Insulation M1

Insulation M0

Installation – Maintenance – Operation

(IU-0009-EN-201009)

TANK FOR THE PRODUCTION & STORAGE OF HOT WATER FOR HEATING

CALEO Range

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SUMMARY

FOREWORD

Dear Client,

Thank you for choosing a hot water for heating tank CALEO range from LACAZE ENERGIES.

In your own interest, we invite you to observe and follow the instructions given in this operating manual and to carry out the scheduled maintenance by qualified personnel, in order to ensure the maximum efficiency in the operation of the appliance.

We remind you that the non-observation of the instructions contained in this notice will result in the non-validity of the warranty.

In case of damage to persons, animals or objects arising from the non-respect of the instructions contained in the operating manual supplied with the material, the manufacturer cannot, in any case, be held responsible.

WARNING

Note concerning the elaboration and publication of this manual:

This manual was elaborated and published under the direction of LACAZE ENERGIES. It covers the most recent features and descriptions of the products. The manual content and the product features may be modified without prior notice.

The company LACAZE ENERGIES reserves the right to modify without prior notice the features and elements contained in the following pages. The company LACAZE ENERGIES will not be responsible for any damage (including consecutive damage) caused by reliance on the presented elements. This includes, but is not limited to, typing mistakes and other errors linked to the publication.

Please read carefully.

- This instruction manual is an integral part of the product and must be given to the final user.
- The appliance was manufactured for the storage of hot or cold water, used in a closed circuit. Any other use shall be considered as inappropriate and dangerous.
- The appliance must not be installed in humid locations (H.R. ≤ 80%). Protect the appliance from water or other liquid splashes to prevent damage to the components.
- Installation must be carried out in conformity with the rules, regulations and standards currently in force, respecting the instructions of the manufacturer, by a qualified professional.
- In the case of the equipment being sold or transferred to another user, this manual must accompany the equipment, so that the new user and the installer can consult it.
- If the equipment is not used during a period of below-freezing conditions, we request that it should be drained completely. The manufacturer declines all responsibility for any damage due to frost.
- We recommend that these instructions be read carefully, and advise the exclusive use of spare parts supplied by the manufacturer, in order to obtain the best service from the product and the acknowledgement of the appliance warranty.

CHARACTERISTICS

1. Tank

The CALEO range of tanks in this manual extends from 300 to 6000 liters.

The tanks are made of 1st quality carbon steel (S235JRG2 - E24), without interior coating. The design and fabrication respect the regulations in force (e.g. the CODAP: Code of Construction for Pressurized Appliances) and are validated by our over 50 years of experience in the field of tank manufacture.

The exterior of the tanks is protected by a single or double layer of anti-corrosion paint.

These tanks can only be used in pressurized closed heating-type circuits, without renewal of water (limited quantities of refill water). The circuits must be conditioned according to the regulations and recommendations in force.

⚠ **N.B: The operating temperature must not be superior to 105°C (peak).**

2. Heating - Equipment possible:

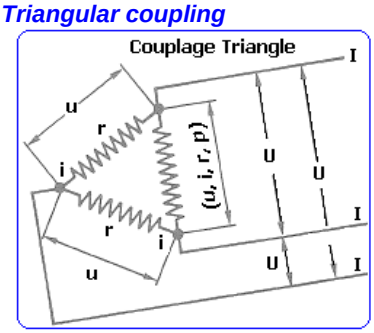
- Electric back-up: stainless steel armored electric element, with stainless steel pins, fixed to a 1"1/2 coupling up to 12 kW or to threaded boss M77 from 15 to 35 kW:
- from 3 to 24 kW: voltage 230/400 V (***star coupling***),
- for 30 and 35 kW: voltage 400V (***triangular coupling***).

- Safety and control thermostat, to be used in a remote controlled circuit.

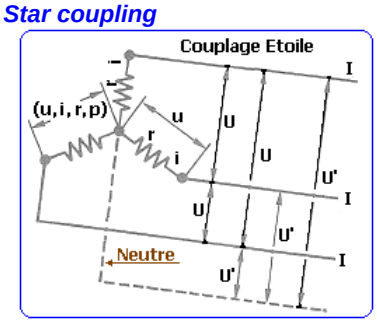
- Regarding the connection and control of the heating elements (immersion heaters), the details are presented below, on pages 16-17(Annex A2) of this document.

