

INTEGRATION

QUALITY

RELIABILITY

minox®

Quality Crafted, Industry Trusted

SUPPORT

Stainless Steel Valves, Tubes, Fittings, Installation Components & Equipment and Rubber Hoses for Food and Beverage, Pharmaceutical, Semiconductor and Data Center Industries.



FDA USP
compliant Class VI



minox[®] NEWS BULLETIN

SUPPLY WITH PURPOSE

When quality counts, we're the one ensuring it's delivered.

Minox EHEDG certified Sanitary Butterfly Valve, available in sizes 1", 1½", 2", 2½", 3", 4", and metric equivalents DN 25 to DN 100, is designed with EPDM gaskets and built for use in hygienic applications. It has been thoroughly evaluated and certified by the European Hygienic Engineering & Design Group (EHEDG) for compliance with stringent hygienic design requirements in closed-process systems, ensuring both cleanability and operational reliability in critical industries such as food, beverage, and pharmaceuticals.

NOW AVAILABLE ACROSS SOUTHEAST ASIA

EHEDG CERTIFIED MINOX SANITARY BUTTERFLY VALVES



QUALITY CRAFTED, INDUSTRY TRUSTED.



The **CS10 Control Head** marks our advancement into intelligent valve automation. Designed for 24V DC and AS-Interface, it ensures fast communication, LED diagnostics, and enhanced durability for demanding production environments.

MST Stainless Steel Sdn. Bhd., a subsidiary of Minox International Group Berhad, has achieved **ISO 9001 certification** as part of our ongoing commitment to quality refinement under the Minox brand.



MINOX EHEDG & 3-A SANITARY CERTIFIED PRODUCTS

HYGIENIC SOLUTIONS IN FOOD PRODUCTION PROCESS

MINOX TUBES ARE EHEDG & 3-A SANITARY CERTIFIED

Minox EHEDG certified sanitary tubes are manufactured in compliance with **DIN EN 10357** (Series A, C, and D), featuring an exceptionally smooth internal surface finish of $\leq 0.8 \mu\text{m}$, including the weld bead. These tubes undergo **pickling and passivation or bright annealing/mechanical polishing**, ensuring hygienic integrity. Supplied under **EN 10217-7, test category TC1**, they are suitable for closed-process applications in high-demand industries.

Minox 3-A certified sanitary tubes are produced according to **ASTM A270** standards with a superior internal surface roughness of $\leq 0.6 \mu\text{m}$, also treated through **bright annealing or mechanical polishing** to meet stringent U.S. sanitary requirements.

Available in **SS304L** and **SS316L**, these austenitic stainless steels offer **low carbon content**, reducing the risk of carbide precipitation and ensuring long-term corrosion resistance in hygienic environments.

MINOX SANITARY FITTINGS & CONNECTIONS ARE 3-A SANITARY CERTIFIED

FITTINGS

Minox's fittings are certified by 3-A Sanitary Standards and manufactured in accordance with **DIN EN 10374**. They feature **long straight ends**, suitable for orbital welding applications commonly used in sanitary pipeline systems. All valves, tubes and fittings are supplied with a Material Test & Inspection Report **EN 10204-3.1** to ensure full traceability and compliance.

HYGIENIC & ASEPTIC CONNECTIONS

Minox offers 3-A certified connections with

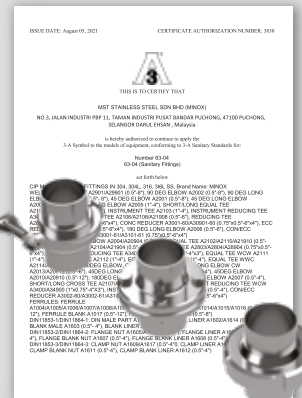
- **DIN 11853 Part 1–3 for hygienic applications** in the food, personal care and chemical processes.
- **DIN 11864 Part 1–3 for aseptic installations**. These connections feature internal surface finishes of $\leq 0.8 \mu\text{m}$, or can be electropolished to $\leq 0.38 \mu\text{m}$ upon request.

They follow a **hygienic, easy-to-clean** structure and are recognized by EHEDG and ASME BPE.

Connections are supplied with **tube dimensions** in accordance with **DIN EN 11866 Series A & C, DIN EN 10357 Series A & C, 3-A Sanitary Standards**, and **ASME BPE**. Sealing materials comply with:

- **FDA CFR 21 177.2600**
- **FDA CFR 21 188.1550**
- **USP Class VI**

FDA
compliant



- Hygienic DIN 11853-1 & Aseptic DIN 11864-1
Screw Connection
- Hygienic DIN 11853-2 & Aseptic DIN 11864-2
Flange Connection
- Hygienic DIN 11853-3 & Aseptic DIN 11864-3
Clamp Connection



Quality Crafted, Industry Trusted

Delivering hygienic and high-purity process solutions with regional expertise, technical excellence, and trusted quality across Southeast Asia.

Minox is a leading provider of hygienic and high-purity process solutions, serving the Food & Beverage, Pharmaceutical, Biotechnology, Semiconductor, and Data Center industries across Southeast Asia. With regional offices and warehouses in Malaysia, Indonesia, Singapore, and Thailand, supported by representatives in Taiwan, the Philippines, and Vietnam, we provide responsive sales support, technical expertise, and reliable product availability throughout the region.

