

KIKUSUI



Legendary Quality and Reliability

Company Profile

Office, Plant : Kyoto Japan (branch in Tokio)
Established : 1910
Employee : aprox. 240 (turnover aprox 85 MLN \$)
Subsidiary : KIKUSUI USA, INC
Lakewood, NJ, USA
KIKUSUI EUROPE (manufacturing plant)
Muggiò , ITALY
Agencies : more than 50 countries covered by our rep.



KIKUSUI SEISAKUSHO LTD.

Company Philosophy

The **quality** is a goal that requires commitment and collaboration; The result ? Simply to have our machines working smoothly in your companies, day after day, year after year, **trouble free**, to run your products according to your plan, and your trust in us confirmed with new request ,or just with 5 words when we meet "excellent machine, **we are satisfied** . “

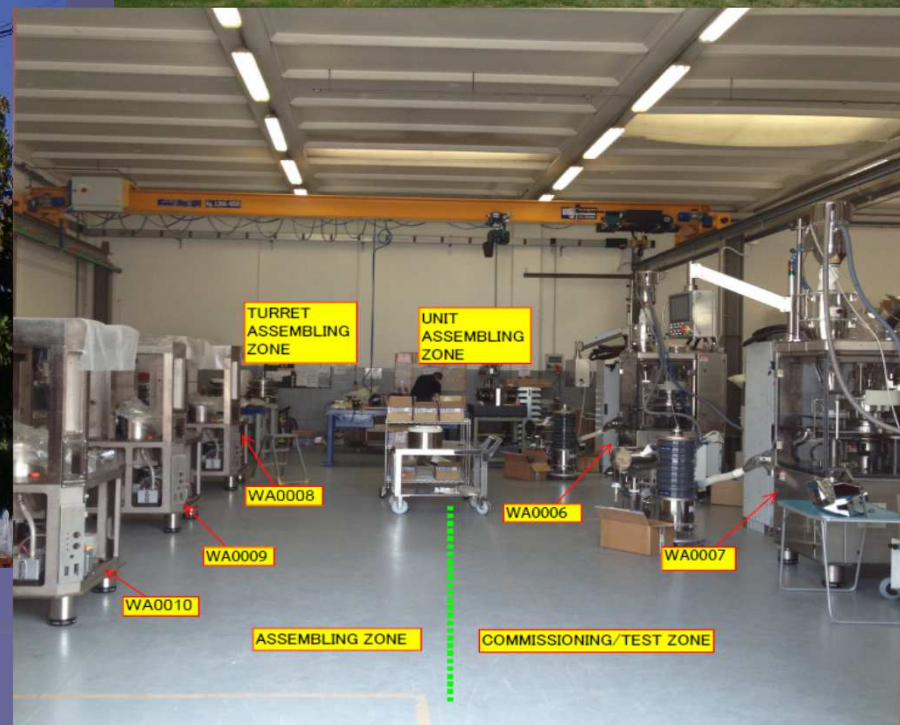
Quality is a continuous improvement of all that is possible and **useful** to improve, based on new knowledge and ideas , coming by our technical staff or by our customer ideas

Company Philosophy

The **quality** is the wish to develop and test new technologies and solutions, listening to your advice, following your needs, looking to the future , but well aware of what was done in the past.

Unfortunately , quality need **time** , **experience** , **qualified person** , **professional supplier** , **best material** ,all of this has a **cost**, but it is really nothing compared to your daily manufacturing reliability and ease of operation.

Kyoto office building , US and European plant



- AQUARIUS C series-washable and containment
- Single and double sided , standard and bi –layer
- Wetting , manual or full automatic washing



AQUARIUS G high performances /best price



Quick & Simple Turret Exchange

KIKUSUI®



- Integrated Swing Arm
- TSM – B or TSM – D
- Turret Exchange SOP screen makes exchange simple and mistake free
- Entire process can be completed in less than 20 minutes

VELA G

- Small scale tableting for initial development.
- Turret exchangeability to allow for TSM-B & TSM-D use.



