

PT. UTAMA NIPPON RAYA

Fibreglass Manufacture & Engineering Design



Strong Durable
High Quality Product



UTAMA FRP

*" We serve and ensure to our clients
with the best quality product "*



Company Profile

PT Utama Nippon Raya

Facilities :

1. Engineering Design, Factory, Machinery
2. Factory Area 5000 M2
 - * With 4(four) Building for Production
3. Production use Helical Filament Winding Process with computerized system
4. Man Power More Than 80 Persons.



Mission & Quality

We Strive to be a competent partner for our customers, satisfy their requirement, solve their problem and provide best service.

Our dedicated personnel will commit to their task for supporting the customers to get the optimum value from our product and service. with the satisfaction of our customers, we maintain our growth and honor the esteemed loyalty of our people.

PT Utama Nippon Raya had designed & manufactured fibreglass to many joint ventures, foreign investment companies as well as exports to same foreign markets, all for very competitive price & comparable to import quality. We owe these to the experienced skilled workers headed by our foreign trained engineer. Towards customers satisfaction. We are ever continuing our innovations,

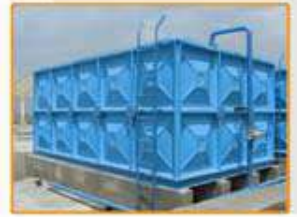
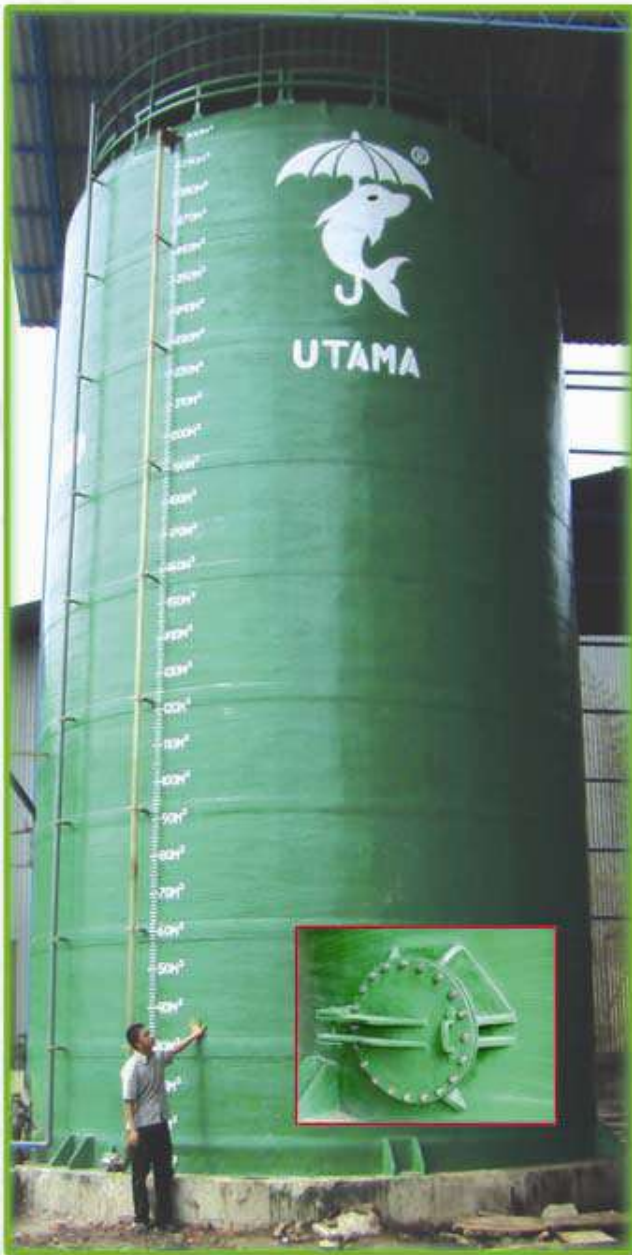
- * Storage Tank (Chemicals, Water, etc.)
- * Mixing Tank (Chemicals, Water, etc.)
- * Grating, Job Order
- * Scrubber Tank, Stack
- * Reactor Tank
- * Pipe & Ducting
- * Panel Tank
- * Sedimentation Tank, Flocculator Tank
- * Clarifier Tank
- * Grease Trap Tank
- * Gutter, Roof Light, Ground Tank, Roof Tank
- * Lining Frp for Chemical
- * Portable Toilet
- * Septic Tank (BT, RC, RCX)
- * Biotech S T P / W W T P / W T P.



Products

Our Customers

PT. ABC President
PT. Adhi Karya
PT. Araya
CV. Bangun Decorindo
PT. Basuki Rahmat
PT. Charoen Pokphand
PT. Chubb Safes Indonesia
PT. Coca cola - Cikarang
PT. Cognis
PT. Daichi Chemical
PT. Delident
PT. Dharma Polimetal
PT. Dystar colorindo
PT. Esa Kertas
PT. Frisian Flag
PT. Golden Mississippi
PT. Hopac
PT. Indah Kiat Pulp & Paper
PT. Kormac
PT. Locomotif
PT. Mayora Indah
PT. Mitsui Eterindo Chemical
PT. Pindo Deli Pulp & Paper
PT. Pulau Intan
PT. South Pacific
PT. Sumitomo corp.
PT. Surya Cipta
PT. Totalindo
PT. Total Bangun Persada
PT. Tatamulia
PT. Tatametrika Nusantara
PT. Waskita Karya
PT. Wijaya karya



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Content

Storage Tank Frp



Storage Chemical Tank 100 M³



Storage Aluminium Tank 42 M³



WTP Chemical Tank 20 M³



Proses pengiriman tangki FRP



Proses produksi winding on site



Produksi di workshop Pt. Utama



Storage Tank Applications

● Standart Epoxy Vinyl Ester Grade for Strong Chemical Resistance.



Storage Chemical Tank 15 M



Storage Fuel Oil Tank 20 M



Storage Chemical Tank 100 M



Storage Fuel Oil Tank 50 M



Storage Chemical Tank 20 M



Storage Pure Water Tank 70 M



PT. UTAMA

PT. UTAMA NIPPON RAYA

Telp. (021) - 540 2100, (hunting)
Fax. (021) - 545 2190

Reactor Tank Frp



Mixing Tank Frp



Pipe and Ducting Frp

for Chemical



Pipe & Ducting Frp Base On ASTM D-3299

- Pressure Pipe
- Chemical Pipe
- Scrubber Pipe & Ducting
- Job Order Pipe & Ducting.

Scrubber Frp

(air Cleaning)



Co. Purification System



Scrubber for Al_2O_3



Pipe for Gas Chlorine



Ducting for Gas Chlorine



Scrubber for Chlorine



Scrubber for Chlorine



Chimney for Chlorine



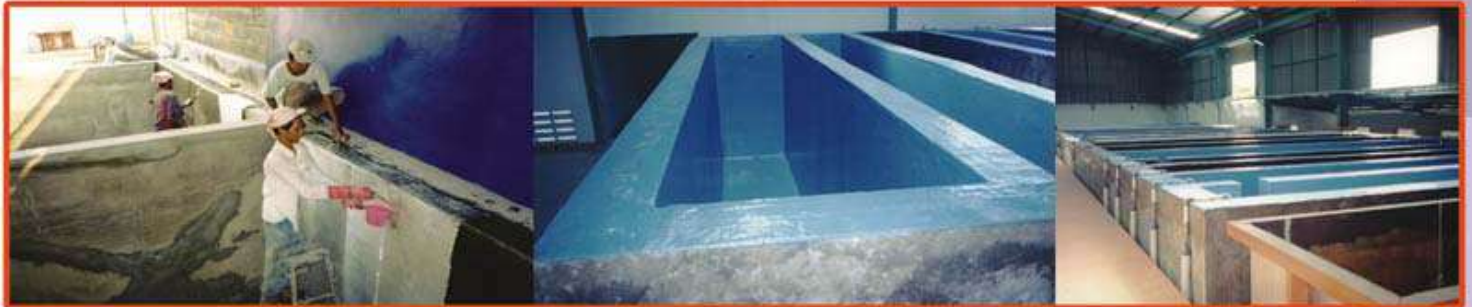
System & Material Scrubber adjustment by characteristic Chemical is used.

Lining Frp

PROTECT YOUR TANK AND FLOOR WITH FRP LINING !

Very effective in combating corrosion, low cost, long lasting frp linings Fiberglass reinforced lining are the low cost, long lasting and highly effective in combating corrosion. A frp is usually less than half new steel tank.

whether I a new tank or old, frp lining provide protection against leaks cause by underside corrosion and abrasive and are resistant to crude oil, refined, hydrocarbons, petrochemicals, dilute acid and alkalis, installing a frp lining is easy to do, a finished cross section is detailed in diagram below.



LINING APPLICATION

Utama lining applies, rolled or trowelled fibreglass reinforced resin lining to tank, vats, duct work, breaching, pump pads, concrete trenches, stacks, fan, floors, etc. These linings, are applied to new, or existing, equipment at the customers plant site. The resin and glass are hand worked by brushes, whether I a new tank or old, frp lining provide protection against leaks cause by underside corrosion and grooved and mohair roller to remove air and to saturate the glass with resin. The total lining thickness is built up layer. Added corrosion protection is provided by and outer layer of surfacing veil which insures a resin rich surface.

