HI-TECH HOME

HOLON HI-TECH HOME FEATURES

Reshaping Humanity's Perception of Housing

The main advantage of the HOLON is its super high-rise buildings. However, when urban planning is restricted, it can also be used for lower-rise buildings, such as the 12 residential buildings shown in the igure above, which range from 16F to 30F (height 53m to 95m).

BROAD HOLON
BROAD TOWN, Yuanda San Rd, Changsha
www.broad.com

October, 2025

HI-TECH HOME

16 FEATURES OF THE HOLON HI-TECH HOME

1. **PREFABRICATED**
   BUT WITH THE HIGHEST QUALITY
2. **MODULAR**
   BUT SPACIOUS
3. **STANDARDIZED**
   BUT CHANGEABLE AFTER COMPLETION
4. **SMALL UNITS**
   BUT WITH A LUXURIOUS EXPERIENCE
5. **LIVING IN HIGH-RISES**
   BUT NOT WORRYING ABOUT NOISE FROM NEIGHBORING UNITS
6. **ULTRA-HIGH-RISE**
   BUT AT A SIMILAR LOW-RISE COST
7. **CONJOINED TOWERS**
   MAKE ULTRA-HIGH-RISES SAFE & COMFORTABLE
8. **A VERTICAL CITY**
   RELEIVING URBAN CONGESTION
9. **STAINLESS STEEL**
   FOR A MORE SAFE AND RESILIENT BUILDING
10. **GREATLY REDUCES BUILDING OPEX**
    90% MORE ENERGY-EFFICIENT THAN THAT OF CONVENTIONAL BUILDINGS
11. **UTMOST INDOOR AIR QUALITY**
    ENERGY RECOVERY VENTILATION WITH 3-STAGE AIR FILTRATION
12. **STREAMLINED PREFABRICATION**
    ENSURES HOMOGENEOUS QUALITY AND HIGH EFFICIENCY
13. **ULTRA FAST ON-SITE CONSTRUCTION**
    3 FLOORS PER DAY
14. **AFTER-SALES SERVICE**
    LETS RESIDENTS BE WORRY-FREE FOREVER
15. **GLOBAL ACCESS**
    COMPLIES WITH EU/US/UK/AU/JP/KR STANDARDS
16. **16-YEAR R&D**
    A NEW CHAPTER IN EWRITING 1,000-YEARS OF BUILDING HISTORY

THE HOLON HI-TECH HOME WON THE HIGHEST AWARDS FOR BUILDING INNOVATIONS

Modular Building Institute (MBI) **FIRST PLACE** in Multifamily Category (2022)

Council on Tall Buildings and Urban Habitat (CTBUH) **INNOVATION AWARD** (2013, 2022)

Factory-Prefab Modules
shipped in 40ft-container size but is container-free

Stainless Steel Structure
Modules come with interior finishes. For structure illustration only

On-Site Installation: 3 Floors / Day
Turnkey project and move-in ready

1. PREFABRICATED

BUT WITH THE HIGHEST QUALITY

Many Believe Prefabricated Buildings Are Crude, Low Quality, and with a Short Service Life, but HOLON Proves the Opposite

1. **The World's Largest R&D Investment**: Over 16 years of continuous research, BROAD Group has invested more than USD 1.1 billion and a team of 1,000 employees. Traditional construction is often improvised, with temporary design and on-site crews — lacking real R&D efforts.
2. **The World's Highest Technical Standards**: Magnitude 9 earthquake resistant; 9 times more energy efficient; 100 times cleaner air purification; 20 times longer structural lifespan.
3. **The World's Strictest Material Selection**: HOLON uses a lot of premium materials that traditional builders rarely provide. For example, stainless steel structural system; ultra-clear multi-paned glass windows; meticulously selected interior finishes for zero formaldehyde, zero heavy metals, zero radioactivity; 100% materials tested and digitally traceable at the factory. Traditional buildings often use ad-hoc materials purchased on-site, which are lack of systematic examination.
4. **The World's Best Production Method**: 100% factory-prefabrication adopts a streamlined production as car making. This ensures homogeneous quality and high efficiency. This method not only avoids the labor-intensive and extensive construction timeline in conventional buildings, but also eliminates human errors — leaks, clogs, cracks or electrical faults-that plague traditional construction sites.
5. **The World's Best Living Experience**: Designed exclusively for residential comfort, HOLON architects spent many years studying housing data in 10 + developed countries — from functionality and aesthetics to comfort, health, energy efficiency, safety, smart control, privacy and sociality. An optimized housing product that completely fulfills every aspect of human living experience was finally designed.

2. MODULAR

BUT SPACIOUS

Many People Associate Modular Buildings with Cramped and Con ined Spaces, but HOLON Proves the Opposite

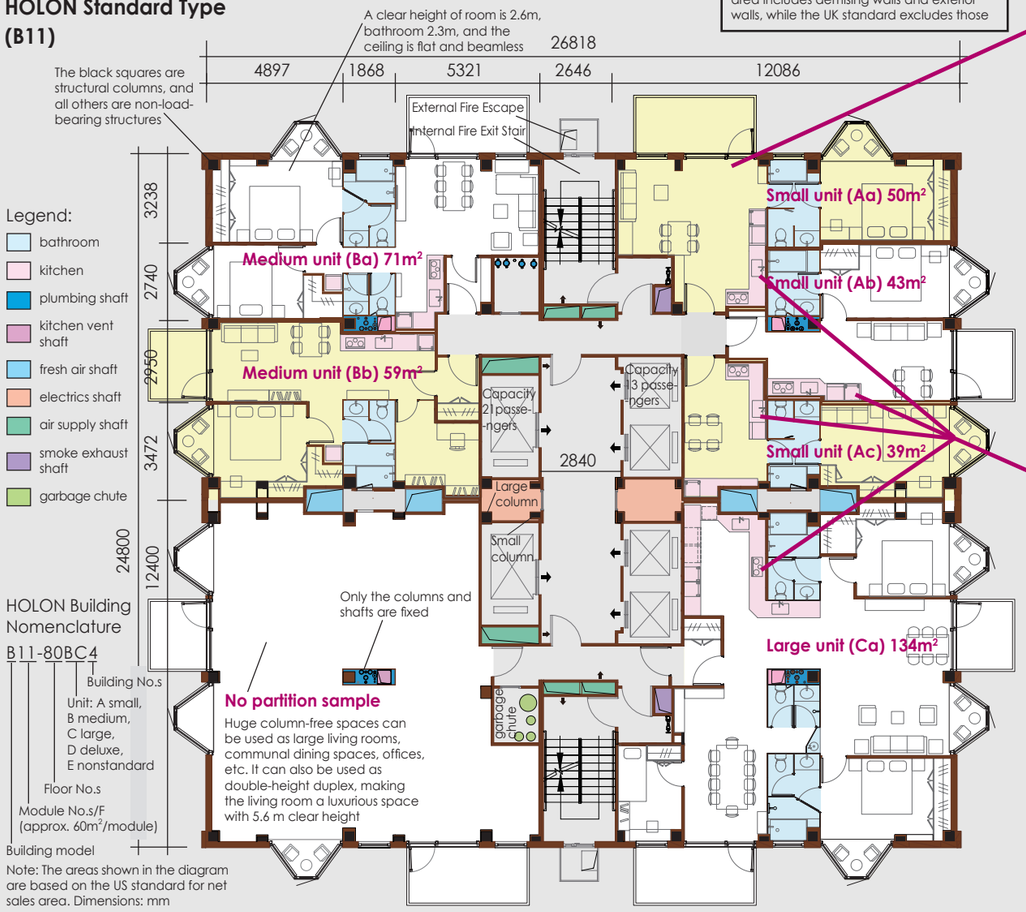
HOLON uses stainless steel structure, with small load-bearing columns and no shear walls. Its column-free clear span reaches 12m × 4.8m, making it more spacious than most high-rise residential buildings worldwide. Another advantage is that the efficiency ratio of the HOLON building is higher than that of similar concrete buildings.

