



TEMPERATURE CONTROL UNITS



**ELECTRICAL HEATING AND COOLING
SOLUTIONS
FOR THE INDUSTRY**



VULCANIC

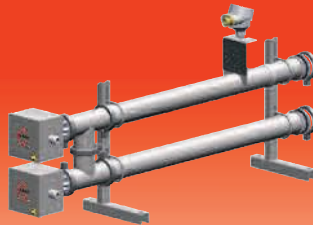
The Vulcanic group has been designing and manufacturing electrical process heating and temperature control solutions since 1973. Employing 550 people across 8 manufacturing locations, Vulcanic currently services 30 000 customers in 100 different countries across the globe and is an ISO 9001 v 2008 accredited company.



**You have an issue... let us solve it !
Vulcanic your worldwide local partner !**



Advice

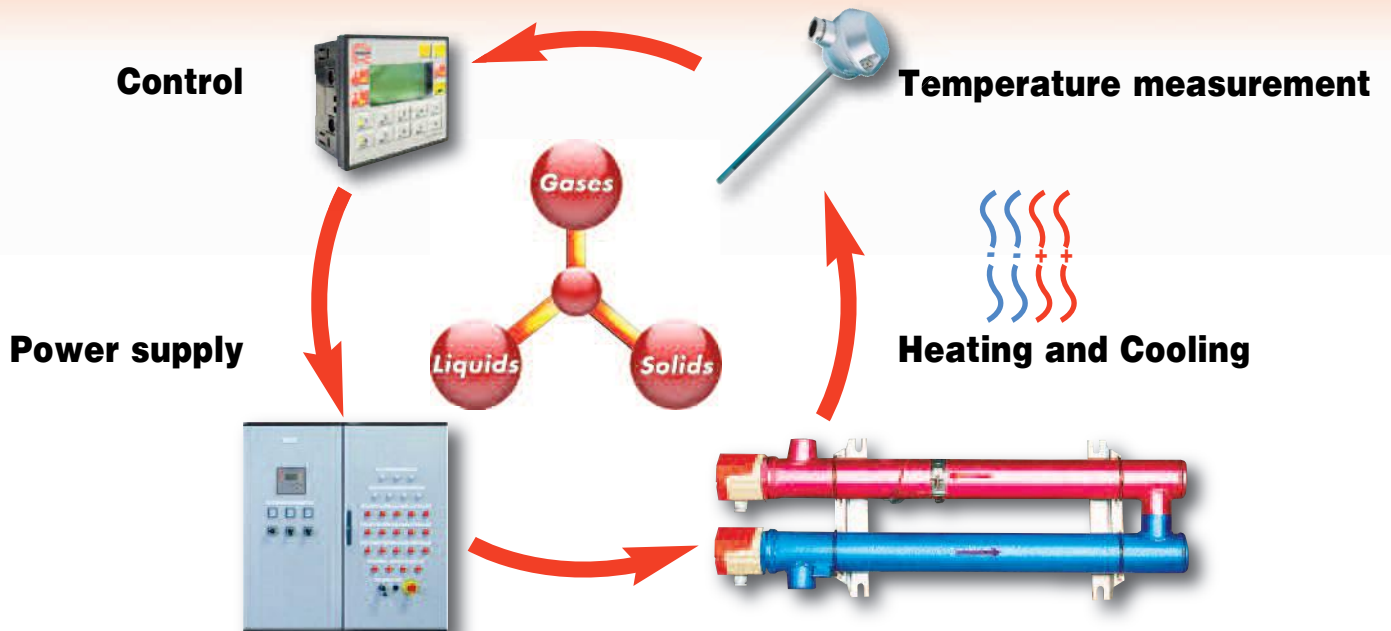


Design



Manufacturing

All in One Solutions





SERVED MARKETS



DESIGN EXPERTISE AND CODES

Vulcanic design teams support our partners from conceptual design and feasibility study throughout the life of the equipment. Our design capabilities include:

- Electrical design
- Mechanical design
- Thermal design
- Electronic design (hardware and software)
- Hydraulic design
- Automation
- Communication protocols
- Hazardous area certification



- AD 2000
- ASME
- CODAP
- EN 286

- PD 5500
- RCC-M / RCC-E
- STOOMWEZEN
- GOST



MANUFACTURING

Vulcanic offers the benefits of integrated "in house" manufacturing processes, using "state of the art" equipment to manufacture almost all components utilised within our product ranges. With only minimal dependance upon subcontractors, we remain in full control of Quality and Production schedules while maintaining a high level of know how in house.



Heating element manufacturing



CNC machining



Sensor manufacturing



Welding



Wiring

CERTIFICATION



- ISO 9001: 2008
- PED 97/23/EC cat I-IV
- ATEX 94/9/EC
- IECEx
- TR CU
- CCOE
- VDE
- UL
- DNV
- INMETRO





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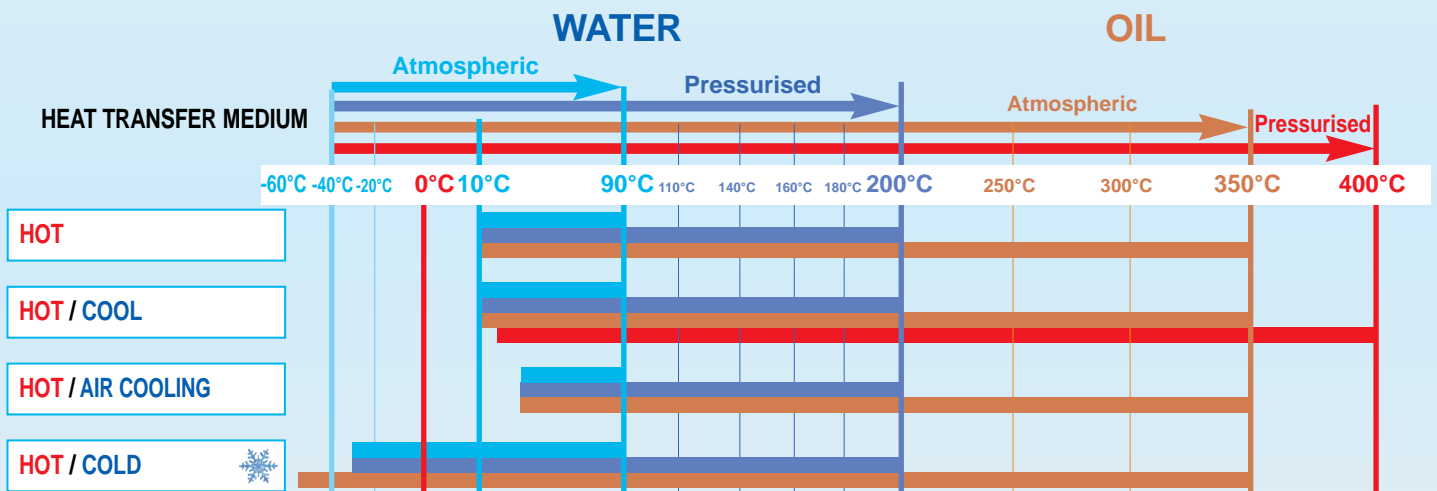


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TEMPERATURE CONTROL UNITS

VULCATHERM®



Sensors on heating elements guarantee long life service and performance of fluids

Lowest inertia for quick response time



Installation in ATEX Area see on page 144

High-energy efficiency and accurate temperature control with central management system (C.M.S/SGC)

Cooling control by Solenoid valve on/off or proportional



Easy opening and reduced maintenance

Heating control by 100% thyristor units or step control (combination of relays and thyristors)

Remote control with analogical or numerical signals (RS, IP)

ATMOSPHERIC : WATER 90°C MAX

Vulcatherm® HOT

Heat, cool and control a closed fluid loop (hot water 90°C maxi)

10811

Atmospheric
in closed loop

Money saving - Heavy duty
Reduced maintenance

Applications :

- Elastomer moulding
- Polymer moulding
- Thermoforming
- Thermo-compression
- Tracing...



