



**DATASHEET**  
Air-Conditioning  
Unit  
CoolSeven

**CONTEG**

# COOLSEVEN COOLING UNIT



PREMIUM Server RF1 rack + CoolSeven unit

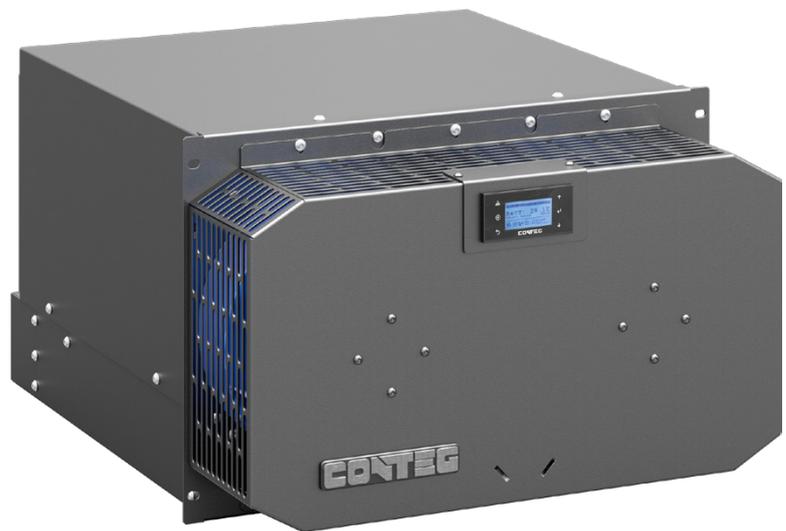
➤ The **CoolSeven** cooling unit with direct expansion represents a type of a unit with precision cooling inside racks. CoolSeven is a 7U tall indoor unit integrated into 19" racks and utilizing a split cooling system composed of two components—an indoor and an outdoor unit.

## MAIN ADVANTAGES

- Unit is a direct expansion type which provides precision cooling inside racks
- Compatible with all 19" IT racks
- Individual cooling control on rack level
- EC fans with very low power consumption
- Heat dissipation directly from the racks to outside areas
- Precise and fluent cooling capacity control corresponding to air temperature
- A variant of the outdoor unit for very low temperatures is available
- Can operate without filters
- A wide selection of accessories
- Capable of communicating with a monitoring system (for example, CONTEG Pro Server)
- Emergency door opening function when the emergency temperature is exceeded. Compatible with the EOS—Emergency opening system.

## SUITABLE FOR

- Office spaces
- IT racks or compact data centers (MCL—Modular closed loop)
- Racks with insufficient or no air-conditioning
- Dusty environments



