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"Screening"

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(Flow Equalization)

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(Flotation)

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(Coalescence)

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(Sludge Treatment & Disposal)

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(Sludge Dewatering)

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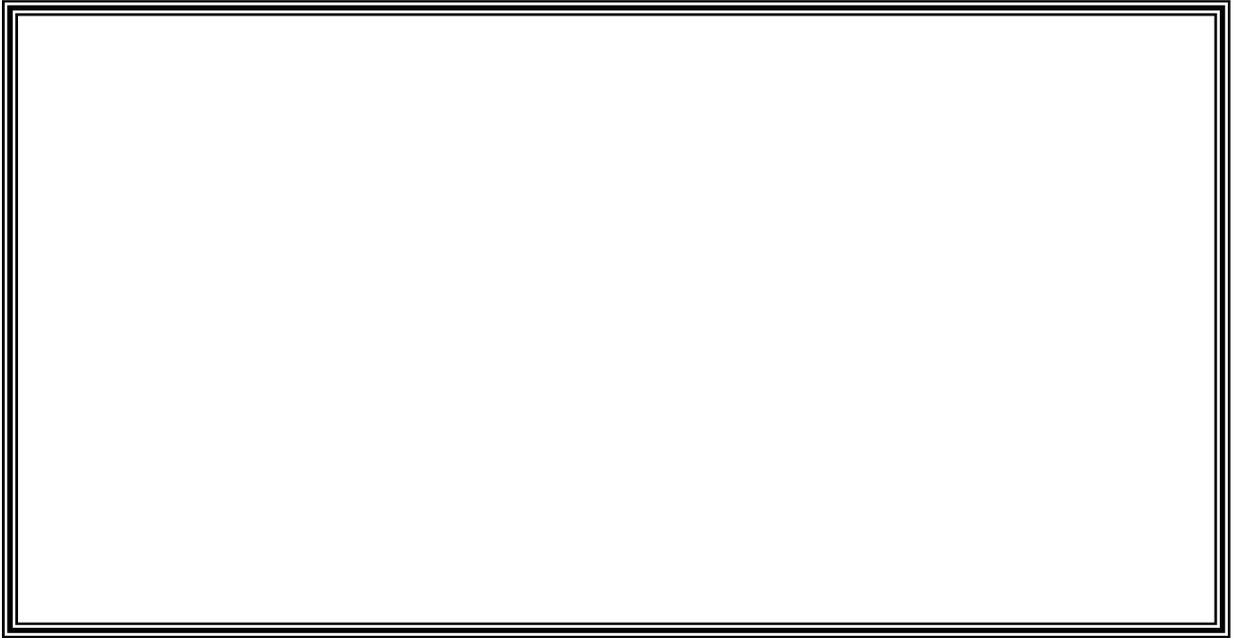
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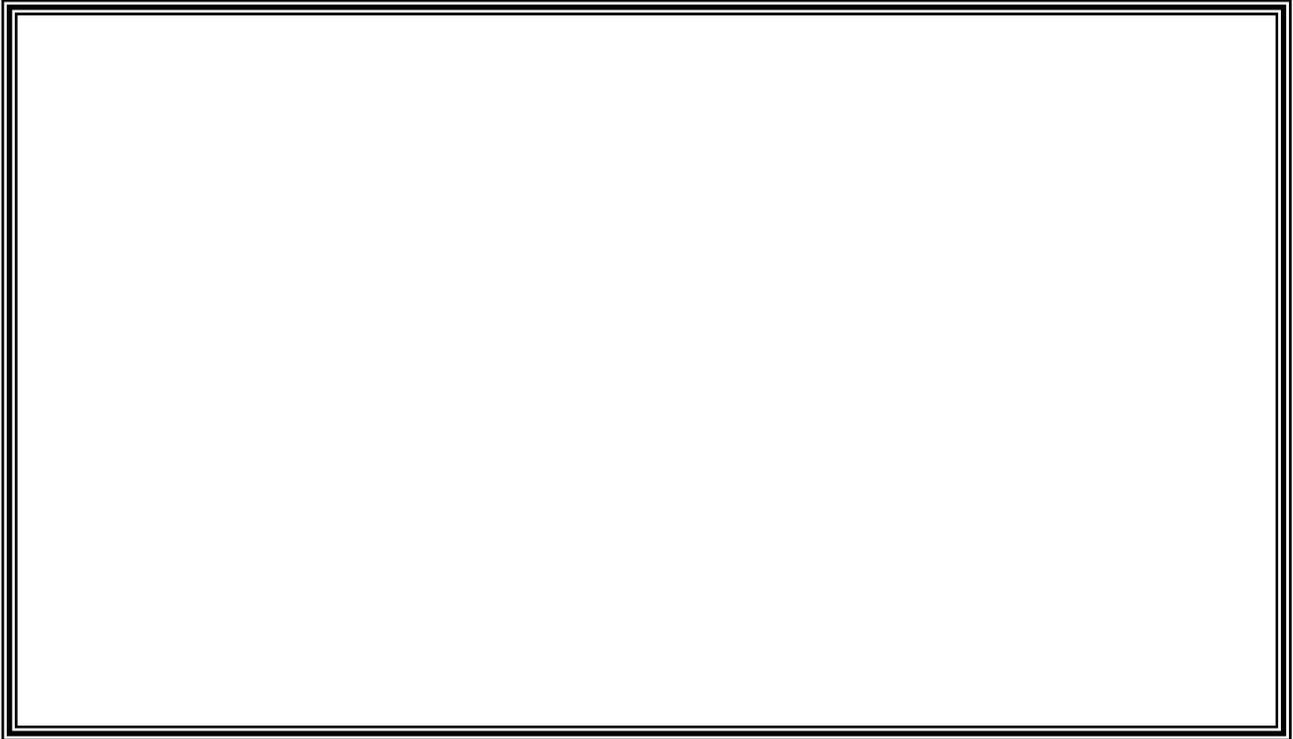
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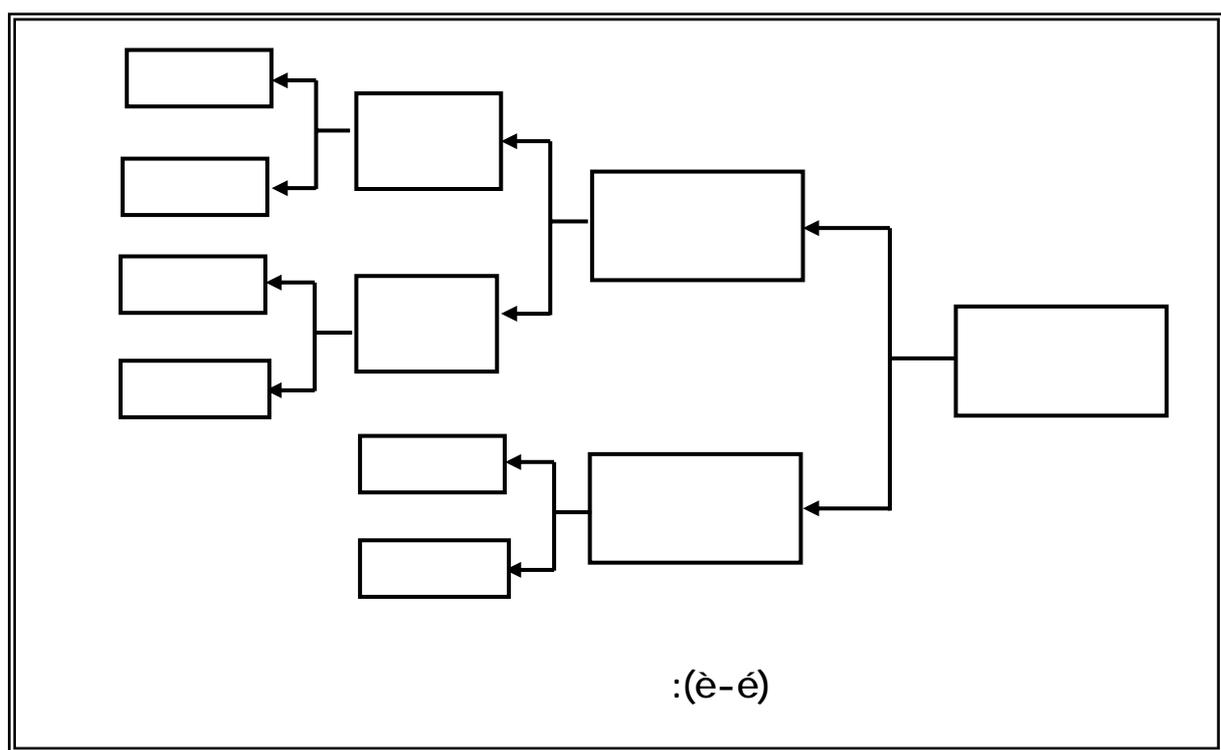
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(Dissolved Air Flotation)

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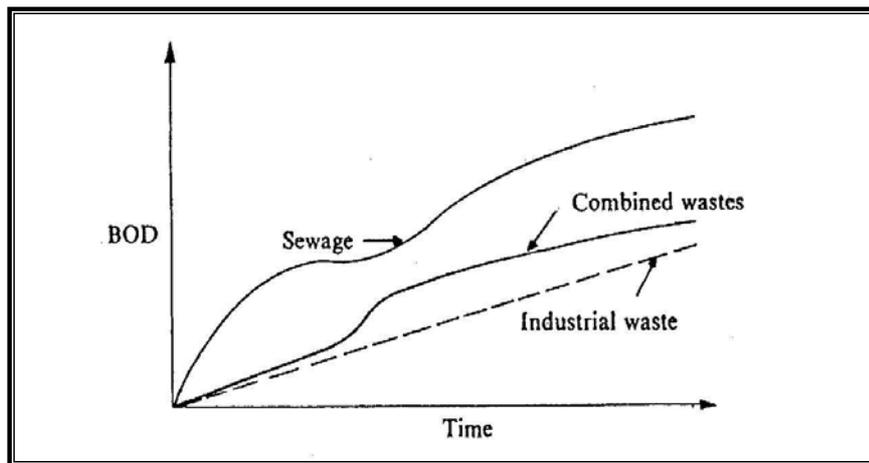
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(COD)

