

# TIGHTNESS ASSURANCE RELAY FOR FUEL BLOKCKING VALVES FOR BURNERS

PRODUCT: CHM-T- C□-P□

Technical Sheet 1/5

☎ Customer Service 55 11 3019-1616

For further details, see technical bulletin

## • APPLICATION

The tightness assurance system is applied to make it possible to identify the occurrence of fuel leaking via automatic blocking valves with atmospheric discharge.

**This product meets the requirements of ABNT NBR 12313 regulation. –reviewed on Sept./2000.**

- ⇒ Blocking valve: it is the automatic valve, generally closed and installed on the fuel feeding line, projected to automatically interrupt fuel flow in response to the extinction of an external signal.
- ⇒ Automatic atmospheric discharge valve: usually open, installed between the blocking valves.
- ⇒ The safety blocking systems featuring automatic blocking valves with nominal diameter over 80mm (3") or in which the power released by the burner is over 1200 KW ( $1 \times 10^6$  Kcal./h) should be equipped with tightness tester. The logic interlocking, which is needed to assure tightness should be incorporated to the starting logic sequence of the burner.
- ⇒ The CHM-T relay activates the safety blocking, in case tightness loss is detected in valves during the test.
- ⇒ The CHM-T is micro processed, with failure self-checking system during operation – safe failure.

## • TECHNICAL DATA

- ⇒ Micro-processing with watch dog – safe failure with front signalization (Vm)
- ⇒ Feeding 115 or 220Vac; +10/-15%; 50/60 Hz
- ⇒ Energy consumption: 5VA
- ⇒ Internal fuse: 100 mA delayed.
- ⇒ **External fuse: preview fuse for the protection of outlet circuits, according to the load foreseen in the project, respecting the limits of this specification.**
- ⇒ Protection against tension outbreaks
- ⇒ Electric connections: via lug terminals placed in the front of the box
- ⇒ Adjustable functions a feasible through programming
- ⇒ Reset after blocking: button on the front or via feeding
- ⇒ Maximum outlet current (in 250 Vac<sub>max</sub>): 2 A resistive
- ⇒ Useful mechanic life estimated for outlet contacts: > 100.000 operations
- ⇒ Front signalization: equipment ON (Vm)
- ⇒ Working temperature: 0 to 60°C
- ⇒ Ambient storage temperature: -5° to 65°C
- ⇒ Maximum ambient air moisture for operation::: 90% (40 ± 2°C) – NBR 5291
- ⇒ Outer Covering: ABS beige plastic box
- ⇒ Ambient protection degree: IP 40
- ⇒ Assembling: On sheltered flat surface
- ⇒ Fixation: DIN 35 mm rail or bolts on the basis of the outer covering
- ⇒ Weight: 730 grams
- ⇒ Warranty: 12 months (see terms of warranty)



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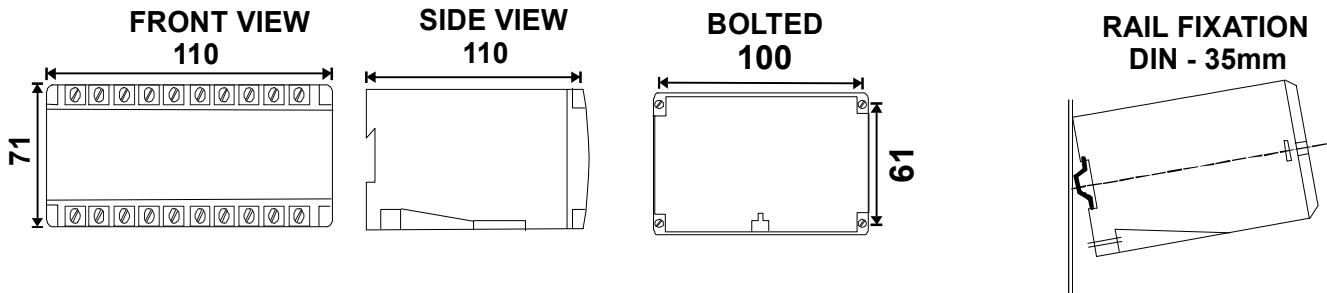
**PRODUCT: CHM-T- C□-P□**

