



*Connecting with  
the Food and  
Beverage Industries*



*Featuring Meltric's  
Decontactor™ Series  
Switch Rated Plugs,  
Receptacles and  
Electrical Connectors*







## Meltric DECONTACTOR™ Series Plugs, Receptacles and Electrical Connectors...

Decontactors are a combination plug, receptacle and disconnect switch in the same device. Using Meltric Decontactors to connect motors and other electrical equipment instead of hard-wiring can dramatically reduce equipment change-out related downtime. Due to their switch ratings, Decontactors allow users to safely and easily make and break electrical connections under full load, even in wet, and highly corrosive conditions. This eliminates the need for expensive interlocks and auxiliary disconnect switches. Meltric Decontactors improve safety while saving users both time and money.



*Portable pump connection  
at a beverage plant*



*Electrical connections production  
area - chocolate factory*



*Crystallizer motor connection  
Sugar Cane Growers Cooperative, Florida*

### Reduce Downtime

Decontactors reduce downtime related to electrical equipment change-outs. When Decontactors are used in lieu of hard-wiring, a mechanic can change out a motor safely and efficiently. A conveyor line or a process pump can be up and running in a matter of minutes instead of a matter of hours. Production halts are minimized and rewiring errors are virtually eliminated.

### Ensure Safety for Maintenance Personnel

Decontactor safety features include: dead front construction, enclosed arc chambers, silver-nickel butt-style pressure contacts, and short circuit make and withstand ratings  $\geq 65\text{kA}$ . These features ensure safety by preventing access to live parts, by providing a superior electrical connection that does not deteriorate with wear or oxidation, and by allowing users to safely make & break connections - even during wet or overload conditions.

### Provide Watertight, Durable Connections

Decontactors provide safe, durable electrical connections - even in washdown environments. Rated watertightness up to NEMA 4X is achieved as soon as the plug mates with the receptacle (DS & DSN models). A Decontactor's coil spring-loaded silver-nickel contacts offer superior electrical performance that does not deteriorate with wear or oxidation, unlike competitors' brass pin & sleeve contacts.



## ...Ideally Suited for the Food & Beverage Industries



Deconnectors are built to withstand the harsh environments often found in the food industry. For example, Meltric's silver-nickel contacts, stainless steel components, and chemical resistant housings help withstand corrosion caused by frequent washdowns with caustic cleaners. The butt-style pressure contacts ensure excellent electrical connections even in dusty or greasy environments. Other features, such as lockout/tagout capability and optional integral pilot contacts, help make the operation of food and beverage plants safer and more efficient.



*Overhead connections along a production line - dairy industry*



*Connecting portable and stationary equipment - meat processing*



*Modular conveyor connections - sandwich line*

### Simplify Code Compliance

Deconnectors provide food and beverage factories with a simple and cost-effective means of achieving code compliance. A Deconnector's switch rating allows it to perform as the NEC required 'line of sight' disconnect - the need and expense of a separate disconnect switch is eliminated. Deconnectors also help facilities comply to NFPA 70E requirements. A Deconnector's dead front construction prevents worker exposure to live parts. As a result, qualified mechanics can change out a motor without needing PPE.



### Allow Easy Production Line Reconfigurations

Deconnectors allow conveyor motors and other electrical equipment to be safely connected or disconnected with plug and play simplicity. Reconfigurations of production lines are simplified when Deconnectors are used to create a modular system. Time spent performing electrical work is minimized.



### Facilitate Quick Disconnection & Reconnection

Deconnectors allow easy disconnection, even by operators with gloves on. Simply press the latch to break the load and, if desired, lightly twist the plug to remove it. Alternatively, the plug can remain in the receptacle to keep it conveniently out of the way. By contrast, pin and sleeve or twist type connections require much greater force to remove the plug and once the plug is removed it often must be laid down on the floor, creating unnecessary clutter.

