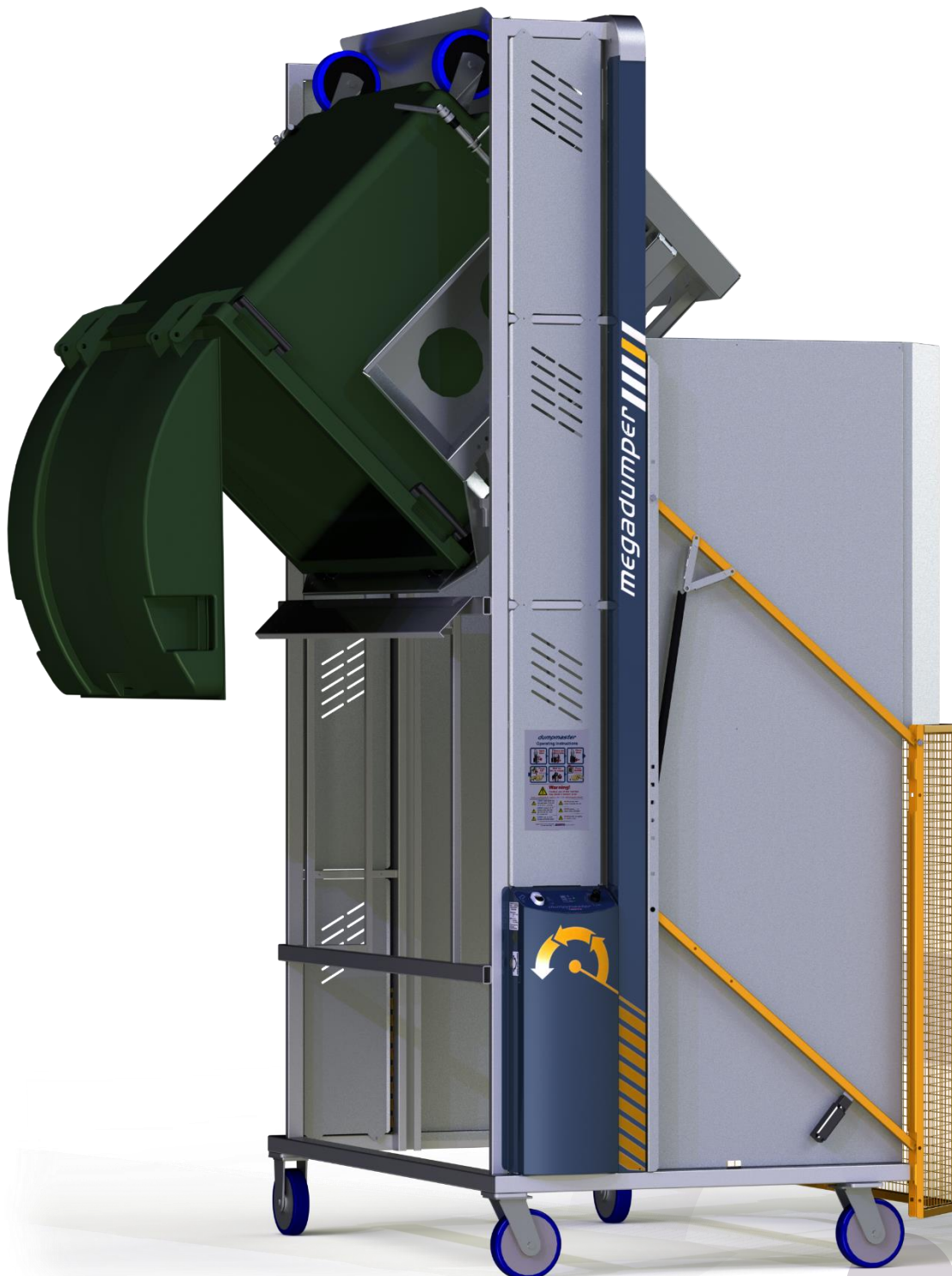

USER MANUAL

Simpro MegaDumper®





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For the purpose of standards compliance and international conformity, this document uses Système International (SI) units. These may be converted to their Imperial equivalents as follows:

1 kilogram (kg) = 2.2 pounds (lb)

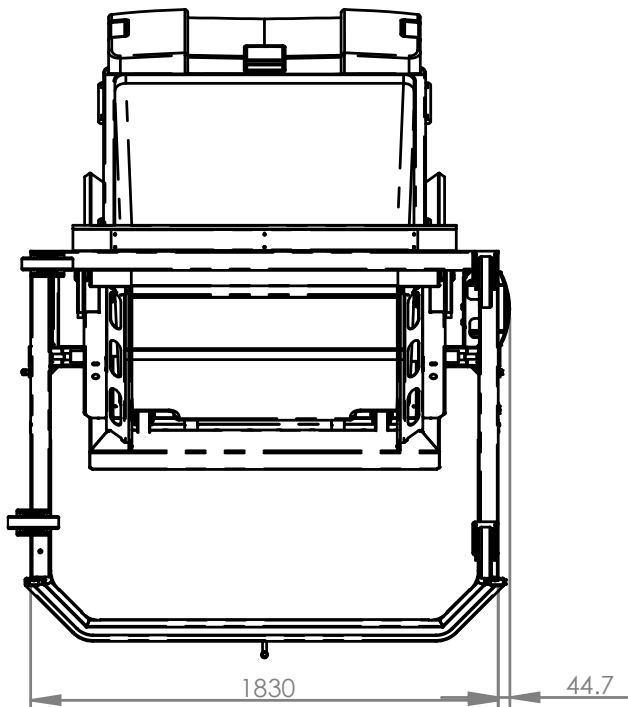
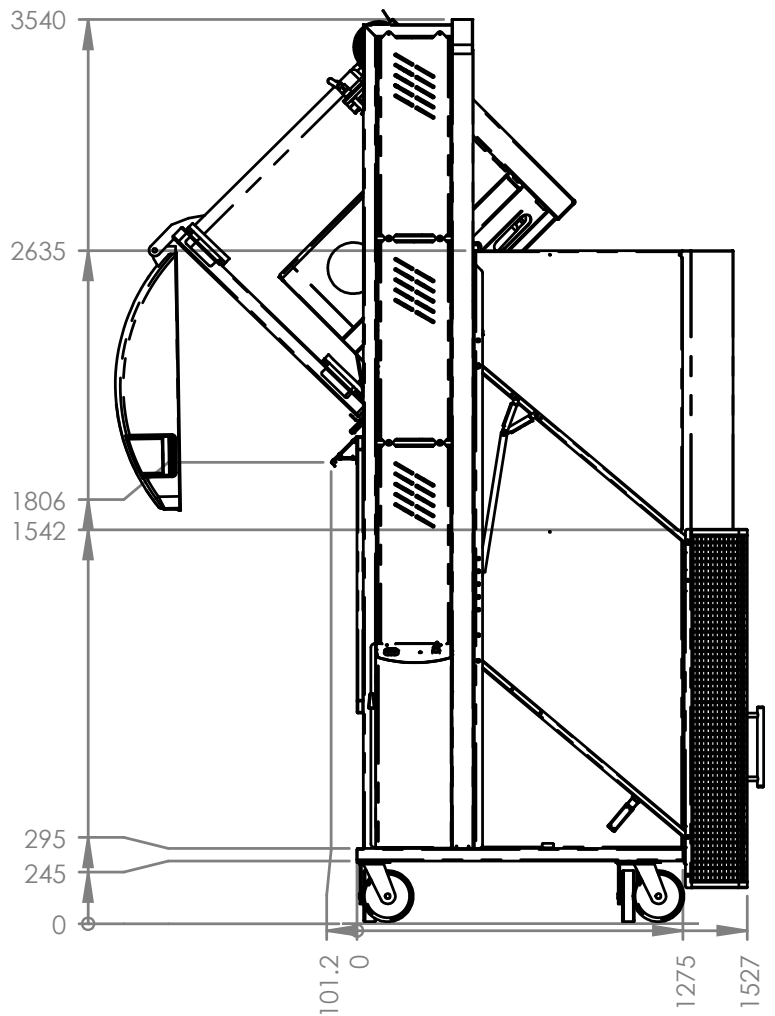
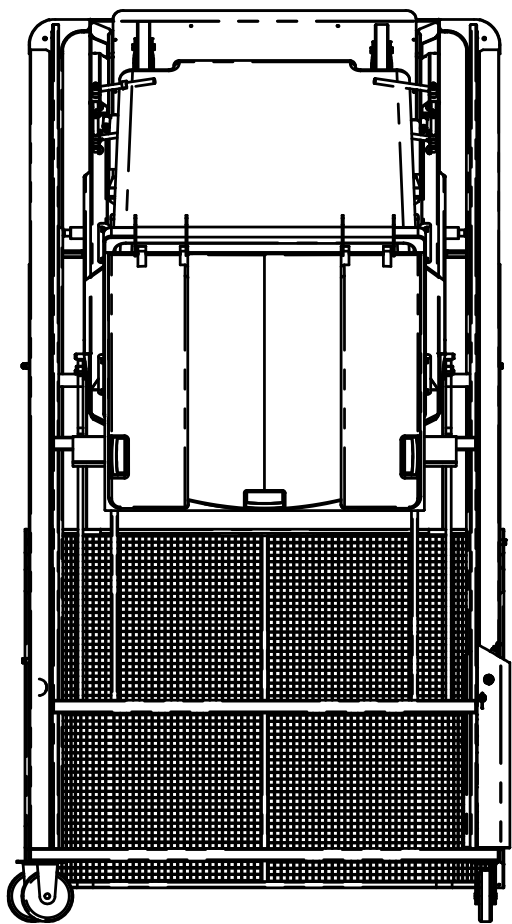
1 metre (m) = 1000 millimetres (mm) = 39.37 inches (in) = 3.28 feet (ft) = 1.09 yards (yd)

The following textual conventions are used throughout this document:

 Text in GREEN indicates a point of interest.

 Text in RED indicates a point of warning, or a safety hazard.

Any errors in this document should be reported by email to info@simpro.world



MegaDumper MD600E1800.3.C
Standard layout and Dimensions

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2 Overview

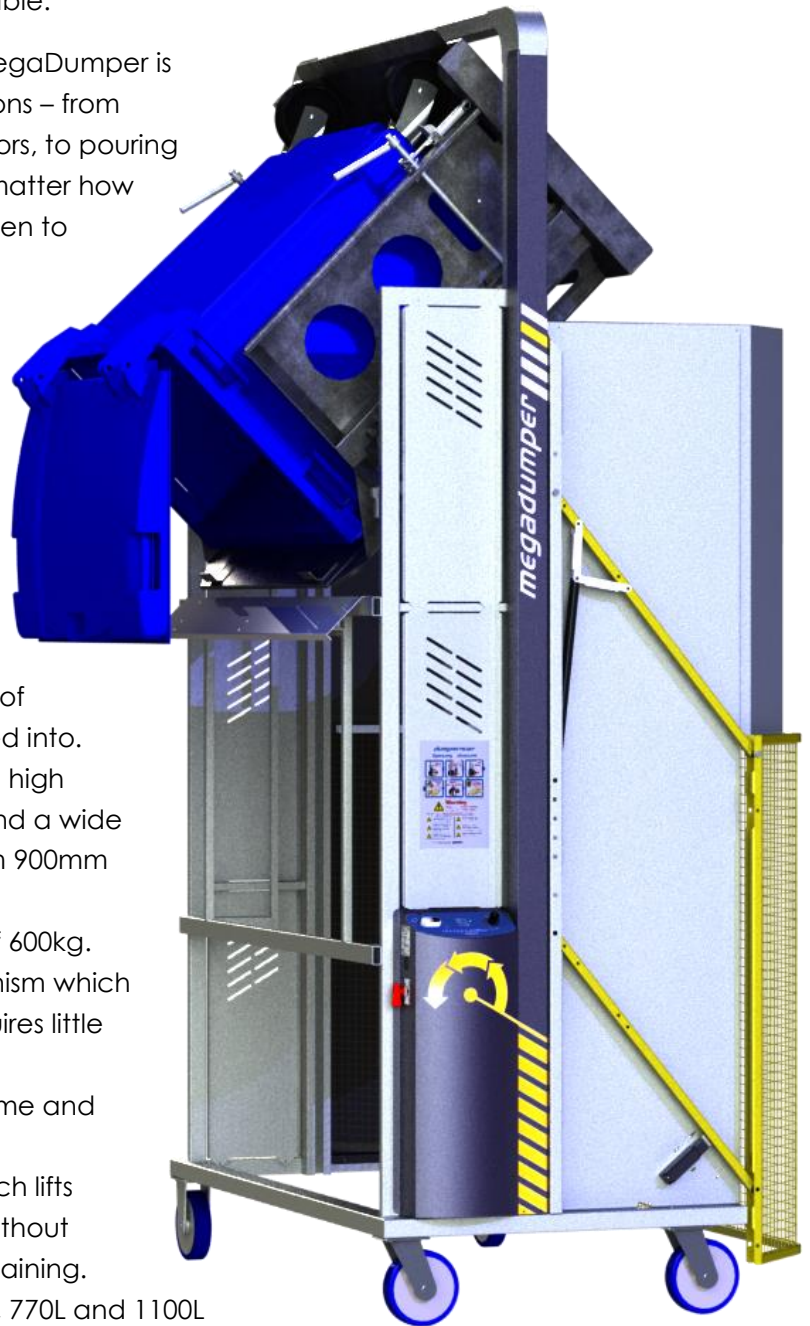
Congratulations on your purchase of a Simpro MegaDumper bin-tipping machine. Since its introduction in 1998, the MegaDumper has built a reputation as the safest and most reliable high-capacity mobile bin lifter available.