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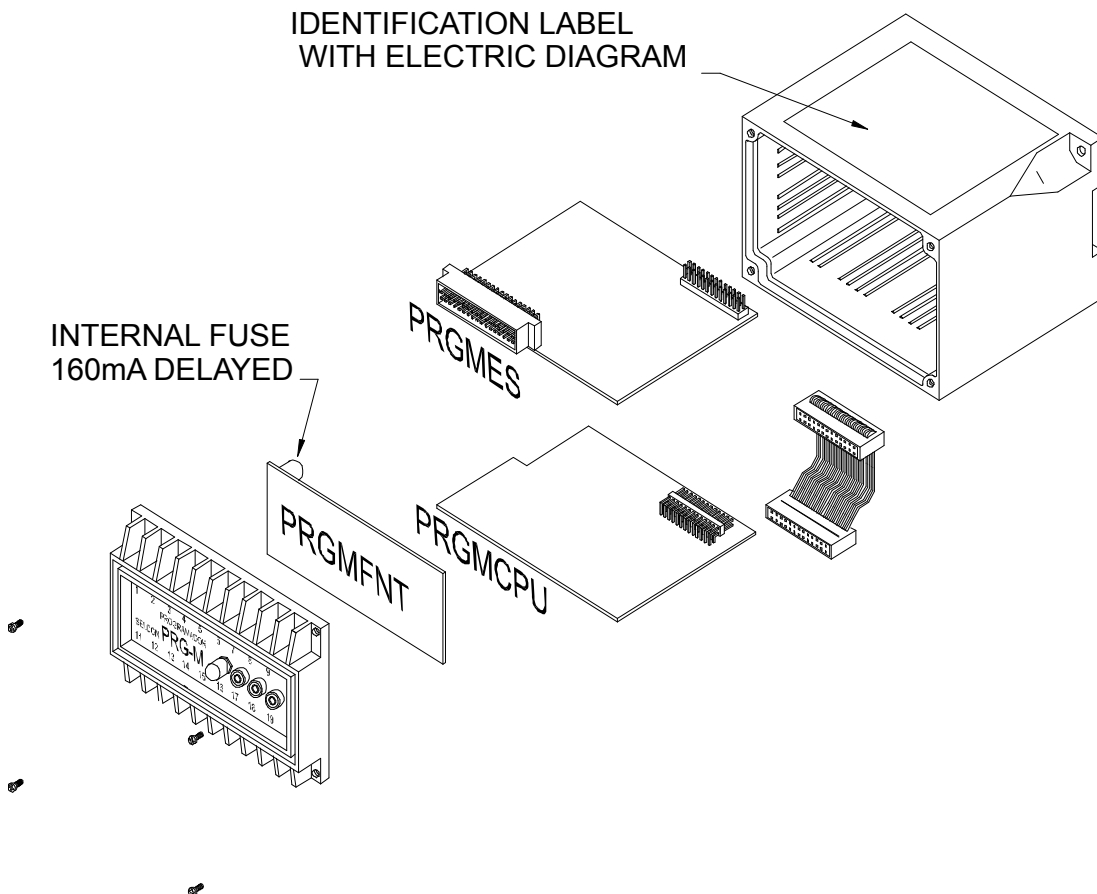
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• **Dimensional Draft (mm)**



