



WILHELM SCHMIDT

containers for critical fluids



Safety for people, product and environment

Stainless steel containers for the chemical and biopharmaceutical industry



Partner of the chemical and pharmaceutical industry

WILHELM SCHMIDT is a family-owned and family-run business with more than 65 years of experience in the industry. We are a leading manufacturer of specialty vessels and containers of stainless steel for critical high-tech fluids.

Our products are used throughout the entire value chain of advanced industries such as biotechnology and semiconductors. Areas of application include transport and handling as well as production and processing of specialty chemicals, aseptic pharmaceuticals, performance materials and high-purity media.

Customizable standards best describes our product range. Our modular systems are individualizable and available in up to 15 standardized diameters. This unique characteristic offers solutions for every chemical or pharmaceutical product from 0.1 up to 1.500 liter.

Our customers are specialized experts who expect 100% reliable but also application oriented products. Therefore we produce all quality relevant parts in-house and work closely with users and authorities. We give advisory with regard to latest transport regulations, technical directives and manufacturing practices.

WILHELM SCHMIDT systems guarantee safety for people, product and environment.

Christoph Schmitt

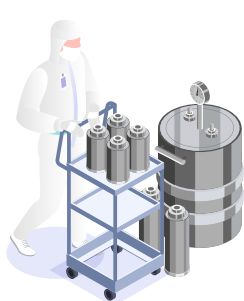
Kilian Schmitt

Dr. Michael Schmitt



PHARMA & BIOTECH

WILHELM SCHMIDT vessels and containers are used from raw material supply to product filling



CHEMICAL SUPPLY

Transport Systems
page 06-07



RESEARCH & DEVELOPMENT

Laboratory Systems
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ASEPTIC PRODUCTION

GMP Systems
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FILLING & DISTRIBUTION

Sterile Packagings
page 09

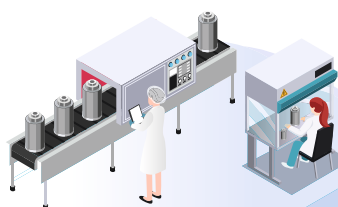
PURE CHEMICALS AND SEMICONDUCTORS

WILHELM SCHMIDT vessels and containers are used along the entire microelectronics process chain



PURE MEDIA SUPPLY

Transport Systems
page 06-07



HIGH-TECH MATERIALS SYNTHESIS

Process Vessels
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MICROELECTRONICS PRODUCTION

High-Purity Systems
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Hazardous Fluids



Specialty Chemicals Logistics

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Sterile Fluids



Health Care Manufacturing

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Laboratory Fluids



Life Science Research

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High-Tech Fluids



Semiconductor Fabrication

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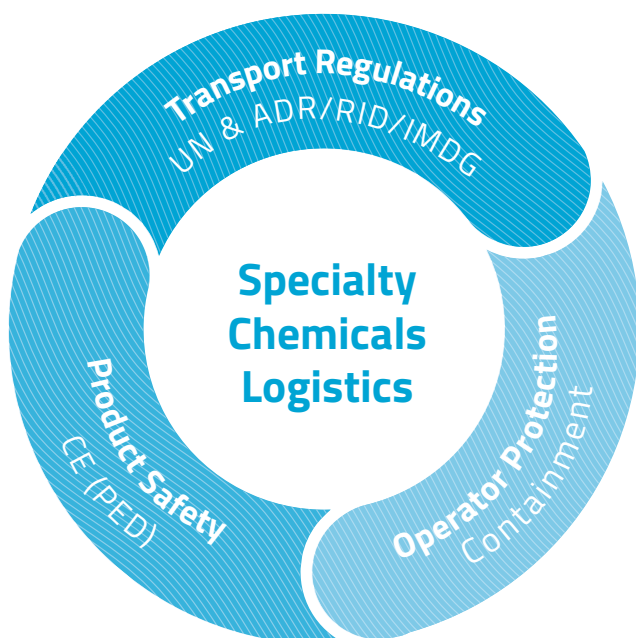
Specialty Chemicals Logistics



Solutions for the safe transport of critical fluids

WILHELM SCHMIDT transport systems are used to built-up safe and sustainable supply chains for dangerous goods. All products have excellent references as returnable and protective packaging and combine ecological with economic benefits.

