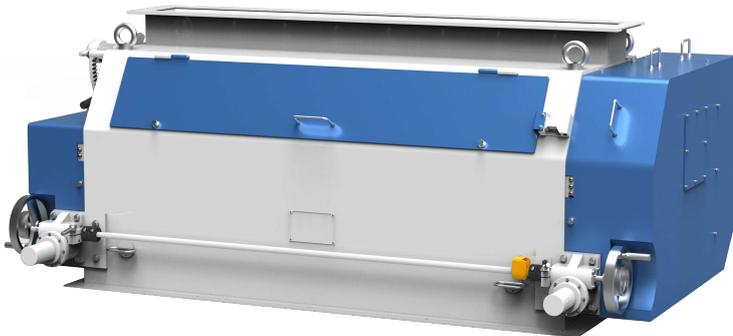
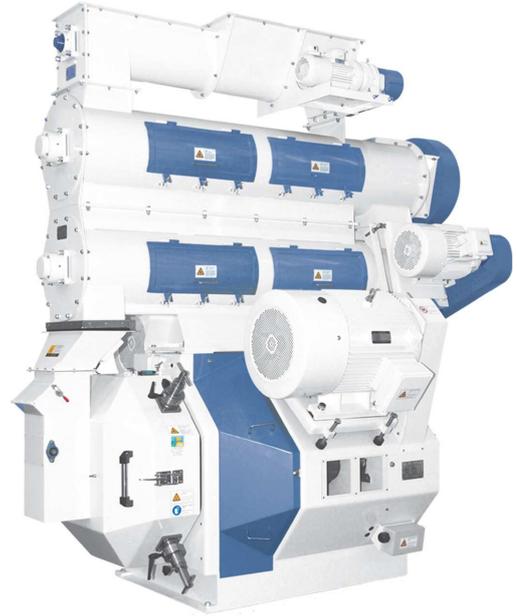
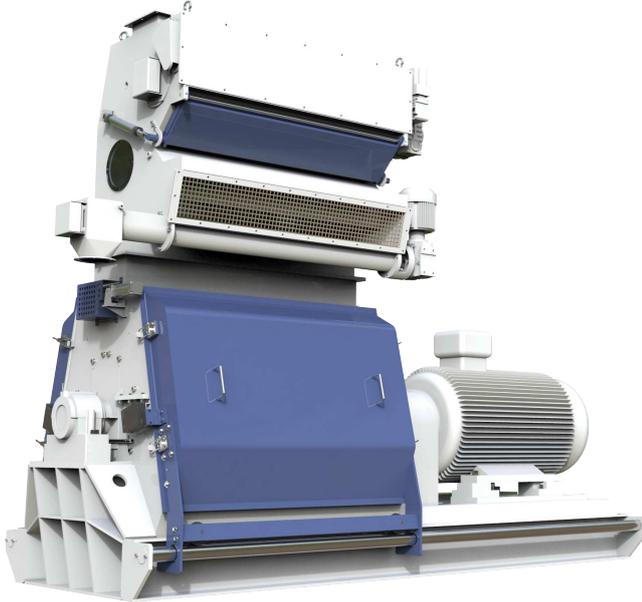




GRAIN TECH LTD

PRODUCT CATALOGUE



**FEEDSTUFFS PROCESSING &
BULK MATERIALS HANDLING EQUIPMENT**

CONTENTS

1. Elevating & Conveying	Pg	6. Extruding	Pg
1.1. TDTG Bucket Elevators	1	6.1. MY165 Millennium Dragon Extruder	10
1.2. TGSU & TGSS Drag Conveyors	1	6.2. MY146x2 Twin Screw Extruder	10
1.3. TLSS Screw Conveyors & TWLL Feeders	1	6.3. TPH135 High Efficiency Expander	11
1.4. TZM Slide Gates	2	6.4. TPH200 Dry Extruder	11
1.5. TBD 2-way and 3-way Diverter Valves	2	6.5. PHG135 Dry Extruder	11
1.6. TFPX Multi-Way Rotary Distributor Valves	2		
1.7. TDXZ Vibratory Bin Dischargers	2	7. Drying & Cooling	
2. Pre Cleaning		7.1. SKLN Counter Flow Cooler	12
2.1. TCXT Tube Magnet	3	7.2. SLNF Tipping Counter Flow Cooler	12
2.2. SCQZ Conical Drum Mash Pre-Cleaner	3	7.3. SWDB Pellet Stabiliser	13
2.3. SCY Cylindrical Drum Pre-Cleaner	3	7.4. SWLN Stabiliser & Counter Flow Cooler	13
2.4. TQLZ Vibratory Pre-Cleaner	3	7.5. GKLW Horizontal Rotary Drum Cooler	13
		7.6. SGWG Horizontal Rotary Drum Stabilising Dryer	13
3. Milling		7.7. SWGW Horizontal Stabilising Dryer	14
3.1 SWFL Super-Micro Hammermill	4	7.8. SKGD Circumfluent Box Type Drier	14
3.2 SFSP Hammermill	4	7.9. SFGZ Horizontal Belt Dryer/Cooler	14
3.3 MFSP Continuous Hammermill	5	7.10. TGZZ Fluid Bed Dryer/Cooler	14
3.4 668 Hammermill	5	8. Dust Collection & Ventilation	
3.5 968 Hammermill	5	8.1. TBLM (b) High Pressure Jet Envelope Filter Dust Collector	15
		8.2. TBLM (d) Low Pressure Jet Filter Dust Collector	15
4. Mixing & Addition Systems		8.3. TBLM (y) High Pressure Jet Filter Dust Collector	15
4.1. SLHY Horizontal Ribbon Mixer	6	8.4. LNGM High Pressure Rectangle Dust Collector	16
4.2. SLHJ Single Shaft Paddle Mixer	6	8.5. Fans	16
4.3. SLHSJ Double Shaft Paddle Mixer	7		
4.4. STHJ Molasses Paddle Mixer	7	9. Crumbling	
4.5. SSTZ Water Adding System	7	9.1. MUSL Crumbler	17
4.6. YPLV Oil Adding System	7		
5. Pelleting		10. Cleaning & Screening	
5.1. MUZL 350 / 420 Pellet Press	8	10.1. SFJH Rotary Screener	17
5.2. MUZL 600 / 1200 Pellet Press	8	10.2. SFQZ High Efficiency Fine Material Screener	18
5.3. MUZL 610 / 1210 / 1610 / 2010 Pellet Press	9	10.3. TQLZ Vibratory Screener	18
5.4. SZLH Pellet Press	9	11. Weighing & Packing	
		11.1. LCS Weighing and Packing Machinery	19

1. ELEVATING & CONVEYING

1.1. TDTG Bucket Elevators

All bucket elevators are fabricated from heavy-duty painted carbon steel, galvanised carbon steel or stainless steel, with folded leg sections and durable flanges. They are suited to handling a wide range of dry bulk materials including powdered and granular products. Optional features include explosion vents, alarm for belt slip, and a heavy-duty direct-coupled gear drive unit. All units are equipped with a built-in backstop to prevent the buckets and belt running backwards when stopped.

As well as a comprehensive range of models, many bucket types and sizes allow the operator to match their product and throughput rate exactly. A selection of common models is listed below. (NB: MA-Mash / GR-Grain)

Standard Bucket Elevators

Model	Capacity
TDTG 26/23	20-25 m ³ /h
TDTG 36/18	23-28 m ³ /h
TDTG 36/23	28-32 m ³ /h
TDTG 36/28	35-40 m ³ /h
TDTG 48/18	25-30 m ³ /h
TDTG 48/23	30-35 m ³ /h
TDTG 48/28	40-45 m ³ /h



High Speed Bucket Elevators

Model	Capacity
TDTGk 40/18	30MA & 40GR m ³ /h
TDTGk 40/23	35MA & 50GR m ³ /h
TDTGk 40/28	55MA & 70GR m ³ /h
TDTGk 50/23	50MA & 80GR m ³ /h
TDTGk 50/28	60MA & 90GR m ³ /h
TDTGk 50/32	70MA & 100GR m ³ /h
TDTGk 60/23	70MA & 100GR m ³ /h
TDTGk 60/28	90MA & 150GR m ³ /h
TDTGk 60/33	160MA & 260GR m ³ /h
TDTGk 80/23	70MA & 100GR m ³ /h
TDTGk 80/28	90MA & 150GR m ³ /h
TDTGk 80/32	160MA & 260GR m ³ /h



Larger sizes up to 1260 m³/h

1.2. TGSU & TGSS Drag Conveyors

Both the TGSU 'U' trough series (self-cleaning), and the TGSS square trough series are made of heavy duty painted carbon steel or stainless steel. Drag conveyors are ideal for large capacity and long distance product transfer. All conveyors are supplied with an adjustable gear drive unit, and inlet / outlet transitions to suit the conveying application, and are fitted with industry standard safety guarding.