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(COD/BOD)

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"Screening" è-è-ê

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.(rack) " "

"screen"

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"aquarake"

"Vibrating Curved Screen"

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"Rotary Screen"

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	Steel, Stainless steel	, - ,		(Bar rack)
	Stainless-steel wedge-wire screen	, - ,		:
	Milled bronze or copper plates	× , × ,		
	Stainless-steel wedge wire cloth	, - ,		
	Stainless-steel wedge-wire screen	, - ,		
	Stainless-steel and polyester screen cloths	- μm		
	Stainless-steel	, - ,		
	Stainless-steel	, - ,		
	Stainless-steel, polyester and various other fabric screen cloths.	, - ,		

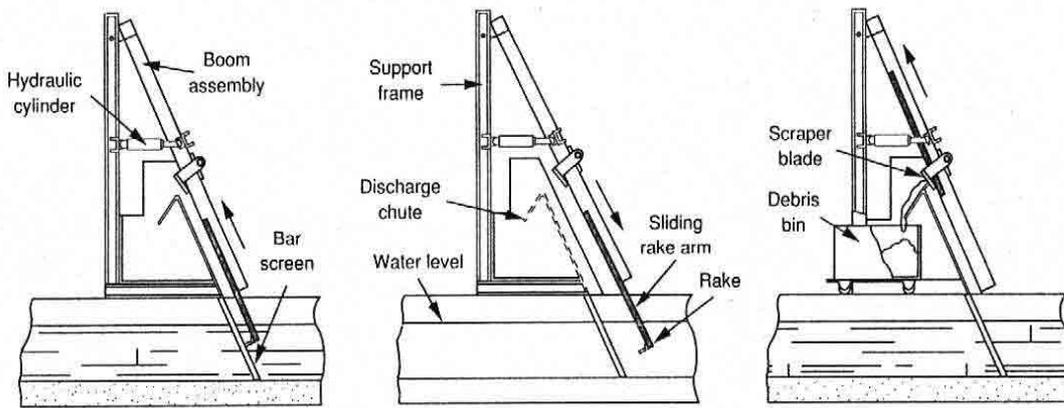
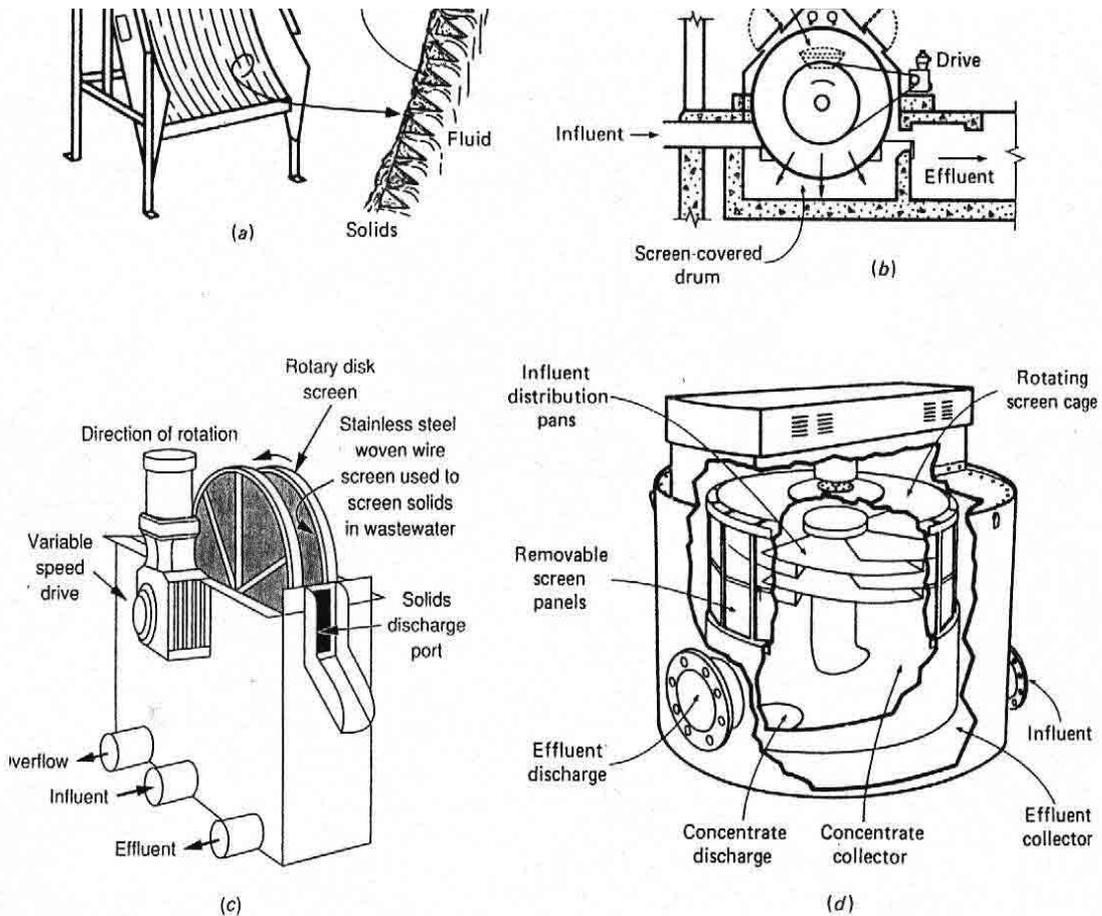


FIGURE
Typical mechanically cleaned bar rack used for wastewater treatment (from of Franklin Miller).

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:3-2

-b

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-One

-d

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API



(American Petroleum Institute)

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(Resident time)

CPI



API

.CPI

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API

(Flow Equalization)

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(Equalization)

(Equalizing tank)

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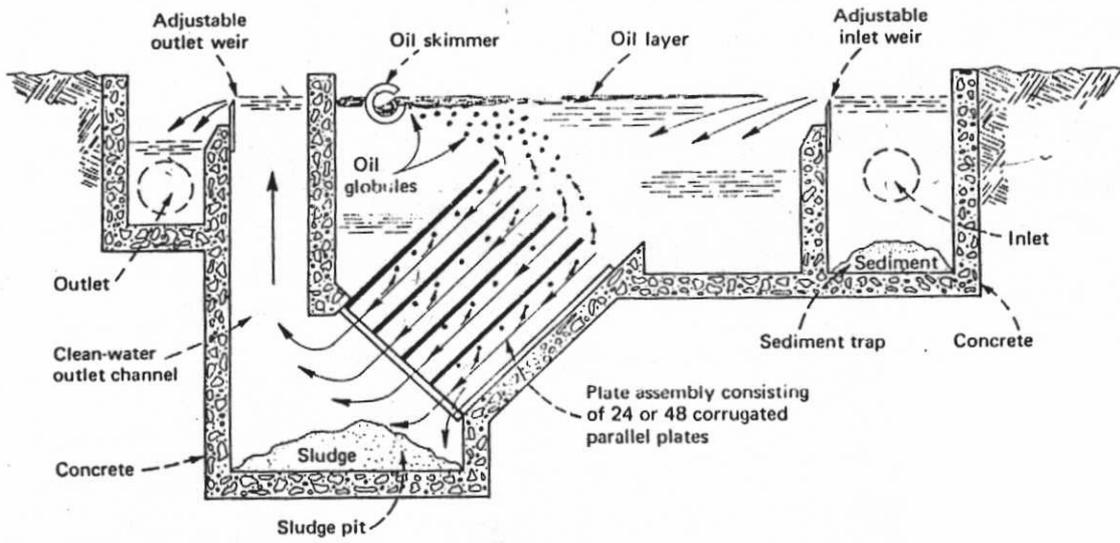
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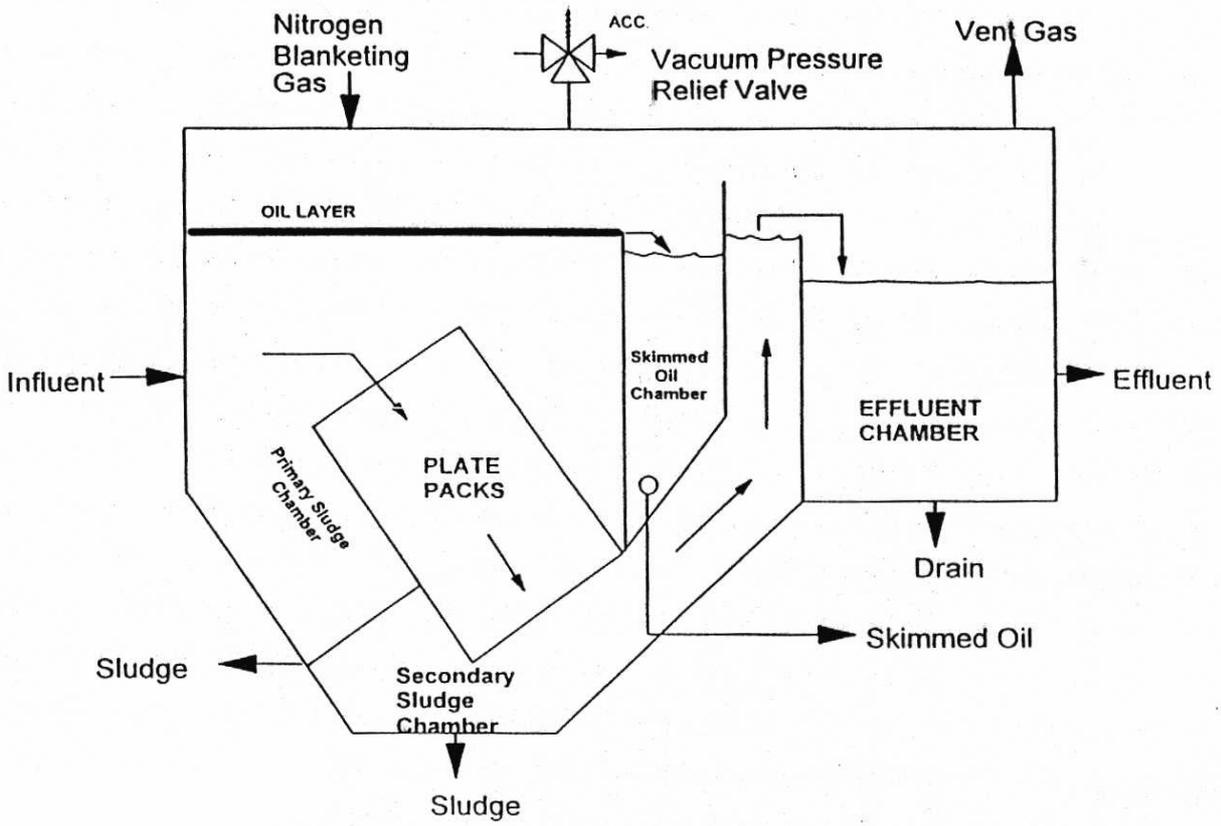
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(a)



