



## Sealer Selection Guide V2.0 4-2025

### **SEALER SELECTION CONSIDERATIONS:**

This guide is set up to help you understand how we will select a sealer for you. There are several variables that affect a consistent bag weld and they are as follows:

#### **VARIABLE 1 CUSTOMER REQUIREMENTS**

- a. Seal Aesthetics
  - i. Is there ink near the seal area?
  - ii. What is the amount of wrinkling allowed near the seal area?
  - iii. What is the amount of discoloration allowed near the seal area?
  - iv. Do you need a smooth seal surface or is a knurled rough seal surface ok?

#### **VARIABLE 2 BAG MATERIAL MELTING POINT**

- a. Metallocene ~250
- b. Polyethylene ~260
- c. Polypropylene ~ 320
- d. etc..

#### **VARIABLE 3 TEMPERATURE DIFFERENCE BETWEEN THE HEATING SOURCE SETPOINT AND THE MELTING POINT OF THE BAG**

- a. How effective is heat penetration to the bag material core without burning the outside of the bag
  - i. Hot air sealers
    1. In hot air sealers the bags run through heated air to melt the bag and then through a compression roller to weld the melted sections together.
  - ii. Band sealers
    1. In Band sealers, the bag runs in nearly direct contact through a pair of solid heated metal bars separated only by a very thin teflon band. The weld begins inside the heat bar section. The bag then passes through a compression roller to complete the weld.
    2. The heat bar gap setting will greatly affect the penetration of the weld and is set up at time of ordering the sealer. If not specified, it will be set up for a gusseted 5 mil bag at 45 FPM.



# Elevation

## Packaging & Equipment

### **VARIABLE 4      AMOUNT OF TIME THE BAG IS IN CONTACT WITH THE HEAT**

- a. Feet per minute of the conveyor -( faster speeds = more difficult to seal)
- b. Length of the heating bars - (more zones = more versatile)
  - i. Hot air - only available in single zone (primarily for non gusseted bags).
  - ii. 1001 single zone band - Economy easy to seal applications only (non gusseted bags).
  - iii. 2001 dual zone band - Elevation Packaging Standard.
  - iv. 3001 triple zone band Problematic materials and EXTREME versatility.
  - v. 5000 Pinch - Glue activation hot air paper bag sealer (single zone only)

### **VARIABLE 5      THICKNESS AND CONSISTENCY OF THE BAG**

- i. Bag density, chemical makeup and other factors affect how much compression is required to weld the multiple surfaces into one cohesive weld.
  1. Does the bag have gussets - for example will the sealer weld a 20 mil section while not burning a 5 mil section?
  2. Is there glue or a second material in the seal area?

### **VARIABLE 6      PRODUCT CONTAMINATION AND PROCESS REQUIREMENTS**

- i. Rocks / Salt crystals for example provide a higher risk for band sealer teflon band deterioration. They are a prime candidate for hot air sealers.
- ii. Salts and other harsh environments require consideration of material upgrades to stainless steel
- iii. Customer environment needs and customer food safety requirements need to be specified and approved by the customer



**THE NEXT TWO PAGES ILLUSTRATE THE ADVANTAGES OF MULTIPLE SECTIONS OF HEAT BARS OVER SINGLE SECTION SHORTER HEAT BARS.**

**Main differences**

- Units with additional zones provide the following benefits
  - Less need to change mechanical gaps and setpoints with different bags that go through the line.
  - Increased consistency in seal appearance, and seal quality at all thickness points along the bag seal.
  - Ability to increase temperature on the incoming zone of the sealer and a temperature closer to the melting point at the exiting zone.
- While both a single zone and triple zone sealer can seal a gusseted 5 mil bag at 60 feet per minute, how they do it varies a lot.

**Color Legend - X is preferred operating point**

x is suitable operating point

Increased Risk of overheating and plastic carryover on to machine parts

Least wrinkles  
Most pristine seal

Increased risk of cold weld joints and poor seals





The 3 zone heat bar units require the least amount of change for multiple bag applications, are the least prone to user error once set up, and are the most versatile.

3 ZONE HEAT SECTION -													
TEMPERATURE SETPOINT CAN BE CLOSER TO THE MELTING POINT WIDE RANGE OF BAGS AND WIDE RANGE OF FPM FEWER TEMPERATURE ADJUSTMENTS WHEN BAGS OR SPEEDS ARE CHANGED MORE PRISTINE SEALS													
		Bag Thickness											
Conveyor Speed	0.004	0.006	0.008	0.010	0.012	0.014	0.016	0.018	0.020	0.022	0.024	0.026	
15FPM													
20FPM													
25FPM		x	x	X	X	X	X	X	X	X	X	X	
30FPM		x	x	X	X	X	X	X	X	X	X	X	
35FPM		x	x	X	X	X	X	X	X	X	X	X	
40FPM		x	x	X	X	X	X	X	X	X	X	X	
45FPM		x	x	X	X	X	X	X	X	X	X	X	
50FPM		x	x	X	X	X	X	X	X	X	X		
55FPM		x	X	X	X	X	X	X	X	x			
60FPM		x	X	X	X	X	X	X	x	x			
65FPM		x	X	X	X	X	X	X	x	x			
70FPM		x	X	X	X	X	X	x					
75FPM													
		BASE BAG AREA						GUSSET AREA					

\*\*numbers are established for visualization and are not based on a specific material or model of sealer.