Model	Capacity	Model	Capacity	Model	Capacity	Model	Capacity
TGSU 16a	27-32 t/h	TGSU 32a	95-102 t/h	TGSS 16a	35-40 t/h	TGSS 32a	120-130 t/h
TGSU 20a	42-47 t/h	TGSU 40a	280-300 t/h	TGSS 20a	55-60 t/h	TGSS 40a	190-210 t/h
TGSU 25a	55-62 t/h	TGSU 50a	385-400 t/h	TGSS 25a	70-80 t/h	TGSS 50a	280-320 t/h

1.3. TLSS Screw Conveyors & TWLL Feeders

All Screw conveyors (TLSS series) and feeders (TWLL series) are made of heavy duty painted carbon steel or stainless steel. Screw conveyors and feeders are highly versatile in material application and operation, with the inlet(s) and discharge(s) being fitted to suit the particular requirements.



Model	Capacity	Model	Capacity	Model	Capacity	Model	Capacity	Model	Capacity
TLSS 16	3-7 t/h	TLSS 20	8-12 t/h	TLSS 25	14-20 t/h	TLSS 32	25-30 t/h	TLSS 40	38-42 t/h
TWLL 16	3-4 t/h	TWLL 20	5-7 t/h	TWLL 25	10-13 t/h	TWLL 28	14-19 t/h	TWLL 30	17-21 t/h

1.4. TZM Slide Gates

Slide gates can be of electric (TZMD series), pneumatic (TZMQ series) or manual (TZMS series) in operation. All series slide gates are available via an extensive range of shapes and sizes to meet all applications.

Sizes: 200 mm² - 50 t/h up to 800 mm² - 400 t/h



1.5. TBD 2-way and 3-way Diverter Valves

2-way valves are available as pneumatic or manual in operation, and in two basic shapes; Dog leg (@ 00 & 300 or 450) and equal angle (both @ 300 or 450), either with square (TBDQ series) or round (TBDS series) inlet and outlet.

Square sizes: 200 mm² - 50 t/h up to 800 mm² - 400 t/h

Round sizes: 200 mm dia. - 45 t/h up to 450 mm dia. - 300 t/h



1.6. TFPX Multi-Way Rotary Distributor Valves

Suited to handling both granular and powder product within high capacity bulk material handling applications, the TFPX series rotating distributor is available with either 200 mm (35 t/h) or 250 mm (50 t/h) diameter spouting. The diverter is driven from an inline gear drive unit, complete with electric braking device. They feature a secondary sweep arm, which operates to prevent any accumulation of material within the actuating area, and a flexible seal is fitted to the chutes to ensure a dust-tight fit up against the outlet facings.

Model	No. of Outlets	Power
TFPX 3	3 way	0.37 kW / 0.55 kW
TFPX 4	4 way	0.37 kW / 0.55 kW
TFPX 6	6 way	0.37 kW / 0.55 kW
TFPX 8	8 way	0.55 kW
TFPX 10	10 way	0.55 kW
TFPX 12	12 way	0.55 kW
TFPX 14	14 way	0.75 kW
TFPX 16	16 way	0.75 kW



1.7. TDXZ Vibratory Bin Dischargers

The TDXZ series is ideal for discharging bulk and difficult to handle materials. This series features heavy duty rubber isolation assemblies, and is supplied complete; ready for fitting under a bin or hopper discharge point.

Model	Size	Power
TDXZ 80x20	Suits 0.8-2.4 m dia. bin	0.25 kW
TDXZ 100x30	Suits 1.0-3.0 m dia. bin	0.37 kW
TDXZ 130x50	Suits 1.3-3.9 m dia. bin	0.37 kW
TDXZ 160x50	Suits 1.6-4.8 m dia. bin	0.75 kW
TDXZ 200x50	Suits 2.0-6.0 m dia. bin	0.75 kW



2. PRE-CLEANING

2.1. TCXT Tube Magnet

The TCXT series of rare earth tube magnets are used in the removal of iron particles prior to processing equipment. They are available in five sizes and come with either a carbon steel or stainless steel shell, with rare earth magnet IC core bulb.

Model	Capacity
TCXT 15	10-15 t/h
TCXT 20	20-30 t/h
TCXT 25	30-50 t/h
TCXT 30	50-70 t/h
TCXT 40	80-100 t/h



2.2. SCQZ Conical Drum Mash Pre-Cleaner

The SCQZ Conical Drum Mash Pre-cleaner is generally used for powder cleaning, however a variety of screen aperture sizes are available to suit a wide range of applications. Made of either stainless steel or painted carbon steel, its design enables easy assembly for screen changing.

Model	Capacity	Power
SCQZ 60x50x80	15 t/h	5.5 kW
SCQZ 80x90x110	20 t/h	7.5 kW



2.3. SCY Cylindrical Drum Pre-Cleaner

The SCY Cylindrical Drum Pre-cleaner removes impurities from raw material. The screening drum is fitted with a retarding unit and cleaning brush. A variety of screen aperture sizes are available to suit the application.

Model	Capacity	Power
SCY 50	16 t/h	0.75 kW
SCY 63	40 t/h	0.75 kW
SCY 80	60 t/h	0.75 kW
SCY 100	80 t/h	1.5 kW
SCY 125	100 t/h	2.2 kW



2.4. TQLZ Vibratory Pre-Cleaner

This model offers a vibration motion instead of the traditional rotation actuator. This series features variable level of vibration amplitude and adjustable screen pitch for varying the angle of inclination (up to 12°). It runs with a very efficient screening action and with low noise levels. The screen can be changed simply and rapidly. Units may be fitted with standard or re-cycle aspiration according to requirements.

Model	Capacity	Power
TQLZ 100/100	20 t/h	0.25kW x 2
TQLZ 100/150	30 t/h	0.37kW x 2
TQLZ 100/200	40 t/h	0.37kW x 2
TQLZ 150/200	60 t/h	0.75kW x 2
TQLZ 180/200	70 t/h	1.1kW x 2



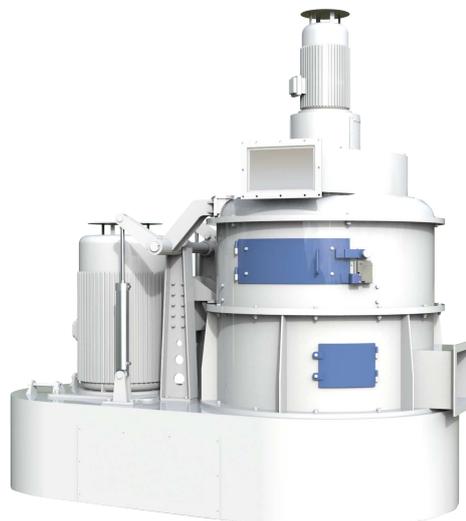
3. MILLING

Grain Tech supplies a wide range of hammer mills, pulverisers and size reduction equipment, as well as complete installations. Capacity ranges from 0.2 t/hr up to 70 t/hr in a variety of different configurations to meet specific application requirements. This series of particle size reduction equipment is designed for maximum productivity, a more uniform granulation, energy efficiency and low maintenance costs.

