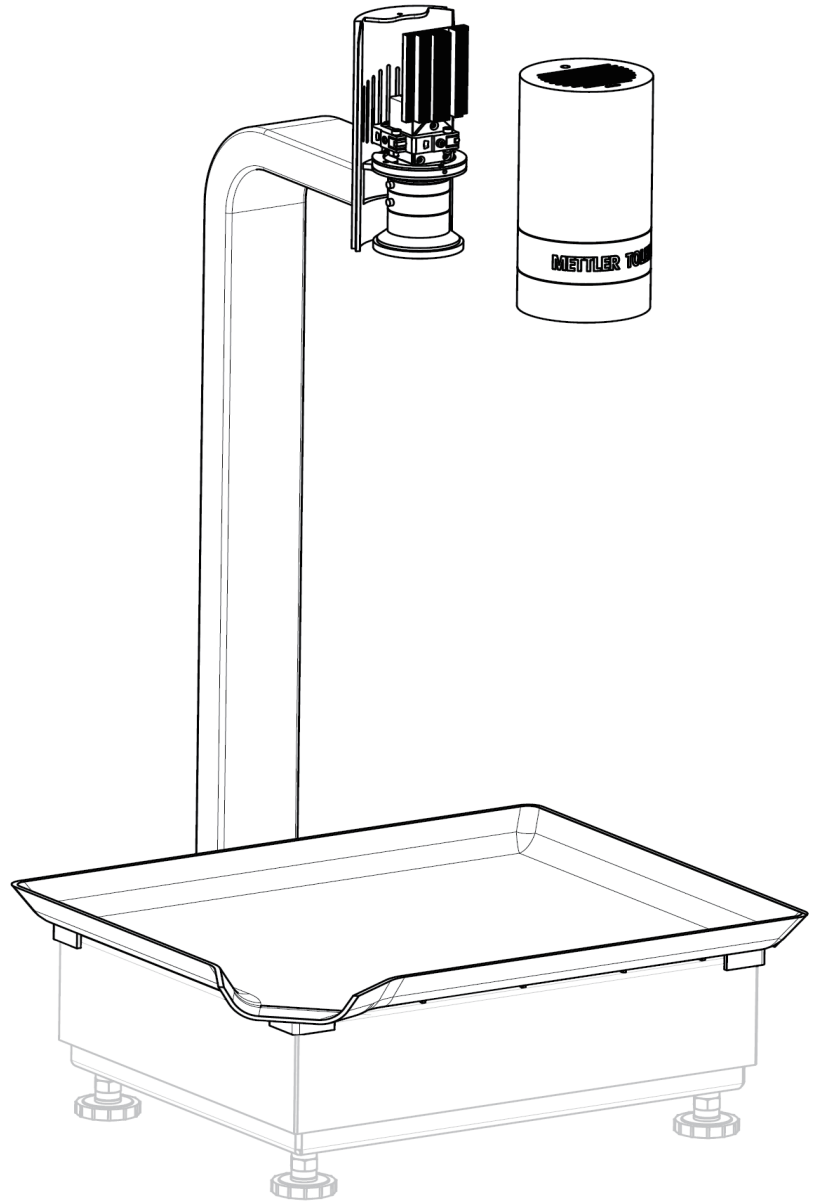


# InVision Pick & Pack System



**METTLER TOLEDO**

# Material Limits

## Recognizable Materials

The InVision system is capable of recognizing materials meeting the following requirements.

- $\geq 0.6g$  in weight.
- $\leq 80mm$  in height.
- $\leq 80mm$  in length.
- $\leq 80mm$  in width.
- Not transparent nor semi-transparent.
- Not easily changeable in physical features.

The InVision system cannot visually recognize a material that does not meet the requirements listed above, even its model pictures have been captured successfully.

## Low Recognition Rate Cases

The recognition rate of the InVision system may decrease if two materials in the same recipe present only subtle differences when they are placed in the same pose. Under such circumstances, the operator's intervention is necessary – these materials will have to be recognized by human eyes. Below is a list of typical situations that may present a challenge to the InVision system.

### Case A: Same Pose, Similar Appearance

Two materials have a subtle difference in sizes – for instance, diameter (Example 1 and Example 3) or length (Example 2).



Example 1



Example 2



Example 3

### Case B: Same Pose, Different Appearance Details

Two materials have subtle differences in appearance – for instance, inner diameter (Example 4), texture (Example 5) or spacing (Example 6).



Example 4



Example 5



Example 6

**Case C: Same Appearance in One Pose but Different in Another**

Two materials have the same or similar appearance in a certain pose.



