



# **SmartQube**

## **IP55 Air-Conditioned 19" Smart Cabinet**

# LANDE SmartQube 19" Air-Conditioned Cabinet

All of today's companies need servers and network infrastructure in their offices and premises in order to be able to carry out their internet based services and their own needs (e-mail, financial transactions ...etc). Large companies can find solutions to these needs by the system rooms (data centers) that they have installed in their facilities or by the services that they outsource from large data centers. Furthermore, in most of the small and medium sized companies, a suitable, safe, secure and monitoring system room has not been constructed. Under these conditions, there is a need for "smart" products and systems that are compact for simple and small IT solutions and everything is configured as all in one cabinet.

In the past, production and storage sites were using simple technologies where there were needs of structure based on simple data collected from the field. Nowadays, technology is used which has high data flow, on-the-spot process and decision mechanisms due to the developing industrial automation and communication technologies (Industry 4.0, MRP / ERP, Stock, Warehouse and Manufacturing Management Applications ...). Now, the technical staff in the plants use advanced technologies such as manufacturing machines, CAD/CAM/CNC devices, Inventory and Storage Tracking Devices, Barcode and Tracking Systems, almost all of which contain a computer. Today, there is a growing need for "smart" cabinet systems that are highly resistant to such conditions as heat, moisture and dust, which will accommodate such technological infrastructures of industrial facilities.

LANDE offers integrated air-conditioned solutions in the **IP55** Protection Class (**EN 60529**<sup>1</sup>) and **IK10** (**EN 50102**<sup>2</sup>) Mechanical Impact Resistance standard with the appropriate cooling capacity selected at various thermal load and cabinet ratings.

LANDE offers wide range of products for roof type and panel type industrial integrated air-conditioned "smart" cabinets at 24U, 33U, 38U and 42U height, 600 and 800 mm width and 600, 800, 1000 and 1200 mm depth options.

All LANDE products are compliant and certified to the EN 61587-1, 2002/95 / EC, the RoHS Directive, EN 60950-1 and UL 60950-1 (Underwriters Laboratories) standards.

LANDE Production Facility has ISO 9001-2008 Quality Management System and ISO 14001 Environmental Management System certificates.

**TS EN 60529** Degrees of protection provided by enclosures (IP code) (For electrical equipments)

**TS EN 50102** Degrees of protection provided by enclosures for electrical equipment against external mechanical impacts (IK code)

**TS EN 61587-1** Mechanical structures for electronic equipment - Tests for IEC 60917 and IEC 60297 standards - Part 1: Climatic tests for cabinets, shelves, under shelves and chassis, mechanical tests and safety considerations.

**2002/95/EC RoHS Directive** (Directive on the restriction of certain harmful chemicals)

**TS EN 60950-1** Information technology devices - Safety - Part 1: General rules

**UL 60950-1** Information technology devices - Safety - Part 1: General rules



## Why Lande SmartQube?

**LANDE SmartQube** 19" Air-Conditioned Smart Cabinets can meet the information technology and communication infrastructure needs of small and medium sized companies, offices, branch and dealer locations; It is an integrated product which contains all the requirements of cooling, energy and security in the IP55 protection class, taking into account all the bad environment conditions to accommodate automation and communication devices in the production and storage areas of industrial plants. You don't need any special room for **LANDE SmartQube**. You can place it anywhere in your facility and at any point in your office.

**LANDE SmartQube** is equipped with Panel Type Industrial Air-Conditioners from 900W to 10,000W to meet the cooling needs. These are designed for heavy industrial needs and harsh ambient conditions; These are the devices that are designed and manufactured for continuous operation in every season, everyday (7/24/365 conditions) with a single major task of continuous cooling function. They do not require any external unit and no external cooling water or gas connection, and have an integral structure where all parts of the product are together. It can be used as an easy fit solution where especially no possibility to accommodate an external unit out of the buildings or such as large industrial areas where the external unit location is too far or too high from the enclosure.

Split type ambient air conditioners used in classical applications of small system room all over the world are designed and manufactured to work for certain hours of the day in quick changing hot and cold ambient temperatures of the seasons and are for the human comfort. Such devices do not have a structure that can work 7/24/365. For this reason, they can not be the ideal solution for both IT and industrial applications. In addition, these devices also require an external unit that is placed in an external atmospheric environment, making it impossible for businesses that do not have such facilities in their premises.

