



Korea Semiconductor System
고려반도체시스템



KAM7000F

Solder Ball Attach System



KOSSES Co., Ltd

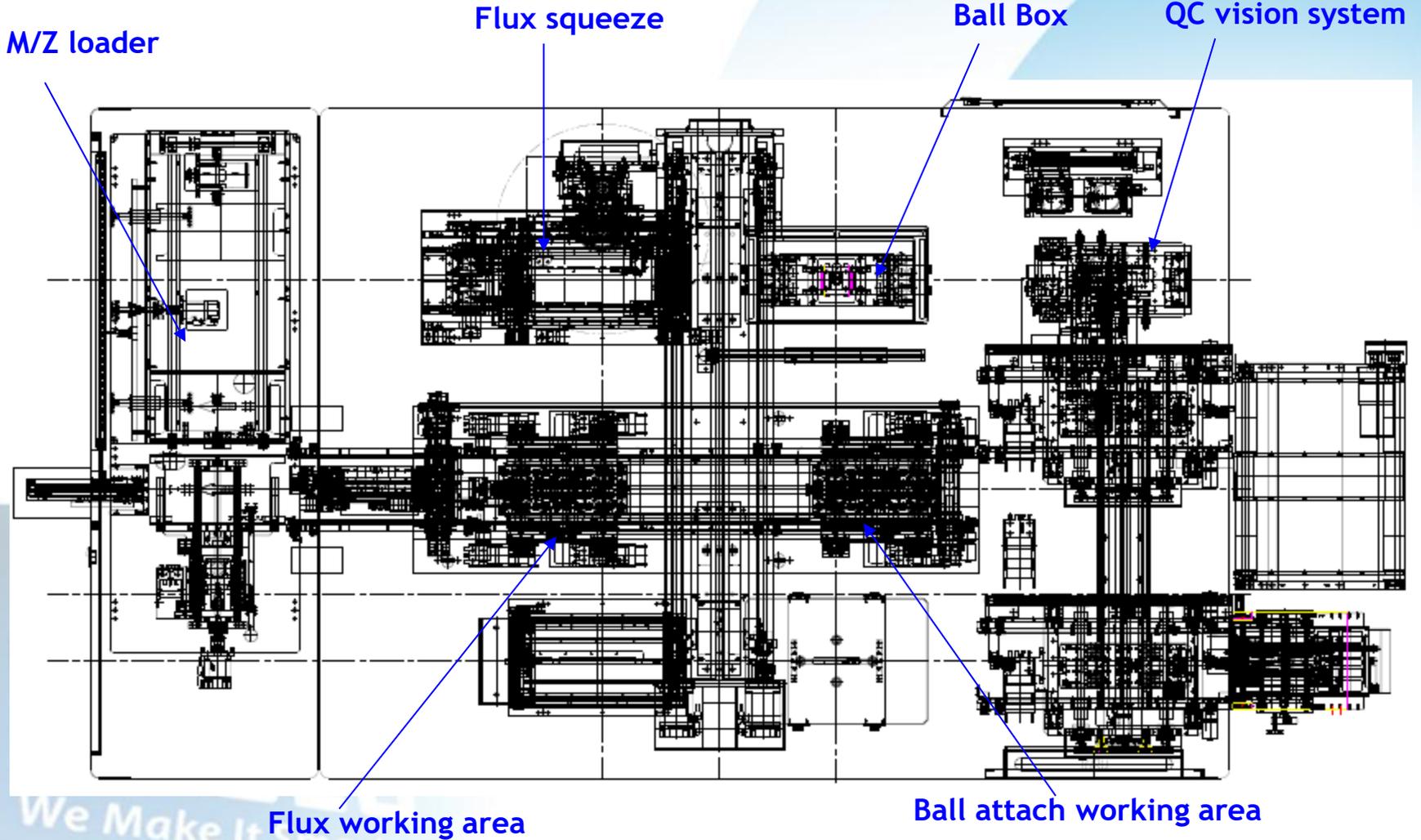
➤ Executive Summary

KAM7000F

- 1** KAM7000F is a new Solder Ball Mounting System for singulated packages which can cater Wide Boat Flux Dotting & Ball Attach in 1shot.
- 2** B.P.M (Boat per Minute) for Wide boat is approximately 2boat.
-> cycle time for 1 boat is under 29sec.
- 3** Mechanical Clamp to increase the applicable package quantities in a Boat
- 4** PKG Alignment is using Mechanical Alignment by classifying
Normal PKG type & Heat Spread type
-> Normal PKG uses Bottom Guide concept to achieve accurate alignment
-> H.S type uses Top Guide concept to achieve accurate alignment.
- 5** Applicable Min ball dia : 0.2mm, Min pitch : 0.4mm
-> diameter of 0.2ball can use 2step or 3step.
- 6** Vision Inspection is optional for the Offloader (model: KUM4000F)