3.1 SWFL Super-Micro Hammermill

The SWLF Hammermill incorporates the grinding and classifying zone within a common body, enabling grinding, air sizing, re-grinding and finishing to be carried out completely within one machine.

Model	Capacity	Power
SWFL 82	2.4 t/h	75 kW
SWFL 82	2.6 t/h	90 kW
SWFL 82	2.8 t/h	110 kW
SWFL 110	3.0 t/h	110 kW
SWFL 130	3.3 t/h	132 kW
SWFL 130	3.5 t/h	160 kW



3.2 SFSP Hammermill

The SFSP Hammermill series is a heavy-duty design, with full screen for optimum output per kW input. They feature easy and quick screen change, and reversible rotor for full hammer wear.

Model	Capacity	Power
SFSP 56x36	3.5 t/h	22 kW
SFSP 56x36	4.5 t/h	30 kW
SFSP 56x40	6 t/h	37 kW
SFSP 112x30	9 t/h	55 kW
SFSP 112x30	12 t/h	75 kW
SFSP 112x40	15 t/h	90 kW
SFSP 112x40	15 t/h	110 kW
SFSP 112x60	20 t/h	132 kW
SFSP 112x60	25 t/h	160 kW



Model	Capacity	Power
SFSP 56x40C	4-6 t/h	30/37 kW



3.3 MFSP Continuous Hammermill

The MFSP series utilises a heavy duty serrated breaker assembly within the upper grinding chamber for an improved grinding action. This series offers the ability to change screens without stopping the machine, improving the capacity and reducing down time. This series is widely used for fine grinding and micro-grinding applications.

Model	Capacity	Power
MFSP 60x60	12 t/h	75 kW
MFSP 60x60	18 t/h	90 kW
MFSP 60x80	20 t/h	110 kW
MFSP 60x80	26 t/h	132 kW



3.4 668 Hammermill

The 668 Hammermill series incorporates a teardrop-grinding chamber for optimum capacity. They feature access to screen assembly via slide away door, and adjustable hammer clearance for optimising particle size. All components are dynamically balanced for stable running with low noise levels.

Model	Capacity	Power
668 I	10 t/h	55 kW
668 I	15 t/h	75 kW

Model	Capacity	Power
668 III	22 t/h	132 kW
668 III	32 t/h	160 kW

668 II	16 t/h	90 kW
668 II	22 t/h	110 kW

668 IV	38 t/h	200 kW
668 IV	43 t/h	220 kW
668 IV	50 t/h	250 kW



3.5 968 Hammermill

The 968 Hammermill series is a larger version of the 668 Hammermill series incorporating all the same features. Larger models than those listed below are available on request.

Model	Capacity	Power
968 II	12 t/h	75 kW
968 II	16 t/h	90 kW
968 II	22 t/h	110 kW

Model	Capacity	Power
968 IV	38 t/h	200 kW
968 IV	43 t/h	220 kW
968 IV	50 t/h	250 kW

968 III	25 t/h	110 kW
968 III	30 t/h	132 kW
968 III	35 t/h	160 kW

968 V	58 t/h	250 kW
968 V	65 t/h	315 kW
968 V	70 t/h	350 kW



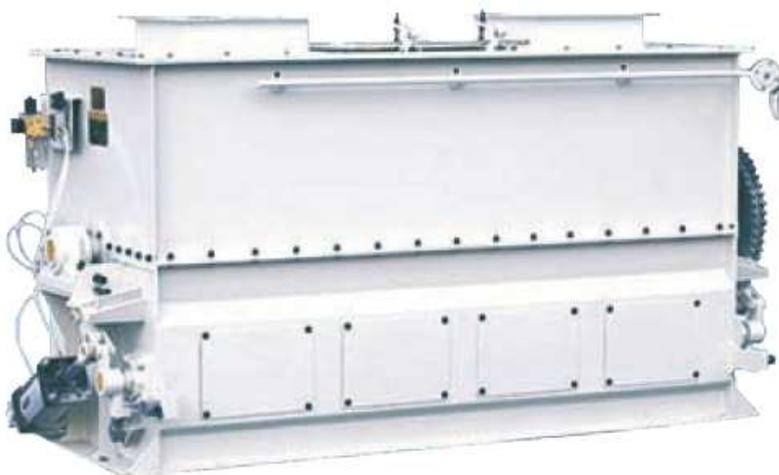
4. Mixing & Addition Systems

Common mixer types include the horizontal ribbon series, single and dual shaft paddle mixer types, with up to 8 tonne capacity. Each are fitted with drop bottom discharge doors covering two thirds of the mixer width and extending for the full length of the machine for rapid and complete clean out. The mixers are smooth and ledge free for preventing contamination. Addition systems are also available including water, oil and molasses systems. Models are available in carbon steel or stainless steel.

4.1. SLHY Horizontal Ribbon Mixer

The SLHY mixer series features a ribbon flighting design, with bomb-drop discharge gate and a patented seal arrangement for non-leak operation. Mixing time: 3-5 min/b (batch)

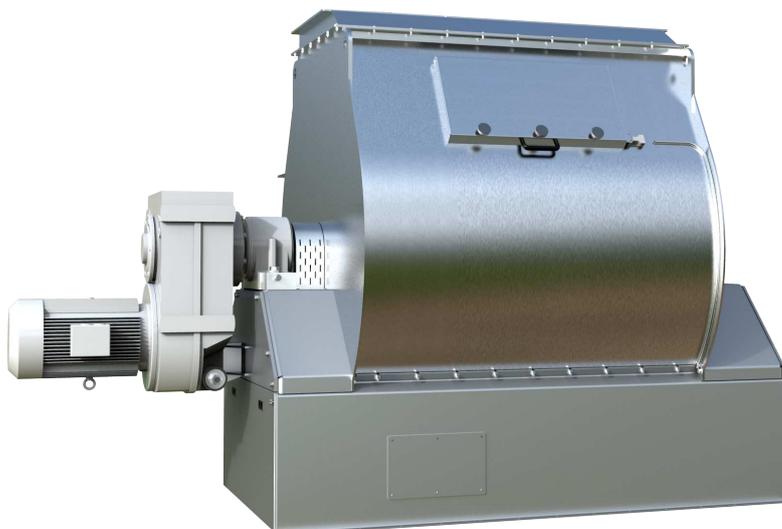
Model	Capacity	Power
SLHY 0.125	0.05 t/b	0.75 kW
SLHY 0.25	0.1 t/b	2.2 kW
SLHY 0.6	0.25 t/b	5.5 kW
SLHY 1	0.5 t/b	11 kW
SLHY 2.5	1 t/b	15 kW
SLHY 5	2 t/b	30 kW
SLHY 7.5	3 t/b	37 kW
SLHY 10	4 t/b	45 kW
SLHY 12.5	5 t/b	55 kW
SLHY 15	6 t/b	75 kW



4.2. SLHJ Single Shaft Paddle Mixer

Single paddle designs like the SLHJ series are suited to blending ingredients with high liquid levels. The high speed and high efficiency mixing applications achieve optimum quality with minimal power consumption.

Model	Capacity	Power
SLHJ 0.5	0.25 t/b	7.5 kW
SLHJ 1.0	0.5 t/b	11 kW
SLHJ 2.0	1 t/b	18.5 kW
SLHJ 4.0	2 t/b	37 kW
SLHJ 6.0	3 t/b	45 kW
SLHJ 8.0	4 t/b	55 kW



4.3. SLHSJ Double Shaft Paddle Mixer

The SLHSJ double shaft series enables optimum mixing to be achieved within 30-120 seconds. This model is versatile, suiting the feed, pre-mix, and additive, chemical and food industries. Full double door bomb-drop discharge.

