



Unidad Compacta para tratamiento de agua potable



HPC Venezuela C.A.

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Overview: Unidad Compacta

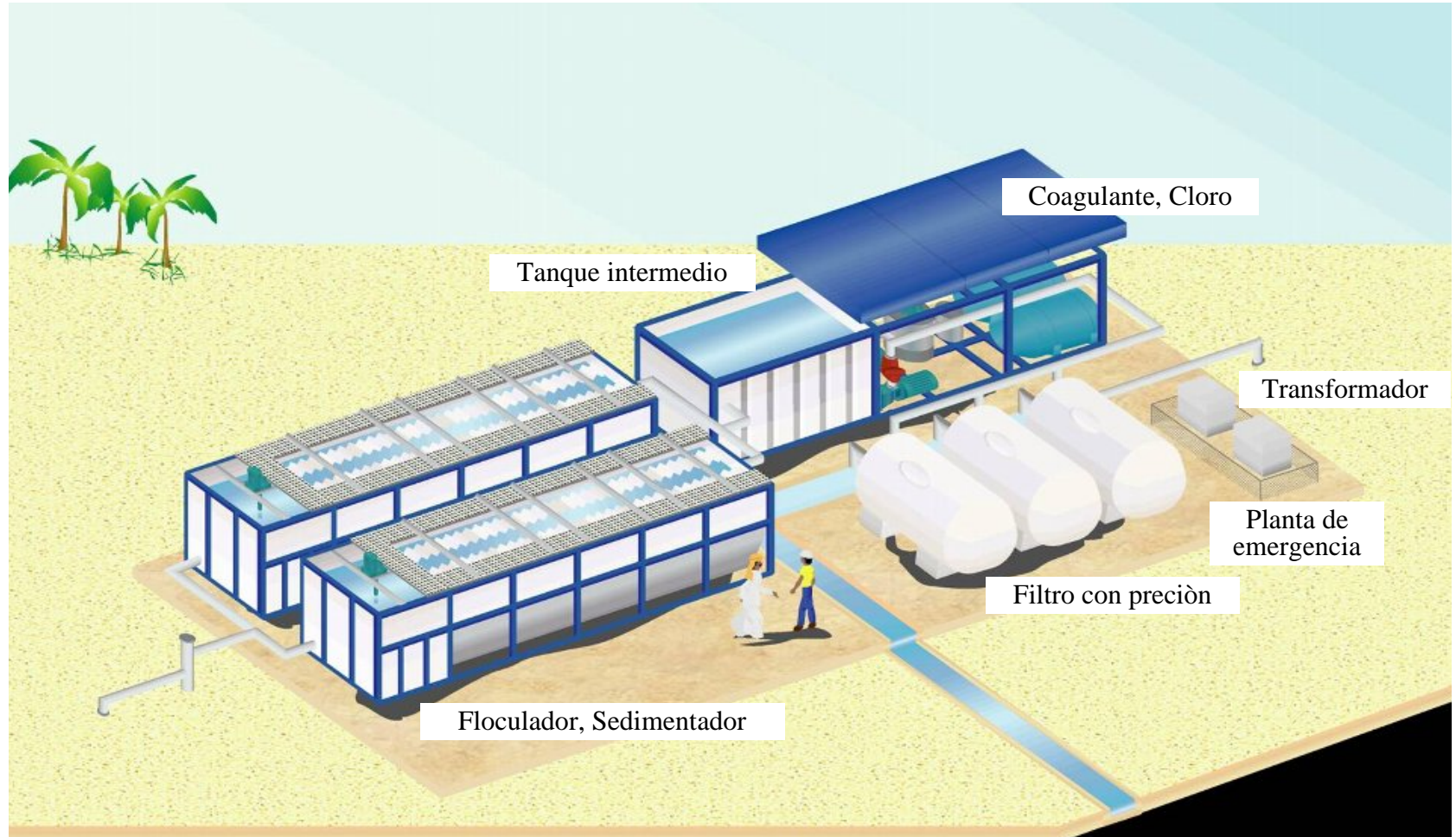


Photo : Unidad Compacta



Imagen Exterior



Filtro con precisiòn



Floculador, Sedimentador



Momento de Instalaciòn

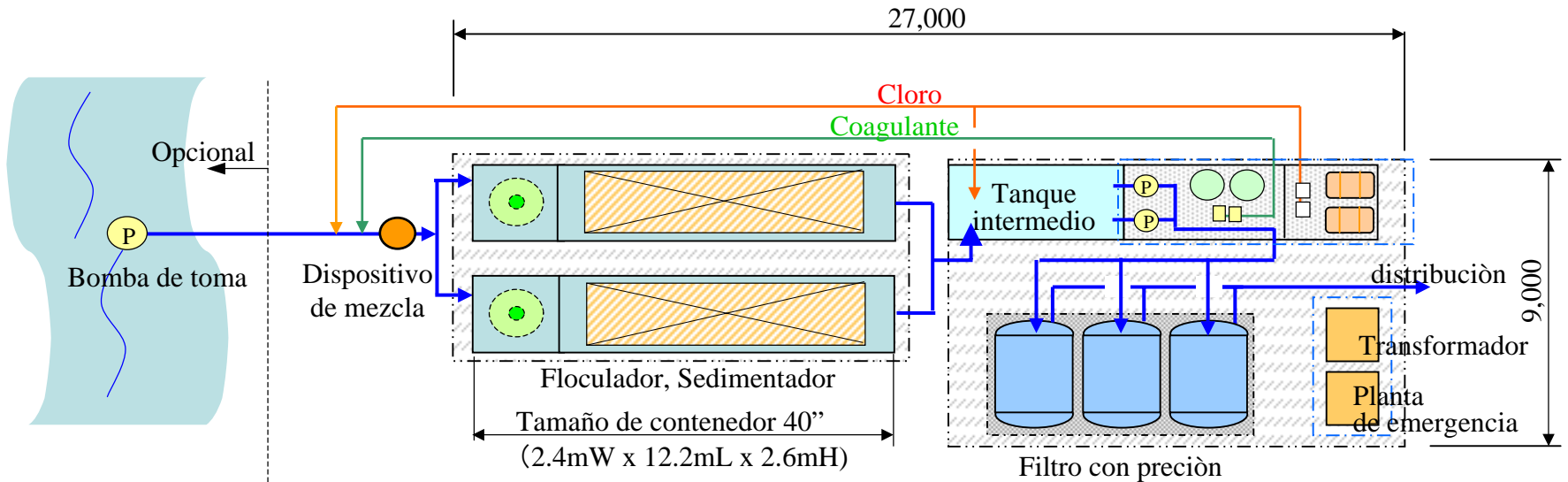
Resume de Presentacion

- **Unidad Compacta**
- **Capacidad: 55L/sec (200m³/h) - Tamaño Mediano**
- **Para: mas 20,000 personas**
- **Full turn Key**
- **Entrega rápido (Posible producción 5 unidades / mes)**
- **Facil de operar y mentener**
- **Adoptar para el caso de emergencia y uso permanente**
- **Puede usar para agua superficial y subterranea**