Note:

Triangular coupling



Star coupling



3. Thermal insulation:

CALEO range
(Hot water for heating)

➢ **2 possibilities:**

- Performant mineral wool from 32 kg/m3 (λ =0,032 W/ (m.K)), thickness 60 mm, and flexible PVC jacket, fire rated **M1** (*standard version*).

- Rock wool 40 kg/ m3, thickness 50 mm or 100 mm, fire rated **M0**, and rigid metal sheet jacket (aluminum 3105 or 3005 quality, filmed on one side)

In standard version, the bottom dished end is insulated, for tanks up to 3 000 liters.

Recommendations:

- The protective film covering the metal jacket must be removed as soon as possible once the equipment is received. In case of long exposure to ultra-violet rays, this protective film can become difficult to remove.

- The temperature of use must not exceed 105°C. In all cases, the minimum temperature of the circulating water must be higher than the dewing point of the air in the premises in which the tank is installed.

Performance of the thermal insulation:

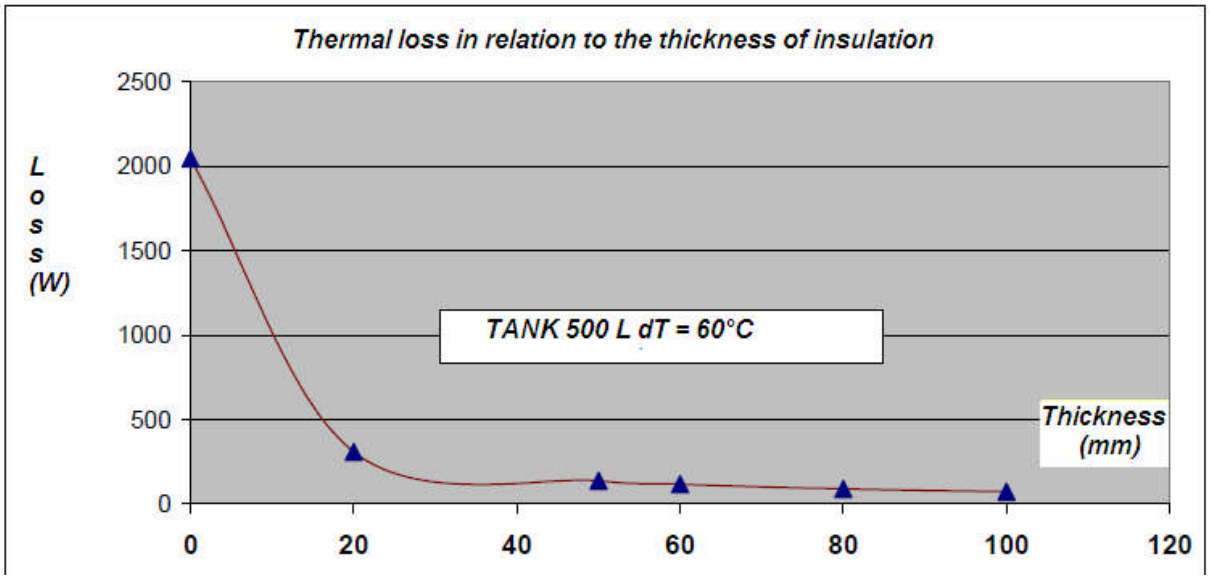
Thermal losses during storage are calculated in relation to a cooling constant (**Cr**) measured in Watts.hour per liter per Kelvin and per day. According to the dimensions of our tanks with Naturol 032 (Ø = 0,032 W/(m.K) insulation, coefficient Lambda of thermal insulation conductivity), the results of the calculation of **Cr** for thickness 60mm (***standard version***) are presented in the following table:

Tanks	200	300	500	750	1000H	1000B	1500H	1500B
* Cr	0.152	0,125	0,098	0,080	0,074	0,068	0,063	0,060

