

## VARIABLE SPEED DRIVES (VSD) ON MIX PADDLES, TRANSFER SCREW & MINCE FEEDSCREW

Thompson **VARIABLE SPEED DRIVES “VSD”** option is available on **MIX PADDLES, MINCE FEEDSCREW AND TRANSFER SCREW**. VSD is a critical design component in **ACHIEVING CONSISTENT PRODUCT THROUGH THE COMPLETE BATCH**. The “Complete” VSD system optimizes the product feed rate and synchronise between Mix Paddle and Mince Feedscrew.

The consistent proportional product flow from mixing bowl through HECS mincing system:

- **REDUCES PRODUCT OVERWORKING** and excess protein extraction which creates product smear
- **REDUCES TEMPERATURE INCREASE** through the mincing and mixing end discharge cycle
- **MAINTAINS THE MOST DEFINED PARTICLE DEFINITION** and mince particle clarity

The combination of the VSD controls feed rate and the extremely important HECS minimizes temperature rise and is proven to achieve product batch consistency that are far superior to other brands.



## HYDRAULIC OPERATED HEAVY DUTY LID FOR CO<sub>2</sub>

Thompson Meat Machinery **OFFERS HYDRAULICALLY CONTROLLED LID CIRCUIT AND OPERATION** over pneumatic system for the following advantages:

1. Hydraulic systems can develop much higher pressures and thereby producing much higher forces in actuated components providing more efficient lid deal.
2. Hydraulics systems give very smooth motion of actuated components and there is no “bounce” due to the fluid compressing and expanding as in pneumatics.
3. Hydraulics systems immediately stops in motion in the middle of actuator movement, whereas pneumatics (without a lot of additional effort) only accurately position at the end stops of actuator movement. The speed of actuator movement can be more accurately controlled than pneumatics because of the smooth motion as described above.



5000 Mixer Mincer with Hinged Open Hopper and Loading Hoist

## WATER MONITORING WITH PLC CONTROL SYSTEM

Automated provision of water through a pump system can be another critical aspect of producing consistent high quality product. Thompson offers **HIGH QUALITY PLC CONTROLLED WATER SYSTEM THAT PROVIDES +/- 0.03% VOLUME DISCREPANCY** or **LOWER COST MODELS THAT PROVIDE +/- 2.5% DISCREPANCY**. Systems include pump options from 60L/min to high volume options of 200L/min with 0.03% accuracy. **LOW WATER FLOW RATE WILL RESULT IN UNNECESSARY MIXING CYCLE TIME** and **CAN BE DESTRUCTIVE TO THE FINISHED PRODUCT QUALITY**. In many instances, where more manual systems are used, water is added in a single batch (for example in 200L dump bin) therefore does not extend the batch mix cycle times.

The **LABOUR SAVINGS** achieved from this remarkable machine, along with the **HIGH QUALITY OF CUT** and **PRODUCT CONSISTENCY** will deliver outstanding production savings when comparisons are made with similar competitor machinery. The Thompson 5000 Series Mixer Mincer **DELIVERS YEARS OF QUIET** and **CONTINUOUS TROUBLE FREE OPERATION**.