# Meltric DECONTACTOR™ Series Plugs & Receptacles...

- Allows easy NEC and NFPA 70E code compliance
- Functions as a 'line of sight' disconnect switch
- Safely makes and breaks resistive or inductive loads

## Pushbutton Pawl

Provides quick, safe and easy load break.

## Dead Front

Assures safety by preventing user access to live parts.



DSN pictured

## Spring-Assisted Screw Terminals

Patented design assures "Tighten and Forget" confidence.

## Spring-Loaded Contacts

Ensures consistent contact force over thousands of operations.

## Contact Tips

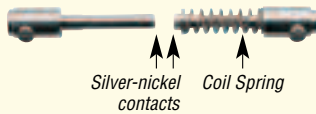
Silver-nickel material offers exceptional resistance to corrosion.

## Casing

Offers great resistance to impact and harsh environmental conditions.

## Lid

Provides additional protection from harsh environments.



## Butt-Style Pressure Contacts

Spring loading ensures optimal contact force over thousands of operations. Plus, the performance of silver-nickel is not affected by oxidation. By contrast, the contact force of competitive pin & sleeve devices decreases with use and the conductivity of their brass contacts degrades significantly due to oxidation.



## Watertight

Rated watertightness, up to NEMA 4X, is achieved as soon as the plug mates with the receptacle (DS & DSN). Competitive products require the user to remember to carefully tighten an additional plastic ring.



## Dead Front Design

The dead front design eliminates access to live parts. They can only be accessed by the correct mating plug after insertion into the receptacles. Meltric's dead front design also helps avoid the need for Personal Protective Equipment and thus allows faster and safer motor change-outs.

## Tested to a Higher Standard

Meltric Decontactors are the world's only UL and CSA switch rated plugs and receptacles. Not only do they meet performance test requirements for UL 1682/CSA C22.2 No. 182.1 (to which competitive pin and sleeve devices are listed), but Decontactors also meet the performance test requirements in UL Subject 2682 "Switch-Rated Plugs and Receptacles." Based on their evaluation against this standard, Decontactors are UL and CSA listed for use in motor circuit disconnect/switching applications and in branch circuit disconnect/switching applications.

### Tests passed by Meltric Decontactors and by traditional pin and sleeve type plugs and receptacles (per UL 1682 and CSA 22.2 No. 182.1)

- ✓ Temperature Rise (not to exceed 30°C over ambient)
- ✓ 50 operations @ 150% device rating and .7 - .8 power factor
- ✓ Endurance - number of operations @ .75 - .8 power factor

• 20A	5,000 under load	0 off load
• 30 to 60A	1,000 under load	1,000 off load
• 100 to 200A	250 under load	250 off load

### Additional Tests passed exclusively by Decontactor™ Series plugs and receptacles per UL Subject 2682.

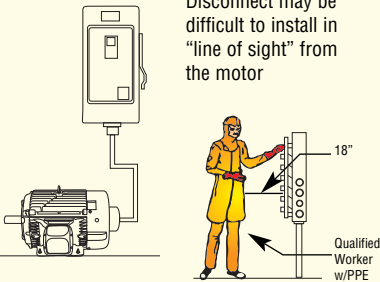
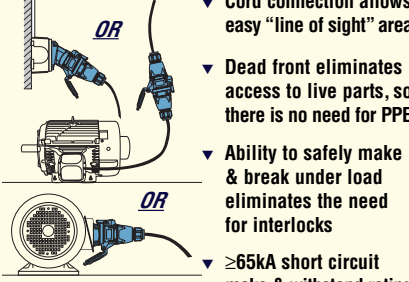
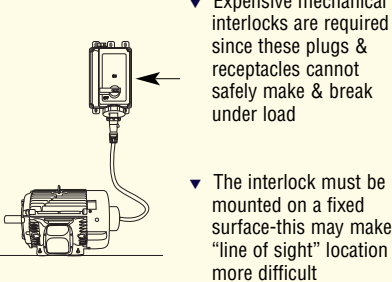
- + 50 operations @ 6x motor FLA .4 - .5 power factor
- + 6,000 operations @ FLA .75 - .8 power factor
- + Short circuit make and withstand @ ≥65kA, 600V and < .15 PF

