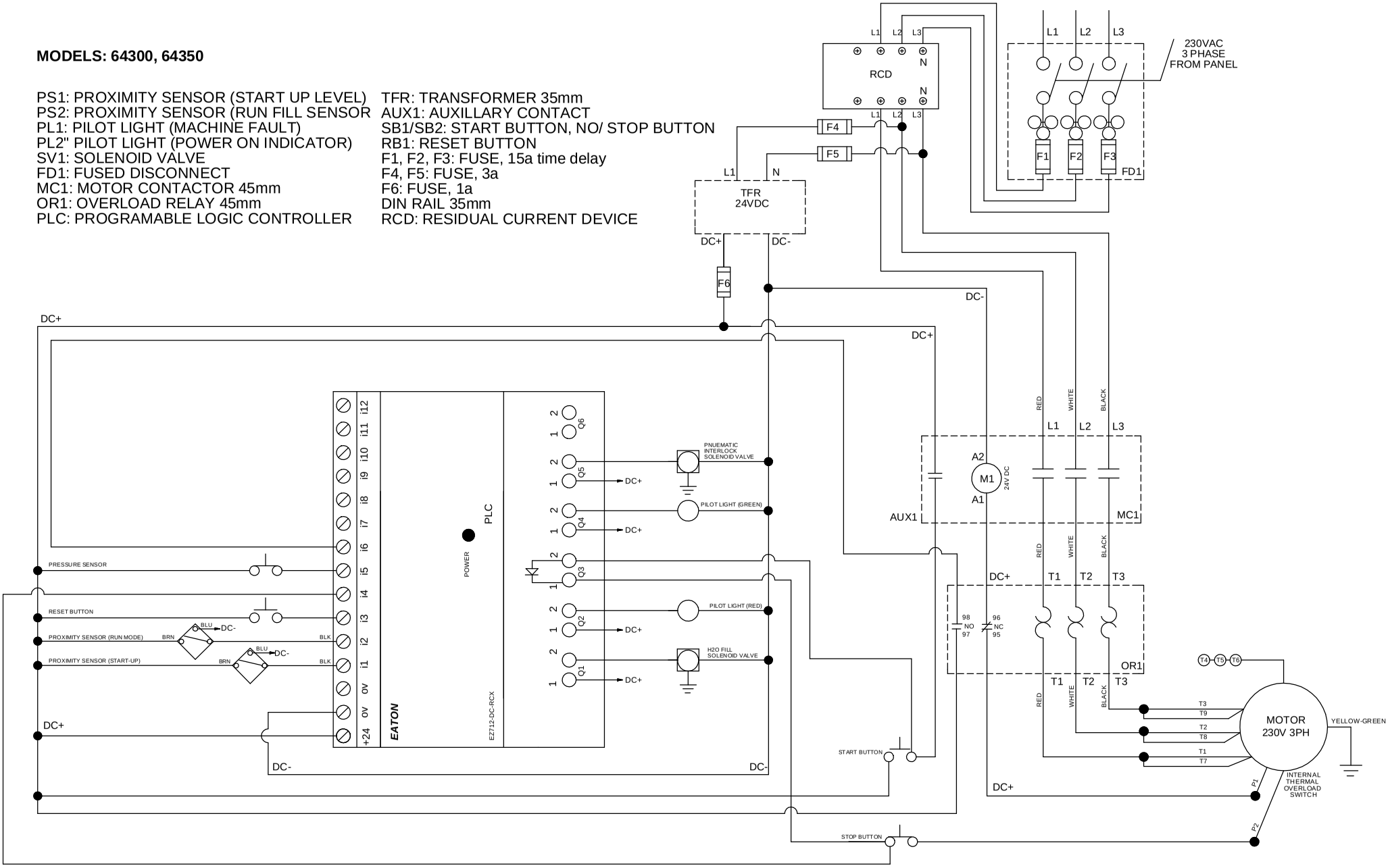
Indicates that the machine has shut down. The water level is not sufficient in the run mode and the auto-fill has attempted to reach proper water level but has failed.

The machine will now require a reset. Press the reset button briefly until it illuminates and then release. At this time, the machine will go back to the ***Ready to Start*** mode as indicated above.

MODELS: 64300, 64350

PS1: PROXIMITY SENSOR (START UP LEVEL)
PS2: PROXIMITY SENSOR (RUN FILL SENSOR
PL1: PILOT LIGHT (MACHINE FAULT)
PL2" PILOT LIGHT (POWER ON INDICATOR)
SV1: SOLENOID VALVE
FD1: FUSED DISCONNECT
MC1: MOTOR CONTACTOR 45mm
OR1: OVERLOAD RELAY 45mm
PLC: PROGRAMABLE LOGIC CONTROLLER

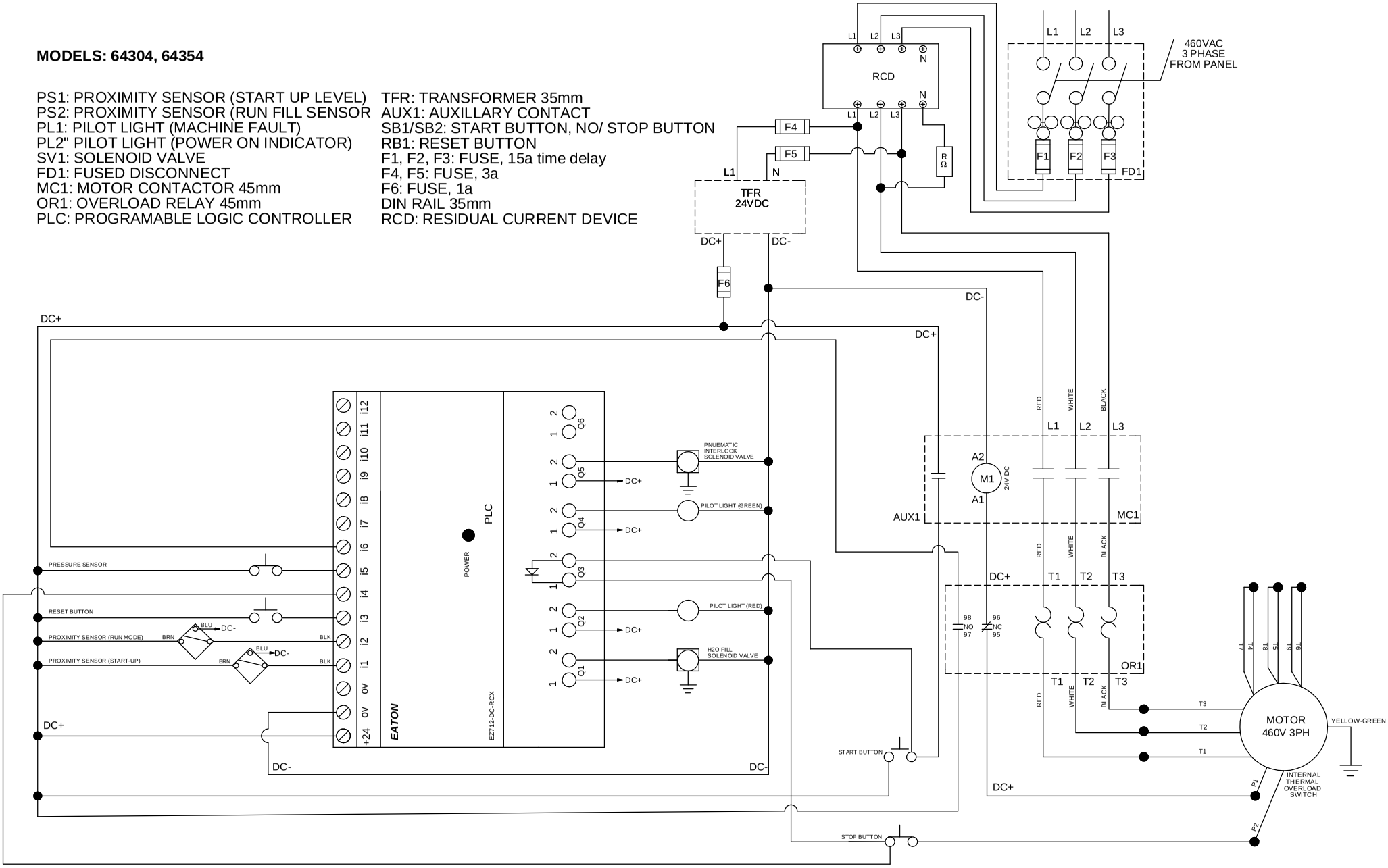
TFR: TRANSFORMER 35mm
AUX1: AUXILLARY CONTACT
SB1/SB2: START BUTTON, NO/ STOP BUTTON
RB1: RESET BUTTON
F1, F2, F3: FUSE, 15a time delay
F4, F5: FUSE, 3a
F6: FUSE, 1a
DIN RAIL 35mm
RCD: RESIDUAL CURRENT DEVICE



MODELS: 64304, 64354

PS1: PROXIMITY SENSOR (START UP LEVEL)
PS2: PROXIMITY SENSOR (RUN FILL SENSOR
PL1: PILOT LIGHT (MACHINE FAULT)
PL2" PILOT LIGHT (POWER ON INDICATOR)
SV1: SOLENOID VALVE
FD1: FUSED DISCONNECT
MC1: MOTOR CONTACTOR 45mm
OR1: OVERLOAD RELAY 45mm
PLC: PROGRAMABLE LOGIC CONTROLLER

TFR: TRANSFORMER 35mm
AUX1: AUXILLARY CONTACT
SB1/SB2: START BUTTON, NO/ STOP BUTTON
RB1: RESET BUTTON
F1, F2, F3: FUSE, 15a time delay
F4, F5: FUSE, 3a
F6: FUSE, 1a
DIN RAIL 35mm
RCD: RESIDUAL CURRENT DEVICE



F 200

System pro M compact®

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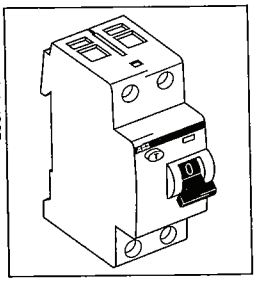

(I) Istruzioni per il montaggio e l'uso

(GB) Operation and assembly instructions

(D) Montage - und Betriebsanleitungen

(F) Instructions pour le montage et l'emploi

(E) Instrucciones de montaje y uso

(P) Instruções de montagem e utilização

(S) Monterings-och användningsinstruktioner

(RU) Инструкция по эксплуатации и установке

(NL) Montage - en (B) gebruiksaanwijzingen

(DK) Anvisninger vedrørende montering og brug

(GR) Οδηγίες εγκατάστασης και λειτουργίας

(SF) Asennus- ja käyttöohjeet

(N) Monterings- og bruksanvisning

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(GB)

Technical data

See equipment plate data and refer below:

F200 AC - F200 AC AP-R	Alternate currents
F200 A - F200 A AP-R	Alternate currents, pulse currents with DC components
F200 S	Selective [S]

Insensitivity to transient current F200 AC, F200 A up to 250A
pulses with wave-form 8/20 µs: F200 AP-R up to 3000 A ; F200 S up to 5000 A

Co-ordination with Short Circuit Protection Device: 10 kA, with 100 A fuse type gL 500V or S700-E/K 100A

Protection against overcurrent:
The RCCBs must be used with Short Circuit Protection devices to provide circuit protection against overloads and short circuit faults.

Power supply
The devices can be fed from either the upper or lower terminals.

Assembly
Designed for fitting on symmetrical DIN rail to standard EN 60715, 35 mm. width, with fast clip included in the breaker.
It is possible to realize the wiring with System pro M compact connection busbars on both the upper and lower terminals (see figure 1).

Figure 2: *Assemby on DIN rail (2.1). Removal (2.2).*

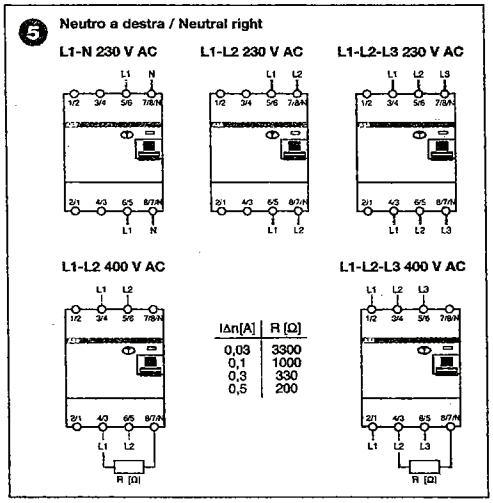
Figure 3: *To remove an F200 RCCB, wired on the lower side with a connection busbar, it is necessary to unscrew the lower terminals (3.1), to push it upwards up to the contact with the DIN rail (3.2) and then to push it downwards up to first position of the fast clip (3.3); the F200 can be removed by lifting it upwards (3.4).*

Figure 4: *To connect the F200 RCCB to a group of S200 MCB's fitted on the lower terminal with busbar, move out the fast clip to first position (4.1), place the device such that the busbar prongs enter the back lower terminals (4.2), move the device towards the DIN rail (4.3) and push downwards (4.4), in this way the fast clip attaches to the DIN rail (4.5).*

Electrical connections
In a three-phase network with neutral (Un =230/400V a.c.-240/415V a.c.-127/230V a.c.), all line wires, included the neutral one, should be connected. (excluded the protection wire). The wires should be firmly connected in the terminals:maximum torque moment according to EN 61008/IEC 61008 standards.
It is also possible to use a four-pole RCCB in single-phase, two-phases and three-phases networks without neutral; see figure 5 for the version with neutral on the right side and figure 6 for the version with neutral on the left side.

