

BROEN-LAB

Drejervaenget 2, 5610 Assens, Denmark

Phone: +45 6376 6376

E-mail: lab@broen-lab.com

Web : broen-lab.com














FITTINGS FOR NON-BURNING 2.0 GASES AND VACUUM

PREMIUM range

99B0057 Rev. 2 - 20.09.2023

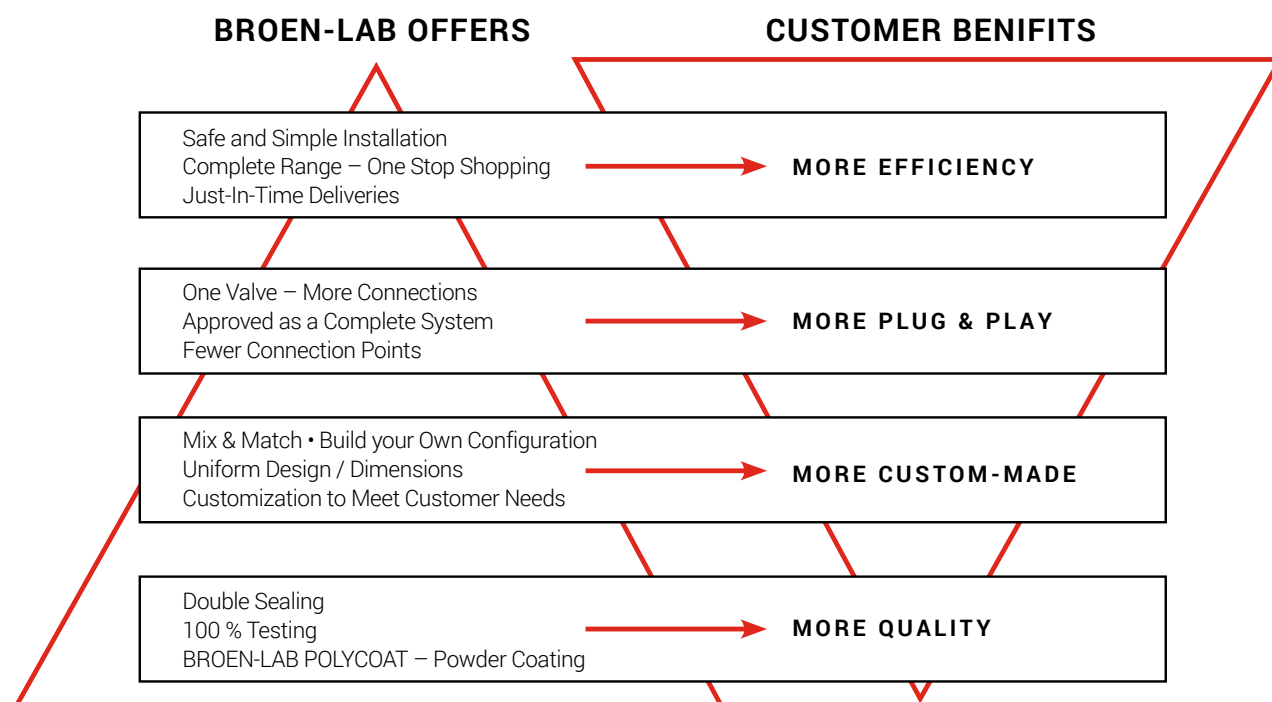
TABLE OF CONTENTS

| | | | | |
|--|---|---|--|---|
| BROEN-LAB UniFlex™ | Page 3 | | | |
| Configuration overview | Page 4 | | | |
| Technical information | Page 5 | | | |
|  |  |  |  |  |
| Bench mounted fitting | Suspended fitting with 90° valves | Suspended fitting with 45° valves | Wall mounted double fitting with 90° valves | Wall mounted double fitting with straight valves |
| Page 6 | Page 7 | Page 8 | Page 9 | Page 10 |
|  |  |  |  |  |
| Wall mounted fitting with 90° valves for exposed piping | Wall mounted fitting with straight valves for exposed piping | Bench og wall mounted fitting with 90° valves and lead-in | Bench og wall mounted fitting with 45° valves and lead-in | Suspended or wall mounted staight fitting with lead-in |
| Page 11 | Page 12 | Page 13 | Page 14 | Page 15 |
|  | | | | |
| Fittings for pressure regulation | | | | |
| Page 16 | | | | |
| BROEN-LAB UniFlex™ hoses for water | Page 17 | | | |
| Headworks | Page 19 | | | |
| Accessories | Page 21 | | | |
| Ordering information | Page 22 | | | |

BROEN-LAB UNIFLEX™ PREMIUM

THIS IS BROEN-LAB UNIFLEX™ PREMIUM

BROEN-LAB UniFlex™ PREMIUM line offers a very high quality and durability combined with the complete program, which adds up to low LCC (Life Cycle Costs). Our PREMIUM line takes the standards in the market to a higher level.