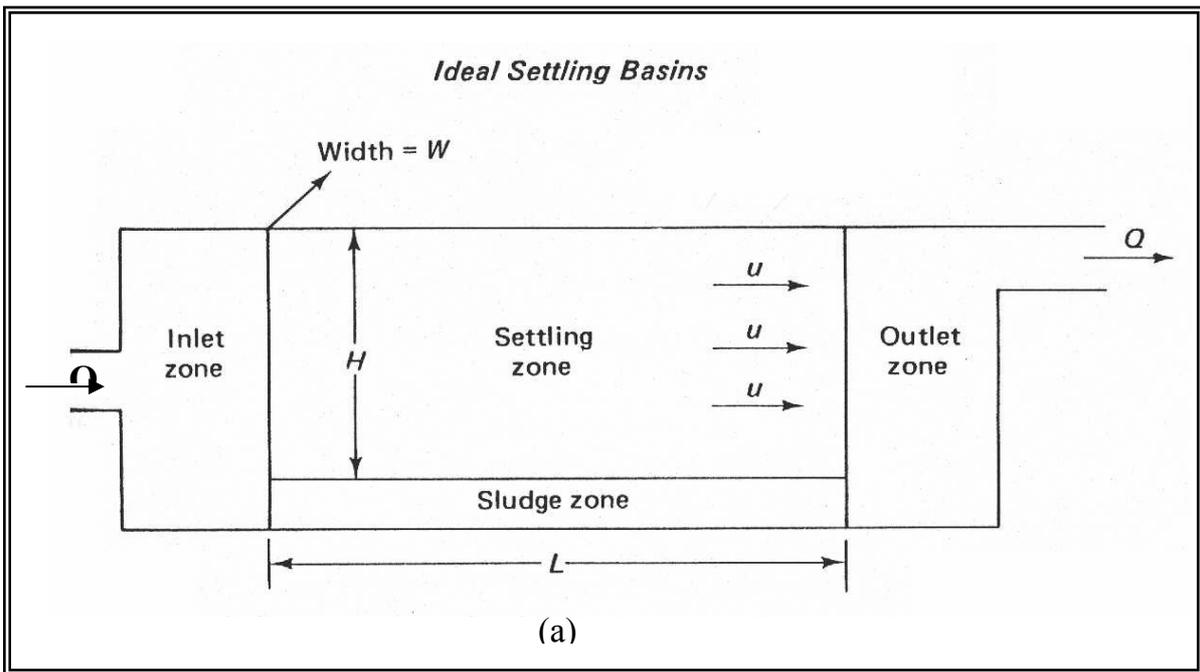
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(CPI)

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Dead Zones

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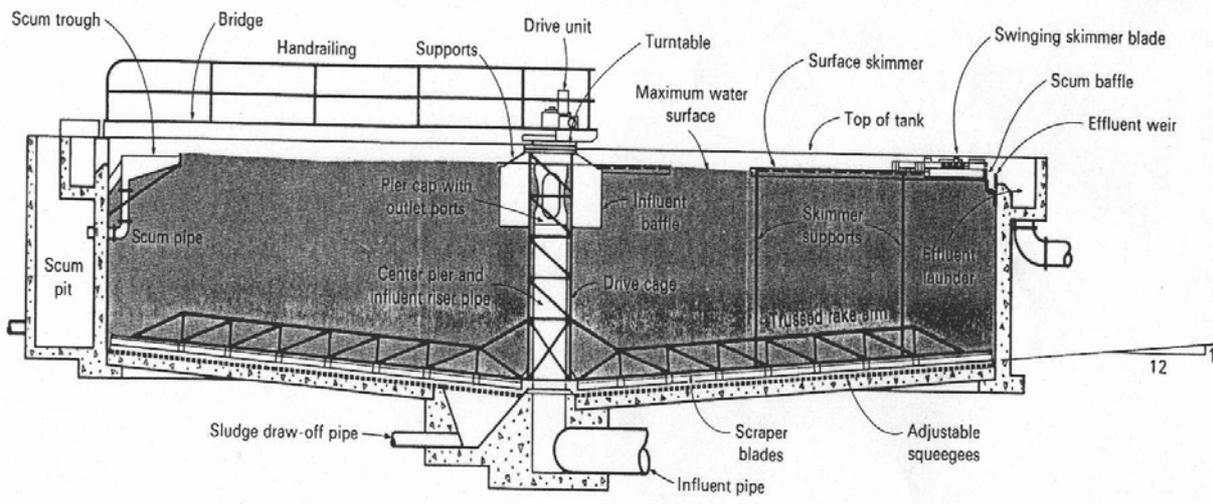
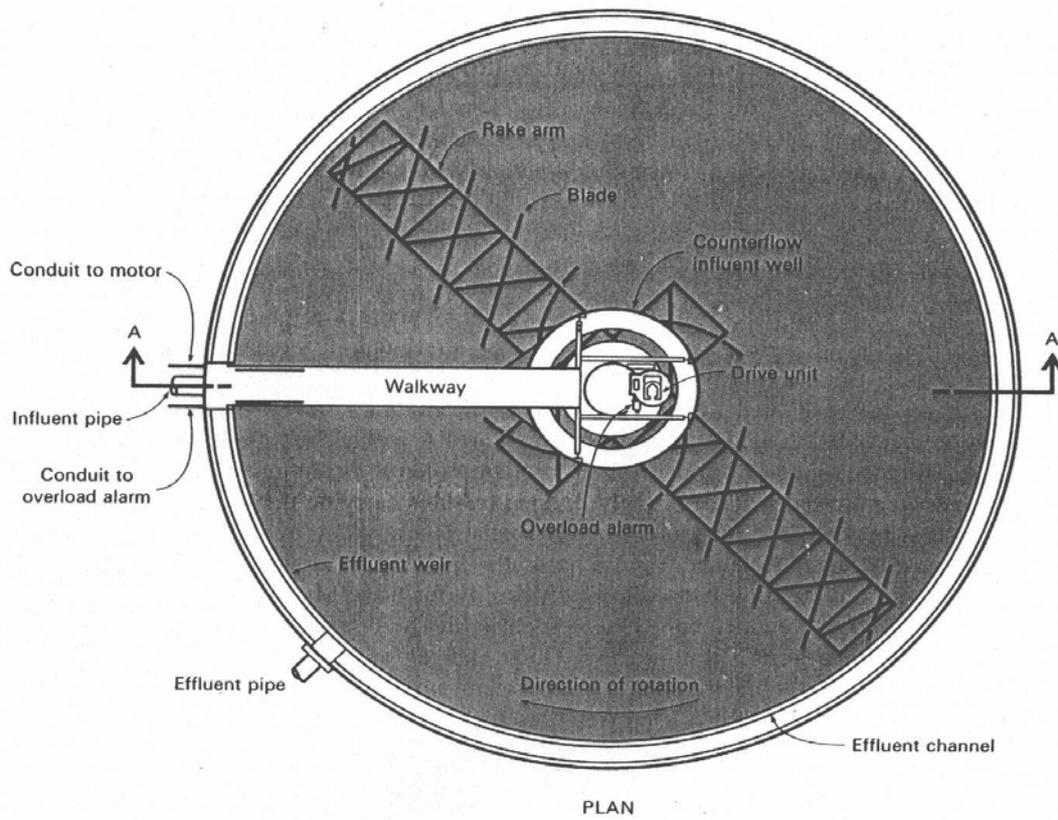
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(Flotation) Ô é-é-ê

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-One

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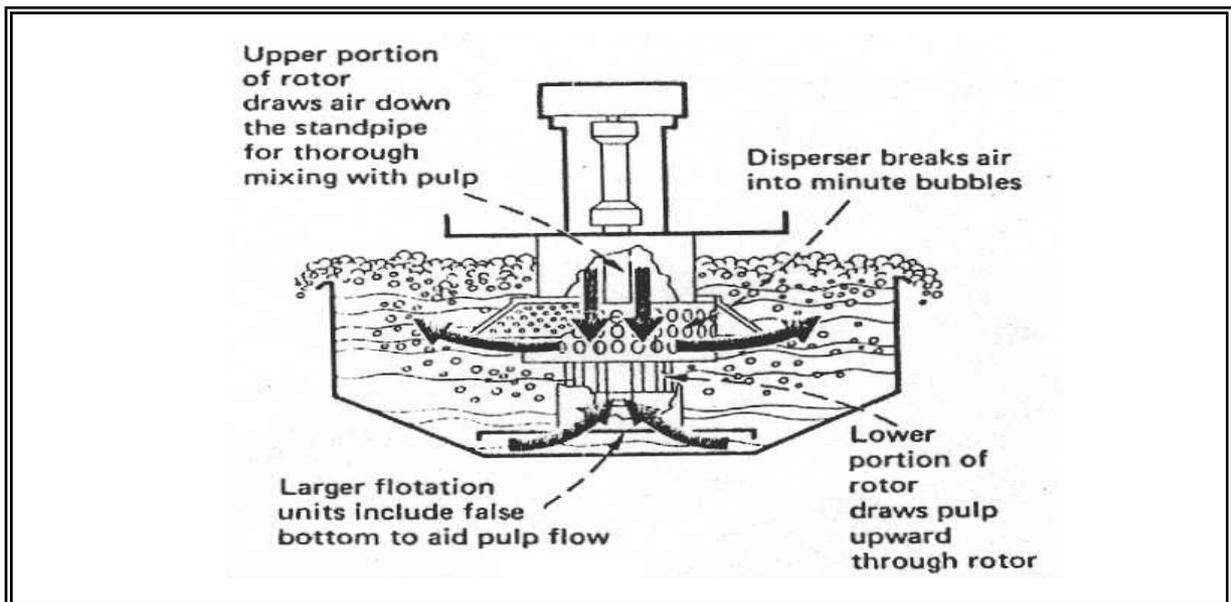
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.(scum)

