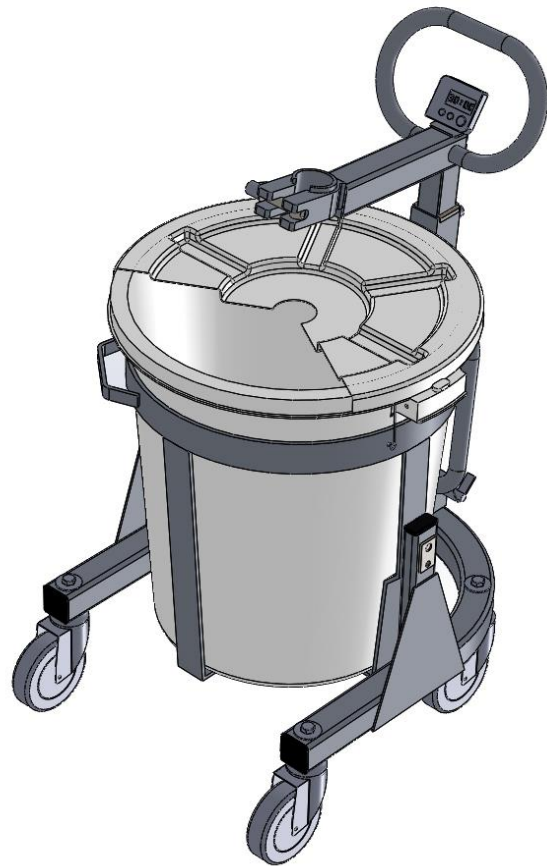




**MIXING STATION  
MS-100**



**OPERATOR'S MANUAL**

# CONTENTS

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ABOUT THIS MANUAL	3
- Key Terms	3
- Disclaimer	3
PRODUCT INFORMATION	4
- Safety Information	4
• General Safety Instructions	4
• Safety Stickers	5
- Warranty	6-8
- Product Description and Specifications	9
INSTRUCTIONS FOR USE	10-15
- STEP 1 – Fitting a Stirrer/Mixer	10
- STEP 2 – Using MS-100	11-12
- STEP 3 – Pouring & Placing Mixed Product	13-14
- STEP 4 – Cleaning MS-100	15
SALES AND SPARES	15
APPENDIX	16-17
1. SPARE PARTS REFERENCE	
2. MS-100- HAZARD ASSESSMENT	
3. PROTOOL® STIRRER MANUAL (WHEN PURCHASED)	
4. COLLOMIX® HAND MIXER MANUAL (WHEN PURCHASED)	

## ABOUT THIS MANUAL

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This manual is designed to provide the user with the information required to operate and maintain the MS-100 Portable Mixing Station correctly and safely.

### Key Terms

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READ CAREFULLY – refers to **important information** that should be paid careful attention.



CAUTION - indicates a situation that **may** cause injury or damage to the machine if the user does not follow the instructions.



WARNING – indicates a situation that **may** cause injury or death if the user does not follow the instructions correctly.



DANGER – indicates a situation that **will** cause injury or death if the user does not follow the instructions as written.



PROHIBITED – identifies actions that **should never** be carried out by anyone interacting with the equipment.

### Disclaimer

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Makinex, and its affiliates, takes no responsibility for any damage, injury or death resulting from the incorrect or unsafe use of this machine. Use of this machine should be undertaken by competent persons only. It is the operators' responsibility to ensure that the following safety procedures are followed. If you are unsure, do not operate this machine.

# PRODUCT INFORMATION

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## Safety Information

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### General Safety Instructions

Throughout this document there are several safety warnings. The user should read through this complete document before using the MS-100.



Ensure you read all information contained in this manual before using the MS-100.



Ensure you read the User Manual and safety instructions for the MS-100 and other components that are part of this unit. See Appendix for more information.



Always wear the recommended personal protective equipment (PPE).



Do not expose power tools to rain or wet conditions. Water entering a power tool will increase the risk of electric shock.