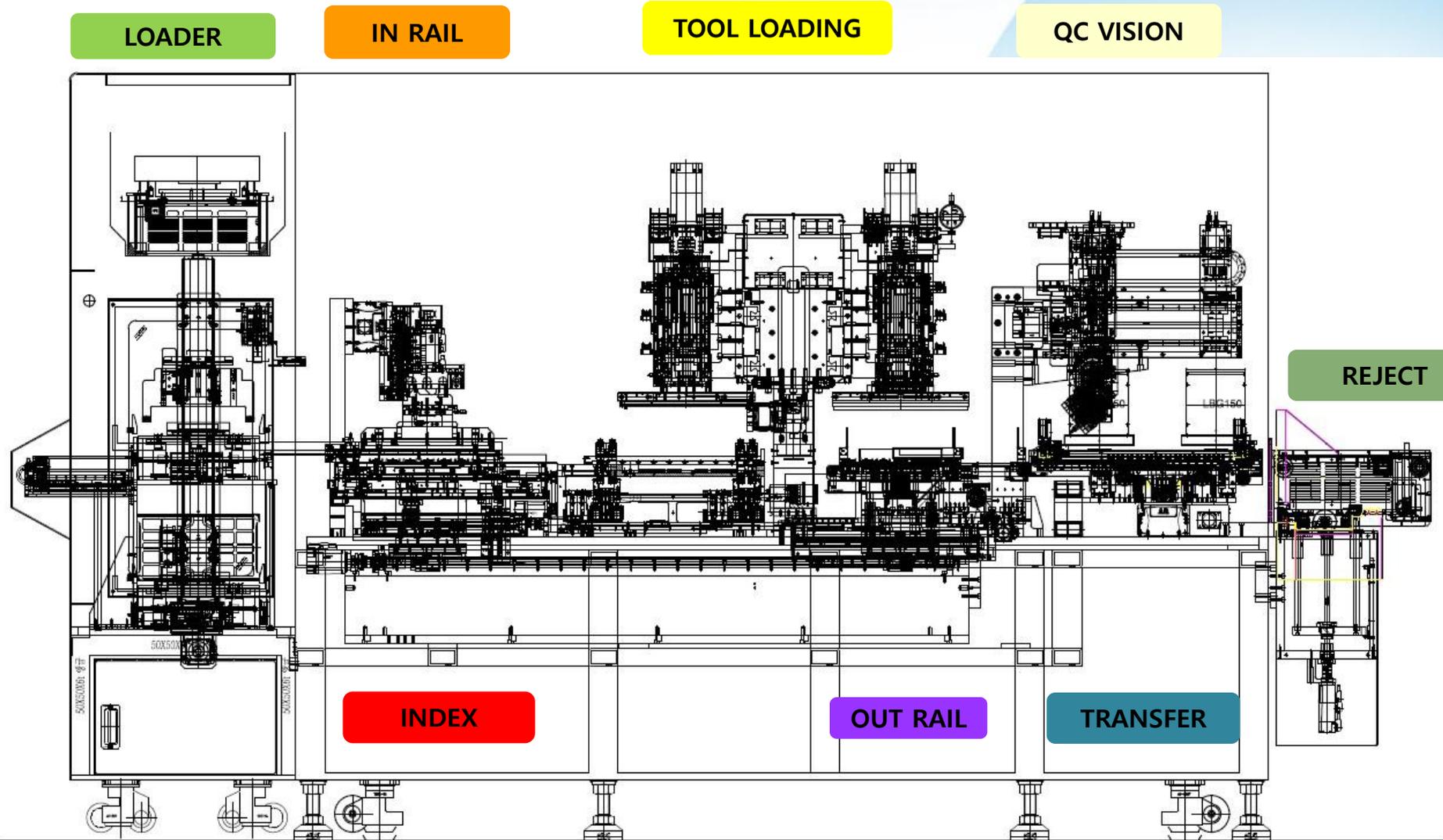
KOSES
We Make It Smarter

➤ KAM7000F lay out (Top View)

