



 DATASHEET

CoolTeg G CW

In-row cooling units
designed to be connected
to any type of chilled water

CONTEG

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TARGETED COOLING AND AIRFLOW MANAGEMENT

COOLTEG COOLING UNITS



CoolTeg in-row cooling units are specifically designed for easy integration between IT racks. With various cooling principles, sizes and capacities — they are our main product line for effective targeted cooling, from server rooms to large data centers.

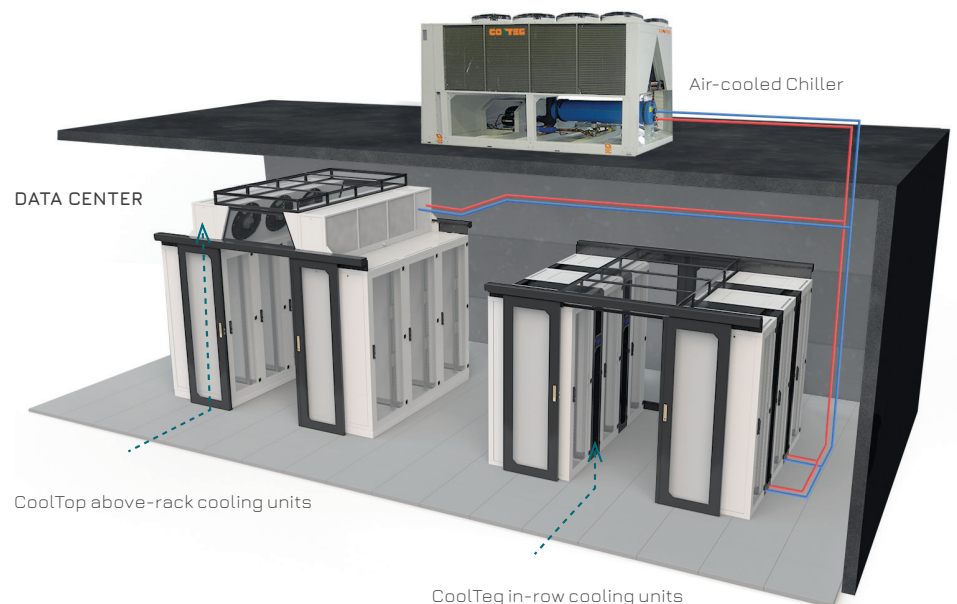
↳ Main advantages

- ✓ High cooling capacity
- ✓ Does not require a raised floor
- ✓ Ease of expandability of the data center
- ✓ Supplies cold air directly to the front of the servers
- ✓ Very low power consumption thanks to EC fans and control software
- ✓ Small occupied floor area
- ✓ Modern and user-friendly control system
- ✓ Flexibility of room arrangement
- ✓ Perfect compatibility with CONTEG racks
- ✓ Wide range of accessories

↳ Suitable for

- ✓ Contained Hot Aisles
- ✓ Contained Cold Aisles
- ✓ Open Aisles
- ✓ Mini Data Centers — compact modules combining CoolTeg in-row cooling units and PREMIUM Server RF1 racks. Front and rear rack doors (glass or full-metal) create an enclosed airflow space between racks and cooling units.

COLOR:  RAL 9005  RAL 7035



↳ Description

- Radial fans (with EC motors) for lowest energy consumption and precise control of airflow to servers
- High-efficiency copper-aluminum heat exchangers; also useful for Free-cooling systems
- Controller with special CONTEG software, based on long-term experience from worldwide data centers
- 4.3" color touch-screen display for user-friendly communication
- One display operating up to 16 units per group
- Independent unit control as well as CoolTeg group control functions for entire row of racks
- Wide range of settings adjust performance to specific project
- Communication through TCP/IP protocol (standard)
- Easy ModBUS and remote management from any computer connected to Internet (via integrated Webserver)
- Other protocols available
- Humidity sensors in both cold and hot zones
- Humidification and dehumidification mode in each unit
- Four temperature sensors per unit

FOUR COOLING SYSTEMS:

- CW — chilled water system
- DX — direct expansion system with compressor (in outdoor unit)
- XC — direct expansion system with compressor (within CoolTeg unit)
- DF — hybrid Dual Fluid system

CHILLED WATER COOLING UNITS

COOLTEG G CW



CoolTeg G CW30



CoolTeg Plus CW60

 **CoolTeg G CW** chilled water in-row cooling units are designed to be connected to any system with chillers producing cold water.

