

# Operating Manual

**TakClean™**

Contact Web Cleaning



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# TakClean™ System Overview

## Models and Function



The Meech TakClean contact web cleaning system is designed primarily for use in the label and narrow web markets to remove dry, unbonded contamination from a moving web efficiently.

TakClean incorporates the specially formulated TransTak elastomer contact cleaning rollers and perforated adhesive rolls which, combined, make TakClean the ultimate elastomer based web cleaning machine.

Meech has designed TakClean to provide the following user advantages:

- Excellent contamination removal – removing particles as small as 0.5 micron.
- Continuous cleaning – no need to stop the web.
- Fast installation – very low downtime for installation.
- Static control – web will be contamination and static free on exit.

### Double Sided Cleaning

TakClean is available as a double sided web cleaner. In this configuration, TakClean includes two Meech TransTak elastomer rollers and two Meech Model A914 AC ionising bars. In both cases these are positioned one either side of the web.

### Single Sided Cleaning

TakClean is available as a single sided web cleaner. In this configuration, TakClean includes one Meech TransTak elastomer roller that is installed to clean the top side of the web. An aluminium roller is installed in the bottom half of the TakClean. Two Meech Model A914 AC ionising bars are installed one either side of the web.

## Correct Use of a TakClean System

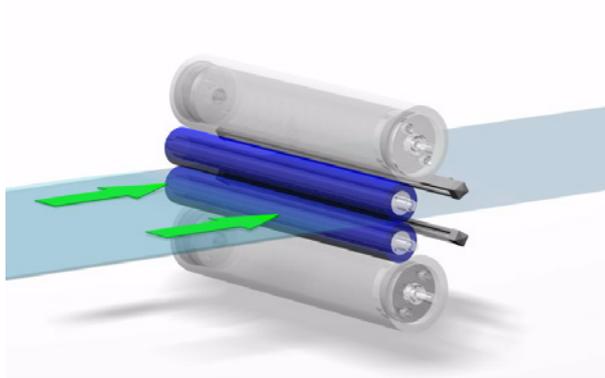
Meech TakClean web cleaning systems should only be used in installations for which they are designed.

If the TakClean is used in any other way than instructed in this manual, it will be considered as improper use.

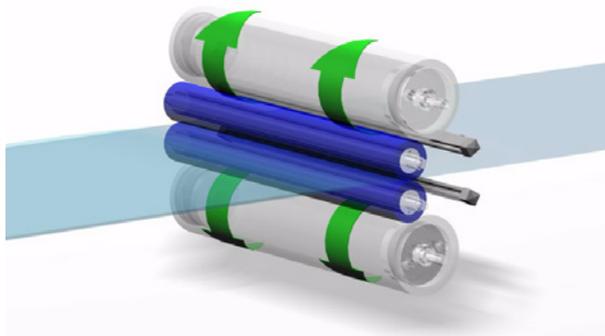
### How TakClean Works

The unrivalled cleaning performance of TakClean is the result of 3 critical processes:

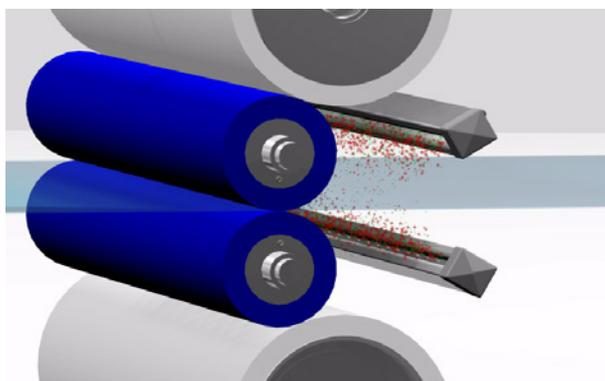
1. The TransTak elastomer cleaning rollers contact the full width of the web with even pressure. Dry, unbonded contamination is lifted from the web surface.



2. Pneumatics hold the adhesive roller in contact with the TransTak elastomer roller. Contamination is transferred from the surface of the TransTak elastomer roller to the adhesive roller where it is trapped.



3. Any static charge present on the web is neutralised on exit from the TakClean; minimising the risk of statically attracted recontamination.



# Unpacking the System

## IMPORTANT

When removing the TakClean system from the packaging, DO NOT USE THE HANDLES ON THE FRONT OF THE SYSTEM. The handles are only to be used to pull out the adhesive rolls and are not designed to take the weight of the system.

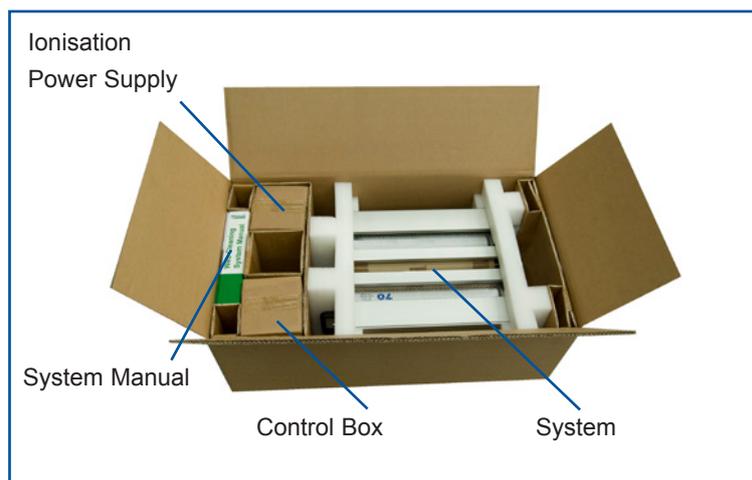
## CAUTION

Observe correct manual handling procedures when removing the system from the packaging. It is likely that the system will exceed the recommended manual handling limit.

The TakClean will be delivered in a custom sized, thick walled cardboard box that is fixed on a wooden pallet.

On receipt of the system, check the packaging for signs of shipping damage. If found, any damage should immediately be reported to the shipping company, the supplier of the system and Meech directly.

Inside the packing, the system and components will be positioned as follows:



Check the system for signs of damage. If found, any damage should immediately be reported to the supplier of the system and Meech directly.

Before installation of the system, it is recommended that you clean it to remove any potential packing contamination.

# System Installation - Mechanical

## IMPORTANT

When installing the TakClean system, it should be positioned so that the web passes straight through the system. The TransTak elastomer rollers should not be used to alter the web path.

## IMPORTANT

Installation of the TakClean system should only be completed by those with suitable qualifications.

## Positioning of the System

The TakClean system should be installed in the position that was recommended by your Meech contact. The exact installation location will vary depending on the machine and application requirements.

In general, the TakClean system should be installed as close to the critical process as possible to minimise the potential of re-contaminating the web via airborne contamination.

## Required Space and Mounting Holes

Please view the drawing section at the end of this manual for GA drawings and mounting hole positions.