With a highly modular design, the MegaDumper is suitable for many different applications – from emptying rubbish bins into compactors, to pouring food ingredients into mixers. But no matter how it is used, the MegaDumper has proven to be safe, economical and easy to operate, year after year.

2.1 Key features

Key features of the MegaDumper include:

1. A unique tipping action whereby bins are lifted straight up, and then gently rolled forward around the lip of the receptacle being emptied into. Benefits of this design include high stability, a small 'footprint', and a wide range of tipping heights, from 900mm to more than six metres.
2. A standard lifting capacity of 600kg.
3. An electro-hydraulic mechanism which is extremely reliable and requires little maintenance.
4. A fully hot-dip galvanised frame and cradle.
5. A versatile cradle system which lifts many common waste bins without modification, clamping or retaining. The standard cradle lifts 660L, 770L and 1100L wheelie bins from the base, therefore preventing damage to the lifting comb and extending bin life.
6. A modular design which can be easily adapted to unique requirements, including non-standard bins, custom tipping heights or larger weight capacities.



2.2 Construction

The MegaDumper consists of a steel frame with two vertical masts and stabilizing legs, a bin cradle, two hydraulic rams, lifting chains, guarding, powerpack cover, control panel, castor wheels, power lead or batteries, hydraulic powerpack and electronic control systems.

2.3 Mechanism


When the RAISE button is pressed, two hydraulic rams are extended, which pull on an arrangement of chains, causing the bin cradle to travel vertically in the masts. The cradle is inverted at the appropriate height by an arrangement of arms, rollers, and a curved track.

The rams are supplied by a hydraulic power pack, which may have a 3-phase, 1-phase, battery, or compressed-air motor. Electrical, hydraulic, and / or mechanical control mechanisms allow the operator to raise or lower the bin in a controlled manner.

2.4 Duty cycle

The duty cycle of the MegaDumper depends on the type of power supply and powerpack that is fitted to the machine, as well as various environmental factors and the manner in which the machine is used. The figures given below are estimates only.

Power Supply	Duty Cycle (tipping at 1800mm)		
	Throughput (net tipped material)	No. of bins equivalent (average ~250kg each)	Units
Battery	16,000kg	64 bins	per charge
Battery + Continuous Charge	2,500kg	10 bins	per hour, nonstop
Battery + Solar Panel	3000kg	12 bins	per day (in mostly sunny conditions)
1-Phase Mains	7,500kg	30 bins	per hour, nonstop
3-Phase Mains	10,000kg	40 bins	per hour, nonstop

 The standard MegaDumper uses a 3-phase mains power supply. Check the rating plate of your machine if you are unsure of what type of power supply it uses.

2.5 Intended operational life


The intended operational life of the MegaDumper is as follows:

Average Gross Bin Weight	Intended operational life
< 200kg	200,000 cycles
200kg – 300kg	150,000 cycles
300kg – 500kg	100,000 cycles
500kg – 600kg	75,000 cycles
> 600kg	50,000 cycles

2.6 Noise emissions

The noise emissions of the MegaDumper bin lifter in standard operation have been assessed as not exceeding ~60 dB(A) at the operator's ear.

Operators are not required to wear hearing protection but are recommended to do so if using the machine on a constant basis.

 ISO standards for machinery safety specify that noise emissions are to be measured in A-weighted decibels (dB(A)), a unit of volume which is adjusted to reflect the sensitivity of human hearing. The measurements are to be taken at a point 1.6 metres above the ground, immediately adjacent to the operator's work position.

2.7 Environmental restrictions








The MegaDumper may be used indoors or outdoors. However the following restrictions apply:

1. A minimum floor area of 4 square metres, with a clear passage to exits;
2. Height above sea level not more than 1000m;
3. Ambient temperature not higher than +40°C and not lower than -10°C;
4. At ambient temperatures above 35°C, the relative humidity should not exceed 50%; at lower temperatures, higher relative humidity is permitted;
5. Never operate in flammable, explosive, corrosive, acidic or alkaline environments.

2.8 Ingress protection


Item	IP Rating
Push buttons, switches and lamps	IP66
Door interlock	IP66
Coded magnetic switch	IP66
Motor	IP54 (note additional protection provided by covers)
Overall	IP56 (optional upgrade to IP66 or IP69K)

2.9 Notes

-  This User Manual describes approved procedures for the operation, maintenance, and routine inspection of the MegaDumper hydraulic bin-tipping machine.
-  This manual is written in English, and is to be considered the 'Original Instructions' for the purposes of EU Machinery Directive 2006/42/EC.
-  Operator(s) must read and understand this manual before using the machine.
-  If the machine is to be leased, sold or otherwise transferred, then this manual shall accompany the machine.
-  Simpro reserves the right to modify the design of the machine. If there is anything in this manual that is not consistent with the actual machine, the actual machine should be considered correct and the manual is only for reference.
-  Contact your authorized Simpro agent in the first instance if you encounter any problems or faults with the machine.
-  Any errors in this manual should be reported by email to info@simpro.world.

3 Safety

The MegaDumper has been designed to be as safe as possible without restricting the ease-of-use and versatility of the machine.

 A comprehensive Hazard and Risk Assessment should be undertaken before the MegaDumper is used for the first time, as described in [Section 3.3](#).

3.1 Safety features

The safety features of the MegaDumper are as follows:

1. Sheet-metal panels which prevent personnel access to all moving parts.
2. A safety interlock system which disables the machine unless the door is shut, and locks the door as soon as the cradle leaves the ground.
3. A tipping action which maintains the weight of the bin within the machine footprint.
4. A pressure-compensating lowering valve which automatically regulates the lowering speed regardless of the weight of the bin.
5. A control system which either:
 - a. stops the machine unless continuous operator input is received, or;
 - b. features a prominent EMERGENCY STOP button to disable the machine.

3.2 Reasonably foreseeable misuse

The reasonably foreseeable misuse considered in the standard MegaDumper design is as follows:

1. Attempts to use the machine by untrained operators;
2. Attempts to empty bins that the cradle is not specifically designed to hold;
3. Attempts to bypass the door interlock or other safety systems;
4. Attempts to clear spill material from inside the guarding without proper procedures;
5. Attempts to clean the machine without following proper procedures.

3.3 OSH compliance specification guide

Companies in most jurisdictions (including Australia, NZ, UK, USA, Canada and the EU) are required by law to provide a safe workplace for their staff, including ensuring that all new and existing machinery is safe to operate.

Although the particulars of safety legislation differ, most countries accept that machinery is 'safe to operate' if it can be demonstrated to **comply with ISO 13849-1:2015 (or a regional equivalent thereof)**.

ISO 13849-1:2015 may call for additional guarding and safety features, depending on the particular circumstances in which a machine is to be used. The purpose of this section is to assist potential MegaDumper customers to determine whether special safety features are required on their machine.

- ⚠ ISO 13849-1:2015 is a machinery-safety standard issued by the International Standards Organisation. It provides safety requirements and guidance on the principles for the design and integration of safety-related parts of control systems (SRP/CS), including the design of software.
- ⚠ ISO 13849-1 has been modified for local conditions and reissued under different terminology by some national standards authorities. In Australia and New Zealand the equivalent (almost identical) standard is called AS/NZS 4024.1:2014.
- ⚠ In the USA, ANSI standards are commonly used to demonstrate the safety of machinery, rather than ISO 13849-1. However since the US model relies largely on 'best practise' and 'liability' to enforce workplace H&S norms, US companies who demonstrate machinery safety using ISO 13849-1 may be considered to have met or exceeded their H&S obligations.

3.3.1 The ISO 13849-1:2015 safety model

Unlike the 'system architecture' model used by earlier safety standards, ISO 13849-1:2015 uses a 'functional safety' model of machinery safety. That is, it takes account of the reliability of parts as well as other factors to create a comprehensive measure of the risk reduction achieved by a safety function – an indicator called **Performance Level (PL)**.

The standard defines five Performance Levels, ranging from **PL(a)** (lowest performance) to **PL(e)** (highest performance).

The standard also defines the Performance Level that a given safety function must achieve to reduce the risk to an acceptable level – a value called **Performance Level required (PLr)**.

3.3.1.1 Determining the Performance Level required (PLr)


As defined by the ISO 13849-1:2015 safety model, the minimum acceptable PLr for any given safety function is based on three input parameters:

1. Severity of injury expected from the associated hazard
2. Frequency and/or duration of exposure to the associated hazard
3. Possibility of manually avoiding the associated hazard

The following table may be used to determine the acceptable PLr from these parameters.

Safety Function PLr Determination Table			
Severity of injury expected from hazard	Frequency and/or duration of exposure to hazard	Possibility of manually avoiding the hazard	Minimum acceptable PLr
Slight injury (reversible)	Seldom to quite often and/or exposure time is short	Possible under specific conditions Scarcely possible	PL(a)
	Frequent to continuous and/or long exposure time	Possible under specific conditions Scarcely possible	PL(b)
Serious injury or death (irreversible)	Seldom to quite often and/or exposure time is short	Possible under specific conditions Scarcely possible	PL(c)
	Frequent to continuous and/or long exposure time	Possible under specific conditions Scarcely possible	PL(d) PL(e)

To demonstrate compliance with ISO 13849-1:2015, the minimum acceptable PLr of the safety functions must be assessed **for each identified hazard in the specific conditions in which the machine is to be used.**

 The safety function PLr may be assessed as part of the regular ISO 12100:2010 Hazard and Risk Assessment described in [Section 3.4](#). Although this assessment includes all hazards intrinsic to the MegaDumper design, other safety functions may be necessary to address hazards specific to your intended conditions of use. These can be assessed in the blank spaces provided.

3.3.1.2 Achieving the Performance Level required (PLr)

As standard, all hazards intrinsic to the MegaDumper design are addressed by safety functions **with a minimum performance of PL(c).**

Therefore, additional or customised safety systems are only required in the following cases:

1. The customer's assessment identifies that hazards exist which have been addressed in the standard MegaDumper design, but which, due to conditions specific to their intended conditions of use, require safety function performance of PL(d) or PL(e).
2. The customer's assessment identifies that hazards exist which are entirely specific to their intended conditions of use, and which have therefore not been addressed in the standard MegaDumper design.
3. The customer is subject to corporate policies, union contracts, OSH regulations or other external factors which demand safety function performance of PL(d) or PL(e), irrespective of the ISO 13849-1:2015 safety model.


In any of these cases, information about the required safety function PLr should be provided to Simpro before placing an order. Simpro will then propose additional or updated systems to achieve the PLr in compliance with ISO 13849-1:2015. This may include any or all of the following:

- Upgrade of control system architecture to Category 3 or Category 4
- Additional guarding panels
- Remote control systems
- Training of personnel
- Signage and floor markings

3.4 Hazard and Risk Assessment guide

Many jurisdictions require machinery owners to conduct a Hazard and Risk Assessment for their equipment which considers all relevant factors such as the area it is used, the skill and training of operators, the proximity of other persons, frequency of use, etc.

The following section is not a complete site-specific Hazard and Risk Assessment, but an assessment of the risk factors that are intrinsic to the MegaDumper design. Blank template spaces are provided for additional site-specific hazards.