↳ Main advantages

- ✓ Cooling capacity: up to 81 kW
- ✓ Virtually unlimited number of indoor units per hydraulic circuit
- ✓ Free-cooling system saves significant amount of power
- ✓ Water temperature variable during the year, saving energy while controlling humidity level
- ✓ Variable chiller types fulfill any requirements
- ✓ Operation water temperature between +6 and +30 °C

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		CoolTeg G CW30	CoolTeg G CW30 Super C	CoolTeg Plus CW60
Indoor unit code		AC-TCW-42-30/ 1xG-xxx	AC-TCW-42-30/ 1xG-xxx	AC-TCW-42-60/ xx-xxx
Connected outdoor unit		Chilled water system (Chiller)		
BASIC DATA				
Cooling system	–	Chilled water		
Architecture ¹	–	Open or closed		Open
Nominal cooling capacity ^{2,7}	kW	40,4 47,4	52,8 59,9	80,7
Nominal net cooling capacity ^{3,7}	kW	39,4 46,4	50,3 57,4	75,9
Power supply	V/ph/Hz	230/1/50-60		400/3/50-60
Running current ⁷	A	6,3 6,7	10,7 10,8	6,7
Maximum current ⁷	A	7,2 7,6	11,7 11,8	8,3
Nominal power consumption	W	1 020	2 500	4 800
Nominal airflow ^{4,7}	m³/h	6 600 6 500	8 300 8 100	13 000
Number of fans	ks	6	5	3
Motor fan technology	–	EC		
Water flow ⁷	l/h	5 700 6 440	7 550 8 570	11 000
Filter class ⁵	–	ePM10 (M6)		G4
DIMENSIONS				
Height	mm (U)	2 006 (42U) up to 2 456 (52U)		1 978 (42U), 2 111 (45U) 2 245 (48U)
Width	mm	300		600
Depth ⁶	mm	1 000, 1 200 (for iSEVEN racks); 1 008, 1 208 (for PREMIUM racks)		
Weight—depth 1 000 mm, height 42/45/48/52U	kg	163/168/173/180	164/169/174/181	248/256/264
Weight—depth 1 200 mm, height 42/45/48/52U	kg	173/179/185/194	174/180/186/195	260/270/280
PIPING CONNECTION				
Supply pipe diameter and type	–	5/4" female		6/4" female
Return pipe diameter and type	–	5/4" female		6/4" female

¹ CoolTeg units can be used either independently (in rack rows) or integrated in Mini Data Centers — closed architecture rack systems and cooling units. Code changed as per ordering matrix.

² Cooling capacity is changed by controller; nominal cooling capacity is calculated at return hot air temperature of 35 °C without condensation (heat exchanger's temperature above dew-point), chilled water temp. 6/12 °C (for CW).

³ Net cooling capacity is the cooling capacity minus fan heat load—the actual unit cooling capacity available to IT equipment.

⁴ Airflow is changed by the controller; nominal airflow matches nominal cooling capacity.

⁵ Units for Mini Data Centers are delivered without filters.

⁶ Units for Mini Data Centers are available in 1 208 mm depths only.

⁷ Units are supplied with a four-row heat exchanger as standard. More powerful exchangers with six rows of tubes are available on request. The values are given for a "4-row | 6-row" heat exchanger.

CHILLED WATER COOLING UNIT

COOLTEG G CW30



CoolTeg G CW30

 **CoolTeg G CW30** chilled water in-row cooling unit is designed to be connected to any system with chillers producing cold water.

