WATER-COOLED AND CONDENSERLESS LIQUID CHILLERS WATER-SOURCED HEAT PUMPS

30WG optimized for cooling

Compact design

Plug and play approach

High efficiency

HEATING

30WG/30WGA

AQUASNAP®

Nominal heating capacity 29-230 kW
Nominal cooling capacity 25-190 kW

The 30WG/30WGA units are new Carrier chillers and heat pumps designed for commercial (offices, small hotels, leisure facilities), residential and industrial applications. All units offer a unique combination of high performance and functionality in an exceptionally compact chassis.

The 30WG, also available as a condenserless version (30WGA), is designed for air-conditioning applications with a high SEER value. As they can produce chilled water down to -12 °C they are also suitable for process applications.

A large number of options is available for the whole range:

- hydraulic modules with or without variable water flow rate,
- reinforced sound insulation,
- stacking and connection of two units
- low-temperature applications down to -12 °C (30WG only).

30WG 110-190 with option 49 availability: Q2.2018

EUROVENT CERTIFIED PERFORMANCE www.eurovent-certification.com

CARRIER participates in the ECP programme for LCP/HP Check ongoing validity of certificate: www.eurovent-certification.com

CUSTOMER BENEFITS

Features

- Reduced footprint
- Scroll compressors and R-410A refrigerant
- Variable-flow pump
- Low-noise option (-3 dB(A))
- Stacking of two units for increased capacity (up to size 090)
- Several communication protocols available: JBus, BacNet, MS/TP, LON
- Water connection at the top or rear (30WG)

Available versions

30WG - optimised for air conditioning and process Heating & Cooling

- Evaporator temperature down to -12 °C
- Condenser temperature up to +60 °C
- Condensing pressure control devices available

30WGA - optimised for air conditioning

- Continuous operation up to 62 °C saturated condensing temperature
- Compatible remote condensers available
- Optimised remote condenser fan control

The right unit for any application

- Option 153 “Built-in DHW and space heating control” allows control of both domestic hot water and space heating requirements:
  - Domestic hot water production: a built-in three-way valve is directed to divert the heat flow from the space heating loop to the domestic hot water loop and vice versa.
  - Space heating control: the set-point is adjustable, based on the daily schedule or the outside air temperature (weather compensation function).
  - Control of auxiliary systems: if an alarm is detected at the 30WG or if there is insufficient heating capacity, a digital signal starts an auxiliary electric heater (1 to 4 stages) or boiler.
  - Pump control: allows control of the built-in pump as well as the pump in the secondary loop (to terminals).
- In 30WG units the pressure control signal ensures safe unit operation and maximised performance at low source-side water temperatures.
- The condenserless 30WGA units are ideal for refurbishment projects where a remote condenser exists on site, and for all projects without geothermal/natural sinks for heat rejection.
- In 30WG units the Heating System Manager (HSM) accessory allows control of systems with several heat sources and different additional systems: electric heat, boiler or for the most complex systems district heating (see pages 9 to 11).

Adaptability and simple installation

- The 30WG units can be provided with several hydraulic module options, both on the evaporator and/or condenser side, with different levels of available pressure and variable or fixed-speed pumps (see page 7).
- If option 153 is selected domestic hot water production is controlled via a built-in three-way diverter valve (not supplied).
- 30WG units offer water-side cooling/heating reversibility.
- Remote condenser fan control possible for 30WGA units.

Water connections at the rear of the unit

CUSTOMER BENEFITS

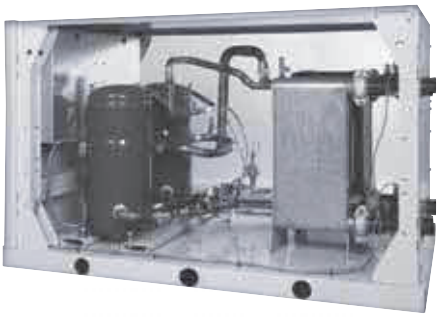
Internal view of 30WG 170

Water connections at the top of the unit

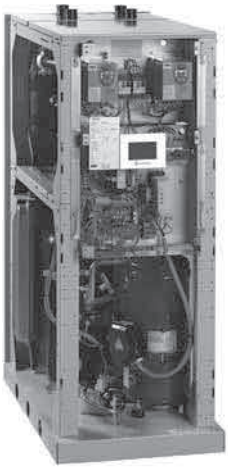
Component acessibility

See photos below.

Access to scroll compressors



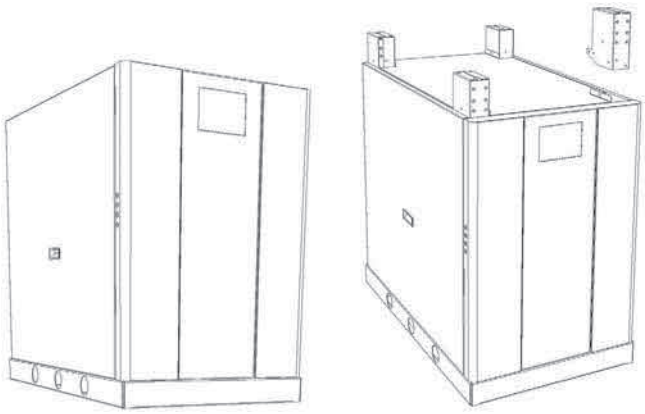
Access to control panel



A compact high-performance product range

- Small footprint, ideal for refurbished buildings, allows access in very tight plant rooms.
- 30WG: High SEER and SEPR
  Units optimized for process and comfort applications.
- The 30WGA is based on the 30WG design to ensure efficient operation for applications with remote air-cooled condensers.
- Variable-flow pumps reduce system energy consumption.
- The entire range offers low sound levels, allowing installation in any building type. The low-noise option ensures enhanced acoustic comfort (-3 dB(A)).
- 30WG/30WGA units are equipped with the latest generation R410A scroll compressor, optimised for typical operating conditions for water-sourced units.

Two-unit stacking option for reduced footprint size 020-090



HEATING

CUSTOMER BENEFITS

Advance control

The control is a numerical control that combines intelligence with operating simplicity. Depending on the options used, the unit manages the operation of compressors, evaporaor and condenser water pumps and fans (drycooler)

- Optimised energy management
  - A patented auto-adaptive algorithm optimizes the condensing pressure at part load to reduce compressor load and ensure perfect supply for the evaporator with liquid refrigerant. The algorithm controls the operation of the variable-speed condenser water pump and the fans (drycooler)- Controler automatically resets the chilled-water temperature set-point based on the outside air temperature or the return water temperature. The control can also operate on a second set-point (example: unoccupied mode).
  - Master/slave control of two heat pumps operating in parallel with operating time equalisation and automatic changeover in case of a unit fault. The CCN clock board connection offers other control possibilities:
  - Two independent time schedules to control:
  - Unit start/stop
  - Operation at a second chilled-water set-point (for example: unoccupied mode)

- Total unit protection
  - A patented auto-adaptive algorithm controls compressor operation and permanently adapts to the system characteristics (water loop inertia). Dangerous compressor cycling is prevented. The unit can operate safely with a low water volume, and this frequently makes a buffer tank unnecessary (see minimum water volume later in this document).
  - The controller permanently analyses the compressor suction and discharge pressures and temperatures. If an abnormal situation is detected, the control reacts, e.g. by reducing the capacity. As a result the compressors always operate in their ideal temperature range and many unit shut-downs due to a fault can be prevented.

- Remote control

  A connection terminal allows remote control of the AquaSnap by wired cable:
  - Start/stop: Opening of this contact will shut down the unit
  - Dual set-point: Closing of this contact activates a second set-point (example: unoccupied mode).
  - Demand limit: Closing of this contact limits the maximum heat pump capacity to a predefined value.
  - Operation indication: This volt-free contact indicates that the heat pump is operating (cooling load).
  - Alarm indication: This volt-free contact indicates the presence of a major fault that has led to the shut-down of one or several refrigerant circuits.

- Remote management

  The AquaSnap is equipped with an RS485 serial port that offers multiple remote control, monitoring and diagnostic possibilities. Carrier offers a vast choice of control products, specially designed to control, manage and supervise the operation of an air conditioning system. Please consult your Carrier representative for more information.

  The AquaSnap also communicates with other building management systems via optional communication gateways.

Touch Pilot Junior control

The Touch Pilot Junior features a control with advanced communication technology over Ethernet (IP), user-friendly and intuitive user interface with 4.3" colour touch screen.

- Integrated advanced communication features
  - With hydraulic module: Water pressure display and water flow rate calculation
  - Easy and high-speed communication technology over Ethernet (IP) to a building management system

- 4.3" Touch Pilot user interface
  - Access to multiple unit parameters
  - Concise and clear information is available in local languages
  - Complete menu, customised for different users (end user, service personnel or Carrier engineers)

- Remote management (standard)

  Units with Touch Pilot Junior control can be easily accessed from the internet, using a PC with an Ethernet connection.

  This makes remote control quick and easy and offers significant advantages for service operations.

- Maintenance function (standard)

  The Touch Pilot Junior include functionality of maintenance
  - Compulsory Maintenance Reminder– FGAS sealing check
  - Periodic Maintenance Reminder. Configurable alarm of maintenance in days, month or hours of operation

CUSTOMER BENEFITS

30WG/30WGA units compatible the Carrier 09 series drycoolers/remote condensers

The Carrier 09 series drycoolers and remote condensers are compatible with the 30WG and 30WGA units.

The chiller 30WG/30WGA can control the fans of the dry cooler / remote condenser via digital or analogue outputs (according to AC or EC motors) with following options :

- For chiller 30WG/30WGA : option 154
- For dry cooler / remote condenser : dedicated control cabinet with an auxiliary board.

A simple communication bus is required between the chiller and the dry cooler/ remote condenser.

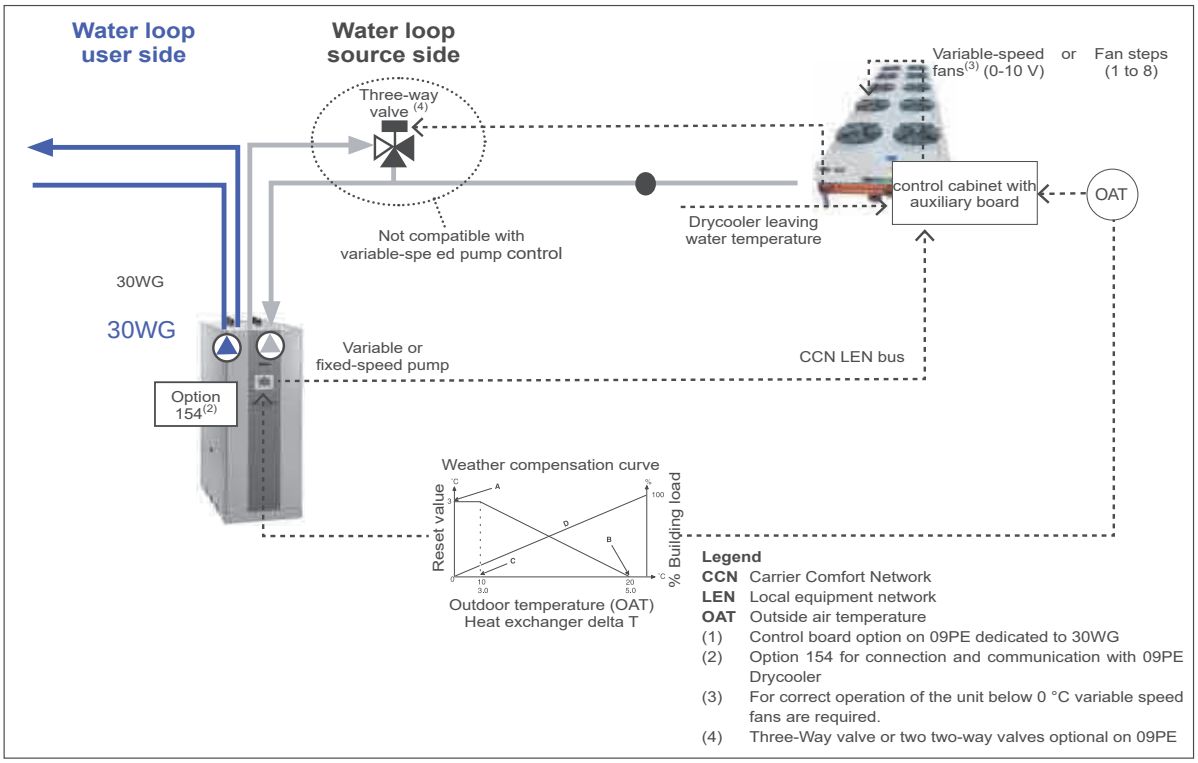
As all control components are installed and tested in the factory, installation and start-up of the unit and its associated drycooler/ remote condenser are simplified.

Control board algorithms optimise energy consumption based on:

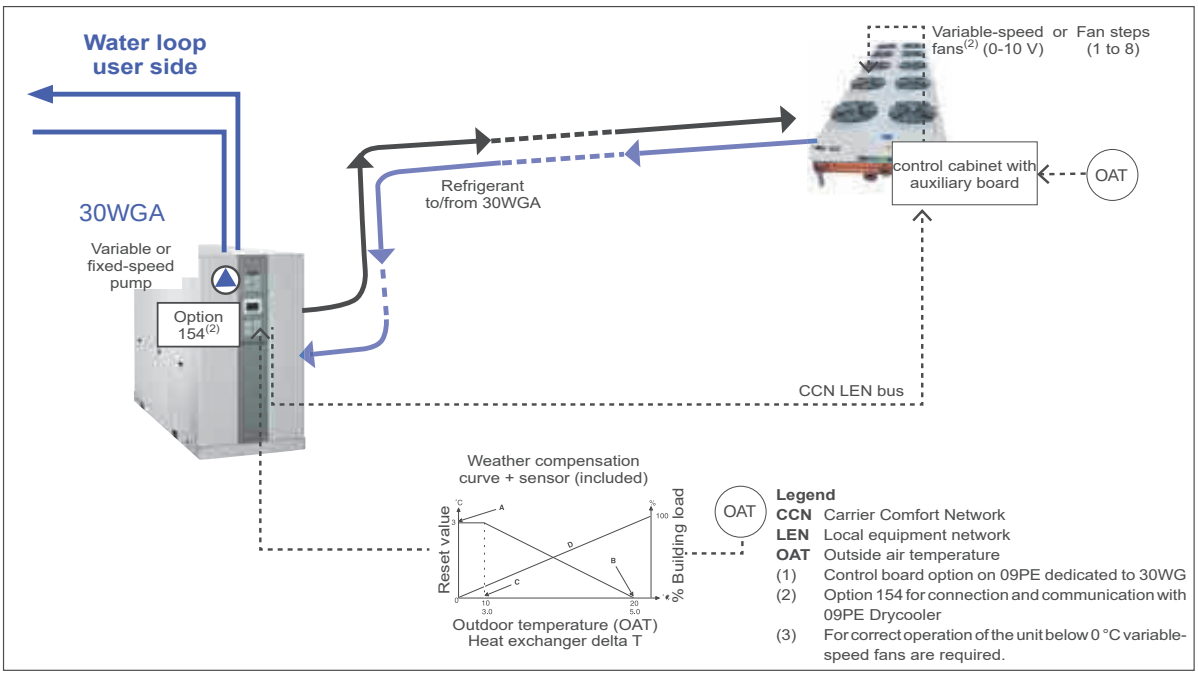
- the outside temperature and chilled-water temperature read for drycoolers
- the outside temperature and saturated refrigerant discharge temperature read for remote condensers.

A simple communication bus is required downstream to connect the control board to the unit control.

30WG system concept



30WGA system concept



OPTIONS

Options	No.	Description	Advantages	Use
Medium-temperature brine solution	5B	Low temperature chilled water production down to 0°C with ethylene glycol and propylene glycol.	Covers specific applications such as ice storage and industrial processes	30WGA 020-190
Low-temperature brine solution	6B	Low temperature glycol solution production down to -12 °C with ethylene glycol	Covers specific applications such as ice storage and industrial processes	30WG 020-190
Soft Starter	25	Electronic starter on each compressor	Reduced start-up current	30WG 020-190 30WGA 020-190
Partial heat recovery	49	Unit equipped with one desuperheater on each refrigerant circuit	Production of free high-temperature hot-water simultaneously with chilled water production (or hot water for Heat pump)	30WG 110-190
Master/slave operation	58	Unit equipped with supplementary water outlet temperature sensor kit to be field-installed allowing master/slave operation of two units connected in parallel	Optimised operation of two units connected in parrallele operation with operating time equalisation	30WG 020-190 30WGA 020-190
External disconnect handle	70F	The handle of the electrical disconnect switch is on the outside of the unit	Quick access to the unit disconnect switch	30WG 020-190 30WGA 020-190
Evap. single pump power/control circuit	84	Unit equipped with an electrical power and control circuit for one pump evaporator side	Quick and easy installation: the control of fixed speed pumps is embedded in the unit control	30WG 110-190
Cond. single pump power/control circuit	84R	Unit equipped with an electrical power and control circuit for one pump condenser side	Quick and easy installation: the control of fixed speed pumps is embedded in the unit control	30WG 110-190
Condenser insulation	86	Thermal condenser insulation	Minimizes thermal dispersions condenser side (key option for heat pump or heat recovery applications) and allows compliancy with special installation criteria (hot parts insulated)	30WG 020-190
HP single-pump hydraulic module	116R	Single high-pressure water pump, water filter, electronic water flow control, pressure transducers. For more details, refer to the dedicated chapter (expansion tank not included.Option with built-in safety hydraulic components available.)	Easy and fast installation (plug & play)	30WG 110-190 30WGA 110-190
LP evap. single-pump	116T	Evaporator hydraulic module equipped with low pressure fixed-speed pump, drain valve, air vent and pressure sensors. For more details, refer to the dedicated chapter (expansion tank not included.Option with built-in safety hydraulic components available.)	Easy and fast installation (plug & play)	30WG 020-190 30WGA 020-190
HP evap. variable-speed single-pump	116V	Evaporator hydraulic module equipped with high-pressure variable-speed pump, drain valve, air vent and pressure sensors. For more details, refer to the dedicated chapter (expansion tank not included.Option with built-in safety hydraulic components available.)	Easy and fast installation (plug & play), significant pumping energy cost savings (more than two-thirds), tighter water flow control, improved sytem reliability	30WG 020-190 30WGA 020-190
HP VSD dual-pump hydraulic mod.	116W	Dual high-pressure water pump with variable speed drive (VSD), pressure transducers. Multiple possibilities of water flow control. For more details, refer to the dedicated chapter (expansion tank not included Option with built-in safety hydraulic components available)	Easy and fast installation (plug & play), significant pumping energy cost savings (more than two-thirds), tighter water flow control, improved sytem reliability	30WG 110-190 30WGA 110-190
LP VSD single-pump	116Y	Evaporator hydraulic module equipped with low -pressure variable-speed pump, drain valve, air vent and pressure sensors. For more details, refer to the dedicated chapter (expansion tank not included.Option with built-in safety hydraulic components available.)	Easy and fast installation (plug & play), significant pumping energy cost savings (more than two-thirds), tighter water flow control, improved sytem reliability	30WG 110-190 30WGA 110-190
J-Bus gateway	148B	Two-directional communication board complying with JBus protocol	Connects the unit by communication bus to a building management system	30WG 020-190 30WGA 020-190
Lon gateway	148D	Two-directional communication board complying with Lon Talk protocol	Connects the unit by communication bus to a building management system	30WG 020-190 30WGA 020-190

