

# Thermo Scientific Ramsey Model 90-125

Weighbelt Feeder for Bulk Materials

The Thermo Scientific™ Ramsey Model™ 90-125 offers accurate weighfeeding of industrial materials at moderate feed rates. Its unique cantilevered and formed channel frame design provides a strong and sturdy weigh structure and allows for quick and easy maintenance. These features, along with your choice of several options, work together to augment the performance of your process and improve your bottom line.



Precise feeding of process materials is often critical to maintaining product quality. A feeder that weighs accurately and reliably can reduce material waste, help maintain blend consistency and increase profits.

We have well over 40 years of experience designing and manufacturing weighbelt feeders. Every feeder is designed to meet the specific needs of the application. We work closely with our customers to ensure that each system meets their expectations for performance and dependability.

The Ramsey Model 90-125 mid-range weighbelt feeder is designed for industrial weighfeeding applications with moderate feed rates and belt loading requirements. It accommodates flow rates of approximately 0.5 metric tons (0.5 tons) per hour up to 91 metric tons (100 tons) per hour, and belt loadings of 15 kg/m (10 lb/ft) to 170 kg/m (72 lb/ft).

**Thermo Scientific Ramsey Model 90-125  
Mid-Range Weighbelt Feeder**



**Thermo Scientific Ramsey  
Micro-Tech 9105 Field Mount**



**Thermo Scientific Ramsey  
Micro-Tech 9105 Panel Mount**

**Thermo**  
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**Thermo Scientific Ramsey  
Model 90-125 Mid-Range  
Weighbelt Feeder**

**Thermo Scientific Ramsey  
Micro-Tech 9105 Field Mount**

**Thermo Scientific Ramsey  
Micro-Tech 9105 Panel Mount**

### Theory of Operation

Material is fed onto the feeder through an inlet feed section equipped with a manually adjustable vertical slide gate to control material height. The scale carriage/ weighbridge assembly measures the gravitational force of the material and converts this force measurement into an electrical output signal proportional to belt loading.

A digital speed sensor continuously monitors the belt speed. The microprocessor-based electronics integrate the two signals to produce and display a true rate and a total weight fed. The electronics also provide an output signal for control and monitoring purposes.

### Micro-Tech 9105 Weighbelt Feeder Controller

The Thermo Scientific™ Ramsey™ Micro-Tech 9105 Weighbelt Feeder Controller incorporates the weighing integrator and PID/P.E.I.C. control logic into one device. The weighbelt feeder controller integrates the load cell signal from a scale/weighbridge

and the input from a speed sensor to provide a true weight and a total weight fed. The electronics also provide output signals, improved communication and the ability to upload and download information via USB for greater control and blending purposes.

### Features and Benefits

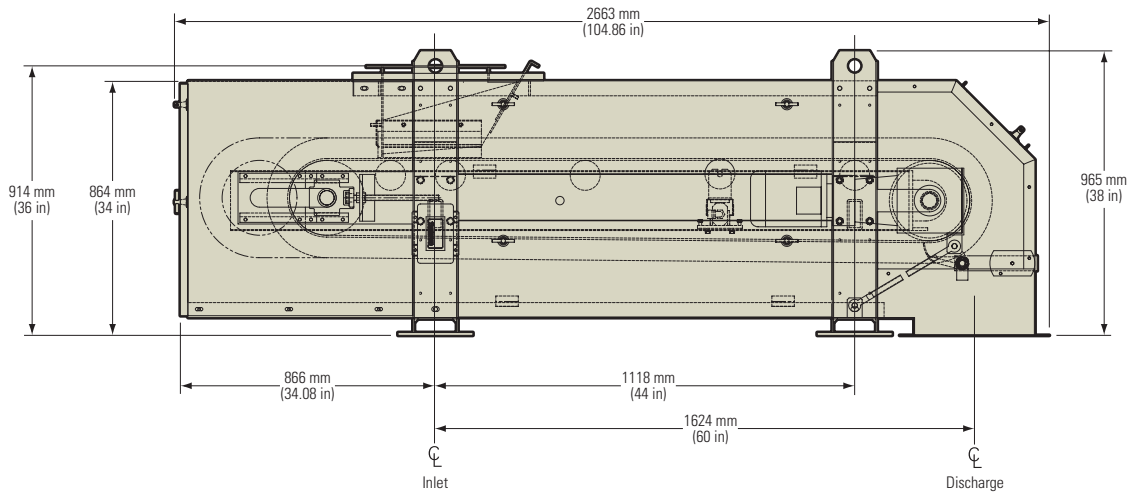
The Ramsey Model 90-125 mid-range weighbelt feeder incorporates our highly respected Thermo Scientific Ramsey Series 30 single-idler, pivotless weighframe for the accurate measurement of processed materials. Other special features and benefits include:

