

The AdvansorUltra CO₂ Booster System

ADVANSOR[™] ULTRA

AdvansorUltra™ by Hillphoenix™ is a cutting-edge industrial CO₂ booster system designed for maximum efficiency, reliability, and environmental performance. It sets the standard in industrial refrigeration, offering a robust platform with a comprehensive range of built-in features.

Designed for scalability, AdvansorUltra includes advanced options that further optimize performance for specific applications. By streamlining configurations and embracing standardization, it simplifies installation, shortens lead times, and enhances efficiency for contractors and technicians.

AdvansorUltra is a future-ready solution engineered to tackle today's most demanding industrial refrigeration needs.





About Hillphoenix Industrial

We are a leading innovator in dependable, scalable and sustainable refrigeration solutions.

With decades of experience and a commitment to cutting-edge CO₂ technology, we deliver systems that combine performance, reliability, and environmental responsibility.

Our AdvansorUltra line reflects our dedication to helping facilities meet today's demands with tomorrow's solutions.

ADVANSOR[™] ULTRA



Hillphoenix's AdvansorUltra CO₂ industrial booster system stands out as the premier choice in CO₂ refrigeration racks due to its unmatched combination of efficiency, reliability, and environmental sustainability.

Engineered with cutting-edge technology, AdvansorUltra offers a comprehensive array of standard features and optional add-on components to further improve upon the system's dependable function.

Increased Robustness

- **High corrosion resistance**
Stainless steel piping
- **Charge preservation during downtime**
90-Bar stand still rating (Optional)
- **Enhanced compressor safety**
Accumulators & hot gas injection
- **Boosted system efficiency**
1.5" insulation thickness flash gas to liquid sub-coolers

Ultimate Flexibility

- **Engineered to suit most industrial applications**
- **Configurable system architecture**

Improved Serviceability

- **More access to serviceable parts**
Improved Overall Frame Sizes
- **No shutdown needed for servicing**
Serviceable canister filters additional isolation valves & bypass lines

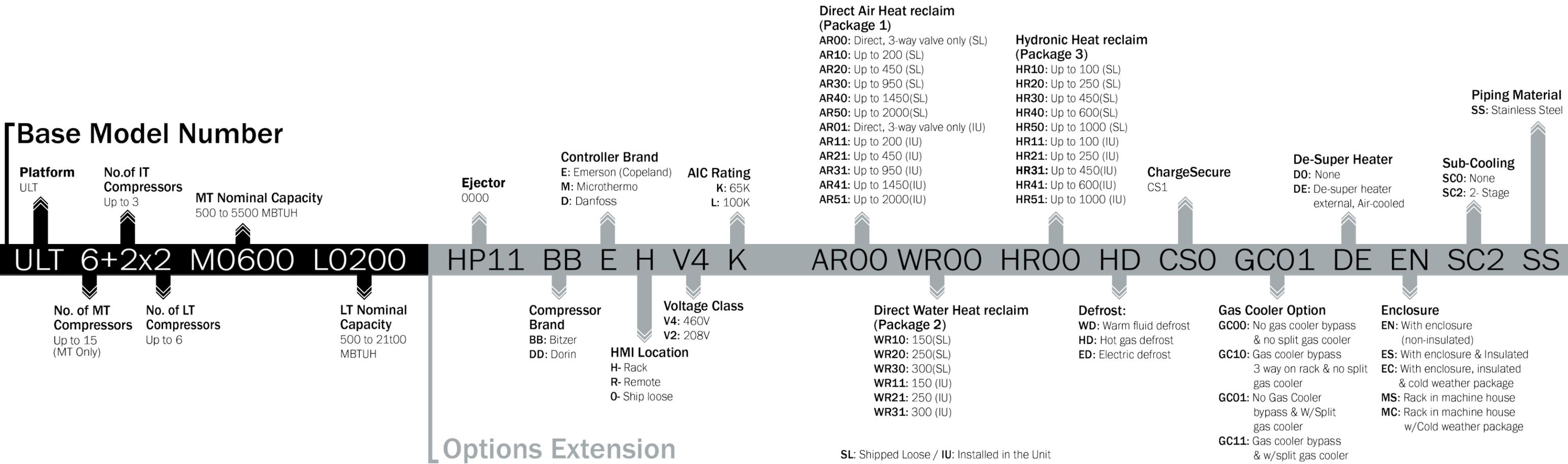
Advanced Technology

- **Improved efficiency**
Parallel compression (Optional)
- **Energy savings**
Air, water, & hydronic heat reclaim (Optional)
- **Liquid charge preservation**
Built-in ChargeSecure[™] (Optional)



Nomenclature Guide

Each rack system is identified by a base model number followed by option codes. Use this guide to understand what each combination means and to configure the system that fits your needs.