## Safety Stickers

There is a safety and information panel provided on the Clamp Arm (see images below) of the MS-100 to alert the user of potential safety risks/hazards. Please read and adhere to all instructions on the Unit.



It is forbidden to remove any safety or instructional stickers or panels from the MS-100.



Read all safety and instructional stickers displayed on each component of the MS-100.



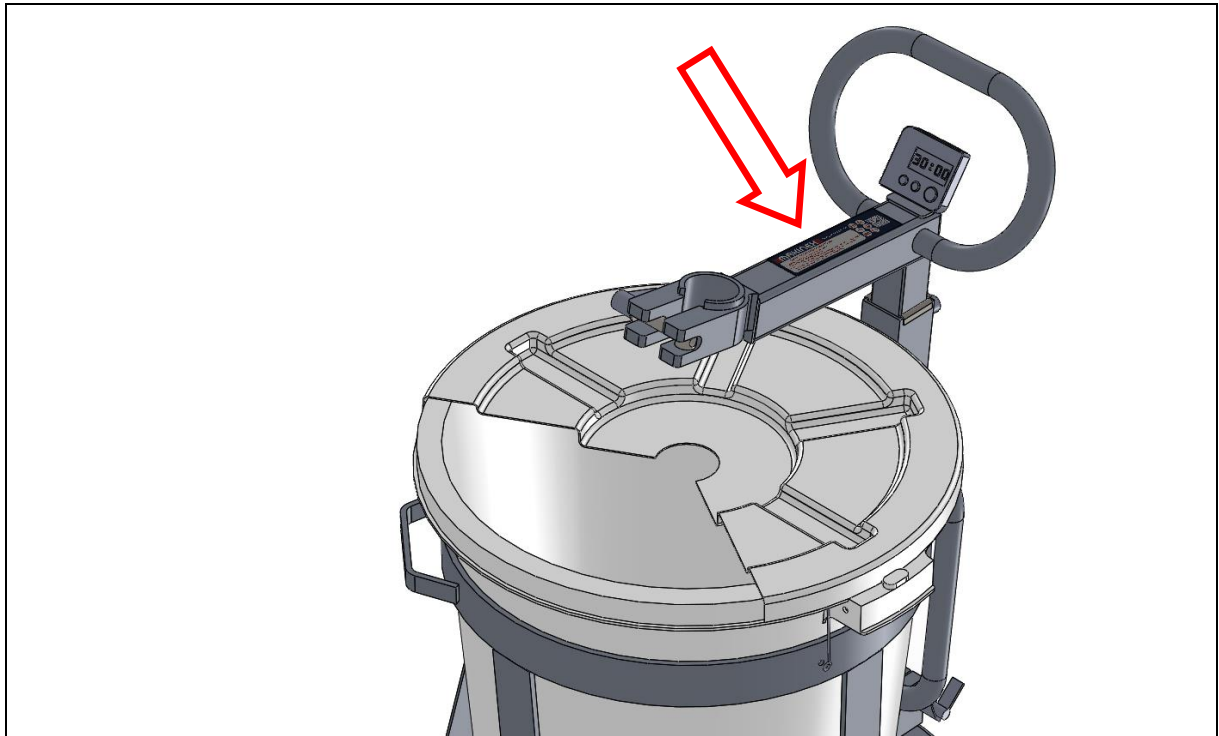
**MAKINEX** Mixing Station MS-100

**SAFETY OPERATING INSTRUCTIONS**

- Wear appropriate personal protective equipment
- Use caution when changing attachments
- Ensure stirrer is switched off before connecting or disconnecting from power supply
- Use a dedicated mains power supply with extension lead not exceeding 10m
- Never place hands in bucket while the stirrer is operating

10m MAX

25kg



## Warranty

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### **WARRANTY: (Ex-factory/ Reseller premise)**

MAKINEX warrants to the original purchaser:

- MAKINEX provides a Limited One Year Warranty that applies to MS-100 Mixing Station only (this excludes the Stirrer/mixer and any other attachments and consumables).
- Any unauthorized repair or part replacement will void warranty. Refer to manufacturer for all repairs.
- Regular service must be carried out by competent persons only; failure to comply will void warranty.
- All wheels needs to thoroughly cleaned after each use, failure to do so will void warranty
- Stirrer/Mixer (where purchased) is to be covered by original manufacturer. Please refer to their manual for more information.