↳ Main advantages

- ✓ Cooling capacity: up to 45 kW
- ✓ Virtually unlimited number of indoor units per hydraulic circuit
- ✓ Free-cooling system saves significant amount of power
- ✓ Water temperature variable during the year, saving energy while controlling humidity level
- ✓ Variable chiller types fulfill any requirements
- ✓ Operation water temperature between +6 and +30 °C

COLOR:  RAL 9005  RAL 7035

CoolTeg G CW30		
Indoor unit code		AC-TCW-42-30/1xG-xxx
Connected outdoor unit		Chilled water system (Chiller)
BASIC DATA		
Cooling system	–	Chilled water
Architecture ¹	–	Open or closed
Nominal cooling capacity ^{2,7}	kW	40,4 47,4
Nominal net cooling capacity ^{3,7}	kW	39,4 46,4
Power supply	V/ph/Hz	230/1/50-60
Running current ⁷	A	6,3 6,7
Maximum current ⁷	A	7,2 7,6
Nominal power consumption	W	1020
Nominal airflow ^{4,7}	m³/h	6 600 6 500
Number of fans	ks	6
Motor fan technology	–	EC
Water flow ⁷	l/h	5 700 6 440
Filter class ⁵	–	ePM10 (M6)
DIMENSIONS		
Height	mm (U)	2 006 (42U) up to 2 456 (52U)
Width	mm	300
Depth ⁶	mm	1000, 1200 (for iSEVEN racks); 1008, 1208 (for PREMIUM racks)
Weight—depth 1000 mm, height 42/45/48/52U	kg	163/168/173/180
Weight—depth 1200 mm, height 42/45/48/52U	kg	173/179/185/194
PIPING CONNECTION		
Supply pipe diameter and type	–	5/4" female
Return pipe diameter and type	–	5/4" female

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² Cooling capacity is changed by controller; nominal cooling capacity is calculated at return hot air temperature of 35 °C without condensation (heat exchanger's temperature above dew-point), chilled water temp. 6/12 °C (for CW).

³ Net cooling capacity is the cooling capacity minus fan heat load—the actual unit cooling capacity available to IT equipment.

⁴ Airflow is changed by the controller; nominal airflow matches nominal cooling capacity.

⁵ Units for Mini Data Centers are delivered without filters.

⁶ Units for Mini Data Centers are available in 1208 mm depths only.

⁷ Units are supplied with a four-row heat exchanger as standard. More powerful exchangers with six rows of tubes are available on request. The values are given for a *4-row | 6-row* heat exchanger.

CHILLED WATER COOLING UNIT

COOLTEG G CW30 SUPER C



CoolTeg G CW30 Super C



CoolTeg G CW30 Super C chilled water in-row cooling unit is designed to be connected to any system with chillers producing cold water.

↳ Main advantages

- ✓ Cooling capacity: up to 60 kW
- ✓ Virtually unlimited number of indoor units per hydraulic circuit
- ✓ Free-cooling system saves significant amount of power
- ✓ Water temperature variable during the year, saving energy while controlling humidity level
- ✓ Variable chiller types fulfill any requirements
- ✓ Operation water temperature between +6 and +30 °C

COLOR:  RAL 9005  RAL 7035

CoolTeg G CW30 Super C		
Indoor unit code		AC-TCW-42-30/1xG-xxx
Connected outdoor unit		Chilled water system (Chiller)
BASIC DATA		
Cooling system	–	Chilled water
Architecture ¹	–	Open or closed
Nominal cooling capacity ^{2,7}	kW	52,8 59,9
Nominal net cooling capacity ^{3,7}	kW	50,3 57,4
Power supply	V/ph/Hz	230/1/50-60
Running current ⁷	A	10,7 10,8
Maximum current ⁷	A	11,7 11,8
Nominal power consumption	W	2 500
Nominal airflow ^{4,7}	m³/h	8 300 8 100
Number of fans	ks	5
Motor fan technology	–	EC
Water flow ⁷	l/h	7 550 8 570
Filter class ⁵	–	ePM10 (M6)
DIMENSIONS		
Height	mm (U)	2 006 (42U) up to 2 456 (52U)
Width	mm	300
Depth ⁶	mm	1 000, 1 200 (for iSEVEN racks); 1 008, 1 208 (for PREMIUM racks)
Weight—depth 1 000 mm, height 42/45/48/52U	kg	164/169/174/181
Weight—depth 1 200 mm, height 42/45/48/52U	kg	174/180/186/195
PIPING CONNECTION		
Supply pipe diameter and type	–	5/4" female
Return pipe diameter and type	–	5/4" female

¹ CoolTeg units can be used either independently (in rack rows) or integrated in Mini Data Centers — closed architecture rack systems and cooling units. Code changed as per ordering matrix.

² Cooling capacity is changed by controller; nominal cooling capacity is calculated at return hot air temperature of 35 °C without condensation (heat exchanger's temperature above dew-point), chilled water temp. 6/12 °C (for CW).

