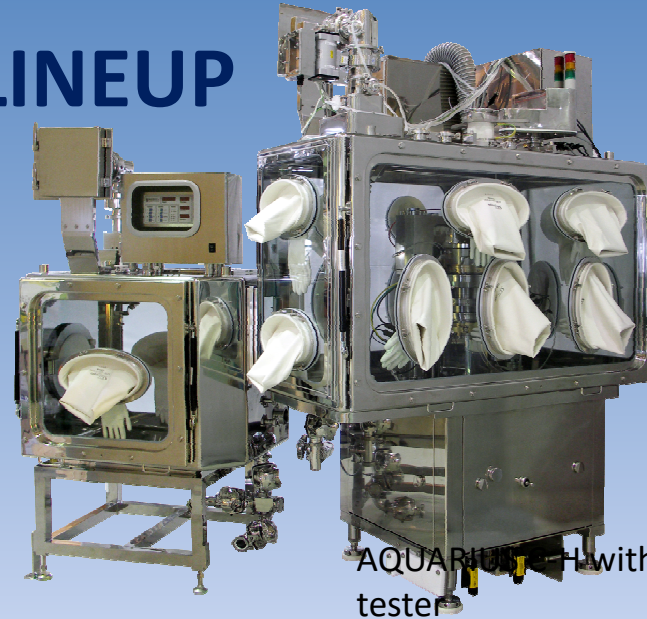


KIKUSUI AQUARIUS CONTAINMENT LINEUP

KIKUSUI®



VELA C-M R&D press



AQUARIUS C-H with Tablet
tester



AQUARIUS C-H with Combined
deduster (Standard type)

KIKUSUI CONTAINMENT PRESS REVOLUTION

- Frame construction → Isolator design
- Inside space expansion
- Body Seamless Construction
- Considered gloves position & number
- Optional tablet testing inside
- Simple & improved design of Product contact parts
- Powder loading
- Improved washing work



KIKUSUI®

AQUARIUS C-J (2001~)
First Containment press

ISOLATOR
CONCEPT

VELA C-M
R&D Initial scale
(2006 ~)



AQUARIUS C-H
Pilot/Production scale
(2009 ~)



KIKUSUI SEISAKUSHO LTD.

CONTAINMENT PRINCIPLE

KIKUSUI®

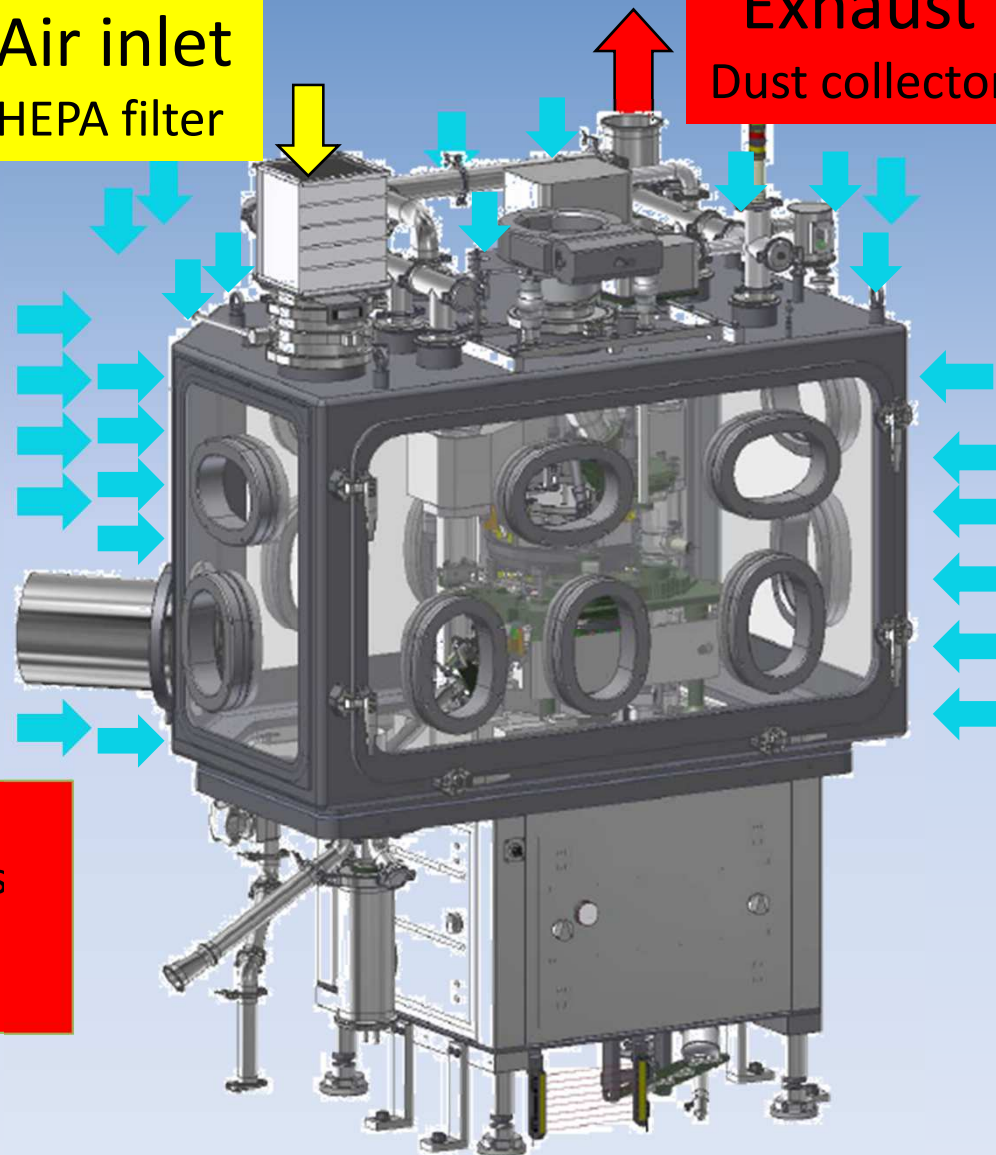
Air inlet
HEPA filter

Exhaust
Dust collector

Negative
pressure inside
by HEPA inlet &
Exhaust

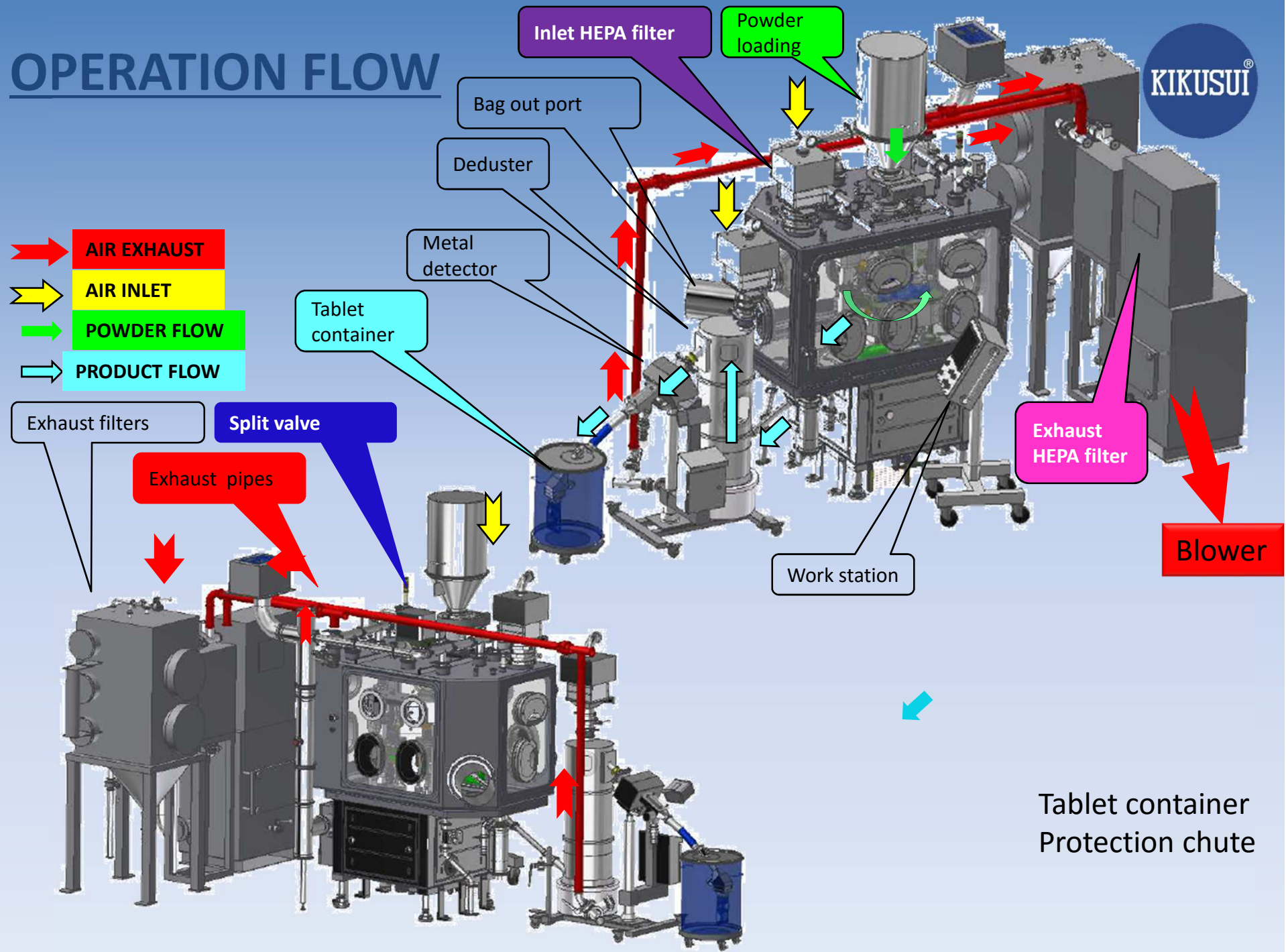
Ventilation
60times/h
 $2\text{m}^3/\text{min}$