Transportation charges on product submitted for repair or replacement under this warranty are the sole responsibility of the purchaser. This warranty only applies to the original purchaser and is not transferable.

### **Warranty Exclusions:**

- Warranty does not cover wear and tear, breakage, misuse or theft.
- Warranty does not cover consumables (e.g. bucket and lid, wheels) and attachments (Mixers/Stirrer)
- Warranty will not apply to parts and/or labour if this the Mixing Station is deemed to be misused, neglected, installed improperly or set up incorrectly.

### **Warranty Exclusions**

- Cosmetic defects such as decals and coating.
- Failures due to acts of God and other force majeure events beyond the manufacturer's control.
- Problems caused by parts that are not original MAKINEX parts.

### **Responsibility of the consumer under this Limited Warranty:**

- Strict adherence to the maintenance checks and schedule with proof of scheduled maintenance service required by an authorised agent or qualified mechanic.
- Maintenance services are not covered under warranty.
- It is the consumer's responsibility to deliver the machine in question to our service premises or to the premises of our appointed agent at the consumer's expense for replacement or repair as applicable.

**Claim Procedure:**

- Contact MAKINEX by phone or email informing us of your machines problem or defect.
- Once the extent of the claim has been assessed, we retain the right to compensate the consumer for such defect, or repair (parts & labour), or replace the machine under warranty.
- All warranties will be carried out by MAKINEX authorised staff or appointed agents at a premises to be determined by the Manufacturer.
- It is the responsibility (and cost) of MAKINEX or our appointed agent to return the machine to be repaired or replaced under warranty to the consumer- this is valid for domestic territories only (e.g. machine purchased in USA will repaired/replaced under warranty and returned to the USA consumer. Machine purchased in Australia will be repaired/ or replaced under warranty and returned to the Australian consumer, machine purchased in Europe will be repaired/or replaced under warranty and returned to the consumer of that specific European nation etc.)
- Where the specific warranty component (e.g. Mixer/Stirrer) is under a Manufacturer's warranty other than MAKINEX (e.g. Collomix, Festool etc), the consumer can either contact MAKINEX or the applicable Manufacturer for repairs where such warranty was registered with that manufacturer at purchase.
- Warranty calls will only be carried out by our representatives and not via client's choice of repairer. We will not accept back charges for any work not carried out by our representatives, or accept any charges due to equipment being un-operational for any reason even during its warranty period.

**WARRANTY CONTACT INFORMATION:**

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**SERVICE & PART ORDERING**

For service and ordering parts, please call

**AUS:** 1300 795 953 or +61 2 9460 8071

**USA:** 407-446-1996, 407-826-0000

**EUROPE:** +31 (0)6 24881203 or +31 (0)6 50841849

**Or your nearest MAKINEX distributor**

We have very knowledgeable, experienced staff to assist you with help and advice.



## Product Description and Specifications

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MS-100 is the ultimate mixing station for all self-levelling cement and compounds, producing a perfect mix every time. Designed by contractors for contractors it provides efficient hands-free mixing and fast precision pouring of materials saving time and effort on jobs. One MS-100 mixing station can mix up to 80kg in 3 minutes, which can equate to 1 Tonne per hour. MS-100 is ultra-lightweight for easy transportation and the ergonomic design with easy-tilt operation provides control and speed for precision pouring.

The MS-100 will suit various Stirrers/Mixers (please contact your retailer for more information). A Festool® Stirrer or Collomix® Hand Mixer are optional and sold separately; both models feature variable speeds and are fully detachable from the MS-100.