CoolSeven

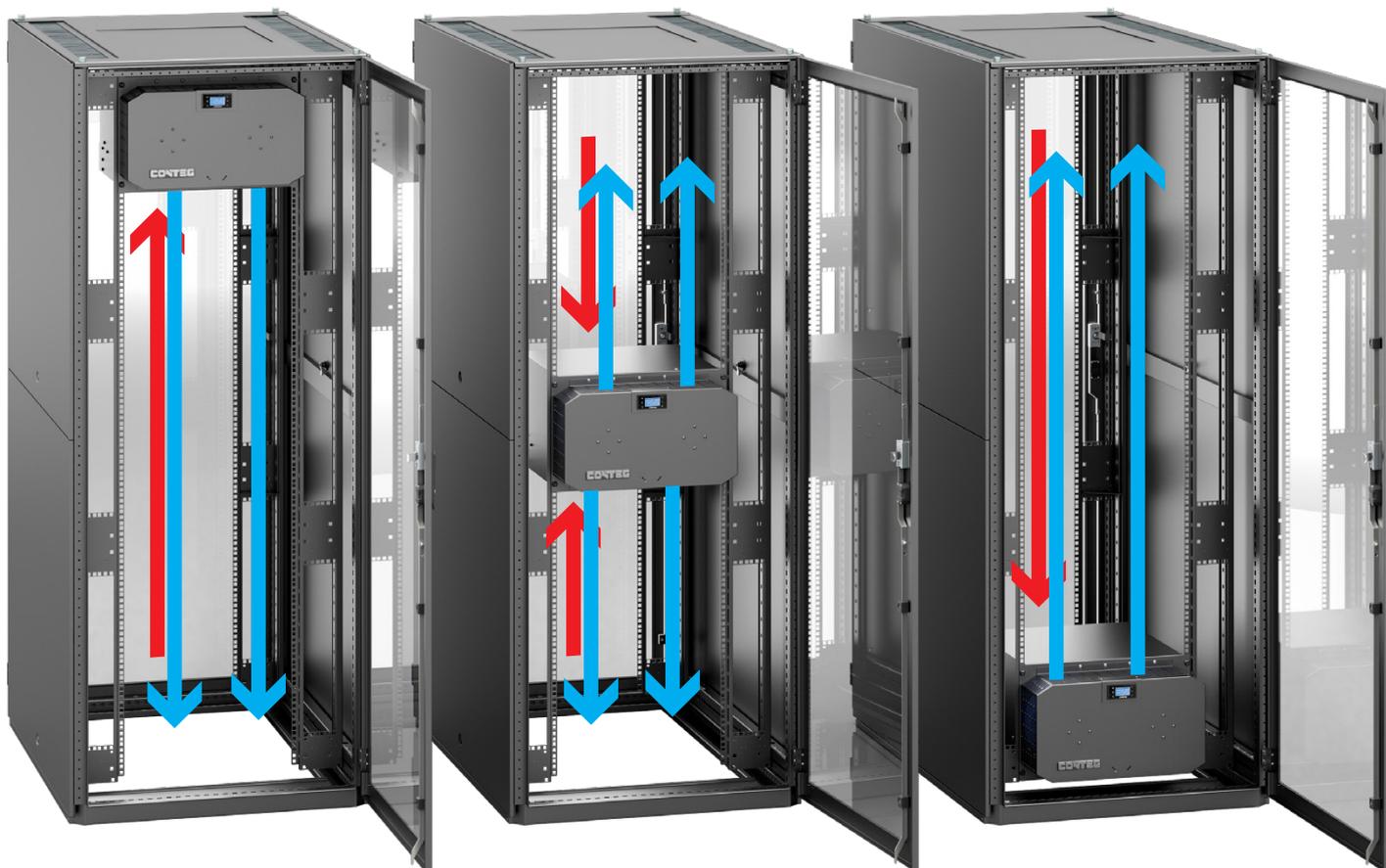
## DESCRIPTION

- The CoolSeven unit operates on the direct expansion principle, circulating the coolant between the indoor and outdoor units. The outdoor compressor unit is equipped with a BLDC inverter compressor, which allows for automatic cooling capacity control (up to 8 kW). Thanks to the indoor and outdoor units being separated, there is no need for additional room air-conditioning.
- The CoolSeven unit is designed for integration into 19" racks, with a height of seven rack units (7RU). Apart from the refrigerant piping, power supply and communications sources, the unit must also be connected to a condensate drainage.
- The highly efficient evaporator of the indoor air-conditioning unit features a special hydrophilic surface that retains condensate droplets, while the EC fans maintain very low power consumption.
- Airflow and cooling capacity are automatically controlled by an integrated control unit with proprietary CONTEG software. The unit is equipped with a compact LCD for checking and monitoring cooling parameters. To communicate with BMS systems, the unit is equipped with an integrated MODBUS RTU interface; alternatively, the unit can also be equipped with a network card (SNMP, WEB server, Logger, E-mail, FTP PUSH, MODBUS TCP/IP, BACnet...).
- Setting up the CoolSeven unit is very user-friendly, yet advanced, more complex functions are also available. Initial start-up and subsequent operation are therefore very easy and efficient.