Ensure 0.5m/s of
airflow, in case gloves
and bag in/out port
breaks.

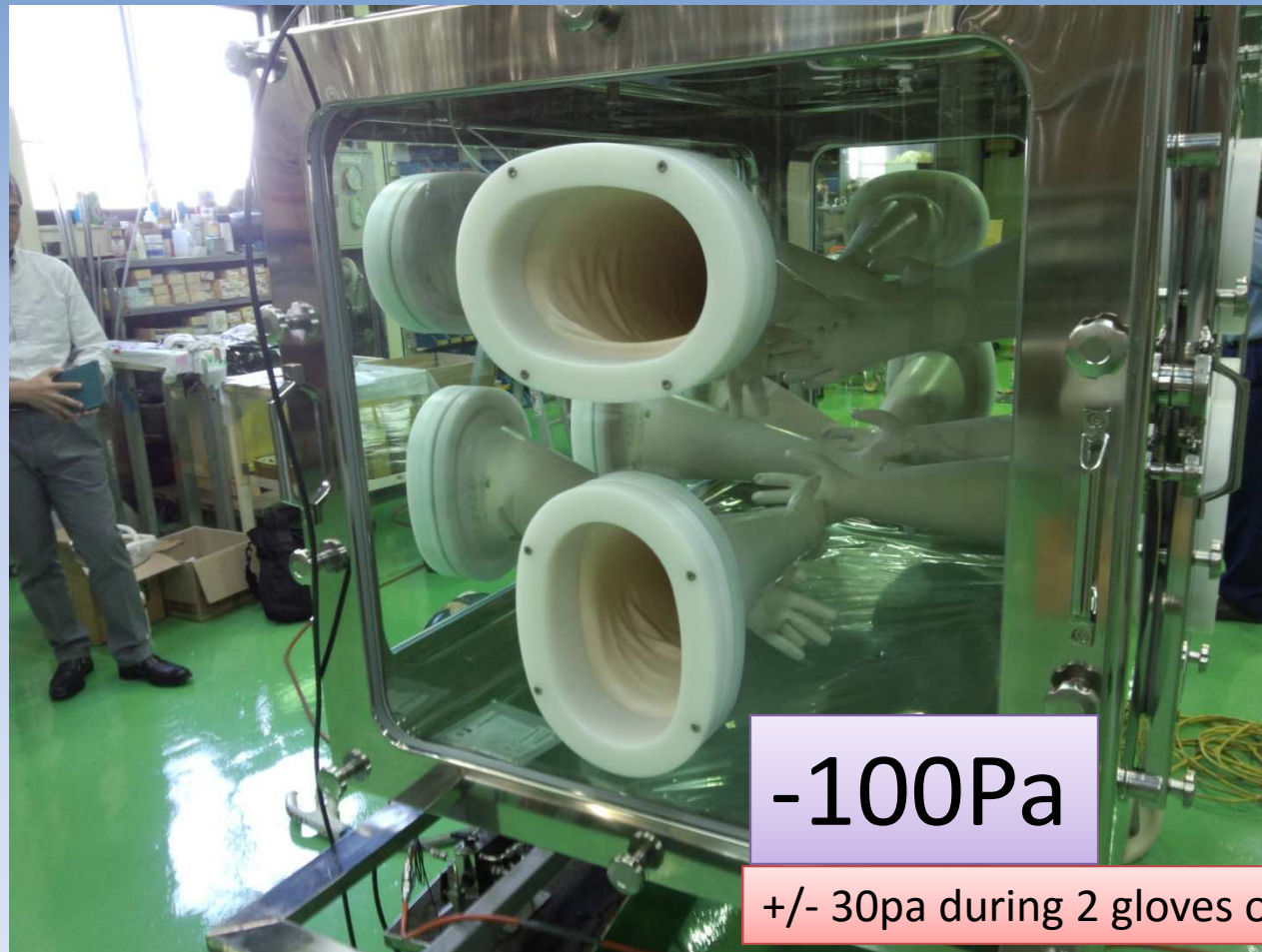


DO NOT NEED
PROTECTIVE SUIT

OPERATION FLOW



SUITABLE NEGATIVE PRESSURE



-100Pa

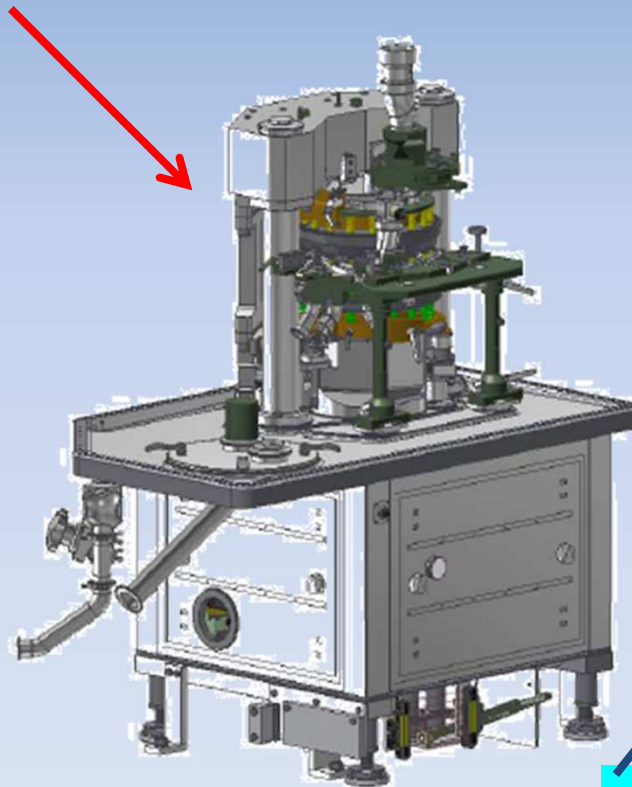
+/- 30pa during 2 gloves operation

NORMAL TABLET PRESS WITH -5~-20Pa

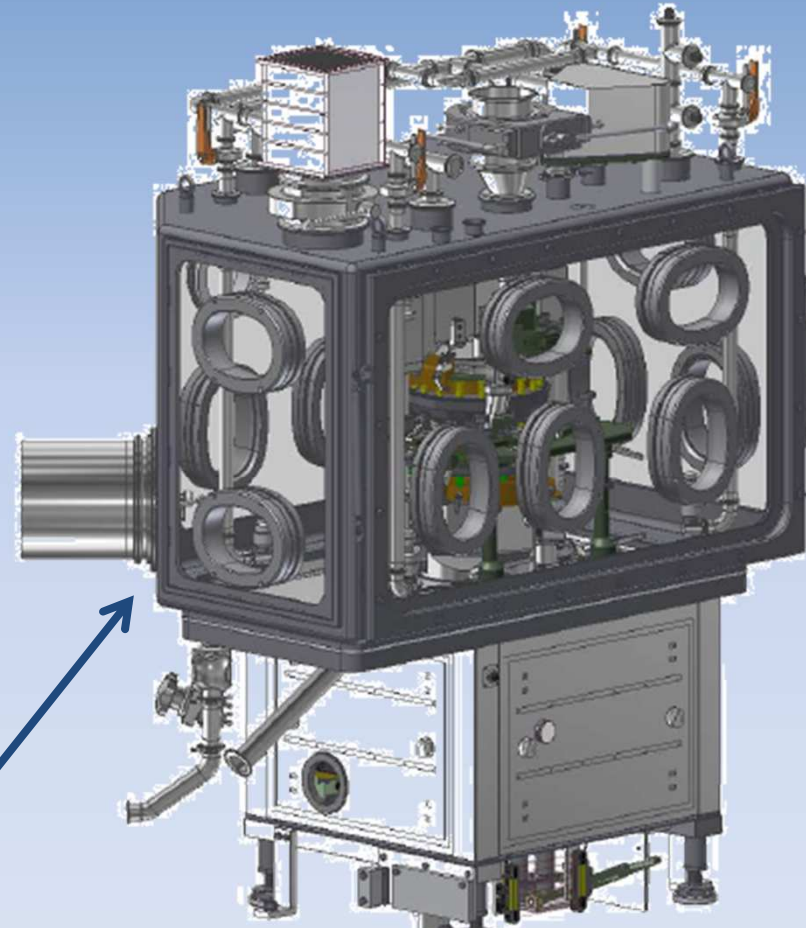
DEDICATED ENGINEERING of NEW CONTAINMENT PRESS

KIKUSUI®

**SIMPLE & SMART MECHANISM FOR
CONTAINMENT OPERATION**



**SUITABLE ISOLATOR DESIGN FOR
CONTAINMENT PRESS**