Our comprehensive portfolio includes hygienic and high-purity stainless steel valves, tubes, fittings, installation components, process equipment, flexible hoses, and sealing solutions. Backed by an **ISO 9001:2015 certified Quality Management System**, we are committed to delivering products and services that meet customer expectations for quality, reliability, and performance.

Our products comply with international hygienic standards, including **EHEDG, 3-A Sanitary Standards, ASME BPE, FDA**, and **USP Class VI**, supporting critical applications in food, pharmaceutical, and biotechnology industries. For the semiconductor industry, our **MICONX** high-purity stainless steel product range is manufactured under stringent quality controls, covering raw material selection, precision manufacturing, cleaning, inspection, and cleanroom packaging. As an active member of **SEMI** and **MSIA**, Minox continues to uphold industry excellence.

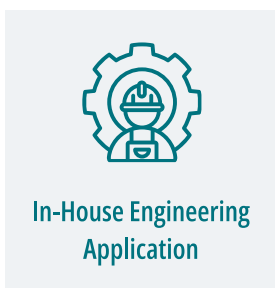
Beyond product supply, our Design & Development team continuously enhances our portfolio while providing application engineering support tailored to customer needs. Our in-house developed Minox **CS10 Control Head** with **AS-Interface** communication reflects our commitment to process automation.

To deliver complete hygienic process solutions, Minox partners with globally recognized brands including **Kinglai, Cecitech, Garlock, Rubber Fab, BMT Superlok**, and **Duoning**, offering customers a reliable and comprehensive product range.



FDA
compliant

USP
Class VI



TUBES & FITTINGS



Tubes

Standard:

- ASTM A269, A270, A632 (3-A Sanitary Certified)
- EN 10357 Series A, C, D (EHEDG Certified)



Tube End Cap

Type:

- Short and Long



Pipe Hanger

Type:

- A: without groove type
- B: bolts type with groove
- C: wing nut type with groove
- Heavy duty type
- Bolts type with rubber lining



Elbow

Type:

- 45°, 90°, 180°, Long Elbow & Long Radius Elbow

Connection:

- Tube Weld, Clamp Joint



Tee

Type:

- Equal Tee, Instrument Tee, Long Tee, Cross Tee & Reducing Tee

Connection:

- Tube Weld, Clamp Joint



Reducer

Type:

- Concentric & Eccentric Reducer

Connection:

- Tube Weld, Clamp Joint

DIMENSION

EN 10357 Series D	EN 10357 Series C ASTM A269 / A270 / A632	EN 10357 Series A
1" - 4"	0.25" - 6"	DN10 - DN300

WALL THICKNESS

Size	OD	0.89t	1.25t	1.5t	1.65t	2.0t	2.11t	2.77t	3.0t
0.25"	6.35	●							
0.375"	9.53	●							
0.5"	12.70			●	●				
0.75"	19.05				●				
1.0"	25.40		● ○	● ○	●				
1.5"	38.10		● ○	● ○	●				
2.0"	50.80		● ○	● ○	●				
2.5"	63.50			○	● ○				
3.0"	76.20			○	● ○				
4.0"	101.60					● ○	●		
6.0"	152.40							●	
DN10	13.00			○					
DN15	19.00			○					
DN20	23.00			○					
DN25	29.00			○					
DN32	35.00			○					
DN40	41.00			○					
DN50	53.00			○					
DN65	70.00					○			
DN80	85.00					○			
DN100	104.00					○			
DN125	129.00					○			
DN150	154.00					○			
DN200	204.00					○			
DN250	254.00					○			
DN300	306.00								○

SURFACE FINISHING

- **Internal** : Polished or Bright Annealed with $Ra \leq 0.6\mu m$ (24 μ in)
- **Internal** : Pickled & passivated with $Ra \leq 0.8\mu m$ (32 μ in)
- External** : Brushed with $Ra \leq 0.8\mu m$ (32 μ in)

MATERIALS

Stainless Steel 304, 304L, 316, 316L, 1.4301, 1.4307, 1.4404

UNIONS

MINOX sanitary unions are manufactured and tested in accordance with the international food & hygienic grade and material safety standards. Unions permits to disconnect without disturbing other pipe work, easy to dismantle for cleaning, repair and replacement.

Body Material : Stainless Steel 304, 304L & 316L

Rubber Material : EPDM, NBR, Silicone, FKM/FPM, PTFE, PTFE Enveloped FKM, PTFE Enveloped EPDM, Tuf-Steel & Metal Detectable (FDA Compliant / Fulfill USP Class VI)



SMS Union

Size : 1" - 4"



Clamp Union

Size : 0.5" - 12", DN10 - DN300



DIN 11851 DIN Union

Size : 1" - 4", DN10 - DN150



DIN 11853-1 Hygienic Screw Connection

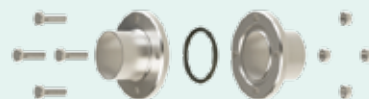
DIN 11864-1 Aseptic Screw Connection

Size : 0.5" - 4", DN10 - DN100



IDF Union

Size : 1" - 4"