OPTIONS

Options	No.	Description	Advantages	Use
Bacnet over IP	149	Two-directional high-speed communication using BACnet protocol over Ethernet network (IP)	Easy and high-speed connection by ethernet line to a building management system. Allows access to multiple unit parameters	30WG 20-190 30WGA 020-190
Built-in DHW & space heating control	153	Control board factory-installed on the unit, control using weather compensation, control of supplementary electric heater (4 stages) or boiler, needle valve for domestic hot-water production with programmable time schedule.	Permits easy control of a basic heating system	30WG 020-190
Specific dry cooler control	154	Dedicated connection and software for 09PE drycooler managment. For 09PE drycooler need to select the option control cabinet manage by the chiller	Permits the use of an energy-efficient plug-and-play system	30WG 020-190
Condenser control	154	Control box for communication with the condenser via a bus. For OPERA condenser need to select the cabinet with option control cabinet manage by the chiller Connect'Touch control	Permits the use of an energy-efficient plug-and-play system	30WGA 020-190
Compliance with Russian regulations	199	EAC certification	Conformance with Russian regulations	30WG 020-190 30WGA 020-190
Insulation of the evap. in/out ref.lines	256	Thermal insulation of the evaporator entering/leaving refrigerant lines with flexible, anti-UV insulant	Prevents condensation on the evaporator entering/leaving refrigerant lines	30WG 020-190 30WGA 020-190
Low noise level	257	Compressor sound enclosure	Reduced sound emissions	30WG 020-190 30WGA 020-190
Very low sound level	258	Enhanced sound insulation of main noise sources (Material classified CD0S2 fire class according to Euroclass 13-501).	6 dB(A) quiter than standard . Refer to the physical data table for detailed values	30WG 020-090 30WGA 020-090
Evaporator screw connection sleeves kit	264	Evaporator inlet/outlet screw connection sleeves	Allows unit connection to a screw connector	30WG 020-140 30WGA 020-140
Condenser screw connection sleeves kit	265	Condenser inlet/outlet screw connection sleeves	Allows unit connection to a screw connector	30WG 020-140
Welded evaporator connection kit	266	Victaulic piping connections with welded joints	Easy installation	30WG 020-190 30WGA 020-190
Welded condenser water connection kit	267	Victaulic piping connections with welded joints	Easy installation	30WG 020-190
HP single-pump, cond. side	270R	Condenser hydraulic module equipped with high pressure fixed-speed pump, drain valve, air vent and pressure sensors. Built-in safety hydraulic components available in option.	Easy and fast installation (plug & play)	30WG 110-190
LP single-pump, cond. side	270T	Condenser hydraulic module equipped with low pressure fixed-speed pump, drain valve, air vent and pressure sensors. Built-in safety hydraulic components available in option.	Easy and fast installation (plug & play)	30WG 020-190
HP cond. variable-speed single-pump	270V	Condenser hydraulic module equipped with high-pressure variable-speed pump, drain valve, air vent and pressure sensors. (expansion tank not included) Built-in safety hydraulic components available in option.	Easy and fast installation (plug & play), reduced power consumption of the water circulation pump	30WG 020-190
HP cond. variable-speed dual-pump	270W	Condenser hydraulic module equipped with dual high-pressure variable-speed pump, drain valve, air vent and pressure sensors. (expansion tank not included) Built-in safety hydraulic components available in option.	Easy and fast installation (plug & play), reduced power consumption of the water circulation pump	30WG 110-190
LP cond. variable-speed single-pump	270Y	Condenser hydraulic module equipped with low-pressure variable-speed pump, drain valve, air vent and pressure sensors. (expansion tank not included) Built-in safety hydraulic components available in option.	Easy and fast installation (plug & play), reduced power consumption of the water circulation pump	30WG 110-190
Unit stackable for operation	273	Unit stackable for operation	Reduced footprint size	30WG 020-090 30WGA 020-090
water connection at the top	274	Customer water connection at the top of the unit	Reduced footprint size	30WG 020-190 30WGA 020-190

OPTIONS

Options	No.	Description	Advantages	Use
Replaceable filter drier	277	Filter drier with cartridge to replace hermetic filter	Easy filter replacement without emptying the refrigerant circuit	30WGA 020-190
Safety hydraulic components, evap. side	293	Screen filter, expansion tank and relief valve integrated in the evaporator hydraulic module	Easy and fast installation (plug & play), operating safety	30WG 020-190 30WGA 020-190
Safety hydraulic components, cond. side	293A	Screen filter, expansion tank and relief valve integrated in the condenser hydraulic module	Easy and fast installation (plug & play), operating safety	30WG 020-190
Set-point adjustment by 4-20mA signal	311	Connections to allow a 4-20mA signal input	Easy energy managment, allow to adjust set-point by a 4-20mA external signal	30WG 020-190 30WGA 020-190
External temperature sensor	312	External temperature sensor control for using weather compensation	Allow to adjust set-point using weather compensation and define autorisation operation mode to external temperature	30WG 020-190 30WGA 020-190
Free Cooling dry cooler management	313	Control & connections to a Free Cooling Drycooler 09PE or 09VE fitted with option FC control box	Easy system managment, Extended control capabilities to a dryccoler used in Free Cooling mode	30WG 020-190 30WGA 020-190

ACCESSORIES

Accessories	Description	Advantages	Use
00PPG000488000- Heating System Manager type A: It controls one heat emitter type with an auxiliary electric heater or boiler.	Additional control box not supplied with the unit, to be installed remotely	Heating system control facilitated	30WG 020-190
00PPG000488100- Heating System Manager type B: It controls two heat emitter types (or independent zones) and domestic hot water production with an auxiliary electric heater or boiler.	Additional control box not supplied with the unit, to be installed remotely	Heating system control facilitated	30WG 020-190
00PPG000488200- Heating System Manager type C: It controls two heat emitter types (or independent zones) and domestic hot water production with a district heating network as auxiliary source.	Additional control box not supplied with the unit, to be installed remotely	Heating system control facilitated	30WG 020-190

PHYSICAL DATA, 30WG UNITS , SIZES 020 TO 090

30WG				020	025	030	035	040	045	050	060	070	080	090
Heating														
Full load performances*	HW1	Nominal capacity	kW	28	33	35	41	47	52	65	73	81	93	103
		COP	kW/kW	3,59	3,63	3,61	3,60	3,67	3,61	3,58	3,62	3,54	3,70	3,56
	HW2	Nominal capacity	kW	29	33	36	43	49	54	68	74	85	97	108
		COP	kW/kW	4,34	4,37	4,35	4,36	4,40	4,35	4,39	4,35	4,32	4,40	4,32
	HW3	Nominal capacity	kW	30	35	38	44	50	56	70	77	89	101	114
		COP	kW/kW	5,53	5,53	5,49	5,52	5,49	5,51	5,58	5,48	5,53	5,46	5,50
Seasonal energy efficiency**	HW1	$SCOP_{30/35°C}$	kW/kW	5,46	5,45	5,36	5,40	5,35	5,38	6,12	6,08	6,09	6,11	6,09
		$\eta s\ heat_{30/35°C}$	%	211	210	206	208	206	207	237	235	235	236	235
	HW3	**$SCOP_{47/55°C}$**	**kW/kW**	**4,36**	**4,37**	**4,34**	**4,37**	**4,40**	**4,34**	**4,91**	**4,96**	**4,85**	**5,08**	**4,91**
		$\eta s\ heat_{47/55°C}$	**%**	**167**	**167**	**166**	**167**	**168**	**166**	**188**	**190**	**186**	**195**	**188**
		P_{rated}	kW	32	37	40	47	54	59	75	83	93	106	118
		Energy labelling		A++	A++	A++	A++	A++	A++	-	-	-	-	-
Cooling														
Standard unit Full load performances*	CW1	Nominal capacity	kW	25	29	32	37	42	47	58	63	74	84	95
		EER	kW/kW	4,72	4,72	4,69	4,73	4,69	4,72	4,72	4,65	4,69	4,65	4,68
		Eurovent class		B	B	B	B	B	B	B	B	B	B	B
	CW2	Nominal capacity	kW	34	39	43	50	57	66	79	86	102	113	129
		EER	kW/kW	6,42	6,10	6,03	6,04	5,90	6,06	6,12	5,95	6,19	5,93	6,13
		Eurovent class		A	A	A	A	A	A	A	A	A	A	A
Seasonal energy efficiency		$SEER_{12/7°C}$ Comfort low temp.	kW/kW	4,94	4,97	4,88	4,84	4,81	4,72	5,60	5,62	5,49	5,57	5,62
		$SEPR_{12/7°C}$ Process high temp.	kW/kW	6,42	6,44	6,26	6,22	6,26	6,31	6,63	6,50	6,48	6,59	6,62
		$SEER_{23/18°C}$ Comfort medium temp.	kWh/kWh	5,96	5,76	5,62	5,60	5,52	5,57	6,56	6,33	6,19	6,22	6,14
		$SEPR_{-2/-8°C}$ Process medium temp.	kWh/kWh	3,86	4,23	4,41	4,32	4,44	3,98	4,24	4,83	4,65	4,89	4,87
Integrated part load value		IPLV.SI	kW/kW	5,84	5,85	5,76	5,78	5,77	5,82	6,58	6,68	6,56	6,81	6,72
Operating weight(1)			kg	191	200	200	207	212	220	386	392	403	413	441
Operating weight with option 258(1)			kg	198	207	207	214	219	227	399	405	416	426	454
Sound levels(2)														
Sound power level, standard unit			dB(A)	67	68	69	69	70	70	72	72	72	73	73
Sound power level, option 257			dB(A)	65	66	66	67	68	68	68	69	69	69	70
Sound power level, option 258			dB(A)	61	62	63	63	64	64	66	66	66	67	67
Sound power level, option 257 + 258			dB(A)	60	62	62	62	64	63	65	65	65	66	66
Dimensions, standard unit(3)														
Width			mm	600	600	600	600	600	600	880	880	880	880	880
Length			mm	1044	1044	1044	1044	1044	1044	1474	1474	1474	1474	1474
Height			mm	901	901	901	901	901	901	901	901	901	901	901

* In accordance with standard EN14511-3:2013

** In accordance with standard EN14825:2013, average climate

HW1 Heating mode conditions: Evaporator entering/leaving water temperature 10°C/7°C, condenser entering/leaving water temperature 30°C/35°C, evaporator and condenser fouling factor 0 m^2. k/W

HW2 Heating mode conditions: Evaporator entering/leaving water temperature 10°C/7°C, condenser entering/leaving water temperature 40°C/45°C, evaporator and condenser fouling factor 0 m^2. k/W

HW3 Heating mode conditions: Evaporator entering/leaving water temperature 10°C/7°C, condenser entering/leaving water temperature 47°C/55°C, evaporator and condenser fouling factor 0 m^2. k/W

CW1 Cooling mode conditions: Evaporator water entering/leaving temperature 12°C/7°C, condenser entering/leaving water temperature 30°C/35°C, evaporator and condenser fouling factor 0 m^2.K/W

CW2 Cooling mode conditions: Evaporator water entering/leaving temperature 23°C/18°C, condenser entering/leaving water temperature 30°C/35°C, evaporator and condenser fouling factor 0 m^2.K/W

$\eta s\ heat_{30/35°C}$ & $SCOP_{30/35°C}$ Applicable Ecodesign regulation: (EU) No 813/2013

$\eta s\ heat_{47/55°C}$ & $SCOP_{47/55°C}$ Applicable Ecodesign regulation: (EU) No 813/2013

$SEER_{12/7°C}$ & $SEPR_{12/7°C}$ Applicable Ecodesign regulation: (EU) No 2016/2281

$SEER_{23/18°C}$ Applicable Ecodesign regulation: (EU) No 2016/2281

$SEPR_{-2/-8°C}$ Applicable Ecodesign regulation: (EU) No 2015/1095

IPLV.SI Calculations according to standard performances AHRI 551-591.

(1) Weight shown is a guideline only. Please refer to the unit nameplate

(2) In dB ref=10^{-12} W, (A) weighting. Declared dualnumber noise emission values in accordance with ISO 4871 (with an associated uncertainty of +/- 3dB(A)). Measured in accordance with ISO 9614-1.

(3) The dimensions shown are for the standard unit. For other unit types please refer to the dimensional drawings.

EUROVENT CERTIFIED PERFORMANCE www.eurovent-certification.com

Eurovent certified values

HEATING

PHYSICAL DATA, 30WG UNITS , SIZES 020 TO 090

30WG		020	025	030	035	040	045	050	060	070	080	090
Compressors		Hermetic scroll 48.3 r/s										
Quantity		1	1	1	1	1	1	2	2	2	2	2
Number of capacity stages		1	1	1	1	1	1	2	2	2	2	2
Minimum capacity	%	100	100	100	100	100	100	50	50	50	50	50
Refrigerant(1)		R410A										
Charge, standard unit	kg	3,5	3,5	3,6	3,7	4,0	4,6	7,6	7,8	7,9	8,7	11,5
	$teqCO_2$	7,2	7,3	7,4	7,6	8,2	9,5	15,9	16,3	16,5	18,2	24
Capacity control		Touch Pilot Junior										
Evaporator		Direct-expansion plate heat exchanger										
Water volume	l	3,3	3,6	3,6	4,2	4,6	5,0	8,4	9,2	9,6	10,4	12,5
Water connections		Victaulic										
Inlet/outlet	in	1,5	1,5	1,5	1,5	1,5	1,5	2	2	2	2	2
Max. water-side operating pressure without hydraulic module	kPa	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Condenser		Plate heat exchanger										
Net water volume	l	3,3	3,6	3,6	4,2	4,6	5,0	8,4	9,2	9,6	10,4	12,5
Water connections		Victaulic										
Inlet/outlet	in	1,5	1,5	1,5	1,5	1,5	1,5	2	2	2	2	2
Max. water-side operating pressure without hydraulic module	kPa	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Chassis paint color		Color code: RAL7035										

(1) Weight shown is a guideline only. Please refer to the unit nameplate

HEATING

PHYSICAL DATA, 30WG UNITS, SIZES 110 TO 190

30WG				110	120	140	150	170	190
Heating									
Full load performances*	HW1	Nominal capacity	kW	137	156	172	183	206	230
		COP	kW/kW	5,63	5,61	5,53	5,67	5,62	5,59
	HW2	Nominal capacity	kW	131	148	163	174	197	218
		COP	kW/kW	4,44	4,45	4,38	4,41	4,50	4,38
	HW3	Nominal capacity	kW	125	140	155	167	189	209
		COP	kW/kW	3,59	3,63	3,57	3,60	3,76	3,60
Seasonal energy efficiency**	HW1	$SCOP_{30/35°C}$	kW/kW	6,31	6,37	6,29	6,31	6,32	6,18
		$\eta s\ heat_{30/35°C}$	%	244	247	244	244	245	239
	HW3	**$SCOP_{47/55°C}$**	**kW/kW**	**5,05**	**5,09**	**5,05**	**5,02**	**5,17**	**4,96**
		$\eta s\ heat_{47/55°C}$	**%**	**194**	**196**	**194**	**193**	**199**	**190**
		P_{rated}	kW	143	161	178	191	216	239
Cooling									
Standard unit Full load performances*	CW1	Nominal capacity	kW	115	130	144	153	172	192
		EER	kW/kW	4,79	4,77	4,70	4,83	4,78	4,79
		Eurovent class		B	B	B	B	B	B
	CW2	Nominal capacity	kW	155	176	196	207	231	262
		EER	kW/kW	6,20	6,10	6,01	6,23	5,97	6,14
		Eurovent class		A	A	A	A	A	A
Seasonal energy efficiency		$SEER_{12/7°C}$ Comfort low temp.	kW/kW	6,12	6,24	6,17	5,97	6,06	5,96
		$SEER_{23/18°C}$ Comfort medium temp.	kW/kW	6,95	7,10	6,95	6,72	6,72	6,74
		$SEPR_{12/7°C}$ Process high temp.	kWh/kWh	6,98	7,13	6,90	6,54	6,62	6,41
		$SEPR_{-2/-8°C}$ Process medium temp.	kWh/kWh	4,01	4,40	4,35	4,52	4,65	4,45
Integrated part load value		IPLV.SI	kW/kW	6,86	6,98	6,90	6,82	6,89	6,82
Operating weight (1)			kg	707	733	758	841	877	908
Sound levels (2)									
Sound power level, standard unit			dB(A)	76	77	78	76	77	78
Sound power level, option 257			dB(A)	73	74	75	73	74	75
Dimensions, standard unit (3)									
Width			mm	880	880	880	880	880	880
Length			mm	1583	1583	1583	1583	1583	1583
Height			mm	1574	1574	1574	1574	1574	1574
Compressors				Hermetic scroll 48.3 r/s					
Quantity				3	3	3	4	4	4
Number of capacity stages				3	3	3	4	4	4
Minimum capacity			%	33	33	33	25	25	25
Refrigerant (1)				R410A					
Charge, standard unit			kg	13,3	14,5	15,6	21,0	23,0	24,2
			$teqCO_2$	27,8	30,3	32,6	43,8	48,0	50,5

* In accordance with standard EN14511-3:2013

** In accordance with standard EN14825:2013, average climate

HW1 Heating mode conditions: Evaporator entering/leaving water temperature 10°C/7°C, condenser entering/leaving water temperature 30°C/35°C, evaporator and condenser fouling factor 0 m^2. k/W

HW2 Heating mode conditions: Evaporator entering/leaving water temperature 10°C/7°C, condenser entering/leaving water temperature 40°C/45°C, evaporator and condenser fouling factor 0 m^2. k/W

HW3 Heating mode conditions: Evaporator entering/leaving water temperature 10°C/7°C, condenser entering/leaving water temperature 47°C/55°C, evaporator and condenser fouling factor 0 m^2. k/W

CW1 Cooling mode conditions: Evaporator water entering/leaving temperature 12°C/7°C, condenser entering/leaving water temperature 30°C/35°C, evaporator and condenser fouling factor 0 m^2.K/W

CW2 Cooling mode conditions: Evaporator water entering/leaving temperature 23°C/18°C, condenser entering/leaving water temperature 30°C/35°C, evaporator and condenser fouling factor 0 m^2.K/W

$\eta s\ heat_{30/35°C}$ & $SCOP_{30/35°C}$ Applicable Ecodesign regulation: (EU) No 813/2013

$\eta s\ heat_{47/55°C}$ & $SCOP_{47/55°C}$ Applicable Ecodesign regulation: (EU) No 813/2013

$SEER_{12/7°C}$ & $SEPR_{12/7°C}$ Applicable Ecodesign regulation: (EU) No 2016/2281

$SEER_{23/18°C}$ Applicable Ecodesign regulation: (EU) No 2016/2281

$SEPR_{-2/-8°C}$ Applicable Ecodesign regulation: (EU) No 2015/1095

IPLV.SI Calculations according to standard performances AHRI 551-591.