Model	Capacity	Power
SLHSJ 0.06	0.025 t/b	0.75 kW
SLHSJ 0.1	0.05 t/b	2.2 kW
SLHSJ 0.2	0.1 t/b	2.2 kW
SLHSJ 0.35	0.15 t/b	4 kW
SLHSJ 0.5	0.25 t/b	5.5 kW
SLHSJ 1	0.5 t/b	11 kW
SLHSJ 2	1 t/b	18.5 kW
SLHSJ 4	2 t/b	30 kW
SLHSJ 7	3 t/b	45 kW
SLHSJ 8	4 t/b	55 kW



4.4. STHJ Molasses Paddle Mixer

The STHJ paddle mixer allows varying addition rates of molasses from 6% up to 100% by mass.

Model	Capacity	Power
STHJ 40x150	5 t/h	7.5 kW
STHJ 35x200	10 t/h	15 kW
STHJ 50x275	20 t/h	22 kW
STHJ 70x420	30 t/h	30 kW



4.5. SSTZ Water Adding System

The SSTZ 60 (0.06 t/b | 4 kW) is a complete water addition system, including: water controlling system, stainless steel water tank, water pump, filter, overflow valve, flow meter, pressure gauge and electric-magnetic valve.



4.6. YPLV Oil Adding System

Oil addition systems are matched in size relative to the batch mixers being supplied.

Model	Capacity	Power
YPLV 80	0.5-8t/h	1.1+2.2+2.2+0.55 kW
YPLV 100	1-15 t/h	1.1+3+2.2+1.5 kW
YPLV 135	10-25 t/h	1.5+5.5+2.2+1.5 kW



5. Pelleting

The MUZL pelleting range has maintained the technical standard throughout the entire development and manufacturing process, producing a range with capacities from 0.5 t/h to 30 t/h. Adopting a dual motor and 'V' belt drive system, the MUZL series incorporates an optimised transmission ratio with increased torque, smoother running, simplified structure, reduced operating noise, ease of operation and lower maintenance burdens.

The meal feed rate is controlled either with an electromagnetic drive system, adjusted by the operator according to the main press motor amp readings, or by an optional electronic VSD (Variable Speed Drive). The feeder drive can be integrated with a PLC to fully regulate the feed rate according to the main press motor amp loadings. Feed rates will vary according to the meal formulation, steam and liquid addition.

The standard MUTZ conditioner series can incorporate a molasses addition system, can be lengthened, dual layered or even triple layered to provide a longer and more intensive conditioning period if required.

UMT dies available in various sizes from $\Phi 1.6$ mm up to $\Phi 22.0$ mm. (Note: 'X' denotes shrimp feed application)

5.1. MUZL 350 / 420 Pellet Press

The MUZL 350/420 is a heavy-duty design, with stainless feeder, conditioner and pellet press main door. They are designed with two roll shells, the MUZL 350 suited to small production lines up to 6 t/h, and the MUZL 420 up to 11 t/h (based on 4.5 mm diameter pellets).

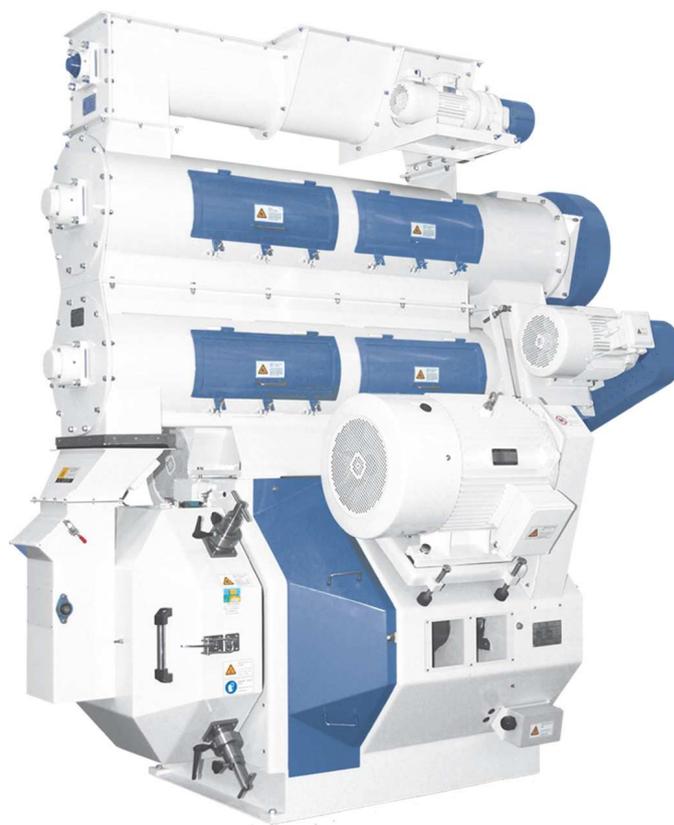


Model	Capacity	Power
MUZL 350 I	3.5 t/h	22 kW x 2
MUZL 350 II	6 t/h	30 kW x 2
MUZL 350 X	1.5 t/h	30 kW x 2

MUZL 420 I	7.5 t/h	37 kW x 2
MUZL 420 II	9 t/h	45 kW x 2
MUZL 420 III	11 t/h	55 kW x 2
MUZL 420 X	3 t/h	55 kW x 2

5.2. MUZL 600 / 1200 Pellet Press

The MUZL 600 / 1200 is a heavy duty design, with stainless feeder, conditioner and pellet press main door. They are designed with three roll shell assemblies and have a taped fit for rapid die disassembly. The MUZL 600 is suited to medium sized production up to 16 t/h, and the MUZL 1200 for large production up to 27 t/h.



Model	Capacity	Power
MUZL 420 II	9 t/h	45 kW x 2
MUZL 420 III	11 t/h	55 kW x 2
MUZL 420 X	3 t/h	55 kW x 2

MUZL 1200 I	22 t/h	90 kW x 2
MUZL 1200 II	27 t/h	110 kW x 2
MUZL 1200 X	5 t/h	110 kW x 2

5.3. MUZL 610 / 1210 / 1610 / 2010 Pellet Press

The MUZL 610 / 1210 / 1610 / 2010 range is similar to the 600 / 1200, however is direct driven. This series also only has two roll shell assemblies instead of three, which is an advantage in high fibre applications.

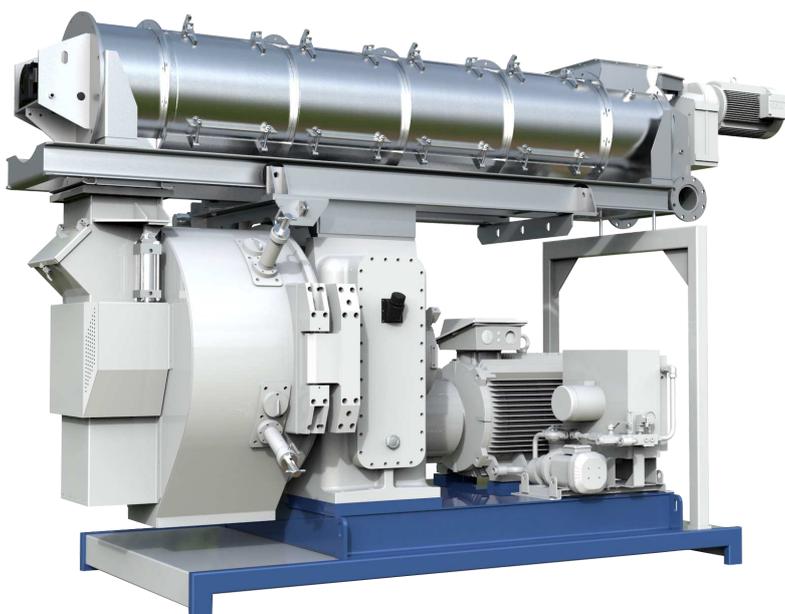
Model	Capacity	Power
MUZL 610 I	13 t/h	75 kW x 2
MUZL 1210 I	20 t/h	90 kW x 2
MUZL 1210 II	24 t/h	110 kW x 2
MUZL 1610 I	26 t/h	110 kW x 2
MUZL 2010 I	30 t/h	132 kW x 2



5.4. SZLH Pellet Press

The SZLH series pellet press is direct gear-drive for reliable, precise and efficient transmission for stable production and lower energy consumption. Fuzzy logics is introduced to the controller of the pelleting system to optimize processing parameters to achieve consistent pellet quality and effective production.

