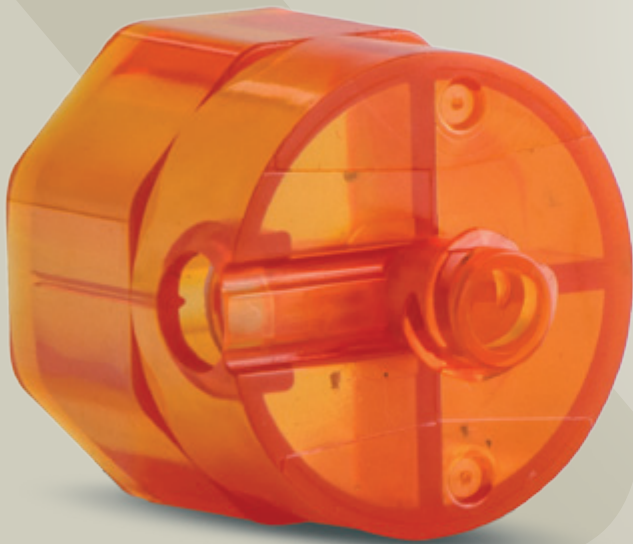


PHARMA-  
PACKAGING



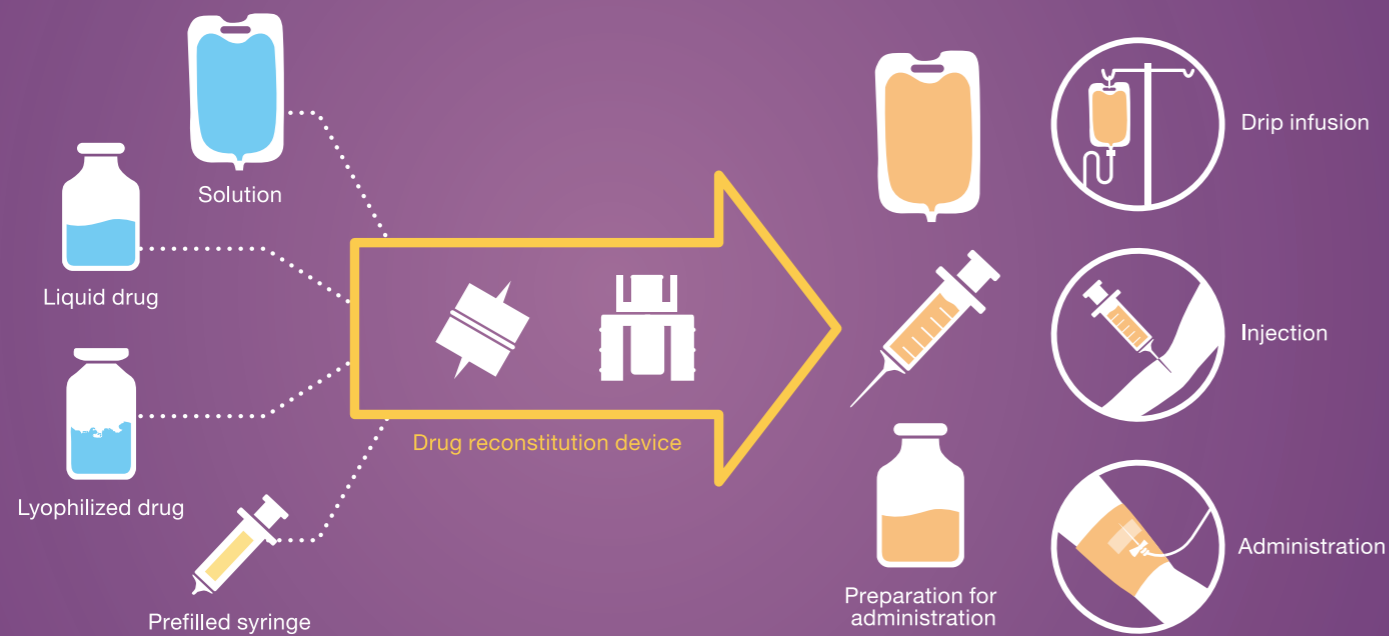
# DRUG RECONSTITUTION DEVICE

FOR PHARMACEUTICAL USE



# What is a Drug Reconstitution Device?

It is a device to prepare vial drugs (liquid & lyophilized) and solutions easily and safely for administration.



