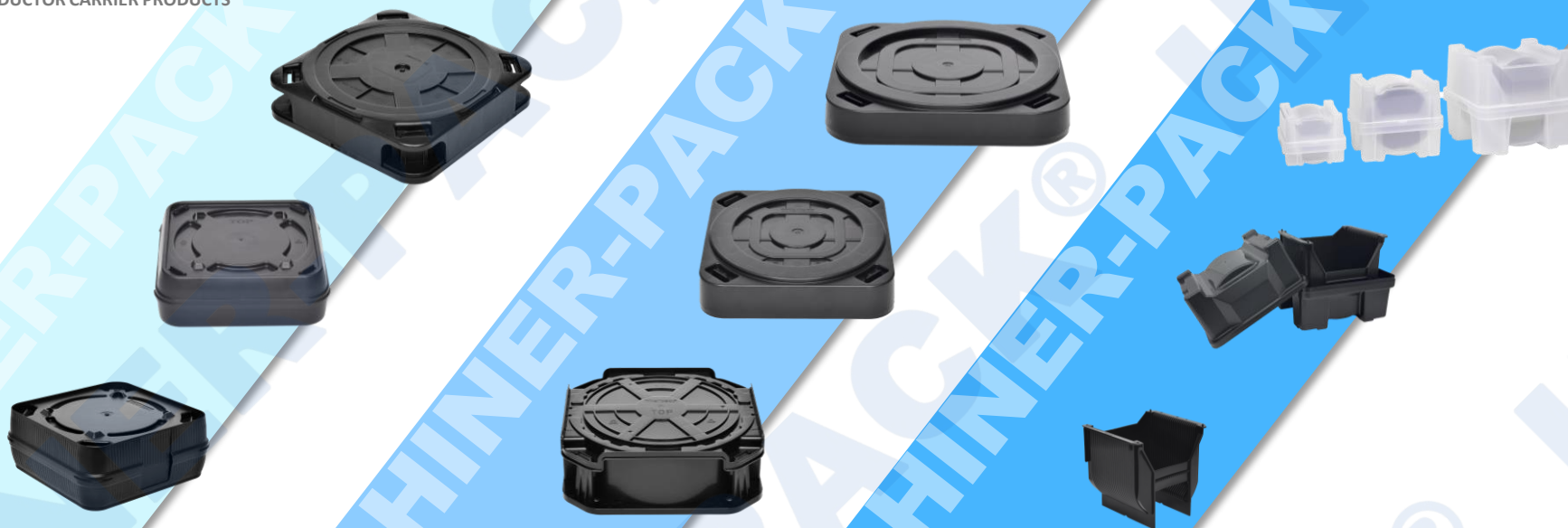
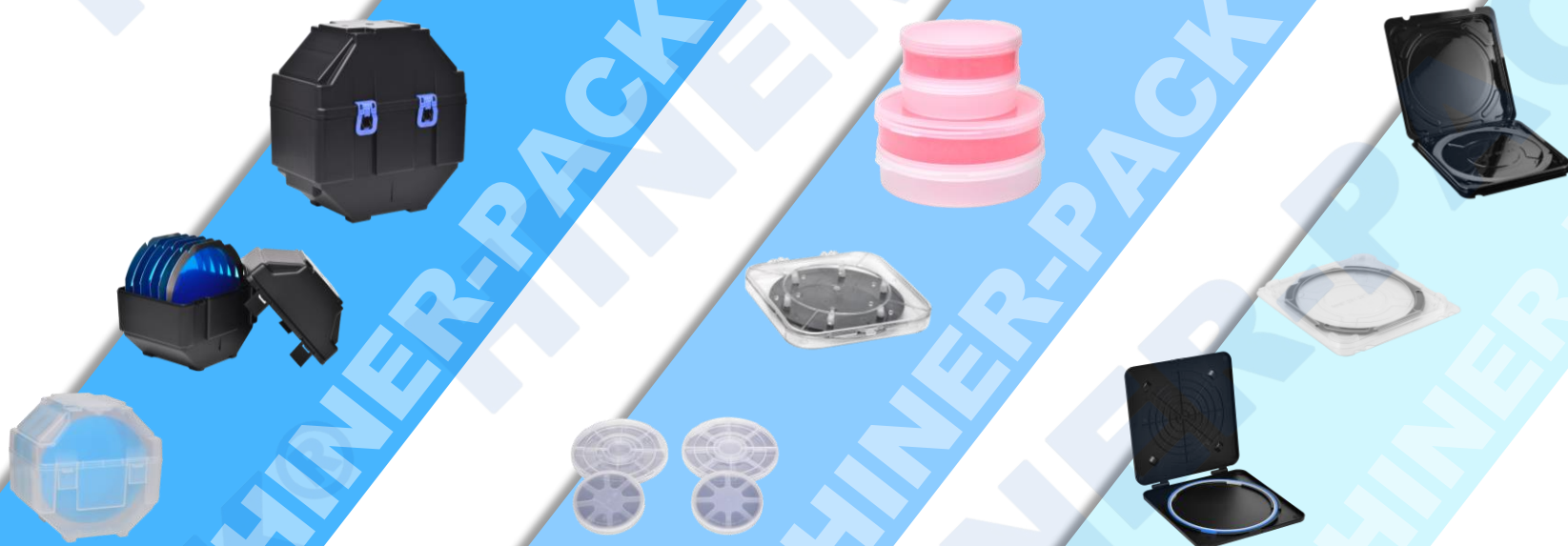




## *Wafer Carrier Series Catalog*



## About Us

Hiner-pack® was founded in 2013. It is a comprehensive one-stop supplier integrating the design, manufacturing, and sales of automated handling, carrying, and packaging products used in semiconductor wafer fabrication and IC chip packaging and testing processes.

Our products are widely used in wafer fabrication and processing, IC chip packaging and testing, as well as assembly and handling of IC chip products.

- Advanced mold processing and injection molding facilities
- High-grade cleanroom washing lines, and a wide range of testing equipment
- Owns a number of invention and utility model patents



# TABLE OF CONTENTS

## Products

### 1" / 2" / 3" / 5"

|                                                                  |                        |
|------------------------------------------------------------------|------------------------|
| * Single Wafer Shippers                                          | <a href="#">17, 18</a> |
| * Vacuum-Formed Single Wafer Shippers<Clamshell-Style/Hoop Ring> | <a href="#">21</a>     |

### 4" (100mm)

|                                                                  |                        |
|------------------------------------------------------------------|------------------------|
| * Single Wafer Shippers                                          | <a href="#">17, 18</a> |
| * Vertical Wafer Shippers                                        | <a href="#">9</a>      |
| * Vacuum-Formed Single Wafer Shippers<Clamshell-Style/Hoop Ring> | <a href="#">21</a>     |
| * Wafer Cassettes                                                | <a href="#">10, 11</a> |

### 6" (150mm)

|                                                                   |                        |
|-------------------------------------------------------------------|------------------------|
| * Single Wafer Shippers                                           | <a href="#">17, 18</a> |
| * Vertical Wafer Shippers                                         | <a href="#">9</a>      |
| * Vacuum-Formed Single Wafer Shippers<Clamshell-Style/Flex Frame> | <a href="#">19</a>     |
| * Vacuum-Formed Single Wafer Shippers<Clamshell-Style/Hoop Ring>  | <a href="#">21</a>     |
| * Wafer Jars                                                      | <a href="#">14</a>     |
| * Wafer Cassettes                                                 | <a href="#">10, 11</a> |

## Products

### 8" (200mm)

|                                                                   |                        |
|-------------------------------------------------------------------|------------------------|
| * Single Wafer Shippers                                           | <a href="#">18</a>     |
| * Horizontal Wafer Shippers                                       | <a href="#">4</a>      |
| * Horizontal Clamp Ring Wafer Shippers                            | <a href="#">6</a>      |
| * Horizontal Flex Frame Wafer Shippers                            | <a href="#">7, 8</a>   |
| * Vertical Wafer Shippers                                         | <a href="#">9</a>      |
| * Vertical Flex Frame Wafer Shippers                              | <a href="#">12</a>     |
| * Vacuum-Formed Single Wafer Shippers<Clamshell-Style/Flex Frame> | <a href="#">19</a>     |
| * Vacuum-Formed Single Wafer Shippers<Clamshell-Style/Hoop Ring>  | <a href="#">21</a>     |
| * Clamshell-Style Hoop Ring Single Wafer Shippers                 | <a href="#">22</a>     |
| * Wafer Jars                                                      | <a href="#">14</a>     |
| * Wafer Cassettes                                                 | <a href="#">10, 11</a> |

### 12" (300mm)

|                                                                   |                    |
|-------------------------------------------------------------------|--------------------|
| * Horizontal Wafer Shippers                                       | <a href="#">5</a>  |
| * Horizontal Flex Frame Wafer Shippers                            | <a href="#">7</a>  |
| * Vertical Flex Frame Wafer Shippers                              | <a href="#">13</a> |
| * Vacuum-Formed Single Wafer Shippers<Clamshell-Style/Flex Frame> | <a href="#">20</a> |