Industries We Serve



Available Standard & Optional Features

System Controls

- Multiple control options
- Integrated leak detection
- Multiple critical alarm & monitoring points
- Multiple operating and set point control
- Remote monitoring and connectivity

Energy Efficiency

- Parallel compressors
- Flash gas to liquid subcooler
- Hot gas defrost
- Water heat reclaim
- Air heat reclaim

Serviceability

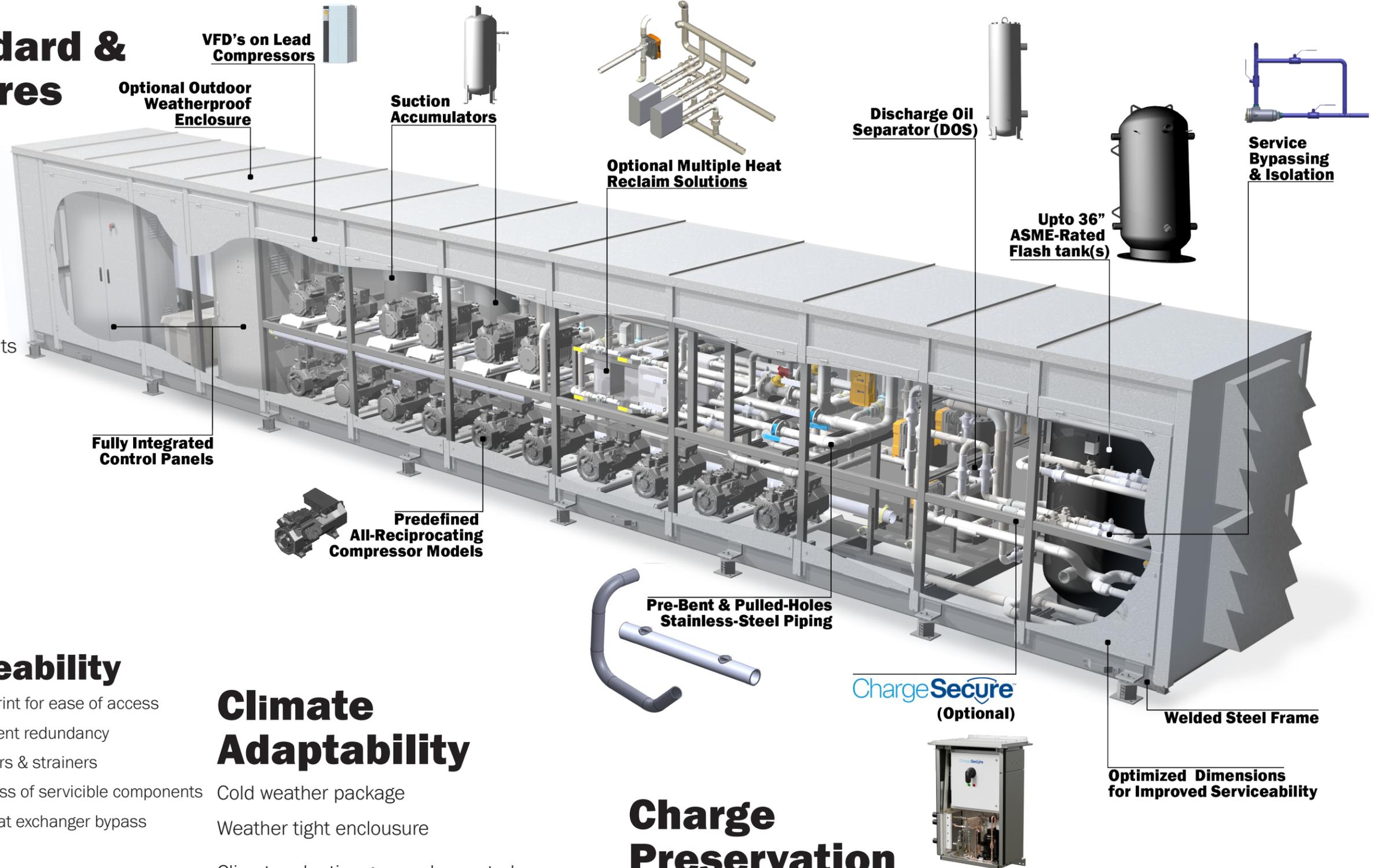
- Optimized footprint for ease of access
- Critical component redundancy
- Serviceable filters & strainers
- Isolation & bypass of servicable components
- Brazed plate heat exchanger bypass

Climate Adaptability

- Cold weather package
- Weather tight enclosure
- Climate adaptive gas cooler control