## FAST RECONSTITUTION

dedicated devices eliminate the need for complicated procedures

## SAFE NEEDLELESS

procedures for your safety

## REDUCED CONTAMINATION

and exposure with minimum procedures

## Transfer needle

Vial-to-vial connection through simple procedures



## Two Tock

Safe syringe-to-vial connection



## Three Tock

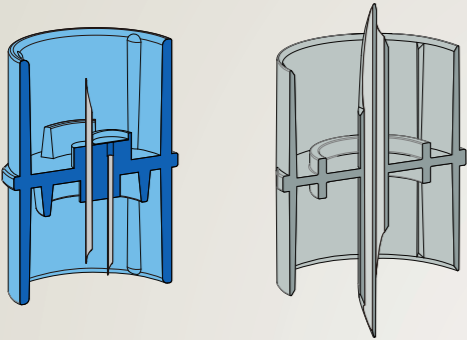
Vial drug dissolution and syringe preparation



We provide devices tailored to reconstitution and administration methods for various pharmaceuticals such as antibiotics, anti-cancer drugs and blood products.

# Reconstitution Steps

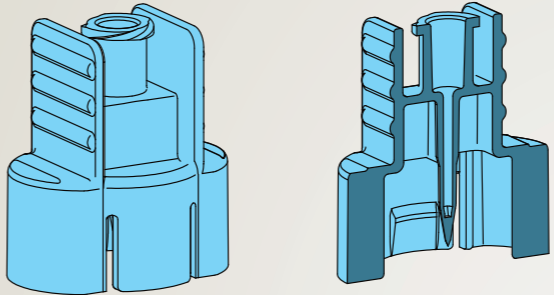
Complicated on-site procedures can be carried out safely and smoothly in several steps.



## Transfer needle

### Vial-to-vial connection

Needle types (e.g., metal and plastic) can be selected based on flow rates and applications.  
 Needles can be designed based on drug vial diameters



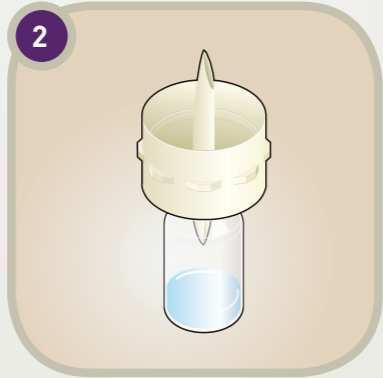
## Two Tock

### Vial-to-Syringe connection

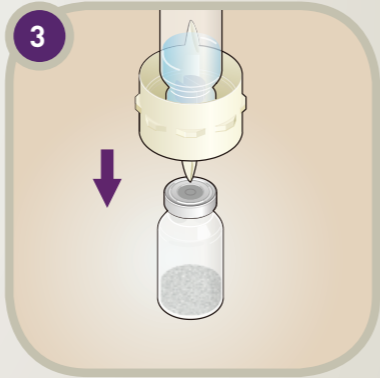
Filters or differential pressure release structures can be added depending on drug properties.  
 Designs can be based on drug vial diameters.