**LANDE SmartQube** 19 "Air Conditioned Smart Cabinets offer a solution that you can put into any other parts and accessories that a system room may need. For this purpose, we offer Rack Type UPS Uninterruptible Power Supply and Battery Group, FM200 or NOVEC Fire Extinguishing System, Rack Type Electricity Distribution Panel, PDU, Environmental Monitoring System.



Roof Type Air-Conditioner and Glass Door Smart Cabinet



Air Routers for Panel Type Air Conditioning Cabinet



Panel Type Air-Conditioner and Metal Door Smart Cabinet

# LANDE SmartQube 19" Air-Conditioned Smart Cabinet Selection Table

## LN-SQ14-42U6010-XYLG-Z

<b>LN</b>	Lande	<b>LN</b>	
<b>SQ</b>	SmartQube	<b>SQ</b>	
<b>14</b>	Cooling Capacity		6-8-10-14-20-28-34 kBtu Panel Type Air-Conditioner
<b>42U</b>	Height of Cabinet		24U(1200mm)-33U(1600mm)-38U(1800mm)-42U(2000mm)
<b>60</b>	Width of Cabinet		60:600mm, 80:800mm Width
<b>10</b>	Depth of Cabinet		60:600mm, 80:800mm, 10:1000mm, 12:1200mm Depth
<b>X</b>	Front Door		M: Metal, G: Glass
<b>Y</b>	Plinth Height		1:100mm, 2:200mm
<b>LG</b>	Color of Cabinet		LG: Light Grey
<b>Z</b>	Low Noise		0: None, 1: Yes (Only for Panel Type cooling device)

## With PANEL TYPE AIR-CONDITIONER

### SmartQube ( Air-Conditioned IT Cabinet) Cabinet and Cooling Capacity Selection and Size Chart

LANDE	Smart Qube	Cooling Capacity			H <sup>1</sup> Height of Cabinet		W <sup>2</sup> Width of Cabinet		D Depth of Cabinet		Front Door <sup>3</sup>		Plinth		Color		Low Noise of Air-Conditioner		Ws <sup>4</sup> Total System Width
		(Selection) Code	Btu	Watt															
LN	SQ	06	5.400	1.600	24U	1200mm	60	600mm	60	600mm	M	Metal	1	100mm	LG	Light Grey 7035	0	none	848mm (W600)
		08	7.480	2.200	33U	1600mm			80	800mm									863mm (W600)
		10	10.750	3.150	38U	1800mm	60	600mm	80	800mm	G	Glass	2	200mm			1	yes	948mm (W600) or 1148mm (W800)
					42U	2000mm			10	1000mm									
LN	SQ	14	14.000	4.100	38U	1800mm	80	800mm	80	800mm	M	Metal	1	100mm	LG	Light Grey 7035	0	none	1148mm (W800)
		20	20.300	5.950	42U	2000mm			10	1000mm									1203mm (W800)
		28	27.300	8.000	42U	2000mm	80	800mm	10	1000mm	G	Glass	2	200mm			1	yes	1184mm (W800)
																			1184mm (W800)
		34	34.000	10.000					12	1200mm									

## With ROOF TYPE AIR-CONDITIONER

### SmartQube (Air-Conditioned IT Cabinet) Cabinet and Cooling Capacity Selection and Size Chart

LANDE	Smart Qube	Cooling Capacity			H <sup>1,5</sup> Height of Cabinet		W Width of Cabinet		D Depth of Cabinet		Front Door <sup>3</sup>		Plinth		Color		Hs <sup>6</sup> Total System Width
		(Selection) Code	Btu	Watt													
LN	SQ	03	3.000	900	24U	1200mm	60	600mm	60	600mm	M	Metal	1	100mm	LG	Light Grey 7035	1535mm (H1200) 1935mm (H1600)
		05	4.775	1.400	33U	1600mm			80	800mm							1650mm (H1200) 2050mm (H1600)
		07	6.800	2.000													
LN	SQ	09	9.200	2.700	33U	1600mm	60	600mm	80	800mm	M	Metal	1	100mm	LG	Light Grey 7035	2080mm (H1600) 2280mm (H1800) 2480mm (H2000)
		13	13.000	3.800	38U	1800mm			10	1000mm							2150mm (H1600) 2350mm (H1800) 2550mm (H2000)
		17	17.750	5.200	42U <sup>7</sup>	2000mm											

# LANDE SmartQube 19" Air-Conditioned Smart Cabinet Selection Table

## NOTES:

“**H' Cabinet Height**” dimension is only cabinet height. The selected plinth height (H100mm or H200mm) should be added to cabinet height.