(1) Weight shown is a guideline only. Please refer to the unit nameplate

(2) In dB ref=10^{-12} W, (A) weighting. Declared dualnumber noise emission values in accordance with ISO 4871 (with an associated uncertainty of +/- 3dB(A)). Measured in accordance with ISO 9614-1.

(3) The dimensions shown are for the standard unit. For other unit types please refer to the dimensional drawings.

EUROVENT CERTIFIED PERFORMANCE www.eurovent-certification.com

Eurovent certified values

HEATING

PHYSICAL DATA, 30WG UNITS, SIZES 110 TO 190

30WG		110	120	140	150	170	190
Capacity control		TouchPilot Junior					
Evaporator		Direct-expansion plate heat exchanger					
Water volume	l	15,18	17,35	19,04	23,16	26,52	29,05
Water connections	-	Victaulic					
Inlet/outlet	in	2 1/2	2 1/2	2 1/2	3	3	3
Max. water-side operating pressure without hydraulic module	kPa	1000	1000	1000	1000	1000	1000
Condenser		Plate heat exchanger					
Net water volume	l	15,18	17,35	19,04	23,16	26,52	29,05
Water connections	-	Victaulic					
Inlet/outlet	in	2 1/2	2 1/2	2 1/2	3	3	3
Max. water-side operating pressure without hydraulic module	kPa	1000	1000	1000	1000	1000	1000
Chassis paint color		**Color** code: RAL7035					

HEATING

PHYSICAL DATA, 30WGA UNITS

30WGA				020	025	030	035	040	045	050	060	070	080	090
Standard unit Full load performances*	CS1	Nominal capacity	kW	23	27	30	35	39	44	54	60	69	78	88
		EER	kW/kW	3,75	3,84	3,87	3,93	3,94	3,90	3,82	3,85	3,86	3,91	3,88
	CS2	Nominal capacity	kW	32	38	42	49	55	63	76	84	98	111	125
		EER	kW/kW	5,51	5,36	5,44	5,51	5,44	5,53	5,36	5,37	5,45	5,42	5,42
Operating weight(1)			kg	164	171	171	177	180	185	321	324	332	339	354
Operating weight with option 258(1)			kg	171	178	178	184	187	192	334	337	345	352	367
Sound levels(2)														
Sound power level, standard unit			dB(A)	67	68	69	69	70	70	72	72	72	73	73
Sound power level, option 257			dB(A)	65	66	66	67	68	68	68	69	69	69	70
Sound power level, option 258			dB(A)	61	62	63	63	64	64	66	66	66	67	67
Sound power level, option 257 + 258			dB(A)	60	62	62	62	64	63	65	65	65	66	66
Dimensions, standard unit(3)														
Width			mm	600	600	600	600	600	600	880	880	880	880	880
Length			mm	1044	1044	1044	1044	1044	1044	1474	1474	1474	1474	1474
Height			mm	901	901	901	901	901	901	901	901	901	901	901
Compressors				Hermetic scroll 48.3 r/s										
Circuit A				1	1	1	1	1	1	2	2	2	2	2
Circuit B				-	-	-	-	-	-	-	-	-	-	-
Number of capacity stages				1	1	1	1	1	1	2	2	2	2	2
Minimum capacity			%	100	100	100	100	100	100	50	50	50	50	50
Refrigerant				R410A										
Capacity control				Touch Pilot Junior										
Evaporator				Direct-expansion plate heat exchanger										
Water volume			l	3.3	3.6	3.6	4.2	4.6	5.0	8.4	9.2	9.6	10.4	12.5
Water connections				Victaulic										
Inlet/outlet			in	1.5	1.5	1.5	1.5	1.5	1.5	2	2	2	2	2
Max. water-side operating pressure without hydraulic module			kPa	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Refrigerant connections														
Discharge line diameter			in	7/8	7/8	7/8	7/8	7/8	7/8	1-1/8	1-1/8	1-1/8	1-1/8	1-1/8
Liquid line diameter			in	5/8	5/8	5/8	5/8	5/8	5/8	7/8	7/8	7/8	7/8	7/8
Chassis paint color				Color code: RAL7035										

* In accordance with standard EN14511-3:2013. Refrigerant piping equivalent length (without drier and valves) = 3 m.
CS1 Cooling mode conditions: evaporator entering/leaving water temperature 12 °C/7 °C, saturated condensing temperature 45 °C, subcooling 5 K, evaporator fouling factor 0 m^2K/W.
CS2 Cooling mode conditions: evaporator entering/leaving water temperature 23 °C/18 °C, saturated condensing temperature 45 °C, subcooling 5 K, evaporator fouling factor 0 m^2K/W.
(1) Weight shown is a guideline only. Please refer to the unit nameplate
(2) In dB ref=10^{-12} W, (A) weighting. Declared dualnumber noise emission values in accordance with ISO 4871 (with an associated uncertainty of +/-3dB(A)). Measured in accordance with ISO 9614-1.
(3) The dimensions shown are for the standard unit. For other unit types please refer to the dimensional drawings.

HEATING

PHYSICAL DATA, 30WGA UNITS

30WGA				110	120	140	150	170	190
Standard unit Full load performances*	CS1	Nominal capacity	kW	106	119	132	140	159	175
		EER	kW/kW	3,78	3,78	3,72	3,75	3,81	3,72
	CS2	Nominal capacity	kW	146	166	185	195	218	247
		EER	kW/kW	5,24	5,17	5,12	5,32	5,17	5,26
Operating weight(1)			kg	762	787	814	909	944	975
Sound levels(2)									
Sound power level			dB(A)	76	77	78	76	77	78
Sound power level, option 257			dB(A)	73	74	75	73	74	75
Dimensions, standard unit (3)									
Width			mm	880	880	880	880	880	880
Length			mm	1583	1583	1583	1583	1583	1583
Height			mm	1574	1574	1574	1574	1574	1574
Compressors				Hermetic scroll 48.3 r/s					
Circuit A				3	3	3	4	4	4
Number of capacity stages				3	3	3	4	4	4
Minimum capacity			%	33	33	33	25	25	25
Refrigerant				R410A					
Capacity control				PRO-DIALOG Plus					
Evaporator				Direct-expansion plate heat exchanger					
Water volume			l	15,18	17,35	19,04	23,16	26,52	29,05
Water connections				Victaulic					
Inlet/outlet			in	2 1/2	2 1/2	2 1/2	3	3	3
Max. water-side operating pressure without hydraulic module				1000	1000	1000	1000	1000	1000
Refrigerant connections									
Discharge line diameter			in	1"3/8	1"3/8	1"3/8	1"1/8	1"1/8	1"1/8
Liquid line diameter			in	7/8"	7/8"	7/8"	7/8"	7/8"	7/8"
Chassis paint color				Color code: RAL7035					

* In accordance with standard EN14511-3:2013. Refrigerant piping equivalent length (without drier and valves) = 3 m.
CS1 Cooling mode conditions: evaporator entering/leaving water temperature 12 °C/7 °C, saturated condensing temperature 45 °C, subcooling 5 K, evaporator fouling factor 0 m^2K/W.
CS2 Cooling mode conditions: evaporator entering/leaving water temperature 23 °C/18 °C, saturated condensing temperature 45 °C, subcooling 5 K, evaporator fouling factor 0 m^2K/W.
(1) Weight shown is a guideline only. Please refer to the unit nameplate
(2) In dB ref=10^{-12} W, (A) weighting. Declared dualnumber noise emission values in accordance with ISO 4871 (with an associated uncertainty of +/-3dB(A)). Measured in accordance with ISO 9614-1.
(3) The dimensions shown are for the standard unit. For other unit types please refer to the dimensional drawings.

ELECTRICAL DATA

30WG without hydraulic module		020	025	030	035	040	045	050	060	070	080	090
Power circuit												
Nominal voltage	V-ph-Hz	400-3-50										
Voltage range	V	360-440										
Control circuit supply		24 V, via internal transformer										
Maximum start-up current draw (Un)(1)												
Standard unit	A	98	142	142	147	158	197	161	162	170	183	226
Unit with electronic starter option	A	53,9	78,1	78,1	80,9	86,9	108,4	96,8	97,9	104,1	112,3	137,4
Unit power factor at maximum capacity(2)		0,9	0,8	0,9	0,9	0,9	0,9	0,8	0,9	0,9	0,9	0,9
Maximum operating power input(2)	kW	9,2	10,8	11,7	13,7	15,1	17,1	21,5	23,3	27,3	30,3	34,2
Nominal unit operating current draw(3)	A	10,5	13,2	13,8	15,6	16,2	20,2	26,4	27,6	31,2	32,4	40,4
Maximum operating current draw (Un)(4)	A	15,6	18,7	19,8	23,2	25,4	29	37,4	39,6	46,4	50,8	58
Maximum operating current draw (Un-10%)†	A	17,3	20,8	22	25,8	28,2	32,2	41,6	44	51,6	56,4	64,4
Customer-side unit power reserve		Customer reserve at the 24 V control power circuit										
Short-circuit stability and protection		See table below "Short-circuit stability current"										

(1) Maximum instantaneous start-up current at operating limit values (maximum operating current of the smallest compressor(s) + locked rotor current or limited start-up current of the largest compressor).
(2) Maximum power input at the unit operating limits.
(3) Values obtained at standardised Eurovent conditions: evaporator entering/leaving water temperature 12 °C/7 °C, condenser entering/leaving water temperature 30 °C/ 35 °C.
(4) Maximum unit operating current at maximum unit power input and 400 V.

† Maximum unit operating current at maximum unit power input and 360 V.

30WG without hydraulic module		110	120	140	150	170	190
Power circuit							
Nominal voltage	V-ph-Hz	400-3-50					
Voltage range	V	360-440					
Control circuit supply		24 V, via internal transformer					
Maximum start-up current draw (Un)(1)							
Standard unit	A	193,4	208,8	255	216,6	234,2	284
Unit with electronic starter option	A	127,3	137,7	166,4	150,5	163,1	195,4
Unit power factor at maximum capacity(2)		0,87	0,85	0,85	0,87	0,85	0,85
Maximum operating power input(2)	kW	41	45	51	55	60	68
Nominal unit operating current draw(3)	A	46,8	48,6	60,6	62,4	64,8	80,8
Maximum operating current draw (Un)(4)	A	69,6	76,2	87	92,8	101,6	116
Maximum operating current draw (Un-10%)†	A	77,3	84,7	96,7	103,1	112,9	128,9
Customer-side unit power reserve		Customer reserve at the 24 V control power circuit					
Short-circuit stability and protection		See table below "Short-circuit stability current"					

(1) Maximum instantaneous start-up current at operating limit values (maximum operating current of the smallest compressor(s) + locked rotor current or limited start-up current of the largest compressor).
(2) Maximum power input at the unit operating limits.
(3) Values obtained at standardised Eurovent conditions: evaporator entering/leaving water temperature 12 °C/7 °C, condenser entering/leaving water temperature 30 °C/ 35 °C.
(4) Maximum unit operating current at maximum unit power input and 400 V.
† Maximum unit operating current at maximum unit power input and 360 V.

ELECTRICAL DATA

30WGA without hydraulic module		020	025	030	035	040	045	050	060	070	080	090
Power circuit												
Nominal voltage	V-ph-Hz	400-3-50										
Voltage range	V	360-440										
Control circuit supply		24 V, via internal transformer										
Maximum start-up current draw (Un)(1)												
Standard unit	A	98	142	142	147	158	197	161	162	170	183	226
Unit with electronic starter option	A	53,9	78,1	78,1	80,9	86,9	108,4	96,8	97,9	104,1	112,3	137,4
Unit power factor at maximum capacity(2)		0,9	0,8	0,9	0,9	0,9	0,9	0,8	0,9	0,9	0,9	0,9
Maximum operating power input(2)	kW	9,2	10,8	11,7	13,7	15,1	17,1	21,5	23,3	27,3	30,3	34,2
Nominal unit operating current draw(3)	A	11,4	13,8	14,7	16,5	18,1	21,2	27,6	29,4	33,1	36,4	42,5
Maximum operating current draw (Un)(4)	A	15,6	18,7	19,8	23,2	25,4	29	37,4	39,6	46,4	50,8	58
Maximum operating current draw (Un-10%)†	A	17,3	20,8	22	25,8	28,2	32,2	41,6	44	51,6	56,4	64,4
Customer-side unit power reserve		Customer reserve at the 24 V control power circuit										
Short-circuit stability and protection		See table below "Short-circuit stability current"										

30WGA without hydraulic module		110	120	140	150	170	190
Power circuit							
Nominal voltage	V-ph-Hz	400-3-50					
Voltage range	V	360-440					
Control circuit supply		24 V, via internal transformer					
Maximum start-up current draw (Un)(1)							
Standard unit	A	193,4	208,8	255	216,6	234,2	284
Unit with electronic starter option	A	127,3	137,7	166,4	150,5	163,1	195,4
Unit power factor at maximum capacity(2)		0,87	0,85	0,85	0,87	0,85	0,85
Maximum operating power input(2)	kW	41	45	51	55	60	68
Nominal unit operating current draw(3)	A	49,5	54,3	63,6	66	72,4	84,8
Maximum operating current draw (Un)(4)	A	69,6	76,2	87	92,8	101,6	116
Maximum operating current draw (Un-10%)†	A	77,3	84,7	96,7	103,1	112,9	128,9
Customer-side unit power reserve		Customer reserve at the 24 V control power circuit					
Short-circuit stability and protection		See table below "Short-circuit stability current"					

(1) Maximum instantaneous start-up current at operating limit values (maximum operating current of the smallest compressor(s) + locked rotor current or limited start-up current of the largest compressor).
(2) Maximum power input at the unit operating limits.
(3) Values obtained at the following conditions: evaporator entering/leaving water temperature 12 °C/7 °C, condenser entering/leaving water temperature 45 °C.
(4) Maximum unit operating current at maximum unit power input and 400 V.
† Maximum unit operating current at maximum unit power input and 360 V.

ELECTRICAL DATA

Short-circuit stability current (TN system(1)) - standard unit (with main disconnect switch)

30WG/30WGA		020	025	030	035	040	045	050	060	070	080	090
Value with non-specified upstream protection												
Short-term current at 1 s - Icw	kA rms	3	3	3	3	3	3	3	3	3	3	3
Admissible peak current - Ipk	kA pk	6	6	6	6	6	6	6	6	6	6	6
Maximum value with upstream protection (by circuit breaker)												
Conditional short-circuit current Icc	kA rms	40	40	40	40	40	40	40	40	40	40	40
Schneider circuit breaker - Compact series		NSX 100N										
Reference number(2)		LV429795										

(1) Earthing system type
(2) If another current limitation protection system is used, its time-current and thermal constraint (I^2t) trip characteristics must be at least equivalent to those of the recommended Schneider circuit breaker.
The short-circuit stability current values above are suitable with the TN system.

30WG/30WGA		110	120	140	150	170	190
Value with non-specified upstream protection							
Short-term current at 1 s - Icw	kA rms	5,5	5,5	5,5	5,5	5,5	5,5
Admissible peak current - Ipk	kA pk	20	20	20	20	20	20
Maximum value with upstream protection (by circuit breaker)							
Conditional short-circuit current Icc	kA rms	154	154	154	154	154	154
Schneider circuit breaker - Compact series		NSX 100N					
Reference number(2)		LV429795					

(1) Earthing system type
(2) If another current limitation protection system is used, its time-current and thermal constraint (I^2t) trip characteristics must be at least equivalent to those of the recommended Schneider circuit breaker.
The short-circuit stability current values above are suitable with the TN system.

Electrical data notes and operating conditions:

- 61WG/30WG/30WGA units have a single power connection point, located immediately upstream of the main disconnect switch.
- The control box includes the following standard features:
  - a main disconnect switch,
  - the starter and motor protection devices for each compressor and the pumps
  - the control devices
- Field connections:
  All connections to the system and the electrical installations must be in full accordance with all applicable local codes.
- The Carrier 61WG/30WG/30WGA units are designed and built to ensure conformance with these codes. The recommendations of European standard EN 60204-1 (machine safety - electrical machine components - part 1: general regulations - corresponds to IEC 60204-1) are specifically taken into account, when designing the electrical unit equipment.

Notes:

- Generally the recommendations of IEC 60364 are accepted as compliance with the requirements of the installation directives. Conformance with EN 60204-1 is the best means of ensuring compliance with the Machines Directive § 1.5.1.
- Annex B of EN 60204-1 describes the electrical characteristics used for the operation of the machines.