Example 7



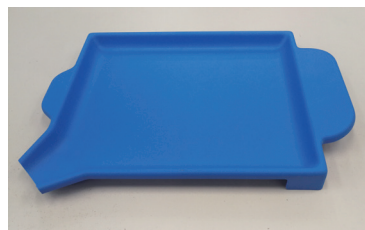
Example 8

**Case D: Similar Color As the Weighing Platter**

The material (example 9) has the same or similar color as the InVision weighing platter.



Example 9 - Bolts with blue coating



InVisionWeighing Platter

# Important Notes for Pick&Pack

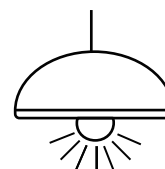
Beware of the following notes when you use the InVision system for Pick&Pack application. For detailed instructions on Pick&Pack operation, please refer to the user manual.

## Ambient Lighting Requirements

📖 See "2.4 Setting Ambient Lighting" in the user manual for more information about measuring and checking ambient lighting conditions.


▲ Ensure that the ambient lighting meets the requirements:

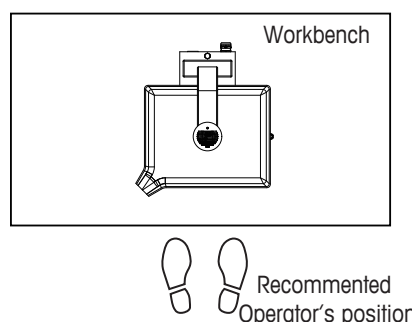
- **Illuminance: 350 - 650 lux;**
- **Coefficient of variation: < 20%;**
- **Color temperature: 4000 - 6500 k.**



## Before Operation

📖 See "2.5.1 Adjusting White Balance" in the user manual for more information about the white balance adjustment.


1. Check the ambient lighting and the camera's white balance. Ensure the lighting conditions do not change since last white balance adjustment, otherwise, you may have to readjust the white balance using the  softkey on the screen.
2. It is highly recommended that the operator stand in front of the weighing platform during operation.

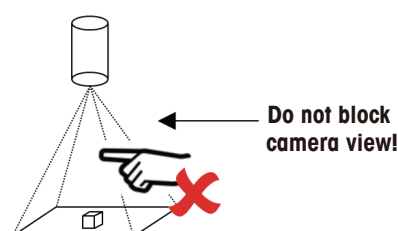


3. There is no object or human body around which can easily produce shadow or darkness over the platter, causing recognition errors.

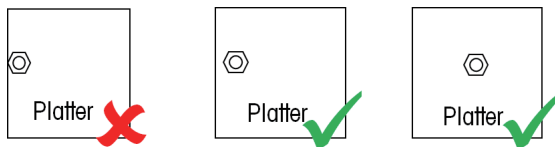
## During Operation:

📖 See "2.5.1 Adjusting White Balance" in the user manual for more information about the white balance adjustment.

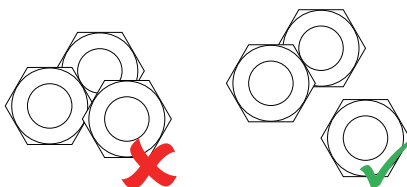
1. Check the ambient lighting constantly during operation. If the lighting conditions change, please readjust the white balance using the  softkey on the screen.
2. Do not block the camera's view when a material is being weighed and recognized. Do draw back your hand immediately after you place pieces of material on the platter for recognition.



3. Start weighing and recognizing with any recognizable material in the order. There is no necessary sequence among recognizable materials. Unrecognizable materials will be weighed after all recognizable materials are completed.
4. Make sure that all materials are away from the edges of the platter, otherwise, recognition errors may occur.

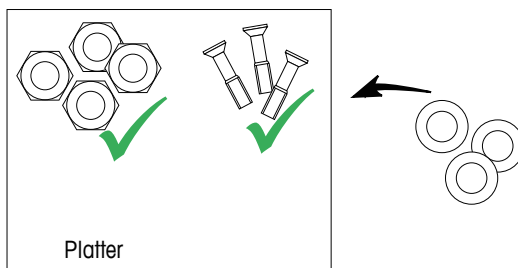


5. For any material that is newly placed on the platter, ensure that at least one piece of the material is not in contact with any other material, otherwise, recognition errors occur.



6. Do not remove any piece of the material, when weighing and recognition of the material is completed (judging by the "✓" mark and the **green** weighing /counting indicator in the screen as shown below).

7. Ensure that the current material is recognized and meets its target amount (judging by the "✓" mark and the **green** weighing /counting indicator in the screen as shown above) before you move to the next material. Otherwise, recognition errors occur.



8. If a material can roll easily, ensure that you place it on the platter steadily.
9. Avoid heavy shocks when you place any material on the platter.

[www.mt.com/InVision](http://www.mt.com/InVision)

For more information

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