Instructions for the user (to be kept available for future users as well).
- Remember to press the "T" test button regularly and at least every six months. The RCCB should trip. If this does not happen, an authorized electrician should be alerted immediately because the system safety has been reduced.
- Always call a qualified technician to carry out any work on fixed or mobile eletrical installation.

Safeguard of the sorroundings
- The product is conforming to the european standards 2002/95/CE regarding the restrictions on the use of certain dangerous substances in the electrical and electronical equipments.
- It is necessary to respect the local regulations concerning the elimination of the packaging materials and of the circuit-breaker and, if possible, to recycle them.



Ferraz Shawmut

SOCOMEC
Disconnect Switches

⚠ DANGER / DANGER / PELIGRO

HAZARDOUS VOLTAGE

- This equipment must be installed and serviced only by qualified electrical personnel.
- Turn off all power supplying this equipment before working on or inside equipment.
- Always use a properly rated voltage sensing device to confirm power is off.
- Replace all devices, doors, and covers before turning on power to this equipment.

Failure to follow these instructions will result in death or serious injury.

TENSION DANGEREUSE

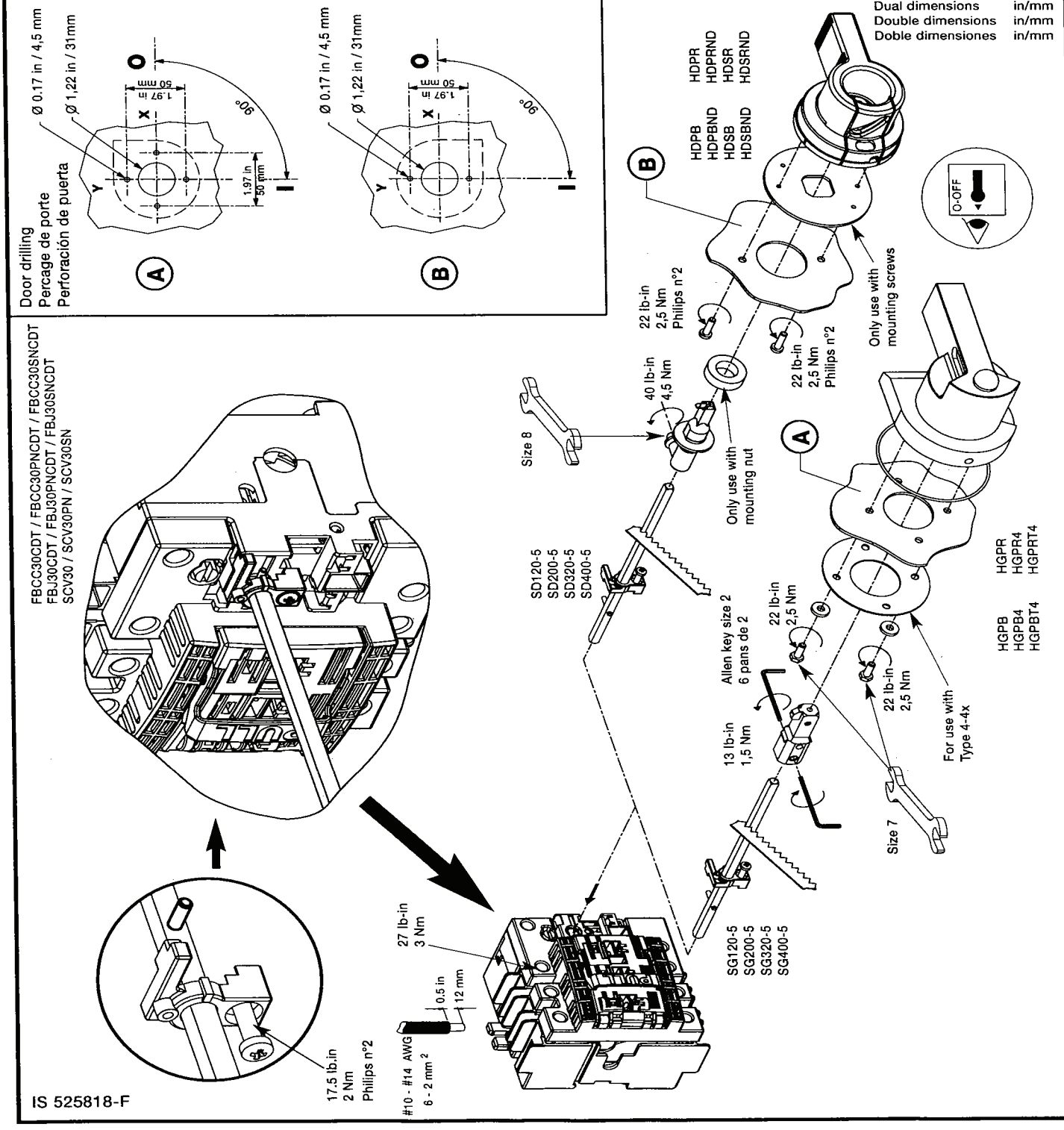
- L'installation et l'entretien de cet appareil ne doivent être effectués que par du personnel qualifié.
- Coupez l'alimentation de cet appareil avant d'y travailler.
- Utilisez toujours un dispositif de détection de tension à valeur nominale approprié pour confirmer que toute alimentation est coupée.
- Replacez tous les dispositifs, les portes et les couvercles avant de mettre cet appareil sous tension.

Si ces précautions ne sont pas respectées, cela entraînera la mort ou des blessures graves

TENSION PELIGROSA

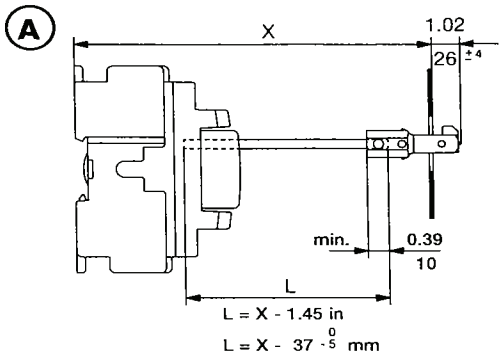
- Solamente el personal de mantenimiento eléctrico especializado debera instalar y prestar servicios de mantenimiento a este equipo.
- Desenergice el equipo antes de realizar cualquier trabajo en él.
- Siempre utilice un dispositivo detector de tensión adecuado para confirmar la desenergización del equipo.
- Vuelva a colocar todos los dispositivos, las puertas y las cubiertas antes de energizar este equipo.

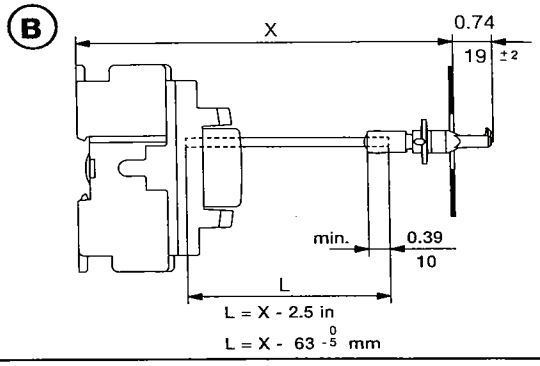
El incumplimiento de estas precauciones podrá causar la muerte o lesiones serias.



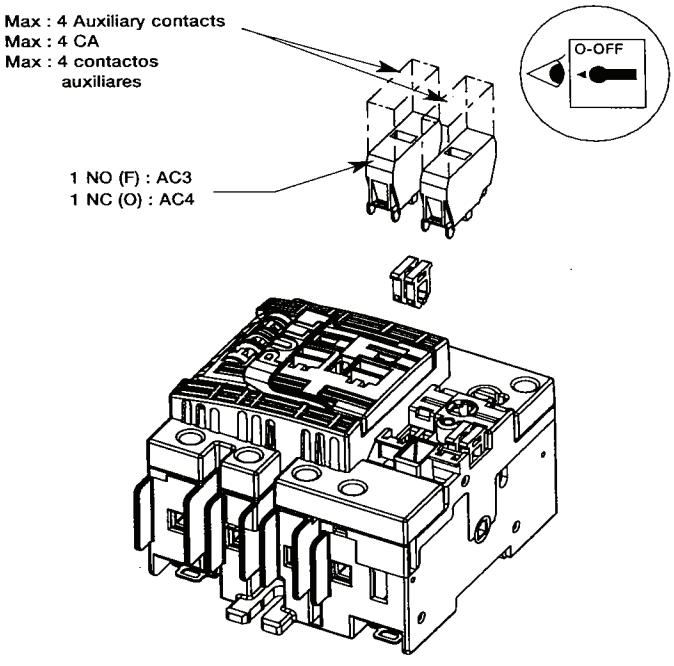
IS 525818-F

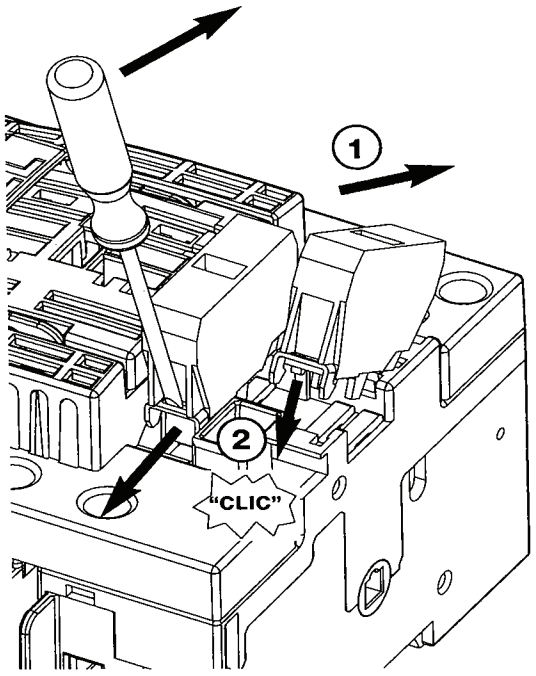
Shaft length
Longueur d'axe
Longitud del eje

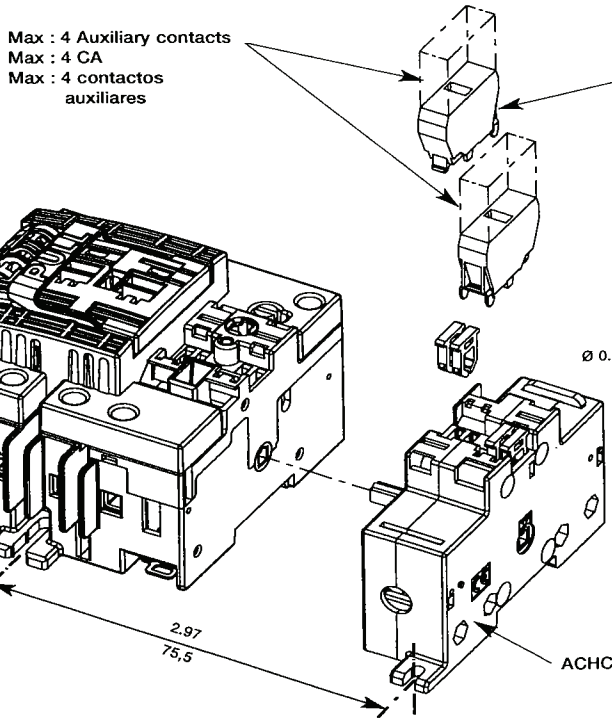


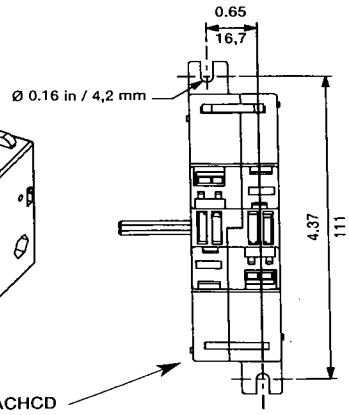


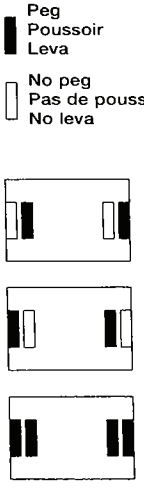
FBCC30CDT / FBCC30PNCDT / FBCC30SNCDT
FBJ30CDT / FBJ30PNCDT / FBJ30SNCDT (Max : 2 Auxiliary contacts / 2 CA / 2 contactos)
SCV30 / SCV30PN / SCV30SN











Ferraz Shawmut

SOCOMEC Disconnect Switches

⚠ DANGER / DANGER / PELIGRO

HAZARDOUS VOLTAGE

- This equipment must be installed and serviced only by qualified electrical personnel.
- Turn off all power supplying this equipment before working on or inside equipment.
- Always use a properly rated voltage sensing device to confirm power is off.
- Replace all devices, doors, and covers before turning on power to this equipment.

Failure to follow these instructions will result in death or serious injury.

TENSION DANGEREUSE

- L'installation et l'entretien de cet appareil ne doivent être effectués que par du personnel qualifié.
- Coupez l'alimentation de cet appareil avant d'y travailler.
- Utilisez toujours un dispositif de détection de tension à valeur nominale approprié pour confirmer que toute alimentation est coupée.
- Replacez tous les dispositifs, les portes et les couvercles avant de mettre cet appareil sous tension.