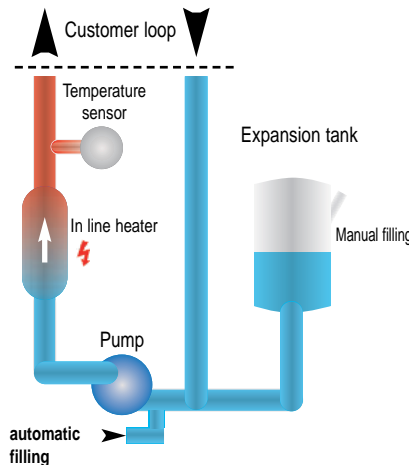
Characteristics :

- 1 electrical heater with temperature sensors
- 1 pump
- 1 atmospheric expansion tank
- 1 electrical cabinet with integrated central management system (CMS/SGC ECO)
- Sensors for control and safety
- Painted frame equipped with castors

Features :

- Automatic filling by water network supply
- Automatic air bleeding
- Electrical supply 400VAC 3 Phases + E

Layout



Vulcatherm® HOT / COLD

Heat, cool and control a closed fluid loop (hot water 90°C maxi).
Hot water in process is cooled by heat exchanger connector to industrial water network.

10800

Atmospheric
in open loop

Money saving - Heavy duty
Stable control

Applications :

- Process with high frequency tools rotation
- Process with vacuum system
- Extrusion and injection of polymers...



Characteristics :

- 1 electrical heater
- 1 heat exchanger (for cooling)
- 1 immersible pump
- 1 atmospheric tank
- 1 electrical cabinet with integrated controller
- Sensors for control and safety
- Painted frame equipped with castors

Features :

- Automatic filling by water network supply
- Self priming and automatic air bleeding
- Electrical supply 400VAC 3 Phases + E

10801

Atmospheric
in closed loop

Accurate - Fast
Reduced maintenance

Applications :

- Elastomer moulding
- Polymer moulding
- Injection, extrusion
- Heating jacket
- Tracing...



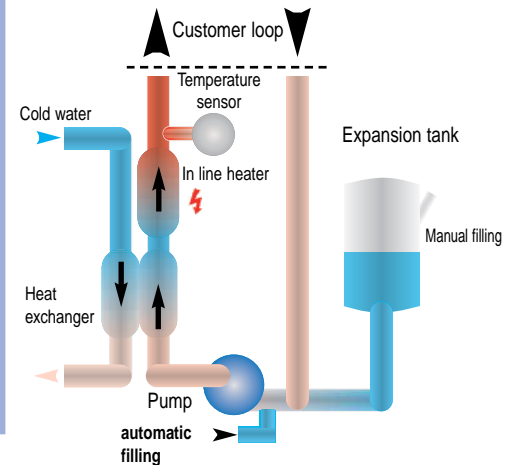
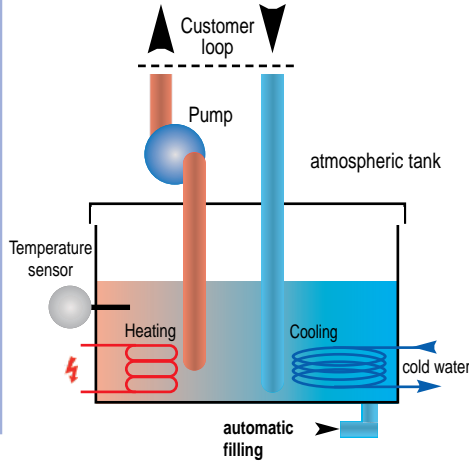
Characteristics :

- 1 electrical heater with temperature sensors
- 1 heat exchanger (for cooling)
- 1 pump
- 1 atmospheric expansion tank
- 1 electrical cabinet with integrated central management system (CMS/SGC ECO)
- Sensors for control and safety
- Painted frame equipped with castors

Features :

- Automatic filling by water network supply
- Automatic air bleeding
- Electrical supply 400VAC 3 Phases + E

Layout



VULCATHERM®					HOT		HOT / COLD		
Heating temperature up to					90°C		90°C		
Maximum pressure allowed in the circuit					10 bar		8 bar (10800) 10 bar (10801)		
Δt between the thermal fluid and cooling water					-		Δt = 65°C Maxi		
Heating Power +5/-10% (kW)	Nominal Flow (m³/h)	Δp Maxi (bar)	Expansion volume V (litre)	Dimensions L x H x P (mm)	Weight (kg)	REF.	Cooling power (kW)	Weight (kg)	REF.
3,3	0,5	2	3,7	340 x 580 x 680	55	10811-03	10	60	10801-03
6	0,9	3	3,7	340 x 580 x 680	55	10811-06	16	60	10801-06
6	2,4	3	4	340 x 600 x 650	60	-	16	60	10800-06
9	2,4	3	4	340 x 600 x 650	60	-	18	60	10800-09
10	1,5	3	3,7	340 x 580 x 680	55	10811-10	18	60	10801-10
14	2,1	3	10	400 x 780 x 860	80	10811-14	45	85	10801-14
20	3	3	10	400 x 780 x 860	150	10811-20	60	120	10801-20
30	4,5	3	19	500 x 1180 x 950	200	10811-30	90	210	10801-30
40	6	3	19	500 x 1180 x 950	200	10811-40	120	210	10801-40
60	9	3	28	600 x 1600 x 1000	240	10811-60	180	210	10801-60

Customised solutions :

- Power : 75 up to 245 kW
- Centrifugal pump with magnetic seal
- Pump with high flow rate
- See all options on page 144

ATMOSPHERIC : WATER 90°C MAX Vulcatherm® HOT / AIR COOLED 10831

Atmospheric
in closed loop

High performance - Compact - Accurate
Fast - Reduced maintenance

Heat, cool and control a water closed loop from 40°C to 90°C. Hot water in process is cooled through an air exchanger + fan.
Fully available and designed for process without water supply.



Applications :

- Elastomer moulding
- Polymer moulding
- Injection, extrusion
- Heating jacket
- Tracing ...

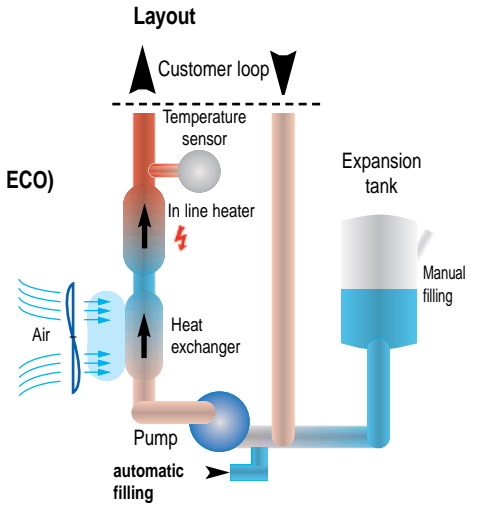
Features :

- Water loop
- Electrical supply 400VAC 3 Phases + N + E

Characteristics:

- 1 electrical heater with sensor
- 1 air exchanger (air 32°C maxi)
- 1 pump
- 1 atmospheric expansion tank
- 1 central management system (CMS/SGC ECO)
- Sensors for control and safety
- Painted frame equipped with castors

VULCATHERM®					HOT / AIR COOLED		
Heating temperature up to					90°C		
Maximum pressure allowed in the circuit					10 bar		
Heating Power +5/-10% (kW)	Nominal Flow (m³/h)	Δp Maxi (bar)	Expansion Volume V (litre)	Dimensions L x H x P (mm)	Cooling Power (kW)	Δt Maxi (°C)	REF.
4	0,5	3	3,8	400 x 980 x 860	10	68	10831-04
6	0,9	3	3,8	400 x 980 x 860	10	68	10831-06
10	1,5	3	3,8	400 x 980 x 860	10	68	10831-10
14	2,1	3	10	800 x 1200 x 800	20	68	10831-14
20	3	3	14	800 x 1200 x 800	20	68	10831-20
30	4,5	3	14	950 x 1660 x 900	50	68	10831-30
40	6	3	14	950 x 1660 x 900	50	68	10831-40
60	9	3	21	1000 x 2050 x 1600	100	68	10831-60



Customised solutions :

- Power : 75 up to 245 kW
- Centrifugal pump with magnetic seal
- Pump with high flow rate
- See all options on page 144

Vulcatherm® HOT / COLD 10821 ❄️

Atmospheric
in closed loop

High performance - Compact - Accurate
Fast - Reduced maintenance

Heat, cool and control a water + glycol loop from -20°C to 90°C. Hot water in process is cooled by integrated refrigerating unit.

