# *Introducing* MaxONE *Shippers*

## *Universal Blood Shippers that enhances your Blood Donor Services and Hospital Services Operations*

MaxOne Launch Webinar (Apr 2024)

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Moderator: Car Cooper, Marketing Coordinator (carcooper@flymaxq.com)

# Agenda

- MaxQ – The Company
- Blood Supply Chain – Challenges & Opportunities
- AABB requirements
- ***MaxOne*** Shipper Introduction
- Key Features
- Qualifications & Packouts
- Key Benefits
- Q&A

## Bottom Line

- ✓ Universal Shipper : WB, RBCs & Platelets
- ✓ Flexible pack outs : Gel packs (or) wet ice
- ✓ Thermally & physically robust
- ✓ Qualified, Validated and ready to go

**Accepting orders today.**
**Shipments commencing June 2024**

# Who are we?

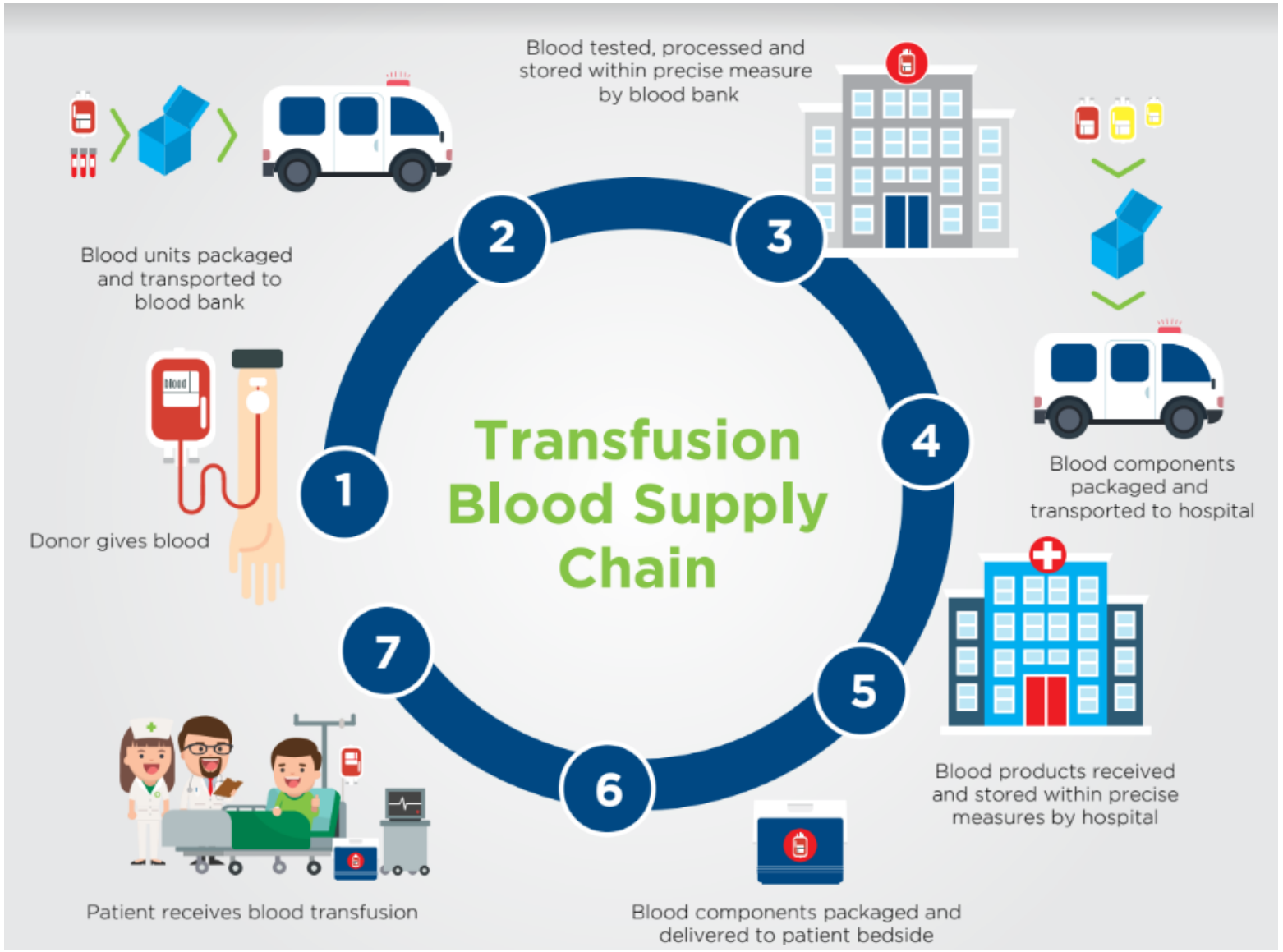
- Largest, innovative blood packaging solutions provider
- Serve 1,200+ hospital blood banks and blood centers
- End-to-end, patented solutions protecting blood products from donor vein to receiver vein.
- Expansive technology portfolio