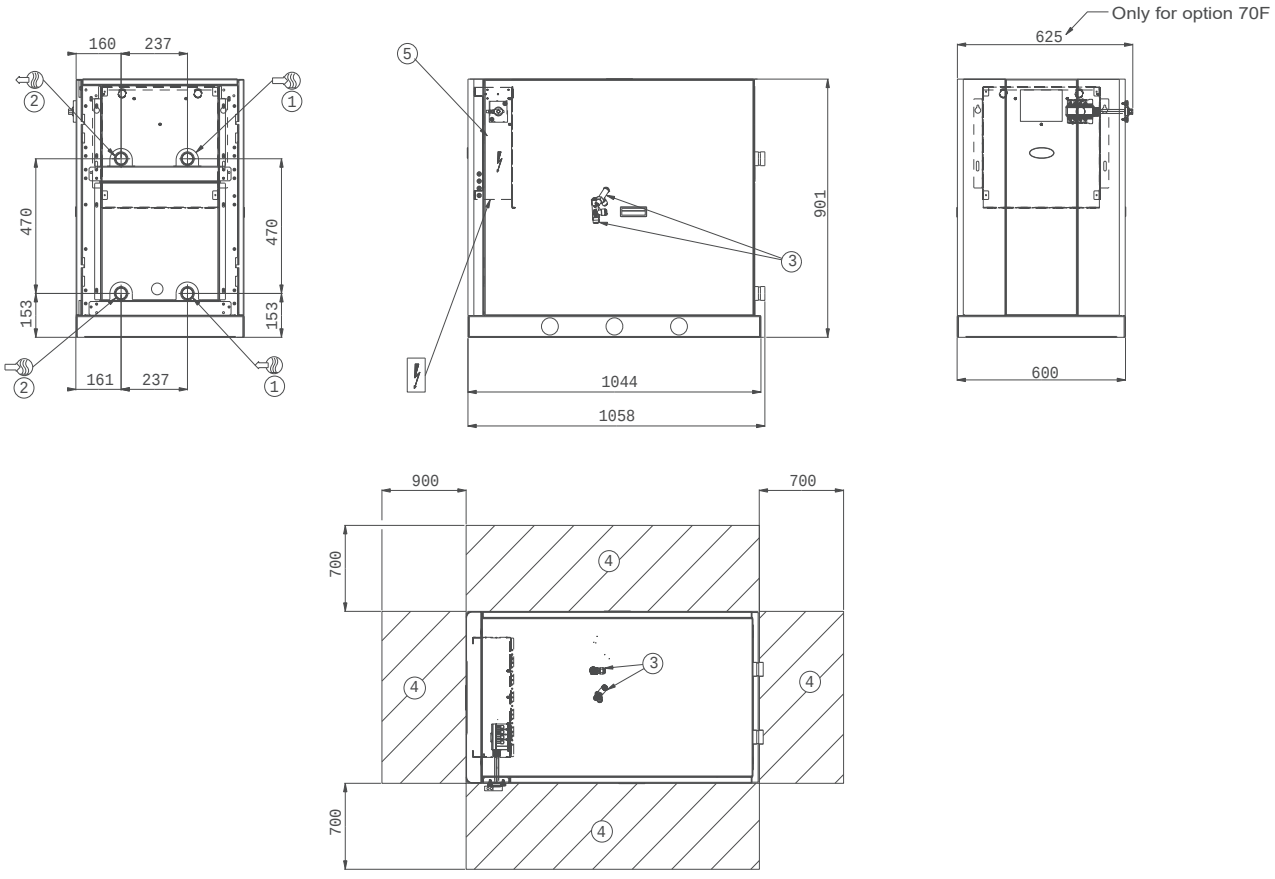
1. The operating conditions for the units are specified below:
   Environment(1) - Environment as classified in EN 60721 (equivalent to CEI60721):
   - Indoor installation,
   - ambient temperature range: +5 °C for the temperature minimum to +40 °C, class 4K4H,
   - humidity range (non-condensing)(1):
   - 50% relative humidity at 40 °C
   - 90% relative humidity at 20 °C
   - altitude: ≤ 2000 m (see note for table 4.7 in the IOM) indoor installation(1)
   - presence of water: class AD2 (possibility of water droplets)
   - presence of hard solids, class 4S2 (no significant dust present)
   - presence of corrosive and polluting substances, class 4C2 (negligible)
   - vibration and shock, class AG2, AH2
   - competence of personnel, class BA4(1) (trained personnel - IEC 60364)
2. Power supply frequency variation: ± 2 Hz.
3. The neutral (N) conductor must not be connected directly to the unit (if necessary use a transformer).
4. Over-current protection of the power supply conductors is not provided with the unit.
5. The factory-installed disconnect switch(es)/circuit breaker(s) is (are) of a type suitable for power interruption in accordance with EN 60947.
6. The units are designed for simplified connection on TN(s) networks (IEC 60364). For IT networks provide a local earth and consult competent local organisations to complete the electrical installation. Units delivered with speed drive are not compatible with IT network.
7. Derived currents: If protection by monitoring of derived currents is necessary to ensure the safety of the installation, the control of the cut-out value must take the presence of leak currents into consideration that result from the use of frequency converters in the unit. A value of at least 150 mA is recommended to control differential protection devices.

NOTE: If particular aspects of an actual installation do not conform to the conditions described above, or if there are other conditions which should be considered, always contact your local Carrier representative.

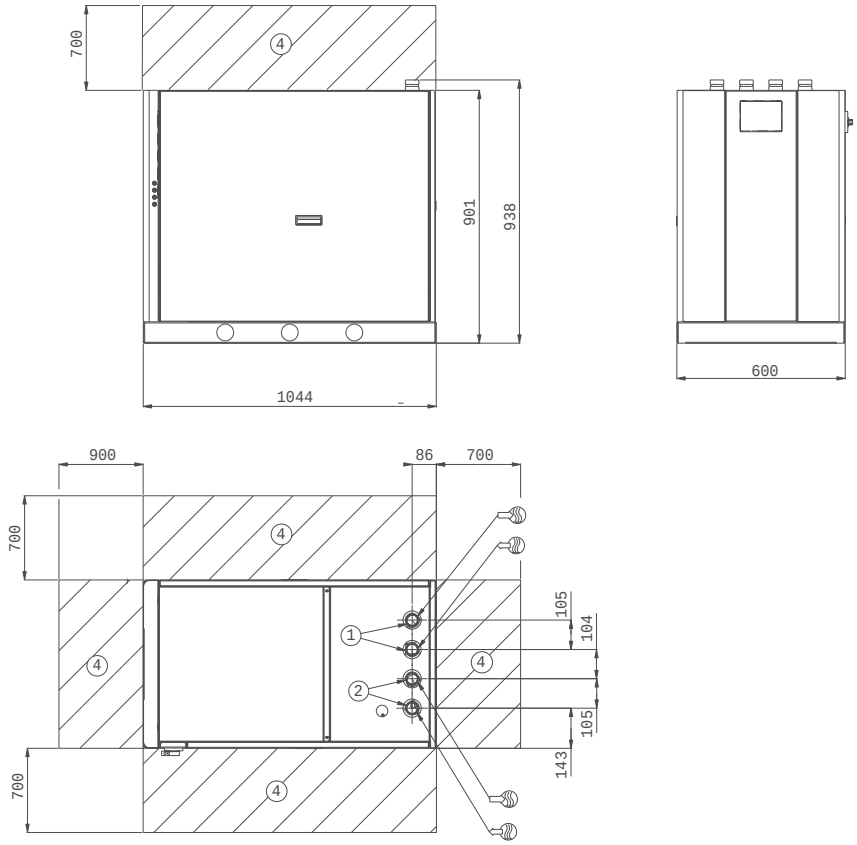
(1) The protection level of the control boxes required to conform to this class is IPX1B (according to reference document IEC 60529). All 61WG/30WG/30WGA units fulfil this protection condition.
Units equipped with front casing panel meet class IP23. If the casing panel has been removed, access to energised components is protected to level IPXXB.

DIMENSIONS/CLEARANCES

30WG 020-045 - standard unit



30WG 020-045 - unit with top connections (option 274)



Legend
All dimensions are in mm.

1. Evaporator
2. Condenser
3. Safety valve
4. Clearances required for maintenance (see note)
5. Control box

Water inlet.

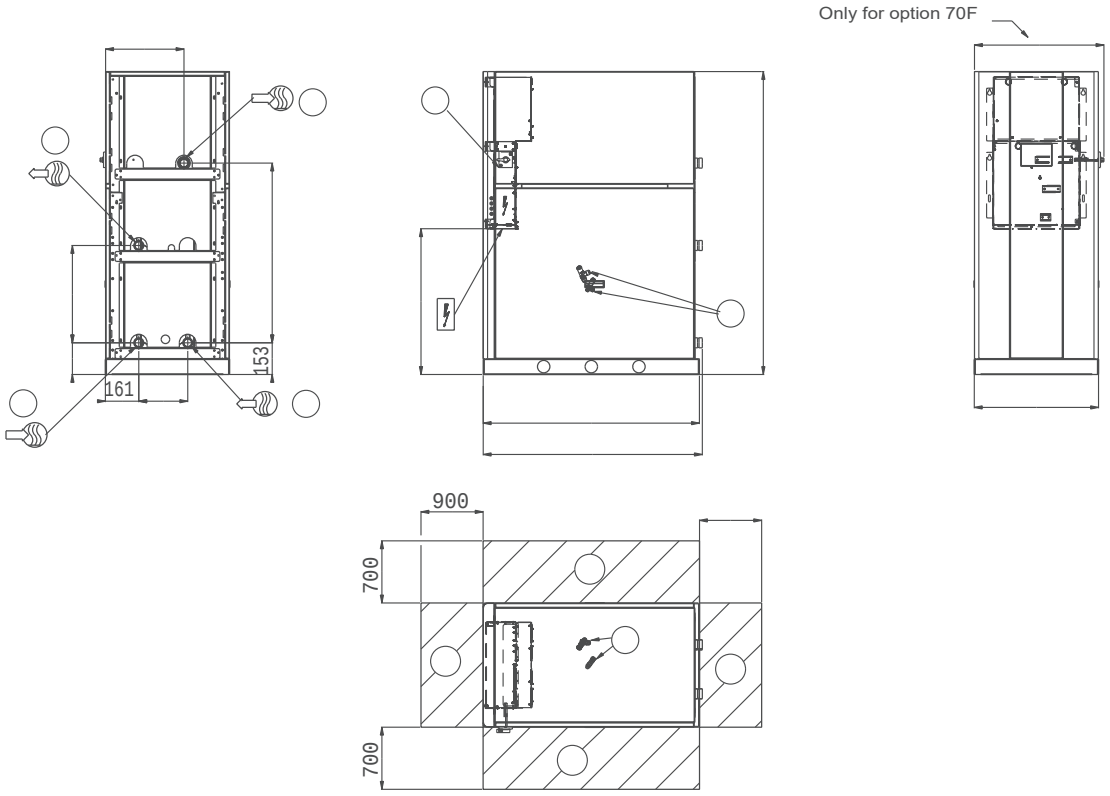
Water outlet

Power wiring connection

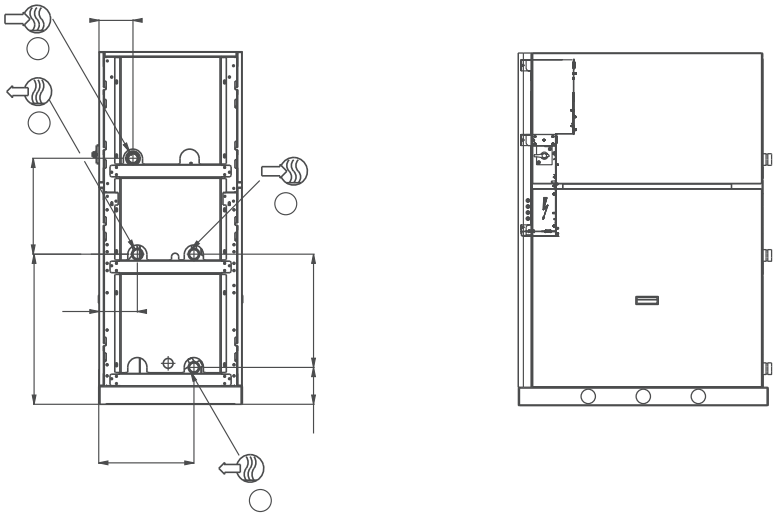
NOTE: Non-contractual drawings. Refer to the certified dimensional drawings available on request, when designing an installation.

DIMENSIONS/CLEARANCES

30WG 020-045 - unit with evaporator hydraulic module (option 116)



30WG 020-045 - unit with condenser hydraulic module (option 270)



Legend
All dimensions are in mm.

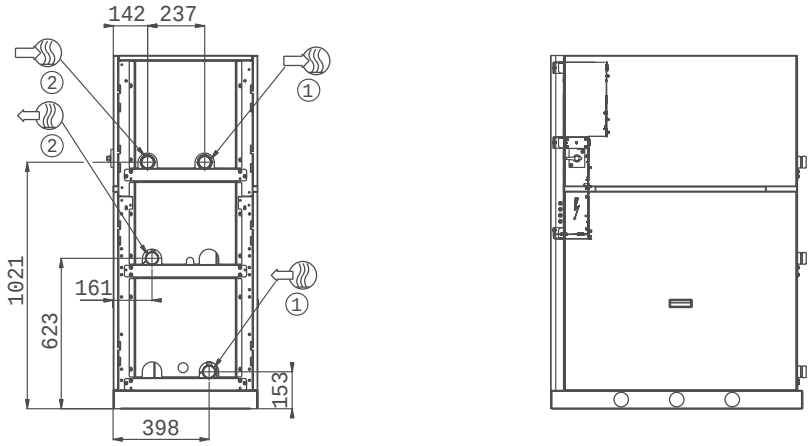
1. Evaporator
2. Condenser
3. Safety valve
4. Clearances required for maintenance (see note)
5. Control box

Water inlet.
Water outlet
Power wiring connection

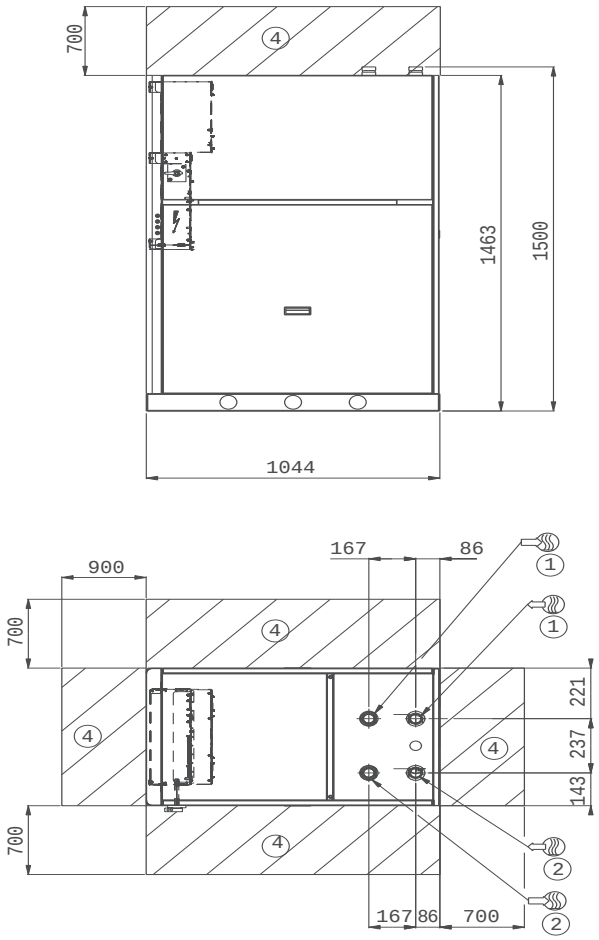
NOTE: Non-contractual drawings. Refer to the certified dimensional drawings available on request, when designing an installation.

DIMENSIONS/CLEARANCES

30WG 020-045 - unit with evaporator/condenser hydraulic modules (options 116 + 270)



30WG 020-045 - unit with hydraulic module and top connections (options 116 + 274 or 270 + 274 or 116 + 270 + 274)



Legend
All dimensions are in mm.

1. Evaporator
2. Condenser
3. Safety valve
4. Clearances required for maintenance (see note)
5. Control box

Water inlet.

Water outlet

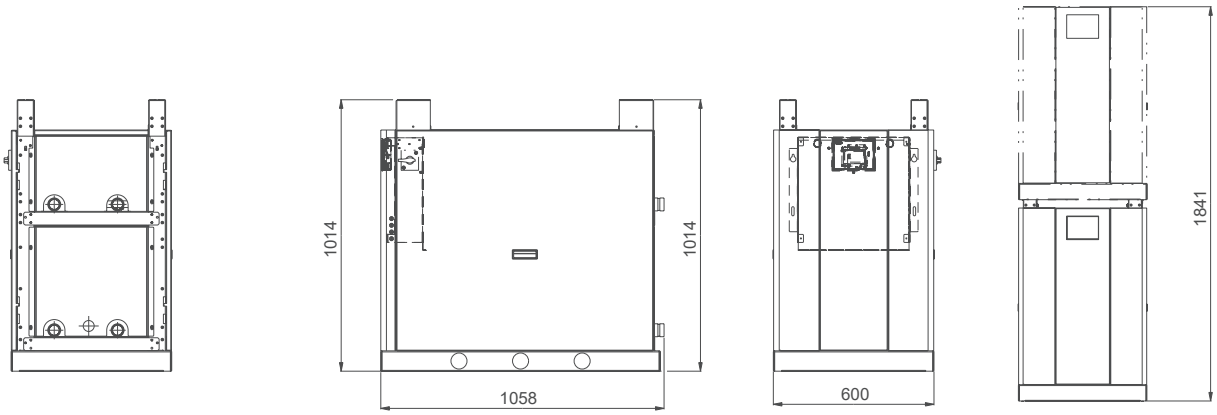
Power wiring connection

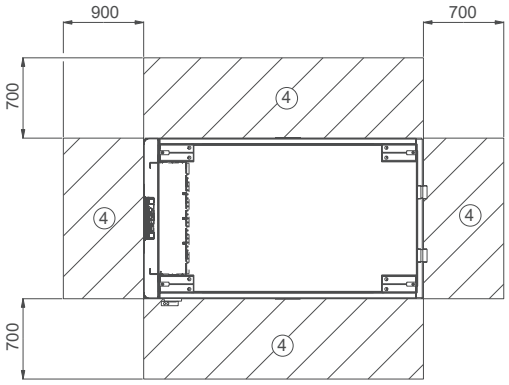
NOTE: Non-contractual drawings. Refer to the certified dimensional drawings available on request, when designing an installation.