Our products are designed for the chemical specific transport regulations and degrees of purity. Stainless steel guarantees contamination-free storage and an almost infinite lifetime. Dedicated equipment enables easy filling and dispensing.



Features

- International transport approval
- Robust pressure equipment
- Reliable tightness & chemical resistance
- Easy & contamination-free dispensing
- Long life, reusable & ecological

Typical fluids

- Raw materials & reagents for Health Care Production
- Fine chemicals & solvents for Life Science Laboratory
- Ultra-pure process media for the Semiconductor Industry

Transport Systems

Bottles UN1A1*

TYPE SERIES G, H, L, M



- Open system
- Emptying by pouring or dispensing device
- Stainless steel grade 304 or 316L
- Pickled or electropolished finishing
- Plastic or stainless steel closures

*See also page 11

0.025 - 30 L

Drum UN1A1

TYPE SERIES T



- Open TRI SURE system
- Emptying by dispensing device
- Pressure vessel up to +5 bar
- Stainless steel grade 304 or 316L
- Pickled or electropolished finishing

10 - 200 L

Barrel UN1A1

TYPE SERIES K



- Closed system for push gas dispensing
- Top bottom with integrated dip tube
- Pressure vessel up to +5 bar
- Stainless steel grade 304 or 316L
- Pickled or electropolished finishing

10 - 200 L

Container UN 1A1

TYPE SERIES F



- Closed system for push gas dispensing
- Flange top with integrated dip tube
- Pressure vessel up to +5 bar
- Stainless steel grade 304 or 316L
- Pickled or electropolished finishing

1 - 400 L

IBC UN 31 A/Y

TYPE SERIES GF



- Intermediate Bulk Container
- Flange top with integrated dip tube
- Pressure vessel up to +3 bar
- Stainless steel grade 304 or 316L
- Pickled or electropolished finishing

500 - 1.400 L

Tank ADR/RID/IMDG

TYPE SERIES RF



- Portable Tank T 19
- Flange top with integrated dip tube
- Pressure vessel up to +6 bar
- Stainless steel grade 316L
- Pickled or electropolished finishing

1.000 L

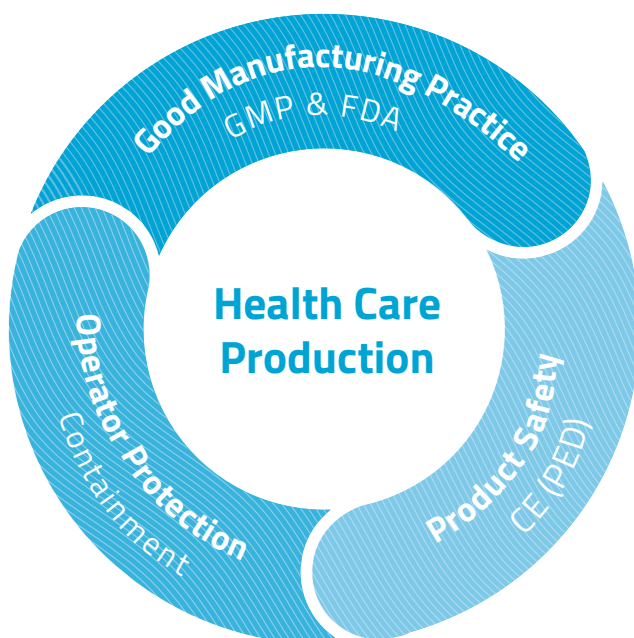
Health Care Production



Solutions for the aseptic production of biopharmaceuticals

WILHELM SCHMIDT GMP systems are used for the aseptic production of medicines, vaccines and pharmaceutical ingredients. Health care companies trust on our hygienic program for applications that require absolute sterility.