“**W² W2 Cabinet Width**” dimension is only the cabinet width. Once Panel Type Air-Conditioner is integrated refer to the Total System Width column for the final system width. Consider and control whether in the area where the system will be installed if there is an enough space available, check if walls, closets, wardrobes or other devices...etc that can be very close to the air conditioner. It is recommended that for ideal air circulation the air conditioner needs at least 300 mm fresh air intake space.

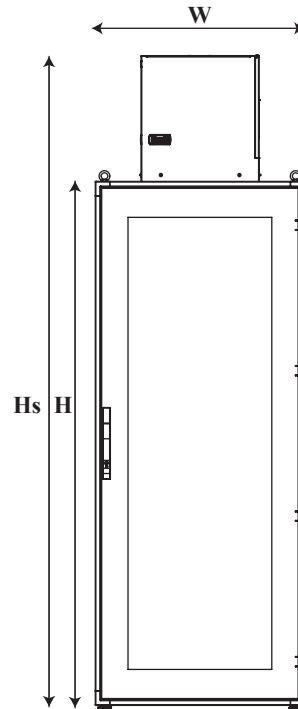
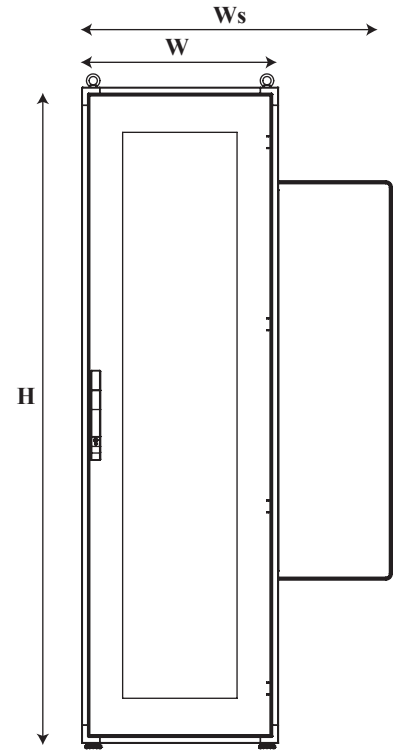
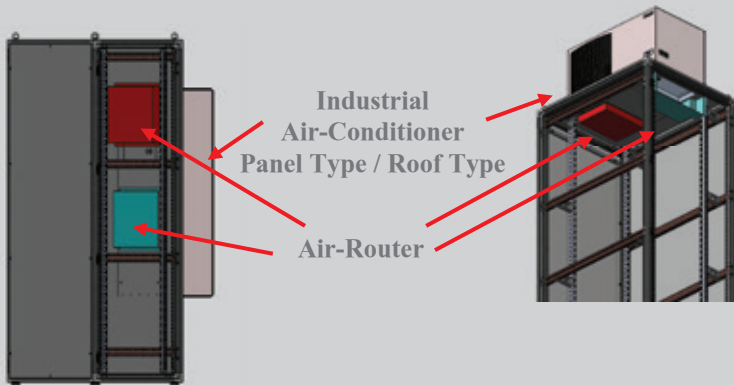
Standard "Front Door" is Metal door. Unless otherwise clearly stated for glass door with the correct part number selection, “the metal door is shipped”. Rear Doors are shipped as standard metal doors.

“**Ws⁴ Total System Width**” Total System Width, The net width of the system after Panel type air conditioning installation.

“**H⁵ Cabinet Height**” is only cabinet height. Refer to Total System Height column for final system height after Roof type air conditioning installation.

“**Hs⁶ Total System Height**” Total System Height, The net height of the system after Roof Type air conditioning installation. With H100mm or H200mm base selection, the selected base height is added to the cabinet height, resulting in a net system height of the cabinet.

The height of the “42U⁷” cabinet will reach 2650/2750 mm when the H100mm or H200mm plinth is selected as well the max height (550mm) roof type air conditioner installed. Specifically pay attention to this height as this can be a critical measure while positioning the enclosure in to intended location. Even consider staircases, goods lift, corridors to be able to carry the enclosure to its location



Specifically pay attention to the cabinet external dimintions and compare the sizes of with its place of installation