## Wafer Shipper Accessories

|                                  |                    |
|----------------------------------|--------------------|
| * Cushions/Foam Cushion Disks    | <a href="#">15</a> |
| * Foam Lines                     | <a href="#">16</a> |
| * Plastic Flex Frame Rings       | <a href="#">23</a> |
| * Metal Flex Frame Rings         | <a href="#">24</a> |
| * Hoop Rings/Expander Rings      | <a href="#">25</a> |
| * Clamp Rings/Ring Separators    | <a href="#">26</a> |
| * PE Conductive Films/Interleafs | <a href="#">27</a> |
| * PS Conductive Films/Interleafs | <a href="#">28</a> |
| * Separator Papers/Interleafs    | <a href="#">29</a> |

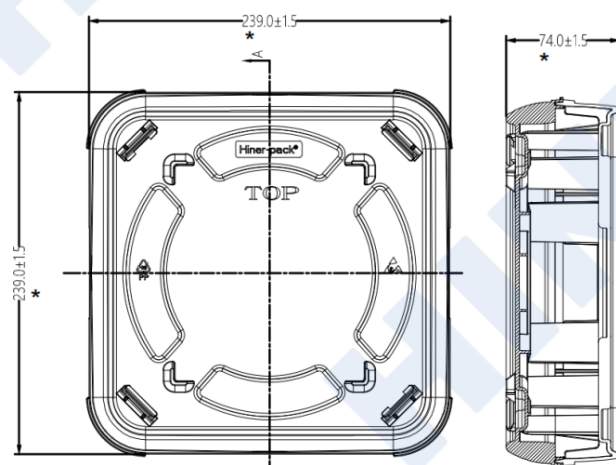


## Horizontal Wafer Shippers <8-inch>

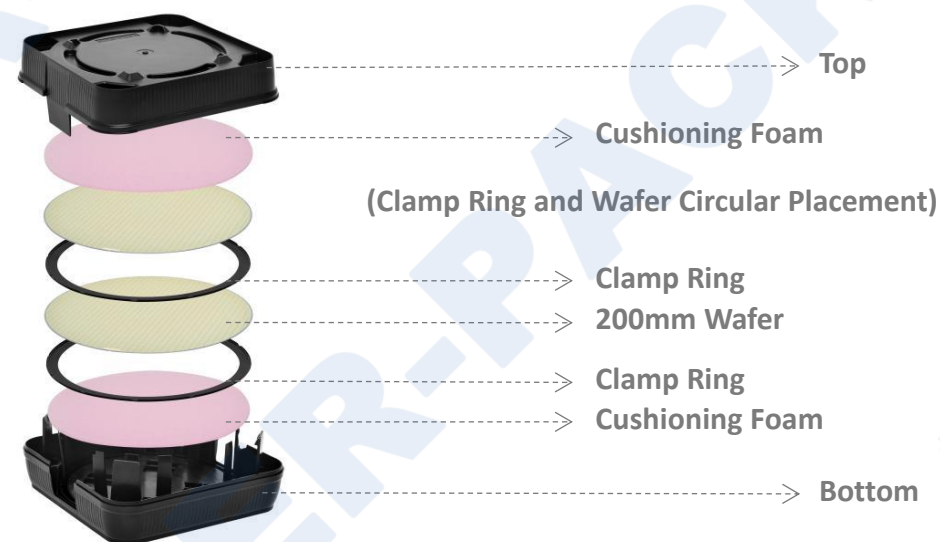


- Protect wafers from contamination (e.g., particles, moisture, and chemicals)
- Prevent mechanical damage (e.g., scratches, breakage)
- Maintain cleanliness in cleanroom environments
- Ensure proper alignment and handling automation (e.g., by robotic wafer handlers)

| Item Code        | Wafer Size | Material      | Collocation Reference         | Capacity | Dimension    |
|------------------|------------|---------------|-------------------------------|----------|--------------|
| MHWS-8/25-201/44 | 8"/200mm   | Conductive PP | Bottom+Cushion+Interleaf+ Top | 25PCS    | 239*239*74mm |



SECTION A-A

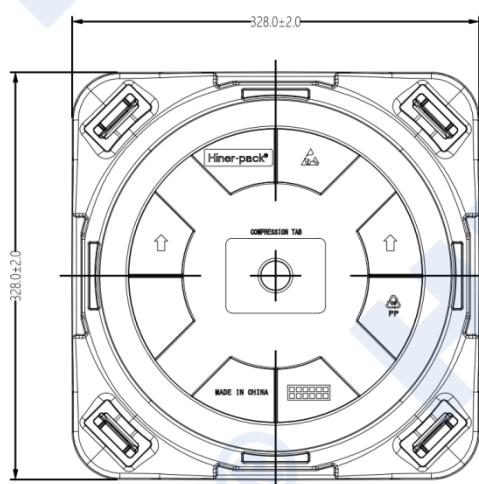


## Horizontal Wafer Shippers <12-inch>

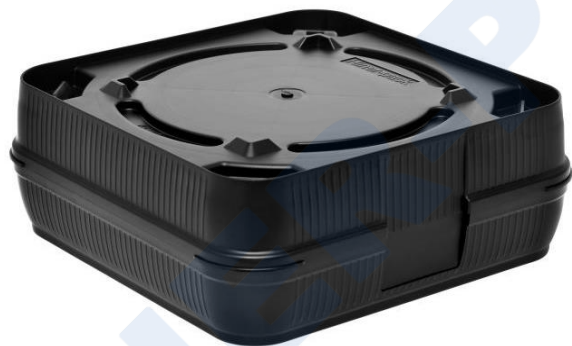


- Protect wafers from contamination (e.g., particles, moisture, and chemicals)
- Prevent mechanical damage (e.g., scratches, breakage)
- Maintain cleanliness in cleanroom environments
- Ensure proper alignment and handling automation (e.g., by robotic wafer handlers)

| Item Code         | Wafer Size | Material      | Collocation Reference        | Capacity | Dimension      |
|-------------------|------------|---------------|------------------------------|----------|----------------|
| MHWS-12/25-301/44 | 12"/300mm  | Conductive PP | Bottom+Cushion+Interleaf+Top | 25PCS    | 328*328*77.5mm |

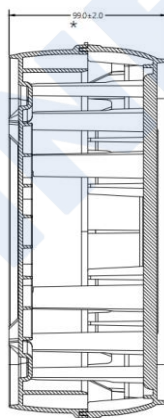
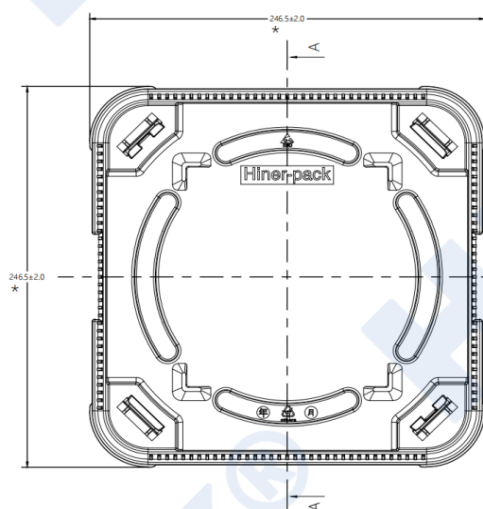


## Horizontal Clamp Ring Wafer Shippers

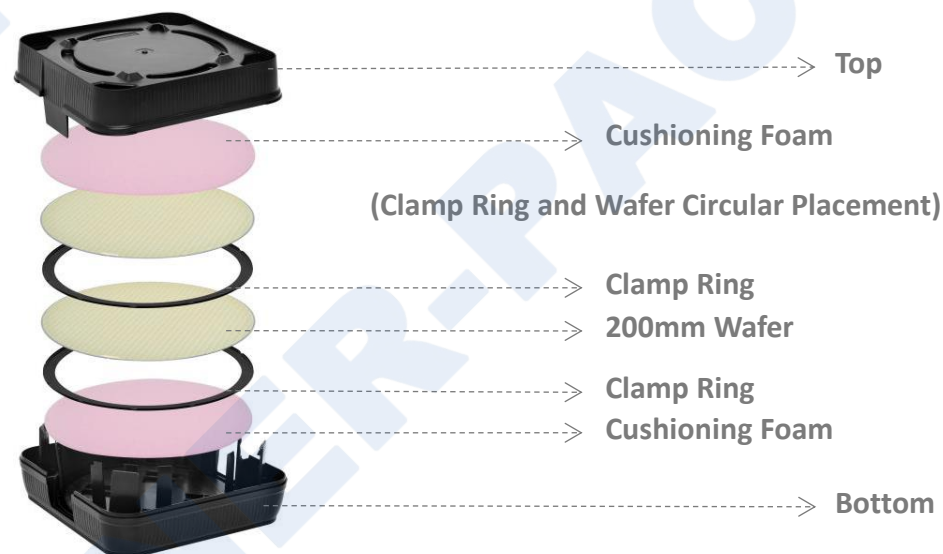


- ESD-safe, stackable design protects wafers from shock and edge damage
- Engineering-grade polymer resists ionic contamination and particle generation
- Contactless wafer support avoids surface contact, ideal for thinned or bumped wafers
- Automation interface compatible with wafer handling systems
- Stackable, reusable for cost-efficient shipping

| Item Code        | Wafer Size | Material      | Collocation Reference         | Capacity | Dimension        |
|------------------|------------|---------------|-------------------------------|----------|------------------|
| MHWS-8/25-203/70 | 8"/200mm   | Conductive PP | Bottom+Cushion+Clamp Ring+Top | 25PCS    | 246.5*246.5*99mm |