BROEN-LAB UniFlex™ PREMIUM fittings for non-burning 2.0 gases/vacuum are designed for laboratory use.

The operation and the configuration of the fittings are highly adapted to the requirements of a modern laboratory. The fittings are surface treated with BROEN-LAB POLYCOAT powder coating, which is highly resistant to most chemicals, UV fading and heat (for more information please refer to "BROEN-LAB POLYCOAT" brochure).

All BROEN-LAB UniFlex™ PREMIUM fittings are delivered with a powder coated metal handle with media indication according to EN13792. As an option it is possible to get fittings with disability-friendly handle for easier operation.

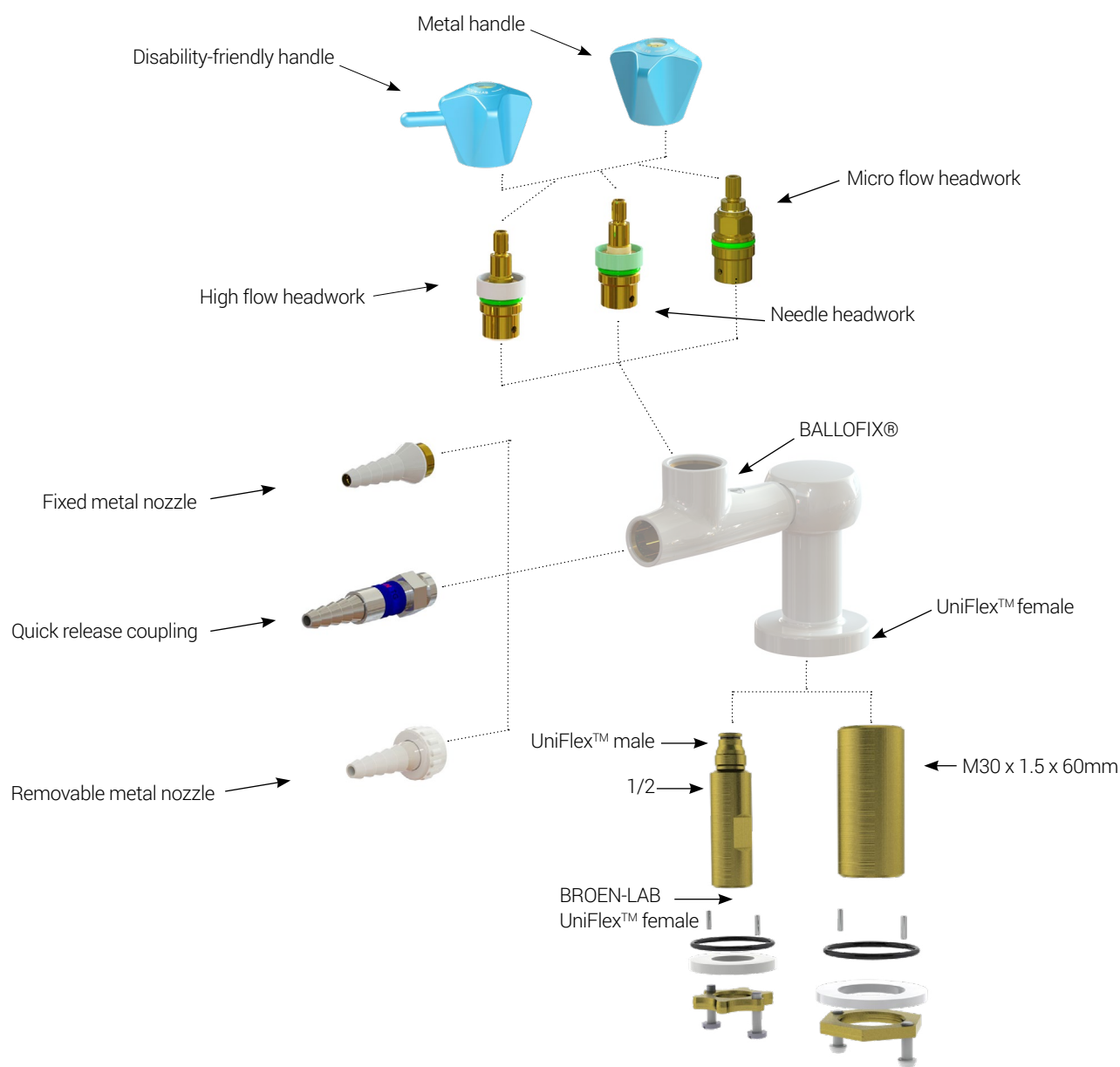
BROEN-LAB UniFlex™ PREMIUM fittings for non-burning gases/vacuum incorporate a BALLOFIX® ball valve, which offers a number of advantages such as local shut-off (e.g. in connection with product service) and pre-setting for experimental purposes.