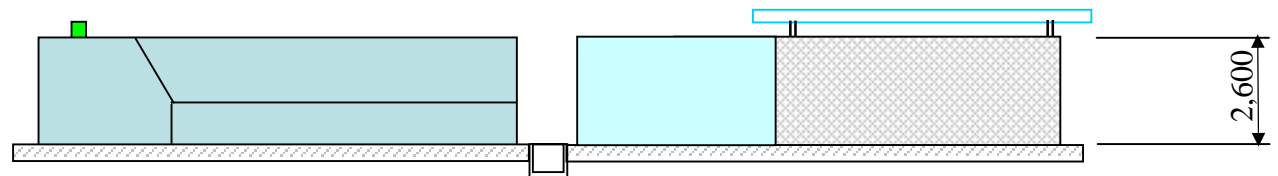
Perfil : Tamaño Mediano y Pequeño

Descripcion	Tamaño Mediano	Tamaño Pequeño
Capacidad	55L/sec (200m ³ /h)	4L/sec (15m ³ /h)
Area	27mL x 9mW x 2.6mH	6.06mL x 2.4mW x 2.6mH
Medida para Transportar	40Ft. container x 4unit	20Ft. container x 1unit
Medida de Floculador	2.5mL x 2.44mW x 2.6mH x 2unit	0.7mL x 0.6mW x 2.6mH x 1unit
Medida de Sedimentator	9.4mL x 2.44mW x 2.6mH x 2unit	1.7mL x 2.44mW x 2.6mH x 1unit
Medida de Filtro	3.4mL x 2.2mW x 2.6mH x 3unit	∅ 1.2m x 2.0mH x 1unit
Promedio de Potencial	50kW	2.5kW
Cantidad de quimico(Referencia)	Al ₂ (SO ₄) ₃ :50mg/L Cl ₂ Gas:2-5mg/L	Al ₂ (SO ₄) ₃ :50mg/L Ca(OCl) ₂ :5mg/L (As Cl)

Plano de disposiciòn (55L/sec (200m³/h))



(Visiòn superior)



(Visiòn lateral)

Plano de disposiciòn (55L/sec)

Diagrama de Flujo (55L/sec (200m³/h))

