MarineFAST® Biosolids Management System (BMS)
Aerobic Digestion and Storage
Reference Data - English Units

BMS Model	**D-1VSL**	**D-2VSL**	**D-3VSL**	**D-4VSL**	**D-5VSL**	**D-6VSL**	**D-7VSL**	**D-8VSL**
Number of storage tanks required	1	1	1	1	1	1	1	1
Sludge storage capacity (person-months)								
Blackwater only	190	310	500	620	750	1,200	1,900	2,400
Blackwater plus all graywater	100	170	260	330	400	660	990	1,300
All domestic sewage including ground food waste	60	90	150	190	220	370	560	720
Working Volume - gal	300	500	800	1,000	1,200	2,000	3,000	3,900
Dimensions - each tank - in								
length	75	91	115	115	114	166	188	235
width	46	58	58	70	82	82	82	82
height	79	80	81	81	81	82	94	94
Estimated system weights - lb								
shipping	2,800	3,500	4,400	4,900	5,400	7,300	8,800	11,000
operating	5,800	8,100	11,000	14,000	16,000	24,000	34,000	44,000
Transfer pump from FAST unit to BMS								
motor hp	1	1	1	1	1	1	1	1
discharge pipe size - in	1	1	1	1	1	1	1	1
Aeration blower								
motor hp	1	1	1	1	1	1	2	2
discharge pipe size - in	1	1	1	1	1	1	1 1/4	1 1/4
Supernatant pump to media tank								
motor hp	1	1	1	1	1	1	1	1
discharge pipe size - in	1	1	1	1	1	1	1	1
Sludge discharge pump								
motor hp	3	3	3	3	3	3	3	5
discharge pipe size - in	2	2	2	2	2	2	2	2 1/2
pumpout time - minutes	5	8	13	17	20	33	50	39
at tdh - ft	40	40	40	40	40	40	40	80

MarineFAST® Biosolids Management System (BMS)
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Reference Data - Metric Units

BMS Model	**D-1VSL**	**D-2VSL**	**D-3VSL**	**D-4VSL**	**D-5VSL**	**D-6VSL**	**D-7VSL**	**D-8VSL**
Number of storage tanks required	1	1	1	1	1	1	1	1
Working Volume - l	300	1,900	3,000	3,800	4,500	7,600	11,400	14,800
Dimensions - each tank - cm								
length	191	232	293	293	291	422	478	596
width	117	147	147	178	208	208	208	208
height	201	203	206	206	206	208	239	239
Estimated system weights - kg								
shipping	1,250	1,600	2,000	2,200	2,450	3,300	4,000	5,000
operating	2,600	3,650	5,000	6,350	7,250	10,850	15,400	19,900
Transfer pump from FAST unit to BMS								
motor kw	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
discharge pipe size - mm	25	25	25	25	25	25	25	25
Aeration blower								
motor kw	0.8	0.8	0.8	0.8	0.8	0.8	1.5	1.5
discharge pipe size - in	25	25	25	25	25	25	25	25
Supernatant pump to media tank								
motor kw	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
discharge pipe size - mm	25	30	30	30	30	30	30	60
Sludge discharge pump								
motor kw	2.3	2.3	2.3	2.3	2.3	2.3	2.3	3.8
discharge pipe size - in	50	50	50	50	50	50	50	63
pumpout time - minutes	5	8	13	17	20	33	50	39
at tdh - m	12	12	12	12	12	12	12	24

MarineFAST® Biosolids Management System (BMS)
Aerobic Digestion and Storage
Reference Data

How it Works

1. The transfer pump moves sludge from the bottom of the FAST® media tank to the storage tank.
2. In the storage tank, the sludge is aerobically digested and concentrated. Its mass and volume are reduced.
3. A timer alternates aerobic and anoxic conditions to stabilize pH and to permit dewatering.
4. The rising water level in the tank causes the blower to shut off, the sludge to settle and the clear supernant is returned to the FAST unit media tank for treatment and discharge to the sea.

Special Features

1. Aerobic - no corrosion or terrible odors from septic sewage.
2. Room temperature process - stable, reliable.
3. No separate vent - can vent to weather through the standard FAST media tank vent.
4. Tanks meet ABS deep tank standards and units meet USCG requirements for inspected vessels.
5. Proper operation does not depend upon the skill of the operator.
6. The operator need not come into contact with sewage or sewage sludge at any time.

MarineFAST® Biosolids Management System (BMS)
Aerobic Digestion and Storage
How to Select a MarineFAST Biosolids Management System

Example - blackwater only from 100 persons, 6 months sludge storage desired

1. persons	100
2. FAST Model	D-4VM
3. months	6
4. person-months required	600
5. selected unit	D-4VSL
6. person-months available	624
7. calculated months available	6.2
8. expected months available	6
9. gallons to be discharged	1,000
cubic meters	3.8

Example - blackwater plus all graywater from 100 persons, 6 months storage desired

1. persons	200
2. FAST Model	D-6VM
3. months	6
4. person-months required	1,200
5. selected unit	D-8VSL
6. person-months available	1,300
7. calculated months available	6.5
8. expected months available	7
9. gallons to be discharged	3,900
cubic meters	14.8

Notes:

1. Standard MEPC FAST units incorporate about one month internal sludge storage.
2. To increase storage period to three months, select the next larger FAST unit and no separate BMS unit is required.
3. Expected months available are rounded to the nearest month.
4. Reference data only, not for construction. Consult factory for specific applications.