COOLSEVEN—AC-C7-DX-XXXXXXX

Indoor unit	Code	AC-C7-DX-xxxxxxx
Connected outdoor unit	Code	AC-ODX-07-xxxxx
Cooling system		Direct expansion
Architecture		Open/closed
Capacity regulation		11-100 %
Nominal cooling capacity	kW	8,1
Nominal net cooling capacity	kW	7,5
Power supply	V/ph/Hz	230/1/50-60
Running current *	A	2,6
Maximum current	A	2,7
Nominal power consumption *	W	613
Maximum air flow	m <sup>3</sup> /h	1791
Number of fans	pcs	2
Motor fan technology		EC
Refrigerant type		R410A
Filter class		without filter
Sound pressure level Lw(A) **	dB	30-52
Width	mm (in)	482,6 (19" installation)
Height	mm (U)	311 (7U installation)
Depth	mm	624
Weight	kg	29,8
Supply pipe diameter and type	mm	12
Return pipe diameter and type	mm	16

\* Values at stable 80% output. \*\* Depends on rack and fans' RPM.



# COOLSEVEN COOLING UNIT ACCESSORIES

## LCD DISPLAY

The unit is equipped with a compact LCD for checking and monitoring cooling parameters.



## CONDENSATE PUMP

- All CONTEC units can be connected to a standard gravity drainage system.
- If such a system is not available, it is possible to drain water with a condensate pump.
- Each unit equipped with a pump includes a water level sensor to start the pump.
- Units without a pump are always equipped

with a water level sensor capable of powering down the unit when the water level in the condenser reaches a critical level, triggering an alarm.



## DUAL POWER SUPPLY

- Electrical switchboard for two power supply systems.
- This device allows the unit to be supplied from two independent sources.