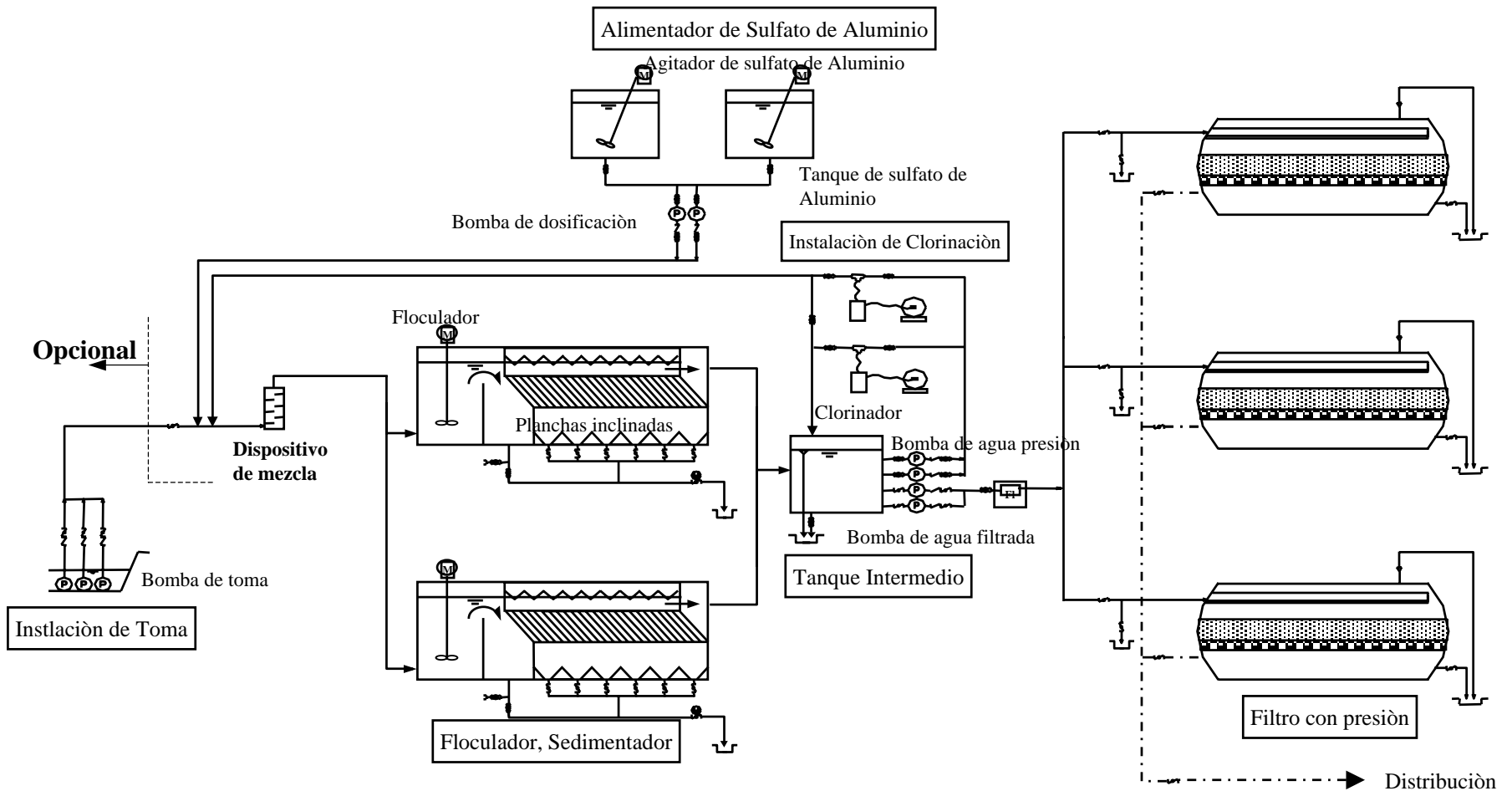


Diagrama de Flujo (55L/sec)

ALCANCE DE SUMINISTRO (55L/sec (200m³/h))

- **Sistema de Coagulación/De Floculación**
- **Unidad de Sedimentación**
- **Tanque Intermedio**
- **Bomba del Filtro**
- **Unidad de Filtración**
- **Unidad Química**
- **Tablero De Control**
- **Instalación de equipo y de maquinaria**

Consumption –1 (55L/sec (200m³/h))

1. Electrical power consumption

Equipment	unit	kw/unit	hrs/day	Consumption (kWh/d)
Flocculator	2	0.55	24	26.4
Sludge withdrawal valve	2	0.4	0.1	0.08
Filter feeding pump	1	15	24	360
Alum mixer	2	0.75	0.15	0.225
Alum dosing pump	1	0.2	24	4.8
Chlorine booster pump	1	2.2	24	52.8
(Compact Unit) Sub total				444
Intake pump	1	##	24	###
(Intake pump) Sub total				
Treated water transfer pump	1	##	24	###
(Treated water transfer pump) Sub total				
Total (kW)				20.8
Total (kWh/d)				444

* Intake pump : ## kw (Assumption)

Treated water transfer pump : ## kw (Assumption)

Consumption –2 (55L/sec (200m³/h))

2. Alum consumption

Item	Capacity per unit (m ³ /d)	Dosing rate (mg/L)	Consumption (kg/d)
Alum	4800	10	48
Total			48 (kg/d)

*Raw water turbidity : 10 NTU (Assumption)

Alum dosing rate : 10 mg/L (depend on raw water turbidity)

Alum consumption : 4800m³/d x 10 mg/l x 0.001=48 kg/d

3. Chlorine consumption

Item	Capacity per unit (m ³ /d)	Dosing rate (mg/L)	Consumption (kg/d)
Pre-CL	4800	2	9.6
Post-CL	4800	1	4.8
Total			14.4 (kg/d)

*Chlorine dosing rate (Average):