**H** : Cabinet Height

**W** : Cabinet Width

**Hs** : Cabinet Final Height

**Ws** : Cabinet Final Width

# LANDE SmartQube 19" Air Conditioned Smart Cabinet Selection Table

AC Technical Details										
AC Part Number	Cooling Capacity (Watt )		Electrical Values	Max. Power Consumption	Max. Running Current / Starting Current	Air Flow	Dimensions WxDxH	Noise Level	Low Noise Option	Weight
	L35-L35 <sup>1</sup>	L35-L50 <sup>2</sup>	V-P-Hz	(Watt )	(Amper)	(m <sup>3</sup> /h)	(mm)	(dBA)		(kg)
Panel Type Air Conditioners										
06	1600	1200	230-1-50/60	825	3,9 / 28	580	248x410x913	65 dBA	YES	42 kg
08	2200	1850	230-1-50/60	1240	5,5 / 34	580	263x410x1005	68 dBA	YES	44 kg
10	3150	2600	230-1-50/60	1510	5,5 / 35	930	348x511x1219	70 dBA	YES	86 kg
14	4100	3300	230-1-50/60	1950	9,4 / 42	1300	348x511x1219	70 dBA	YES	83 kg
20	5950	4850	400-3-50/60	3600	5,7 / 53	1600	404x554x1406	73 dBA	YES	95 kg
28	8000	5900	400-3-50/60	3619	7,0 / 28	3000	384x800x2000	76 dBA	YES	110 kg
34	10000	7800	400-3-50/60	4500	7,0 / 40	2980	384x800x2000	76 dBA	YES	150 kg
Roof Type Air Conditioners										
03	900	760	230-1-50/60	630	3,2 / 15	575	325x600x335	67 dBA	NONE	32 kg
05	1400	1170	230-1-50/60	950	5,2 / 17	575	400x600x450	58 dBA	NONE	48 kg
07	2000	1700	230-1-50/60	1200	5,7 / 22	860	400x600x450	62 dBA	NONE	52 kg
09	2700	2300	230-1-50/60	1580	7,0 / 38	860	450x800x480	77 dBA	NONE	75 kg
13	3800	2700	230-1-50/60	2000	9,0 / 38	1450	450x800x480	77 dBA	NONE	77 kg
17	5200	4100	400-3-50/60	2540	4,6 / 25	2540	600x800x550	77 dBA	NONE	94 kg

1 L35-L35 : Cooling capacity refers to the cooling capacity of the air-conditioner in watts at settled 35°C internal temperature level in cabinet and 35°C ambient temperature outside the cabinet (EN 14511-2). In other words, it is an acceptance criteria of the cooling capacity against the dissipated heat from the active devices installed inside cabinet.

2 L35-L50 : Cooling capacity refers to the cooling capacity of the air-conditioner in watts at settled 35°C internal temperature level in cabinet and 50°C ambient temperature outside the cabinet. (EN 14511-2). The air-conditioner will loose a portion of its capacity to remove the heat load coming from outside because of transmitted heat because of the 50°C ambient temperature next to the cabinet.

3 Maximum power consumption value according to L35-L50 temperature conditions.

All values of air-conditioners in the information table indicate that the temperature inside the cabinet is between 25 and 45°C and the temperature outside the cabinet is between 20 and 55°C.

## COOLING CAPACITY

For 19" Smart Cabinets, air-conditioners should be selected 25% larger than the sum of the energy consumption values of all IT and IP devices and the energy loss values of the industrial electronic devices you intend to install. You can find these values in the device's catalogs or you can request them from the manufacturers. If you are not able to reach to the related technical informations, as an acceptance criteria, IT and IP devices can be used for practical and easy calculation, each 1U height equals 100 watts energy consumption and cooling capacity. Be sure to compare the wall and ceiling points where your cabinet will be placed with Hs6 - Total System Height and Ws4 - Total System Width values, and pay attention to clearance distances. If you want to use your cabinet in a closed room, it is advised to use a fan exhaust system or window to circulate the air of your room with the external atmospheric environment. Please contact our LANDE Sales Representatives for assistance in determining the air-conditioner capacity and cabinet location.

## HUMIDITY AND WATER CONTROL

Panel Type Industrial Air-Conditioners does not have dehumidification capability based on its technology. In case of excessive humidity conditions, there are two reservoirs inside the device. Due to condensation the water collected in the first reservoir, than once the first reservoir is fully filled, than its starts to flow in to the second reservoir. There is a water discharge pipe as a safety precaution against the case of the second container being fully filled. Due to the heat generated by the devices in the air conditioner, the water that accumulated in these reservoirs evaporated and mixed with the ambient air as a normal cycle. Under normal conditions no dripping water will come from the discharge pipe. This evacuation pipe is strictly for safety purposes. However, in very excessive humidity environments, may some dripping can happen. We provide a heat resistance integrated self sticking Power adapter included external reservoir plastic pocket as accessory incase required by customers.