Tanks	2000H	2000B	2500	3000	4000	5000	6000
* Cr	0,055	0,052	0,050	0,048	0,042	0,040	0,039

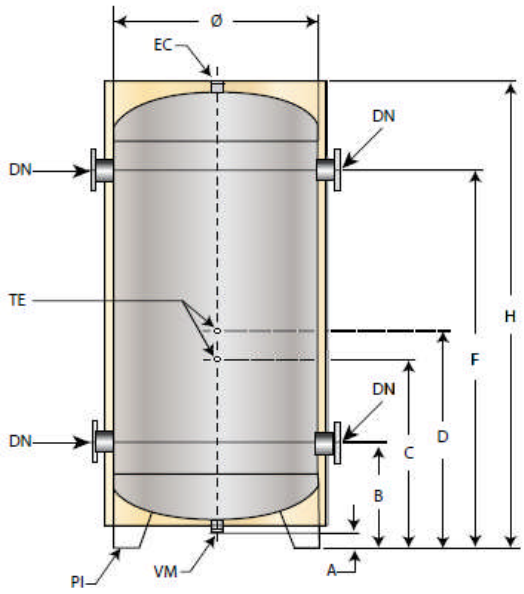
**** Unit in Wh/day.K.L*** ***(H = High version; B = Low version)***

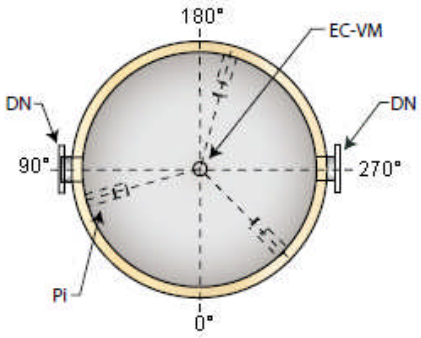
The following is an example illustrating the insulation efficiency of the hot water storage tank:



It demonstrates that the annual thermal loss of a 500L tank without insulation is evaluated at 17 930 kWh, being about 900 € per year (for a fuel cost of 0,05€/kWh). Consequently, the investment return for the insulation is only a few months.

4. Tank dimensions *(standard version)*





Key:

DN : Departure and return of loops
- 50/60, 66/76 et 80/90 = threaded nozzles
- 100mm and over = flat flange PN16

TE : Nozzles for thermometer and thermostat = threaded 15/21

EC : Degassing or other = threaded 50/60

VM : Drainage = threaded 50/60

PI : Support legs

Capacité (litres)	Ø	A (mm)	B (mm)	C (mm)	D (mm)	F (mm)	H (mm)	EC VM	DN	TE
300	**550**	90	395	595	795	1.160	**1.480**	50/60	50/60	15/21
500	**650**	90	430	910	1.070	1.420	**1.760**	50/60	66/76	15/21
750	**800**	90	460	940	1.100	1.450	**1.820**	50/60	80/90	15/21
1.000 H*	**800**	90	460	940	1.100	2.000	**2.370**	50/60	80/90	15/21
1.000 B*	**950**	90	495	975	1.135	1.485	**1.890**	50/60	80/90	15/21
1.500 H*	**950**	90	495	975	1.135	2.035	**2.440**	50/60	80/90	15/21
1.500 B*	**1.100**	90	530	1.010	1.170	1.520	**1.960**	50/60	80/90	15/21
2.000 H*	**1.100**	90	570	1.010	1.170	2.030	**2.510**	50/60	100	15/21
2.000 B*	**1.300**	90	620	1.060	1.220	1.530	**2.060**	50/60	100	15/21
2.500	**1.300**	90	655	1.220	1.380	1.745	**2.310**	50/60	150	15/21
3.000	**1.300**	90	655	1.220	1.380	2.045	**2.610**	50/60	150	15/21
4.000	**1.500**	90	680	1.270	1.430	2.120	**2.800**	50/60	150	15/21
5.000	**1.500**	90	680	1.270	1.430	2.740	**3.400**	50/60	150	15/21
6.000	**1.500**	90	680	1.270	1.430	3.240	**3.920**	50/60	150	15/21