The TakClean system should be cantilever mounted using either of the 3 mounting hole configurations. Please see the mounting hole configurations detailed on the Backplate drawings included in this manual.

**Note: there are 2 backplate configuration for different web directions.**

# System Installation - Pneumatic

## IMPORTANT

Installation of the TakClean system should only be completed by those with suitable qualifications.

## Compressed Air Requirement

The TakClean system requires a compressed air supply to engage and disengage the adhesive rolls.

The compressed air supply should meet the following specification:

- 3-7 bar (43-100psi)
- Clean and dry compressed air

## Compressed Air and Plug Connections

The main incoming compressed air supply should be connected to the 4mm compressed air push fit fitting on the TakClean control box labelled Air In.



The compressed air hoses (blue and black) should be connected from the TakClean unit to the 4mm compressed air push fittings labelled Air Out 1 and Air Out 2. The blue hose connects to Air Out 1, the black hose connects to Air Out 2.

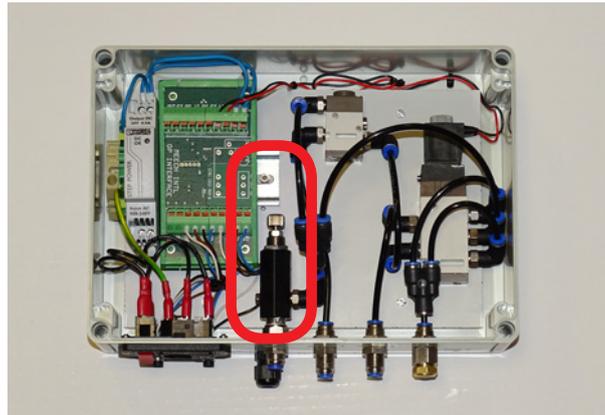


Connect plug 1 from the TakClean to the Auto/Manual socket on the pneumatic control box.

Connect plug 2 from the TakClean to the Engage/Disengage socket on the pneumatic control box.

## Setting the Required Air Pressure

There is a pressure relief regulator valve inside the TakClean control box. Adjusting this valve will change the force that engages the adhesive rolls.

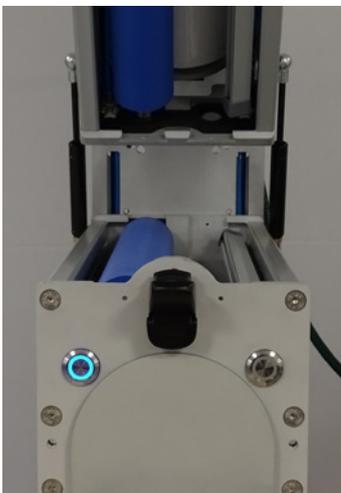


This valve will have been set at Meech before your system was supplied, so that the bottom adhesive roll engages the bottom TransTak elastomer roller with the required level of force.

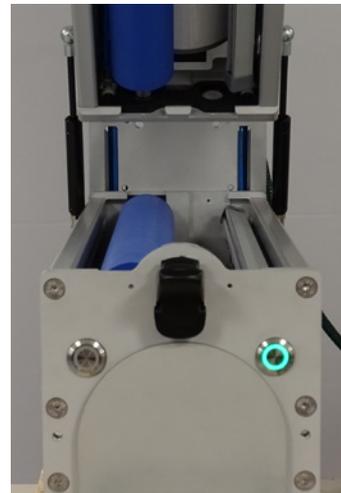
### CAUTION

If you need to adjust the pressure relief valve, make sure that it is not adjusted to provide maximum pressure between the adhesive roll and TransTak elastomer roller. If too high a pressure is used, it may result in damage to the adhesive roll and TransTak roller, or effect the web path during operation.

## TakClean Button Functions



Auto/Manual Button



Engage/Disengage Button

The Auto/Manual Button toggles between auto mode and manual mode. The Engage/Disengage button will not function when in Auto Mode and the Auto/Manual button is illuminated. When in Auto Mode the TakClean is engaged/disengaged when receiving the remote On/Off signal from the line.

The Engage/Disengage Button will engage and disengage the adhesive rolls when set in manual mode.

## Compressed Air Circuit

Please view the drawing section at the end of this manual for a circuit diagram.

# System Installation – Electrical

## IMPORTANT

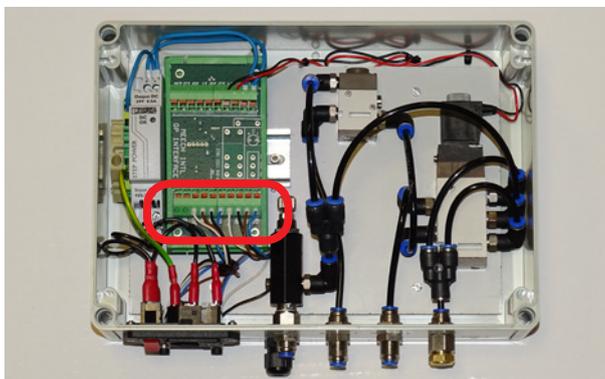
Installation of the TakClean system should only be completed by those with suitable qualifications.

The TakClean system requires two electrical connections:

1. 110/240V at 50/60Hz = to power the TakClean Control Box
2. 110/240V at 50/60Hz = to power the Meech ionisation system

## Connecting the Remote On/Off Signal From the Line

Connect a normally open (NO) signal from the line in the TakClean control box into pins 1 and 6 (see circuit diagram) as shown in the image below.



This can be fed into the pneumatic control box via the Auxiliary cable gland.

## Connecting the Active Ionisation Equipment

Before making any connections ensure the unit is disconnected from the mains.

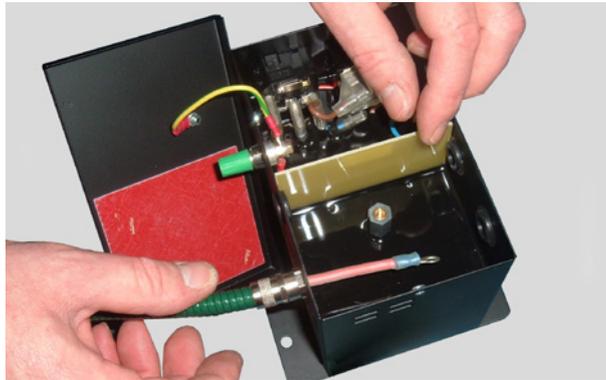
The Meech Model A905 ionising power supply has 4 ionising appliance connection ports (2 on each side). Remove the lid of the 905 by unscrewing the three retaining screws, select the required number of ports, one per ionising bar, and remove the necessary grommets from the ports.