DIMENSIONS/CLEARANCES

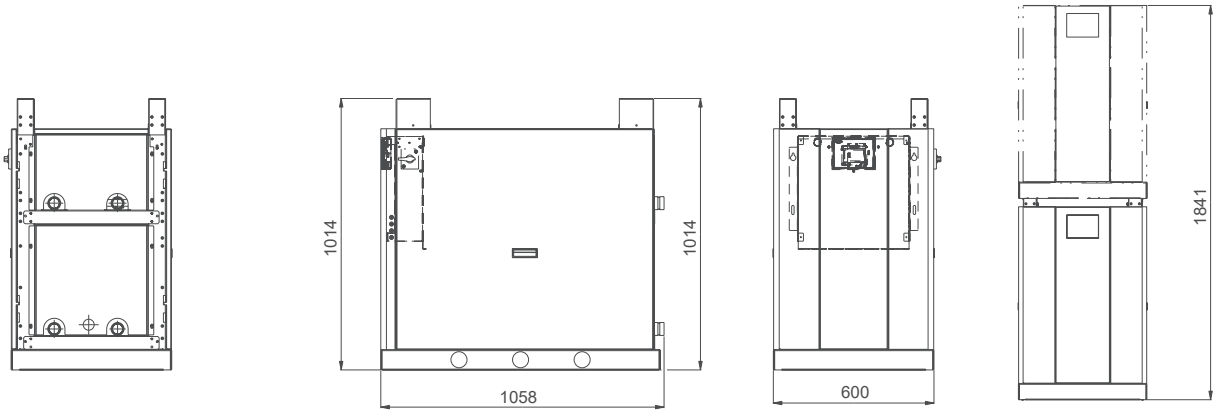
30WG 020-045 - stackable unit (option 273)

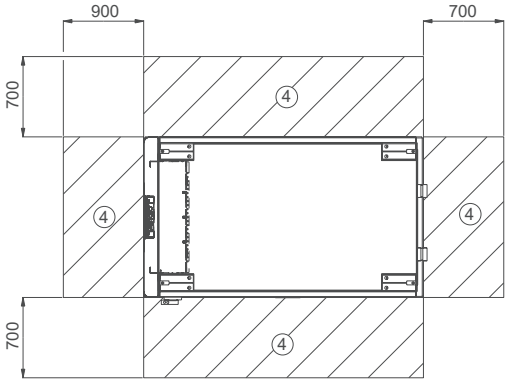
NOTE: The water and electrical connections are identical to those of the standard unit.





30WG 050-090 - standard unit





Legend
All dimensions are in mm.

1. Evaporator
2. Condenser
3. Safety valve
4. Clearances required for maintenance (see note)
5. Control box

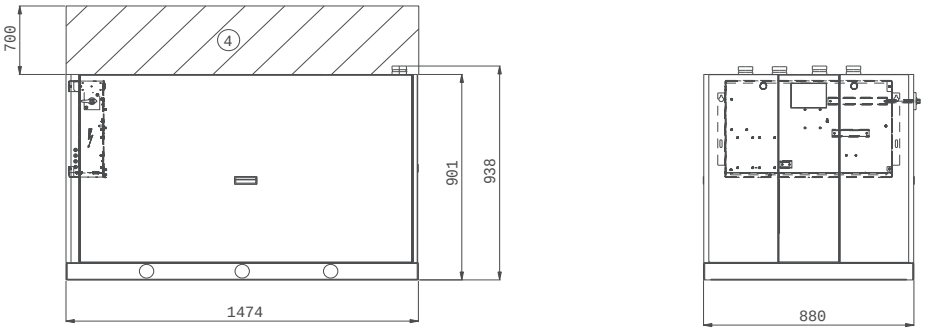
Water inlet.
Water outlet
Power wiring connection

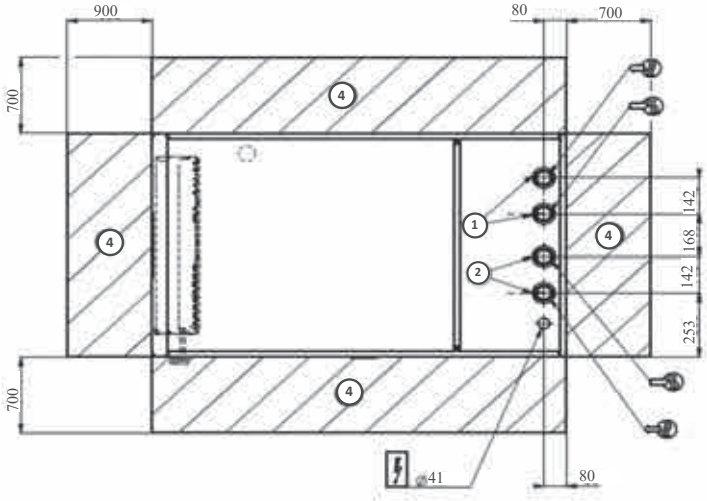
NOTE: Non-contractual drawings. Refer to the certified dimensional drawings available on request, when designing an installation.

HEATING

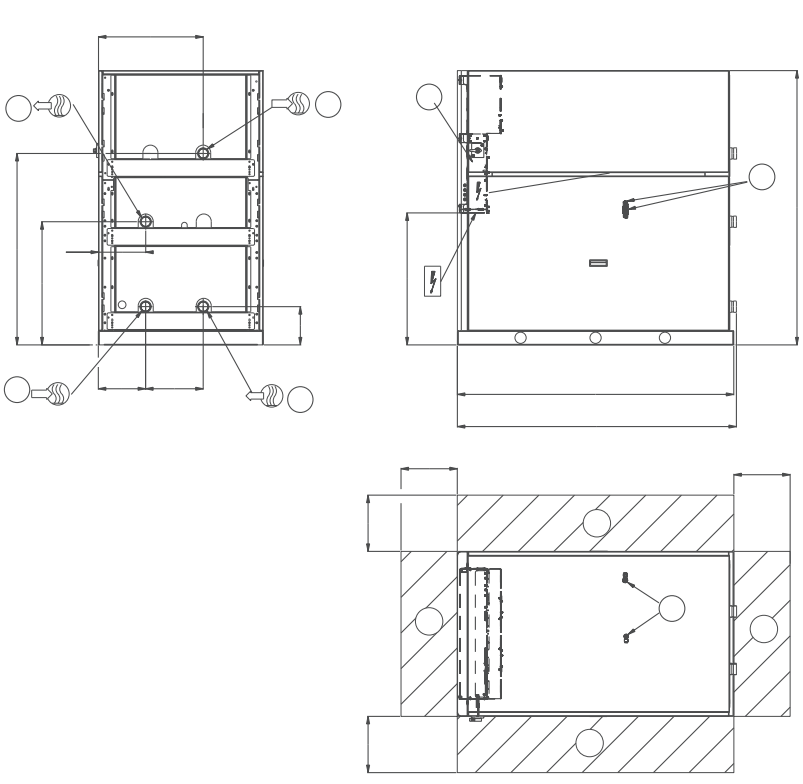
DIMENSIONS/CLEARANCES

30WG 050-090 - unit with top connections (option 274)





30WG 050-090 - unit with evaporator hydraulic module (option 116)



Legend
All dimensions are in mm.

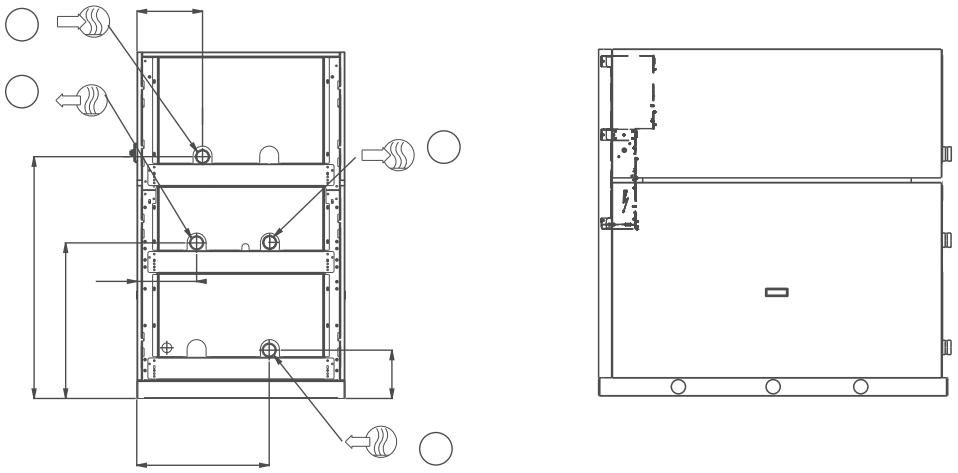
1. Evaporator
2. Condenser
3. Safety valve
4. Clearances required for maintenance (see note)
5. Control box

Water inlet.
Water outlet
Power wiring connection

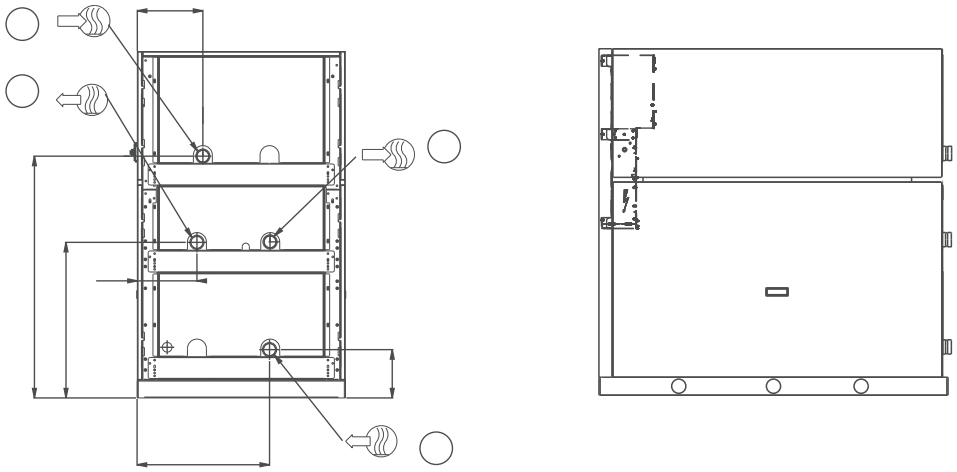
NOTE: Non-contractual drawings. Refer to the certified dimensional drawings available on request, when designing an installation.

DIMENSIONS/CLEARANCES

30WG 050-090 - unit with condenser hydraulic module (option 270)



30WG 050-090 - unit with evaporator/condenser hydraulic modules (options 116 + 270)



Legend
All dimensions are in mm.

1. Evaporator
2. Condenser
3. Safety valve
4. Clearances required for maintenance (see note)
5. Control box

Water inlet.

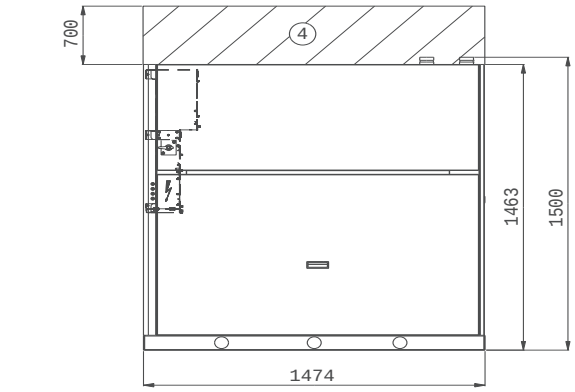
Water outlet

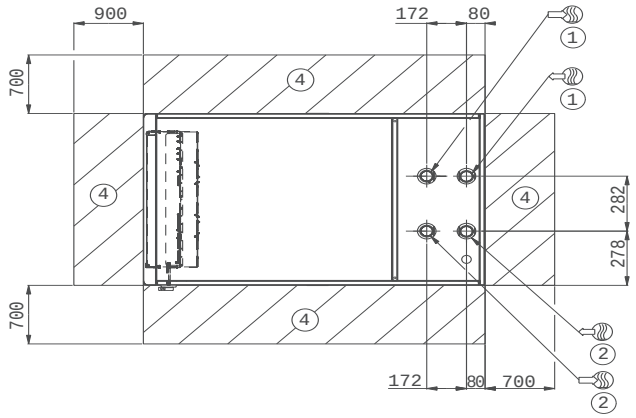
Power wiring connection

NOTE: Non-contractual drawings. Refer to the certified dimensional drawings available on request, when designing an installation.

DIMENSIONS/CLEARANCES

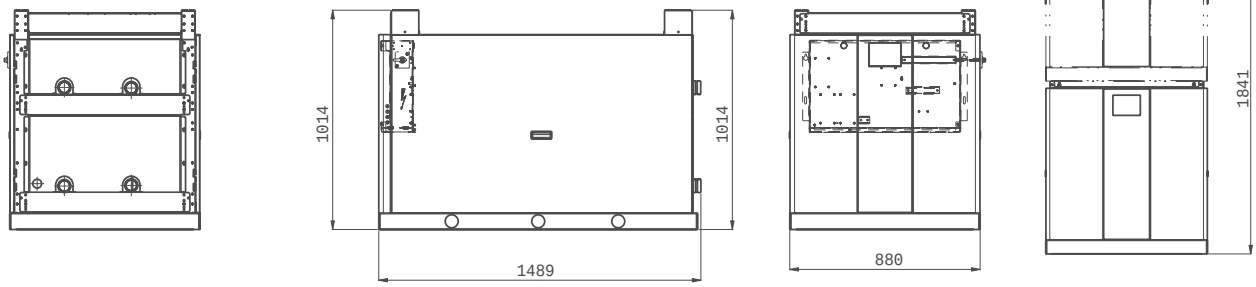
30WG 050-090 - unit with hydraulic module and top connections (options 116 + 274 or 270 + 274 or 116 + 270 + 274)

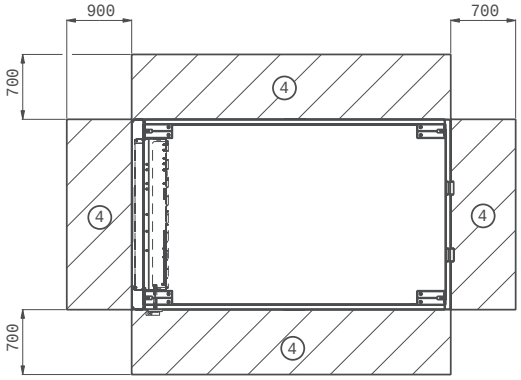




30WG 050-090 - stackable unit (option 273)

NOTE: The water and electrical connections are identical to those of the standard unit.





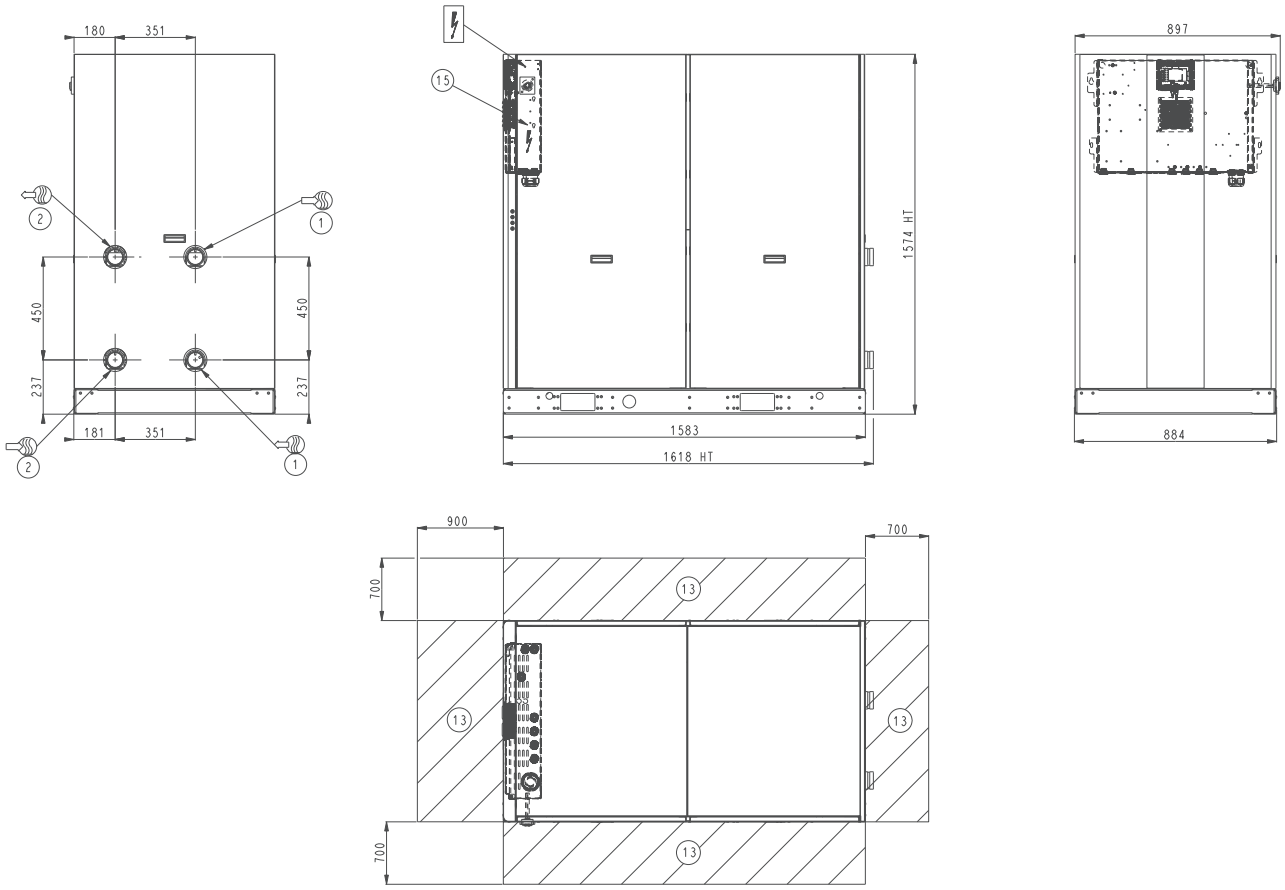
Legend
All dimensions are in mm.

