

Airports



Introduction

CAVOTEC IS A GLOBAL ENGINEERING GROUP. WE ENABLE INDUSTRY PARTNERS WORLDWIDE TO OPERATE MORE PRODUCTIVELY AND MORE SUSTAINABLY.

WE MANUFACTURE AND DELIVER INNOVATIVE SYSTEM INTEGRATION OF POWER, FUEL AND AIR SUPPLY BETWEEN FIXED AND MOBILE EQUIPMENT IN THE AIRPORTS, PORTS AND MARITIME, MINING AND TUNNELLING AND GENERAL INDUSTRY SECTORS.



CAVOTEC IN AVIATION

Cavotec Airport Market Unit is a complete ground support system designer, system integrator and product manufacturer and supplier for both the commercial and military aviation sectors.

Comprising of four dedicated Centres of Excellence Cavotec - Fladung, Dabico, Meyerinck and INET we work closely with Airport operators, Airlines, Aircraft Manufacturers, Defence Organisations and Consulting Engineers Cavotec have designed and developed a diverse and specialist range of advanced ground support equipment (GSE) and system designs.

Our customers were asking for a 'one stop shop' with one point of contact, one responsible supplier and one single functional responsibility, and this is what Cavotec can provide today. We have been able to achieve this in recent years through organic growth and acquisition.

Cavotec has progressed from a product supplier to system designer and integrator for the following services:

- 400hz
- Pre Conditioned Air (PCA)
- Wet Services (Potable Water, Blue Water, lavatory Drainage)
- Fuel

Along with the many GSE products that we offer, Cavotec Aviation Market Unit includes:

Cavotec Aviation Design Services

Cavotec has assembled and developed a team of engineers who are able to design full gate in-ground systems for 400hz, Fuel, Wet Service and PCA. We have a track record and reference list as working as a gate designer for all of our in-ground GSE services. Cavotec is able to take on a turnkey gate design or, portions of the design to work as a consultant to the consultant, depending on the project requirements.

Cavotec System Integration

System Integration has been the back-bone of both Cavotec INET and Meyerinck businesses for the last forty years, this expertise and knowledge has been transferred to all of the Cavotec Aviation Market Unit and can be offered throughout our GSE Systems. Using a combination of Cavotec own manufactured equipment and strategic partner products and systems we are able to offer full gate GSE System Integration.

Cavotec System Installation

Depending upon geographic location, Cavotec is able to support our customers as a main contractor, sub contractor or a product supplier.



Cavotec Dabico



Cavotec Dabico has led the market for in-ground fuel systems for aircraft for over four decades from when the first airport hydrant fuelling systems were designed and installed. Customising products to meet the demands of customers is one of our specialities.

Cavotec Fladung



Cavotec Fladung has been a pioneer of airport ground support equipment specialising in in-ground utility systems – including our pre-compressed air (PCAir) system – mobile caddies, aircraft cables, connectors and tow-bars and cable coilers.

Cavotec INET



Cavotec INET US Inc. is an industry leader in its field and has a proud history of being at the forefront of new technological applications to increase efficiency, environment and safety at airports. Established in 1967, and headquartered in Fullerton, California, we design, manufacture and install stationary and mobile aircraft servicing equipment. Via Cavotec's domestic and international sales and field support offices, we supply solid state frequency converters (400Hz, 28VDC, 270VDC) & motor generators, pre-conditioned air and power generation systems.

Cavotec Meyerinck



Cavotec Meyerinck, based in Germany, supplies a wide range of fuelling systems, fluid and surge control, and loading terminal products for the aviation sector. In addition, we manufacture similar solutions for the petrochemical and food & beverage industries.

Power Conversion – 400Hz, 28VDC & 270VDC

CAVOTEC INET, A SPECIALIST IN POWER CONVERSION EQUIPMENT FOR AIRCRAFT, OFFERS A COMPREHENSIVE RANGE OF 400Hz SYSTEMS FOR AIRPORTS WORLDWIDE.

OUR EQUIPMENT INCLUDES 400Hz, 28VDC, 270VDC POWER CONVERSION UNITS, DISTRIBUTION NETWORKS WITH DISTRIBUTION CABLES, CABLE COILERS AND UNDERGROUND FLOOR SOLUTIONS, AND RELATED ACCESSORIES AND TECHNICAL SERVICES.



SOLID STATE FREQUENCY CONVERTERS (SSFC)

Cavotec INET manufactures fixed and mobile point-of-use 400Hz solid state frequency converter units from 30kVA up to 312kVA. Our self-contained outdoor rated model is specifically designed to mount with smaller foot-print units for configuration in a hangar bay or lab setting or under PBB (50 or 60Hz input).

Cavotec INET's 400Hz SSFC series, pulse-width modulated static frequency converter provides precise 400Hz power to aircraft during ground operations utilising state of the art IGBT technology. These units meet all aircraft power specifications as well as 400Hz avionics and radar equipment. The unique 12-pulse power topology results in lighter weight, lower noise, higher efficiency, and insignificant input harmonic current compared to any other units on the market. Our SSFC can also be provided with 24 pulse, and with a triple output, 400Hz, 28VDC and 270VDC.