SECTION A-A



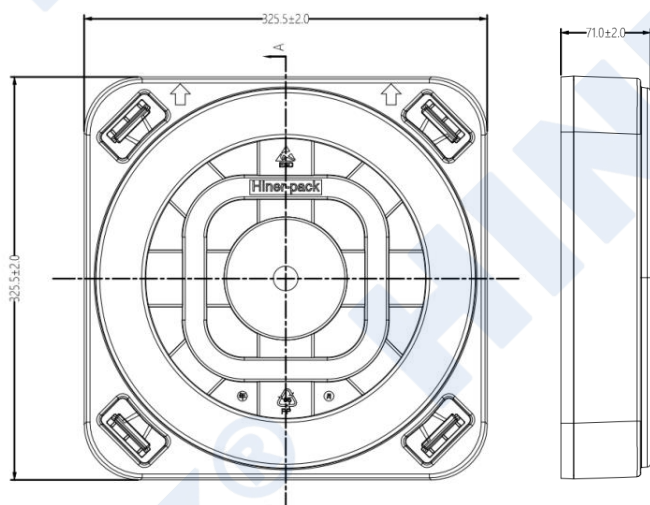
## Horizontal Flex Frame Wafer Shippers <13PCS>



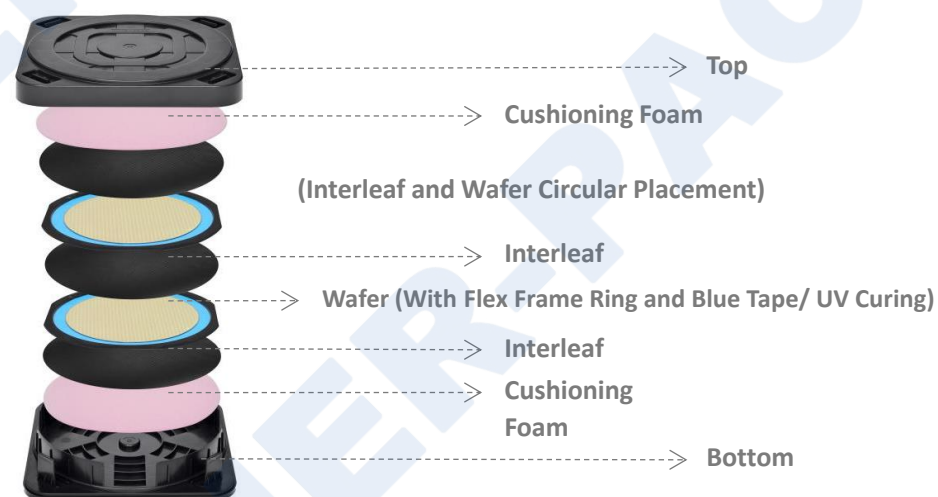
\* FHWS-8/13

- Secures wafers already mounted on flex, dicing, or film frame
- Made from low-particle/ionic/outgassing material
- ESD-safe, stackable design protects wafers from shock and edge damage
- Conforms to the automatic interface of process equipment
- Stackable, reusable for cost-efficient shipping

| Item Code  | Wafer Size | Material      | Collocation Reference              | Capacity | Color | Dimension          |
|------------|------------|---------------|------------------------------------|----------|-------|--------------------|
| FHWS-8/13* | 8"/200mm   | Conductive PP | Bottom+Cushion+Interleaf+Frame+Top | 13PCS    | Black | 325.5*325.5*71mm   |
| FHWS-12/13 | 12"/300mm  | Conductive PP | Bottom+Cushion+Interleaf+Frame+Top | 13PCS    | Black | 429.5*429.5*70.5mm |



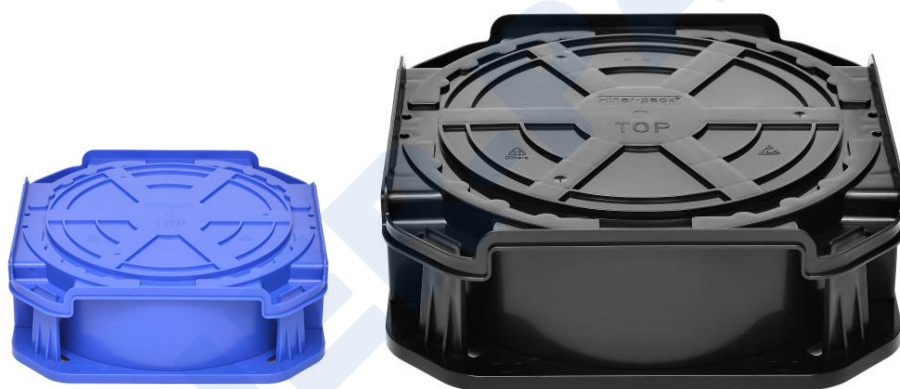
\* FHWS-8/13



\* FHWS-8/13

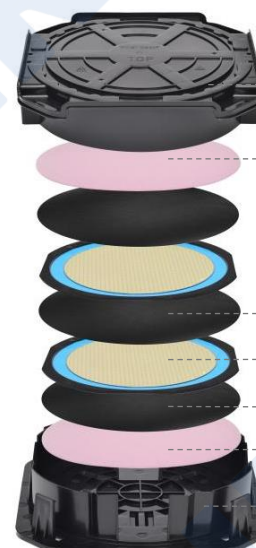
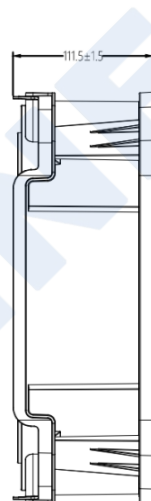
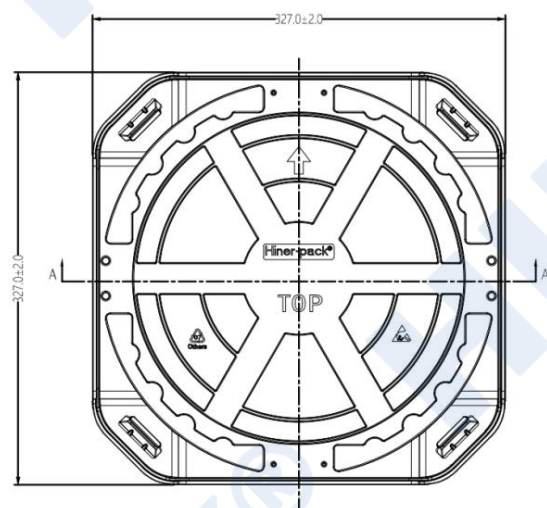


# Horizontal Flex Frame Wafer Shippers <25PCS>



- Secures wafers already mounted on flex, dicing, or film frame
- Made from low-particle/ionic/outgassing material
- ESD-safe, stackable design protects wafers from shock and edge damage
- Stackable, reusable for cost-efficient shipping
- Conforms to the automatic interface of process equipment

| Item Code | Wafer Size | Material      | Collocation Reference              | Capacity | Color      | Dimension       |
|-----------|------------|---------------|------------------------------------|----------|------------|-----------------|
| FHWS-8/25 | 8"/200mm   | Conductive PP | Bottom+Cushion+Interleaf+Frame+Top | 25PCS    | Black/Blue | 327*327*111.5mm |



- Top
- Cushioning Foam
- (Interleaf and Wafer Circular Placement)
- Interleaf
- 200mm Wafer (With Flex Frame Ring and Blue Tape/ UV Curing)
- Interleaf
- Cushioning Foam
- Bottom

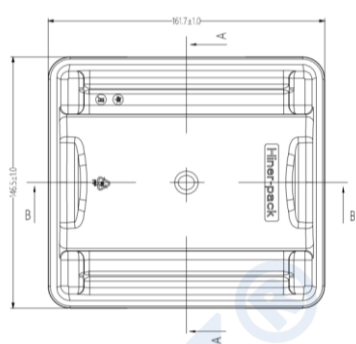


## Vertical Wafer Shippers

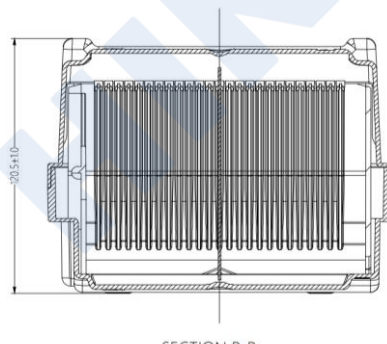
- Made from low-particle/ionic/outgassing material
- Three-piece design includes bottom, cassette, and top
- Springs or alignment features inside the upper cover prevent wafer movement during handling
- Compatible with automation load ports and standard cassette handling tools