# Elevation

## Packaging & Equipment

Single zone sealers are used primarily for easy to seal applications that will rarely change product or bag type and have well trained operators who understand bag sealing well.

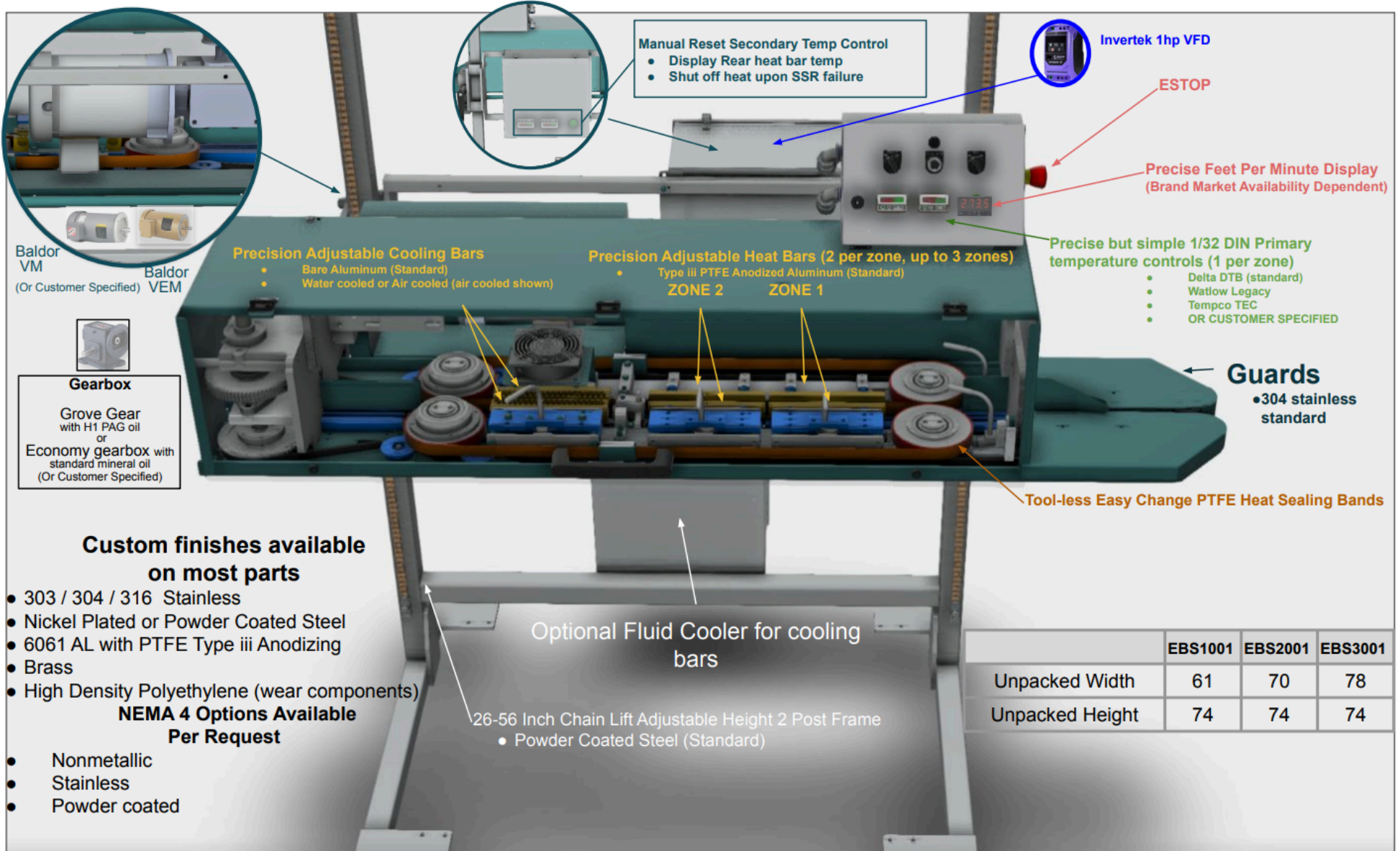
Getting a good seal on the gusset area and the base bag area at the same time is challenging and has a very narrow operating band at a given temperature.