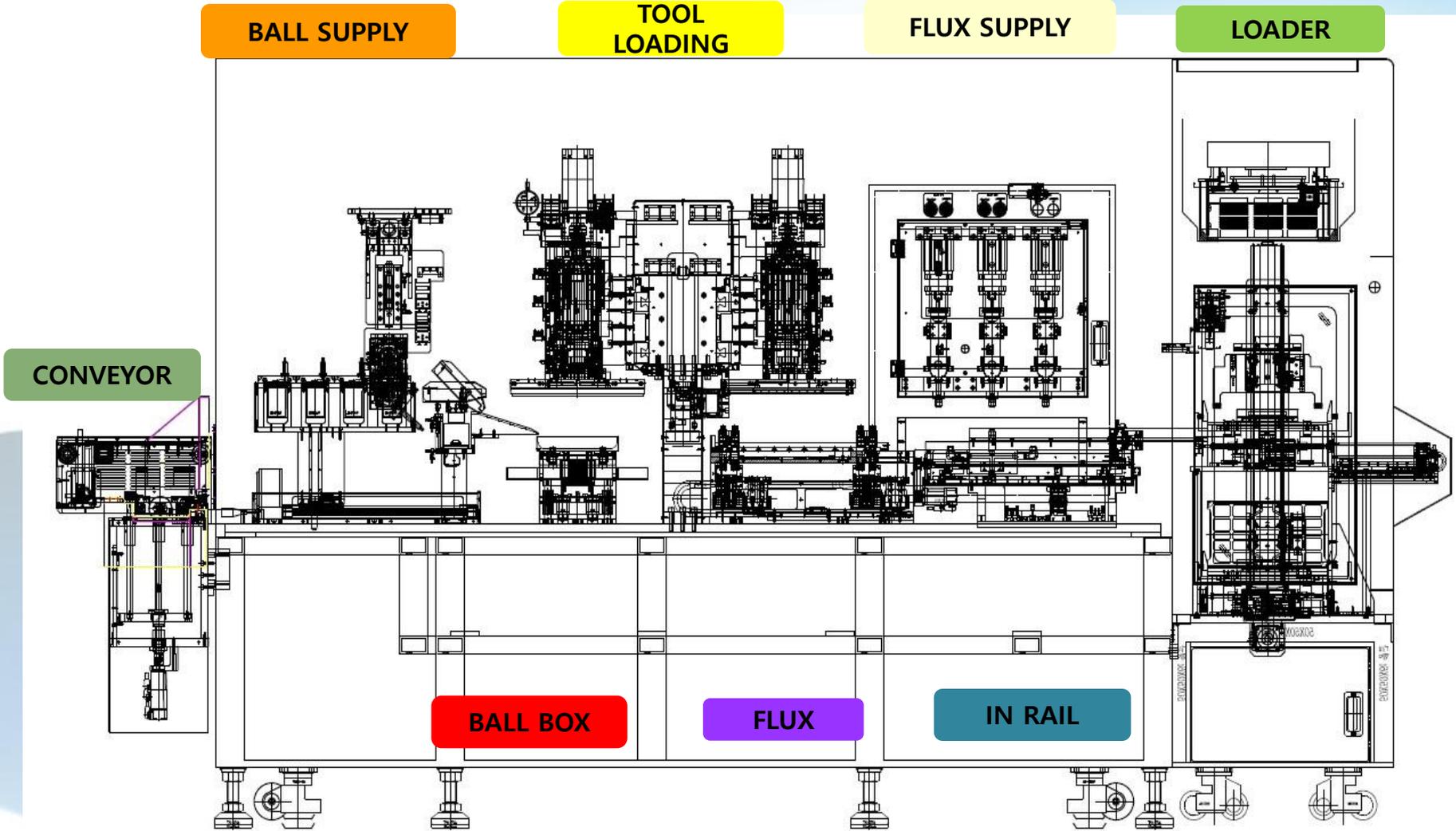


We Make It Smarter

➤ KAM7000F lay out (Front View)

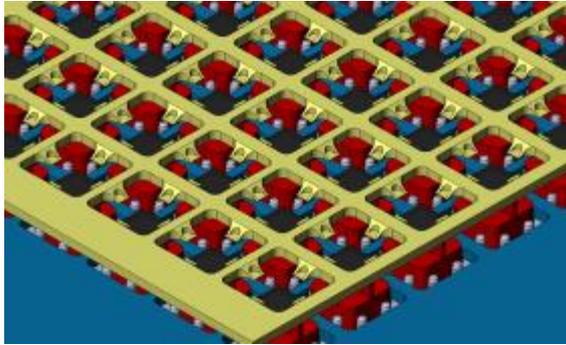


➤ KAM7000F lay out (Rear View)

