

# UASB

\*

// : // :

UASB

( )

( )

UASB

mg/l

COD

/

/

/ kgCOD/m<sup>3</sup>.d

mg/l

kgCOD/m<sup>3</sup>.d

mg/l

COD

%

UASB

mg/l

COD

/

kgCOD/m<sup>3</sup>.d

HRT

mg/l

COD

/

kgCOD/m<sup>3</sup>.d

%

/ COD

/

/

-COD

UASB

(Andreottola, et al., 1992)

Garcia et )

(al., 1996

(UASB+RBC)<sup>2</sup>

mg/l

COD .

) . %

(.

(.

)

UASB

Garcia

°C

COD .

% %

/ (HRT)<sup>3</sup> Kg COD/m<sup>3</sup>.d

%

°C

/ HRT Kg COD/m<sup>3</sup>.d

(Garcia, et al., 1996)

Kennedy

UASB (DSFF)<sup>4</sup>

% COD

UASB

(.

)

HRT / / kg COD / m<sup>3</sup>.d ( OLR)<sup>5</sup>

COD

Chang

UASB

mg/l

OLR % / /

COD

COD / OLR kgCOD/m<sup>3</sup>.d

% / kg m<sup>3</sup>.d

UASB

Castrillon Berrueta

COD

/ kgCOD/m<sup>3</sup>.d /

(UASB)

UASB

UASB

UASB

# UASB

Garcia, et )

Clostridium )

(al., 1996

(... PH )  
(Bitton, 1999)

,COD  
COD / %  
(Torabian, et al., 2004) % COD

(H<sub>2</sub>)  
Syntrophomonas Wolfei Syntrobacter Wolinii

Shen Wang

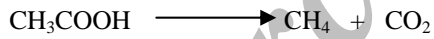
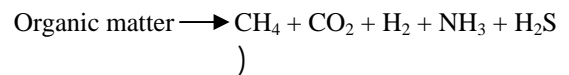
COD

(Bitton, 1999)

/ (ABR)  
COD



CO<sub>2</sub>



Lactobactillus Elostrisum Bifidobacterium  
Bochterodes Streptococcus

(Bitton, 1999)

(Bitton, 1999)

pH

( )

(Bitton, 1999)

)COD  
 (BOD  
 COD  
 UASB  
 UASB  
 PVC

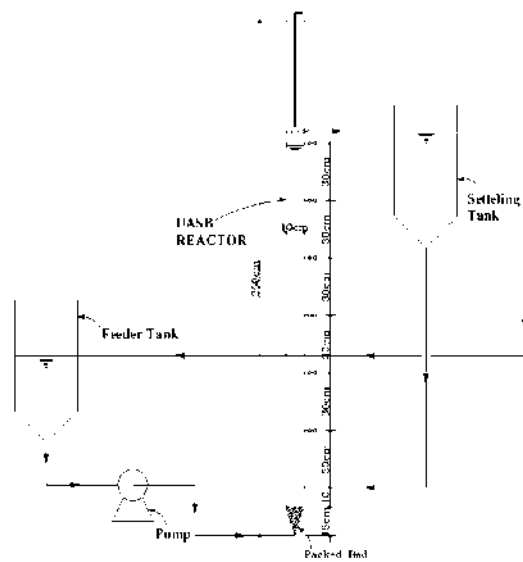
pH  
 COD  
 COD

COD  
 COD

pH  
 pH

COD

UASB



## UASB

:( )

(mg/L)	(mg/L)	
۸۰۰۰۰	۹۰۰۰۰ تا ۷۰۰۰۰	COD
۳۱۰۰۰	۳۸۰۰۰ تا ۲۴۰۰۰	BOD
۳۸۵۰	۶۷۰۰ تا ۱۰۰۰	TSS
۲۵۵	۳۰۰ تا ۲۱۰	نیترات (بر حسب N)
۲۳۵	۲۷۰ تا ۲۰۰	نیتروژن آمونیاکی (بر حسب N)
۸۰	۹۰ تا ۷۰	فسفات
۱۸۰۰	۲۰۰۰ تا ۱۶۰۰	سولفات
۴۱۰۰	۴۴۰۰ تا ۳۸۰۰	کلراید

F/M .

F/M

UASB

F/M

+

F/M .

( )

/ /

COD

pH

/

pH

UASB

( )

/ kgCOD/m<sup>3</sup>.d

OLR

°C

Feeder

COD

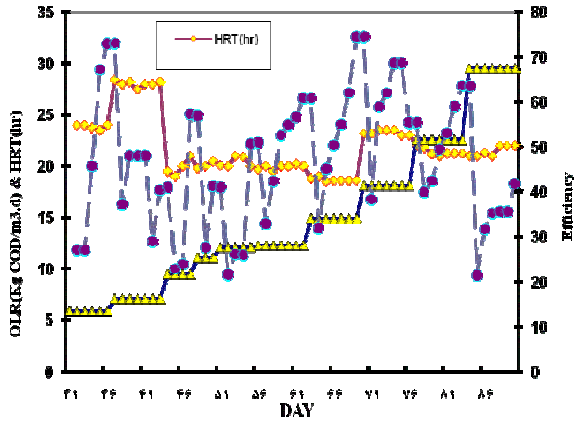
UASB

COD

/ /



## UASB



COD HRT OLR : ( )

m/hr UASB  
 COD OLR hr HRT / /  
 Kg mg/l / KgCOD/m<sup>3</sup>.d  
 mg/l / COD/m<sup>3</sup>.d  
 mg/l COD / KgCOD/m<sup>3</sup>.d  
 % /  
 OLR mg/l COD  
 % / KgCOD/m<sup>3</sup>.d

این  
 زمان شیرابه جدید با قدیم مخلوط می شود تا سیستم دچار شوک  
 شدید نشود.  
 OLR

% COD

HRT  
 ( )

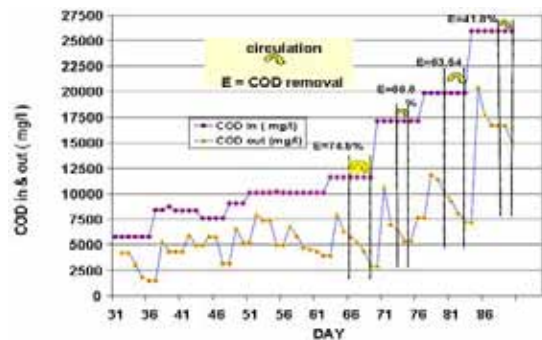
COD  
 / KgCOD/m<sup>3</sup>.d OLR  
 % / COD mg/l COD  
 / HRT

KgCOD/m<sup>3</sup>.d (OLR)  
 mg/l COD /  
 % HRT  
 %  
 / KgCOD/m<sup>3</sup>.d OLR mg/l

UASB

mg/l COD

OLR / / hr  
 % / COD / KgCOD/m<sup>3</sup>.d



COD : ( )

OLR mg/l COD  
 % / KgCOD/m<sup>3</sup>.d

- 1- Up flow Anaerobic Sludge Blanket
- 2- Rotary Biological Contactor

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7-Batch

8-Continuos

9- Volatile Suspended Solid

3- Hydraulic Retention Time

4- Down flow Stationary Fixed Film

5- Organic Loading Rate

6- Anaerobic Baffled Reactor

### UASB

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