Additional Listings include: IEC/EN 60309-1, 60947-3, AS 3123



# ...Offering Safety and Code Compliance

## SAFETY & CODE COMPLIANCE: *Meltric vs Competition*

MOTOR HARD-WIRED TO A BLADED DISCONNECT SWITCH	MOTOR CONNECTED WITH A MELTRIC MOTOR PLUG	MOTOR CONNECTED WITH A COMPETITIVE PLUG & RECEPTACLE
 <p>Disconnect may be difficult to install in "line of sight" from the motor</p> <p>18"</p> <p>Qualified Worker w/PPE</p>	 <p>OR</p> <p>OR</p> <ul style="list-style-type: none"> <li>▼ Cord connection allows easy "line of sight" area</li> <li>▼ Dead front eliminates access to live parts, so there is no need for PPE</li> <li>▼ Ability to safely make &amp; break under load eliminates the need for interlocks</li> <li>▼ <math>\geq 65\text{kA}</math> short circuit make &amp; withstand rating ensures safety during reenergization</li> </ul>	 <ul style="list-style-type: none"> <li>▼ Expensive mechanical interlocks are required since these plugs &amp; receptacles cannot safely make &amp; break under load</li> <li>▼ The interlock must be mounted on a fixed surface-this may make "line of sight" location more difficult</li> </ul>
<p><b>MOTOR CHANGE-OUT PROCESS</b></p> <ol style="list-style-type: none"> <li>1. Electrician opens disconnect switch</li> <li>2. Determine PPE requirements and obtain</li> <li>3. Remove disconnect cover</li> <li>4. Voltmeter test to verify deenergization</li> <li>5. Apply lockout/tagout</li> <li>6. Disconnect motor from hard-wiring</li> <li>7. Mechanic removes old/install new motor</li> <li>8. Electrician connects motor to hard-wiring</li> </ol>	<p><b>MOTOR CHANGE-OUT PROCESS</b></p> <ol style="list-style-type: none"> <li>1. Mechanic removes plug from receptacle</li> <li>2. Apply lockout/tagout as required</li> <li>3. Mechanic removes old/install new motor</li> <li>4. Mechanic inserts plug into receptacle</li> </ol> <p><b>Meltric Makes it Safe &amp; Easy</b></p>	<p><b>MOTOR CHANGE-OUT PROCESS</b></p> <ol style="list-style-type: none"> <li>1. Open interlock switch</li> <li>2. Determine PPE requirements &amp; obtain</li> <li>3. Remove interlock cover</li> <li>4. Voltmeter test to verify deenergization</li> <li>5. Remove plug</li> <li>6. Apply lockout/tagout as required</li> <li>7. Remove old/install new motor</li> <li>8. Insert plug into receptacle</li> </ol>

## CODE COMPLIANCE: *What the Codes Require*

### National Electric Code

Articles 430.101 through 430.113 regulate motor disconnection means. They require motors to have readily accessible, Line of Sight disconnects that are either an approved switch or a properly rated plug and receptacle.

- ▼ **430.102** A disconnecting means must be located in sight from the motor and driven equipment.
- ▼ **430.107** The disconnecting means must be readily accessible.
- ▼ **430.109** The disconnecting means must be an approved switch or a horsepower rated plug & receptacle with ratings at least equivalent to the motor ratings.
- ▼ **430.110** The disconnecting means must have an amp rating at least 115% of the full-load current rating of the motor. The horsepower rating of the disconnecting means must be determined based on the sum of all resistive currents and the locked rotor current of the motor.