:(Vacuum flotation)

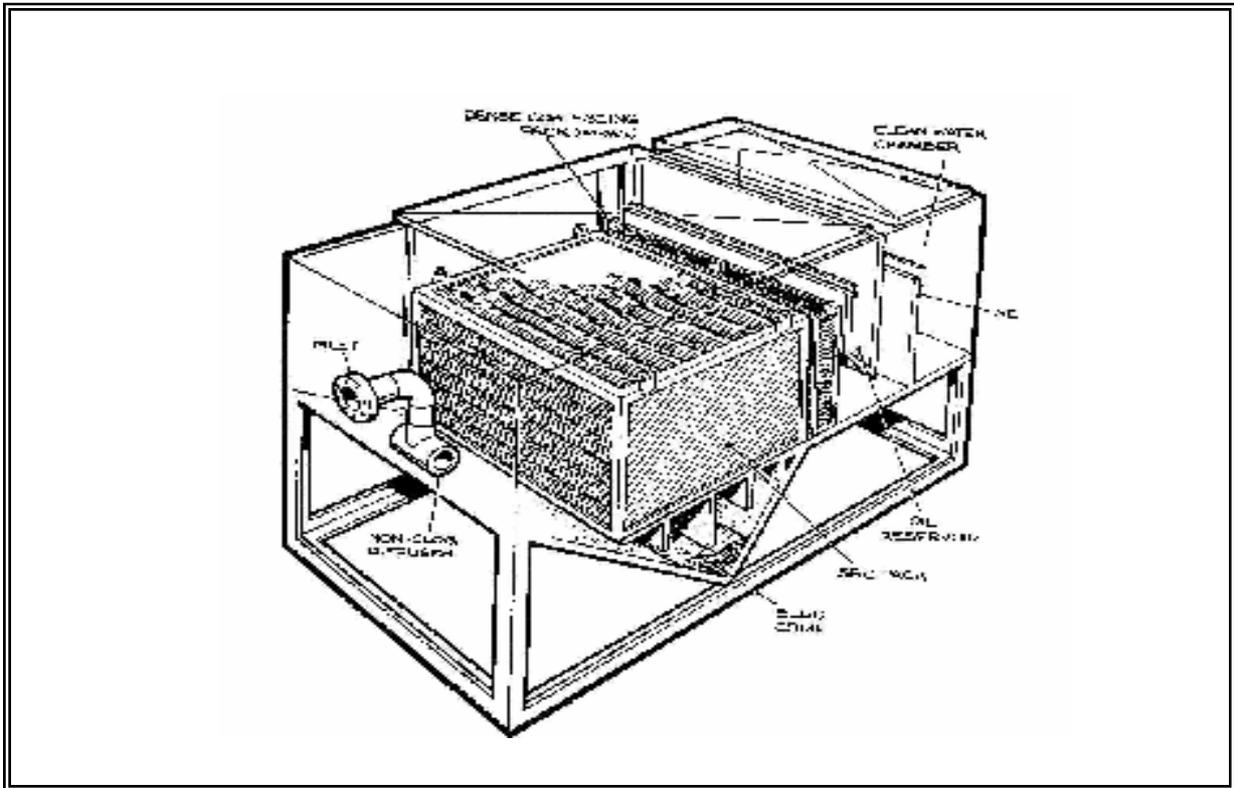
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(Coalescence) Ô ê-é-ê

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(COD)

(Coagulation)

(Flocculation)



(BOD)



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,	Ferrous Sulphate FeSo · H O	.
	Ferric Sulphate Fe (SO)	.
,	Ferric Chloride FeCl	.
as CaO	Ca(OH)	" "

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(DAF)



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Scraper arm””

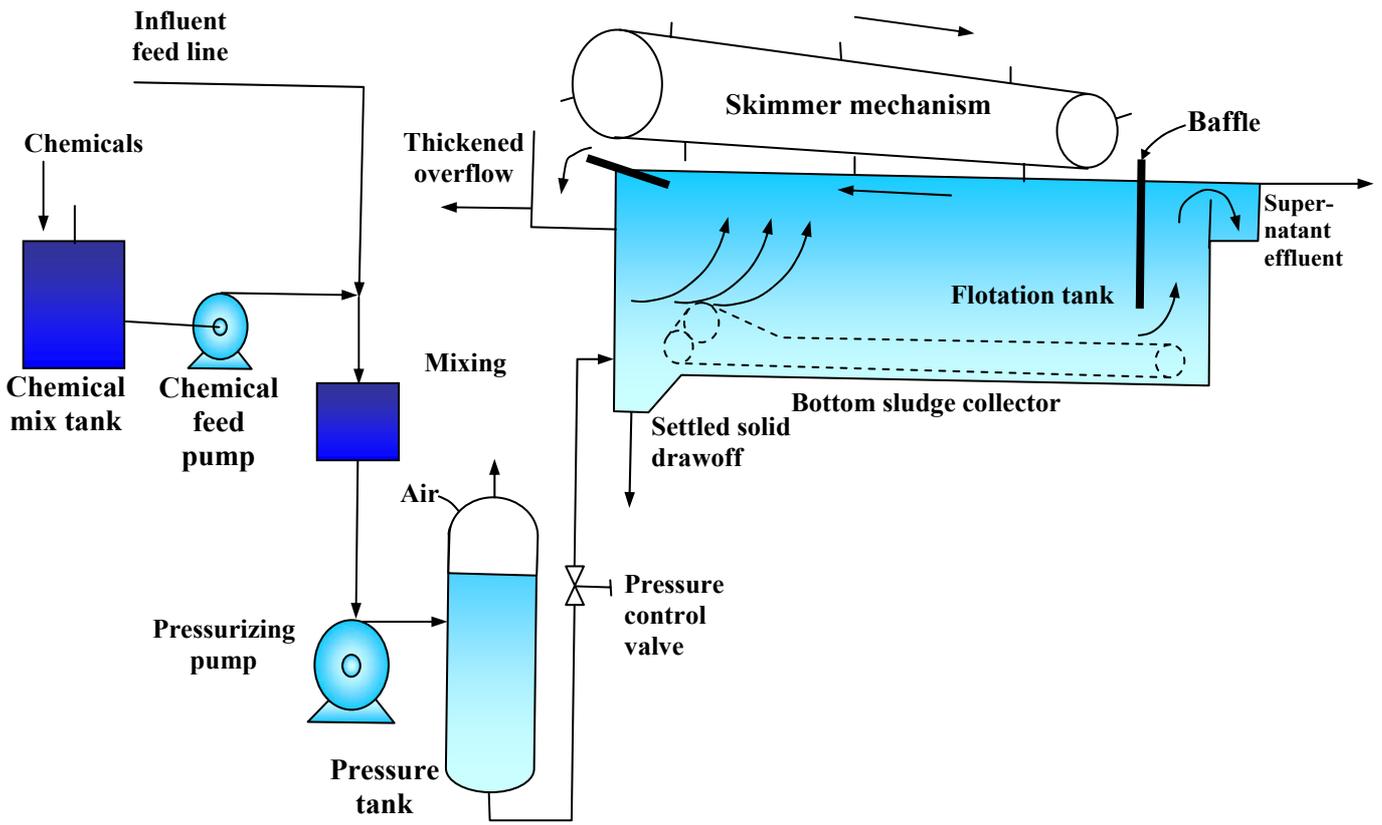
(Pressurization)

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(Lamella Sheets)

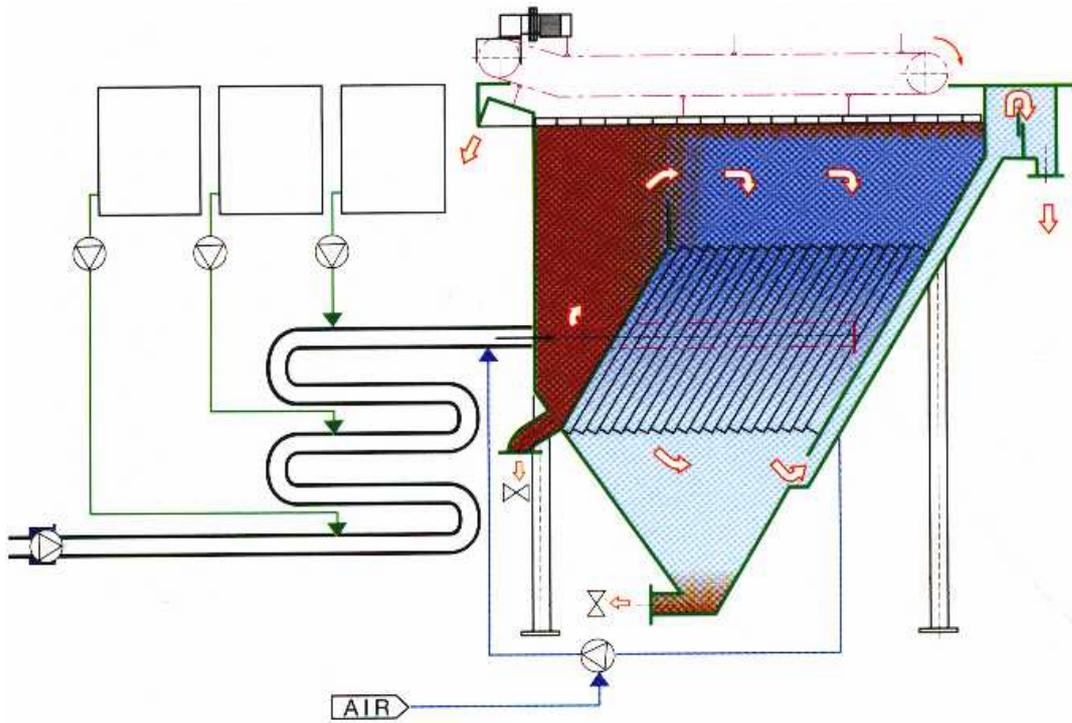
DAF

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(Fixed Film Nitrification Reactor)