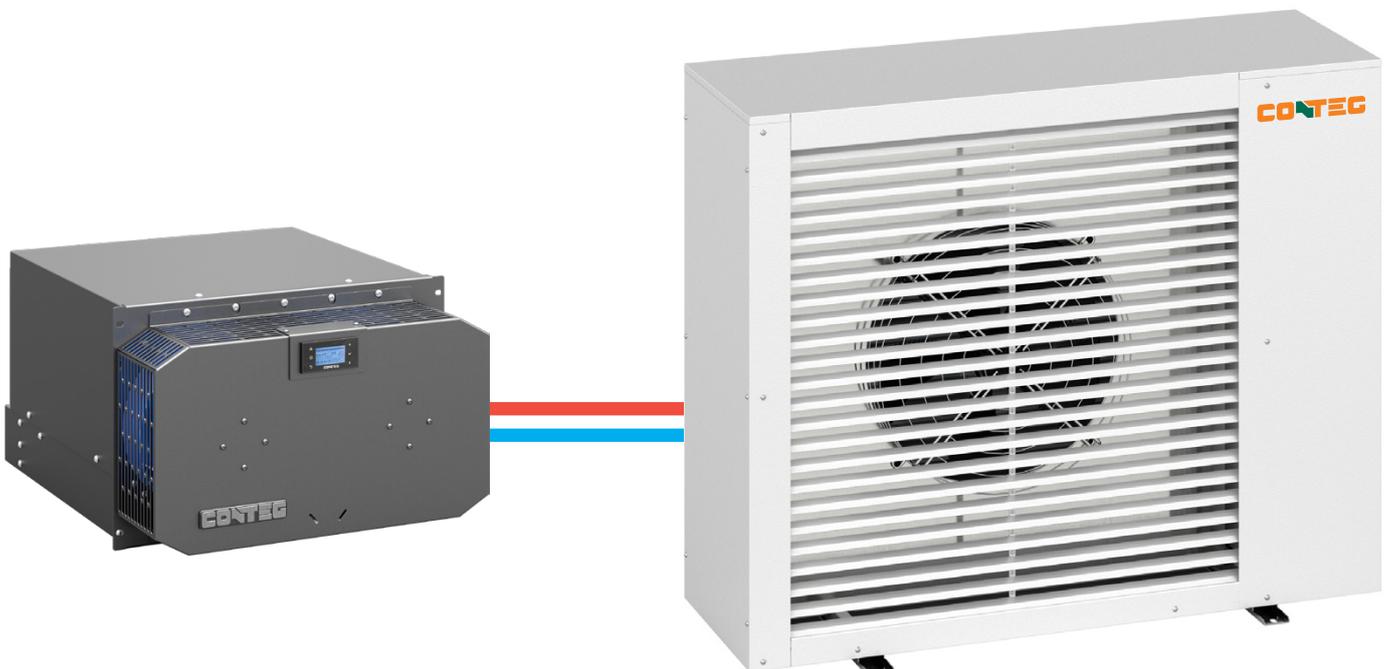
## "pCO WEB" COMMUNICATION CARD

- Enables additional individual communication (monitoring and control).
- Communication via Ethernet network protocols.
- Functions: Web server, E-mail, FTP, SNMP, BACNet, ModBus TCP/IP and others.



**Part number on request.**

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## COOLOUT CONDENSING UNITS



CoolOut—front view



CoolOut—rear view

➤ The **CoolOut** outdoor condensing units are specially designed for conducting heat out of data centers. The units meet all the strict demands on precision, stability and service life required for data centers.

### MAIN BENEFITS

- Advanced communication and cooling regulation based on commands from the data center
- Very low consumption thanks to high-quality EC fans and active regulation of condensing pressure
- Inverter-controlled BLDC compressor
- Wide range of cooling power from 11 % upwards
- Versions for extreme ambient temperatures available
- Robust frame and housing made of high-quality corrosion-resistant materials
- Ability to communicate with a monitoring system (SNMP, Modbus TCP, Modbus RS485)
- Ability to monitor and control operating parameters through the indoor unit
- Simple to install and operate
- Option for remote servicing after connecting a PGDx service display
- Specially designed for precision cooling
- Linear electronic expansion valve

### SUITABLE FOR

- Wide range of ambient conditions
- Installations emphasizing economical and reliable operation
- Compatible with CONTEG's CoolTeg DX, CoolTop DX and CoolSeven cooling units

### DESCRIPTION

- CoolOut is an outdoor condensing unit designed for precision compression cooling. The units are fitted with an inverter-controlled rotary DC compressor.
- Thanks to the use of hot gas bypass technology, the unit's cooling power can be adjusted from 11% of total cooling power upwards regardless of outdoor conditions.
- The use of a specially designed condenser, EC fans and a system of dynamic control of condensing pressure allowed minimizing the power consumption and noise emissions of the cooling unit.
- The running of the unit and correct functioning of all its parts is overseen by a built-in regulator with special CONTEG software.
- The regulator also ensures communication with the indoor unit via Fieldbus protocol. Basic information about the running of the outdoor unit can be tracked through the indoor unit.
- The design of the condensing unit allows its mounting onto the floor or a wall.
- CoolOut units are highly user-friendly in their setup and operation. Initialization and operation is very simple.

		AC-ODX-07-XXXXXXX	AC-ODX-07-SXXXXXX	AC-ODX-25-XXXXXXX
Operating conditions	°C	-20 to +47 °C	-20 to +55 °C	-20 to +47 °C
Operating conditions <sup>4</sup>	°C	-40 to +47 °C	-	-40 to +47 °C
Power regulation		Smooth 11-100%	Smooth 11-100 %	Smooth 11-100%
Rated cooling power	kW	8.1	8.1	26
Power supply	V/ph/Hz	230/1/50-60	230/1/50-60	400/3/50-60
Operating current <sup>1</sup>	A	8.84	10.4	11.28
Maximum current	A	12.8	17.5	17
Rated input power <sup>1</sup>	kW	2.03	2.39	8.2
Compressor control		BLDC inverter	BLDC inverter	BLDC inverter
Coolant regulation		Linear expansion valve	Linear expansion valve	Linear expansion valve
R410A coolant capacity <sup>2</sup>	kg	0	0	0
Acoustic pressure Lp(A) <sup>1</sup>	dBA	44	63	50
<b>Dimensions/weight</b>				
Width	mm	1200	1200	1400
Depth	mm	400	400	450
Height <sup>3</sup>	mm	996	996	1200
Weight	kg	72	99	130
<b>Piping connection</b>				
Fluid piping (diameter)	mm	12	12	12
Gas piping (diameter)	mm	16	16	22
Max. piping length	m	75	75	85
Max. difference in elevation	m	50	50	50