DIN 11853-2 Hygienic Flange Connection

DIN 11864-2 Aseptic Flange Connection

Size : 0.5" - 4", DN10 - DN150



RJT Union

Size : 1" - 4"



DIN 11853-3 Hygienic Clamp Connection

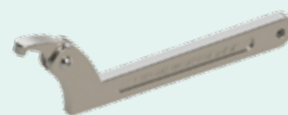
DIN 11864-3 Aseptic Clamp Connection

Size : 0.5" - 4", DN10 - DN100



DS Union

Size : 1" - 4"



Spanner for Round Nut

Size : DN15-51, DN51-121, DN125-150

CONTROL HEAD & POSITIONER

MINOX® CS10 Control Head



The **MINOX® CS10 Control Head** is designed for use with pneumatically operated MINOX® sanitary butterfly valves and seat valves. This control head provides direct interface between the PLC control system and the sanitary valves, enabling seamless communication and integration into automated systems. Now available in both 24V DC and AS-Interface versions, it ensures compatibility with modern control environments.

Key features include:

- Capable of integrating with a PLC system via a digital interface or AS-Interface
- Automatic air supply via solenoid valve
- High precision position sensors with easy adjustment
- Valve status display via LED, visible from any direction
- In-line air filter to protect solenoid valve

Butterfly valve with A63 stainless steel actuator for 1" to 2.5"



Butterfly valve with D85 stainless steel actuator for 1" to 4"



Seat valve with stainless steel actuator for 1" to 4"
(valve body combination: M21, M22, M31, M32, M20, M30)



Digital Electropneumatic Positioner



8692 Digital Electropneumatic Positioner

- Compact, robust stainless steel design
- Easy start-up by automatic X-Tune function
- Contact free position sensor
- PROFIBUS DP-V1, DeviceNet, EtherNet/IP, PROFINET, Modbus TCP or bus (Burkert System Bus)
- With ATEX II cat. 3G/D / IECEx approval (option)

8694 Digital Electropneumatic Positioner

- Compact, robust stainless steel design
- Start-up by automatic Tune function
- Contact free position sensor
- Fieldbus interface AS-Interface (option)
- With ATEX II cat.3G/D approval (option)

VALVES



• Butterfly Valve

Connection: Weld End or Clamp End

Body Material: SS 304L & 316L

Rubber Material: EPDM, Silicone & FKM/FPM

Size: 1" - 4", DN15 - DN200

Type:

- Manual by turning 3-position pull handle
- Manual by turning 12-position gripper handle
- Pneumatic with air actuator



• 2-Piece Ball Valve

Connection: Weld End or Clamp End

Body Material: SS 316

Rubber Material: PTFE + Silicone

Size: 1" - 4"

Type:

- Manual by turning handle
- Pneumatic with air actuator



• 3-Piece Ball Valve

Connection: Weld End or Clamp End

Body Material: SS 316

Rubber Material: PTFE

Size: 0.5" - 4" (2 way)
0.5" - 3" (3 way)

Type:

- 2 way
- 3 way (T port / L port)
- Manual by turning handle
- Pneumatic with air actuator



• Diaphragm Valve

Connection: Weld End or Clamp End

Body Material: SS 316L

Rubber Material: EPDM, Silicone, EPDM+PTFE

Size: 0.5" - 2.5"

Type:

- 2 way
- 3 way
- Manual by turning handle
- Pneumatic with air actuator



• Seat Valve

Connection: Weld End or Clamp End

Body Material: SS 304L & 316L

Rubber Material: EPDM

Size: 1" - 4"

Type:

- Manual by turning handle
- Pneumatic with air actuator
- Port: M20, M30, M21, M22, M31, M32



• Flow Control Valve

Connection: Weld End or Clamp End

Body Material: SS 316L

Rubber Material: EPDM

Size: 1" - 4"

Type:

- Manual by turning handle
- Pneumatic with air actuator (upon request)

VALVES



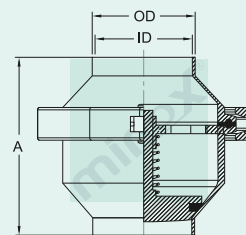
• Non Return Valve

Connection: Weld End or Clamp End

Body Material: SS 304L & 316L

Rubber Material: EPDM, Silicone & FKM/FPM

Size: 0.5" - 4", DN25 - DN125



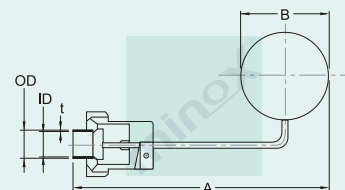
• Floating Valve

Connection: Weld End

Body Material: SS 304 & 316L

Rubber Material: EPDM, Silicone & FKM/FPM

Size: 1"



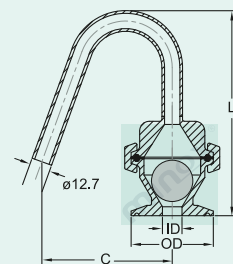
• Air Release Valve

Connection: Clamp End

Body Material: SS 316L

Rubber Material: EPDM

Size: 1" - 2"



