

# COMPACT WATER TREATMENT PLANTS

Capacity of 500 m<sup>3</sup>/h

**SIRMET S.A.** with its extensive experience in the field of water treatment provides integrated, effective and reliable compact water treatment units, of **500 m<sup>3</sup> / h**.

The plants are delivered ready for installation, connection and operation with all the necessary equipment, pre-installed solution implemented in 13 compartments (5x40'-sized settling tanks, 2x20'-sized intermediate storage tanks, 5 skid mounted filters (20'-sized), 1x40' utility container) ready to be connected with

1. the incoming water (surface or borehole)
2. filtrated outlet
3. electrical power
4. Drain.

## Benefits

- ✓ **Low operating cost**
- ✓ **Fast, easy and instant operation with no odor**
- ✓ **No monitoring requirements and minimal maintenance**
- ✓ **Treated water suitable for drinking**
- ✓ **Minimum civil works – small footprint**

The system is designed for capacity of **500 m<sup>3</sup>/h** .The treatment stages include:

- Initial pumping station (low lift)
- Pre-chlorination
- Fast mixing with coagulant (aluminum sulphate)
- Slow mixing with coagulant
- Sedimentation in Lamella clarifier
- Intermediate clean water storage tank
- High pressure pumping station for the sand filters' feed
- Filtering in multimedia sand filters equipped with air/water backwash system
- Final disinfection / post-chlorination
- Support equipment (aluminum sulphate dosing station, Chlorine gas dosing station, cabinets for blowers, control panel-switch board)

#### A. Pumping station

- Initial Pumping station for uptake of water, after screening, from river or underground water well (1 operation – 1 standby).
- Static mixer made of SS316



#### B. Mixing station

#### C. Settling unit

- Each unit contains a Skid mounted metallic construction (including above B and C sections) with total dimensions of a 40' ISO container

#### The Unit compartments are:

- Slow mixing tank size (2,5x2,4x4,4) (H x W x L) with SS316 mixers.
- Lamella settling unit metallic construction

with interior epoxy painting food grade size (2,5x2,2x7,6) ( H x W x L)

#### D. Intermediate clean water tank / Pumping station

A holding tank (15m<sup>3</sup> HDPE , 1 pc) on metallic skid connected to the intermediate pumping station which feeds the sand filters.

#### E. Sand filters

Sand filters metallic construction St 37 with inside epoxy painting food grade

Type horizontal cylindrical Diameter 2200mm  
Total length with frame/skid 6000mm. Floor area 11m<sup>2</sup>.

The sand filters are filled with special grade quartz sand.

Each sand filter on a skid (2 pcs) 20" container size

It is possible the construction of the sand filters' vessels to be made of SS 304 or SS 316



