



# SMARTSOURCE<sup>®</sup>

## DEDICATED OUTSIDE AIR SYSTEM WSHP

BUILT WITH SMARTBOOST HEATING TECHNOLOGY<sup>™</sup>

600 to 4000 cfm



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# INTRODUCING **SMARTSOURCE® DOAS**

Dedicated outside air systems (DOAS) bring the outside in by drawing 100% outside air through the unit and into the building's HVAC system to improve indoor air quality and ensure that proper ventilation is efficiently delivered to the desired space.

The **SMARTSOURCE DOAS** is designed to accommodate a diverse range of entering air conditions ranging from the hottest summer days to the coldest winter nights. It provides advanced unit control features for maximum application flexibility, incorporates an impressive array of leading technologies to provide premium performance, achieving up to a 7.1 ISMRE rating that is 66% higher than ASHRAE's 90.1-2019 minimum efficiency, and is offered at a very attractive price.

## PERFORMANCE LEADING TECHNOLOGIES

### SMARTBOOST HEATING

Daikin's exclusive SmartBoost Heating Technology™ revolutionizes heating operation for water source heat pumps by utilizing the hot gas reheat coil in addition to the unit's primary DX coil. This allows outside air to enter the unit as low as 0°F without use of pre-heat, while acquiring heating efficiencies as high as 5.1 IS COP per AHRI 920-2020.



### MICROTECH® CONTROLS

MicroTech® controls provides built-in logic that automatically selects between heating, cooling, or dehumidification modes of operation. It dynamically controls compressor staging, modulating hot gas reheat, and the electronically-controlled expansion valve to produce a discharge air temperature accuracy of  $\pm 1^\circ\text{F}$  under steady-state conditions.

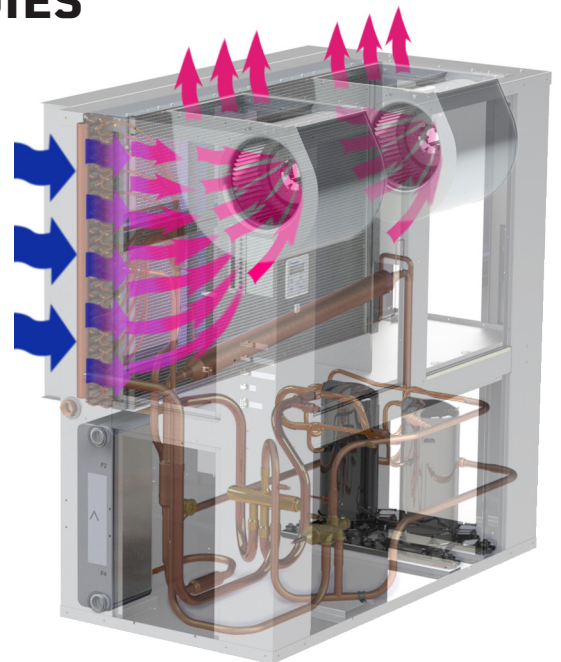
### SHAFTLESS BLOWER(S) WITH EC FAN MOTOR(S)

With electronically commutated fan motors and industry leading shaftless blower technology, SmartSource DOAS delivers high efficiencies to ensure premium performance. Each unit can be programmed for either constant or variable airflow control, ranging from 70% to 200% of nominal airflow while attaining external static pressures over 2.0".



### MULTI-STAGE TANDEM COMPRESSORS

With 8 stages of compression and active superheat control, SmartSource DOAS provides just the right amount of capacity, from 100% all the way down to 30%, to reach the desired supply air temperature and humidity level.



# DOAS FEATURES & BENEFITS



## 1 MULTI-STAGE TANDEM SCROLL COMPRESSORS

- 8 steps of capacity control from 30%-100%

## 2 MODULATING HOT GAS REHEAT VALVE

- Controls discharge air temperature to  $\pm 1^\circ$

## 3 ELECTRONIC EXPANSION VALVE

- Dynamic superheat control increases accuracy of discharge air temperature and provides stable operation

## 4 SHAFTLESS BLOWER WITH EC MOTOR

- Constant or variable air volume with field programmable airflow levels

## 5 SMARTBOOST HEATING TECHNOLOGY

- Aluminum micro-channel coil
- Dual-functioning coil provides reheat for dehumidification and capacity boost for heating

## 6 BRAZED PLATE HEAT EXCHANGER

- Asymmetric design for low water pressure drop and higher efficiency

## 7 MICRITECH CONTROLS

- Advanced Digital Controls
- 4-line OLED digital display with keypad
- Accurate discharge air temperature and humidity control
- Standard BACnet communication
- Optional on-board trending