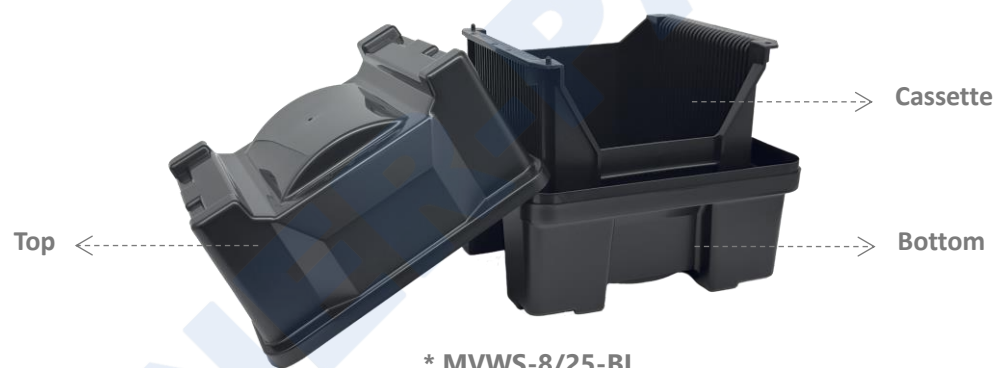
| Item Code      | Wafer Size | Material      | Collocation Reference | Capacity | Color | Dimension           |
|----------------|------------|---------------|-----------------------|----------|-------|---------------------|
| MVWS-4/25-NP-C | 4"/100mm   | Nature PP     | Bottom+Cassette+Top   | 25PCS    | White | 161.7*146.5*120.5mm |
| MVWS-4/25-BL-C | 4"/100mm   | Conductive PP | Bottom+Cassette+Top   | 25PCS    | Black | 161.7*146.5*120.5mm |
| MVWS-6/25-NP-B | 6"/150mm   | Nature PP     | Bottom+Cassette+Top   | 25PCS    | White | 203*163.5*184.8mm   |
| MVWS-6/25-BL-B | 6"/150mm   | Conductive PP | Bottom+Cassette+Top   | 25PCS    | Black | 203*163.5*184.8mm   |
| MVWS-8/25-NP   | 8"/200mm   | Nature PP     | Bottom+Cassette+Top   | 25PCS    | White | 265.5*258.5*237.5mm |
| MVWS-8/25-BL*  | 8"/200mm   | Conductive PP | Bottom+Cassette+Top   | 25PCS    | Black | 265.5*258.5*237.5mm |



\* MVWS-4/25-NP & BL-C



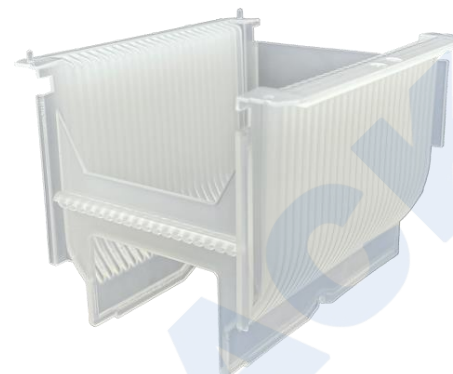
SECTION B-B



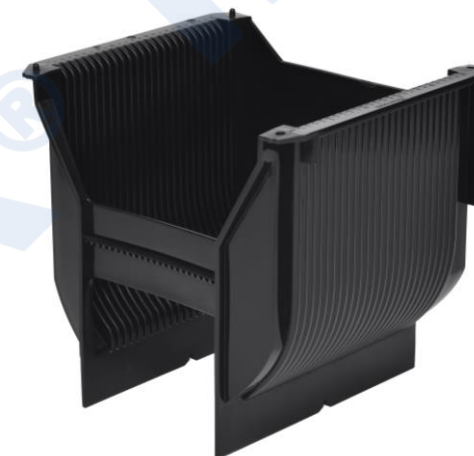
\* MVWS-8/25-BL

## Wafer Cassettes - PP

- Lightweight PP construction ideal for in-fab transfer
- Compatible with automation and cassette-standard tools
- Available in multiple colors to facilitate process identification
- Moderate temperature resistance material
- Available in multiple materials to cope with different requirements for chemical resistance

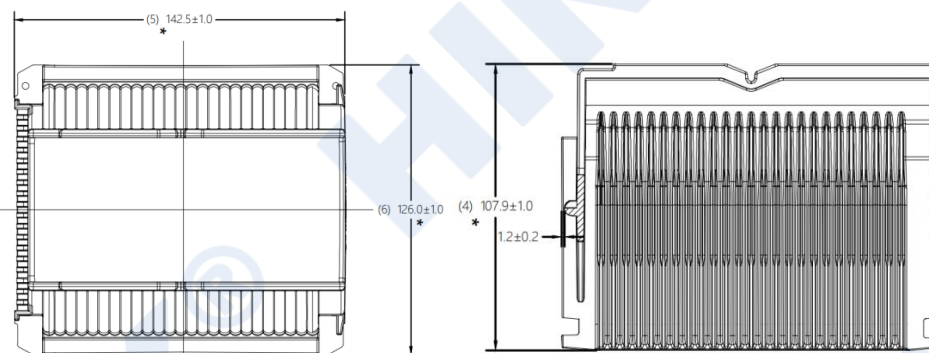


\* MCS-6/25-NP-B

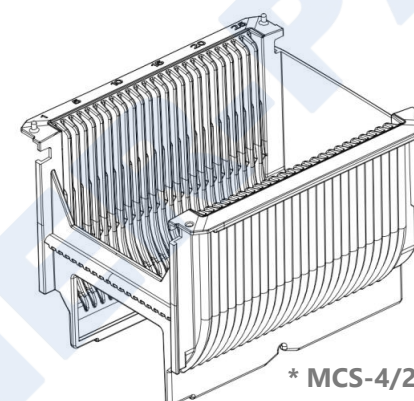


\* MCS-8/25-BL

| Item Code      | Wafer Size | Material      | Capacity | Color       | Dimension           |
|----------------|------------|---------------|----------|-------------|---------------------|
| MCS-4/25-NP-C* | 4"/100mm   | Nature PP     | 25PCS    | Transparent | 142.5*126*107.9mm   |
| MCS-4/25-BL-C* | 4"/100mm   | Conductive PP | 25PCS    | Black       | 142.5*126*107.9mm   |
| MCS-6/25-NP-B* | 6"/150mm   | Nature PP     | 25PCS    | Transparent | 174.8*142.8*170.5mm |
| MCS-6/25-BL-B  | 6"/150mm   | Conductive PP | 25PCS    | Black       | 174.8*142.8*170.5mm |
| MCS-8/25-NP    | 8"/200mm   | Nature PP     | 25PCS    | Transparent | 218.4*231.5*217mm   |
| MCS-8/25-BL*   | 8"/200mm   | Conductive PP | 25PCS    | Black       | 218.4*231.5*217mm   |



\* MCS-4/25-NP &amp; BL-C



\* MCS-4/25-NP &amp; BL-C

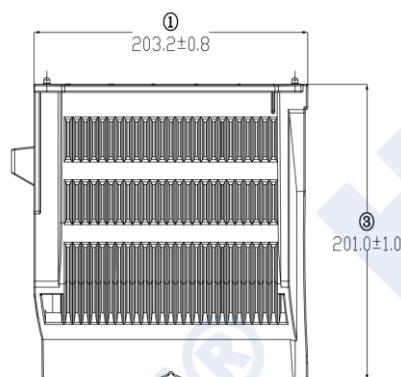
## Teflon Wafer Cassettes - PFA

- Inert PFA/Teflon resists strong acid/base and HF corrosion
- Withstands temperatures up to approximately 220 ° C without degradation or deformation
- Smooth/translucent surface simplifies cleaning
- Supports customization (handles, laser engraving, RFID)

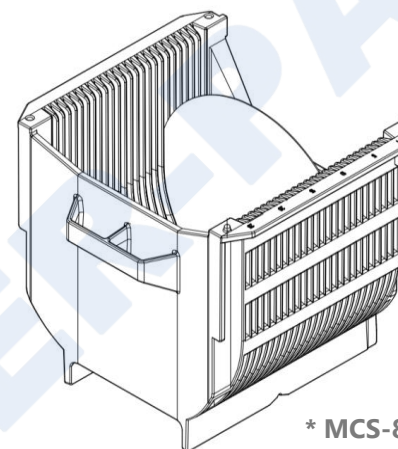
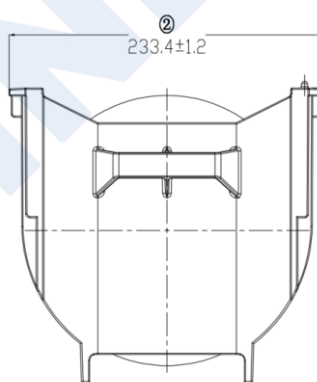


\* MCS-8/25-NP-PFA

| Item Code        | Wafer Size | Material | Capacity | Color            | Dimension           |
|------------------|------------|----------|----------|------------------|---------------------|
| MCS-4/25-NP-PFA  | 4"/100mm   | PFA      | 25PCS    | Semi-Transparent | 141.3*125*113.6mm   |
| MCS-6/25-NP-PFA  | 6"/150mm   | PFA      | 25PCS    | Semi-Transparent | 177.8*143.1*171.5mm |
| MCS-8/25-NP-PFA* | 8"/200mm   | PFA      | 25PCS    | Semi-Transparent | 233.4*203.2*201mm   |



\* MCS-8/25-NP-PFA



\* MCS-8/25-NP-PFA

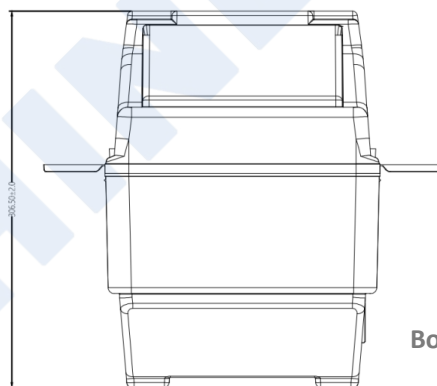
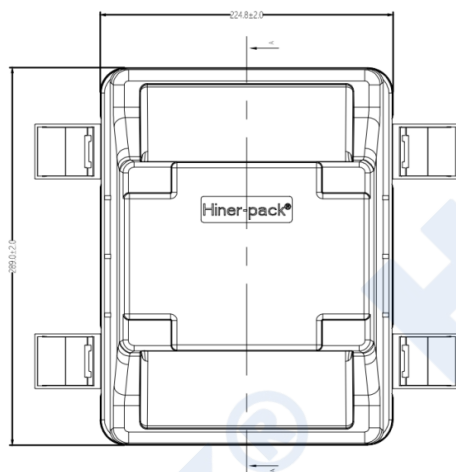