Building / Unit Parameters

- Ultra-High-Rise HOLON Building Standard Model: Type B11
  Max Floors: 40 floors (single tower), up to 140 floors (conjoined towers)
- Standard Unit Layouts: 6 layouts (all can coexist within one building; smaller units may also serve as hotel rooms)
- Gross floor area: 688 m²/F (excluding balconies), Net sales floor area: US 520 m²/F; UK 495 m²/F

Note: In the US and most countries, net sales area includes demising walls and exterior walls, while the UK standard excludes those

HOLON Standard Type (B11)



Note: The areas shown in the diagram are based on the US standard for net sales area. Dimensions: mm

Selected Unit Layouts

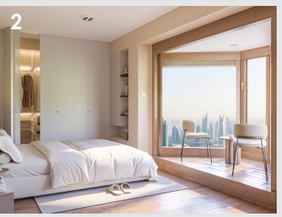
Six types of standard unit layout range from 39m² to 134m², which are carefully selected through in-depth research conducted across dozens of countries, featuring appropriately sized rooms, optimized travel flow, and great convenience for both daily living and hosting guests.

Flexible Kitchen Configuration

Each unit provides multiple pre-installed plumbing connections, kitchen sink, dishwasher and exhaust hood only needs to be installed next to the bathroom, allowing residents to freely position their kitchen based on their preferences. The kitchen placement can easily be adjusted when household size changes.

3. STANDARDIZED

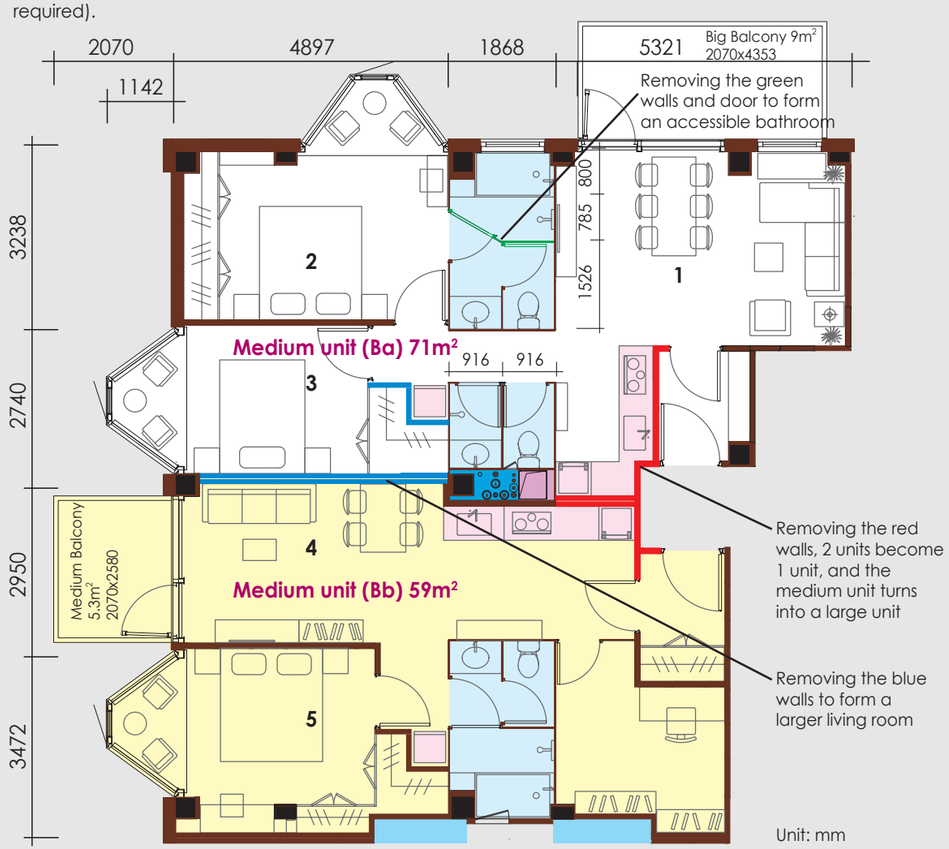
BUT CHANGEABLE AFTER COMPLETION

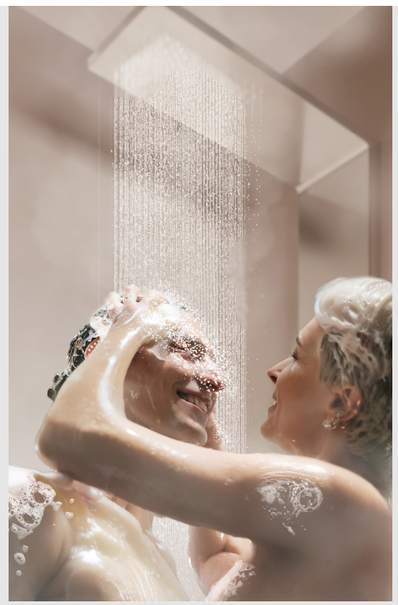


Many People Think Standardization Is Rigid, but HOLON Proves the Opposite

If household size changes after several years, the number of rooms can easily be adjusted, so are the other aspects of the unit.

1. Room is adjustable: Interior partitions can be added or removed to add or remove rooms (removing a wall requires only unscrewing bolts and removing sealant; adding a wall requires some extra work).
2. Unit is adjustable: Several walls can be removed to transform a "medium unit" into a "large unit", or vice versa.
3. Function is adjustable: One wall can be removed to convert a "dry-wet separated bathroom" into an "ADA-compliant bathroom", or vice versa.
4. Finish is adjustable: Wall, floor, and ceiling finishes can be modified — such as applying wallpaper, ceramic tiles, marble, or wood panels.
5. Facade is adjustable: If needed, residents may request the HOLON company to convert a balcony into a bay window, or vice versa. Larger bay windows or balconies can also be replaced or added — (approval required).





Flexible Configuration

Prefab buildings must be standardized to achieve streamlined production. HOLON has created the "flexible room & fixed bathroom" model: bathrooms, MEP, and piping systems are fixed, while room layouts are flexible (To accommodate layout changes, HOLON is designed with 40% extra dead load capacity for partition increases).

Dry-Wet Separated Bathroom

Every unit comes standard with a dry-wet separated bathroom, which separates the sink, toilet, shower, and bathtub areas. This design significantly improves bathroom efficiency, allowing families to enjoy their time comfortably and elegantly while avoiding wet floors and slip hazards.

Accessible Bathroom

HOLON bathroom complies with the "accessible bathroom standards" of EU/US/UK/AU and other countries (If the bathroom is already dry-wet separated, it can be converted to accessible bathroom).

4. SMALL UNITS

BUT WITH A LUXURIOUS EXPERIENCE

Bay Window in Each Bedroom

There is a bay window in each bedroom, allowing sunlight and a wide view even in rooms with unfavorable building orientations. Four layers of ultra-clear glass insulate against the extreme cold, block harmful ultraviolet rays from the sun, and let in pleasant near-infrared rays. Lying in front of a bay window on a snowy winter day people feel like lying on a tropical beach.

Large Balcony

The large balcony is 9m², and all balcony areas are excluded from salable areas. When needed, extra glass panels can be installed over the balcony (approval required). During cold weather, residents can simply press a button to extend glass panels, shielding the balcony from cold winds.

Hi-speed Elevators

Each standard HOLON is equipped with 6 elevators, including 2 large- capacity service elevators designed to accommodate stretchers and oversized furniture. With multiple elevators, an "elevator group control system", and intelligent speed adjustment, even during morning rush hours, crowding is minimized. Thanks to the hi-speed elevators, residents can reach the 160th floor in just one minute.

Elevator Speeds Depend on the Floors

≤40 F 3m/s	≤120 F 6m/s
≤70 F 4m/s	≤140 F 7m/s
≤100 F 5m/s	≤160 F 8m/s

5. LIVING IN HIGH-RISES

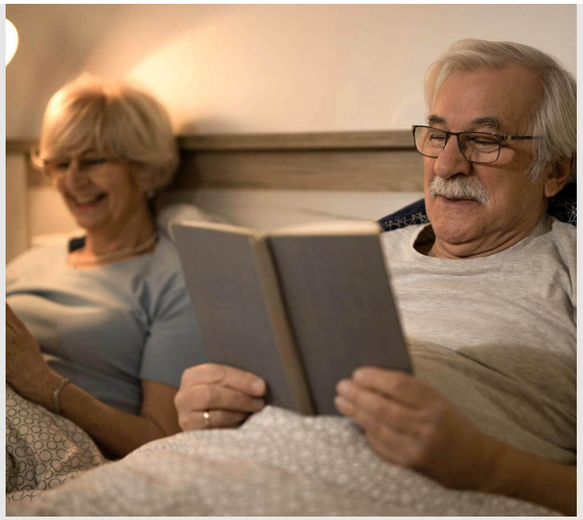
BUT NOT WORRYING ABOUT NOISE FROM NEIGHBORING UNITS

Many Assume Prefab Building Has Low Performance in Sound Insulation. However, HOLON's Acoustic Insulation Exceeds the Standards of the EU/US/JP/KR

High-rise residents are often plagued by 3 common nuisances: urban clamor, noises from next-door neighbors and footsteps from upstairs neighbors. However, living in the HOLON building eliminates these sound disruptions, offering a serene experience akin to residing in a countryside villa.

