



Data Center and Networking Solutions

Industrial Networking Applications



We connect and protect


nvent

HOFFMAN



Industry 4.0
Edge Computing
Smart Factory

Industry 4.0 Edge Computing Smart Factory

Today's "Connected Enterprise" networks need to support expanding voice, data and video applications on the factory floor and harsh environments. Industrial networks & IoT deployments also require protection for edge-computing applications, such as industrial automation, intelligent lighting, security and safety systems.

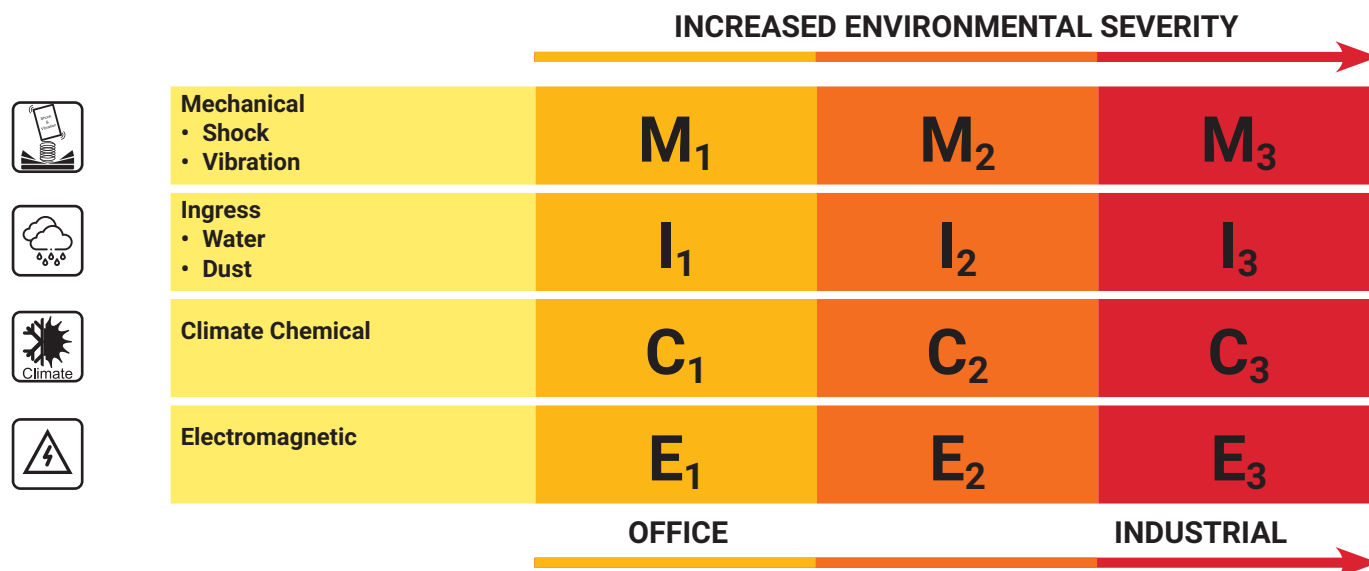
UNDERSTANDING YOUR ENVIRONMENT

In order to properly design an infrastructure to support network communications in manufacturing settings, TIA-1005-A standards must be referenced.

According to the TIA-1005-A standard, there are three basic types of industrial areas:

- Factory Floor
- Work Area
- Automation Island

Environmental classifications and ratings based on M.I.C.E. (Mechanical, Ingress, Climatic/Chemical, Electro Magnetic) attributes provide a method of categorizing the environmental classes required for each of the industrial areas and are rated as 1 = low, 2 = medium, and 3 = high.



UL AND NEMA RATINGS CERTIFY LEVELS OF PROTECTION



nVent HOFFMAN is one of the only network and data cabinet suppliers that designs and tests cabinets to meet the requirements of Underwriters Laboratories. UL, an independent organization, provides strict design parameters and defined telecommunications equipment testing and technology protection solutions to ensure proper performance.

Using UL Listed products ensures consistent performance in protecting sensitive devices and equipment. In addition, most nVent HOFFMAN cabinets are tested and certified to meet International standards including IEC and CSA.

Consult your nVent HOFFMAN sales representative for further information on applying these ratings to your installation or visit our online resources at HOFFMAN.nVent.com

NEMA, UL, CSA ENCLOSURES RATINGS AND APPROXIMATE IEC CROSS REFERENCE

Outdoor Location Enclosure Ratings

Comparison of Specific Non-Hazardous Applications

Provides a degree of protection against these environmental conditions:	Type of Enclosures			
	3	3R ^a	4	4X
Incidental contact w/enclosed equipment	•	•	•	•
Rain, snow and sleet ^b	•	•	•	•
Formation of ice on the enclosure ^c			•	•
Dust and windblown dust	•		•	•
Dripping non-corrosive liquids	•	•	•	•
Splashing and hose-directed water			•	•
Corrosive agents				•
IEC Enclosure Type cross reference ^a	IP64	IP22	IP66	IP66

^a These enclosures may be ventilated

^b External operating mechanisms are not required to be operable when enclosure is ice covered

^c External operating mechanisms are operable when the enclosure is ice covered

*Approximate; complies to IEC Enclosure Type ratings (IEC 60529)

Indoor Location Endosure Ratings

Comparison of Specific Non-Hazardous Applications

Provides a degree of protection against these environmental conditions:	Type of Enclosures			
	1 ^{a2}	4	4X	12
Incidental contact w/enclosed equipment	•	•	•	•
Falling dirt	•	•	•	•
Falling liquids and light splashing		•	•	•
Dust, lint fibers and flyings		•	•	•
Hose-down and splashing water		•	•	
Oil and coolant seepage			•	•
Corrosive agents		•		
IEC Enclosure Type cross reference ^{b2}	IP20	IP66	IP66	IP55

^{a2} These enclosures may be ventilated. However, Type 1 may not provide protection against small particles of falling dirt when ventilation is provided in the enclosure top. Consult nVent HOFFMAN for more information.

