intelliflex///
Innovative Data Solutions

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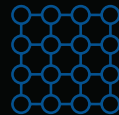
OCTOPOD

OCTOPOD

MODULAR DATA CENTER

Scalability

Our modular solution offers unmatched scalability, allowing for seamless expansion of your infrastructure to meet your growing capacity, ensuring optimal performance and efficiency at every stage.

Density

OctoPod offers exceptional density, matching the ever growing computing demand, while maintaining efficiency and minimizing infrastructure footprint thanks to our innovative modular design.

Serviceability

Serviceability and redundancies were key considerations when OctoPod was designed, making for ease of operation & maintenance, allowing for maximum uptime.

Efficiency

Achieve unparalleled efficiency with OctoPod. The cutting-edge liquid cooling system ensures maximum performance while minimizing energy consumption, and reducing your operational costs.

Flexibility

Experience limitless possibilities with OctoPod's innovative modular design. Whether you prefer traditional or liquid cooling, our system seamlessly accommodates all leading computing hardware available on the market.

Industrial build quality

Built to the highest industrial standards and features top-tier product selection, the OctoPod sets the quality benchmark in the industry. Trust our robust design to deliver consistent performance and longevity for your data center infrastructure.
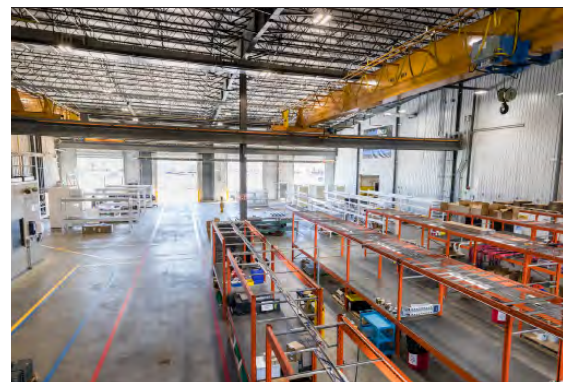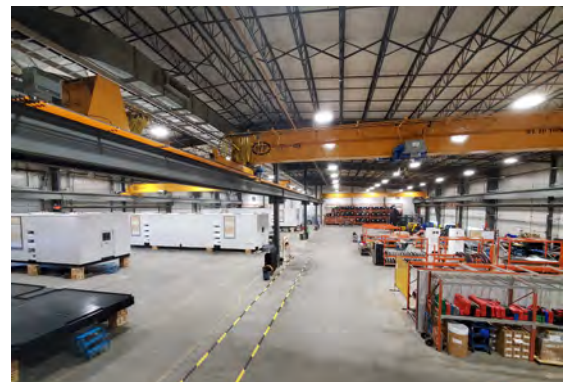
SYSTEM OVERVIEW

The Intelliflex™ OctoPod solution is a modular, start-to-finish line of products purpose built for today's high performance data centers.

The OctoPod is a fully integrated modular system for the ever-evolving data center industry. Designed and built at our state-of-the-art North American manufacturing facility, our team boasts over a century of combined experience in multidisciplinary engineering and craftsmanship. This modular solution meets expectations with unmatched density, scalability, and customizable options tailored to your specific needs and preferences.
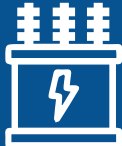
This comprehensive solution, with its versatile cooling system, supports all current computing hardware and anticipates future upgrades. This forward-thinking design ensures compatibility and readiness for the latest technologies, providing seamless integration and optimal performance as new hardware becomes available on the market.

Elevate your operations today and stay ahead of tomorrow's challenges. Let's take a deep dive into the technical data and options that OctoPod has to offer.