1. Away from urban clamor: The exterior walls are made of double-layered steel plates with 220mm sound-absorbing rock wool and one layer of inner wall, 4-paned fixed glass windows and 3-paned operable glass windows with triple-sealed thermal-break window frame. These perfection-prone soundproofing measures completely isolate the city noise. Even if there is a thunder outside, it is inaudible.
2. Isolating noises from neighbors: Double-layered demising walls between units with triple-sealed and double doors, even if the neighbors hold a concert, it won't disturb you.
3. Avoiding disputes between floors: The total thickness of the floor and ceiling is 400mm, with 4 layers of steel plates, 2 layers of rock wool, 1 fire-proof layer, and a 130mm cavity, achieving the ultimate acoustic insulation level, ensuring muted footsteps even at midnight, and eliminating disputes between floors

Note: Refer to P15: comparisons of mandatory building standards in developed countries



6. ULTRA-HIGH-RISE

BUT AT A SIMILAR LOW-RISE COST

HOLON is 3~6 Times Lighter Than Traditional Buildings and Is Super Earthquake Resistant

HOLON is a stainless-steel structure with zero concrete, weighing only 0.35t/m^2, which is just 1/3 of a traditional ultra high-rise steel structure building and 1/6 of a reinforced concrete building. It greatly reduces the steel consumption in construction. More importantly, lightweight buildings can greatly enhance the seismic resistance because seismic force equals earthquake intensity multiples the building weight.

30~120 Floor HOLON Building Construction, Similar Cost to Low-Rise Buildings

Thanks to its low consumption of steel and easy on-site installation of HOLON, making a 30~120 floor HOLON building cost nearly the same as building low-rise structure. This proves a fundamental principle: a genuine hi-tech solution must be cost-effective.

Benefits of Ultra-High-Rises: Enhancing Urban Living

High-rise buildings offer a wide field of vision, occupy less land, and provide larger green spaces. They also significantly reduce the urban radius and shorten the commute distance. Additionally, due to the large scale of ultra-high-rise projects, they are capable of accommodating more shared facilities such as cultural, entertainment, and sports amenities, and have the conditions to be equipped with rail transit systems and advanced energy-efficient facilities.

Disadvantages of Traditional Ultra-High-Rise Buildings: Cost Is Too High

Traditional ultra-high-rises are primarily limited to cost-insensitive projects like office towers and hotels, leaving residential developments unaffordable. Due to the popularity of low-rises, almost all the global metropolises like Tokyo, London, and Los Angeles forcing residents to endure long, polluted commutes every day and experience low quality of life.

Construction cost comparisons Conceptual data

Floors	≤	5F	20F	30F	50F	70F	90F	120F
Traditional building	%	100	150	200	250	300	400	500
HOLON	%	**120**	**110**	**100**	**120**	**130**	**140**	**150**

Additional External Fire Escape to Ensure Guaranteed Fire Safety

While complying with the fire safety regulations, HOLON provides external fire escapes. Based on decades of fire statistics from Japan and the United States, approximately 2/3 of fires occur when stairwells are blocked by smoke. Using external fire escapes virtually 100% guarantees a successful escape.

7. CONJOINED TOWERS

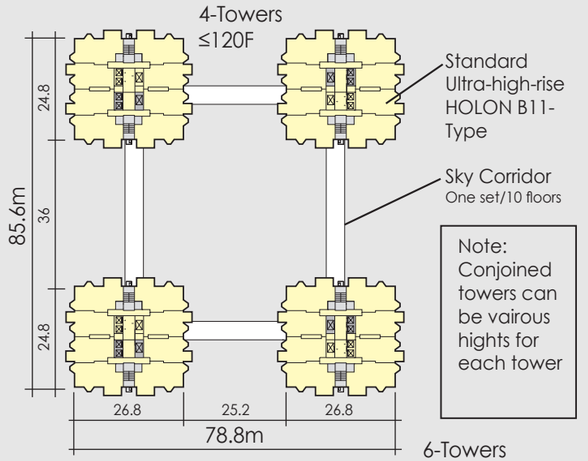
MAKE ULTRA-HIGH-RISES SAFE & COMFORTABLE

Conjoined Towers Offer Good Lighting, Stable Structures and Convenient Escaping

Ultra-high-rise buildings require large floorplates for stability, but this often results in dark zones unsuitable for small and medium-sized residential units. Even in large deluxe units, extensive dark areas can create discomfort. HOLON addresses this by adopting a conjoined-towers model. The space of residential units is fully optimized to ensure good lighting and excellent view.

Conjoined towers have a low height-to-width ratio and a small windward surface, offering excellent earthquake/wind resistance and a stable living experience. In the event of a fire, residents can escape to adjacent buildings via connecting corridors, solving the difficulty of escaping fires in ultra-high-rise buildings.

Example of a Conjoined Building



HI-TECH HOME

8. A VERTICAL CITY

RELEIVING URBAN CONGESTION

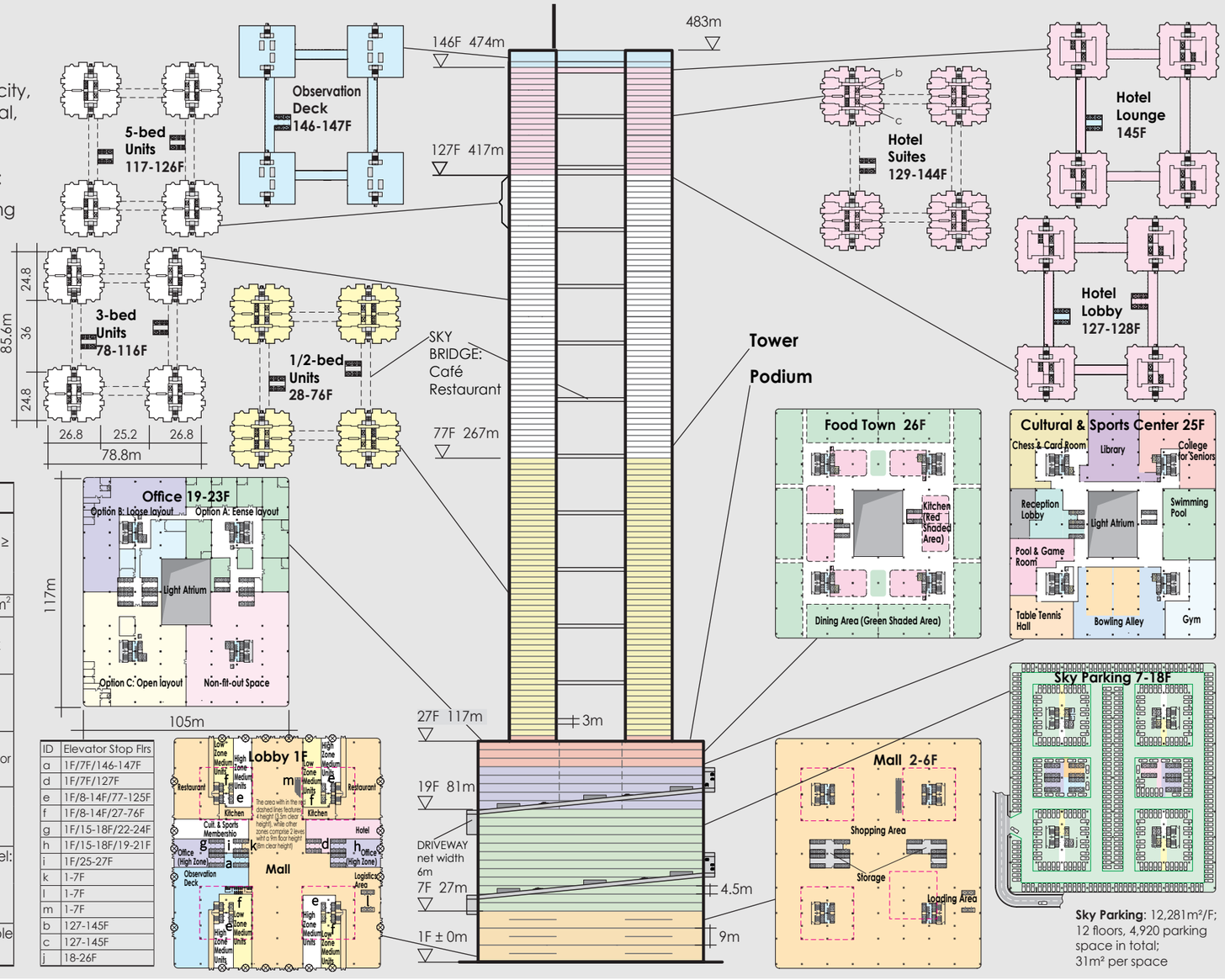
Imagining the City of the Future Through a Design Case