**FIGURE 1**

• **ASSEMBLY DRAFT**



**FIGURE 2**



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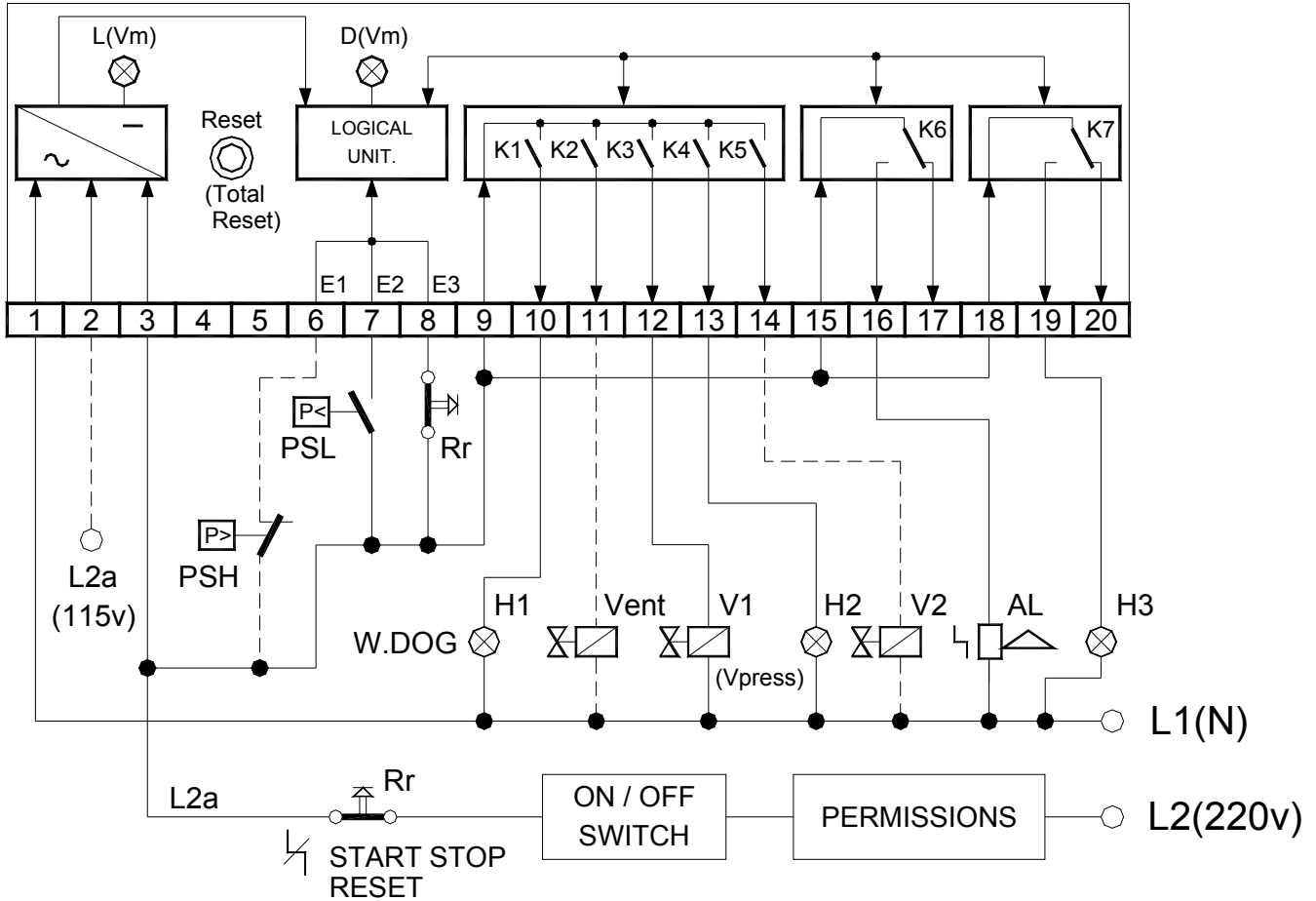
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## • ELECTRICAL CONNECTIONS DIAGRAM

### CHM-T



PSL = LOW PRESSOSTATE  
 PSH = HIGT PRESSOSTATE  
 Rr = START STOP SEQUENY/RESET  
 H1(W.DOG) = CHM-T DETECT SINIALIZATION  
 Vent = N.O. VALVE FOR ATMOSPHERE

V1 = FIRST BLOKCKING VALVE OR CRADLE PRESSURIZING VALVE  
 H2 = TEST OF "TO STOP" IN EXECUTION  
 V2 = SECOND BLOKCKING VALVE  
 AL = POURING ALARM  
 H3 = TIGHT CRADLE SINIALIZATION