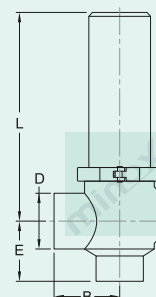
• Pressure Relief Valve

Connection: Weld End or Clamp End

Body Material: Silicone, PTFE

Rubber Material: 0-15 bar depends on size

Size: 1" - 3"



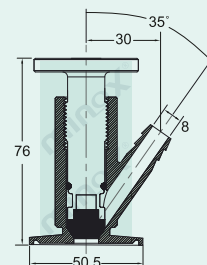
• Sampling Valve

Connection: Clamp End

Body Material: SS 316L

Rubber Material: PTFE

Size: 0.5" - 1"



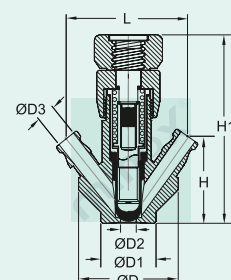
• Aseptic Sampling Valve

Connection: Weld End or Clamp End

Body Material: SS 316L

Rubber Material: EPDM & Silicone

Size: 0.5" - 1"



TANK EQUIPMENT

Minox produces a range of sanitary tank equipment, such as pressure or non-pressure manhole, spray ball, sight glass, air vent, breather vent and level gauge.

Minox has supplied the food & beverage industry with high quality tank equipment.

Material:

Stainless Steel 304, 304L, 316L

Surface Roughness:

≤ Ra 0.8μm

• Air Vent

A-40 – Two-way (pressure and vacuum) with oil bath working, maximum flow 300 hl/h or 30 m³/h

A-50 – Two-way (pressure and vacuum) with oil bath working, maximum flow 1000 hl/h or 100m³/h



• Breather Vent Filter

Max Pressure : 10 Bar

Retention : 0.22 μm

Element Area : 0.25m²

Size : 1.5", 2" (Standard Design with Clamp End)



• Inline Sight Glass

Glass Material : Borosilicate glass tube

Rubber Material : EPDM & Silicone

Working Pressure : 1" - 2.5", DN25 - DN65

max. 10 bar / 3" - 4", DN80 - DN150 max. 7 bar

Size : 1" - 4", DN25 - DN 150



• Level Gauge

Working Pressure : Maximum 3 bar

Connection : Tri Clamp end

Glass Tube Size : OD 22mm



• Manhole Cover

Type: Non-pressure, pressure, round, oval

Rubber Material : EPDM, Silicone and FKM/FPM

Size : 200mm - 600mm (refer catalogue for size range)



• Spray Ball

Type & Size : **Static spray ball**

1" - 2.5", DN25 - DN65

Rotary spray ball

0.5" - 2"



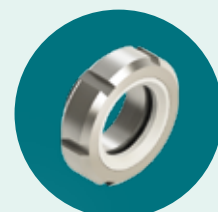
• Tank Sight Glass

Glass Material : Tempered glass

Rubber Material : EPDM, Silicone, PTFE

Working Pressure : Maximum 10 bar

Size : 2" - 4", DN50 - DN 100



FILTRATION EQUIPMENT



Angle Filter

- **Body Material:** SS 304 or 316L
- **Rubber Material:** EPDM, Silicone, NBR
- **Filter Cartridge:** With 0.5mm - 5mm holes
- **Filter Wire Mesh:** From 40 mesh - 500 mesh
- **Wedge Screen:** 25 μ - 2000 μ
- **Sintered Wire Mesh:** 1 μ - 177 μ
- **Size:** 1" - 4" / DN25 - DN100



Inline Filter

- **Body Material:** SS 304 or 316L
 - **Rubber Material:** EPDM & Silicone
 - **Filter Cartridge:** With 0.5mm - 5mm holes
 - **Filter Wire Mesh:** From 40 mesh - 500 mesh
 - **Size:** 1" - 4" / DN25 - DN100
- (Wedge Screen and Sintered Wire Mesh upon request)*



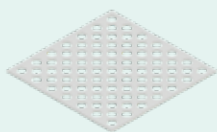
Double Connection Filter

- **Body Material:** SS 304 or 316L
- **Rubber Material:** EPDM, Silicone, NBR
- **Filter Cartridge:** With 0.5mm - 5mm holes
- **Filter Wire Mesh:** From 40 mesh - 500 mesh
- **Wedge Screen:** 25 μ - 2000 μ
- **Sintered Wire Mesh:** 1 μ - 177 μ
- **Size:** 1" - 4" / DN25 - DN100

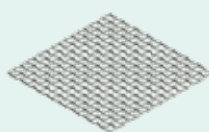


Screen Gasket

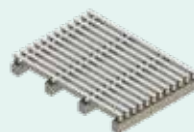
- **Rubber Material:** EPDM, FKM Fluoroelastomer, Buna, Platinum Silicone, PTFE (fluoropolymer), Tuf-Steel
- **Perforation Type:** .033", .045", .062", .094", .125", .187" and .250"
- **Wire Mesh Type:** 10, 20, 40, 60 & 100 (other mesh upon request)
- **Size:** 0.5" - 6"