MOBILE SOLID STATE FREQUENCY CONVERTERS

Cavotec INET's mobile solid state frequency converters are state of the art 400Hz units with an output power range from 60kVA to 180kVA, and 12 and 24 pulse design for low input THD.

Our units also include 28VDC and 270VDC output, commonly used for smaller aircraft. Light-weight and trailer mounted, our units are the perfect tools for supplying power to remote aprons.

28VDC AND 270VDC (SSFC)

Cavotec INET's solid state ground power units provide precise regulated 28VDC and 270VDC power. This self-contained unit is outdoor-rated and specifically designed for mounting on the side of a passenger loading bridge. The self-contained converter features a modern, solid state IGBT design with exact voltage regulation and control.

This design meets all power requirements for the latest aircraft equipment.

Standards: 480VAC, 60Hz, 3-phase input power or 380VAC, 50Hz (or other) input.



400Hz MOTOR GENERATORS (MGs)

Cavotec INET designs fully integrated 400Hz centralised systems. Our strong R&D capabilities gave powerful added applications to the original MG set designs as we developed the first vertical synchronous MGs for greater power, smaller size, higher efficiency, longer life and reliability and the first automatically parallelable 400Hz vertical synchronous MG. Our 400Hz MGs can be supplied with 50Hz or 60Hz power input, 60kVA to 450kVA 400Hz and output voltages are available at 200V, 575V, 960V and 2400V. The long life synchronous vertical motor generator sets are configured for precision aircraft ground power systems and includes a transformer at each gate (gate box) that steps down the voltage to the required 115/200V power.

Our 400Hz MGs meet all power requirements of the latest aircraft, as well as 400Hz avionics and radar equipments. To date, we have delivered more than 3,000 MGs, representing a total capacity of more than 600 megawatts.



400Hz DIESEL AIRCRAFT GROUND POWER UNITS (GPUs)

Cavotec INET manufactures 400Hz mobile diesel ground power units, from 60kVA up to 180kVA.

Mobile GPUs mounted with a diesel generator, our units are engineered to be towable or truck-mounted to minimise noise and air-borne emissions.

Standard 400Hz, 3-phase, 200/115Vac also with 28VDC and 270VDC are available as options.



Pre-Conditioned Air (PCA)

CAVOTEC IS THE ONLY SUPPLIER TO OFFER PCA (PRE-CONDITIONED AIR) SYSTEMS CAPABLE OF COOLING ALL TYPES OF AIRCRAFT, INCLUDING CODE-F A380 SUPER-JUMBOS.

OUR RANGE OF PRODUCTS CAN EITHER BE DESIGNED WITH A POINT-OF-USE (DIRECT EXPANSION DX), OR A CENTRALISED SYSTEM WITH A HYBRID PCA UNIT (DX BOOST), OR CHILLED WATER / ETHYLENE GLYCOL WATER PCA OR COMPRESSED AIR PCA.

OUR PCA UNITS CAN EITHER BE FIXED OR MOBILE, GROUND-OR PBB-MOUNTED, AND RATED FOR EITHER 50 OR 60HZ INPUT POWER.



CHILLED WATER / GLYCOL WATER PCA

Designed as a centralised PCA system, our CW/EGW PCA unit is integrated into the central chiller plant room up to aircraft PCA connection points for outstanding performance and ease of use.

Our PCA units are designed to withstand severe air pressure and flow requirements for ground-based cooling, heating and ventilation of commercial passenger aircraft. These lightweight units contain air filters, blowers, heat exchanger coils, output plenums, digital controls and accessories to provide fully automated cabin conditioning in conjunction with a central chilled water plant.

These units have ratings to service aircraft up to and including B747-400, A340, and A380. Cavotec INET's patented SuperCool technology optimizes overall energy input and reduces size and weight. These units are designed for floor mounting on housekeeping pads, and may be mounted to passenger boarding bridges or stand-mounted for apron or hangar applications.

HYBRID PCA SYSTEM (DX BOOST)

Designed as a centralised PCA system, our DX Boost PCA unit is integrated into the central chiller plant room up to aircraft PCA connection points to ensure optimal performance and functionality at all times. Units are available in ratings to service aircraft up to B747-400, A340, and A380. Our PCA units feature Direct-digital automatic controllers with integral motor starter and protection, and remote cabin sensors. These units guarantee cooling performance with a direct drive, high-efficiency centrifugal blower and remote monitoring and control.

Cavotec INET's patented SuperCool technology optimises overall energy input and keeps its spatial footprint and weight to a minimum. Reliable, low maintenance systems have been a core element of our engineering since we were established in 1967.



POINT-OF-USE (POU) DIRECT EXPANSION (DX) PCA

Cavotec INET's series PDX air conditioner is a complete, self-contained unit that supplies air at varying pressures, volume, and temperatures for effective cooling and heating.

This lightweight unit contains up to four stages of compressors with attendant condenser, evaporator, and control sections as required by differing ambient conditions. These units are available in 50Hz and 60Hz versions and cool aircraft types up to and including Code-F. A microprocessor controller provides airflow and temperature modulation for a range of aircraft types and conditions.

