



# PATHFINDER<sup>®</sup>

## AIR-COOLED SCREW CHILLER

MEET YOUR EFFICIENCY, SOUND AND SIZE MATCH

100 to 565 tons



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# THE MOST EFFICIENT MACHINE ON THE MARKET

## PATHFINDER AIR-COOLED SCREW CHILLER

The **PATHFINDER** is the most efficient machine on the market today – the first air-cooled screw chiller with IPLVs capable of exceeding 22 EER. It also includes an array of features that optimize sound, and deliver the lowest turndown in flow and highest leaving chilled water capabilities. And the Pathfinder is 100% configurable, customized to meet the size and performance needs of each application. Available from 100 to 565 tons, Pathfinder is a fit for a broad range of applications.

Pathfinder has received recognition from numerous organizations, including the AHR Innovation Award and Frost & Sullivan Manufacturing Leadership Award; it was also voted among the best new products for the Consulting-Specifying Engineer's Product of the Year awards.

## MEET YOUR EFFICIENCY, SOUND AND SIZE MATCH

### INDUSTRY-LEADING EFFICIENCY

With an IPLV rating that exceeds 22 EER, Pathfinder exceeds ASHRAE 90.1 Path A baseline efficiency levels by more than 60%, and beats all other air-cooled screw chillers on the market when it comes to efficiency. Featuring Daikin's proprietary Variable Volume Ratio (VVR<sup>®</sup>) compressor technology, Pathfinder senses the precise amount of lift needed and adjusts the compression ratio on the fly to deliver optimal efficiency, regardless of ambient temperature or time of day. Combined with fully-variable-speed ECM fan motors, the Pathfinder delivers top efficiency and minimizes cost of ownership, as an ever-growing cohort of Pathfinder owners can attest.



### ULTRA-QUIET OPERATION

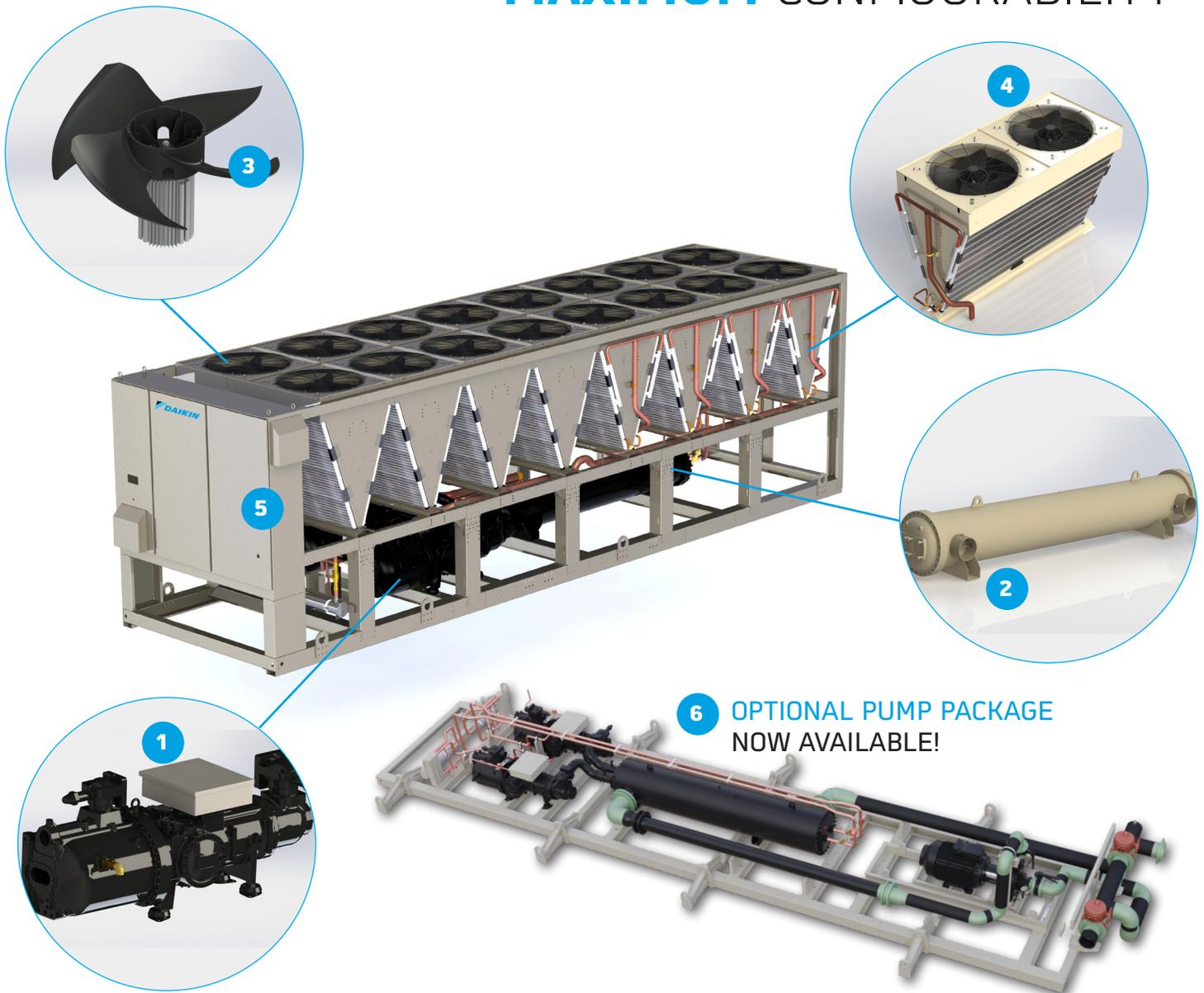
Daikin offers among the quietest unattenuated air-cooled screw chillers. Unlike some screw chillers that get louder as they unload, Daikin chillers get quieter, thanks to variable speed compressors and ECM condenser fans. While performance is maximized in real-time as conditions vary, the compressor's single rotor design and built-in muffler reduces noise and vibration resulting in neighborhood friendly sound levels at all load points. With AHRI-370 full load sound pressure levels as low as 66 dBA, and part load levels as low as 54 dBA, quieter than a typical conversation, you can count on Pathfinder to deliver comfort quietly.