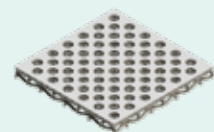
Perforated Plate
0.5mm - 5mm holes



Wire Mesh
40 mesh - 500 mesh



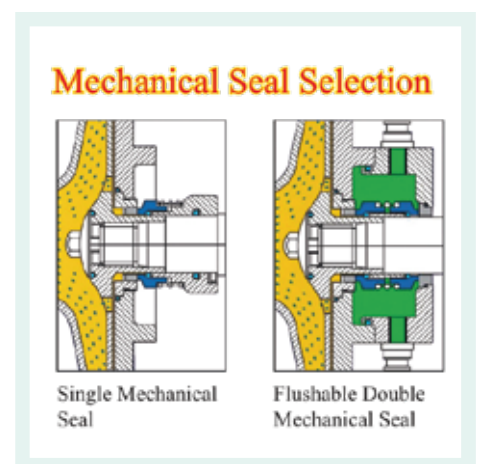
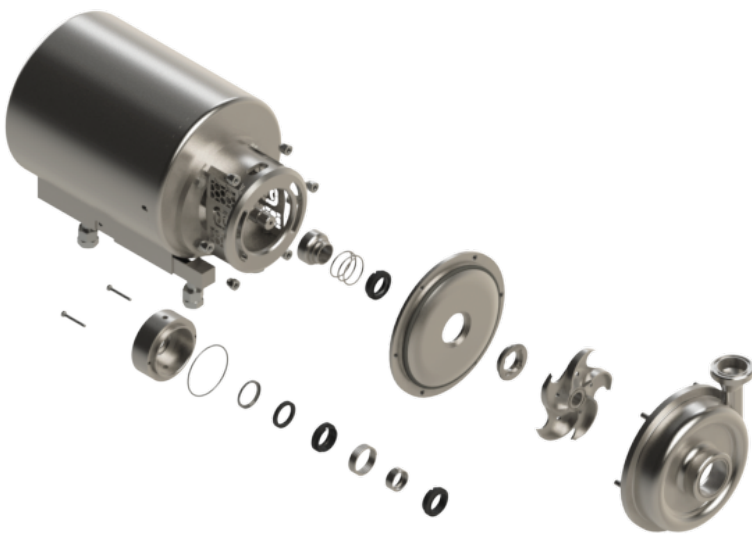
Wedge Screen
25 μ - 2000 μ



Sintered Wire Mesh
1 μ - 177 μ

CENTRIFUGAL PUMP

Sanitary Centrifugal Pump used for transporting water, utilities and CIP solution for dairy, brewery and pharmaceutical industries. Minox sanitary centrifugal pump is designed for CIP (Cleaning In Place) with emphasis on large internal rounding and cleanable seal. It is also equipped with an external single mechanical seal (optional: Double Mechanical Seal). The stainless steel 316L stationary seal ring is combined with a silicone carbide sealing surface and carbon rotating seal ring.



MATERIALS

Product Wetted Steel Parts : Acid resistant steel SS316L

Other Steel Parts : Stainless Steel 304

Finishing : Ra 0.4µm polishing on product wetted parts, semi bright on external

Product Wetted Seals : FDA grade EPDM rubber/FKM rubber

TECHNICAL DATA

Max. Inlet Pressure : 0.5 MPa

Temperature Range : -10°C to +135°C with EPDM seal

Voltage & Frequency : ≤ 3kw, 220~240V / 380~420V, Δ/Y
> 3kw, 380~420V / 660~690V, Δ/Y

Motor Size : 50Hz, 0.55kw / 0.75kw / 1.1kw / 1.5kw / 2.2kw / 3.0kw / 4.0kw / 5.5kw / 7.5kw / 11kw / 15kw / 18kw / 22kw / 30kw (other size upon request)

GAUGES

Minox is the Authorized Regional Distributor for the well-known gauge manufacturer, TEMPRESS from Denmark. Tempress gauges are made to meet the requirement of food and pharmaceutical industries.



Pressure Gauge

- Type : Pressure gauge with diaphragm seal
- Case Size : DN100
- Case Material : AISI 316, glass-bead blasted
- Display Face : Acrylic
- Bezel : AISI 316
- Liquid Filling : Glycerine
- Connection : 1.5" (DN 38) clamp acc. to ISO 2852
- Material : AISI 316L
- Diaphragm Material : AISI 316L
- Transmission Fluid : Glycerine, 90/10
- Measuring Range : -1 - 0 bar to 0 - 100 bar
- Minimum Span : 1 bar
- Damping : Standard
- Over Range Protection : Pmax + 30%
- Medium Temperature : -5°C to 130°C (23-265°F)
- Ambient Temperature :
Span ≤ 2,0 bar 0 to 50°C (32 to 120°F)
Span ≤ 2,0 bar 0 to 60°C (32 to 140°F)
- Accuracy : Class 1,0 (±1 % FS)
- Temp. Dependence : ≤ 60 mbar at 100°C
(0,87 psi at 212°F)

Thermometer

- Thermometer : A8103 - polished
- Case Size : DN100
- Liquid Filling : Silicone oil
- Neck : 50mm (1.75")
- Connection Clamp : DN38 (1.5") or DN51 (2")
acc. to ISO 2852
- Sensor Diameter : 10mm (0.4") or 13mm (0.5")
- Max. L : 560mm
- Material : AISI 316 surface finish,
A8103 Ra ≤ 0.8µm (≤ 32µm in)
- Filling Media : Inert gas
- Measuring Range : -40°C to +250°C (-40 to +480°F)
- Minimum Span : 60°C (140°F)
- Accuracy : EN13190, cl.1
- Ambient Temperature : -40 to +400°C
(-40 to +212°F (or FS))