^{b2} These fibers and flyings are non-hazardous materials and are not considered Class II type ignitable fibers or combustible flyings. For Class III type ignitable fibers or combustible flyings see the National Electrical Code Section 505

*Approximate; complies to IEC Enclosure Type ratings (IEC 60529)

Enclosures ratings tables are reproduced by permission of the National Electrical Manufacturers Association. For more detailed and complete information, NEMA Standards Publication 250-2003 "Enclosures for Electrical Equipment (100 Volts Maximum)" should be consulted, available from IHS at 800 854-7179 or www.global.ihs.com

ProTek Series

WALL-MOUNT PACKAGES

PROTEK CABINETS

- Precision-engineered, quality-welded construction
- Durable 14- and 16-gauge mild steel construction with painted RAL 7025 gray powder coat finish; stainless steel models also available
- Seamless foam-in-place gasket seals out contaminants
- Symmetrical door hinges offer left or right door mounting
- Self-captivated and retained hinge pins with tool-free removal
- M6 ground studs in door and body
- Tapped adjustable rack angles included
- RU-marked 19-in. EIA universal spacing with tapped 10-32 holes; optional square hole (.375 in.) rack angles available for equipment mounting flexibility
- Wood or steel mounting panels include tie-down points and pre-drilled holes
- Key-lockable quarter-turn wing knob
- Window models feature 0.25-in. safety glass for greater clarity, strength and scratch resistance than plexiglass
- RoHS compliant



Perfect for Edge Computing, Distributed Antenna System (DAS) and Security Applications

PROTEK SINGLE-DOOR WALL-MOUNT CABINET

UL and NEMA Type 4 or 12, IP66 or IP55

Solid Door, Type 4	Window Door, Type 12	Nominal (In.)	RU
PTRS242412G4	PTRW242412G2	24 x 24 x 12	12
PTRS242424G4	PTRW242424G2	24 x 24 x 24	12
PTRS362412G4	PTRW362412G2	36 x 24 x 12	19
PTRS362424G4	PTRW362424G2	36 x 24 x 24	19
PTRS482412G4	PTRW482412G2	48 x 24 x 12	26
PTRS482424G4	PTRW482424G2	48 x 24 x 24	26

PROTEK DOUBLE-HINGED WALL-MOUNT CABINET

UL and NEMA Type 4 or 12, IP66 or IP55

Solid Door, Type 4	Window Door, Type 12	Nominal (In.)	RU
PTHS162415G4	PTHW162415G2	16 x 24 x 15	7
PTHS242415G4	PTHW242415G2	24 x 24 x 15	12
PTHS242424G4	PTHW242424G2	24 x 24 x 15	12
PTHS242436G4	PTHW242426G2	24 x 24 x 26	12
PTHS242836G4	PTHW242836G2	24 x 28 x 36	12
PTHS362415G4	PTHW362415G2	36 x 24 x 15	19
PTHS362424G4	PTHW362424G2	36 x 24 x 24	19
PTHS362436G4	PTHW362436G2	36 x 24 x 36	19
PTHS362836G4	PTHW362836G2	36 x 28 x 36	19
PTHS482415G4	PTHW482415G2	48 x 24 x 15	26
PTHS482424G4	PTHW482424G2	48 x 24 x 24	26
PTHS602415G4	PTHW602415G2	60 x 24 x 15	32
PTHS602424G4	PTHW602424G2	60 x 24 x 24	32
PTHS482436G4	PTHW482836G2	48 x 28 x 36	36

ProTek Series

THERMAL PACKAGES

PROTEK WALL-MOUNT CABINETS WITH INTEGRATED FAN OR A/C

TYPE 1, 3R, 4 AND TYPE 12 – NEMA RATED

ProTek wall-mount cabinets are available with integrated thermal management using either a fan and filter combination or air conditioner to control internal temperatures while protecting sensitive 19-in. rack equipment from water and harmful environmental contaminants. Type 1 fan and filter models offer up to 272 CFM of cooling while protecting against falling dirt, dust and other debris. Type 4 and 12 air-conditioned models offer superior protection from ingress of dirt, circulating dust and dripping water.



PROTEK FAN & FILTER PACKAGES TYPE 1

- 272 CFM cooling on 24-in. deep single-door and double-hinged models
- Serviceable filter with easy access
- Fans and intake filters are positioned away from 19-in. rack-mounting areas

PROTEK SINGLE-DOOR WINDOW FAN PACKAGE, TYPE 1

UL Type 1, IP30	Nominal (In.)	RU
PTRW242424GF	24 x 24 x 24	12
PTRW362424GF	36 x 24 x 24	19
PTRW482424GF	48 x 24 x 24	26

PROTEK DOUBLE-HINGED FAN PACKAGE, TYPE 1

UL Type 1, IP30	Nominal (In.)	RU
PTHW242424GF	24 x 24 x 12	12
PTHW362424GF	36 x 24 x 24	19
PTHW482424GF	48 x 24 x 24	16