## FEATURES OF THE THOMPSON 5000 SERIES MIXER MINCER

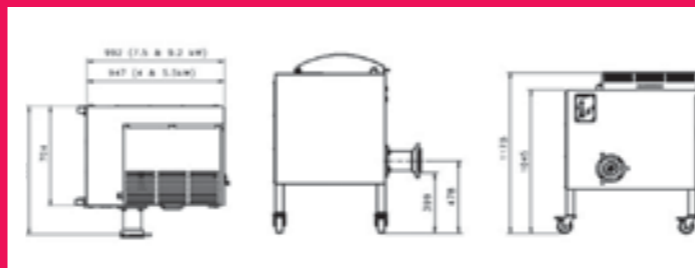
- 2 SPEED MINCE FEEDSCREW OPERATION - The 2nd speed mincing function ensures fastest possible production rate
- AUTOMATIC REVERSING FEEDSCREW (optional) – Feedscrew automatically and intermittently reversing during mixing cycles to transport and eject product out of feedscrew channel into to mixing bowl to ensure homogenous blend of product batch.
- 15kW HELICAL MINCE DRIVE delivers a more powerful performance ensures efficient discharge whilst minimizing squashing or pulping of the product
- SEGMENTED QUICK RELEASE REMOVABLE STAINLESS STEEL BARREL ASSEMBLY enables thorough cleaning and sanitation
- RECIPROCATING MIXING ACTION ensures an efficient mix and dispensation of the product.
- COUNTER-BALANCED SAFETY INTERLOCKED DOMED LID complete with viewing grills
- COMPACT DESIGN with only 1709mm x 967mm of floor area required (excluding barrel and accessories)
- 56 SERIES (152MM) CUTTING HEAD SIZE
- LOW LOADING HEIGHT
- SMOOTH CORNERS AND SURFACE FINISH reduce cleaning down times
- HIGH QUALITY 304 STAINLESS STEEL machine body, barrel, feedscrew, lockring and mixing paddle
- FULLY SEAM WELDED BOWL - Welded both inside and outside



Segmented Removable Stainless Steel Barrel System

## OPTIONS INCLUDE:

- 22kW, 30kW Mince Motors
- Variable Speed Drive - Mixing and Mincing System
- Product Discharge Chute
- High Efficiency Cutting System
- Feedscrew Knife & Plate Carriage
- Gemini System
- De-bone / De-gristle Cutting Systems
- Ingredients or Liquid Pouring Channel to Lid
- Feedscrew Ejector
- Interlocked Safety Sliding Lid
- Inspection Mirror
- Inspection Step
- Walk up Step & Platform for Cleaning and Adding Ingredients
- Scale Stand (4 Load Cells / Digital Indicator – Batch Weight Control)
- Extended Hopper Capacity complete with Safety Trip Bar around Hopper Perimeter
- Hinged Hopper, 820L Bowl Capacity, 400kg Mix Capacity
- Welded Hopper, 990L Bowl Capacity, 400kg Mix Capacity



TOP VIEW

LEFT SIDE VIEW

FRONT VIEW

### THOMPSON 5000 SERIES MIXER MINCER SPECIFICATIONS: (BASED ON 415 V / 50 Hz)

Mince Motor	Mix Motor	Bowl Capacity	Mix Capacity	*Power Supply	Full Load Current	Ship Size (cm) L x W x H	Ship Weight
15 kW	4 kW	530 L	300 kg	63A	37A	177 x 116 x 190	1200 kg
22 kW	4 kW	530 L	300 kg	100A	47A	177 x 126 x 190	1250 kg

\*Machine power to be fitted with a “D” curve motor start circuit breaker  
Technical data is to be used as a guide only and is subject to change without notice.  
Dimensions and weight may vary in the course of development.

### PRODUCT PERFORMANCE:

Product	13mm Hole Plate	5mm Hole Plate	3mm Hole Plate
Primary Cut – Beef Trim	5,000 kg/hr	4,200 kg/hr	3,600 kg/hr
Secondary cut – Ground Beef		3,800 kg/hr	2,800 kg/hr

Production rates are dependent on the product and temperature of the product  
Technical data is to be used as a guide only and is subject to change without notice.



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# THOMPSON MEAT MACHINERY

5000 Series Mixer Mincers

OUTSTANDING PRODUCTION OUTPUT IN A COMPACT DESIGN



THOMPSON 5000 MIXER MINCER WITH OPTIONAL CO<sub>2</sub> COOLING INJECTION, DISCHARGE CHUTE, INSPECTION STEP

“THOMPSON TOUGH”

LEADING AUSTRALIAN MANUFACTURERS OF MEAT PROCESSING MACHINERY

# THOMPSON 5000 SERIES MIXER MINCERS

The **THOMPSON 5000 SERIES MIXER MINCER** is a significant upgrade offering **INCREASED PRODUCTION CAPACITY AND IMPROVED FINISHED PRODUCT QUALITY** from the highly successful Thompson 4000 Series Mixer Mincer. The 5000 Series Mixer Mincer offers right angle operation to mixing bowl. This enables the 5000 Series Mixer Mincer to achieve production output rates of up to **8,000 KG/HOUR 1<sup>ST</sup> CUT** through 13 mm hole plate and **7,500 KG/HOUR 2<sup>ND</sup> CUT** through 4 mm hole plate.