FDA FLEXIBLE HOSE

- Assembly with preferred connection and overall length
- Minox hoses are FDA certified with internal pressure test report

M5810 – FDA EPDM Suction & Discharge Hose

- White and smooth food quality EPDM rubber
- Temperature : -4°F to 248°F | -20°C to 120°C
- Size : 0.5" - 4"



M6300 – FDA Nitrile Suction & Discharge Hose

- FDA white and smooth Nitrile (NBR) rubber
- Temperature : -4°F to 194°F | -20°C to 90°C
- Size : 0.5" - 4"



MINOX x GECITECH TRESSIL® **NEW** MX-SB – FDA Polyester Braid Silicone Hose

- Smooth Platinum Cured Silicone Rubber
- Temperature : -76°F to 356°F | -60°C to 180°C
- Size : 0.125" - 1.25"



MINOX x GECITECH GSI 75 NTP® **NEW** MX-SV – FDA Wire Reinforced Silicone Hose

- Smooth Platinum Cured Silicone Rubber
- Temperature : -76°F to 356°F | -60°C to 180°C
- Size : 0.315" - 4"



MX-PVCSW – Food Grade Wire Reinforced PVC Hose

- Smooth Polyvinyl Chloride (FDA PVC)
- Temperature : 23°F to 150°F | -5°C to 65°C
- Size : 0.5" - 4"



RF-PVW – Wire Reinforced Hose

- FDA PVC - Clear with steel wire helix wire reinforcement
- Temperature : 25°F to 150°F | -4 to 65°C
- Size : 0.25" - 3"



RF-PVV – Spiral Wire Reinforced Hose

- FDA PVC - PVC spiral reinforcement
- Temperature : 25°F to 150°F | -4 to 65°C
- Size : 0.75" - 8"



PFA Tubing

- Application: Extreme chemical and high-temperature resistance
- Temperature : -300°F to 500°F | -185°C to 260°C
- Size : Standard / Heavy Wall PFA Tubing 1/16 - 1 1/4
Metric Size PFA Tubing 1mm - 14mm



FDA FLEXIBLE HOSE

GECITECH POLYSIL®

- PFA smooth bore with stainless steel reinforcement
- Temperature: -22°F to 266°F | -30°C to 130°C
- Size: 0.5" - 2.5"



GECITECH SILFLON®

- PTFE hose with stainless steel braid & white silicone cover
- Temperature: -76°F to 500°F | -60°C to 260°C
- Size: 0.5" - 2"



RF-RT – Smooth Bore FEP Lined EPDM Covered Hose

- EPDM Rubber (abrasion resistant and oil resistant)
- Temperature : -40°F to 300°F | -40°C to 148°C
- Size : 0.5" - 4"



RF-RTP – Smooth Bore Heavy Wall PTFE Hose

- EPDM Rubber (abrasion resistant and oil resistant)
- Temperature : -20°F to 300°F | -28°C to 148°C
- Size : 0.53" - 2.02"



304 & 316 Stainless Steel Corrugated Hose

- Temperature : -269°C to 600°C
- Size : 0.25" - 24"
- Application: Chemical, Steam, Hot & Chill Water Transfer (not recommended for product transfer)



Hose Adaptor

- Type: Weld End, Clamp End, SMS, DIN, DS, RJT, IDF Male Part and Liner End
- Size : 0.5" - 4"



Hose Collet / Reusable Hose Collet

- Material: Stainless Steel 304
- Size : 0.5" - 4"



Connection:
Nut/Liner at one end,
Male Part at another end



Connection:
Male Part at both ends

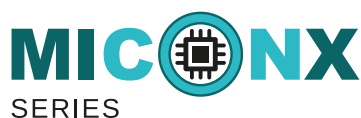


Connection:
Nut/Liner at both ends



Connection:
Ferrule at both ends

HIGH PURITY & VACUUM TUBE SYSTEM



Products

Tube, Elbow, Tee, Reducer, Tube End Cap

Surface Finishing

Miconx-EP - Electropolished ultra high purity internal surface $\leq 0.25 \mu\text{m}$ (10 $\mu\text{-in}$) for bulk gases hook-up installations

Miconx-BA - Bright Annealed high purity internal surface $\leq 0.51 \mu\text{m}$ (20 $\mu\text{-in}$) for bulk gases hook-up installations

Miconx-VA3 - Bright Annealed cleaned internal surface $\leq 0.6 \mu\text{m}$ (24 $\mu\text{-in}$) for KF and ISO vacuum components

Size

0.25" - 6" (EP, BA)

0.5" - 6" (VA3)

Material:

SS316L (EP)

SS304L, SS316L (BA, VA3)

Documentation:

The material test and inspection certificate contains with the following information:

- Certificate serial number
- Delivery order number
- Customer's company name & PO number
- Product specification
- Surface roughness
- Chemical composition
- Mechanical features
- Heat number

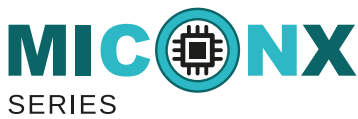
Dimensions:

According to ASTM A269 / A270 / A632

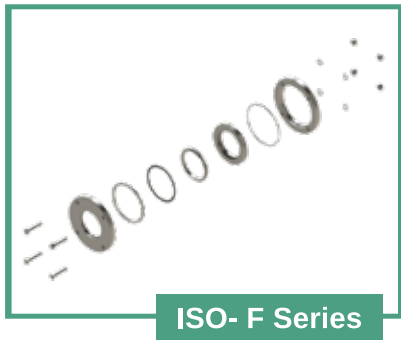
Size	OD (mm)	Wall Thickness (mm)
Miconx-EP, Miconx-BA, Miconx-VA3		
0.25"	6.35	0.89
0.375"	9.53	0.89
0.5"	12.70	1.24 / 1.65
0.75"	19.05	1.24 / 1.65
1.0"	25.40	1.65
1.25"	31.75	1.65
1.5"	38.10	1.65
2.0"	50.80	1.65
2.5"	63.50	1.65
3.0"	76.20	1.65
4.0"	101.60	2.11
6.0"	152.40	2.77
Miconx-VAC		
KF10	12.70	1.65
KF16	19.05	1.65
KF25	25.40	1.65
KF40	38.10	1.65
KF50	50.80	1.65
ISO63	63.50	1.65
ISO80	76.20	1.65
ISO100	101.60	2.11
ISO160	152.40	2.77
ISO200	203.20	2.77
ISO250	254.00	3.40
ISO320	304.80	3.40
ISO400	406.80	CF
ISO500	508.00	CF

CF = Consult Factory

HIGH PURITY & VACUUM TUBE SYSTEM



KF Series



ISO- F Series



ISO- K Series

Pressure Rating :
10⁻⁷ mbar - Aluminium
10⁻⁸ mbar - Stainless steel
7 x 10³ mbar - Stainless steel with overpressure ring
Leak Rate : 10⁻⁹ mbar-l/s

Miconx -VAC

KF Series

Standard: ISO 2861

Size: KF10 - KF50

- KF Blank Flange
- KF Bored Flange
- KF Socket Weld Flange
- KF Short & Long Weld Stub
- KF Full Nipple
- KF Elbow
- KF Tee
- KF Cross Tee
- KF Braided Flexible Hose
- KF Flexible Hose
- KF Compression Bellow
- KF Centering Ring, Outer Ring, Overpressure Ring, O-Ring
- KF Single Pin Clamp
- KF Double Pin Clamp
- KF Spring Clamp with ABS Nut
- KF Spring Clamp with Wing Nut
- KF Toggle Clamp with Lock
- KF Nail Clamp
- KF Bulkhead Clamp
- KF Chain Clamp

Material and Size:

- Clamp: Aluminium, SS304
- Flange & Fitting, Hose: SS304 & 316L
- Centering Ring & Support Ring: Aluminium, SS304, SS316L

Temperature:

- 150°C FKM O-ring (bakeable to 200°C)
- 80°C NBR O-ring
- 300°C FFKM O-ring (upon request)

Miconx -VAC

ISO Series

Standard: ISO 1609

Size: ISO63 - ISO630

- ISO Bolted Blank
- ISO Bolted Flange
- ISO Bolted Flange - Tapped
- ISO Blank Flange
- ISO Bored Flange
- ISO Long Weld Stub
- ISO Full Nipple
- ISO Elbow
- ISO Tee
- ISO Cross Tee
- ISO Rotatable Bolt Ring
- ISO Split Retainer Ring
- ISO Centering Ring
- ISO Outer Ring
- ISO Single Wall Clamp
- ISO Double Wall Clamp
- ISO Double Claw Clamp
- ISO Braided Flexible Hose
- ISO Flexible Hose
- ISO Compression Bellow

Material and Size:

- Clamp: Aluminium, SS304
- Flange, Fitting, Hose: SS304 & 316L
- Centering Ring & Support Ring: Aluminium, SS304, SS316L

Temperature:

- 150°C FKM O-ring (bakeable to 200°C)
- 80°C NBR O-ring
- 300°C FFKM O-ring (upon request)

UHV Ultra High Vacuum				HV High Vacuum				Medium Vacuum				Low Vacuum			
10 ⁻¹¹ ~ 10 ⁻⁷ mbar				10 ⁻⁷ ~ 10 ⁻³ mbar				10 ⁻³ ~ 1 mbar				1 ~ 10 ⁻³ mbar			
10 ⁻¹⁰	10 ⁻⁹	10 ⁻⁸	10 ⁻⁷	10 ⁻⁶	10 ⁻⁵	10 ⁻⁴	10 ⁻³	10 ⁻²	10 ⁻¹	10 ⁰	10 ¹	10 ²			
KF, ISO COMPONENTS															

ASME BPE TUBES AND FITTINGS



ASME BPE Tube

- Standard : ASME BPE (Bioprocessing Equipment Standard)
- Material : Stainless Steel 316L according to ASME BPE
- Internal Finishing :
 - SF1** 0.51 μm (20 $\mu\text{in.}$) max polished ID, 0.81 μm (32 $\mu\text{in.}$) max polished OD
 - SF4** 0.38 μm (15 $\mu\text{in.}$) max electropolished ID, 0.81 μm (32 $\mu\text{in.}$) max polished OD
- Size : 0.25" - 6"