PROTEK OUTDOOR CABINETS TYPE 3R

- 113 CFM cooling on 12-in. deep models; 272 CFM cooling on 24-in. deep single-door and double-hinged models
- Solar shield and fan shroud
- UL Type 3R certification ensures reliable protection against water ingress

PROTEK SINGLE SOLID DOOR FAN PACKAGE, TYPE 3R

UL Type 3R, IP30	Nominal (In.)	RU
PTRS242412G3	24 x 24 x 12	12
PTRS242424G3	36 x 24 x 24	12
PTRS362412G3	36 x 24 x 12	19
PTRS362424G3	36 x 24 x 24	19
PTRS482412G3	48 x 24 x 12	26
PTRS482424G3	48 x 24 x 24	26

PROTEK DOUBLE-HINGED FAN PACKAGE, TYPE 3R

UL Type 3R, IP30	Nominal (In.)	RU
PTHS242424G3	24 x 24 x 12	12
PTHS362424G3	36 x 24 x 24	19
PTHS482424G3	48 x 24 x 24	26



PROTEK AIR CONDITIONED PACKAGES TYPE 4 AND 12

- Complete packages for demanding indoor or outdoor applications
- Type 4 & 12 (solid door) or Type 12 (window door – indoor only)
- Integrated T15 air conditioner delivers 235 watts (800 BTUs) of cooling
- 115 VAC with standard 5-15P NEMA plug

PROTEK SINGLE DOOR W/AC INCLUDED UL AND NEMA TYPE 4 OR 12, IP66

Solid Door, Type 4	Window Door, Type 12	Nominal (In.)	RU
PTRS242424G4A	PTRW242424G2A	24 x 4 x 24	12
PTRS362424G4A	PTRW362424G2A	36 x 24 x 24	19
PTRS482424G4A	PTRW482424G2A	48 x 24 x 24	26

PROTEK DOUBLE-HINGED W/AC INCLUDED UL AND NEMA TYPE 4 OR 12, IP66

Solid Door, Type 4	Window Door, Type 12	Nominal (In.)	RU
PTHS242428G4A	PTHW242428G2A	24 x 24 x 29	12
PTHS362424G4A	PTHW362428G2A	36 x 24 x 29	19
PTHS482428G4A	PTHW482428G2A	48 x 24 x 29	26
PTHS242430G4A	-	24 X 24 X 31	12
PTHS362430G4A	-	36 X 24 X 31	19
PTHS482430G4A	-	48 X 24 X 31	26

ProTek Series

STAINLESS STEEL CABINETS

PROTEK STAINLESS STEEL WALL-MOUNT CABINETS

TYPE 4X – NEMA RATED

Ideal for protecting remote 19-in. network equipment in corrosive environments, or in sanitary washdown applications, ProTek stainless steel wall-mount cabinet models deliver NEMA/UL Type 4X performance. ProTek stainless steel cabinets offer sealed protection against ingress of dirt, circulating dust and debris, the effects of weather (rain, sleet, snow and ice formation), ingress of water from dripping, splashing or hose-directed washdown and the enhanced corrosion protection of Type 304 stainless steel construction.

Available in both solid single-door and solid double-hinged door models, with or without air conditioning, ProTek stainless steel cabinets are a superior choice for network equipment, devices and controls in food and beverage processing, pharmaceutical manufacturing and a myriad of applications in demanding indoor and outdoor environments including petrochemical processing and telecommunications.



PROTEK SINGLE SOLID DOOR STAINLESS STEEL

UL Type 4X, IP66	Nominal (In.)	RU
PTRS242412X	24 x 24 x 12	12
PTRS242424X	24 x 24 x 24	12
PTRS362412X	36 x 24 x 12	19
PTRS362424X	36 x 24 x 24	19
PTRS482412X	48 x 24 x 12	26
PTRS482424X	48 x 24 x 24	26

PROTEK STAINLESS STEEL CABINETS TYPE 4X

- Complete packages for corrosive and washdown applications with high ambient temperatures
- Solid single-door and window double-hinged door models with Type 4X certification for use indoors or out
- Precision-welded Type 304 stainless steel with smooth grain finish

PROTEK DOUBLE-HINGED DOOR STAINLESS STEEL

UL Type 4X, IP66	Nominal (In.)	RU
PTHS242415X	24 x 24 x 15	12
PTHS242424X	24 x 24 x 24	12
PTRS482436X	24 x 24 x 36	12
PTHS362415X	36 x 24 x 15	19
PTHS362424X	36 x 24 x 24	19
PTRS482436X	36 x 24 x 36	19
PTHS482415X	48 x 24 x 15	26
PTHS482424X	48 x 24 x 24	26

PROTEK STAINLESS STEEL AIR CONDITIONED PACKAGES TYPE 4X

- Complete packages for corrosive and washdown applications with high ambient temperatures
- Solid single-door and window double-hinged door models with Type 4X certification for use indoors or out
- Integrated T15 air conditioner delivers 235 watts (800 BTUs) of cooling
- 115 VAC with standard 5-15P NEMA plug

PROTEK SINGLE SOLID DOOR STAINLESS STEEL W/AC INCLUDED

UL Type 4X, IP30	Nominal (In.)	RU
PTRS242424XA	24 x 24 x 24	12
PTRS362424XA	36 x 24 x 24	19
PTRS482424XA	48 x 24 x 24	26

PROTEK DOUBLE-HINGED STAINLESS STEEL W/AC INCLUDED

UL Type 4X, IP30	Nominal (In.)	RU
PTHS242428XA	24 x 24 x 28	12
PTHS362428XA	36 x 24 x 28	19
PTHS482428XA	48 x 24 x 28	26
PTHS242430XA	24 X 24 X 31	12
PTHS362430XA	36 X 24 X 31	19
PTHS482430XA	48 X 24 X 31	26

Composite

CABINETS

PERFECT FOR WIRELESS ACCESS POINTS

Lightweight, corrosion-resistant composite cabinets excel at protecting WiFi equipment indoors or out while allowing WiFi and WLAN signals to pass through the cabinet unimpeded. nVent HOFFMAN Type 4X Composite Cabinets seal out water and dust and are available with solid or window covers that are secured with screws or quick-release latches. Choose from fiberglass or polyester cabinet platforms that are easy to modify in the field and ideal for applications in tunnels, floor vaults or marinas as well as on outside walls and rooftops.