1. Evaporator
2. Condenser
3. Safety valve
4. Clearances required for maintenance (see note)
5. Control box
- Water inlet.
- Water outlet
- Power wiring connection

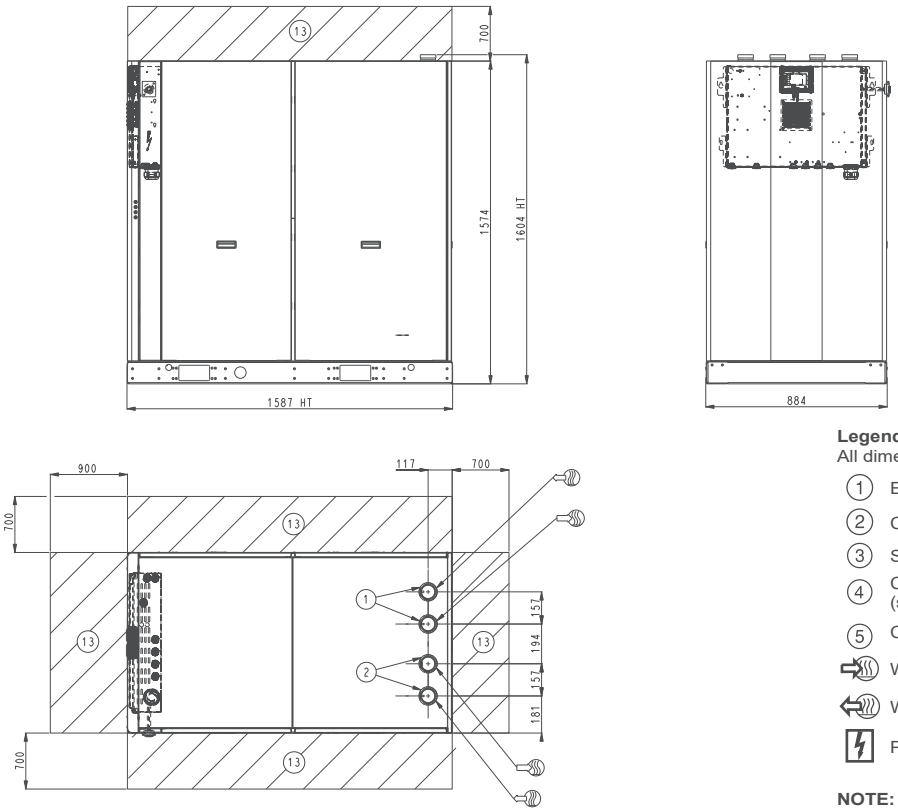
NOTE: Non-contractual drawings. Refer to the certified dimensional drawings available on request, when designing an installation.

DIMENSIONS/CLEARANCES

30WG 110-140 - standard unit



30WG 110-140 - unit with top connections (option 274)



Legend
All dimensions are in mm.

1. Evaporator
2. Condenser
3. Safety valve
4. Clearances required for maintenance (see note)
5. Control box

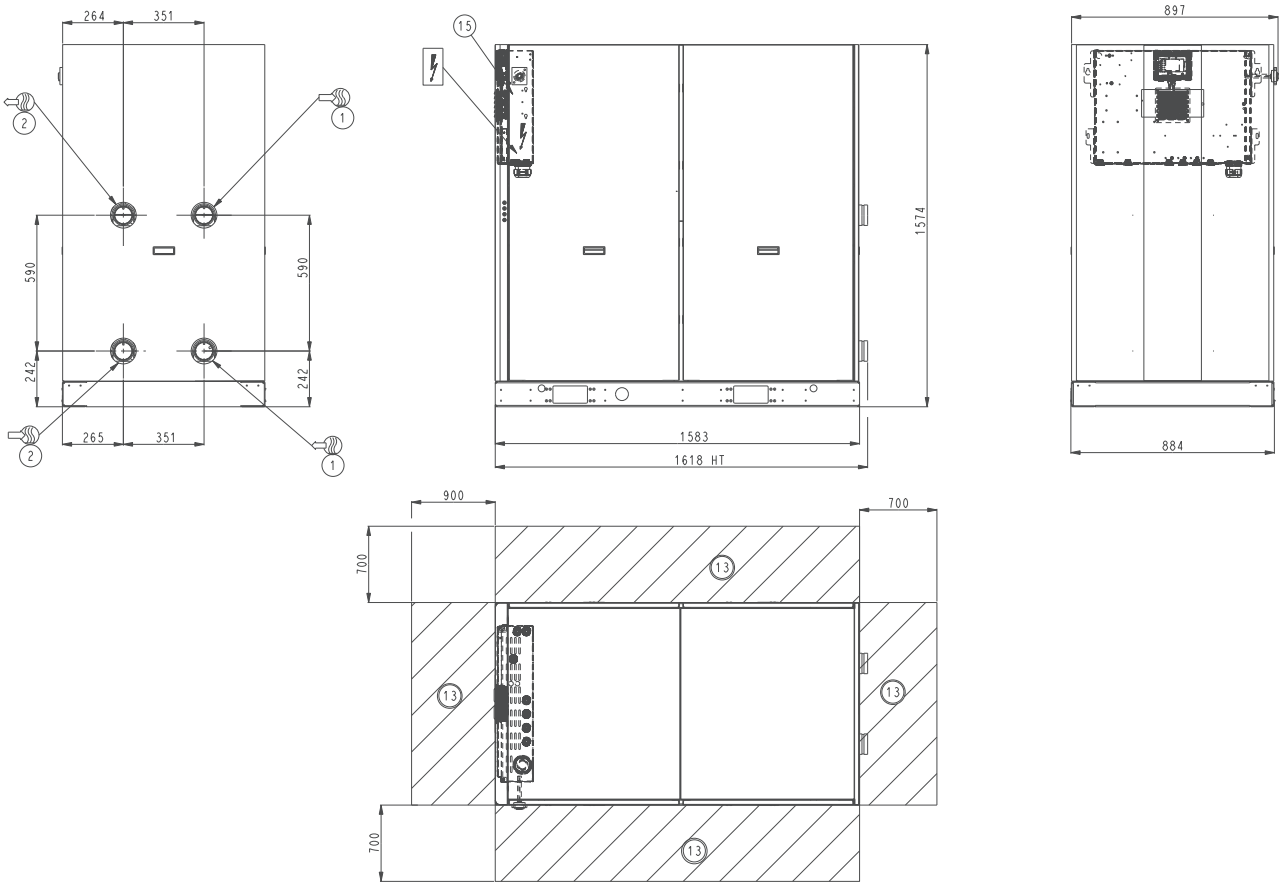
Water inlet.
Water outlet
Power wiring connection

NOTE: Non-contractual drawings. Refer to the certified dimensional drawings available on request, when designing an installation.

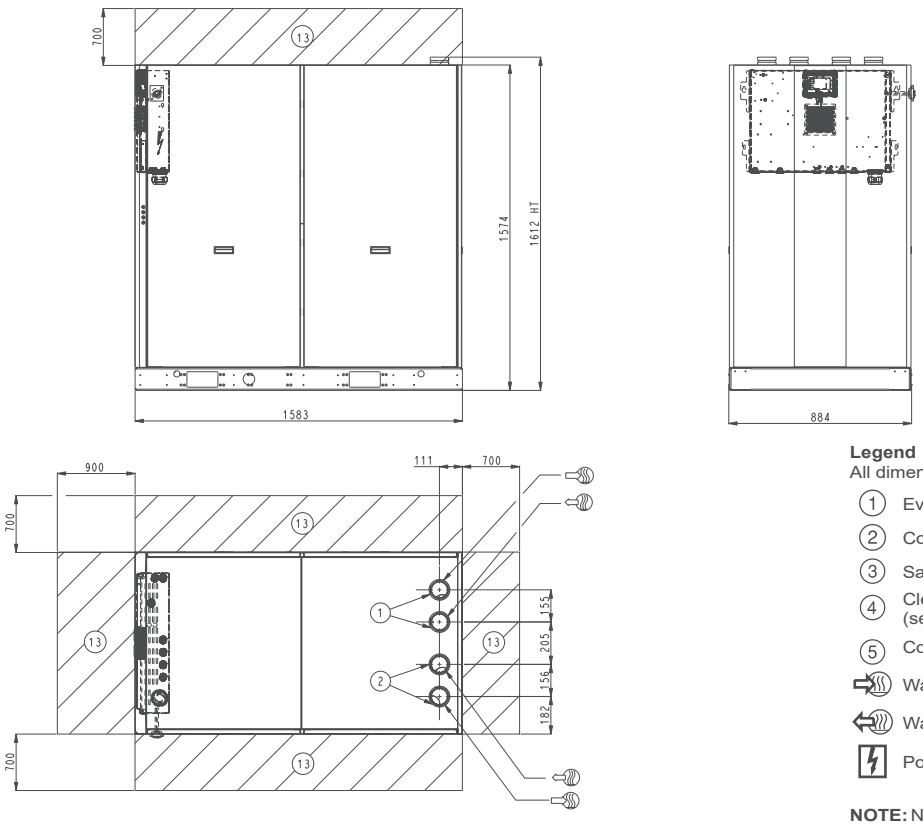
HEATING

DIMENSIONS/CLEARANCES

30WG 150-190 - standard unit



30WG 150-190 - unit with top connections (option 274)



Legend
All dimensions are in mm.

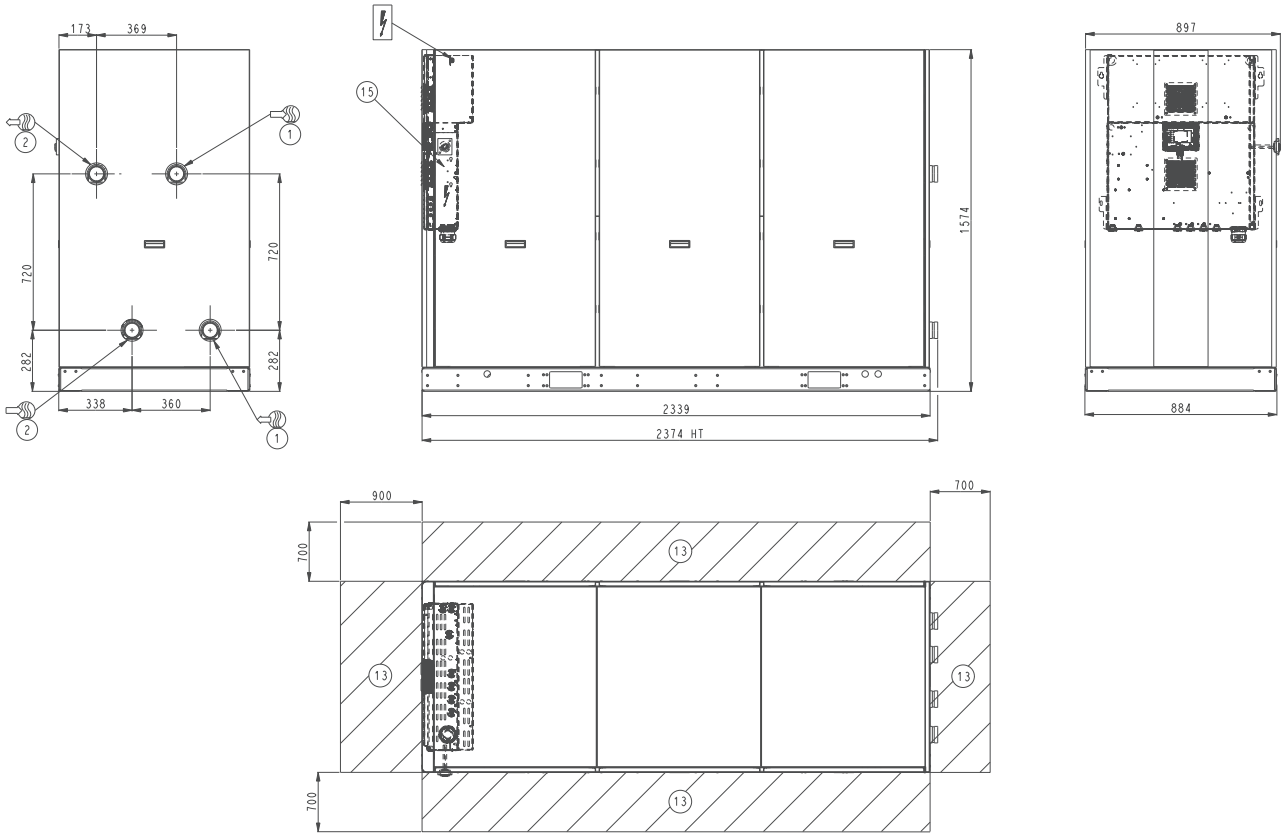
1. Evaporator
2. Condenser
3. Safety valve
4. Clearances required for maintenance (see note)
5. Control box

Water inlet.
Water outlet
Power wiring connection

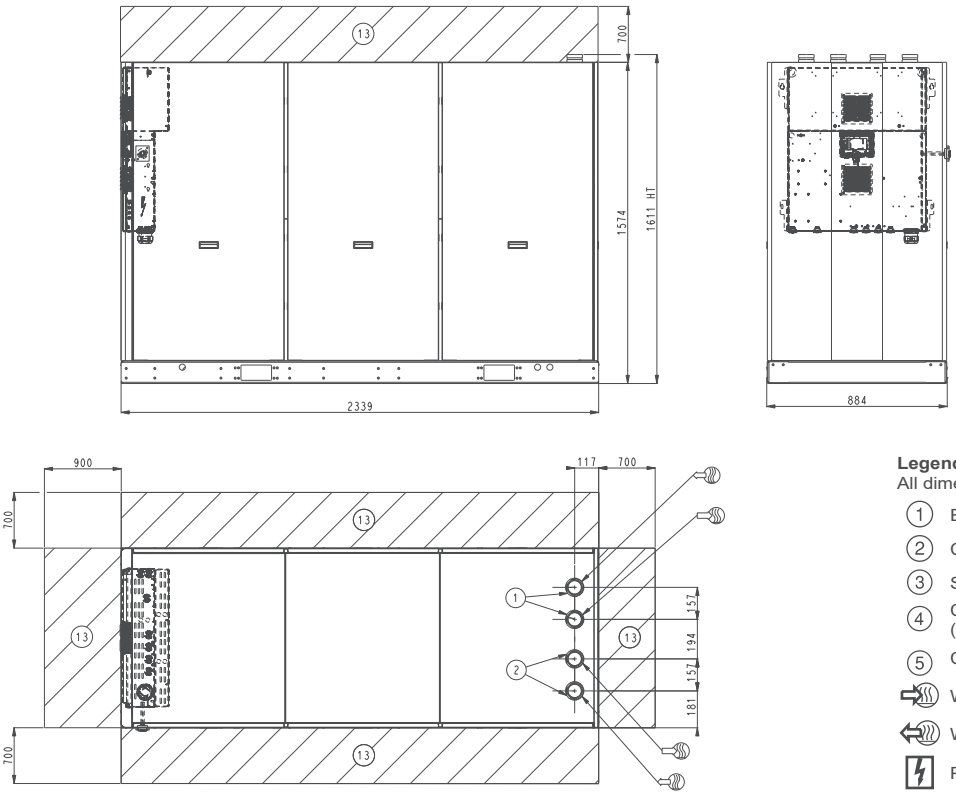
NOTE: Non-contractual drawings. Refer to the certified dimensional drawings available on request, when designing an installation.

DIMENSIONS/CLEARANCES

30WG 110-140 - unit with hydraulic module (option 116-270)



30WG 110-140 - unit with hydraulic module and top connections (option 116-270 and 274)



Legend
All dimensions are in mm.

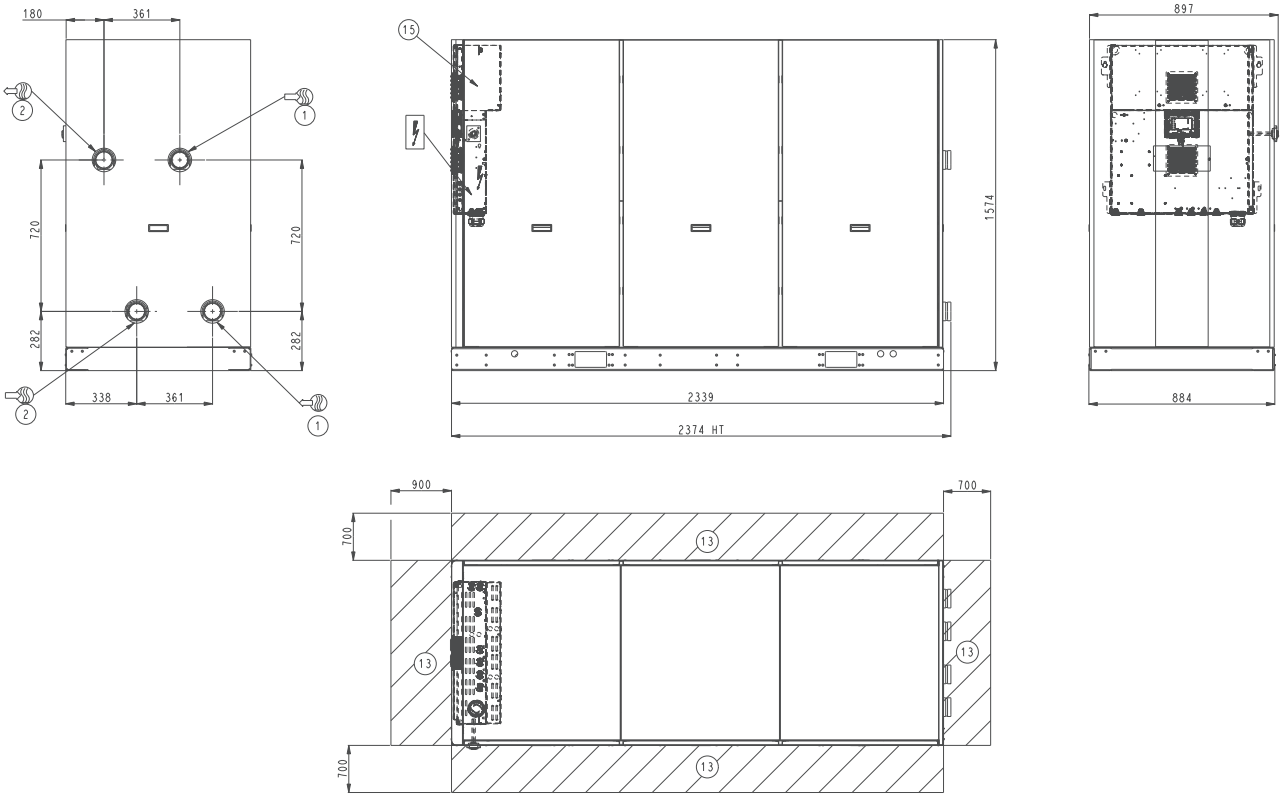
1. Evaporator
2. Condenser
3. Safety valve
4. Clearances required for maintenance (see note)
5. Control box

Water inlet.
Water outlet
Power wiring connection

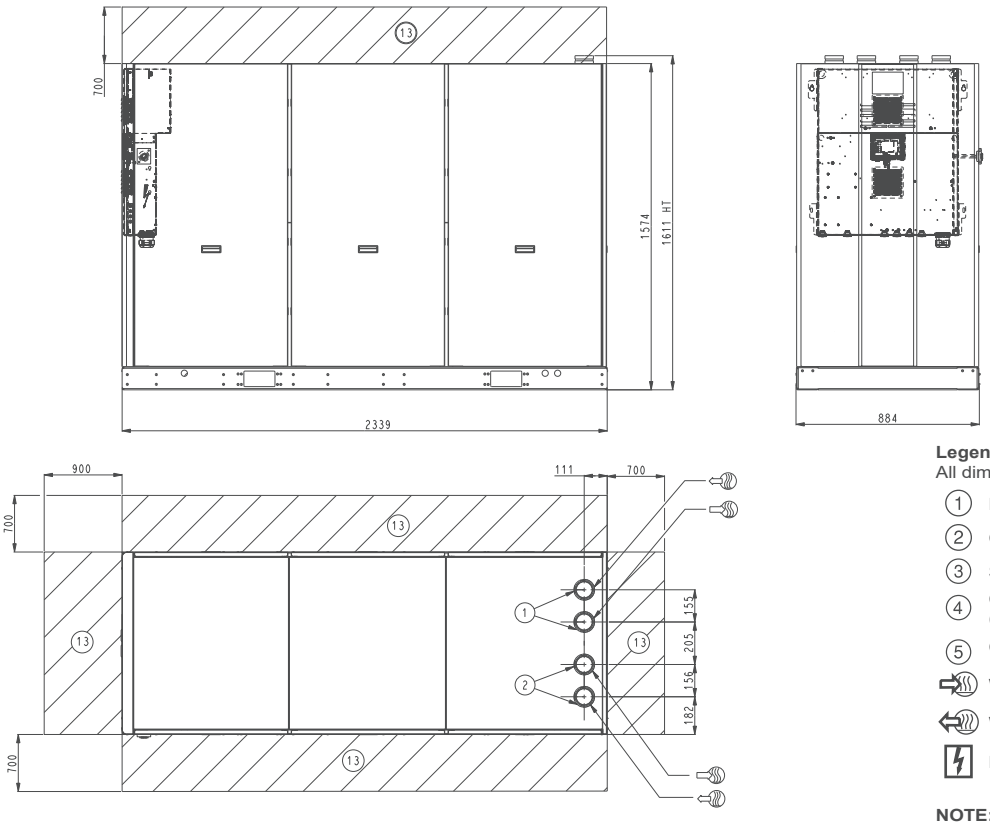
NOTE: Non-contractual drawings. Refer to the certified dimensional drawings available on request, when designing an installation.