The product design avoids cross-contamination, dead legs and adhesion. The modular system can be customized with various process technologies for the use as bioreactors in the laboratory, scale-up or production.



Features

- GMP design & documentation
- Pressure & vacuum resistant (CE/PED)
- Sterilizable & autoclavable (SIP)
- No dead space, easy to clean (CIP)
- Customizable modular system

Typical fluids

- Medicines & Vaccines
- Active Pharmaceutical Ingredients
- Diagnostics
- Nucleic acids & proteins
- Blood plasma products

GMP Systems

Production and batch vessels

0.1 – 200 L



TYPE SERIES C

Standard process



TYPE SERIES C M

Magnetic mixing



TYPE SERIES CD M

Jacketed & mixing



TYPE SERIES CS

Bottom outlet



TYPE SERIES CDS

Jacketed & bottom outlet

- PED pressure vessels with aseptic product room
- Central Tri-Clamp opening closed with blind clamp with dip tube and pressure nozzle
- GMP-suitable hygienic design and documentation
- Optional process technology: SIGHT, CIP, SIP, MAN, SAFE, TEMP, PH, CON

Process trolleys



TYPE SERIES ZRP

Dollie



TYPE SERIES ZRBP

Push bar



TYPE SERIES ZRBP M

Magnetic drive



TYPE SERIES ZRBP MW

Magnetic drive & scale



TYPE SERIES ZRBP MT

Magnetic drive & thermostat

- Trolleys of stainless steel in the hygienic design for the sterile area
- Suitable for WILHELM SCHMIDT production and batch vessels

Custom vessels



- Customized pressure vessels
- Bottom valves & mixers available
- Special materials and finishing grades

0.025 – 1.000 L

Sanitary bottles *

*See also page 11



Tri-Clamp



Screw cap

- Sterile packaging of stainless steel
- Also for sampling or stability studies
- Autoclavable with GMP documents

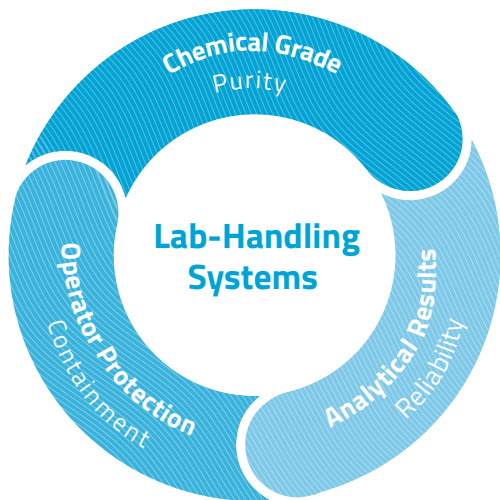
0.01 – 30 L

Life Science Research



Solutions for safe lab chemical handling

WILHELM SCHMIDT lab-handling systems are used for the distribution of fine chemicals for lab analysis or for synthesis. It is characteristic that these substances are required in various quantities and purity degrees.



Features

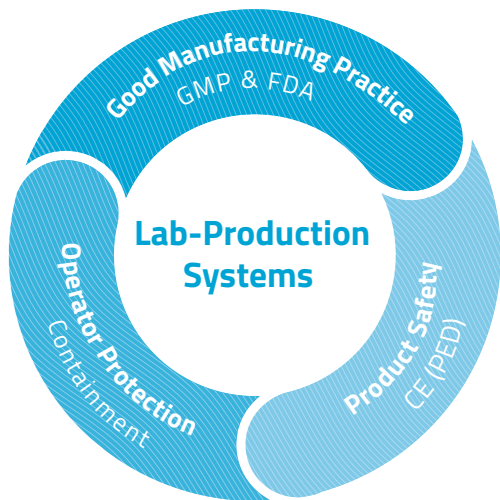
- Unbreakable & tight
- Chromatography suitable
- Safe & easy dispensing
- Transport approvals
- Reusable & ecological