*Meltric's DECONTACTOR™ Series Plugs & Receptacles pass testing at the 6xFLA current level required relative to locked rotor conditions.*

### NFPA 70E

This OSHA consensus standard covers electrical safety related work practices and procedures for employees who work on or near exposed energized electrical conductors or circuit parts. Relevant requirements include:

**Power must be proven to be off before performing work. This includes:**

- ▼ The safe interruption of the load & opening of the disconnect
- ▼ Visual verification/voltage testing to ensure deenergization

**The potential electrical hazard must be identified and documented.**

- ▼ Flash hazard analysis must be performed
- ▼ Flash protection boundaries must be determined

**Appropriate steps must be taken to protect persons working near live parts or within the flash protection boundary.**

- ▼ Personal Protective Equipment must be provided based on the relevant incident energy exposure levels (cal/cm<sup>2</sup>)
- ▼ Only properly qualified persons shall be allowed to perform work

See published NFPA 70E standard for complete safety requirements.

*By using Meltric's DECONTACTOR™ Series Plugs & Receptacles to connect equipment, users can avoid ALL these requirements and procedures.*



# Application Spotlights

## Conveyor Systems

**Deconnectors enable conveyor systems to be quickly reconfigured and also allow motors to be easily replaced.**

### ▼ Enable Modularity

A mechanic can safely and easily make or break live electrical connections on conveyors. The conveyors can then be quickly reconfigured to meet flexible production needs.

### ▼ Allow Advanced Control

Pilot contacts can operate secondary control circuits to send alarm signals or turn other equipment on or off depending on system requirements.



*Deconnectors with optional pilot contacts can convey alarms or control auxiliary equipment along a conveyor line.*

## Pumps and Mixers

**Deconnectors provide safe and quick motor connections - even in wet environments.**

### ▼ Ensure Safety

Workers can safely make and break electrical connections on motors up to 60 hp. Butt-style contact technology, enclosed arc chambers, dead front construction, and short circuit make & withstand capabilities ensure user safety.

### ▼ Maximize Durability

Deconnectors are built to withstand harsh and wet environments. The casings are shock resistant, the silver-nickel contacts are corrosion resistant, and the complete unit is watertight up to NEMA 4X (DSN).



*Deconnectors withstand washdown environments, providing safe, durable connections for pumps and mixers.*

## Portable and Handheld Equipment

**Deconnectors allow safe and easy equipment disconnection, even by users with gloves on.**

### ▼ Inhibit Corrosion

Silver-nickel contact materials and stainless steel metal parts provide exceptional resistance to corrosion in caustic washdown environments.

### ▼ Simplify Operation

Deconnectors are safely and easily disconnected - even with gloves on. Simply press the release button (pawl) and then lightly rotate the plug for removal.



*A Deconnectors enclosed arc chambers and dead front construction ensure user safety.*



# Application Spotlights



## Production Line Equipment

Decontactors facilitate the reconfiguration of production line equipment.

### ▼ Minimize Design Hassles and Installation Costs

Decontactors eliminate the need for mechanical interlocks and auxiliary disconnects, saving design and installation time.

### ▼ Reduce Downtime

A mechanic can break the power, relocate or service equipment and reconnect power in minutes. There is no hand-wiring required, even for equipment with controls.



*Decontactors allow users to safely and routinely make or break equipment connection - even under full load.*

## Equipment Control Wire Connections

Meltric Decontactors and Meltric Multipin connectors allow quick, error-free control wire connections.

### ▼ Simplify Control Wiring and Maintenance

Decontactors with optional pilot contacts are ideal for controlling auxiliary equipment or monitoring key operational procedures. For more complex control schemes, Meltric Multipin connectors are available with up to 37 contacts. Both products enable quick reconfigurations of processing equipment without the need for hard-wiring or multiple plug connections.

### ▼ Promote Error-Free Connections

Avoid rewiring errors during equipment change-outs. Meltric connectors provide 'plug and play' simplicity, even in washdown environments.