### 100% CONFIGURABLE

As the first fully configurable air-cooled screw chiller unit in the industry, Pathfinder's flexible design and component options allow you to balance price and performance to best meet your requirements. You can create your Pathfinder to more closely match the job requirements, reducing installation and operating costs. By dialing in performance, you never end up with a chiller that is too big or too small. You choose what's important and valuable to your project and building. With optional R-513A refrigerant, you can also configure Pathfinder to have a lower global warming potential.



# MAXIMUM CONFIGURABILITY



## 1 VARIABLE VOLUME RATIO (VVR®) SCREW COMPRESSORS

Configurable speed and size options allow Pathfinder to dial in the exact capacity required as design conditions vary.

## 2 EVAPORATOR

Varying length, tube quantity, and number of baffles allow Pathfinder to yield different efficiency, pressure drop, and minimum flow rate characteristics.

*\*shown uninsulated for clarity*

## 3 HIGH EFFICIENCY FAN

Fan Motor: Options for fixed speed and fully variable speed fan motors impact the unit efficiency and sound level. Fully variable speed ECM motor options can yield much quieter operation as ambient temperatures fall.

Fan Blade: Inherently quiet composite fan design won't degrade or corrode over the lifetime of the unit.

Optional Reduced Sound Mode reduces fan speed for quieter day/night operation. Enable/disable via time schedule to optimize for best performance or lowest sound.

## 4 MODULAR CONDENSER DESIGN

Modular condenser construction allows variation of the footprint and efficiency of the unit independent of the capacity required.

## 5 ELECTRICAL DESIGN

Configurable electrical design means the design amperage is tailored to your specific design conditions, reducing installation and retrofit costs.

## 6 OPTIONAL PUMP PACKAGE

Single or dual pumps for reduced installation time.

6 OPTIONAL PUMP PACKAGE  
NOW AVAILABLE!

## EDUCATION

Provide productive learning environments by offering the quiet and clean comfort your students and staff deserve, at a budget your school can afford.

**VARIABLE SPEED DRIVES** adjust the compression ratio to meet load demands of the building, achieving maximized efficiency that is inherently quieter than competitors.

**COMPOSITE ECM CONDENSER FANS** move large volumes of air at exceptionally low sound levels and are immune to rust, broken rivets and other ills possible with conventional fans. These fans also improve the part-load efficiency for low cost of ownership.

**STANDARD COMPRESSOR MUFFLER** reduces noise and vibration resulting in neighborhood friendly sound levels at all load points.



## GOVERNMENT

Maximize value while saving money with Pathfinder's design flexibility and low-maintenance design, perfect for government applications.

**CONFIGURABLE DESIGN** yields maximum design flexibility. When you need to get the most out of your building, you need a chiller that can deliver that same capability. Whether the design goal is small footprint, low noise, low cost of ownership, or low first cost, Pathfinder can mix and match major components to deliver.

**ROBUST COMPONENTS** can stand the test of time, delivering long life and low maintenance. Pathfinder's unique single-rotor screw design minimizes forces and bearing loads, reducing wear and tear.

**HIGH PART-LOAD EFFICIENCY** configurations offer low cost of ownership, maximizing value while keeping first cost manageable for any budget.

## PROCESS

A redundant, robust and intelligent cooling system is essential in mission critical applications, as is efficiency that allows a fast payback. Rely on Pathfinder to help you strike that balance with advanced technologies and scalable configurations.

**OPTIONAL INTEGRATED WATER-SIDE ECONOMIZER** is ideal for process applications like data centers and manufacturing process cooling where operation during cooler winter months is common. When outdoor ambient temperatures are low, Pathfinder can cool the building fluid with a set of fluid-to-air heat exchangers, using only fan power, allowing compressors to be turned off to maximize efficiency.

**VVR® COMPRESSOR TECHNOLOGY** adjusts the chiller compression ratio and rpm using a VFD to meet partial load demands and varying outdoor ambient conditions, ideal for data centers where load and ambient temperature can vary greatly.

**RAPIDRESTORE® TECHNOLOGY** restarts the chiller in as little as 35 seconds after power is restored, bringing compressors to full-load speed quickly, and offering peace of mind during a critical power loss when every second counts.



**PATHFINDER WITH FREE COOLING**



FOR MORE INFORMATION ABOUT OUR COMPLETE OFFERING OF HVAC SYSTEMS AND SOLUTIONS, VISIT [DAIKINAPPLIED.COM](http://DAIKINAPPLIED.COM) TO FIND AN OFFICE NEAR YOU.