

FUSED DISCONNECTS FOR USE WITH DESIGN ENVELOPE PUMPS | UL RATED 30A & 60A | INSTALLATION AND OPERATING INSTRUCTIONS

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HAZARDOUS VOLTAGE WARNING



- This equipment must be installed and serviced only by qualified electrical personnel
- Disconnect all power input to this equipment before working on or inside the equipment
- Always use a properly rated voltage sensing device to confirm power is OFF.
- Always maintain electrical clearances between conduit and live parts

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

1.0 FUSED DISCONNECT FOR DESIGN ENVELOPE PUMPS 1-10HP

This document contains specific information regarding the safe installation, operating and maintenance of Armstrong loose fused disconnects and should be read and understood by installing, operating and maintenance personnel. The equipment supplied has been designed and constructed to be safe and without risk to health and safety when properly installed, operated and maintained. The instructions following must be strictly adhered to. If clarification is needed on any point please contact your Armstrong Fluid Technology representative, quoting the equipment serial number. The product should be installed and used by professional personnel with the appropriate equipment.

Disconnects are shipped within the pump package, as a kit, including factory installed fuses, sized for the motor design power.

30A

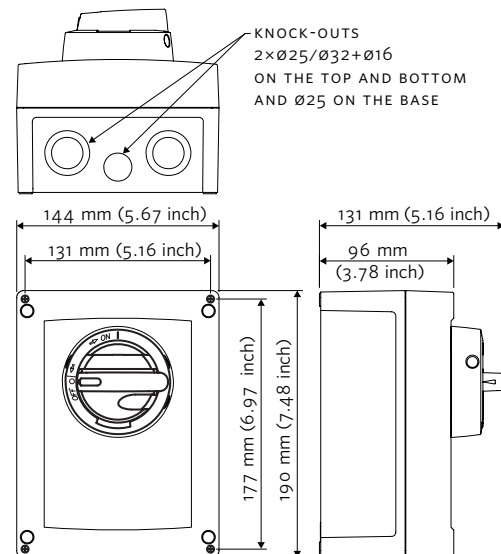


60A

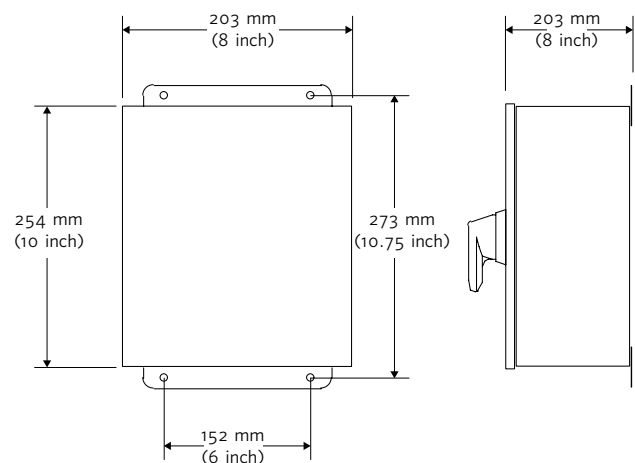


2.0 FUSE DISCONNECT DIMENSIONS

30A DISCONNECT



30-60A DISCONNECT



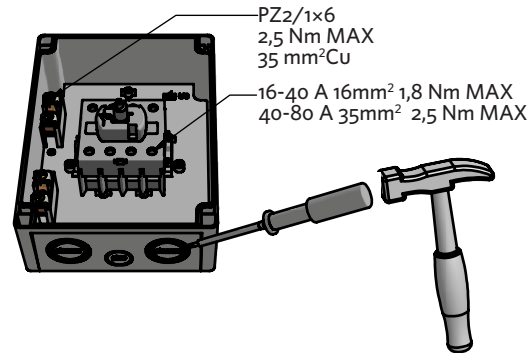
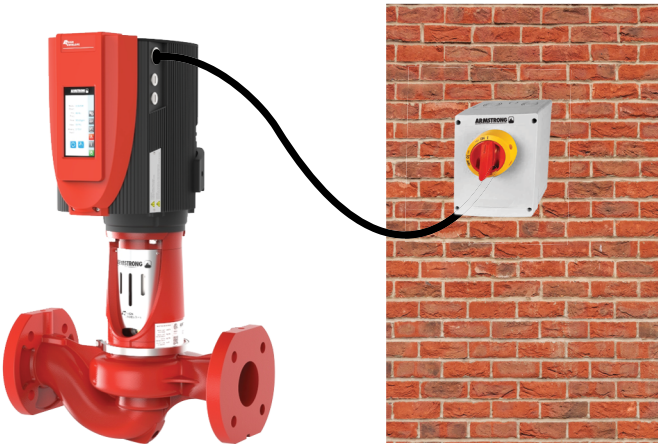
3.0 MOUNTING INSTRUCTIONS