DIMENSIONS/CLEARANCES

30WG 150-190 - unit with hydraulic module (option 116-270)



30WG 0 0 0



Legend
All dimensions are in mm.

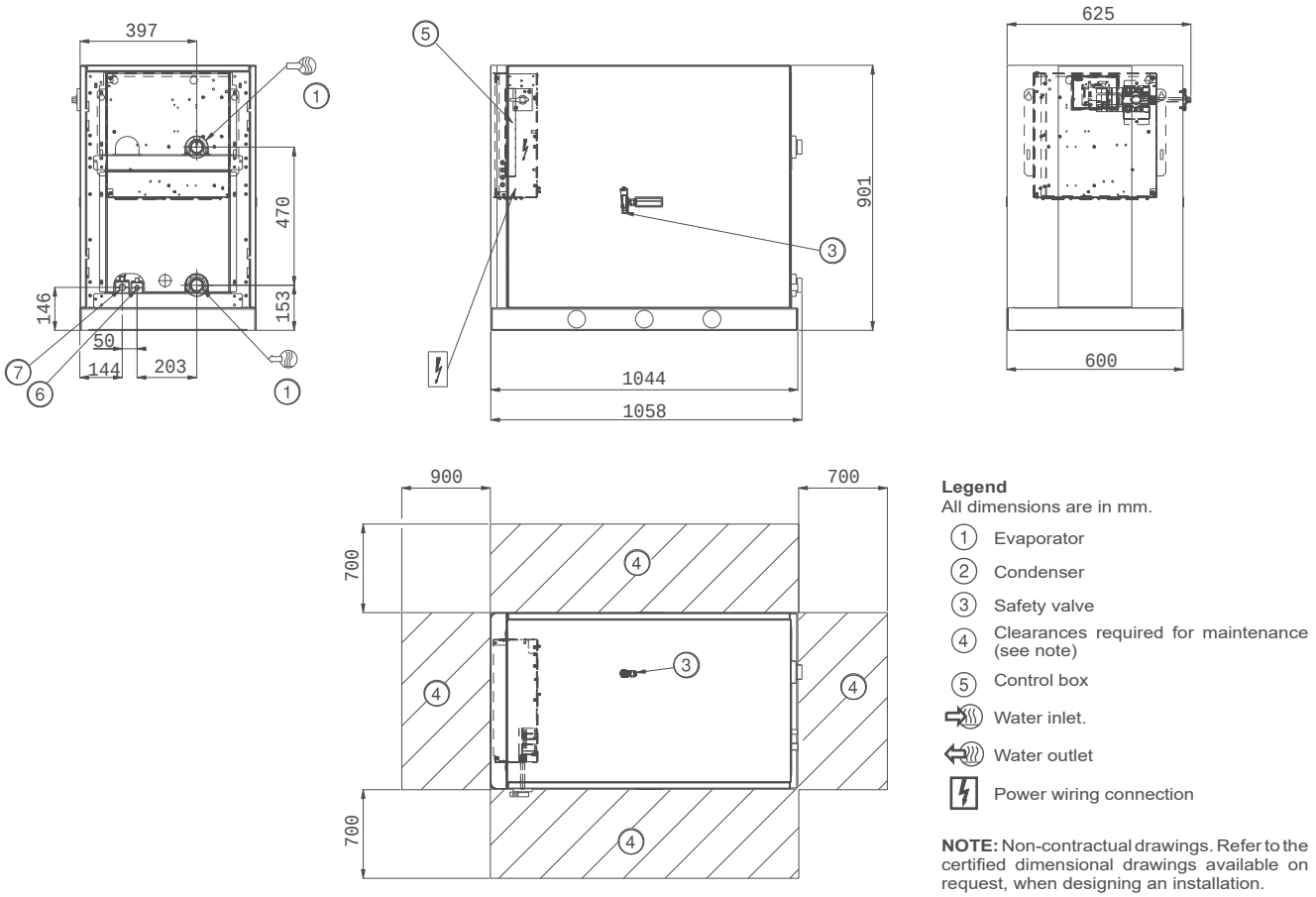
1. Evaporator
2. Condenser
3. Safety valve
4. Clearances required for maintenance (see note)
5. Control box

Water inlet.
Water outlet
Power wiring connection

NOTE: Non-contractual drawings. Refer to the certified dimensional drawings available on request, when designing an installation.

DIMENSIONS/CLEARANCES

30WGA 020-045 - standard unit

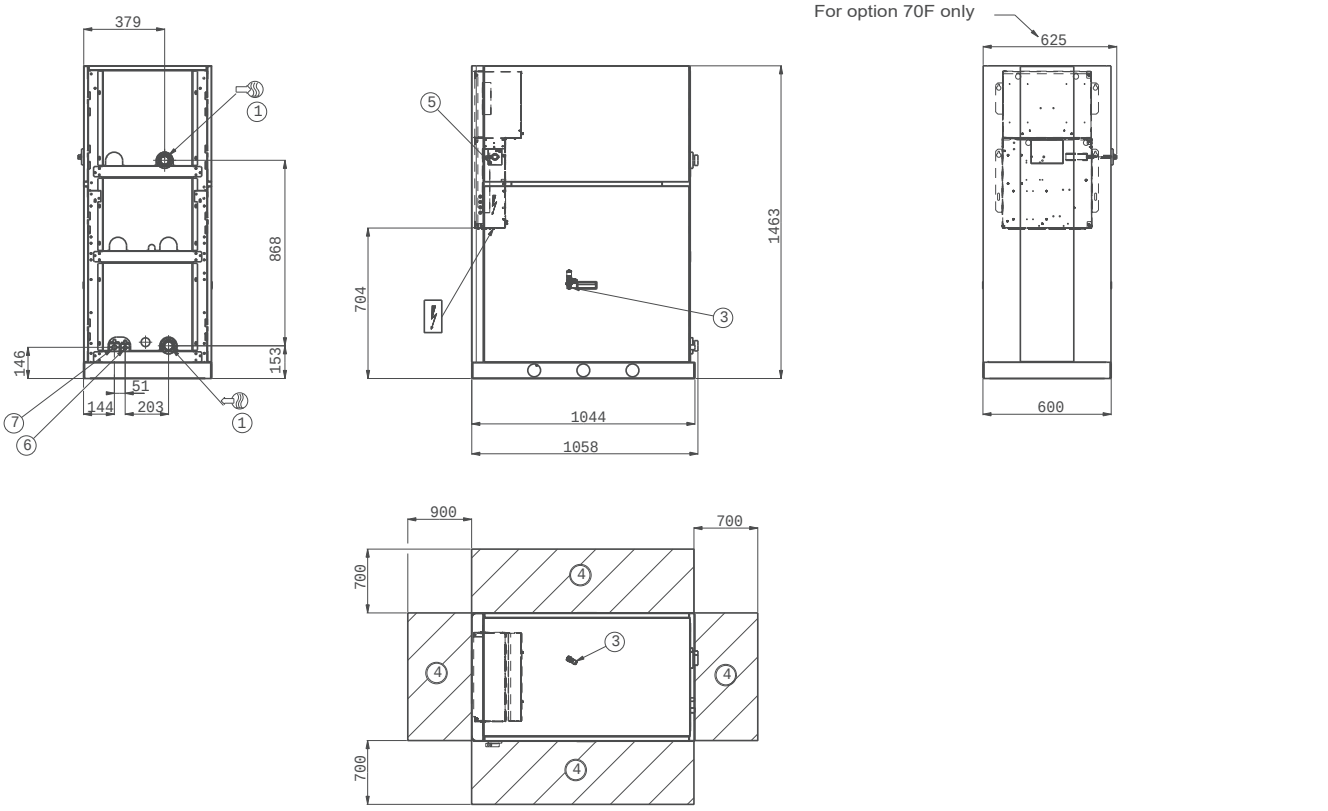


Legend
All dimensions are in mm.

1. Evaporator
2. Condenser
3. Safety valve
4. Clearances required for maintenance (see note)
5. Control box
- Water inlet.
- Water outlet
- Power wiring connection

NOTE: Non-contractual drawings. Refer to the certified dimensional drawings available on request, when designing an installation.

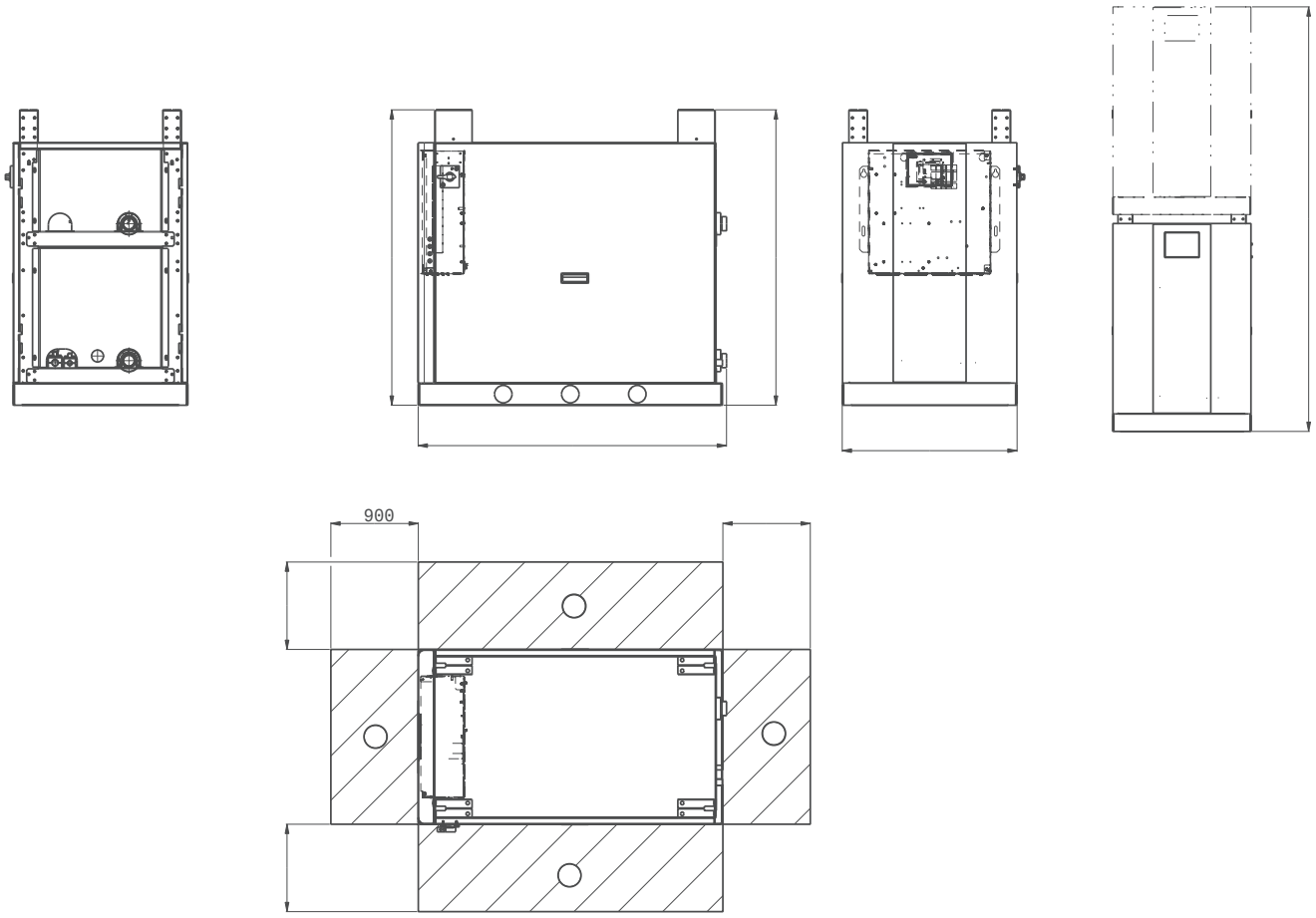
30WGA 020-045 - unit with evaporator hydraulic module (option 116)



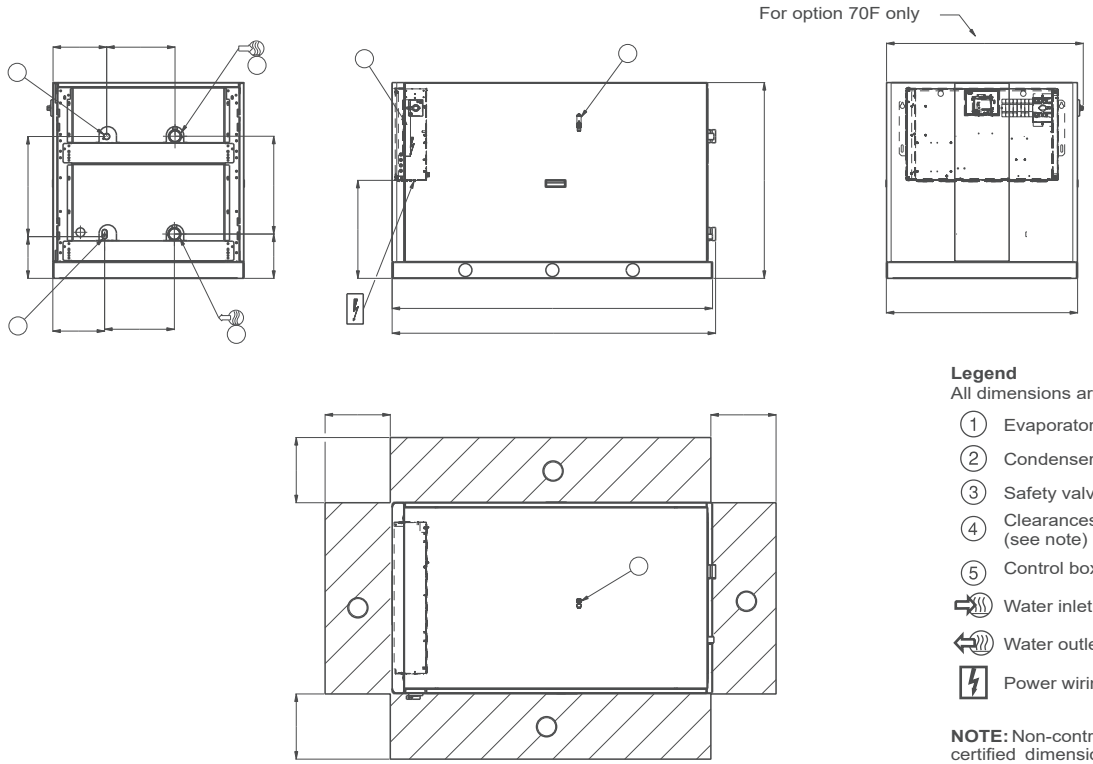
DIMENSIONS/CLEARANCES

30WGA 020-045 - stackable unit (option 273)

NOTE: The water and electrical connections are identical to those of the standard unit.



30WGA 050-090 - standard unit



Legend
All dimensions are in mm.