This 147-story complex, planned for a European city, will integrate residential, hotel, office, commercial, retail, dining, cultural, and sports facilities. It will create a splendid and economical urban ecosystem with a prosperous and green lifestyle:

- Comfortable and convenient living and working
- Extensive community dining, fitness, and entertainment spaces
- Trustful yet non-intrusive neighborhood relationships
- Spacious and safe spaces for children to play
- Choices of public and private transportation
- Minimal land and transportation resource usage
- High building and urban energy efficiency

Building Configurations

NO.	ITEM	Specs	Remarks
1	Base Sizes	117mx105m	Podium Outline
2	Height	483m	Excluding lightning rod height ≥ 36m
3	Floors	147F	Podium 26 floors, Tower 121F
4	GFA	645,554m^2	Including parking lot: 147,372m^2
4.1	Tower	2,752m^{2}x121F =332,992m^2	27-147F Residential (2,240), Hotel (720), Observation Deck (2F), Kindergarten (1F)
4.2	Upper Podium	11,438m^{2}x8F =91,504m^2	19-26F Including atrium, office (5F), equipment rooms, community facilities (3F)
4.3	Lower Podium	12,281m^{2}x18F =221,058m^2	Floors 7–18: Parking (4,920); Floors 1–6: Mall, Lobby (with a floor height of 9m)
5	Lift	102 escalators	Including 12 escalators
6	Parking Spaces	4,920 cars	standard car size
7	Permanent Occupants	8,700 people	Residential: 7,600 people, Hotel: 1,100 people
8	Office Occupants	5,000 people	This number will vary with business activities
9	Transient Occupants	6,300 people	Observation deck: 3,300 people Mall: 3,000 people



ID	Elevator Stop Flrs
a	1F/7F/146-147F
d	1F/7F/127F
e	1F/8-14F/77-125F
f	1F/8-14F/27-76F
g	1F/15-18F/22-24F
h	1F/15-18F/19-21F
i	1F/25-27F
k	1-7F
l	1-7F
m	1-7F
b	127-145F
c	127-145F
j	18-26F

Sky Parking: 12,281m²/F; 12 floors, 4,920 parking space in total; 31m² per space

Tower Configurations

NO.	ITEM	Specs
1	Floors	121 floors
2	GFA	332,992m^2
3	Floor Height	3m
4	Room Clear Height	2.6m
5	Bathroom Clear Height	2.3m
6	Column-Free Clear Span	12mx4.8m
7	Live Load	Avg: 0.2t/m^2 Partial: 2.5t
8	Structural Material	Stainless Steel
9	Use	Various types of residences

Podium Configurations

NO.	ITEM	Specs
1	Floors	26 floors
2	GFA	312,562m^2
3	Floor Height	4.5m Partial:9m
4	Clear Height Under Beams	3.5m Partial: 8m
5	Column Spacing	13mx13m Partial: 17.3/6.5m
6	Column Diameter	0.95mx0.95m
7	Lane Clear Width	6m
8	Lane Slope	10%
9	Slab & Lane Thickness	0.33m
10	Live Load	Avg: 0.7t/m^2 Partial: 5t
11	Structural Material	Carbon Steel
12	Use	Various large space functions

Note: Podium is designed for retail, parking, offices and community facilities, with future adaptability to accommodate convention centers, theaters, schools, hospitals, data centers, or even light industrial/ farming uses based on occupants needs or market demand.

9. STAINLESS STEEL

FOR A MORE SAFE AND RESILIENT BUILDING

Magnitude 9 Earthquake Resistance

HOLON's structure uses 100% stainless steel and zero concrete, with a ductility ≥25%. In the event of earthquakes, it may be deformed at most but will never get collapsed. Therefore, HOLON can easily resist a Magnitude 9 Earthquake (Traditional reinforced concrete is with a ductility ≤1%, posing a significant risk of collapse during earthquakes).

Earthquake Simulation Test

Stainless Steel Core Tube Fracture Test - showing over 25% elongation

1000-Year Structure Lifespan

HOLON uses stainless steel S32001 for columns and beams, and S304 for floor slabs. Corrosion resistance tests showed the simulation after enduring 1,467 years of corrosion in the atmospheric environment, the reduction in thickness of stainless steel is < 3%, which proves that HOLON has a lifespan more than 1,000 years.

Corrosion Resistance Test:

Per the international salt spray test standard "ISO 9227", a world-recognizable corrosion resistance test was conducted. One day in the test chamber is equivalent to one year of corrosion in the atmospheric environment.

Stainless steel test 1,467 days

Carbon steel test 30 days

Salt spray test chamber

HOLON's Top Core Tech Lies in the Hi-Tech Material Stainless Steel Core Slab

Stainless steel core slab can be used as floor slabs. It is a sandwiched structure with ultimate mechanical performance, which is 10 times more rigid than traditional steel profiles, significantly reducing steel consumption. Using core slabs allows carbon steel buildings which were taken for being too costly to be replaced by affordable stainless steel buildings without one inch of concrete. BROAD's proprietary hot-wind copper brazing oven that is used to process the core slab is extremely complicated in technology, even more so than a carrier rocket.

Hot-wind copper brazing oven. It can process 240 m^2 of core slabs brazing in each batch, each chamber can output 12 batches per day

Innovative expandable framing structure. Width: 2.4m at shipping, expanded to 4.8m on site

HI-TECH HOME

10. GREATLY REDUCES BUILDING OPEX

90% MORE ENERGY-EFFICIENT THAN THAT OF CONVENTIONAL BUILDINGS

Quick Facts: "The International Passive House Standard": Developed by the German Passive House Institute, which has been adopted by the EU and many countries worldwide as the national benchmark for residential buildings. It represents the highest energy efficiency standard in the world architectural industry.

- Key Energy Performance Criteria (per m^2 annually): Heating & Cooling Demand ≤ 15 kWh. Total Energy Demand (heating, cooling, ventilation, lighting, hot water, auxiliary energy and appliances) ≤ 120 kWh. Heating Load ≤ 10 W/m^2.
- Airtightness Criterion: N50≤ 0.6/h (air leakage rate less than 0.6 air/h under a 50 Pa pressure difference between indoor and outdoor).
- Comfort Metrics: Indoor Temperature: 20~26°C. Humidity: 30~60%. Frequency of Overheating ≤ 10%. Indoor CO_2 concentration ≤ 1000 ppm. Inner Surface Temperature Difference(including transparent doors and windows) ≤ 3°C. No Condensation on the interior side of doors and windows. Noise Levels: Daytime ≤ 40 dB, Nighttime ≤ 30 dB

Passive House Technology System:

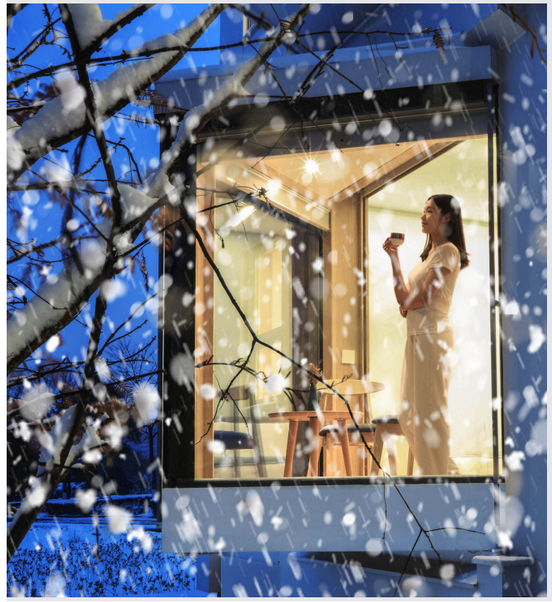
- High-Efficiency Insulation System: Uses ultra-thick, high-performance insulation materials to minimize heat transfer through exterior walls, roofs, and floors.
- Superior Airtightness System: Achieves superior air-tightness through specialized design, sealing materials, and pressurization test, preventing heat loss from air leakage.
- Thermal Bridge-Free Design System: Eliminates thermal bridges (e.g., insulation material supports) in building envelopes to reduce heat loss at these points.
- Efficient Heat Recovery Ventilation System: Incorporates mechanical ventilation with heat recovery, introducing fresh air while reclaiming heat from exhaust air to reduce ventilation energy consumption.
- High-Efficiency Windows and Door System: Installs 2~3 layers of glazing windows and doors with excellent sealing and shading performance to minimize thermal transmission.