Charge Preservation

90-bar standstill pressure rating





Configurable Options

CONTROLS			
CATEGORY	OPTION 1	OPTION 2	OPTION 3
Rack Controller Manufacturer	Micro Thermo	Copeland	Danfoss
Controller Location	In Rack	HMI/FM Field mounted	N/A
Refrigerant Leak Detection	In Rack	N/A	N/A
Power Backup for Valves	In Rack UPS	Field Supplied Generator	N/A

ELECTRICAL			
CATEGORY	STD	OPTION 1	OPTION 2
Rack Voltage & Powerpoint	460V	208V*	N/A
Fault Current Rating (SCCR)	65k	N/A	N/A
Main Disconnect	Breaker	Thru-door disconnect	Fused door disconnect
Control Voltage Supply	Separate Feed	Transformer Step-down	N/A
Control Voltage	120V	N/A	N/A
Gas Cooler Powered from Rack	No	Yes	N/A
Compressor Run Proof	Current Sensing Relay	Auxiliary	N/A
Panel Lights	Yes	N/A	N/A

COMPRESSORS		
CATEGORY	STD	OPTION 1
Compressor Type	Bitzer Recip	Dorin Recip
Med Temp Max Size	6-cylinder 50 HP	N/A
# Med Temp Compressors	3 to 10	N/A
Low Temp Max Size	6-cylinder 40 HP	N/A
# Low Temp Compressors	2 to 6	N/A
Lead Comp Capacity Control	Variable Freq Drive	Digital
Compressors Selected by	Hillphoenix	N/A
Compressors shipped with Oil	No (Ship loose)	N/A

SYSTEM RATED DESIGN PRESSURE		
CATEGORY	STD	OPTION 1
Low Temp Suction Relief	30 bar (435 psig)	90 bar (1305 psig)
Med Temp Suction Relief	45 bar (652 psig)	90 bar (1305 psig)
Flash Tank Relief (Operating)	45 bar (652 psig)	90 bar (1305 psig)
Flash Tank Relief (Idle)	60 bar (870 psig)	90 bar (1305 psig)
Med Temp Discharge Relief	120 bar (1740 psig)	130 bar (1885 psig)

STRUCTURAL			
CATEGORY	STD	OPTION 1	OPTION 2
Rack Frame	Welded and Painted	N/A	N/A
Rack Enclosure	No enclosure (indoor)	Galvanized enclosure	Machine House
Rack Frame Isolation	Machine feet	Seismic Springs	N/A
Sound Insulation	None	Enclosure door insulation	N/A

MECHANICAL			
CATEGORY	STD	OPTION 1	OPTION 2
Oil Separator Type	Coalescent	N/A	N/A
Oil Reservoir Type	External	N/A	N/A
Compressor Oil Float Type	Electronic	N/A	N/A
Low Superheat Control	Hot Gas Dump	N/A	N/A
High Superheat Control	Liquid Injection	LT Discharge Desuperheater	N/A
Air Heat Reclaim (AHR)	None	Direct (3-way valve in rack)	Indirect (Hydronic)**
AHR Heat Exchanger Location	Remote (In Air-handler)	In Rack**	
Water Heat Reclaim (WHR)	None	Direct**	Indirect (Hydronic)*
WHR Heat Exchanger Location	In Rack**	Remote (On Pump Skid)	Remote (Ship Loose)
Defrost Type	Off-Cycle/Electric	Hot Gas (4-pipe, 3-pipe, Reverse-cycle)	Warm Fluid**
Service Package	Filters w/isolation and vents with bypasses***	+ Heat Exchanger Bypasses	+ Dual High-Pressure Valve and Flash Gas Bypass Valve
Climate Solution	None	Cold Weather Package	N/A
Flood-back protection	Conventional Suction Accumulator	N/A	N/A
Oil Supply Filter	Serviceable Filter	N/A	N/A
Liquid Line Charge Protection	None	ChargeSecure™ ****	
High Pressure Valve	Danfoss CCMT	Danfoss ICMTS	N/A
Flash Gas Bypass Valve	Danfoss CCMT	Danfoss ICM****	N/A
Filter & drier cores	Ship Loose	N/A	N/A

*Applicable only to 3x2 compressor configurations.

**Availability is contingent upon sufficient space within the track unit. For specific installation requirements, please contact your Hillphoenix Product Application Specialist.

***DOS includes isolation and venting; bypass functionality is not available.

****Capacity is subject to system design.





Smart Footprints

The AdvansorUltra Platform CO₂ Booster System is designed with space efficiency in mind. With clearly defined footprints across all rack sizes, Compact, Small, Medium, and Large, contractors and facility designers can easily visualize and integrate our systems into mechanical layouts. Whether you're working with tight quarters or large scale industrial spaces, our transparent dimensions simplify planning and ensure a seamless fit.