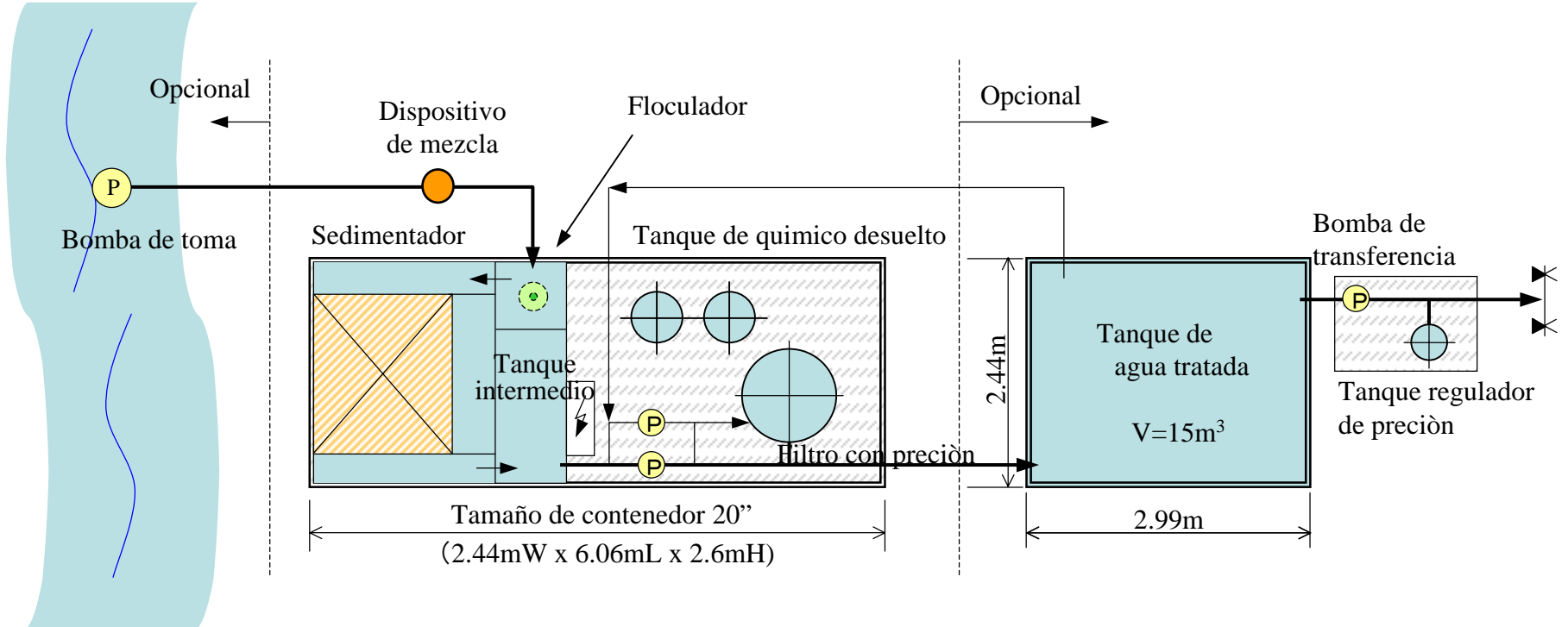
Pre-CL : 2mg/L (Assumption, depend on raw water quality)

Post-CL : 1mg/L (Assumption, depend on raw water quality)

total : 3mg/L

Chlorine consumption : 4800m³/d x (1+2)mg/L x 0.001=14.4kg/d

Plano de disposiciòn (4L/sec (15m³/h))



Plano de disposiciòn (4L/sec)

Diagrama de Flujo (4L/sec (15m³/h))

