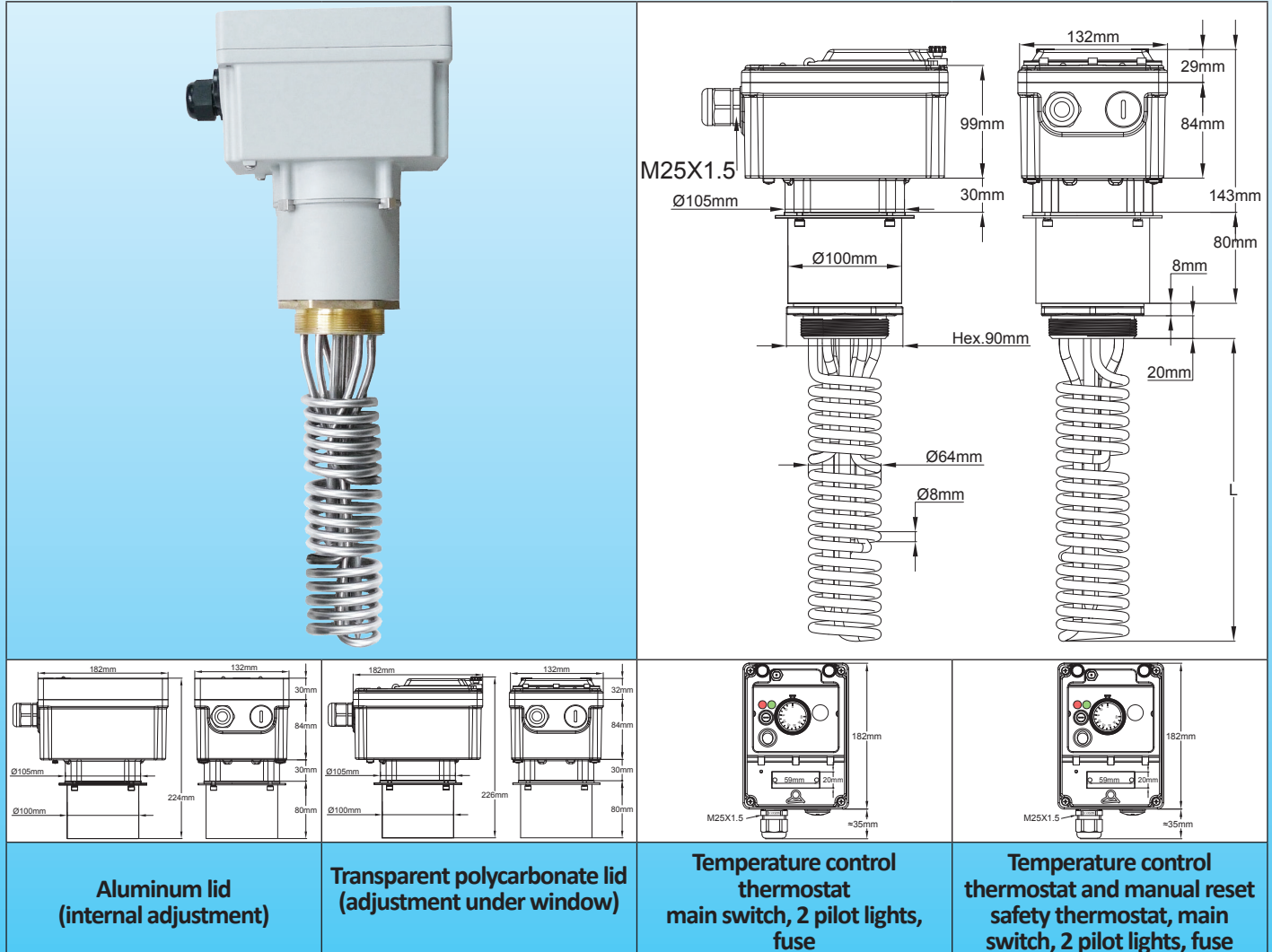




# Immersion heaters with aluminum connection box

**Extra short** immersion heaters with 182mm × 130mm × 224mm aluminum-plastic of full aluminum enclosure, with 80mm offset. 2½" and M77x2 fittings. With mechanical thermostat. With or without manual reset thermostat. Power up to 9kw with built-in power relay. Coiled heating elements dia. 8mm.

## Types 9SWN



**Main applications:** Industrial liquid heating, hot water circuits, containers and buffer tanks, **in applications where the heating elements immersed length must be as short as possible.**

These heaters with aluminum enclosure are designed for industrial applications of medium power in three-phase, which require the use of contactor. They can receive one power relay, 3 poles 32A resistive. They exist only with thermostat temperature control. The enclosure lid may be transparent polycarbonate or aluminum. They are equipped with a device that allows adjusting the enclosure position after tightening of the fitting.