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س (Aeration Tanks)

.(Mixed Liquor) "

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(Mixed Liquor)

(Diffused aeration)

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(Conventional Method)

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(Extended Aeration)

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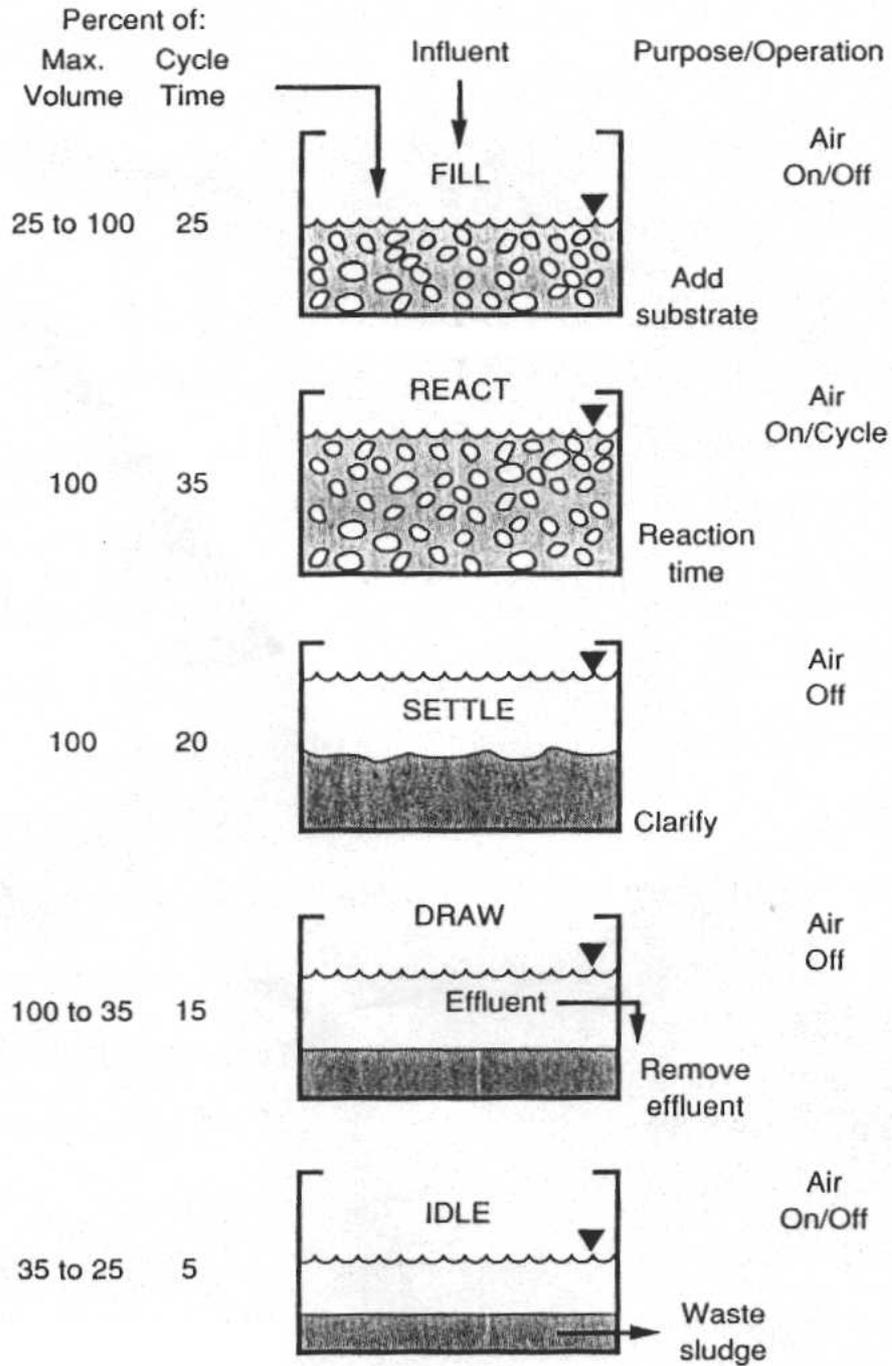
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(Tapered aeration)

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(Extruded Aeration)

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(SRB)



SRB

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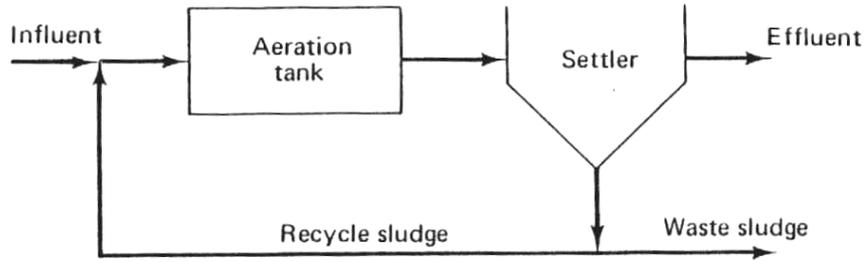
SBR

(RAS)

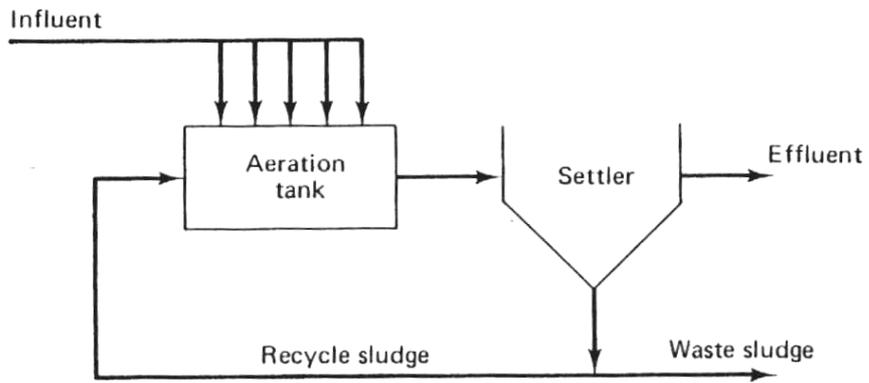
SRB

SBR

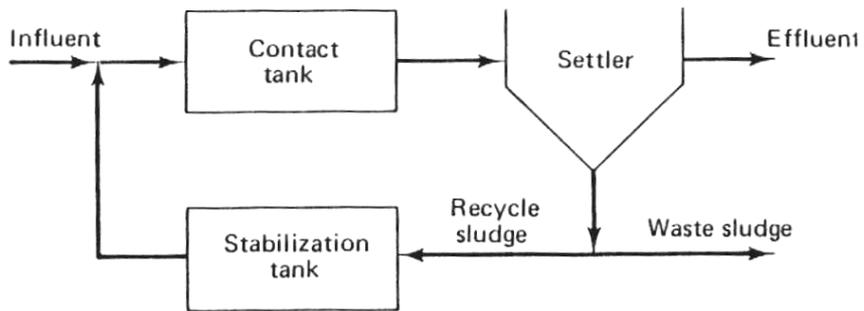
Activated Sludge Processes



(a)



(b)



(c)