**Eliminate product loss. Enhance regulatory compliance.**

**Deliver sustainable cost savings. Increase efficiency.**



# The Blood Supply Chain




- Necessary and Life saving
- Criticality of the precise temperature ranges of the various blood products as prescribed by AABB

Steps 1 – 5

- External & Transport heavy
- Myriad of factors including ambient temperatures in picture

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# AABB Standards and requirements

| Blood Product | Condition | Temperature Range | Transport/ Storage Time | Transport/ Storage Equipment |
|---|---|---|---|---|
| **Whole blood and packed red cell** | For transport to another center (steps 2, 4) | +1 °C to +10 °C | Depends on qualified duration of the container | Qualified container having sufficient cooling materials |
| **Whole blood and packed red cell** | For storage in blood center (steps 3, 5) | +1 °C to +6 °C | 35 days | Blood bank / Hospital refrigerator |
| **Platelet concentrates** | For transportation to another center (step 4) | +20 °C to +24 °C | 24 hours (maximum time without agitation) | Qualified container having sufficient temperature stabilization materials |
| **Platelet concentrates** | For storage in blood center (steps 3, 5) | +20 °C to +24 °C | 5 to 7 days | Platelet incubator with agitator |
| **Fresh frozen plasma** | For storage in blood center (steps 3, 5) | Frozen state (below −18 °C) | 12 months from collection | Plasma freezer |
| **Fresh frozen plasma** | For transport to another center (step 4) | Frozen state | Transported until maintained in frozen state | Qualified container having sufficient cooling materials |
| **Packed red cells, thawed plasma** | Blood components issued for transfusion (step 6) | +1 °C to +6 °C | Depends on qualified storage duration of the cooler | Portable coolers |

## Compliance Challenges for Donor & Hospital Services

- Maintaining AABB prescribed temperatures of blood products during transport, given the varying ambient outside temperature variations.
- Validating multiple shippers with several types, sizes, components ( different vendors in some cases )
- Qualifications ( DQ, OQ & PQ ) successfully maintaining the prescribed temperature range for the various summer and winter ambient conditions.
- Payload Specific Pack-outs – Minimum Payload Vs Maximum Payload. (i.e.) Pack outs ought to work for 1 pRBC Vs 10 pRBCs

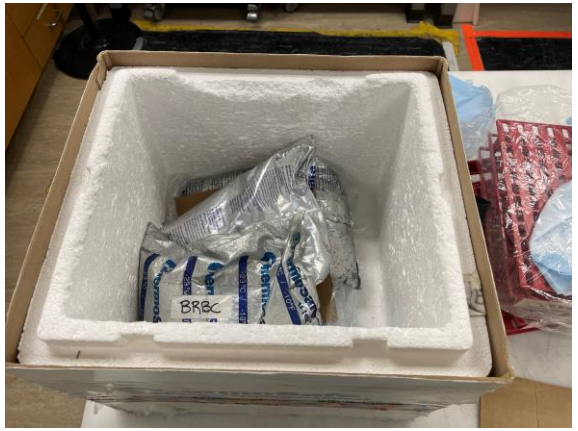
# Cold Chain Packaging challenges

- **Need for different types of shippers** for
  - Varying blood product types. RBC/WB/PLT
  - Varying payload capacities, 5 pRBC unit Vs 20PLT unit