MODULE DESCRIPTIONS

HIGH LEVEL SPECIFICATIONS

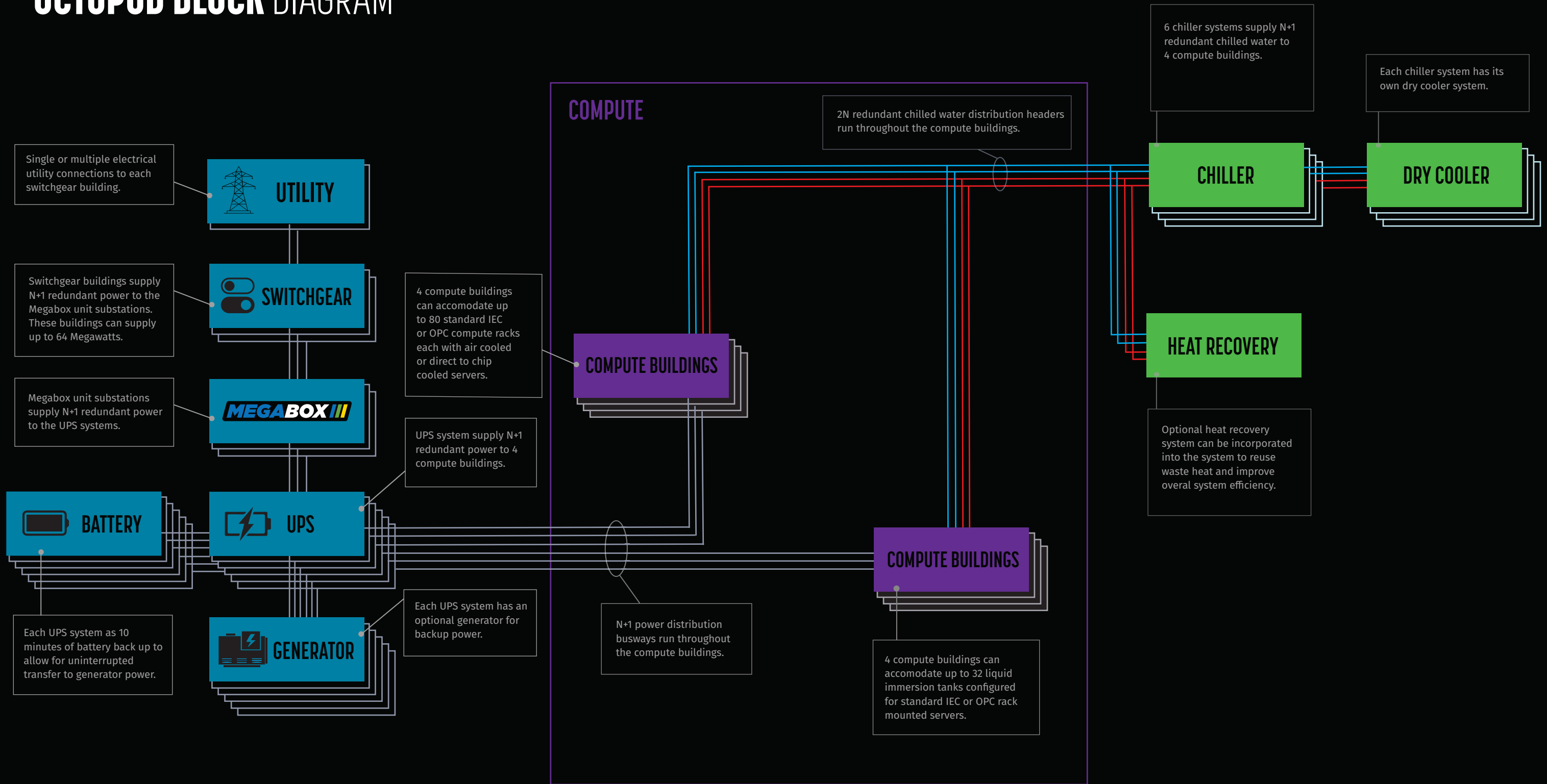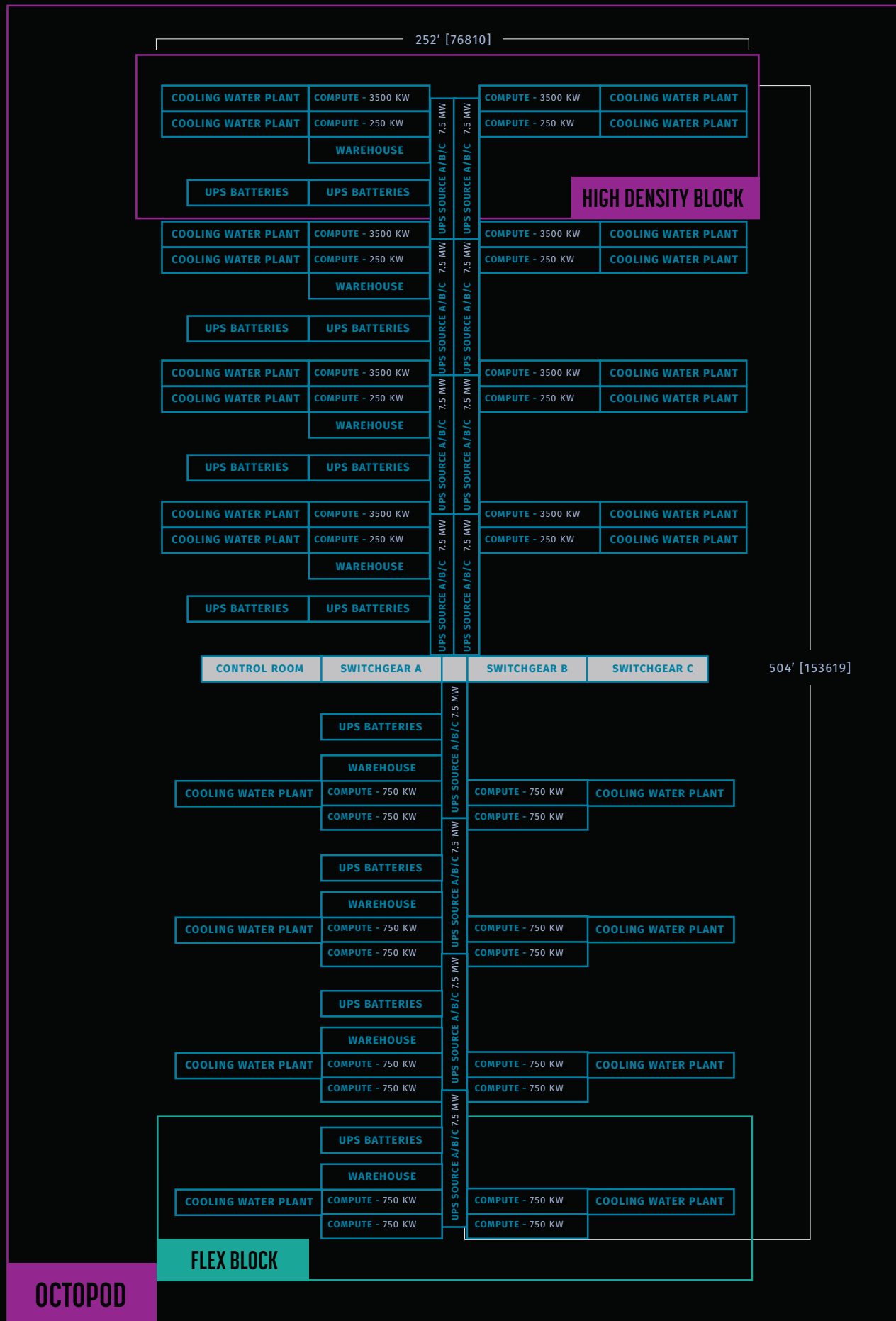|	Block Capacity	OctoPod Capacity	Details/Options
COMPUTE modules house all of your server and network racks/immersion tanks and associated smart PDUs. It includes all of your power distribution bus system and liquid cooling pipe rack assemblies.	· Computing load: up to 7.5MW · Compute racks: 80 units · Immersion tanks: 32 units · Up to 4,160U rack space	· Computing load: up to 30MW · Compute racks: 640 units · Immersion tanks: 256 units · Up to 33,280U rack space	· Cooling options: · Liquid immersion · Direct to chip · Air cooling
COOLING modules include chiller units paired with roof-mounted dry coolers, equipped with variable speed control for optimal efficiency. Three chiller systems, and associated dry coolers and piping allows for N+1 redundancy.	· Cooling capacity: up to 7.5MW · Ambient temp: up to 122F · Chillers: 12 x 750KW / 250Ton	· Cooling capacity: up to 30MW · Ambient temp: up to 122F · Chillers: 48 x 750KW / 250Ton	· Economizer · Heat recovery · Automated controls
UPS modules host redundant UPS lineups, ensuring N+1 redundancy for power distribution. Also includes HVAC system providing comprehensive environmental control.	· Power capacity: 15MW · 12 Independent UPS systems · 12 x 2500Amp busway	· Power capacity: 60MW · 48 Independent UPS systems · 48 x 2500Amp busway	· Up to 99% efficiency · <3% harmonic distortion
BATTERY modules ensure seamless power continuity by delivering stored energy to bridge the gap until standby power takes over, in the event of a primary power outage.	· Battery capacity: 2.5MWh · Battery racks: 72 · Battery count: 1224	· Battery capacity: 10MWh · Battery racks: 288 · Battery count: 4,896	· 10 min. runtime @ 100% capacity · Lithium ion batteries