The unit is specifically designed for mounting under a passenger boarding bridge and on apron stands. Our engineers adapt these systems to prevailing local conditions and the specific characteristics of individual applications.



MOBILE PCA UNITS

Working closely with customers, Cavotec engineers develop electrically or diesel-powered mobile PCA units. Our mobile PCA units can be provided either as mobile DX PCA, DX Boost PCA, or pre-conditioned air PCA.

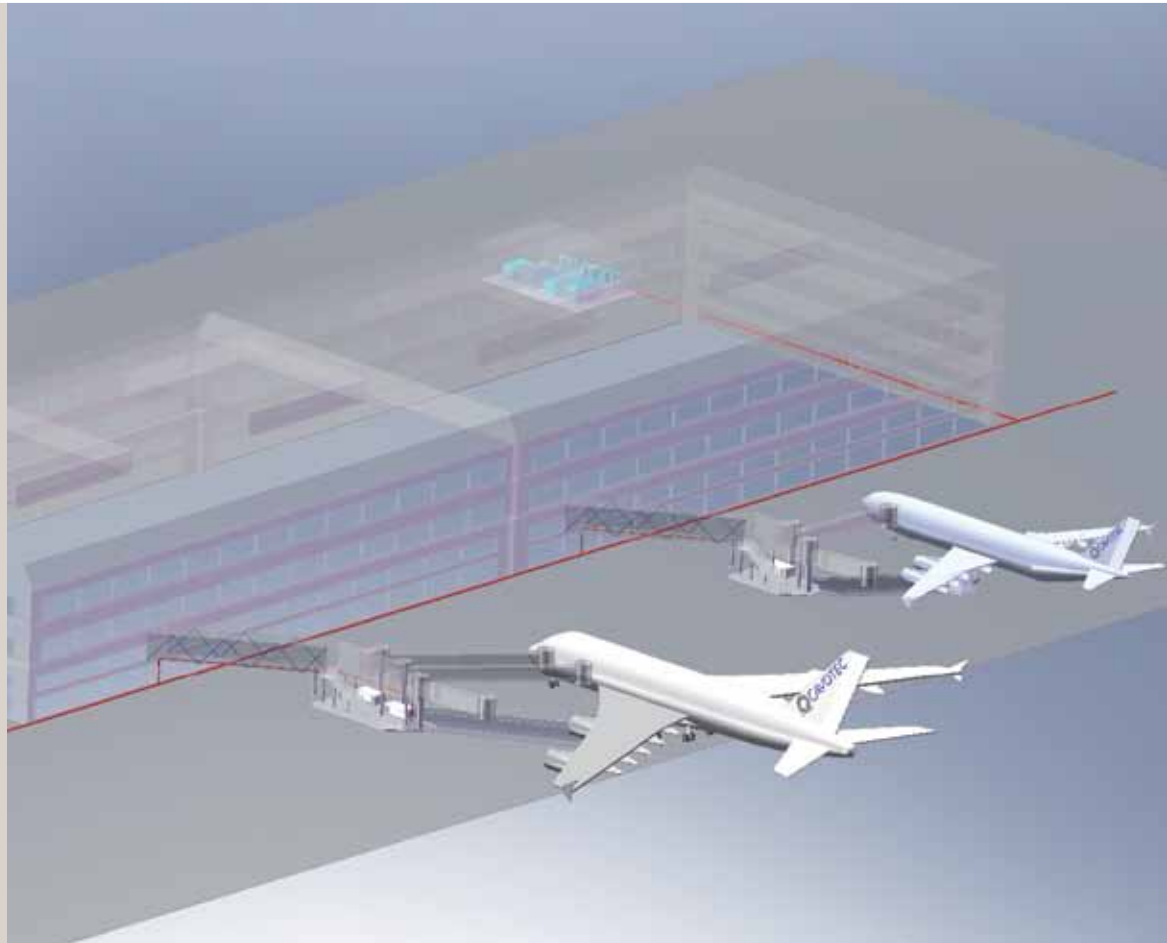
Mounted on a simple chassis for towing, or truck-mounted, we engineer systems according to client and aircraft specifications. These units are available in ratings that service aircraft including the B747-400, A340, and A380.



Pre-Compressed Air (PCAir System)

TO COOL AIRCRAFT
STANDING AT THE GATE HAS
ALWAYS BEEN ONE OF THE
MOST CHALLENGING ASPECTS
DURING SERVICING.

TO PROVIDE AN EFFICIENT,
COST EFFECTIVE AND
ENVIRONMENTALLY FRIENDLY
SOLUTION TO THIS PROBLEM,
CAVOTEC DEVELOPED THE
PCAir SYSTEM.