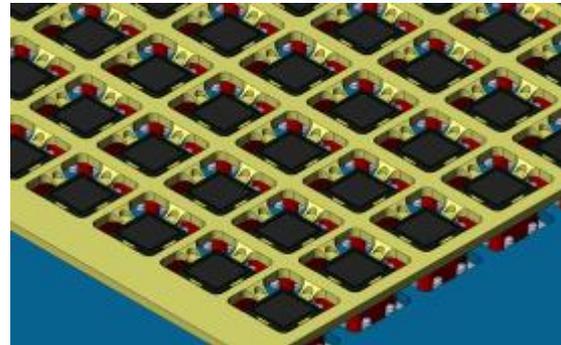


Unit alignment method _ Normal PKG

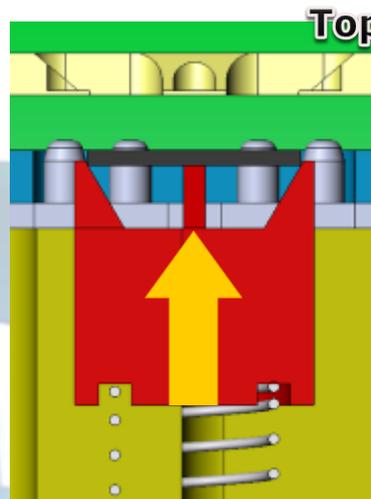
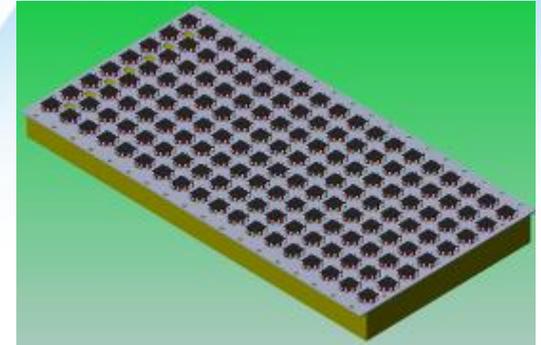
Boat ready →