Find a safe place and mount the disconnect where it conveniently fits, within clear line of sight and less than 50ft / 15m from the pump. The product should be fixed using appropriate screws; ensure you have the correct size for the box sizes. The conduit / cable should be secured and protected against physical damage. Make sure the installation follows all local codes and standards.

4.0 CONDUIT/CABLES TERMINATION

A 30 AMPS FUSED DISCONNECT

The 30 Amp disconnect is provided with 4×25mm-32mm knockouts (KOs), select the one that will be easiest to connect the cable/conduit. Find the point of attachment for this KO. Press the edge of a screwdriver against the selected KO's stamped edge, opposite the point of attachment, and press (or rap sharply if needed) to push the KO away from the enclosure.



After correct size opening is achieved, insert the conduit/cable connector into the opening from the outside box and secure it using a connector locknut.

Note: Grounding bushing might be required, please refer to your local code and standard.

B 60 AMPS FUSED DISCONNECT

Cut holes in the enclosure at the desired location. The use of a Greenlee Cutter is the preferred method, placing the punch of the Greenlee Cutter on the inside of the enclosure and punch through to the outside.

CONDUIT CONNECTIONS

Metallic conduit - First secure the conduit connector onto the conduit. Then secure conduit connector into the prepared enclosure hole using the connector locknut. Then attach the grounding bushing, having the proper size ground wire lug, over the connection locknut.

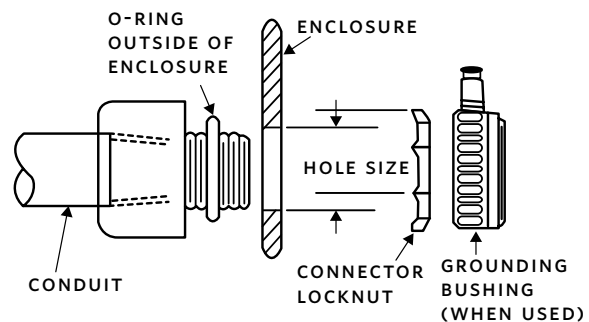
CAUTION



Bonding between the grounding bushing(s) and the equipment grounding terminal must be included as part of the installation procedure in accordance with the local code.

Non-Metallic conduit - Secure conduit to the conduit connector either before or after the conduit connector is secured into the prepared hole using connector locknut

Note: Grounding bushing is not required



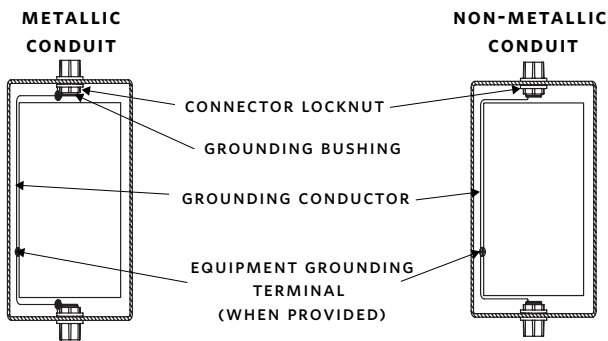
CAUTION



To prevent enclosure damage and to attain the enclosure requirements, the conduit should be aligned to prevent unnecessary stress on the enclosure walls. To obtain maximum corrosion protection, cover all exposed metal and seal of the conduit openings where the conductors enter the enclosure.

C GROUNDING OF THE EQUIPMENT 30A AND 60A

Install the grounding conductor in accordance with the requirements of the local codes and standards. See illustrations below when using either metallic or non-metallic conduit:



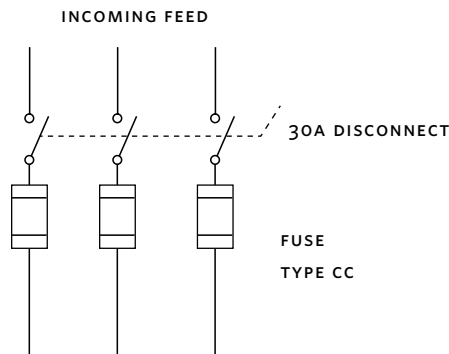
5.0 WIRING INSTRUCTION

Ensure the disconnect is in OFF position and there is no power on the input terminals.