Si ces précautions ne sont pas respectées, cela entraînera la mort ou des blessures graves

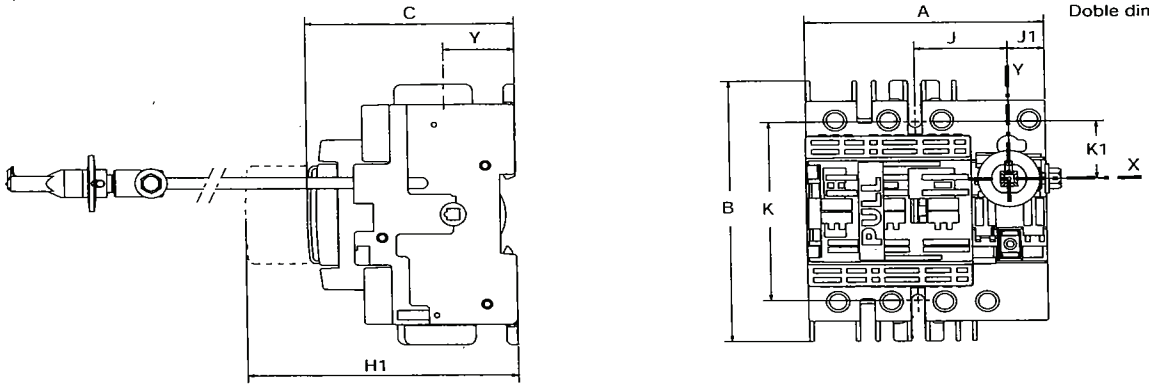
TENSION PELIGROSA

- Solamente el personal de mantenimiento eléctrico especializado debera instalar y prestar servicios de mantenimiento a este equipo.
- Desenergice el equipo antes de realizar cualquier trabajo en él.
- Siempre utilice un dispositivo detector de tensión adecuado para confirmar la desenergización del equipo.
- Vuelva a colocar todos los dispositivos, las puertas y las cubiertas antes de energizar este equipo.

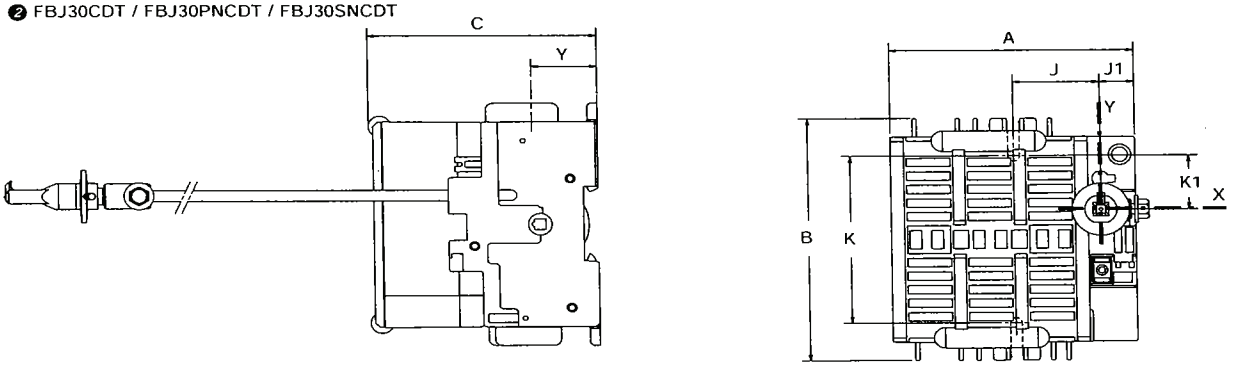
El incumplimiento de estas precauciones podrá causar la muerte o lesiones serias.

Dual dimensions in/mm
Double dimensions in/mm
Doble dimensiones in/mm

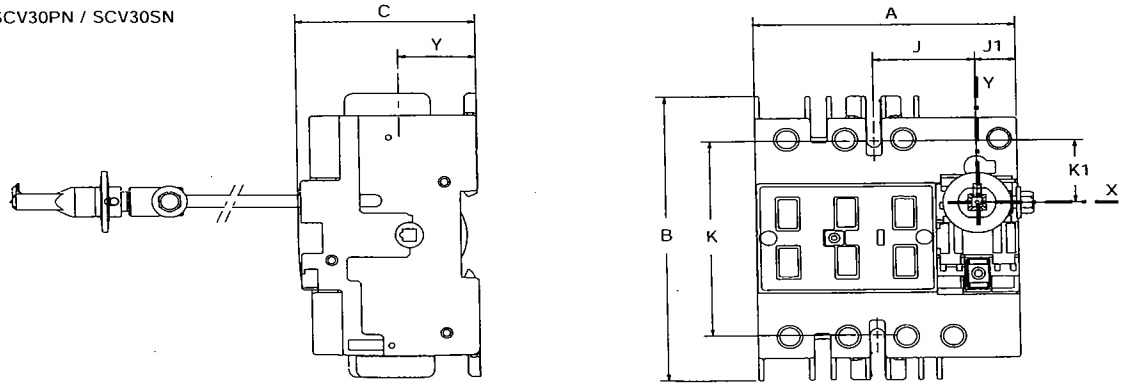
❶ FBCC30CDT / FBCC30PNCDT / FBCC30SNCDT



❷ FBJ30CDT / FBJ30PNCDT / FBJ30SNCDT



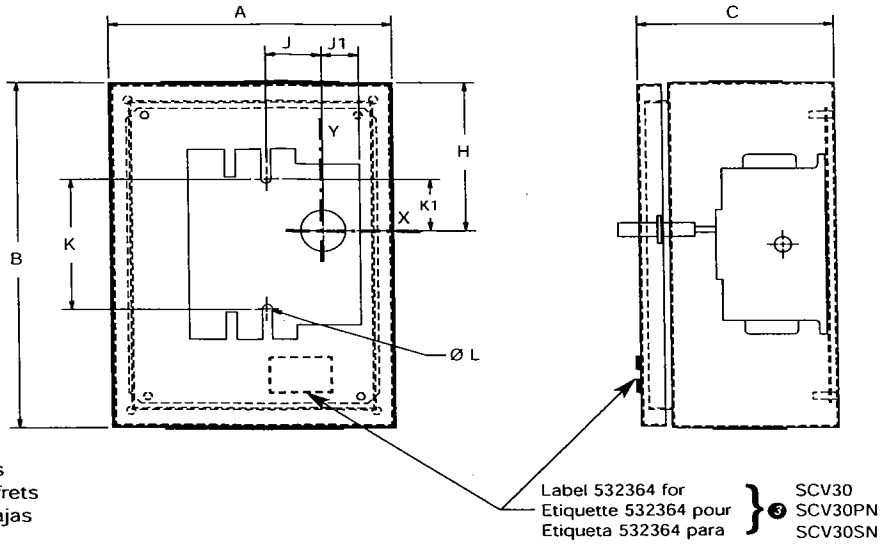
❸ SCV30 / SCV30PN / SCV30SN



	A		B		C		H		H1		H2		H3		J		J1		K		K1		Y	
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
❶ 3P/4P	3.78	96	4.56	116	3.28	83,5	/	/	5.19	132	/	/	/	/	1.47	37,5	0.59	15	3.13	79,5	1	25,5	1.12	28,5
❷ 3P/4P	4.13	105	4.56	116	3.89	99	/	/	/	/	/	/	/	/	1.47	37,5	0.59	15	3.30	84	1	25.5	1.12	28,5
❸ 3P/4P	3.78	96	4.56	116	2.59	66	/	/	/	/	/	/	/	/	1.47	37,5	0.59	15	3.13	79,5	1	25,5	1.12	28,5

IS 525817-E

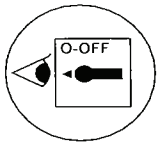
❶ FBCC30CDT / FBCC30PNCDT / FBCC30SNCDT
❷ FBJ30CDT / FBJ30PNCDT / FBJ30SNCDT
❸ SCV30 / SCV30PN / SCV30SN

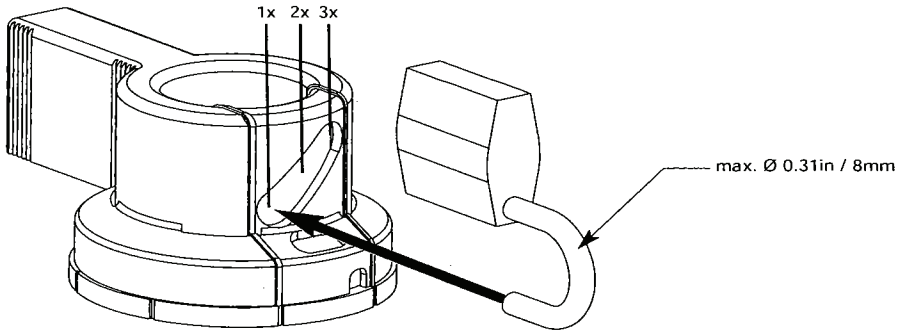


Minimum enclosure dimensions
Dimensions minimums des coffrets
Dimensiones minimas de las cajas

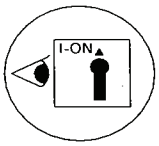
	A		B		C		H		J		J1		K		K1		ØL	
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
❶ 3P/4P	6	153	8	204	6	153	3.5	89	1.47	37,5	0.59	15	3.13	79,5	1	25,5	0.21	5,5
❷ 3P/4P	6	153	8	204	6	153	3.5	89	1.47	37,5	0.59	15	3.30	84	1	25,5	0.21	5,5
❸ 3P/4P	6	153	8	204	6	153	3.5	89	1.47	37,5	0.59	15	3.13	79,5	1	25,5	0.21	5,5

Padlocking the handle
Cadenassage de la poignée
Bloqueable por candados





Defeating the interlock in ON position
Déverrouillage de porte en position I
Desenganche del cerrojo en posicion I



⚠ DANGER / DANGER / PELIGRO

HAZARDOUS VOLTAGE

- Disconnect all power before servicing.
- Be sure enclosure is closed securely before operating device.
- Testing of live equipment should only be performed by qualified service personnel in accordance with local regulations.

Failure to follow these instructions will result in death or serious injury.

TENSION DANGEREUSE

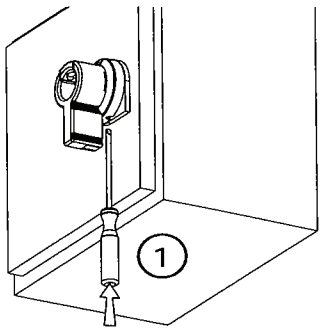
- Couper l'alimentation avant intervention.
- S'assurer de la fermeture du coffret avant manoeuvre de l'appareil.
- Les essais des équipements sous tensions ne doivent être effectués que par du personnel qualifié.

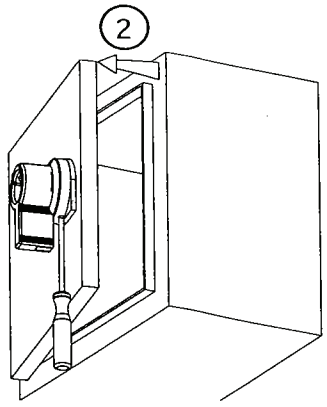
si ces précautions ne sont pas respectées cela entraînera la mort ou des blessures graves.

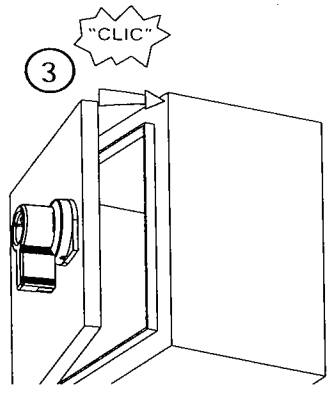
TENSION PELIGROSA

- Desenergice el equipo antes de una itervención.
- Asegurarse del cierre de la caja antes de manipular el equipo.
- Solamente el personal especializado debera probar los equipos sobre tension.

El incumplimiento de estas precauciones podrá causar la muerte o lesiones serias.







INSTRUCTION MANUAL INA-F0154e-JE

Magnetic Contactor

Type
SC-E02 [*1], SC-E02 [*1] /G
SC-E03 [*1], SC-E03 [*1] /G
SC-E04 [*1], SC-E04 [*1] /G
SC-E05 [*1], SC-E05 [*1] /G

This manual should be given to the person who actually uses the products and is responsible for their maintenance.

Suffixes listed below may be attached to the above types at portions marked with [*].
For details regarding specifications, see the catalog.
[*1] : RM

Safety Precautions

To ensure proper use of the product, be sure to read this manual and the other attached documents carefully before starting installation, operation, maintenance and inspection. Within this instruction manual, safety precautions are ranked, in order of importance, as either "Warning" or "Caution".

⚠WARNING An operator may be killed or seriously injured by a hazardous condition resulting from improper operation.

⚠CAUTION An operator may be suffer minor injuries and/or objects may be damaged by a hazardous condition resulting from improper operation.

Under certain conditions, improper operation may result in serious injury and/or damage even if it is labelled only as "Caution". Every item indicated by either "Warning" or "Caution" should be considered significant. Be sure to give particular care to those items.

