



A wide range of incubators to fit your laboratory needs

# Thermo Electron has a Precision incubator to fit your needs.



With more than twenty models to choose from, you're sure to find a Precision incubator to match your needs. Even our smallest and lowest priced incubators come with an inner glass door as standard equipment so as not to sacrifice the integrity of your important samples.

For applications that require temperatures at room temperature or lower, Precision offers three refrigerated incubators. These incubators provide excellent uniformity and sensitivity to protect your valuable samples.

# Applications

	Economy	Thelco	High Performance	Model 30M	Models 815, 818, 30MR
Antibody Testing					
BOD Determinations					
Bacterial Research					
Chemical Storage					
Coliform Determinations					
Crystallization Studies					
Curing					
Drying and Staining Procedures					
Entomological Studies					
Enzyme Digestion Studies					
Hematological Testing					
Histochemical Procedures					
Microbiological Determinations					
Paraffin Embedding					
Pharmaceutical Stability Testing					
Plant Growth Studies					
Sample Storage					
Seed Germination Studies					
Serum and Enzyme Tests					
Tissue Culturing					

# **Precision Economy Incubators**

### Features:

- Broad Temperature Range
- Excellent Temperature Control
- Small Footprint, Large Capacity
- Simple to Maintain
- All models UL Listed

### Performance You Can Depend on... At a Price You Can Afford

These value-packed incubators are easy on your wallet... yet provide the full featured performance you need for most incubation applications.

Precision Economy Incubators are available in five different models. Choose mechanical or gravity convection; capacities of 1.4 cu. ft. (40 liters), 2.5 cu. Ft. (71.5 liters), or 4.5 cu. ft. (129 liters). All feature corrosion-resistant stainless steel interiors; easyclean, non-tip shelving; and tough powder coated exteriors. Equally important, Precision Economy Incubators combine a wide temperature range with excellent temperature sensitivity, stability, and uniformity.

Precision Economy Incubators are also designed to help you conserve precious bench space. Plus they are ready to go upon delivery, just unpack and plug it in! No calibration required. Precision 2EG Economy Incubator



Model	2EG	3EG	5EG	3EM	5EM
Chamber Volume	1.4 cu. ft. (40 liters)	2.5 cu. ft. (71.5 liters)	4.5 cu. ft. (129 liters)	2.5 cu. ft. (71.5 liters)	4.5 cu. ft. (129 liters)
Convection Technique	Gravity	Gravity	Gravity	Mechanical	Mechanical
Temperature Control	Hydraulic	Electronic	Electronic	Electronic	Electronic
Temperature Display	0 to 100° C Thermometer	0 to 100° C Thermometer	0 to 100° C Thermometer	0 to 100° C Thermometer	0 to 100° C Thermometer
Temperature					
Range	Ambient +5° C to 65° C	Ambient +5° C to 65° C	Ambient +5° C to 65° C	Ambient +5° C to 65° C	Ambient +5° C to 65° C
Uniformity @37°C	± 1.5° C	± 1.0° C	± 1.0° C	± 0.75° C	± 0.75° C
Stability	± 0.5°C	± 0.5°C	± 0.5°C	± 0.5°C	± 0.5°C
Sensitivity	± 0.3° C	± 0.3° C	± 0.5° C	± 0.5° C	± 0.5° C
Dimensions (L x W x H)					
Chamber	14 x 12.5 x 13.75 in. (35.6x31.7x34.9cm)	15.5 x 18.5 x 15 in. (39.4x47.0x38.1cm)	15.5 x 18.5 x 27 in. (39.4x47.0x68.6cm)	15.5 x 18.5 x 15 in. (39.4x47.0x38.1cm)	15.5 x 18.5 x 27 in. (39.4x47.0x68.6cm)
Shelf (each)	13.5 x 12.5 in. (34.3 x 31.75 cm)	15.5 x 18 in. (39.4 x 45.7 cm)	15.5 x 18 in. (39.4 x 45.7 cm)	15.5 x 18 in. (39.4 x 45.7 cm)	15.5 x 18 in. (39.4 x 45.7 cm)
Exterior <sup>1</sup>	19.5 x 18 x 28 in. (49.3x45.7x71.1cm)	21.5 x 24 x 28 in. (54.6x61.0x71.1cm)	21.5 x 24 x 40 in. (54.6x61.0x101.6cm)	21.5 x 24 x 28 in. (54.6x61.0x71.1cm)	21.5 x 24 x 40 in. (54.6x61.0x101.6cm)
Electrical Specs (50/60Hz):					
120V	100 Watt, 0.8 Amps	125 Watt, 1.1 Amps	150 Watt, 1.3 Amps	200 Watt, 1.7 Amps	225 Watt, 2.0 Amps
230V	100 Watt, 0.4 Amps	125 Watt, 0.6 Amps	150 Watt, 0.7 Amps	200 Watt, 0.9 Amps	225 Watt, 1.0 Amps
BTU Output	341	427	512	683	768
Net Weight	72 lbs. (32.6 kg)	102 lbs. (46.2 kg)	132 lbs. (59.9 kg)	112 lbs. (50.8 kg)	142 lbs. (64.4 kg)
Shelves <sup>2</sup>	2 supplied/5 max	2 supplied/6 max	2 supplied/10 max	2 supplied/6 max	2 supplied/10 max
Shipping Information					
Dimensions (L x W x H)	24 x 23 x 30 in. (61.0x58.4x76.2cm)	25 x 26 x 31.5 in. (63.6x66.0x80.0cm)	25 x 26 x 43.5 in. (63.6x66.0x80.0cm)	25 x 26 x 31.5 in. (63.6x66.0x80.0cm)	25 x 26 x 43.5 in. (63.6x66.0x110.5cm)
Weight	82 lbs. (37.2 kg)	126 lbs. (57.1 kg)	157 lbs. (71.2 kg)	136 lbs. (61.7 kg)	167 lbs. (75.8 kg)
Volume	9.8 cu. ft. (0.28 cu. meter)	11.7 cu. ft. (0.33 cu. meter)	16.3 cu. ft. (0.46 cu. meter)	11.7 cu. ft. (0.33 cu. meter)	16.3 cu. ft. (0.46 cu. meter)
Catalog Number 120V (UL listed)	51221085	51221087	51221089	51221091	51221093
230V 3	51221086	51221088	51221000	51221092	51221094