POWER FEEDS

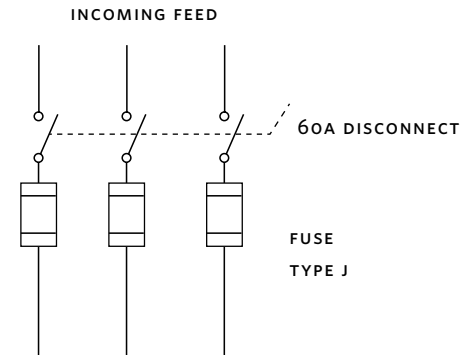
Connect the incoming power feed to the top terminals of the disconnect switch and connect bottom terminals to the incoming from the pump motor.

30A



TO DESIGN ENVELOPE PUMP

60A

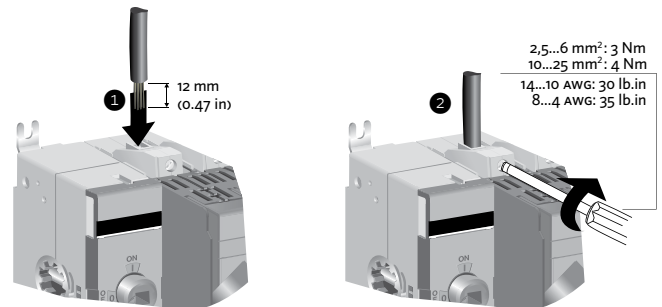


TO DESIGN ENVELOPE PUMP

TERMINAL SIZE AND TORQUE ACCEPTABILITY (CU CONDUCTORS ONLY, 75°C)

30A: #14AWG-#8AWG @ 16 lb. in.

60A: #14AWG-#4AWG @ 30-35 lb. in.



6.0 DISCONNECT SWITCH AND FUSE RATINGS

The disconnect switches and fuses are pre-sized for each pump. Please see parts list or consult the factory for replacement.

Armstrong disconnect switch and fuse rating - 200-230v input power for use with Design Envelope Permanent Magnet Motors

RATED POWER		DISCONNECT SWITCH RATING	FUSE RATING	FUSE CLASS TYPES	MAXIMUM DRIVER INPUT CURRENT (A)	
HP	KW				200 VAC	230 VAC
1	0.75	30A	10A	CC FAST-ACTING	3.1	2.7
1.5	1.1		10A		4.2	3.7
2	1.5		15A	J FAST-ACTING	6.0	4.8
3	2.2		20A	RK1 FAST-ACTING	8.8	7.2
5	4		30A		15.7	14.0
7.5	5.5	60A	50A	J FAST-ACTING	20.7	18.5
10	7.5		60A	RK1 FAST-ACTING	28.1	25.1

Armstrong disconnect switch and fuse rating - 380-480v input power for use Design Envelope Permanent Magnet Motors

RATED POWER		DISCONNECT SWITCH RATING	FUSE RATING	FUSE CLASS TYPES	MAXIMUM DRIVER INPUT CURRENT (A)	
HP	KW				380 VAC	480 VAC
1	0.75	30A	6A	CC FAST-ACTING	2.1	1.7
1.5	1.1		6A		2.8	2.3
2	1.5		10A		4.8	4.1
3	2.2		10A		6.5	5.8
4	3		15A	J FAST-ACTING	6.1	4.9
5	4		20A	RK1 FAST-ACTING	9.2	7.1
7.5	5.5		25A		12.5	8.2
10	7.5		30A		18.5	14.5

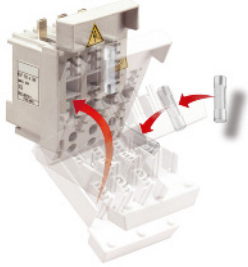
Armstrong disconnect switch and fuse rating - 575v-660v input power for use Design Envelope Permanent Magnet Motors