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Fixed Film Nitrification

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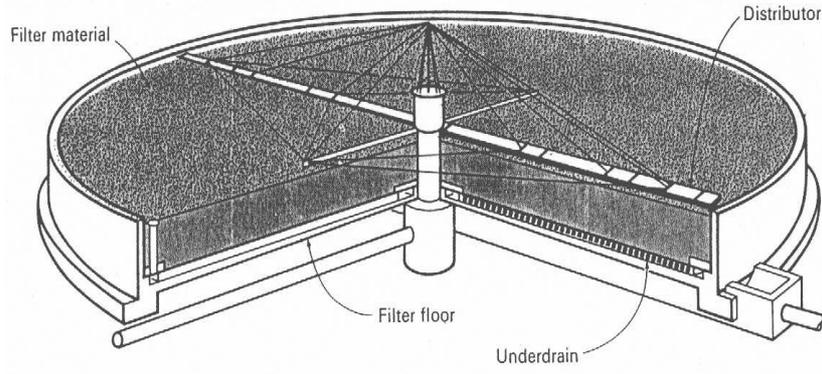
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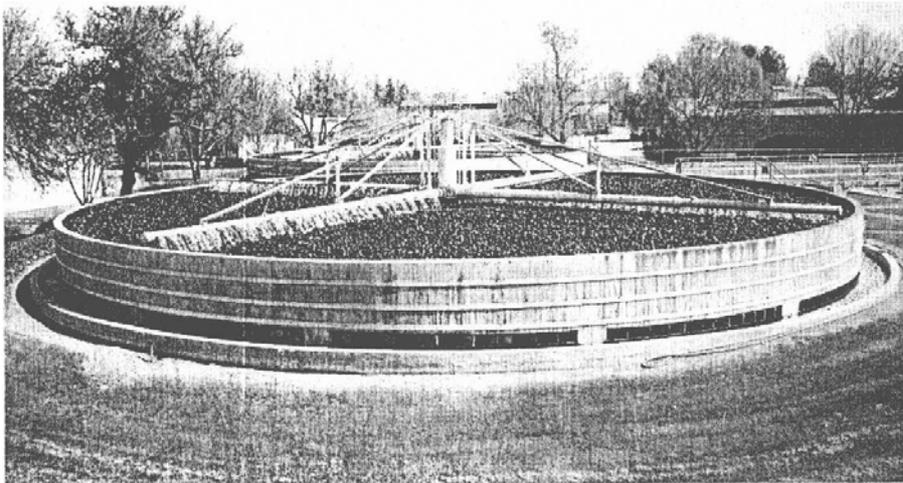
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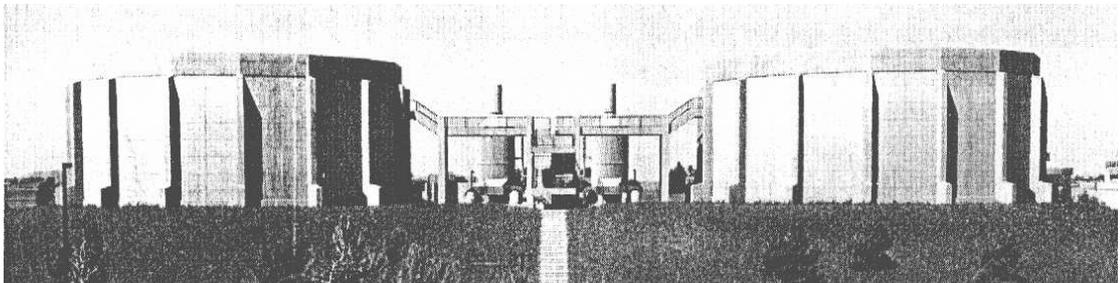
AEROBIC ATTACHED-GROWTH TREATMENT PROCESSES



(a)



(b)



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(redwood)
(Packed Bed Reactors)



(complete mix anaerobic

digestion process)

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-	-	BOD)	
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	-			(Lamella)
-	-	-	-	(coalescence)
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	MLss - MLVSS -	-	-	

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-	RO			Bio tower
-		Biogas		

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	CPI, API
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(UNIRAB	
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	(coalescence)
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((DAF)
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	(SBR)
	Bio tower

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(DAF)

(Flocs)

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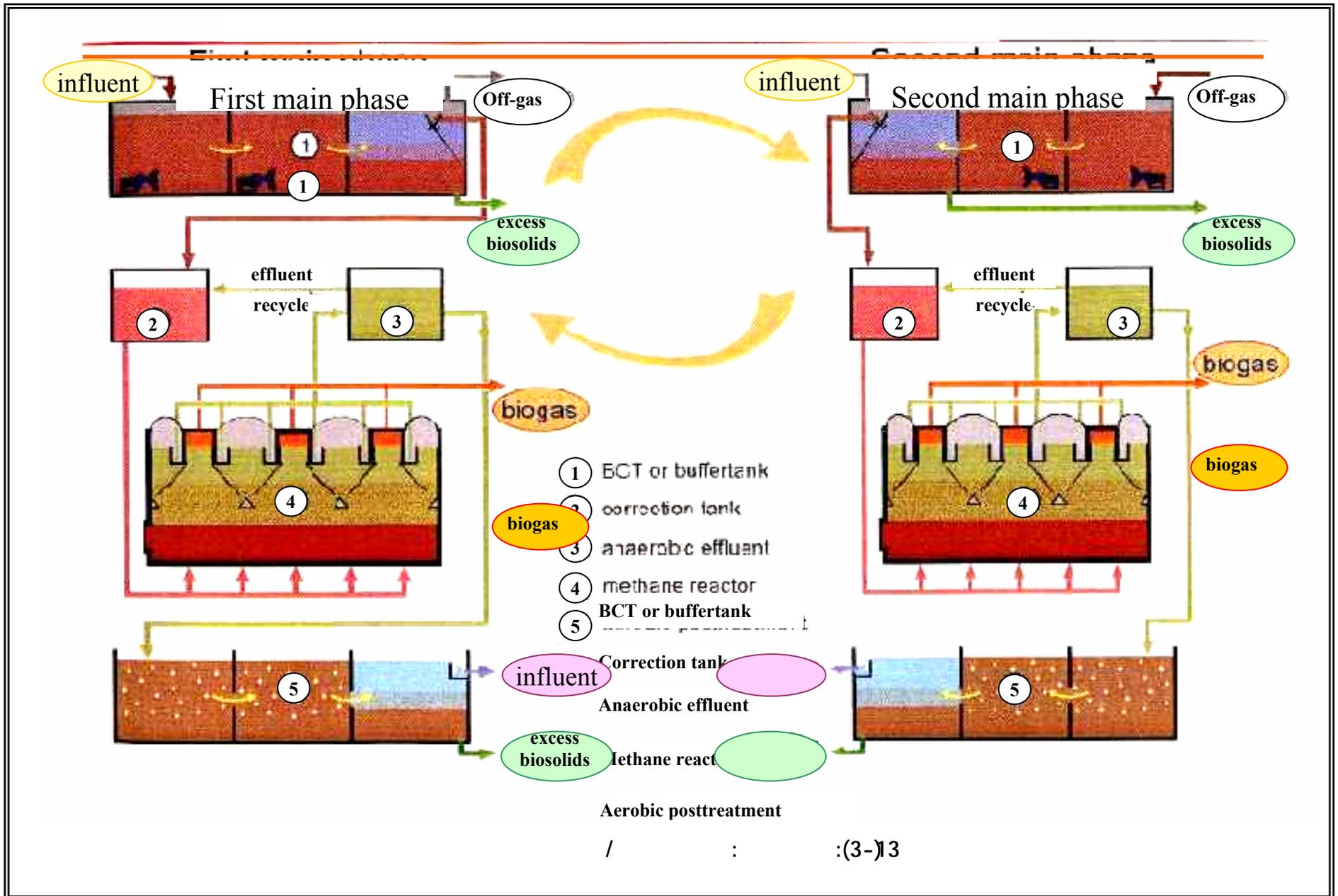
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aerobic biosolids

anaerobic biosolids

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(Sludge Treatment & Disposal)

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(eyelone degintter)

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(Fly Ash)

(Cement Kiln Dust)

(scaling)

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(Sludge Dewatering)

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(% -)

(% -)

centrifugation

(vacuum filtration)

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(belt press)

(floc)



- (recessed plate)

(centrifugation)

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Solid Bowl Centrifuge ()

(cake)

(Screen seeder)

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(Hopper)

(Imperforated Basket)

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(Belt Press)

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(vacuum)

(Shearing force)

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(Filter press)

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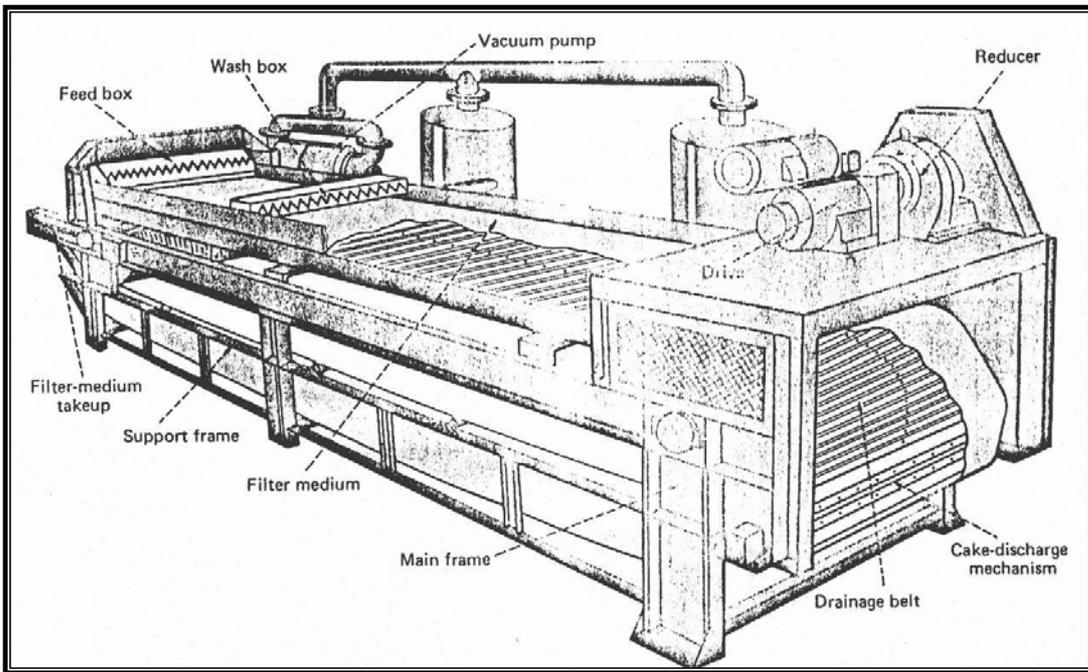
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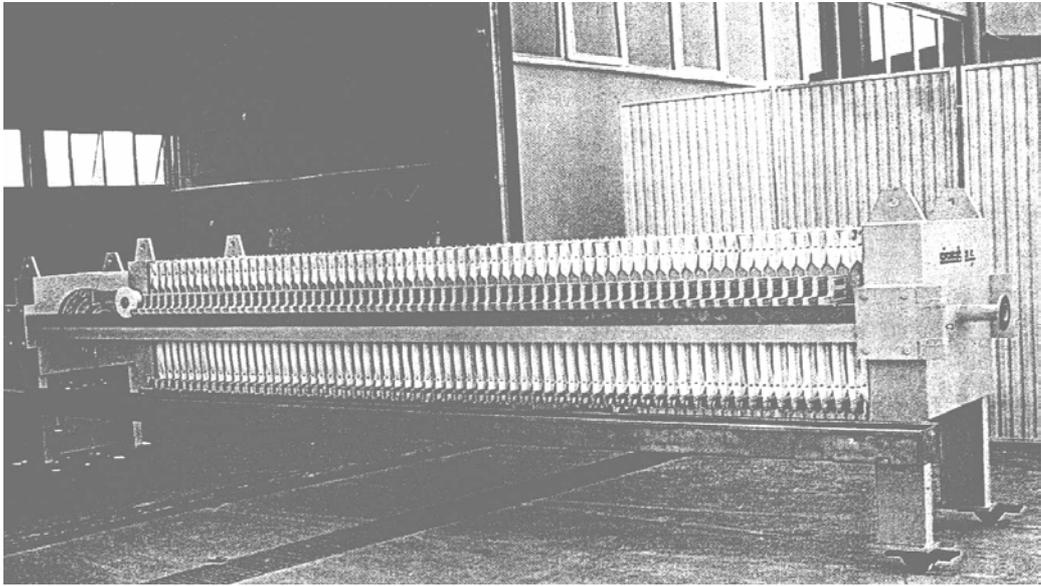
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(Vacuum-assisted)

