



PRODUCT GUIDE



DUNHAM-BUSH®

Products that perform...By people who care

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DUNHAM-BUSH PROFILE

Dunham-Bush, one of the world's top commercial air conditioning manufacturers, has long been committed to offering creative solutions for the customers' requirements over its 100+ years history, in the heating, ventilation, air-conditioning and refrigeration (HVAC/R). Dunham-Bush offers a complete range of HVAC/R products of large chillers, heat pumps, thermal energy storage, packaged, airside system and unitary to residences, commercial buildings & industrial facilities.

By utilizing our manufacturing facilities and global network of sales and service offices, Dunham-Bush offers these products and services to all corners of the world.

Dunham-Bush proudly announces the new extended series of Medium Screw Compressor, it incorporates the latest advances in screw compressor technology and development, which includes Variable Frequency Drives (VFD) with extended capacity, enhanced efficiency performance and durability.

Dunham-Bush has also introduced the DCLC water-cooled centrifugal chillers line with capacities range from 300 to 4000 TR.

Both Dunham-Bush screw and centrifugal chiller are certified to AHRI 550/590 performance rating that provides unmatched performance and stability.

Dunham-Bush's emphasis on environmental sustainability has paved the way for energy efficient, clean energy products, such as, Geothermal Heat Pumps and fully integrated Ice Thermal Storage Systems. Dunham-Bush is striving to be the leader in the commercialization of green technologies.

Dunham-Bush's ability and willingness to adapt our products and services according to customer requirements sets us apart from competitors. We provide total customer satisfaction by fulfilling the needs and exceeding the expectations of our valued customers ensuring the Dunham-Bush reputation of:

PRODUCTS THAT PERFORM...BY PEOPLE WHO CARE



WATER COOLED CHILLERS



DCLC-M Series - Prometheus Magnetic Bearing Chiller

Cooling Capacity from 316 - 2391 kW (90 - 680 TR)
The DCLC-M Series features:

- High Efficiency Magnetic Bearing Technology
- Inverter Driven Dual-Stage Compressor
- Oil Free Operation with Less Maintenance
- Low Noise with Compact Foot Print
- Improved Performance with Superior IPLV
- AHRI Certified
- R134a



DCLC/ DCLCD/ DCLCT Series - Hercules Centrifugal Chiller

Cooling Capacity from 1055 - 14068 kW (300 - 4000 TR)
The DCLC/ DCLCD/ DCLCT Series features:

- Single/ Dual-Stage, Compact and High Efficiency Compressor
- Flooded Shell & Tube Evaporator and Condenser
- Advanced Microprocessor Controller
- 10.4" TFT Colours Touch Screen Display
- Automatic Refrigerant Purifier
- Optional VFD
- AHRI Certified
- R134a



WCFX-E/ WCFX-V (VFD) Series - Poseidon Water Cooled Screw Chiller

Cooling Capacity from 211 - 3517 kW (60 - 1000 TR)
The WCFX-E/ WCFX-V Series features:

- High Efficiency Vertical Screw Compressor
- Inverter Driven (VFD) Compressor (WCFX-V only)
- Flooded Shell & Tube Evaporator & Condenser
- Touch Screen Control Panel
- Improved Performance & IPLV
- AHRI Certified
- R134a



WCS Series - Proteus Water Cooled Scroll Chiller

Cooling Capacity from 42 - 218 kW (12 - 62 TR)
The WCS Series features:

- Multiple Scroll Compressors
- Patented Shell & Tube Evaporator and Condenser
- High Efficiency and COP
- Microprocessor Based Controller
- R407C / R22



AIR COOLED CHILLERS



AVX-A / AVX-B (VFD) Series - Achelous Air Cooled Screw Chiller

Cooling Capacity from 334 - 1864 kW (95 - 530 TR)
The AVX-A / AVX-B Series features:

- High Efficiency Vertical Screw Compressors
- Inverter Driven (VFD) Compressor (AVX-B only)
- Flooded Shell & Tube Evaporator
- Advanced Microprocessor Controller
- Unique Low Noise Control Design
- Suitable for High Ambient Application
- AHRI Certified
- R134a



AFVX-E Series Air Cooled Screw Chiller

Cooling Capacity from 299 - 1692 kW (85 - 481 TR)
The AFVX-E Series features:

- High Efficiency Vertical Screw Compressors
- Flooded Shell & Tube Evaporator
- Advanced Microprocessor Controller
- Unique Low Noise Control Design
- Suitable for High Ambient Application
- R134a



ACHX-A Series - Helios Air Cooled Screw Chiller

Cooling Capacity from 281 - 992 kW (80 - 282 TR)*
The ACHX-A Series features:

- High Efficiency Horizontal Screw Compressors
- Twin Compressors with Twin Refrigerant Circuit
- Advanced Microprocessor Controller
- Suitable for High Ambient Application
- R134a

* 50Hz only



ACDS Series - Zeus Air Cooled Scroll Chiller

Cooling Capacity from 35 - 633 kW (10 - 180 TR)
The ACDS Series features:

- Multiple Scroll Compressors
- High Efficiency Plate Heat Exchanger (PHE)
- High Efficiency and COP
- Available in Modular Design
- AHRI Certified
- R410a



HEAT PUMP CHILLERS, WATER-WATER AND AIR-WATER



WCFXE-HP Series

Water - Water Screw Heat Pump

Capacity from 194 - 2061 kW (55 - 586 TR),

Heating Capacity from 238 - 2504 kW

The WCFXE-HP Series features:

- Improved Quiet, Reliable Series of Vertical Screw Compressors
- Improved Flooded Shell & Tube Evaporator and Condenser
- High Efficiency and COP
- Advanced Vision 2020i Controller
- 7.0" TFT Colours Touch Screen Display
- PHE DX Subcooler
- R134a



WCS-HP Series

Water - Water Scroll Heat Pump

Capacity from 39 - 246 kW (11 - 70 TR)

The WCS-HP Series features:

- Multiple Scroll Compressors
- Dunham-Bush Patented Shell & Tube Evaporator and Condenser
- High Efficiency and COP
- Microprocessor Based Controller
- R407C / R134a



ACDX-HP Series

Air Cooled Vertical Hermetic Screw Heat Pump

Cooling Capacity from 230 - 1780 kW (65 - 506 TR),

Heating Capacity from 247 - 2024 kW

The ACDX-HP Series features:

- Silent Vertical Hermetic Screw Compressors
- Unique Low Noise Control Design
- Improved Shell & Tube Evaporator
- Advanced Microprocessor Based Controller
- R134a



ACS-HP Series

Air - Water Scroll Heat Pump

Capacity from 35 - 246 kW (10 - 70 TR)

The ACS-HP Series features:

- Multiple Scroll Compressors
- Dunham-Bush Patented Shell & Tube Evaporator
- High Efficiency and COP
- R407C

WATER COOLED PACKAGED UNITS PRECISION ENVIRONMENTAL CONTROL UNITS



WATER COOLED SELF CONTAINED UNITS



WCPS-B Series Floor Stand Ducted

Cooling Capacity from 18 - 447 kW (80 - 1520 MBH)
The WCPS-B Series features:

- Quiet & High Efficiency Scroll Compressors
- Dunham-Bush Patented Shell & Tube Condenser
- Rigid and Compact Design
- R407C / R22



WCPS-FB Series Free Blow

Cooling Capacity from 20 - 64 kW (68 - 220 MBH)
The WCPS-FB Series features:

- Quiet & High Efficiency Scroll Compressors
- Dunham-Bush Patented Shell & Tube Condenser
- Rigid and Compact Design with Decorative Grille
- R407C / R22



WCP & WCPS-CH Series Ceiling Hung

Cooling Capacity from 5 - 85 kW (18 - 290 MBH)
The WCP & WCPS-CH Series features:

- Quiet & High Efficiency Rotary / Scroll Compressors
- Dunham-Bush Patented Shell & Tube Condenser
- Low Profile for High Ceiling Mounting
- R407C / R22



PRECISION ENVIRONMENTAL CONTROL UNITS



Indoor Unit



Outdoor Unit

DB-Aire II Series

Cooling Capacity from 7 - 91 kW (2 - 26 TR)
The DB-Aire II Series features:

- Quiet & High Efficiency Scroll Compressors
- Advanced Microprocessor Controller
- 4.3" TFT Colour Touch Screen Display
- Compact Design & Foot Print with Attractive Outlook
- Available in Chilled Water, Direct Expansion or Dual Coil System
- Up and Downflow Configurations
- Suitable for High Ambient Temperature Operation
- Optional VFD Blower Motor, Hot Gas Reheat & EEV
- R410A / R407C



AIR COOLED PACKAGED UNITS



VARIABLE REFRIGERANT FLOW (VRF) INVERTER SYSTEMS

DBV III Series

Cooling Capacity from 25 - 200 kW (8 - 72 HP)

The DBV III Series features:

- High Efficiency Inverter Scroll Compressor
- 180° Sine Wave Inverter Technology
- Low Noise with High Efficiency Fan
- High Performances Heat Exchangers
- R410A