### MS-100 Features:

- Hands-free mixing
- Built-in timer
- 4-wheel mobility
- Light and durable aluminium trolley - 18kg
- Large pivoting bucket
- Dust and splash reduction cover
- Top section is detachable to minimise size during transport
- Locking castor wheel
- Trolley can be used to transport product and tools on work sites

TABLE 2: MS-100 Product Specifications

<b>HEIGHT HANDLE ATTACHED (Operating)</b>	1070mm-1300mm (42-51 inches)
<b>HEIGHT HANDLE DETACHED (Transport)</b>	780mm (31 inches)
<b>OVERALL WIDTH</b>	540mm (21 inches)
<b>OVERALL LENGTH</b>	626mm (25 inches)
<b>LENGTH OF HANDLE ADJUSTMENT</b>	250mm (10 inches)
<b>WEIGHT (WITHOUT STIRRER/MIXER)</b>	18kg (40lbs)
<b>WEIGHT (WITH FESTOOL® STIRRER)</b>	25kg (55lbs) - weight may vary if used with other Stirrers/Mixers
<b>WEIGHT (WITH COLLOMIX® HAND MIXER)</b>	24kg (53lbs) - weight may vary if used with other Stirrers/Mixers

## INSTRUCTIONS FOR USE

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Do Not Operate the MS-100 without wearing the appropriate personal protective equipment (PPE) including appropriate footwear. Assess the surrounding area for hazards.



ALWAYS seek appropriate First Aid if Injury, Poisoning or Irritation occurs due to contact with Materials and Substances.



ALWAYS ensure that the work place is well ventilated.

### STEP 1 – Fitting a Stirrer/Mixer to the MS-100

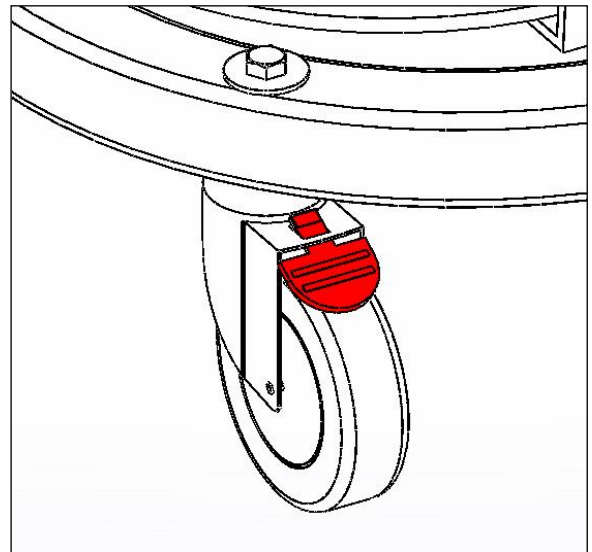


Ensure the Stirrer/Mixer is disconnected from mains power before Attaching or Removing it to/from the MS-100 frame.

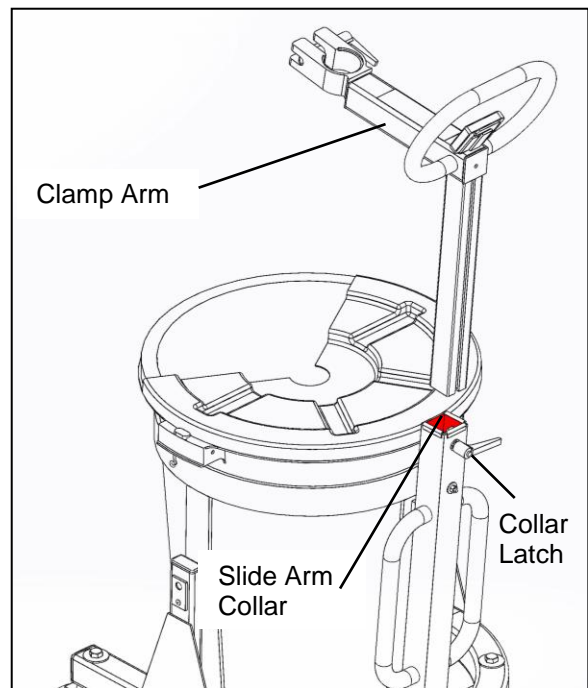


NEVER place hand under 'Drill Clamp / Clamp Arm2' when adjusting the height.

