

Copeland R290 solutions

for Integral Display Cases



Copeland solutions for integral display cases with R290

Many end-users and equipment manufacturers are investigating ways to minimize their impact on the environment while adapting and improving their system architecture. The F-Gas Regulation is accelerating the commercial refrigeration market transition to future-proof refrigerants and improved new system architectures.

R290 (Propane) is one of the most-discussed refrigerants which has long been known for its good performance. R290 is a future-proof refrigerant with excellent thermodynamic properties and it is becoming an attractive natural refrigerant choice for distributed system architectures such as Integral display cases.

Copeland is investing in research and development activities in order to pro-actively support and guide the customers to go through the F-Gas transition phase. With already several tens-of-thousands of integral display case solutions installed in retail stores all over the world, Copeland is leading the way in providing the advanced technology solutions to the customers for R290 integral display cases.

Key benefits of Copeland R290 solutions

Solution provider

- Application & engineering experts team with in-depth know-how and experience
- Full technical support during development and possibility for customized solutions development
- Solution centre with system performance, sound & vibration, EMC testing and analytical engineering capabilities
- Proven pre-defined solutions for faster implementation and short time to market for OEMs



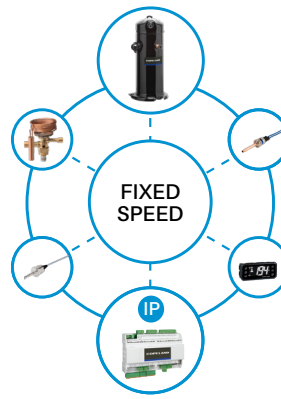
Safety and regulatory compliance

- Reduce complexity of regulations by providing state-of-the-art "pre-compliant" solution
- Allow easy & fast certification/compliance of the system according to relevant application standards
- Safety compliance - EN60335-2-89 / EN60079



Technology options for flexibility

- Solutions for multiple circuit and single circuit applications for cabinets with and without doors
- Fixed speed and variable speed modulation
- Parametric and programmable controller for customisation



