Universal Instruments
A Delta Group Company

# HIGH-SPEED WAFER FEEDER

THE ULTIMATE MULTI-DIE SOLUTION FOR H.I.

Hi-tech devices are getting smaller, thinner, and more complex, while volume demands are rising. The High-Speed Wafer Feeder (HSWF) meets these challenges head-on, delivering value with the precision, performance and flexibility to handle today's most advanced applications, while also enabling you for those to come.

**The High-Speed Wafer Feeder is the world's fastest rapid-exchange multi-die feeder. Combined with Universal's FuzionSC™ Platform, it is the ultimate multi-die solution for heterogeneous integration. Features include:**

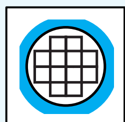
- 14 hi-precision (sub-micron X,Y,Z) servo-driven pick heads
- Hi-precision (sub-micron X,Y,Z) servo driven ejector
- 100% pre-pick vision and die alignment
- One-step "wafer-to-placement" handoff
- Synchronous wafer stretch and storage
- 16K cph dual-wafer tables

VIDEO

## BENEFITS & VALUE

### INNOVATIVE TECHNOLOGIES

14 high-precision (sub-micron X,Y,Z) servo-driven pick heads; high-precision servo-driven ejector

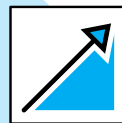


### LARGEST WAFER CAPACITY

Supports up to 52 wafers at once; Supports 4",6", 8", and 12" wafers

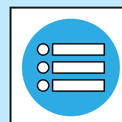
### EFFICIENT OPERATION

One-step wafer-to-placement hand-off; synchronous wafer stretch and storage



### HIGHEST THROUGHPUT

Best in class system, achieves throughput up to 16,000 cph (flip chip); 14,400 ph (non-flip)



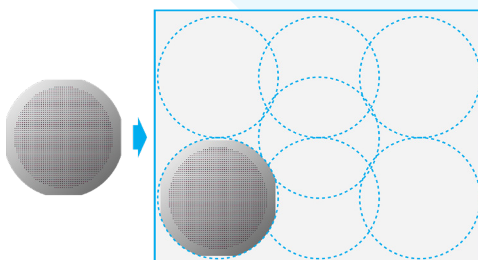
### VIRTUALLY ALL DIE TYPES

Accommodates up to **52** unique die types simultaneously

### BROADEST DIE SIZE RANGE

Capability: **<30um** thick @ **0.1mm x 0.1mm** up to **70mm x 70mm**; up to **40mm x 40mm**

LARGE SUBSTRATE



**Populate the largest panels to process higher die counts**

- Traditional platforms follows wafer form factor, limiting assembly size
- Populate panels without sacrificing speed or accuracy
- **Achieve a 7X processing increase**

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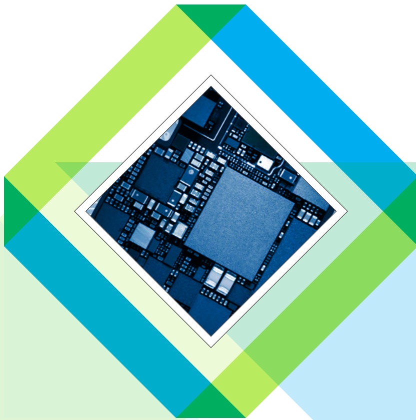
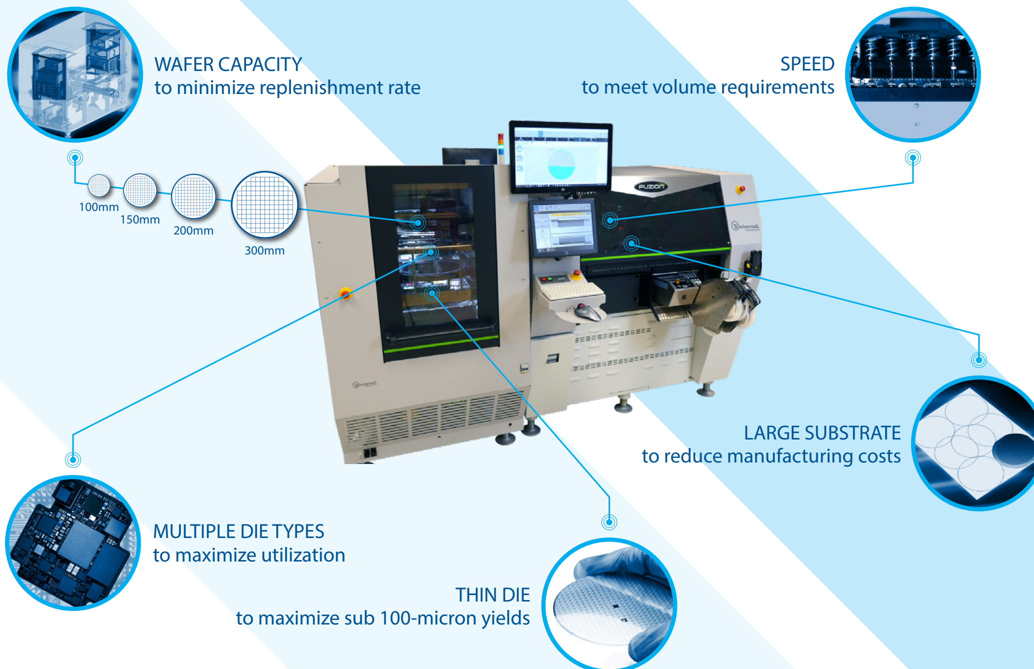


| HSWF Specifications | Single-Bay HSWF<br>Cost-effective multi-die solution | Dual-Bay HSWF<br>Highest throughput for multi-die |
|---|---|---|
| Model | Single-Bay HSWF | Dual-Bay HWSF |
| Placement Mode | Flip Chip (Circuit Down)<br>Die Attach (Circuit Up) | Flip Chip (Circuit Down)<br>Die Attach (Circuit Up) |
| Wafer Tables | 1 | 2 |
| Wafer Cartridges | 4 | 8 |
| Throughput (cph) | Flip Chip: 8,000<br>Die Attach: 7,400 | Flip Chip: 16,000<br>Die Attach: 14,400 |
| Die Size (Min) | 0.5mm x 0.5mm<br>0.1mm x 0.1mm (phase 2) | 0.5mm x 0.5mm<br>0.1mm x 0.1mm (phase 2) |
| Die Size (Max) | 40mm x 40mm<br>70mm x 70mm (phase 2) | 40mm x 40mm<br>70mm x 70mm (phase 2) |
| Max Part Numbers/ FuzionSC | Up to 26 die types | Up to 52 die types |
| Cassette Capacity | 13 wafers/cassette x 2<br>25 wafers/cassette x 1 | 13 wafers/cassette x 4<br>25 wafers/cassette x 2 |
| Wafer Size (mm/inches) | 100/4", 150/6", 200/8", 300/12" | 100/4", 150/6", 200/8", 300/12" |
| Nozzle / Ejector Change | Auto Changer | Auto Changer |
| Nozzle Changer Slots | 28 | 56 |
| Ejector | 4 Ejector Changer | 8 Ejector Changer |
| Traceability | GEM/SQL | GEM/SQL |
| Mapping System | Local Map Support | Local Map Support |

**Bringing efficiency and high productivity to advanced packaging assembly.**
The High-Speed Wafer Feeder delivers value with the precision, performance and flexibility to handle today's most advanced applications, while also enabling you for those to come.

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