General tolerances ± 30 Tolerance on **H**: [± 60]

INSTALLATION

During installation, you are reminded to respect and follow the following recommendations:

- The tank must be installed vertically (except specific horizontal version).
- On the upper part, provide an air vent and a degasser (on EC).
- On the lower part, connect the drainage orifice VM to a waste water drain.
- Use the orifices reference DN to create the hot and cold water circulation loops.
- Use the two orifices reference TE for implantation of the thermometer or thermostat, or other means of control and measurement of temperature.
- The tanks must only be used on closed circuits with water under pressure. It is indispensable to equip the tank and the system with safety devices, particularly safety valves, calibrated to the operating pressure of the tank.
- It is equally necessary to provide a pressure holding or expansion system, to compensate for variations in water density according to temperature.
- Do not use adjustable safety valves. Use valves of dimensions adapted to the installed power and/or flow.
- The evacuation of the safety valve must not be impeded. This implies that the drainage tube has a continuous and adequate slope and is of a diameter appropriate to the system.

Connection to a «**funnel type**» evacuation circuit is strongly advised for visualizing the operation of the valve.

- Trade practices must be respected, particularly the assembly of the dielectric coupling to the hot water departure between the tank and the system, to avoid any « iron-copper » galvanic corrosion.
- Avoid all mechanical shocks to the tank during transport and/or handling, particularly if the ambient temperature is close to 0 °C.
- The heating elements, designed for total immersion, must never operate without water, under penalty of the immediate destruction of the tank.

Electrical connections must be made according the rules, regulations and standards currently in force at the place of installation (NF C15-100 etc.). Grounding of the tank is compulsory. The installation must include a cut-off and protection device uphill of the hot water tank.

If the tank must remain out of use during the winter, in a place where there is a risk of freezing, it must imperatively be drained. Disconnect the electric connection if the appliance is electrically equipped. Close the cold water inlet. Place the lever of the safety unit on the position « VIDANGE » (DRAINAGE) and open a soak-away point for the drainage.
.

⚠ ***N.B:*** Unless otherwise specified, valves must be rated at 7 bar maximum.

Re-tightening of the nuts and bolts of the manhole

Mounting of the inspection manhole covers (plate/companion flange) and the assembly of the bolting is carried out in factory according to an exact procedure.

However, during transport and/or handling, there is a risk of the bolting becoming loose due to the effect of vibration or other causes (e.g. temperature, pressure). The following safety procedures are therefore recommended:

- ❒ Ensure that the bolts are tightened to the recommended torque after installation of the material on site as they may become loose during storage and/or transportation.
- ❒ At the first water filling, ensure there are no leaks,
- ❒ After one month of use, ensure the torque tightening and absence of leaks.

As an example, here are some recommended torques (μ = 0,2):

Type TH	TH400	TH400	TH400	TH500	TH500
Joint (3 mm)	m=2,5 ; y=12	m=2,5 ; y=12	m=2,5 ; y=12	m=2,5 ; y=12	m=2,5 ; y=12
Ps (bar)	7	6	4	7	4
*Cs (Nm)	150	150	150	180	180
**Csm (Nm)	155	155	155	232	232

**** Cs : recommended torque (washer nut side + dry assembly)***
***** Csm : maximum torque (washer nut side + dry assembly)***

Warning !

The use of a new joint is strongly advised (replacement of the used joint) during the reassembly of the manhole after every opening of the tank.

WATER TREATMENT

The provision of a water treatment system for the fill-up water for the heating circuit against scaling and corrosion is necessary in order to control water quality in the circuit. Essential to correct operation, it must be defined according to the physical-chemical properties of the water used, and the operating conditions of the installation.

It is important to emphasize the necessity of thoroughly and correctly cleaning the system before commissioning, in order to de-scale the pipes, (at hot, with a dispersing agent, followed by rinsing) and to eliminate all construction debris (filings, fibers, soldering waste, etc.).