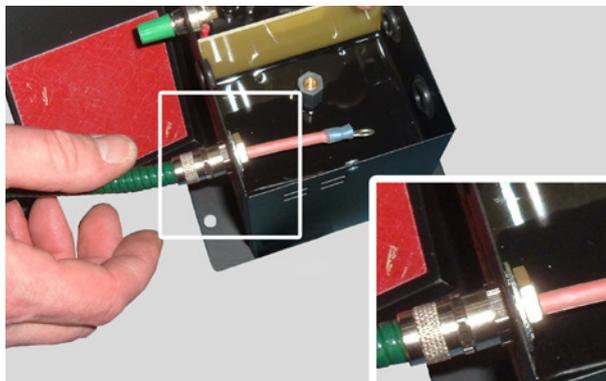
Connect the ionising bars by removing the lock washer and nut from the swivel connector of the appliance.



Push the connector through a port in the power supply adjacent to the high voltage terminal.



Then refit both the lock washer and nut to the ionising bar. Ensure that the nut is fully tightened.



Connect the cable eyelet of the ionising bar to the high voltage stud of the 905 using the screw provided. Ensure that the nut of the ionising bar connector is fully tightened.

2mtr mains lead and IEC plug are supplied for connection to the 905. Insert the IEC plug into the IEC socket of the 905 ensuring the illuminated ON/OFF rocker switch is in the OFF position.

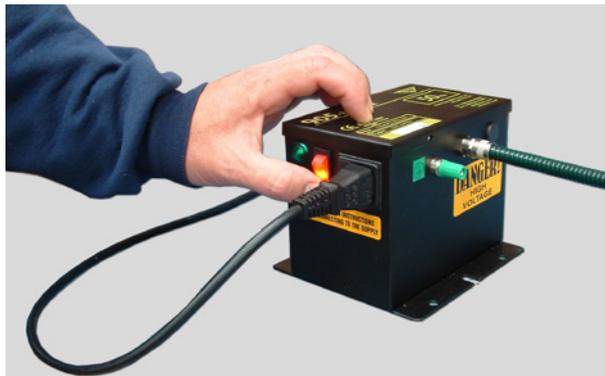
Connect the free end of the mains cable to the mains supply.



#### IMPORTANT

For safety reasons this equipment must be grounded / earthed either via the mains plug or by direct connection to ground / earth.

Switch on the ionising system via the illuminated ON / OFF rocker switch of the 905.



In normal operation the ON / OFF switch will be illuminated red and the High Voltage indicator will be illuminated green.



## Wiring Diagram – TakClean Control Box

Please view the drawing section at the end of this manual for a wiring diagram of the TakClean control box.

# Operating the System

## Before Use

Before using the TakClean system it is important that you have read and fully understand this manual.

### CAUTION

Remove cable ties from pneumatic cylinders before use.



### IMPORTANT

Testing of the system is recommended before it is used for full production.

## General Operation

Follow these steps to operate the TakClean system:

1. With the TakClean system hinged open, visually check that the web is running centrally through the TakClean system.
2. Close the top half of the TakClean system and latch shut.
3. If open, close the adhesive roll carriages.
4. Engage the adhesive rolls into contact with the TransTak elastomer rollers. Depending on your selected electrical connection, this can be achieved via a manual operation using the push button on the front of the TakClean control box, or via a remote signal if you have wired the system for remote operation.
5. The TakClean system is now ready to use. It is recommended that you monitor the system when it is first tested. If any problems are highlighted, please stop using the TakClean system and contact Meech International directly or your local Meech distributor.
6. When the TakClean system is not being used, it is important that the adhesive rolls are NOT engaged with the TransTak elastomer rollers.

# Maintenance – Adhesive Rolls

## IMPORTANT

Always make safe the electrical and compressed air supplies before undertaking any maintenance work on the TakClean system.

## IMPORTANT

Maintenance should only be completed on the TakClean system by those with suitable qualifications.

## General Guidelines

The cleaning performance of the TakClean system can be maximised by regular monitoring of the adhesive roll condition.

The greater the level of contamination that is removed from the web, the more frequently the adhesive roll will need to be refreshed. There is no rule for the frequency of refreshing the adhesive roll, it is governed by the contamination level on the web. The adhesive roll has 70 sections.

## IMPORTANT

Visually check the condition of your adhesive rolls regularly; inspection is recommended every time a new roll of material is processed. If the roll appears heavily contaminated, or has started to darken in colour, you should refresh the roll, as it will have lost its tack level and will not be operating with its peak adhesion level.

## CAUTION

Do not leave the adhesive roll carriage fully pulled out for prolonged periods.

## Refreshing the Adhesive Roll

The adhesive roll can be refreshed by following these steps:

1. Make sure the adhesive rolls are NOT engaged with the TransTak rollers.
2. Press the adhesive roll catch next to the handle on the front of the TakClean system and pull the adhesive roll carriage towards you.
3. Locate the leading edge of the adhesive material and peel off 1 layer of the roll to the next perforation line.
4. Tear off the contaminated section of the adhesive roll at the perforation point.
5. Lay the new leading edge back onto the roll so that it is stuck in position.
6. Push the adhesive roll carriage back into the TakClean system body.
7. The adhesive roll is now refreshed and the TakClean system can be used.

## Replacing the Adhesive Roll

After all 70 sections of adhesive material on a roll have been used; the roll will need to be replaced with a new roll of material.

The adhesive roll can be replaced by following these steps:

1. Make sure the adhesive rolls are NOT engaged with the TransTak rollers.
2. Press the adhesive roll catch next to the handle on the front of the TakClean system and pull the adhesive roll carriage towards you.
3. Pull the outboard end of the adhesive roll towards you. Be sure to steady the adhesive roll carriage with one hand as you do this.



4. Repeat this action for the inboard end of the adhesive roll.
5. Remove the core chuck assembly from both ends of the adhesive roll. A 5mm Allen key is required to loosen the 2 bolts visible on each core chuck assembly. If there is any resistance when trying to remove the core chuck assembly, loosen the bolts further. Do not try to force the core chuck assembly from the roller.



6. Fit the core chuck assemblies to a new roll of adhesive material. Be sure to fit the core chuck assembly flush into the new adhesive roll and to tighten the 2 bolts on each core chuck assembly. The core chuck assembly grips the inside of the core by expansion ring friction, therefore the bolts should be tight.
7. Carefully replace the new roll into the adhesive roll carriage. Be sure to steady the adhesive roll carriage with one hand as you do this.