Typical fluids

- Fine & lab chemicals
- HPLC & GC chemicals
- Reagents
- Solvents

Solutions for lab-scale preparations

WILHELM SCHMIDT lab-production systems are used for small-scale preparations in research and development or for scaling processes in pilot plans. The modular system can be customized and starts from 0.1 liters.



Features

- Pressure vessels
- GMP-compliant design
- Mobile & easy to handle
- Process technology
- Customizable system


Typical fluids

- Pilot scale formulations
- Lead structure assays
- Investigational products
- Pre-clinical strains
- Upstream trials

Lab-Handling Systems

Bottles UN 1A1(2)

0.01 – 30 L



TYPE SERIES G

Polypropylene screw cap

TYPE SERIES L

Stainless steel screw cap

TYPE SERIES M

Sterile screw cap

TYPE SERIES H

Tri-clamp cap

- Bottles of stainless steel for transport, sampling or stability studies
- Stainless steel grade 304 or 316L
- Dispensing by pouring or dispensing device (see [page 14](#))

- Pressure-less or pressure-proof versions
- Pickled or electropolished finishing
- Customized etching available

HPLC equipment



TYPE SERIES EG, EL

Dispensing devices

Safe dosing of lab chemicals

TYPE SERIES ZC

HPLC caps

Direct instrument connection

TYPE SERIES ZL


Level sensors

Level switch or continuous level monitoring

Lab-Production Systems

Bioreactors

0.1 – 10 L



TYPE SERIES C

Standard process

TYPE SERIES CM

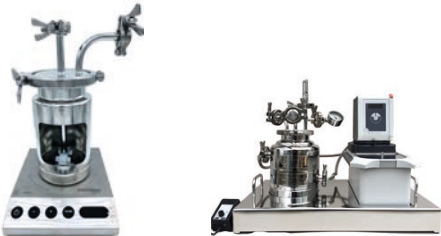
Magnetic mixing

TYPE SERIES CD M

Jacketed & mixing

- Small-scale pressure vessels with aseptic product room
- Optional process technology: SIGHT, CIP, SIP, MAN, SAFE, TEMP, PH, CON

R&D equipment



TYPE SERIES ZM

Stirring plates

TYPE SERIES ZT

Thermostats

- Table top process equipment for daily lab use
- Easy-to-clean and water resistant stainless steel housing

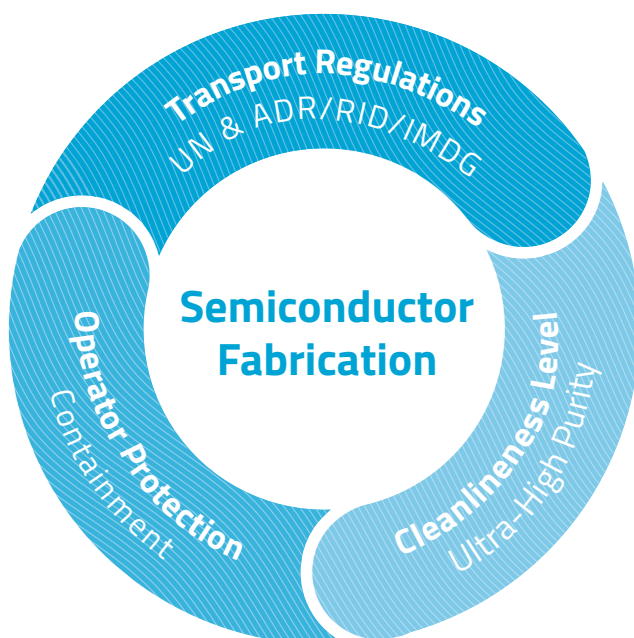
Semiconductor Fabrication



Solutions for the ultra-pure production of semiconductors

WILHELM SCHMIDT high-purity systems are used for the supply of ultra-pure chemicals and for critical cleanroom processes. We are partner of leading high-tech manufacturers of semiconductors for displays, smartphones and tablets.