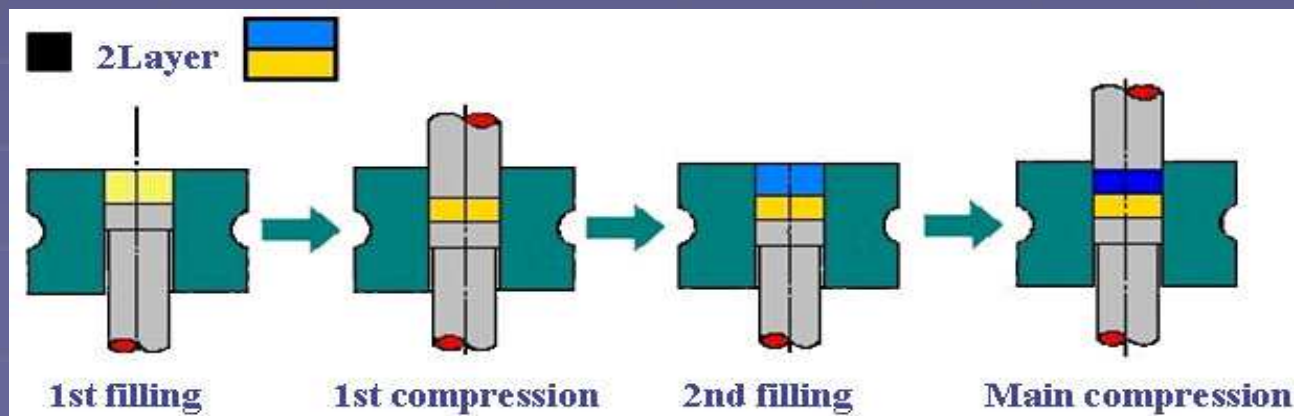
LD Press : Multi-functions R&D machine for Standard , Bi-Layer & Dry Coating



KIKUSUI PRESSES for Bilayer tablets



NEWG 08552L1KZ



KIKUSUI PRESSES for Three-layer tablets

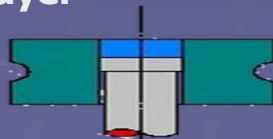


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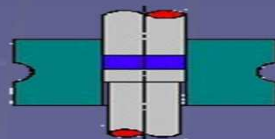


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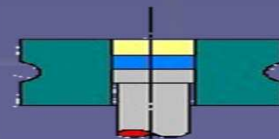
3Layer