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(Cartridge Filter)

(Granular – media filters)

(diatomaceous earth filter)

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(Anthracite)

(garnet)

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(Back wash)

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(VOC_s)

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(Membranes)

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(Ultra Filtration)

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(Reverse Osmosis)

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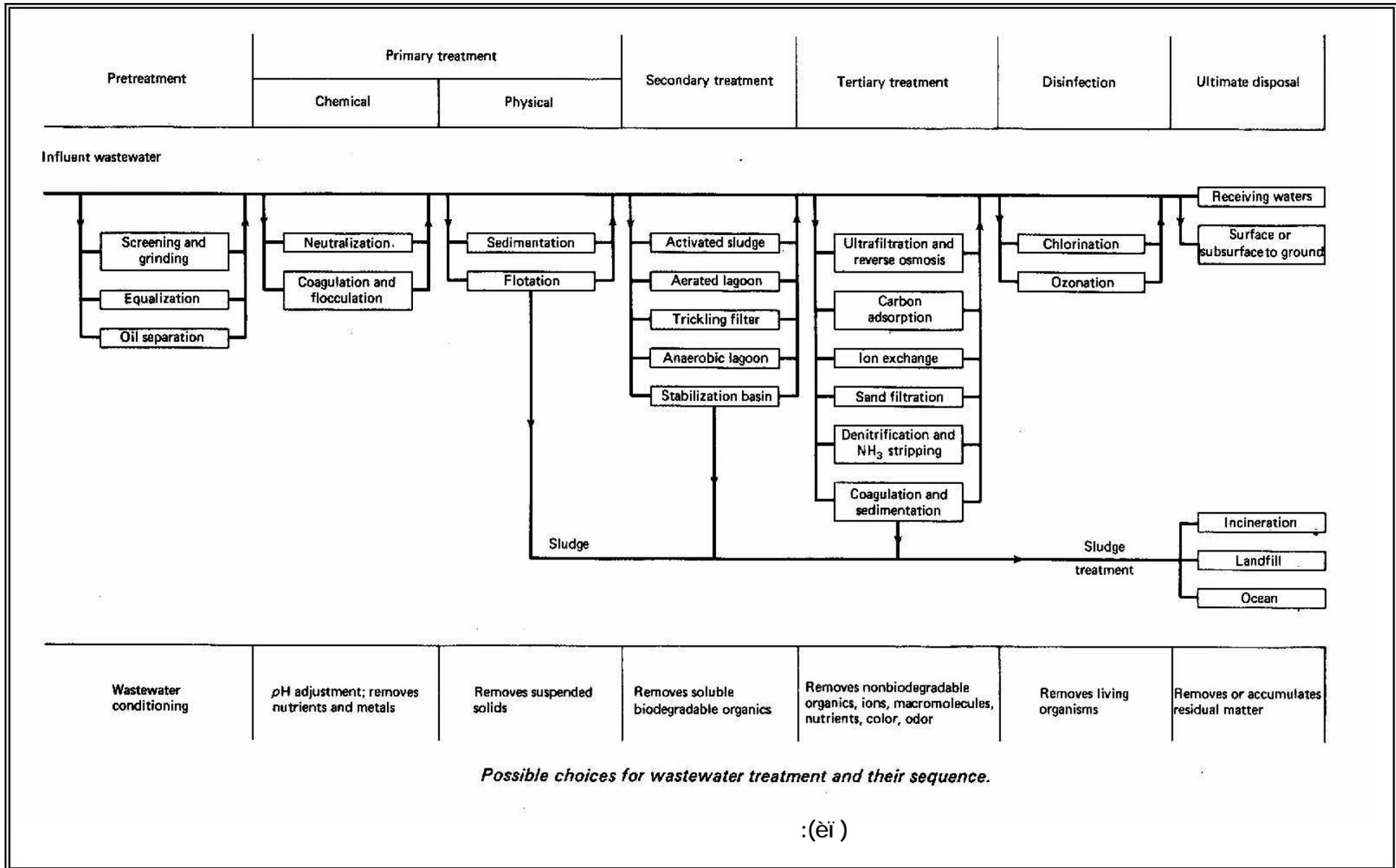
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(centrifugation)



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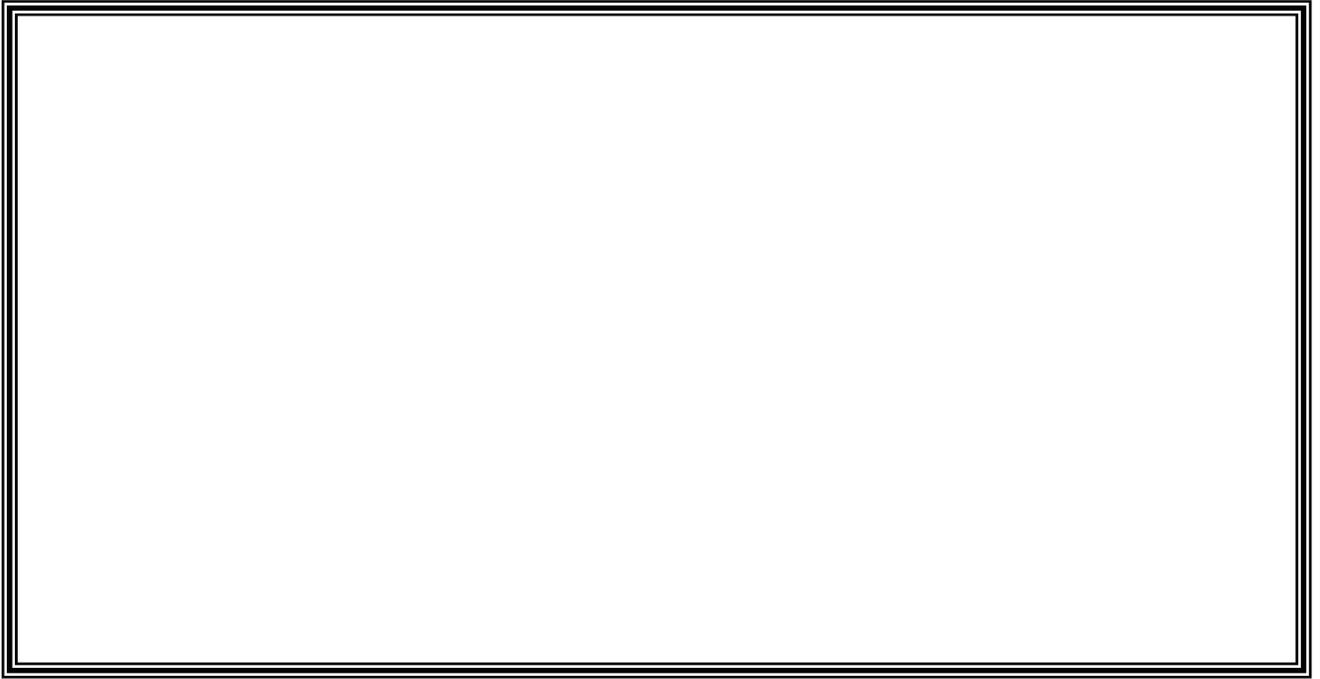
(Scum)

ويتم إنتاج الجزء الناتج من المعالجة البيولوجية في شكل مختلف (حمأة ناتجة عن البكتريا الغير نشطة) وهي أيضاً تحتاج إلى التخلص منها حيث أنها تتحلل وتنتج مواد كريهة، وهناك جزء صغير فقط يحتوى على مواد صلبة. وتستخدم عمليات التثخين (التركيز) والتجهيز ونزع المياه والتجفيف من أجل إزالة الرطوبة من الحمأة. ويجب تجفيف الحمأة الكيميائية المحتوية على مواد خطرة (مثل المعادن الثقيلة) ثم التخلص منها في مدفن معد لهذا الغرض. أما الحمأة البيولوجية المجففة والمواد الصلبة الغير خطرة الناتجة عن محطات معالجة الصرف الصناعي، فيتم التخلص منها في المدافن الصحية أو وحدات التخلص المخصصة لهذا الغرض.