⚠WARNING

- Do not touch the product or approach it when power connected. Electric shock or burns may result.
- Turn off the power before starting maintenance or inspection. Failure to turn off power may result in Electric shock or burns.

⚠CAUTION

- For wiring, select wire sizes suitable for the applied voltage and current. Tighten wires with the tightening torque specified in the instruction manual. Failure to do so may result in fire.
- Do not touch the product immediately after the power is turned off. As it may still be hot, burns may result.
- Do not use the product after removing its arc chamber. Electric shock or burns may result.
- Treat the product as industrial waste when discarding.

1. Unpacking

(1) Check that the type, coil voltage, and applicable capacity match the requested specifications.
(2) Make sure that no parts have been lost or damaged.

2. Storage

Store the unit in the packing box. Do not store the packing box in a location subject to high temperature, high humidity, corrosive gas, or direct sun light.

3. Mounting

(1) Mount in a dry, clean and stable location.
(2) Mounting on a vertical surface. The product must not incline more than 30°. (Fig.1)
(3) The rail mounting type can be attached on a standard 35mm IEC60715 mounting rail. Fuji type TH35-15AL mounting rail is recommended. Mounting of the rail on the panel (Fig.2) Attachment and removal (Fig.3)
(4) Even if the product is provided with four mounting holes, use any two mounting holes on a diagonal line. (Fig.4)

4. Mounting space

(1) Mount the products at a distance of at least that shown in the table below. (Fig.5, Fig.6)

A [mm]	0
B [mm]	10
C [mm]	0

(2) When units must be installed very closely, the temperature may rise in some conditions (i.e. the power is continuously supplied for a long time or units that frequently do switching are installed very closely), and it may shorten the life of the coil. Thus, when installing units very closely, it is recommended to install the units 5 mm or more apart.

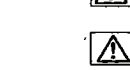
5. Connection

Connectable wire size and proper tightening torque.

(1) Main terminals

Types			SC-E02 SC-E02/G	SC-E03 SC-E03/G	SC-E04 SC-E04/G	SC-E05 SC-E05/G
Solid and stranded [Note 1] [Note 2]	×1	[mm²]	0.75 to 6			
	×2	[mm²]	"1 to 4" or "1.5 to 6"			
AWG conductor connection	×1		18 to 10			
	×2		"18 to 12" or "16 to 10"			
Stripped length 		[mm]	11			
Terminal screw size			M4			
Kinds of screw [Note 3]			⊕ ⊖			
Tightening torque	[N·m] [lb.in]		1.2 to 1.5 (11 to 13)			

(2) Coil terminals

Types			SC-E02 SC-E02/G	SC-E03 SC-E03/G	SC-E04 SC-E04/G	SC-E05 SC-E05/G
Solid and stranded [Note 1] [Note 2]	×1	[mm²]	0.75 to 6 (φ1 to φ1.6)			
	×2	[mm²]	"0.75 to 1.5" or "1.5 to 2.5"			
AWG conductor connection	×1		18 to 14			
	×2		18 to 14			
Stripped length 		[mm]	10			
Terminal screw size			M3.5			
Kinds of screw [Note 3]			⊕ ⊖			
Tightening torque	[N·m] [lb.in]		0.8 to 1 (7 to 9)			

[Note 1] Finely stranded wire without end sleeve is not applicable.
Use finely stranded wire with end sleeve.
[Note 2] Stranded wire : Number of solids ≦ 7
Except above stranded wire : Finely stranded with sleeve.
[Note 3] ⊕ : Philips PH2 φ6
⊖ : Slotted-head screw I1×5.5 type B
[Note 4] Tighten all terminal screws even if not used.
[Note 5] After alignment or bending back of connected leads, check the tightening torque of the clamping screws.

6. Operation indicator of contactor

Indicator shows contactor operates or not. (Fig.7)
Don't touch or push the indicator for continuity test, or it may result in Electric shock or burns.

7. Maintenance and Inspection

(1) Check that the operating circuit voltage is within the allowable voltage fluctuation range of the coil voltage.
(2) Check that all terminals are tightened with the proper torque periodically.
(3) In AC operation, check that operation power supply is sinusoidal waveform (50Hz and 60Hz) without distortion or cave-in etc.
(4) In combination of short circuit protection equipment (SCPD) type"2"of 8 clause, when slightly contacts weld occur, remove arc chamber and separate slightly welded contacts with a screwdriver, and products can be used in succession.
(5) After fastening terminal screw of middle phase, insert flat-bladed screwdriver between arc chamber and washer of terminal screw and lift the arc chamber, so arc chamber will be removed.
(6) Dark and rough contacts can still function. Do not refinish or grease them. If the contact facings are so badly eroded that the carrier material is visible, replace the product.

8. Short-circuit protective device (SCPD)

(1) Selection table according to IEC 60947-4-1

Type	Type "1" Prospective Current Iq [kA]	Fuji Breakers Part No.	Max. Rating [A]	Type "2" Prospective Current Iq [kA]	IEC 60269-1 gG and gM Fuses Max. Rating [A]
SC-E02 SC-E02/G	10	SA103C/30	30	50	20
SC-E03 SC-E03/G		SA103C/30	30		25
SC-E04 SC-E04/G		SA103C/30	30		40
SC-E05 SC-E05/G		SA53RC/50	50		50

Type "1" co-ordination requires that, under short-circuit conditions, the contactor or starter shall cause no danger to persons or installation and may not be suitable for further service without repair and replacement of parts.
Type "2" co-ordination requires that, under short-circuit conditions, the contactor or starter shall cause no danger to persons or installation and shall be suitable for further use. The risk of contact welding is recognized, in which case the manufacturer shall indicate the measures to be taken as regards the maintenance of the equipment.

(2) Short circuit protection according to UL508
Suitable for use on a circuit capable of delivering not more than 5,000 rms symmetrical amperes, 600V max. Maximum circuit breaker and fuse rating are described in the name plate.

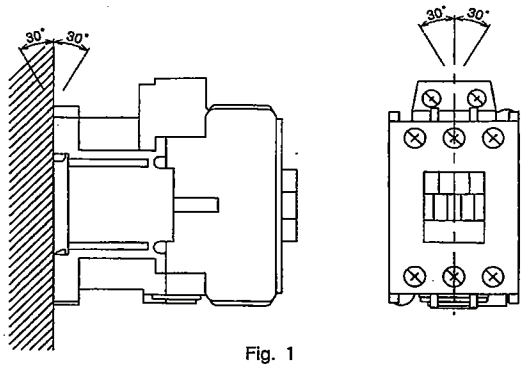


Fig. 1

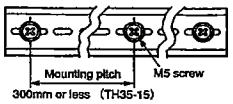


Fig. 2

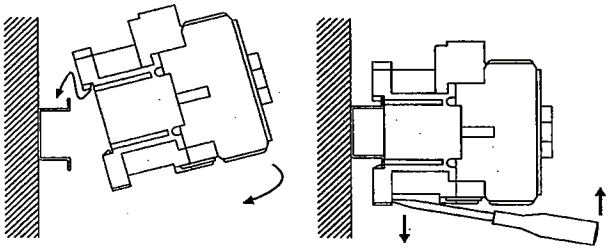


Fig. 3

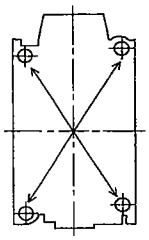


Fig. 4

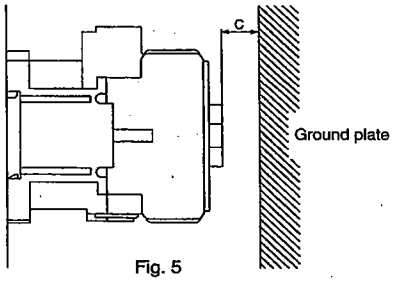


Fig. 5

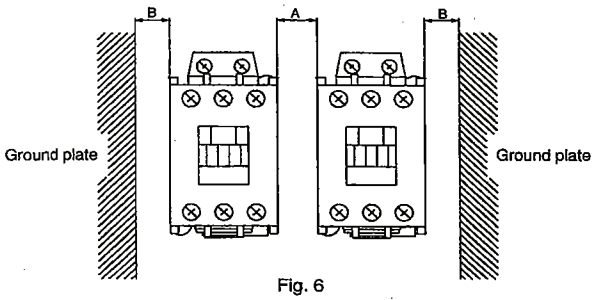


Fig. 6

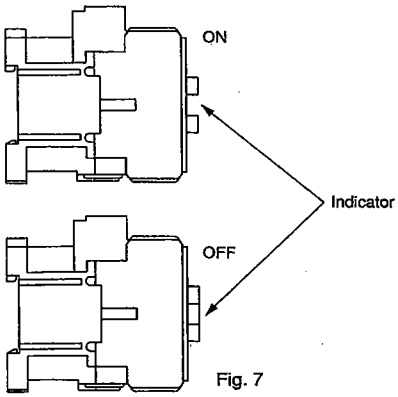


Fig. 7

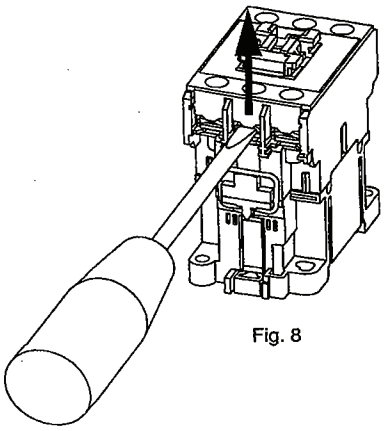


Fig. 8

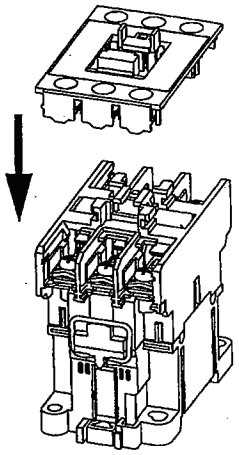
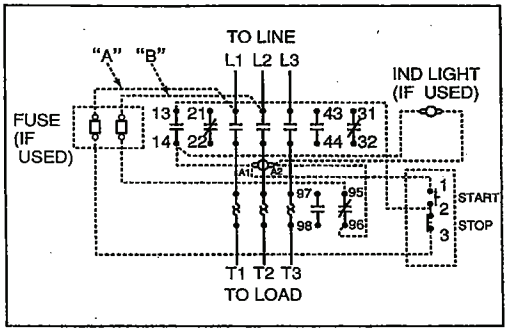


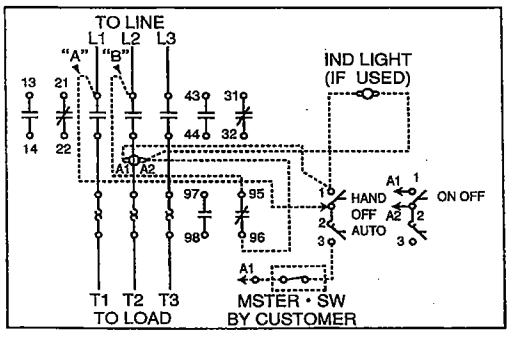
Fig. 9

Wiring diagram for USA and Canada

(1) 3-wire control circuit



(2) 2-wire control circuit



In 2 wire control circuits, be careful of the following points when using thermal overload relay with setting reset button to auto reset mode. If over-current flows, which is not large enough to blow the fuse or to operate the circuit breaker, the magnetic contactor repeats make/break operations. It does this because the thermal overload relay repeats the resets and the trips automatically. This repeated make/break operations would damage the magnetic contactor and the thermal overload relay. Eventually, contact welding short-circuit (phase to phase) or grounding occur, and the fuse blow or circuit breaker operate. In this case, check the magnetic contactor and the thermal overload relay. Replace them if they have been damaged.

Fuji Electric FA Components & Systems Co., Ltd.

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F05166843b

INA-F2011c-JE

INSTRUCTION MANUAL

Thermal Overload Relay

Type
TK-E02

This manual should be given to the person who actually uses the products and is responsible for their maintenance.

Safety Precautions

To ensure proper use of the product, be sure to read this manual and the other attached documents carefully before starting installation, operation, maintenance and inspection. Within this instruction manual, safety precautions are ranked, in order of importance, as either "Warning" or "Caution".

⚠ WARNING An operator may be killed or seriously injured by a hazardous condition resulting from improper operation.

⚠ CAUTION An operator may suffer minor injuries and/or objects may be damaged by a hazardous condition resulting from improper operation.

Under certain conditions, improper operation may result in serious injury and/or damage even if it is labeled only as "Caution". Every item indicated by either "Warning" or "Caution" should be considered significant. Be sure to give particular care to those items.

⚠ WARNING

- Do not touch the product or approach it when power connected. Electric shock or burns may result.
- Turn off the power before starting maintenance or inspection. Failure to do so may result in electric shock.

⚠ CAUTION

- Install the product in space more than being provided by this manual. Failure to do so may result in fire or burns.
- For wiring, select wire size suitable for the applied voltage and current. Burns may result. Tighten wires with the tightening torque specified in the instruction manual. Failure to do so may result in fire.
- Do not touch the product immediately after the power is turned off. As it may still be hot, burns may result.
- Treat the product as industrial waste when discarding.

1. Unpacking

(1) Check that the type and rating match the requested specifications.
(2) Make sure that no parts have been lost or damaged.