Great for in-building wireless (IBW) applications



Hinged-Cover Type 4X Cabinets



UltrX Type 4X Cabinets



PolyPro Type 4X Cabinets

FIBERGLASS HINGED-COVER TYPE 4X WIFI CABINET

- Resists chemicals and temperature changes
- Quick-release latches in corrosion-resistant polyester
- Includes .75-in. plywood panel for mounting equipment
- Cabinets with solid doors are plenum rated
- Removable hinged-cover

FIBERGLASS HINGED-COVER TYPE 4X WIFI CABINETS: STANDARD SIZES

Solid Door	Window Door	Nominal (In.)
D664CHSCFGP	D664CHSCFGWP	6 x 6 x 4
D16148CHSCFGP	D16148CHSCFGWP	16 x 14 x 8
D181610CHSCFGP	D181610CHSCFGWP	18 x 16 x 10

ULTRX FIBERGLASS TYPE 4X WIFI CABINET

- Can be rotated 180° for left and right hinging
- Standard molded-in drip shields
- Optional data pocket in high-impact thermoplastic
- Replaceable breakaway hinges

DATAKOM ULTRX FIBERGLASS TYPE 4X WIFI CABINETS: STANDARD SIZES

Solid Door	Window Door	Nominal (In.)
DU606030P	DU606030WP	25 x 24 x 13

POLYPRO WIFI, TYPE 4X CABINET

- High-performance solution for demanding WiFi applications including harsh chemicals, flames, outdoor extremes and corrosive environments
- Offers superior UV resistance; eliminates fiberbloom associated with fiberglass and less weight
- Provides excellent chemical resistance to a broad range of solvents, alkalis and acids
- Resists cracking and provides excellent impact resistance
- Removable snap-hinge cover for easy access

DATAKOM POLYPRO POLYESTER TYPE 4X WIFI CABINETS: STANDARD SIZES

Solid Door	Window Door	Nominal (In.)
D664WF	D664WFW	6 x 6 x 4
D16148WF	D16148WFW	16 x 14 x 8



ProLine

AIR CONDITIONED CABINETS

APPLICATION

Robustly built and sealed for use in wet, dusty or hot environments, ProLine Type 12 Cabinets have optional cutouts to air condition voice/data equipment and servers.

FEATURES

- Three-point locking handles on all doors provide easy but controlled access; two keys included
- Fully welded frame safely supports sensitive equipment
- Fully gasketed to keep contaminants away from equipment, reducing maintenance costs
- Two sets of 19-in. rack angles support both front and rear of equipment
- Rack angles are infinitely adjustable from front to rear for positioning flexibility
- Mobile base provides easy placement of cabinet
- Levelers and anti-tip bracket secure cabinet to the floor

SPECIFICATION

- Welded 12 gauge steel frame with integral struts
- Front window door made of 16 or 14 gauge steel with safety glass window
- Solid 16 or 14 gauge steel back door
- Standard package has solid 16 or 14 gauge steel sides
- AC package has cutout for easy in-the-field installation of air conditioner (AC not included, order separately)
- Models available with EIA Universal standard 3/8-in. square or 10-32 tapped holes
- Mobile base includes casters, levelers and gland plate
- Gland plate allows easy routing of cable



Catalog Number	Description	Size (Nominal mm)
PDCP2078G12	ProLine Networking Packages Type 12	2000x700x800
PSC20610G12		2000x600x1000
PDCP2078GAC	ProLine Networking Packages Type 12 with AC Cut out (AC not included, order separately)	2000x700x800
PDCP2078GAC2		2000x700x800
PSC20610GAC		2000x600x1000
PSC20610GAC2	ProLine Networking Packages UL Type 1, with HP Fan and Filters	2000x600x1000
PDCP2078GFP		2000x700x800
PSC20610GFP		2000x600x1000

Free-Standing/Seismic

DUAL ACCESS CABINET, TYPE 12 OR 4X (A30)

APPLICATION

Ideal where front or front and rear access is required. These Type 12 or 4X enclosures have sturdy unibody construction with 19-in. rack angles to support equipment. These enclosures are ideal for housing and protecting networking and communications from dust, liquid, and seismic events. Front rack angles on 36-in. wide models include integral, vertical cable management that supports networking (copper and fiber) and power cables.