- **Cantilevered Frame:** This feature permits quick and easy removal of the feeder's vulcanized endless belts for cleaning, maintenance and belt replacement.
- **Formed Channel Frame:** This design feature provides a sturdy and rugged weigh structure for precise weighing.
- **Choice of Belt Widths:** This weighbelt feeder is available in four belt widths, from 457 mm (18 in) to 914 mm (36 in).

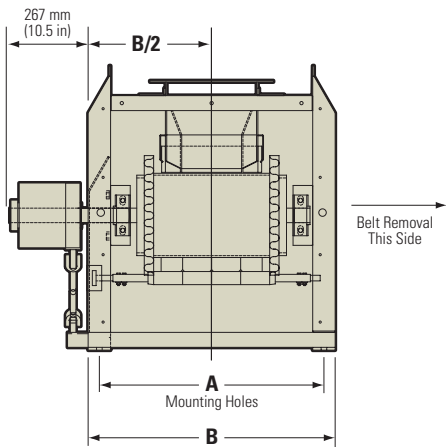
- **Various Feeder Lengths:** Customize your feeder length to fit your application, from 1,524 mm (5 ft) to over 4,572 mm (15 ft).
- **Construction Material:** Choose from carbon steel or stainless steel construction.
- **Speed Drives:** Choose from constant speed or variable speed drives.
- **Structure Design:** Choose from open, partially open, or fully enclosed designs.

### Options

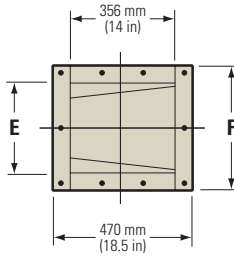
- Top covers
- Side covers
- Bottom covers
- Scavenger clean-out
- Variable speed drives
- Flow/no-flow switches
- Run-off switches
- Safety pull switches
- Plugged chute switches
- Class 1 and 2 rated units
- Stainless steel construction
- Liners
- High temperature belts
- Shut-off/maintenance gates



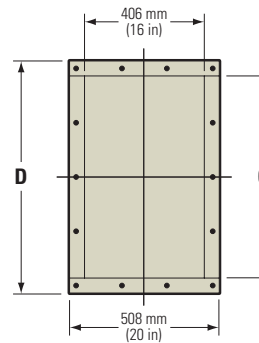
**SIDE VIEW**



**END VIEW**



**INLET FLANGE DETAIL**



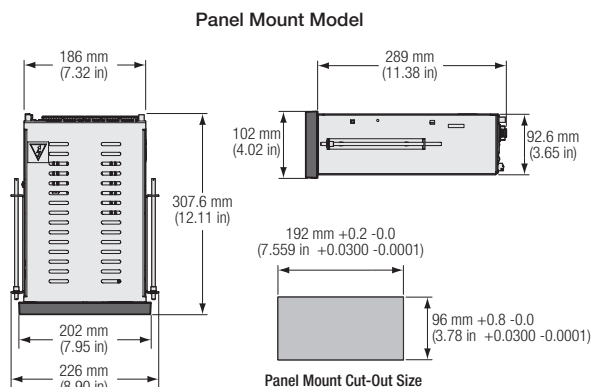
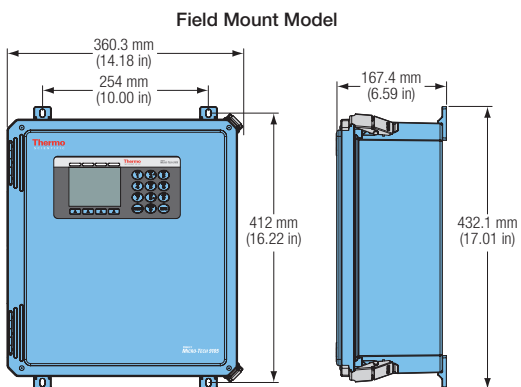
**DISCHARGE FLANGE DETAIL**