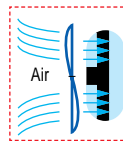
Applications :

- Process with a wide temperature range
- Crystallizer
- Chemical reactor
- Climatic chamber
- Test benches

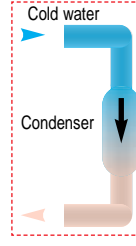
Characteristics :

- 1 electrical heaters with sensor
- 1 evaporator exchanger
- 1 condenser water cooled
- 1 pump
- 1 refrigerating compressor
- Electronic expansion valve
- 1 atmospheric expansion tank
- 1 central management system (CMS/SGC V2)
- Sensors for control and safety
- Painted frame equipped with castors

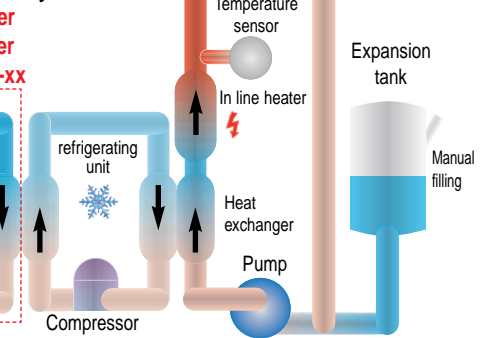
Type Air
Condenser
Ref. 10841-xx



Type Water
Condenser
Ref. 10821-xx



Layout



Water + glycol -20 to 90°C

VULCATHERM®					HOT / COLD			REF.
Maximum pressure allowed in the circuit					10 bar			
Heating Power +5/-10% (kW)	Nominal Flow (m³/h)	Δp Maxi (bar)	Expansion Volume V (litre)	Dimensions L x H x P (mm)	Cooling power (kW)			
					-20°C	-10°C	0°C	
4	0,5	2	3,8	800 x 1200 x 800	-	1,3	2	10821-01
4	0,5	3	3,8	800 x 1200 x 800	-	2,6	4	10821-03
6	0,9	3	3,8	800 x 1200 x 800	-	3,8	6	10821-05
10	1,5	3	3,8	800 x 1200 x 800	-	6,4	10	10821-09
20	3	3	14	800 x 1200 x 800	-	12,8	20	10821-19
4	0,5	3	3,8	800 x 1200 x 800	0,7	1,3	2	10821-02
4	0,5	3	3,8	800 x 1200 x 800	1,4	2,6	4	10821-04
6	0,9	3	3,8	800 x 1200 x 800	2,1	3,8	6	10821-06
10	1,5	3	3,8	800 x 1200 x 800	3,5	6,4	10	10821-10
20	3	3	14	800 x 1200 x 800	7	12,8	20	10821-20



Features :

- Water + glycol loop
- Manual filling
- Condenser cooled by industrial water network.
- Electrical supply 400VAC 3 Phases + E

Customised solutions :

- Power up to 125 kW hot / 80kW cold.
- Wide temperature range up to -30°C
- See all options on page 144
- Pressurised expansion tank (see next 10826 p.139)
- Air condenser (32°C maxi) with helicoid or centrifugal fan

PRESSURISED WITH EXPANSION IN WATER NETWORK : WATER 90°C MAXI

Vulcatherm® HOT

10814

*Pressurisation and expansion
in customer water network*

*Money saving - Compact
Reduced maintenance*

Vulcatherm® HOT / COLD

10804

*Pressurisation and expansion
in customer water network*

*Money saving
Compact - Accurate*

FOR TOOLS WORKING UNDER PRESSURE

Heat and control a water closed loop (water 90°C maxi).

Applications :

- Elasmoter moulding
- Polymer moulding
- Thermoforming
- Thermo-compression
- Tracing ...

Characteristics :

- 1 electrical heater
- 1 pump
- 1 electrical cabinet with integrated PID controller
- Sensors for control and safety
- Painted frame equipped with castors

Features :

- Automatic filling by water network
- Automatic air bleeding
- Electrical supply 400VAC 3 Phases + E
- Connection to pressurised water network can be achieved via our ref **10804-99** supplied as an option



Heat and control a closed water loop (hot water 90°C maxi). Hot water in process is cooled by an exchanger connected to water network supply.

Applications :

- Elasmoter moulding
- Polymer moulding
- Thermoforming
- Tools working under pressure ...

Characteristics :

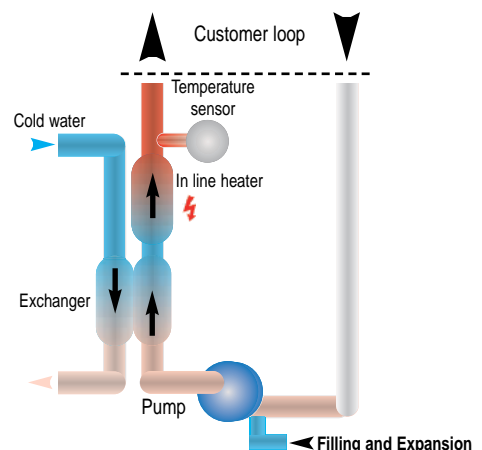
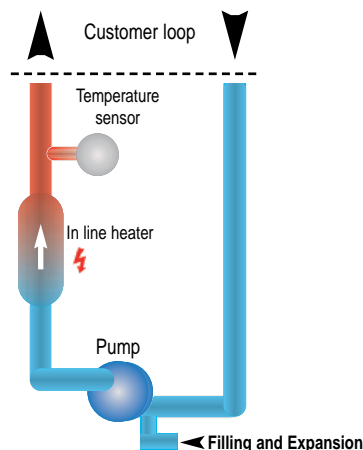
- 1 electrical heater
- 1 exchanger hot cold (water / water)
- 1 pump
- 1 electrical cabinet with integrated PID controller
- Sensors for control and safety
- Painted frame equipped with castors



Features :

- Automatic filling by water network
- Automatic air bleeding
- Electrical supply 400VAC 3 Phases + E
- Connection to pressurised water network can be achieved via our ref **10804-99** supplied as an option

Layout



VULCATHERM®				HOT		HOT / COOL			
Heating temperature up to				90°C		90°C			
Maximum pressure allowed in the circuit				12 bar		12 bar			
Heating Power +5/-10% (kW)	Nominal Flow (m³/h)	Δp Maxi (bar)	Dimensions L x H x P (mm)	Weight (kg)	REF.	Cooling Power (kW)	Δt Maxi (°C)	Weight (kg)	REF.
3,3	0,5	2	300 x 500 x 570	40	10814-03	10	65	40	10804-03
6	0,9	3	300 x 500 x 570	40	10814-06	16	65	40	10804-06
10	1,5	3	300 x 500 x 570	40	10814-10	18	65	40	10804-10

Customised solutions :

- Remote control
- Temperature measurement by external sensor

- Stainless steel box
- All options on page 144

PRESSURISED AND EXPANSION CONTROL : WATER 110°C AND 140°C MAXI

Vulcatherm® HOT

10815
10812

Pressurisation and expansion
in customer water network

Money saving - High
performance - Heavy duty

Heat and control a closed water loop (hot water up to 140°C).

Applications :

- Autoclave, steriliser
- Mixer, melter ...
- Tools available to work under pressure 3 to 6 bar mini

Characteristics :

- 1 electrical heater with sensor
- 1 accumulator for expansion
- 1 centrifugal pump • 1 pressure reducer
- 1 safety valve (3 up to 7 bar)
- 1 electrical cabinet with integrated central management system (CMS/SGC ECO)
- Sensors for control and safety



Features :

- Automatic filling and pressurisation by customer water network (mini 1 bar)
- Electrical supply 400VAC 3 Phases + E

Vulcatherm® HOT / COLD

10805
10802

Pressurisation and expansion
in customer water network

Money saving - High
performance - Heavy duty

Heat and control a closed water loop (hot water up to 140°C). Hot water in process is cooled by a heat exchanger connected to water network supply.