SPECIFICATIONS

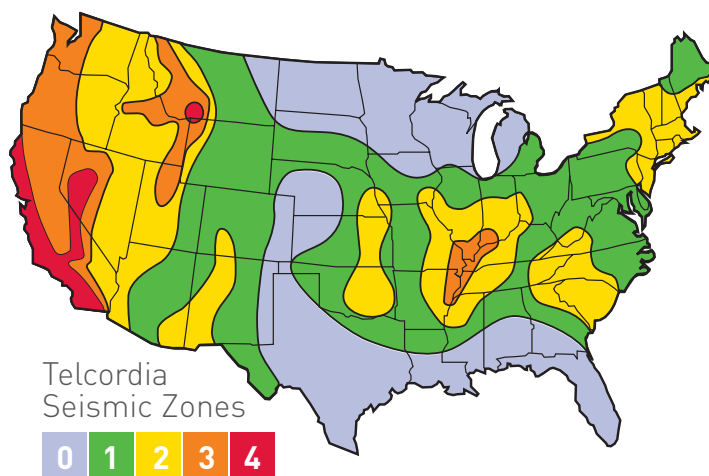
- 12 gauge steel construction
- Seams continuously welded and ground smooth; no holes or knockouts
- Lifting eyes for easy handling
- Welded front-to-rear mounting struts, 3 on each side
- Vault style 3-point latches with oil tight key locking handle
- Concealed and removable hinges
- Seismic bottom mounting plates (qty. 4) made of painted plate steel for 5/8-in. diameter anchors
- Data pockets are high-impact thermoplastic
- Internal mounting channels welded horizontally to sides at top, bottom and center
- 2 sets of EIA 310 specified square-hole (.375 x .375) rack angles that are infinitely adjustable front to rear
- Rear set of integral 19-in. rack angles and reducing bracket, fully adjustable front to rear
- On 36-in. wide models, front rack angles are provided which include integral, vertical, RU-aligned fingers for supporting networking (copper and fiber) power cables
- Oil-resistant door gasket
- Bonding provision on door
- Provision for mounting enclosure light kits



nVENT HOFFMAN ENC SERIES SEISMIC SOLUTIONS

NEBS-Telcordia GR-63-CORE Zone 4-rated Seismic Cabinets from nVent HOFFMAN provide an extra measure of protection for vital LAN and WAN network equipment, servers and phone/voice mail equipment during seismic activity.

The nVent HOFFMAN ENC Series of Seismic Cabinets is a true NEBS-Telcordia GR-63-CORE Zone 4-rated cabinet. Some manufacturers apply seismic bracing and achieve an IBC (International Building Codes) rating. This rating is less stringent and better served for non-essential facilities. For end-users that require their electronics to continue to function through an earthquake, nVent HOFFMAN recommends a GR-63 compliant enclosure.



NEBS is a trademark of Telcordia

Catalog Number	Description	Size (Nominal Inches)
D722436SDA	Free Standing Networking Package, Painted Steel Type 12	72 x 24 x 36
D723646SDA		72 x 36 x 46
D723436SDAAC	Free Standing Networking Package, Painted Steel Type 12 with AC Cut out	72 x 24 x 36
D723646SDAAC		72 x 36 x 46
D722436SDAS	Free Standing Networking Package, Stainless Steel Type 4X	72 x 24 x 36
D723646SDAS		72 x 36 x 46
D723436SDASAC	Free Standing Networking Package, Stainless Steel Type 4X with AC Cut out	72 x 24 x 36
D723646SDASAC		72 x 36 x 46

Aluminum

OUTDOOR CABINETS

OUTSIDE PLANT (OSP) APPLICATIONS

For outside plant (OSP) needs, turn to nVent HOFFMAN. We offer a full range of OSP products and accessories. OSP products include FTTX, DSL, wireless, outdoor aluminum and pole-mount cabinets. See the nVent HOFFMAN Networking Catalog for additional details.

COMLINE ALUMINUM WALL-MOUNT CABINETS: STANDARD SIZES

Catalog Number	Nominal (In.)	Rack Units
ECL606050P	24 x 24 x 20	12
ECL906050P	36 x 24 x 20	18
ECL907060P	36 x 28 x 24	18
ECL1207060P	48 x 28 x 24	25

STANDARD SIZES WITH BATTERY COMPARTMENT

Catalog Number	Nominal (In.)	Rack Units
ECL606050PB	38 x 24 x 20	12
ECL906050PB	50 x 24 x 20	18
ECL907060PB	50 x 28 x 24	18
ECL1207060PB	62 x 28 x 24	25

COMLINE ALUMINUM POLE-MOUNT CABINET

Catalog Number	Nominal (In.)	Rack Units
ECL603537VP	24 x 24 x 15	5



Type 3, 3R, 4, 4X, 12 rated
(rack-mount devices shown not included)



COMLINE ALUMINUM WALL- AND POLE-MOUNT CABINETS

Lightweight, corrosion-resistant aluminum provides long-lasting protection in extreme environments indoors or out, including petrochemical plants, sewage facilities and marine settings.

- Accessory solar shield helps resist heat build-up
- Foam-in-place gasket seals out contaminants
- Single- and three-point latching for increased security
- Rack angles included (one set)
- Doorstop/wind latch holds door in place during service for easier installation and improved safety

RackPower

INTELLIGENT POWER DISTRIBUTION UNITS (iPDUs)

SMART RACKPOWER

- PDU's with digital 2.8-in. local touchscreen display and IP network connectivity
- All data you need with a metering accuracy within +/-1%:
- Current (AMP), voltage (Volt), power (kW), energy consumption (kWh) and power factor of the entire PDU
- Hot-pluggable meter and field replaceable PSU
- Single and three phase supporting regional voltages