## LOW NOISE OPTION

This is an available option for only Panel Type Air-Conditioners, and it works especially at lower ambient temperatures. This feature is based on reducing the condenser fan speed due to lower ambient temperature conditions. An average of 2-4 dB lower noise level is achievable but based on the air-conditioner capacity, settled temperature limits and ambient temperature conditions. In winter conditions this feature can perform day and night; and in the summer conditions can perform only at night. In high performance requirement levels at full capacity of air-conditioner, this feature will become off.

## OPTIONS AND ACCESSORIES

LANDE SmartQube the 19 "Air Conditioning Smart Cabinet, you need to specify the options and accessories you would like to order with the product code and quantity.

### Environment Monitoring Unit - LANDE LN-VT325

LANDE LN-VT325 series The Environmental Monitoring Unit can send information to desired point by SNMP, SMS, E-mail or Alarm outputs to be monitored and controlled such as temperature, humidity, water leakage, voltage, vibration, smoke, door security...etc in the cabinet.



### Power Distribution Units - PDU

LN-SQP-PDU1	Basic, 0U, 1P, 230 V, 50/60 Hz, 32 Amps, 3x6 mm <sup>2</sup> H05VV-F, Outlets: 16-24xC13 + 2-4xC19
LN-SQP-PDU2	Measured, 0U, 1P, 230 V, 50/60 Hz, 32 Amps, 3x6 mm <sup>2</sup> H05VV-F, Outlets: 16-24xC13 + 2-4xC19
LN-SQP-PDU3	Managed, 0U, 1P, 230 V, 50/50 Hz, 32 Amps, 3x6 mm <sup>2</sup> H05VV-F, Outlets: 16-24xC13 + 2-4xC19
LN-SQP-PDU4	Basic, 1U, 1P, 230 V, 50/60 Hz, 16 Amps, 3x4 mm <sup>2</sup> H05VV-F, Outlets: 8xC13



### Power Distribution Panels

LN-SQP-PN1R	3U, Rack Type, 10 kW Electrical Distribution Panel, For 3-6 kVA UPS and up to 10kBtu Air-Conditioners
LN-SQP-PN2R	3U, Rack Type, 20 kW Power Distribution Panel, For 10 kVA UPS and all type Air-Conditioners
LN-SQP-PN1W	Wall Mount Type, 10 kW Electrical Distribution Panel, For 3-6 kVA UPS and up to 10kBtu Air-Conditioners
LN-SQP-PN2W	Wall Mount Type, 20 kW Power Distribution Panel, For 10 kVA UPS and all type Air-Conditioners

### UPS - Uninterruptible Power Supplies

LN-SQP-UPS1	3 kVA, 1P-1P, 220 V, 50/60 Hz, Rack Type 2U
LN-SQP-UPS2	6 kVA, 1P-1P, 220 V, 50/60 Hz, Rack Type 2U & 3U
LN-SQP-UPS3	10 kVA, 3P-1P, 400 V, 1P-1P, 220 V, 50/60 Hz, Rack Type 2U & 3U

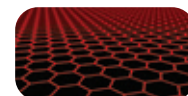
### Cabinet Handles

1. Standard
2. 3 Digit Mechanical
3. Keypad Electronic Numeric
4. RFID Electronic



### Fire Extinguishing System

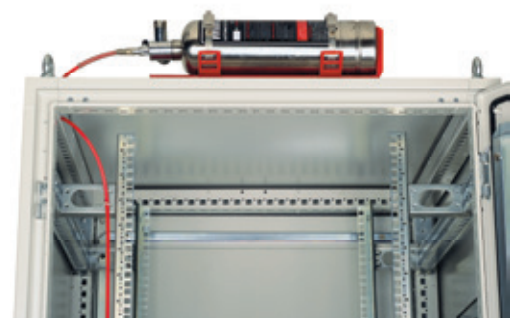
LANDE Cabinet Fire Extinguishing System consists of a cylindrical steel tube filled extinguishing gas and intelligent piping made from special honeycomb polymer filled nitrogen under 12 bar pressure. This system performs the extinguishing process by puncturing this pipe at the point where the temperature exceeds 65°C in the cabinet and by shooting the FM200 or NOVEC gas from the cylinder to the point where the heat is raised.



Honeycombed Polymer

### Heater Panel

Self Sticking plastic pocket with resistance inside, which is mounted externally on the side cover of the cabinet, to which the air conditioning drainage pipe can be connected.





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