Applications :

- Elastomer moulding
- Polymer moulding
- Thermoforming
- Tools available to work under pressure from 3 to 6 bar mini

Characteristics :

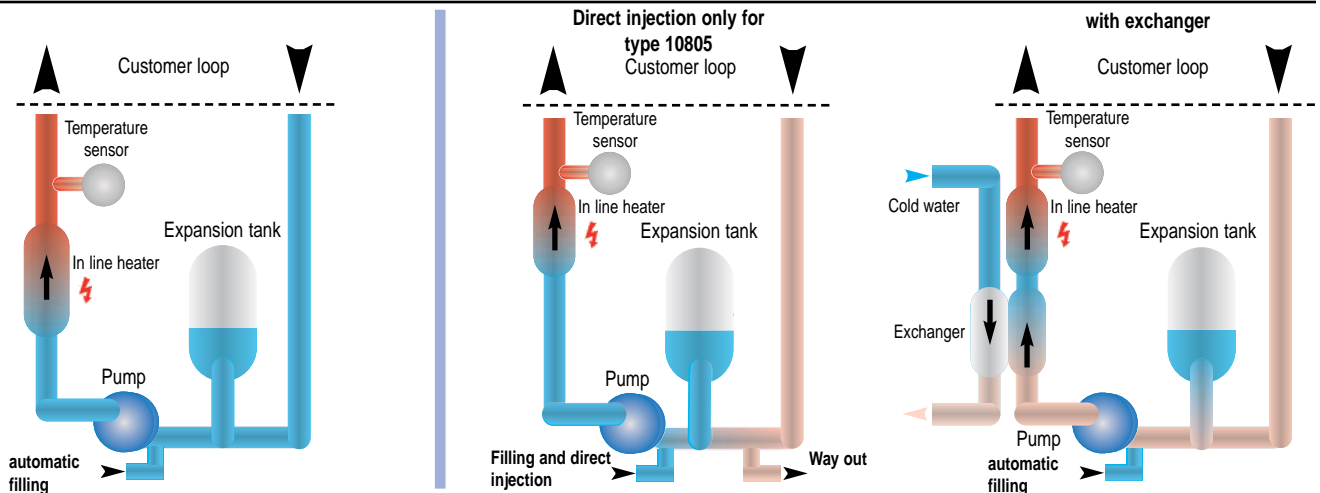
- 1 electrical heater with sensor
- 1 accumulator (for expansion)
- 1 exchanger hot/cold or direct injection (see table below)
- 1 pump • 1 pressure reducer
- 1 safety valve (3 up to 7 bar)
- 1 electrical cabinet with integrated central management system (CMS/SGC ECO)
- Sensors for control and safety
- Painted frame equipped with castors



Features :

- Automatic filling and pressurisation on customer water network (mini 3 bar)
- Automatic air bleeding
- Electrical supply 400VAC 3 Phases + E

Layout



VULCATHERM®				HOT				HOT / COOL						
Maximum pressure in the circuit				12 bar				12 bar						
Cooling power according a Δt of				→				80°C			110°C			
Heating temperature up to				110°C		140°C		110°C			140°C			
Heating Power +5/-10%	Nominal Flow (m³/h)	Dimensions L x H x P (mm)	Weight (kg)	Δp Maxi (bar)	REF.	Δp Maxi (bar)	REF.	Cooling Power (kW)	Δp Maxi (bar)	REF. With exchanger	REF. Without exchanger (direct injection)	Cooling Power (kW)	Δp Maxi (bar)	REF.
3,3	0,5	340 x 580 x 680	70		-		-	10	2	10805-03	-	10	3	10802-03
3,3	0,5	340 x 580 x 680	70		-		-	10	3	-	10805-04			-
6	0,9	340 x 580 x 680	70	3	10815-06	3	10812-06	20	3	10805-06	10805-07	20	3	10802-06
10	1,5	340 x 580 x 680	70	3	10815-10	3	10812-10	22	3	10805-10	10805-11	22	3	10802-10
14	2,1	400 x 780 x 860	100	3	10815-14	3	10812-14	45	3	10805-14	10805-15	45	2	10802-14
20	3	400 x 780 x 860	100	3	10815-20		10812-20	60	3	10805-20	10805-21	60		10802-20
30	4,5	500 x 1320 x 950	170	3	10815-30			90	3	10805-30	10805-31			
40	6	500 x 1320 x 950	170	3	10815-40			120	3	10805-40	10805-41			
60	9	600 x 1600 x 1000	180	3	10815-60			180	3	10805-60	10805-61			

Customised solutions :

• Others power available from 75 up to 245 kW

• All options on page 144

ELECTRICAL PRESSURISATION AND EXPANSION : WATER 110°C, 140°C AND 160°C MAXI

Vulcatherm® HOT

10816

*Pressurisation and expansion
in customer water network*

*Money saving - Compact
Reduced maintenance*

Heat and control a closed water loop (hot water up to 110°C and over heated water up to 160°C maxi).

Applications :

- Autoclave, steriliser
- Mixer, melter...
- Tools available to work under pressure 3 to 6 bar mini

Characteristics:

- 1 electrical heater with sensor
- 1 pressurised tank
- 1 tank for filling and atmospheric expansion
- 2 pumps
- 1 solenoid valve for pressure reducing
- 1 safety valve
- 1 electrical cabinet with integrated central management (**CMS/SGC ECO**)
- Sensors for control and safety
- Painted frame equipped with castors

Features :

- Automatic filling by water network
- Pressurisation, expansion and automatic air bleeding
- Electrical supply 400VAC 3 Phases + E



Vulcatherm® HOT / COLD

10806

*Pressurisation and expansion
in customer water network*

*Money saving - Compact
Reduced maintenance*

Heat, cool and control a closed water loop (hot water). The closed water loop is cooled down in a exchanger working under the customer water network.

Applications :

- Elastomer moulding
- Polymer moulding
- Thermoforming
- Tools available to work under pressure 3 to 6 bar mini

Characteristics :

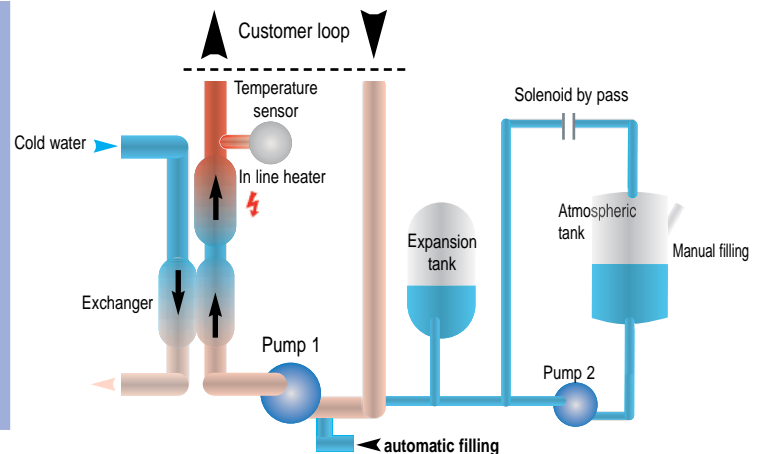
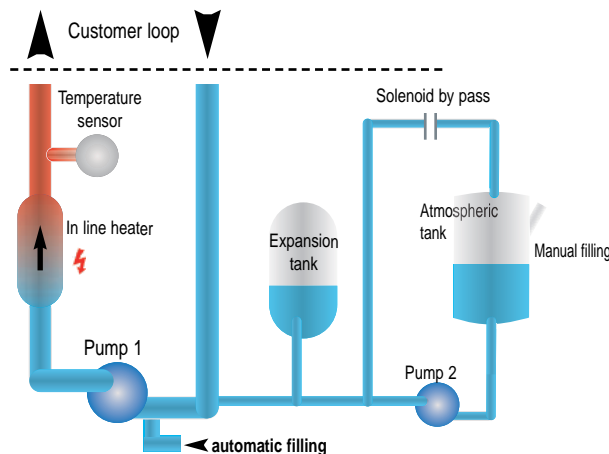
- 1 electrical heater with sensor
- 1 pressurised tank
- 1 exchanger hot cold (reverse counter current) or direct injection (see table below)
- 1 filling and expansion tank
- 2 pumps
- 2 solenoid valves with 1 for pressure reducing
- 1 safety valve
- 1 electrical cabinet with integrated central management (**CMS/SGC ECO**)
- Sensors for control and safety
- Painted frame equipped with castors