Vial-to-device connection



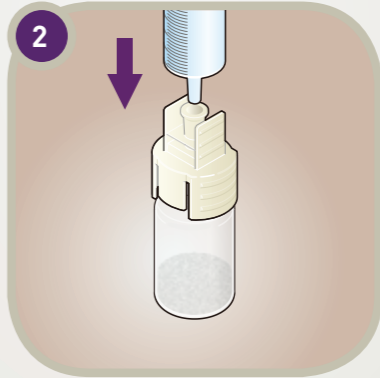
Connection check



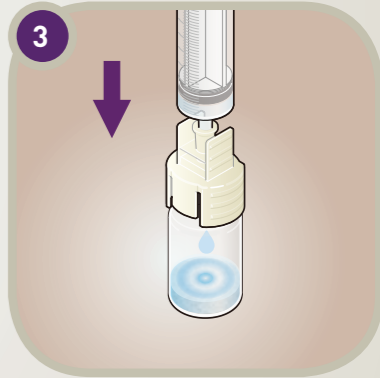
Connect to another vial



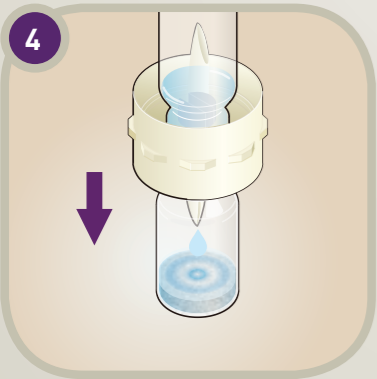
Vial-to-device connection



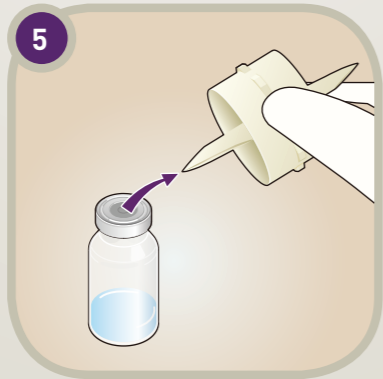
Connect to a solution syringe



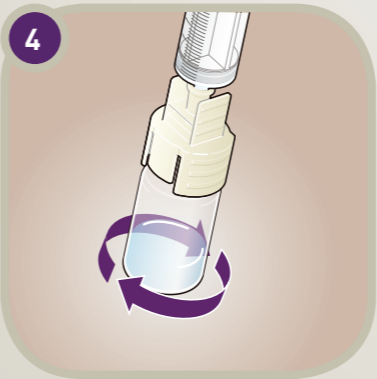
Injection of solution



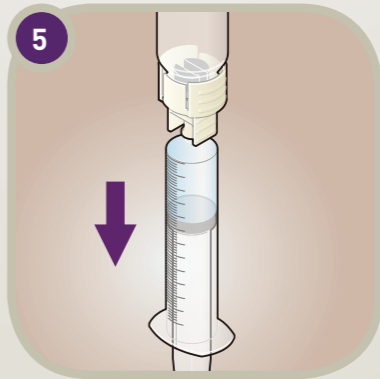
Transfer and dissolution



Dissolved



Transfer and dissolution



Syringe suction

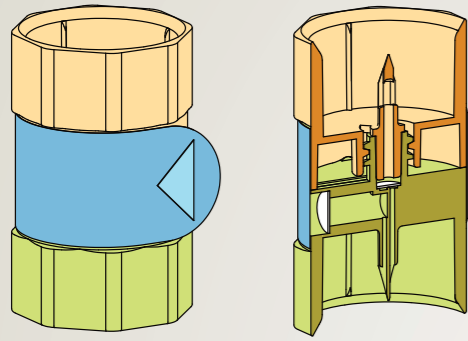
# Reconstitution Steps

Complicated on-site procedures can be carried out safely and smoothly in several steps.



# Examples

Making the complicated and troublesome procedures simple. Achieves improvement from the user's standpoint in drug solution reconstitution



## Three Tock

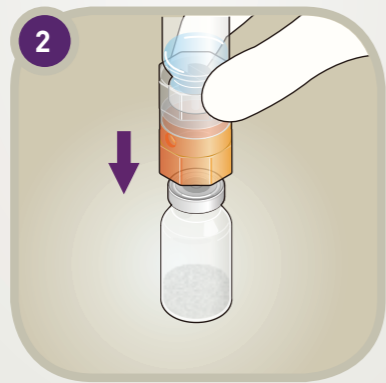
### Vial-to-vial-to-Syringe connection

Filters or differential pressure release structures can be added depending on drug properties.