*Meltric Stainless Steel Multipin connectors provide maximum durability and corrosion resistance in critical control applications.*

## Electrical Connections for Vehicles

Decontactors provide a convenient, durable means of connecting power to stationary vehicles.

### ▼ Withstand Rough Handling

Decontactor casings offer great resistance to impact and harsh environments. The silver-nickel, butt-style contact configuration allows users to routinely make and break the electrical connections.

### ▼ Prevent Damage

Potential for "drive away" damage to the electrical connection is virtually eliminated with Meltric's optional self-ejecting feature.



*Decontactors with optional self-ejecting system prevents damage in drive away situations.*



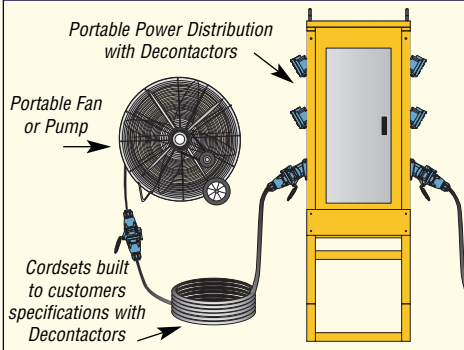


# Benefit from Meltric Connectors...

## GROWING



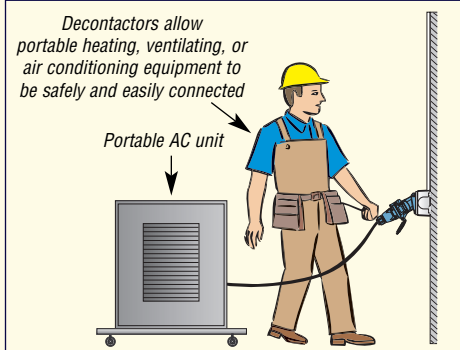
Connect stackers, slingers, pumps, fans, hvac equipment



## PROCESSING – PRODUCE



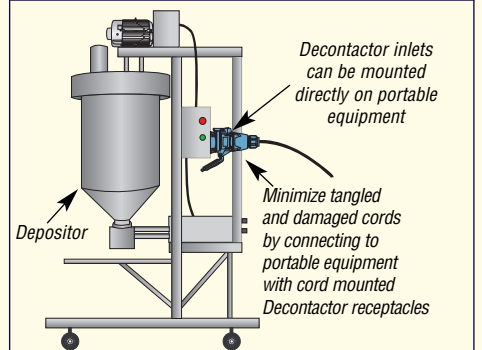
Connect washers, conveyors, pumps, hvac equipment



## PROCESSING – BAKERY



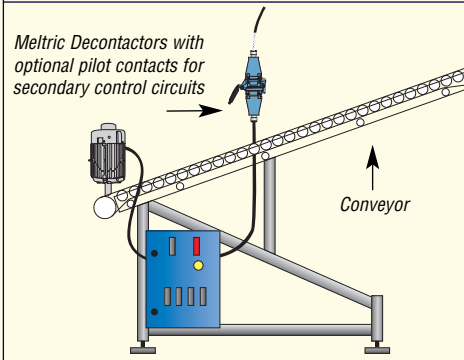
Connect ovens, mixers, pumps, extruders, depositors



## CONVEYING



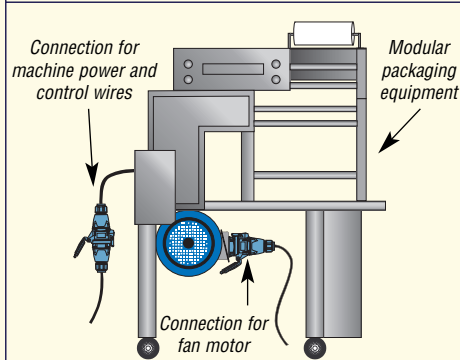
Connect portable or stationary motor driven conveyors