# Vertical Flex Frame Wafer Shippers <8-inch>

- Made from low particle/ionic/outgassing material
- Vertical secures wafers already mounted on flex, dicing, or film frame
- Spring design in the upper cover can effectively avoid the frames movement, prevent wafer breakage
- Reusable for cost-efficient shipping



| Item Code     | Wafer Size | Material      | Collocation Reference | Capacity | Color | Dimension         |
|---------------|------------|---------------|-----------------------|----------|-------|-------------------|
| FVWS-8/25-BL  | 8"/200mm   | Conductive PP | Bottom+Frame+Top      | 25PCS    | Black | 289*224.8*306.5mm |
| FVWS-8/25-NP* | 8"/200mm   | Nature PP     | Bottom+Frame+Top      | 25PCS    | White | 289*224.8*306.5mm |



Flex Frame Ring with Blue Tape/ UV Curing



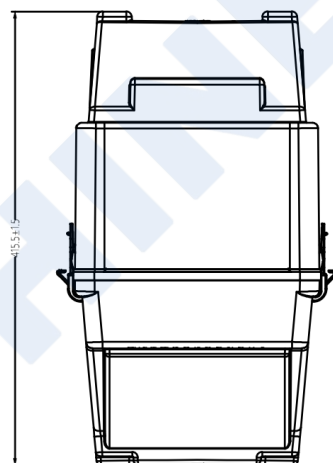
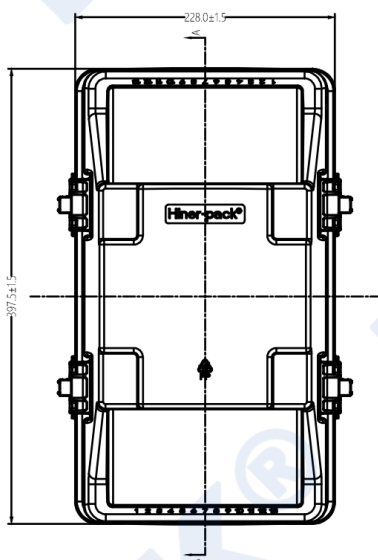
\* FVWS-8/25-NP

# Vertical Flex Frame Wafer Shippers <12-inch>

- Made from low particles/ionic/outgassing material
- Vertical secures wafers already mounted on flex, dicing, or film frame
- Spring design in the upper cover can effectively avoid the frames movement, prevent wafer breakage
- Reusable for cost-efficient shipping



| Item Code     | Wafer Size | Material      | Collocation Reference | Capacity | Dimension         |
|---------------|------------|---------------|-----------------------|----------|-------------------|
| FVWS-12/13-BL | 12"/300mm  | Conductive PP | Bottom+Frame+Top      | 13PCS    | 397.5*228*415.5mm |



300mm Wafer (With Flex Frame Ring and Blue Tape/ UV Curing)

Bottom



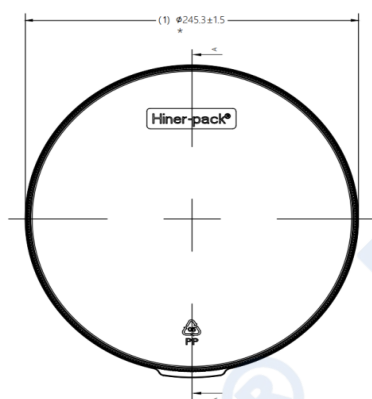
## Wafer Jars

- Interleaf separators prevent direct wafer surface contact
- Foam liners and cushion disks absorb shocks and vibration
- The bottom and the top cover are designed to facilitate the operator to open and ensure safety during transportation



\* MHWJ-6/25-160/48-NP & WH

| Item Code            | Wafer Size | Collocation Reference           | Capacity | Style             | Dimension     |
|----------------------|------------|---------------------------------|----------|-------------------|---------------|
| MHWJ-6/25-160/48-NP* | 6"/150mm   | Bottom+Foam+Interleaf+Liner+Top | 25PCS    | Transparent Cover | Φ173.5*54.5mm |
| MHWJ-6/25-160/48-WH* | 6"/150mm   | Bottom+Foam+Interleaf+Liner+Top | 25PCS    | White Cover       | Φ173.5*54.5mm |
| MHWJ-8/25-203/50-NP* | 8"/200mm   | Bottom+Foam+Interleaf+Liner+Top | 25PCS    | Transparent Cover | Φ245.3*63mm   |
| MHWJ-8/25-203/50-WH* | 8"/200mm   | Bottom+Foam+Interleaf+Liner+Top | 25PCS    | White Cover       | Φ245.3*63mm   |



\* MHWJ-8/25-203/50-NP & WH



\* MHWJ-8/25-203/50-WH

## Cushions / Foam Cushion Disks

- Protects wafers from impacts and vibrations in transit
- Cushions the delicate edges of wafers, preventing mechanical damage
- Adaptable for various wafer sizes, ensuring a secure fit for different wafer types
- Offers a protective environment for wafers during extended storage periods
- Ensures wafers stay intact and clean throughout the shipping process
- Suitable for use in cleanroom environments, maintaining wafer purity



| Item Code  | Diameter | Thickness | Color | Material           | Surface Resistivity           |
|------------|----------|-----------|-------|--------------------|-------------------------------|
| SCF-150/T3 | 150mm    | 3mm       | Pink  | Polyethylene (EPE) | $1*10^4 \sim 1*10^{11}\Omega$ |
| SCF-150/T6 | 150mm    | 6mm       | Pink  | Polyethylene (EPE) | $1*10^4 \sim 1*10^{11}\Omega$ |
| SCF-200/T3 | 200mm    | 3mm       | Pink  | Polyethylene (EPE) | $1*10^4 \sim 1*10^{11}\Omega$ |
| SCF-200/T6 | 200mm    | 6mm       | Pink  | Polyethylene (EPE) | $1*10^4 \sim 1*10^{11}\Omega$ |
| SCF-300/T3 | 300mm    | 3mm       | Pink  | Polyethylene (EPE) | $1*10^4 \sim 1*10^{11}\Omega$ |
| SCF-300/T6 | 300mm    | 6mm       | Pink  | Polyethylene (EPE) | $1*10^4 \sim 1*10^{11}\Omega$ |
| SCF-400/T3 | 400mm    | 3mm       | Pink  | Polyethylene (EPE) | $1*10^4 \sim 1*10^{11}\Omega$ |
| SCF-400/T6 | 400mm    | 6mm       | Pink  | Polyethylene (EPE) | $1*10^4 \sim 1*10^{11}\Omega$ |
| SCF-295/T3 | 295mm    | 3mm       | Pink  | Polyethylene (EPE) | $1*10^4 \sim 1*10^{11}\Omega$ |
| SCF-295/T6 | 295mm    | 6mm       | Pink  | Polyethylene (EPE) | $1*10^4 \sim 1*10^{11}\Omega$ |

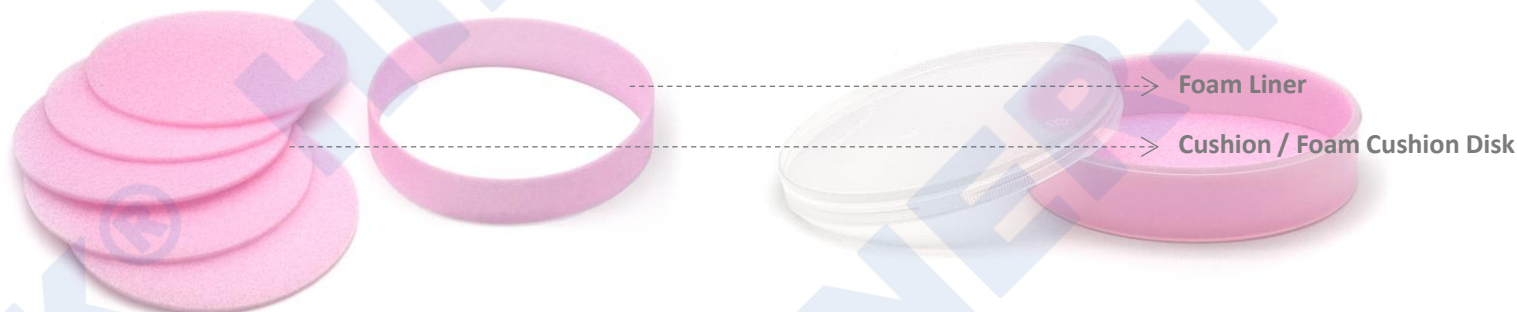


## Foam Liners

- Shock Absorption during Transit: Protects wafers from impacts and vibrations in transit
- Wafer Edge Protection: Cushions the delicate edges of wafers, preventing mechanical damage
- Suitable for use in cleanroom environments, maintaining wafer purity
- Ensures wafers stay intact and clean throughout the shipping process
- Offers a protective environment for wafers during extended storage periods