FIGURE 3

### NOTE:

Feeding **115V**, 50 or 60 Hz:  
 Connect L1 (N) to terminal **1** of the CHM-T  
 Connect L2a to terminal **2** of the CHM-T



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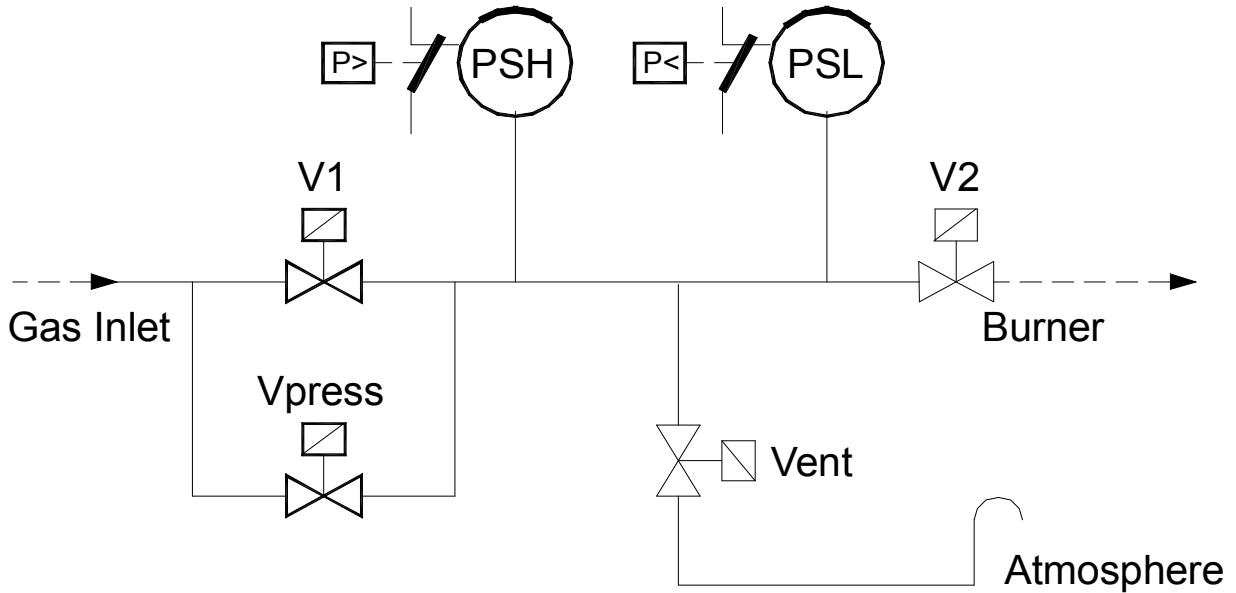
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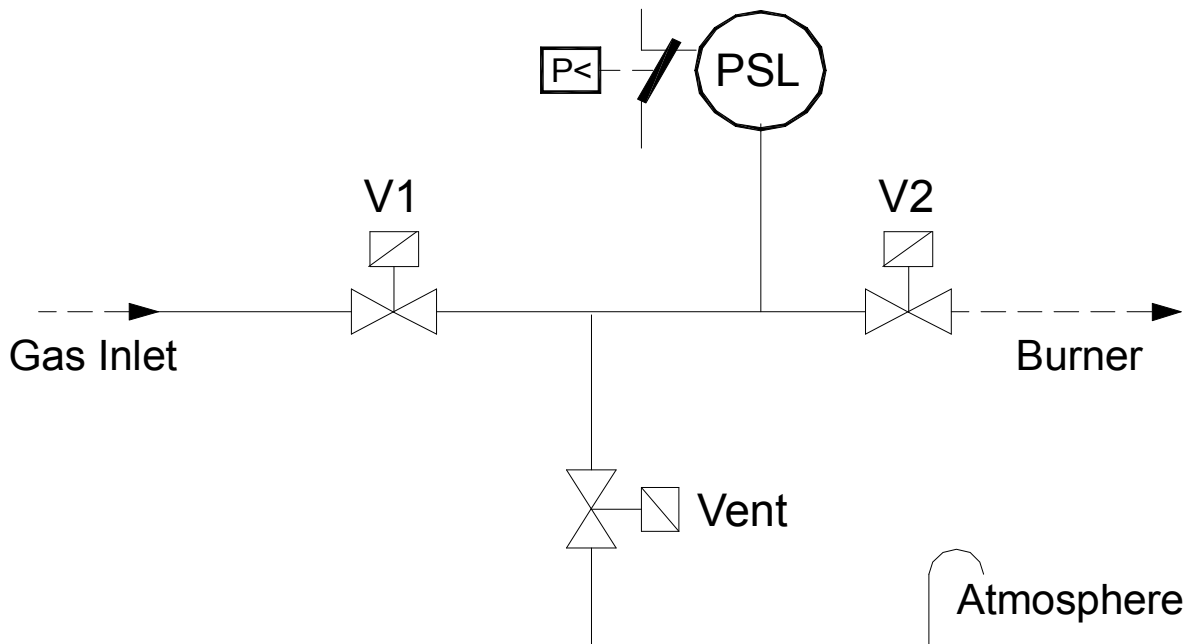
• **FLOW DIAGRAM OF FUEL FEEDING FOR THE BURNER**