AIR COOLED SPLIT SYSTEMS

ACCS Series

Cooling Capacity from 18 - 398 kW (60 - 1360 MBH)

The ACCS Series features:

- Quiet & High Efficiency Scroll Compressors
- Versatile Applications
- Rigid Compact Casing
- R407C / R22

VEB / EB / HEB Series, DX

Cooling Capacity from 18 - 398 kW (60 - 1360 MBH)

The VEB / EB / HEB Series features:

- Belt Driven Motor / Drive Package
- Galvanized & Coated Steel Construction
- Optional Heaters (Hot Water & Electrical)



ROOFTOP UNITS

ACPSB-P / ACPSE-P / ACPSP (VFD) Series ACPSD-P / ACPSP-P Series (High Ambient)*

Cooling Capacity from 12 - 542 kW (40 - 1850 MBH)

The ACPSP-P Series features:

- Quiet & High Efficiency Scroll Compressors
- Rigid and Custom Build Design for Outdoor Application
- Operate Up to 125°F (52°C) Ambient Air*
- Optional Economizer Section, Heat-Pump & Heaters
- R410A / R407C / R22



AIR-COOLED SELF-CONTAINED UNITS

ACPS-C Series Centrifugal Condenser Fan

Cooling Capacity from 18 - 117 kW (60 - 400 MBH)

The ACPS-C Series features:

- Quiet & High Efficiency Scroll Compressors
- Rigid and Versatile Design for Indoor Application
- High Static Centrifugal Condenser Fan
- R407C / R22



AIRSIDE PRODUCTS



CS3 / eCS3 Series Central Station Air Handling Units

Air Volume from 1700 - 95663 m³/h (1000 - 56250 CFM)

The CS3 / eCS3 Series features:

- Modular Industrial Design, Rugged Construction
- Extruded Aluminum Profile with Strong Nylon Corners
- Double Skin Construction with Injected Polyurethane Foams Insulation
- Available for Multizone System Application
- AHRI / ETL Certified *

* 60Hz only



VCB / HCB Series Chilled Water Air Handling Units

Air Volume from 1274 - 31775 m³/h (750 - 18700 CFM)

The VCB / HCB Series features:

- Constructed of Heavy Gauge Steel Sheet
- Epoxy Powder Coated Paint Casing
- Low Noise Blowers
- Optional Hot Water Coils, Heater & Hydrophilic Fins



CC Series Horizontal Blower Units

Air Volume from 1359 - 6796 m³/h (800 - 4000 CFM)

The CC Series features:

- High Static Application
- Epoxy Powder Coated Paint Casing
- Low Noise Blowers
- Belt Driven with Adjustable Pulley



CR-CC / CB / CE / WM Series CR-HB / CRH / CRC Fan Coil Units

Air Volume from 176 - 3398 m³/h (100 - 2000 CFM)

The Series features:

- Low to High Static Application
- Low Noise Blowers
- Plenum Box for Return Air
- Available for Ceiling Exposed, Floor Standing, Cassette & Wall Mounted Type



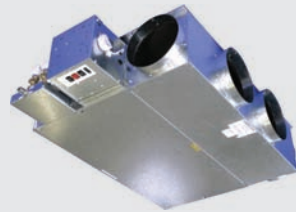
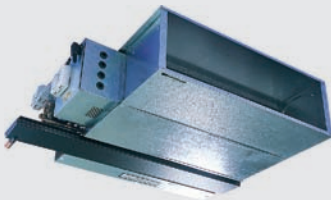
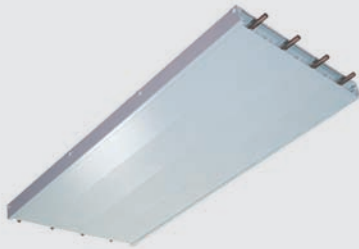
CR-CD Series High Efficiency EC Motor Fan Coil Units

Air Volume from 357 - 2390 m³/h (210 - 1407 CFM)

The CR-CD Series features:

- High Efficiency EC Fan Motor
- Low to Medium Static Application
- Low Noise Blowers
- Plenum Box for Return Air

HEATING TERMINAL PRODUCTS

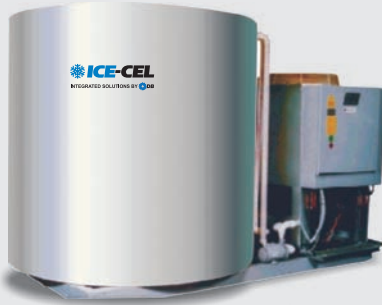


The Dunham-Bush Heating Division provides a large range of top grade heating products that include:

- Door Curtains
- Fan Convectors
- Fan Coil Units
- LST Radiators
- Perimeter Heating
- Radiant Heating
- Unit Heaters
- Heat Exchangers

With over 80 years' of experience in the market, Dunham-Bush is recognized as a world leader in customized solutions for ventilation and heating applications.