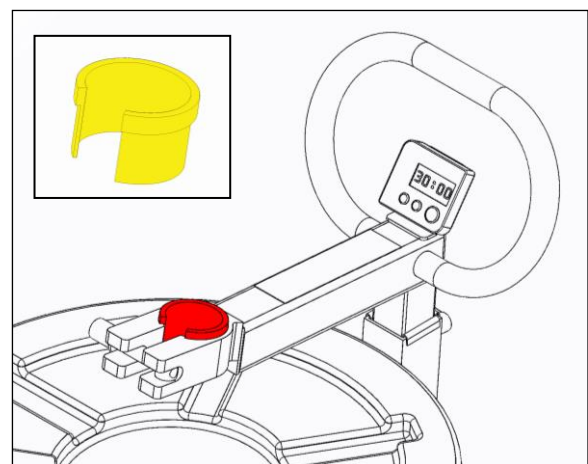
1. Refer to the Appendix for exploded assembly diagram.
2. Check that the 'Castor Brake' has been engaged.



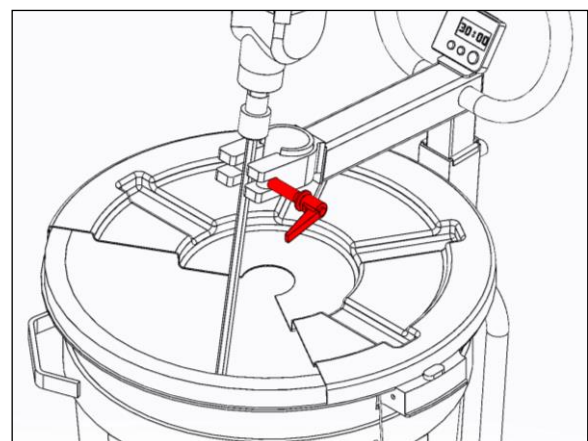
3. Attach MS-100 'Clamp Arm' into the 'Slide Arm Collar' of the MS-100 Frame; tighten 'Collar Latch' in place.  
(Go to step 5 if already in place).



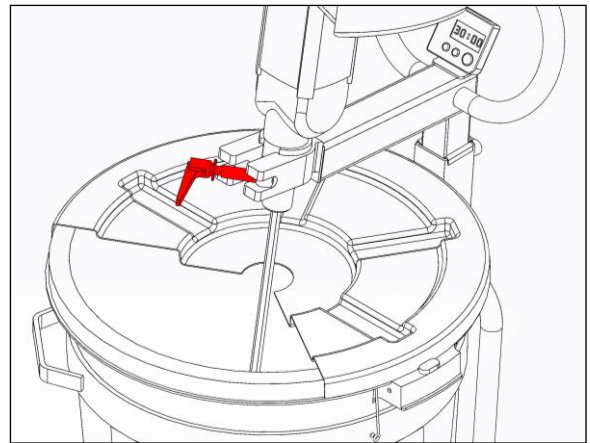
4. If fitting a Collomix® Mixer, ensure the Collomix® insert is seated in the drill collar.