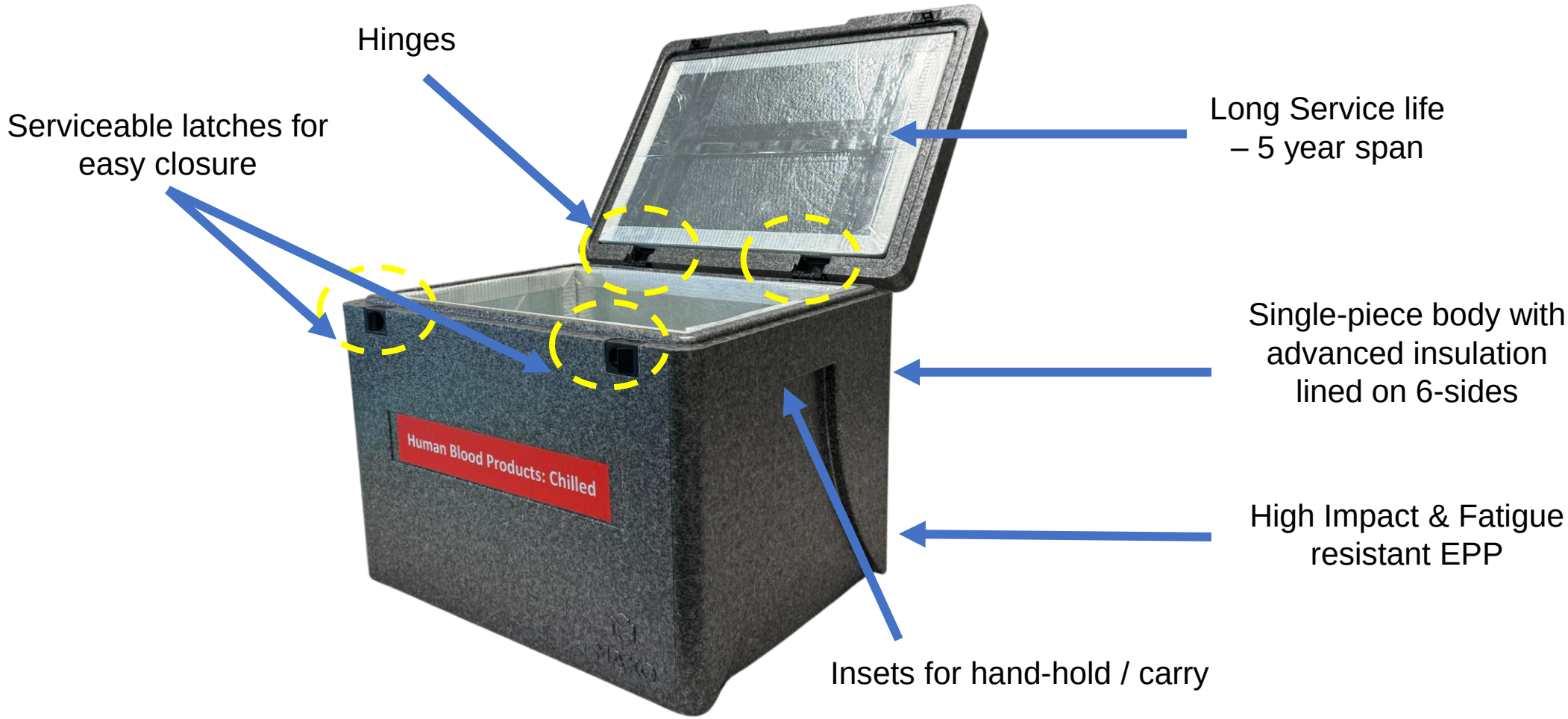
- **Supply Chain Management Challenges** : Managing and maintaining vendors for the different types of shippers and respective components needs. (i.e.) Cardboard, cold packs, absorbent pads, containment bags

- **Thermal Limitations**: Styrofoam bases (i.e.) EPS, PUR , Styrene based, Limited Insulation capabilities posing thermal risks

- **Physical Limitations**: Heavy, Low resistance to wear and tear, high attrition rates of shippers, low grade materials affecting the performance and looks of the shipper.