1. Exterior height includes vent cap and adjustable feet. 2. Spacing between shelves is 2 in. (50mm). 3. 50/60 Hz

# **Precision Thelco Incubators**

### Features:

- Convenient rear access port for auxiliary equipment
- Built-in calibration capability
- Convenient jack for external chart recorder equipment
- Double-latched outer door
- Fully gasketed inner glass door
- Top vent for more efficient air venting in tight spaces
- RS-232 capabilities
- UL Listed (120V)
- CE Marked (230V)

Thelco Incubators are designed to provide the precise temperature control and uniformity required for the most demanding incubation applications. These versatile microprocessor controlled incubators feature push-button temperature setpoint selection, an easy-to-read digital display, and built-in over-temperature protection. Equally important, the specially balanced heat convection patterns combine to provide chamber uniformity as precise as  $\pm 0.25^{\circ}$ C.

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## Precision Thelco 6DM Incubator with optional thermometer

Specifications							
Models	2DG	3DG	5DG	6DG	3DM	5DM	6DM
Chamber Volume	1.4 cu. ft. (40 liters)	2.5 cu. ft. (71.5 liters)	4.5 cu. ft. (129 liters)	5.5 cu. ft. (157.5 liters)	2.5 cu. ft. (71.5 liters)	4.5 cu. ft. (129 liters)	5.5 cu. ft. (157.5 liters)
Convection Technique	Gravity	Gravity	Gravity	Gravity	Mechanical	Mechanical	Mechanical
Temperature Control	Microprocessor	Microprocessor	Microprocessor	Microprocessor	Microprocessor	Microprocessor	Microprocessor
Temperature Display	3-digit LED	3-digit LED	3-digit LED	3-digit LED	3-digit LED	3-digit LED	3-digit LED
Temperature Range	Ambient +5° to 70°	Ambient +5° to 70°	Ambient +5° to 70°	Ambient +5° to 70°	Ambient +5° to 70°	Ambient +5° to 70°	Ambient +5° to 70
Uniformity @ 37° C	± 0.5°C	± 0.5°C	± 0.5°C	± 0.5°C	± 0.25°C	± 0.25°C	± 0.25°C
Sensitivity	± 0.1° C	± 0.1° C	± 0.1° C	± 0.1° C	± 0.1° C	± 0.1° C	± 0.1° C
Stability	± 0.1° C	± 0.3° C	± 0.3° C	± 0.3° C	± 0.2° C	± 0.2° C	$\pm$ 0.2° C
<b>Dimensions</b> (L x W x H) Chamber	14 x 12.5 x13.75in. (35.6x31.7x34.9 cm)	15.5 x 18.5 x 15 in. (39.4x47.0x38.1cm)	15.5 x 18.5 x 27in. (39.4x47.0x68.6cm)	15.5 x 18.5 x 33in. (39.4x47.0x83.8cm)	15.5 x18.5 x 15in. (39.4x47.0x38.1cm)	15.5 x18.5 x27in. (39.4x47.0x68.6cm)	15.5 x18.5 x33in. (39.4x47.0x83.8cm)