**A)** With specific valve to pressurize the cradle in the space between V1 and V2 blocking valves.



**FIGURE 4**

**B)** Use V1 blocking valve to pressurize the space between V1 and V2 blocking valves.



**FIGURE 5**



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• **CODE FOR ORDERS - CHM-T-P**

CHM-T	-	C - CRADLE TYPE CONFIGURATION
		<p><b>(d1)</b></p> <p>d1 = <b>1</b> =&gt; With specific pressurizing valve between V1 e V2.</p> <p style="text-align: center;"><b>OR</b></p> <p>d1 = <b>2</b> =&gt; Without specific pressurizing valve between V1 e V2.</p> <p style="text-align: center;"><b>OR</b></p> <p>d1 = <b>3 a n</b> =&gt; other programs (upon request)</p>

**Note:** Flame sensors, relays, programmers and other accessories must be specified separately, according to their corresponding code tables.

• **BE AWARE:**

⇒ Use the programmers and/or detector relays exclusively with flame sensors of Selcon manufacturing.

• **OTHER PRODUCTS AND ACCESSORIES:**

- ⇒ Flame Relays – CHM-E, CHM-P, CHM-M e CHM-F
- ⇒ Tightness Test Relay of blocking valves – CHM -T
- ⇒ Ignition Programmers and flame monitoring – PRG-E, PRG-Ie, PRG-Ie -IIIMe (with base), PRG-I, PRG-M e PRG-M-IIIMe (with base)
- ⇒ Optical Flame Sensors– SEL- SV
- ⇒ Flame sensors by ionization and ignitor electrodes – SEL-HT e SEL-HT-E (sensors and electrodes assembled under draft or sample from the special-client).
- ⇒ Flame signal transmitter– ACS –TX (until 500 meters between the sensor and relay or programmer)
- ⇒ Flame Signal Converter for 4 -20 mA – ACS - CV
- ⇒ Ignition transformers – ACS -TE (for feeding in VAC or VCC)
- ⇒ Portable ignitor – ACS-IP (works with common alkaline battery AA type)
- ⇒ Several Cables– ACS - CB (ignition / sensing / communication / control)
- ⇒ Connector and protector to touch for ignition cable – ACS - CP
- ⇒ Temporized ignition panel ACS – IT
- ⇒ Ignition and flame panel – ACS - PI
- ⇒ Articulated socket joint – ACS - CN
- ⇒ Ignition and monitoring panel – ACS-PN (under consultation)
- ⇒ Reform services of pilot burners (under consultation)
- ⇒ **PRODUCTION DATA SUPERVISION LINE**



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