RATED POWER		DISCONNECT SWITCH RATING	FUSE RATING	FUSE CLASS TYPES	MAXIMUM DRIVER INPUT CURRENT (A)	
HP	KW				575 VAC	660 VAC
1	0.75	30A	5A	CC FAST-ACTING	1.6	1.3
1.5	1.1		6A		2.2	1.8
2	1.5		8A		2.0	1.6
3	2.2		10A	J FAST-ACTING	3.4	2.8
5	4		20A	RK1 FAST-ACTING	5.5	4.9
7.5	5.5		25A		7.2	6.0
10	7.5		30A		9.8	9.4

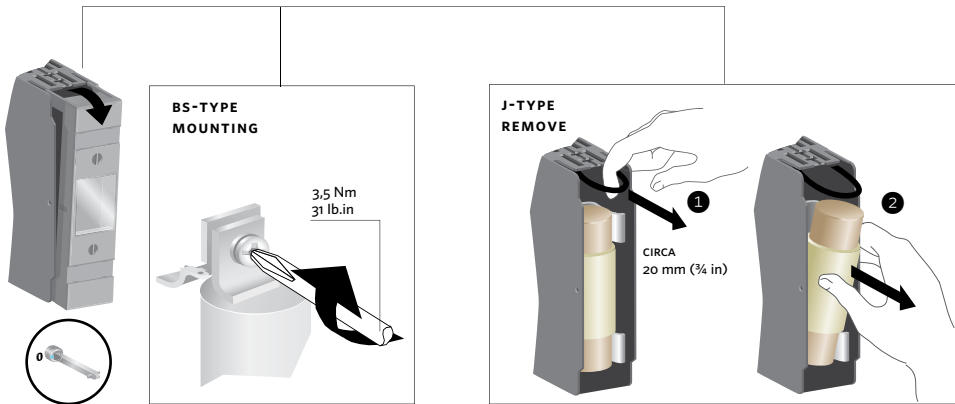
All cabling and must comply with national and local regulations on cable cross-sections and ambient temperature

Fuse handling

30A DISCONNECT: (TYPE CC FAST ACTING)



60A DISCONNECT: (TYPE J FAST ACTING)



7.0 OPERATION

ON/OFF

All switches and handles have clear **ON** and **OFF** designations.
Identifying if the door is open or closed

DOOR INTERLOCK

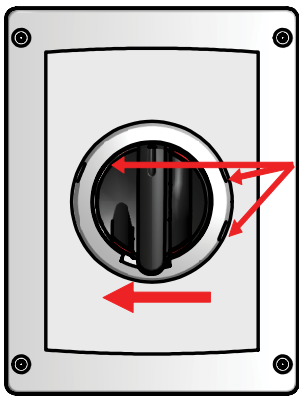
The handle and shaft provide a door interlock; the door cannot be opened when the switch is in the **ON** position.



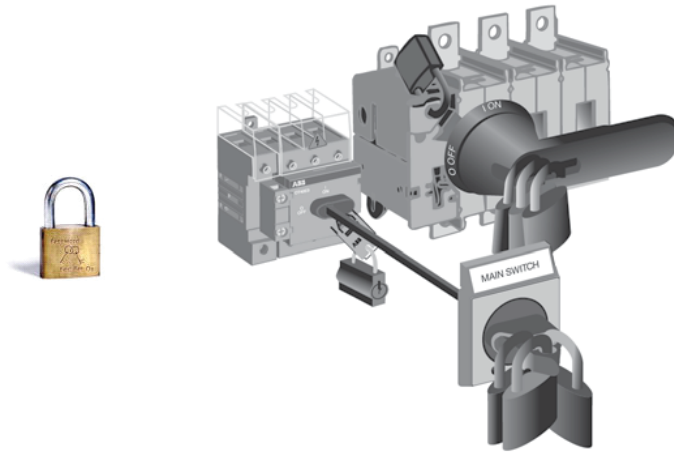
8.0 PADLOCKING OF THE FUSED DISCONNECT

The fused disconnects can be padlocked to achieve electrical disconnection from the pump. Handles can be padlocked in the **OFF** position with up to three padlocks. Use a padlock with a shackle diameter not exceeding $\frac{1}{4}$ " / 6mm.

30 AMPS DISCONNECT



60 AMPS DISCONNECT



9.0 ENVIRONMENTAL LIMITS

Operation temperature range: 0°C to 50°C (32°F to 122°F)
(Do not expose to direct sunlight)

Operation humidity range: 10% - 85% non-condensing

Ambient air temperature for storage: -20°C to 70°C (-4°F to 158°F)

Package IP rating: NEMA 4X

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