Features :

- Automatic filling by water network
- Pressurisation, expansion and automatic air bleeding
- Electrical supply 400VAC 3 Phases + E



Layout



VULCATHERM®				HOT						HOT / COOL								
Maximum pressure in the circuit				12 bar						12 bar								
Cooling power for a Δt of				→						80°C			110°C			130°C		
Heating temperature up to				110°C / 1 bar		140°C / 3 bar		160°C / 6 bar		110°C / 1 bar			140°C / 3 bar			160°C / 6 bar		
Heating Power +5/-10%	Nom. Flow (m³/h)	Dimensions L x H x P (mm)	Weight (kg)	Δp Maxi (bar)	REF.	Δp Maxi (bar)	REF.	Δp Maxi (bar)	REF.	Cooling Power (kW)	Ap Maxi (bar)	REF.	Cooling Power (kW)	Ap Maxi (bar)	REF.	Cooling Power (kW)	Ap Maxi (bar)	REF.
4	0,5	-	-	-	-	-	-	-	-	10	3	10806-02	10	2,8	10806-03	10	3	10806-04
6	0,9	400 x 780 x 860	60	3	10816-05	3	10816-06	3	10816-07	20	3	10806-05	20	2,8	10806-06	20	3	10806-07
10	1,5	400 x 780 x 860	60	3	10816-09	3	10816-10	3	10816-11	22	3	10806-09	22	2,8	10806-10	22	3	10806-11
14	2,1	400 x 780 x 860	85	3	10816-13	3	10816-14	3	10816-15	45	3	10806-13	45	2,8	10806-14	45	3	10806-15
20	3	400 x 780 x 860	120	3	10816-19	3	10816-20	3	10816-21	60	3	10806-19	60	2,8	10806-20	60	3	10806-21
30	4,5	500 x 1320 x 950	210	3	10816-29	3	10816-30	3	10816-31	90	3	10806-29	90	2,8	10806-30	90	3	10806-31
40	6	500 x 1320 x 950	210	3	10816-39	3	10816-40	3	10816-41	120	3	10806-39	120	2,8	10806-40	120	3	10806-41
60	9	600 x 1600 x 1000	250	3	10816-59	3	10816-60	3	10816-61	180	3	10806-59	180	2,8	10806-60	180	3	10806-61

Dimensions = 400 x 780 x 860

Customised solutions : • Others power available from 75 up to 245 kW • Models 180°C and 200°C • See all options on page 144

ELECTRICAL PRESSURISATION AND EXPANSION : WATER 110°C AND 140°C MAXI

Vulcatherm® HOT / REFRIGERATED 10826 - 10846

Electrical pressurisation and expansion

High performance - Compact - Accurate
Fast - Reduced maintenance

Heat, cool and control a water + glycol closed loop from -20°C to +140°C. Process fluid cooled by evaporator connected to refrigerating unit.



Water condenser

Applications :

- Wide temperature range process
- Crystallizer
- Chemical reactor
- Climatic chamber
- Test benches

Features :

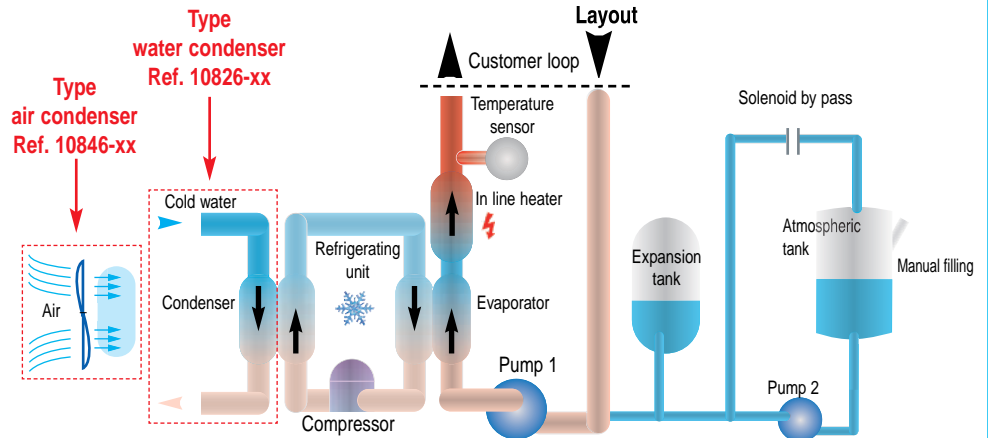
- Water + glycol loop
- Manual filling
- Condenser cooled by air or water
- Electrical supply 400VAC 3 Phases + E (+ Neutral for air condenser)

Characteristics :

- 1 electrical heater with sensor
- 1 evaporator
- 1 condenser cooled by air or water
- 2 pumps
- 1 pressurisation tank
- 1 compressor
- 1 electronic expansion valve
- 1 atmospheric expansion tank
- 1 electrical cabinet with integrated central management (CMS/SGC V2)
- Sensors for control and safety
- Painted frame equipped with castor



Air condenser



Water + glycol -20 to 140°C

VULCATHERM®				HOT / COLD WATER CONDENSER 25°C Maxi						
Maximum pressure allowed in the circuit				12 to 14 bar						
Heating temperature up to									110°C	140°C
Heating Power +5/-10% (kW)	Nominal Flow (m³/h)	Δp Maxi (bar)	Dimensions L x H x P (mm)	Cooling power (kW)					REF.	REF.
				-20°C	-10°C	0°C	+10°C	+20°C		
4	0,6	3	800 x 1200 x 800	1	2,4	4	6	8	10826-02	10826-03
6	0,9	3	800 x 1200 x 800	1,5	3,6	6	9	12	10826-05	10826-06
10	1,5	3	800 x 1200 x 800	2,5	6	10	15	20	10826-09	10826-10
14	2,1	3	950 x 1660 x 900	3,5	8,4	14	21	28	10826-13	10826-14
20	3	3	950 x 1660 x 900	5	12	20	30	40	10826-19	10826-20
30	4,5	3	800 x 1730 x 1500	7,5	18	30	45	60	10826-29	10826-30
40	6	3	800 x 1730 x 1500	10	24	40	60	80	10826-39	10826-40
60	9	3	800 x 1730 x 1800	15	36	60	90	120	10826-59	10826-60

VULCATHERM®				HOT / COLD CONDENSER A AIR 32°C Maxi						
Maximum pressure allowed in the circuit				12 to 14 bar						
Heating temperature up to									110°C	140°C
Heating Power +5/-10% (kW)	Nominal Flow (m³/h)	Δp Maxi (bar)	Dimensions L x H x P (mm)	Cooling power (kW)					REF.	REF.
				-20°C	-10°C	0°C	+10°C	+20°C		
4	0,6	3	800 x 1200 x 800	1	2,4	4	6	8	10846-02	10846-03
6	0,9	3	800 x 1200 x 800	1,5	3,6	6	9	12	10846-05	10846-06
10	1,5	3	950 x 1660 x 900	2,5	6	10	15	20	10846-09	10846-10
14	2,1	3	950 x 1660 x 900	3,5	8,4	14	21	28	10846-13	10846-14
20	3	3	950 x 1660 x 900	5	12	20	30	40	10846-19	10846-20
30	4,5	3	1000 x 2050 x 1600	7,5	18	30	45	60	10846-29	10846-30
40	6	3	1000 x 2050 x 2300	10	24	40	60	80	10846-39	10846-40
60	9	3	1000 x 2050 x 3000	15	36	60	90	120	10846-59	10846-60

Customised solutions :

- Others power available from 125 kW hot / 80kW cooling
- Centrifugal fan
- Temperatures available from -30°C up to +160°C
- See all options on page 144