Unit align position →



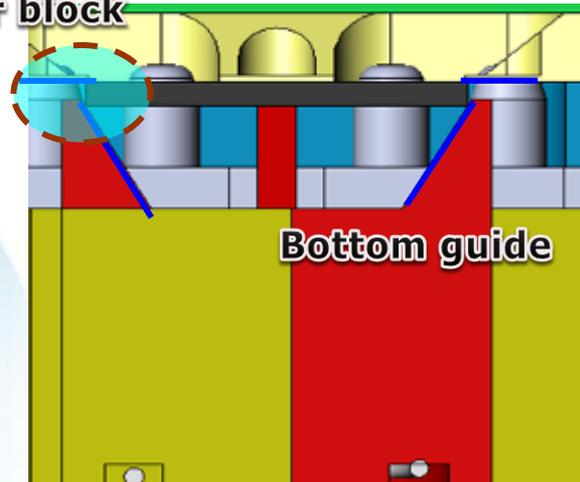
→ After ball attach status



Top stopper block

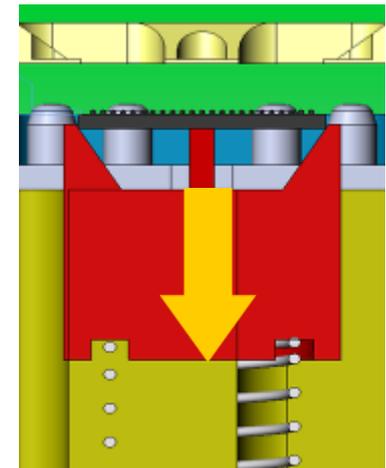
Support block up

Location of Boat working area



Bottom guide

Bottom guide block UP -> PKG alignment by Bottom guide wall -> PKG leveling by Top stopper block



Support block down

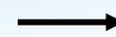
Flux dotting -> Ball attach -> Bottom guide block down -> QC Vision Inspection

Unit alignment method _ Heat spread type

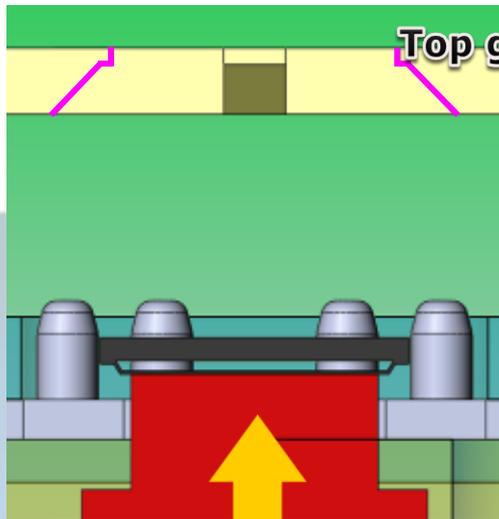
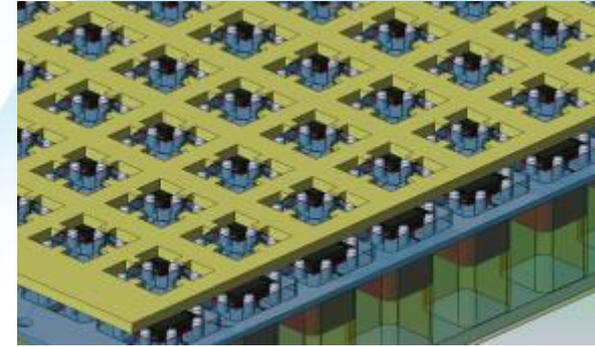
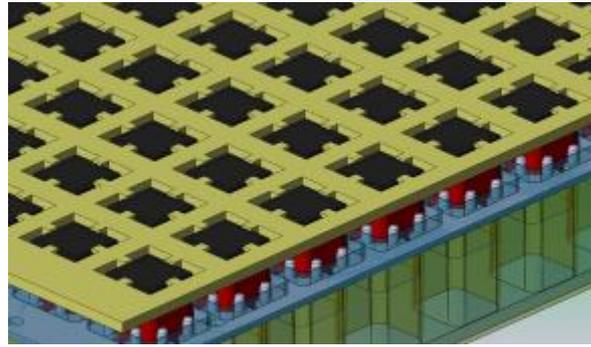
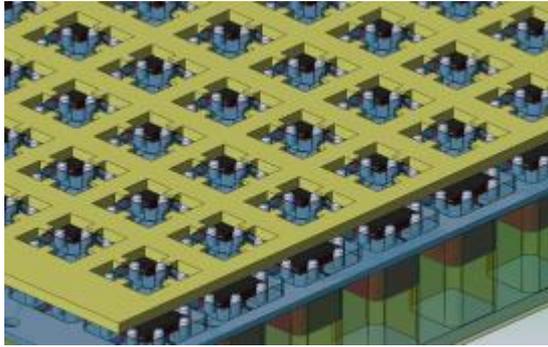
Boat ready