## PACKAGING



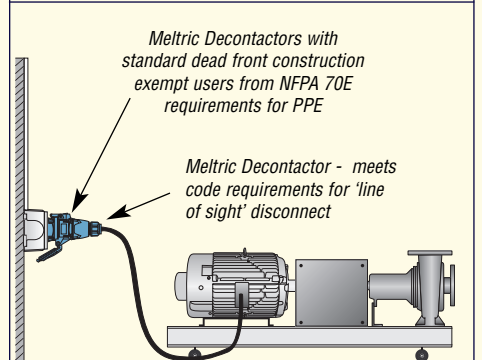
Connect cartoners, wrappers, baggers, sealers, fillers



## STORAGE



Connect mixers, pumps, grinders, aerators, fans





# ...Throughout Your Plant

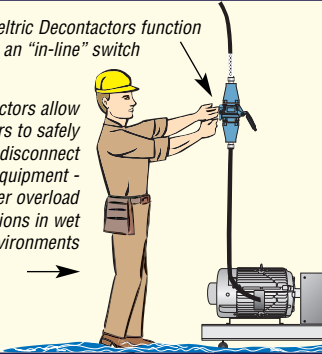
## PROCESSING – BEVERAGE



Connect tumblers, pumps, pasteurizers, freezers, chillers

Meltric Deconnectors function as an "in-line" switch

Deconnectors allow workers to safely connect or disconnect electrical equipment - even under overload conditions in wet environments

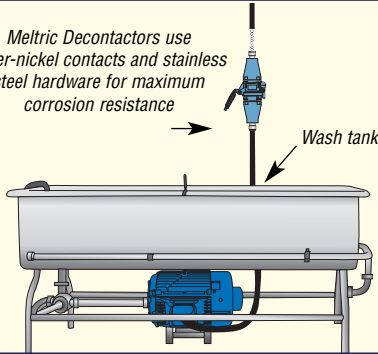


## PROCESSING – DAIRY



Connect pasteurizers, homogenizers, mixers, blenders

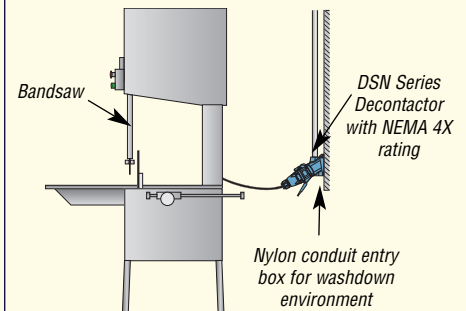
Meltric Deconnectors use silver-nickel contacts and stainless steel hardware for maximum corrosion resistance



## PROCESSING – MEAT



Connect separators, saws, slicers, grinders, formers, choppers

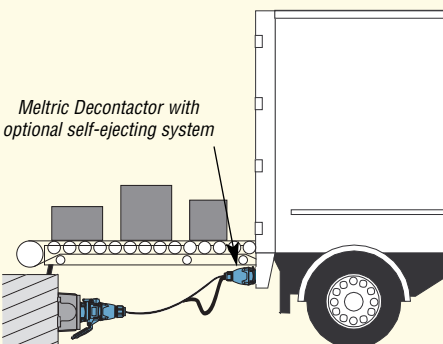


## SHIPPING /RECEIVING



Connect trucks, conveyors, refrigerated vehicles

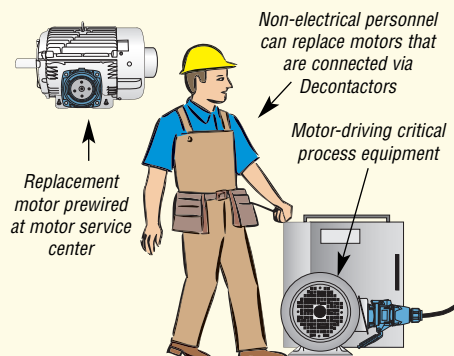
Meltric Deconnector with optional self-ejecting system