5. Ensure the 'Drill Clamp Latch' is open, and insert the Mixer / Stirrer through the slot.



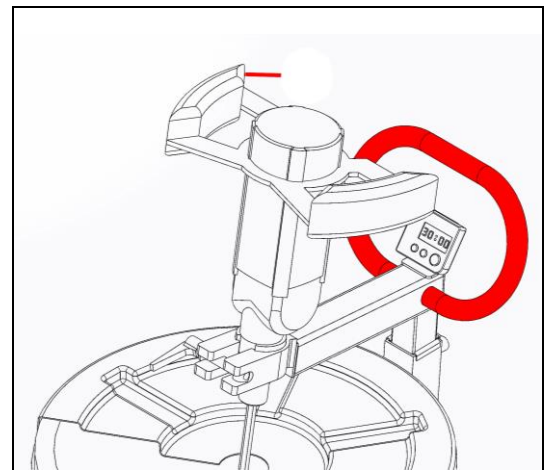
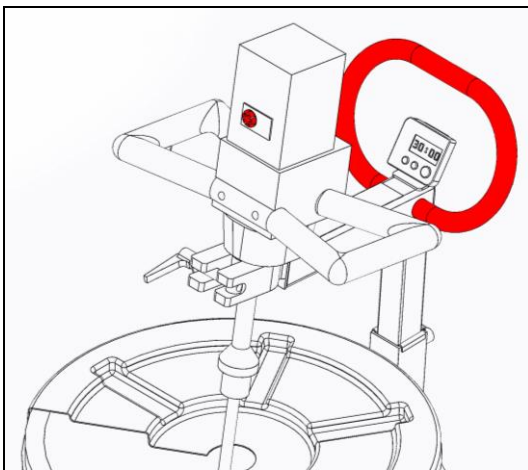
6. Rotate the 'Drill Clamp Latch' back around the Drill Clamp.



7. Position Stirrer/Mixer in the 'Drill Clamp' (always hold Stirrer/Mixer by its grab handles when positioning).


If fitting the Protocol® Stirrer, ensure the Variable Speed Dial is facing away from the MS-100Handle.


If fitting the Collomix® Mixer, ensure the Electrical Cord is facing to back of the MS-100™.




8. Tighten 'Drill Clamp Latch' firmly to lock Stirrer/Mixer.


## STEP 2 – Using your MS-100

 <b>WARNING</b>	NEVER place hands into the Bucket whilst Stirrer/Mixer is Mixing. ALWAYS disconnect Stirrer/Mixer from mains power before placing hands into the Bucket.
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 <b>WARNING</b>	ALWAYS ensure the Stirrer/Mixer is switched OFF before plugging it in. ALWAYS wind-up the Power Cord before moving the MS-100. ALWAYS be aware of the Power/Extension Cord position when working around the MS-100™.
---	--

 <b>CAUTION</b>	Maximum SAFE Load: 60-80kg (132-176lbs) of wet levelling compound. DO NOT EXCEED 80kg (176lbs) ALWAYS use correct lifting technique when loading materials.
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1. Ensure Stirrer/Mixer is firmly secure in the 'Drill Clamp'.
2. Attach Lid to Bucket.
3. Make sure the 'Locking Pin' is engaged (i.e. locked to prevent the bucket from pivoting) at the base of the Bucket and that the Castor Wheel Brake has been applied.
4. Pour in correct amount of water for desired mix quality (refer to Levelling Compound manufacturer's recommendations).
5. **Protool® Stirrer:** Make sure Stirrer is switched to High Gear '2' and Variable Speed Dial is set to '1'.  
**Collomix® Mixer:** Make sure Mixer is switched to low speed.
6. Plug in Stirrer/Mixer to Mains Power.
7. Press Trigger to turn 'ON' Stirrer/Mixer and lock in Trigger.
8. Start adding Bags of Levelling Compound one at a time.
9. **Protool® Stirrer:** After 2/3 of Levelling Compound has been added to the mix start to increase the Variable Speed Dial.  
**Collomix® Mixer:** Leave speed on low setting.
10. **Protool® Stirrer:** After final Bag of Levelling Compound has been added turn Speed Dial to Maximum Power.  
**Collomix® Mixer:** After final bag of Levelling Compound has been added switch drill to high speed.