<sup>1</sup> Values at stabilized 80 % output. <sup>2</sup> Without coolant, filled in during installation. <sup>3</sup> Including the profile for mounting the condensing unit. <sup>4</sup> If fitted with winter-kit accessories. The values shown may vary depending on the current product innovation.



**Part number on request.**

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## COOLOUT CONDENSING UNITS

# ACCESSORIES

### DUAL POWER SUPPLY

- Electrical distributor for two power supply branches.
- The device allows powering a unit from two separate power sources.

### RS485 BMS COMMUNICATION CARD

- Optically insulated card allowing communication with a unit via Modbus RTU protocol.

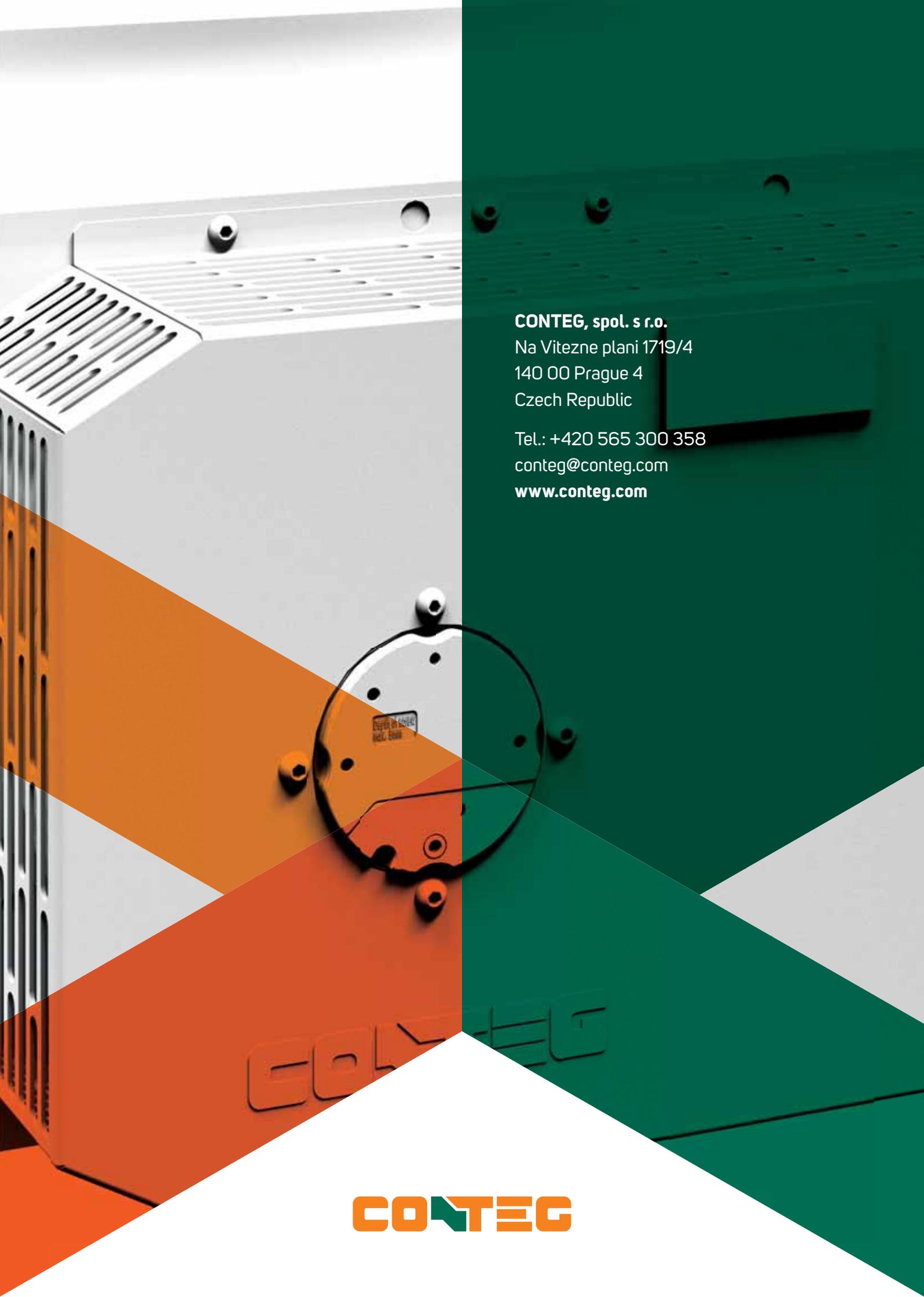


### pCO WEB COMMUNICATION CARD

- Allows further individual communication (monitoring and control).
- Communication via Ethernet network protocols.
- Functions: web server, e-mail, FTP, SNMP, BACNet, ModBus TCP/IP and more.



Comparison	CoolTeg Plus				CoolTop		CoolSeven	CoolRAC		
	CW	DX	XC	DF	CW	DX		CW	XC	DF
<b>Installation</b>										
Between IT racks	✓	✓	✓	✓	-	-	-	-	-	-
On top of IT racks	-	-	-	-	✓	✓	-	-	-	-
Inside of 19" racks	-	-	-	-	-	-	✓	-	-	-
Farther from IT racks	-	-	-	-	-	-	-	✓	✓	✓
<b>Cooling medium</b>										
Water/glycol	✓	-	-	-	✓	-	-	✓	-	-