The Mission of HOLON Is to Protect the Earth and Life

The parent company of HOLON Co., Ltd - BROAD Group, is renowned for its traditional products like central air conditioning and fresh air machines, which have been very popular in over 80 countries for more than 30 years. BROAD has always upheld the mission of "preserving the climate with energy-efficient technology and life with clean technology", inventing hundreds of high-tech products, with HOLON HI-Tech Home being one of the most important innovations.

Extreme Insulation is the Key to Ultimate Comfort

HOLON meets and even exceeds the "Passive House Standard" in energy efficiency and comfort. For instance, passive houses typically use up to 3 layers of glass windows whereas HOLON adopt 4-paned glass windows plus thermal isolation shades. Some may see it as going overboard, actually it is not. From an economic perspective, the additional cost of insulation gets the payback within months through its high energy-efficiency performance. Just imagine the tremendous joy of watching snow falling outside of the windows while staying warm indoors.



Super Heat Insulation Measures

HOLON is Equipped with the World's Leading Central Air-Conditioning System

HOLON is equipped with BROAD's innovative non-electric air conditioning. In areas with abundant wind and solar energy, BROAD magnetic bearing oil-free chillers can be used. Additionally, HOLON is also equipped with an off- peak electricity water energy storage system, promoting the development of renewable energy.

BROAD Non-Electric Air Conditioning

Energy sources: Waste Heat, Hydrogen, Natural Gas

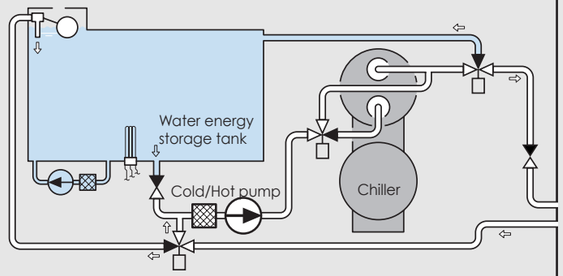
- Can utilize any industrial or power generation waste heat above 70°C for cooling
- Can use water or atmosphere ≥10°C as heat pump sources for heating
- Waste heat utilization efficiency: 160%~240%
- Hydrogen and natural gas cooling efficiency 150%
- Function: Cooling, heating, sanitary hot water
- Cooling capacity: 233kW~11,630kW

Power-Efficient Air Conditioning

- The Integrated Part Load Value (IPLV) of the chiller is ≥10, saving about 40% electricity compared with traditional electric air conditioners
- The packaged distribution system saves 50%~76% more electricity compared with traditional technology
- Maglev is oil-free and friction-free, significantly reducing the maintenance costs
- The condenser heat exchange tubes are made of titanium, which are resistant to corrosive water, including seawater, with a lifespan of over 60 years
- Function: cooling, heating
- Cooling capacity: 520kW~4,200kW

Off-Peak Electricity Water Energy Storage System

- Air conditioning and sanitary hot water use the off-peak electricity water energy storage system, which can save the investment by 70%~90% as opposed to using battery storage. It's a cost-effective, reliable, low-maintenance, and long-lasting solution. In countries with utility time-of-use rates, the electricity bill of air conditioning and hot water can be reduced by 60%~80%
- The water storage tank takes fewer space, approximately taking 0.3%~0.6% of the building space, and costs is lower. If there are ≥ 2 time-of-use rates in a day, the lower value can be applies.
- The water storage tank can also be used as a fire water tank, ensuring a constant water supply for fire safety
- Max storage temperature for heating is 95°C, and min for cooling is 2°C.



11. UTMOST INDOOR AIR QUALITY

ENERGY RECOVERY VENTILATION WITH 3-STAGE AIR FILTRATION

HOLON is Equipped with the World-Leading Broad Fresh Air System

1. 100% fresh air, zero cross-contamination (Traditional fresh air systems follow the U.S. standard: 30% fresh air, 70% return air).
2. Three-Stage Filtration with 99.9% PM2.5 filtration efficiency (this extreme efficiency not only improves health but also prevents the accumulation of pollutants on ducts, avoiding secondary contamination). The second stage of filtration is BROAD's unique electrostatic precipitator, which captures particles, viruses, pollens, and other microorganisms.
3. Heat recovery efficiency between fresh air and exhaust air heat exchange is 80%, greatly reduces the heat loss during ventilation. The heat exchanger uses heat pipes to ensure 100% separation between fresh air and exhaust air, preventing cross-contamination.
4. Fresh air volume is 3 m^3/m^2h. The entire unit can exchange fresh air once an hour, while exhaust air is totally expelled from the indoor space. Residents can enjoy fresher air indoor without opening windows.
5. The terminal air ducts of the fresh air system are correctly arranged: allowing fresh air in flow to the bedroom, living room; and exhaust air is expelled from the bathroom, which ensures the indoor air is 100 times cleaner than outdoors.

Fresh Air System Core Technology

Unique electrostatic precipitator, using ventilated aluminum grilles. Even if a large amount of dust is absorbed, it does not increase ventilation resistance or power consumption, greatly extending the maintenance cycle

Many People are Indifferent to Air Quality

Most people can only feel the temperature of the air, while only a few can sense its cleanliness or level of pollution. In fact, with a little rational thought, you will come to notice air quality:

- If the house requires daily cleaning, it means the air is very dirty
- If you constantly want to open the window, it means insufficient ventilation
- If you visit a forest and feel instantly more relaxed, it shows how important quality air is for your health

Quality Air is More Important than Luxurious Interior Finishes

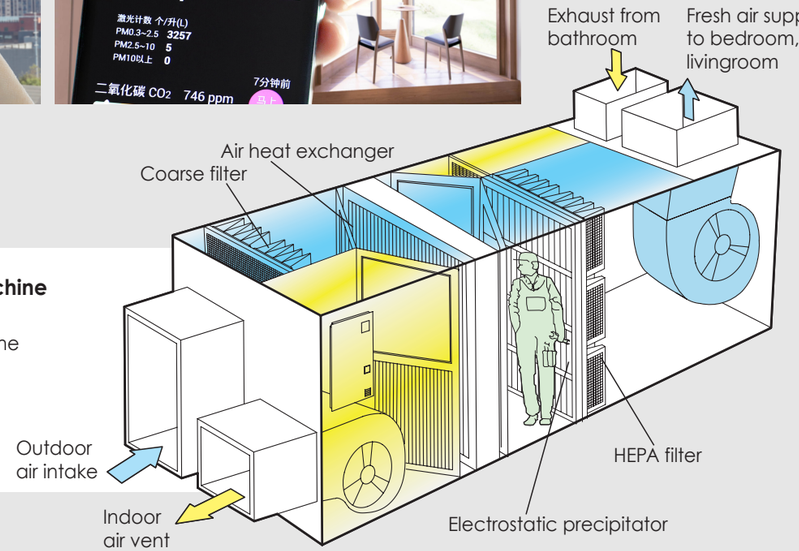
While most people prioritize luxury home decors, only a few recognize the importance of quality air. After living in HOLON building for a few months, residents often notice improved health, better moods, and less need for cleaning — rooms stay dust-free even without dusting for a month.