SMART ENVIRONMENTAL MONITORING AND SECURITY

- Full range of Automatic Transfer Switches (ATS)
- RackPower Manager Software delivers a centralized remote management platform for the PDUs in multiple IP-access groups
- **IP Gateway (SNMP)** Hot pluggable IP Gateway provides IP remote access to the PDUs using a single IP address chain. Only one IP Gateway is required to access a maximum of 16 PDUs in a daisy chain reducing data ports and network IP addresses.
- **Hot swappable meter** Field replaceable RMS current meter with 2.8-in. color LCD display with touch screen functionality.
- **Selectable Chassis Color** A simple way to enhance cable management and visualization of the power sources. Allows differentiation of primary and redundant power feeds (A & B) if required.
- **Protection** Thermal resettable fuse or circuit breakers.
- **Bottom Power Feed Entry** In single and three phase with country specific voltages. Customisation to top feed entry is available on request.
- **Dual Power Feed PDU** Single phase range with one chassis, two power feed and color coded outlets.
- **Multiple outlet configurations** per each individual PDU. C13, C19, Nema, Schuko, UTE and BS sockets available.
- **Latching relays** Socket switching is controlled via bistable/latching relays. It keeps outlets up and running with no power.

Features	RP3000	RP2000	RP1500	RP1000	RP100
Outlet measurement	Yes		Yes		
Outlet switch ON/OFF	Yes	Yes			
Latching relay	Yes	Yes			
SNMP hardware	Yes	Yes	Yes	Yes	
Strip level measurement	Yes	Yes	Yes	Yes	Yes

Field replaceable PSU module

IP Gateway (SNMP)

Environmental sensor ports

Hot swappable meter



Selectable chassis color options



Multiple outlet configurations

Latching relays



Enclosure

AIR CONDITIONERS

APPLICATION

These air conditioners fit in the AC cutout provided in the AC-ready Voice/Data and Server Cabinet Packages. The air conditioners are shipped separately and cannot be factory installed in the cabinets.

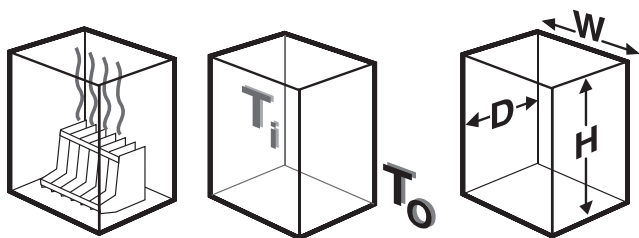
CLOSED LOOP COOLING

Recirculated air inside the air conditioner is kept separate from the ambient airflow system. This protects the electronic controls and prevents shutdowns caused by heat, humidity, dust and other contaminants.

FEATURES

- Thermostat control and EMI/RFI noise suppressor included
- Closed-loop cooling separates clean, recirculated air from ambient airflow system
- Front cover hinges open for quick access to all components
- Filter can be inverted to double operating time between cleanings and/or filter replacement
- Filterless operation possible in many applications
- For a typical application, unique condensate management system evaporates moisture from enclosure
- High performance fans and blowers are ideal for densely packed enclosures
- All units use a universally accepted CFC-free or environmentally safe refrigerant
- Mounting hardware, gasket kit, mounting template and instruction manual furnished

AIR CONDITIONER SIZING



Access the nVent HOFFMAN
Cooling Selection Tool
coolingtool.nvent.com



Air conditioners are appropriate for applications in which:

- The temperature inside the enclosure must be maintained at or below ambient temperature.
- Humidity must be removed from the enclosure.
- Ambient air contaminants must be kept out of the enclosure.

The following air conditioner sizing procedure applies to uninsulated, sealed and gasketed enclosures in indoor locations.

Step 1. Determine the internal heat load in watts (W)

Add the maximum heat output specifications for all equipment to be installed in cabinet.

Conversion: 1 W = 3.413 BTU/hr.

Step 2. Determine the desired temperature difference (ΔT) between the ambient temperature and the temperature inside the cabinet

Subtract the desired maximum temperature inside the cabinet (T_i) from the maximum expected temperature (T_o) outside the cabinet.

$$T_o - T_i = \Delta T$$

Conversion: 1 K or C ΔT = 1.8 F ΔT

Step 3. Determine the exposed surface area of the cabinet in square feet.

Use the following formula to determine area when H, W and D are the cabinet dimensions in inches.

$$2[(H \times W) + (H \times D) + (W \times D)] \div 144 = \text{Area (ft.}^2\text{)}$$

Conversion: If dimensions are in millimeters, substitute 1,000,000 for 144. Then multiply the result by 10.76 to convert from m² to ft.²

Step 4. Determine the air conditioner capacity required by using the following formula:

$$(\text{Watts} \times 3.413) + [(1.25 \times \text{Area in ft.}^2) \times \Delta T \text{ in F}] = \text{BTU/hr.}$$




Required air conditioner capacity in BTU/hr.

Use this formula to determine the required cooling capacity needed to maintain the desired operating temperature for your enclosure. This selection procedure applies to uninsulated, sealed, gasketed enclosures in indoor locations.


All industrial air conditioners are rated at their maximum operating point. Operating an air conditioner at temperatures below maximum conditions will result in reduced cooling capacity. In other words, operating 95 F ambient and 95 F enclosure temperature results in a 10 percent to 20 percent reduction in the rated capacity.

Full cooling capacity is probably not necessary at lower ambient temperatures.