Two groups of parameters are presented below:

1) Intersyndical agreement of boiler manufacturers (1969)

This document provides the minimum characteristics that supply water for an LTHW circuit (hot water at low temperature) must present, in respect of the risks of deterioration of boilers by corrosion and/or scaling. The non-respect of these minimum conditions will result, in case of damage, in the invalidity of the warranty.

- pH>7,2
- TH<25ºF
- ρ>2000 Ω.cm
- Si TH>25ºF : water softener treatment
- Si pH<7,2 or ρ <2000 Ω.cm : film-forming treatment.

Comments:

pH>7,2 : this condition is insufficient with regard to the risk of acid corrosion of the black steel tube (protection for pH>9,6).

Also, with a TH of 25ºF (250 ppm in $CaCO_3$) there is a strong risk of important scaling of the production unit if fill-ups are frequent.

2) SNEC / CSNHP (1980)

This document envisages not only the LTHW system but also those conveying HT HW(hot water at high temperature) or steam, or circuits serving air conditioning equipment (chilled water, dampening water).

- If the system is in black steel: pH>9,6.

- Presence of an oxygenic corrosion inhibitor (oxygen reducer) with the following proportions:
  - Sodium sulphite: 2 to 10 ppm,
  - Hydrazine : 0,2 to 1 ppm (at N_2H_4),
  - Tannins or lignosulphonates: 0,4 to 20 ppm.
  - Maintaining an alkalimetric title (TA): from 5 to 30ºF.
  - If the circuit contains elements in brass: TA from 5 to 10ºF.
  - If the circuit contains elements in aluminum: TA lowest possible.
  - If a treatment is made based on a film-forming: maintain the active agent in excess.

Comments:

The presence of sulphites creates the risk, at low temperature, of encouraging the development of sulphate-reducing bacteria.
In the presence of brass there is a risk that this will degrade and cause the formation of sulphides.
Hydrazine (N_2H_4): This is a toxic product which, due to the incurred risks, can only be used in an industrial environment.

Remark: oxygen reducers, with the exception of hydrazine and of sulphites, exist on the market.

In addition, for equipment in cast aluminum, it is necessary to maintain the pH at a value inferior to 8,5.

In any case, it is strongly recommended to use the water treatment procedures having the technical recommendations of CSTbat (Centre Scientifique et Technique du Bâtiment: Scientific and Technical Centre for Building). Here is a link for consulting the latest publications: http://www.cstb.fr/actualites/english-webzine.html

MAINTENANCE AND OPERATION ADVICE

- Do not exceed the operational and material limits mentioned in the chapter « Characteristics » (temperature, pressure, etc.)
- Use the tank exclusively in a hot or cold closed water circuit, under pressure.
- Ensure correct operation of the safety valve(s) (once a month).
- Check the functioning of the degasser (once a month).
- Check the water quality (once every 3 months).
- Examine and clean the heating elements as necessary (1 to 2 times a year).
- Ensure the water tightness of the closed circuit under pressure.
- Monitor the variation in pressure upstream and/or downstream of the tank. Ensure that the pressure is constant and there is no strong variation ($\Delta P < 1,0$ bar). Do not exceed the maximum indicated operating pressure. Check that you have followed the hydraulic connection diagram shown below.

Troubleshooting:

Continuous water running from the safety device (valve):

- Check the pressure in the system. If this is superior to the specified operating pressure, install a pressure reducer on the main water supply.
- If the pressure is correct, clean the safety valve of the safety device.

Loss of pressure in the system or at the tap:

- Important scaling. Drain the appliance, then descale and check the safety devices.

WARRANTY

Our «**CALEO range** » of tanks from LACAZE ENERGIES are guaranteed, from the date of delivery, against perforations in continental climatic conditions, for the following duration:

_ ***Standard shell:*** ***2 years***

_ ***Equipment + accessories: 1 year***

This warranty is limited to the exchange, repair or replacement (supply) in or from our factory at Leyme (46) France, of parts recognized to be defective by our technical services, in conformity with our general sales conditions. All other damage, displacement or labor costs which may result are excluded.

The replacement, repair or modification of parts during the warranty period cannot result in the prolongation of the warranty and cannot give rise to any indemnity for diverse costs or any such prejudice whatsoever.