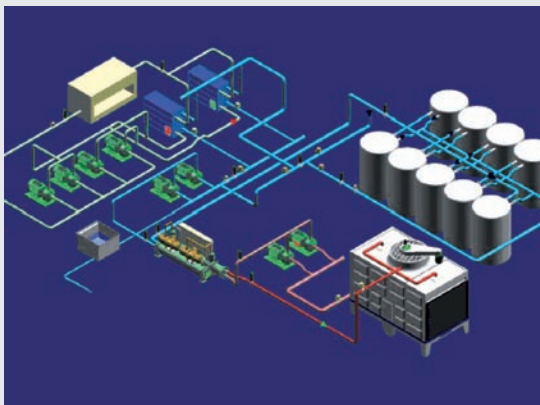
SPECIALTY PRODUCTS



ICE-CEL

Dunham-Bush Patented Ice Thermal Storage Systems, ICE-CEL features:

- Modular and High Efficiency Tanks from 422 - 844 kWh
- Only -3.5°C Brine Required in Freezing Mode
- Fiberglass Double Wall Tanks
- Full Poly Ethylene (High Density) Heat Exchanger for Durability and Efficiency



CHILLER PLANT MANAGER (DB-CPM)

Dunham-Bush CPM provides designers and owners a one source responsibility for chiller plantroom automation and optimization:

- Supervised all equipments in chiller plantroom
- System optimization
- NetVisorPRO server for data and history logging, with graphical animation
- Local or remote monitoring is available via BACnet, ModBus, Internet



INDUSTRIAL LOW TEMP MACHINE ICE RINK CHILLER

- Customized Design Chiller
- Manufactured Based on Requirement/ Specification
- R507

At Dunham-Bush, contributing to a clean and ecologically sound globe is one of our long term business goals. We are striving to be the leader in green solutions by implementing world class "Green" air-conditioning and refrigeration systems to help build an energy efficient planet.



**Ice Thermal Storage
Air Conditioning Systems**



**Heat Recovery
Air Conditioning Systems**



**Geothermal Heat Pump
Air Conditioning Systems**



CO₂ Refrigeration Systems

PARTS



At Dunham-Bush we always provide our customers with genuine replacement parts and components for the service and maintenance of equipment. This ensures minimum down time and maximum durability and reliability of all products, providing our customers with greater peace of mind.

Should you require any parts, please contact the nearest Dunham-Bush Service Centre or log on to our Dunham-Bush website at www.dunham-bush.com.

SERVICES



Our commitment to supply our customers with HVAC products to the highest possible standard continues throughout our after sales activities via network of Dunham-Bush Sales & Service offices as well as through our Dunham-Bush Authorized Service Partners.

We ensure that the maintenance of all our equipment and systems meet the highest engineering standards through:

- Preventive maintenance inspections depending on usage and application
- Annual inspections for those installations with minimum operating hours
- Tele-Monitoring through modem and Internet protocol
- Retrofitting existing equipment with State-Of The Art technology
- Retrofitting existing equipment with environmentally friendly refrigerants
- Field Repair and Service at factory standards

DUNHAM-BUSH, CERTIFIED PERFORMANCE BY AHRI

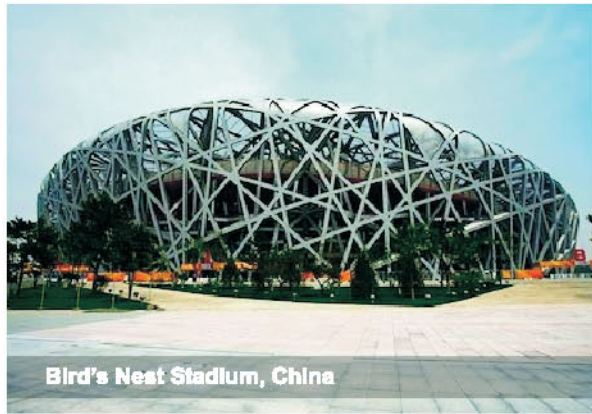


At Dunham-Bush, we work in partnership with the Air Conditioning, Heating and Refrigeration Institute (AHRI) to ensure that our certified products are stringently tested to meet customer's expectations of performance and efficiency.