Shelf (each) (34.3 x 31.75 cm)	13.5 x 12.5 in. (39.4 x 45.7 cm)	15.5 x 18 in. (39.4 x 45.7 cm)	15.5 x 18 in. (39.4 x 45.7 cm)	15.5 x 18 in. (39.4 x 45.7 cm)	15.5 x 18 in. (39.4 x 45.7 cm)	15.5 x 18 in. (39.4 x 45.7 cm)	15.5 x 18 in.
Exterior <sup>1</sup>	19.5 x 18 x 28 in. (49.5x45.7x71.1cm)	21.5 x24 x 28 in. (54.6x61.0x71.1cm)	21.5 x24 x 40 in. (54.6x61.0x101.6cm)	21.5 x24 x 46 in. (54.6x61.0x116.8cm)	21.5 x24 x 28 in. (54.6x61.0x71.1cm)	21.5 x24 x 40 in. (54.6x61.0x101.6cm)	21.5 x24 x 46 in. (54.6x61.0x116.8cn
Electrical Specs (50/60Hz) 120V	120 Watt, 1.0 Amps	125 Watt, 1.1 Amps	150 Watt, 1.3 Amps	175 Watt, 1.5 Amps	200 Watt, 1.7 Amps	225 Watt, 2.0 Amps	250 Watt, 2.2 Amps
230V	120 Watt, 0.5 Amps	125 Watt, 0.6 Amps	150 Watt, 0.7 Amps	175 Watt, 0.8 Amps	200 Watt, 0.9 Amps	225 Watt, 1.0 Amps	250 Watt, 1.1 Amps
BTU Output	410	427	768	597	683	768	853
Net Weight	80 lbs (36.3 kg)	105 lbs (47.6 kg)	135 lbs (61.2 kg)	150 lbs (68.1 kg)	115 lbs (52.16 kg)	145 lbs (65.8 kg)	160 lbs (72.5 kg)
Shelves <sup>2</sup>	2 supplied, 6 max	2 supplied, 6 max	2 supplied, 12 max	2 supplied, 15 max	2 supplied, 6 max	2 supplied, 12 max	2 supplied, 15 max
Shipping Data Dimensions (L x W x H) (61.0x 58.4x76.2cm)	24 x 23 x 30 in. (63.5x66.0x80.0cm)	25 x 26 x 31.5 in. (63.5x66.0x110.5cm)	25 x 26 x 43.5 in. (63.5x66.0x125.7cm)	25 x 26 x 49.5 in. (63.5x66.0x80.0cm)	25 x 26 x 31.5 in. (63.5x66.0x110.5cm)	25 x 26 x 43.5 in. (63.5x66.0x125.7cm)	25 x 26 x 49.5 in.
Weight	95 lbs (43.1 kg)	130 lbs (59.0 kg)	160 lbs (72.6 kg)	175 lbs (79.4 kg)	140 lbs (63.5 kg)	170 lbs (77.1 kg)	185 lbs (83.9)
Volume	9.8 cu. ft. (0.28 cu. meter)	11.7 cu. ft. (0.33 cu. meter)	16.3 cu. ft. (0.46 cu. meter)	18.5 cu. ft. (0.52 cu. meter)	11.7 cu. ft. (0.33 cu. meter)	16.3 cu. ft. (0.46 cu. meter)	18.5 cu. ft. (0.52 cu. meter)
Catalog Number 120V (UL listed)	51221112	51221114	51221116	51221118	51221120	51221122	51221124
230V 3	51221113	51221115	51221117	51221119	51221121	51221123	51221125

1. Includes vent cap and adjustable feet 2. Spacing between selves is 1-7/8" (48 mm). All models equipped with standard line cord and plug.