#### IMPORTANT

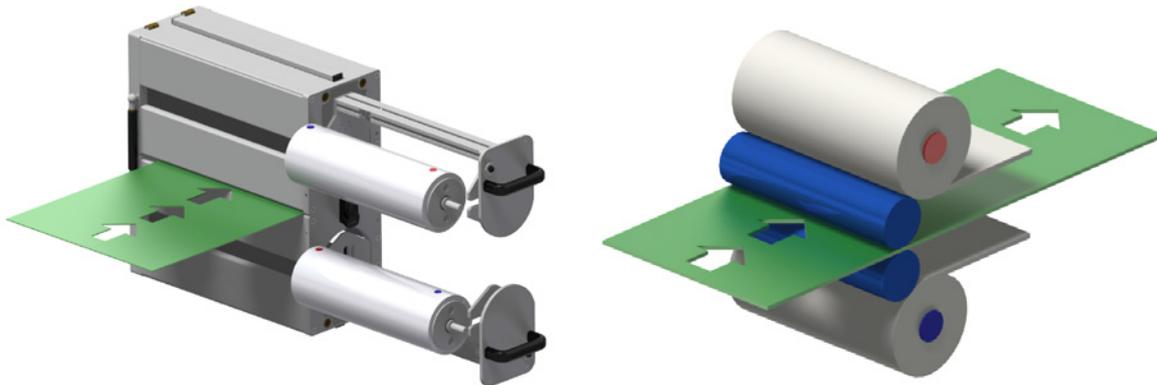
When replacing the new adhesive roll, make sure that it is installed to rotate in the correct direction. Failure to do this may result in the adhesive material sticking to the TransTak elastomer roller and unwrapping.

## Adhesive Roller Positioning

### LEFT to RIGHT web direction

For a web direction of LEFT to RIGHT, the adhesive rollers should be installed into the TakClean™ system as per the pictures below.

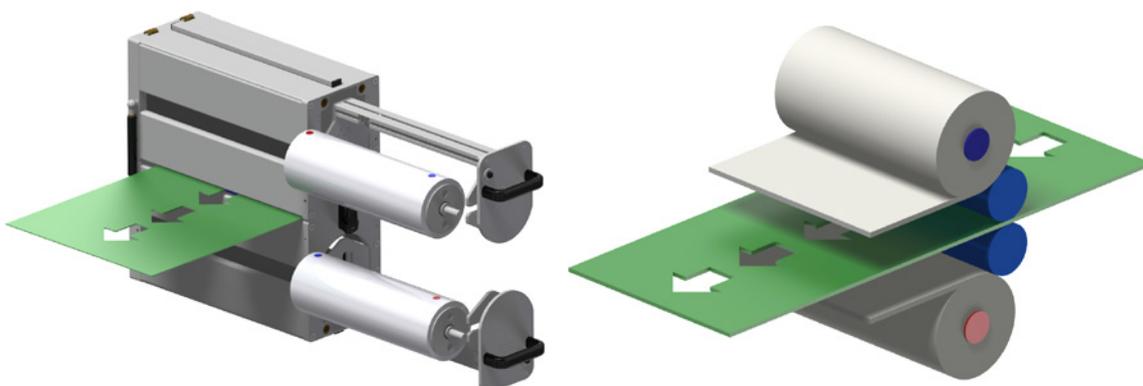
The top adhesive roller should have the **Red** dot located at the front (door face) of the TakClean. The bottom adhesive roller should have the **Blue** dot located at the front (door face) of the TakClean.



### RIGHT to LEFT web direction

For a web direction of RIGHT to LEFT, the adhesive rollers should be installed into the TakClean™ system as per the pictures below.

The top adhesive roller should have the **Blue** dot located at the front (door face) of the TakClean. The bottom adhesive roller should have the **Red** dot located at the front (door face) of the TakClean.



## Adhesive Roll Material Specification

Please see the adhesive roll material specification sheet towards the end of this manual.

# Maintenance - TransTak Elastomer Rollers

## **IMPORTANT**

Always make safe the electrical and compressed air supplies before undertaking any maintenance work on the TakClean system.

## **IMPORTANT**

Maintenance should only be completed on the TakClean system by those with suitable qualifications.

## General Guidelines

To maximise the overall cleaning ability of the TakClean system, it is recommended that the TransTak elastomer rollers are kept clean of contamination that the adhesive rolls are not designed to remove, such as solvent residue, oil or grease.

The TransTak rollers should be gently wiped over with a cloth that is moist with isopropyl alcohol.

It is recommended that the condition of the TransTak elastomer rollers is monitored and that cleaning is undertaken as required.

## **CAUTION**

Do not soak the TransTak elastomer rollers in isopropyl alcohol and do not let the isopropyl alcohol contact the adhesive rolls or other system parts.

## Replacing the TransTak Elastomer Rollers

## **IMPORTANT**

Monitor the condition of the TransTak rollers frequently. Upon signs of any deterioration be sure to change them, so that the cleaning efficiency of the TakClean system is maximised. By following the instructions in this manual, the TransTak rollers will have a long life span.

## **CAUTION**

Be careful not to drop any fixing screws into the TakClean system when removing the TransTak rollers.

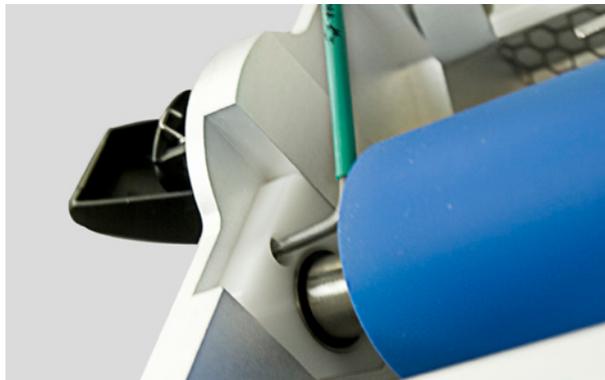
The top or bottom TransTak elastomer rollers can be replaced by following these steps:

1. Make sure the adhesive rolls are NOT engaged with the TransTak rollers.

2. Release the catch on the front of the system and hinge the top half open to gain access to the TransTak rollers.



To remove the bottom TransTak roller, loosen the fixing screw located in the bearing carriers at either end of the TransTak roller. A 2.5mm Allen key is required to loosen the fixing screws.



To remove the top TransTak roller, loosen the fixing screw located under the bearing carriers at either end of the TransTak roller. Support the TransTak roller whilst completing this operation so that it does not fall from its position. A 2.5mm Allen key is required to loosen the fixing screws.



**IMPORTANT**

When replacing the new TransTak elastomer rollers, check that they run freely in the bearing carriers before starting to use the TakClean system for production.

# Maintenance – Ionisation Equipment

## **IMPORTANT**

Always make safe the electrical and compressed air supplies before undertaking any maintenance work on the TakClean system.

## **IMPORTANT**

Maintenance should only be completed on the TakClean system by those with suitable qualifications.

Ionisers require periodic cleaning. During normal operation, dirt will build-up on the emitter pins and upon the body of the ioniser. This will cause a reduction in performance.

Typically, weekly cleaning is sufficient. However, equipment used in some heavy contamination areas, such as gravure printing or where plastic fumes are present, may require daily cleaning. Equally, in a Class 100 area, cleaning may only be required on a monthly basis.

Advanced systems with performance monitoring, e.g 977cm and 904cm, will alert the operator to the need to clean the equipment before performance drops to an unacceptable level.