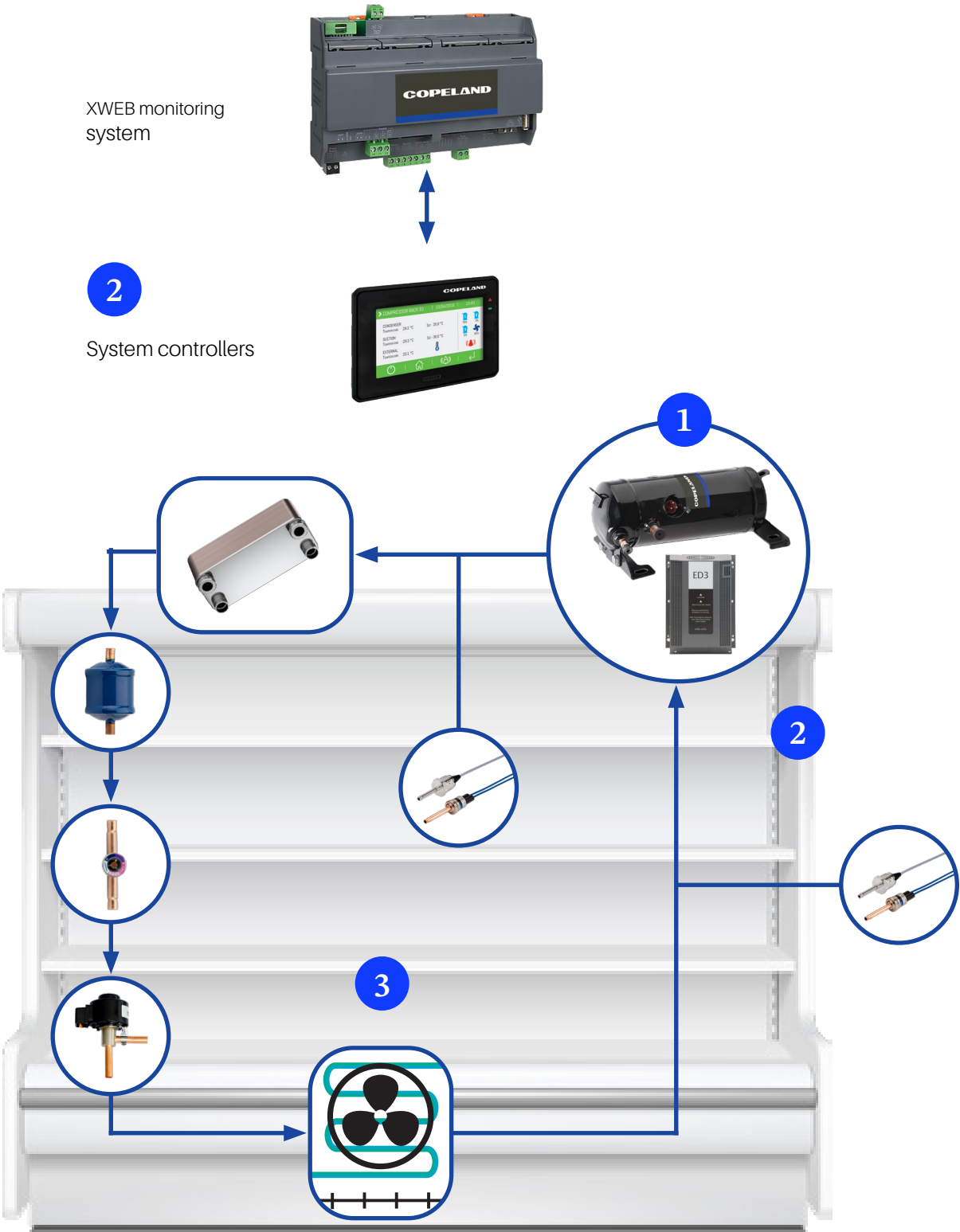
Intelligent electronics

- Advanced control features with Defrost synchronization schemes and Demand Defrost for higher system efficiency
- Variable speed compressor & system management
- Enable preventive maintenance & enhanced services with compressor & system data
- Deliver added value at system, facility and enterprise level



R290 variable speed solutions

For single circuit cabinet with high refrigerant charge



Copeland solution benefits

1

Efficient capacity modulation

- Improved system seasonal performance
- Noise reduction at part load
- Compact compressor design (<200mm height)
- Versatile platform: MT & LT;
from 1 to 7kW MT capacity and
0.5 to 2.5kW LT capacity
- Plug & play inverter drive with large modulation range



2

Programmable controller

- Scalable electronic platform
- Pre-set compressor & drive parameters
and envelopes
- Validated case management, compressor
& superheat control
- Built-in diagnostic & alarm management
- Fault detection enabled by inverter data
- Envelope protection for reliability & efficiency