3. 50/60 Hz (Includes European style 50 Hz power cord; standard 220V 60 Hz power cord available separately. Part number 34400001)

# **Precision High Performance Incubators**

### **Features:**

- Double door design has no center post to enable full utilization of chamber
- Interior glass doors for easy viewing
- Built-in high temperature safety
- Precise Temperature Control
- UL listed

Precision High Performance Incubators are ideal for laboratory applications requiring dry heat incubations in the ambient  $+5^{\circ}$ C to  $65^{\circ}$ C temperature range. Available in three different models, these incubators feature temperature uniformities as precise as  $\pm 0.3^{\circ}$ C at  $37^{\circ}$ C, built-in high temperature safety, and inner glass doors so you can inspect chamber contents without disturbing the inner chamber environment.

**Model 6** – This double door, gravity convection incubator boasts 283.2 liters of usable chamber capacity. It also features a hydraulic thermostat with independent high temperature safety. **Model 6M** – This double door, mechanical convection incubator features a direct drive turbo blower and wattage selection switch for fast heat up with excellent temperature uniformity. A hydraulic thermostat controls temperature with independent high temperature safety.



**Model 6LM** – This double door incubator combines microprocessor temperature control with mechanical convection to improve temperature uniformity and sensitivity of  $\pm 0.3^{\circ}$  and  $\pm 0.1^{\circ}$ C respectively. Chamber temperature is set via a keypad on the face of the instrument while a bright LED readout displays actual chamber temperature to 0.1°C. an independent high temperature safety thermostat guards against thermal runaway.



Top and bottom: Precision Model 6

Model	6	6M	6LM
Chamber Volume	10 cu. ft. (283.2 liters)	10 cu. ft. (283.2 liters)	10 cu. ft. (283.2 liters)
Convection Technique	Gravity	Mechanical	Mechanical
Temperature Control	Hydraulic	Hydraulic	Microprocessor
Temperature Display	20° C to 100° C Thermometer	20° C to 100° C Thermometer	LED
Temperature Range	Ambient +5° to 65° C	Ambient +5° to 65° C	Ambient +5° to 65° C
Uniformity @ 37° C	± 0.5C	± 0.3C	± 0.3C
Sensitivity	± 0.2° C	± 0.2° C	± 0.1° C
<b>Chamber Dimensions</b> (W x D x H)	36 x18 x 27 in. (91.4 x 45.7 x 68.6 cm)	36 x18 x 27 in. (91.4 x 45.7 x 68.6 cm)	36 x18 x 27 in. (91.4 x 45.7 x 68.6 cm)
Electrical Specs (50/60Hz)			
120V	300 Watts, 2.5 Amps	600 Watts, 5.0 Amps	600 Watts, 5.0 Amps
230V	275 Watts, 1.2 Amps	_	590 Watts, 2.6 Amps
BTU Output	1024	2049	2049
Shelves	2 supplied, 12 max	4 supplied, 12 max	4 supplied, 12 max
Exterior Dimensions (W x D x H)	42 x 21 x 39 in. (106.7 x 53.3 x 99.1 cm)	42 x 21 x 39 in. (106.7 x 53.3 x 99.1 cm)	42 x 21 x 39 in. (106.7 x 53.3 x 99.1 cm)
Shipping Data			
Dimensions (L x W x H)	26 x 45 x 42 in. (66.0 x 114.3 x 106.7 cm)	26 x 45 x 42 in. (66.0 x 114.3 x 106.7 cm)	26 x 45 x 42 in. (66.0 x 114.3 x 106.7 cm)
Weight	230 lbs (104.3 kg)	268 lbs (121.5 kg)	265 lbs (120.2 kg)
Volume	28.5 cu. ft. (0.8 cu. meter)	28.5 cu. ft. (0.8 cu. meter)	28.5 cu. ft. (0.8 cu. meter)
Catalog Number 120V	E1221100	F1221110	51221083
1201	51221109	51221110	31221083