Each of our certified products is tested at AHRI-Approved Test Rigs after manufacturing. We are so confident of our proven abilities that we welcome all of our customers to witness our performance tests on their purchased equipment.

CERTIFICATIONS





Bird's Nest Stadium, China



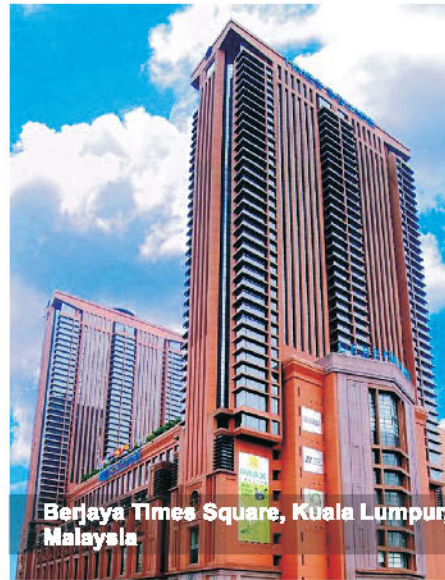
Jizan University Hotel, Saudi Arabia



Taj Hotel, Mumbai, India



IR Marina Bay Sands, Singapore



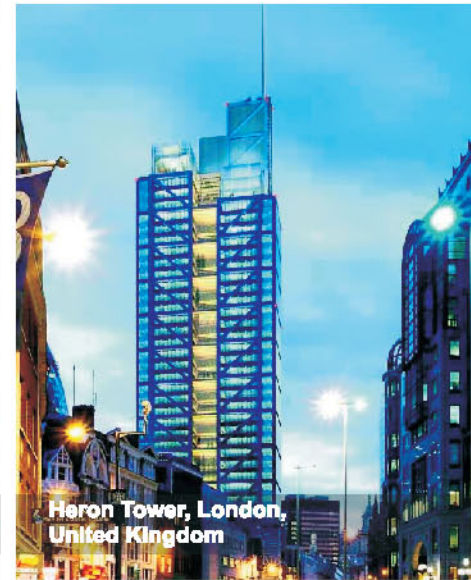
Berjaya Times Square, Kuala Lumpur, Malaysia



Putrajaya International Convention Center



Michelangelo Towers, South Africa



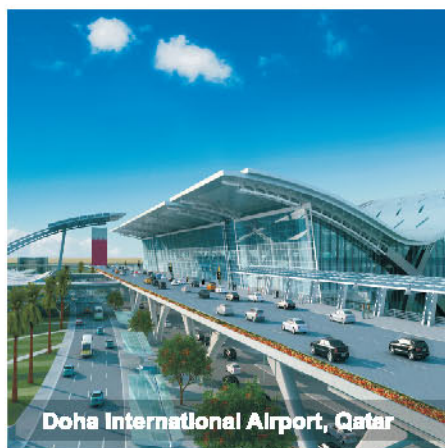
Heron Tower, London, United Kingdom



Kuala Lumpur International Airport, Malaysia



Museum Budapest on Hero's Square, Hungary



Doha International Airport, Qatar



SOHO Central Park, Indonesia

Customized products were provided to some of the above projects. The products included in this brochure represent only part of our product offering. For products beyond this scope please contact our Regional Office for further information.

OUR PROJECTS

National Building Museum, United States



Kennedy Space Centre, United States



Petronas Towers, Kuala Lumpur, Malaysia



Al Waab Mall, Qatar



Hilton Salalah Resort, Oman



London Heathrow Airport, United Kingdom



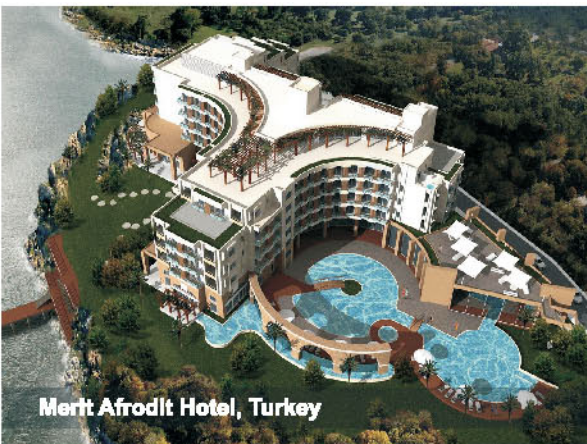
Magarpatta Cyber City, Pune, India



Greenbelt 5 Mall, Philippines



Merit Afroditi Hotel, Turkey



Ohotny Ryad, Russia



Shanghai Subway, China





Malaysia

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Manufacturer reserves the right to change specifications without prior notice.

M-PG-J-0116