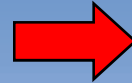
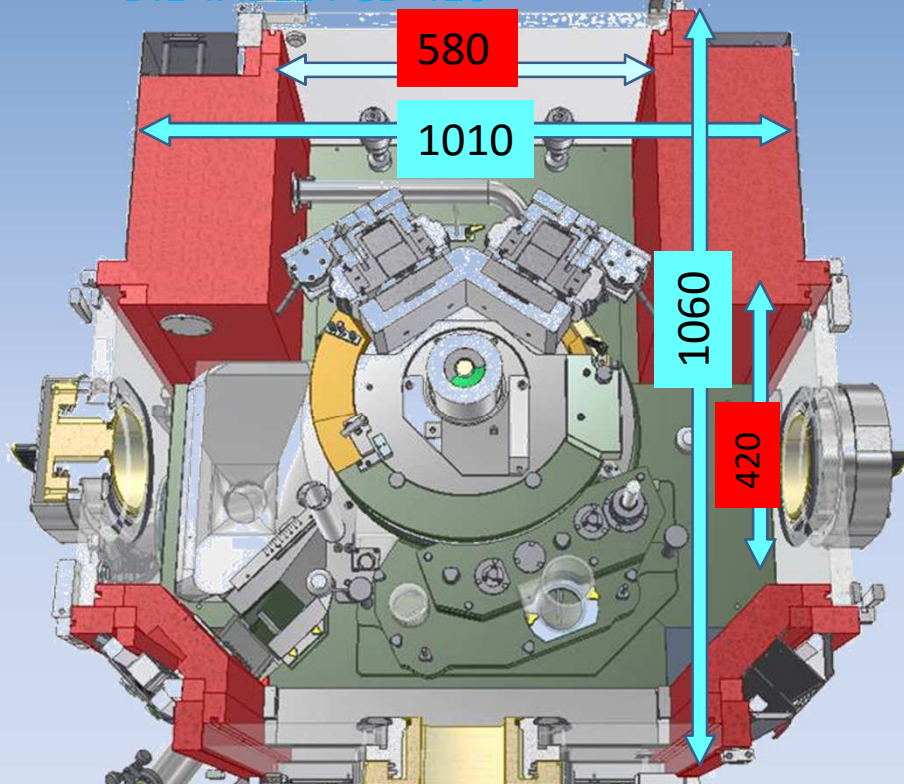


SPACE EXPANSION & GLOVE PLACEMENT

KIKUSUI®

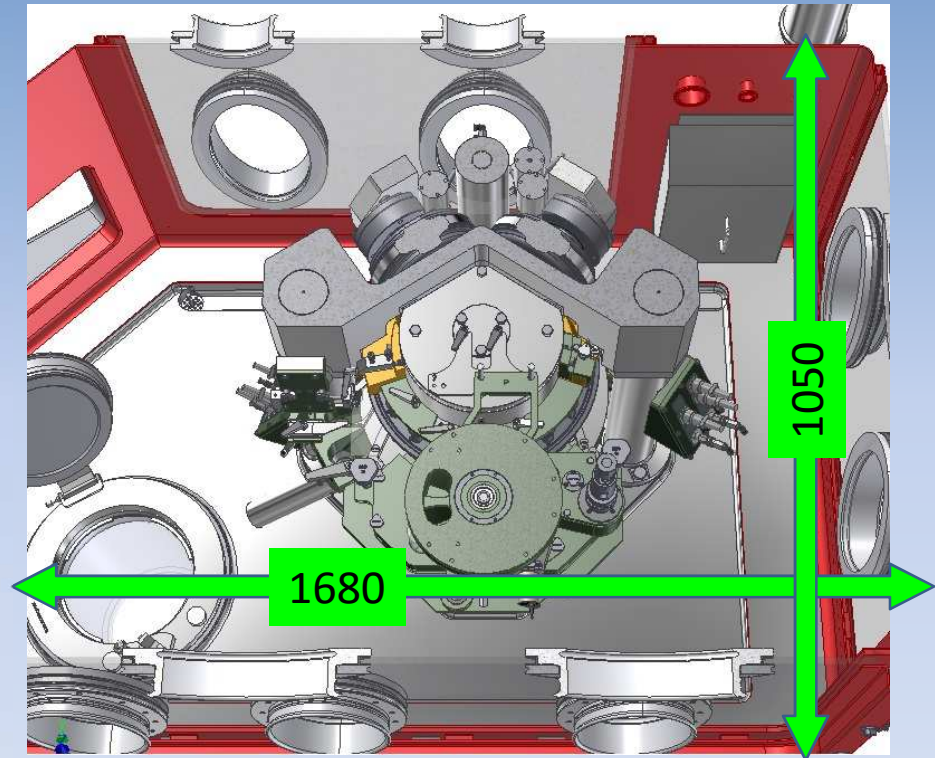
CONVENTIONAL <AQUC-J>

DIE TABLE PCD 410



DEDICATED <NEW AQUC-H>

DIE TABLE PCD 340



- EXPAND WORKING SPACE IN THE MACHINE BY CHANGING FRAME CONSTRUCTION
- INCREASE NUMBER OF GLOVES
- TABLET TESTING, WASHING SPACE, GOODS TRANSFER PORT CONSIDERED
- SEAMLESS DESIGN & SUITABLE GLOVE LOCATIONS
- SUITABLE TURRET SIZE AND STATION NUMBER FOR BATCH SIZE