 The procedure for carrying out a Hazard and Risk Assessment is typically defined with reference to ISO 12100:2010, issued by the International Standards Organisation. This

standard describes procedures for identifying hazards and estimating and evaluating risks during relevant phases of a machine life cycle.

⚠ As with all powered industrial equipment, some hazards will remain despite any precautions undertaken by the manufacturer or owner of the machine. It is essential that operators are aware of these residual hazards and what they must do to prevent harm to themselves or to others, as described in [Section 3.4.3](#).

3.4.1 ISO 12100:2010 risk assessment model

In the ISO 12100:2010 risk assessment model, each identified hazard is given a Risk Factor, from which is derived a final Risk Evaluation. These parameters can be determined as follows.

3.4.1.1 Determining Risk Factor

The Risk Factor associated with any given hazard may be calculated using the following table, with the formula: **Risk Factor = LO x FE x DPH x NP**

LO	Likelihood of Occurrence	FE	Frequency of Exposure	DPH	Degree of Possible Harm	NP	Number of Persons at risk
0.1	Impossible, or possible only in extreme circumstances	0.1	Infrequently	0.1	Scratch or bruise	1	1 – 2 persons
0.5	Highly unlikely though conceivable	0.2	Annually	0.5	Laceration, mild ill-health	2	3 – 7 persons
1	Unlikely but could occur	1	Monthly	1	Break minor bone or illness (temporary)	4	8 – 15 persons
2	Possible but unusual	1.5	Weekly	2	Break major bone or illness (permanent)	8	16 – 50 persons
5	Even chance – could happen	2.5	Daily	4	Loss of 1 limb or eye/serious illness (temporary)	12	51 or more persons
8	Probable – not surprised	4	Hourly	8	Loss of 2 limbs or eyes/serious illness (permanent)	-	-
10	Likely, only to be expected	5	Constantly	15	Fatality	-	-
15	Certain, no doubt	-	-	-	-	-	-


3.4.1.2 Determining Risk Evaluation

Once the Risk Factor has been calculated, the final Risk Evaluation of any given hazard can be determined using the following table:

Risk Factor	0-1	2-5	6-10	11-50	51-100	101-500	501-1000	1001 +
Risk Evaluation	Negligible	Very Low	Low	Significant	High	Very high	Extreme	Unacceptable

3.4.2 Identified Hazards

The following common hazards have been identified with the MegaDumper design. For each hazard, a full Risk Evaluation has been completed, and suitable control measures described.

 Blank template spaces are provided at the end for machinery owners to identify, assess and control additional site-specific hazards.

Entanglement or amputation of fingers or limbs in moving parts										
Operator	LO:	0.5	FE:	4	DPH:	1	NP:	1	Risk Factor:	2
	Guarding prevents access to all moving parts and trapping hazards.									
Other persons	LO:	1	FE:	4	DPH:	1	NP:	1	Risk Factor:	4
	As above.									
Control measures	Operators are responsible to obey warning signs fitted to the machine and instructions, regarding keeping himself and others clear of all moving parts.									
Comments	The MegaDumper is designed so that trapping hazards are eliminated, minimized or isolated.									
Crushing by unauthorized rapid descent of cradle										
Operator	LO:	0.5	FE:	4	DPH:	1	NP:	1	Risk Factor:	2
	The operator is protected from the cradle by the frame and guarding during operation. A door safety interlock ensures that the door can only be opened when the cradle is on the ground, and the cradle cannot be raised unless the door is closed and locked. Significant safety margins ensure that the probability of failure of any steel, hydraulic, or control parts failing is very low.									
Other persons	LO:	0.5	FE:	4	DPH:	1	NP:	1	Risk Factor:	2
	As above.									
Control measures	Operators are responsible to obey warning signs fitted to the machine and instructions, regarding keeping himself and others away from the area under the cradle when raised. The machine must be regularly maintained and all faults repaired immediately.									
Comments	A hydraulic speed-control valve limits the maximum speed of descent in normal use.									
Operator or others being hit by falling or flying debris										
Operator	LO:	1	FE:	4	DPH:	0.5	NP:	1	Risk Factor:	2
	The operator is protected from the cradle by the frame and guarding during operation. There is some risk if items such as broken glass are being tipped.									
Other persons	LO:	1	FE:	4	DPH:	0.5	NP:	1	Risk Factor:	2
	There is some risk to others standing close to the bin if items such as broken glass are being tipped									
Control measures	Operators are responsible to obey all instructions and warning signs regarding keeping himself and others away from the machine while in use. If tipping items such as glass, metal or liquids, glasses and gloves should be worn									
Comments										

Crushing if the machine falls over										
Operator	LO:	0.5	FE:	2.5	DPH:	1	NP:	1	Risk Factor:	1.25
	Low risk as MegaDumper tippers are very stable and the bin centre of gravity remains well within the machine's footprint throughout the tipping cycle.									
Other persons	LO:	0.5	FE:	2.5	DPH:	1	NP:	1	Risk Factor:	1.25
	As above.									
Control measures	Do not operate on uneven ground, or ground with a slope of more than 1:12. Never attempt to empty liquids from closed-top drums.									
Comments										
Electrocution or electric shock										
Operator	LO:	1	FE:	4	DPH:	15	NP:	1	Risk Factor:	60
	Some risk is always present with mains leads.									
Other persons	LO:	1	FE:	4	DPH:	15	NP:	1	Risk Factor:	60
	As above.									
Control measures	Fit a Residual Current Device (RCD) to all power sockets. Check all leads frequently and repair or replace if damaged. All leads should be checked and tagged by a registered electrician at regular intervals.									
Comments	Mains-powered MegaDumper tippers are earthed and comply with AS60204.1. The charger on battery-powered MegaDumper tippers is double-insulated.									
Contamination from tipping toxic powder and liquid										
Operator	LO:	2	FE:	4	DPH:	1	NP:	1	Risk Factor:	8
	The operator may be exposed to liquids or powders being tipped, especially in windy conditions. If the product being tipped could cause any harm whatsoever to personnel, suitable Personal Protective Equipment must be worn.									
Other persons	DPH:	2	FE:	4	DPH:	1	NP:	1	Risk Factor:	8
	As above.									
Control measures	The operator is responsible to wear appropriate Personal Protective Equipment, and ensure that all other persons are well clear of the area. Powder should only be tipped in calm conditions, or a wind shield should be installed.									
Comments	Substances of a toxicity that cannot be protected against with PPE should not be emptied with a MegaDumper. Alternative methods should be used.									
Damage to skin when used in extreme weather conditions										
Operator	LO:	2	FE:	4	DPH:	1	NP:	1	Risk Factor:	8
	If the machine is to be used in extreme cold or heat, the operator must wear gloves and other suitable Personal Protective Equipment.									
Other persons	LO:	2	FE:	4	DPH:	1	NP:	1	Risk Factor:	8
	As above.									
Control measures	All persons are responsible to wear Personal Protective Equipment suitable for the environmental conditions in which the machine is being used.									
Comments	See Section 2.4 for MegaDumper environmental restrictions.									

Application-specific hazard:

Operator	LO:		FE:		DPH:		NP:		Risk Factor:	
----------	-----	--	-----	--	------	--	-----	--	--------------	--

Other persons	LO:		FE:		DPH:		NP:		Risk Factor:	
---------------	-----	--	-----	--	------	--	-----	--	--------------	--

Control measures

Comments

Application-specific hazard:

Operator	LO:		FE:		DPH:		NP:		Risk Factor:	
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Other persons	LO:		FE:		DPH:		NP:		Risk Factor:	
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Control measures

Comments

Application-specific hazard:

Operator	LO:		FE:		DPH:		NP:		Risk Factor:	
----------	-----	--	-----	--	------	--	-----	--	--------------	--

Other persons	LO:		FE:		DPH:		NP:		Risk Factor:	
---------------	-----	--	-----	--	------	--	-----	--	--------------	--

Control measures

Comments

Application-specific hazard:

Operator	LO:		FE:		DPH:		NP:		Risk Factor:	
----------	-----	--	-----	--	------	--	-----	--	--------------	--

Other persons	LO:		FE:		DPH:		NP:		Risk Factor:	
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Control measures

Comments

Application-specific hazard:									
Operator	LO:		FE:		DPH:		NP:		Risk Factor:
Other persons	LO:		FE:		DPH:		NP:		Risk Factor:
Control measures									
Comments									
Application-specific hazard:									
Operator	LO:		FE:		DPH:		NP:		Risk Factor:
Other persons	LO:		FE:		DPH:		NP:		Risk Factor:
Control measures									
Comments									

3.4.3 Residual Hazards

As with all powered industrial equipment, some 'residual hazards' may be present despite any guarding or safety measures implemented by the manufacturer.

The operator has a legal responsibility to identify and assess these residual hazards, and to take **all reasonable precautions** to eliminate, isolate, or minimize them. Such precautions may include any or all of the following:

- ⚠ Procedures to record and monitor that operators are properly trained.
- ⚠ Implementation of Standard Operating Procedures.
- ⚠ Disciplinary measures to ensure the Standard Operating Procedures are observed.
- ⚠ Posting signage, floor marking, or other warnings as deemed appropriate.
- ⚠ Taking steps to develop a culture of safety and open communication among machinery operators.

3.5 Safety Norms

The following safety norms must be observed for the safe use of a MegaDumper bin lifter.

Only trained and authorised persons should be permitted to use the machine.

Operators must read and obey the instructions displayed on the machine.

Never operate machine on ground with a slope ratio greater than 1:12.

Never operate machine on the edge of a raised dock or platform, unless designed for that application.

Never operate machine with any covers or guards removed.

Never attempt to empty the contents of closed-top drums unless the machine is securely bolted down.

All persons other than the operator must keep at least two metres clear while the machine is in use.

Always keep feet and hands well clear of bin and cradle when operating.

Do not place feet or foreign objects under the side guards or door.

Do not empty over-filled or overflowing bins.

Before connecting machine to mains supply, ensure voltage and frequency correspond with that listed on the rating plate.

Do not use an extension lead to connect machine to the mains supply.

Do not operate if power supply lead and insulation is damaged.

Do not connect a damp power plug or socket.

Ensure the supply socket is fitted with a residual current device.


Ensure there is complete continuity between the machine and an effective earthing system which complies with local and national regulations. The manufacturer cannot be held liable for the consequences of an inadequate earthing system.

4 Operating Instructions


The operating instructions for the MegaDumper depend on which type of control system is fitted to the machine. There are three principal types of control system, as follows:


1. Standard Control System – [Refer to Section 4.1](#)
 - Description: Standard machine, with no autocycle function or PLC controller.
 - Identification: Control panel has only the RAISE and LOWER buttons.
2. Autocycle Control System – [Refer to Section 4.2](#)
 - Description: Machine with autocycle timer, allowing bins to be emptied without continuous operator input.
 - Identification: Control panel has RAISE and LOWER buttons, an EMERGENCY STOP button and a switch labelled MANUAL and AUTO.
3. Safety-Monitored Control System – [Refer to Section 4.3](#)
 - Description: Machine has an electronic PLC control unit and a safety monitoring system to comply with safety standards such as ISO13849-1 and AS/NZS4024 up to PL(d)/Cat3 or higher.
 - Identification: Control panel has RAISE and LOWER buttons, an EMERGENCY STOP button, a switch labelled MANUAL and AUTO, and a large blue button labelled RESET. The control panel also has a decal describing the level of safety compliance.

4.1 Operating instructions - standard control system


 How to operate a standard machine, with no autocycle function or PLC controller.

1. Before operation, check that the machine is stable and safe to use:
 - a. Machine is on level ground, with a slope of 1:12 or less.
 - b. All covers and safety guards are in place.
 - c. Wheel brakes are applied, and/or the feet are wound down onto the ground.
 - d. All personnel other than the operator are well clear of the machine.
 - e. The cradle is fully lowered.
 - f. The key is inserted and turned to the ON position.
 - g. The battery indicator (if fitted) shows an acceptable level of charge.
2. Open the door and place the full bin onto the cradle, taking care that it is properly positioned, then shut the door.
3. **Press and hold the RAISE button** until the bin reaches the inverted position, then release. Wait for the contents of the bin to empty.
4. **Press and hold the LOWER button** until the cradle rests on the ground.
5. Open the door and remove the empty bin.
6. Repeat from step 1) as required.

 Release the RAISE or LOWER button to stop the cradle at any time.

 When using a cradle with wheel-catches to empty small EN840-type wheelie bins (80L/120L/240L/360L), **only one wheel** needs to be placed into a catch. The cradle is designed to hold bins securely using a single wheel.

