enervent®

EDA Cooling

Planning, installation and operational instructions manual.

Read these instructions carefully before installing and starting up the system.
Keep the instructions for possible future needs.

CG/CW

Cooling

www.enervent.fi

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NOTE! All units are controlled with the EDA-automation. It is therefore important that You also read the EDA operation manual before starting up the system. In case thismanual and the EDA operating manual contain information about the same topic, this manual should be followed.

GENERAL

After opening the maintenance hatch wait two (2) minutes before starting the maintenance work! The fans rotate for a while even after the power is cut and the E-model electical heater can be searing hot. There are no user-serviceable parts inside the control panel or inside the electrical cabinet, leave the service of these parts to a professional. It is important during troubleshooting not to turn on the power to the unit before being assured as to what the problem is.

DANGER FOR FREEZING

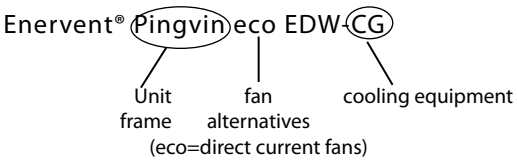
The fluid that circulates in the CG/CW coil must not be pure water because of the risk for freezing. The fluid should contain anti-freeze, i.e. Ethylene glycol. Alternatively some other mixture suitable for cooling systems can be used.

TYPE MARKING

Inside the unit is a type shield. Fill in the type shields data here to have it easily available when it is needed.
This manual covers the following models:

All Enervent ventilation units with CG/CW equipment

TYPE DESCRIPTION



CG/CW Cooling Geo equipment. The delivery includes a liquid cooling coil, 3 way valve, valve axtuator and relay control for the pump.

FOREWORD

All Enervent ventilation units are designed and manufactured for use all year round. In Finland the ventilation units have been installed in houses and other spaces for over 25 years and their popularity is increasing each year. Because of the knowledge and experience we have amassed during the years we can now manufacture more energy efficient and user friendly ventilation units. The Enervent unit series is the result of a long product development. All units in the series are very versatile and flexible.

COOLING GEO (CG) GROUND COOLING

OVERVIEW

In houses with a ground heat pump the cool ground circuit solution can in the summer time be used to cool the supply air blown into the house through the ventilation system. The most effective result is achieved if the ground circuit solution is circulating in a drilled well.

THE CONTROL

CG (Cooling Geo) cooling control can be used with all Enervent EDA ventilation units. There are two available system options:

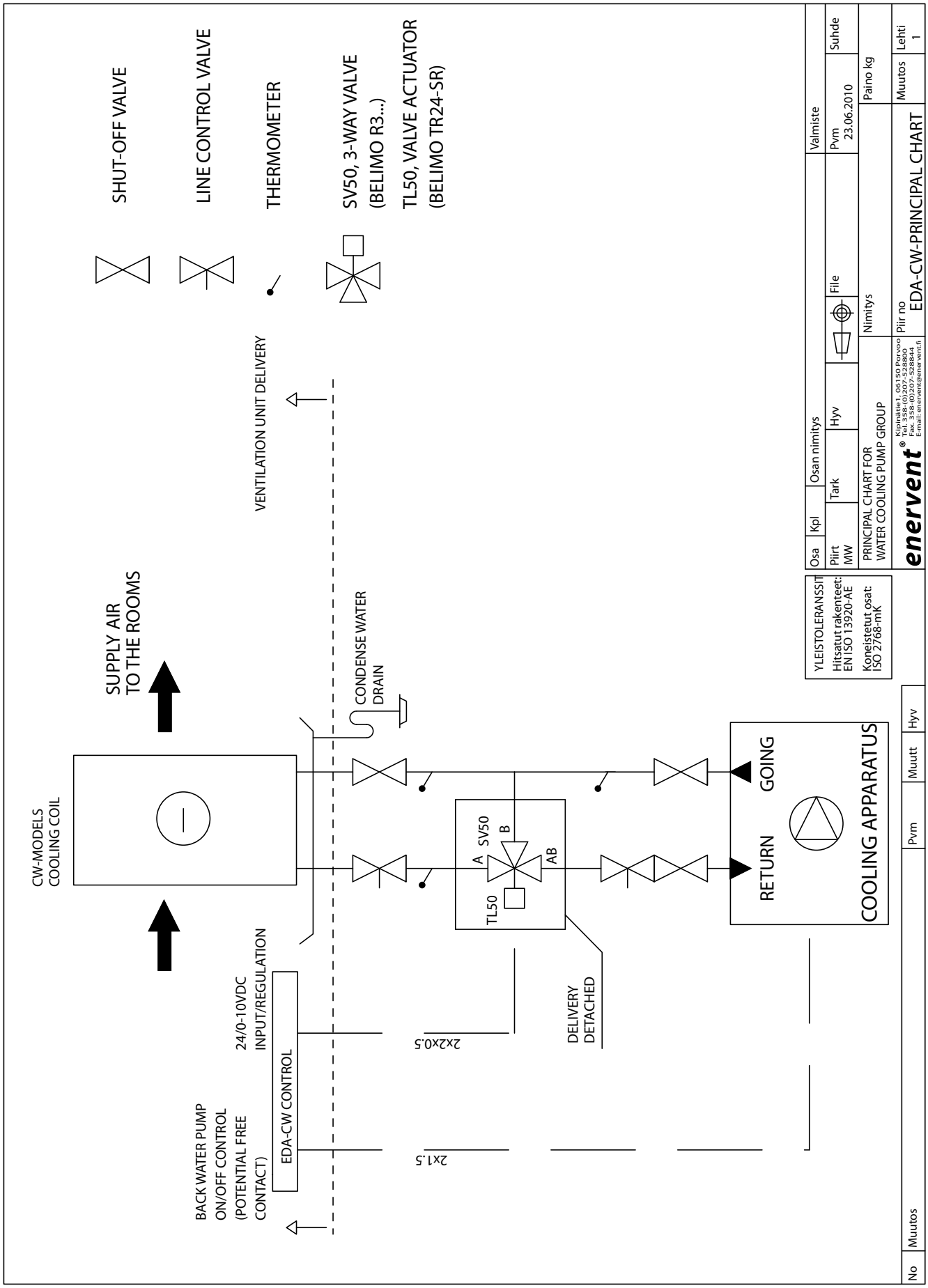
Option 1:
The control includes the relay needed to start the ground heat solution pump, the 3-way valve needed for the cooling (Thermomix D325) and the valve actuator (Belimo NRYD24-SR-W+installation kit MS-NRE). The temperature is regulated with the ventilation unit's EDA control.

Options 2 and 3:
The control includes the relay needed to start the circulation pump for the cooling coil, the 3-way valve needed for the cooling (Belimo R3...) and the valve actuator (Belimo TR24-SR). The temperature is regulated with the ventilation unit's EDA control. The cooling function of the ventilation unit doesn't require that the ground heat solution pump be started .