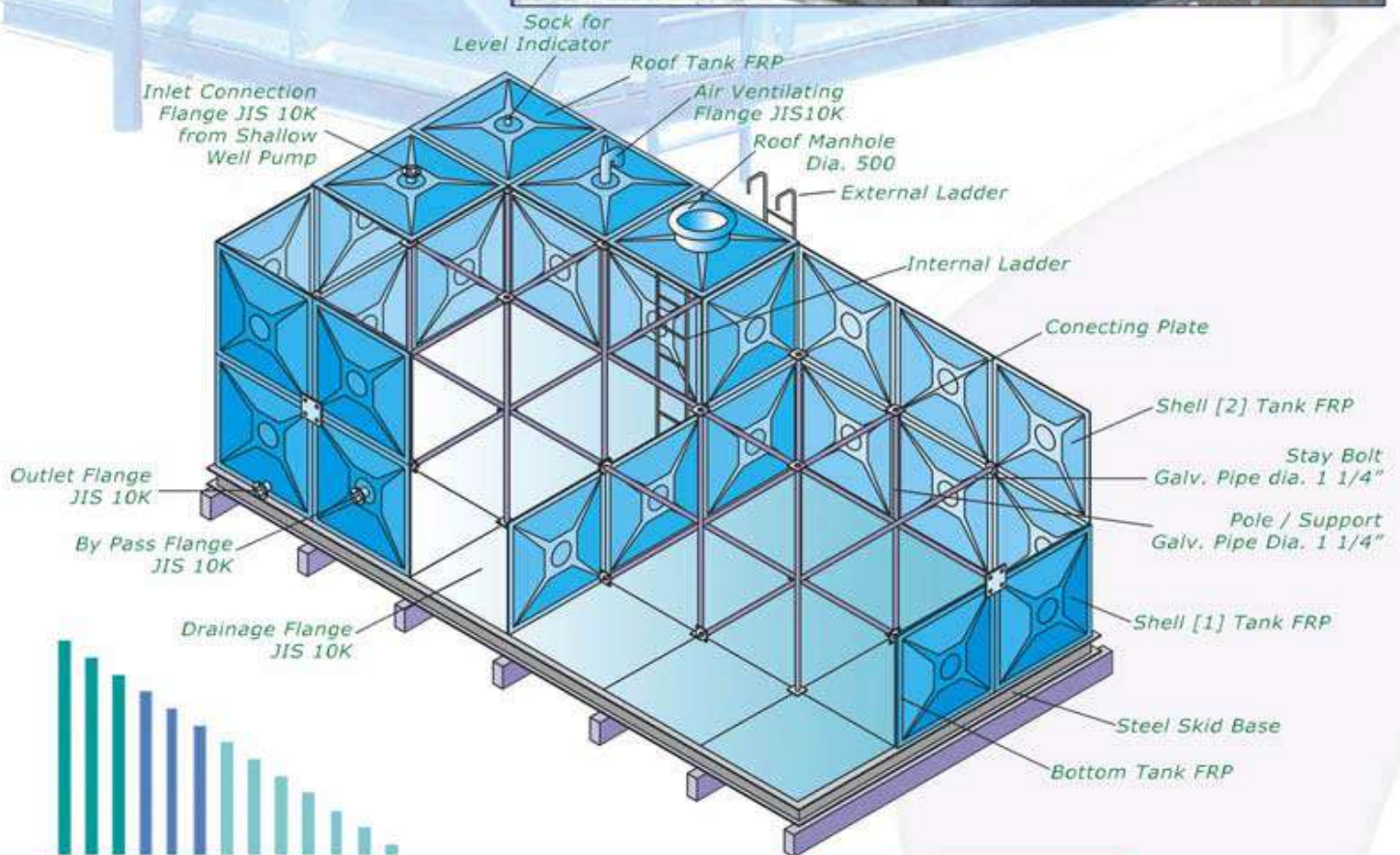
BENEFIT OF FRP LINING

Low cost, Durable, Excelent adhesion strength both to concrete & steel,
High mechanical strength, Hard and smooth surface, Resistant to corrosive & abrasive.
Simple and fast to apply, immersion temperature resistant up to 100 °C,
Excellent resistant to strong acid & moderate to high alkalis.

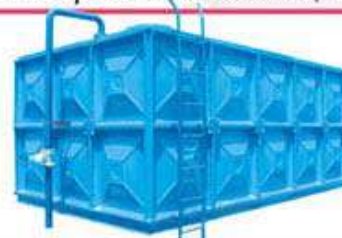
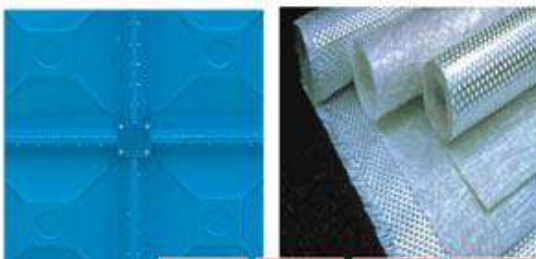
Job Order & Frp Materials



Panel Tank Utama



Assembled from extra-strong fibreglass panel, Utama Panel Tank cannot rust, never needs Painting and keep water clean, fresh and pure.



GREASE TRAP *Biotech*

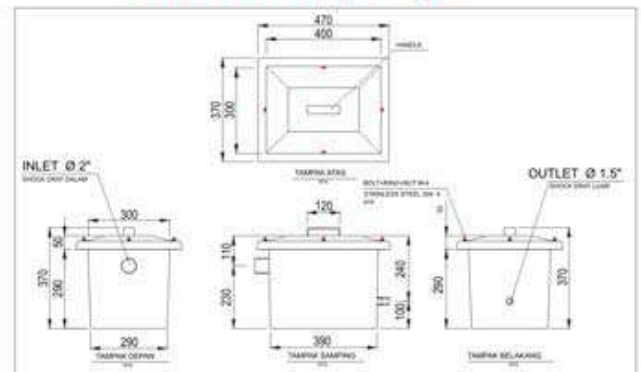
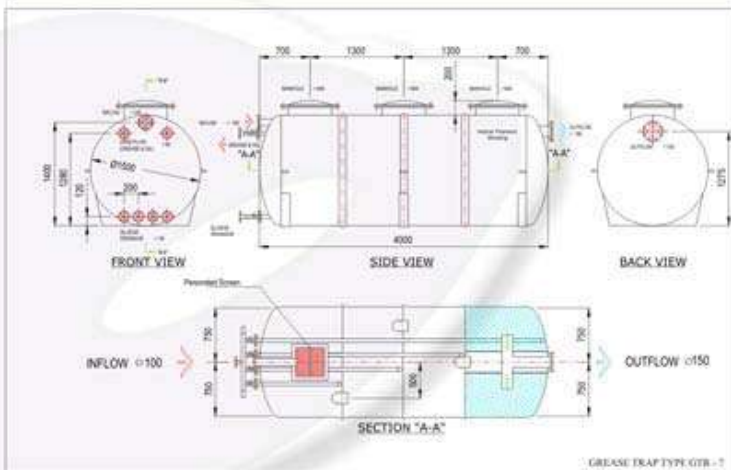


- ☺ *Restorant*
- ☺ *Apartment*
- ☺ *Food Court*
- ☺ *Hotel*
- ☺ *Mall*
- ☺ *Dll.*



Grease Trap Frp

No.	TYPE	FLOW RATE	MODEL
1	GTR 1 - GTR 500	1 M3 / Day - 500 M3 / Day	Horizontal



Portable Toilet



Portable Toilet sangat cocok digunakan sebagai pengganti Toilet permanen ditempat umum dan mudah dipindahkan dan sangat mudah dalam perawatannya juga bergaransi.

Portable Toilet dilengkapi dengan water tank, Septic tank, dan instalasi pipa.

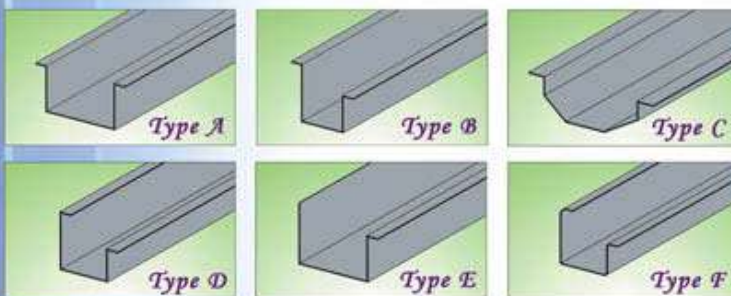
Rooflight Frp (atap penerangan)



KEUNTUNGAN UTAMA ROOFLIGHT & GUTTER

- ☉ Anti Ultra Violet / Anti UV, Tahan Temperatur s/d 120°C
- ☉ Tida berubah bentuk karena panas matahari
- ☉ Tidak mudah pecah / rusak, Tahan terhadap zat kimia, Bentuk dan type dapat disesuaikan dengan kebutuhan, Warna dapat dipesan sesuai selera anda.

MACAM - MACAM TYPE TALANG



Sangat Cocok Digunakan pada :

- ☉ Pabrik - pabrik (Industri)
- ☉ Pergudangan
- ☉ Gelandangan Olah Raga
- ☉ Peternakan
- ☉ Perkebunan / Pertanian (Seperti rumah - rumah kaca)
- ☉ Dll.



Gutter Frp

Grating Frp

BENEFITS OF GRATING FRP

Low cost, Strong, Resistant of Chemical, & Durable, High mechanical strength, Hard and smooth surface, Simple and fast to apply, Immersion temperature resistant up to 120 °C, Excellent resistant to strong acid & moderate to high alkalis.



Marketing Office
PT. UTAMA NIPPON RAYA



dimensi

Tipe	Kapasitas (liter)	D (mm)	T (mm)	TA (mm)	d (mm)	Tebal Dinding (mm)	Fitting (inch)
TB 25	225	600	805	855	400	4 - 6	3/4
TB 32	300	690	825	870	400	4 - 6	3/4
TB 55	520	830	1045	1110	400	6 - 9	3/4
TB 70	650	830	1200	1285	400	7 - 10	3/4
TB 80	800	830	1625	1700	400	7 - 10	3/4
TB 110	1050	1060	1220	1265	400	9 - 11	1
TB 120	1200	1060	1325	1395	400	9 - 11	1
TB 160	1550	1160	1495	1575	400	10 - 12	1
TB 200	2000	1440	1385	1485	600	10 - 12	1 1/4

Tipe	Kapasitas (liter)	D (mm)	T (mm)	TA (mm)	d (mm)	Tebal Dinding (mm)	Fitting (inch)
TB 200s	2000	1760	845	1000	600	10 - 12	1 1/4
TB 220	2250	1440	1545	1665	600	10 - 12	1 1/4
TB 280	2800	1760	1050	1400	600	10 - 15	1 1/4
TB 300	3100	1440	2000	2110	600	10 - 15	1 1/4
TB 400	4100	1760	2000	2125	600	12 - 18	1 1/4
TB 500	5100	1800	2040	2150	600	12 - 18	1 1/4
TB 800	8000	2140	2250	2410	600	12 - 18	1 1/4
TB 1000	11000	2140	3200	3360	600	15 - 20	2
TB 1600	16000	2750	2750	3000	600	15 - 20	2
TB 2200	22500	2750	3850	4100	600	15 - 22	3



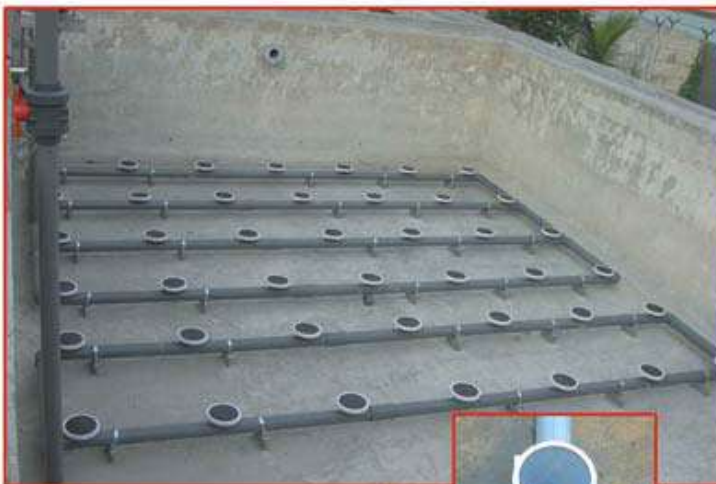
PILIHAN WARNA

[warna standar]

[warna special]



WWTP Biotech...