4.2 Operating instructions - autocycle control system

 How to operate a machine with autocycle timer, allowing bins to be emptied without continuous operator input.

MegaDumper models that are fitted with an autocycle control system may be used in either 'Manual' or 'Automatic' mode, selected using a switch on the control panel.

The operating procedure for each mode is as follows:

4.2.1 Automatic mode

1. Before operation, check that the machine is stable and safe to use:
 - a. Machine is on level ground, with a slope of 1:12 or less.
 - b. All covers and safety guards are in place.
 - c. Wheel brakes are applied, and/or the feet are wound down onto the ground.
 - d. All personnel other than the operator are well clear of the machine.
 - e. The cradle is fully lowered.
 - f. The key is inserted and turned to the ON position.
2. Turn the mode-selector switch to AUTO.
3. Open the door and place the full bin onto the cradle, taking care that it is properly positioned, then shut the door.
4. **Press the RAISE button once.** The cradle will automatically lift, hold the bin inverted for a short time, and return to ground level.
5. Open the door and remove the empty bin.
6. Repeat from step 1) as required.


 Press the EMERGENCY STOP button at any time to stop the cradle.

4.2.2 Manual mode

1. Before operation, check that the machine is stable and safe to use:
 - a. Machine is on level ground, with a slope of 1:12 or less.
 - b. All covers and safety guards are in place.
 - c. Wheel brakes are applied, and/or the feet are wound down onto the ground.
 - d. All personnel other than the operator are well clear of the machine.
 - e. The cradle is fully lowered.
 - f. The key is inserted and turned to the ON position.
2. Turn the mode-selector switch to MANUAL.
3. Open the door and place the full bin onto the cradle, taking care that it is properly positioned, then shut the door.
4. **Press and hold the RAISE button** until the bin reaches the inverted position, then release. Wait for the contents of the bin to empty.
5. **Press and hold the LOWER button** until the cradle returns to the ground.
6. Open the door and remove the empty bin.
7. Repeat from step 1) as required.

 Release the RAISE or LOWER button, or press the EMERGENCY STOP button at any time to stop the cradle.

4.3 Operating instructions - safety-monitored control system


 How to operate a machine with an electronic PLC control unit and a safety monitoring system to comply with safety standards such as ISO13849-1 and AS/NZS4024 up to PL(d)/Cat3 or higher.

MegaDumper models that are fitted with a safety-monitored control system may be used in either 'Manual' or 'Automatic' mode, selected using a switch on the control panel.

The operating procedure for each mode is as follows:

4.3.1 Automatic mode

1. Before operation, check that the machine is stable and safe to use:
 - a. Machine is on level ground, with a slope of 1:12 or less.
 - b. All covers and safety guards are in place.
 - c. Wheel brakes are applied, and/or the feet are wound down onto the ground.
 - d. All personnel other than the operator are well clear of the machine.
 - e. The cradle is fully lowered.
 - f. The key is inserted and turned to the ON position.
2. Turn the mode-selector switch to AUTO.
3. Open the door. If the door is locked, press the LOWER button to unlock it.
4. Place the full bin on the cradle, ensuring it is properly positioned, and shut the door.
5. Press and hold the blue RESET button for two seconds.
 - a. The safety system will now conduct an auto-diagnostic check. If no faults are detected, the blue light will go out and the machine will be enabled.
 - b. If the safety system detects a fault, the blue light will not go out and the machine will be disabled. The fault must be found and corrected before the machine can be used – refer to [Section 5.9](#).
6. **Press the RAISE button once.** The cradle will automatically lift, hold the bin inverted for a short time, and return to ground level.
7. Open the door and remove the empty bin.
8. Repeat from step 1) as required.


 Once the cradle has lowered, the door is automatically unlocked for about 15 seconds. If the door re-locks, press the LOWER button to unlock it at any time.



 Press the EMERGENCY STOP button at any time to stop the cradle.

 When using a cradle with wheel-catches to empty small EN840-type wheelie bins (80L/120L/240L/360L), **only one wheel** needs to be placed into a catch. The cradle is designed to hold bins securely using a single wheel.

4.3.2 Manual mode






1. Before operation, check that the machine is stable and safe to use:
 - a. Machine is on level ground, with a slope of 1:12 or less.
 - b. All covers and safety guards are in place.
 - c. Wheel brakes are applied, and/or the feet are wound down onto the ground.
 - d. All personnel other than the operator are well clear of the machine.
 - e. The cradle is fully lowered.
 - f. The key is inserted and turned to the ON position.
2. Turn the mode-selector switch to MANUAL.
3. Open the door. If the door is locked, press the LOWER button to unlock it.
4. Place the full bin on the cradle, ensuring it is properly positioned, and shut the door.
5. Press and hold the blue RESET button for two seconds.
 - a. The safety system will now conduct an auto-diagnostic check. If no faults are detected, the blue light will go out and the machine will be enabled.
 - b. If the safety system detects a fault, the blue light will not go out and the machine will be disabled. The fault must be found and corrected before the machine can be used – refer to [Section 5.9](#).
6. **Press and hold the RAISE button** until the bin reaches the inverted position, then release. Wait for the contents of the bin to empty.
7. **Press and hold the LOWER button** until the cradle returns to the ground.
8. Open the door and remove the empty bin.
9. Repeat from step 1) as required.

 Once the cradle has lowered, the door is automatically unlocked for about 15 seconds. If the door re-locks, press the LOWER button to unlock it at any time.

-  Release the RAISE or LOWER button, or press the EMERGENCY STOP button at any time to stop the cradle.
-  When using a cradle with wheel-catches to empty small EN840-type wheelie bins (80L/120L/240L/360L), **only one wheel** needs to be placed into a catch. The cradle is designed to hold bins securely using a single wheel.

5 Maintenance

The MegaDumper is designed to give many years of service with minimal maintenance. In the event a fault or malfunction does occur, refer to the [Quick Trouble Shooting Guide in Section 5.1](#) before contacting your agent for service. A Service Manual giving specific testing and repair instructions is available on request from Simpro.

-  Contact your Simpro agent if repair or service work is required.
-  All repair and service work must be carried out by qualified personnel.
-  Replacement parts must be supplied by Simpro or an authorized Simpro agent, and must be of the same design and specification as the original parts.
-  Replacement hydraulic fluid must comply with specifications in [Section 5.7.4](#).
-  A detailed Service Manual giving specific testing and repair instructions is available on request from Simpro.

5.1 Quick Troubleshooting Guide



Refer to the Quick Trouble Shooting Guide below before contacting your agent for service.

Problem	Possible Causes	Remedy
The machine will not lift bins, and the motor does not run	Flat battery	Recharge the battery
	Blown fuse, faulty plug, or faulty power lead	Check and rectify
	Faulty switch or wiring	Check and rectify
	Faulty raise relay or contactor	The relay contactor should click when the 'up' button is pressed – if not, check and replace
	Motor running wrong direction (3-phase only)	Swap phase wires in plug
The machine will not lift bins, although the motor runs	Door safety interlock(s) malfunctioning	Contact your agent for details and / or wiring diagrams
	Bin too heavy	Reduce bin weight
Cradle will not come down from the fully raised position	Pressure-relief valve set too low	Contact your agent
	Cradle sticking in masts	Spray inside of masts at top of slots. Smear grease on top of the curved tipping tracks". Lubricate the roller arm at top of cradle
	Lift ram(s) jamming	Contact your agent
Cradle jams part way down	Faulty switch, wiring, or lowering valve	The lowering valve should click when the button is pressed – if not, check the switch, wiring and electro-magnetic coil
	Follower roller(s) not turning freely	Lubricate the roller
	Roller arm(s) twisted or cradle sitting out of level	Check and straighten if necessary

5.2 Cleaning



The machine should be cleaned with a low-pressure water jet, a cloth and a mild cleaning solution. Cleaning should only be carried out with the cradle in the fully lowered position.

 Do not clean the machine with a high-pressure water jet, such as a waterblaster.

 For IP ratings of the machine and various subcomponents refer to [Section 2.8](#).
 If it is required that the cradle be raised during cleaning, the control system may be modified to permit this while maintaining operator safety – contact your agent for details.

5.3 Cradle jams

Occasionally the bin cradle may become jammed at some point in the tipping cycle. This is usually a minor issue which may be easily rectified.


 The cradle is not powered down – it is lowered by gravity alone.
 Refer to [Section 5.7](#) for details and schematics of the hydraulic system.

5.3.1 Cradle jams while raising

If the cradle jams while raising the cause may be either an overweight bin, or a mechanical fault, such as a bent tipping guide or misaligned roller.

5.3.1.1 Overweight bin

1. Lower the cradle to ground level, open the door and remove the bin.
2. Manually remove some material from the bin, then try again.

 If the pressure-relief valve is adjusted incorrectly, the cradle may stall even when lifting bins that are within the rated capacity of the machine. Adjustment of the pressure-relief valve should only be carried out by a suitably qualified technician, with prior authorization from Simpro.

5.3.1.2 Mechanical fault

1. If possible, lower the cradle to ground level, open the door and remove the bin.
2. Attempt to visually identify the cause of the jamming. The most likely causes are:
 - a. One of the lifting chains may have derailed from the plastic guide at the top of the mast.
 - b. A mast may have been bent or damaged, jamming one of the mast rollers.
 - c. Lack of lubrication on the follower roller, or the main cradle axle.
 - d. The cradle may be sitting out of level, due to poor adjustment of the lifting chains or to a breakage.
 - e. The 'roller arm(s)' may be pressing against the 'tipping track', due to the cradle sitting out of level, or not being properly centred between the masts.
3. With the cradle lowered, rectify the problem by straightening and/or realigning the mechanical components as required. If the mast is bent, you may need to contact your agent for support.
4. Run the machine through several full cycles to ensure the problem has been properly resolved.


5.3.2 Cradle jams while lowering

If the cradle jams on the way down, or has jammed on the way up but will not come down, it may be due to a hydraulic, electrical, or mechanical fault.

5.3.2.1 Hydraulic or electrical fault

When the LOWER button is pressed, the lowering valve should emit a 'click' sound as it opens. If it does not, the problem may be either a hydraulic or electrical fault.

1. Manually disable the safety door interlocks as per [Section 5.8.2.1](#), and open the door.
2. Attach lifting slings to a forklift or hoist, and carefully take the weight of the cradle.


 **Never place any part of your body underneath the cradle unless it is securely supported.**

3. Remove the powerpack cover.
4. Unscrew the fitting attaching the steel hydraulic pipe to the powerpack, and hold the end of the pipe over a container with a capacity of at least 2 litres.
5. Lower the cradle slowly with the forklift, collecting the oil in the container.
6. Once the cradle is fully lowered, remove the bin.
7. Reconnect the hydraulic pipe and fitting, and refill the oil tank.
8. Check that the lowering valve coil is receiving an electrical signal. An LED lamp should glow on the coil plug when the LOWER button is pressed. If it does not, check the wiring.
9. If the coil is receiving an electrical signal but not opening, it may need to be cleaned:
 - a. Remove the coil from the valve stem.
 - b. Unscrew the lowering valve cartridge.
 - c. Clean the cartridge with compressed air.
 - d. Replace the lowering valve components by reversing this procedure.
10. Replace the lowering valve, and test to see if the cradle lowers correctly.
11. Re-enable the safety door interlock and run the machine through several full cycles to ensure the problem has been properly resolved. If the lowering valve is still not operating correctly, it may need to be replaced – contact your agent.

5.3.2.2 Mechanical fault

If the lowering valve is operating correctly (emits a 'click' sound when the LOWER button is pressed), the problem may be a mechanical fault.


1. Manually release the safety door interlock as per [Section 5.8.2.1](#), and open the door.
2. Provide support for the cradle, either with a structure underneath or with a sling holding it to the top of the main frame. Allow for it to fall no more than 50mm.

 **Never place any part of your body underneath the cradle unless it is securely supported.**

3. Attempt to visually identify the cause of the jamming. The most likely causes are:
 - a. One of the lifting chains may have derailed from the plastic guide at the top of the mast.
 - b. A mast may have been bent or damaged, jamming one of the mast rollers
 - c. Lack of lubrication on the follower roller, or the main cradle axle

- d. The cradle may be sitting out of level, due to poor adjustment of the lifting chains or to a breakage.
 - e. The 'roller arm(s)' may be pressing against the 'tipping track', due to the cradle sitting out of level, or not being properly centred between the masts.
4. Rectify the problem by straightening and/or realigning the mechanical components as required. If the mast is bent, you may need to contact your agent for support.
5. Close the door and test to see if the cradle lowers correctly.
6. Re-enable the safety door interlock and run the machine through several full cycles to ensure the problem has been properly resolved.