SINGLE ZONE HEAT SECTION												
TEMPERATURE SETPOINT HAS TO BE HIGHER ABOVE THE MELTING POINT												
Bag Thickness												
Conveyor Speed	0.004	0.006	0.008	0.010	0.012	0.014	0.016	0.018	0.020	0.022	0.024	0.026
15FPM												
20FPM												
25FPM												
30FPM				x	x	X	X	X	X	X	X	
35FPM			x	X	X	X	X	X	X			
40FPM		x	X	X	X	X	X	x				
45FPM		x	X	X	X	X						
50FPM	x	x	X	X	X							
55FPM	x	x	X	X	x							
60FPM	x	x	X	X								
65FPM	x	X	X									
70FPM	X	X	X									
75FPM	X	X										
		<b>BASE BAG AREA</b> HIGHER RISK OF BEING TOO HOT AT LOW SPEEDS				Operating point is narrow for gusseted bags - the setpoint of the unit will need to be changed and tested for each product			<b>GUSSET AREA</b> HIGHER RISK OF BEING TOO COLD AT HIGH SPEEDS			

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# FEATURE CALLOUTS

## Single, Dual and Triple Zone Band sealers (Dual zone shown)



Baldor VM  
(Or Customer Specified) Baldor VEM



**Gearbox**  
Grove Gear with H1 PAG oil  
or  
Economy gearbox with standard mineral oil  
(Or Customer Specified)

**Precision Adjustable Cooling Bars**

- Bare Aluminum (Standard)
- Water cooled or Air cooled (air cooled shown)

**Precision Adjustable Heat Bars (2 per zone, up to 3 zones)**

- Type III PTFE Anodized Aluminum (Standard)

ZONE 2      ZONE 1

**Precise but simple 1/32 DIN Primary temperature controls (1 per zone)**

- Delta DTB (standard)
- Watlow Legacy
- Tempco TEC
- OR CUSTOMER SPECIFIED

**Guards**  
• 304 stainless standard

Tool-less Easy Change PTFE Heat Sealing Bands

Optional Fluid Cooler for cooling bars

26-56 Inch Chain Lift Adjustable Height 2 Post Frame  
• Powder Coated Steel (Standard)

**Custom finishes available on most parts**

- 303 / 304 / 316 Stainless
- Nickel Plated or Powder Coated Steel
- 6061 AL with PTFE Type III Anodizing
- Brass
- High Density Polyethylene (wear components)

**NEMA 4 Options Available Per Request**

- Nonmetallic
- Stainless
- Powder coated

	EBS1001	EBS2001	EBS3001
Unpacked Width	61	70	78
Unpacked Height	74	74	74

# FEATURE CALLOUTS

## Hot Air Sealer

Precise but simple 1/32 DIN Primary temperature controls (1 per zone)  
 Delta DTB (standard)  
 Watlow Legacy  
 Tempco TEC  
 OR CUSTOMER SPECIFIED



Invertek 1HP VFD  
 With feet per min display



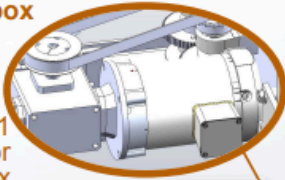
Manual Reset Secondary Temp Control

- Display Rear heat bar temp
- Shut off heat upon SSR failure



### Motor and Gearbox

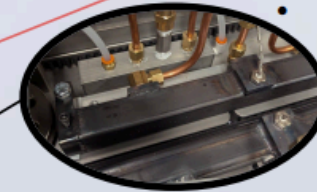
Grove Gear with H1 PAG oil or Economy gearbox with standard mineral oil (Or Customer Specified)



Baldor VM  
 Baldor VEM  
 (Or Customer Specified)