ProTek

T-Series Compact Outdoor (T15)			SpectraCool Compact Indoor (N21)			SpectraCool Narrow Indoor/Outdoor (N28)		
	Outdoor Model without Heat Pkg.	T150116G100		Indoor Model	N210216G050		Indoor Model	N280416G050
	Outdoor Model/SST/Corrosion/4X	T150116G152		Indoor Model Stainless Steel Type 4X	N210216G051		Outdoor Model with Heat Pkg. Stainless Steel Type 4X	N280416G151
	Cooling Performance			Cooling Performance			Cooling Performance	
	Nominal: BTU/Hr. Watts	800/800 235/235		Nominal: BTU/Hr. Watts	1800/2000 528/586		Nominal: BTU/Hr. Watts	3800/4000 1114/1172
	At 131 F/131 F (55 C/55 C): BTU/Hr. (50/60 Hz) W (50/60 Hz)	819 240		At 131 F/131 F (55 C/55 C): BTU/Hr. (50/60 Hz) W (50/60 Hz)	2000/2175 586/637		At 125 F / 125 F (50 C / 50 C): BTU/Hr. (50/60 Hz) W (50/60 Hz)	3940/4104 1150/1000
	At 95 F/95 F (35 C/35 C): BTU/Hr. (50 /60 Hz) W (50/60 Hz)	948 278		At 95 F/95 F (35 C/35 C): BTU/Hr. (50 /60 Hz) W (50/60 Hz)	1950/2200 571/645		At 95 F/95 F (35 C/35 C): BTU/Hr. (50 /60 Hz) W (50/60 Hz)	3754/4011 1100/1175

ProLine

SpectraCool Indoor/Outdoor (G28)							
	Indoor Model	G280416G050	G280426G050	G280446G050	G280616G050	G280626G050	G280646G050
	Indoor Model Stainless Steel Type 4X	G280416G051	G280426G051	G280446G051	G280616G051	G280626G051	G280646G051
	Indoor Model with Remote Access Control*	G280416G060	G280426G060	G280446G060	G280616G060	G280626G060	G280646G060
	Outdoor Model without Heat Pkg.	G280416G100	G280426G100	G280446G100	G280616G100	G280626G100	G280646G100
	Outdoor Model Partial Recessed Mount**	G280416G101	G280426G101	G280446G101	G280616G101	G280626G101	G280646G101
	Outdoor Model with Heat Pkg.	G280416G150	G280426G150	—	G280616G150	G280626G150	—
	Outdoor Model with Heat Pkg. Stainless Steel Type 4X	G280416G151	G280426G151	—	G280616G151	G280626G151	—
	Cooling Performance						
	Nominal: BTU/Hr. Watts	4000 1172	4600/4900 1347/1435	4600/4900 1347/1435	6000/6400 1757/1874	6000/6400 1757/1874	5400/6000 1581/1757
	At 131 F/131 F (55 C/55 C): BTU/Hr. (50/60 Hz) W (50/60 Hz)	3700 1084	4600/4900 1347/1435	4600/4900 1347/1435	6000/6400 1757/1874	6000/6400 1757/1874	5400/6000 1581/1757
	At 95 F/95 F (35 C/35 C): BTU/Hr. (50/60 Hz) W (50/60 Hz)	3300/3410 967/1000	4300/4600 1260/1364	4324/4655 1267/1364	5600/6000 1641/1758	5600/6000 1641/1758	5054/5685 1481/1666

ProLine & Free-Standing

SpectraCool Indoor/Outdoor (G52)							
	Indoor Model	G520816G050	G520826G050	G520846G050	G521216G050	G521226G050	G521246G050
	Indoor Model Stainless Steel Type 4X	G520816G051	G520826G051	G520846G051	G521216G051	G521226G051	G521246G051
	Indoor Model with Remote Access Control*	G520816G060	G520826G060	G520846G060	G521216G060	G521226G060	G521246G060
	Outdoor Model without Heat Pkg.	G520816G100	G520826G100	G520846G100	G521216G100	G521226G100	G521246G100
	Outdoor Model Partial Recessed Mount**	G520816G101	G520826G101	G520846G101	G521216G101	G521226G101	G521246G101
	Outdoor Model with Heat Pkg.	G520816G150	G520826G150	G520846G150	G521216G150	G521226G150	G521246G150
	Outdoor Model with Heat Pkg. Stainless Steel Type 4X	G520816G151	G520826G151	G520846G151	G521216G151	G521226G151	G521246G151
	Cooling Performance						
	Nominal: BTU/Hr. Watts	8000 2300	8000 2300	8000 2300	12000 3500	12000 3500	12000 3500
	At 131 F/131 F (55 C/55 C): BTU/Hr. Watts	7300/8200 2139/2403	7300/8200 2139/2403	8800/9800 2578/2871	12000/12500 3516/3662	12000/12500 3516/3662	11100/12000 3252/3516
	At 95 F/95 F (35 C/35 C): BTU/Hr. Watts	6000/6800 1758/1992	6000/6800 1758/1992	7400/8200 2168/2402	9900/10700 2900/3135	9900/10700 2900/3135	9900/10700 2900/3135

Note: AC units shown above for ProLine & Free-Stand cabinets are only for those models shown on page 8 and 9 of this brochure.