SWITCHGEAR modules include incoming power utility cabinet, and all associated feeder breakers, and protections for the downstream medium voltage site power infrastructure requirement.	· Power capacity: up to 18MW · Voltage range: up to 69KV	· Power capacity: 72MW · Voltage range: up to 69KV	· Up to 3 power sources · Optional transfer switch · Optional SCADA
GENERATOR modules provide you with a backup power source in the event of a primary power outage.	· Power capacity: up to 18MW · Unit capacity: 6 x 3MW · Voltage: 415V	· Power capacity: up to 72MW · Unit capacity: 24 x 3MW · Voltage: 415V	· Fuel: diesel · Level 3 sound enclosure 84dba · 24h run time · UL142 dual wall fuel tank
MEGABOX modules are unit substations that handle medium voltage, power transformation, metering, and protection downstream from the switchgear building.	· Power capacity: up to 18MW · Unit capacity: 6 x 3MW · Primary voltage: up to 69KV · Secondary voltage: 415V	· Power capacity: up to 72MW · Unit capacity: 24 x 3MW · Primary voltage: up to 69KV · Secondary voltage: 415V	· Power monitoring · Shunt trip · Dry type cast resin Split Core · Secondary Protection
CONTROL ROOM modules are tailored to your specifications, to house operator stations, central servers, networking hubs, workshops, restrooms, etc. offering a fully customizable solution to meet your needs.	· Footprint: 720 sqft	· Footprint: 720 sqft	· Main operator control station · Central servers and network racks · Customizable work space · Restroom / change room