Air Disk Diffuser merk SSI Ex. USA



Waste Water Treatment System BIOTECH cocok untuk :

- 🔴 Limbah Produksi Industri
- 🟡 Rumah Sakit & Hotel
- 🟢 Apartemen & Mall
- 🔵 Sekolah & Laboratorium.

STP BIOTECH

Type RCO - Series

New technology for Domestic Wastewater Treatment.

Changing wastewater to clean water



CAPSULE PACKAGE WASTEWATER PURIFICATION TANK

APARTMENT	MALL	HOSPITAL	HOTEL
CONDOMINIUM	OFFICE BUILDING	RESTORANT	FACTORY

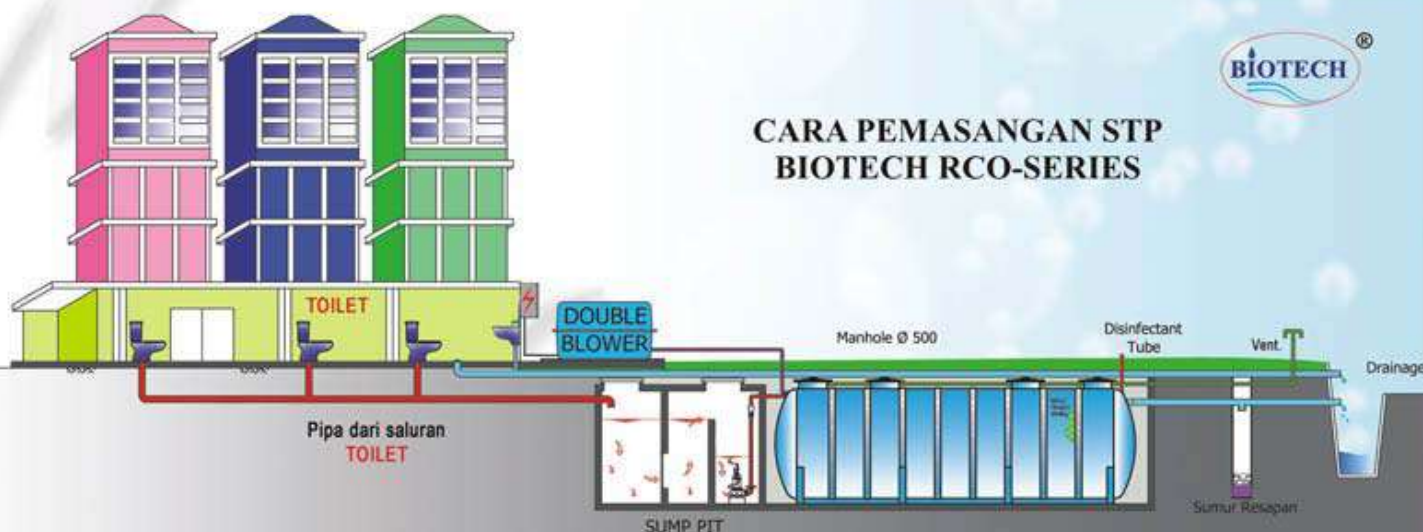
PROCESS FLOW



Control Panel Automatic (Optional)

- Warning Light system and Sound Speaker.
- Timer for Submersible and Double Blower.

CARA PEMASANGAN STP BIOTECH RCO-SERIES



PT. UTAMA NIPPON RAYA

Biofiltration System and Extended Aeration

BIOTECH Type RCX-Series



“ Biotech System Ramah Lingkungan ”



No.	TYPE	VOLUME	UKURAN	MODEL
		Luar	Luar	
1	RCX- 2	2 M3	Ø 1000 x 2000	Horizontal
2	RCX- 3	3 M3	Ø 1350 x 2000	Horizontal
3	RCX- 4	4 M3	Ø 1350 x 2800	Horizontal
4	RCX- 5	5 M3	Ø 1350 x 3500	Horizontal
5	RCX- 6	6 M3	Ø 1500 x 3500	Horizontal
6	RCX- 7	7 M3	Ø 1500 x 4000	Horizontal
7	RCX- 9	9 M3	Ø 1500 x 5200	Horizontal
8	RCX- 10	10 M3	Ø 1750 x 4000	Horizontal
9	RCX- 12	12 M3	Ø 1750 x 5000	Horizontal
10	RCX- 15	15 M3	Ø 1750 x 6000	Horizontal
11	RCX- 16	16 M3	Ø 2000 x 5100	Horizontal
12	RCX- 17	17 M3	Ø 2000 x 5500	Horizontal
13	RCX- 18	18 M3	Ø 2000 x 5700	Horizontal
14	RCX- 19	19 M3	Ø 2000 x 6000	Horizontal
15	RCX- 20	20 M3	Ø 2000 x 6500	Horizontal

TYPE	VOLUME	MODEL
	Luar	
RCX20 - RCX500	20 M3 - 500 M3	Horizontal

CARA PEMASANGAN BIOTECH TYPE RCX - SERIES



Keterangan : Dapat disesuaikan kebutuhan di lapangan, konsultasi dengan orang tehnik kami.

New Technology

Two Inlet Type BT - 12



Inflow from Waste water 4"

Cleaning tube 4"

Inflow from Toilet 4"

Cleaning tube 4"

Perforated screen (non clog)

Media Cell B

Media Cell A



Manhole

Ventilating 2"

Disinfectant tube 4"

Cleaning tube 4"

Outflow 4"

Transfer pipe 4"

Media Cell A

Media Cell B



Septic Tank BIOTECH ramah lingkungan dan membantu mengatasi pencemaran air sehingga menjadikan lingkungan bersih dan sehat.

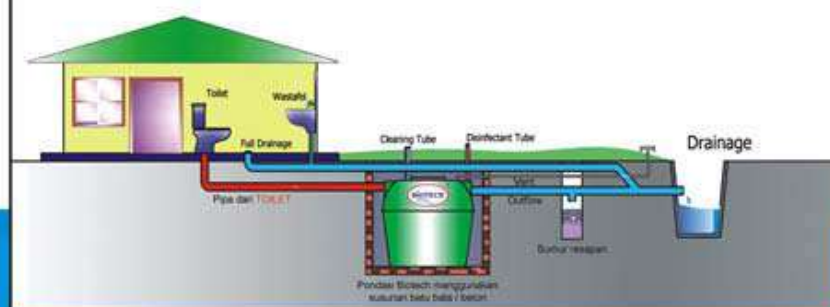
Sistem BIOTECH dilengkapi dengan disinfectant tube untuk mensterilkan dari bakteri patogen.

Septic Tank Biotech

Type BT - Series

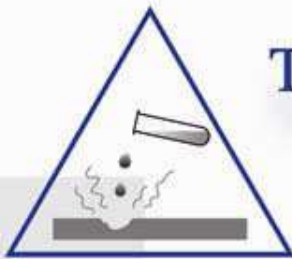


CARA PEMASANGAN
BIOTECH BT - SERIES



Septic Tank Biotech

Type RC - Series



Technical Information of CORROSION GUIDE

CHEMICAL ENVIRONMENT	DERAKANE 411	DERAKANE 470
Maximum Concentration %	Maximum Temperature °C	
Acetic Acid	●	●
Acetone	●●●	●●●
Alums (all types)	●●●	●
Ammonia (liquid gas)	●●●●●	●●●●●
Ammonia (gas)	●●●●●	●●●●●
Ammonium Hydroxide (conc)	●●●●●	●
Amyl Acetat	●●●●●	●●●●●
Amyl Alcohol	●●●●●	●
Barium Chloride	●	●
Barium Hydroxide	●	●
Benzene	●●●●●	●●●●●
Brass Plating Solution	●	●
Brine	●	●
Bromine (liquid)	●●●●●	●●●●●
Bromine (wet gas)	●●●●●	●●●●●
Butter	●	●
Cadmium Chloride	●	●
Calcium Hydroxide	●	●
Calcium Hypochlorite	●	●
Carbon Dioxide (gas)	●	●
Castor Oil	●	●
Chlorine	●	●
Chlorofoam	●●●●●	●●●●●
Chromic Acid	●●●●●	●
Citric Acid	●	●
Coconut Oil	●	●
Cola Concentrates	●	●
Copper	●	●
Crude Oil	●	●
Detergents, Synthetics	●	●
Developers, Photo	●	●
Emulsion, Photo	●	●
Ethyl Alcohol	●●●●●	●
Ferric Nitrate	●	●
Fish Solubles	●	●
Fluosilic Acid	●●●●●	●●●●●
Formic Acid (conc)	●	●
Fuel Oil	●	●
Gasoline	●	●
Gold	●	●
Glucose	●	●

CHEMICAL ENVIRONMENT	DERAKANE 411	DERAKANE 470
Maximum Concentration %	Maximum Temperature °C	
Hydrochloric Acid (all conc)	●	●
Hydrofluoric Acid (conc)	●	●
Latex	●	●
Lead Acetate	●	●
Methanol (Methyl Alcohol)	●●●●●	●
Milk	●	●
Mineral Oils	●	●
Molasses	●	●
Nickel	●	●
Nitric Acid	●●●●●	●●●●●
Plating solutions	●	●
Potassium Hydroxide	●	●
Sea Water	●	●
Shortening	●	●
Silver	●	●
Soap Solution	●	●
Sodium Chlorite	●	●
Sodium Hydroxide	●	●
Sodium Hypochlorite	●	●
Solvent	●	●
Styrene	●●●●●	●
Sulphuric Acid (70%)	●●●●●	●
Sulphuric Acid (80%)	●●●●●	●●●●●
Sulfurous Acid	●	●
Turpentine	●	●
Urea	●	●
Vegetable Oils	●	●
Vinegar	●	●
Water	●	●
Wines	●	●

Keterangan :



Tahan tidak ada indikasi akan rusak.