| Item Code     | Length | Width | Color | Material           | Surface Resistivity                          |
|---------------|--------|-------|-------|--------------------|----------------------------------------------|
| SFL-320/50-3  | 320mm  | 50mm  | Pink  | Polyethylene (EPE) | $1 \times 10^4 \sim 1 \times 10^{11} \Omega$ |
| SCF-490/47-5  | 490mm  | 47mm  | Pink  | Polyethylene (EPE) | $1 \times 10^4 \sim 1 \times 10^{11} \Omega$ |
| SCF-695/50-13 | 695mm  | 50mm  | Pink  | Polyethylene (EPE) | $1 \times 10^4 \sim 1 \times 10^{11} \Omega$ |
| CFL-320/50-3  | 320mm  | 50mm  | Pink  | Polyethylene (EPE) | $1 \times 10^4 \sim 1 \times 10^{11} \Omega$ |
| CFL-490/47-3  | 490mm  | 47mm  | Pink  | Polyethylene (EPE) | $1 \times 10^4 \sim 1 \times 10^{11} \Omega$ |
| CFL-490/47-5  | 490mm  | 47mm  | Pink  | Polyethylene (EPE) | $1 \times 10^4 \sim 1 \times 10^{11} \Omega$ |
| CFL-695/50-13 | 695mm  | 50mm  | Pink  | Polyethylene (EPE) | $1 \times 10^4 \sim 1 \times 10^{11} \Omega$ |



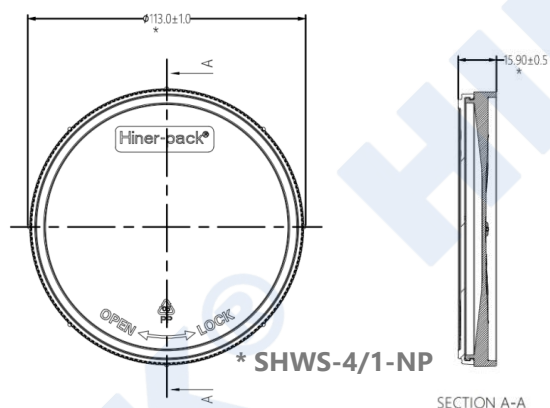
## Single Wafer Shippers

- Conical pocket holds one wafer facedown contacting only the wafer's edge
- Spring retains wafer and minimizes particle generation
- Stackable for efficient use of storage space
- Screw on cover provides secure closure and easy opening
- The enclosed structure minimizes exposure to contaminants
- Large area on cover provides space for labeling



\* SHWS-4/1 & 6/1-NP

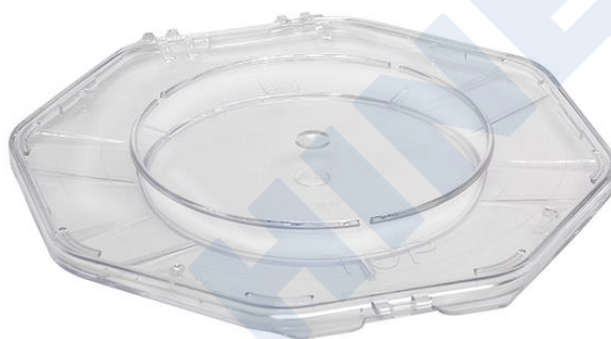
| Item Code    | Wafer Size | Material  | Collocation Reference | Capacity | Dimension   |
|--------------|------------|-----------|-----------------------|----------|-------------|
| SHWS-1/1-NP  | 1"/25mm    | Nature PP | Bottom+Spring+Top     | 1PCS     | Φ33*9mm     |
| SHWS-2/1-NP  | 2"/50mm    | Nature PP | Bottom+Spring+Top     | 1PCS     | Φ60*12mm    |
| SHWS-3/1-NP  | 3"/75mm    | Nature PP | Bottom+Spring+Top     | 1PCS     | Φ87*13mm    |
| SHWS-4/1-NP* | 4"/100mm   | Nature PP | Bottom+Spring+Top     | 1PCS     | Φ113*15.9mm |
| SHWS-6/1-NP* | 6"/150mm   | Nature PP | Bottom+Spring+Top     | 1PCS     | Φ161.2*21mm |



## Single Wafer Shippers - Acrylic

- Made of transparent acrylic for easy visual inspection of the internal contents
- The clamshell design offers excellent physical protection during storage and transport
- Features multiple internal support pins to precisely hold the wafer in place, preventing movement
- Provides a tight seal to effectively isolate the wafer from external dust and airborne contaminants
- Ideal for the packaging and handling of delicate semiconductor wafers and substrates

| Item Code      | Wafer Size             | Material | Capacity | Dimension    |
|----------------|------------------------|----------|----------|--------------|
| SHWS-456/1-AC* | 4"&5"&6"/100&125&150mm | Acrylic  | 1PCS     | 170*170*22mm |
| SHWS-8/1-AC*   | 8"/200mm               | Acrylic  | 1PCS     | Φ213*20mm    |



\* SHWS-8/1-AC



\* SHWS-456/1-AC

# Vacuum-Formed Single Wafer Shippers

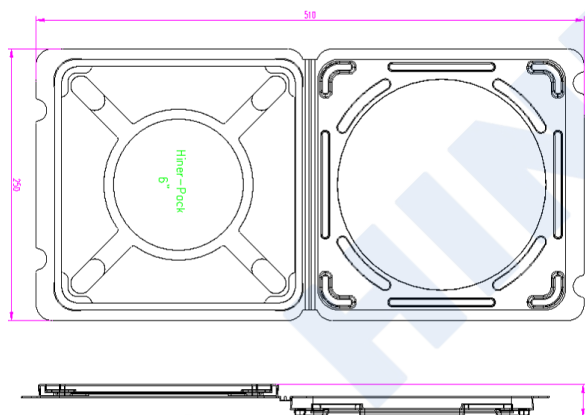
**<Clamshell-Style / Flex Frame>**



\* SVFWS-6-BL

- PET material provides impact resistance and static control
- Designed with secure locking systems to ensure the contents remain protected
- Secures wafers already mounted on flex, dicing, or film frame
- Vacuum-formed construction is lightweight and stackable

| Item Code   | Wafer Size | Material | Collocation Reference | Color       | Dimension    |
|-------------|------------|----------|-----------------------|-------------|--------------|
| SVFWS-6-BL* | 6"/150mm   | PET      | Wafer Shipper+Frame   | Black       | 510*250*30mm |
| SVFWS-6-NP* | 6"/150mm   | PET      | Wafer Shipper+Frame   | Transparent | 510*250*30mm |
| SVFWS-8-BL  | 8"/200mm   | PET      | Wafer Shipper+Frame   | Black       | 645*320*30mm |
| SVFWS-6-NP  | 6"/150mm   | PET      | Wafer Shipper+Frame   | Transparent | 510*250*30mm |



\* SVFWS-6-BL & NP



\* SVFWS-6-BL

Wafer Shipper

Flex Frame Ring



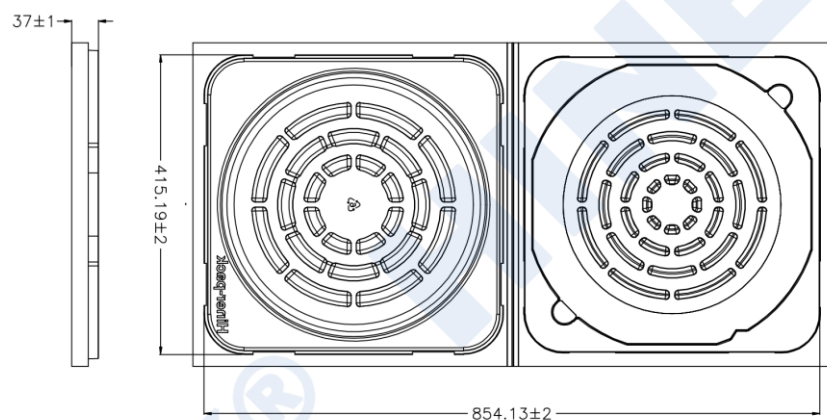
# Vacuum-Formed Single Wafer Shippers

**<Clamshell-Style / Flex Frame>**



- PET material provides impact resistance and static control
- Designed with secure locking systems to ensure the contents remain protected
- Secures wafers already mounted on flex, dicing, or film frame
- Vacuum-formed construction is lightweight and stackable

| Item Code    | Wafer Size | Material | Collocation Reference | Color       | Dimension          |
|--------------|------------|----------|-----------------------|-------------|--------------------|
| SVFWS-12-BL  | 12"/300mm  | PET      | Wafer Shipper+Frame   | Black       | 854.13*415.19*37mm |
| SVFWS-12-NP* | 12"/300mm  | PET      | Wafer Shipper+Frame   | Transparent | 854.13*415.19*37mm |