1. 2 inch (51mm) spacing between shelves 2. 50/60 Hz

# **30M High Capacity Incubator**

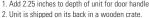
# Features:

- Internal duplex convenience outlet for powering auxiliary equipment
- Available with a solid or glass door
- Built-in high-temperature safety
- Easy-to-Clean
- Corrosion and chemical resistant
- Aluminum chamber
- Top mounted fan with diffuser panel for gentle circulation of air inside chamber
- Adjustable shelves

### Large, Mechanical Convection Incubators offer walk-in capacity, reach-in convenience.

Precision Model 30M Incubators are ideal for laboratory applications requiring a broad temperature range, fast temperature recovery, and large loading capacities. The integral direct drive blower gently circulates air throughout the chamber to provide a temperature uniformity of  $\pm 0.5^{\circ}$ C at 37°C while ensuring fast temperature recovery after the door is opened. The 30M incubator requires hardwire installation by a qualified electrician.

Specifications	
Models	30M
Chamber Volume	30 cu. ft. (849.6. liters)
<b>Convection Technique</b>	Mechanical
Temperature Control	Hydraulic Thermostat
Temperature Range	Ambient +5°C to 70°C
Uniformity	±0.5°C at 37°C
Sensitivity	±0.2°C
Recovery Time @ 37°C	14 minutes
Dimensions (L x W x H)	
Chamber	24.25 x 30 x 72 in. (61.6 x 72.2 x 182.9 cm
Shelf (each)	23.5 x 28.5 in. (60.0 x 72.4 cm)
Exterior <sup>1</sup>	31.5 x 36 x 88.5 in. (74.3 x 91.4 x 224.8 cm
Electrical Specs (50/60)	
120V	1450 Watts
DTIL Output	12.1 Amps 4952
BTU Output Shelves	
	6 supplied
Shipping Data Dimensions <sup>2</sup>	42 x 95 x 40 in. (106.7 x 241.3 x 101.6 cm)
Weight	685 lbs. (310.7 kg)
Volume	92.6 cu. ft. (2.62 cu. meters)
Catalog Number LH Hinge, Solid Door	51221095
RH Hinge, Solid Door	51221096
LH Hinge, Glass Door	51221098
RH Hinge, Glass Door	51221099
1. Add 2.25 inches to depth of unit	for door handle.





### **Precision 30M Incubator**

# **Precision Refrigerated Incubators**

### Features:

- High and low temperature protection
- Six shelves standard
- RS-232 and recorder jacks
- Gasketed door with key lock
- Front panel calibration
- Microprocessor Controlled
- Access port
- Easy-to-clean, corrosion-resistant construction
- Dry contacts for alarm hookup
- UL listed (120V)

### **Additional Features Model 815**

 Holds up to 297 - 300ml BOD bottles on the chamber shelves. Holds an additional 36 - 300 ml BOD bottles on the door shelves

### **Additional Features Model 818**

- Plant growth chamber
- Microprocessor software lock
- 7-day program with 2 light cycles per day
- Dual lamp fluorescent lighting providing 300 foot candles for uniform illumination

### Precision's Model 815 Refrigerated Incubator

Designed specifically for Biological Oxygen Demand (BOD) determinations, the Precision Model 815 can also be used for any application that requires a temperature setting at or below the ambient temperature of the laboratory. The unit is microprocessor controlled and features push button temperature set-point selection, high and low temperature protection, and an easy to read digital display. Calibrations can be performed on the front panel using a simple procedure. The unit includes jacks for connecting an external chart recorder and an RS-232 interface option for data logging. With a roomy interior chamber of 20 cubic feet, the Model 815 comes equipped with 6 interior shelves and 6 shelves in the door of the unit.

### Precision's Model 818 Refrigerated Incubator

Designed for applications requiring illumination and precise temperature control and uniformity over a broad temperature range. Totally microprocessor controlled, this versatile incubator features push-button temperature set-point selection, programmable heating and lighting cycles, high and low temperature protection, easy to read displays, and a simple front-panel calibration procedure. The unit includes jacks for connecting an external chart recorder and an RS-232 interface option for data logging. The large 17.8 cubic foot interior comes equipped with 6 shelves. The door contains two fluorescent lamps that provide the chamber interior with an evenly distributed 300 foot candles of light.