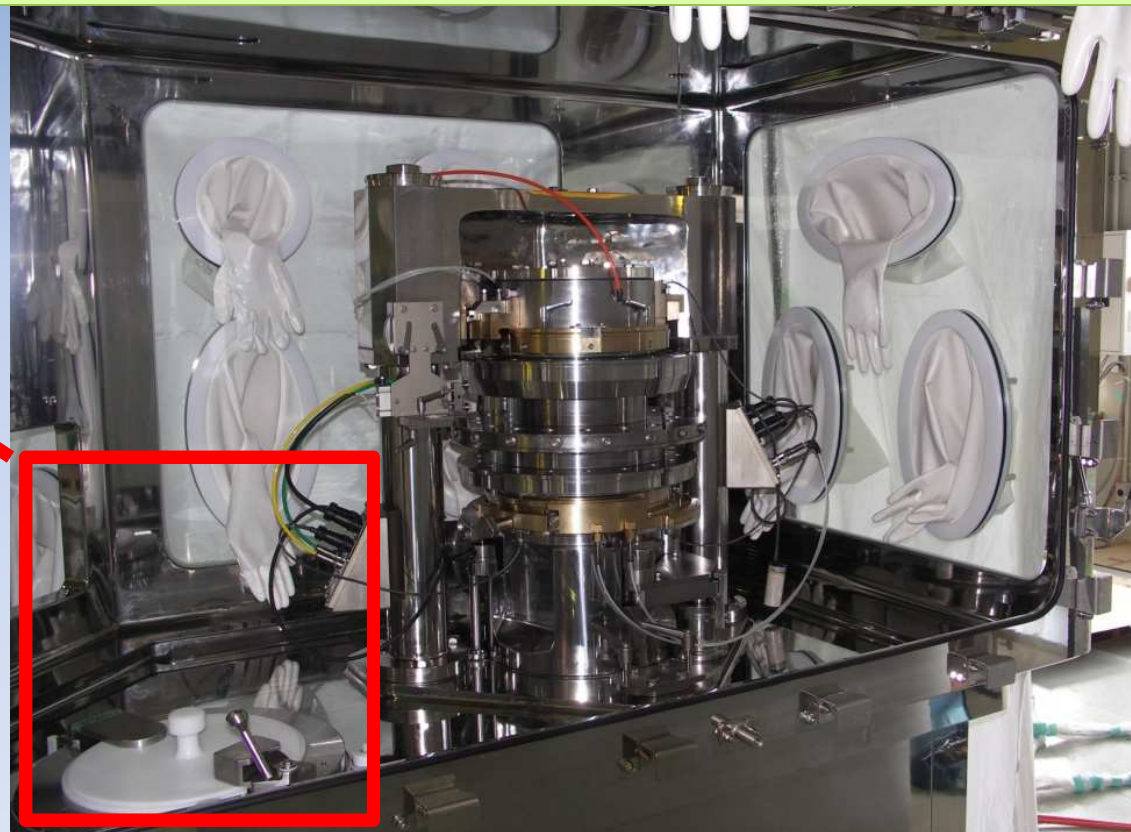
SPACE EXPANSION & GLOVE PLACEMENT

KIKUSUI®

- DEDICATED DESIGN FOR CONTAINMENT OPERATION,
- SINGLE HAND OPERATION: 550mm / 4kgs, BOTH HANDS ACCESS: 450mm / 8kgs
- EACH GLOVE LOCATION CONFIRMED THROUGH MOPUP & TEST



BODY SEAMLESS
CONSTRUCTION/MIRROR
POLISH



AQUARIUS C-H
Pilot & Production

KIKUSUI SEISAKUSHO LTD.

INTERNAL CONSTRUCTION

KIKUSUI®

GLOVE OPERATION

- TABLET TESTING ON PRODUCTION SETUP
- INSPECTION AND REPLACEMENT OF PUNCHES & DIES
- TAKE IN/OUT FOR TOOLING, PARTS & POWDER – RTP, BI & BO
- DUST CLEANING OPERATION
- RECOVERY FROM TABLETING FAILURE (STICKING, BINDING etc)

AQUARIUS C-H
Pilot & Production

WIDER WORKING SPACE IN THE MACHINE

- ENOUGH SPACE TO DISASSEMBLE MECHANICAL COMPONENTS
- POSITION & NUMBER OF GLOVES TO REDUCE BLIND SPOTS
- EASY ACCESS & WET/WASHING TO THE IMPROVED MECHANICAL ASSEMBLY
- WET & WASH OPERATION INSIDE

KIKUSUI SEISAKUSHO LTD.

GLOVE OPERATION DIE TABLE MANUAL OPERATION

PATENTED-3181925

KIKUSUI®



**DIE TABLE MANUAL OPERATION BY
FOOT PEDAL**



CONTAINMENT PRESS OPERATION MANUAL TABLET TEST

KIKUSUI®



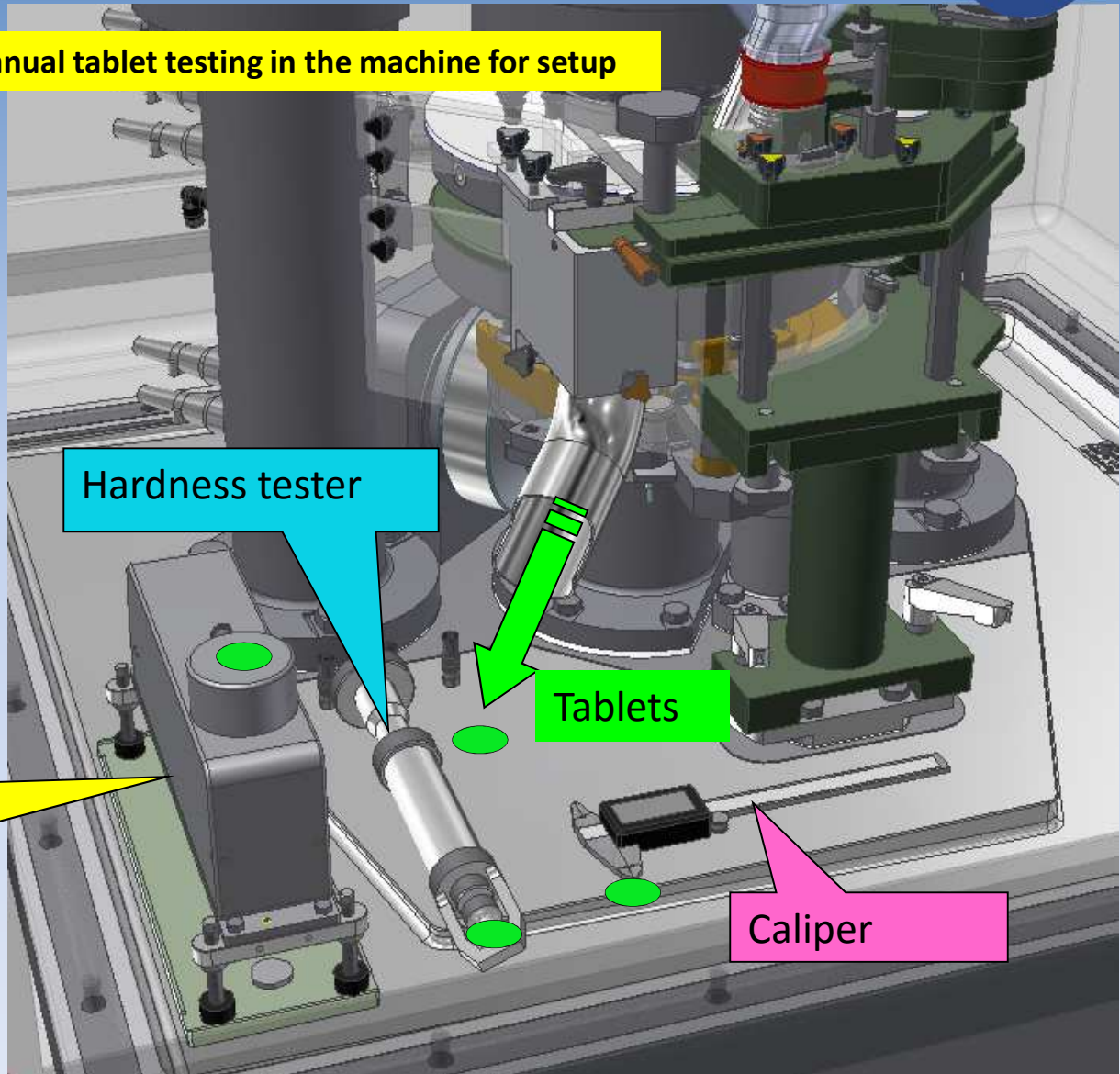
Manual tablet testing in the machine for setup

A&D
AD-4212C-301
Min display x Full scale
0.0001g x 51g
IP65

Electronic scale



Mettler toledo
WMS404C-W
Min display 0.0001g x Full scale 410g
IP54 / IP66(Wash mode)



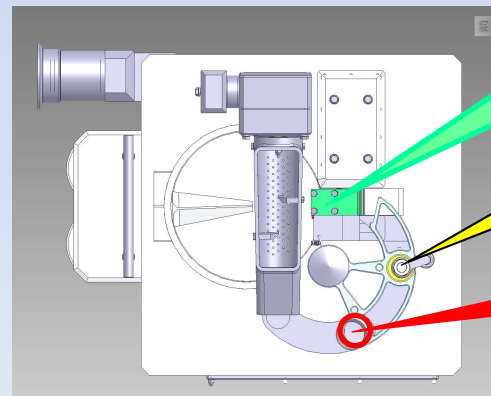
KIKUSUI SEISAKUSHO LTD.

