



References small-size sewage treatment system with Membrane BioReactor (MBR) technology

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As reference installations, we can name the following locations and numbers of systems:

National

Baden-Wuerttemberg

52 standard one-family/twin house systems

special solutions

Aulendorf - BUSSE-MF installed at a restaurant/inn

Stuttgart - BUSSE-MF installed at a harbour lock station

Stuttgart - BUSSE-MF installed in a control room of a hydropower station

Bavaria

45 standard one-family/twin house systems

special solutions

Schweinfurt - 2 BUSSE-MF installed in the administration building of a mill

Schweinfurt - BUSSE-MF installed in control rooms of three hydropower stations

Höchheim - 2 BUSSE-MF installed in a castle

Berlin

special solutions

Berlin - BUSSE-MF reference plant installed for testing and analyses at the Technical University of Berlin

Berlin - BUSSE-MF waste water recycling system installed at a public restroom "City Toilet" at Pariser Platz Berlin

Berlin - sewage treatment plant for pisciculture arrangement in collaboration with UBA

Berlin - Sewage holding-tank system installed at floating homes

Berlin - BUSSE-MF waste water recycling system installed in an apartment building for 120 apartments

Brandenburg

54 standard one-family/twin house systems

special solutions

Ketzin - BUSSE-MF installed in a control room of a watergate

Zehdenick - BUSSE-MF installed at a floating house

Vetschau/Spreewald - BUSSE-MF installed in an underground module in a homestead with holiday homes

Bremen

special solutions

Bremen - sewage treatment plant installed on board of a theatre ship

Bremerhaven - sewage treatment plant installed on board of the museums ship "Goliath"

Bremerhaven - sewage treatment plant installed on board of the museums ship "Quarantäne"

Hamburg

2 standard one-family/twin house system

special solutions

Hamburg - sewage treatment plant installed on board of an association ship in Hamburg-Finkenwerder

Hamburg - demonstration solution: BUSSE-MF waste water recycling system installed in a wastewater treatment plant

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Hesse

32 standard one-family/twin house systems

special solutions

Eschwege – BUSSE-MF installed in a control room of a Watergate

Mecklenburg-Western Pomerania

28 standard one-family/twin house system

special solutions

- Wietow - BUSSE-MF installed in an environmental education center with hotel
- Wokuhl-Dabelow - BUSSE-MF installed at a hotel resort in a nature protection area
- Saunstorf - BUSSE-MF waste water recycling system installed in a hotel
- Usedom - BUSSE-MF waste water recycling system installed at a public restroom
- Usedom - BUSSE-MF installed at floating homes

Lower Saxony

38 standard one-family/twin house systems

special solutions

Langelshiem - BUSSE-MF container-plant installed at a training area (shooting range) of the German Federal Armed Forces

North Rhine-Westphalia

120 standard one-family/twin house systems

special solutions

- Herscheid - BUSSE-MF installed at a camping site
- Grevenbroich - BUSSE-MF installed at a safe driving centre for more than 200 visitors per day
- Düsseldorf - BUSSE-MF installed in two houseboats
- Köln - BUSSE-MF installed in a houseboat of the University (25 PE)
- Langerwehe-Merode - BUSSE-MF installed in a castle

Rhineland-Palatinate

4 standard one-family/twin house systems

Saarland

25 standard one-family/twin house systems

special solutions

Saarbrücken - BUSSE-MF installed in a control room of a hydropower station

Saxony

320 standard one-family/twin house systems

special solutions

- Dresden - BUSSE-MF installed at a restaurant ("Dresdner Heide")
- Leipzig - BUSSE-MF testing plant for the treatment of brewery waste water installed at the Reudnitzer Brewery
- Markkleeberg - BUSSE-MF installed at an green technology school
- Neuhausen - BUSSE-MF installed for a control room of a dam
- Saxony - BUSSE-MF installed in twelve railway control centers
- Leisnig - semi central solution for 100 inhabitants in a small village
- Leipzig-Baalsdorf - 2 testing plants Busse MF installed at the BUSSE company
- Grimma - BUSSE-MF installed at a business hotel for 200 visitors

Saxony-Anhalt

28 standard one-family/twin house systems

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Schleswig-Holstein

15 standard one-family/twin house systems

special solutions

Lübeck - sewage treatment plant installed on board of a theatre ship

Thuringia

45 standard one-family/twin house systems

special solutions

Schmerbach - BUSSE-MF installed for social sewage in an industrial establishment

Zeulenroda - BUSSE-MF installed at a restaurant

Zeitz - BUSSE-MF installed in five railway control centers

Special solution for boats and floating homes

54 systems in Germany

Special solutions for The German Railway Company Deutsche Bahn

48 systems in Germany installed in railway control centers (systems for 4 to 40 P. E.)