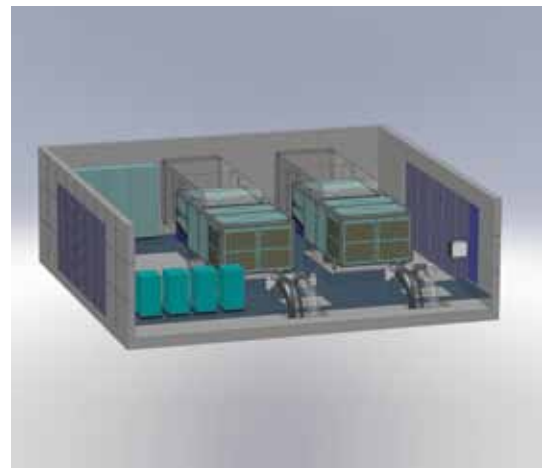
PRE-COMPRESSED AIR (PCAir system)

The Cavotec PCAir System (mobile or fixed) provides pre-compressed air to cool the cabin of passenger aircrafts during ground handling. Its outstanding cooling performance and the ability to deliver dry pre-compressed air at -20°C during two hours of continuous operation makes it superior for ground cooling of large wide body aircrafts in hot and humid climates.

The unit is driven by dry compressed air supplied from a centralised, electrically powered compressor room. The centralised compressor room ensures full capacity of the system can be used where it is needed. The system works on "capacity on demand" which constantly adjusts the capacity to the current demand, thereby minimising the over-all energy consumption. The benefits of this solution during ground handling are:

- No need to run the APU
- Reduced noise levels $<80\text{dB}$
- Reduced operational running cost
- Reduced CO_2 foot print by 66%
- Can be used inside service hangars
- High quality PCAir filtered with a $10\mu\text{m}$ particle and active carbon filter

A further advantage of the system is the use of air as a working medium, environmentally benign as opposed to refrigerants, totally safe and non-toxic. Extremely reliable components ensure a long running time and long service intervals. The system can also be used to heat aircraft in cold climates.





EFFICIENT, SAFE & RELIABLE

Several extensive field tests, in the most extreme working conditions, prove beyond doubt that the PCAir System can cool most types of aircraft significantly faster than traditional cooling methods.

The fact that it uses no type of diesel generator adds to the system's appeal and makes it an environmentally friendly solution.

Airport Fuelling Systems

CAVOTEC IN-GROUND FUELLING SYSTEMS ARE IN USE AT COMMERCIAL AND MILITARY AIRPORTS ALL OVER THE WORLD.

THANKS TO THE STRONG FOCUS ON QUALITY AND INNOVATION CAVOTEC'S SYSTEMS HAVE BECOME AN OBVIOUS CHOICE FOR INDUSTRY OPERATORS AROUND THE WORLD.



PANTOGRAPHS

Cavotec Meyerinck pantographs are compatible with both military and commercial aircraft, and perform fuselage and under-wing refuelling operations.

All our pantograph systems can service all types of USAF, USN and NATO military aircraft and can be operated by just one person. The innovative design eliminates the need for hoses, and it allows refuelling with engines running and hot brakes.



LOADING ARMS

Cavotec Meyerinck's loading arms are designed for easy integration into larger systems and are compatible with all major suppliers' components. The rigid tube design increases efficiency and safety. The smooth operating swivel joints enable one man operation.





FUEL SYSTEM DESIGN AND INTEGRATION

Cavotec Meyerinck and Dabico have both been working on commercial and military hydrant systems for over forty years. We have supplied systems on every continent and with Cavotec's global presence we are able to provide local support in all of our markets.

We have developed our experience and knowledge from an aviation fuel product supplier to fuel system designer, system integrator and system start up.

We work closely with all of the major oil companies, airports and defence organisations testing and trailing new innovations to meet customer requirements and to ensure that we meet all current regulations and standards.

HIGH POINT / LOW POINT PIT ASSEMBLY

Cavotec Dabico pit assemblies are an important part of the overall integral safety of airport fuelling systems. The low point drain pit assembly is designed to remove any non-fuel fluids and other contaminants from the fuel pipeline.

The high point vent pit assembly is designed to relieve air pockets from the fuel pipeline, thereby preventing surges and pressure related problems.

COMMERCIAL FUEL HYDRANTS

Cavotec Dabico Commercial fuel hydrant pit assemblies are specially designed to efficiently dispense fuel to commercial aircraft. The pit assemblies provide either on/off or pressure/flow control when in operation.

Available as a one or two-piece (environmental) design with bottom or side entry pipe-work manufactured in high grade fibreglass GRP or fabricated steel.





VAULT ACCESS PIT COVERS

Prefabricated vault access pit covers provide easy access into prefabricated fibreglass vaults or concrete chambers for operational and maintenance requirements of in-ground systems. The covers are dimensioned for easy entrance and exit of personnel (max. cover lift weight 12kg), allowing for easier routine maintenance access or emergency access for removal of personnel overcome by fumes.

Cavotec Dabico vault access covers have a waterproof cover and frame preventing fluids and dirt/debris from entering the vault/pit area.

All Cavotec Dabico covers are aircraft load rated with a 4:1 safety factor.



FUEL ISOLATION VALVE PIT ASSEMBLY

Fuel isolation valve pit assemblies, designed to house isolation (plug DBBV, butterfly, ball, gate) valves up to 600mm (24") diameter (depending on configuration), allow routine and emergency shut-offs of fuel flow for maintenance or pipeline/hose rupture.