CONTAINMENT PRESS OPERATION AUTOMATIC TABLET TEST

KIKUSUI®

**Tablet tester installed into the
separate isolator**

- Tablet weight, thickness, diameter & hardness tests
- Auto weight regulation



**Diameter
Hardness**

Thickness

Weight



UTS-IP65i
Washable
Kraemer Universal
Tablet
Testing System
600X600X600
80kg

WETDOWN

- OPERATOR, PRODUCT & ENVIRONMENT PROTECTION
- WETDOWN PROCESS BEFORE DISASSEMBLING
- WET MECHANICAL COMPONENTS TO WASH ROOM



**RESIDUAL REVIEW
AFTER WETTING DOWN**

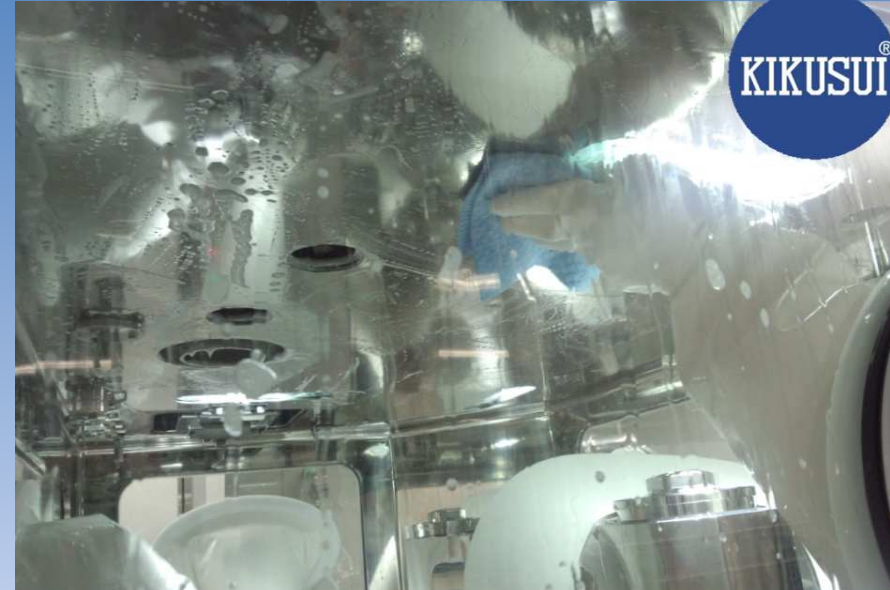


WETDOWN BY HANDY WATER GAN

WASHING



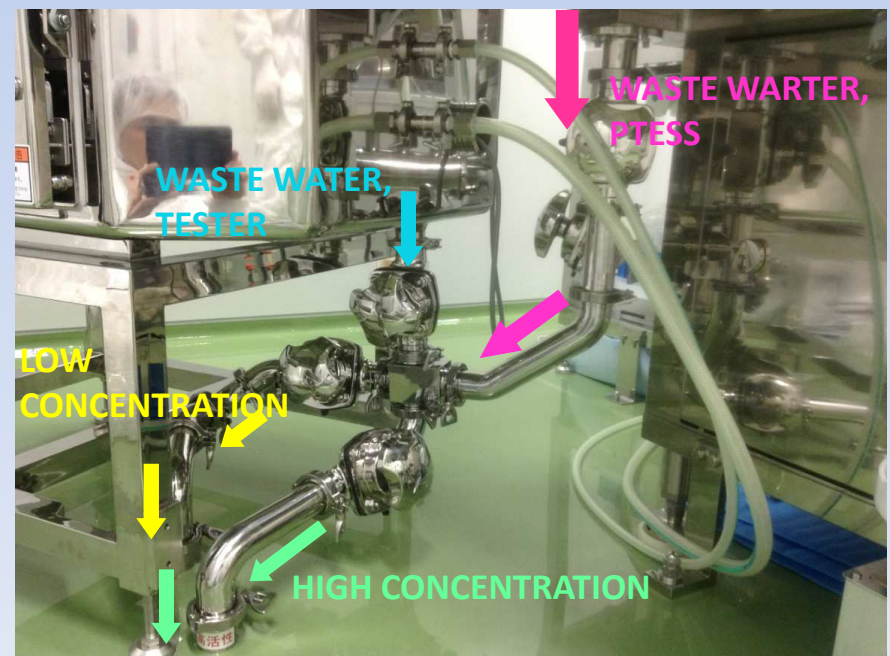
Poorly-soluble drug may need Rubbing wash