Wafer Shipper ←

Flex Frame Ring ←



\* SVFWS-12-NP

# Vacuum-Formed Single Wafer Shippers

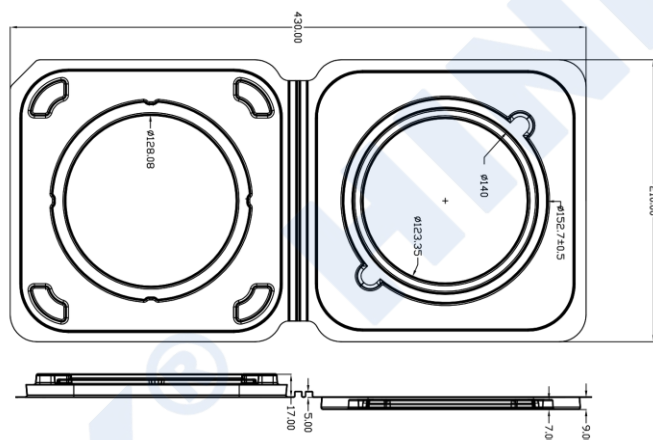
## <Clamshell-Style / Hoop Ring>



\* SHRWS-4&amp;5-NP

- PET material provides impact resistance and static control
- Hoop, expander, or grip ring holds wafer only by its edge
- Designed with secure locking systems to ensure the contents remain protected
- Vacuum-formed construction is lightweight and stackable

| Item Code     | Wafer Size            | Material | Collocation Reference   | Color       | Dimension      |
|---------------|-----------------------|----------|-------------------------|-------------|----------------|
| SHRWS-4&5-BL* | 4" & 5" / 100 & 125mm | PET      | Wafer Shipper+Hoop Ring | Black       | 386*188*22mm   |
| SHRWS-4&5-NP* | 4" & 5" / 100 & 125mm | PET      | Wafer Shipper+Hoop Ring | Transparent | 386*188*22mm   |
| SHRWS-6-BL*   | 6" / 150mm            | PET      | Wafer Shipper+Hoop Ring | Black       | 430*210*26mm   |
| SHRWS-6-NP*   | 6" / 150mm            | PET      | Wafer Shipper+Hoop Ring | Transparent | 430*210*26mm   |
| SHRWS-8-BL    | 8" / 150mm            | PET      | Wafer Shipper+Hoop Ring | Black       | 592*293*24.5mm |
| SHRWS-8-NP    | 8" / 150mm            | PET      | Wafer Shipper+Hoop Ring | Transparent | 592*293*24.5mm |



\* SHRWS-6-BL &amp; NP



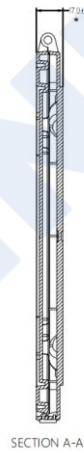
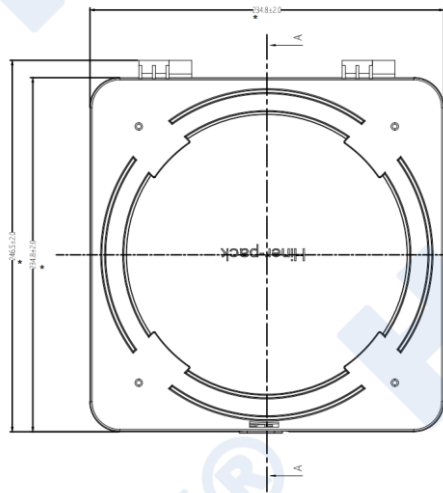
\* SHRWS-4&amp;5-NP

# Clamshell-Style Hoop Ring Single Wafer Shippers



- Made of engineering-grade polymer polycarbonate (PC) for excellent impact strength and heat resistance
- Precision mold injection molding, stable structure
- Hoop, expander, or grip ring holds the wafer only by its edge
- Designed with secure locking systems to ensure the contents remain protected
- Durable and reusable

| Item Code | Wafer Size | Material | Collocation Reference   | Color | Dimension        |
|-----------|------------|----------|-------------------------|-------|------------------|
| SHWS-8/1  | 8"/200mm   | PC       | Wafer Shipper+Hoop Ring | Black | 246.5*234.8*17mm |



Wafer Shipper ←

(Bottom and lid combined by hinged mechanism) ←

Hoop Ring ←



## Plastic Flex Frame Rings

- Compatible with automatic frame handling tools
- Durable and reusable
- No warping
- 60% lighter than metal rings and a fraction of the cost of metal rings
- Multiple frame sizes for transporting 150 mm, 200 mm and 300 mm wafers



| Item Code   | Wafer Size | Thickness | Color | Material                  |
|-------------|------------|-----------|-------|---------------------------|
| PFR-6/T2.5  | 6"/150mm   | 2.5mm     | Black | PPS (ESD-Safe or Non-ESD) |
| PFR-8/T2.5  | 8"/200mm   | 2.5mm     | Black | PPS (ESD-Safe or Non-ESD) |
| PFR-12/T3.5 | 12"/300mm  | 3.5mm     | Black | PPS (ESD-Safe or Non-ESD) |



→ Wafer

→ Blue Tape

→ Plastic Flex Frame Ring

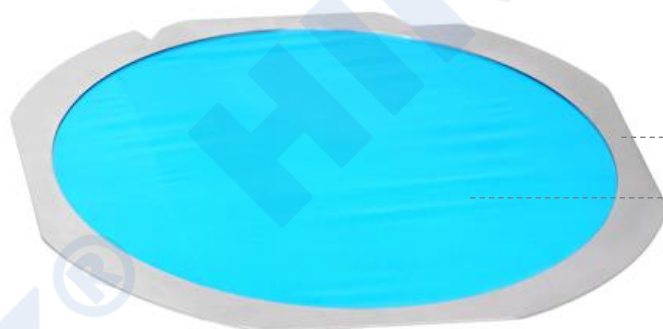


## Metal Flex Frame Rings

- Compatible with automatic frame handling tools
- Durable and reusable
- Multiple frame sizes for transporting different size of wafers
- Made of stainless steel for high mechanical strength, maintains shape integrity under thermal and mechanical stress
- Corrosion-resistant surface, suitable for prolonged use in cleanroom environments



| Item Code   | Wafer Size | Thickness | Color  | Material        |
|-------------|------------|-----------|--------|-----------------|
| MFR-6/T1.2  | 6"/150mm   | 1.2mm     | Silver | Stainless Steel |
| MFR-6/T1.5  | 6"/150mm   | 1.5mm     | Silver | Stainless Steel |
| MFR-8/T1.2  | 8"/200mm   | 1.2mm     | Silver | Stainless Steel |
| MFR-12/T1.5 | 12"/300mm  | 1.5mm     | Silver | Stainless Steel |

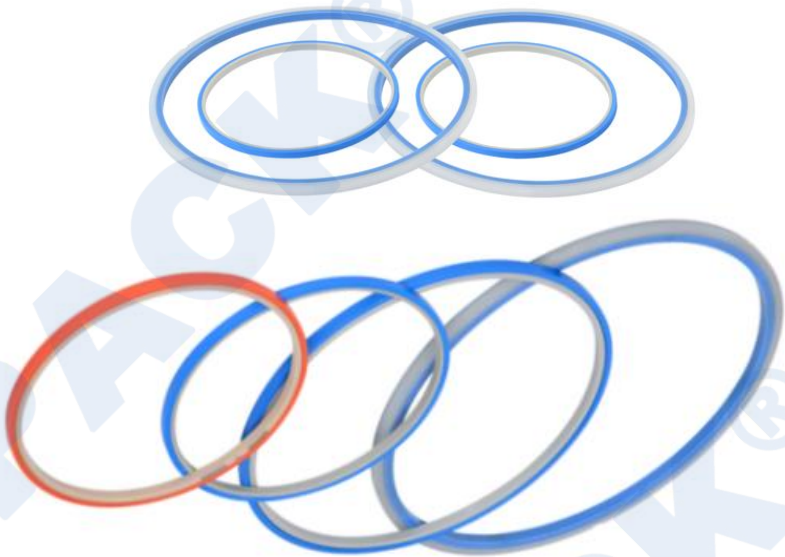


→ Metal Flex Frame Ring

→ Blue Tape

# Hoop Rings / Expander Rings

- Providing long-lasting durability and resilience in demanding environments
- Fits wafer sizes from 140mm to 248mm, ensuring compatibility with various semiconductor wafers
- Available in different sizes and colors for easy identification and optimized process management
- Safeguards wafers against electrostatic discharge (ESD), ensuring wafer integrity during transport and storage
- Works seamlessly with automated wafer handling systems for improved operational efficiency



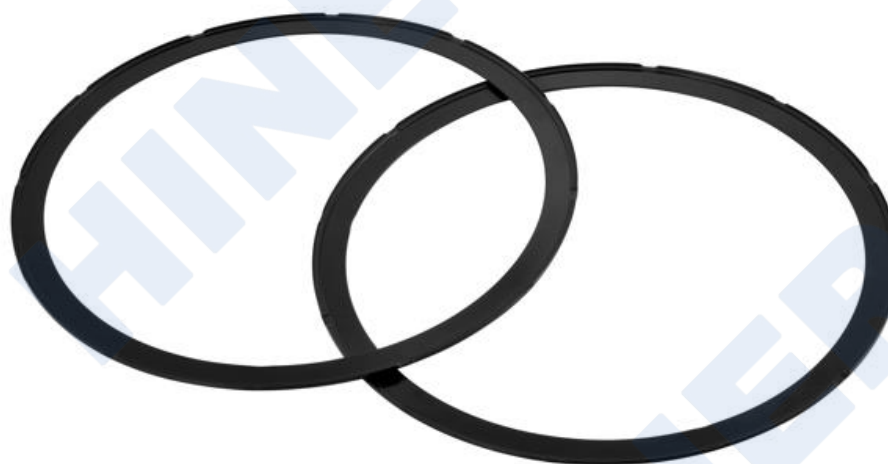
| Item Code         | Internal Diameter                                                           | External Diameter | Thickness | Material |
|-------------------|-----------------------------------------------------------------------------|-------------------|-----------|----------|
| HR-152/140-T6-PBT | 140mm                                                                       | 152mm             | 6mm       | PBT      |
| HR-152/140-T6-PC  | 140mm                                                                       | 152mm             | 6mm       | MPC      |
| HR-210/195-T6-PBT | 195mm                                                                       | 210mm             | 6mm       | PBT      |
| HR-210/195-T6-PC  | 195mm                                                                       | 210mm             | 6mm       | MPC      |
| HR-248/227-T7-PC  | 228mm                                                                       | 247mm             | 7mm       | MPC      |
| Color             | Inner Grey + Outer Blue/Inner Grey + Outer Green (Colors can be customized) |                   |           |          |