Unique waterproof cover and frame assemblies, with aluminium cover, prevent fluids and debris from entering the pit once the cover is closed.





FUELLING SOLUTIONS

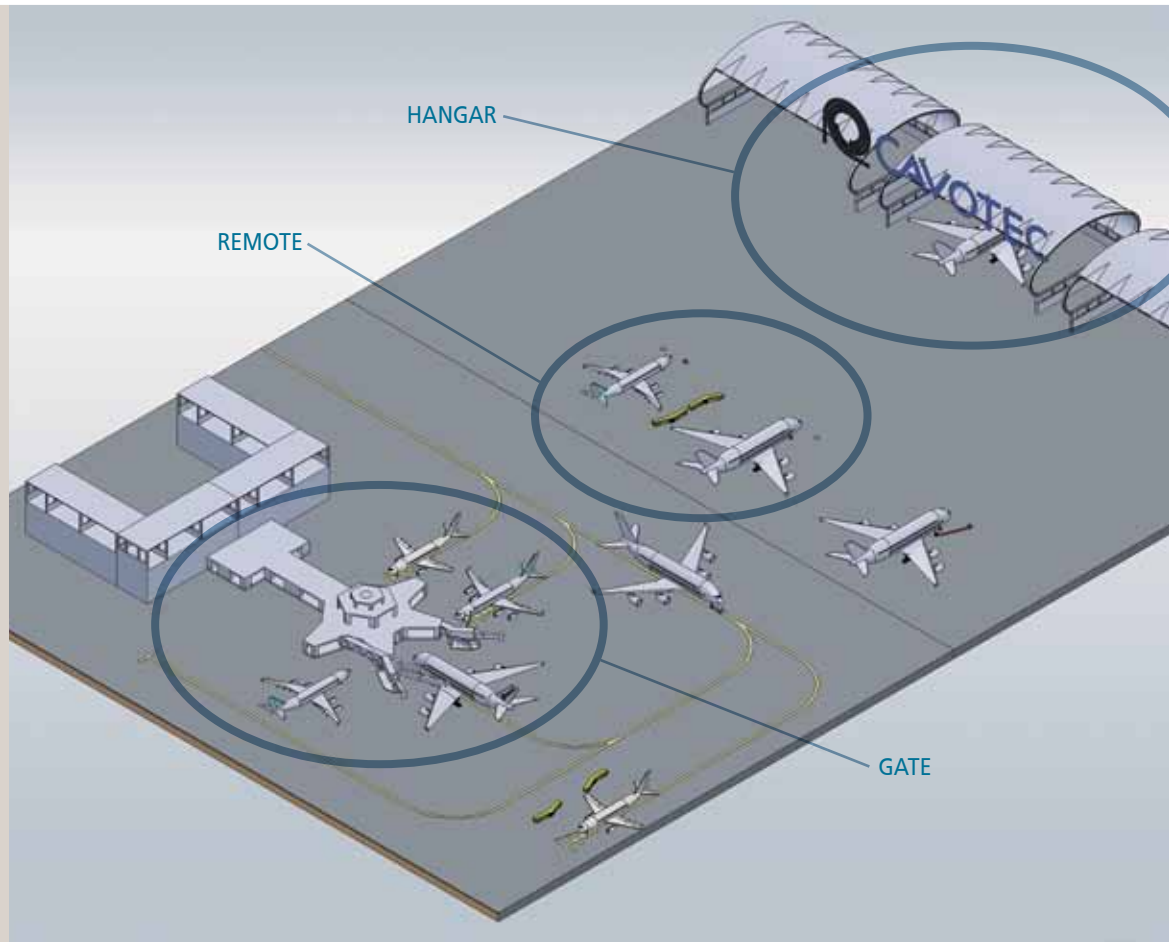
Cavotec produce a wide range of ground fuelling systems including Hydrant Pits, Hi / Low Point Pits, Vault Access Covers, Prefabricated Valve Isolation Pits and a range of Pantographs, Loading and Suction Arms.

Cavotec combine these solutions to provide full fuel system integration for Airports and Air Bases World Wide.

In-Ground Systems

CAVOTEC SUPPLIES POP-UP PITS AND HATCH PIT SYSTEMS THAT SUPPLY AIRCRAFT WITH UTILITIES SUCH AS PRE-COMPRESSED AIR (PCAir), PCA, WASTE, BLUE AND POTABLE WATER AND 400Hz POWER.

THESE ADVANCED IN-GROUND SYSTEMS ARE USED ON APRONS, HANGARS AND REMOTE PARKING AREAS.



TUNNEL SYSTEM

Existing aircraft parking areas at terminals and hangars typically have not been designed for optimal use of ground support services. The result is a clutter of hoses, cables and carts around the parked aircraft. This means that essential services such as 400Hz power, PCA and potable water supply as well as waste water disposal often are sourced far from the aircraft.

When using a full-scale tunnel system with in-ground services from Cavotec all essential ground support services are available very close to the parked aircraft. This provides airports with not only operational efficiencies, but also with the possibility to significantly reduce their carbon footprint.