5.4 Battery electrical system

 If you do not operate a battery-powered machine, please disregard this section.

Battery-powered MegaDumpers are fitted with deep-cycle sealed gel batteries, a digital smart charger, and a series-wound 24vdc electric motor. The motor only runs when the RAISE button is pressed; the cradle is lowered by gravity alone. As a rule, one full charge is sufficient to empty twenty tonnes of material, but this is dependent on the tipping height and the condition of the batteries.




5.4.1 Localisation

The digital smart charger fitted to battery-powered machines automatically adapts to a range of different input voltages and phase frequencies. This means the machine can be charged using standard 1-phase mains power in almost any country around the world. A power plug adapter may be required in some cases.

5.4.2 Battery charging

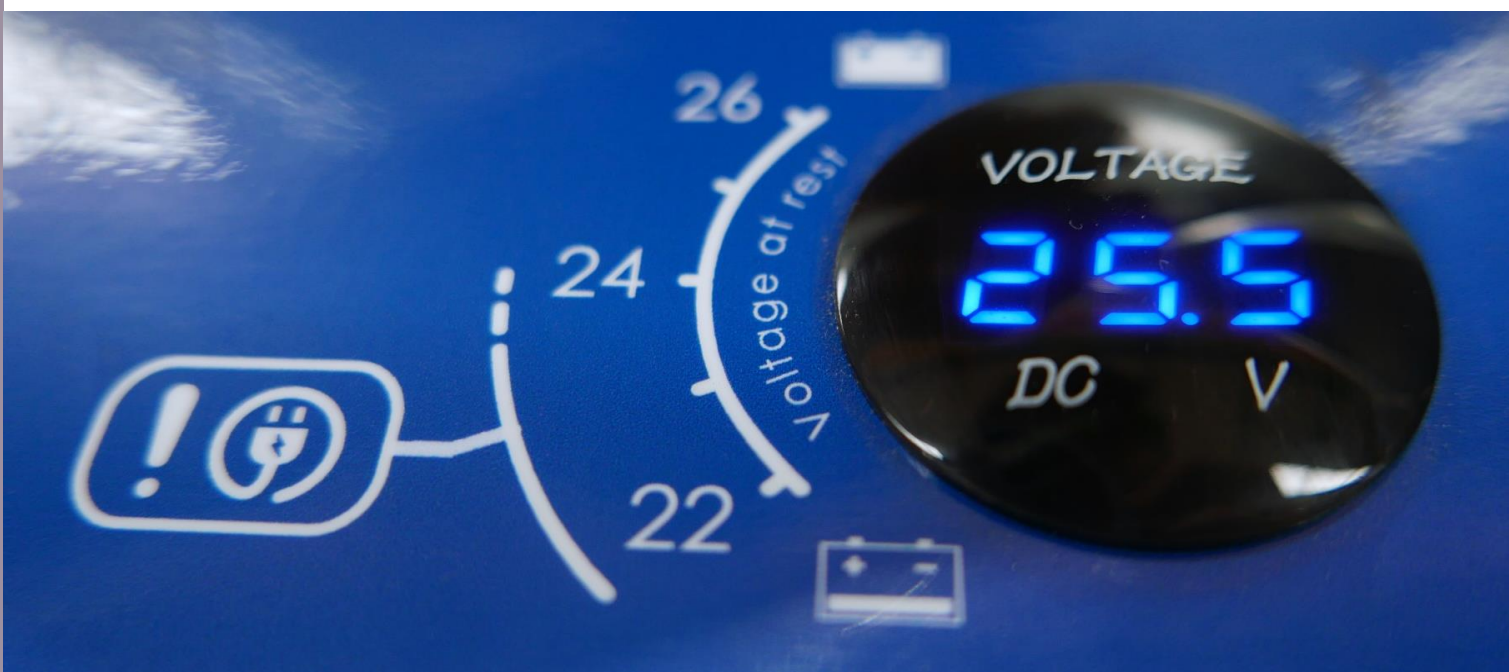
To recharge the batteries, simply **connect a regular 1-phase extension lead into a power outlet and into the appliance socket on the side of the machine.**


A full recharge typically takes 8-10 hours; the machine may be used while on charge. The onboard smart charger automatically adapts to different input currents, manages the charging cycle to maximise battery life, and prevents overcharging.


-  For maximum lifespan the batteries should be charged whenever practicable (or permanently charged) and not left for prolonged periods in a discharged state.
-  The charger delivers enough energy to empty one bin in about 5 minutes, which means that a battery-powered machine left permanently on charge can normally be used in place of a 1-phase mains-powered machine (see [Section 2.4](#)).
-  If the lockout switch is turned OFF the batteries will not charge (see [Section 5.4.7](#)).

5.4.3 Voltmeter and battery charge indicator

Standard battery-powered machines are fitted with a digital voltmeter on the control panel, which is used to indicate the charge level of the batteries. As per the markings, **when the voltmeter reads 24 volts or less the batteries are almost discharged.** The machine should not be used and should be recharged as soon as possible.




 Because the voltage will fluctuate when the machine is operated, the charge level should only be checked while the machine is at rest.

 Using a machine with discharged batteries may cause the overload fuse on the battery cable to blow, as per [Section 5.4.7](#). It may also damage the batteries.

5.4.4 Batteries

Standard battery-powered machines are fitted with two 12v 55Ah deep-cycle sealed gel batteries connected in series to deliver 24vdc (nominal) to the motor and control systems.


The batteries require no regular maintenance and typically last up to five years. Battery life is dependent on several factors, including the number of charge/discharge cycles, the depth of discharge and environmental conditions.

 For maximum lifespan the batteries should be charged whenever practicable (or permanently charged) and not left for prolonged periods in a discharged state.

5.4.5 Digital smart charger

Battery-powered machines are fitted with a digital smart charger which accepts 1-phase input at any voltage between 84-264v and frequency between 50-60Hz. The maximum current draw is 3 amps.

The charger delivers output of up to 5.9 amps continuous current at 27.4vdc (24vdc nominal), for a maximum power output of 160 watts.


 The charger is in an enclosed plastic case and is protected against short-circuit, current overload, over-voltage and over-temperature.

5.4.6 Appliance socket

Battery-powered machines are fitted with an IP66-rated appliance socket, allowing them to be charged with a regular 1-phase extension lead.

5.4.7 Lockout switch


Battery-powered machines are fitted with a lockout switch on the side of the powerpack cover. This switch isolates the electrical systems from the batteries and should be turned OFF if the machine is to be placed in storage, or if the powerpack cover needs to be removed for any reason.

 The lockout switch must be turned ON for the batteries to charge.

 The lockout switch must be turned OFF before removing the powerpack cover.

5.4.8 Overload fuse

Battery-powered machines are fitted with an overload fuse to protect the electrical system from excessive current draw. The fuse is a standard automotive MAXI blade-fuse, purple in colour, with a **60 Amp rating**. Replacements are available from Simpro or any automotive parts retailer.

 Because the current draw of the motor increases as the battery voltage drops, operating the machine with a flat battery may cause the overload fuse to blow.

5.5 3-phase mains electrical system

- ⚠️ If you do not operate a 3-phase mains machine, please disregard this section.
- ⚠️ The 3-phase mains specification is recommended for high-intensity applications.

Machines powered by 3-phase mains electricity are generally the same as other models, but are fitted with a 3-phase 2-pole electric motor driving the hydraulic pump. In some countries an electronic VSD is also fitted in order to provide suitable current to the motor. The motor only runs when the RAISE button is pressed; the cradle is lowered by gravity alone.

5.5.1 Localisation

The exact specifications of 3-phase machines differ depending on the standard voltage and frequency of 3-phase mains power in the country for which the machine was designed.

In locations where 3-phase/~400vac/50Hz power is standard (AU, NZ, UK, EU, most of Asia) the motor is driven directly by the mains current in 'delta configuration'. In locations where different voltages and frequencies are common (USA, Canada, South and Central America) an electronic Variable Speed Drive (VSD) is fitted, which modulates the local mains supply and outputs 3-phase/400vac/50Hz current to the motor in 'star configuration'.

A list of 3-phase power standards used in different countries and territories may be viewed at this web address: <https://www.worldstandards.eu/three-phase-electric-power/>.

- ⚠️ Connecting the machine to a power supply for which it was not designed may cause serious damage. Consult an electrician if you are unsure.

5.5.2 Appliance socket

3-phase machines are fitted with an IP66-rated appliance socket, allowing them to be operated with a 3-phase extension lead. Depending on the power available in your location, the plug may need to be rewired by an electrician for the machine to operate correctly.

- ⚠️ If the phase wires in the wall socket or extension lead are configured incorrectly, the 3-phase motor may turn in the reverse direction. Although this does not damage the machine, the cradle will not lift. To change the motor direction, swap over any two of the phase wires in the power plug.

5.5.3 Lockout switch


3-phase machines are fitted with a lockout switch on the side of the powerpack cover. This switch isolates the electrical systems from the power supply and should be turned OFF if the machine is to be placed in storage, or if the powerpack cover needs to be removed for any reason.

- ⚠️ The lockout switch must be turned OFF before removing the powerpack cover.

5.5.4 Transformer

3-phase mains machines are fitted with a transformer which outputs 24vdc current to the control systems. The transformer input voltage and frequency depend on the standard 3-phase mains power in the country for which the machine was designed.

5.6 1-phase mains electrical system


 If you do not operate a 1-phase mains machine, please disregard this section.

Machines powered by 1-phase mains electricity are generally the same as other models, but are fitted with an electronic Variable Speed Drive (VSD), which operates a 3-phase 2-pole electric motor driving the hydraulic pump. The motor only runs when the RAISE button is pressed; the cradle is lowered by gravity alone.

5.6.1 Localisation

The exact specifications of 1-phase machines differ depending on the standard voltage and frequency of 1-phase mains power in the country for which the machine was designed. Both the transformer ([Section 5.6.4](#)) and the VSD ([Section 5.6.5](#)) are specified to suit local norms.

A list of 1-phase power standards used in different countries and territories may be viewed at this web address: <https://www.worldstandards.eu/electricity/plug-voltage-by-country/>.

 Connecting the machine to a power supply for which it was not designed may cause serious damage. Consult an electrician if you are unsure.

5.6.2 Appliance socket

All 1-phase mains machines are fitted with an IP66-rated appliance socket, allowing them to be operated with a regular 1-phase extension lead.

5.6.3 Lockout switch

All 1-phase mains machines are fitted with a lockout switch on the side of the powerpack cover. This switch isolates the electrical systems from the power supply and should be turned OFF if the machine is to be placed in storage, or if the powerpack cover needs to be removed for any reason.

 The lockout switch must be turned OFF before removing the powerpack cover.


5.6.4 Transformer


All 1-phase mains machines are fitted with a transformer which outputs 24vdc current to the control systems. The transformer input voltage and frequency depend on the standard 1-phase mains power in the country for which the machine was designed.

5.6.5 Variable Speed Drive

All 1-phase mains machines are fitted with an electronic Variable Speed Drive (VSD), which outputs 3-phase/400vac/50Hz current to the motor in 'star configuration'. The VSD input voltage and frequency depend on the standard 1-phase mains power in the country for which the machine was designed.

The VSD has dozens of parameters that can be set to suit specific applications. They can be modified or calibrated by a PC that has the appropriate program and cable drivers loaded.

 A joystick controller can optionally be fitted to the VSD, allowing infinitely-variable control over the cradle lifting and tipping speed.

 Residual voltages may be retained in the VSD inverter after it has been disconnected from the power supply. Use extreme caution when servicing electrical components.

5.7 Hydraulic system

5.7.1 Powerpack

The hydraulic powerpack is supplied as a complete unit. The motor, pump, oil tank, and all control valves are mounted into the centre manifold.

5.7.2 Control valves

The hydraulic system has four primary control valves:

1. **Check valve:** this one-way valve prevents oil from flowing back through the pump when the motor is stopped.
2. **Pressure-relief valve:** this spring-loaded valve allows oil to flow back into the reservoir when the hydraulic pressure exceeds its upper limit – usually from lifting an overweight bin, or from operating the machine when the cradle is already at the top of the cycle.
3. **Lowering valve:** this solenoid-operated valve opens when the LOWER button is pressed and allows oil to flow back to the reservoir, lowering the cradle.
4. **Lowering-speed valve:** this pressure-compensating valve limits the maximum flow rate of oil passing back to the reservoir through the lowering valve – thus regulating the descent speed of the cradle regardless of the weight of the bin.