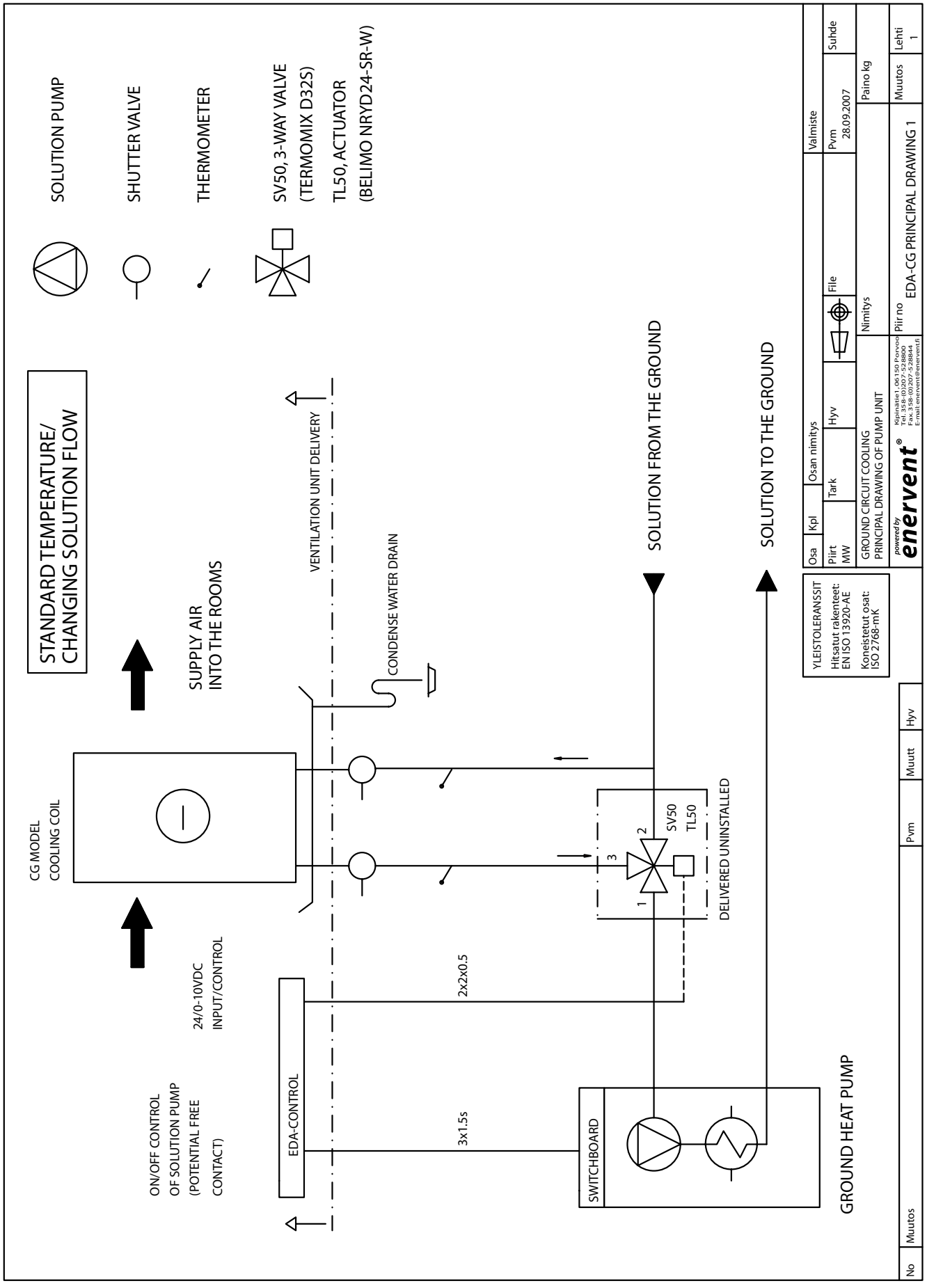
PIPING

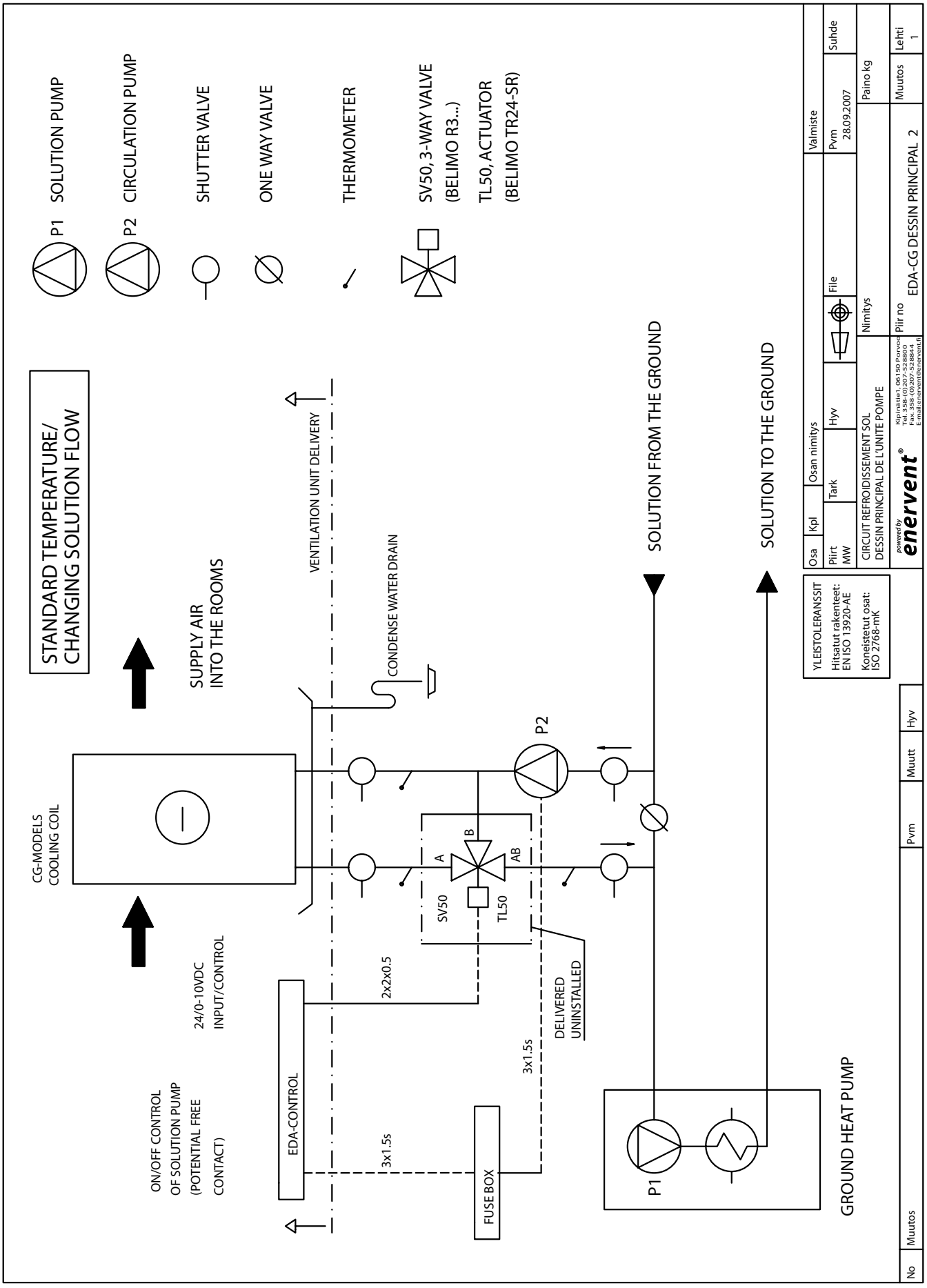
Option 1 (EDA-CG principal drawing 1):
A 3-way valve/actuator is installed in the ground solution pipe coming from the ground to guide the soultion flow to the cooling coil according to cooling needs.