Fresh Air Filtration Efficiency:

Coarse filter **70%** | Electrostatic precipitator **98%** | HEPA filter **99.9%**

Air Quality is Highly Perceptible

PM2.5 Monitoring (BROAD Air Monitor)



BROAD Fresh Air Machine
(Invented in 2008)

Central fresh air machine fresh air volume:

10,000m^3/h
20,000m^3/h
50,000m^3/h

Easy Maintenance Ensures Consistent Filtration Efficiency

The fresh air machine provides ample maintenance space, allowing filters to be easily taken away for washing. Only through convenient taken away for washing can consistent filtration efficiency be reliably ensured.
Maintenance Time:

- Coarse filter and electrostatic precipitator: take way and wash every 1-3 months (depending on atmospheric pollution levels)
- HEPA filter: Replace every 1-4 years


Air heat exchanger

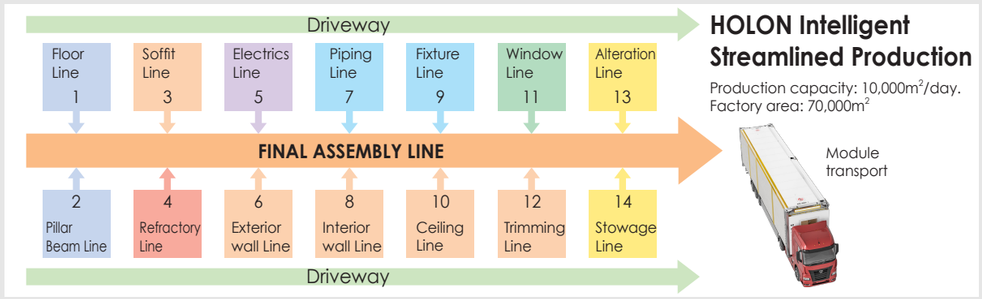

Electrostatic precipitator


HEPA filter

12. STREAMLINED PREFABRICATION

ENSURES HOMOGENEOUS QUALITY AND HIGH EFFICIENCY

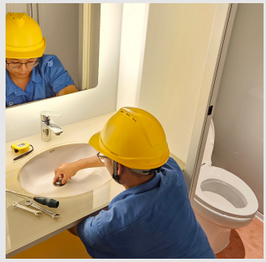
1. 100% factory-prefabricated: the majority of complicated processes are conducted at the factory, leaving minimal construction on-site such as bolting, caulking & pipe connecting
2. Homogeneous quality: HOLON streamlined production operates similarly to car making, but with over 7 times more components - 50,000+ parts and 3,000+ components. The factory has established higher management standards than car production lines to ensure homogeneous quality
3. Extreme high efficiency: Each standard production line produces 10,000m^2 per day, and the average daily output per person is 20 times more efficient than traditional on-site construction
4. Strictest quality control: Each component and process is strictly inspected and documented to ensure full traceability (including outsourcing and purchased parts). MEPs all pass strict tests before leaving the factory.
5. Original production line: the first production line has been successfully launched after four years of trials and errors. By 2030, about 70 production lines will be setup with local partners worldwide, achieving 200 million m^2 production output annually, lead the global construction industry towards a transformation of high technology and deep sustainability.



HOLON Intelligent Streamlined Production

Production capacity: 10,000m^2/day.
Factory area: 70,000m^2

Module transport



HOLON R&D Base & First Production Line

Located in Xiangyin, Hunan. It covers an area of 1.5 km^2, with 230,000m^2 workshops and 120,000m^2 offices and residential areas built in 2010

13. ULTRA-FAST ON-SITE CONSTRUCTION

3 FLOORS PER DAY

1. HOLON Core Principle: Extremely Simplified On-Site Construction

1) Prefabricate everything when it can, reducing on-site workload.
2) Minimize on-site construction complexity to facilitate socializing labor.
3) Minimize the dependence of the installation workers' sense of responsibility to ensure consistent quality in every HOLON building.
4) Create nearly zero construction waste (only rainproof tape is discarded).

2. Structure Installation: 3 Floors Per Day

Structural installation requires only module hoisting, bolting, caulking and waterproofing; no welding or other complicated steps are required. Proven by the installation of dozens of buildings, HOLON building can be installed at the speed of 3 floors per day, and the fastest record for it was 11 floors installed in just one day.

3. Error-Free MEP Installation

HOLON's MEP has been installed, tested and inspected before there are shipped out, On-site installation requires only the connections of the water supply risers, drainage pipes and power cables between floors. The pipe joints use grooved rubber gaskets, once bolts are tightened there will be no leakage at all. Electrical wires are color-coded for proper installation. The central system such as power distribution, fire protection, air conditioning, fresh air, domestic water supply and elevator are all modularized and integrated, installed on production line, commissioned and inspected for errors, ensuring on-site installation is extremely simplified.

4. Dangerous Overhead Work is Eliminated

During the installation process, workers are minimized from working overhead to prevent personnel injuries. For example, the bay window is pre-installed with two large hinges. During on-site installation, workers only need to push the bay window out, stand inside the building, screw in 28 bolts, and remove the large hinges. The balcony is installed onto the module at the ground level and then hoisted to the sky by a crane.

Overview of Preparatory Work for HOLON Building Installation

1. Planning: Develop a construction plan two months prior to construction, assemble the team, equipment, and logistics, and confirm that the construction site meets all the requirements.
2. Labor requirement: 100 workers /30,000m^2-floor areas.
3. Training: If employing non-experienced workers, HOLON engineers will provide on-site training for 3-5 days.
4. Foundation: the foundation, power supply, water supply, and septic tank are completed and meet all building standards before HOLON modules are delivered on site.

Containerized Transportation Mode: Low Cost, Short Cycle, No Damage

1) HOLON modules shipped in 12m(L) x 2.43m(W) (size of standard 40-Ft container). Its width double when opened up on site, making the module a 60m^2 space.
2) HOLON building only weighs 1/6 that of a concrete building. A 60m^2 module weighs approximately 21 tons (the weight limit of a standard 40-Ft container is 30 tons).
3) The modules are tightly sealed and protected against wind and rain during transportation.
4) CSC (Container Safety Convention) certified by the International Maritime Organization (IMO), the modules meet the requirements for global container transportation by truck, train, and ship.

14. AFTER-SALES SERVICE

LETS RESIDENTS BE WORRY-FREE FOREVER

Prefab Buildings Have One Company Liable for Quality, Ending the Traditional Construction's Chronic Buck-Passing on After-Sales.

The "difficulty in after-sales service" for buildings is a social problem widely existing in countries around the world. In contrast, HOLON regards after-sales service as its core competitiveness, has established a systematic and standardized after-sales service system that go beyond the residents' expectations.

1. Service network: Establish HOLON service centers in every city where the project is delivered, equipped with after-sale service engineers, technicians and a full set of spare parts.
2. Resident training: Educate residents on the HOLON's features, proper usage and maintenance methods
3. Operational and maintenance staff training: Thoroughly train staff on the building's features and technical principles, ensuring they can master correct operation, repair, and maintenance standards. Develop tailored systems for safety, comfort, air quality and energy efficiency management.
4. Quality warranty: Warranties include 50 years for structure, 20 years for waterproofing, 2 years for MEP systems, and 2 years for interior finishes. After the warranty expires, residents can still buy the extended life-time warranty.
5. Extended services: Upon the request, the HOLON Co., Ltd. can provide EMC service to manage the central air conditioning, fresh air, hot water and all the energy-related system in the building. This can largely reduce the energy consumption, lower energy expenses and equipment depreciation meanwhile meeting the demands of building operations.

15. GLOBAL ACCESS

COMPLIES WITH EU/US/UK/AU/JP/KR STANDARDS

HOLON is the Key to Solving the "Slow Approval and Many Red Tapes" That Plague the Construction Industry Worldwide

Building standards vary widely around the world. In order to sell HOLON modules, which are produced on a single assembly line, to every country (pretty much like a model of car can be sold worldwide), HOLON incorporates the standards of all the developed countries, including EU, the United States, the United Kingdom, Canada, Australia, Japan, and South Korea. Where national standards differ, the highest value is used.

Regarding some critical aspects of the building such as safety, such as seismic resistance, fire protection, energy conservation, and sound insulation, HOLON's standards exceed all national standards. See the "Difference Comparison Table" on the right for details. Although this significantly increases costs, due to the extremely high labor costs in developed countries, the production of HOLON on an assembly line still offers significant economic advantages.

