



**PRAGMACLEANER**

**SIDE STREAM CLEANING OF CLOSED CIRCUITS**

## PRAGMACLEANER TOOL FOR 'ON-LINE' CLEANING OF CLOSED CIRCUITS

In industry, the efficiency and preservation of closed circuits are of vital importance. However, the control and conditioning of the water within them are frequently neglected, **leading to serious problems** such as:

- Accumulation
- Build-up of deposits and incrustations
- Reduced performance
- Increased maintenance costs
- Unplanned plant stoppages
- Shortened plant lifespan

Pragma Chimica offers its **range of integrated systems** for the cleaning and on-line reclamation of closed circuits for the transport of heat or cold, using **innovative technologies** designed for the purpose, tested and verified by our technicians for over 10 years.



## THE ADVANTAGES OF OUR TECHNOLOGY

	Reclamation in progress (online) with Pragmacleaner	Traditional reclamation
Plant shutdown is required	NO	YES
It is an economic treatment	YES	NO(*)
Wastewater disposal is required	NO	YES
Easy application and installation tool	YES	NO
Reduction of chemical consumption	YES	NO
Risk for operators	NO	YES

(\*) It should be remembered that in a remediation treatment of a closed circuit, regardless of its size, an appropriate CER code must always be assigned for the disposal of eluates and a chemical characterisation analysis of the waste must also be conducted.

- Enables the **reduction of maintenance interventions**
- Allows **recovery of thermal efficiency** by removing sludge in the circuit
- **Improves the efficiency** of inhibition and passivation interventions

- Reclamation is **customised** and engineered, depending on the type of circuit and the quality of the heat transfer fluid
- **Applicable** in even particularly compromised circuits, with or without the presence of glycol
- **Adaptable** to civil or industrial circuits

## OPERATING CONDITIONS FOR THE USE OF PRAGMACLEANER

The use of the reclamation system Pragmacleaner cannot disregard the **knowledge of the volume of the circuit to be treated**. Therefore it is essential to know the real volume of the circuit before carrying out any reclamation operation. In this regard, Pragma Chimica has developed an innovative technology for this purpose, **using specific tracers** to determine both the volume and any leakage of the circuit itself.

Once the hydraulic connection of the Pragmacleaner system has been made, one of our specialised technicians will set up the system so that it can function correctly according to the design criteria adopted for the circuit's cleaning and reclamation treatment.

Pragmacleaner's "advanced" version can be equipped with remote control and alarm systems. In addition, it is possible to carry out constant detection of the chemical-physical data of the closed circuit to be treated (turbidity, differential pressure, pH, etc.), by installing appropriate probes and sensors.

### TECHNICAL FEATURES

Maximum operating temperature	90 °C
Safety pressure switch	Yes - optional
Flow meter for flow control	Yes (analog flow meter as an alternative, optional)
Clean filter pressure drop	0,1 bar
Maximum operating pressure	10 bar
Maximum filterable volume	From 3 to 40 m3/day
Power supply	230 Vac

### OVERALL DIMENSIONS

Model	Length	Width	Height	Weight
	mm	mm	mm	kg
Pragmacleaner	700	550	1.300	60
Pragmacleaner M	770	550	1.300	50
Pragmacleaner advanced	855	550	1.300	90

Pragma Chimica can also provide solutions with one or more large dosing stations, already on skids, an ideal solution for those who want a **"ready-to-use"** treatment plant.





## POST-RECLAMATION CONTROLS

At the end of the reclaiming operations, to further enhance control over the quality of treatments performed, Pragma Chimica proposes the installation of a specimen rack, prepared according to ASTM D 2688. the system consists in **checking the corrosion rate** using the coupon test method for loss of weight of the specimen.

The specimen rack is designed and constructed to reproduce the actual conditions in the circuit, avoiding turbulence which would alter the results. It is easy to install and equipped with a flow regulator and indicator.

Pragma Chimica s.r.l. also offers continuous and diligent **technical assistance support**, so as to guarantee over time and in different situations the optimal performance of the products used and the systems served.

Technical assistance includes **periodically scheduled checks and chemical analyses (on request)** and relative reports on the situations encountered from time to time with appropriate comments, variations and/or suggestions for a correct running of the plants, as well as allowing a better technical-economic management.



*Corrosion rate testing with appropriate test specimens (coupon test). Also available in stainless steel for high temperature circuits.*



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