Excluded from the appliance warranties is any deterioration due to:

- Bad electrical connection, and in particular:
  - Absence of or insufficient circuit breaking power.
  - Incorrect wiring of remote controls and operating switches.
  - Power surges.
  - Incorrect grounding of the tank and/or faults or absence of insulation.
- Supplied water pressure superior to nominal pressure and/or excessive variation of pressure (**ΔP > 1 bar**).
- Bad handling during assembly and installation (in particular, connecting to electricity without prior filling of the hydraulic circuit, mechanical shocks).
- Overpressure resulting from the use of safety devices of which the rating is superior to the operating pressure.
- Overpressure due to the absence, or insufficiency, or bad functioning or incorrect assembly, of the safety devices, particularly the valve(s).
- Depression resulting from the absence of sufficient air during draining.
- Depression in functioning > 0,1 bar or 100 mbar.
- Faults in maintenance of the heating elements or the safety devices.
- Water treatment found to be inappropriate.
- Corrosion due to absent or insufficient degassing.
- Corrosion due to organic and/or metallic deposits coming from the make-up water system.
- Generally, failure to comply with the instructions in this manual.

PRACTICAL ADVICE

The volume of water in the system varies with the temperature. In the absence of an expansion system, this phenomenon provokes a rise in pressure until the safety devices are activated. During cooling, the pressure falls. This is why it is indispensable to provide an expansion system.

In general terms, every installation must have a hydraulic safety system against:

- Overpressure in the distribution system.
- Overpressure due to a rise in temperature (expansion during heating).
- Overpressure due to failure of a thermostat or relay contactor.

During filling, it is necessary to ensure that the air is entirely displaced by the water. The heating elements, designed for total immersion, must never operate without water, under the penalty of immediate destruction.

The eventual electrical connections must be made according to the rules, regulations and norms in vigor at the place of installation. (i.e. NF C15-100).

On commissioning, check that:

- The drainage tap operates correctly.
- Electrical connections are correctly tightened.
- Connection characteristics are in conformity with those of the mains.
- The water tightness of the hydraulic circuit is correct. Retighten reasonably if necessary.

The set point values shown on the thermostats are indicative. It may be necessary, if an exact temperature is required, to correct the settings until the desired temperature is obtained.

When draining the water heater, particularly for regular maintenance, ensure there is sufficient air entry at the top to avoid implosion of the tank due to depression.

Limit the top-up of water in the system:

By adding water to the boiler, there is a risk of introducing lime and aggressive oxygen. These elements contribute to the deterioration by corrosion of the whole installation: degradation of pipes, taps, heating body, boilers; production of deposits and blockage of valves, blockage of exchangers, of boilers etc. This deterioration may occur rapidly.

In addition, scaling of the boilers constitutes an insulation which hinders the transmission of heat. It results in excessive heating of the materials and excessive energy consumption, which can be considerable, depending on the thickness of the scale build-up.

It is therefore important to locate the cause of water loss and remedy it as quickly as possible.

ANNEX

A1. Technical instructions for the tightening of the bolts

It is to be noted that the drafting of these procedures is based on a publication entitled ***« Directives concerning the safe use of waterproof joints – Flanges and Seals » by the European Sealing Association (ESA).***

Reminder of some fundamental principals

The ideal tightening of the « flange/bolting/joint » assembly is the application of a correct mounting pressure on the joint, a pressure low enough to avoid damage to the joint but sufficiently strong to avoid a leak. A precise control of the effort applied to the arrangement of a particular flange is of vital importance.

The order in which the bolts or threaded rods are tightened weighs considerably on the repartition of the pressure of the assembly on the joint. Incorrect tightening of the bolts can alter the parallelism of the flange. A joint will generally be capable of compensating for a feeble deformation of this type, but serious difficulties may be encountered if the parallelism of the flanges is very much affected.