 <b>CAUTION</b>	CAUTION – When changing gear settings on the Collomix® Mixer, turn the Mixer off before changing the gear. Changing gears while the Mixer is running may damage its gearbox.
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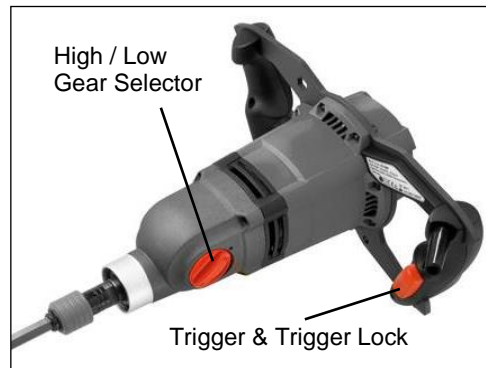
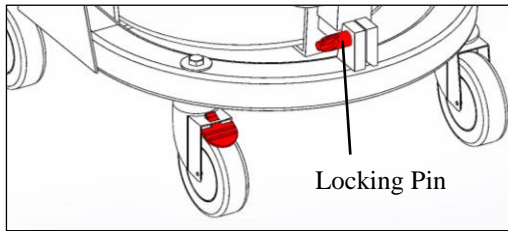
<b>NOTE:</b>	After the final bag of Levelling Compound has been added, the whole mixing operation should take approximately 2 minutes.
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11. Wait for 30 seconds as Compound is mixed; turn 'OFF' Stirrer/Mixer temporarily (Protool® Stirrer: Turn speed dial to '1' before switching 'OFF' at the Trigger, then disconnect from mains power) and scrape off any excess powder that has gathered around the top of the bucket.
12. Switch Stirrer/Mixer back 'ON' and return to Maximum Power until Levelling Compound is mixed to a lump-free consistency.





13. Protocol® Stirrer: Once equal consistency has been achieved turn down Variable Speed Dial to '1' and switch 'OFF' Stirrer at the Trigger.

Collomix® Mixer: Once equal consistency has been achieved turn off the Mixer.

14. Unplug Stirrer/Mixer from Power Supply; wind-up the Power Cord on the MS-100Handle.



### STEP 3 – Pouring and Placing Levelling Compound

-  ALWAYS check that Power Cord is secured around the MS-100Handle before Pivoting the Bucket.
-  NEVER place hand near the 'Pivot Pin' (Pivot Point) when rotating the Bucket.
-  NEVER move or operate the fully loaded MS-100over an unstable surface.
-  ALWAYS protect open drains nearby from spillages of Compound

1. Check the 'Locking Pin' is engaged (i.e. locked to prevent the bucket from pivoting) at the base of the Bucket.
2. Disengage Castor Wheel Brake.
3. Wheel MS-100 to the desired area (use caution when moving the Loaded Bucket).
4. Disengage (unlock) 'Locking Pin' at the base of the Bucket.
5. Using a controlled motion (use the 'MS-100 Handle and Pouring Handle) pour mixed Levelling Compound where required.

**NOTE:** With two MS-100 Portable Mixing Stations, another mix could be completed using the same Stirrer/Mixer while one is being poured.

## STEP 4 – Cleaning the MS-100



ALWAYS use two people when loading and unloading the MS-100.

1. It is very important to clean the equipment after use. Use water or a high pressure hose to clean all Levelling Compound from the MS-100 Frame, Wheels, Bucket and Stirrer/Mixer paddle after use.
2. Extra attention should be focused on cleaning the Wheels.
3. Wheels should be oiled / greased regularly.
4. For maintenance on Stirrer/Mixer please refer to the manufacturer's manual.

**NOTE:** Please refer to [www.worksmartequipment.com.au](http://www.worksmartequipment.com.au) for product usage videos and for more information.

## SALES & SPARES

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For sales and spare parts for all MAKINEX products; please refer to your local distributor.



### SERVICE & PART ORDERING

For service and ordering parts, please call

**AUS:** 1300 795 953 or +61 2 9460 8071

**USA:** 407-446-1996

**EUROPE:** +31 (0)6 24881203 or +31 (0)6 50841849

**Or your nearest MAKINEX distributor**

We have very knowledgeable, experienced staff to assist you with help and advice.