5.7.3 Lift Rams

The lift rams are a single-acting displacement type, very robust and reliable, but easy to maintain should the need arise. Hydraulic lines from the power-pack to each ram.

5.7.4 Hydraulic fluid

The hydraulic system is designed to use mineral oil-based hydraulic fluid with a viscosity grade of 22 (ISO VG22). Fluid with a higher viscosity grade may be used, but will reduce the lowering speed of the cradle and increase the likelihood of jams.

The hydraulic fluid should have physical lubricating and chemical properties as specified by:

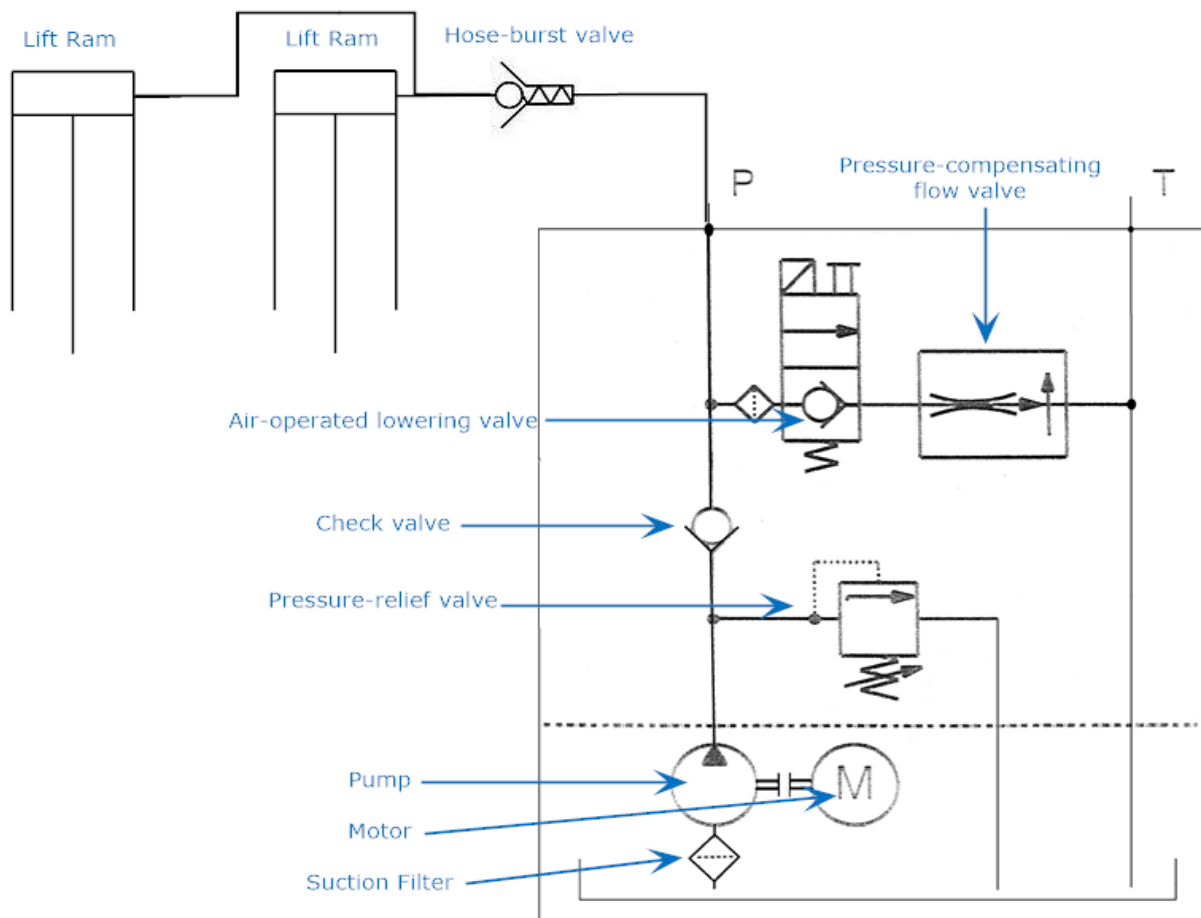
- Mineral Oil Based Hydraulic Fluids HL (DIN 51524 part 1)
- Mineral Oil Based Hydraulic Fluids HL P (DIN 51524 part 2)

- ⚠️ Ensure the cradle is completely lowered when replacing the hydraulic fluid.
- ⚠️ The hydraulic reservoir has a moulded marking showing the recommended fill level. Do not fill beyond this level unless specifically advised to do so by the manufacturer.

5.7.5 Maintenance

As the pump only runs while the cradle is lifting, it can take at least 500 bins to reach 1 hours' run time of the power-pack. The oil should be replaced and the suction filter cleaned after 12 months, then after every 100 hours of run time. The lowering valve should also be removed and cleaned at this time.

5.7.6 Hydraulic system schematic



5.8 Safety door and interlock

5.8.1 Standard safety door (swing-up)

The standard MegaDumper is fitted with a single swing-up safety door, consisting of a steel tube frame with 25x25x2mm wire mesh guarding. This type of door is supported by gas struts and takes up a minimum of space. However, it has several moving parts and will benefit from occasional servicing as follows:

1. The arm pivot points should be lubricated occasionally (both ends of all four arms).
2. Check the two door safety interlocks to ensure they work as intended. There are two things to check:
 - a. Raise the cradle off the ground slightly and try to open the door. If it can open, the switch operated by the cradle may need adjusting or replacing. Contact your agent for instructions.
 - b. Open the door, then press the RAISE and LOWER buttons to verify that the machine does not run. If it does, contact your agent for instructions.
3. Ensure the retainer caps on the arm pivot bars are in place, and all fixings are tight.
4. The gas struts are designed to balance the weight of the door throughout its travel, and hold it open. Over time, the gas in the struts can leak out, resulting in reduced lifting force. If the struts do not hold the door open, they may need to be replaced.

5.8.2 Safety door interlock

The safety door is fitted with two solenoid-operated safety interlocks. The interlocks are Idec model HS5E-D4403-G or HS5E-F4403-G. These are 'power-to-unlock' type, with four internal contacts which are used to determine whether the door is closed and locked.

5.8.2.1 Interlock manual override

- ⚠ This work should only be carried out by a qualified technician.
- ⚠ The interlock Override Key should be stored in a location only accessible to supervisors and technical staff.

All routine cleaning and maintenance on the MegaDumper should be conducted with the cradle in the fully-lowered position. If for any reason the interior of the safety cage needs to be accessed **while the cradle is raised**, the interlocks can be manually disabled by carrying out the following procedure:

1. Using the supplied Override Key, turn the triangular cam on **both** door interlocks to the UNLOCK position. The door can now be opened even while the cradle is raised.

- a. On machines with a standard control system, the safety door will now function as a switch – the cradle cannot be moved while the door is open, but can still operate while the door is shut.



- b. On machines with a PI(d) or PI(e) safety-monitored control system, the system will enter SAFE MODE – the machine is completely disabled, and the cradle cannot be moved until the door is closed, the interlocks are re-enabled, and the system is reset.
2. Open the safety door and carry out internal cleaning or maintenance as required.
 3. Once the work is complete, shut the safety door.
 4. Using the supplied Override Key, turn **both** interlock cams back to the LOCK position. Remove the Override Key and **store in a safe location**.
 5. Fully test the machine and all safety functions before returning to service. If the machine is fitted with a PI(d) or PI(e) safety-monitored control system, press the blue RESET button for two seconds to test and reset the safety functions.

- ⚠ Do not open the safety door with the Override Key inserted but not fully turned (less than 90°) as this may damage the interlocks or cause operational failures.
- ⚠ Do not apply excessive force to the Override Key or the interlock components.
- ⚠ Do not leave the Override Key inserted in the interlocks during normal operations.

5.8.2.2 Interlock specifications

A summary of the interlock specifications is included below. The complete Idec user manual can be downloaded from this link: <https://goo.gl/iafPol>.

HS5E Safety Door Lock Switches

**Small safety switch with four poles and solenoid.
Ideal for applications in small spaces.**

- Compact body. 35 × 40 × 146 mm.
- Four-pole internal switches.
- Gold-plated contacts.
- Spring lock and solenoid lock types are available.
- The head orientation can be rotated, allowing 8 different actuator entries.
- A metal entry slot ensures the high durability.
- An actuator with rubber cushions alleviates the impact of actuator entry into the slot.
- The locking strength is 1000N minimum (GS-ET-19).
- Integral cable design minimizes wiring, preventing wiring mistakes.
- LED pilot light indicates the solenoid status.
- RoHS directive compliant.
- Degree of protection: IP67 (IEC60529)
- NC contacts are of direct opening action (IEC/EN60947-5-1).
- Proprietary actuators prevent unauthorized opening (ISO14119, EN1088).
- Double insulation structure.

Spring Lock Type

- Automatically locks the actuator without power applied to the solenoid.
- After the machine stops, unlocking is completed by the solenoid, providing high safety features.
- Manual unlocking is possible in the event of power failure or maintenance.

Solenoid Lock Type

- The actuator is locked when energized.
- The actuator is unlocked when de-energized.



Ratings

• Contact Ratings

Rated Insulation Voltage (Ui) (Note 1)		250V (between LED or solenoid and ground; 30V)		
Rated Thermal Current (Ith)		2.5A		
Rated Voltage (Ue)		30V	125V	250V
Rated Current (Ie) (Note 2)	AC	Resistive load (AC-12)	—	2A 1A
		Inductive Load (AC-15)	—	1A 0.5A
	DC	Resistive load (DC-12)	2A	0.4A 0.2A
		Inductive Load (DC-13)	1A	0.22A 0.1A

• Minimum applicable load (reference value): 3V AC/DC, 5 mA

Note 1: UL rating: 125V

Note 2: TÜV, BG rating: AC-15, 0.5A/250V, DC-13, 0.22A/125V
UL, c-UL rating: Pilot duty AC 0.5A/125V, Pilot duty DC 0.22A/125V

• Solenoid

Locking Mechanism	Spring Lock Type	Solenoid Lock Type
Rated Voltage	24V DC	
Rated Current	266 mA (initial value)	
Coil Resistance	90Ω (at 20°C)	
Pickup Voltage	Rated voltage × 85% maximum (at 20°C)	
Dropout Voltage	Rated voltage × 10% minimum (at 20°C)	
Maximum Continuous Applicable Voltage	Rated voltage × 110%	
Maximum Continuous Applicable Time	Continuous	
Insulation Class	Class F	

• Pilot Light

Rated Voltage	24V DC
Rated Current	10 mA
Light Source	LED
Light Color	Green

Specifications

Applicable Standards	ISO14119 EN60947-5-1 (TÜV approval) GS-ET-19 (BG approval) CSA C22.2, No. 14 (c-UL recognized) IEC60204-1/EN60204-1 (applicable standards for use)	IEC60947-5-1 EN1088 (TÜV approval) UL508 (UL recognized)
Operating Temperature	-25 to 50°C (no freezing)	
Relative Humidity	45 to 85% (no condensation)	
Storage Temperature	-40 to +80°C (no freezing)	
Pollution Degree	3	
Impulse Withstand Voltage	2.5 kV (between LED, solenoid and grounding; 0.5 kV)	
Insulation Resistance (500V DC megger)	Between live and dead metal parts: 100 MΩ minimum Between live metal part and ground: 100 MΩ minimum Between live metal parts: 100 MΩ minimum Between terminals of the same pole: 100 MΩ minimum	
Electric Shock Protection	Class II (IEC61140)	
Degree of Protection	IP67 (IEC60529)	
Shock Resistance	Operating extremes: 100 m/s ² Damage limits: 1000 m/s ²	
Vibration Resistance	Operating extremes: 10 to 55 Hz, amplitude 0.35 mm minimum Damage limits: 30 Hz, amplitude 1.5 mm minimum	
Actuator Operating Speed	0.05 to 1.0 m/s	
Direct Opening Travel	Actuator HS9Z-A51: 11 mm minimum Actuator HS9Z-A51A/A52/A52A/A53/A55: 12 mm minimum	
Direct Opening Force	80N minimum	
Tensile Strength when Locked	1000N minimum (GS-ET-19)	
Operating Frequency	900 operations per hour	
Mechanical Life	1,000,000 operations minimum (GS-ET-19)	
Electrical Life	100,000 operations minimum (operating frequency 900 operations per hour, load AC-12, 250V, 1A)	
Conditional Short-circuit Current	50A (250V) (Use 250V/10A fast acting type fuse for short-circuit protection.)	
Cable	UL2464, No. 21 AWG (8-core: 0.5 mm ² or equivalent/core)	
Cable Diameter	ø7.6 mm	
Weight (approx.)	400g (HS5E-***01)	



5.9 Safety-monitoring system (PL(d)/PL(e) only)

⚠ If you do not operate a machine with a safety-monitored control system to achieve ISO 13849-1 or AS/NZS 4024 PL(d) or PL(e), please disregard this section.