Dimensions

COMPACT 4x3

DIMENSIONS

Rack	L 282" x W 60" x H 90"
Rack w/Enclosure	L 294" x W 63" x H 91"

SMALL 4x4

DIMENSIONS

Rack	L 366" x W 70" x H 94"
Rack w/Enclosure	L 378" x W 73" x H 95"

MEDIUM 6x4

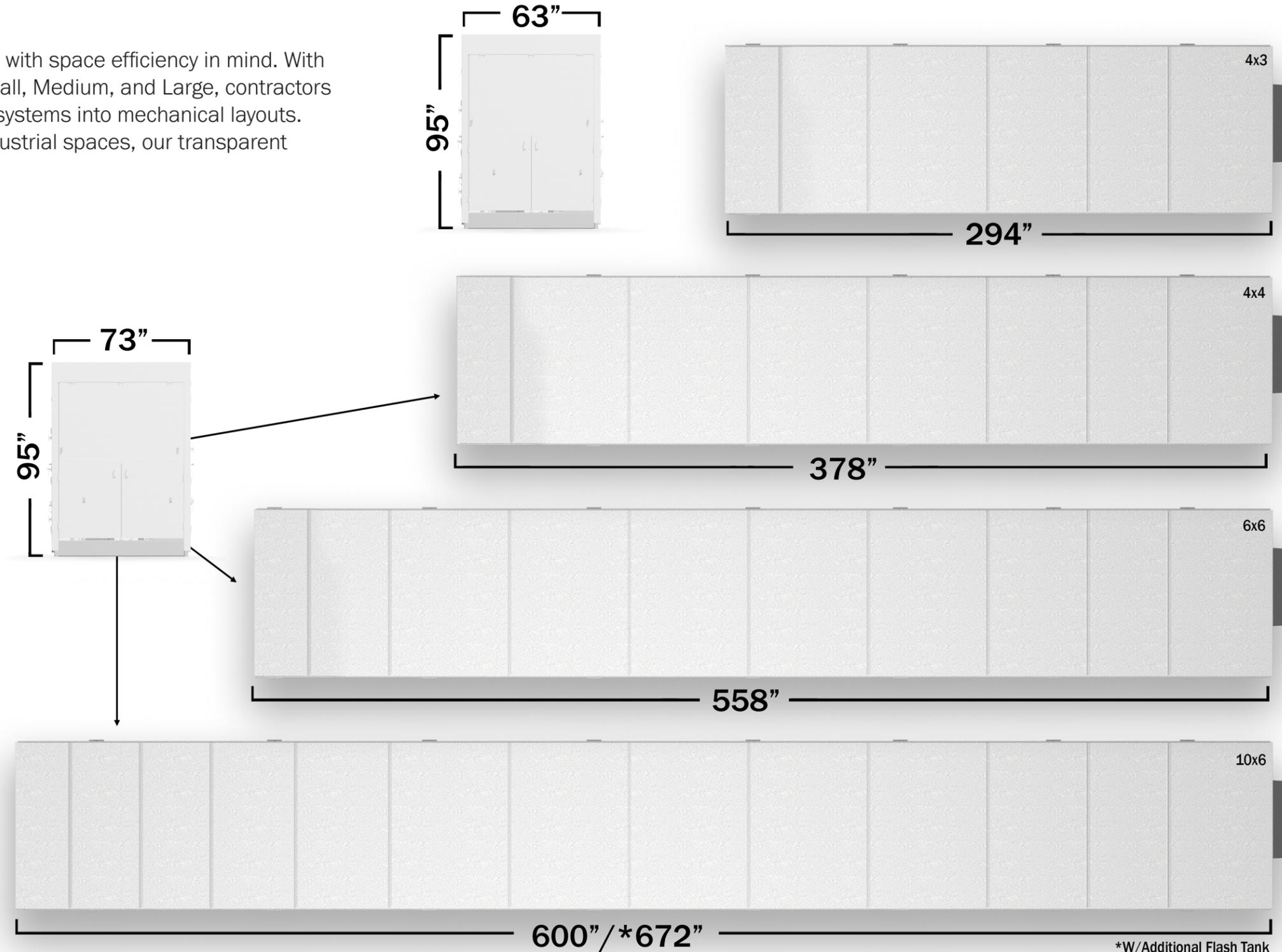
DIMENSIONS

Rack	L 488" x W 70" x H 94"
W/Add'l Flash Tank	L 558" x W 70" x H 94"
Rack w/Enclosure	L 500" x W 73" x H 95"
W/Add'l Flash Tank	L 570" x W 73" x H 95"

LARGE 10x6

DIMENSIONS

Rack	L 588" x W 70" x H 94"
W/Add'l Flash Tank	L 660" x W 70" x H 94"
Rack w/Enclosure	L 600" x W 73" x H 95"
W/Add'l Flash Tank	L 672" x W 73" x H 95"



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