International

A - Austria

3 standard one-family/twin house systems

BR - Brazil

5 standard one-family/twin house systems

special solutions

Fernando de Noronha - 3 BUSSE-MF systems installed at a diving resort in a nature protection area

CA - Canada

7 standard one-family/twin house systems

CH - Switzerland

5 standard one-family/twin house systems

E - Spain

5 standard one-family/twin house systems

special solutions

Cala Partió / Menorca - BUSSE-MF installed in a holiday home at the isle of Menorca

Ibiza City - BUSSE-MF pilot plant for waste water recycling in an animal shelter at the Isle of Ibiza

San Antonio Abad / Ibiza - BUSSE-MF installed at a holiday resort

F - France

3 standard one-family/twin house system

special solutions

Limeuil - BUSSE-MF with water recycling installed in a school

GR - Greece

68 standard one-family/twin house systems

special solutions

Athens - BUSSE-MF installed at a dancing school

Sparta - BUSSE-MF installed at a hotel

Kea Island - BUSSE-MF installed at a holiday resort

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IRL - Ireland

3 standard one-family/twin house systems

OM - Oman

special solutions

Sohar - BUSSE-MF container-plant installed at the camp of a building site

PE - Peru

3 standard one-family/twin house systems

special solutions

Wastewater recycling for a school in Lima, water reuse for irrigation – capacity 40,000 l/d

P - Portugal

3 standard one-family/twin house systems

TH - Thailand

3 standard one-family/twin house systems

special solutions

Chonburi - demonstration system in EEC

Koh Chang - BUSSE-MF with water recycling at a holiday resort

UA - Ukraine

1 standard one-family/twin house system

UAE - United Arab Emirates

1 standard one-family/twin house system

USA

20 standard one-family/twin house systems in following states: Maine, Massachusetts, Illinois, Maryland, North Carolina, Pennsylvania, New Hampshire:

Baltimore, MD, BUSSE-GT Type 440
Boothbay Harbor, ME, BUSSE-GT Type 500
Boyertown, PA, BUSSE-GT Type 500
Bristol, ME, BUSSE-GT Type 500
Bristol, ME, BUSSE-GT Type 500
Cuckold Lighthouse, ME, BUSSE-GT Type 500
Great Diamond Island, ME, BUSSE-GT Type 630
Harpwell, ME, BUSSE-GT Type 440
Harpwell, ME, BUSSE-GT Type 250
Harpwell, ME, BUSSE-GT Type 250
Hillsborough, NC, BUSSE-GT Type 500-ST
Jones Island, ME, BUSSE-GT Type 1000
Kennebunkport, ME, BUSSE-GT Type 500
Kennebunkport, ME, BUSSE-GT Type 500
Kennebunkport, ME, BUSSE-GT Type 250
Mastic Beach, NY, BUSSE-GT Type 500
Monaghan Island, ME, BUSSE-GT Type 250
New Harbor, ME, BUSSE-GT Type 500
Port Jefferson Station, NY, BUSSE-GT Type 500
Sebasco Estates, ME, BUSSE-GT Type 500

special solutions

Project: "This Old House" TV-Production, waste water treatment "BUSSE 500" in Essex, MA

Star Island, NH, BUSSE-GT Type 16,000 for wastewater reuse for laundry, toilets, irrigation

CY - Cyprus

3 standard one-family/twin house systems

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Mongolia

- 1 standard one-family/twin house system
- 16 standard one-family/twin house system under construction

Systems with additional certifications and approvals by the authorities of the State

(These systems are monitored by the water authorities of the State)

Car test center (Grevenbroich/North Rhine-Westphalia) certification and approval by State 2006

100 P.E. with water recycling and reuse of water

Community plant (Altenhof/Saxony) certification and approval by State 2010

100 P.E.

Business Hotel (Grimma/Saxony) certification and approval by State 2012

200 P.E. with water recycling and reuse of water

BUSSE-MF national license

- design approval by Deutsches Institut für Bautechnik DIBt Berlin:
initial registration number: Z-55.3-60 (06/2001)
current registration numbers: Z-55.3-60 for filtration levels N + H (renewed 06/2015)
Z-55.3-317 for filtration levels D + H (renewed 06/2015)
Z-55.3-327 for filtration levels D + H + P (renewed 06/2015)

BUSSE-MF international licenses

- tested and certified by PIA Aachen 2008 pursuant to EN 12566-3 (Classes C + N + D + H + P)
- tested and certified by NSF International 2008 pursuant to NSF Standard 40 & 245
- Fecal Coliform Test Per State of Washington, USA standards administered by NSF

Tested and certified by NSF International 2008 pursuant to NSF Standard 40 & 245 and by PIA Aachen 2008 pursuant to EN 12566-3 Classes C+N+D+H+P

Parameter	Measure	Inlet	Outlet	Limit: 246-272A WAC* / class H+
fecal coliforms	/ 100 ml	6 - 7 10 ⁶	< 1	200 / 100

*Washington State Department of Health: Chapter 246-272A WAC
**German class for water disinfection

Parameter	Measure	Inlet	Outlet	Limit*: Standard 40 / 245 / class D+
cBOD ₅	[mg/l]	170 / 307	< 2	30 / 25 / 15
NH ₄ -N	[mg/l]	39 / 34	< 1	n.l. / n.l. / 10
N _{total}	[mg/l]	37 / 52	15 / 16	n.l. / ** / 25***
TSS	[mg/l]	180 / 389	2	30 / 30 / 50*

*30d average/average of all samples/24h composite sample (TSS random)
**<50% average TKN Influent samples
*** N_{anorg.}