³ Net cooling capacity is the cooling capacity minus fan heat load—the actual unit cooling capacity available to IT equipment.

⁴ Airflow is changed by the controller; nominal airflow matches nominal cooling capacity.

⁵ Units for Mini Data Centers are delivered without filters.

⁶ Units for Mini Data Centers are available in 1 208 mm depths only.

⁷ Units are supplied with a four-row heat exchanger as standard. More powerful exchangers with six rows of tubes are available on request. The values are given for a *4-row | 6-row* heat exchanger.

CHILLED WATER COOLING UNIT

COOLTEG PLUS CW60



CoolTeg Plus CW60

 **CoolTeg Plus CW60** chilled water in-row cooling unit is designed to be connected to any system with chillers producing cold water.

↳ Main advantages

- ✓ Cooling capacity: up to 81 kW
- ✓ Virtually unlimited number of indoor units per hydraulic circuit
- ✓ Free-cooling system saves significant amount of power
- ✓ Water temperature variable during the year, saving energy while controlling humidity level
- ✓ Variable chiller types fulfill any requirements
- ✓ Operation water temperature between +6 and +30 °C

COLOR:  RAL 9005  RAL 7035

CoolTeg Plus CW60		
Indoor unit code		AC-TCW-42-60/xx-xxx
Connected outdoor unit		Chilled water system (Chiller)
BASIC DATA		
Cooling system	–	Chilled water
Architecture ¹	–	Open
Nominal cooling capacity ²	kW	80.7
Nominal net cooling capacity ³	kW	75.9
Power supply	V/ph/Hz	400/3/50-60
Running current	A	6.7
Maximum current	A	8.3
Nominal power consumption	W	4 800
Nominal airflow ⁴	m ³ /h	13 000
Number of fans	ks	3
Motor fan technology	–	EC
Water flow	l/h	11 000
Filter class ⁵	–	G4
DIMENSIONS		
Height ⁶	mm (U)	1 978 (42U), 2 111 (45U), 2 245 (48U)
Width	mm	600
Depth ⁷	mm	1 000 or 1 200
Weight—depth 1 000 mm, height 42/45/48U	kg	248/256/264
Weight—depth 1 200 mm, height 42/45/48U	kg	260/270/280
PIPING CONNECTION		
Supply pipe diameter and type	–	6/4" female
Return pipe diameter and type	–	6/4" female

¹ CoolTeg units can be used either independently (in rack rows) or integrated in Mini Data Centers — closed architecture rack systems and cooling units. Code changed as per ordering matrix.

² Cooling capacity is changed by controller; nominal cooling capacity is calculated at return hot air temperature of 35 °C without condensation (heat exchanger's temperature above dew-point), chilled water temp. 6/12 °C (for CW).

³ Net cooling capacity is the cooling capacity minus fan heat load—the actual unit cooling capacity available to IT equipment.

⁴ Airflow is changed by the controller; nominal airflow matches nominal cooling capacity.

⁵ Units for Mini Data Centers are delivered without filters.

⁶ Without plinth or transport trolley.

⁷ Units for Mini Data Centers are available in 1 200 mm depths only.

FOLLOW THE STEPS FOR DETERMINING THE CODE
OF THE REQUIRED COOLTEG COOLING UNIT

AC	-	1.	-	2.	-	3.	/	4.	-	5.	-	6.	7.	8.	9.	10.	11.	12.	13.
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An example of a correct code:

AC	-	TDX	-	42	-	30	/	10F	-	BOW	-	0	1	0	2	0	0	0	0
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Description of the example of a correct code: CoolTeg Plus (facelift) in-row cooling unit with EC fans, suitable for connection to an outdoor condenser unit, open loop architecture, 300 mm width; 1 000 mm depth and 42 U height. 4.3" color touch screen, 1× USB, 2× Ethernet port, proprietary CONTEG SW, installed in the front door. Bottom connection. Condensate pump installed in the cooling unit. pCO WEB card for SNMP communication. Prepared for a Mitsubishi Electric outdoor condensing unit. Standard warranty: 2 years.