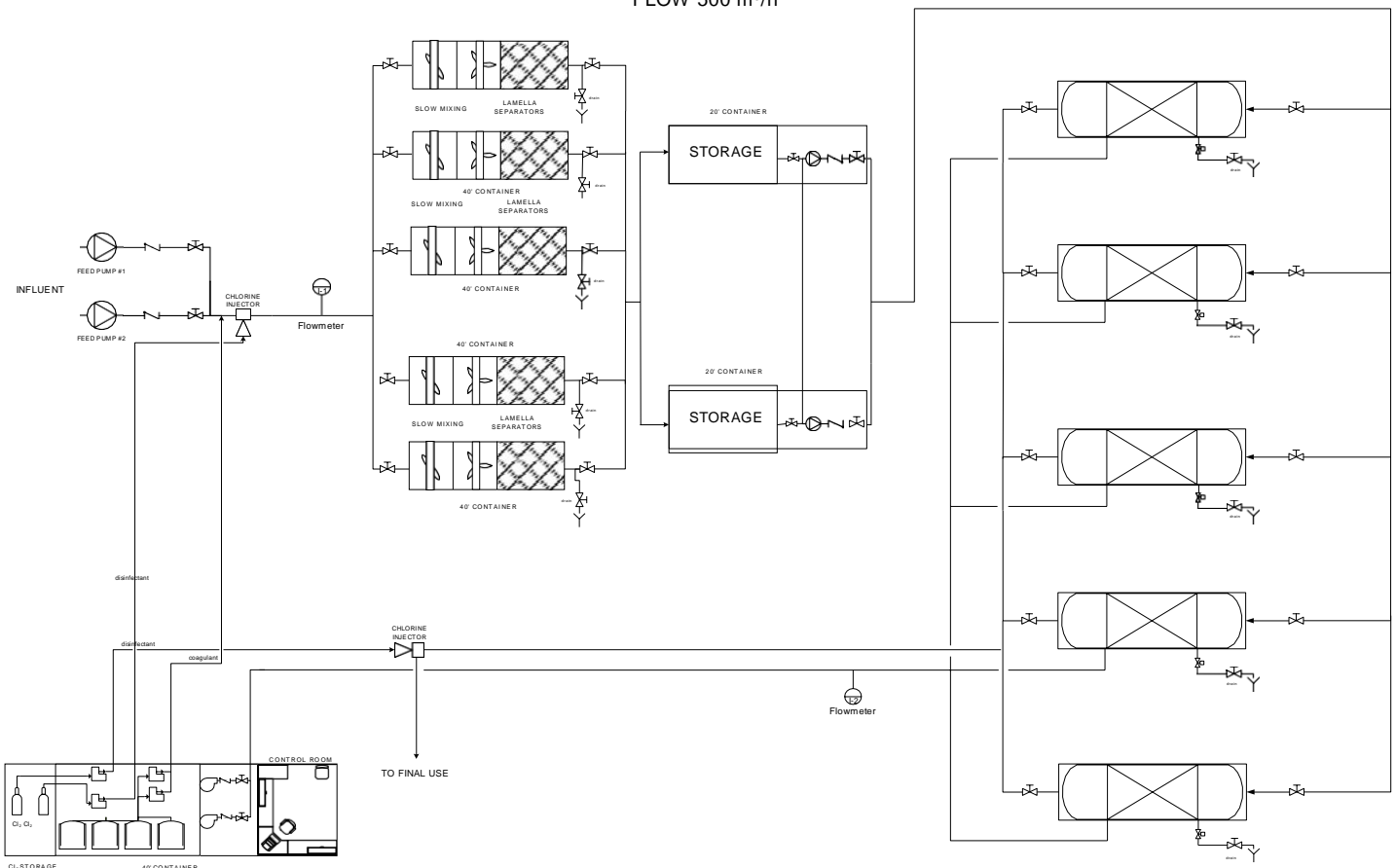
**Support Equipment (40" container) ( Pcs 1)**

In a 40ft container there going to be all supported units in 5 different compartments

- a) compartment I  
Space for the chlorine gas drums
- b) Aluminum sulphate (liquid) dosing system in which is included i) HDPE tank for alumina solution storage equipped with all dosing equipment and connections for alumina dosing.
- c) Chlorine dosing system in order to feed chlorine in the two stages pre-chlorination and post chlorination stage.
- d) Special sound proofed compartment for washing air blowers
- e) Electrical general switch board.
- f) Special compartment air conditioned for electrical control room



COMPACT POTABLE WATER TREATMENT (SPW-500)  
FLOW 500 m³/h



With the exception of TDS (which require a different Treatment process such as reverse osmosis) the treated drinking water produced by this treatment system will be in compliance with WHO and EC requirements, subject to the raw water being of a suitable nature and quality. Moreover, the filtrate will be disinfected by gaseous chlorine so that it will contain approximately 0.3 to 0.5 mg/l of residual chlorine (possible to be adjusted as required by the operator). The filtrate will have the following characteristics

**Turbidity:** 3 - 5 NTU

**TDS:** 1000 mg/l (depending on the quality of the influent)

**Flowrate:** 500 m<sup>3</sup>/h for each compact unit

### **CERTIFICATIONS**

SIRMET S.A. is currently in its 28<sup>th</sup> year of uninterrupted and developing activity and has been certified with the international standard EN ISO 9001:2008.