## PRODUCT DISCHARGE CHUTE

**EMPTIES BOWL WITHOUT PROCESS THROUGH MINCING HEAD**

The Thompson 5000 Series Mixer Mincer has the option of a **PRODUCT DISCHARGE CHUTE**, a pneumatically controlled door on the end of the bowl that **ENABLES THE BOWL CONTENTS TO BE EMPTIED WITHOUT PASSING THROUGH THE FEEDSCREW AND CUTTING SYSTEM**. On a conventional Mixer Mincer the product goes through the mincing process twice: once during the primary first cut reducing primal or meat trimming to a smaller particle size before being mixed with ingredients and then secondary cut to empty the product from the bowl. The option of **UNIQUE PRODUCT DISCHARGE GUARD** will allow the product to be emptied from the bowl without the second mincing process. This helps **TO MAINTAIN MUCH MORE OF THE PRODUCT'S MEAT INTEGRITY AND AVOIDS THE RISK OF EMULSIFYING THROUGH THE FEEDSCREW AND CUTTING SYSTEM**. **THIS PRODUCES PRODUCT THAT IS MUCH JUICIER, MORE MOUTH FEEL, BETTER BITE AND MORE OF A HOME-STYLE PRODUCT.**

## AUTO REVERSE FEEDSCREW

During the mix cycle the **AUTO REVERSE FEEDSCREW** **INTERMITTENTLY OPERATES IN REVERSE**, displacing majority of the product from the feedscrew channel **ENSURING THE BATCH IS MORE EFFICIENTLY BLENDED**. This offers a distinct advantage in reducing the amount of unmixed product that needs to be discharged from Feedscrew channel and re-added to the batch at the end of each mixing cycle. During the end discharge process (non-mince) it ensures the product is dispensed from the feedscrew channel into the mixing bowl and emptied out of the end discharge chute.



5000 Mixer Mincer With Discharge Chute



Mixing Paddle with Right Angle Feedscrew



Mixing Paddle with Ribbon

MACHINE IN COMPLIANCE WITH AUSTRALIAN STANDARDS AND REGULATIONS

8,000 KG/HOUR PRODUCTION OUTPUT CAPABILITIES WITH THOMPSON PATENTED HECS MINCING SYSTEM.

Standard: 5,000 kg/hour  
1st Cut through 13mm Hole Plate

15kW 2 SPEED MINCE DRIVE  
22kW Mince Drive (Options)

FEEDSCREW EJECTOR

530 L BOWL CAPACITY  
970L Bowl Capacity (Options)

HELICAL GEAR DRIVES  
High Performance Mince & Mix



SAFETY INTERLOCKED KNIFE & PLATE GUARD

SAFETY INTERLOCKED AND COUNTER-BALANCED LID

AUTO REVERSE FEEDSCREW  
During Reciprocating Mixing cycle

HEAVY DUTY STAINLESS STEEL BOWL & CABINET  
Fully Seem Welded Construction

STAINLESS STEEL BARREL, FEEDSCREW & LOCKRING

SEGMENTED STAINLESS STEEL BARREL SYSTEM  
Easy to remove

## HIGH EFFICIENCY CUTTING SYSTEM (HECS) - PATENTED

- **PRIMARY CUT: 8,000 KG/HR OR 130 KG/MIN** through 13 mm hole plate; and
- **SECONDARY CUT: 7,500 KG/HR OR 125 KG/MIN** through 4 mm hole plate.