ELECTRICAL PRESSURISATION AND EXPANSION : WATER 110°C MAXI

Vulcatherm® HOT / AIR COOLING 10836

Electrical pressurisation and expansion

High performance - Compact - Accurate - Fast
Wide temperature range - Reduced maintenance

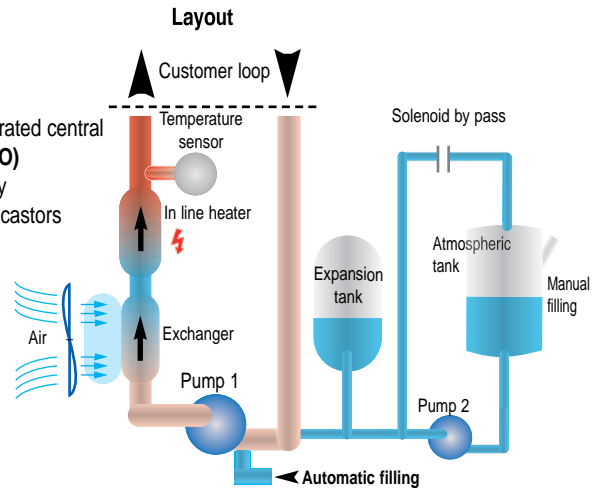
Heat, cool and control a closed water loop from 40°C to 110°C. Hot process fluid is cooled through an air exchanger and a fan. **Designed for process without water supply**



- Applications :**
- Elastomer moulding
 - Polymer moulding
 - Injection, extrusion
 - Jacket heat
 - Tracing ...

- Features :**
- Water loop
 - Electrical supply 400VAC 3 Phases + E

- Characteristics :**
- 1 electrical heater with temperature sensor
 - 1 to 6 hot exchanger / air cold
 - 1 to 3 helicoid fan
 - 1 expansion tank
 - 2 pumps
 - 1 safety valve
 - 1 electrical cabinet with integrated central management (CMS/SGC ECO)
 - Sensors for control and safety
 - Painted frame equipped with castors



Customised solutions :

- Power : 75 up to 245 kW
- See all options on page 144

VULCATHERM®					HOT / AIR COOLING			
Heating temperature up to					110°C			
Maximum pressure allowed in the circuit					8 to 10 bar			
Heating Power +5/-10% (kW)	Nominal Flow (m³/h)	Δp Maxi (bar)	Expansion volume V (litre)	Dimensions L x H x P (mm)	Heating Power (kW)	Δt Maxi (°C)	Weight (kg)	REF.
4	0,5	2	2	400 x 1000 x 860	10	68	110	10836-02
6	0,9	3	2	400 x 1000 x 860	10	68	110	10836-05
10	1,5	3	2	400 x 1000 x 860	10	68	115	10836-09
14	2,1	3	5	800 x 1200 x 800	20	68	170	10836-13
20	3	3	5	800 x 1200 x 800	20	68	170	10836-19
30	4,5	3	8	800 x 1200 x 800	50	68	180	10836-29
40	6	3	8	800 x 1200 x 800	50	68	180	10836-39
60	9	3	11	1000 x 2050 x 1600	100	68	230	10836-59

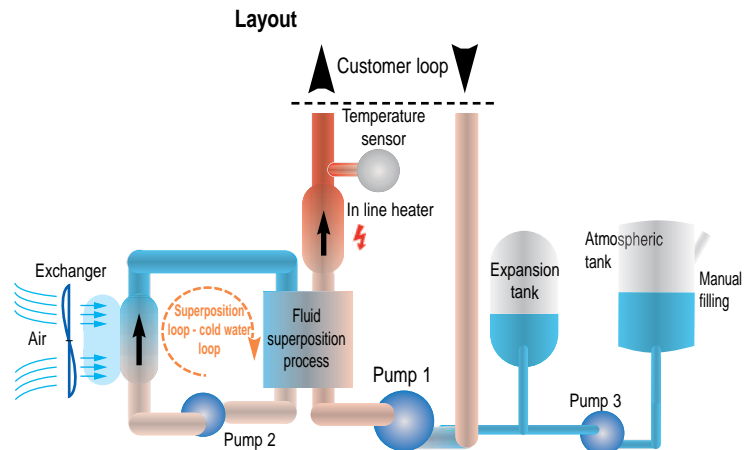
ELECTRICAL PRESSURISATION AND EXPANSION : WATER 160°C MAXI

Heat, cool and control a water + glycol closed loop from 40°C to 160°C. Hot process fluid is cooled through an air exchanger and a fan. **Designed for process without water supply.**



- Applications :**
- Elastomer moulding
 - Polymer moulding
 - Injection, extrusion
 - Jacket heat
 - Tracing ...

- Features :**
- Water loop
 - Electrical supply 400VAC 3 Phases + E



- Characteristics :**
- 1 electrical heater with sensor
 - 1 tank for pressurisation
 - 1 to 6 hot exchangers / air cold
 - 1 to 3 helicoid fans
 - 1 expansion tank
 - 3 pumps + pressurisation + fluid superposition
 - 1 solenoid valve
 - 1 expansion valve
 - 1 safety valve
 - 1 electrical cabinet with integrated central management (CMS/SGC V3)
 - Sensors for control and safety
 - Painted frame equipped with castors

VULCATHERM®					HOT / AIR COOLING			
Heating temperature up to					160°C			
Maximum pressure allowed in the circuit					12 to 14 bar			
Heating Power +5/-10% (kW)	Nominal Flow (m³/h)	Δp Maxi (bar)	Expansion volume V (litre)	Dimensions L x H x P (mm)	Cooling Power (kW)	Δt Maxi (°C)	Weight (kg)	REF.
4	0,5	2	10	400 x 1000 x 860	10	68	130	10836-04
6	0,9	3	10	400 x 1000 x 860	10	68	130	10836-06
10	1,5	3	10	400 x 1000 x 860	10	68	135	10836-10
14	2,1	3	10	800 x 1200 x 800	20	68	200	10836-14
20	3	3	10	800 x 1200 x 800	20	68	200	10836-20
30	4,5	3	15	800 x 1200 x 800	50	68	210	10836-30
40	6	3	19	800 x 1200 x 800	50	68	210	10836-40
60	9	3	21	1000 x 2050 x 1600	100	68	240	10836-60

Customised solutions : • Power : 75 up to 245 kW • Temperature up to 180°C • Centrifugal fan • See all options on page 144



TEMPERATURE CONTROL UNITS VULCATHERM® OIL MEDIUM

ATMOSPHERIC : OIL 180°C, 250°C AND 300°C MAXI

Vulcatherm® HOT 10813

Atmospheric closed loop

Money saving - High performance
Heavy duty - Reduced maintenance

Heat and control a thermal fluid closed loop (synthetic or mineral oil up to 300°C).

Applications :

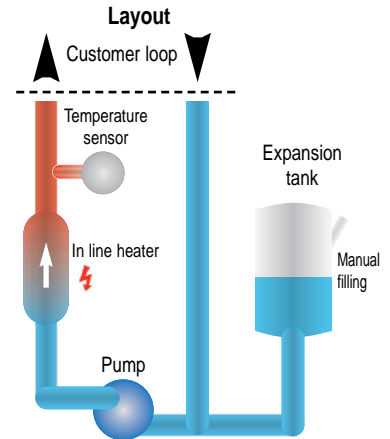
- Industrial process with high temperature and low pressure
- Reactor
- Press moulding
- Composite moulding ...