2. Storage

Store the unit in the packing box. Do not store the packing box in a location subject to high temperature, high humidity, corrosive gas, or direct sunlight.

3. Mounting

(1) Mount in a dry, clean and stable location.
(2) Mounting on a vertical surface. The product must not incline more than 30° . (Fig.1)
(3) Combination of contactors and thermal overload relay(TOR) and type of separate mounting unit for TOR.

Thermal overload relay (TOR)	Type of contactor on which TOR can be mounted	Type of separate mounting unit on which TOR can be mounted
TK-E02	SC-E02, E03, E04, E05 SC-E02/G, E03/G, E04/G, E05/G	SZ-HCE

4. Mounting space

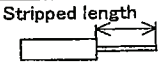
(1) Mount the products at a distance of at least that shown in the table below. (Fig.2 ex. TK-E02+SZ-HCE)

Dimension A	20mm
Dimension B	10mm

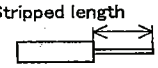
5. Connection

Connectable wire size and proper tightening torque

(1) Main terminals

Type			TK-E02
Direct Connection	Solid Stranded Flexible stranded with end sleeve 【Note 1】【Note 2】	[mm²]	1×(0.75 to 4) 2×(1 to 4)
		AWG	1×(18 to 12) 2×(18 to 12)
	Stripped length 	[mm]	11
Terminal screw size			M4
Tool 【Note 3】			⊕ ⊖
Tightening torque		[N·m]	1.2 to 1.5
		[lb·in]	11 to 13

(2) Auxiliary terminals

Type			TK-E02
Direct Connection	Solid Stranded Flexible stranded with end sleeve 【Note 1】【Note 2】	[mm²]	1×(0.75 to 2.5) 1×(φ1 to φ1.6) 2×(0.75 to 1.5) 2×(1.5 to 2.5)
		AWG	1×(18 to 14) 2×(18 to 14)
	Stripped length 	[mm]	10
	Terminal screw size		M3.5
	Tool 【Note 3】		⊕ ⊖
	Tightening torque	[N·m]	0.8 to 1
		[lb·in]	7 to 9

【Note1】 Finely stranded wire without end sleeve is not applicable. Us finely stranded wire with end sleeve.
【Note2】 Stranded wire: Number of solids ≦ 7
Flexible stranded wire: Number of solids > 7
【Note3】 ⊕:Philips PH2 φ6
⊖:Slotted-head screw I-1×5.5×L Type B
【Note4】 Tighten all terminal screws even if not used.
【Note5】 After alignment or bending back of connected wires, check the tightening torque again.

6. Usage

(1) Turn the adjustment dial within the scale so that the full load current of the motor is at the ▼ mark (Fig. 3). Do not use beyond the scale, or the expected performance cannot be obtained.
(2) By pushing the Trip bar toward the arrow, the sequence check will start (Fig.4).
(3) The operation status of the thermal overload relay is indicated with the projected length of the Trip bar (Fig.4).
(4) If the thermal overload relay operates, first remove the cause of failure such as overload, and then lightly press the reset button to reset it. (In this case, the thermal overload relay cannot reset, if it is not cooled sufficiently.) (Fig.3)
(5) To change over from manual reset mode to automatic reset mode, keep the reset button pushed by the procedure shown in Fig.5.
(6) Note that the motor restarts automatically if the Thermal overload relay in a two-wire circuit is reset I at automatic reset mode.

7. Maintenance and Inspection

7.1 Inspection before operation

(1) Check that all screws are tightened.
(2) Check that there is no foreign matter in the unit, such as wire chips or washers.

7.2 Periodic inspection

(1) Perform initial inspection early, and perform subsequent inspections on a regular basis.
(2) Check that all terminals are tightened with the proper torque periodically.
(3) Please request "Maintenance & Inspection manual·Parts list" to our sales office, when necessary.

8. Short circuit protective device (SCPD)

Thermal overload relay		Contactor type	IEC60947-4-1					UL508
			Type 1			Type 2		
Type	Rrange [A]		Prospective Current Iq [kA]	Fuji Breaker Type	Fuji Breaker Rating [A]	Prospective Current Iq [kA]	IEC60269-1 gG and gM Fuse Rating [A]	Maximum circuit breaker and fuse rating are described in the nameplate.
TK-E02	0.1–0.15	SC-E02	10	–	–	50	–	Suitable for use on capable of delivering not more than 1000 rms symmetrical amperes, 600V max.
	0.13–0.2			–	–		–	
	0.15–0.24			–	–		–	
	0.2–0.3			–	–		–	
	0.24–0.36			–	–		–	
	0.3–0.45			–	–		–	
	0.36–0.54			SA53RC	3		2	
	0.48–0.72			SA53RC	3		4	
	0.64–0.96	SC-E03		SA53RC	5		4	
	0.8–1.2	SC-E04		SA53RC	5		4	
	0.95–1.45	SC-E05		SA53RC	10		16	
	1.4–2.2	SC-E02/G		SA53RC	10		20	Suitable for use on capable of delivering not more than 5000 rms symmetrical amperes, 600V max.
	1.7–2.6			SA53RC	10		20	
	2.2–3.4	SC-E03/G		SA53RC	10		20	
	2.8–4.2	SC-E04/G		SA53RC	10		20	
	4–6	SC-E05/G		SA53RC	10		20	
	5–8			SA103C	30		20	
	6–9			SA103C	30		20	
	7–11			SA103C	30		20	
	9–13			SA103C	30		25	
	12–18			SA103C	30		40	
	16–22			SA53RC	50		50	
	20–25			SA53RC	50		50	

Type 1 is a selection that the contact welding or damage may result after short-circuited. Exchange the product for a new product promptly. Type 2 is a selection that the product can be used after short-circuited. The slight welding of the main contacts may result. Check if the contacts are welded. Separate the contacts by driver or its equivalent in case of welding.

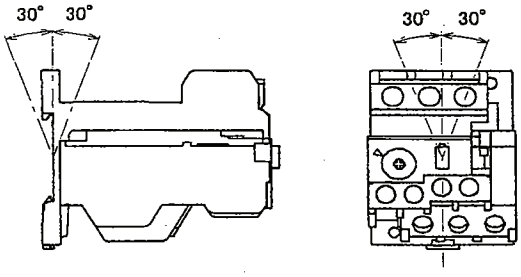


Fig.1

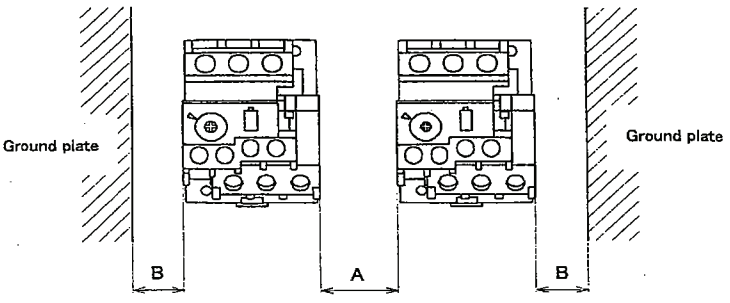


Fig.2

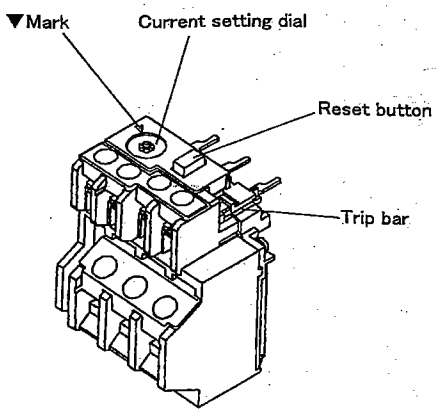


Fig.3

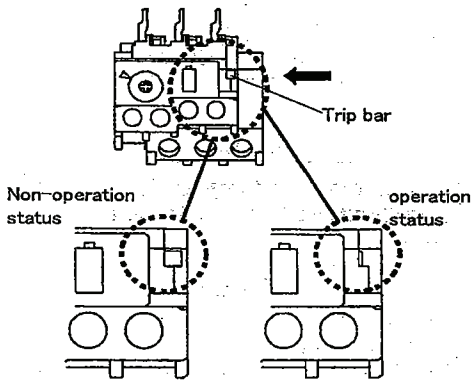
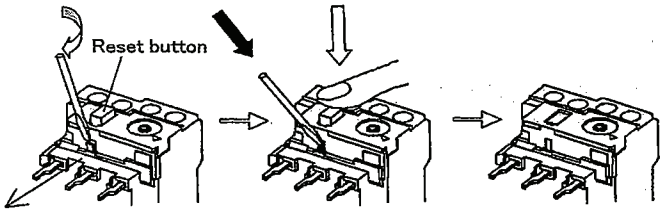


Fig.4



Break plastic cover to expose window.

With pointed tool, push the Reset button back until it latches.

Reset button is now in automatic reset mode.

Note: Use caution when selecting automatic reset mode.
Equipment damage can result when used improperly.

Fig.5

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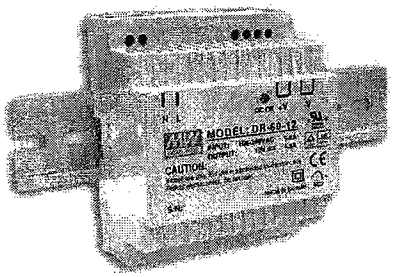
URL http://www.fujielectric.co.jp/fcs/

F21265083

MEAN WELL

60W Single Output Industrial DIN Rail Power Supply DR-60 series



Features :

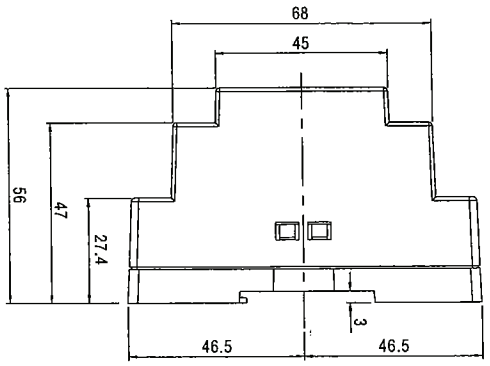
- Universal AC input/Full range
- Protections: Short circuit / Overload / Over voltage
- Cooling by free air convection
- Can be installed on DIN rail TS-35/7.5 or 15
- UL 508(industrial control equipment)approved
- Isolation class II
- LED indicator for power on
- 100% full load burn-in test
- 3 years warranty

SPECIFICATION

MODEL		DR-60-5	DR-60-12	DR-60-15	DR-60-24
OUTPUT	DC VOLTAGE	5V	12V	15V	24V
	RATED CURRENT	6.5A	4.5A	4A	2.5A
	CURRENT RANGE	0 ~ 6.5A	0 ~ 4.5A	0 ~ 4A	0 ~ 2.5A
	RATED POWER	32.5W	54W	60W	60W
	RIPPLE & NOISE (max.) Note.2	80mVp-p	120mVp-p	120mVp-p	150mVp-p
	VOLTAGE ADJ. RANGE	4.75 ~ 5.5V	11.1 ~ 13.2V	13.5 ~ 16.5V	21.6 ~ 26.4V
	VOLTAGE TOLERANCE Note.3	±2.0%	±1.0%	±1.0%	±1.0%
	LINE REGULATION	±1.0%	±1.0%	±1.0%	±1.0%
	LOAD REGULATION	±1.0%	±1.0%	±1.0%	±1.0%
	SETUP, RISE TIME	100ms, 30ms/230VAC 200ms, 30ms/115VAC at full load			
	HOLD UP TIME (Typ.)	100ms/230VAC 23ms/115VAC at full load			
INPUT	VOLTAGE RANGE	88 ~ 264VAC 124 ~ 370VDC			
	FREQUENCY RANGE	47 ~ 63Hz			
	EFFICIENCY (Typ.)	76%	82%	83%	84%
	AC CURRENT (Typ.)	1.2A/115VAC 0.8A/230VAC			
	INRUSH CURRENT (Typ.)	COLD START 18A/115VAC 36A/230VAC			
PROTECTION	OVERLOAD	105 ~ 160% rated output power			
		Protection type : Constant current limiting, recovers automatically after fault condition is removed			
	OVER VOLTAGE	5.75 ~ 6.75V	13.8 ~ 16.2V	17.25 ~ 20.25V	27.6 ~ 32.4V
		Protection type : Shut down o/p voltage, re-power on to recover			
ENVIRONMENT	WORKING TEMP.	-20 ~ +60℃ (Refer to output load derating curve)			
	WORKING HUMIDITY	20 ~ 90% RH non-condensing			
	STORAGE TEMP., HUMIDITY	-40 ~ +85℃, 10 ~ 95% RH			
	TEMP. COEFFICIENT	±0.03%/℃ (0 ~ 50℃)			
	VIBRATION	10 ~ 500Hz, 2G 10min./1cycle, period for 60min. each along X, Y, Z axes; Mounting: Compliance to IEC60068-2-6			
SAFETY & EMC (Note 4)	SAFETY STANDARDS	UL60950-1, TUV EN60950-1 approved, Design refer to EN50178			
	WITHSTAND VOLTAGE	I/P-O/P:3KVAC			
	ISOLATION RESISTANCE	I/P-O/P:100M Ohms/500VDC			
	EMI CONDUCTION & RADIATION	Compliance to EN55011,EN55022 (CISPR22) Class B			
	HARMONIC CURRENT	Compliance to EN61000-3-2,-3			
	EMS IMMUNITY	Compliance to EN61000-4-2, 3, 4, 5, 6, 8, 11, ENV50204, EN55024, EN61000-6-2, EN61204-3, heavy industry level, criteria A			
OTHERS	MTBF	216.2K hrs min. MIL-HDBK-217F (25℃)			
	DIMENSION	78*93*56mm (W*H*D)			
	PACKING	0.3Kg; 48pcs/15.4Kg/1.02CUFT			
NOTE	1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25℃ of ambient temperature. 2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor. 3. Tolerance : includes set up tolerance, line regulation and load regulation. 4. The power supply is considered a component which will be installed into a final equipment. The final equipment must be re-confirmed that it still meets EMC directives.				