Ketahanan bervariasi, tergantung dari kondisi pemakaian.



Tidak tahan, tidak dianjurkan untuk digunakan pada kondisi apapun.

note : Sumber data diambil dari katalog material FRP.



Comparative Physical Properties of Fibreglass Versus Other Material

MATERIAL	FIBREGLASS	FIBREGLASS	STEEL	STAINLESS	PVC
Specification	Hand Lay Up	Helical FW	SS 41 Grade	sus 316 Grade	General Grade
Specific Gravity	1.5 - 1.7	1.8 - 2.0	7.8	7.9	1.47
Flexural Strength Kg/mm ²	15 - 25	20 - 30	-	-	7 - 11
Tensile Strength Kg/mm ²	9 - 15	30 - 35	20 - 23	21 - 35	3 - 5
Heat Conductivity Kcal/mhr° C	0.20 - 0.25	0.23 - 0.25	32 - 57	12 - 23	0.2
Water Absorption %	0.1 - 0.2	0.1 - 0.2	-	-	0.1 - 0.4
Specific Heat Cal/gr° C	0.31 - 0.33	0.31 - 0.33	0.10	0.11	0.2 - 0.3
Hardness (Barcol)	35 - 50	35 - 50	-	-	-
Flexural Modulus of Elasticity Kg/mm ²	700 - 900	1500 - 2500	21000	21000	300

Material of FRP

I. POLYMER

1. Polyester
2. Vinylester
3. Epoxy.

II. FIBREGLASS

1. Surfacing Feil
2. Chopped Strand Matt
3. Woven Roving
4. Continouos Roving.

III. ADDITIVE

1. Catalyst
2. UV (Ultra Violet Protection)
3. Fire Retardant
4. Pigment
5. Abrasion Resistant.

General Procedure to Build FRP Tank

1. Design Specification

User Basic Requirement Specification

example: Dimension, Capacity, Materials, Pressure, temperature, etc.

2. Engineering

Redrawing, Calculation of FRP

3. Fabrication

Fabrication Procedure, Quality Assurance, Handling, Storage and Shipment

4. Installation

5. Testing and Commissioning.

Products Catalogue



Reactor Tank & Sedimentation



Aluminium Sulfate Storage Tank



Pure Water Storage Tank



Chemical Storage Tank



Fuel Oil Storage Tank



Chimney & Scrubber Frp



WWTP & WTP for Industry



Pipe & Ducting Frp



Scrubber for Air Cleaning Tank



Chemical Mixing Tank



PT. UTAMA NIPPON RAYA

PT. UTAMA NIPPON RAYA

SPIRAL SUS TANK Manufacturer



*Pabrikasi
Spiral Tank SUS*

www.spiraltank.co.id



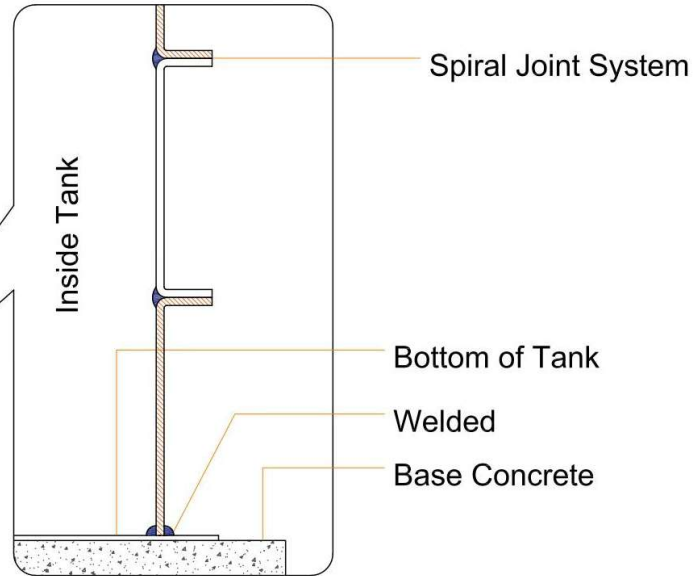
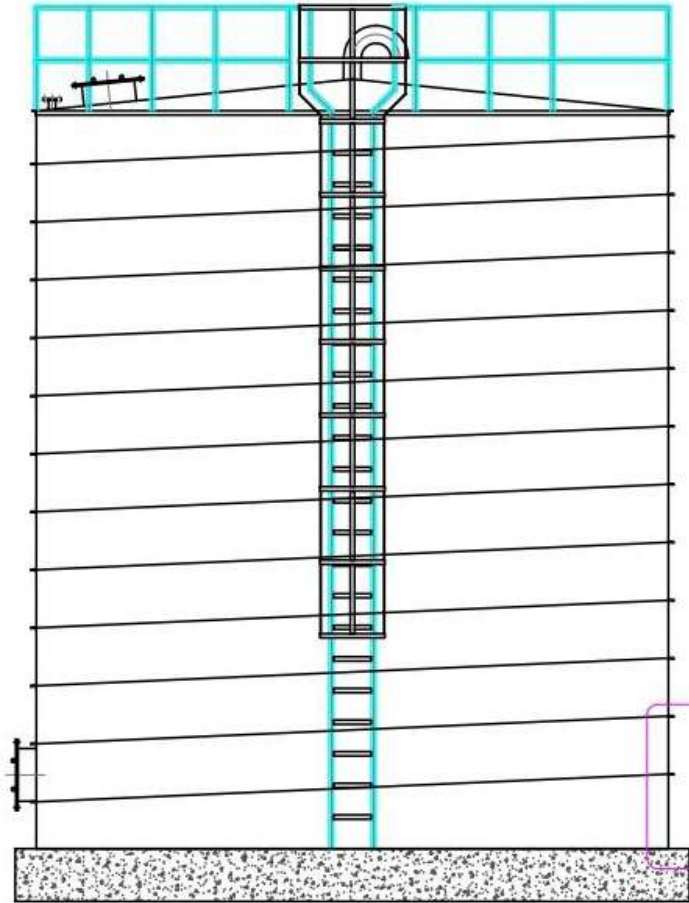
OUR PRODUCTS



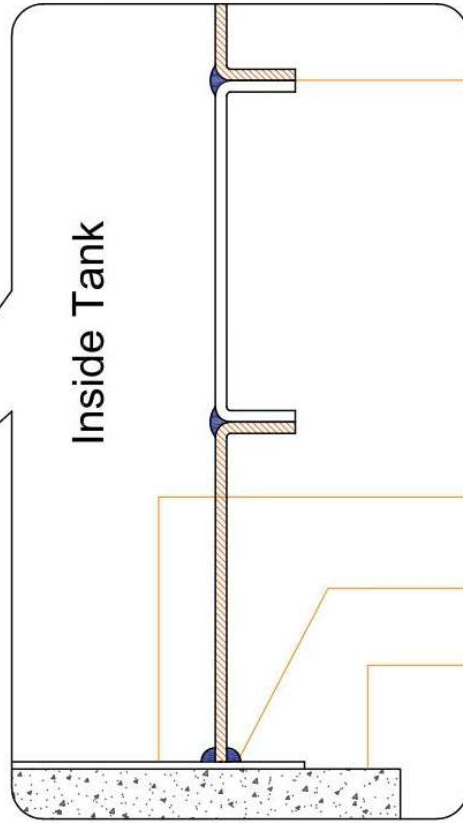
***WATER TANK
OLEO PALM OIL TANK
SOLAR TANK
FOOD OIL TANK
SILO STORAGE TANK
BIO GAS TANK***