## OFFICE BUILDINGS

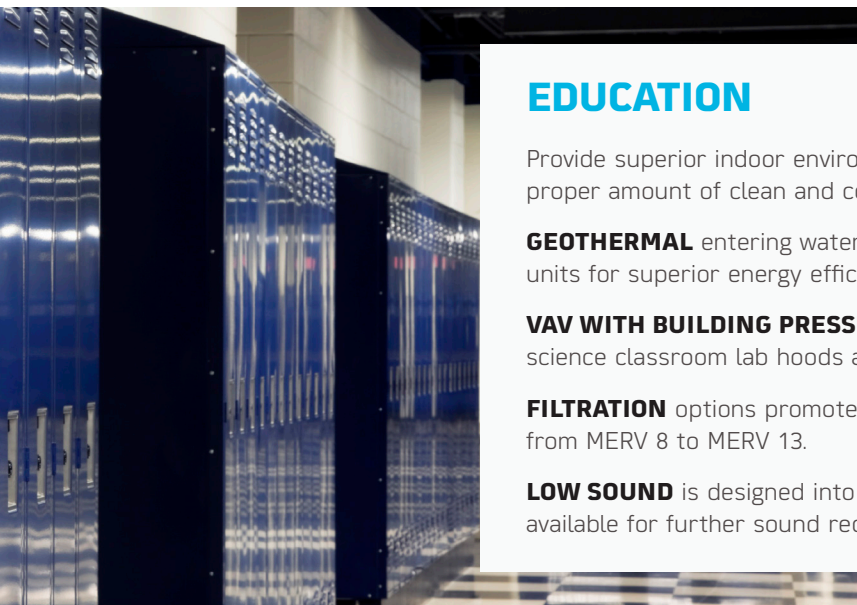
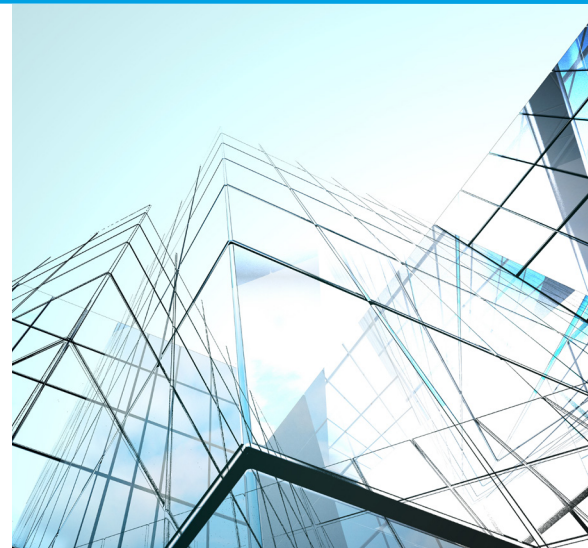
Maximize building efficiency by decoupling the ventilation load from the space cooling and heating loads and employing smart ventilation air control strategies:

**VAV WITH DUCT STATIC CONTROL** allows for independent demand control ventilation of multiple zones.

**DISCHARGE AIR RESET** based on outdoor air or space temperature allows the DOAS unit to help offset elevated space loads.

**ENERGY RECOVERY** through a separate ERV can be applied in series with the SmartSource DOAS unit.

**BACNET MS/TP** communication is standard on all SmartSource DOAS units to allow connection to a building automation system (BAS).



## EDUCATION

Provide superior indoor environmental quality in learning environments by ensuring the proper amount of clean and conditioned ventilation airflow is delivered to each classroom.

**GEOTHERMAL** entering water temperature range is standard on all SmartSource DOAS units for superior energy efficiency.

**VAV WITH BUILDING PRESSURE CONTROL** helps maintain positive building pressure as science classroom lab hoods are turned on and off.

**FILTRATION** options promote high indoor air quality with filtration efficiencies ranging from MERV 8 to MERV 13.

**LOW SOUND** is designed into SmartSource DOAS and compressor sound blankets are available for further sound reduction.

## WITH OTHER DAIKIN EQUIPMENT

SmartSource DOAS WSHP with MicroTech® controls can easily pair with other Daikin systems to provide superior building performance and a higher quality indoor environment.

**SITELINE™ BUILDING CONTROLS** by Daikin offers a simple, cost-effective, plug-and-play building control system perfect for small to mid-sized WSHP systems.

**DAIKIN WATER-COOLED VRV SYSTEMS** can share a common water loop with the SmartSource DOAS unit.



**MICROTECH  
CONTROLLER**



**LOOP WATER  
MANAGER**



**VRV SYSTEM**



**SITELINE™ BUILDING CONTROLS**



FOR MORE INFORMATION ABOUT OUR COMPLETE OFFERING OF HVAC SYSTEMS AND SOLUTIONS, VISIT **DAIKINAPPLIED.COM** TO FIND AN OFFICE NEAR YOU.