Before cleaning, ensure that the equipment is switched off.

Emitter pins can be cleaned very effectively with a brush. A dry toothbrush is ideal.

Ionising bars will need periodic wiping to clean grey deposits from the surface of the bar. A cloth moistened with a small amount of IPA or methylated spirits is recommended.

Should you have any additional questions regarding the maintenance of Meech equipment please contact Meech International directly or your local Meech distributor.

## Fault Finding – Ionisation Equipment

Fault finding guides for the Meech Model A905 ionising power supply and A914 AC ionising bars can be downloaded directly from the Meech website at [www.meech.com](http://www.meech.com)

For further fault finding guidance please contact Meech International directly or your local Meech distributor.

## Spare Parts and Consumables

It is recommended that only Meech spare parts and consumable materials are used in your TakClean system. The use of non Meech parts may invalidate your warranty.

For details of spare parts and consumable materials, please contact Meech or your nearest Meech distributor.

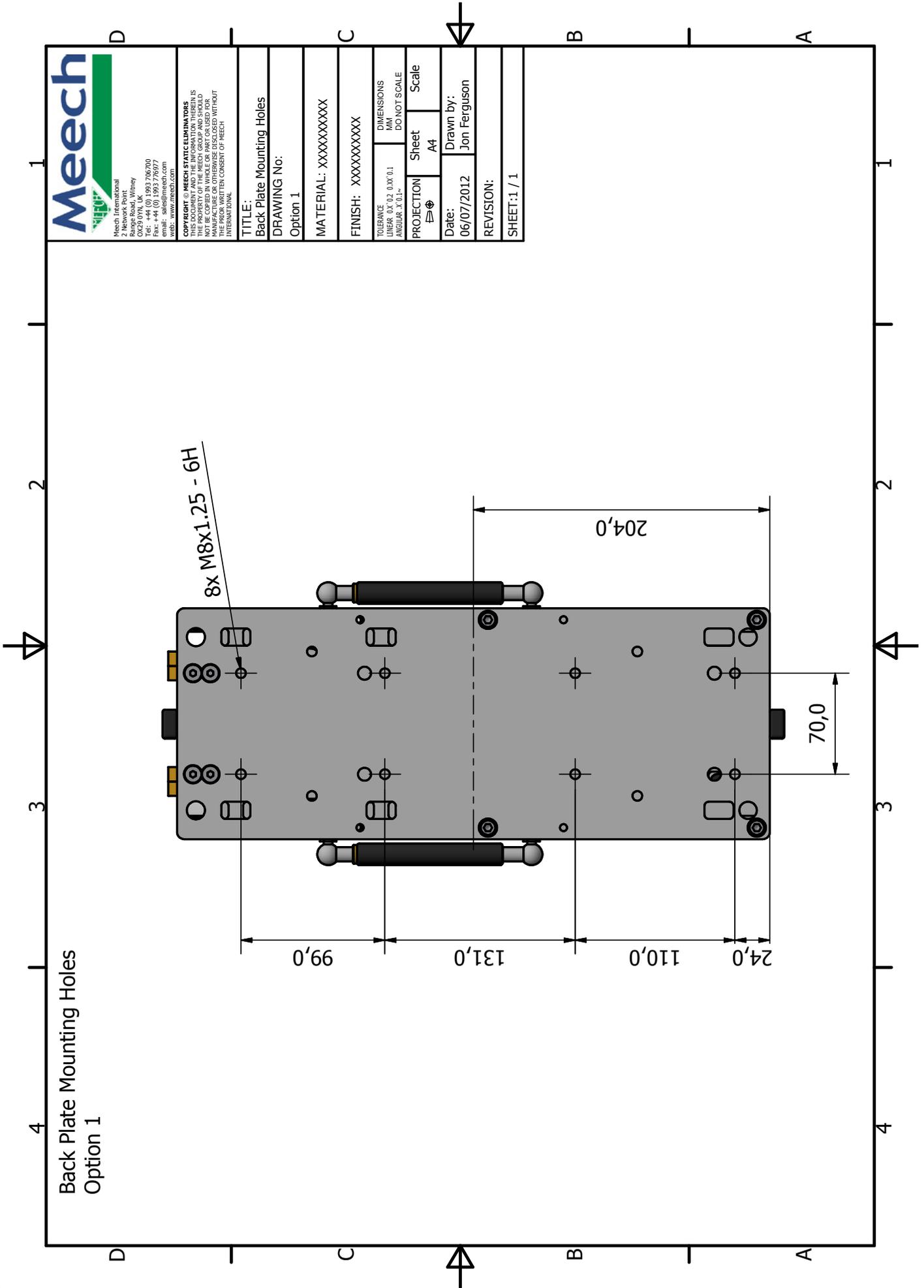
Please quote the serial number of your TakClean system when ordering spare parts or consumable materials.

# Troubleshooting

<b>Problem</b>	<b>Cause</b>	<b>Solution</b>
Adhesive roll does not contact the TransTak elastomer roller	The button on the TakClean control box is not pressed, or the line run signal has not been received.	Check wiring and consult the wiring diagram and 'system installation – electrical' sections of this manual.
	Low compressed air pressure, or no compressed air supply.	Check the incoming compressed air pressure meets the required level. Adjust the pressure relief valve in the TakClean control box if required. See the 'system installation – pneumatic' section of this manual.
	The adhesive roll is not located correctly.	Check the position of the adhesive roll and see the 'maintenance – adhesive rolls' section of this manual.
Adhesive roll unwraps onto the TransTak elastomer roller.	The adhesive roll is fitted incorrectly.	See the 'maintenance – adhesive rolls' section of this manual.
No ionisation.	Various.	See the Meech fault finding guides for the Meech Model A905 ionising power supply and A914 AC ionising bars can be downloaded directly from the Meech website at <a href="http://www.meech.com">www.meech.com</a>

If the problem being experienced is not listed above, or the remedy is unclear please contact Meech International directly or your local Meech distributor.