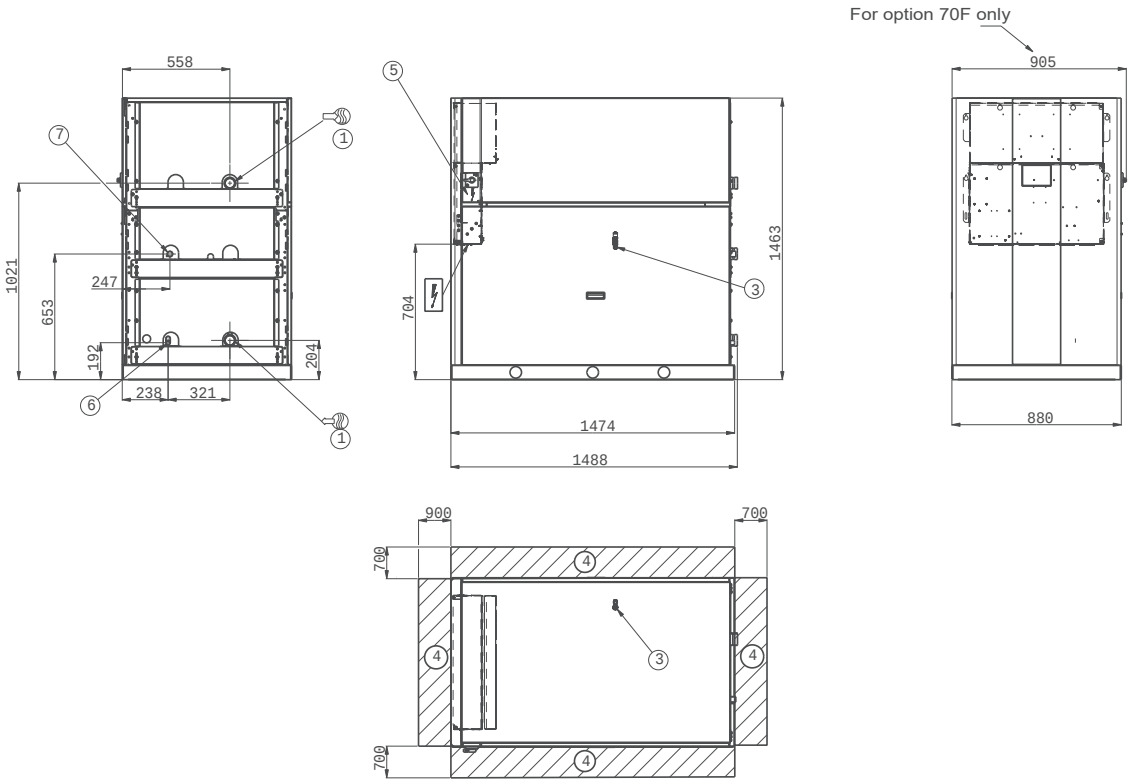
1. Evaporator
2. Condenser
3. Safety valve
4. Clearances required for maintenance (see note)
5. Control box

Water inlet.
Water outlet
Power wiring connection

NOTE: Non-contractual drawings. Refer to the certified dimensional drawings available on request, when designing an installation.

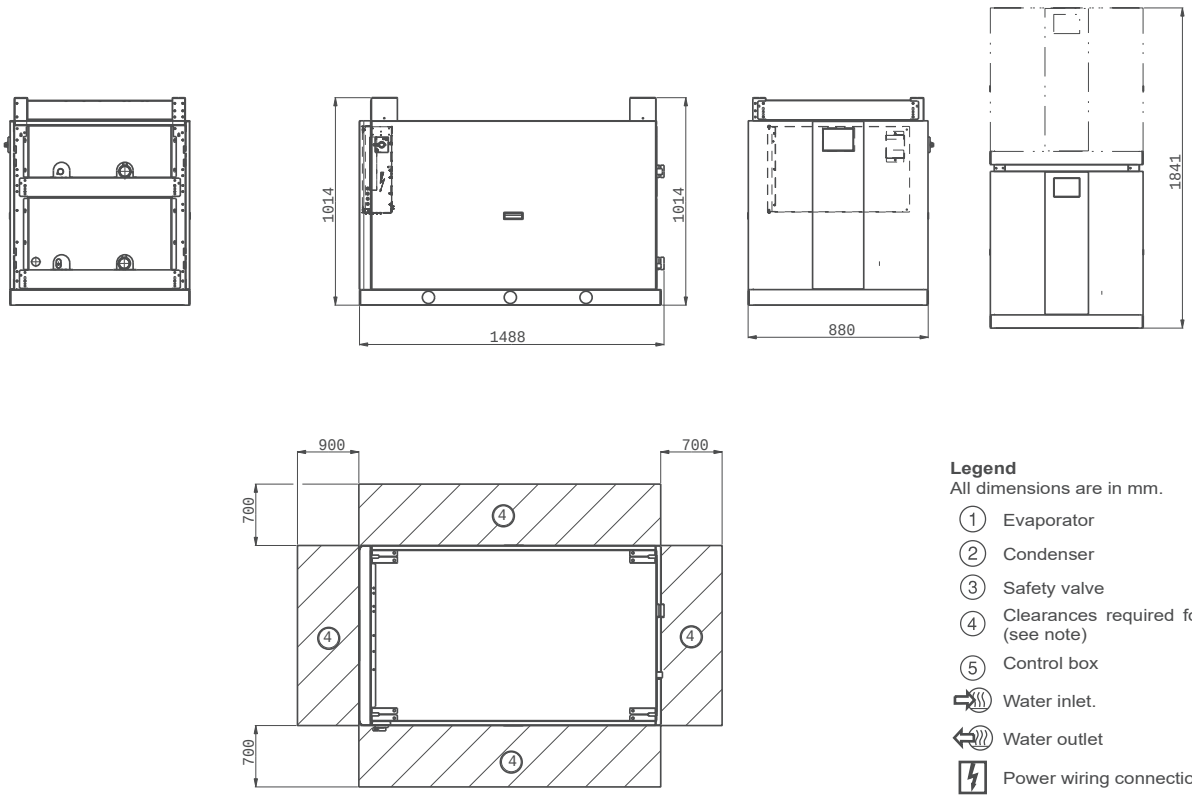
DIMENSIONS/CLEARANCES

30WGA 050-090 - unit with evaporator hydraulic module (option 116)



30WGA 050-090 - stackable unit (option 273)

NOTE: The water and electrical connections are identical to those of the standard unit.



Legend
All dimensions are in mm.

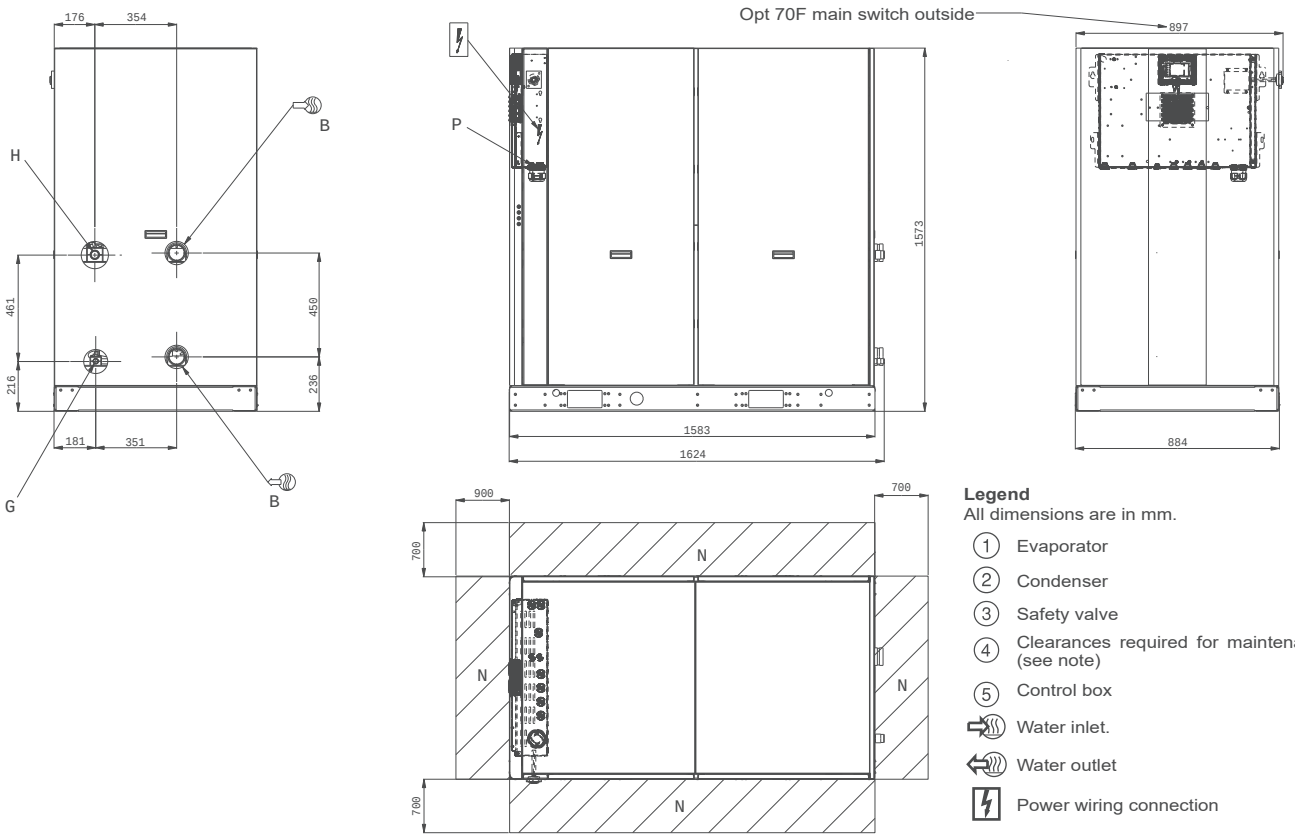
1. Evaporator
2. Condenser
3. Safety valve
4. Clearances required for maintenance (see note)
5. Control box
- Water inlet.
- Water outlet
- Power wiring connection

NOTE: Non-contractual drawings. Refer to the certified dimensional drawings available on request, when designing an installation.

HEATING

DIMENSIONS/CLEARANCES

30WGA 110-140 - Standard unit

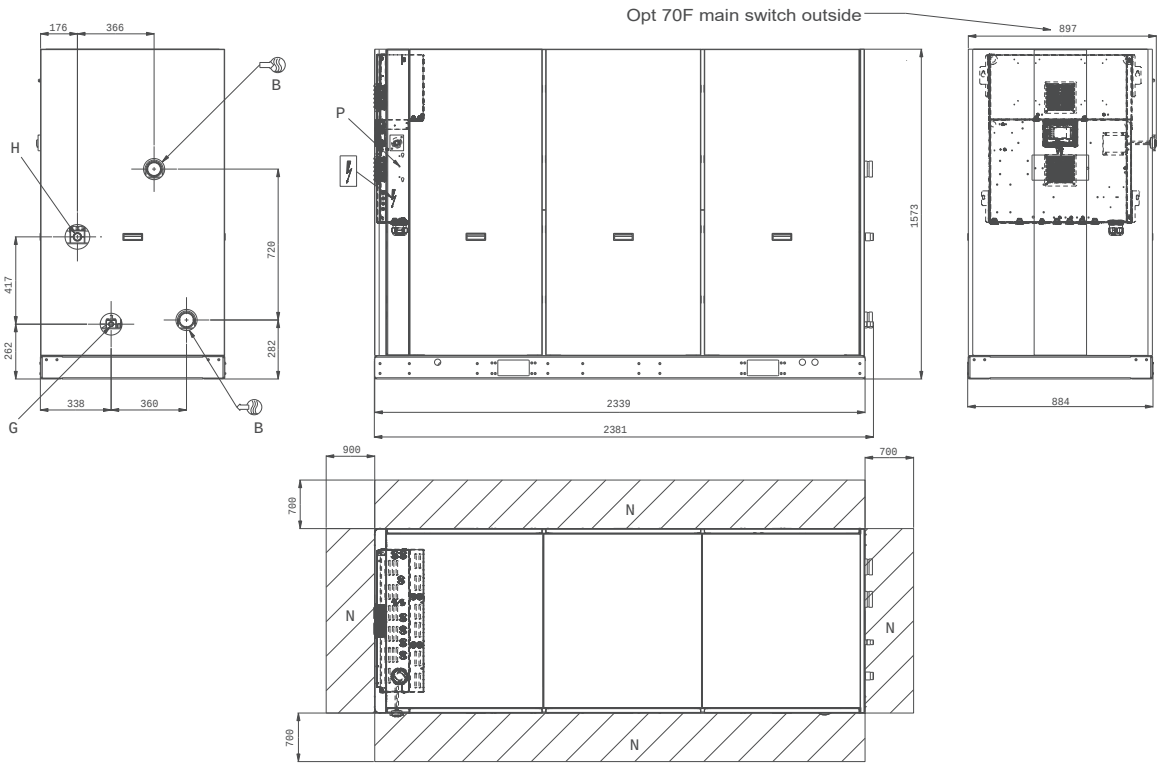


Legend
All dimensions are in mm.

1. Evaporator
2. Condenser
3. Safety valve
4. Clearances required for maintenance (see note)
5. Control box
- Water inlet.
- Water outlet
- Power wiring connection

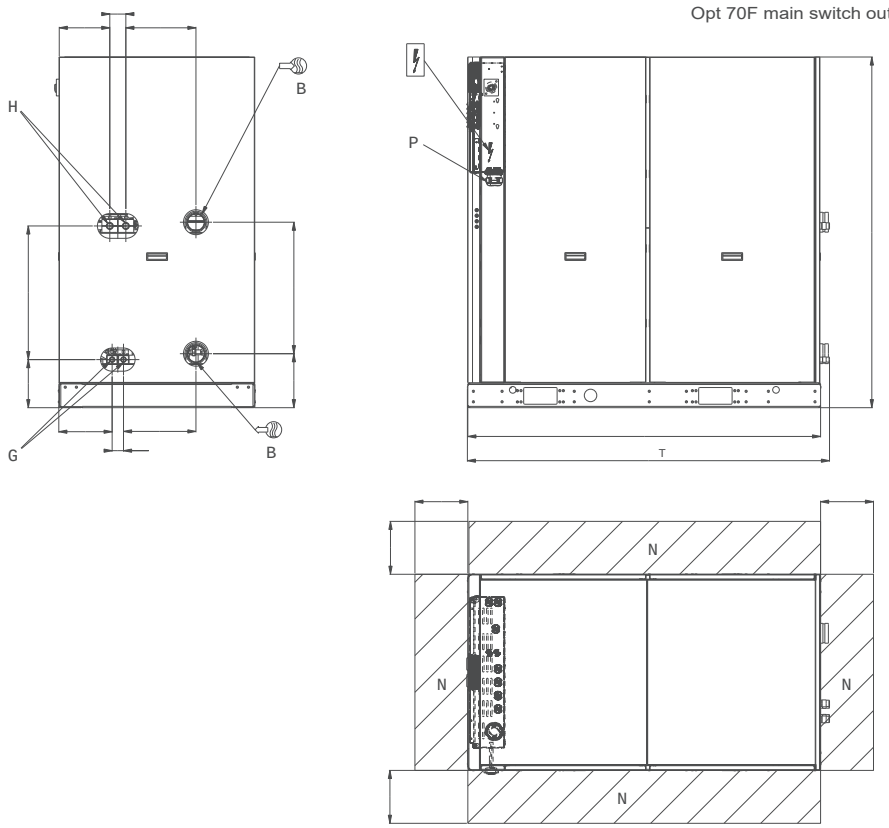
NOTE: Non-contractual drawings. Refer to the certified dimensional drawings available on request, when designing an installation.

30WGA 110-140 - Unit with hydraulic module (option 116)



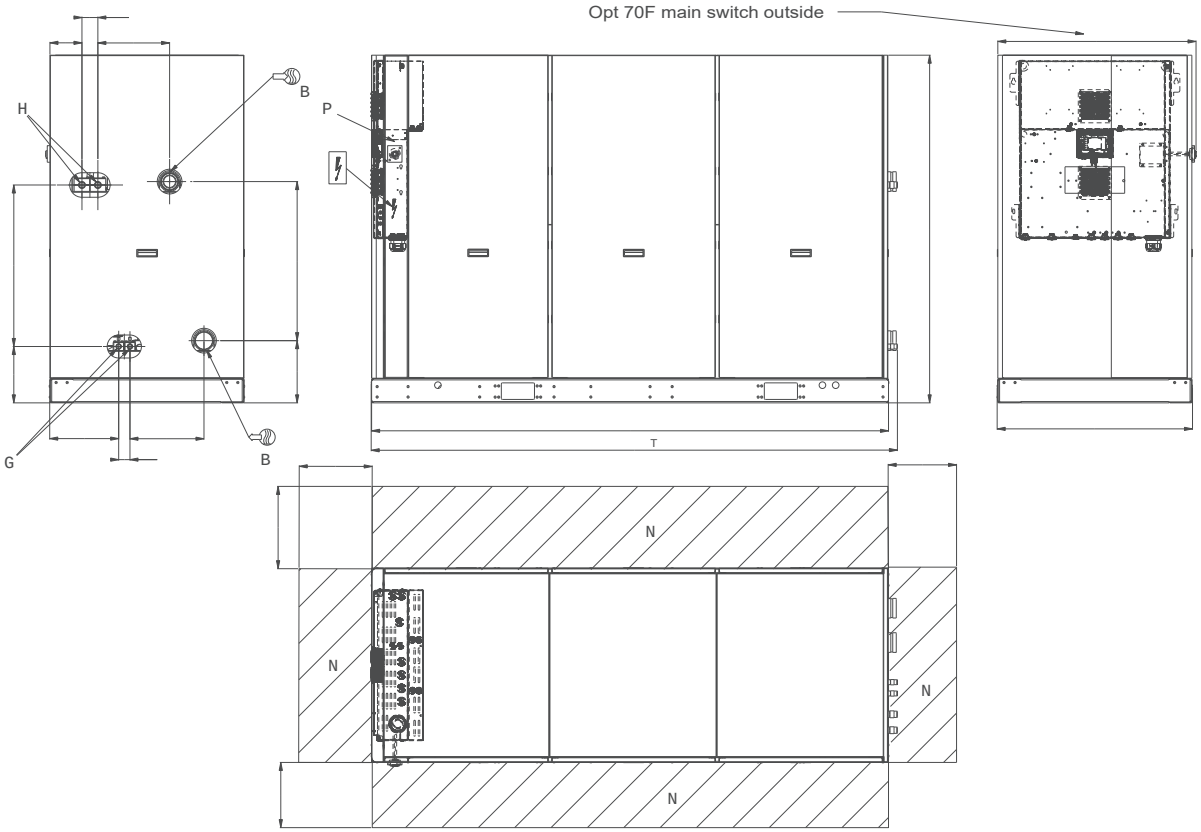
DIMENSIONS/CLEARANCES

30WGA 150-190 - Standard unit



Legend
All dimensions are in mm.

1. Evaporator
2. Condenser
3. Safety valve
4. Clearances required for maintenance (see note)
5. Control box
- Water inlet.
- Water outlet
- Power wiring connection

NOTE: Non-contractual drawings. Refer to the certified dimensional drawings available on request, when designing an installation.

30WGA 150-190 - Unit with hydraulic module (option 116)