Unit align position



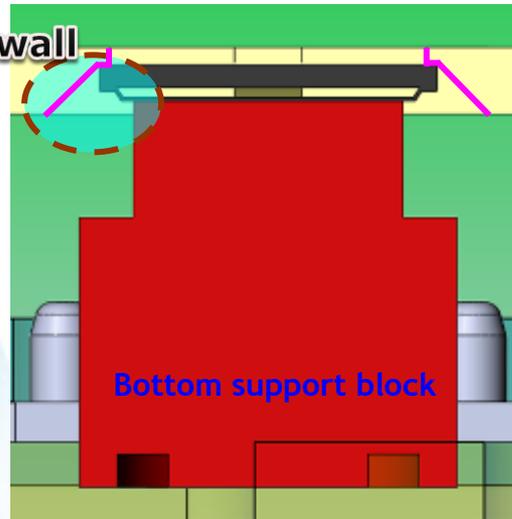
After ball attach status



Top guide wall

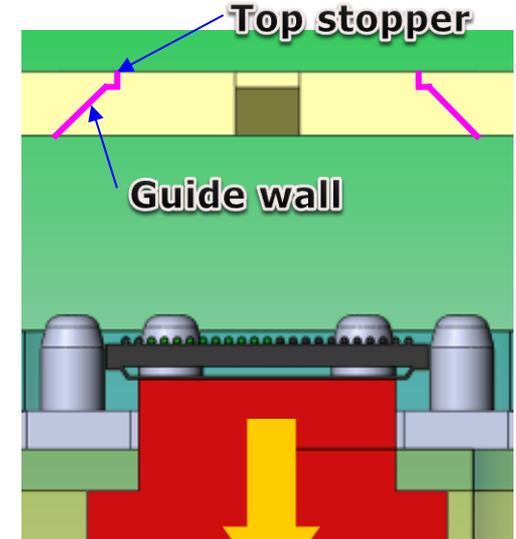
Support block up

Location of Boat working area



Bottom support block

Bottom support block UP -> PKG alignment by Top guide wall -> PKG leveling by Top stopper block



Top stopper

Guide wall

Support block down

Flux dotting -> Ball attach -> Bottom guide block down -> QC Vision Inspection

KAM7000F specification

Item	Description	Remarks
Ball dia /pitch	Min. 0.2Ball / 0.4pitch	
Unit size	Min. 10X10	
Boat size	Min. 130mm X 310mm, Max. 160mm X 310mm	
Unit count	No limitation _ Depend on PKG size -> Row (8) X Column (18) : 144unit	
System method	Flux dotting method / Ball attach method (Eject pin less type)	
Ball array method	Ball jumping type	
Max. Ball Count	65,000 I/O	
UPH	1. PKG 18X18 1225LD_Boat array(4X12) -> UPH : 5,760ea 2. PKG 10X10 _ Boat array(8X18) -> UPH : 17,280ea	Boat Per Minute : 2boat
Boat / Index step	1step/2step/3step/4step (various boat/index steps are possible)	
Alignment method	Mechanical alignment _ classifying Normal PKG/HS PKG	
Quality check vision	-. Camera : 5M -. F.O.V : 90mm X 65mm -. Resolution : 36um per pixel -. Tact time : wide boat -> Below 24sec	
Device conversion time	Below 30min -. Flux tool, Attach tool, Top guide block, Bottom guide block, etc..	
Automation	Over Head Transfer(OHT) for Automation	Optional

Spec



End Presentation

Thank You

KOSES Co., Ltd.

62 Saneop-ro, Ojeong-Gu, Bucheon, Korea, 14402

Main : 032. 662. 2224

Fax : 032. 662. 2214

<https://www.koses.co.kr>