Model	Capacity	Power
SZLH 535X190	15-20 t/h	160 kW
SZLH 575X210	20-25 t/h	200 kW
SZLH 685X245	35-40 t/h	250 kW



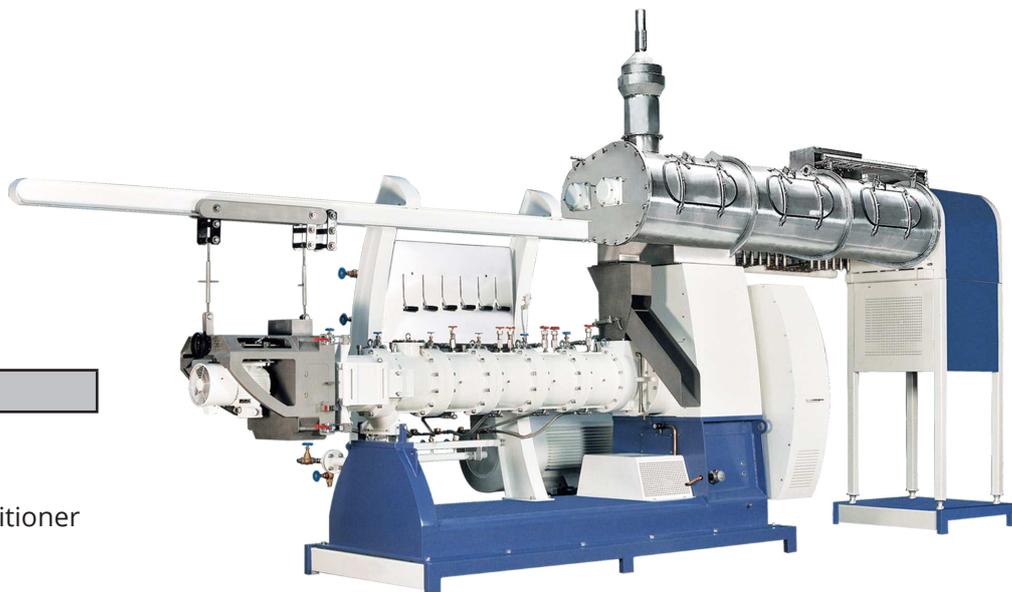
6. Extruding

Grain Tech offer a selection of advanced extruding machines to handle all your feed and dry extruding needs.

6.1. MY165 Millennium Dragon Extruder

The 165mm diameter single screw extruder is designed to have the extruding process automatically computer controlled from an integrated PLC unit. This allows the feed rate to be measured, optimised and controlled accurately with continuous reliable feedback to the computer. This principle also controls the addition of steam, maintaining the conditioner material moisture levels at 20-27%. The finished extruded product is normally transferred to a flow box type dryer, which makes the drying more uniform and reduces costs. Mainly used for fish feed (floating or sinking), the pellet density can be controlled reliably, and the gelatinising degree of the starch can reach more than 90%, which helps increase the stability of the feed in the water.

Model	Capacity	Power
MY 165	3-5 t/h	160 kW
	3 kW Feeder	
	18.5 kW DDC Conditioner	



6.2. MY146x2 Twin Screw Extruder

Widely used in the aqua feed industry for stabilising and cooking specialised pelleted feedstuffs, the MY146 extruder incorporates a twin 146mm diameter screw design. It allows production of high quality floating and sinking aquatic feeds by changing the various parameters. Operating features allow high temperatures for short durations to aid in the elimination of various anti-nutrition bacteria to improve material quality. Electrical energy cost savings are achieved by the pre-conditioning and cooking process which utilises steam efficiently. The machine is controlled automatically via a PLC, and can adjust parameters such as flow rate for various materials precisely, recording all data and parameters for reference.



Model	Capacity	Power
MY 146x2	5-10 t/h	315 kW
	2.2 kW Feeder	
	22 kW DDC Conditioner	

6.3. TPH135 High Efficiency Expander

The TPH 135 series extruder is used for various types of wet or dry feed expansion. This series features high output efficiency with subsequent energy savings. It is equipped with a 2.2 kW pre-conditioner, with steam and water addition being adjustable to suit the application. A 135mm diameter screw is fitted.

Model	Capacity	Power
TPH 135RZ	1.0-1.2 t/h	75 kW
TPH 135YL	1.2 t/h	75 kW
TPH 135DD	1.5 t/h	75 kW
TPH 135RP	1.2-2.0 t/h	75 kW



6.4. TPH200 Dry Extruder

The TPH 200 series is designed for cost-effective dry extruding. Dry extrusion has the advantages of simple flow and high adaptability. This machine is used in applications such as; animal feedstuff processing, raw material processing, by-product reclamation, high performance expanding, floating, structured and/or water stable pellets.

Model	Capacity	Power
TPH 200D	1.5-3.5 t/h	110/132 kW
TPH 260	3.2-6.0 t/h	200/250 kW



6.5. PHG135 Dry Extruder

The PHG series is mainly used for the extrusion of soybean and maize. It features cooking, sterilising, extruding, dehydrating and stabilising functions. It is easy to operate, compact in size, and provides reliable finished quality material processing. The material cooking temperature of 130-150 °C is reached without the need for a conditioner or steam boiler, due to the amount of friction generated, and thus energy absorbed by the extruded material. The extruded product can be bagged directly after being cooled when using appropriate moisture levels to preserve the finished product.

Model	Capacity	Power
PHG 135B	0.5-0.75 t/h	55 kW



7. Drying & Cooling

There is an extensive range of dryers, coolers, stabilisers and combinations of all three to suit specific applications. Our most popular and more applicable types are described below and the models listed;

- Counter flow dryers and coolers: Suited to handling pelleted feedstuffs, flaked product, granules and similar products where gentle non-degradation processing is necessary. (Options 7.1 - 7.5)
- Rotary drum dryers and coolers: This series handles bulky materials while assisting to break up any lumps of material. (Options 7.6 - 7.7)
- Belt dryers and coolers: Ideal for bulky products. Offers flexible drying and cooling options with minimum product degradation. (Options 7.8 - 7.10)
- Fluid bed dryers and coolers: Flexible machinery, used for processing powdered, granulated or flaky materials in various industries, from pharmaceuticals through to breakfast cereals. Sanitary design permits the same machine to process different materials. (Option 7.11)

7.1. SKLN Counter Flow Cooler

The SKLN counter flow cooler is the most popular series for normal pellet feedstuffs cooling. Its oscillating grid discharge system operates reliably and efficiently with little noise. Material is cooled to within 3-5 °C above ambient temperature, and moisture content is reduced by not less than 3-3.5%. It is easy to operate, offering flexibility with adjustable residence time.

Model	Capacity	Power
SKLN 11x11	2.5 t/h	0.75 kW
SKLN 14x14	5 t/h	0.75 kW
SKLN 14x19	7.5 t/h	1.1 kW
SKLN 16x16	7.5 t/h	1.1 kW
SKLN 19x19	10 t/h	1.1 kW

SKLN 19x24	15 t/h	1.5 kW
SKLN 22x22	17 t/h	1.5 kW
SKLN 24x24	20 t/h	1.5 kW
SKLN 24x28	25 t/h	2.2 kW
SKLN 28x28	30 t/h	2.2 kW



7.2. SLNF Tipping Counter Flow Cooler

The SLNF tipping counter flow cooler is similar to the SKLN, except it utilises a swing-type louver discharge system suited to handling materials that do not flow well, such as mash. It is easy to operate, offering flexibility with adjustable residence.