With the introduction of double-deck, wide-body aircraft such as the Airbus A380 existing supply systems are no longer sufficient, creating even more problems in terms of space, costs and efficiency. Our tunnel system is the long-term solution to this obstacle as more services can be added at a later date, i.e. for potable water and blue water reducing the number or vehicles around the aircraft.





IN-GROUND SYSTEMS

Cavotec in-ground systems can either be used in combination with our tunnel system or can be placed in individual concrete pits, which can be delivered precast or be cast on-site. An optional fibreglass enclosure eliminates most of the concrete work and assures quick installation. Cavotec in-ground systems are equally suited for use in hangars.

All Cavotec in-ground systems have an aircraft loading rate capacity based on Bridge Class F90 and are able to withstand the toughest working conditions. As environmentally friendly solutions they help contribute to the CO₂ reduction program at today's modern airports.



HATCH PITS

Cavotec Fladung's hatch pit allows easy access to all service outlets, making servicing safe and efficient with the actual service points rising above apron level. Hatch pits are rated Bridge Class F90 and are able to withstand the toughest working environments and are suitable for in and out door operation, hangar or remote parking.



Above Ground Systems

AS PART OF CAVOTEC'S CONTINUAL DRIVE TO REDUCE THE INDUSTRY'S ENVIRONMENTAL IMPACT, WE HAVE DEVELOPED INNOVATIVE, ENVIRONMENTALLY FRIENDLY SYSTEMS THAT AIMS TO SUPPLY AIRCRAFT WITH POWER, WATER AND PRE-CONDITIONED AIR WHILE REDUCING COSTS AND DOWNTIME.



CADDIES

Cavotec power caddies are mobile GPUs designed to supply aircraft with 400Hz power. The units are able to store 400Hz cables and feature either one or two motor-driven cable reels.

There are currently three types of power caddies: one which can be moved manually; one with a motor-driven carriage; and a converter caddy which features an integrated 400Hz frequency converter allowing it to connect directly to 50Hz or 60Hz ground power.

All versions have a cable-drum motor with overload protection. The drive unit for the carriage for both the power and converter caddy's is a 24VDC motor, allowing the units to be driven in both directions while automatically reeling cables in or out.





CABLE COILERS

The Cavotec Fladung cable coiler is an automatic cable storage and protection device, designed to supply aircraft with 400Hz power. The unit can either be mounted underneath a passenger bridge or on a pedestal on the ground.

The cable coiler features a motor-driven coiling drum, which reels the 400Hz aircraft cable in and out. The unit is controlled via buttons fitted on the aircraft connector or at the bridge panel.

The standard cable coiler can store up to 28m of single jacket 7x35mm² 400Hz cable, a smaller version can hold up to 20m. The power transmission between the termination box and the cable on the coiling drum is facilitated through a Cavotec 400Hz cable harness.



400Hz/28VDC AIRCRAFT CONNECTORS

To ensure maximum lifetime and security of operation, Cavotec has designed its own line of aircraft connectors. To facilitate on-site repairs, all connectors feature replaceable parts including the connector nose, housing and the silver-plated copper-tellurium alloy contacts. Push/pull forces of the connectors comply with DIN EN 61984 ($\leq 450\text{N}$). All connectors are made from shock resistant, abrasion proof and non-flammable cross-linked thermo-plast (operating temperature range -65°C to $+125^{\circ}\text{C}$ / -85°F to $+257^{\circ}\text{F}$). A sealing resin completely protects against water while forming a strong and durable connection to the cable.

As an option, all connectors can be fitted with a microswitch and LED to signal once the connector is at least 80% engaged.





TOW-BARS

With our wide range of specially designed adapter heads, Cavotec tow-bars can be used on nearly all types of aircraft and can be easily adapted to meet customer requirements.

Flying tow-bars are designed specifically to be taken onboard of aircraft. It offers maximum flexibility and endurance combined with a low weight. It can be easily fitted with different types of adapter-head to suit many aircraft configurations.

Adaptability and high quality of manufacture and design, has made Cavotec's aircraft tow-bars the obvious choice for industry operators around the world.



AIRCRAFT PCAir / PCA CONNECTORS & HOSES

Cavotec's philosophy is to ensure the functionality of the entire system and to guarantee the performance of it. As part of our PCA system, Cavotec has engineered aircraft PCA hoses and connectors that will ensure the minimisation of the cooling losses between the PCA handling unit and the aircraft inlets. Durability and reliability for minimum maintenance costs have been at the core of our engineering.

Cavotec PCA hoses can be insulated or non-insulated, and the connectors include handles in order to ensure fast ground operations.





SPECIAL CABLES

Cavotec provides a broad range of special cables specifically designed and tested for airport use.

The use of the correct cable is very important to assure the proper functioning of equipment, particularly in harsh working environments, such as airports, where the cables are subjected to daily use in all kinds of weather conditions.

Each Cavotec cable is thoroughly tested and conforms to applicable regulations and standards, ensuring maximum and safety. All cables are highly flexible and resistant to mineral oils, kerosene and defrosting liquids and abrasion.