### Compressed Air heat Bars

- Carbon Steel 1200°F Painted
- Upgradeable to stainless steel



Compressed Air cooling bars  
 6061 Anodized Aluminum



304 Stainless Guards

Compression roller  
 Nickel plated steel  
 Stainless steel



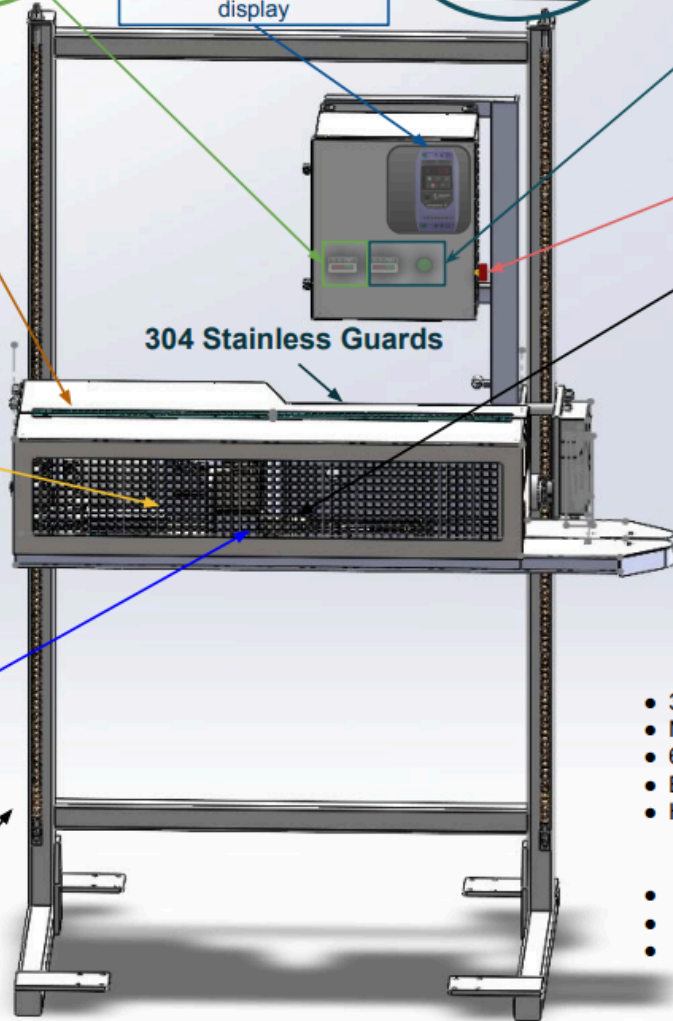
26-56 Inch Chain Lift Adjustable Height  
 2 Post Frame

- Powder Coated Steel (Standard)
- Stainless Steel (upgrade)

	EAS1000
Unpacked Width	49"
Unpacked Height	74"
Deck plate adjustment	26-56"

### Custom materials and finishes available on most parts

- 303 / 304 / 316 Stainless
  - Nickel Plated or Powder Coated Steel
  - 6061 AL with PTFE Type iii Anodizing
  - Brass
  - High Density Polyethylene (wear components)
- NEMA 4 Options Available Per Request**
- Nonmetallic
  - Stainless
  - Powder coated



## Finishes, Materials and Lubricants

Our standard Sealers are available with the following finishes and lubricants

- Electroless Nickel plated steel
  - Upgradable to 304/316 stainless where needed
- Powder coated steel
  - Upgradeable to 304/316 stainless where needed
- Black Oxide / Melamine plated steel
  - Upgradeable to 304/316 stainless where needed
- Type II Anodized 6061 aluminum
  - Upgradeable to Type III Anodized 6061 aluminum
  - Upgradeable to Type III PTFE impregnated 6061 aluminum (standard on belt wear components)
- 303 Stainless
  - Upgradeable to 304/316 stainless where needed
- 304 Stainless - Standard on guards
- 841 Oilite bronze oil impregnated bushings
- Food grade non lubricated poly bushings
- Powder Coated Gearbox
  - Upgradeable to stainless steel
  - Gearbox Oil options include
    - PAG Gearbox oil standard on band and pinch sealers and available on hot air (Grove Iron Man)
    - A market available economy gearbox with mobil synthetic oil is standard for hot air sealers (Vortex / WWE, etc ) -
- Bearing Grease (solid bronze and mechanical bearings)
  - Standard grease with mineral oil (non food grade)
  - Optional Customer specified grease (FM222, H1, etc)
- Belt
  - Kevlar wrapped rubber belt available on some models
  - Polyester/steel reinforced solid Polyurethane or solid PVC belt available on some models
  - Neoprene Rubber belt - (standard on most models)
- Antifreeze options
  - DUDA energy Food grade Propylene Glycol with inhibitors
  - Peak Sierra Low Toxicity Propylene Glycol Antifreeze
- Motor
  - Baldor VM/VEM unless specified on PO.

- **Know your sealer. Know the materials your sealer is manufactured with. Know your application and any product safety requirements you may have in your shipping and bagging process. Full machine build info can be obtained through elevation packaging including alloys, lubricating fluids and coatings.**
- **Custom Specialty finishes, alloys and lubricants can be provided when configured at time of purchase.**
- **It is the responsibility of the end user to perform a risk assessment for product safety and / or regulatory compliance with USDA, FDA, ROHS, REACH etc and NO SUCH COMPONENT OPTIONS ARE PROVIDED OR SOURCED UNLESS EXPRESSLY SPECIFIED IN THE SALES ORDER PO AND PRODUCTION CHECKLIST OF THE MACHINE. Un-certified components should be considered NOT safe for food contact until such time the end user performs the appropriate risk assessment to deem them safe for their specific environment and application. Materials used in construction need to be evaluated by the end user for the application being used. Two identical models may be built for completely different applications. When purchasing used equipment, the end user should consider the purchase history of the machine and the environment to which it may have been subjected.**