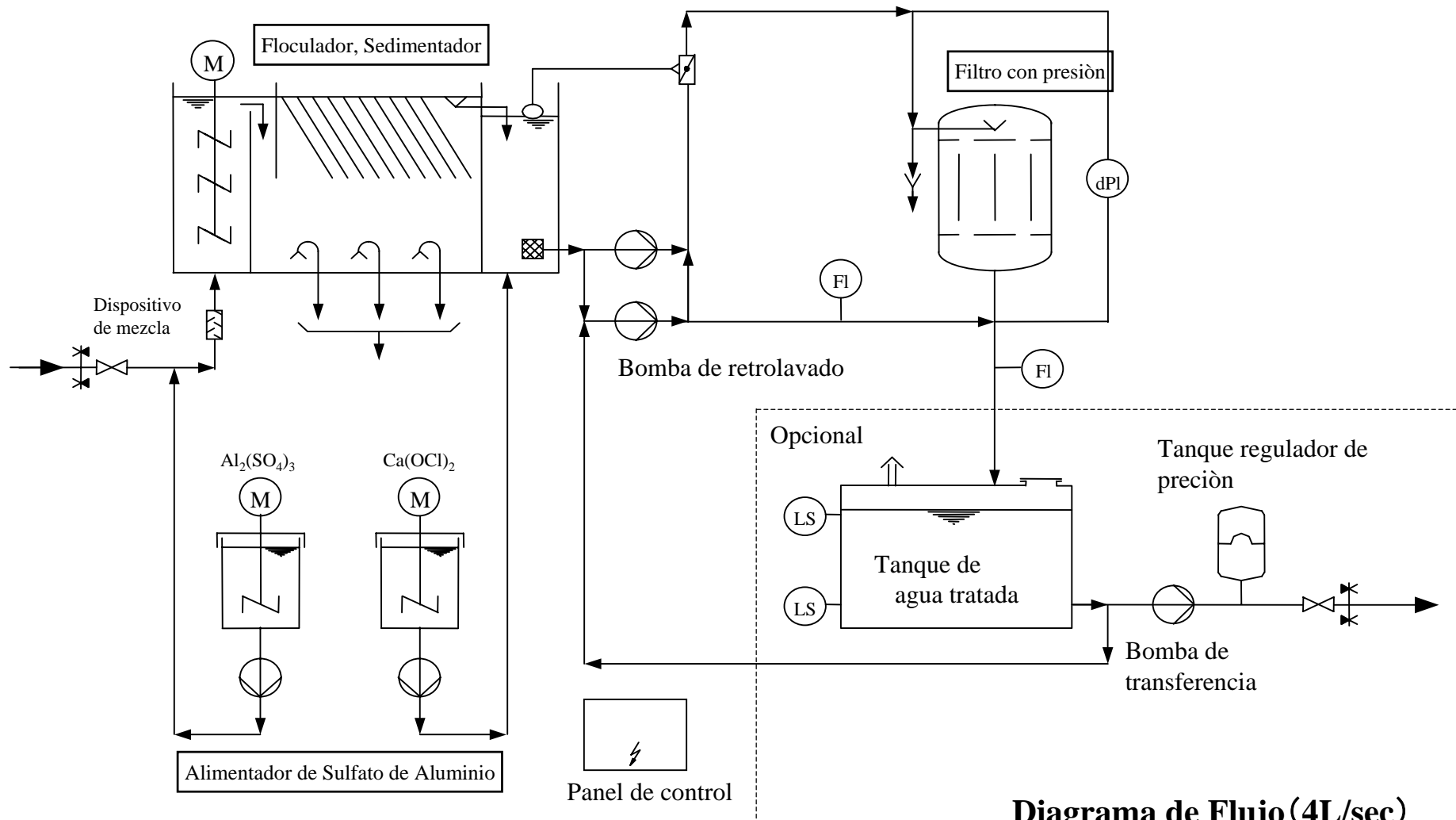


Diagrama de Flujo (4L/sec)

Ventaja de Unidad Compacta

Ventaja

- Facil de instalar
- Facil de transportar (Tamaño de 20 y 40 pies de contenedor)
- Entrega rápido (Posible producción 5 unidades / mes)
- Facil de operar y mentener
- Adoptar para el caso de emergencia y uso permanente
- Puede usar para agua superficial y subterranea

Opcional

- Toma de agua, Instalación de distribución
- Eliminar Hierro / Manganeso

Performance Record

No	Reference	Plant	Capacity	Year of accomplishment
1	State Organisation of Oil Projects, Projects North Refinery Baiji Baghdad, Iraq Al Bakr City- Basrah, Iraq	AC - D 15	2 x 150 m ³ /hr	1980
2	Ministry of Agriculture State Enterprise for Poultry Baghdad, Iraq	AC - D 8,5	3 x 85 m ³ /hr	1980
3	Airforce Baghdad, Iraq	AC - D 2,5	1 x 30 m ³ /hr	1981
4	State Organisation for Water and Sewerage Baghdad, Iraq (Al Butaira)	AC - D 20	1 x 200 m ³ /hr	1986
5	State Organisation for Water and Sewerage Baghdad, Iraq (Amara)	AC - D 20	8 x 200 m ³ /hr	1986
6	State Organ isation for Water and Sewerage Baghdad, Iraq (Bashra)	AC - D 20	15 x 200 m ³ /hr	1986
7	State Organisation for Water and Sewerage Baghdad, Iraq (Bashra)	AC - D 20	12 x 200 m ³ /hr	1986
8	State Organisation for Water Sewerage Baghdad, Iraq (Al-Hartha)	AC - D 20	25 x 200 m ³ /hr	1986
9	Ministry of Reconstruction, Housing and Land Reclamation Dakhla, Egypt (City Mut)	AC - D 15	2 x 150 m ³ /hr	1986
10	China State Construction Eng. Corporation (CSCEC - Iraq Branch) for Amara, Iraq	AC - D 20	1 x 200 m ³ /hr	1986
11	City of Oran Sidi Abdelli Province Algeria	AC - D 20	5 x 220 m ³ /hr	1991
12	Algeria, Ionics UK	2 x AC - D 20	1 x 55 L/hr 1 x 60 L/hr	2004