Features :

- Mineral oil ISO32 up to 250°C
Synthetic oil up to 350°C
- Manual filling
- Electrical supply 400VAC 3 Phases + E

Characteristics :

- 1 electrical heater with sensor
- 1 exchanger
- 1 pump
- 1 electrical cabinet with integrated central management (CMS/SGC ECO)
- Sensors for control and safety
- Painted frame equipped with castors



VULCATHERM®		HOT								
Maximum pressure		10 bar								
Heating temperature up to		180°C			250°C			300°C		
Heating Power +5/-10% (kW)	Nom. Flow (m³/h)	Δp Maxi (bar)	Dimensions L x H x P (mm)	REF.	Δp Maxi (bar)	Dimensions L x H x P (mm)	REF.	Δp Maxi (bar)	Dimensions L x H x P (mm)	REF.
4	0,6	3,1	400 x 730 x 860	10813-04						
6	0,9	2,6	400 x 730 x 860	10813-06						
7					2,6	400 x 730 x 860	10813-07			
10	1,5	3,9	400 x 730 x 860	10813-10	3,7	400 x 780 x 860	10813-11	3,7	500 x 1320 x 950	10813-12
14	2,1	3,1	400 x 730 x 860	10813-14	3	400 x 780 x 860	10813-15	3	500 x 1320 x 950	10813-16
20	3	2,4	500 x 1320 x 950	10813-19	4	500 x 1320 x 950	10813-20	4	500 x 1320 x 950	10813-21
30	4,5	2,7	500 x 1320 x 950	10813-29	3,9	600 x 1600 x 1000	10813-30	4	600 x 1600 x 1000	10813-31
40	6	3,1	500 x 1320 x 950	10813-39	3,2	600 x 1600 x 1000	10813-40	3,2	600 x 1600 x 1000	10813-41
60	9	3,7	600 x 1600 x 1000	10813-59	3,5	600 x 1600 x 1000	10813-60	3,5	600 x 1600 x 1000	10813-61

- Customised solutions :**
- Power : 75 up to 245 kW
 - Temperature up to 350°C
 - Centrifugal pump with magnetic seal
 - Pump with high flow rate
 - See all options on page 144

Vulcatherm® HOT / COOL 10803

Atmospheric closed loop

High performance - Safe for fluid
Accurate - Heavy duty

Heat, cool and control a closed fluid loop (Synthetic or mineral oil up to 180°C). Hot oil from process is cooled by an heat exchanger connected to water network.

Applications :

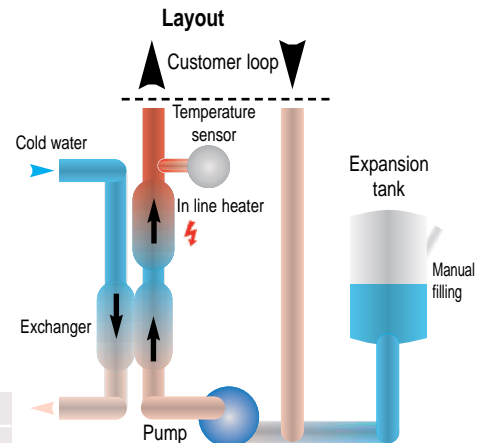
- Industrial process with high temperature and low pressure
- Reactor
- Press moulding
- Composite moulding...

Features :

- Mineral oil ISO32 up to 250°C
Synthetic oil up to 350°C
- Manual filling
- Electrical supply 400VAC 3 Phases + E

Characteristics :

- 1 electrical heater with sensor
- 1 exchanger
- 1 atmospheric expansion tank
- 1 pump
- 1 electrical cabinet with integrated central management (CMS/SGC ECO)
- Sensors for control and safety
- Painted frame equipped with castors



VULCATHERM®		HOT / COOL				
Maximum pressure		10 bar				
Δt		140°C Maxi				
Heating temperature up to		180°C				
Heating Power +5/-10% (kW)	Cooling Power (kW)	Nom. Flow (m³/h)	Δp Maxi (bar)	Dimensions L x H x P (mm)	REF.	
4	8	0,6	3,1	400 x 730 x 860	10803-04	
6	12	0,9	2,6	400 x 730 x 860	10803-06	
10	20	1,5	3,3	400 x 730 x 860	10803-10	
14	28	2,1	2,6	400 x 730 x 860	10803-14	
20	40	3	3	500 x 1320 x 950	10803-19	
30	60	4,5	3,3	500 x 1320 x 950	10803-29	
40	80	6	3,7	500 x 1320 x 950	10803-39	
60	120	9	3,1	600 x 1600 x 1000	10803-59	

- Customised solutions :**
- Power : 75 up to 245 kW
 - Temperature up to 350°C
 - Centrifugal pump with magnetic seal
 - Pump with high flow rate
 - See all options on page 144



TEMPERATURE CONTROL UNITS VULCATHERM® OIL MEDIUM



ATMOSPHERIC : OIL 180°C, 250°C AND 300°C MAXI

Vulcatherm® HOT / COLD 10803

FLUID SUPERPOSITION

Atmospheric closed loop

High performance - Safe for fluid
Accurate - Heavy duty

Heat, cool and control a closed fluid loop (Synthetic or mineral oil up to 180°C). Hot oil from process is cooled by a heat exchanger connected to water network.

Applications :

- Industrial process with high temperature and low pressure
- Reactor
- Press moulding
- Composite moulding...

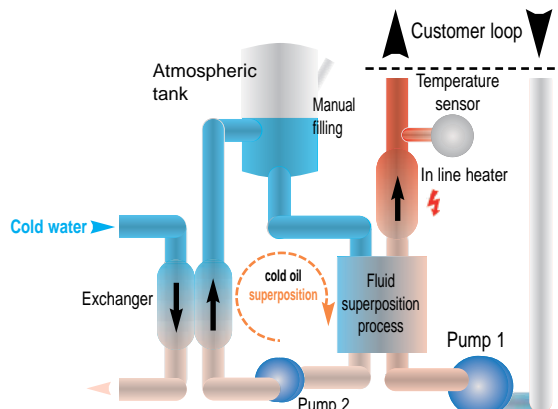
Features :

- Mineral oil ISO32 up to 250°C
Synthetic oil up to 350°C
- Manual filling
- Electrical supply 400VAC 3 Phases + E

Characteristics :

- 1 electrical heater with sensor
- 1 hot oil exchanger
- 1 atmospheric expansion tank
- 2 pumps
- 1 electrical cabinet with integrated central management (CMS/SGC V2)
- Sensors for control and safety
- Painted frame equipped with castors

Layout



VULCATHERM®		HOT / COLD fluid superposition						
Maximum pressure		10 bar						
Δt		205°C Maxi			240°C Maxi			
Heating temperature up to		250°C			300°C			
Heating Power +5/-10% (kW)	Cooling Power (kW)	Nom. Flow (m³/h)	Δp Maxi (bar)	Dimensions L x H x P (mm)	REF.	Δp Maxi (bar)	Dimensions L x H x P (mm)	REF.
7	14	1,05	2,6	400 x 780 x 860	10803-07			
10	20	1,5	3,7	400 x 780 x 860	10803-11	3,3	500 x 1320 x 950	10803-12
14	28	2,1	3	500 x 1320 x 950	10803-15	3,1	500 x 1320 x 950	10803-16
20	40	3	4	500 x 1320 x 950	10803-20	3,3	500 x 1320 x 950	10803-21
30	60	4,5	3,9	600 x 1600 x 1000	10803-30	3,3	600 x 1600 x 1000	10803-31
40	80	6	3,2	600 x 1600 x 1000	10803-40	3,3	600 x 1600 x 1000	10803-41
60	120	9	3,5	600 x 1600 x 1000	10803-60	3,3	600 x 1600 x 1000	10803-61

Customised solutions :

- Power : 75 up to 245 kW
- Temperature up to 350°C
- Centrifugal pump with magnetic seal
- Pump with high flow rate
- See all options on page 144

Vulcatherm® HOT / AIR COOLED 10833

FLUID SUPERPOSITION

Atmospheric closed loop

High performance -
Wide temperature range

Heat, cool and control a closed oil loop (synthetic or mineral oil up to 180°C). Hot oil from process is cooled through an air exchanger and a fan. Fully available and designed for process without water network.

Applications :

- Elastomer moulding
- Polymer moulding
- Injection, extrusion
- Jacket heat
- Tracing ...