# Introducing MaxONE Shippers…



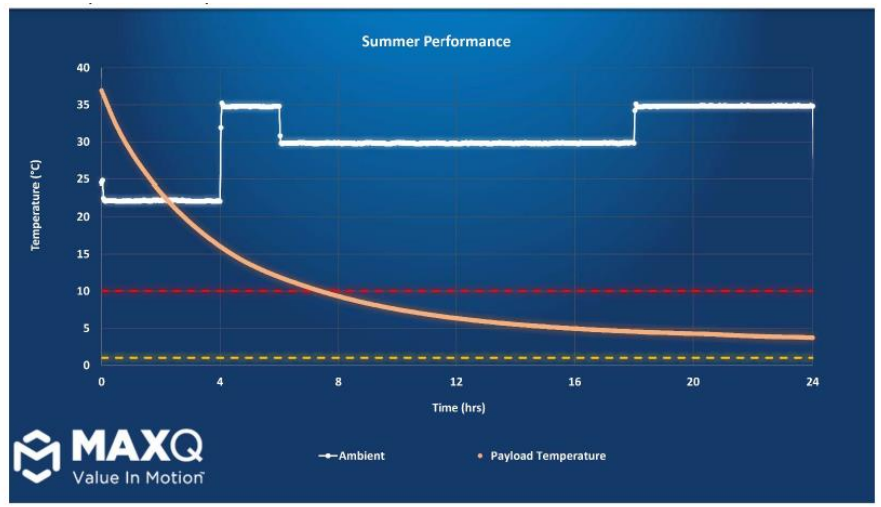
# MaxONE - Material Advantage

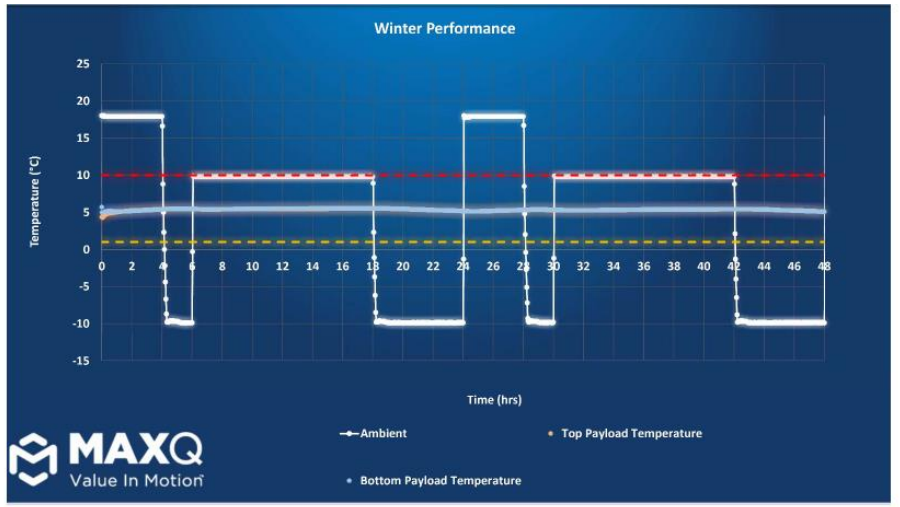
- Expanded polypropylene
- Durable + Insulating + Sustainable
- Chemical and weather resistant
- Does not support microbial growth
- Easy to wipe blood off of the surface
- Clean with IPA, Bleach, OR PDI wipes

# MaxOne – Thermal Advantage

- Validated & pre-qualified against ISTA 7D standards ( GDP/GMP )