The nuts must be tightened, whatever the tool used or by hand, ***according to a CROSS tightening diagram.***

For most of the materials which make up the flange arrangement (including the joints, fixings, nuts, washers), the relaxation stabilizes after a short period. For the materials used for soft joints, one of the principal factors is generally the phenomenon of distortion - relaxation of the joint. These effects are accentuated at high temperatures and have as a clear result a reduction of the compression pressure on the joint, which increases the possibility of a leak. Retightening of the assembly to the nominal torque at least once, 24h after the initial mounting or before delivery, is recommended.

Do not retighten an elastomer joint after it has been exposed to high temperatures.

Simplified tightening procedures in 3 phases (Minimum)

● Phase 1: First of all place the nuts in position by hand. This allows you to check that the threads are matching correctly. Next, tighten the nuts uniformly by hand according to the CROSS tightening diagram, at least respecting the order indicated by the figures in RED (see diagrams below).

● Phase 2 : With the aid of a ratchet wrench, tighten by hand up to 70% of the torque recommended according to the cross tightening diagram, at least respecting the order indicated by the figures in RED. Check that the flange rests uniformly on the joint [the thicknesses of the joint must be (relatively) homogenous after compression].

● Phase 3: Use a torque wrench to tighten to the full predefined torque following the cross tightening diagram, at least respecting the order indicated by the figures in RED.

Tightening procedure in 5 phases recommended by the ESA

● Phase 1: First of all place the nuts by hand. This allows you to check that the threads are matching correctly; (if the nuts cannot be placed by hand, there is probably a defective thread: try again and replace the defective parts, if necessary). Then tighten the nuts uniformly by hand according to the CROSS tightening diagram (see below).

● Phase 2: Use a torch wrench to tighten to 30% of maximum recommended torque once all round according to the cross tightening diagram. Check that the flange rests uniformly on the joint.

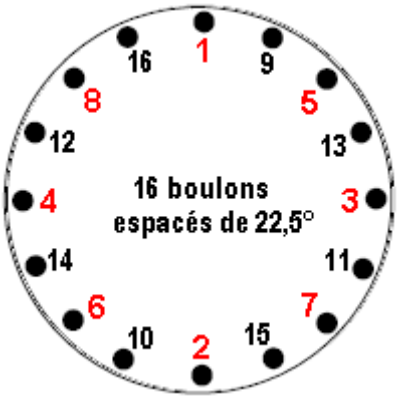
● Phase 3: Tighten to 60% maximum recommended torque once all round according to the CROSS tightening diagram.

● Phase 4: Tighten to the full torque recommended according to the CROSS tightening diagram.

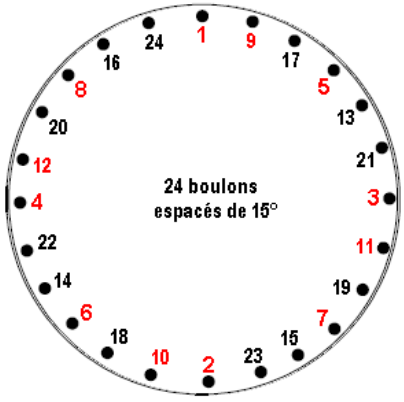
● Phase 5: Finally, pass at full torque clockwise on the adjacent fixings.

After the five passes of basic tightening, it might be useful to repeat phase 5 again until no further rotation of the nut can be observed. The final tightening must be uniform, each of the bolts taking the same load.

CROSS tightening diagram (examples)
The Figures represent the order of tightening to be respected



16 bolts spaced at 22.5°

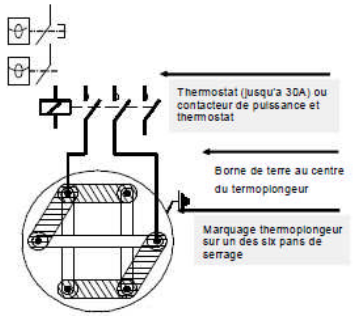


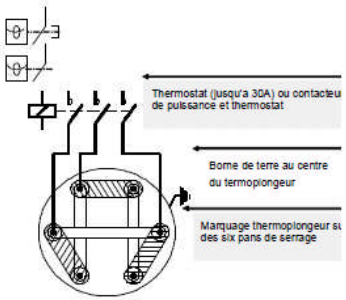
24 bolts spaced at 15°

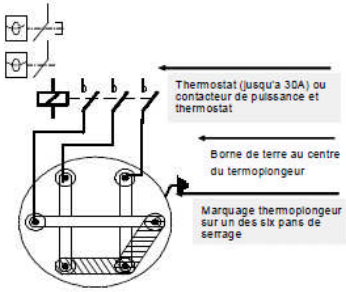
28 bolts spaced at .86°

Schéma de raccordement thermoplongeurs (TP)