www.spiraltank.co.id

SPIRAL TANK



www.spiraltank.co.id



Spiral Joint System

Bottom of Tank

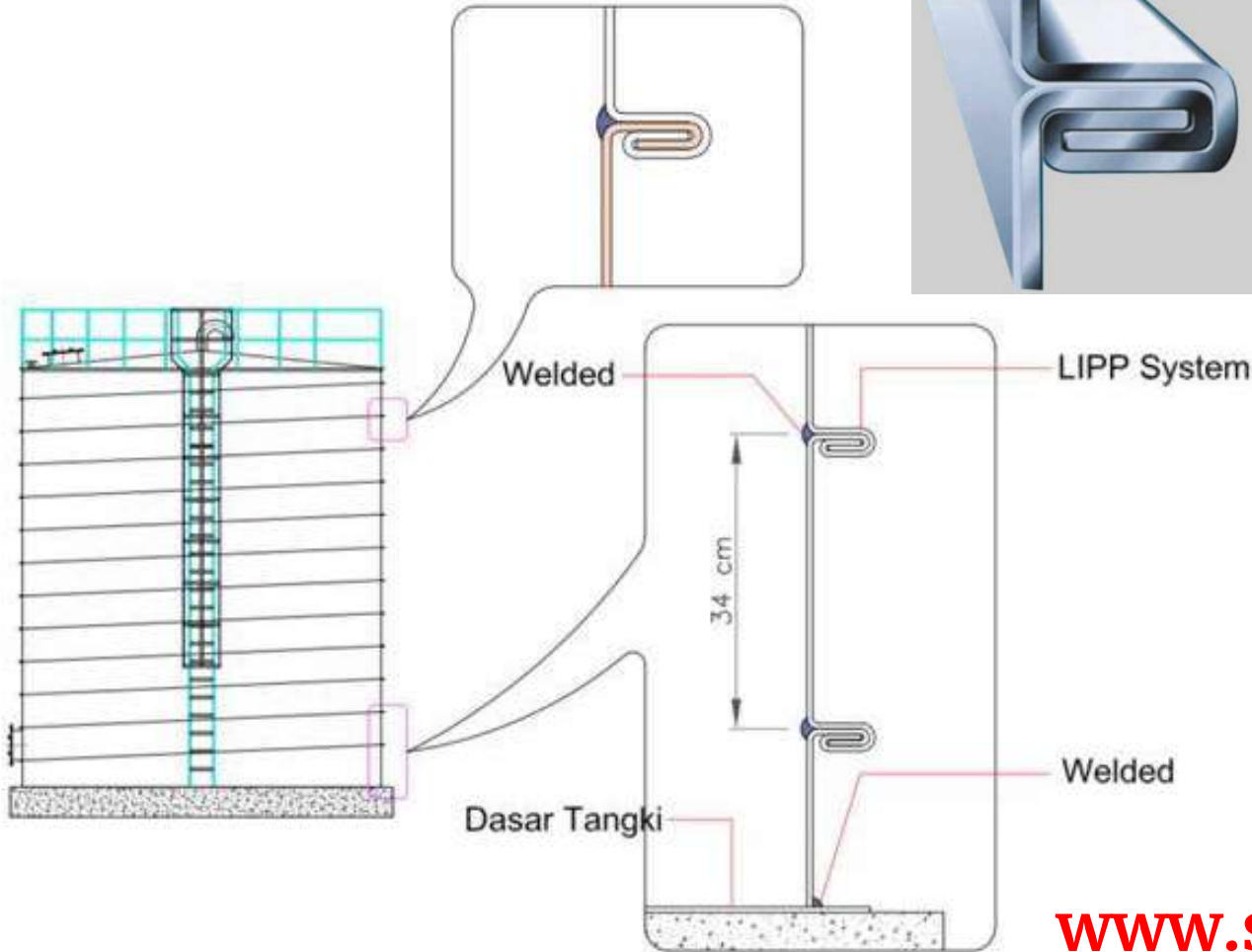
Welded

Base Concrete



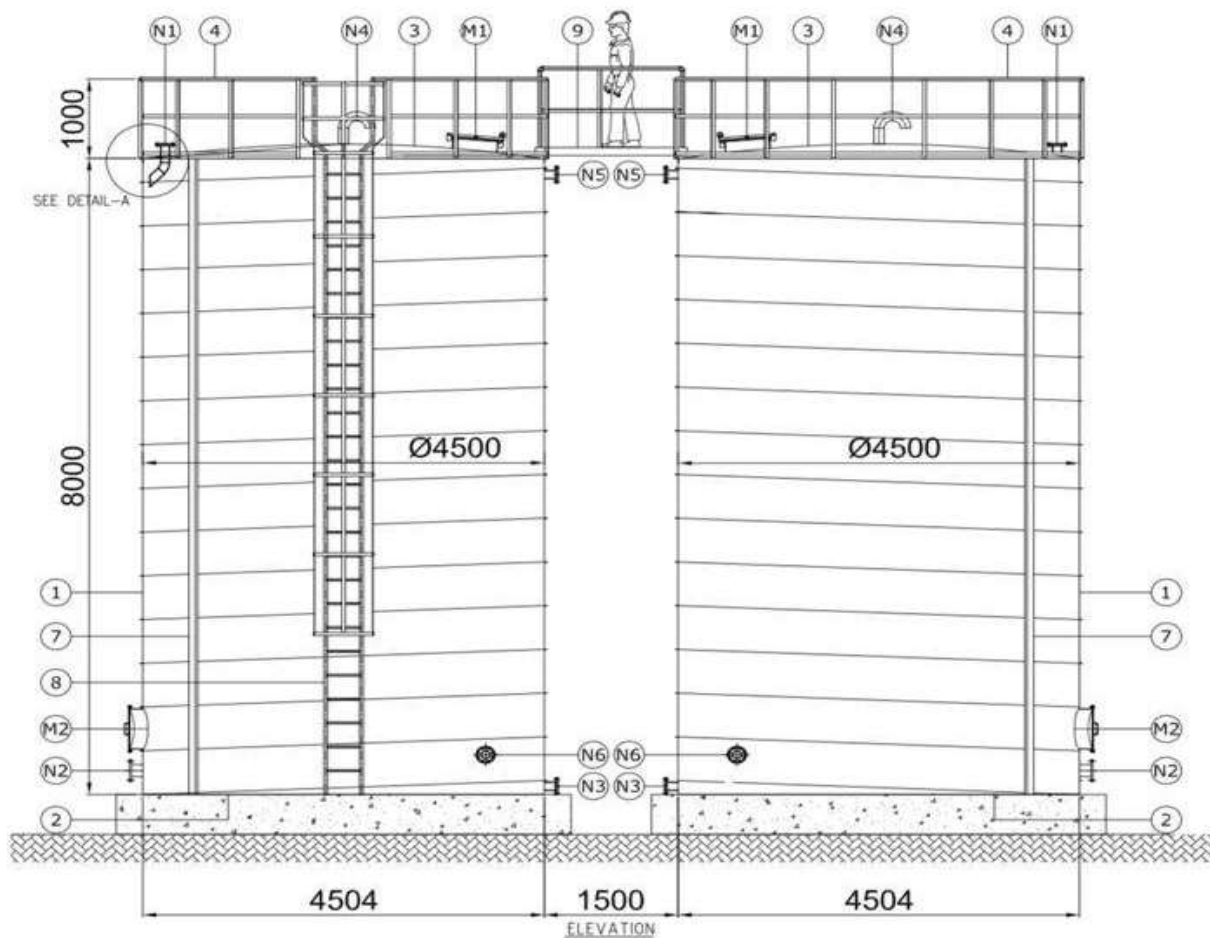
METHOD SPIRAL TANK

www.spiraltank.co.id



METHOD SPIRAL TANK

www.spiraltank.co.id



NIPPON SPIRAL TANK

www.spiraltank.co.id



BENEFITS

Keunggulan

- ***TEKNOLOGI DARI JERMAN***
- ***PRODUKSI TERCEPAT SE- INDONESIA***
- ***GARANSI TERLAMA SE- INDONESIA***
- ***MATERIAL - STANDARD EURO***



EXPERIENCES

Pengalaman Kerja

PT. Indofood CBP Sukses Makmur - Palembang

PT. Indofood CBP Sukses Makmur - Bandung

PT. Indofood CBP Sukses Makmur - Lampung

PT. Indofood CBP Sukses Makmur - Semarang

PT. Polychemie Asia Pacific Permai

www.spiraltank.co.id



PT. Indofood CBP Sukses Makmur - Lampung

2 Unit Spiral Tank @200 M3 (Tangki Air)

1 Unit Spiral Tank @90 m3 (Tangki Minyak)





PT. Indofood CBP Sukses Makmur - Lampung

2 Unit Spiral Tank @200 M3 (Tangki Air)

1 Unit Spiral Tank @90 m3 (Tangki Minyak)





GALERI FOTO



www.spiraltank.co.id



GALERI FOTO



www.spiraltank.co.id



SUMMARIZE

- ***SUS SPIRAL TANK - MANUFACTURER***
- ***EXPERIENCED (MANY PROJECTS)***
- ***TOP QUALITY PRODUCTS & MATERIALS***
- ***SAVE TIME (QUICKER PRODUCTION TIME)***

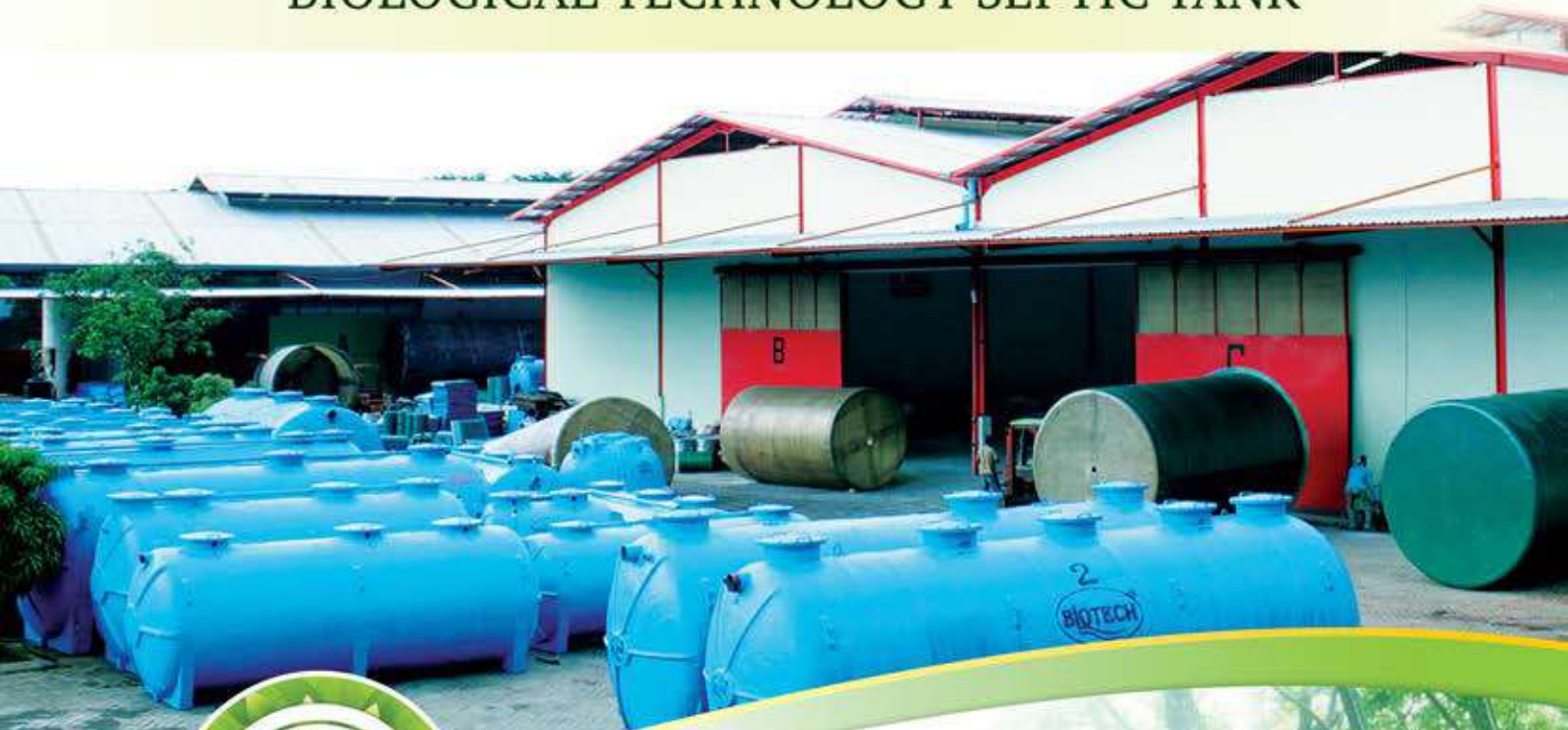


*“ Thank you for your attention, We
hope to see you all soon “*



PT. BIOTECH INTERNATIONAL

BIOLOGICAL TECHNOLOGY SEPTIC TANK



“ We serve and ensure to our clients
with the best quality product ”



PT. BIOTECH INTERNATIONAL

Facilities :

1. Engineering Design, Factory, Machinery
2. Factory Area 15.000 M2 (1.5 Hektar)
 - * With 4(Four) Building for Production
3. Production use Helical Filament Winding Process With Computerized System
4. Man Power More Than 120 Person.