- Qualified pack outs using
  - Hybrid Phase Changing materials
  - Wet Ice



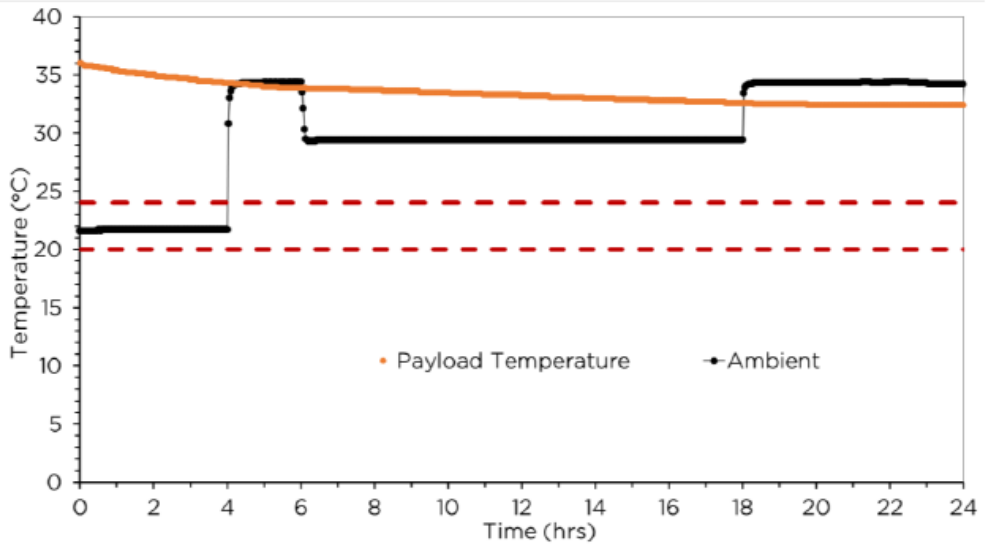

| Blood Product | Minimum Capacity | Maximum Capacity | Validation Duration * |
|---|---|---|---|
| Whole Blood<br>Cooling towards 1 C-10 C | 1 | 10 | 24 hours |
| Platelets<br>20 C to 24 C | 1 | 12 | 30 hours |
| Red Blood Cells<br>1 C- 10 C | 1 | 20 | 48 hours |

# Thermal Performance Data

| Product Type | Payload Starting Temperature | Required Payload Temperature Range | Target Performance | Actual Performance |
|---|---|---|---|---|
| Unprocessed WB | 37°C | Cooling towards 20-24°C | Min. of 8 hours | 24 hours |
| Unprocessed WB | 37°C | Cooling towards 1-10°C | Min. of 24 hours | 24 hours |

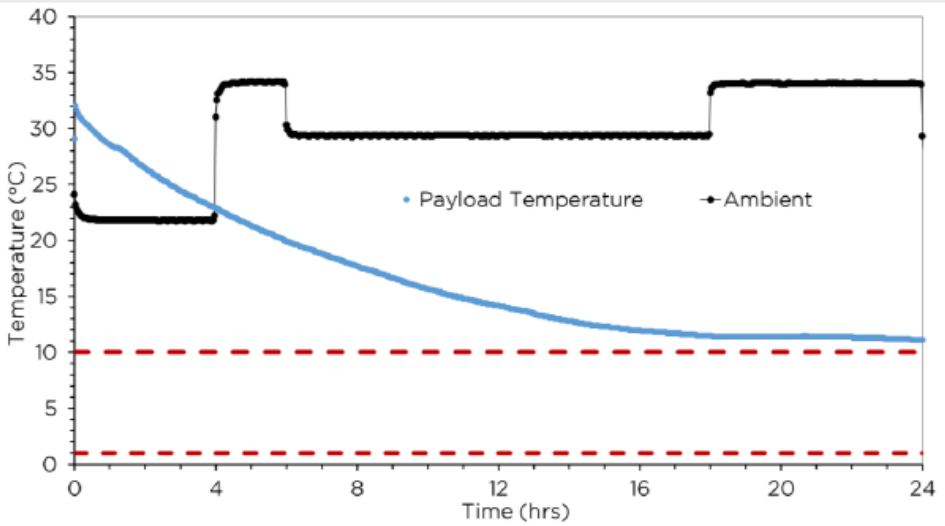
## Unprocessed WB cooling down towards 20-24°C