## MAINTENANCE



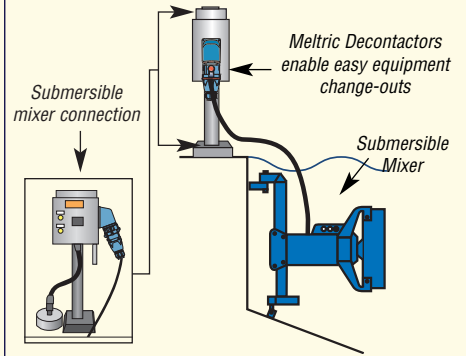
Connect hvac equipment, welders, and portable wash tanks



## PLANT WASTEWATER



Connect submersible mixers, pumps, aerators



# Product Technology & Specifications

**DSN 20-60A**



**DS 20-200A**



**DB 30-100A**



DSN's are the most compact and light weight of the Decontactor Series products. The fiberglass reinforced thermoplastic polyester casing provides excellent resistance to shock, chemicals and UV rays.

- UL & CSA Switch Rated
- NEMA 4X, IP 66/67
- Up to 4 auxiliary contacts

DS's provide an excellent combination of capacity and ruggedness. DS casings are made of fiberglass reinforced thermoplastic polyester or zinc alloy, depending on the model.

- UL & CSA Switch Rated
- NEMA 3R, IP 54/55
- Up to 5 auxiliary contacts

DB's are designed to handle high horsepower inductive loads (up to 60 hp). The DB's arc splitting/blowing system and internal spring loaded switch operator provide advanced levels of performance and safety. Zinc alloy casings stand up to rugged handling.

- UL & CSA Switch Rated
- IP 67
- Up to 4 auxiliary contacts

## Horsepower Ratings

### DSN

VOLTAGE	hp RATING	DEVICE
120V Single Ø	1/2 hp	DSN 20
	1 hp	DSN 30
	2 hp	DSN 60
240V Single Ø	1 hp	DSN 20
	3 hp	DSN 30
	3 hp	DSN 60
208V 3Ø	2 hp	DSN 20
	5 hp	DSN 30
	7 1/2 hp	DSN 60
240V 3Ø	2 hp	DSN 20
	5 hp	DSN 30
	7 1/2 hp	DSN 60
480V 3Ø	5 hp	DSN 20
	10 hp	DSN 30
	20 hp	DSN 60
600V 3Ø	15 hp	DSN 30
	20 hp	DSN 60

### DS

VOLTAGE	hp RATING	DEVICE
120V Single Ø	1/2 hp	DS 20
	3/4 hp	DS 30
	2 hp	DS60 or DS100C
240V Single Ø	1 1/2 hp	DS 20
	2 hp	DS 30
	3 hp	DS60 or DS100C
208V 3Ø	3 hp	DS 20
		DS 30
	7 1/2 hp	DS60 or DS100C
240V 3Ø	1 1/2 hp	DS 20
	3 hp	DS 30
	7 1/2 hp	DS60 or DS100C
480V 3Ø	5 hp	DS 20
	10 hp	DS 30
	20 hp	DS60 or DS100C
600V 3Ø	7 1/2 hp	DS 20
	25 hp	DS60 or DS100C

### DB

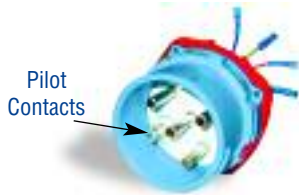
VOLTAGE	hp RATING	DEVICE
120V Single Ø	1 1/2 hp	DB 30
	3 hp	DB 60
	7 1/2 hp	DB 100
240V Single Ø	3 hp	DB 30
	7 1/2 hp	DB 60
	10 hp	DB 100
208V 3Ø	7 1/2 hp	DB 30
	15 hp	DB 60
	30 hp	DB 100
240V 3Ø	7 1/2 hp	DB 30
	15 hp	DB 60
	30 hp	DB 100
480V 3Ø	10 hp	DB 30
	30 hp	DB 60
	60 hp	DB 100
600V 3Ø	10 hp	DB 30
	30 hp	DB 60
	60 hp	DB 100