Pencemaran air limbah domestik saat ini masih menjadi masalah yang serius, dalam proses penguraian limbah Organik System Septic Tank BIOTECH adalah Septic Tank Modern, sehingga hasil proses buangan air limbah domestik menjadi aman dan ramah lingkungan.



Dengan adanya teknologi Septic Tank BIOTECH membantu melestarikan lingkungan tetap bersih dan sehat.

Keunggulan Septic Tank BIOTECH

1. Hasil olahan buangan sesuai standart Pemerintah.
2. Pemasangan praktis dan mudah.
3. Tidak membutuhkan perawatan khusus.
4. Menggunakan Biological Technology System.
5. Produksi Biotech menggunakan standart ASME RTP 01.
6. Menggunakan Media Cell Biotech yang dirancang khusus.
7. Garansi Service Biotech 10 Tahun.



Certificate No. 301500000000
Date: December 4, 2014

REPORT OF ANALYSIS

CLIENT: PT. BIOTECH INTERNATIONAL
Jl. Raya Bekasi KM 21, Pk. Terasa - Cakung
Jakarta Timur 13025 - DKI Jakarta

TYPE OF SAMPLE: WASTE WATER

DATE RECEIVED: November 25, 2014

DATE OF ANALYSIS: November 25, 2014 to December 4, 2014

TESTED FOR: Physical, Chemical and Microbiology

DESCRIPTION OF SAMPLE: Sample was submitted by client
Packaging: Unopened plastic Jerry can

SAMPLE IDENTIFICATION: STP Biotech
Type: BIO-045
Volume: 10 L (2.113 US gal)
Project: J. Raya Bekasi KM 21, Pk. Terasa
Jakarta Timur 13025
Output: STP Biotech

Parameter	Unit	Test Results	Methods / Ppt. Number
BOD 5 days 20 °C	mg/L	17.0	5210 B
COD by K ₂ Cr ₂ O ₇	mg/L	42.8	5220 B
Total Suspended Solids	mg/L	17.1	2540 D
Ammonia	mg/L	4.11	4500-461 F
pH	-	6.82	4500-47 JF
Phosphate	mg/L	24.6	4500-FCL C
Coliform	colony/100 ml	0	8022 B

DRS Management System PVT. LTD.

Certificate No. DR/000000000000

Certificate of Registration
This is to certify that the Quality Management System of

PT. BIOTECH INTERNATIONAL
RUMAH DAAN MOOT BANGUN, J. Raya Bekasi KM 21, Pk. Terasa - Cakung
Jakarta Timur 13025 - DKI Jakarta

Has been successfully assessed, complied & conforms with the following standard

ISO 9001:2015

Scope of Certification
"SUPPLY, MANUFACTURING AND FABRICATION OF BIOLOGICAL SYSTEM, WASTE TREATMENT PLANT (STP), WASTE WATER TREATMENT PLANT (WWTP), WATER TREATMENT PLANT (WTP), PORTABLE TOILET FOR WATER TANK & SUBSIDIARY, BODY SKYLIGHT, GUTTER, GREASE TRAP CHEMICAL TANK AND LIVING ASP"

Initial Registration Date: 10-09-2014
Surveillance 1 Audit Date: 10-09-2015
Surveillance 2 Audit Date: 10-09-2016

Issue Date: 10-09-2014
Expiry Date: 09-09-2019
Validity: 09-09-2019

Subject to successful completion of Surveillance Audits

DRS Management System PVT. LTD.
(AN ISO CERTIFICATION BODY)

Office: 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000

Certificate No. 470000000000
Date: December 28, 2019

REPORT OF ANALYSIS

CLIENT: SPTIADANA AGROKUSA PT
J. Raya Bekasi KM 21, Pk. Terasa - Cakung
Jakarta Timur 13025 - DKI Jakarta

TYPE OF SAMPLE: WASTE WATER

DATE RECEIVED: 28/12/2019

DATE OF ANALYSIS: 28/12/2019 to 29/12/2019

TESTED FOR: Physical and Chemical analysis

DESCRIPTION OF SAMPLE: Sample was submitted by client
Packaging: Unopened plastic Jerry can

SAMPLE IDENTIFICATION: WFL Biotech, Volume: 10 L

Parameter	Unit	Test Result	Standard / Ppt. Number
Ammonia	mg/L	3.33	4500-461 F
BOD 5 days 20 °C	mg/L	8.48	5210 B
COD by K ₂ Cr ₂ O ₇	mg/L	20.9	5220 B
pH	-	6.77	4500-47 JF
Total Suspended Solids	mg/L	10	2540 D

DRS Management System PVT. LTD.
(AN ISO CERTIFICATION BODY)

PERHITUNGAN KOMUNITAS

Typical wastewater flowrates from commercial sources & recreational facilities

SOURCE	UNIT	FLOWRATE, L / UNIT'D	
		RANGE	TYPICAL
Airport	Passenger	11 - 19	15
Apartment	Bedroom	380 - 570	450
Automobile Service Station	Vehicle Served	30 - 57	40
	Employee	34 - 57	50
Bar / Cocktail Lounge	Seat	45 - 95	80
	Employee	38 - 60	50
Boarding House	Person	95 - 250	170
Conference Center	Person	40 - 60	30
Department Store	Toilet Room	1300 - 2300	1500
	Employee	30 - 57	40
Hotel	Guest	150 - 230	190
	Employee	30 - 57	40
Industrial Building (Sanitary Waste Only)	Employee	57 - 130	75
Laundry (Self-Service)	Machine	1500 - 2100	1700
	Customer	170 - 210	190
Mobile Home Park	Unit	470 - 570	530
Motel (With Kitchen)	Guest	210 - 340	230
Motel (Without Kitchen)	Guest	190 - 290	210
Office	Employee	26 - 60	50
Public Lavatory	User	11 - 19	15
Restaurant :			
Conventional	Customer	26 - 40	35
With Bar / Cocktail Lounge	Customer	34 - 45	40
Shopping Center	Employee	26 - 50	40
	Parking Space	4 - 11	8
Theater Indoor	Seat	8 - 15	10
Apartment, Resort	Person	190 - 260	230
Cabin, Resort	Person	30 - 190	150
Cafeteria	Customer	8 - 15	10
	Employee	30 - 45	40
Camp :			
With Toilets Only	Person	55 - 110	95
With Central Toilet & Bath Facilities	Person	130 - 190	170
Cottages (Seasonal With Private Bath)	Person	150 - 230	190
Country Club	Member Present	75 - 150	100
	Employee	38 - 57	50
Dining Hall	Meal Served	15 - 40	25
Dormitory, Bunkhouse	Person	75 - 190	150
Fairground	Visitor	4 - 12	8
Picnic Park with Flush Toilets	Visitor	19 - 38	19
Recreational Vehicle Park :			
With Individual Connection	Vehicle	280 - 570	380
With Comfort Station	Vehicle	150 - 190	170
Roadside Rest Areas	Person	10 - 19	15
Swimming Pool	Customer	19 - 45	40
	Employee	30 - 45	40
Vacation Home	Person	90 - 230	190
Visitor Center	Visitor	10 - 19	15

Typical comparisons of interior water use without and with water-conservation practices and devices

USE	FLOW, L / CAPITA'D	
	WITHOUT WATER CONSERVATION	WITH WATER CONSERVATION
Bathing	5	5
Showers	50	42
Dishwashing	4	4
Clothes Washing	64	45
Faucets	43	42
Toilets	73	35
Leaks	36	18
Others Domestic Use	6	6
Totals	281	197



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SAWAGE TREATMENT PLAN (STP) BIOTECH

TYPE RCO - SERIES



EQUIPMENT



ROOT BLOWER



DIAPHRAGM BLOWER



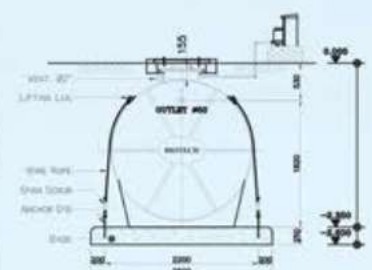
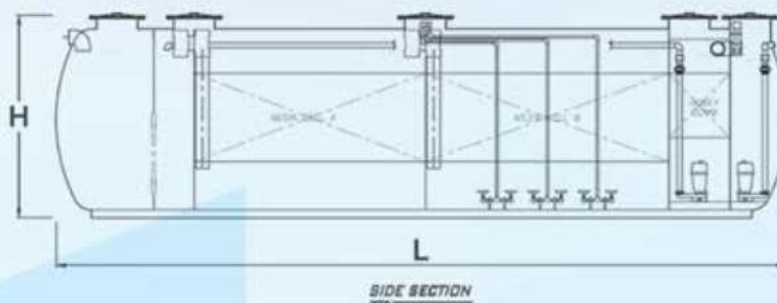
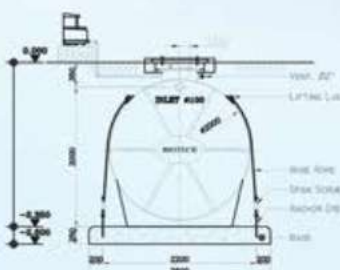
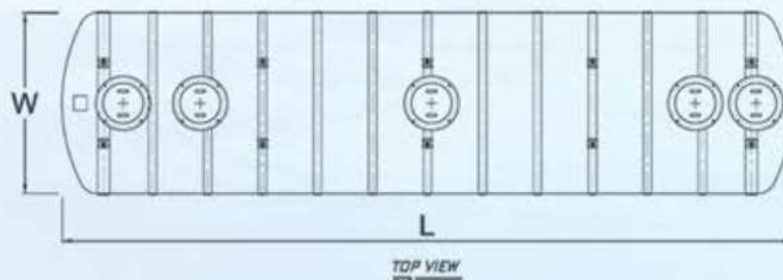
DIFFUSER