Our products offer highest tightness, purity and chemical resistance for the most sensitive and aggressive media. For completely metal-free applications we combine the protective shell of stainless steel with ETFE linings.



Features

- Cleanroom suitable design & finishing
- Particle-free & high-purity components
- Transport approvals for hazardous media
- No dead leg for easy cleaning & rinsing
- Optimized residual discharge

Typical fluids

- Performance materials
- Ultra-high purity process media
- Electro-chemicals & optoelectronics
- Precursors & battery materials
- Liquid crystals for displays

High-Purity Systems

Container UN 1A1 +ADR/RID/IMDG

TYPE SERIES FE



- Transport and storage system
- Flange top with diaphragm valves
- Cross-purge for rinsing of connections
- Pressure vessel up to +8 bar
- Stainless steel grade 316L
- Inside and outside electropolished

1 – 1.000 L

Bubbler UN 1A1 +ADR/RID/IMDG

TYPE SERIES FE




- Bubbler system for MOCVD processes
- Flange top with diaphragm valves
- Pressure vessel up to +8 bar
- Stainless steel grade 316L
- Inside and outside electropolished
- Helium leak test available

0.25 – 200 L

ETFE-lined container UN 1A1 +ADR/RID/IMDG

TYPE SERIES FC



- Container of stainless steel with inside ETFE lining
- Used for highest chemical resistance and 100% metal-free applications
- Seamless ETFE lining up to 3 mm layer thickness
- Dip tube, diaphragm valves and quick connects of PFA or PTFE
- UN transport approvals available
- Pressure vessel up to +5 bar

1 – 1.000 L

Process vessel

TYPE SERIES E



- Pressure vessel for the stationary in-plant application
- Central flange with dip tube and nozzles on top flange
- Pressure vessel up to +5 bar (high-pressure version available)
- Stainless steel grade 316L
- White pickled and passivated or inside and outside electropolished
- Optional process technology: SIGHT, MAN, SAFE, TEMP, LEVEL

0.25 – 1.000 L

Accessories

Dry quick coupling for liquids



- Quick coupling system for high purity chemicals
- Design: Flat face, non-spill, clean break
- Automatic locking
- Material grade 316L
- Gaskets of Perfluorelastomere and PTFE
- GMP documentation available
- Only system on the market without threads on wetted parts (no tape needed)

TYPE SERIES SCHMIDT M male and SCHMIDT M female

Quick coupling for push gas



- Quick coupling system for push gas
- Automatic locking
- Material grade 316L
- GMP documentation available

TYPE SERIES SCHMIDT K male and SCHMIDT K female

Dispensing device for bottles



TYPE SERIES EG, EL

- Dispensing device of stainless steel for bottles type G, L, M (see page 11)
- Easy mounting by screwing assembly
- Manual push gas pressurization by hand pump ball
- Outlet as ball valve or self-locking nozzle

Dispensing device for drums



TYPE SERIES ET

- Dispensing device of stainless steel for drums type T (see page 09)
- Easy mounting by clamping or screwing assembly
- Push gas pressurization by hand pump ball or gas line
- Outlet as ball valve, self-locking nozzle or quick coupler for hose connections

Hoses



- Flexible hoses for liquid discharge or push gas connection
- Hoses of PTFE with braided cover of stainless steel
- Connections as quick couplings, tube nozzles or screw connection
- 5 available diameters, all length possible



■ Transport systems



■ GMP systems



■ Trolleys



■ Lab-handling systems



■ High-purity systems



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