The enclosure has a 80mm offset to go through thick thermal insulation.

- 5 standard power levels: 1.5kW; 3kW; 4.5kW; 6kW; 9kW. On request, it is possible to reach 21kW by increasing the L length)

- 2 types of standard fittings: 2½"; M77x2.

- 2 types of surface load density: 5W/cm<sup>2</sup> and 10W/cm<sup>2</sup>. See technical introduction to optimize the surface load.

**Heater tube material:** 3 heating elements, dia.10mm or 12mm, AISI 304 or Incolloy 800 (AISI 316; AISI 321; Incolloy 825 on request).

**Fitting material:** brass, swiveling on housing, brazed on tubes. Supplied without gasket and without nut. See accessories below.

**Thread:** 2½", or M77x2.

**Temperature control:** Mechanical thermostat, temperature range 30-90°C (85-195°F). Other ranges available.

**Enclosure:** Extremely robust, die-cast aluminum, 3mm wall thickness. Silicone foam gasket. Stainless steel cover screws with locking nuts. Gray epoxy paint RAL7035. Protected against galvanic corrosion. Designed for outdoor

Because of permanent improvement of our products, drawings, descriptions, features used on these data sheets are for guidance only and can be modified without prior advice



# Immersion heaters with aluminum connection box

installation, IP65 and IK10. It also includes:

- A fuse to protect internal circuits.
- An illuminated on- off switch.
- A pilot light for power supply and a pilot light for power output.

There are 2 models of covers:

- **A PA66 cover** with a polycarbonate transparent window allowing access to the settings. This window can be secured with seals. This case also includes a separate lid, with independent seals, providing access to electrical connections. In models with failsafe manual reset limiter, reset can be accessed after opening the window.

- **An aluminum cover.** This model provides access to settings only after removing the cover. It is convenient for industrial applications that do not request frequent changes in settings.

**Cable glands:** One M25, PA66, and one more hole for M25, closed by a plastic cap.

**Thermowell:** two thermowells in AISI304, dia.10mm × 8.4mm.

**Heating elements connections:** terminals with stainless steel screw, nut and stainless steel washer.

Three-phase models are equipped with straps for switching to single-phase supply. This change must be made by the professional technical staff able to calculate and observe the maximum permissible rating on power relay.

**Power supply connection:** on built-in connection block, 6 × 10mm<sup>2</sup> for power connection and 2 × 2.5mm<sup>2</sup> for remote safety device or remote control.

**Not heating immersed zone:** 50mm.

**Surface load:** Standard 5W/cm<sup>2</sup> or 10W/cm<sup>2</sup>, other values on request.

**Voltage:** Single pole 230V or three phases 380-400V (Star connection with neutral).

**Standard equipment:**

- Thermostat with knob access under the lid.
- Main power switch, with access under the lid.
- Green and red pilot lights, with access under the lid.
- On models with manual reset: preset at 100°C (212°F). Reset access under the lid.

**Standard options:**

Plastic cover with transparent polycarbonate window.

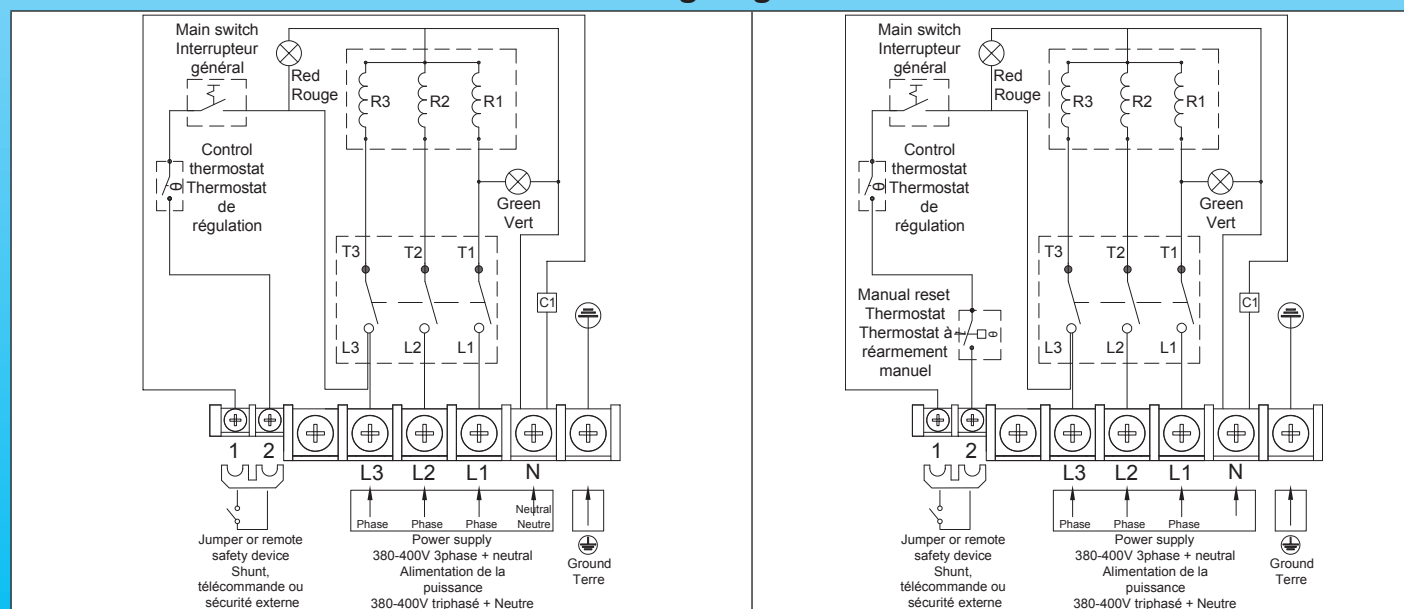
Aluminum cover.