SUMMERSIBLE PUMP



CONTROL PANEL



TABEL STANDART PRODUK SAWAGE TREATMENT PLAN (STP) BIOTECH TYPE RCO

Model	Flowrate (m ³ /day)	Influence BOD (mg/L)	Dimension (mm)			Unit Tank	Inflow Pipe	Manhole cover Diameter
			Total Width (Diameter)	Total Height	Total Length			
RCO-2	2	300	1200	1380	1800	1	100	500
RCO-3	3	300	1350	1530	2100	1	100	500
RCO-4	4	300	1350	1530	2800	1	100	500
RCO-5	5	300	1350	1530	3500	1	100	500
RCO-6	6	300	1500	1680	3400	1	100	500
RCO-7	7	300	1500	1680	4000	1	100	500
RCO-8	8	300	1500	1680	4500	1	100	500
RCO-9	9	300	1500	1730	5100	1	100	500
RCO-10	10	300	1750	1980	4200	1	100	500
RCO-15	15	300	1750	1980	6200	1	100	500
RCO-20	20	300	2000	2280	6500	1	100	500
RCO-25	25	300	2000	2280	8000	1	100	500
RCO-30	30	300	2250	2530	7500	1	100	500
RCO-35	35	300	2250	2530	8800	1	100	500
RCO-40	40	300	2250	2530	10100	1	100	500
RCO-45	45	300	2250	2530	11500	1	100	500
RCO-50	50	300	2500	2800	10200	1	150	500
RCO-60	60	300	2500	2800	12200	1	150	500
RCO-70	70	300	2250	2530	8800	2	100	500
RCO-80	80	300	2250	2530	10100	2	100	500
RCO-90	90	300	2250	2530	11500	2	100	500
RCO-100	100	300	2500	2800	10200	2	100	500





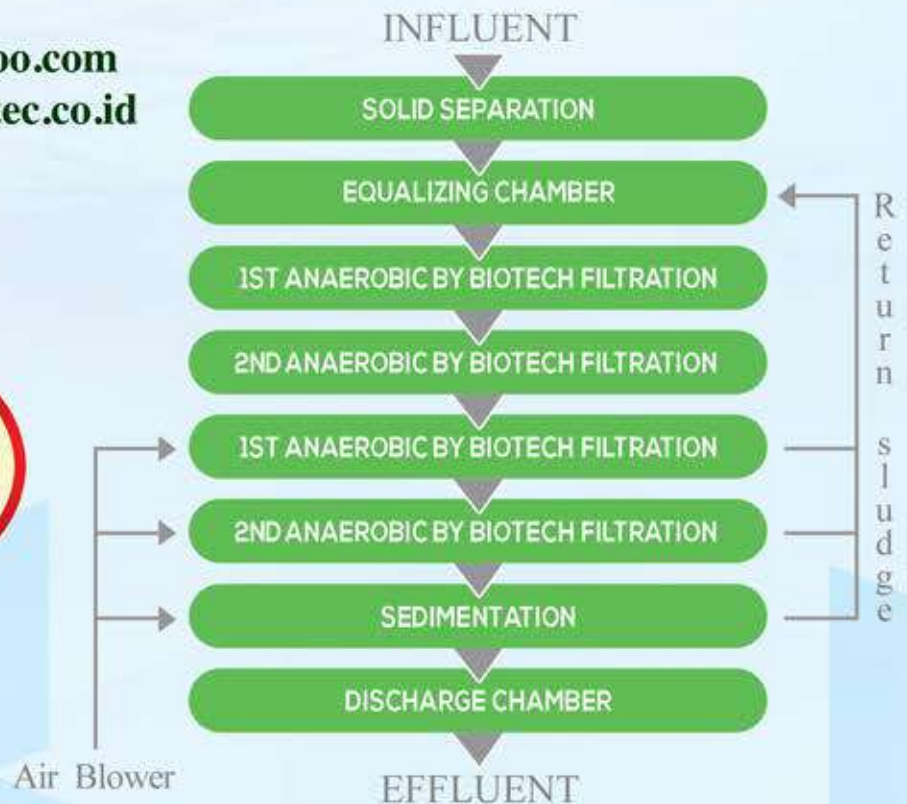
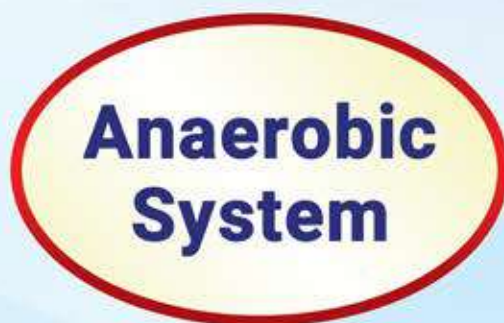


BIOTECH TYPE RCX - SERIES



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• marketing@biotec.co.id

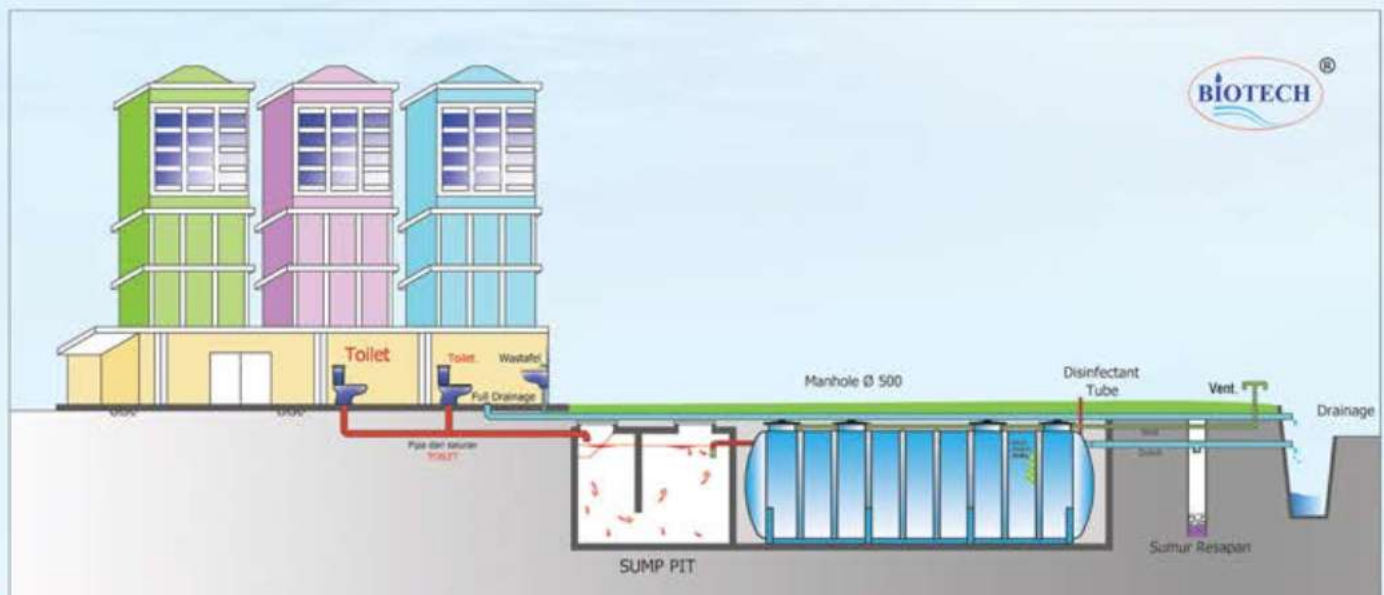
Flow Chart BIOTECH



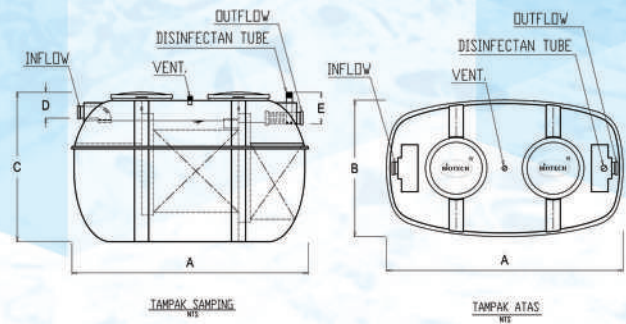
No	Tipe	Volume (M3)	Ukuran (M)		Model
			Diameter	Panjang	
1	RCX - 2	2	1200	2000	Horizontal
2	RCX - 3	3	1350	2000	Horizontal
3	RCX - 4	4	1350	2800	Horizontal
4	RCX - 5	5	1350	3500	Horizontal
5	RCX - 6	6	1500	3500	Horizontal
6	RCX - 7	7	1500	4000	Horizontal
7	RCX - 9	9	1750	3800	Horizontal
8	RCX - 10	10	1750	4000	Horizontal
9	RCX - 12	12	1750	5000	Horizontal
10	RCX - 15	15	2000	4800	Horizontal
11	RCX - 16	16	2000	5100	Horizontal
12	RCX - 17	17	2000	5500	Horizontal
13	RCX - 18	18	2000	5700	Horizontal
14	RCX - 19	19	2000	6000	Horizontal
15	RCX - 20	20	2000	6500	Horizontal
16	RCX - 25	25	2000	8000	Horizontal
17	RCX - 30	30	2250	7500	Horizontal
18	RCX - 35	35	2250	8800	Horizontal
19	RCX - 40	40	2250	10100	Horizontal
20	RCX - 45	45	2500	9200	Horizontal
21	RCX - 50	50	2500	10200	Horizontal