Hangar – In-Ground Systems

IT IS ESSENTIAL FOR TODAY'S MODERN HANGARS TO PROVIDE SERVICES AT THE LOCATION WHERE THEY ARE ACTUALLY NEEDED.

BY USING OUR IN-GROUND SYSTEMS WE CAN HELP TO IMPROVE THE TURNAROUND TIME FOR EACH SERVICE.



400Hz

The 400Hz/28VDC hatch and pop-up pits are essential during the aircraft maintenance operations. The connectors and cables are presented above ground, making it easy pulling out the cable to the aircraft.

Other utilities can be provided on the same pop-up such as shop air, 50/60Hz electric power, ground, data and communications cables, ensuring efficient maintenance at all times.

All systems can be designed to meet international EX, EN and UL norms and are equipped with a maintenance free counterbalance system for easy operation.



PCAir / PCA SYSTEM

The PCA hatch or pop-up pits can accommodate the flexible PCA hoses required for cooling the aircraft and reduce the cooling losses during the distribution process of the Pre-Conditioned air. The PCA hose is directly mounted on the pit systems and is just up to 1/10th of its original length when stored. Buttons located on the pop-up allow the air conditioning equipment to be switched on and off manually. A specially designed circuit ensures activation or deactivation of the air-conditioning unit only when the PCA pit is fully extended and a proximity switch has been released.

In order to optimize the maintenance operations and reduce the cost of investments, our PCA pits can include other services in the same pit such as hot and cold water and compressed air.





DATA & VOICE

Another essential service available on our in-ground systems is data and voice transmission. As standard RJ45 sockets are used, with an optional waterproof version available.

Installing this service allows for direct access to spare parts databases, or for centralised control of maintenance equipment. The voice option allows for direct communication between personnel at different locations or directly with the hangar.

SHOP AIR, WATER, NITROGEN

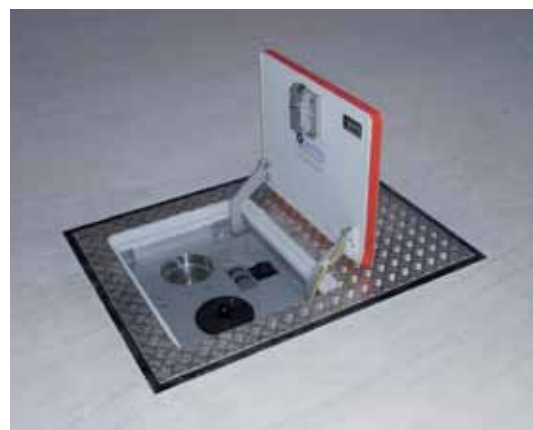
Cavotec in-ground systems can be supplied with a variety of services including shop air, water and nitrogen. These services can all be fitted with optional ball valves or circulation systems.



TANK VENTILATION SYSTEM

For maintenance on aircraft fuel tanks it is essential to provide a number of tank ventilation pits that can be equipped with various suction devices and coupling sizes according to aircraft type maintained.

Cavotec offers two systems; an over-pressure system and a vacuum-based solution. Either system can be activated directly at the hatch cover with several options such as individually controlled butterfly valves, etc.



Defence Systems

THERE ARE MANY DIFFERING VIEWS ON HOW BEST TO SERVICE A MILITARY AIRCRAFT, BUT THE BOTTOM-LINE IS THAT IT HAS TO BE DONE RELIABLY, EFFICIENTLY AND IN COMPLETE SAFETY.

THANKS TO OUR STRONG COMMITMENT TO QUALITY COMBINED WITH A STRONG SERVICE AND SUPPORT NETWORK, CAVOTEC SYSTEMS ARE WIDELY USED AT MANY MILITARY INSTALLATIONS AROUND THE WORLD.



AVIATION FUELLING ARMS

Cavotec Meyerinck fuelling arms are hose free pantographs that refuel aircraft safely, quickly and efficiently without the need for dispensers or tanker trucks. Our fuelling arms directly refuel wide body aircraft, tactical aircraft, helicopters and tanker vehicles at airports and airfields throughout the world.

Since 1980, Cavotec Meyerinck's stainless steel fuelling arms have seen service in military and commercial applications around the globe. Cavotec also provides a comprehensive range of fuelling equipment accessories such as flow meters, including venturi mechanisms, filters and hydrant couplers.



MILITARY FUEL HYDRANT PIT ASSEMBLY

Military fuel hydrant pit assemblies are specially designed to efficiently dispense fuel to tactical and strategic aircraft. The pit assemblies provide either on/off or pressure/flow control when in operation.

The innovative design features make the Cavotec Dabico military fuel hydrant pit assemblies an obvious choice for applications where reliability and safety under every circumstance is an operational necessity.

Unique waterproof cover and frame assemblies, fitted with aluminium doors, prevent fluids and debris from entering the pit once the cover is closed. The patented torsion spring actuated covers maximize the available workspace within the pit assembly. These pit assemblies are also available with a counterweight actuated design.





SOLID STATE FREQUENCY CONVERTERS (SSFC)

Cavotec INET provides state of the art solid state frequency converters for military applications. Our equipment can be designed with one single output power (e.g. 400Hz) but also engineered for a triple output such as 400Hz, 28VDC and 270VDC.