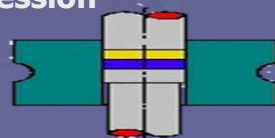
1st filling



1st compression



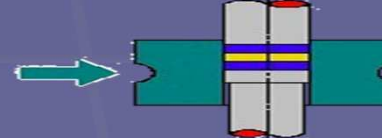
2nd filling



2nd compression



3rd filling



Main compression

AQURIUS G/J DC MODULE



Production process dedicated for Dry coating tablets



1st filling

Core feeding

Compression

2nd filling

Discharge

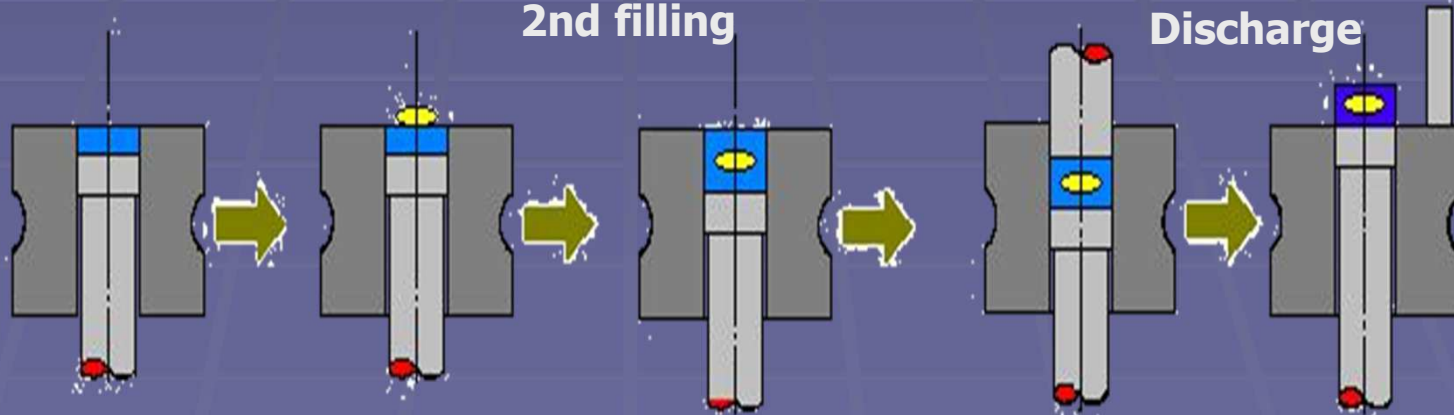
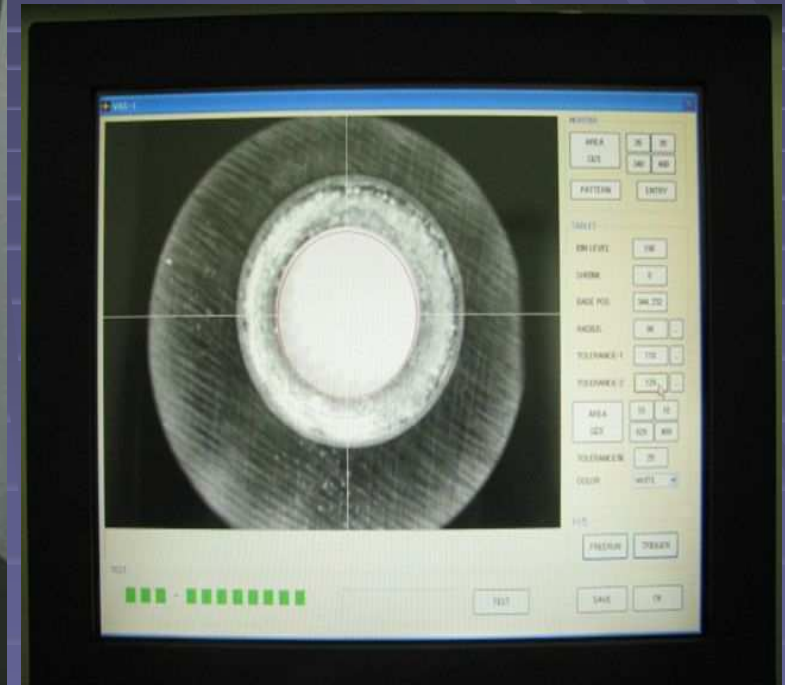
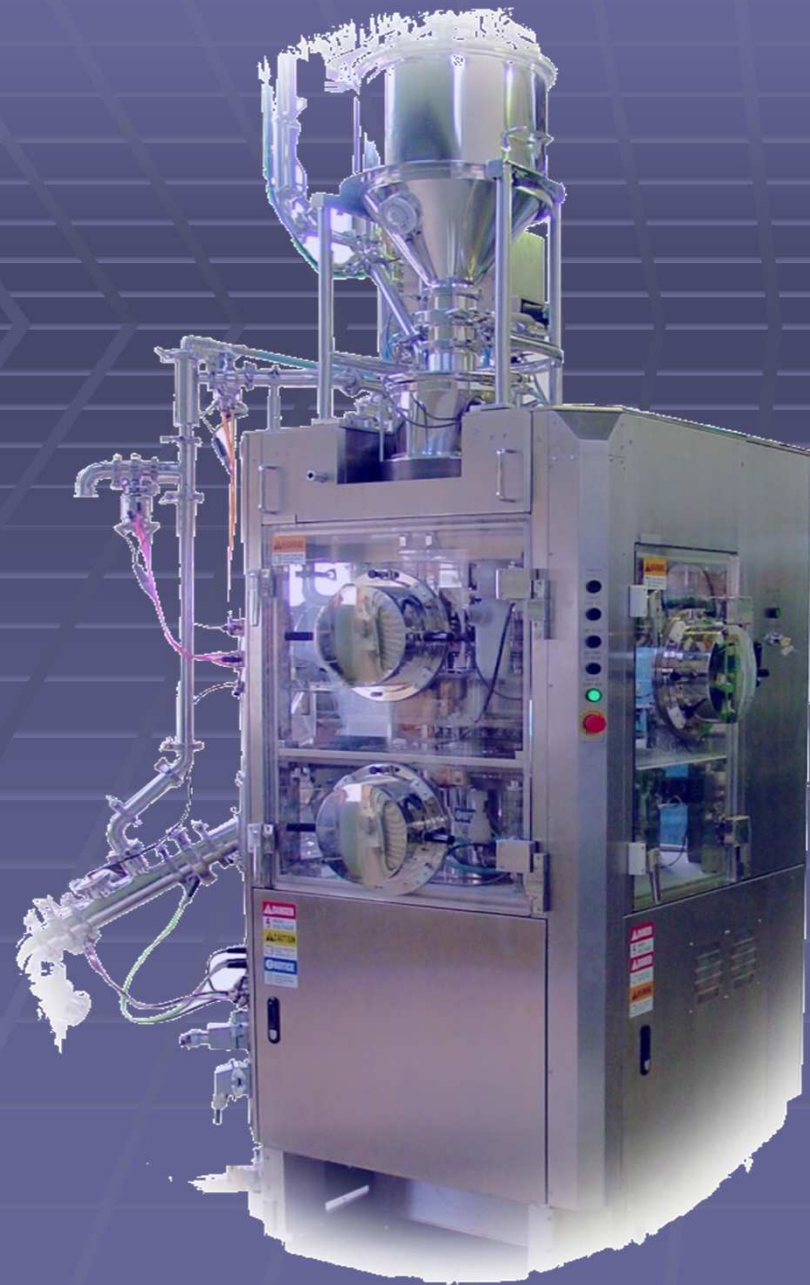