WASHING BY ALKALINE DETERGENT

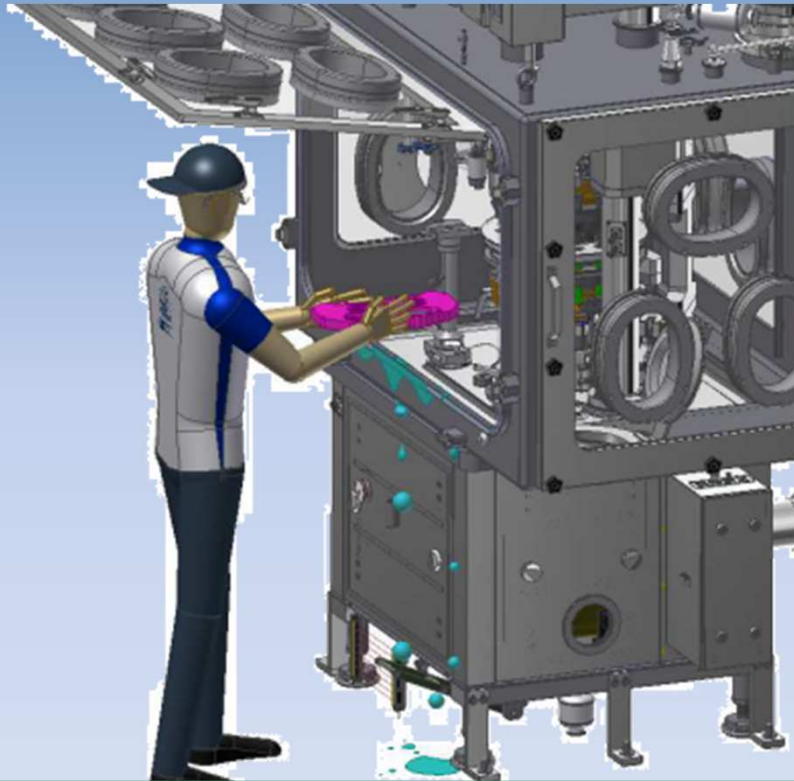
DRAINING

- HAZARD DRAINAGE & GENERAL DRAINAGE
- DIAPHRAGM VALVE

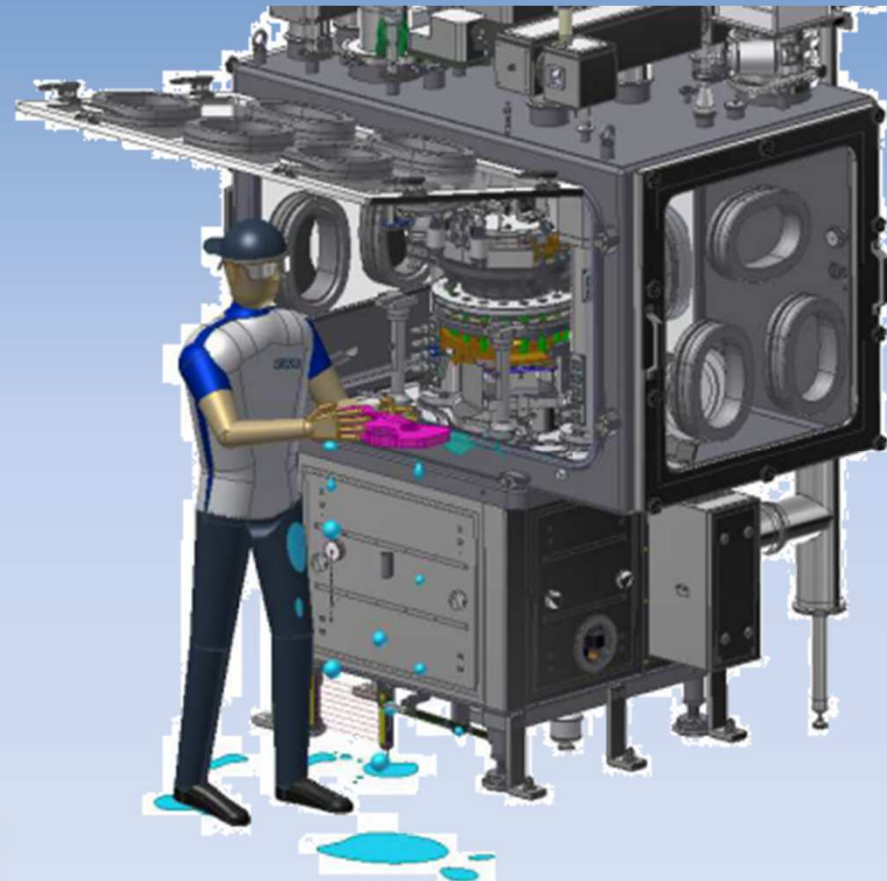


WETTING TO WASHING

PRESENT



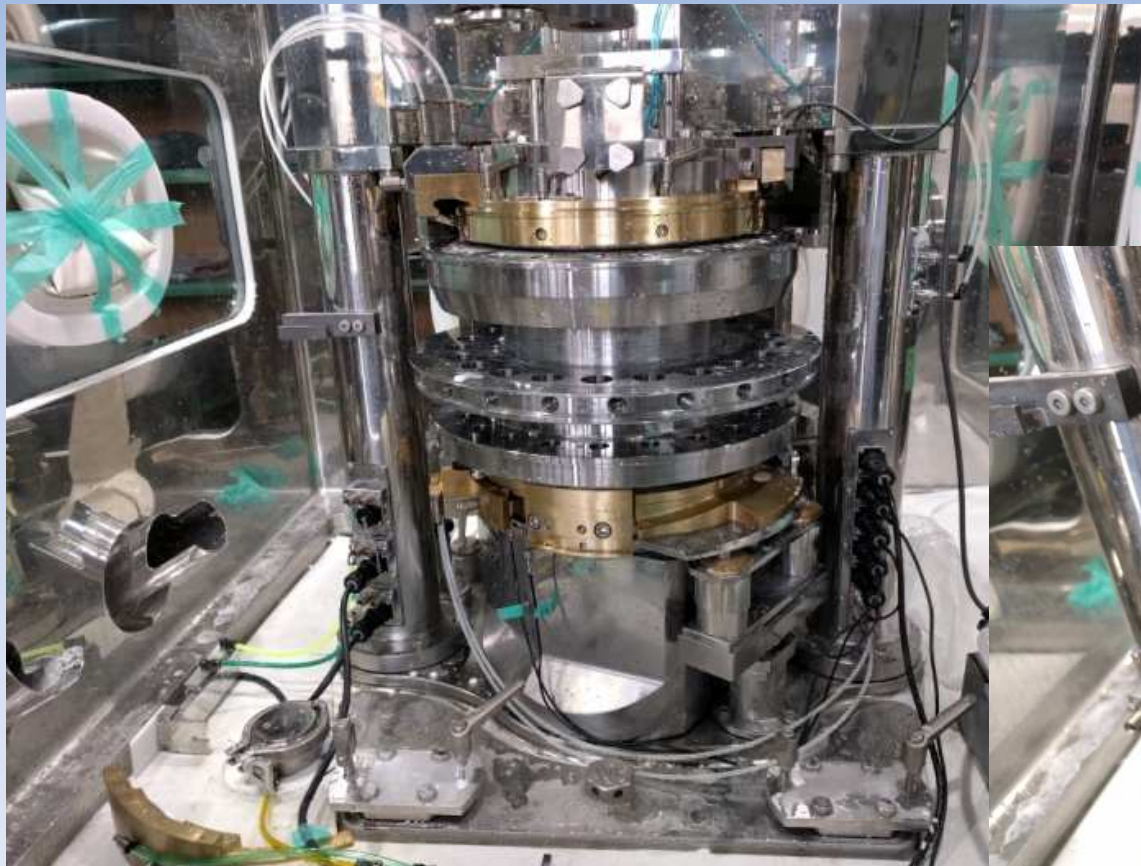
TRANSFER MECHANICAL COMPONENT
AFTER WETTING DOWN
➔ RISK TO DROP WETTING WATER ON
THE FLOOR