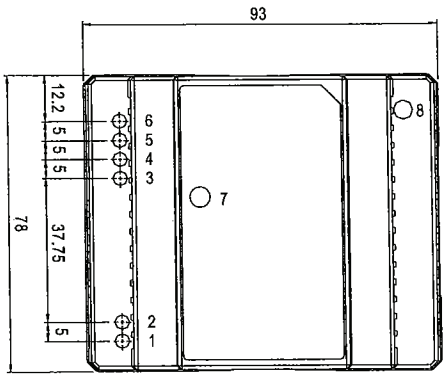
■ Mechanical Specification

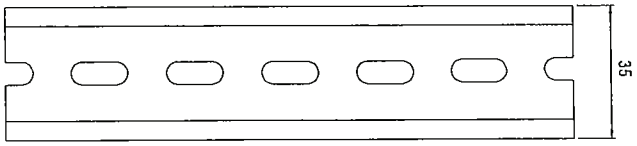
Case No.918B Unit:mm



Terminal Pin No. Assignment

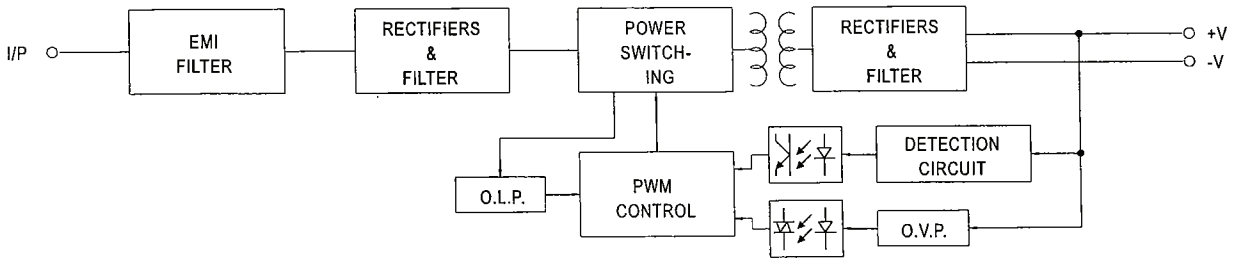
Pin No.	Assignment	Pin No.	Assignment
1	AC/N	5,6	-V
2	AC/L	7	LED
3,4	+V	8	+V ADJ.



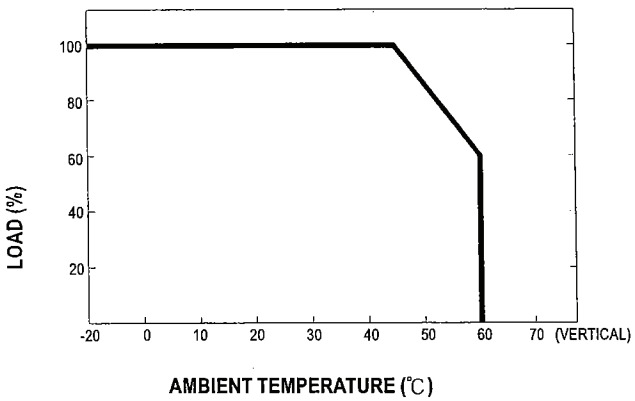


ADMISSIBLE DIN-RAIL:TS35/7.5 OR TS35/15

■ Block Diagram



■ Derating Curve



120W Single Output Industrial DIN RAIL Power Supply DRH-120 series

Features :

- Protections: Short circuit / Overload / Over voltage / Over temperature
- Cooling by free air convection
- Built-in constant current limiting circuit
- Can be installed on DIN rail TS-35/7.5 or 15
- EN61000-6-2(EN50082-2) industrial immunity level
- 100% full load burn-in test
- Fixed switching frequency at 70KHz
- 3 years warranty

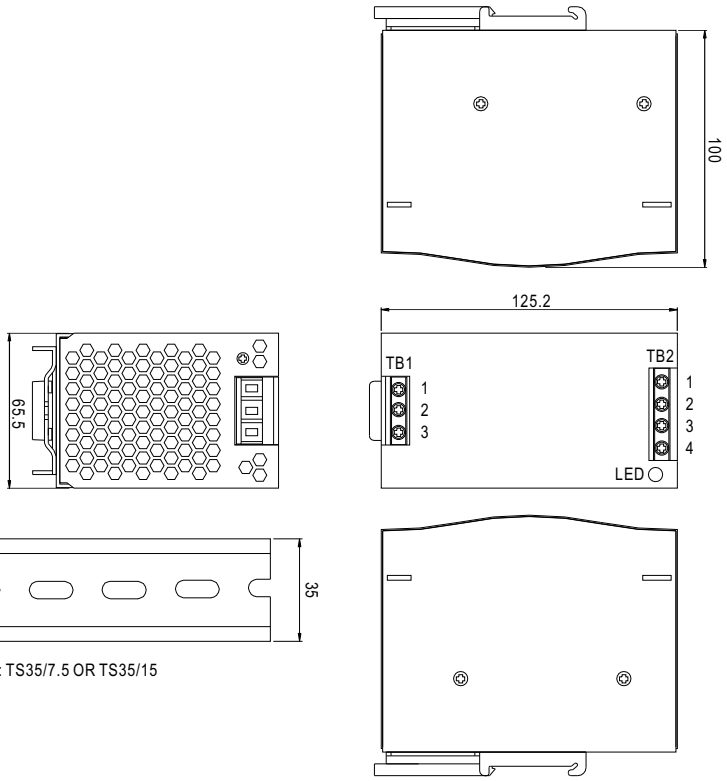
SPECIFICATION

MODEL		DRH-120-24	DRH-120-48
OUTPUT	DC VOLTAGE	24V	48V
	RATED CURRENT	5A	2.5A
	CURRENT RANGE	0 ~ 5A	0 ~2.5A
	RATED POWER	120W	120W
	RIPPLE & NOISE (max.) Note.2	80mVp-p	80mVp-p
	VOLTAGE ADJ. RANGE	24 ~ 28V	48 ~ 55V
	VOLTAGE TOLERANCE Note.3	±1.0%	±1.0%
	LINE REGULATION	±0.5%	±0.5%
	LOAD REGULATION	±0.5%	±0.5%
	SETUP, RISE, HOLD UP TIME	1700ms, 120ms, 16ms/400VAC 1000ms, 120ms, 30ms/500VAC at full load	
INPUT	VOLTAGE RANGE	340 ~ 550VAC 480 ~ 780VDC	
	FREQUENCY RANGE	47 ~ 63Hz	
	EFFICIENCY (Typ.)	85%	86%
	AC CURRENT	0.65A/400VAC 0.6A/500VAC	
	INRUSH CURRENT (max.)	COLD START 50A	
	LEAKAGE CURRENT	<3.5mA / 530VAC	
PROTECTION	OVERLOAD	105 ~ 160% rated output power	
		Protection type : Constant current limiting, recovers automatically after fault condition is removed	
	OVER VOLTAGE	30 ~ 36V	59 ~ 66V
		Protection type : Shut down o/p voltage, re-power on to recover	
	OVER TEMPERATURE	85℃±5℃ (TSW) detect on heatsink of power switch	
		Protection type : Shut down o/p voltage, recovers automatically after temperature goes down	
ENVIRONMENT	WORKING TEMP.	-20 ~ +60℃ (Refer to output load derating curve)	
	WORKING HUMIDITY	20 ~ 90% RH non-condensing	
	STORAGE TEMP., HUMIDITY	-40 ~ +85℃, 10 ~ 95% RH	
	TEMP. COEFFICIENT	±0.03%/℃ (0 ~ 50℃)	
	VIBRATION	Component: 10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes; Mounting clip: Compliance to IEC60068-2-6	
SAFETY & EMC (Note 4)	SAFETY STANDARDS	UL60950-1 approved, IEC60950-1 CB approved by SIQ	
	WITHSTAND VOLTAGE	I/P-O/P:3KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC	
	ISOLATION RESISTANCE	I/P-O/P, I/P-FG, O/P-FG:100M Ohms/500VDC	
	EMI CONDUCTION & RADIATION	Compliance to EN55011 (CISPR11), EN55022 (CISPR22), EN61204-3 Class B	
	EMS IMMUNITY	Compliance to EN61000-4-2,3,4,5,6,8,11, ENV50204, EN61204-3, EN61000-6-2 (EN50082-2), heavy industry level, criteria A	
OTHERS	MTBF	178.7Khrs min. MIL-HDBK-217F (25℃)	
	DIMENSION	65.5*125.2*100mm (W*H*D)	
	PACKING	0.75Kg; 20pcs/16Kg/1.29CUFT	
NOTE	1. All parameters NOT specially mentioned are measured at 400VAC input, rated load and 25℃ of ambient temperature. 2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor. 3. Tolerance : includes set up tolerance, line regulation and load regulation. 4. The power supply is considered a component which will be installed into a final equipment. The final equipment must be re-confirmed that it still meets EMC directives.		

Tel: 1-973-779-8282 www.trcelectronics.com

■ Mechanical Specification

Case No.921A Unit:mm



ADMISSIBLE DIN-RAIL: TS35/7.5 OR TS35/15

Terminal Pin No. Assignment (TB1)

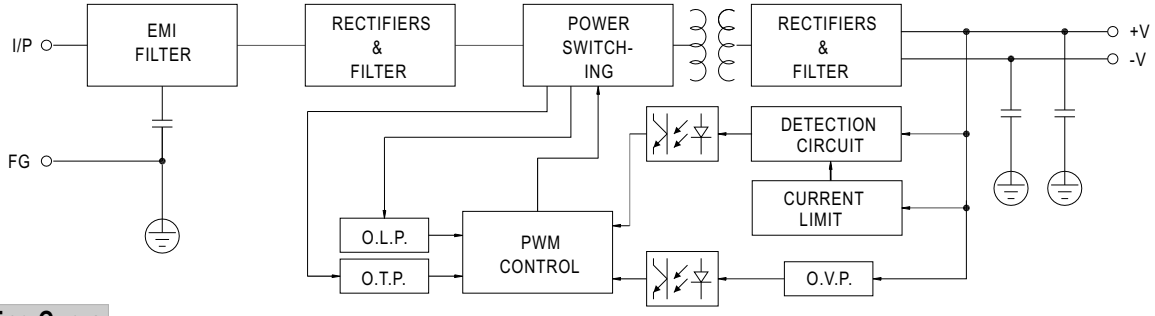
Pin No.	Assignment
1	FG ⏚
2	AC/N(L2)
3	AC/L(L1)

Terminal Pin No. Assignment (TB2)

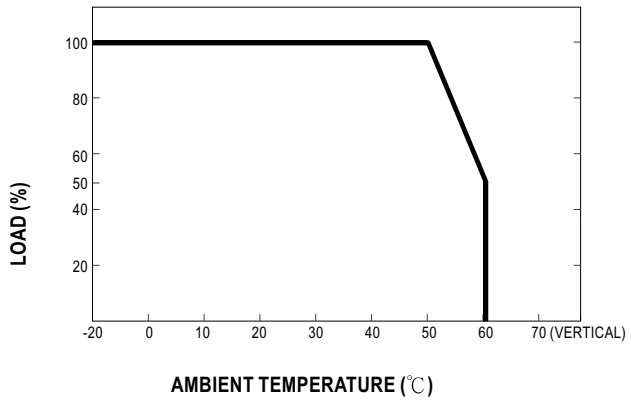
Pin No.	Assignment
1,2	DC OUTPUT +V
3,4	DC OUTPUT -V

■ Block Diagram

fosc : 70KHz



■ Derating Curve



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Installation Instructions
Instrucciones de montaje
Notice d'installation
Montageanweisung
Istruzioni per il montaggio

EZ719-DC-RCX

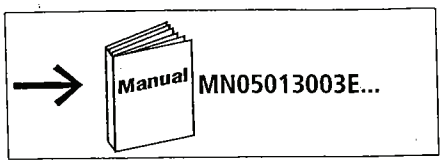
Electric current! Danger to life!
Only skilled or instructed persons may carry out the following operations.
The power supply units are mounting devices.
The national regulations/specifications must be observed for the installation of the devices.

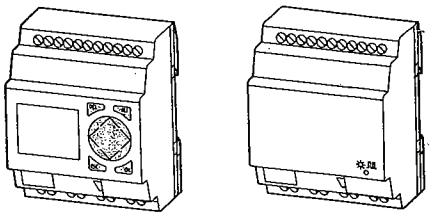
¡Corriente eléctrica! ¡Peligro de muerte!
El trabajo a continuación descrito debe ser realizado por personas cualificadas y advertidas. Las fuentes de alimentación son aparatos de montaje. Para la instalación de los aparatos han de tenerse en cuenta las normativas/especificaciones a nivel local.