# Common Food & Beverage Industry Options



## Auxiliary Pilot Contacts



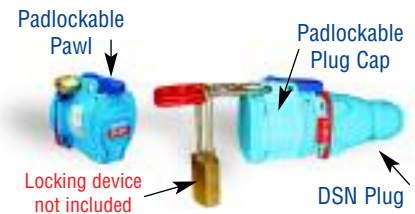
Use pilot contacts for operating secondary control circuits or for electrical interlocking with the motor starter. These contacts make last and break first when the plug is engaged or disengaged. Two to five auxiliary contacts are available on a Decontactor.

## Emergency Stop



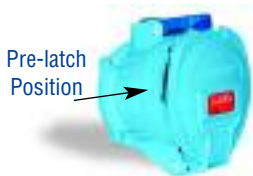
An emergency stop pawl is available as an alternative to the standard pawl. It provides a larger button that is easier to actuate, making it ideal in areas where quick disconnects may be required.

## Lockable Plugs or Receptacles



Use padlock pawls or padlock plug caps for preventing unwanted connection or disconnection of plugs. Padlock pawls also allow the lid to be locked closed. Padlockable plug caps provide NEMA 4X watertightness (DSN only).

## Closed Lid Configuration



Normally closed lids for female devices are available for applications where the receptacle will be exposed to excessive moisture or debris. The lid will automatically close to a pre-latch position.

## Handle Options



Use PH or PM handles for connecting to flexible conduit, for strain relief on suspended connections, and for enhanced watertightness. Finger draw plates should also be considered for easier connector closure.

## Nylon Conduit Entry



Nylon conduit entry boxes are available for washdown applications where a metallic box is not desirable. Applications utilizing large wire sizes should be checked for 'fit' before ordering.

## Self-Ejecting Devices

Meltric's self-ejecting system employs a "fin" type pawl, which is activated by a tension cord attached between the pawl and the power cable. Tension on the cable pulls the cord, releasing the pawl and uncoupling the device. Self-ejecting models connect with straight insertion to permit automatic ejection. This option is ideal for truck hook-ups, fork lifts, and refrigerated or heated food carts.



A tension cord is attached to the power cable and the fin pawl of the plug.



Tension on the power cable automatically lifts the fin pawl via the tension cord.



Once the pawl is lifted, the plug pulls away from the receptacle.



## Other Meltric Products and Services for the Food & Beverage Industries

### Multipin Plugs and Receptacles



Multipin products are commonly used in power and control applications. They are available with up to 37 contacts and have a total amp capacity ranging from 5 to 100 amps. DS7 models facilitate star-delta motor starting.

### DXN Explosion Proof Connectors



DXN's are rated for Class 2 Division 2 environments such as grain silos. Suitable for loads up to 60 amps, DXN's provide a compact, waterproof solution for hazardous locations.

### PN Connectors



PN devices are commonly used to connect low power resistive and inductive loads up to 30 amps. PN's are excellent for portable equipment or for applications that require devices with smaller dimensions.

### Stainless Steel Connectors



300 series stainless steel connectors are available for applications where extreme corrosion and physical abuse are anticipated. Some sizes of DS, DSN, PN and Multipin Series products are available.

### Replacement Parts

The need to replace parts is rare. However, should they be required, parts are readily available and reasonably priced. Purchasing the individual parts costs no more than buying an assembled product.

### Same Day Shipping

Due to our outstanding customer service capabilities and the modular design of our product, 95% of incoming orders are shipped within 24 hours. For a small fee, orders can be shipped the same day.

### Five Year Warranty

The electrical contacts on Meltric products are warranted for five years from date of shipment. The complete product is warranted for one year from the date of shipment. Contact Meltric for a full warranty statement.