*No coolants, 12 units of WB*




## Unprocessed WB cooling down towards 1-10°C

*Wet ice (5 lbs.), 9 units of WB*

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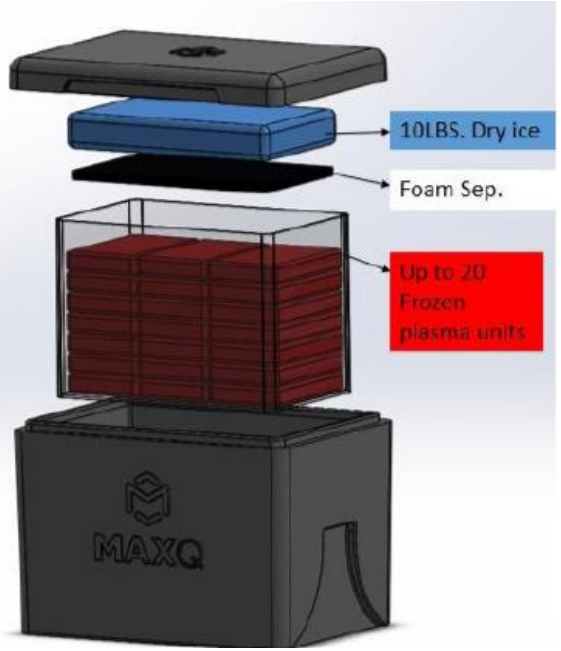
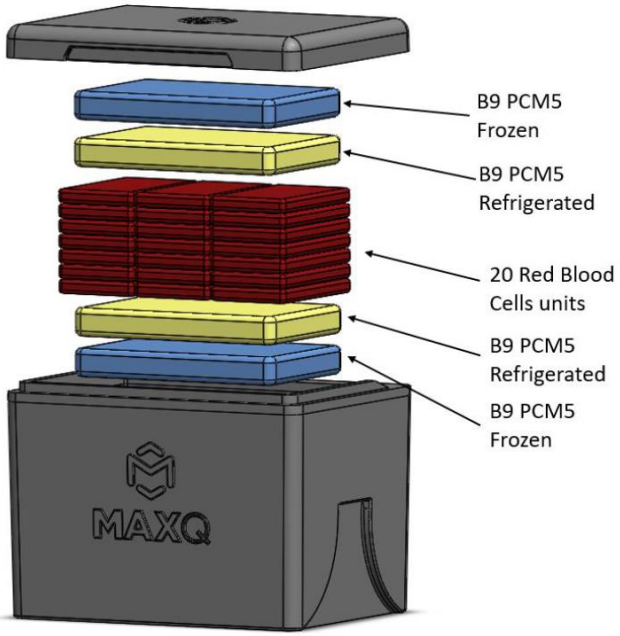
# Design Qualification & Pack-outs




- Detailed DQ Reports & Pack-out schematics included as a part of the shipper
- Detailed description of multiple different test cases
- Full Scale, **Operational Qualification services** & support available from MaxQ.

**MaxConnect Sensing System**
Blood banker friendly cooler temperature monitoring system for RBC, Plasma and Platelets

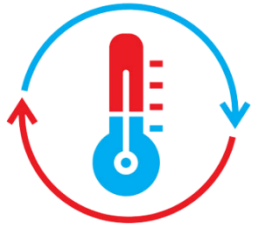
# MaxOne – Design Advantage

- **Built with input from several global blood bankers**
- **Purpose designed for *Operational Versatility***
- Inter-changeable & Color coded product labels
  - (i.e.) Yellow for platelets, Red for Red Cells
- Tamper Evident option : Safety & Security
- Designated areas for “Blood Bank” specific labeling & customization

Custom labeling areas

# MaxOne Shipper – Customer Benefits

## Thermal Assurance



- Products stay in the temperature range throughout transport
- Enhanced temperature compliance in adherence to AABB standards

## Standardization

- Shippers inter-changeable across products & multiple facilities.
- Efficient inventory management with lean / single window supply chain option

## Long Service Life

- Longevity & efficiency reducing the total overhead
- Low total costs w/immediate ROI, realized throughout the shipper life

# THANK YOU…

***Accepting orders today.***

**Shipments commencing June 2024**

**Quote: sales@packmaxq.com.**

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