Model	Capacity	Power
SKLN 14x14	5 t/h	2.25 kW
SKLN 14x19	7.5 t/h	2.6 kW
SKLN 16x16	7.5 t/h	2.6 kW
SKLN 19x19	10 t/h	2.95 kW

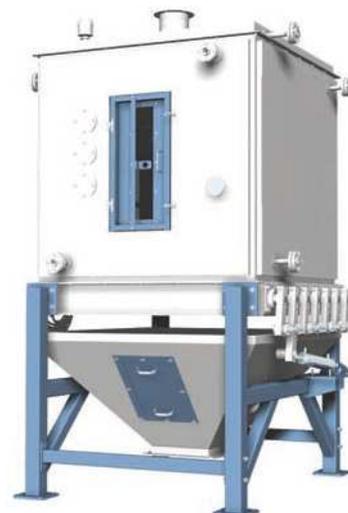
SKLN 22x22	16 t/h	2.95 kW
SKLN 24x24	20 t/h	3.7 kW
SKLN 24x28	25 t/h	4.1 kW
SKLN 28x28	30 t/h	4.8 kW



7.3. SWDB Pellet Stabiliser

The SWDB Pellet Stabiliser is used for post cooking of pelleted or extruded livestock and aquaculture feeds. It enhances the final product quality without damaging the nutritional features of the feed. It will also enhance aquaculture feed stability in water.

Model	Capacity	Power
SWDB 14x14A	3 t/h	1.5 kW
SWDB 19x19A	5 t/h	1.5 kW
SWDB 24x24A	5-6 t/h	3 kW



7.4. SWLN Stabiliser & Counter Flow Cooler

This SWLN series combines all the functions of both the stabilising and cooling options in the above models, into a single unit that easy to operate and maintain.

Model	Capacity	Power
SWLN 14x14	5 t/h	3.15 kW
SWLN 19x19	8 t/h	3.15 kW
SWLN 24x24	12 t/h	3.55 kW
SWLN 28x28	15 t/h	5.05 kW



7.5. GKLW Horizontal Rotary Drum Cooler

The GKLW features flexibility in application; mainly used in the cooling of high temperature extruded material; however it can also process pellets or even mash. The cooling direction is opposite to material flow, cooling to within 4-8 °C above ambient temperature. The moisture content is reduced by not less than 3%.

Model	Capacity	Power
GKLW 100B	2-3 t/h	2.2 kW



7.6. SGWG Horizontal Rotary Drum Stabilising Dryer

The SGWG is a stabilising rotary drum drier. It has a rotary speed of approximately 10 RPM, and a recommended stabilising time of 20 min.

Model	Capacity	Power
SGWG 120	4 t/h	7.5 kW



7.7. SWGW Horizontal Stabilising Dryer

This series is unique in that it combines a stabiliser and horizontal dryer into one compact unit. The stabilisation time is recommended at 15-20 minutes. The dryer recycles heat efficiently, evaporating moisture at a rate of approximately 300 kg/h. This is a self-cleaning machine, with a screw conveyor dust discharge and large inspection panels for easy maintenance access.



Model	Capacity	Power
SWGW 3	3 t/h	21.25 kW

7.8. SKGD Circumfluent Box Type Drier

The SKGD employs a cross flow drying process perpendicular to the material flow, giving a more even level of material drying. This option is energy efficient, and is user friendly, allowing adjustable drying time, temperature, air volume etc. Used in various applications including; aqua feedstuffs, flaked cereals and similar type product drying.

Model	Capacity	Power
SKGD 2000-4	3-4 t/h	51 kW
SKGD 2000-5	5-6.5 t/h	62 kW
SKGD 2000-6	6-8 t/h	74 kW
SKGD 2000-8	8-10 t/h	99 kW
SKGD 2400-4	4-7 t/h	71 kW
SKGD 2400-6	8-11 t/h	101 kW
SKGD 2400-8	12-16 t/h	131 kW



7.9. SFGZ Horizontal Belt Dryer/Cooler

The SFGZ series is designed for drying and cooling a wide range of granular, pelleted, flaked, extruded and difficult to handle products utilising a dual belt conveying system. Material is suspended in the horizontal position with drying and cooling occurring evenly across the material. The insulated cladding ensures that it is energy efficient.

Model	Capacity	Power
SFGZ 2	2 t/h	3 kW
SFGZ 3	4 t/h	3 kW
SFGZ 4	6 t/h	3 kW



7.10. TGZZ Fluid Bed Dryer/Cooler

The TGZZ series is used on a wide range of materials. It can be employed as a dryer, cooler or combination machine, that runs reliably and efficiently with little noise. It features an extremely high heat transfer coefficient and a variable residence drying time. Moisture reduction of 30-40 kg/h per 1m² screen surface area.

Model	Capacity	Power
TGZZ 3x30	0.8 t/h	0.4 kW x 2
TGZZ 3x45	1.5 t/h	0.75 kW x 2
TGZZ 6x45	3 t/h	1.1 kW x 2
TGZZ 6x75	5 t/h	2.2 kW x 2
TGZZ 9x75	8 t/h	3.75 kW x 2
TGZZ 15x45	10 t/h	5.5 kW x 2
TGZZ 15x75	12 t/h	5.5 kW x 2
TGZZ 20x90	15 t/h	7.5 kW x 2



8. Dust Collection & Ventilation

We have a range of hopper and flat base dust filter collectors and reverse air jet filter collectors, with sizes and capacities to meet emission standards for the toughest dust control problems. Advantages include: added worker safety/comfort, compact designs, up to 99.95% separation efficiency over a wide range of particle types and sizes, low operation and maintenance costs, easy disposal or re-cycling of collected dust.

8.1. TBLM (b) High Pressure Jet Envelope Filter Dust Collector

The TBLMb is a unique jet device, which is equipped with a demountable enveloped filter socks to allow easy access for maintenance. Each sock provides up to 1m² filtering area. Its compact design makes it ideal in small spaces and for applications such as; grinder, tip station and elevator aspiration, as well as fines recovery in a pneumatic conveying system.

Model	Air Capacity	Filter Area
TBLMb 2	120-600 m ³ /h	2 m ² /h
TBLMb 4A	360-720 m ³ /h	4 m ² /h
TBLMb 6A	720-1140 m ³ /h	6 m ² /h
TBLMb 8A	1080-2160 m ³ /h	9 m ² /h
TBLMb 12A	1440-2880 m ³ /h	12 m ² /h



8.2. TBLM (d) Low Pressure Jet Filter Dust Collector

The TBLMd series is a cylindrical design with a conical or flat bottom discharge arrangement. It features a deflection plate within the tangential air inlet section to ensure optimum cyclonic dust separation action. It is designed to rapidly lower the air entry speed to promote the removal of dust particles rapidly from the dust laden air, and utilise advanced sock cleaning technology via direct jet solenoids. This series is used extensively within applications where high concentrations of dust are to be handled.

Model	Air Capacity	Filter Area
TBLMd 18	790-3960 m ³ /h	13.5 m ² /h
TBLMd 26	1140-5730 m ³ /h	19.5 m ² /h
TBLMd 39	1720-8610 m ³ /h	29.3 m ² /h
TBLMd 52	2290-11460 m ³ /h	39.2 m ² /h
TBLMd 78	3430-17180 m ³ /h	58.5 m ² /h
TBLMd 104	4590-22950 m ³ /h	78 m ² /h
TBLMd 130	5742-34440 m ³ /h	97.5 m ² /h



8.3. TBLM (y) High Pressure Jet Filter Dust Collector

The TBLMy series is a cylindrical design with a conical or flat bottom discharge arrangement with tangential air inlet. This series requires a minimum investment for exhaust air network applications, utilising filter sock and advanced solenoid reverse jet pulse cleaning technology. They are widely used within the cereal milling, processing and food industries, mineral, cement and industrial dust collection applications.

Model	Air Capacity	Filter Area
TBLMy 8	675-1350 m ³ /h	5.6 m ² /h
TBLMy 15	1266-2532 m ³ /h	10.5 m ² /h
TBLMy 25	2100-4200 m ³ /h	17.5 m ² /h
TBLMy 36	3024-6048 m ³ /h	25.2 m ² /h
TBLMy 52	4333-8736 m ³ /h	36.4 m ² /h
TBLMy 76	6414-12828 m ³ /h	53.2 m ² /h
TBLMy 108	9115-18230 m ³ /h	75.6 m ² /h
TBLMy 156	13116-26332 m ³ /h	109.2 m ² /h



8.4. LNGM High Pressure Rectangle Dust Collector

This versatile series suits large installations as well as applications within corner areas and restricted spaces. It allows easy access for maintenance and can have the air intake at either the top or bottom of the dust collector. It features advanced high pressure solenoid pulsing valves for efficient reverse jet sock cleaning.

