

Integraskid 55 Ultrafiltration

2.00 à 70.00 m³/h per skid
(Multi-skid assembly for high flow)



MEMBRANE SEPARATION

ULTRA-FILTRATION

INTEGRASKID 55

Developed, made and tested in France, the systems of Ultrafiltration **Integraskid 55** offer a superior level of performance both from the point of view of efficiency and reliability.

The development of the **Integraskid 55** system benefited from many years of experiences and was focused on simplifying, optimizing and securing the ultra-filtration process.

It was the object of pilot tests allowing the validation of the announced performances and the development of a user interface allowing the intuitive configuration of all the steps of the process.

The production of ultra-filtrated water is done at a constant flow thanks to a modulating valve with permanent control of the trans-membrane pressure (TMP).

Physical cleanings reinforced by air circulation are automatically triggered according to a configurable rate and



duration and/or depending on the trans-membrane pressure.

Chemical cleanings do not require an additional tank and are performed at cross flows by internal circulation with automatic thermal catalysis and reagent dosage.

The existing cleaning loop allows the drastic reduction of reagent consumptions while optimizing their efficiency by means of a dynamic circulation with permanent homogenization.

Thanks to this technology, real maintenance cleanings can be completed in just 15 to 20 minutes, at controlled reagent concentrations. Recovery cleanings are carried out without additional equipment at reinforced concentrations and in 1 to 2 hours.

This operating method surpasses in terms of speed of execution, efficiency and performance the traditional chemically reinforced backwash (CEB) as well as the classical long chemical cleanings (CIP) using an external tank.



APPLICATIONS

- Pretreatment of reverse osmosis units.
- Pretreatment of ion-exchanger units.
- Drinking Quality Water Production from drill or surface water.
- Water production for agro-food applications.
- Tertiary processing of residual waters.
- Recycling of process water.

CHARACTERISTICS

Constant flow water production thanks to a modulating valve controlled by an electronic flow meter.

Permanent control of the feeding pressure, of the trans-membrane pressure and of back-washing pressure.

Physical cleanings with the flow controlled by modulating valve and electronic flow meter.

Optimization of physical washings by pressure and flow-controlled air circulation.

Chemical cleanings reinforced by air circulation, thermal catalysis, with volumetric dosage of chemical reagents.

Programmable automation with 15" color touch screen, a process entirely configurable on the site, password protection, communication via Ethernet card allowing recovery of process information.

Example of modular equipment which can be integrated in the standard:

- Automatic pre-filter unit, storing and pumping of raw water.
- Ultra-filtered water storing and distribution unit.

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OPERATING PARAMETERS

Parameter	Unit	Maximum in routine	Maximum admissible
Turbidity	NTU	< 50	300
COT	mg/l	< 10	40
Particle size	micron	<150	250
DCO _{Mn}	mg/l	< 20	60
Oil/Fat	mg/l	0	< 2
Continuous pH		6-9	2-11
Temperature	°C	25	40
Iron (Fe)	mg/l	0.1	0.4
Manganese (Mn)	mg/l	0.1	0.4
Cl ₂ continuous	mg/l	0,5	200
TSS	mg/l	20	100

SERVICE SPECIFICATIONS

Feed Pressure max at 20°C	2.5 bar
Service Trans-membrane Pressure max.	2.10 bar
Trans-membrane Pressure During backwash, max.	2.50 bar
Mixing Airflow Rate per module	max. 12 Nm ³ /h
Filtrate Flow at 25°C	30 to 70 l/m ² /h
Temperature	1 - 40°C
pH Range in production	2 - 11
pH Range in cleaning	2 - 12
NaOCl max for cleaning	2000 ppm

TECHNICAL DATA

Number of membranes		1	2	3	4	6	8	10	12	16	20
Membrane surface		51	102	153	204	306	408	510	612	816	1020
Gross flow of production in m ³ per hour	at 30l/h/m ²	1,53	3,06	4,59	6,12	9,18	12,24	15,3	18,36	24,48	30,6
	at 50l/h/m ²	2,55	5,1	7,65	10,2	15,3	20,4	25,5	30,6	40,8	51
	at 70l/h/ m ²	3,57	7,14	10,71	14,28	21,42	28,56	35,7	42,84	57,12	71,4
Backwash Flow	m ³ /h	5,1	10,2	15,3	20,4	30,6	40,8	51	61,2	81,6	102
Mixing air	Nm ³ /h	12	24	36	48	72	96	120	144	192	240
CIP flox	m ³ /h	2	4	6	8	12	16	20	24	32	40
Dosing station	Qt	3 dosing stations (NaOCl - NaOH - HCl) + tanks + retentions									
Heating power	kW	3	6	9	12	18	24	30	36	48	60

INSTALLATION EXEMPLE



ADH2OC INDUSTRIAL
 Headquarters
 3, Rue Kercoz
 22 220 TRÉGUIER - FRANCE
 Tel +33 (0)2 96 40 02 50
 Fax +33 (0)2 22 44 98 48
www.adh2oc-industrial.com

Workshop
 Lieudit «La Vallée Drouard»
 28500 CHÉRISY - FRANCE
 Tel +33 (0)2 37 50 20 79
 Fax +33 (0)2 22 44 98 48
 e-mail : infos@adh2oc-industrial.com