Machines with an ISO 13849-1 safety rating of PL(d) or PL(e) are fitted with a Rockwell CR-30 Safety Relay to monitor the safety systems. The CR30 Safety Relay continuously monitors the status of the Emergency Stop contacts, door lock, cradle-lowered sensor, and tipper-in-position sensor (if fitted).

The Safety Relay goes into SAFE MODE:

1. If any fault is detected;
2. Whenever the door is unlocked/opened;
3. Whenever the Emergency Stop is pressed;
4. Whenever the tipper is moved away from the 'safe' position (optional).

Whenever the machine is in SAFE MODE the blue RESET lamp glows, and the machine must be 'reset' before it can be operated. To reset the machine, first ensure the door is correctly closed and locked, the Emergency Stop is released, and the tipper is in the correct position. Next, press and hold the RESET button for about two seconds. A diagnostic test is run on the machine, and if all safety functions are operating correctly the lamp will go out when the button is released, indicating a successful reset. If a fault has been detected in any of the safety equipment or connections, the machine will not reset and cannot be operated – the RESET lamp will continue to glow.

This documentation is to assist an engineer or electrician to find and repair any fault preventing the system from resetting. Most faults can be traced from the LEDs on the CR30 safety relay itself; some locks and sensors also have LEDs to assist in trouble-shooting.

5.9.1 440C-CR30 Safety Relay

The 440C-CR30-22BBB (CR30) relay is a software-configurable safety relay. This device is intended to be part of the safety-related control system of a machine. The CR30 safety relay is based on the Micro800 platform and must be configured using a personal computer (PC) with the Allen-Bradley® Connected Components Workbench software.

The housing is red to signify it as a safety device and to distinguish it from the grey-coloured standard controllers.

The CR30 safety relay accommodates up to 24 safety monitoring functions. Examples of safety monitoring functions are single channel input, dual channel input, two hand control, reset, and feedback. It has 22 embedded safety rated inputs and outputs and accepts up to two plug-in modules, each of which has four standard inputs and four standard outputs.



The CR30 safety relay can be configured to accept two single-wire safety inputs and to provide two single-wire safety outputs. This feature allows the CR30 safety relay to be an integral part of an extensive machine safeguarding system.

There are 10 Input LED's, 5 General Status LED's, and 6 Output LED's. These can help identify faults and do basic trouble-shooting. The input and output LED's are set up when designing the program. A print-out of the program function and what each LED refers to should be provided with each machine.

The 'PWR' and 'RUN' LED's should be on when the system is ready for use. If the 'FAULT' or 'LOCK' LED's are showing, try cycling the power. If they remain on, a computer with 'Connected Components Workbench' software installed must be connected to identify and resolve the problem.

5.9.2 Troubleshooting

Faults in the CR30 relay fall into two categories: recoverable faults, and non-recoverable faults. Non-recoverable faults require power cycling to recover after the fault is corrected. Recoverable faults can be cleared by eliminating the cause of the fault and cycling the inputs associated with the fault. The output that is connected to an input with that fault is switched off. The other outputs, which are not affected by the fault, will continue to work.

Examples of recoverable faults include:

- SMF Faults
- Cross loop
- Simultaneity Faults
- Reset button fault
- Muting: Synchronization time exceed
- Muting time exceeded
- Sequence fault

5.9.3 Configuration

The CR30 is software configurable using the Rockwell Automation 'Connected Components Workbench' (CCW) software. CCW is a set of collaborative tools supporting the CR30 safety relays. It is used to configure the CR30, program the Micro 800 controllers, and configure many PowerFlex drives and PanelView graphic display terminals.

The CCW software is free and can be downloaded from the Rockwell website here: goo.gl/7wgl1d. To help you configure your relay through the Connected Components Workbench software, you can refer to the Connected Components Workbench Online Help (provided with the software).

The CR30 has a USB interface for connection to a personal computer for configuration. Use a standard USB A Male to B Male cable for connecting to the relay.



6 Assembly, Handling, Transport & Storage

6.1 Assembly

The MegaDumper is usually delivered fully assembled.

⚠ In some cases, a sealed 'transit plug' is fitted to the hydraulic reservoir to prevent oil leaks during shipping. This must be replaced with the supplied 'breather plug' before the machine is operated, to prevent damage to the hydraulic fluid reservoir.

6.2 Moving

When the MegaDumper is standing upright it may be easily moved on its castor wheels. To ensure stability the bin cradle should always be positioned just off the ground when moving the machine.

⚠ Extra care should be taken when moving the machine on sloping ground.

6.3 Lifting

Carry out the following procedure when the machine needs to be lifted for any reason:

1. Confirm the weight of the machine on the rating plate and ensure the lifting equipment that is to be used has sufficient capacity.
2. Affix a lifting sling or chain around the top frame cross-member, or to the lifting lugs if provided.
3. Use one person to operate the lifting equipment, and at least one other person to watch for obstructions and hold the machine steady if required.
4. Lift, move and lower the machine into place, ensuring it always remains upright.

⚠ Standard machines weigh between 300kg and 500kg. Always verify the weight of the machine on the rating plate, and ensure the lifting equipment that is to be used has sufficient capacity.

⚠ Never stand or reach underneath the machine while it is being lifted.

6.4 Transportation

Carry out the following procedure to prepare the MegaDumper for transport:

1. If possible, use lifting equipment to lie the machine onto its back on a wooden pallet.
2. If the machine must be transported upright, apply both foot-brakes.
3. Securely tie the machine into position using marked tie-down points and straps rated to at least 1000kg. Ensure it is fastened against lateral forces from any direction.

⚠ To prevent damage to the guarding and/or hydraulic oil leaks, never lie the machine over onto its front or side.

6.5 Storage

If the machine is not to be used for a period of two months or more, it should be stored in a clean, dry place with good ventilation, at temperatures not below 0°C. Before placing the machine into storage, carry out the following procedures:

1. Clean the machine thoroughly.
2. Carry out several full tipping cycles, then lower the cradle to the ground.
3. Apply a thin layer of silicone lubricant to exposed surfaces of moving parts.
4. Fully charge the batteries (if fitted) and apply a suitable contact oil to the electrical contacts.
5. Remove the key and store in a safe location.
6. Turn the lockout switch to the OFF position.

7 Safety Inspections

It is recommended to conduct regular safety inspections of the MegaDumper. This helps to ensure operator safety and extend the service life of the machine.

The inspection schedule is divided into three parts: weekly, monthly and annual inspections. The inspection procedures are described in the following pages, along with logs for recording the results.

- ⚠ Simpro strongly recommends that safety inspections are carried out according to the schedule described in this section.
- ⚠ Operators should immediately stop using the machine and request an inspection if any fault or abnormal operation is observed.

7.1 Pre-inspection checklist

1. Wear suitable Personal Protective Equipment, including safety boots and protective eyewear.
2. Ensure there are no ignition sources nearby.
3. Lower the cradle and remove bin.
4. Turn off the key switch and unplug the charging lead.
5. Remove the powerpack cover.
6. Clean the powerpack and electric circuitry with compressed air. Never use water or chemicals.
7. Always use height safety equipment when servicing elevated areas such as the top of the mast.

7.2 Weekly inspection

The following inspection should be carried out each week, and the results recorded in the log on the facing page.

Weekly Inspection Checklist			
Category	No.	Item	Check
General	1	Entire machine	Conduct a complete tipping cycle and check for any faults or abnormal behaviour.
Safety systems	2	Door interlock actuators	Check the actuators are securely attached to the door with security screws, and the lock bolts enter the actuators freely and smoothly, without force. Check that the actuators lock the door while the cradle is raised above 100mm.
Mechanical systems	3	Inside masts	If the tipping motion appears to be jerky or inconsistent, spray a small amount of silicone lubricant inside the masts and on the roller pivot arms to minimise friction.
	4	Roller pivot arm	

7.3 Monthly inspection

The following inspection should be carried out monthly, and the results recorded in the log.

Monthly Inspection Checklist			
Category	No.	Item	Check
General	1	Entire machine	Conduct a complete tipping cycle and check for any faults or abnormal behaviour.
Hydraulic systems	2	Hydraulic rams	Check there are no oil leaks.
	3	Oil reservoir	Check the level of hydraulic oil.
Electrical systems	4	Mains power lead (if fitted)	Check that the lead is in good condition.
Safety systems	5	Door interlock actuators	Check the actuators are securely attached to the door with security screws, and the lock bolts enter the actuators freely and smoothly, without force. Check that the actuators lock the door while the cradle is raised above 100mm.
Mechanical systems	6	Inside masts	Lightly lubricate with silicone spray.
	7	Roller pivot arm(s)	Lightly lubricate with silicone spray.
	8	Door hinges	Lightly lubricate with silicone spray.
	9	Cradle axle	Lightly lubricate with silicone spray.
	10	Castor wheels (if fitted)	Check that the castor wheels are running smoothly and the brakes working correctly.

Date	Service Person	Location	Checks complete	Notes on repairs or maintenance required	Parts and materials used

7.4 Annual inspection

The following inspection should be carried out annually, and the results recorded in the log opposite.

Annual Inspection Checklist			
Category	No.	Item	Check
General	1	Entire machine	Conduct a complete tipping cycle and check for any faults or abnormal behaviour.
Hydraulic systems	2	Hydraulic rams	Check there are no oil leaks.
	3	Oil reservoir	Check the level of hydraulic oil.
Electrical systems	4	Mains power lead (if fitted)	Check that the lead is in good condition.
Safety systems	5	Door interlock actuators	Check the actuators are securely attached to the door with security screws, and the lock bolts enter the actuators freely and smoothly, without force. Check that the actuators lock the door while the cradle is raised above 100mm.
Mechanical systems	6	Lifting chains	Check the length and condition of the lifting chains. If the length is outside the allowable tolerance, or there are signs of corrosion or wear, they should be replaced. Lightly lubricate with silicone spray.
	7	Ram rollers	Lightly lubricate with silicone spray.
	8	Follower rollers	Lightly lubricate with silicone spray.
	9	Inside masts	Lightly lubricate with silicone spray.
	10	Roller pivot arm(s)	Lightly lubricate with silicone spray.
	11	Door hinges	Lightly lubricate with silicone spray.
	12	Cradle axle	Lightly lubricate with silicone spray.
	13	Castor wheels (if fitted)	Check that the castor wheels are running smoothly and the brakes working correctly.