R410A	-	✓	✓	-	-	✓	✓	-	✓	-
R410A + water/glycol	-	-	-	✓	-	-	-	-	-	✓
<b>Application</b>										
Smaller	✓	✓	✓	✓	✓	✓	✓	-	-	-
Medium	✓	-	✓	✓	✓	✓	-	✓	✓	✓
Bigger	-	-	-	-	-	-	-	✓	✓	✓
<b>Occupied floor area (in data center)</b>										
None	-	-	-	-	✓	✓	✓	-	-	-
Small	✓	✓	✓	✓	-	-	-	-	-	-
Large	-	-	-	-	-	-	-	✓	✓	✓
<b>Nominal cooling capacity</b> <span style="float: right;">Air temperature in hot zone: 35 °C; water temperature of 6/12 °C (for CW units), no condensation.</span>										
7-19 kW	-	DXSmall DX30	-	-	-	-	CoolSeven	-	-	-
20-39 kW	CW30 CW30 SuperC	DX30	XC30	DF	CoolTop2	CoolTop2 CoolTop3	-	-	-	-
40-100 kW	CW60	-	XC40	-	CoolTop3	CoolTop2 CoolTop3	-	CoolRAC CW CoolRAC XC CoolRAC DF		
<b>Suitable for</b>										
Smaller applications – e.g. Modular Closed Loop	-	✓	-	✓	-	-	✓	-	-	-
High outside temp.	-	-	✓	-	-	-	✓	-	✓	-
Cooling system with a cold-water source	✓	-	-	-	✓	-	-	✓	-	-
No water in a data center	-	✓	✓	-	-	✓	-	-	✓	-
Free-cooling	✓	-	-	✓	✓	-	-	✓	-	✓

The image features a white industrial machine on the left side, with a prominent circular opening in the center. The machine has a perforated top section and a circular panel with several screws. The background is a dark green color with a subtle grid pattern. The overall design is modern and industrial.

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