Model	Air Capacity	Filter Area
LNGM 18A	2160-4320 m ³ /h	18 m ² /h
LNGM 24	2880-5760 m ³ /h	24 m ² /h
LNGM 30	3600-7200 m ³ /h	30 m ² /h
LNGM 36	4320-8640 m ³ /h	36 m ² /h
LNGM 45	5400-10800 m ³ /h	45 m ² /h
LNGM 54	6480-12960 m ³ /h	54 m ² /h
LNGM 63A	7560-15160 m ³ /h	63 m ² /h
LNGM 72A	8640-17280 m ³ /h	72 m ² /h
LNGM 81A	9270-19440 m ³ /h	81 m ² /h
LNGM 90A	10800-21600 m ³ /h	90 m ² /h
LNGM 117A	14040-28080 m ³ /h	117 m ² /h
LNGM 228A	27360-54720 m ³ /h	228 m ² /h

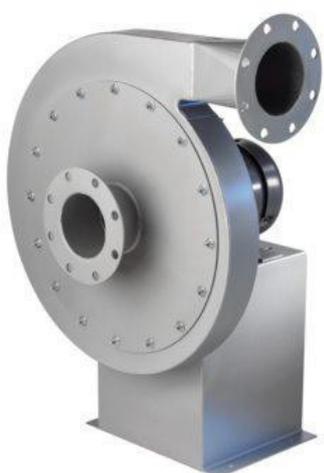


8.5. Fans

A extensive range of fans are available. Medium pressure fans are normally used for general exhaust and system aspiration, and high pressure fans for pneumatic transportation applications. Other common uses include; ventilation, cooling and air conveying applications. Fans for medium and high pressure range in size and capacity between:

Medium pressure: 1.5 kW, 1 kPa, 1,330 m³/h
37 kW, 3 kPa, 48,797 m³/h

High pressure: 2.2 kW, 2.5 kPa, 2,300 m³/h
11 kW, 5.3 kPa, 6,000 m³/h

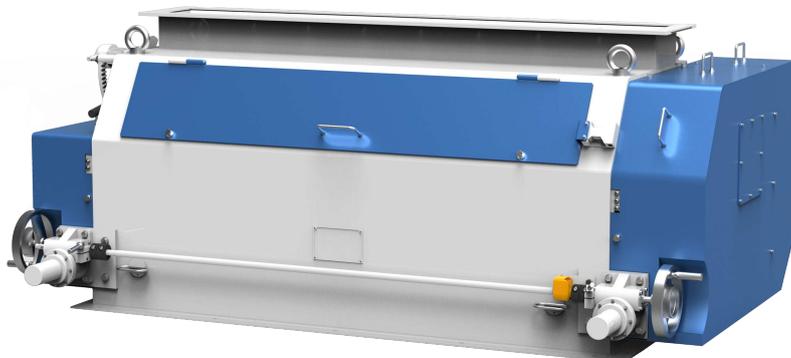


9. Crumbling

9.1. MUSL Crumbler

The MUSL crumbler series is similar to a high capacity roller mill and is made under licence from UMT. The output particle size is regulated by two micro graduated hand wheels, complete with locking device to maintain accurate roll settings. There are a variety of roll fluting profiles available to suit specific grinding applications. The crumbler includes a bypass valve for convenient flow arrangement within processing installations. The MUSL 20x110, 24x165 and 30x180 incorporate an extra feed roll within the feed distribution hopper to help regulate product flow to the two main rolls.

Model	Capacity	Power
MUSL 20x80	5-8 t/h	7.5 kW
MUSL 24x110	10 t/h	11 kW
MUSL 24x165	20 t/h	15 kW
MUSL 30x180	22 t/h	22 kW



10. Cleaning & Screening

10.1. SFJH Rotary Screener

This series is suited to a wide range of sieving and screening applications; i.e. pellet grading, powder classification, pre-cleaning of granular products and de-dusting of processed materials. It is designed with an eccentric drive box to provide a very efficient oval screening action at the inlet, and longitudinal action at the discharge. It operates with low noise levels, stable easy running with low maintenance costs, flexible mounting arrangement, designed to avoid contamination and allow quick, and easy changing of screens.

The 2C label refers to an arrangement having two screening layers, thus 3C having three layers. 2B options are the same as 2C models, however have a dual inlet.

Double-Deck Sifter, B Type

Model	Capacity	Power
SFJH 80x2B	8 t/h mash or 10 t/h pellets	2.2 kW
SFJH 110x2B	10 t/h mash or 13 t/h pellets	3 kW
SFJH 130x2B	15 t/h mash or 18 t/h pellets	3 kW
SFJH 140x2B	18 t/h mash or 22 t/h pellets	4 kW



Double-Deck Sifter, C Type

Model	Capacity	Power
SFJH 80x2C	8 t/h mash or 10 t/h pellets	2.2 kW
SFJH 110x2C	10 t/h mash or 13 t/h pellets	3 kW
SFJH 130x2C	15 t/h mash or 18 t/h pellets	3 kW
SFJH 140x2C	18 t/h mash or 22 t/h pellets	4 kW
SFJH 153x2C	23 t/h mash or 26 t/h pellets	4 kW
SFJH 180x2C	25 t/h mash or 28 t/h pellets	7.5 kW
SFJH 210x2C	28 t/h mash or 35 t/h pellets	7.5 kW

Triple-Deck Sifter, C Type

Model	Capacity	Power
SFJH 110x3C	10 t/h mash or 13 t/h pellets	3 kW
SFJH 130x3C	15 t/h mash or 18 t/h pellets	3 kW
SFJH 140x3C	18 t/h mash or 22 t/h pellets	4 kW
SFJH 153x3C	23 t/h mash or 26 t/h pellets	5.5 kW
SFJH 180x3C	25 t/h mash or 28 t/h pellets	7.5 kW

10.2. SFQZ High Efficiency Fine Material Screener

This component is suited for sieving sticky and difficult to screen materials such as meat / bone meal, which may have high oil or fat content.

Model	Capacity	Power
SFQZ 56	2.25 t/h	11 kW



10.3. TQLZ Vibratory Screener

This model offers a vibration motion instead of the traditional rotation actuator. This series features variable level of vibration amplitude and adjustable screen pitch for varying the angle of inclination (up to 12°). It runs with a very efficient screening action and with low noise levels. The screen can be changed simply and rapidly.

Model	Capacity	Power
TQLZ 100/100	7 t/h	0.25 kW x 2
TQLZ 100/150	11 t/h	0.37 kW x 2
TQLZ 100/200	14 t/h	0.37 kW x 2
TQLZ 150/200	22 t/h	0.75 kW x 2
TQLZ 180/200	26 t/h	1.1 kW x 2



11. Weighing & Packing

11.1. LCS Weighing and Packing Machinery

The LCS range of machinery provides customers with a complete bagging and packing arrangement, available in a range of sizes; handling 2.5 - 100kg bags at up to 400 bags per hour. High accuracy with weighing precision: static + 0.1%, dynamic + 0.2%.

The system comes complete with a feeder (see options below), hopper (single or double), scale, sewing machine and bag conveyor. Bag weights are adjustable and can be preset. In continuous operation, the weights of individual fill and cumulative fill are recorded and shown on the digital display. The digital display re-zeros automatically and may be recalibrated. The housing consists of four covers, which can be easily removed without tools to permit direct access to all mechanical components.