## Clamp Rings / Ring Separators

- Ensures uniform wafer separation for stable and safe transport
- Prevents direct wafer-to-wafer contact to lower the risk of surface damage
- Precision-engineered dimensions for a secure fit with the shipper
- Reduces wafer slippage and displacement during handling and transit
- Designed to protect fragile semiconductor wafers in demanding environments

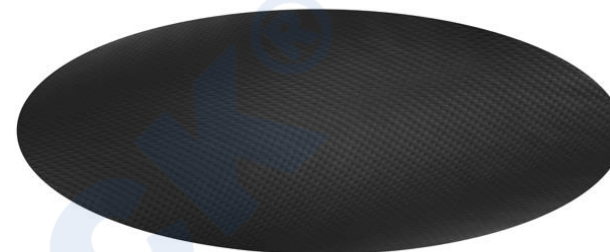


| Item Code   | Wafer Size | Thickness | Color | Material |
|-------------|------------|-----------|-------|----------|
| RS-200/T1.2 | 8"/200mm   | 6mm       | Black | PP       |

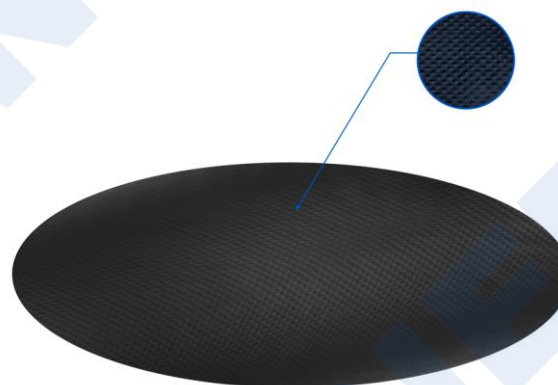


## PE Conductive Films / Interleafs

- ESD protected
- Low particle level and ion contamination
- Double-sided embossing
- No layering, wrinkles, warping, cracking, adhesion, or foreign body attached



| Item Code   | Diameter | Thickness | Color | Material                     | Surface Resistivity                          |
|-------------|----------|-----------|-------|------------------------------|----------------------------------------------|
| PE-100/T0.1 | 100mm    | 0.1mm     | Black | Conductive Polyethylene (PE) | $1 \times 10^4 \sim 1 \times 10^{11} \Omega$ |
| PE-150/T0.1 | 150mm    | 0.1mm     | Black | Conductive Polyethylene (PE) | $1 \times 10^4 \sim 1 \times 10^{11} \Omega$ |
| PE-200/T0.1 | 200mm    | 0.1mm     | Black | Conductive Polyethylene (PE) | $1 \times 10^4 \sim 1 \times 10^{11} \Omega$ |
| PE-300/T0.1 | 300mm    | 0.1mm     | Black | Conductive Polyethylene (PE) | $1 \times 10^4 \sim 1 \times 10^{11} \Omega$ |
| PE-360/T0.1 | 360mm    | 0.1mm     | Black | Conductive Polyethylene (PE) | $1 \times 10^4 \sim 1 \times 10^{11} \Omega$ |
| PE-400/T0.1 | 400mm    | 0.1mm     | Black | Conductive Polyethylene (PE) | $1 \times 10^4 \sim 1 \times 10^{11} \Omega$ |



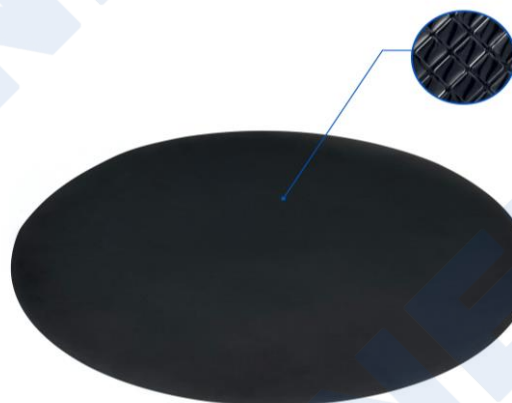


## PS Conductive Films / Interleafs

- Conductive surface reduces static buildup for sensitive wafers
- Available in standard industry sizes for broad wafer compatibility
- Chemically inert to avoid reactions with wafer surfaces
- Minimizes wafer-to-wafer contact and prevents damage during transit



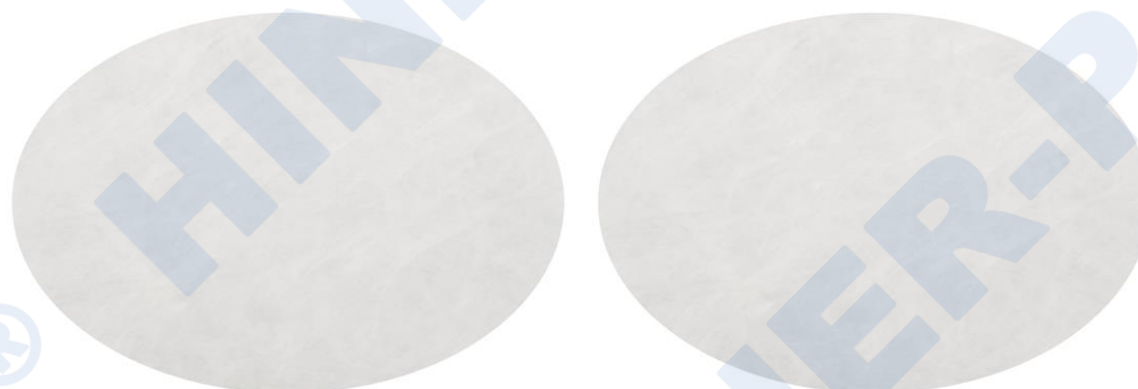
| Item Code    | Diameter | Thickness | Color | Material                    | Surface Resistivity                          |
|--------------|----------|-----------|-------|-----------------------------|----------------------------------------------|
| PS-100/T0.16 | 100mm    | 0.16mm    | Black | Conductive Polystyrene (PS) | $1 \times 10^4 \sim 1 \times 10^{11} \Omega$ |
| PS-150/T0.16 | 150mm    | 0.16mm    | Black | Conductive Polystyrene (PS) | $1 \times 10^4 \sim 1 \times 10^{11} \Omega$ |
| PS-200/T0.16 | 200mm    | 0.16mm    | Black | Conductive Polystyrene (PS) | $1 \times 10^4 \sim 1 \times 10^{11} \Omega$ |
| PS-300/T0.16 | 300mm    | 0.16mm    | Black | Conductive Polystyrene (PS) | $1 \times 10^4 \sim 1 \times 10^{11} \Omega$ |
| PS-360/T0.16 | 360mm    | 0.16mm    | Black | Conductive Polystyrene (PS) | $1 \times 10^4 \sim 1 \times 10^{11} \Omega$ |
| PS-400/T0.16 | 400mm    | 0.16mm    | Black | Conductive Polystyrene (PS) | $1 \times 10^4 \sim 1 \times 10^{11} \Omega$ |



## Separator Papers / Interleafs

- Anti-Static
- Tailored to match various wafer sizes for snug fitting and optimal protection
- Suitable for use in wafer canisters and jars
- Resistant to tears and punctures, maintaining integrity during use
- Minimizes direct contact and potential damage to wafers during handling and transport

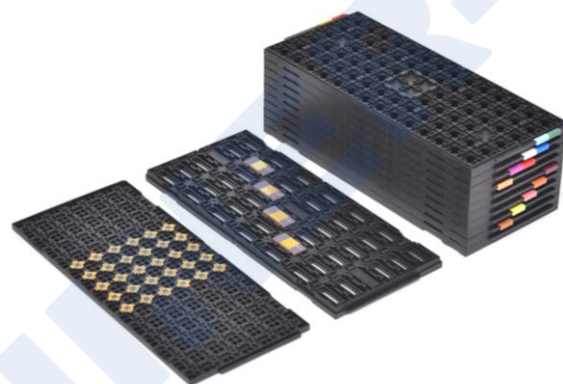
| Item Code    | Diameter | Thickness | Color | Material        |
|--------------|----------|-----------|-------|-----------------|
| DP-150/T0.16 | 150mm    | 0.16mm    | White | Nonwoven Fabric |
| DP-200/T0.16 | 200mm    | 0.16mm    | White | Nonwoven Fabric |
| DP-300/T0.16 | 300mm    | 0.16mm    | White | Nonwoven Fabric |
| DP-400/T0.16 | 400mm    | 0.16mm    | White | Nonwoven Fabric |
| DP-295/T0.16 | 295mm    | 0.16mm    | White | Nonwoven Fabric |



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