Since HOLON are standardized products, once HOLON is launched in a certain country, the approval timeline and cost for subsequent projects will be significantly shorter than for traditional buildings. Construction supervision costs and complications can be also significantly reduced, and the risk of quality disputes was virtually zero.

Provide More "Affordable Housing"

All developed countries face a systemic dilemma that contradicts the market economies: construction workers are in severe shortage, which causing extremely high construction costs due to the immigration restrictions. HOLON can save 10 times for on-site workload, offering significant cost advantages and providing a higher proportion of government-mandated "affordable housing". This not only helps developed countries address the affordable housing shortage but also garners additional support from governments and voters, accelerating the approval process for regulations and construction.

HOLON has obtained the EU CE certification

EN ISO/IEC 17065
S1-355

Notified body No1697
Bureau Veritas Latvia
17a Duntes street, Riga, LV-1005, Latvia

CERTIFICATE OF CONFORMITY OF THE FACTORY PRODUCTION CONTROL

1697 – CPR – 23/008

In compliance with Regulation (EU) No 305/2011 of the European Parliament and of the Council of 9 March 2011 (the Construction products Regulation or CPR), this certificate applies to the construction product

welded stainless steel structural components
(characteristics are detailed in the attached annex)

placed on the market under the name or trade mark of
BROAD Sustainable Building Co., Ltd.
Shugang Road, Lingang Industrial Zone, Wenxing Town, Xiangyin County, Yueyang City, Hunan Province, China
and produced in the manufacturing plant
Shugang Road, Lingang Industrial Zone, Wenxing Town, Xiangyin County, Yueyang City, Hunan Province, China

This certificate attests that all provisions concerning the assessment and verification of constancy of performance described in Annex ZA of the standard
EN 1090-1:2009+A1:2011 Execution of steel structures and aluminium structures - Part 1: Requirements for conformity assessment of structural components
under system 2+ are applied and that
the factory production control is assessed to be in conformity with the applicable requirements.

This certificate was first issued on **17/02/2023** and will remain valid until **16/02/2026** as long as neither the harmonised standard, the construction product, the AVCP methods nor the manufacturing conditions in the plant are modified significantly, unless suspended or withdrawn by the notified factory production control certification body.

To check the validity date of this certificate, please call +371 67323246.

Annex to certificate on 1 (one) page is integral part of this certificate.

Further clarification regarding the scope of this certificate and the applicability of the system requirements may be obtained by consulting to Bureau Veritas Latvia.

Certificate issued: **Riga, 10/03/2025** *Version:* **2**

Certificate validity: **16/02/2026**

Bureau Veritas Latvia Ltd
Member of the board
Iveta Lazdiņa

SIA Bureau Veritas Latvia Product Certification Body. Certificate F_S/BI_2+_eng
Page. 1 of 2 – Rev 07, 19.10.2021.

HOLON has obtained the US AISC certification

AMERICAN INSTITUTE OF STEEL CONSTRUCTION

CERTIFICATION PROGRAMS

PROUDLY RECOGNIZE THAT
Broad Holon Co., Ltd.
2023-1-10-005355F

MAINTAINS OPERATIONS LOCATED AT
Shugang Road, Lingang Industrial Zone, Wenxing Town, Xiangyin County
Yueyang City, Hunan 414600 China

THAT SUCCESSFULLY MEET THE QUALITY CERTIFICATION REQUIREMENTS FOR
Building Fabricator

CERTIFICATION NUMBER C-00027063
ISSUED May 30, 2025
VALID THROUGH July 31, 2026

PRESIDENT

Comparison Table of Differences in Mandatory Building Codes with Developed Countries (High-rise residential buildings, hotels ≥10F)

	No.	Standards	Unit	EU	US	UK	CA	AU	JP	KR	HOLON
Structural safety	1	Minimum Seismic Design Requirements		Small earthquake	Moderate earthquake	Small earthquake	Moderate earthquake	Small earthquake	Moderate earthquake	Small earthquake	Severe earthquake
	2	Minimum design wind speed	m/s	24	38	24	30	28	34	26	38
	3	Axial compression ratio of load-bearing components	≤	0.6	0.5	0.6	0.5	0.6	0.4	0.4	0.4
	4	Building height-to-width ratio	≤	6.5	6.5	6.5	6.5	6.5	6.5	6.5	5
Fire safety	1	Column fire resistance	≥h	2	2, 3	2	2	1.5, 2	2, 3	2, 3	2, 3
	2	Beam fire resistance	≥h	2	2, 3	2	2	1.5, 2	2, 3	1.5, 2	2, 3
	3	Floor fire resistance	≥h	2	2	2	2	1.5, 2	1, 2	1, 1.5	2
	4	Fire sprinkler system	Yes √	√	√	√	√	√	√	√	√
	5	External fire escape	Yes √								√
Electrical safety	1	Lightning protection earthing resistance	≤Ω	10	25	10	10	10	10	10	5
	2	Circuit protection breaker current	mA	30	30	30	30	30	30	30	30
	3	RCD tripping time	s	0.4	0.1	0.4	0.1	0.3	0.1	0.3	0.1
Building	1	Accessible bathroom turning space	≥Øm	1.5	1.52	1.5	1.52	1.5	1.4	1.5	1.52
	2	Clear width of escape stairs	≥m	1.2	1.12	1.1	1.1	1	1.2	1.2	1.21
	3	Clear height in Living room and master bedroom	≥m	2.4	2.29	2.4	2.29	2.4	2.1	2.1	2.6
	4	Clear height in Bathroom and corridor	≥m	2.1	2.13	2	1.95	2.1	2	2.1	2.3
Acoustic insulation	1	External Wall	dB	Rw≥45	STC≥45	DnT,w≥40	STC≥50	Rw≥45	D≥40	Rw≥45	Rw≥52
	2	Artery Windows	dB	Rw≥35	STC≥30	DnT,w≥35	STC≥30	Rw≥35	D≥30	Rw≥35	Rw≥42
	3	Demising wall	dB	Rw≥50	STC≥50	DnT,w≥45	STC≥50	Rw≥50	D≥45	Rw≥50	Rw≥50
	4	Interior partition wall	dB	Rw≥30	STC≥35	STC≥35	STC≥35	STC≥35	STC≥35	Rw≥40	Rw≥40
	5	Entrance door	dB	Rw≥30	STC≥25	DnT,w≥30	STC≥25	Rw≥30	D≥30	Rw≥30	Rw≥32
	6	Bedroom door	dB	Rw≥25	STC≥20	DnT,w≥25	STC≥20	Rw≥25	D≥25	Rw≥25	Rw≥25
	7	Impact sound insulation	dB	L'n,w≤58	IIC≥50	L'nT,w≤62	IIC≥50	L'nT,w≤62	L≤45	L'nT,w≤58	L'n,w≤58
	8	Airborne sound insulation between floors	dB	Rw≥50	STC≥50	DnT,w≥45	STC≥50	Rw≥50	D≥45	Rw≥50	Rw≥52
Fresh air	1	Room fresh air	Yes √	√	√	√	√		√		√
	2	Fresh air PM2.5 filtration efficiency	≥%	50	50	60	70	50	60	80	99.9
	3	Heat recovery efficiency	≥%	70	65	70	65	60	60	60	80

Rated Parameter Table of Residential Buildings

No.	Suject	Parameter	Remark
1	Module transportation dimensions	Length 12.2m Width 2.4m Height 3m	Modules in CSC-certified 40ft container size
2	Module transportation weight	≤20t	Including stowage materials and tools
3	Building height	3m	Non-standard 6m
4	Floor-to-ceiling height	2.6m	Bathroom 2.3m
5	Structural materials	Stainless steel: Column and beam: S32001 Slab: S304	The floor slab is "core slab" and the column & beam is rectangular tube
6	Building standards	Comply with EU, US, UK, CA, AU, JP, KR standards	Meet or exceed the standards of the country where the project is located
7	Energy efficiency standards	"International Passive House Standard"	Developed by the German Passive House Institute
8	HVAC configuration	Central air conditioning, fresh air, domestic hot water	Individual room temperature control
9	Environmental quality	Indoor temperature 20~26°C. PM2.5 is 100 times lower indoors. CO_2≤1000ppm	Rated fresh air volume: 2.5m^3/m^2h (net sales area)
10	Standard deliverables	Turnkey project with structure, MEP, and finishes	Excluding foundation and works outside of HOLON building
11	Free warranty period (Year)	Structure 50, waterproofing 20, MEP 2, finishes 2	Lifetime parts supply after the free warranty period

HOLON Residential Project Construction Process (12-Step Project Construction Method)

1 HOLON Product Certification
SGS and other certification competent bodies have assisted HOLON in obtaining EU CE and US AISC certification for the steel structures. All MEP systems and interior finishes in HOLON buildings use materials certified by EU and US standards

2 Project planning and design
Developer appoints licensed designers to produce a "project plan" and a feasibility study report in accordance with the requirements of the local planning authority

3 Planning approval
Reviewed by planning departments, fire safety, transportation, environmental protection, and other relevant authorities, with approval from stakeholders

4 Construction drawing design
Developer commissions local licensed designers to complete construction drawings based on HOLON product designs and the mandatory building standards, including architectural, structural, fire safety, MEP systems, foundations, and landscaping, etc.