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**TITLE:**

Back Plate Mounting Holes

DRAWING No:

Option 2

MATERIAL: XXXXXXXXXXXX

FINISH: XXXXXXXXXXXX

TOLERANCE  
 LINEAR: XX, 0.2, 0.XX, 0.1  
 ANGULAR: A, 0.1°

DIMENSIONS  
 DIMENSIONS  
 DO NOT SCALE

PROJECTION  
 Scale  
 Sheet  
 A4

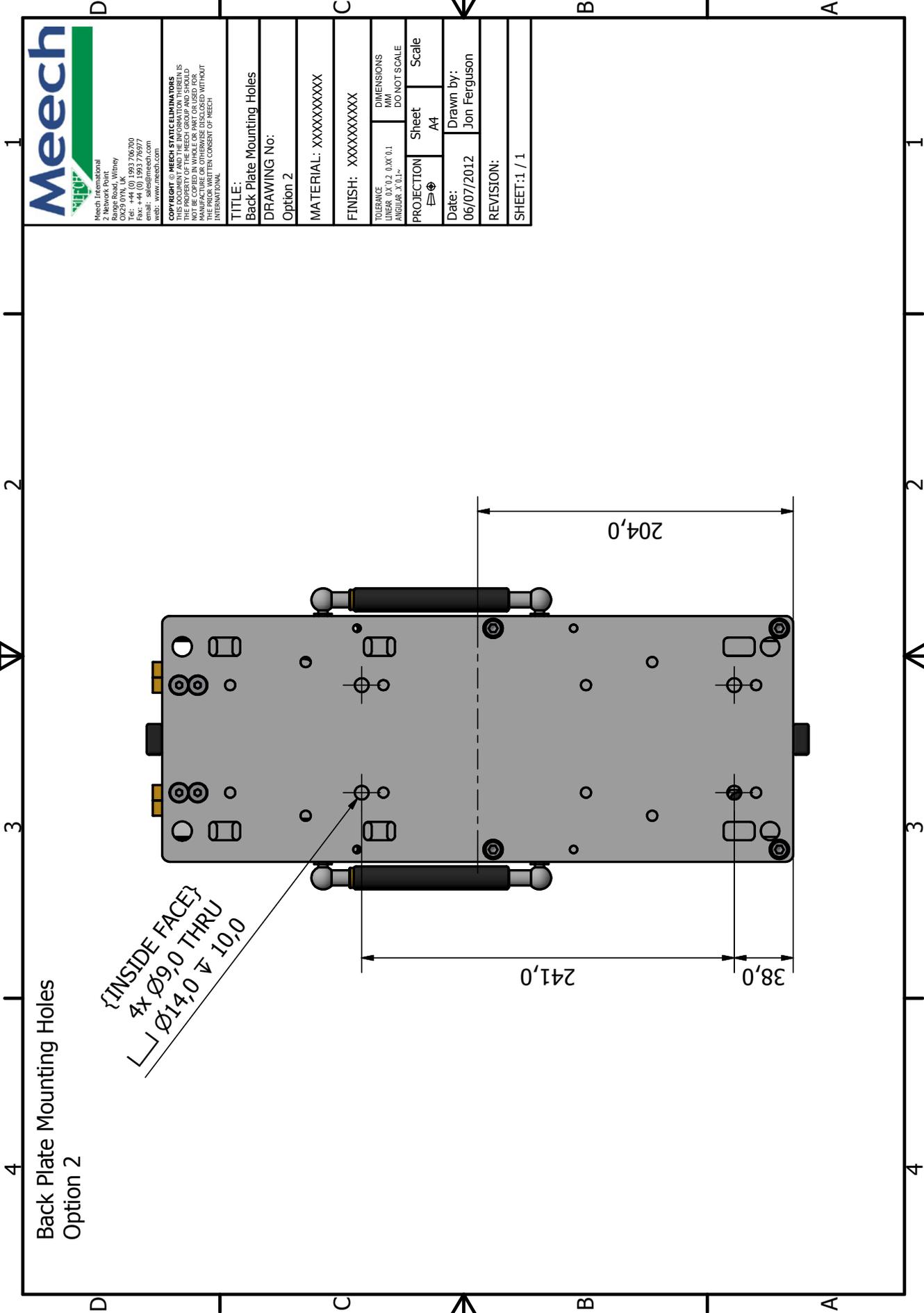
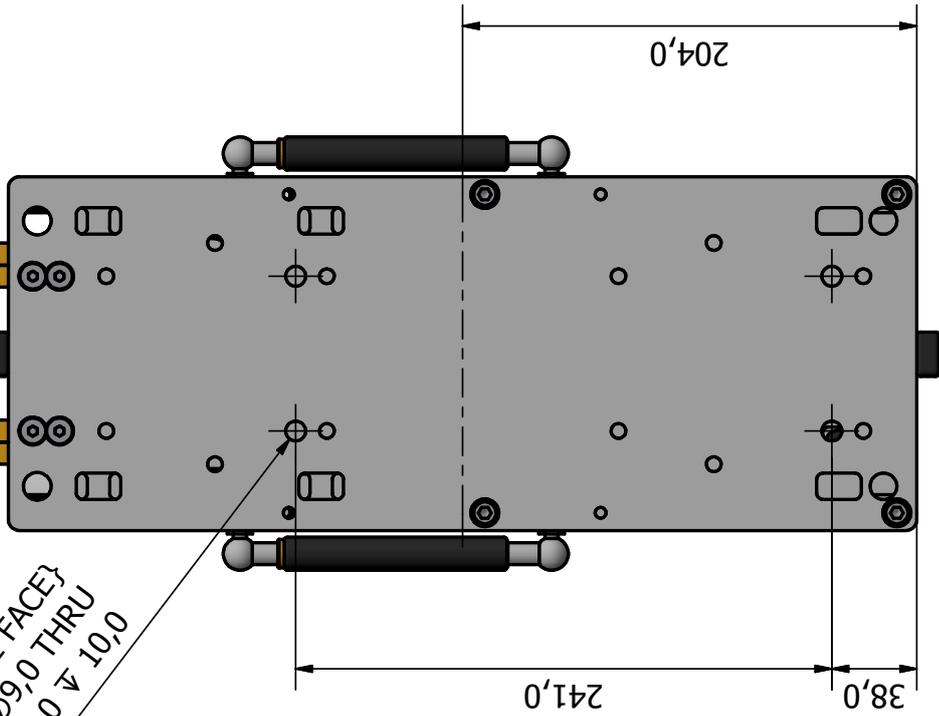
Date: 06/07/2012  
 Drawn by: Jon Ferguson

