

Chillquick Vari PRO™  
**WITH ADAPTIVE  
COOLING**



*The Chillquick Vari Pro™ cold water station is the first cooling device to offer continuous control of liquid flow velocity and compressor speed. It is equipped with a new adaptive cooling system and connection to IoT.*

# Chillquick Vari PRO™ WITH ADAPTIVE COOLING

Chiller Oy has developed a next-generation cold water station with an adaptive cooling system. It is based on three main elements: a smart header tank, a compressor with a speed control, and condenser and evaporator circuits with adjustable liquid flows. All these elements are controlled via a single automation system.



Vari PRO™ technology  
Adjustable condensation temperature with an adaptive control system.

Vari PRO™ technology  
Continuous compressor speed control

The system's central element is the smart header tank, which enables an adaptive cooling process. The compressor speed changes in line with fluctuations in the header tank liquid temperature and the pump's flow rate. This feature improves the system's efficiency by 10% in comparison with competing devices on the market.

The Chillquick Vari PRO™ cold water stations are equipped with the dynamic Eco (dEco) function, which enables the optimisation of the free cooling process in relation to compressor operations. The device is an ideal choice for fan coil and radiant heater solutions.

## PROBLEMS WITH CONVENTIONAL TECHNOLOGY...

The operation of water chillers has traditionally been based on liquid running over the condenser at a standard flow rate. This

is now changing as the latest compressors are equipped with a speed control system, which improves the device's efficiency and other pivotal properties.

## ...CAN BE SOLVED WITH ADAPTIVE COOLING

The energy consumed by the pumps may account for up to 30% of the system's overall energy consumption, depending on the connection method. Therefore, they offer the highest savings potential. In systems in which the header tank can be used effectively to control compressor operations, it is difficult to achieve considerable savings by just adjusting the compressor speed. The Chillquick Vari PRO™ product range was developed as a response to this challenge.

Adaptivity means that the only constant value in the



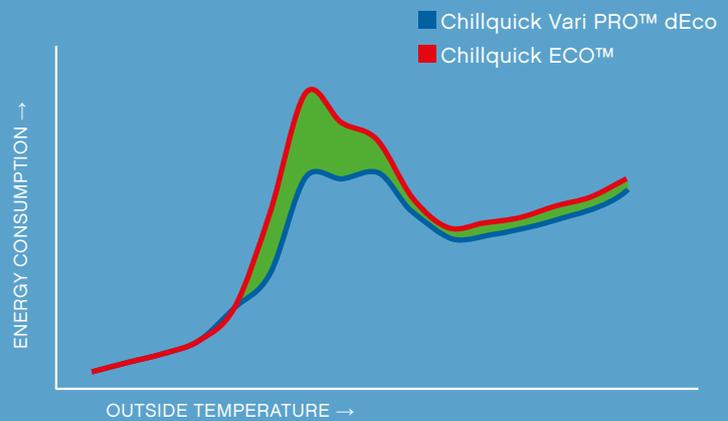


### Vari PRO™ technology

consumes 10% less energy than any other solutions currently available on the market.

### Vari PRO™ technology

Continuous liquid flow control



## THE BENEFITS OFFERED BY THE CHILLQUICK VARI PRO™ VIA ITS ADAPTIVE COOLING PROCESS

The compressor speed can be controlled via the smart header tank, resulting in a considerable reduction in energy consumption.

Changes in the evaporator circuit's liquid flow reduce pumping costs.

The liquid cooler's noise levels are reduced in line with compressor speed.

A soft start in the power network.

The comprehensive Service Next™ service helps you to improve your system's efficiency.

system is the target temperature of the liquid in the header tank. Every other aspect of the cooling process changes in a continuous manner so that the compressor speed changes in line with the operations of the header tank and the pumps. The greatest advantage is gained in systems with one or two compressors. If required, a free cooling system can be integrated into the smart header tank. In this case, the compressor operates in line with the free cooling process. This way, savings can be generated all year round via the dynamic Eco function (dEco) by adjusting the set point of the outgoing water.

### BENEFITS OF VARITM TECHNOLOGY

The compressor's Vari™ technology enables a soft start, so no separate soft starter is required for the device. This improves the compressor's efficiency, and only a small quantity of reac-

tive power is generated in the network. The noise level produced by the system decreases in line with the reduction in speed, and the system's seasonal energy efficiency ratio (SEER) improves because with partial loads the heat exchangers are oversized in comparison with the compressor. Thanks to the adjustable condensation temperature, the system's efficiency improves, particularly when the free cooling method is not in use.