ASME BPE Fitting

- Standard : ASME BPE (Bioprocessing Equipment Standard)
- Material : Stainless Steel 316L according to ASME BPE
- Internal Finishing :
 - SF1** 0.51 μm (20 $\mu\text{in.}$) max polished ID, 0.81 μm (32 $\mu\text{in.}$) max polished OD
 - SF4** 0.38 μm (15 $\mu\text{in.}$) max electropolished ID, 0.81 μm (32 $\mu\text{in.}$) max polished OD
- Size : 0.25" - 6"
- Connection : Tube weld, Clamp joint

Aseptic Valves (ASME BPE Compliant)



- Standard : ASME BPE compliant sterile design
- Design Features :
 - Minimal dead-leg design for hygienic applications
 - Static seal diaphragm structure for enhanced hygiene and durability
 - Excellent self-drainability suitable for CIP / SIP processes
- Internal Finishing :
 - Mechanical polished $R_a \leq 0.5 \mu\text{m}$ (SF1)
 - Electropolished $R_a \leq 0.375 \mu\text{m}$ (SF4)
- Diaphragm materials: EPDM or EPDM + TFM (FDA & USP Class VI compliant)
- Size : DN4 to DN125
- Type : Manual or pneumatic actuation, with optional automation and feedback devices
- Certification : Full material traceability with EN 10204 3.1 / MTR certification

Exclusive Distributor :  **KINGLAI**

Sole & Exclusive Distributor of KingLai ASME BPE in Southeast Asia

Minox is the sole authorized distributor of KingLai **ASME BPE products** in Southeast Asia.
We deliver aseptic, compliant, and reliable solutions trusted by the pharmaceutical and biotech industries.

COMPLIANCE & CERTIFIED

At Minox, quality is our prime concern, and we have been ensuring that our products meet the international industry standard in terms of quality control and international best practices - including EHEDG, 3A, ASME BPE, FDA and SGS.



Minox Material Test & Inspection Certificate included:

- Certificate serial number
- Delivery order number
- Customer's company name
- PO number
- Surface roughness
- Chemical composition
- Mechanical features
- Heat number

Marking & Traceability:

MINOX products engrave with brand name, material, size and traceable heat number. These information and customer's purchase are well record and track in our certificate system.



MST STAINLESS STEEL SDN BHD
MINOX VALVES AND FITTINGS SDN BHD

No.3, Jalan Industri PBP 11, Taman Industri Pusat Bandar Puchong,
47100 Puchong, Selangor.

Tel: 03-8063 7450 | 03-8063 7470 | 03-8063 8700

Fax: 03-8063 7480

Email: info_mas@minox.biz | samantha.low@minox.biz



[SINGAPORE – LOGISTICS HUB]
MST STAINLESS STEEL (S.E.A.) PTE. LTD.

2 Bukit Batok Street 23 #09-04 Singapore 659554.

Tel: +65 6777 0557

Mobile: +65 8612 1238

Email: siangji.liew@minox.biz



[SINGAPORE]
MINOX VALVES & FITTINGS PTE. LTD.

32 Old Toh Tuck Road, #04-01 I-Biz Centre, Singapore 597658.

Tel: +65 6515 9505

Email: info_sg@minox.biz | jason.kee@minox.biz



[INDONESIA]
PT. MINOX INDONESIA

Kp. Leuwi Jambe RT.006/RW.003 Ds. Kadumanggu, Kec. Babakan
Madang, Kab. Bogor 16810 Jawa Barat, Indonesia.

Tel: +62 21 8795 3901 | +62 21 8795 3902

Mobile: +62 813 1790 2331 | +62 815 8470 7481

Email: info_indo@minox.biz | gamal.abdulnashir@minox.biz



[THAILAND]
MINOX VALVES & FITTINGS CO., LTD

888/8 Moo9, Pracha-Uthit Road, Naiklongbangplakot,
Prasamutchedi, Samutprakarn 10290, Thailand.

Tel: +66 2 816 9989

Fax: +66 2 816 9475

Mobile: +6686 198 8998

Email: info_thai@minox.biz | nopparan.suwanpimolkul@minox.biz



[PHILIPPINES representative agent]
PHINOX VALVES & FITTINGS OPC

Warehouse 7, Wingi Warehouse Compound,
Arnaldo Highway, Brgy. Pasong Camachille II,
General Trias Cavite, 4107 Philippines.

Tel: +63 462 303 950

Email: info_phil@minox.biz | robin.lim@minox.biz



[VIETNAM representative agent]
CONG TY TNHH MST MINOXVN

19/3/5 Binh Thoi, Ward Phu Tho, Ho Chi Minh City, Viet Nam.

Tel: +84 965 373 732

Email: info_viet@minox.biz



[TAIWAN representative agent]
MVF MANUFACTURING TAIWAN CO., LTD.

No. 79-3, Ln. 1, Wutong W. Rd., Puxin Township,
Changhua County 51341, Taiwan

Tel: +886-4-8531998

Email: info_tw@minox.biz

www.minox.biz