OCTOPOD BLOCK DIAGRAM

6 chiller systems supply N+1 redundant chilled water to 4 compute buildings.

Each chiller system has its own dry cooler system.

COMPUTE

2N redundant chilled water distribution headers run throughout the compute buildings.

Single or multiple electrical utility connections to each switchgear building.

UTILITY

Switchgear buildings supply N+1 redundant power to the Megabox unit substations. These buildings can supply up to 64 Megawatts.

SWITCHGEAR

4 compute buildings can accomodate up to 80 standard IEC or OPC compute racks each with air cooled or direct to chip cooled servers.

COMPUTE BUILDINGS

CHILLER

DRY COOLER

Megabox unit substations supply N+1 redundant power to the UPS systems.

MEGABOX III

UPS system supply N+1 redundant power to 4 compute buildings.

HEAT RECOVERY

Each UPS system as 10 minutes of battery back up to allow for uninterrupted transfer to generator power.

BATTERY

UPS

Each UPS system has an optional generator for backup power.

N+1 power distribution busways run throughout the compute buildings.

COMPUTE BUILDINGS

Optional heat recovery system can be incorporated into the system to reuse waste heat and improve overal system efficiency.

GENERATOR

4 compute buildings can accomodate up to 32 liquid immersion tanks configured for standard IEC or OPC rack mounted servers.

OCTOPOD

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252' [76810]

COOLING WATER PLANT	COMPUTE - 3500 KW		COMPUTE - 3500 KW	COOLING WATER PLANT
COOLING WATER PLANT	COMPUTE - 250 KW		COMPUTE - 250 KW	COOLING WATER PLANT
	WAREHOUSE			
UPS BATTERIES	UPS BATTERIES		**HIGH DENSITY BLOCK**	

7.5 MW / 7.5 MW

UPS SOURCE A/B/C

COOLING WATER PLANT	COMPUTE - 3500 KW	COMPUTE - 3500 KW	COOLING WATER PLANT
COOLING WATER PLANT	COMPUTE - 250 KW	COMPUTE - 250 KW	COOLING WATER PLANT
	WAREHOUSE		
UPS BATTERIES	UPS BATTERIES		

COOLING WATER PLANT	COMPUTE - 3500 KW	COMPUTE - 3500 KW	COOLING WATER PLANT
COOLING WATER PLANT	COMPUTE - 250 KW	COMPUTE - 250 KW	COOLING WATER PLANT
	WAREHOUSE		
UPS BATTERIES	UPS BATTERIES		

COOLING WATER PLANT	COMPUTE - 3500 KW	COMPUTE - 3500 KW	COOLING WATER PLANT
COOLING WATER PLANT	COMPUTE - 250 KW	COMPUTE - 250 KW	COOLING WATER PLANT
	WAREHOUSE		
UPS BATTERIES	UPS BATTERIES		

504' [153619]

| CONTROL ROOM | SWITCHGEAR A | SWITCHGEAR B | SWITCHGEAR C |

	UPS BATTERIES		
	WAREHOUSE		
COOLING WATER PLANT	COMPUTE - 750 KW	COMPUTE - 750 KW	COOLING WATER PLANT
	COMPUTE - 750 KW	COMPUTE - 750 KW	

	UPS BATTERIES		
	WAREHOUSE		
COOLING WATER PLANT	COMPUTE - 750 KW	COMPUTE - 750 KW	COOLING WATER PLANT
	COMPUTE - 750 KW	COMPUTE - 750 KW	