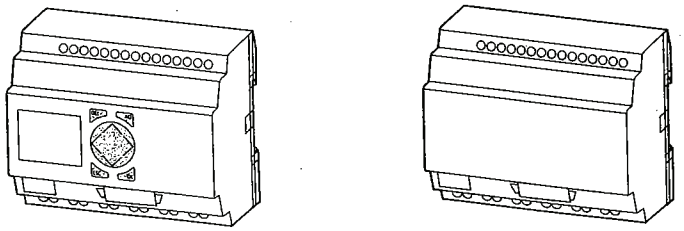
Tension électrique dangereuse !
Seules les personnes qualifiées et averties doivent exécuter les travaux ci-après. Les blocs d'alimentation sont des appareils faisant partie intégrante d'une installation. Veuillez respecter les normes de mise en œuvre spécifiques aux différents pays.

Lebensgefahr durch elektrischen Strom!
Nur Elektrofachkräfte und elektrotechnisch unterwiesene Personen dürfen die im Folgenden beschriebenen Arbeiten ausführen.
Die Stromversorgungsgeräte sind Einbaugeräte. Beachten Sie für die Installation der Geräte die länderspezifischen Vorschriften.

Tensione elettrica: Pericolo di morte!
Solo persone abilitate e qualificate possono eseguire le operazioni di seguito riportate. Gli alimentatori sono unità per montaggio interno. Per l'installazione degli apparecchi è necessario rispettare le normative specifiche di ciascun paese.



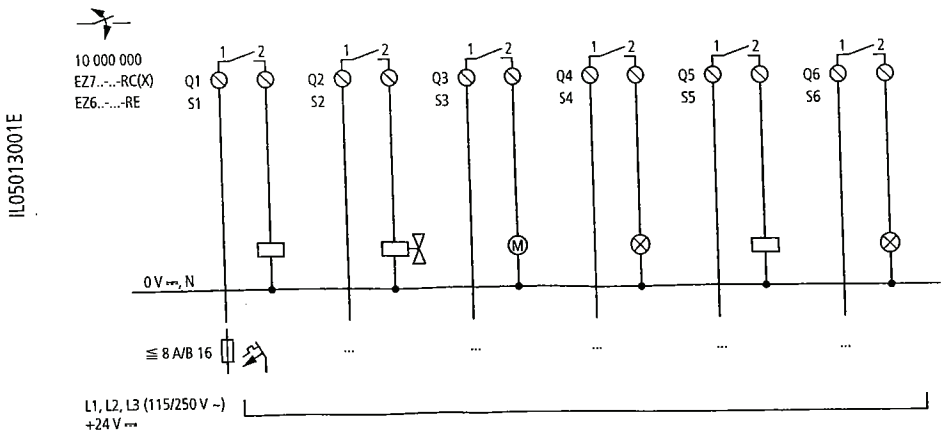




Standard connection, outputs – Conexión estándar, salidas – Raccordement standard, sorties – Standardanschluss, Ausgänge – Collegamento standard, uscite

Relay outputs – Salidas con relé – Sorties à relais – Relais-Ausgänge – Uscite a relè

EZ7...-...-RC, EZ6...-...-RE

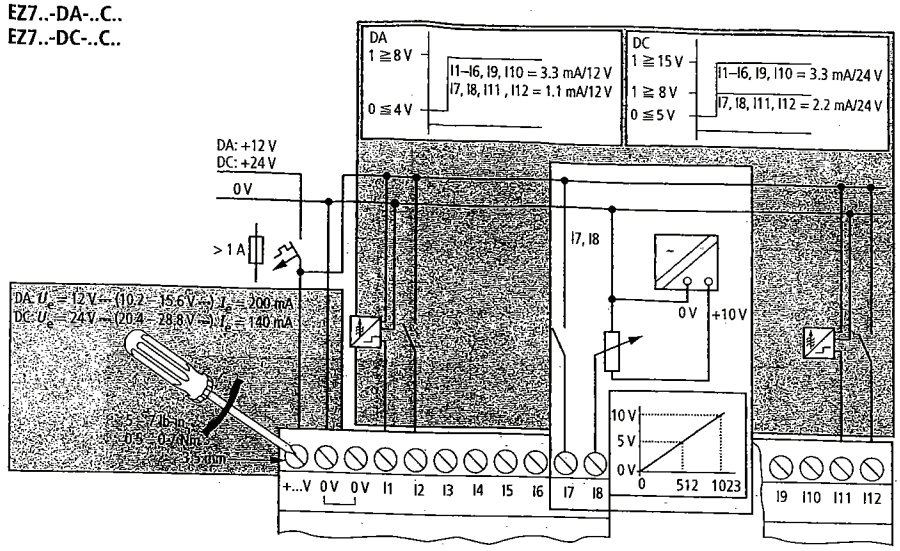


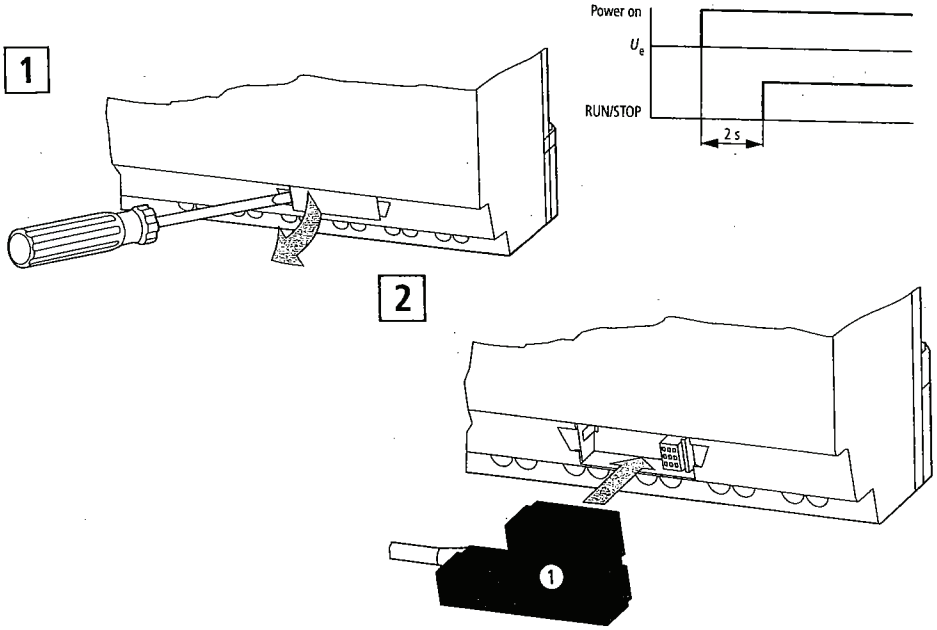
IL05013001E

Standard connection, inputs – Conexión estándar, entradas – Raccordement standard, entrées – Standardanschluss, Eingänge – Collegamento standard, ingressi

EZ7..-DA-..C..
EZ7..-DC-..C..

ILO5013001E





ILO5013001E

EZ...-AC-...

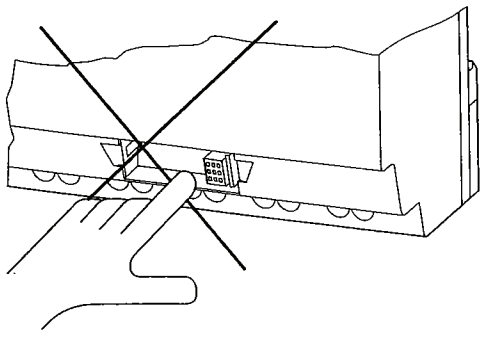
When operating with 115/230 V keep interface closed!

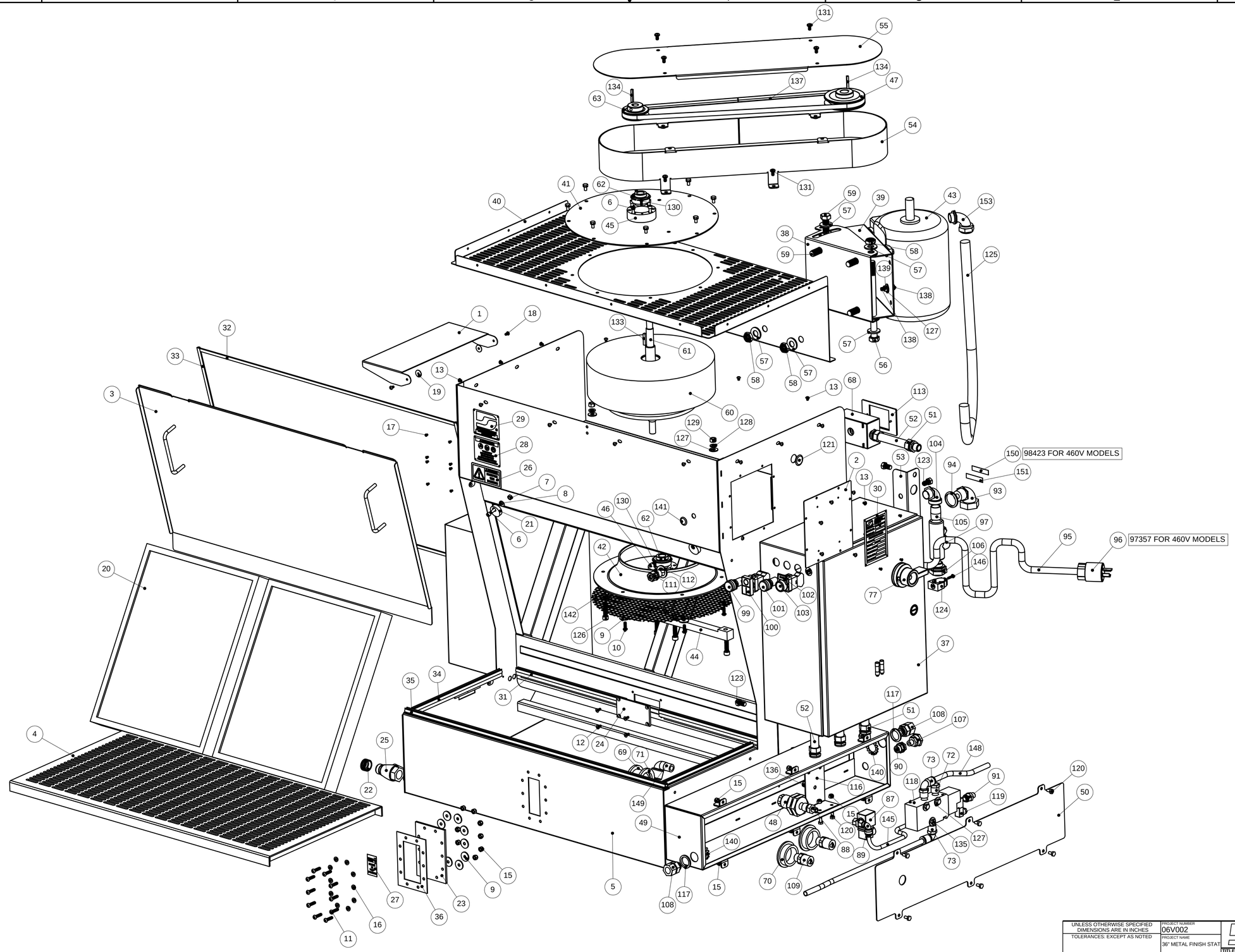
¡Mantener interface cerrado con accionamiento a 115/230 V!

En cas de fonctionnement sous 115/230 V, s'assurer que l'emplacement destiné à la cartouche mémoire et au câble PC soit obturé afin d'éviter tout danger !

Schnittstelle bei Betrieb mit 115/230 V geschlossen halten!

Tenere chiusa l'interfaccia per il funzionamento con 115/230 V!