Various feeder systems are available to suit various types of product:

- Single or double screw feeders suitable for most applications
- Slide gate metering for free flowing materials
- Belt feeding for difficult to handle materials

Model	Range	Capacity
LCS 2.5 BZ	1-2.5 kg/bag	300-400 bags/h
LCS 5 BZ	1-5 kg/bag	300-400 bags/h
LCS 10 BZ	5-10 kg/bag	200-400 bags/h
LCS 25 BZ	10-25 kg/bag	200-400 bags/h
LCS 50 BZ	20-50 kg/bag	200-400 bags/h
LCS 80 BZ	50-80 kg/bag	300-400 bags/h
LCS 100 BZ	70-100 kg/bag	300-400 bags/h



Single Hopper
Screw Feeder



No Hopper
Gate Feeder



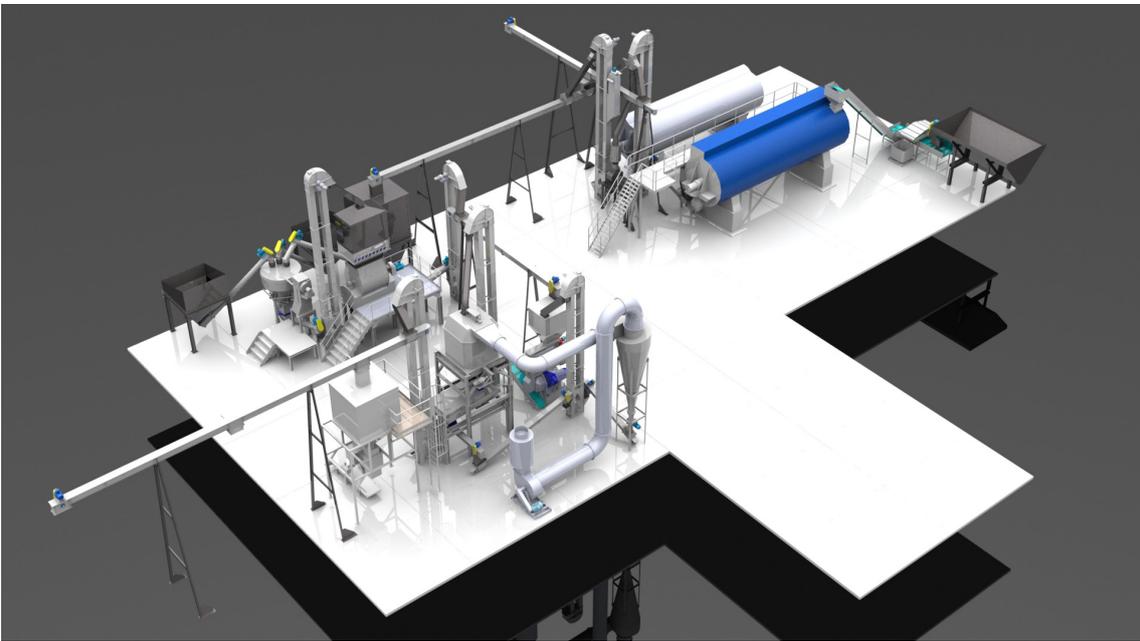
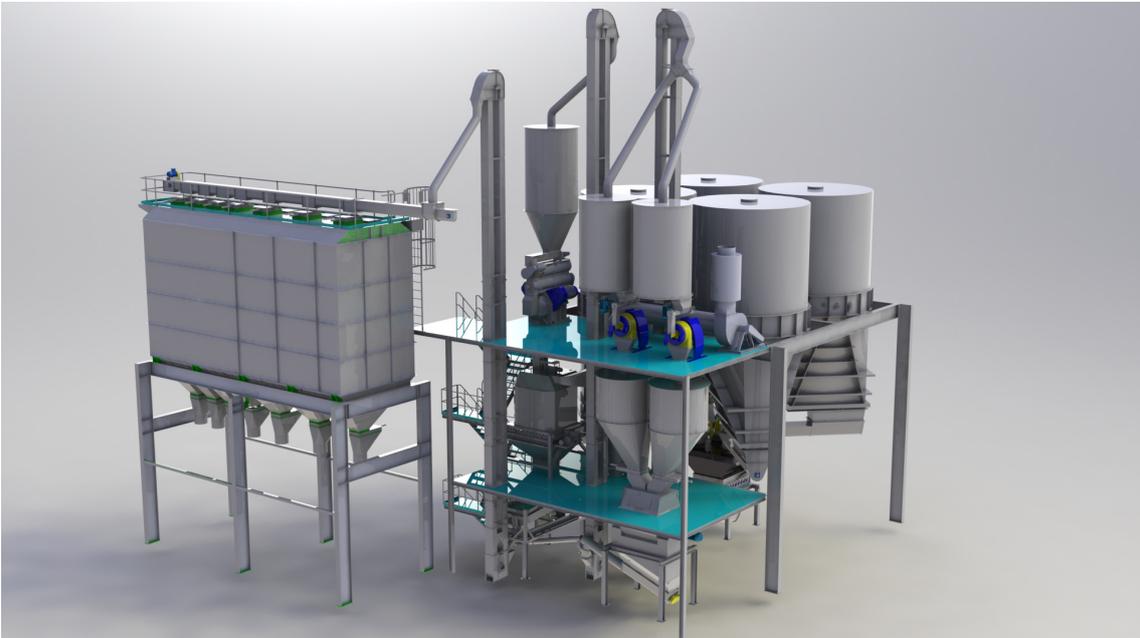
Double Hopper
Gate Feeder



Belt Feeder

12. Project Examples







GRAIN TECH LTD

PROCESSING, HANDLING & STORAGE SYSTEMS

55B Druces Road, Manukau, Auckland 2104, New Zealand

PO Box 97420, Manukau City, Auckland 2241, New Zealand

Tel: 0064 9 263 6926 Fax: 0064 9 262 1335

Email: admin@graintech.co.nz Website: www.graintech.co.nz

AN ENGINEERING OFFICE THAT PUTS IDEAS INTO ACTION

We build systems for raw material

- In all sections of the food industry
- In the chemical industry
- In the agricultural commodity industry
- In the waste treatment / disposal industry

We have the perfect storage method

- With outdoor and indoor silos
- Homogenizing silos
- With Grain Tech's fluidised bed discharge systems
- Standard or tailored design for all additive ingredients and liquids

We convey products gently

- Through all types of pneumatic systems
- Through Grain Tech's pressure vessels
- Through vibratory conveying systems
- Through air slides and metering screws
- Through bucket elevators, various types of belt and drag link conveyors
- Through aero-mechanical conveyors

We sift raw materials to the highest specifications

- With orbital and gyratory sifters
- With screeners and rotary classifiers
- With vibratory and pneumatic in line sifters
- For classification control and final security sifting

We pulverise and mill raw materials to attain exact particle sizings

- By pre-breaking, hammer milling and crushing
- By roller milling, granulating and cutting

Our mixing achieves better quality

- Mechanically and pneumatically
- With or without liquid additions
- In batch or continuous systems

We can weigh and meter within extremely tight tolerances

- With Grain Tech's weigh mix systems
- Incorporating totally integrated weighing and processing control systems
- Using screw and vibratory metering feeders
- We change the characteristics and shape of commodities and materials

We effectively classify raw materials and finished product

- With gravity and air separators
- With mechanical graders and screeners

We have drying and cooling systems to meet most product types

- By fluid bed and vibratory conveying units
- By pneumatic circuits
- By column, tower and conveyor systems

We change the characteristics and shape of commodities and materials

- With pelletizing and agglomeration processes
- By extrusion processors

We manufacture and supply the following machines

- Rotary valves, blower units, diverter valves, multi-way valves, cyclones and transit separators
- Pipe systems, filter collectors
- Shut off valves, slide gate valves
- Hammer mills, crushers, pulverisers, roller mills, flaking mills
- Extruders, pelletizers, agglomerators
- Silos, bins and hoppers, discharging devices
- Mixers, blenders, sifters
- Control systems and measuring / metering equipment
- Bagging, packing and handling equipment

Special processing systems or machines

- Extrusion processing lines
- Complete cereal processing lines
- Complete animal feeds manufacturing

Our engineering office plans and develops. We can design & solve your problems

GRAIN TECH PTY LTD