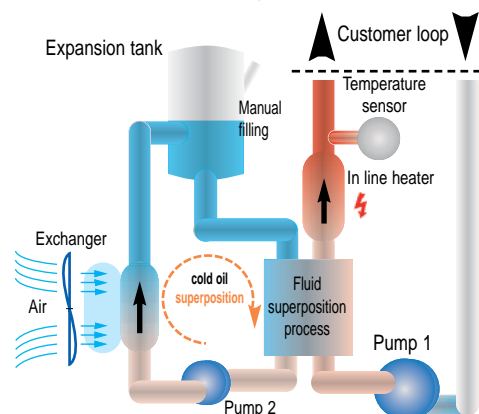
Features :

- Mineral oil ISO32
- Electrical supply 400VAC Tri + N + T

Characteristics :

- 1 electrical heater with temperature sensor
- 1 to 6 hot oil exchanger / cold air
- 1 to 3 helicoid fans
- 1 pump
- 1 atmospheric expansion tank
- 1 electrical cabinet with integrated central management (CMS/SGC V2)
- Sensors for control and safety
- Painted frame equipped with castors

Layout



VULCATHERM®					HOT / AIR COOLING			
Heating temperature up to					180°C			
Maximum pressure					10 bar			
Heating Power +5/-10% (kW)	Nom. Flow (m³/h)	Δp Maxi (bar)	Volume expansion V (litre)	Dimensions L x H x P (mm)	Cooling Power (kW)	Δt Maxi (°C)	Weight (kg)	REF.
4	0,6	3,1	9,4	400 x 980 x 860	10	130	130	10833-04
6	0,9	2,6	9,4	400 x 980 x 860	10	130	130	10833-06
10	1,5	3,8	9,4	400 x 980 x 860	10	130	135	10833-10
14	2,1	3,2	10	800 x 1200 x 800	20	130	200	10833-14
20	3	2,6	10	800 x 1200 x 800	20	130	200	10833-20
30	4,5	3	14	950 x 1660 x 900	50	130	210	10833-30
40	6	2,5	14	950 x 1660 x 900	50	130	210	10833-40
60	9	3,7	24	1000 x 2050 x 1600	100	130	240	10833-60

Customised solutions :

- Power : 75 up to 245 kW
- Temperature up to 300°C
- Centrifugal pump with magnetic seal
- Pump with high flow rate
- See all options on page 144

ATMOSPHERIC : OIL 180°C AND 250°C MAXI

Vulcatherm® **HOT / COLD** 10823 / 10843

Atmospheric
closed loop

High performance - Accurate
Wide temperature range - Reduced maintenance



Applications :

- Wide temperature range process
- Crystallizer
- Test benches
- Chemical reactor

Features :

- Loop with synthetic oil
- Manual filling
- Condenser cooled by water network
- Electrical supply 400VAC 3 Phases + E (+ Neutral with air condenser)

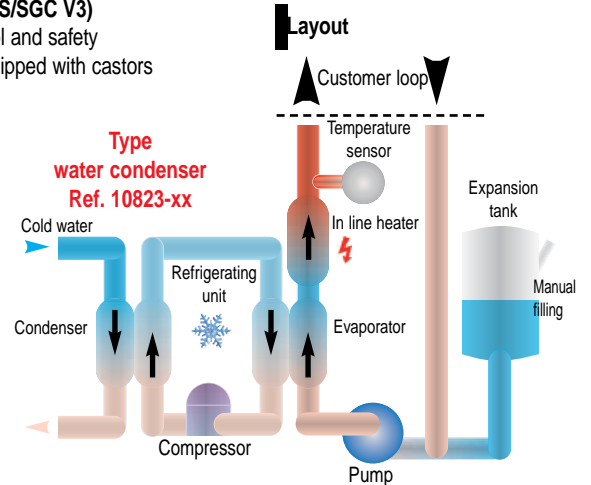
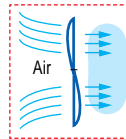
Characteristics :

- 1 electrical heater with sensor
- 1 hot oil exchanger / evaporator
- 1 condenser with water
- 1 pump
- 1 atmospheric expansion tank
- 1 electrical cabinet with integrated central management (**CMS/SGC V3**)
- Sensors for control and safety
- Painted frame equipped with castors

Customised solutions :

- **Wide temperature range available :**
from -55°C up to 180°C, from -30°C up to 260°C or from 0°C up to 300°C
- **Power : 125 kW hot / 80 kW cold**
- Pressurised expansion tank
- Air condenser (maxi 32°C) and centrifugal or helicoid fan
- See all options on page 144

Type
air condenser
Ref. 10843-xx



VULCATHERM®			HOT / COLD									
Maximum pressure			10 bar									
Heating temperature up to			180°C			250°C						
Thermal process			Fluid superposition			Fluid superposition						
Heating Power +5/-10% (kW)	Nom. Flow (m³/h)	Dimensions L x H x P (mm)	Cooling power (kW)			REF. Water condenser	REF. Air condenseur	Cooling power (kW)			REF. Water condenser	REF. Air condenseur
			-20°C	-10°C	0°C			-20°C	-10°C	0°C		
4	0,6	800 x 1200 x 800		2,4	4	10823-03	10843-03				-	-
6	0,9	800 x 1200 x 800		3,6	6	10823-05	10843-05				-	-
7	1	800 x 1200 x 800				-	-	3,6	6		10823-07	10843-07
10	1,5	800 x 1200 x 800		6	10	10823-09	10843-09	6	10		10823-11	10843-11
20	3	800 x 1200 x 800		12,8	20	10823-19	10843-19	12,8	20		10823-21	10843-21
4	0,6	800 x 1200 x 800	1,2	2,4	4	10823-04	10843-04				-	-
6	0,9	800 x 1200 x 800	1,8	3,6	6	10823-06	10843-06				-	-
7	1	800 x 1200 x 800				-	-	1,8	3,6	6	10823-08	10843-08
10	1,5	800 x 1200 x 800	3,1	6	10	10823-10	10843-10	3,1	6	10	10823-12	10843-12
20	3	800 x 1200 x 800	6,2	12	20	10823-20	10843-20	6,2	12	20	10823-22	10843-22

CMS - CENTRAL MANAGEMENT SYSTEM

CMS's are smart controllers, able to manage elaborated control of process and feed back about measurements (temperature, pressure, flow rate...). Our 3 references are specially designed for specific requirements of thermoregulation.



SGC.v2



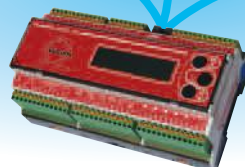
SGC.eco



SGC.v3 touch screen



In/out
module



COMMUNICATION

- I-Pack analog in current 4...20 mA : set point (passive) + 1 measurement feedback (active).
- Pack digital ModBus RS 485 (RTU) Pack digital Profibus DP on gateway (internal electric box on SubD).
- Pack digital V485 (protocol ASCII Vulcanic)
- Pack numeric loop 0-20mA (Engel, Arburg...)
- Pack Ethernet (included Modbus IP except if other digital communication active)

EXTERNAL MEASUREMENT

- External temperature sensor PT100, TCJ, TCK, Analogic 4...20mA (passive).

SOFTWARE

- Cascade control by dual-loop (Master/Slave).
- Profil generator (16 steps).
- Programmable timer.
- Remote monitoring by GPRS network (GSM).
- Log (shortened max 2400 lines) on Ethernet (needs Pack Ethernet).

CMS UP-GRADE

- SGC.eco, SGC.v2 et SGC.v3 touch screen.

HYDRAULIC

- Increased cooling with fluid superposition.
- Automatic by-pass with 2-ways proportional valve.
- Flow rate control with 3-ways valve + flow meter.
- Piping in stainless steel...

MANUFACTURING

- Stainless steel housing.
- Removable retention tank.
- Replacement of castors by pads.
- Lifting rings.

ATEX TEMPERATURE CONTROL UNITS



Power available from 4 to 60 kW

- Water from 10°C to 140°C hot and hot/cold.
- Oil 10°C to 180°C hot/Cold.
- Oil 10°C to 300°C hot.
- Ambient atmospheric gas group IIA, or IIB or IIC.
- Operating temperature classification from T1 up to T6.
- Atex area 1 or area 2.
- Electrical cabinet and pumps Ex d protected or Ex e (possible other protection modes available).
- Electrical flow heater and heating elements available with protection modes Ex d or Ex e.





**ELECTRICAL HEATING AND COOLING
SOLUTIONS
FOR THE INDUSTRY**

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