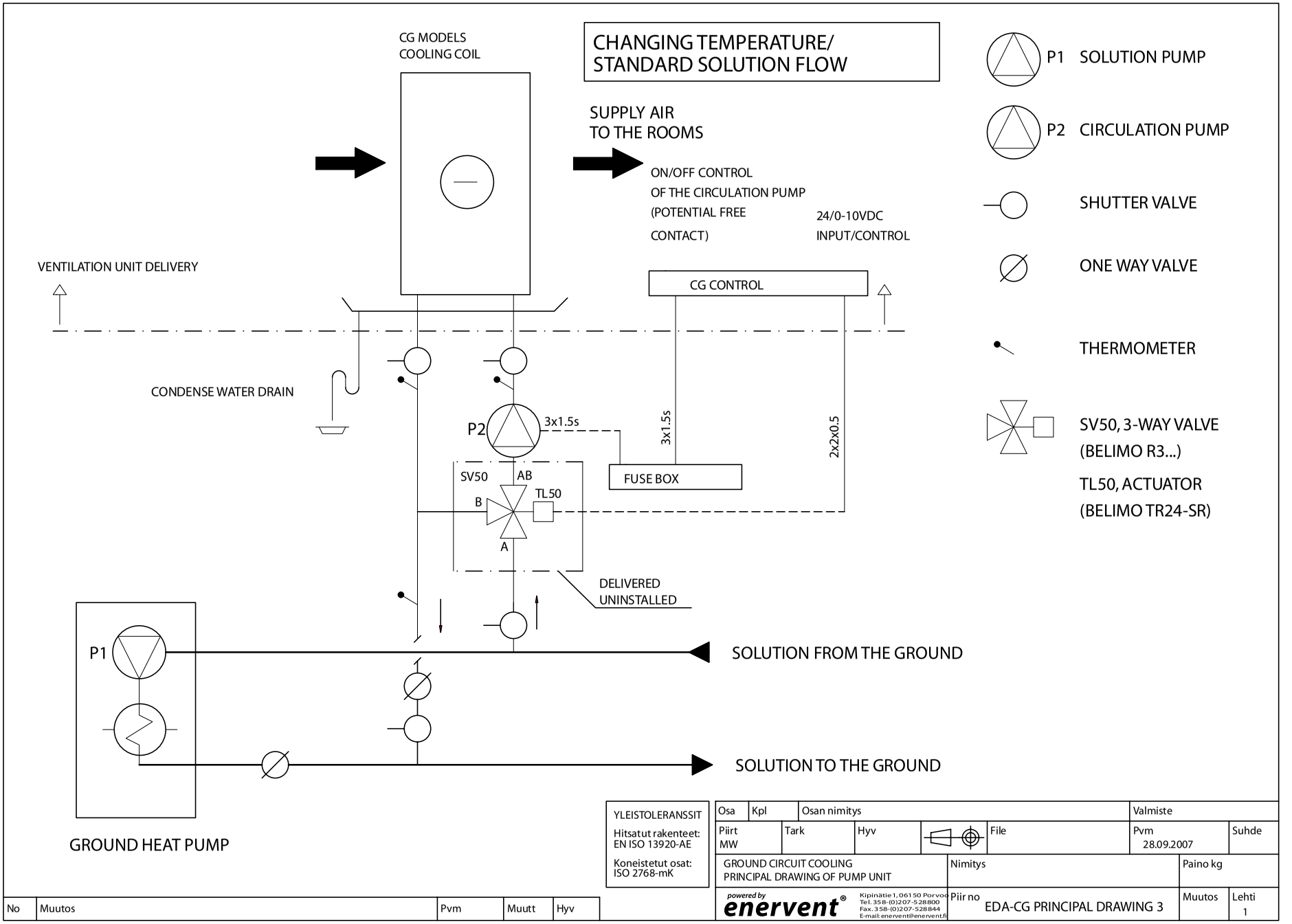
Option 2 (EDA-CG principal drawing 2 and 3):
A separate pump unit is build near the ventilation unit's cooling coil to circulate the cool ground solution.


SHUT-OFF VALVE
LINE CONTROL VALVE
THERMOMETER
SV50, 3-WAY VALVE
(BELIMO R3...)
TL50, VALVE ACTUATOR
(BELIMO TR24-SR)
VENTILATION UNIT DELIVERY
SUPPLY AIR
TO THE ROOMS
CONDENSE WATER
DRAIN
CW-MODELS
COOLING COIL
BACK WATER PUMP
ON/OFF CONTROL
(POTENTIAL FREE
CONTACT)
24/0-10VDC
INPUT/REGULATION
EDA-CW CONTROL
2x1.5
2x2x0.5
DELIVERY
DETACHED
TL50
A
SV50
B
AB
RETURN
GOING
COOLING APPARATUS
YLEISTOLERANSSIT
Hitsatut rakenteet:
EN ISO 13920-AE
Koneistetut osat:
ISO 2768-mK
Osa
Kpl
Osan nimitys
Piirt
MW
Tark
Hyv
File
PRINCIPAL CHART FOR
WATER COOLING PUMP GROUP
Nimitys
enervent
Piir no
EDA-CW-PRINCIPAL CHART
Valmiste
Pvm
23.06.2010
Suhde
Paino kg
Muutos
Lehti
1
No
Muutos
Pvm
Muutt
Hyv

