

Integrated Coarse Pre-Treatment - ICP

Integrated coarse pre-treatment (ICP) is achieved by assembling common primary devices in a pre-packaged arrangement. The integrated system separates, conditions, and transports grit and screenings from raw wastewater.

The unit can be used in wastewater treatment plants with smaller water passages where it can substitute for a sequence of devices such as screens, screenings press, tank and grit separator installed into concrete channels or tanks. Putting all of these devices in a single container saves footprint and cost and time of construction. ICP is very suitable for upgrading small WWTPs. It also applies to septage treatment.

SPECIFICATIONS

Rate of Flow Q:	25, 50, 100, 150 ls ⁻¹ (400, 800, 1600, 2400 gpm)	
Additional Washing Water for Screenings:	0.8 ls ⁻¹ (13 gpm) at 0.5 MPa (7.4 psig) – at intervals	
Gap between screens:	3 – 6 mm (0.1 – 0.2")	
Power Input:	PRO-GUARD SCC	0.12-0.25 kW, 460 V
	PRO-FACTOR LSP	1.5 kW, 460 V
	Electromagnetic Valves	2 x 30 W, 230 V
	GRIT-GUARD Separator/Screw Conveyor	2 x 1.1 kW, 460 V
	Collection of Fats	350 W, 230 V
	Transport of Fats	0.55 kW, 460 V
	Heating	3.5-6 kW, 230 V
Operating Conditions:	Indoor – in a building Outdoor – down to -20° C (-4° F) with heating option	
Operating Cycle:	The frequency and time of operation of individual devices can be adjusted by a control panel	
Dimensions:	L = 4800 – 9100 (189.1 – 358.5 in), B = 550 – 1000 (21.7 – 39.4 in) V = 3200 – 4000 mm (126.1 – 157.6 in) according to device size	
Material:	Mainly stainless steel, plastics, rubber	
<i>Other parameter ranges need to be discussed with the manufacturer.</i>		

Product Identification: **ICP Q** [ls⁻¹]

ICP Design:

- ◆ Above-ground design with inlet and outlet flanges that need wastewater to be pumped
- ◆ Partially embedded (to wastewater level), put into a concrete pit

Components:

- ◆ Basic – tank, self-cleaning screen, screw screenings press, feeding screw, screw conveyor, control panel
- ◆ Optional
 - collection and transport of fats
 - aeration
 - additional casing with heating unit (for outdoor use)



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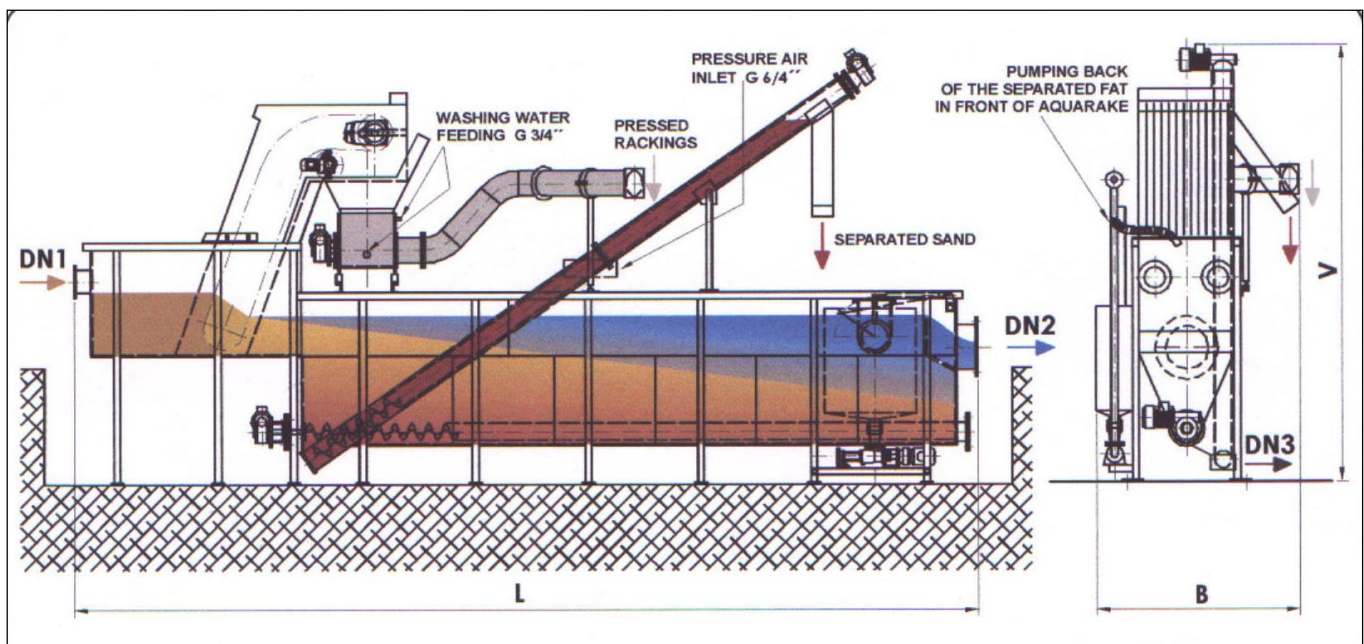
ISO 9001

OPERATION:

Wastewater flows into an inlet flanged connection through a self-cleaning belt screen into a longitudinal tank while the removed screenings accumulate in the hopper of the screw compactor. The screenings are washed clean and compacted into the discharge pipe based on an adjustable timed schedule. In the tank, grit is separated and settles down towards the tank bottom where there is a screw conveyor installed. The grit is transported intermittently to a hopper from which it is further transported and dewatered by the screw conveyor to a container.

The tank can be aerated so that the separation of grit and organic particles is even more effective. Floating particles and fat/oil/grease can be either entrapped by a down flow baffle, when floating, or go past an overflow into the outlet connection. Entrapped float and fats are collected by an inclined trough and transported to a fat accumulation tank.

The whole process is fully automated and controlled by a scheduled program according to the level. The control panel also enables manual operation based on visual inspection of the volume of FOG entrapped.



DN1 – Wastewater Inlet

DN2 – Pre-treated Water Outlet

DN3 – Discharge

Dimensions L, B, V vary with model size

To achieve proper sizing and arrangement of the equipment for wastewater applications, PRO-Equipment, Inc. offers technical support as needed.



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