DURING WET COMPONENTS TO WASH
ROOM, WET SUIT AND WASH WATER
MAY EXPAND POLLUTION

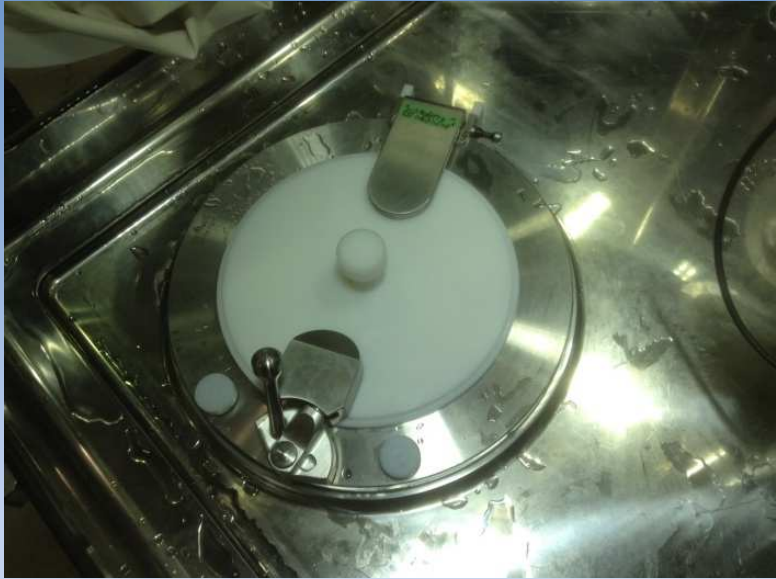
WETTING TO WASHING

PRESENT



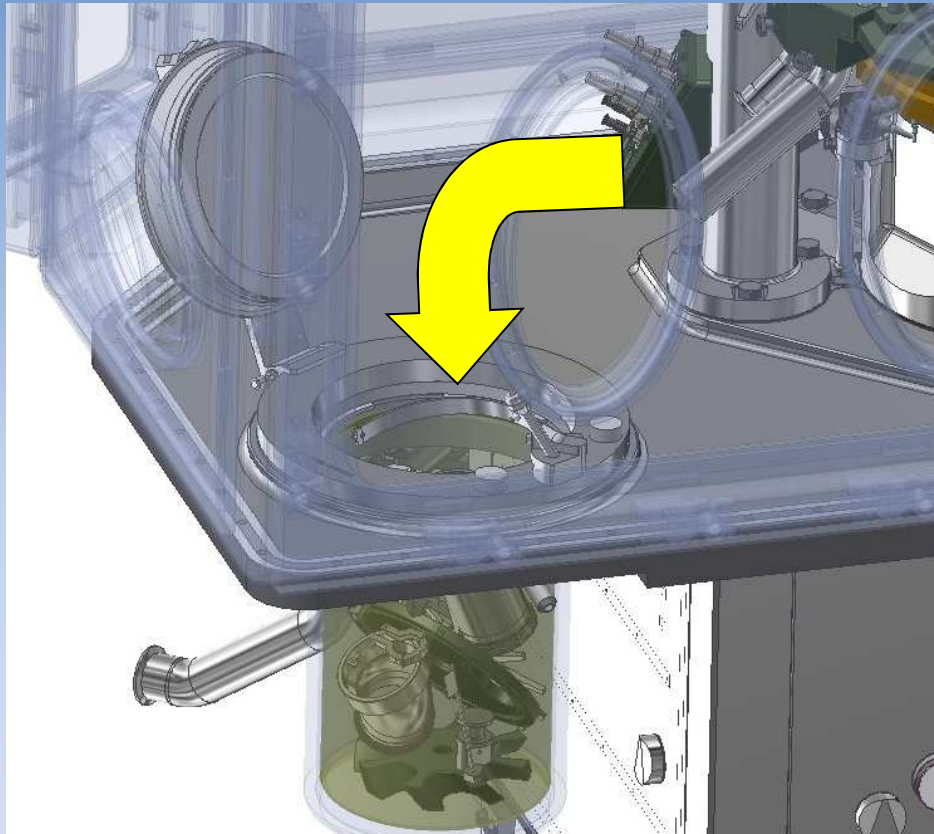
CONTAINMENT PRESS OPERATION RAPID TRANSFER PORT

SOLUTION



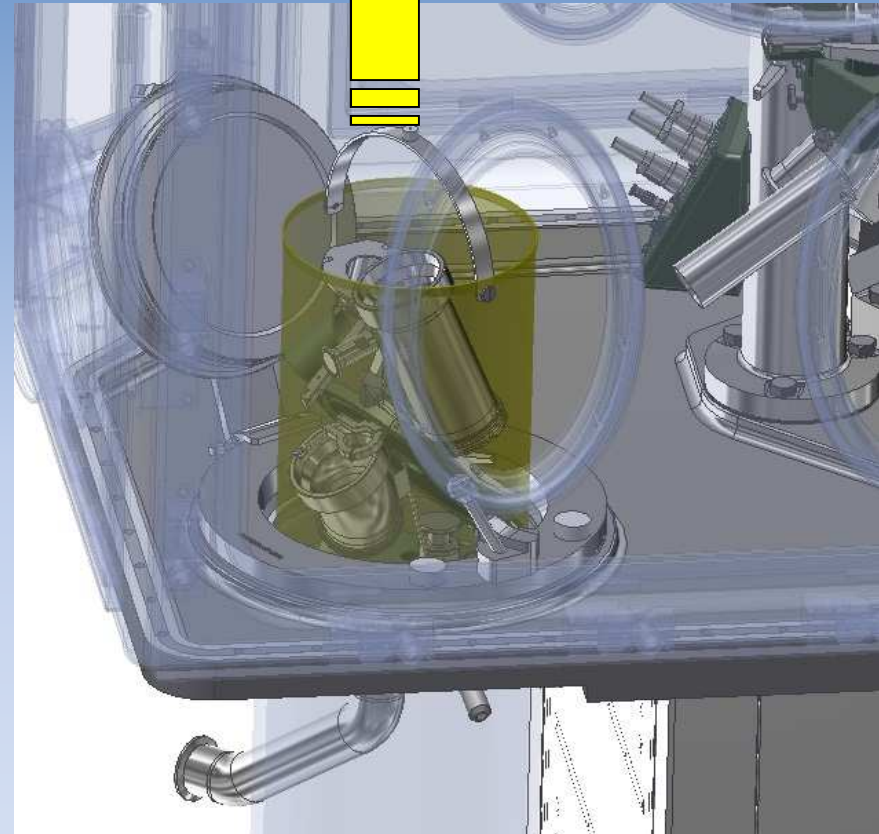
CONTAINMENT PRESS OPERATION RAPID TRANSFER PORT

SOLUTION



VERTICAL CARRY OUT

- EASY TO BRING THE PARTS INTO THE
BACKET



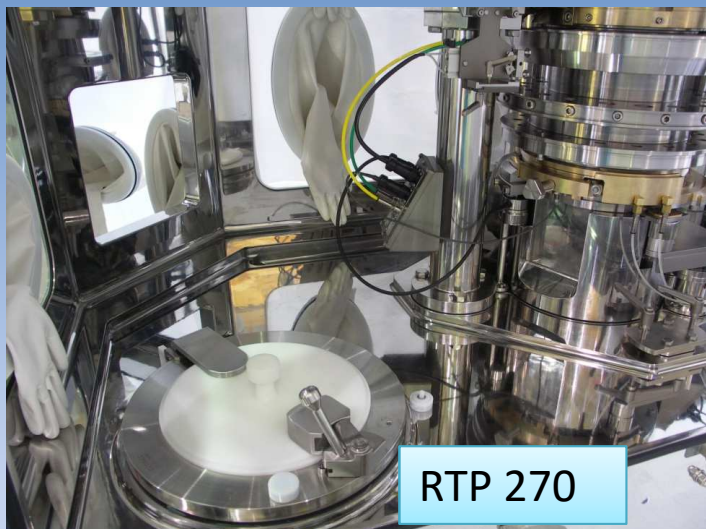
VERTICAL CARRY IN

- BRING THE BACKET INTO THE MACHINE

PATENTED-5922412

CONTAINMENT PRESS OPERATION RAPID TRANSFER PORT

KIKUSUI®



RTP 270



β CANISTER
CLOSED TRANSFER CONTAINER



WET GOODS TO WASH GLOVE BOX

EXAMPLE
CLOSED TRANSFER BAGS



BAG OUT SYSTEM



β CANISTER & BAG OUT PORT



WETTING TO WASHING

NEW
PROPOSAL



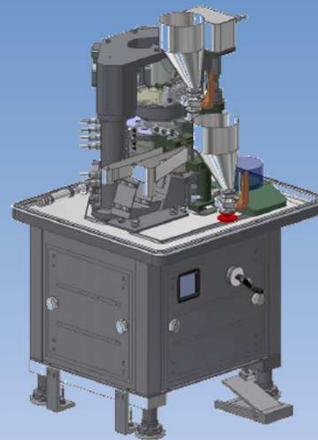
MINIMIZE THE RISK OF POLLUTION BY MECHANICAL TRANSFER



SINK CART TO MINIMUZE
WASTE WATER LEAK/DROP ON
THE FLOOR

SAFE TRANSFER BY
SINK CART TO
WASHING BOOTH

VELC-M (AQUC-H) GLOVE BOX VARIATION



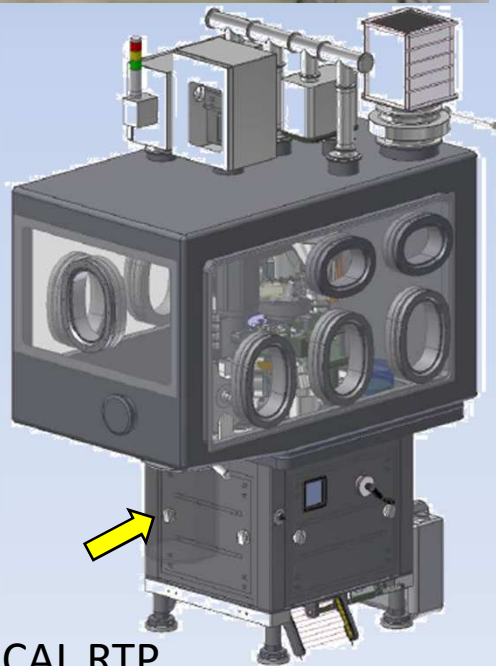
WITHOUT
GLOVE BOX



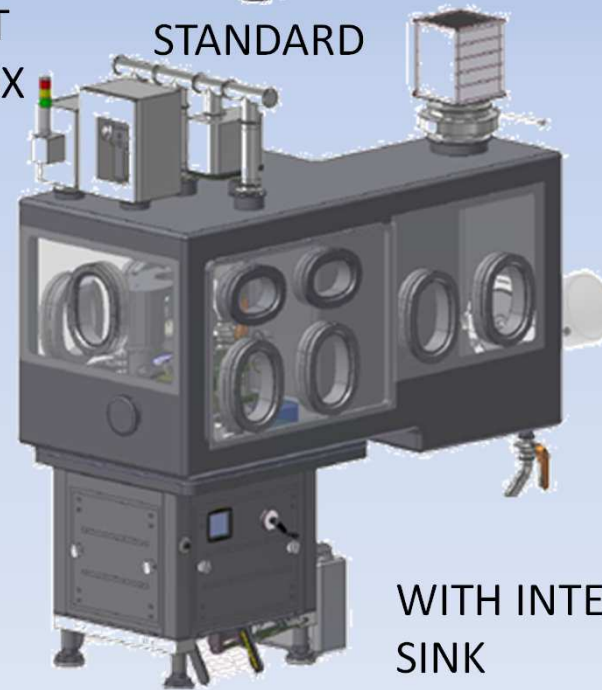
STANDARD



NARROW



WITH
VARTICAL RTP



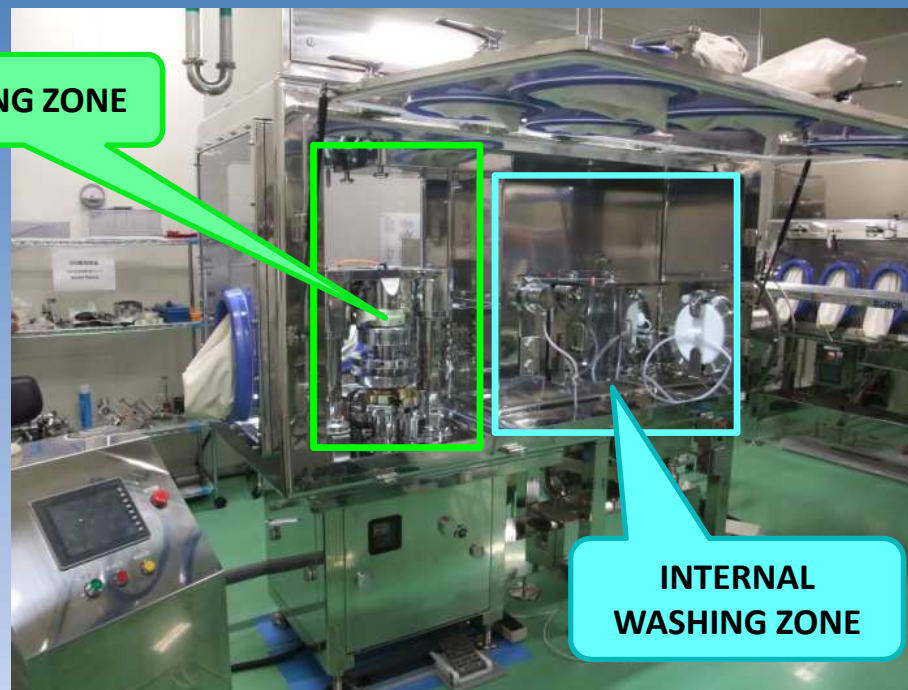
WITH INTERNAL WASH
SINK

GLOVE BOX VARIATION ACCORDING TO USER REQUIREMENT ON SAME PRESS PLATFORM



VELC-M
Containment Press

TABLETING ZONE