PRINCIPAL DRAWING OF PIPING, OPTION 1

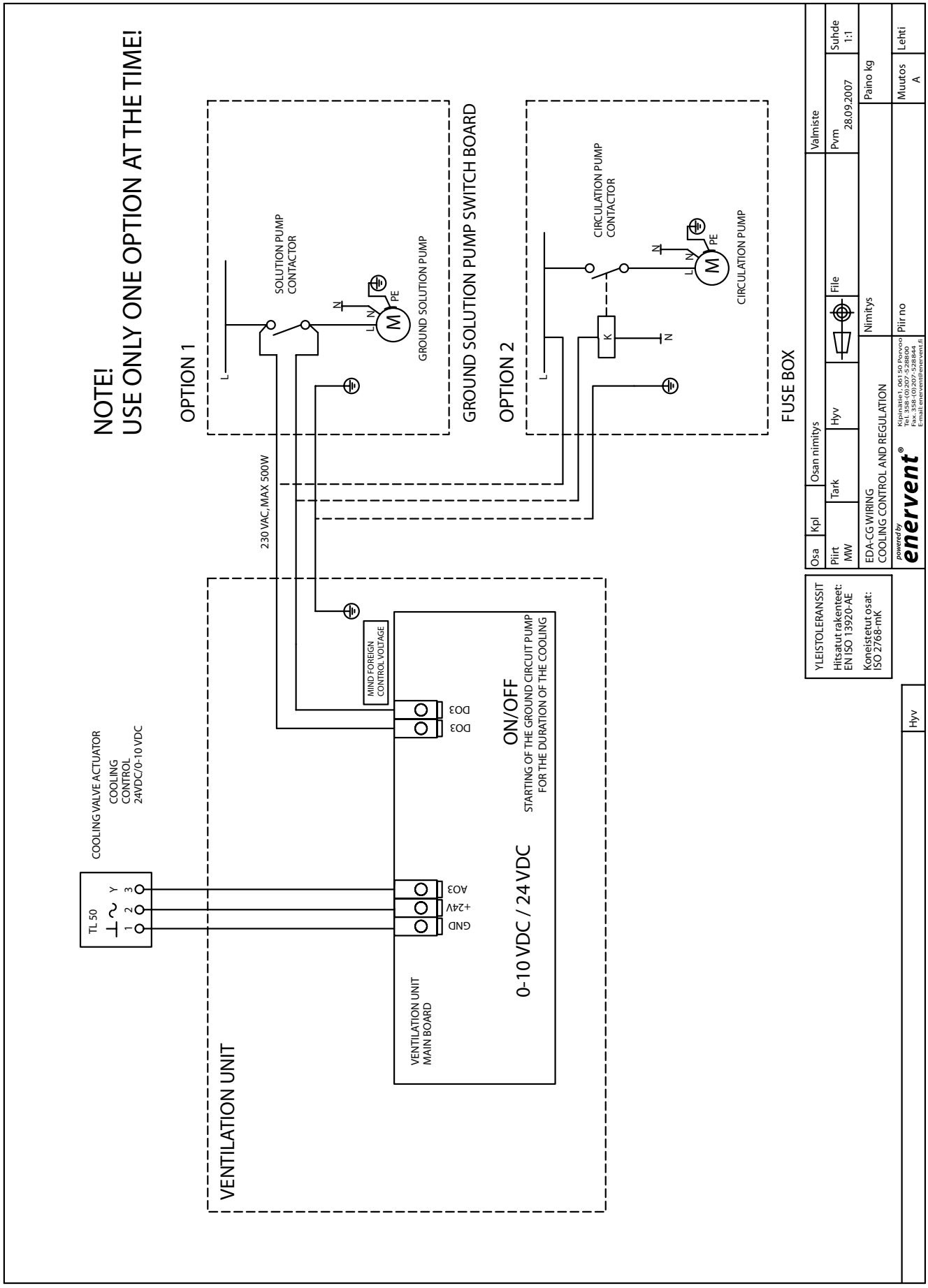



P1 SOLUTION PUMP
P2 CIRCULATION PUMP
SHUTTER VALVE
ONE WAY VALVE
THERMOMETER
SV50, 3-WAY VALVE (BELIMO R3...)
TL50, ACTUATOR (BELIMO TR24-SR)
STANDARD TEMPERATURE/ CHANGING SOLUTION FLOW
SUPPLY AIR INTO THE ROOMS
VENTILATION UNIT DELIVERY
CONDENSE WATER DRAIN
CG-MODELS COOLING COIL
SOLUTION FROM THE GROUND
SOLUTION TO THE GROUND
ON/OFF CONTROL OF SOLUTION PUMP (POTENTIAL FREE CONTACT)
24/0-10VDC INPUT/CONTROL
EDA-CONTROL
FUSE BOX
2x2x0.5
3x1.5s
3x1.5s
DELIVERED UNINSTALLED
SV50
TL50
A
B
AB
P1
P2
GROUND HEAT PUMP
YLEISTOLERANSSIT
Hitsatut rakenteet: EN ISO 13920-AE
Koneistetut osat: ISO 2768-mK
Osa | Kpl | Osan nimitys | Valmiste
Piirt MW | Tark | Hyv | File | Pvm 28.09.2007 | Suhde
CIRCUIT REFROIDISSEMENT SOL
DESSIN PRINCIPAL DE L'UNITE POMPE
Nimitys | Paino kg
powered by enervent®
Piir no
EDA-CG DESSIN PRINCIPAL 2
Muutos | Lehti 1
No | Muutos | Pvm | Muutt | Hyv



YLEISTOLERANSSIT	Osa	Kpl	Osan nimitys			Valmiste	
Hitsatut rakenteet: EN ISO 13920-AE	Piirt MW	Tark	Hyv		File	Pvm 28.09.2007	Suhde
Koneistetut osat: ISO 2768-mK	GROUND CIRCUIT COOLING PRINCIPAL DRAWING OF PUMP UNIT			Nimitys		Paino kg	
	powered by enervent® Kipinätie 1, 06150 Porvoo Tel. 358-(0)207-528800 Fax. 358-(0)207-528844 E-mail: enervent@enervent.fi			Piir no EDA-CG PRINCIPAL DRAWING 3		Muutos	Lehti 1

No	Muutos	Pvm	Muutt	Hyv


NOTE!
USE ONLY ONE OPTION AT THE TIME!
OPTION 1
SOLUTION PUMP CONTACTOR
GROUND SOLUTION PUMP
GROUND SOLUTION PUMP SWITCH BOARD
OPTION 2