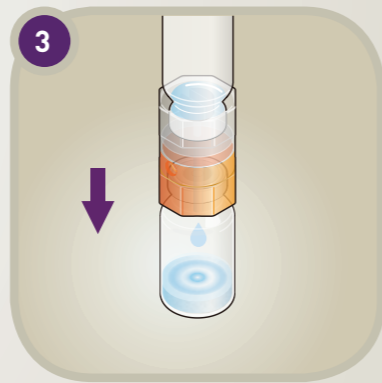
Designs can be based on drug vial diameters.



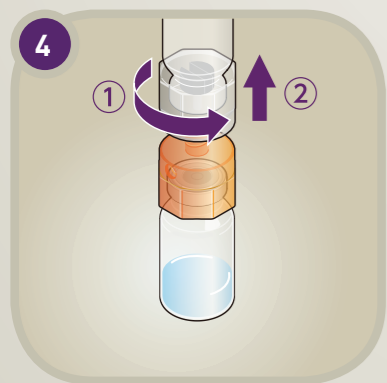
Vial-to-device connection



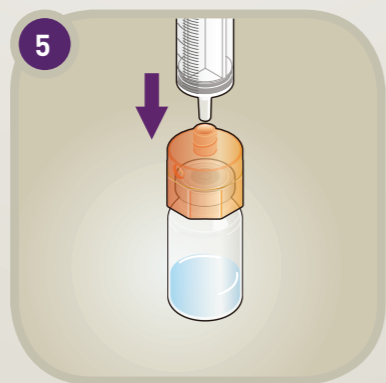
Connect to another vial



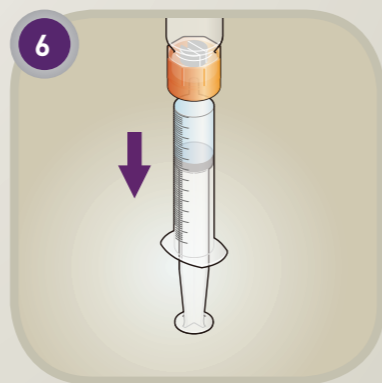
Transfer and dissolution



Separate device



Connect syringe

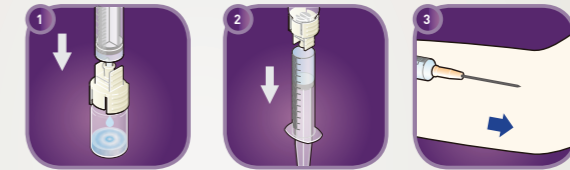
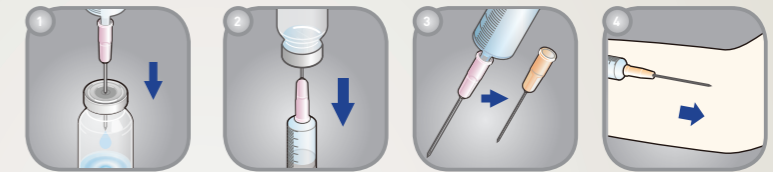


Syringe suction

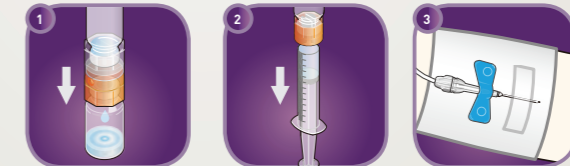
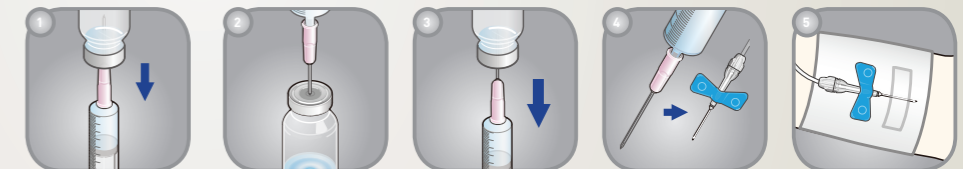
**Traditionally**, there are many steps using a needle, and a high risk of erroneous administration, requires solution injection needle and administration needle, complicated dissolution procedures.