**Ramsey Model 90-125 Mid-Range Weighbelt Feeder — Variable Dimensions**

BELT WIDTH	A	B	LENGTH (mm) C	D	E	F
457 mm	762	838	686	787	305	419
610 mm	914	991	838	940	406	521
762 mm	1067	1143	991	1092	508	622
914 mm	1219	1295	1143	1245	610	724

BELT WIDTH	A	B	LENGTH (in) C	D	E	F
18 in	30	33	27	31	12	16.5
24 in	36	39	33	37	16	20.5
30 in	42	45	39	43	20	24.5
36 in	48	51	45	49	24	28.5

**Ramsey Micro-Tech 9105 Impact Weigher Electronics**



## Thermo Scientific Ramsey Model 90-125

## General Specifications

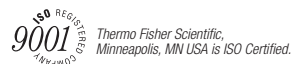
Accuracy	±0.5% based on approved applications and test requirements
Belt Width	457 mm (18 in), 610 mm (24 in), 762 mm (30 in), 914 mm (36 in)
Feeder Length	1,524 mm (5 ft) to over 4,572 mm (15 ft) centerline of inlet to centerline of discharge
Feed Rate	0.5 metric tons/hr to 91 metric tons/hr at 801 kg/m <sup>3</sup> (0.5 ton/hr to 100 tons/hr at 50 lb/ft <sup>3</sup> ) material
Belt Load	15 kg/m to 107 kg/m (10 lb/ft to 72 lb/ft)
Weigh Span	457 mm (1.5 ft) typical
Belt	Endless polyester carcass belting with Grade 2 SBR covers suitable for most applications with corrugated sidewalls or 25.4 mm (1 in) vanner edges; Other belts available depending on application
Idlers	102 mm (4 in) diameter idlers rated CEMA C with sealed-for-life bearings; Larger sizes available depending on application
Head Pulley	254 mm (10 in) diameter, rubber lagged
Speed Reducer	Sumitomo or equal shaft mount; Other styles available
Scale Weighbridge	Unitized, single-idler, pivotless full-floating Ramsey Series 30 style platform scale system
Conveyor	Cantilevered frame for easy belt removal; Customer may specify belt removal on either the left or right side
Load Cell	Single platform type strain gauge transducer in compression
Load Cell Excitation	10 VDC recommended, 15 VDC maximum
Nonlinearity	<0.03% full scale
Repeatability	<0.02% full scale
Hysteresis	<0.02% full scale
Temperature Sensitivity	Zero: <0.0027% full scale/°C (<0.0015% full scale/°F) Span: <0.0014% of reading/°C (<0.0008% of reading/°F)

## Micro-Tech 9105 Weighbelt Feeder Controller

Enclosure	Field mount, NEMA-4X fiberglass, IP66, dust and watertight, 432 mm (17 in) x 360 mm (14 in) x 167 mm (6.6 in) Panel mount, chromate mid steel chassis, front panel IP65, DIN 43700, 308 mm (12 in) x 102mm (4 in) x 202 mm (7.9 in)
Temperature	Operating: -20°C to +60°C (-4°F to +140°F) Storage: -30°C to +70°C (-22°F to +158°F)
Power Requirements	Field mount 100-240 VAC, 50/60 Hz Panel mount 24 VDC +10%, -15% (user supplied), 24 VDC only, optional AC module available
Display	77 mm x 58 mm viewable LCD graphic display with status indicator lights for easy reading, continuous backlit for ease of viewing indoors and outdoors, available menu languages include English, German, Italian and Spanish
Load Cell Excitation	5 VDC +/-10%, 90 mA
Inputs/Outputs	Includes one dual analog input/output board; 2 analog inputs and 2 analog outputs selectable 0-20 or 4-20 mA
Communication	Standard serial interface RS-232C provides support for modem, RS-485, 2- and 4- wire multi-drop
Communication Protocols	Modbus RTU, Allen Bradley DF-1, Siemens
Ethernet	Ethernet/IP and Modbus/TCP
Built-in USB Port	Configuration and data storage
Expansion Slots (4)	Optional boards include 4-20 mA output board, input/output expansion boards, digital or analog input/output boards, Profibus or Standard communication board
Ratings	cCSAus, CE
Pending Approvals	SIL-2, Tick Mark, GOST and other ATEX classifications

## Digital Speed Sensor

Type	Digital, brushless
Mounting	Direct to shaft
Housing	Weather-tight



[thermoscientific.com/bulkweighing](http://thermoscientific.com/bulkweighing)

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