Image processing coreless monitor by CCD Camera



✓ Visual Analyzing system
package



KIKUSUI



**AQUARIUS C
[CONTAINMENT]**



ACCESS TO ISOLATED MACHINE



Glove port



Aquarius H- flexible solution



External Lubrication System

A system designed to spray a **measured** amount of lubricant onto punch tips and die bores to prevent typical tableting problems



Drug delivery system with new KIKUSUI technology



PAVO G has been developed to enable one step dry coating tablet with Sanwa pharma.

No need to produce core tablets in advance.

Possibility to replace film coating tablets, because of the capability to reduce mantle thickness.

OptiDose Tableting Technology: Machine Specifications

OSDrC® Technology

MACHINE SPECIFICATIONS

Number of punches	54
Max. Initial pressure	10 kN (0.5 min)
Max. Secondary pressure	10 kN
Max. Tertiary pressure	50 kN (10 min)
Revolutions	10-35 min ⁻¹
Estimated Production capacity	400 – 500 Mn / year
Dimensions (HxWxD)	2250x1554x1554 mm
Weight	8.0 t



Drug delivery system with new KIKUSUI technology



OSDrC® Provides Controlled Release ✓

Precise OSDrC® positioning technology enables product development scientists to control the release of the API by altering the thickness of the outer coating. The ability to precisely position multiple cores allows the creation of tablet products with a variety of pulsatile drug release profiles.



Dividable Core Tablets ✓

OSDrC® technology also makes it possible to manufacture dividable tablets with separate cores in a one-step operation, a feat not possible with current technology. For example, OSDrC® dividable enteric tablets are among the world's first dividable enteric coated tablets. Because the core remains fully encased in the coating even when the tablet is divided, the intended release profile remains unaffected by dividing the tablet.



Cored Tablets with Poorly Compressible Cores ✓

OSDrC® technology, which does not require a separate manufacturing process for the core, can even use powders with poor compressibility as the core matrix. As it is possible to directly encase core pharmaceutical powders with the outer coating, these powders can be used in oral rapid disintegration tablets. By using pellets in the core instead of powders, drugs that normally must be formulated as capsules can be produced as tablets. This technology will totally revamp current drug formulation design and manufacturing processes.



Release control based on thickness of outer coat



Pulsatile release formulations



Dividable core tablets

Broad, Innovative and Differentiated Tablet Forms

- Single or multi-core tablets
 - Widely variable shapes and sizes
- Dividable multi-core tablet
 - Address FDA guideline for dividable tablets
- Loosely or Poorly Compressible Encased
 - Alternative to Encapsulation
- Precision thin layer coating
 - Alternative to sugar coating
 - Full range of Controlled Release formulations ,