**Variants on request:**

- Thermostat without limiter, ranges 4-40°C (40-105°F), 0-60°C (30-140°F) or 30-110°C (85-230°F) Higher range on request.
- 4-40°C (40-105°F) adjustable thermostat, manual reset at 60°C (140°F).
- 0-60°C (32-140°F), adjustable thermostat, manual reset at 80°C (176°F).
- 30-110°C (85-230°F) adjustable thermostat, manual reset at 130°C (266°F).
- Thermal cut out (TCO) inside a thermowell.

It is also possible to produce models with digital electronic control or/and without the 70mm extension. Ask our commercial department.

## Wiring diagram



### Temperature control thermostat

(Types with one heater: phases L1 and L2 are removed, and power supply is single phase 230V.

Types with two heaters: phase L1 is removed, terminals L2 and L3 are connected together, and power supply is single phase 230V.)

### Temperature control thermostat and manual reset thermostat

(Types with one heater: phases L1 and L2 are removed, and power supply is single phase 230V.

Types with two heaters: phase L1 is removed, terminals L2 and L3 are connected together, and power supply is single phase 230V.)



# Immersion heaters with aluminum connection box

## Main references with transparent polycarbonate window\*

With 30-90°C (85-195°F) thermostat, without manual reset. M77x2 fitting\*\*

	5W/cm <sup>2</sup>			10W/cm <sup>2</sup>		
	1 heating element	2 heating elements	3 heating elements	1 heating element	2 heating elements	3 heating elements
<b>L (mm)</b>	110	188	265	110	188	265
<b>Power (Watt)</b>	1500	3000	4500	3000	6000	9000
<b>References, AISI 304</b>	9SWND8QR01525110	9SWND8QR030B5190	9SWND8QR045U5270	9SWND8QR03025110	9SWND8QR060B5190	9SWND8QR090U5270
<b>References, Incolloy 800</b>	9SWND8QR01527110	9SWND8QR030B7190	9SWND8QR045U7270	9SWND8QR03027110	9SWND8QR060B7190	9SWND8QR090U7270

With 30-90°C (85-195°F) adjustable thermostat. Manual reset at 100°C (212°F), M77 × 2 fitting\*\*.


	5W/cm <sup>2</sup>			10W/cm <sup>2</sup>		
	1 heating element	2 heating elements	3 heating elements	1 heating element	2 heating elements	3 heating elements
<b>L (mm)</b>	110	188	265	110	188	265
<b>Power (Watt)</b>	1500	3000	4500	3000	6000	9000
<b>References, AISI 304</b>	9SWND8QR0152511N	9SWND8QR030B519N	9SWND8QR045U527N	9SWND8QR0302511N	9SWND8QR060B519N	9SWND8QR090U527N
<b>References, Incolloy 800</b>	9SWND8QR0152711N	9SWND8QR030B719N	9SWND8QR045U727N	9SWND8QR0302711N	9SWND8QR060B719N	9SWND8QR090U727N

\* For plain aluminum cover, replace 9SWND by 9SWNG in the reference.


\*\* 2½" brass fitting instead of M77x2, replace D8 by D7 in the reference.

## References of accessories in option (Not included in the product, must be ordered separately):

### Nuts

	Thread	2½"	M77x2
	Brass	9BRRA3000ELH314A	9BRRA3000ELH306A
	AISI304	9BRRA3000ELH142A	9BRRA3000ELH150A
	AISI316	9BRRA3000ELH214A	9BRRA3000ELH206A

### Gaskets

	Thread	2½" - M77x2
	NBR	9BRJ03000ELH201A
	Fiber	9BRJ03000ELH030A
	PTFE	9BRJ03000ELH036A

Other accessories and drawings: see last section of this catalogue.