**Nipro Drug Reconstitution Device** reduces solution procedure with needle and lower the risk of erroneous administration. No need of needle replacement. Enables preparation for administration in simplified steps.

with Two Tock



with Three Tock



## FAQ

**Q: Is this device applicable for foamy formulation? Is there any residual liquid in the device after it is used?**

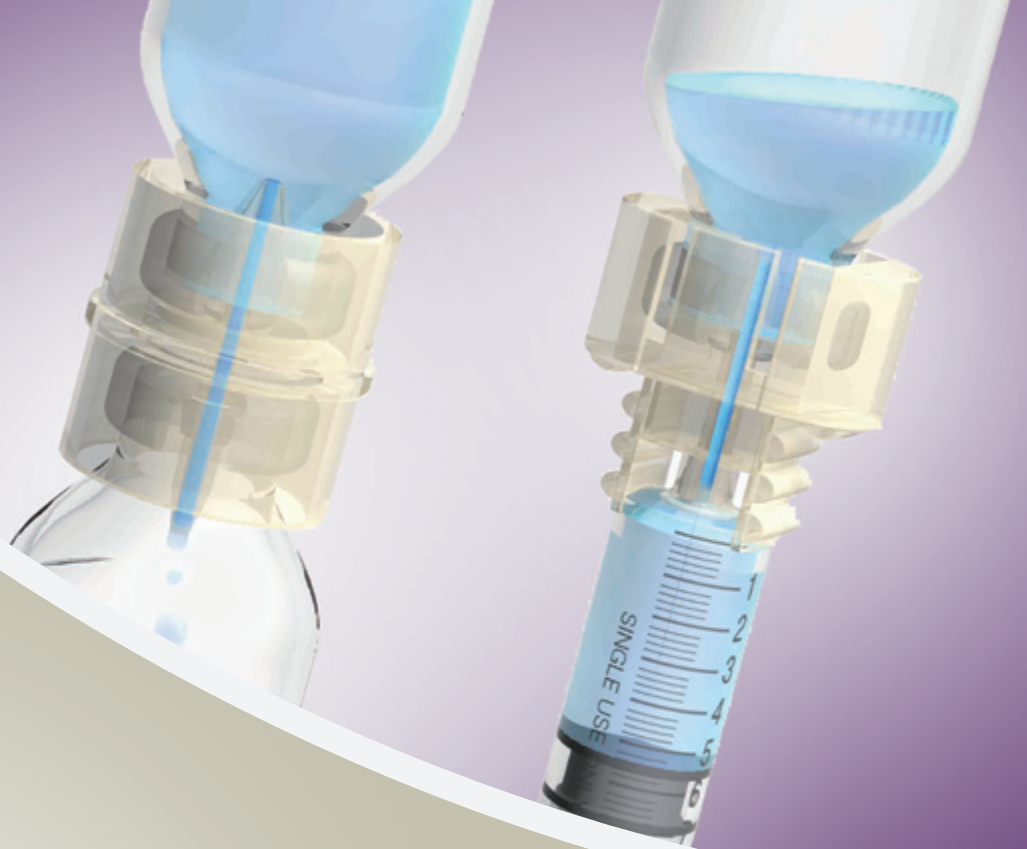
**A:** For example, the size and angle of the needle can be adjusted to control dissolution rate through delayed dropping. In addition, the length and shape of the needle can be adjusted according to the thickness of the rubber plug, minimizing the amount of residual liquid. The device can also be designed and developed based on drug properties.

**Q: We want the packaging to be easy to open and easy for users to identify.**

**A:** Selecting packaging based on operability and usability will provide user-friendly products with increased total values. The most appropriate packaging specification (e.g., pack, blister, and dedicated case) is proposed according to the formulation properties and preparation methods.

**Q: As the device comes in direct contact with a drug, there are concerns about bacterial contamination.**

**A:** The drug preparation device is consistently managed from material receipt to product shipment, and is manufactured, inspected and sterilized in the same clean environment as that for medical devices, thereby realizing high quality. In addition, users can be provided with protective caps and covers to prevent them from making direct contact with needles or inner surfaces.



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