3

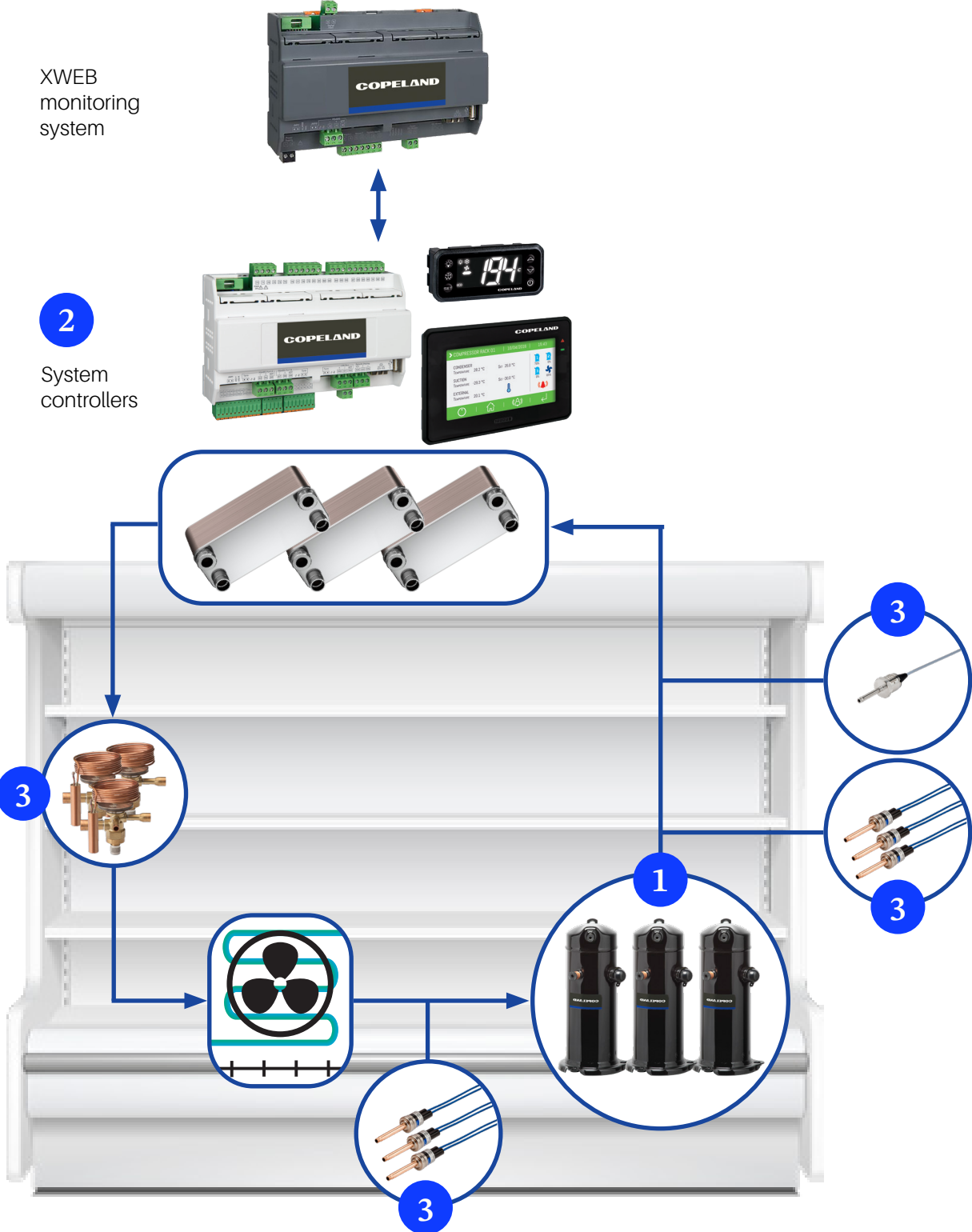
Pre-compliant solution

- EN603335-2-89 or ATEX ready components
- Safety compliant sensors & switches
- Electronic expansion valves qualified per
EN60335-2-89
- Pre-matched compressor-drive package according
to EN60335-2-34 & EN55014
- Reduced complexity allowing easy & fast certification



R290 Fixed Speed Solutions

For multiple circuit cabinet with low refrigerant charge



Copeland solution benefits

1

Optimized medium temperature scroll design

- High scroll efficiency with tailored application envelope
- Reduced inner volume & oil quantity
- Dedicated design for lower refrigerant charge below 150g
- Fully hermetic design - safe compressor for R290 refrigerant
- Compact 3-foot fully hermetic design
- Molded plug option for easy service



2

System management electronics

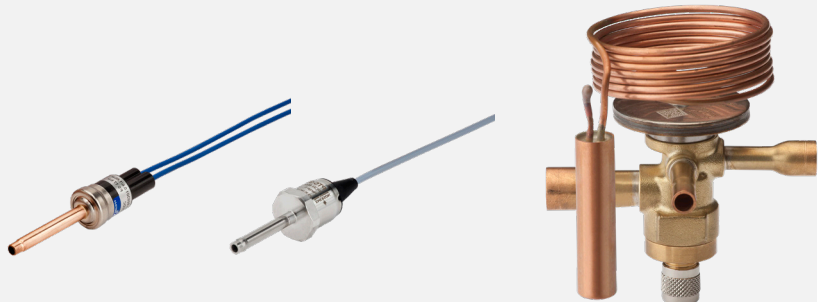
- Temperature control
- Lights & fans management
- Case safety & protection
- VDE & UL ready design
- User display
- Defrost optimization
- Alarm management and enhanced communication



3

R290 ready flow controls

- Best-in-class controls
- Safety compliant sensors & switches
- Optimized expansion valves





For more details, see copeland.com/en-gb

Copeland Europe GmbH
Pascalstrasse 65 - 52076 Aachen, Germany
Tel. +49 (0) 2408 929 0 - Fax: +49 (0) 2408 929 570 - Internet: copeland.com/en-gb

The Copeland logo is a trademark and service mark of Copeland LP or one of its affiliates.
Copeland Europe GmbH shall not be liable for errors in the stated capacities, dimensions, etc., as well as typographic errors.
Products, specifications, assumptions, designs and technical data contained in this document are subject to modification by us without prior notice. Illustrations are not binding.

©2024 Copeland LP.