### Precision Refrigerated Incubator Model 815 (left) and Model 818 (right)





# Specifications

Models	815		818			
Chamber Volume	20 cu. ft. (566 liters)		17.8 cu. ft. (504 liters)			
Convection Technique	Mechanical		Mechanical			
Temperature Range	-10° to +50°C		-10° to 50°C1 / 10	)° to 50°C <sup>2</sup>		
Temperature Uniformity	±0.9°C at -10°C ±0.5°C at 20°C	±0.5°C at 37°C ±0.6°C at 50°C	±2.0°C at -10°C1 ±0.6°C at 20°C1	±1.8°C at 10°C <sup>2</sup> ±1.5°C at 20°C <sup>2</sup> ±0.7°C at 50°C <sup>2</sup>		
Temperature Sensitivity	±0.1° C		±0.2° C			
Recovery Time	Temperat10 minutes at 20°C (after 30 second door opening)		10 minutes at 20°C (after 30 second door opening)			
<b>Chamber Dimensions</b> (L x W x H)	20 x 26.5 x 57 in. (50.8 x 67.3 x 144.8 cm)		20 x 26.5 x 57 in. (50.8 x 67.3 x 144.8 cm)			
Electrical Specs 120V	60 Hz, 800 Watts	s, 7.0 Amps	60 Hz, 860 Watts, 7.5 Amps			
230V	50 Hz, 800 Watts	s, 3.5 Amps	50 Hz, 860 Watts, 3.75 Amps			
BTU Output	2730		2935			
Shelves Number Supplied <sup>3</sup>	6		6			
Total Interior Shelf Area	15.8 sq. ft. (1.47 sq. meters)		15.8 sq. ft. (1.47 sq. meters)			
Exterior Dimensions (L x W x H)	29 x 32 x 75 in. (74 x 82 x 191 cm)		29 x 32 x 75 in. (74 x 82 x 191 cm)			
Shipping Information						
Dimensions (L x W x H)	32 x 34 x 82 in. (81.3 x 86.4 x208.3 cm)		32 x 34 x 82 in. (81.3 x 86.4 x208.3 cm)			
Weight	315 lbs. (142.9 k	315 lbs. (142.9 kg)		347 lbs. (157.4 kg)		
Volume	48.5 cu. ft. (1.37 cu. meters)		48.5 cu. ft. (1.37 cu. meters)			
Catalog Number 120V	51221106		51221107			
230V <sup>4</sup>	51221105		51221108			

1. Without illumination 2. With illumination 3. Shelves not adjustable 4. 50/60 Hz

# **Precision Incubator Accessories**

# **Ordering Information**

These top quality accessories are designed to enhance the performance of your Precision and Thelco Incubators.



### **Shelf Kits for Incubators**

(1 shelf and 2 supports)	
Precision High Performance	Models
Catalog No.	51200818
Precision Economy 2EG and Thele	co 2DG
Catalog No.	51200833
All Other Precision Economy	1
and Thelco models	
Catalog No.	51200835
Precision Models 30 and 30	MR
Catalog No.	51200811

### **Glass Thermometers**

Non-hazardous glass Thermometers 0°C to 100°C in 1°C increments. Precision Economy, High Performance, and Thelco Incubators, 12 in. (305mm) long. For monitoring purposes only Cat No. 34001768

# **RS232 Interface Kit**

For Bi-directional communication for data-logging or remote control. Maximum distance, 50 feet (15.25 meters). Includes D-connector, PCB, and required cables. For Precision 815, 818, and all Thelco Incubators Catalog No. 51200906



### **Oakite Sanitizer**

Safe, effective, quartenary ammonium-type germicide and disinfectant. 1 quart (0.946 liter). Catalog No. 51200912

### Digital Chart Recorder for Thelco and Models 815 and 818

Connects directly to incubator's output jacks. Documents chamber conditions. Built-in digital readout. Operates on 120/240 VAC, 50/60 Hz.

34003496

### **Access Port Stopper**

Helps prevent heat, humidity, and gas loss through access port for use with Model 815, 818, and all Thelco incubators, this kit contains three different stoppers. Catalog No. 51245330 For more information, please contact us:

ExpotechUSA 10700 Rockley Road Houston, Texas 77099 USA

281-496-0900 [voice]

281-496-0400 [fax]

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Website: www.ExpotechUSA.com