

Fact Sheet

Low-Cost Polyethylene Tube Digester - Valley

by GTZ / EnDev – Bolivia

Application Region

Climate:	Soft summers and winters. No freezing temperatures during winter nights. Mean ambient temperature 15 – 20 °C
Meters above sea level:	2.000 – 3.000 m _{asl}



Operational Characteristics

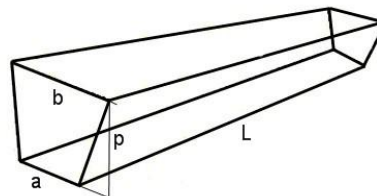
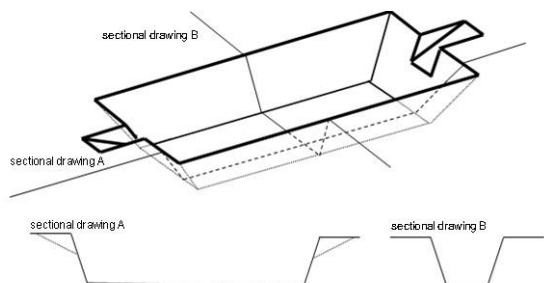
Diary load of substrate:	20 kg of dung (cow) and 60 l of water
Diary biogas production:	700 - 750 l (4 - 5 hours for cooking)
Diary biol (fertilizer) production:	80 l
Retention time:	44 days
Time needed to begin to work:	1 months
Internal working temperature:	15 °C

Digester Dimensions

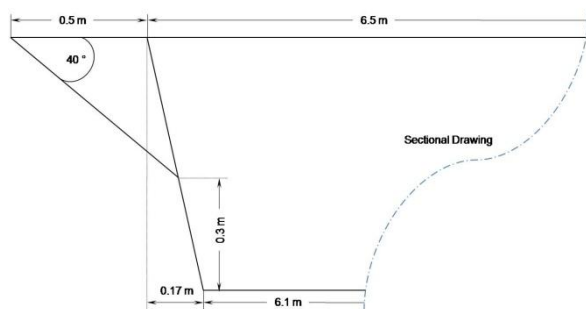
Total Volume:	4,70 m ³
Liquid Volume:	3,52 m ³
Gasholder Volume:	1,17 m ³
Roll width:	1,5 m
Digester-Diameter (D):	0,96 m
Length of the digester (L):	6,5 m
Ratio L/D:	6,8

Trench Dimensions

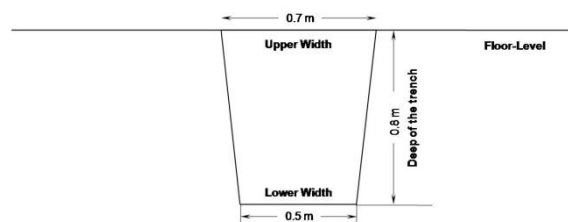
Lower width of the trench (a):	0,5 m
Upper width of the trench (b):	0,7 m
Deep of the trench (L):	0,8 m
Length of the trench:	6,5 m



Low-Cost Polyethylene Tube Digester – Valley
Horizontal Trench-View – Sectional Drawing A



Low-Cost Polyethylene Tube Digester – Valley / Tropic
Vertical Trench-View – Sectional Drawing B



Accessories

Gas Storage Reservoir:	2 (0,65 m ³ each / total 1,3 m ³)
Burner (Stove):	1
Protection:	Half Shade Red 50 % (8,5 m x 2 m)
BUDGET (January 2010):	100,- € (148,- us\$)