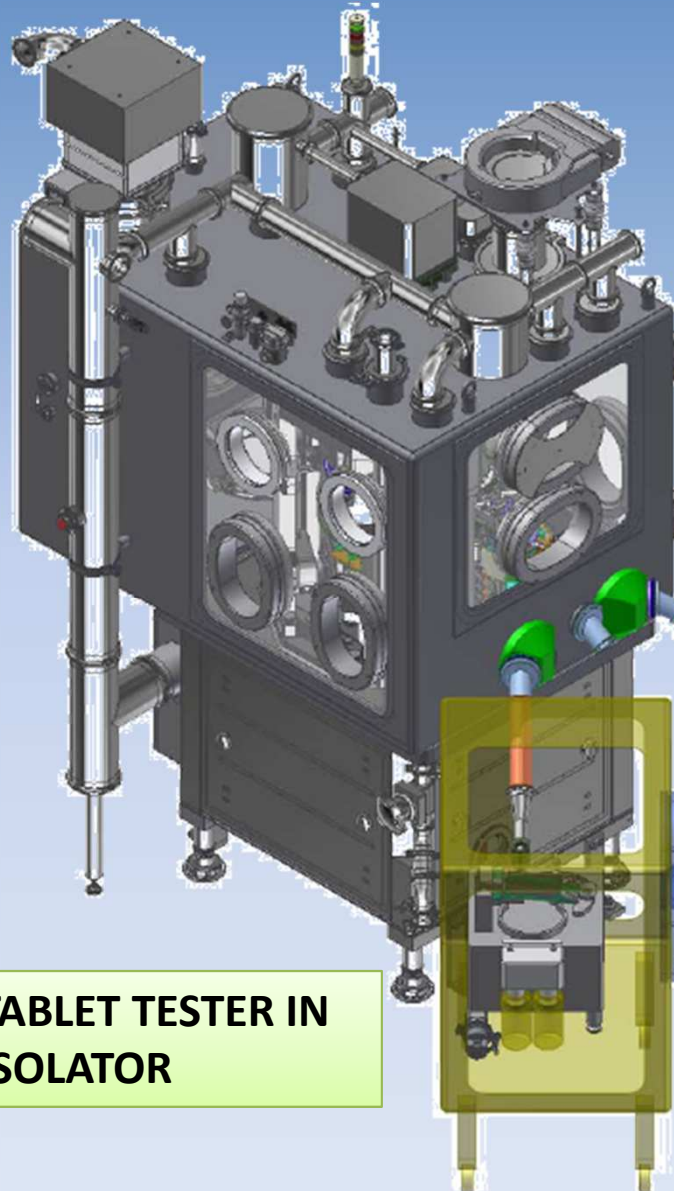


INTERNAL
WASHING ZONE



CONTAINMENT DESIGN TO ANCILLARIES

KIKUSUI®



**DEDUSTER &
METAL DETECTOR
IN ISOLATOR**

**TABLET TESTER IN
ISOLATOR**

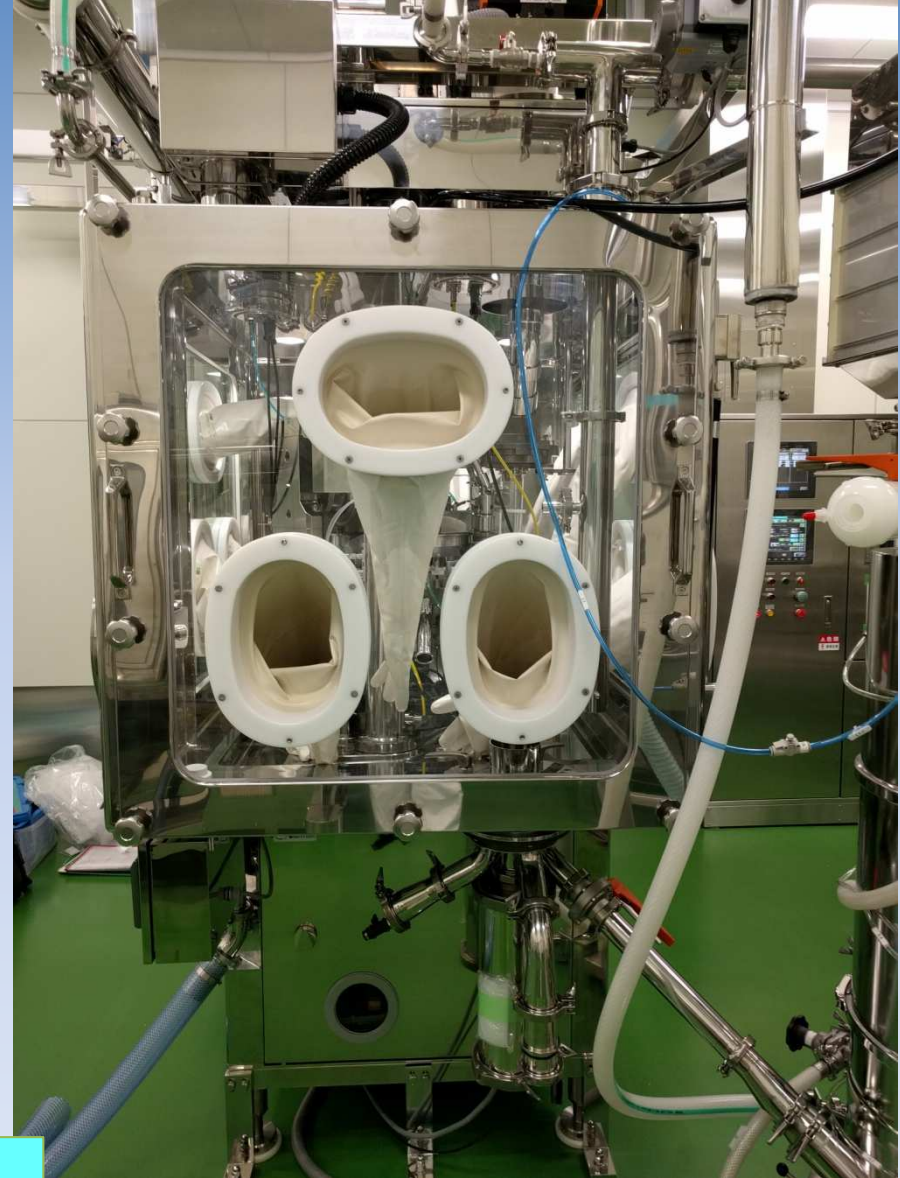
**ROTARY DISC
SAMPLING SYSTEM**

KIKUSUI SEISAKUSHO LTD.

CONTAINMENT DESIGN TO ANCILLARIES



STANDARD DISCHARGE SYSTEM



SPECIFICATION

| MODEL | AQUARIUS C-J | AQUARIUS C-H | VELA C-M |
|---------------------------|--|---|--|
| STATION NUMBER | BB 45 B 36 | B 18 (BB 37 B 30) | B 12 (B15 BB18) |
| DIE TABLE PCD | φ 410 | φ 340 | φ 170 |
| MAXIMUM PRESSURE | PRE20kN MAIN100kN | PRE20kN MAIN50kN | PRE5kN MAIN30kN |
| MAIN MOTOR | 7.5kW | 3.7kW | 1.5kW |
| TURRET SPEED | 20~100 | 10~70 | 10~40 |
| YIELD | 54,000~270,000tab/h 43,200~216,000tab/h | 10,800~108,000tab/min (22,200~222,000tab/h) (18,000~126,000tab/h) | 7,200~28,800tab/min (9,000~36,000tab/h) (10,800~43,200tab/h) |
| FLOOR SPACE | 1060 × 1010 | 880 × 930 | 660 × 740 |
| WEIGHT | 4000kg | 3000kg | 1500kg |
| FEEDER PADDLE | 2 paddles | 2 paddles | 1 paddle |
| FOOT PEDAL | None | Included | Included |
| TURRET EXCHANGEABILITY | Included | Included | Included |
| DRY MODE | Vacuum | None | None |
| AUTO LUBRICATION | Included | Included | Included |
| INTERNAL PRESSURE CONTROL | None | Option | Option |
| TABLET REJECTION | Air blow | Cylinder | Cylinder |