**NO OVERWORKING OF THE PRODUCT** through the Patented Balanced Design Mincing System.

Thompson's latest mincing technology, the **PATENTED "HIGH EFFICIENCY CUTTING SYSTEM" (HECS)**, is capable of producing output rates that exceed traditional cutting systems. It perfectly proportions the product intake into the feedscrew channel through to the cutting system hole plate. By balancing the product input and output ratio with each revolution of feedscrew, it **MINIMIZES MECHANICAL WORKING OF PRODUCT** and **MAINTAINS THE ORIGINAL MEAT STRUCTURE** through the transport system until it is cut between the knife and hole plate.

A further important factor is there will be **NO EXCESSIVE PRESSURE** from over extruding the product through the hole plate **THEREFORE NO DAMAGE TO THE MEAT STRUCTURE AND NO INCREASE OF PRODUCT TEMPERATURE.**

The **HECS SYSTEM** is also instrumental in **MAINTAINING BEST PRODUCT QUALITY CONSISTENTLY** from beginning to end of large batches of mixed mince, sausage and hamburger formula. This is achieved by expedient dispensing of the product from the mixing chamber.

## CO<sub>2</sub> BOTTOM COOLING INJECTION AND TOP INJECTION THROUGH SNOW CONES

Thompson Meat Machinery incorporates the **WORLD'S BEST CO<sub>2</sub> INJECTION COOLING TECHNOLOGIES** in their Mixer Mincers, through a series of nozzles and manifold systems that deliver an **DELIVERS EFFICIENT AND CONSISTENT PRODUCT TEMPERATURE REDUCTION TECHNIQUE COUPLED WITH PERFECT TEMPERATURE CONTROLS.**

**SNOW CONES COOLING SYSTEM** is used **FOR PROCESSING BATCHES OF PRODUCT LESS THAN 300KG** through snow cones fitted into the lid. This is a more effective and efficient cooling system than bottom injection for smaller batches. The Bottom Cooling Injection System releases a great deal of CO<sub>2</sub> shooting at high pressure through the smaller batches of product resulting in a high wastage amount of CO<sub>2</sub> which is exhausted through the plenum by exhaust fans. The high pressure will also carry the product upwards covering the internal surface of the lid making it more difficult to clean.

The **CO<sub>2</sub> BOTTOM COOLING INJECTION** process requires an initial injection of CO<sub>2</sub> gas to pressurise the manifold system prior to the liquid CO<sub>2</sub> being released into the chamber and injected through the nozzles into the bowl. Once the liquid injection process is complete a third process of flushing out the manifold system with gas is necessary to complete the cycle.

**IT IS IMPORTANT THAT THE MANIFOLD SYSTEM STAYS PRESSURIZED UNTIL ALL LIQUID IS EJECTED.** If the CO<sub>2</sub> goes below the critical pressure point it will form into a solid (snow) and block the complete manifold system. It can take numerous hours to defrost a blocked manifold system and that is why it is imperative that it is designed correctly. Thompsons have never had the issue of a blocked manifold system.

The **PROGRAM LOGIC CONTROL (PLC) TEMPERATURE MONITORING AND CONTROL** is fitted to regulate CO<sub>2</sub> injection and maintain desired product temperature. PLC also monitors finished product temperature after mincing processes.

## PROGRAM LOGIC CONTROL WITH HUMAN MACHINE INTERFACE

Program Logic Control (PLC) with Human Machine Interface (HMI) complete with a 10" Colour Touchscreen is the **ULTIMATE CONTROL SYSTEM OFFERING EASE OF OPERATION FOR QUICK PROGRAM CHANGE**. It is a very powerful interface tool that enables a multitude of variations and functionalities to the mixer mincer operation. The touchscreen and illuminated screen display allows quick interface between operator and numerous saved programs, making it more user friendly.