All solid state frequency converters can be either a fixed units or mobile, with 50Hz or 60Hz input power. We also deliver solutions for 50/60Hz power conversion for naval applications.



MOBILE DIESEL GROUND POWER UNITS (GPUs)

Cavotec INET offers a wide range of diesel ground power units for military applications. Our systems are engineered based on military standards and can deliver 400Hz, 28VDC & 270VDC. The units can be designed on heavy duty chassis or even truck mounted.





MOTOR GENERATORS (MGs)

Cavotec INET's strong R&D capabilities gave powerful added applications to the original MG set designs. Cavotec INET developed the first vertical synchronous MGs for greater power, smaller size, higher efficiency, longer life and reliability.

Currently, we have several thousand of MGs in use around the globe and serving military facilities. Our MGs are also used by military organisations such as the US NAVY for maritime applications.



PRE-CONDITIONED AIR (PCA)

Cavotec INET PCA systems can either be designed on a point of use or be engineered as a centralised PCA system. We engineer PCA systems which can be operated under the most severe climate conditions and guarantee the required cooling performance. Our PCA units can be electrically or diesel driven, fixed or mobile.





COMMITMENT TO QUALITY

Working for the military means having your systems put through the most rigorous testing in the world.

Equipment needs to work safely and efficiently at any time of the day or night, under the most extreme working conditions imaginable.

Installation & Maintenance

SERVICE IS A CRITICAL COMPONENT OF CAVOTEC'S APPROACH TO ITS CUSTOMERS.

OUR LOCAL SALES OFFICES, LOCATED AROUND THE WORLD, ARE BACKED BY THE EXPERTISE FROM OUR RESEARCH & ENGINEERING CENTERS AND ARE READY TO RESPOND TO ANY SERVICE AND SUPPORT REQUEST.



SERVICE AND SUPPORT

Cavotec offers various levels of service and support for installation and maintenance of ground support equipment. Our service teams are also on hand for any repair projects that might need to be undertaken, either on or off site.

We also provide on-site commissioning and training, as well as dedicated training classes at our own research & engineering centers. Using in-depth manuals and system documentation and our fully qualified staff can provide all levels of training and maintenance instruction, in-line with your operational requirements.



Reference List



NO MATTER THE INDUSTRY
OR GEOGRAPHICAL LOCATION,
EACH CAVOTEC SOLUTION
IS RELIABLE, COST-EFFICIENT,
ENVIRONMENTALLY FRIENDLY
AND OFTEN A LOT CLOSER THAN
YOU MIGHT IMAGINE.

SELECTED INTERNATIONAL REFERENCES

Airbus Germany, Hamburg
Airbus Tianjing
Airfrance Hangar, Paris (A380)
AMECO Hangars, Beijing (A380)
Anchorage, Alaska
Atlanta, Georgia
Athens Airport
Bangalore Airport
Bahrain Airport
Beijing Airport
Barcelona Airport
Boeing Flight line, Seattle
Brasilia Airport
Buenos Aires Airport
Changchun Airport
Charlotte, North Carolina
Chicago (O'Hare), Illinois
China Eastern Airlines Shanghai
China Eastern Airlines Kunming
Dalian Airport
Dallas / Ft. Worth, Texas
Dakar New Airport
Denver, Colorado
Detroit (Metro), Michigan
Dortmund Airport
Dubai International Airport
EADS Spain, Sevilla
Emirates Airline Hangars, Dubai (A380)
Eurocopter France, Marigane
Eurocopter Germany, Donauworth
Fiumicino Airport
Frankfurt Airport
Guangzhou Airport
Helsinki-Vantaa Airport
Hong Kong Airport
Hongqiao Airport
Houston (Intercontinental),
Hyderabad Airport

Kansai Airport
Kunming Airport
Las Vegas, Nevada
Leipzig Airport
London Heathrow Airport
Los Angeles (International),
Lufthansa Hangar, Frankfurt (A380)
Macau Airport
Madrid Airport
Manchester Airport
Miami, Florida
Minneapolis / St. Paul, New York (JFK), New York
Mumbai Airport
Munich Airport
Newark, New Jersey
New Delhi Airport
New Doha International Airport
New Oman Airport
Orlando, Florida
Paris CDG Airport
Philadelphia, Pennsylvania
Phoenix, Arizona
Pudong Airport
Qatar Airways Hangars, Doha (A380)
Qingdao Airport
Qantas Hangar, Sydney (A380)
San Francisco, California
Santiago de Chile Airport
Sao Paulo Airport
Saudi Ministry Of Finance Hangars
Seattle (Seatac), Washington
Singapore Airport
Shenzhen International
Shermetjevo Airport
Sydney Airport
Xian Airport
Xinhua Airlines Beijing



With a global presence of sales and manufacturing companies across six continents, Cavotec ensures each of our clients receives personal and local service.

Cavotec's creativity and professionalism is founded on teamwork: working closely with clients, exchanging knowledge and ideas.



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Hong Kong
India
Italy
the Netherlands
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