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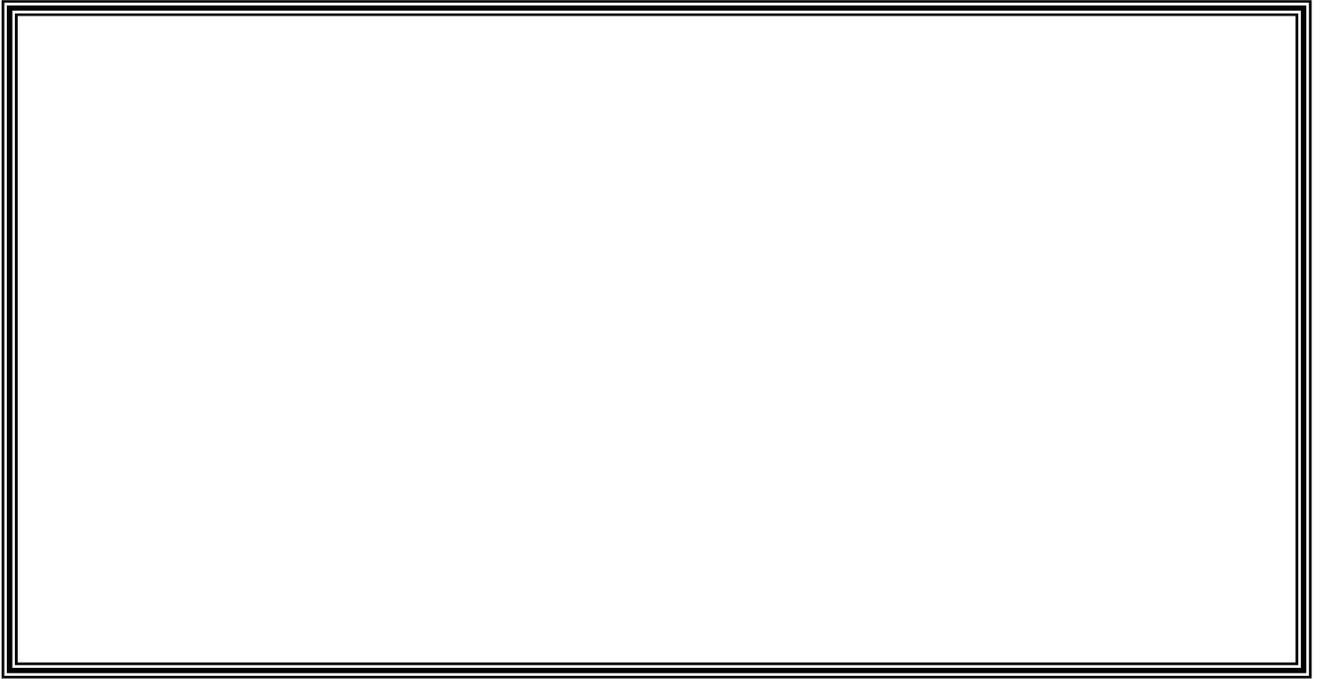
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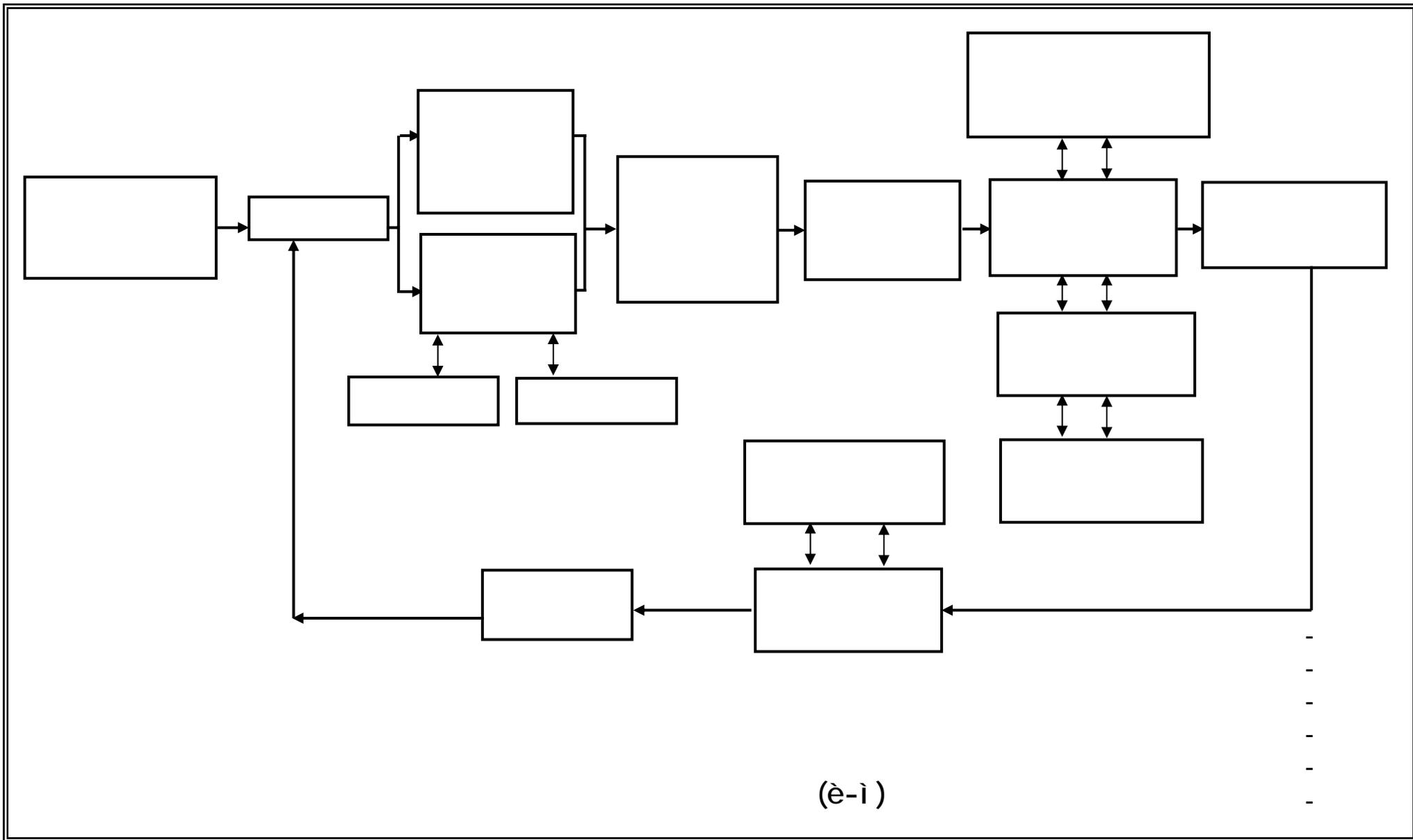
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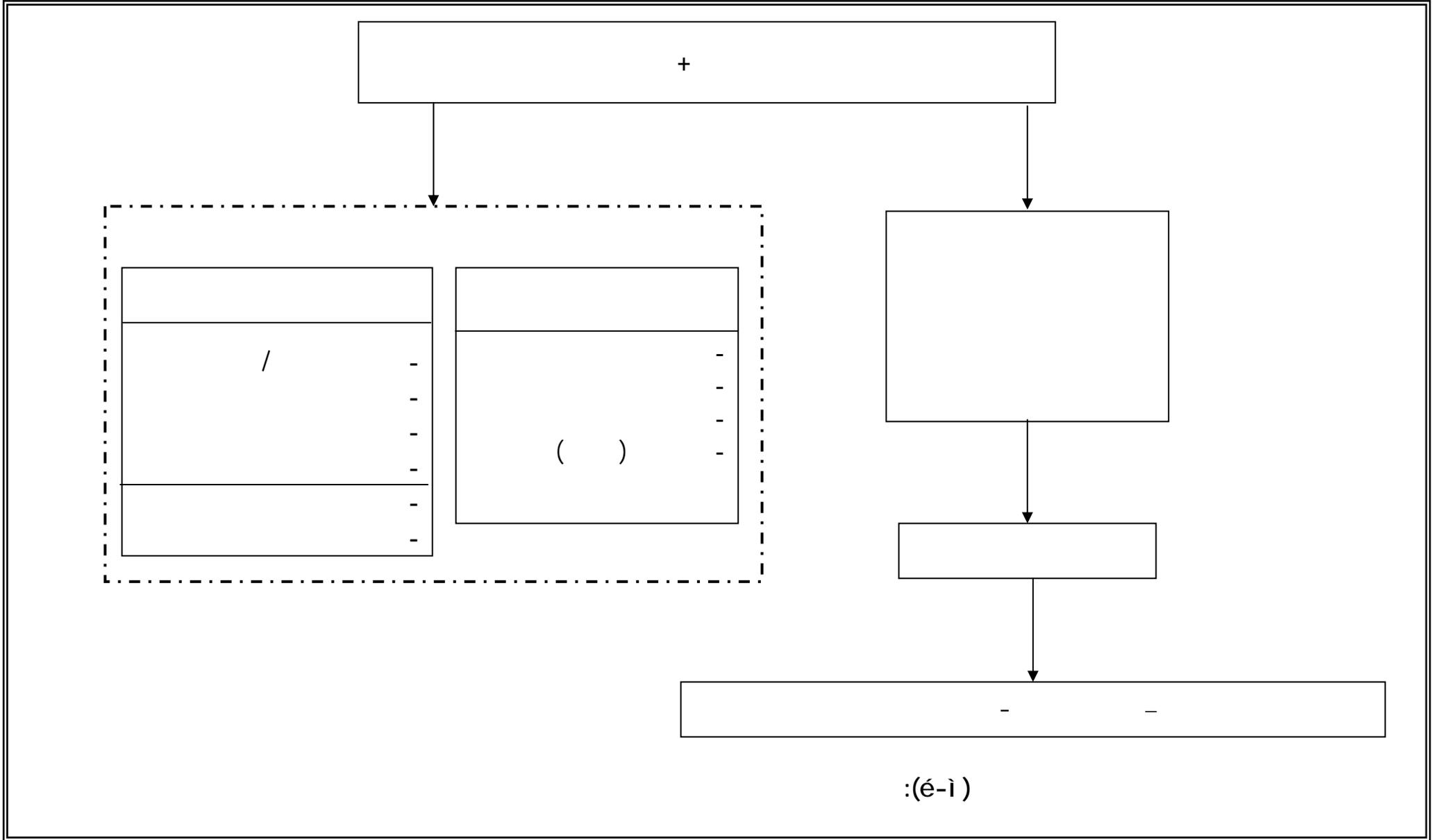
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