REV.	ECN	DATE	DRW	CHK'D	APPR	DESCRIPTION
A	TBD	021511	SRB			RELEASED FOR PRODUCTION

REVISIONS

FN 11 30-OCT-09

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
TOLERANCES: EXCEPT AS NOTED

BREAK ALL SHARP EDGES 0.004 TO 0.016 R/C
MACHINED SURFACES 63 µ
FINISH OR BETTER UNLESS SPECIFIED

DRAWING CONFORMS WITH ASME Y14.5M - 1994

PROJECT NUMBER: 06V002
PROJECT NAME: 36" METAL FINISH STAT

DRAWN: SRB DATE: 2/15/2011
CHECKED: DATE:
APPROVED: DATE:
SCALE: 1:1

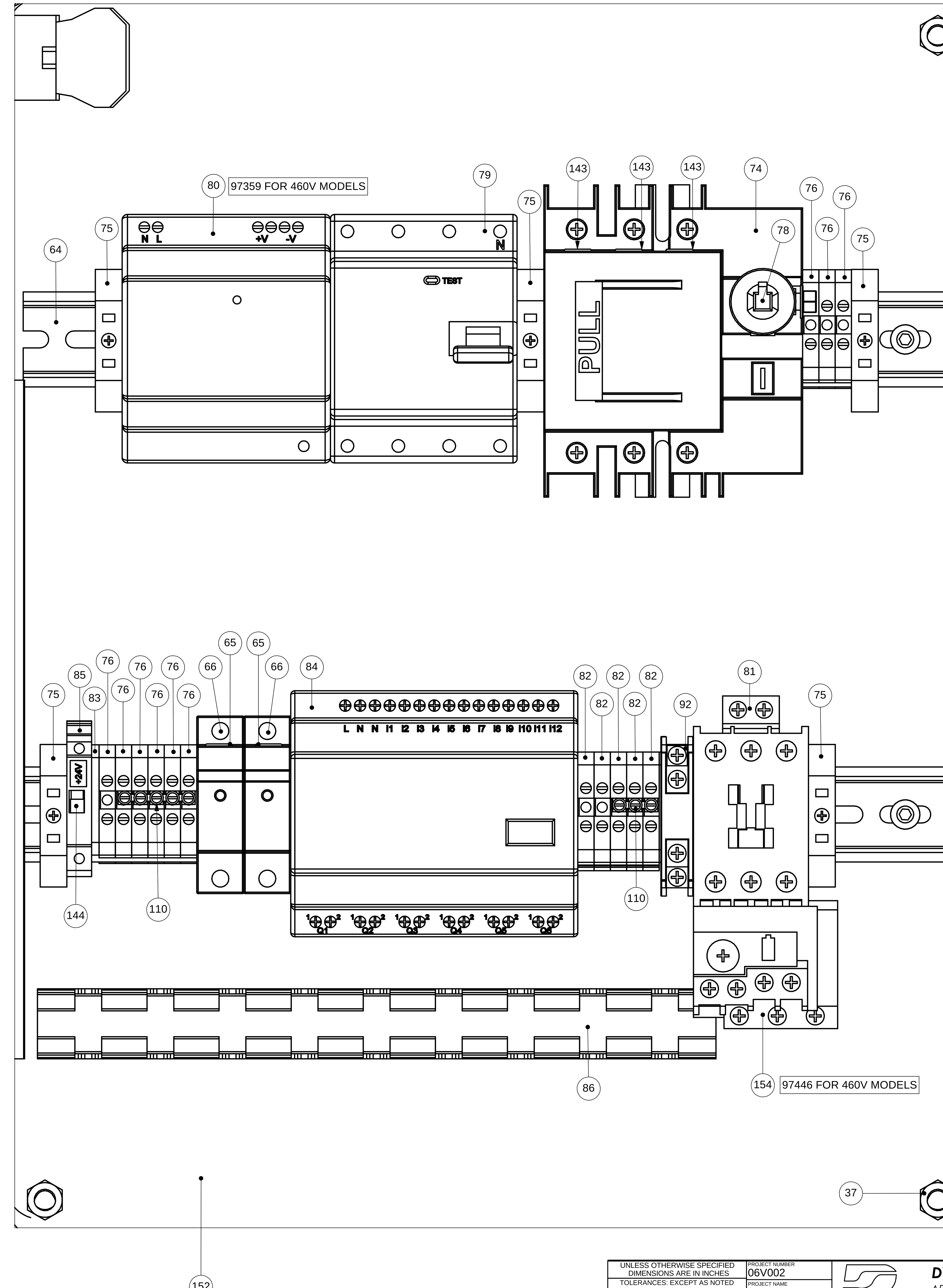
DYNABRADE, INC.
ABRASIVE POWER TOOLS

TITLE: **36" METAL FINISHING STATION**
MATERIAL: FINISH:

SHEET: 1 OF 2
SIZE: D
DRAWING NUMBER: 64300-00 NFPA
REV: G

ITEM	P/N	DESCRIPTION	Qty
1	64310	RESERVOIR LID	1
2	64309	ELECTRICAL ACCESS PANEL	1
3	64308	ACCESS PANEL	1
4	64307	WORK SURFACE ASSY	1
5	64305	MAIN TANK	1
6	97668	1/4 -20 X 1" SHCS	6
7	95186	1/4-20 HEX NUT	2
8	95935	1/4" WASHER	4
9	97314	.281 ID X 1" OD X .080 THK FENDER WASHER	16
10	97371	1/4-20 X 3/4" BSHCS	6
11	97241	1/4-20 X 1" BHSCS	10
12	97239	10-32 X 1/2 FSHCS	4
13	97378	10-32 x 1/4" BHSCS, ZINC	22
14	97213	10-32 HEX NUT	2
15	97381	1/4-20 SS LOCK NUT	26
16	97372	#14 WASHER/ NEOPRENE BACKING	10
17	97062	1/8" ALUMINUM BLIND POP RIVET	12
18	97377	10-32 x 3/8" BHSCS	2
19	97370	#10 WASHER	2
20	64311	MIST TRAP	2
21	64164	LOCKING CAM	2
22	97362	GH CAP/GASKET	1
23	64318	ACRYLIC WINDOW SIGHT	1
24	64312	SCROLL WINDOW SIGHT	1
25	97364	3/4" NPT FEMALE TO 3/4" GH MALE, VALVE	1
26	97102	WARNING LABEL, MAGNESIUM	1
27	64162	WATER LEVEL LABEL	1
28	64930	WARNING LABEL, EYE PROTECTION	1
29	66084	DESCRIPTION PLATE, COMPANY LOGO	1
30	65059	DESCRIPTIVE PLATE, ELECTRICAL DATA	1
31	64322	EDGE TRIM, 25/64" BULB, MADE FROM 64148-90, 15.50"	2
32	64324	SEAL, BIG D SHAPE, MADE FROM 64143-90, 35.125"	2
33	64323	SEAL, BIG D SHAPE, MADE FROM 64143-90, 18.50"	2
34	64320	EDGE TRIM, 25/64" BULB, MADE FROM 64148-90, 14"	2
35	64319	EDGE TRIM, 25/64" BULB, MADE FROM 64148-90, 35.9375"	1
36	64317	WINDOW SIGHT GASKET	1
37	97404	CONTROL BOX	1
38	64455	MOTOR SWIVEL PLATE	1
39	64459	MOTOR MOUNT PLATE	1
40	64392	Hood/Exhaust Grate	1
41	64393	Fan Assemby Plate	1
42	98926	IMPELLER INLET RING	1
43	64391	Explosion Proof Motor	1
44	64399	Lower Bearing Arm	1
45	64394	BEARING SUPPORT HUB	1
46	64499	BEARING SUPPORT HUB	1
47	97408	Pulley	1
48	97413	Bulk Head	1
49	64396	MAIN GUARD HOUSING	1
50	64397	COVER	1
51	98725	1/2" STRAIGHT CONDUIT CONNECT	8
52	98403-01	1/2" CONDUIT	4
53	64398	SUPPORT ANGLE	1
54	64389	PULLY GUARDING	1
55	64390	BELT GUARD COVER	1
56	98517	HHCS 5/8"-11 Thread, 8-1/2" Length	1
57	98514	Flat Washer SAE, 5/8"	18
58	97236	Thin Hex Locknut Zinc-Plated, 5/8"-11 Thread	7
59	98512	Hex Head Cap Screw 5/8"-11	6
60	98928	IMPELLER	1
61	64395	Drive Shaft	1
62	98931	ER Bearing	2
63	97409	Pulley	1
64	97392	35mm DIN RAIL	2
65	97366	FUSE	2
66	97367	FUSE HOLDER	2
67	98746	1/2" LOCK NUT	1
68	68015	WEATHERPROOF J-BOX, SINGLE DEVICE	1
69	97368	SENSOR BULKHEAD	2
70	97369	BULKHEAD NUT	2
71	97423	BULKHEAD GASKET	2
72	98533	.50 NPT BREATHER VENT	1
73	98534	.50 NPT QUICK CONNECT, 90 DEG SWIV.	2
74	97219	FUSED DISCONNECT	1
75	97205	DIN RAIL STOP	6
76	97202	DIN TERMINAL BLOCK, BLACK	9
77	97399	DISCONNECT LEVER	1
78	97398	DISCONNECT ARM	1
79	98527	RESIDUAL CURRENT DEVICE	1
80	97395	DR-60 TRANSFORMER	1

ITEM	P/N	DESCRIPTION	Qty
81	97393	MOTOR CONTACT	1
82	97201	DIN TERMINAL BLOCK, WHITE	5
83	97390	END CAP	2
84	97394	SMART RELAY	1
85	97181	FUSE BLOCK, 24V/INDICATOR	1
86	97189	WIRE RACEWAY, 10"	2
87	97385	SOLENOID VALVE	1
88	97333	REDUCER, 1/2 NPT MALE TO 1/4 NPT MALE	1
89	97332	QUICK CONNECT 90°, 3/8 OD TUBE X 1/4" NPT	1
90	97313	BULKHEAD, 1/4 NPT X 1/4 NPT	1
91	68022	QUICK CONNECT, 3/8 OD TUBE X 1/4" NPT	1
92	97391	AUXILARY CONTACT	1
93	97353	90 DEGREE ELBOW	1
94	97356	1/2" SEALING RING	1
95	97352	CORD, 12/4 SEOOW	1
96	97185	TURN-LOCK DEVICE NEMA L15-20, MALE PLUG, 250 VAC, 20 Amp	1
97	98938	ENY SEALING FITTING	1
98	97354	1/2" LOCK NUT	1
99	97351	22MM PILOT LIGHT, GREEN	1
100	97188	PB, 22mm, PLASTIC, 2-WAY, W/SYMBOLS, 1 N.O., 1 N.C	1
101	97186	PILOT LIGHT	1
102	97193	Switch Label Plate, "RESET"	1
103	97187	PB, 22MM, PLASTIC, YEL, LED ILLUM, 24V, FLUSH, 1 N.O.	1
104	98937	90 DEGREE ELBOW	1
105	98939	3/4 x 1 3/8" NPT NIPPLE	1
106	98942	Liquid Tight Conduit Fitting, Straight	1
107	97360	3/4" FEMALE GHT TO 1/4" MALE NPT SWIVEL	1
108	98522	Through-Wall Cplg for 1/2" Tube OD X 1/2" NPT	2
109	97200	Liquid Level Sensor	2
110	97190	JUMPER	2
111	98700	STRAIN RELIEF	1
112	97386	RUBBER WASHER	1
113	98519	SINGLE DEVICE COVER	1
114	98746	1/2" LOCK NUT	7
115	98751	1/2" SEALING RING	7
116	64388	BRACKET	1
117	98936	1/2" SEALING RING	3
118	98523	3-WAY SOLENOID VALVE	1
119	98525	COIL CONNECTOR	1
120	95206	3/8-16 x 5/8" HEX HEAD BOLT, ZINC	20
121	97167	7/8" PLUG	1
122	97424	7/16-20 NYLON LOCK NUT	6
123	97425	Hex Head Cap Screw 7/16"-20 Thread, 3/4"	6
124	97426	CONDUIT MOUNT, CLIC	1
125	98944-01	3/4" CONDUIT	1
126	98516	Socket Head Cap Screw 3/8"-16 Thread, 1-1/4"	4
127	95183	5/16 WASHER	13
128	95044	3/8 LOCK WASHER	2
129	97217	3/8" HEX NUT	2
130	97673	10-32 x 1/2" BHSCS	4
131	97192	1/4-20 x 1/2" BHMS/INTERNAL LOCK WASHER	8
132	95167	1/4" LOCK WASHER	8
133	98511	.25 X .25 X 1.25 SQ.KEY	1
134	97460	CHAMFER KEY	2
135	97033	Hex Head Cap Screw 5/16"-24 Thread, 2-1/4"	3
136	97127	Nylon-Insert Hex Locknut 5/16"-24	3
137	97428	PULLEY BELT	1
138	95036	Hex Head Cap Screw 5/16"-18 Thread, 1-1/4"	4
139	64239	Nylon-Insert Hex Locknut 5/16"-18	4
140	97429	External-Tooth Lock Washer 1"	2
141	97726	7/8 OD, PLUG FOR 1/2" HOLE	1
142	64227	WIRE MESH	1
143	97182	600V, 15A, CLASS CC, TIME DELAY FUSE	3
144	97183	250v, 5MM X 20 MM FAST ACTING FUSE, 250V	1
145	64430-02	3/8 OD TUBE	1
146	97379	10-32 x 3/4" BHSCS	1
147	97325	#10 External Star Washer	1
148	97361	1/2" AIR LINE	1
149	97415	Fitting 1/2" , 90 Degree Elbow, Fem X Male	1
150	98422	ADHESIVE LABEL, 230VOLTS	1
151	98426	ADHESIVE LABEL, 3 PHASE	1
152	97432	MACHINED CONTROL PANEL	1
153	98945	45 DEGREE ELBOW	1
154	97433	OVERLOAD RELAY	1
155	98518	PRESSURE SWITCH	1
156	97146	1/4-20 x 3/8" BHCS	4
157	7060K11	INSULATED FEMALE BARREL TERMINAL	2



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MACHINED SURFACES 63 µ
FINISH OR BETTER UNLESS SPECIFIED
DRAWING CONFORMS WITH ASME Y14.5M - 1994

PROJECT NUMBER: 06V002
PROJECT NAME: 36" METAL FINISH STAT
DRAWN: SRB DATE: 2/15/2011
CHECKED DATE
APPROVED DATE
SCALE: 1:16

DYNABRADE, INC.
ABRASIVE POWER TOOLS

TITLE: **36" METAL FINISHING STATION**
MATERIAL:
FINISH:
SHEET: 2 OF 2 SIZE: D DRAWING NUMBER: 64300-00 NFPA REV: G

FN 11 30-OCT-09