CARA PEMASANGAN BIOTECH TYPE RCX - SERIES

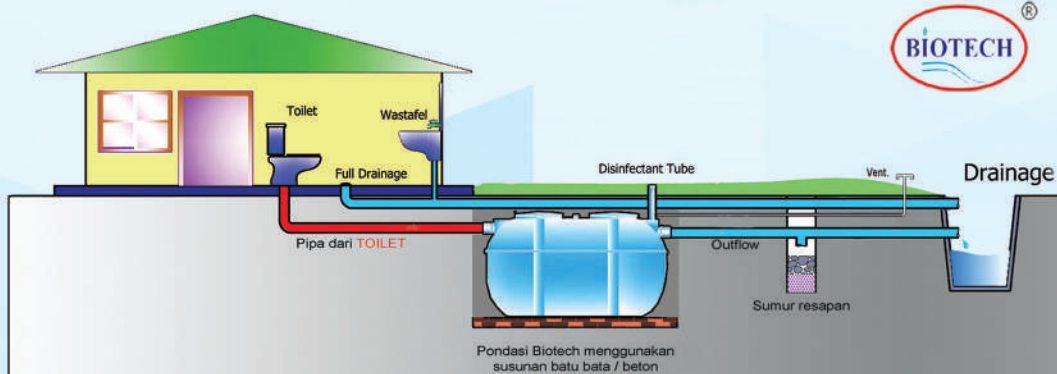


BIOTECH TYPE RC - SERIES



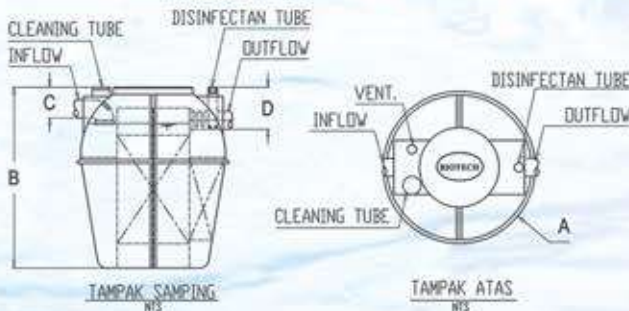
CARA PEMASANGAN BIOTECH
TYPE RC - SERIES

KETERANGAN		Type										
		RC - 2	RC - 3	RC - 4	RC - 5	RC - 6	RC - 7	RC - 8	RC - 10	RC - 15	RC - 20	RC - 25
KAPASITAS (Orang)		5-8	8-12	12-15	15-20	20-25	25-30	30-35	40-50	60-75	80-100	100-125
DIMENSI (mm)	panjang (A)	1700	2000	2500	3000	2800	3550	3950	2350	3150	4150	5350
	lebar (B)	1100	1200	1200	1200	1100	1250	1250	2150	2150	2150	2150
	Tinggi (C)	1100	1300	1400	1400	2200	1750	1750	2250	2250	2250	2250
	Inlet (D)											
	Outlet (E)											
DIAMETER PIPA (mm)	pipa inlet	100	100	100	100	100	100	100	100	100	100	100
	pipa outlet	100	100	100	100	100	100	100	100	100	100	100
	pipa Vent	50	50	50	50	50	50	50	50	50	50	50
	Cleaning Tube	100	100	100	100	100	100	100	100	100	100	100
	Disinfectant Tube	50	50	50	50	50	50	50	50	50	50	50
MATERIAL	Body	FRP										
	Media Cell A	PVC SHEET										
	Media Cell B	HDPE										
	Pipa	PVC										



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BIOTECH TYPE BT - SERIES



KETERANGAN		TIPE				
		BT - 06	BT - 08	BT - 12	BT - 15	BT - 16
KAPASITAS (Orang)	RUMAH TINGGAL	2 - 3	3 - 5	5 - 7	8 - 15	15 - 20
DIMENSI (mm)	Diameter (A)	900	1100	1200	1600	2050
	Tinggi (B)	1150	1350	1600	2000	2350
	Inlet Depth (C)	150	150	150	150	150
	Outlet Depth (D)	250	250	250	250	250
DIAMETER PIPA (Inches)	Pipa Inlet	4	4	4	4	4
	Pipa Outflow	4	4	4	4	4
	Pipa Venting	2	2	2	2	2
	Cleaning Tube	4	4	4	4	4
	Disinfectant Tube	2	2	2	2	2
MATERIAL	Body	FRP				
	Media Cell A	PVC SHEET				
	Media Cell B	HDPE				
	Pipa	PVC				

Tahapan Pemasangan Biotech BT- Series

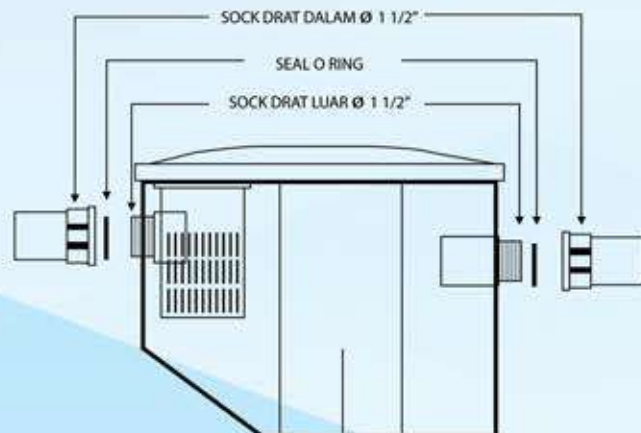
1. Gali tanah lebih besar dari ukuran Biotech. Kedalaman disesuaikan dengan saluran pipa WC. Buat pondasi sesuai diameter Biotech.
2. Letakkan Biotech kedalam galian tersebut dan atur posisi dengan benar. Sambungkan pipa-pipa saluran inlet, outlet dan ventilasi.
3. Isi Biotech dengan air sampai penuh, kemudian mulai timbun dengan pasir disekeliling Biotech.
4. Septic Tank Biotech siap gunakan.

Note : Jika permukaan atas akan dibebani maka diperlukan beton bertulang

GREASE TRAP BIOTECH



- * Restorant
- * Apartemen
- * Food Court
- * Hotel
- * Mall
- * DII.



DIM : 338 mm (L) x 418 mm (P) 328 mm (T)

TOILET PORTABLE BIOTECH



TYPE - A	TYPE - B	TYPE - C
Dimensi 1800X1500X2650	Dimensi 1200X850X2530	Dimensi 1200X850X2300
Tebal FRP 6 mm	Tebal FRP 6 mm	Tebal FRP 6 mm
Kran Air 2"	Kran Air 2"	Kran Air 2"
Kunci Silinder ½"	Kunci Silinder ½"	Kunci Silinder ½"
Drain 2"	Drain 2"	Drain 2"
Septictank 0.6 m³	Septictank 0.4 m³	Septictank 0.4 m³
Water Tank 0.4 m³	Water Tank 0.2 m³	
Volme Bak Air 50 L		

New Design Technology System

Portable Toilet sangat cocok digunakan sebagai pengganti Toilet permanen ditempat umum dan mudah dipindahkan dan sangat mudah dalam perawatannya juga bergaransi.

Portable Toilet dilengkapi dengan water tank, Septic tank, dan instalasi pipa.



STARTER BACTERIA BIOTECH



Mikroorganisme menghasilkan enzim yang mempunyai peranan penting didalam proses biokonversi yaitu mengubah suatu senyawa menjadi senyawa lain yang lebih bermanfaat. Proses ini merupakan dasar dikembangkan dan diterapkannya untuk memenuhi kebutuhan hidup manusia. Misalnya digunakan untuk pengembangan industri, kesehatan, pertanian serta pengelolaan lingkungan hidup untuk menjaga kelestariannya. Pemanfaatan mikroorganisme yang menguntungkan merupakan sebuah jawaban untuk memperoleh kepraktisan dan kemudahan dalam mengatasi limbah-limbah organik yang ada. **BIOTECH BE - 500** merupakan stater, treatment, dan substrat yang dibutuhkan mikroorganisme yang menguntungkan sehingga dapat bekerja secara superfantastis dan pasti.

PROJECT LIST

- PT. ABC President
- PT. Adhi Karya
- PT. Araya
- CV. Bangun Decorindo
- PT. Basuki Rahmat
- PT. Charoen Pokphand
- PT. Chubb Safes Indonesia
- PT. Coca Cola - Cikarang
- PT. Cognis
- PT. Daichi Chemical
- PT. Delident
- PT. Dharma Polimetal
- PT. Dystar Colorindo
- PT. Esa Kertas
- PT. Frisian Flag
- PT. Golden Mississippi
- PT. Hopac.
- PT. Indah Kiat Pulp & Paper
- PT. Kormac
- PT. Locomotif
- PT. Mayora Indah
- PT. Mitsui Eterindo Chemical
- PT. Pindo Deli Pulp & Paper
- PT. Pulau Intan
- PT. South Pasific
- PT. Sumitomo Corp
- PT. Surya Cipta
- PT. Totalindo
- PT. Total Bangun Persada
- PT. Tatamulia
- PT. Tatametrika Nusantara
- PT. Waskita Karya
- PT. Wijaya Karya
- PT. Barito
- PT. Goautama Sinarbatuah
- PT. Citra Amarantha Perdana
- PT. Aneka Sentratama Cahaya Optima
- PT. Bona Jati Mutiara
- PT. Farmel Cahaya Mandiri
- PT. Rembiga Indah
- PT. Jatikarya Megah Laksana
- PT. Pembangunan Perumbahan
- PT. Padimun Golden
- PT. Satyagi Cipta Prima
- PT. Leo Tunggal Mandiri
- PT. Rembiga Indah
- PT. Tata Metrika Nusantara
- PT. Surya Marga Luhur
- PT. Fajar Usaha Jaya
- PT. Papandaya Indah Permai
- PT. Wijaya Karya
- PT. Star Delta Utama Sakti
- PT. Sumber Jayatama
- PT. Prakarsa Alam Segar
- PT. Salim Invomas Pratama
- PT. Mecon Mitratama
- PT. Citra Cakra Pandawa
- PT. Biotirta Kencana
- PT. Cahayamurni Dirganusa
- PT. Murinda Iron Steel
- PT. Waskita Karya
- PT. Intraco Lestari
- PT. Pasar Pinang Jaya
- PT. Putra Bangun Nusagriya
- PT. Delta Baja Mas
- PT. Jaya Teknik
- PT. Hen Jaya
- PT. Glitter Indo Pratama
- PT. Sanwa Prefab Tech
- PT. Kaliraya Sari
- PT. Saranamukti Dirgasentosa
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