Comparison Guide

MATERIALS, APPLICATIONS AND MODIFICATIONS

NON-METALLIC WALL-MOUNT ENCLOSURES

Material	UV performance	Chemical resistance	Impact strength	Rigidity	Temperature range	Weight (12x12x6 inches)	Flammability	Water absorption resistance	Recyclable	Ease of adding cutouts
Fiberglass	Excellent	Excellent	Good	Very rigid	-31 to 266°F (-35 to 130°C)	11 lbs.	Self-extinguishing	Good	No	Dusty can be drilled
Polycarbonate	Good	Excellent	Excellent	Flexible / tough	-31 to 180°F (-35 to 82°C)	4.1 lbs.	Self-extinguishing	Fair	Yes	Low dust can be drilled/punched

MATERIAL CHARACTERISTICS

Material	Cost	Weight	EMC	Heat Dissipation	Heat Absorption	Impact Resistance	Conductivity/ Grounding	Available Sizes	Modifications
Metallic	Mild Steel	2	5	Needs a conductive gasket	3	3	3	No constraints on sizes; easily modified to meet specifications	No constraints in fabrication process; some constraints on modifications in the field
	304 Stainless Steel	4	5		3	3	2		
	Aluminum Sheet	3	3		5	1	1		
Non-Metallic	Polycarbonate	2	1	Requires special coating and gasket	1	5	4	Must select available sizes; tooling limits meeting specific size needs	Limited to holes with some color options
	Fiberglass*	3	3		1	5	3		

* Spray-up Ratings: 1 = Low 5 = High

ENCLOSURE BY APPLICATION

	Factory Automation/ Networking	On premise Networking	DAS / WIFI	Edge Computing
PolyPro & UltrX			x	
ProTek	x	x		
ComLine	x		x	x
ProLine	x	x		x
Free-Standing Dual-Access (A30)				x

ENCLOSURE BY ENVIRONMENTAL CONDITIONS

	Factory Automation	Harsh Environment	Corrosive Environment	Outdoor
WiFi Fiberglass	x	x	x	x
WiFi PolyPro (Polyester)	x	x	x	x
ProTek Window Door	x			
ProTek Solid Door	x	x		
ProTek 3R	x	x		x
ProTek Stainless	x	x	x	x
ComLine				x
ProLine	x			
Free-Standing Dual Access (A30)	x	x		x



INDUSTRIAL HMI SOLUTIONS

- Large selection of human machine interface (HMI) enclosure solutions and accessories
- Attractive, functional, easy-to-use designs with ergonomic mounting options
- Designed to accept most major manufacturers' operator interface devices and critical control components
- Unique solutions for harsh environments such as Food & Beverage and other wash-down areas
- Broadest global offering of pendant arm systems for flexible mounting

MONITOR AND KEYBOARD ARM



Vertical motion pendant arm for mounting a flat screen monitor, keyboard and mouse in industrial environments. Opens up plant floor space by locating the display where it is convenient for the operator. Display and keyboard can be raised and lowered with one hand. Keyboard folds up when not in use.

Catalog Number	AxBxC in/mm	Description
VAMONITOR	21.22 x 25.00 x 25.63 539 x 635 x 651	SYSPEND Monitor and Key Board Arm

SYSPEND MONITOR AND KEY BOARD ARM



Heavy-duty, stainless steel vertical motion pendant arm provides corrosion resistance and suspends process and control equipment for easy cleaning. Operators in NEMA Type 4X environments can effortlessly lift, lower and reposition HMI enclosures using the pendant arm's field-adjustable counterbalance.

Catalog Number	AxBxC in/mm	Description
VHDS26	10.18 x 30.65 x 4.86 259 x 779 x 123	VHDS-MotionArm, 26-in. Machine Top Mount
VHDS36	10.18 x 40.65 x 4.86 259 x 1033 x 123	VHDS-MotionArm, 36-in. Machine Top Mount

PEDESTALS



Pedestals enable many types of enclosures and boxes to be floor mounted. Four columns and two bases are available. Columns can be mounted on either base, through the vertical column or directly to the enclosure.

Catalog Number	AxBxC in/mm	Description
A44CCOL	889 x 102 x 102 35.00 x 4.00 x 4.00	Staight Pedestal Column
A44PBCOL	1041 x 102 x 102 41.00 x 4.00 x 4.00	Staight Pedestal Column
A66CCOL	889 x 152 x 152 35.00 x 6.00 x 6.00	Staight Pedestal Column
A44PBCCOL	1041 x 152 x 152 41.00 x 6.00 x 6.00	Angled Pedestal Column
A18SBASE	457 x 457 18.00 x 18.00	Pedestal Base
A24SBASE	610 x 610 24.00 x 24.00	Pedestal Base



HMI customized for specific industrial needs. Call us for customized solutions.

- Fully vertically adjustable
- Flat panel display
- Articulated keyboard and mouse surfaces
- Stable pedestal base
- Cabinet with filter / fan cooling

North America

Minneapolis, MN
Mexico City, Mexico
Toronto, Canada

Tel: +1.763.421.2240
Tel: +52.55.5280.1449
Tel: +1.416.289.2770

South America

Sao Paulo, Brazil
Boituva, Brazil

Tel: +55.11.5184.2100
Tel: +55.15.3363.9148

Europe

Betschdorf, France
Straubenhardt, Germany
Dzierzoniow, Poland
Assago, Italy

Tel: +33.3.88.90.64.90
Tel: +49.7082.794.0
Tel: +48.74.64.63.900
Tel: +39.02.5776151.224

Middle East & India

Dubai, United Arab Emirates
Bangalore, India

Tel: +971.4.378.1700
Tel: +91.80.6715.2001

Asia

Shanghai, P.R. China
Singapore
Shin-Yokohama, Japan
Seoul, Korea
Qingdao

Tel: +86.21.2412.6943
Tel: +65.6768.5800
Tel: +81.45.476.0271
Tel: +82.2.2129.7755
Tel: +86.532.8771.6101

Our powerful portfolio of brands:

CADDY **ERICO** **HOFFMAN** **RAYCHEM** **SCHROFF** **TRACER**