5 Construction application review
Construction drawings are reviewed by qualified agencies, and a construction permit is obtained from the relevant government authorities

6 Foundation construction
Developer commission local licensed contractors to carry out foundation, road, landscaping, and utilities (water and electricity) construction

7 HOLON Module Production
BROAD HOLON produces modules according to the approved construction drawings, perform quality inspections by independent agencies during the process

8 Foundation Inspection
Developer and independent agencies complete the inspection of roads, foundations, and project utilities (power supply, water supply, and septic tanks) based on the construction drawings

9 Module transportation
BROAD HOLON or developer transports the modules to the construction site, handle custom declaration and clearance as required

10 HOLON on-site installation
Developer commission licensed contractors for installation. BROAD HOLON provides on-site guidance. Independent agencies conduct quality inspections

11 Completion Inspection
Independent agencies, developer, and the BROAD HOLON collaborate with government regulatory bodies to conduct project inspections and issue acceptance certificates

12 Handover
Contractors handover the project to developer or end-user, and BROAD HOLON provides training for operational and maintenance teams

16. 16-YEAR R&D

A NEW CHAPTER IN 1,000-YEARS OF BUILDING HISTORY

Background of HOLON Hi-Tech Home Research & Development

The invention of HOLON was initiated by BROAD Group, an enterprise founded in 1988 with over 3,000 employees. The company has invented hundreds of hi-tech electromechanical products, serving markets in more than 80 countries.

Greatly saddened by the widespread collapse of buildings during the Wenchuan Earthquake in 2008, BROAD established BROAD HOLON Co., Ltd. in 2009. It took BROAD 16 years, mobilized 1,000 employees and invested over USD 1.1billion in experiencing countless trials and errors, testing tens of thousands of materials, parts and components in more than 60 buildings over 6 countries, resulting in 6 generation upgrading and 16 technical iterations. In 2024, the world's most comfortable, safe, economical and durable building — HOLON Hi-Tech Home was invented.

With more than a hundred innovations such as the proprietary stainless steel Core Slab, expandable frame structure, and super-clean fresh air system, along with the development of an intelligent prefabricated building streamlined production. HOLON has become the world's only hi-tech residential building. It is expected to change the situation where building comfort, safety, and environmental protection are misaligned with today's world technology, and completely rewrite the production paradigm of buildings that have only relied on site construction for over thousands of years.

HOLON's Global Development Plan: Three phases

- Capture 20% of the high-rise residential market in developed countries by 2030
- Capture 10% of the high-rise residential market in developing countries by 2035
- Develop a low-cost mid-rise residential building product for the least developed countries by 2040 to address the housing issue of the grassroot class in these countries

HOLON Business Model: Three Models

Model A: Direct sales; Model B: Co-develop real estate projects with local partners; Model C: Collaborate with local partners in HOLON Building production and distribution

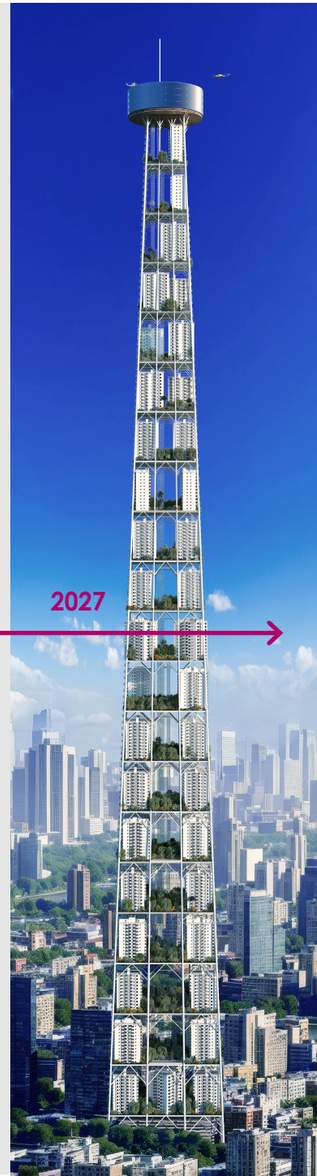
HOLON Building ESG Summary:

As can be found in this document, HOLON has fully implemented its Corporate Social Responsibility (ESG) approach, set an example for the global construction industry's ESG transformation.

1. Environmental Responsibility
- Zero concrete in the building structure: 100% stainless steel and carbon steel are used, which can be recycled after dismantlement. It reduces CO_2 emissions by 95% throughout its lifecycle compared with concrete buildings.
- Adoption of "passive house" insulation standards and off-peak electricity water energy storage systems, Reduction of CO_2 emissions from air conditioning by 90% compared with conventional buildings.
- By using prefabricated construction method, the factory can strictly control wastes from the production and onsite construction, resulting in nearly zero.

2. Social Responsibility
- Workers are freed from the dirty and dangerous environment of traditional construction sites, becoming modern industrial workers with safety, health protection, and professional dignity.
- Prefabricated buildings ensure quality control and fully safeguard the interests of residents.
- Each building is equipped with external fire escapes, doubling the fire escape safety.

3. Corporate Governance Responsibility
- Prefabricated buildings ensure the controllable costs, construction schedule and return on investment, greatly reduce the operational risk of the company.
- Containerized transportation mode allows the company to do business globally, avoiding the difficulty due to certain market fluctuations.
- Standardized technical and business processes ensure transparent operations and eliminate corruption.



2010

Prefabricated Steel Structure Buildings, the 3rd Building of the 1st Generation: BROAD Pavilion at World Expo Shanghai

There were 13 corporate pavilions at the World Expo Shanghai, only BROAD Pavilion had been preserved for 15 years. In December 2024, it was relocated to Baoshan, Shanghai. This building was built in one day but has been life-time preserved for the green & technology heritage of the World Expo Shanghai for future generations

2011

The 4th Building of the 2nd Generation: T-30 Hotel (30-Floor)

Built in 15 days, YouTube video over 2 million clicks per day

2013

More than 30 Residential Buildings, Hotels and Office Buildings were Built with the 2nd Generation

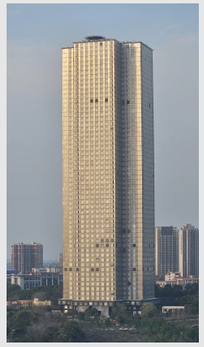
Located in 7 provinces in China and Mexico, all in operation

2014

202 Floors / 838m Building Designed with the 3rd Generation

On May 4, 2014, it received approval from China's "National Super High-Rise Review Committee". Over three years, USD150 million was invested in design, testing, approvals, and foundation work. However, due to concerns about market demand, the project was not constructed

2015



The 2nd Building Of the 3rd Generation: 57 Floors, was Built in Just 19 Days

YouTube over 5 million clicks

2020

HOLON V1.0 of the 6th Generation

From March to May 2020, two negative-pressure isolation hospitals were built in South Korea to combat COVID-19. These were the first HOLON buildings constructed using stainless steel Core Slabs

2021

HOLON V7.0 Residence

This building marks the maturity of HOLON residential building

2023

HOLON V12.0~15.0 Residential Building

More than 10 similar buildings have been built in China, Indonesia and Philippines

2025

HOLON V16.0 Residential Building

To be built in UAE in Dec. 2025

HOLON V16.0 Residential Building 258 Floors / 1,037m

The design and wind tunnel tests have been completed and it is planned to be built in a large tourist city in 2027

2027