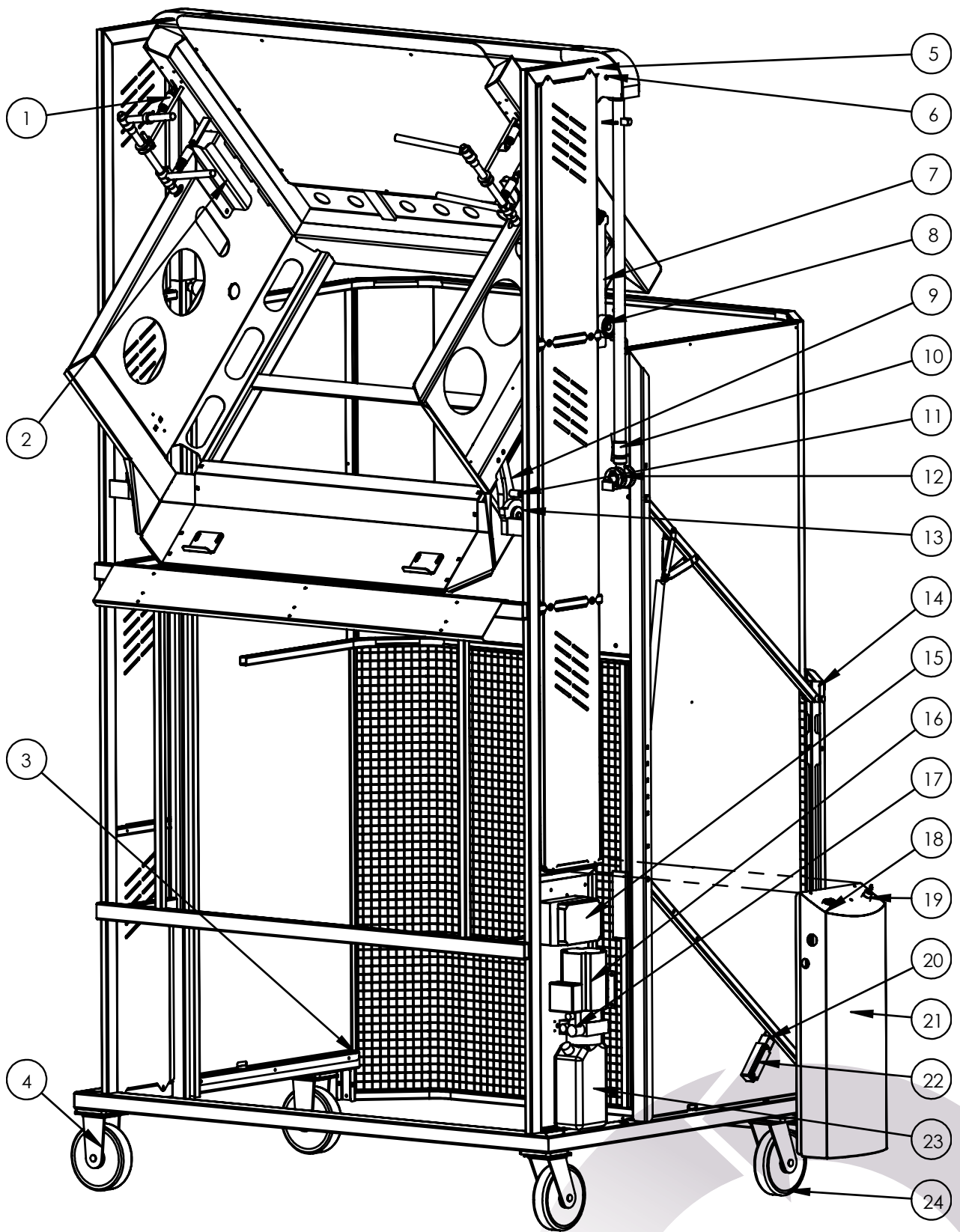
Date	Service Person	Location	Checks complete	Notes on repairs or maintenance required	Parts and materials used

8 Spare Parts

The following table includes only the most common MegaDumper spare parts as at the time of publication.

A full list of parts is available on request from Simpro, or may be viewed on our support website here: <https://simpro.world/bin-lifters/megadumper/spare-parts>.

Diagram Ref.	Part Number	Description
1	0320150000	Tension spring
2	0400020169	Pair of 240l bins catches
3	0140120005	Square plastic end cap 75 x 50 x 3
4	0250040084	200mm castor wheel, no brake
5	0640200064	Top roller with 2x bearings
6	0140110003	Stainless steel axle for top roller
7	0220020105	Laser-cut sliding plate 425 x 90 x 10
8	0220120002	Mast roller
9	0220190117	Matching L/R pair of roller arms, complete with rollers and bushes
10	0090090002	Ram seal, 1¼" x 1½" x ¼"
11	0060010003	Bush, bronze 16 x 20 x 40
12	0140120002	Ram-end roller, moulded
13	0090120000	Follower roller, moulded
14	0220020117	Swing-up mesh door
15	0250050122	Transformer, 1-phase, 240/24vac 26va
15	0250050122	Transformer, 3-phase, 400/24vac 26va
16	0880050008	Motor, 1-phase, 1.1Kw, 2-pole
16	0880050013	Motor, 3-phase, 0.75Kw, 2-pole
17	0250090067	Lowering valve coil for 24vdc control system
18	0790050007	Raise/Lower switch, complete with rubber boot
19	0790050003	Key switch, rotary, complete with removable key
20	0250050065	Actuator for TLS-GD2 locks
21	0250050064	Door interlock with power-to-release solenoid, Idec brand
22	0140020033	Powerpack cover
23	0250090044	Powerpack, with hydraulic pump and reservoir, no motor
24	0250040085	200mm castor wheel, with foot- brake



9 Warranty

9.1 Definitions

1. "Simpro" means Simpro Handling Equipment Limited, [New Zealand Registered Company No. 1827916](#).
2. "Agent" means a person or company authorized by Simpro to sell a Product.
3. "Service Agent" means a person or company authorized by Simpro to repair a Product.
4. "End User" means the first purchaser of a Product from a Sales Agent authorised by Simpro to sell the Product.
5. "Warranty" means the commitment that Simpro has to guarantee the workmanship and componentry to any End User of Products manufactured and sold by Simpro.
6. "Warranty Claim" means an application from an Agent to Simpro to be reimbursed for expenses relating to repairs done to remedy a fault with a Simpro Product.
7. "Warranty Period" means the length of time that Simpro undertakes to guarantee a Product.
8. "Back to Base" means that the costs associated with the transporting of a Product between the Service Agent and the End User is the End Users responsibility.
9. "Standard Products" means any Product displayed as a standard product on the Simpro website, <https://simpro.world/>.
10. "Part" and "Parts" refer to components of a Product.
11. "Minor Fault" means a fault or defect that requires less than one hour to rectify
12. "Instruction Handbook" means a document so titled that provides brief information and guidance on the operation of the Product for commonly performed functions.
13. "Service Manual" means a document so titled that provides comprehensive information and guidance for service, repairs and maintenance.
14. "Warranty Registration Process" means the process of an End User registering their product with Simpro. This may be done using the web form here: <https://simpro.world/support/warranty-registration>
15. "Application for Warranty Consideration Form" means the system used to file a Warranty Claim with Simpro. This may be done using the web form here: <https://simpro.world/support/warranty-claim>.

9.2 Coverage

1. Simpro provides a 12 month Back to Base Warranty on all Standard Products unless alternative terms have been agreed to in writing.
2. The Warranty terms and conditions on custom-built and non-standard machines are generally specified on quotations, and placing an order implies acceptance of the Warranty terms. If no specific Warranty details have been provided, the standard terms and conditions will apply.
3. The 12-month Warranty period shall be taken from the date the machine first leaves the Agent's premises, whether sold or just supplied for trial. The Agent shall keep accurate records of the date of all machine trials, sales, etc.
4. Simpro will, at its option, repair or replace any items that fail or prove defective within the Warranty period.
5. Simpro's liability under the terms of this Warranty shall be limited to remedying any fault that occurs on machines it has manufactured or supplied, and shall not cover any consequential loss or damage.
6. The Warranty on batteries is for 6 months only. Information on maximising the life of your batteries may be viewed here: <https://simpro.world/connect/blog/deep-cycle-batteries-watts-it-all-about>

9.3 Exclusions

1. Simpro will not recognise a Warranty Claim against a machine where payment to Simpro for that machine is outstanding. If a Warranty Claim is made before payment is due, the full payment must be made on the due date. The Warranty Claim, if accepted, will be credited at a later date.
2. Warranty Claims may not be recognized unless the [Warranty Registration Process](#) has been completed. If not done at the time of sale, this should be done at the time of the Warranty Claim. If warranty registration has not been completed, proof of purchase may be required.

3. Damage caused or contributed to by misuse, abuse, accident, unauthorised repairs or modifications, or failure to use the machine in accordance with instructions is specifically excluded.
4. Travelling time and mileage are specifically excluded from the Simpro warranty coverage. However under certain circumstances Simpro at its discretion may contribute to these costs. Authorisation must be obtained from Simpro prior to any such Warranty Claim. This does not prohibit an Agent offering more extensive Warranty cover, outside of this Warranty, as negotiated between the Agent and the End User.

9.4 End User Claim Procedure

1. Where a fault or breakdown appears to have occurred the End User should, if applicable, first consult the Quick Troubleshooting Guide section of the User Manual provided with each machine, to ascertain the cause of the fault and remedy if possible. This information may also be accessed on the Simpro Support website: <http://support.simpro.world>.
2. If the fault is not able to be remedied, the End User should contact the Agent who sold the machine, and explain as fully as possible the fault, including all relevant factors such as:-
 1. Did the fault occur suddenly or has it been giving trouble over some time?
 2. Was the machine being used at the time?
 3. Is the fault intermittent?
 4. Are the batteries fully charged?
 5. If repair is urgent, and the Agent cannot be contacted, the End User may contact Simpro direct.

9.5 Agent Claim Handling Procedure

1. Upon receiving notification of a fault, the Service Agent should attempt to determine the cause and a course of action before going to see the machine.
2. The Service Agent should contact Simpro for assistance in identifying the fault, if it is not apparent. This step is important, so that if a site visit is necessary, the correct tools and spare Parts can be taken. It is also important to establish whether there may have been any negligence, misuse or an accident that contributed to or caused the fault.
3. Parts requiring replacement will be supplied by Simpro free of charge; in some cases, it may be necessary to source Parts locally if needed urgently, but Simpro must authorize this if the cost of the item exceeds \$50.00 and is to be charged to Simpro.
4. If the fault is not a Minor Fault, the Agent must notify Simpro and receive authorization to proceed before the repair work is done. Simpro will assist in every way possible, including discussing the problem directly with the End User if necessary to determine the best method of effecting the repair, in the shortest time possible.
5. Upon completion of the repair to an acceptable standard, the Agent shall complete the [Application For Warranty Consideration Form](#) and include copies of any invoices for labour, and any Parts supplied.
6. The cost of Warranty repairs is not to be deducted from any payments due to Simpro, unless Simpro issues a credit note clearly stating the amount and which invoice it relates to.
7. Simpro undertakes to be reasonable in respect of all Warranty repairs undertaken by Agents, but reserves the right to decline payment for:-
 1. Work done or materials replaced that were not authorized in advance by Simpro.
 2. Work not done to an acceptable standard.
 3. Work taking an unduly long time, due (in part or in full) to the lack of knowledge or skill of the serviceman or the Agent. The time allowed for repair work will be based on Simpro's assessment of what a reasonably skilled tradesman would take. Full Service Manuals are available on request at any time from Simpro and all service visits should be conducted with a Service Manual at hand.

This warranty shall be interpreted according to the laws of New Zealand and the parties agree to submit to the jurisdiction of the Courts of New Zealand.

10 EC Declaration of Conformity



DECLARATION OF CONFORMITY

ORIGINAL

Business Name and Full Address of Manufacturer

Simpro Handling Equipment Ltd
66 Rangi Road, Takanini 2105
Auckland, New Zealand

Name and Address of Authorised Representative

As above

Name and Address of the Person in Community Authorised to compile the Technical File (if different to above)

Safe Machine Limited
DBH Business Centre, Coxwold Way, Billingham, Tees Valley TS23 4EA UK

Description of product (Commercial Name)

MegaDumper

Function, Model, Type, Serial Number

Function: Bin Tipper
Type:

Model: MegaDumper
Serial No:

Standards Used

EN 349 1993, EN 574 1996+A1:200, EN 953 1997, EN ISO 4413 2010, EN ISO 12100 2010,
EN ISO13849-1 2006, EN ISO 13857 2008, EN 60204 2006+A1 2009, EN61000-6-2 2005,
EN61000-6-4 2007

Place of Declaration

66 Rangi Road, Takanini 2105
Auckland, New Zealand

Date of Declaration:

13 March 2018

Declaration

I declare that the machinery fulfils all the relevant provisions of the following Directives:-
Machinery Directive 2006/42/EC, Electromagnetic Compatibility Directive 2004/108/EC.

Person Empowered to Draw Up Declaration

Name: Daniel Craig Currie


Position: Business Development Manager

Signature:



Declaration No: 004

11 Notes

 Simpro has been developing and manufacturing smart materials-handling equipment for over thirty years.

From humble beginnings as a small engineering firm in Auckland, New Zealand, the company has grown to become a leading supplier of handling equipment for niche applications – such as bin-lifting, tipping and handling machines, crate stackers and goods lifts.


Simpro products play an unobtrusive but essential role for thousands of companies around the world, in industries as diverse as waste management, food processing,


resource extraction and pharmaceutical manufacturing. They are available through a network of agents which spans the globe, and are backed by a sophisticated in-house design and fabrication capability.

Simpro is a family-owned company, registered with the New Zealand Companies Office as Simpro Handling Equipment Ltd, company no. 1827916.

The products in this catalogue contain intellectual property, including design elements registered to or licensed by Simpro Handling Equipment Ltd.

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