### 'PURRING' LIQUID COOLERS

Liquid coolers generate very little noise in the evening and at night because the cooling capacity produced by the compressor decreases gradually, reducing the need for condensation capacity. This minimises the need for energy and reduces noise levels. Therefore, the actual noise levels generated by liquid coolers in standard systems remain below 35 dBA.

## Performance values · CGIW Vari

MODEL		6-1Si	9-1Si	12-1Si	15-1Si	17-1Si	21-1Si	26-1Si
Cooling capacity, max.*	kW	20	31	41	51	61	75	87
Cooling capacity, min.*	kW	8	8	8	13	13	21	21
Input power**	kW	5.6	8.7	12.4	14.1	18.3	20.2	24.3
Flow rate	l/s	1.0	1.5	2.0	2.4	2.9	3.6	4.2
Pipe size	DN	50	50	50	50	50	50	50
Fuse	A	25	35	35	50	50	80	80

MODEL		30-2Di	36-2Di	40-2Di	44-2Di	48-3Di	55-3Di	63-3Di
Cooling capacity, max.*	kW	103	129	141	155	170	195	222
Cooling capacity, min.*	kW	13	21	21	21	21	21	21
Input power**	kW	29.3	35.4	38.6	42.4	46.4	52.8	60.4
Flow rate	l/s	4.9	6.2	6.7	7.4	8.1	9.3	10.6
Pipe size	DN	65	65	65	65	80	80	80
Fuse	A	80	125	125	160	160	160	200

Performance values at various temperatures: water 12/7°C, 35% EG 36/43°C  
Refrigerant R410a

\*) Continuous control of the cooling capacity between the minimum and maximum values.

\*\*) Input power when the machine is operating at full capacity (a liquid cooler is not included).



## AN EXTENSIVE SALES AND MAINTENANCE NETWORK AT YOUR SERVICE

*Chiller Oy is one of Europe's leading manufacturers of energy-efficient, optimised air-conditioning solutions. System design and servicing always start with the customers' specific requirements.*

Read more: [www.chiller.fi](http://www.chiller.fi)

### Finland - Head office

**Chiller Oy**  
Louhostie 2  
04400 Chillerisula

Tel.: +358 9 274 7670  
Email: [info@chiller.fi](mailto:info@chiller.fi)

Email: [lahti@chiller.fi](mailto:lahti@chiller.fi)

### Subsidiaries in Finland

**Chiller Oy Jyväskylä**  
Tel.: +358 14 378 2511  
[jyvaskyla@chiller.fi](mailto:jyvaskyla@chiller.fi)

**Chiller Oy Oulu**  
Tel.: +358 9 274 7670  
Email: [info@chiller.fi](mailto:info@chiller.fi)

**Chiller Oy Kuopio**  
Tel.: +358 17 263 1880  
Email: [kuopio@chiller.fi](mailto:kuopio@chiller.fi)

**Chiller Oy Tampere**  
Tel.: +358 3 214 3250  
Email: [tampere@chiller.fi](mailto:tampere@chiller.fi)

**Chiller Oy Lahti**  
Tel.: +358 3 876 470

**Chiller Oy Turku**  
Tel.: +358 2 253 5700  
Email: [turku@chiller.fi](mailto:turku@chiller.fi)

### International subsidiaries and representatives

**Dubai**  
**Chiller Gulf**  
Dubai, United Arab Emirates  
[www.chiller.ae](http://www.chiller.ae)

**Sweden**  
**Chiller Sverige AB**  
[www.chillersverige.se](http://www.chillersverige.se)

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[www.chillernorge.no](http://www.chillernorge.no)  
**Oslo Kulde AS**  
[www.oslokulde.no](http://www.oslokulde.no)

**Estonia**  
**Chiller Estonian representative**  
[eesti@chiller.fi](mailto:eesti@chiller.fi)

**Climaref OÜ**  
[www.climaref.ee](http://www.climaref.ee)

**Poland**  
**StepSystems Sp. z o.o.**  
[www.stepsystems.pl](http://www.stepsystems.pl)