valeurs Ω à titre indicatif







230V Mono POUR TP 230/400V	230V Tri POUR TP 230/400V	400V Tri POUR TP 230/400V
3 kW 230/400 V	3 kW 230/400 V ~Valeur : 56 Ω	3 kW 230/400 V ~Valeur : 112 Ω
4.5 kW 230/400 V	4.5 kW 230/400 V ~Valeur : 39.5 Ω	4.5 kW 230/400 V ~Valeur : 79 Ω
6 kW 230/400 V	6 kW 230/400 V ~Valeur : 28.2 Ω	6 kW 230/400 V ~Valeur : 56.4 Ω
9 kW 230/400 V	9 kW 230/400 V ~Valeur : 18.5 Ω	9 kW 230/400 V ~Valeur : 37 Ω
12 kW 230/400 V	12 kW 230/400 V ~Valeur : 13.2 Ω	12 kW 230/400 V ~Valeur : 26.4 Ω
15 kW 230/400 V	15 kW 230/400 V ~Valeur :11.3 Ω	15 kW 230/400 V ~Valeur : 22.6 Ω
20 kW 230/400 V	20 kW 230/400 V ~Valeur : 8 Ω	20 kW 230/400 V ~Valeur : 16 Ω
24 kW 230/400 V	24 kW 230/400 V ~Valeur : 6 Ω	24 kW 230/400 V ~Valeur : 12.5 Ω
ATTENTION TP 24 kW	400V Tri POUR TP 400/690V	690V Tri POUR TP 400/690V
2 MODELLES : 230/400V ou 400/690V	24 kW 400/690 V ~Valeur : 12.5 Ω	24 kW 400/690 V ~Valeur : 38 Ω
VERIFIER SUR LES SIX PANS DE SERRAGE LA TENSION	30 kW 400/690 V ~Valeur : 16 Ω	30 kW 400/690 V ~Valeur : 32 Ω
DU THERMOPLOGEUR	35 kW 400/690 V ~Valeur : 13.8 Ω	35 kW 400/690 V ~Valeur : 27.6 Ω

Pour le fonctionnement correct des thermoplongeurs, s'assurer avant toute mise en fonction du bon serrage de toutes les connexions. ***La société décline toute responsabilité en cas de non respect de cette consigne !***

Special notes for electric equipments :

- The wiring and the correct functioning of the electrical system must be checked before commissioning. To be carried out by the "Person professionally qualified" (see page 8);
- Setting the neutral and the grounding are to be realized according to local regulations.
- Ensure that the filling has been completed before powering.
- Check for loose connections before commissioning.
- Consider breaking power of devices for the choice of control and / or power fuses.
- Ensure that the supply voltage used is the one stated on the name plate.
- Ensure that the ground terminal is connected.
- Ensure that nothing is obstructing the ventilation.
- Turn on and adjust the regulating devices.

 ***Check that the operation of the thermostat adjusting knob truly causes the stop and restarting of heating!***

- Setting of the thermostat: according to the desired temperature, turn the thermostat knob. However, note that this setting is only approximate and it will generally need adjusting until the desired (accurate) temperature is obtained using a precise measuring instrument

 **IMPORTANT !** ***After 50 hours of operation :*** please check that all connections are tight (all years: same operation)

In general, our liability shall not be engaged in case of equipment using our wiring diagram, but not made by us.

Our general terms conditions of sale also apply to the wiring diagram delivered with the equipment.

TANK FOR THE PRODUCTION & STORAGE OF HOT WATER FOR HEATING (LTHW)

CALEO RANGE

INDICATIVE INSTRUCTION & OPERATION MANUAL

(IU-0009-EN-201009)