	UPS BATTERIES		
	WAREHOUSE		
COOLING WATER PLANT	COMPUTE - 750 KW	COMPUTE - 750 KW	COOLING WATER PLANT
	COMPUTE - 750 KW	COMPUTE - 750 KW	

	UPS BATTERIES		
	WAREHOUSE		
COOLING WATER PLANT	COMPUTE - 750 KW	COMPUTE - 750 KW	COOLING WATER PLANT
	COMPUTE - 750 KW	COMPUTE - 750 KW	

FLEX BLOCK

OCTOPOD

ENERGY UTILIZATION

HIGH DENSITY BLOCK				
TOTAL	COMPUTE	COOLING	AUXILIARY	PUE
10MW	7.5MW	2MW	500KW	1.33
100%	75%	20%	5%	

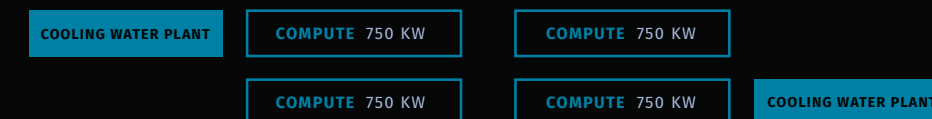| FLEX BLOCK				
TOTAL	COMPUTE	COOLING	AUXILIARY	PUE
4MW	3MW	800KW	200KW	1.33
100%	75%	20%	5%	

DENSITY VARIATIONS

HIGH DENSITY BLOCK

3750kw per dual compute modules x 2
20 NVIDIA DGX GB200 per dual compute modules. 40 total.
96 NVIDIA DGX B200 per compute module. 192 total.

| COOLING WATER PLANT | COMPUTE 3500 KW | COMPUTE 3500 KW | COOLING WATER PLANT |
| COOLING WATER PLANT | COMPUTE 250 KW | COMPUTE 250 KW | COOLING WATER PLANT |
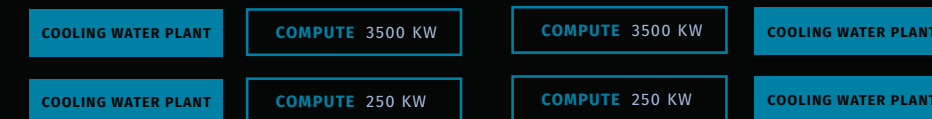
FLEX BLOCK LAYOUT 1

750kw per compute module x 4
48 NVIDIA DGX B200 per compute module. 192 total.
64 NVIDIA DGX H100 per compute module. 256 total.

| COOLING WATER PLANT | COMPUTE 750 KW | COMPUTE 750 KW | |
| | COMPUTE 750 KW | COMPUTE 750 KW | COOLING WATER PLANT |

FLEX BLOCK LAYOUT 2

1500kw per compute modules x 2.
96 NVIDIA DGX B200 per compute module. 192 total.
128 NVIDIA DGX H100 per dual compute module. 256 total.

| COOLING WATER PLANT | COMPUTE 1250 KW | COMPUTE 1250 KW | |
| | COMPUTE 250 KW | COMPUTE 250 KW | COOLING WATER PLANT |

FLEX BLOCK LAYOUT 3

3750kw per dual compute modules x 1.
20 NVIDIA DGX GB200 per compute modules. 40 total.
96 NVIDIA DGX B200 per dual compute modules. 192 total.

| COOLING WATER PLANT | COMPUTE 3500 KW | SPARE |
| COOLING WATER PLANT | COMPUTE 250 KW | SPARE |

WHY US

MULTI-DISCIPLINE ENGINEERING & MANUFACTURING TEAM

Our team includes specialists in Electrical, Network, Automation, Structural, and Mechanical fields. Our team boasts over a century of combined experience, we're able to help realize every aspect of your data center needs.

MANUFACTURING FACILITY

Our state-of-the-art manufacturing facility is equipped with the latest technology. We focus on precision and efficiency, ensuring top-quality production that meets the highest industry standards. Our 72,000 soon to be 126,000 sq ft manufacturing facility is capable of handling fast paced, large scale deployments. This ensures we can meet your demands quickly and efficiently.

COST- EFFECTIVE SOLUTIONS

Having our engineering and manufacturing teams under the same roof streamlines the process from design to reality. The OctoPod's modular design speeds up site deployment while making the most of your available real estate. These factors combined make for the most cost-efficient solution on the market.

START-TO-FINISH APPROACH

We provide a seamless service from design and manufacturing to deployment and site infrastructure. Our team ensures smooth startup, commissioning, ongoing site operations, and preventative maintenance services.

OCTOPOD