CIRCULATION PUMP CONTACTOR
CIRCULATION PUMP
FUSE BOX
230 VAC, MAX 500W
VENTILATION UNIT
MIND FOREIGN CONTROL VOLTAGE
DO3
DO3
ON/OFF
STARTING OF THE GROUND CIRCUIT PUMP FOR THE DURATION OF THE COOLING
VENTILATION UNIT MAIN BOARD
0-10 VDC / 24 VDC
AO3
+24V
GND
TL 50
COOLING VALVE ACTUATOR
COOLING CONTROL 24VDC/0-10 VDC
Osa
Kpl
Osan nimitys
Valmiste
Piirt MW
Tark
Hyv
File
Pvm 28.09.2007
Suhde 1:1
EDA-CG WIRING
COOLING CONTROL AND REGULATION
Nimitys
Paino kg
Piir no
Muutos A
Lehti
YLEISTOLERANSSIT
Hitsatut rakenteet: EN ISO 13920-AE
Koneistetut osat: ISO 2768-mK
powered by enervent®
Hyv

DECLARATION OF CONFORMITY

We declare that our products follows the provisions of low voltage directive (LVD) 2006/95/EY, EMC-directive 2004/108/EY and machine directive (MD) 98/37/EY.

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Description of the product:	Ventilation unit with heat recovery
Trade name of the product:	Enervent® greenair ventilation unit with CG or CX equipment

Representatives for the products in the region of EU:

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The products are in conformity with the following standards:

LVD	EN 60 335-1 (2002) +A1 (2004), +A2 (2006), +A11 (2004), +A12 (2006)
MD	EN 292-1 (1991), EN 292-2 (1991) +A1 (1995)
EMC	EN 55014-1 (2006), EN 61 000-3-2 (2006) and EN 61 000-3-3 (1995). EN 55014-2 (1997)+A1 (2002).

The conformity of each manufactured product is taken care according our ISO 9001 quality descriptions.

Porvoo 3.1.2009

Enervent Oy
Tom Palmgren
Technology Manager