**W** [makinex.com](http://makinex.com)

**E** [sales@makinex.com](mailto:sales@makinex.com)

## APPENDIX

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1. SPARE PARTS REFERENCE
  2. MS-100 HAZARD ASSESSMENT
  3. PROTOOL® STIRRER MANUAL (WHEN PURCHASED)
  4. COLOMIX HAND MIXER (WHEN PURCHASED)
-



# APPENDIX 1

## SPARE PARTS REFERENCE

ITEM	PART NO.	DESCRIPTION	QTY
1	MS-01-01	BASE FRAME	1
2	MS-01-02	BASE FRAME - SIDE POST	2
3	MS-01-03	SIDE PLATE	2
4	MS-01-04	BASE BACK PIN	1
5	MS-01-07	CASTOR 125mm	3
6	MS-01-06	CASTOR 125mm WITH BRAKE	1
7	MS-01-11	PIN INDEXING PLUNGER	1
8	MS-05-02	END CAP - 50x25	2
9	MS-05-01	END CAP - 50x50	2
10	<DWG No.>	M12 x 80 HEX BOLT	4
11	<DWG No.>	M12 MUDGUARD WASHER	4
12	<DWG No.>	M12 HEX NUT NYLOC	4
13	MS-02-07	BASKET WELDMENT	1
14	MS-02-08	BASKET RING	1
15	MS-02-02	STEM BASE PLATE	1
16	MS-02-01	STEM POST	1
17	MS-02-03	STEM SPACER	1
18	MS-02-04	BACK HANDLE	2
19	MS-02-06	SLIDE COVER	1
20	MS-02-05	SLIDE PLATE	1
21		M6x25 CSK BOLT	1
22		M6 FLAT WASHER	1
23		M6 NYLOC NUT	1
24	MS-02-11	HANDLE - M8x16	1
25		M8 FLAT WASHER	1
26	MS-02-12	PIVOT BUSH	2
27	MS-03-01	SLIDE ARM POST	1
28	MS-03-07	SLIDE ARM EXTRUSION	1
29	MS-03-05	DRILL CLAMP	1
30	MS-03-03	SLIDE ARM HANDLE	1
31	MS-03-06	TIMER HOLDER	1
32	MS-03-12	TIMER	1
33	MS-03-10	DRILL CLAMP SHAFT	1
34	MS-03-09	DRILL CLAMP PIN	1
35	MS-03-11	HANDLE - M10x25	1
36		M10 FLAT WASHER	1
37	MS-03-08	COLLOMIXX ATTACHMENT	1
38	MS-03-04	SLIDE ARM END PLATE	2
39	MS-01-05	PIVOT PIN WELDMENT	2
40	MS-05-03	RIVET 3/16 X 3/8	2
41	MS-04-02	84 LITRE ROUND CONTAINER	1
42	MS-04-01	CONTAINER LID	1
43	MS01-12	BUCKET CLIP	1
44	MS-09-01	SAFETY STICKER	1

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GENERAL TOLERANCES  
(Unless otherwise noted):  
0-100mm: ±0.25 mm  
100mm-500mm: ±0.5 mm  
500mm+: ±1.0 mm  
Angular: ±1 deg.

Third Angle Projection  
- AS 1100

OPTIONAL DRILL AND STIRRER	DRILL - PART #	STIRRER - PART #
PROTOOL	MXP-1602	PS160
COLLOMIX	X06	CS160

DATE: 18/12/2013	PROJECT: MIXING STATION - PRODUCTION 3, 2013	DRN: KM
SCALE: D.N.S   A3	DWG NO.   TITLE	MATERIAL   FINISH   MASS   REV
	MS-100 - E   MIXING STATION - exploded parts	SEE PARTS   SEE PARTS   15.27 KG   05
NOTES:		SHEET 5 OF 37