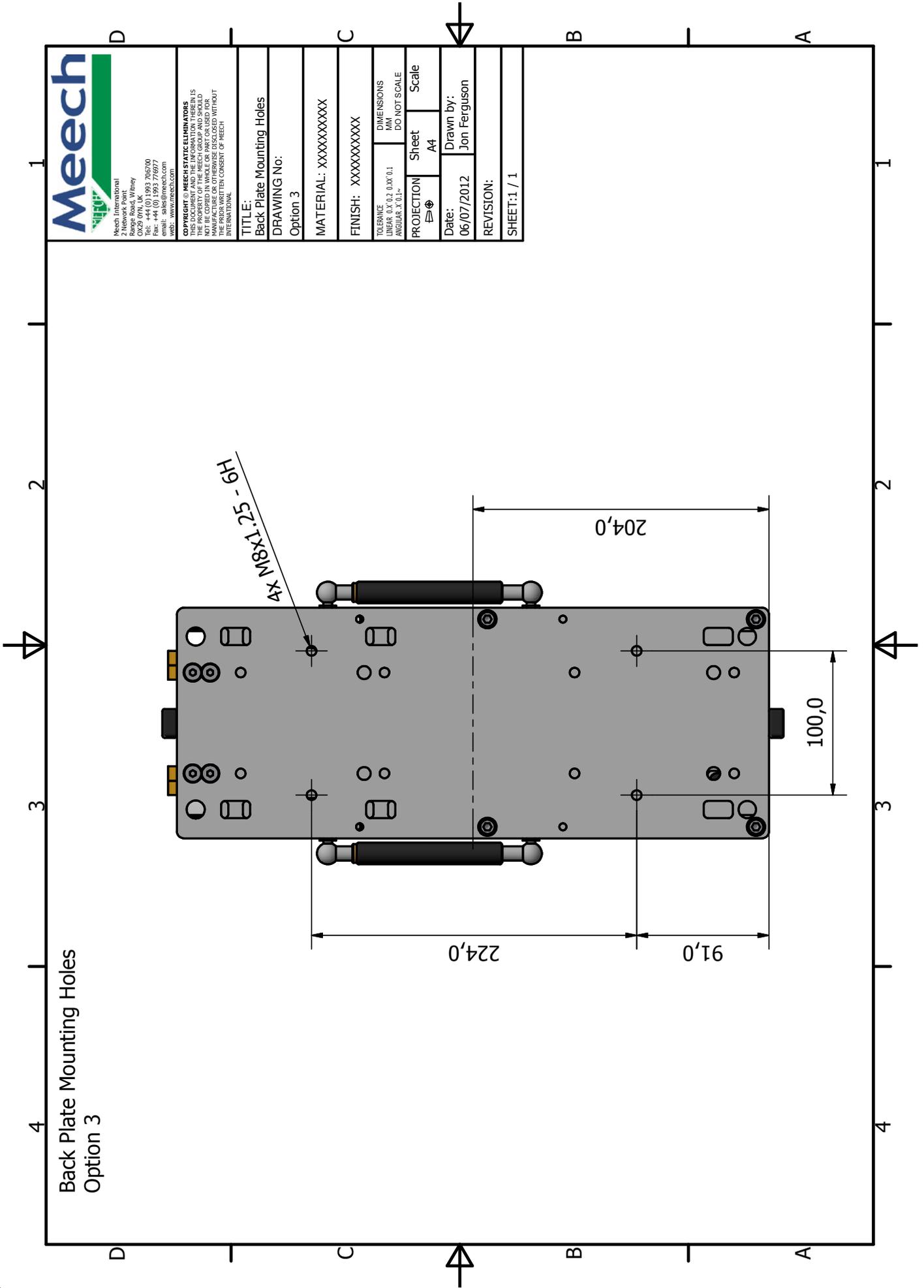
REVISION:

SHEET: 1 / 1

Back Plate Mounting Holes  
 Option 2

INSIDE FACE  
 4x Ø6.0 THRU  
 Ø14.0 THRU 10.0





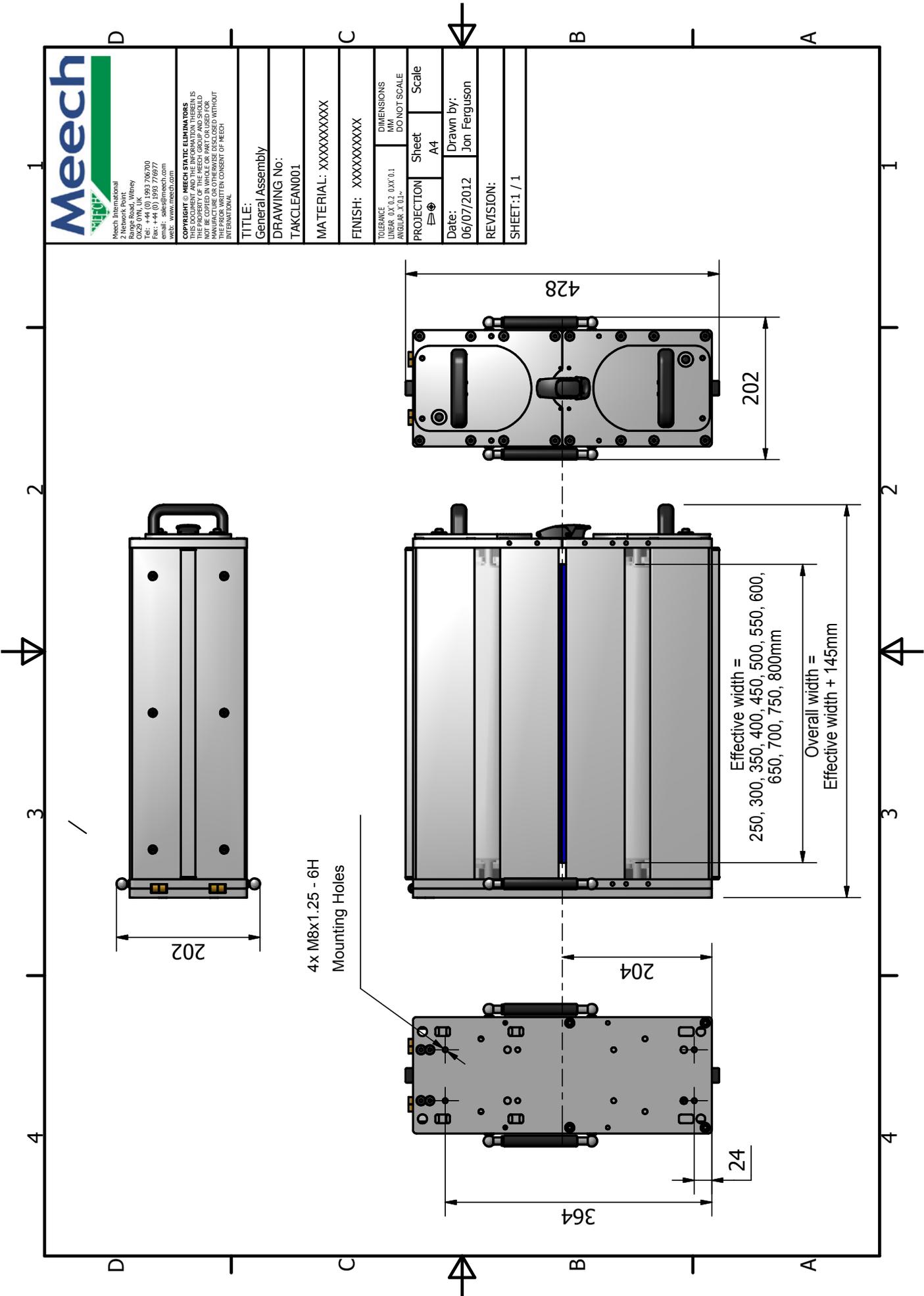
Back Plate Mounting Holes  
Option 3

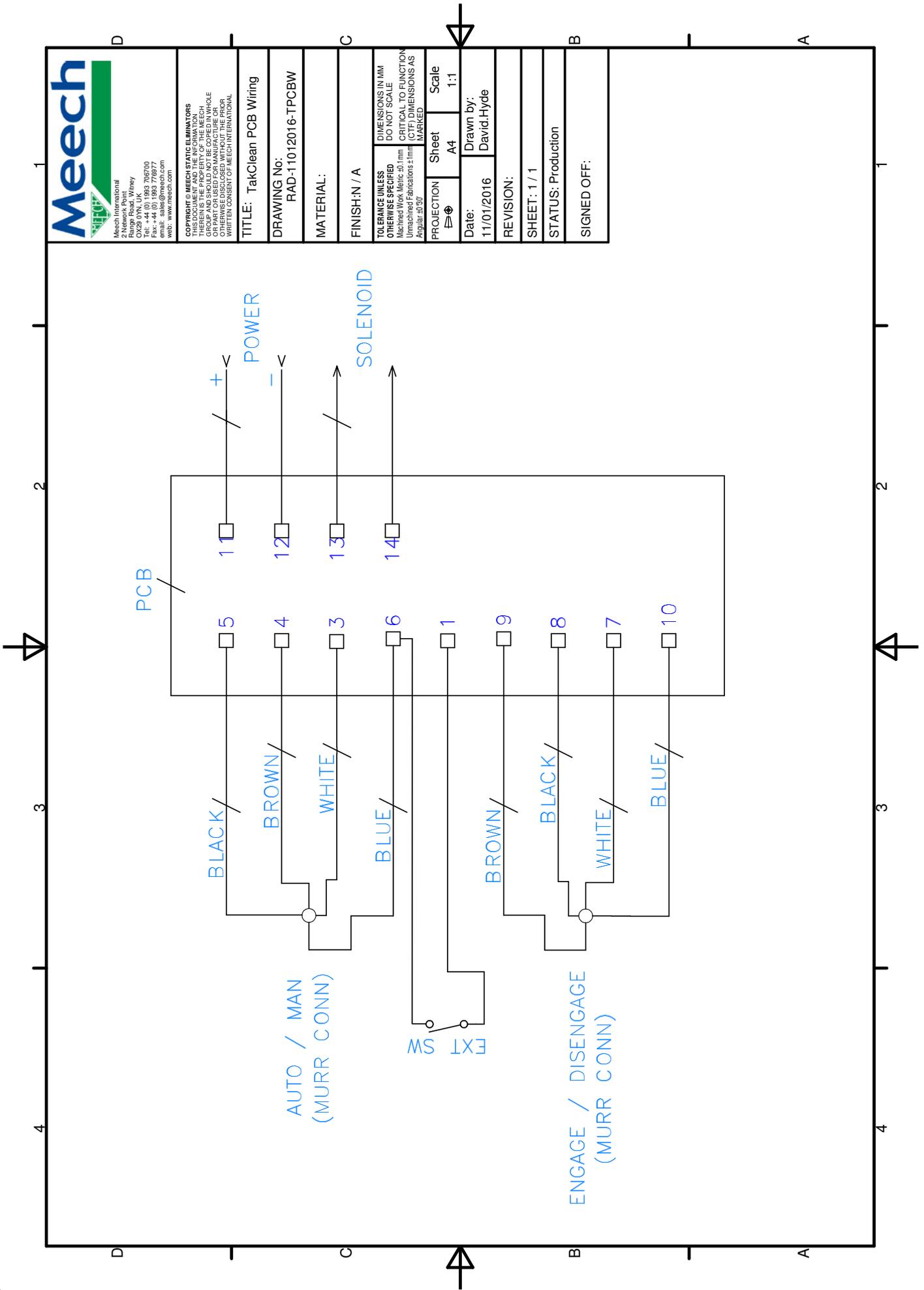


Meech International  
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 Range Road, Witney  
 OX29 0JN, UK  
 Tel: +44 (0) 1993 706200  
 Fax: +44 (0) 1993 719977  
 email: sales@meech.com  
 web: www.meech.com

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TITLE:		General Assembly
DRAWING No:		TAKCLEAN001
MATERIAL:		XXXXXXXXXXXX
FINISH:		XXXXXXXXXXXX
TOLERANCE	DIMENSIONS	
LINEAR 0.X 0.2 0.XX 0.1	MM	DO NOT SCALE
ANGULAR 0.1 0.1°		
PROJECTION	Sheet	Scale
	A4	
Date:	Drawn by:	
06/07/2012	Jon Ferguson	
REVISION:		
SHEET: 1 / 1		





# Adhesive Roll Material Specification

Adhesive rolls are designed to fit the majority of contact web cleaning machines. The product is widely used in the Printing, Electronics, Sheet and Continuous Web Processing Industries.

## Key Features

- Consistent calliper to ensure complete surface area contact.
- Controlled adhesion levels for optimum cleaning performance.
- Available in 76mm (3") and 150mm (6") core sizes.
- Available from 150mm (6") to 1500mm (60") widths.
- Standard 22.4mtr, 76mm core.
- Perforated 70 sections per roll.

## Technical Details

Base Material:	Moisture stabilised release coated paper
Adhesive:	Water based
Product Thickness:	0.095mm (95 micron or 3.75 mils)
Adhesion:	400 n/m
1kg Static Shear:	0.5 hrs
Release:	3 n/m
Temperature :	- 40° to + 100°C

## Storage

Store in cool conditions in original packaging, away from direct sunlight or heat sources.

## Shelf Life

When stored as specified above, in the original packaging, the shelf life is 2 years.

The above information is given in good faith but without warranty. Data is compiled from research and laboratory testing and is given as average values. It is strongly recommended that the customer tests the suitability of the product for his own purposes prior to purchase.

# Declaration of Conformity



Equipment

**TakClean™**

**Contact Web Cleaning System**



**Meech International**

2 Network Point  
Range Road, Witney  
OX29 0YN, UK

Tel: +44 (0) 1993 706700  
Fax: +44 (0) 1993 776977

email: sales@meech.com  
web:www.meech.com

## Applicable Harmonised standards

LVD. EN 61010-1:2010

EMCD. EN 61000-6-4:2001  
EN 61000-6-2:1999

EN 292-1  
EN 292-2  
EN 294  
EN 50081-2  
EN 61024-1  
EN 60204-1  
EN 954  
EN 62061  
EN 418

## EC Council Directives

Low Voltage Directive  
2006/95/EC (Technical File)

Electromagnetic Compatibility Directive  
2004/108/EC (Technical File)

Machinery Directive 89/392 as amended by the EC Directives 91/368 and 93/44 and 93/68.

On behalf of the above named company, I declare that, on the date the equipment accompanied by this declaration is placed on the market, the equipment conforms with all technical and regulatory requirements of the above listed directives.

.....  
Ian Walker, Engineering Manager.





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