1. COOLING SYSTEM		2. HEIGHT		3. WIDTH		4. DEPTH *		5.1. PIPE CONNECTION	
Code	Model	Code	Rack	Code	Width (mm)	Code	Depth (mm)	Code	Options
TCW	Chilled water	41	42U (PREMIUM)	30	300	10G	1 000, 1 008	B	Bottom connection
TDS	Direct expansion (small)	47	47U (PREMIUM)	40	400	12G	1 200, 1 208	T	Top connection
TDX	Direct expansion	52	52U (PREMIUM)	60	600	* The letter G denotes the latest generation of units. The letter F indicates a unit after a facelift. Units before a facelift have a 0 instead of an F.			
TXC	With internal compressor	42	42U (ISEVEN)						
TDF	Hybrid system	45	45U (ISEVEN)						
		48	48U (ISEVEN)						
5.2. ARCHITECTURE		5.3. DISPLAY		6. HUMIDIFIER		7. CONDENSATE PUMP		8. POWER SUPPLY	
Code	Options	Code	Options	Code	Options	Code	Options	Code	Options
0	Open	W	Not present	0	Not present	0	Not present	0	Standard 230V/1f/50Hz
C	Closed (Mini Data Center)	D	With screen	1	Humidifier (standard)	1	Condensate pump (standard)	A	Dual power supply
				2	Humidifier (low water conductivity)	2	Leak detection sensor rope		
						3	Condensate pump (powerful) *		
						A	Leak detection sensor rope + condensate pump (standard)		
						B	Leak detection sensor rope + condensate pump (powerful)		
						* Used in combination with a humidifier, or if displacement height is over 5 m. Max. height – 30 m.			
9. COMMUNICATION		10. REGULATION		11. CONTROL VALVES		12. FANS		13. SPECIAL MODIFICATIONS	
Code	Options	Code	Options	Code	Options	Code	Options	Code	Options
0	Not present	0	Standard	0	Standard (3-way valve)	0	Standard	0	Standard (4-row heat exchanger)
M	Modbus	P	Control based on pressure	2	2-way valve	S	Extra powerful fans (only for CW30)	R	External relay – unit status
W	SNMP	H	Communication with HMI (Mitsubishi Heavy Industry) units					6	6-row heat exchanger
		R	Control based on pressure + communication with HMI (Mitsubishi Heavy Industry) units						
		E	Control based on pressure in combination with CoolTop units						



BASIC ACCESSORIES

TOUCH SCREEN

- For more user-friendly communication with the unit's regulator, you can use a 4.3" color touch screen.
- A single touch screen can control up to 16 cooling units. For quick communication and full functionality of BMS, we recommend using a maximum of 8 units.
- RS485 port and Ethernet port enable remote control and monitoring using various master systems. The USB is used primarily for quick and easy software updating and downloading of historical data.
- The touch terminal has a number of functions: connection to a customer network, remote control, ModBus communication and many more.
- The screen can be placed directly onto a CoolTeg unit, on the side of a rack or onto a wall in the data room.



CONTROL BASED ON PRESSURE

- Each unit can control air flow rate (fan speed) based on differences in temperature between the hot and cool zones or based on pressure differences.
- Flow rate control based on pressure differences ensures that air is supplied to the area in front of the server at the exact same rate as that at which the servers draw the air in.
- Perfect environment for servers (no risk of server damage caused by over- or under-pressure).
- Minimizes power consumption of the entire cooling system due to precise distribution of cooled air.



CONDENSATE PUMP

- All CoolTeg units can be connected to the sewerage system via gravity feed.
- If there is no sewerage connection in the room, the water can be conducted away using a condensate pump.
- Each unit includes a water detector that activates the pump, and a level sensor that turns off the unit in case of increased water levels.



DUAL POWER SUPPLY

- Electrical PDU for two power branches. The device allows powering the unit from two independent sources.

STEAM HUMIDIFIER

- The steam humidifier maintains the set relative humidity of the air in the data center.
- The humidifier can output 3 kg of steam per hour
- The steam humidifier of the CoolTeg unit is powered separately.
- You can choose from 2 boiling vessels depending on water hardness.



pCO WEB COMMUNICATION CARD

- Accessory compatible with CoolTeg regulators.
- Enables additional individual communication (monitoring and control).
- Communication via Ethernet network protocols.
- Functions: web server, e-mail, FTP, SNMP, BACNet, ModBus TCP/IP and more.