Thompson PLC provides:

- **MACHINE DIAGNOSTIC SCREEN TO ASSIST WITH TROUBLESHOOTING FEEDBACK AND FAULT DIAGNOSIS**
- **LIVE MONITORING AND VISUAL STATUS OF ALL MACHINE FUNCTION** an operations available i.e. water quantities and countdown value
- **READING OF OPERATION SPEEDS, DIRECTIONS, FUNCTIONS AND AMPERAGES** on mixing paddle, mince feedscrew and transfer screw
- **A MORE INTUITIVE WAY OF ALTERING PRODUCTION VARIABLES** than HMI's with less functionality

There are lower cost alternatives such as dialogue smart embedded panels.

Below are 3 examples of the many screens and program options that are available from Thompson Meat Machinery



XBT GTX5330 (10.4")



GTX2120 (DBC 7")



XBT RT500 (3.8")

**MAGELIS HMI'S** are the world's most popular family of **HUMAN MACHINE INTERFACES**. There is a global customer base that relies on these screens to **PRESENT A CLEAR PICTURE OF THEIR BUSINESS APPLICATION AND MACHINE PERFORMANCE ON A DAILY BASIS**. These screens are **EASY TO INSTALL, SETUP AND OPERATE**. Magelis HMI's provides a simple and effective means of connecting systems, collecting data and presenting information in a meaningful format. From the smallest text display to the most sophisticated industrial PC, Schneider Electric's Magelis HMI interface gives you a clear picture of your operations.

The complete line of HMI's enables you to:

- **SELECT THE EXACT TYPE OF INTERFACE YOU REQUIRE** without sacrificing simplicity and performance
- **STREAMLINE PROGRAMMING** by using the same software for all of your HMI equipment
- **CONNECT DATA** from across your organization, including equipment from other vendors
- **REDUCE IMPLEMENTATION TIME AND COST** by utilizing commercially available cabling, modular architectures and standard networking protocols

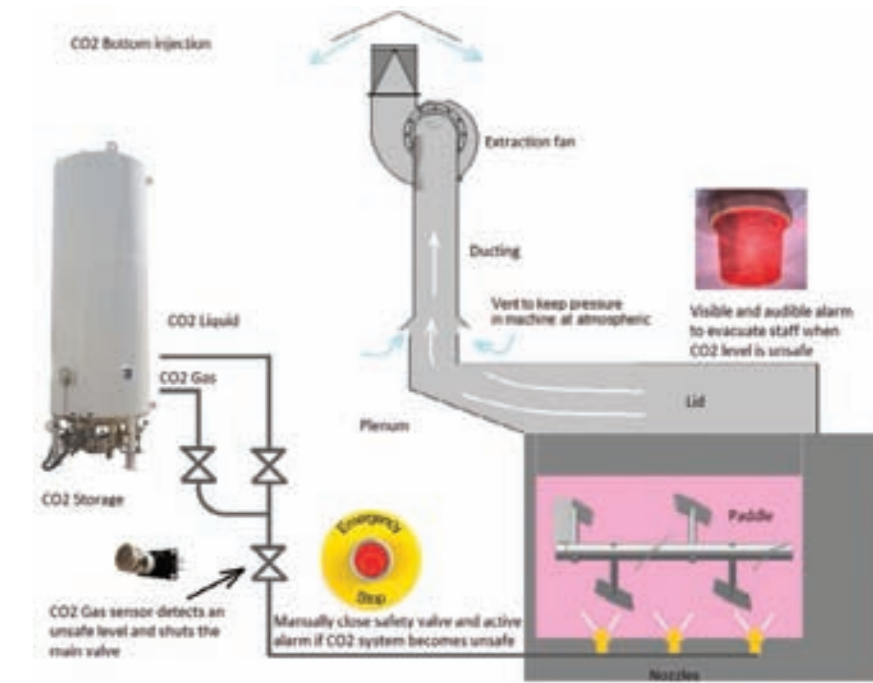


DIAGRAM ILLUSTRATES BASIC COMPONENTS OF A TYPICAL MIXER MINCER WITH CO<sub>2</sub> BOTTOM INJECTION COOLING SYSTEM