As standard fittings are delivered with a fixed metal nozzle (can be removed with Allen key if needed) or a quick release coupling (hexagon coded) for easy and immediate connection and safe disconnection.

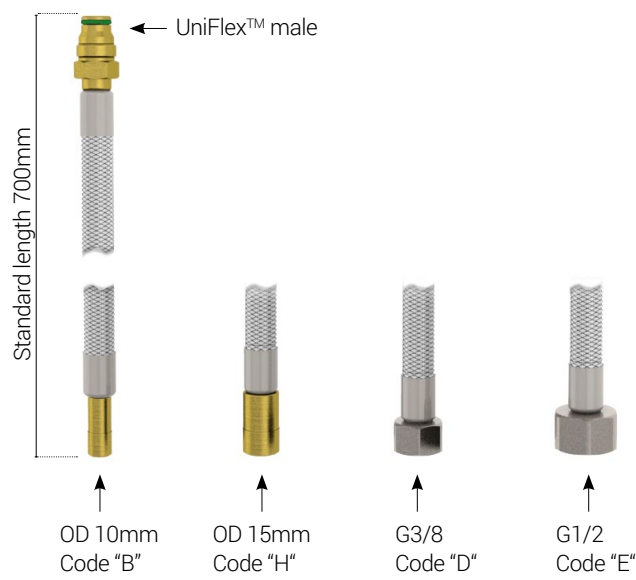
THIS IS BROEN-LAB UNIFLEX™

BROEN-LAB UniFlex™ is a unique and patented connection, which allows customers to choose from various connection methods, such as hoses, Cu, PEX or Stainless Steel pipes, without changing the valve itself. It provides unique flexibility, not only for the installer, but also for the end-user. Due to the flexibility of the system, the quick installation and savings on fittings, this system offers lower TIC (Total Installed Costs).

CONFIGURATION OVERVIEW



Optional hoses to add



TECHNICAL INFORMATION

WHAT IS NON-BURNING 2.0 GAS?

Non-burning 2.0 gases are typical industrial and technical gases that are 99% clean.

BROEN-LAB UniFlex™ fittings for non-burning gases can be used for non-toxic, non-corrosive, non-burning 2.0 gases, such as Compressed Air, Nitrogen, Carbon Dioxide, Argon, etc.

These gases are typically commercially manufactured and sold to be used in applications within:

- laboratory and instrumentation
- chemical industry
- cutting and welding
- food processing, etc.

WHAT IS VACUUM?

Vacuum is a volume of space that is essentially empty of matter, such that its gaseous pressure is much less than atmospheric pressure.

Vacuum is usually measured by its absolute pressure and is divided into several types (according to EN 13792):

- Low Vacuum: 1000 to 1mbar
- Fine Vacuum : 1 to 10⁻³ mbar
- High Vacuum: 10⁻³ to 10⁻⁷ mbar

Laboratory applications usually require use of suction. Suction is a flow of media into a partial vacuum, or region with low pressure. It is being used to clear surfaces, containers or tubing of residues or other materials.

OUR HEADWORKS

BROEN-LAB UniFlex™ fittings for non-burning 2.0 gases can be delivered with 4 different types of headworks depending on the requirements set by applications with regards to regulation of media flow.

Needle headwork



High flow headwork



Micro flow headwork



1/4-turn headwork



As a standard all BROEN-LAB UniFlex™ PREMIUM fittings for non-burning 2.0 gases are delivered with a needle headwork that allows fine regulation of media flow and the valve is fully opened after 3 x 360° rotations of a handle.

As a standard all BROEN-LAB UniFlex™ PREMIUM fittings for vacuum are delivered with a high flow headwork. If there is a need for high flow of other media than vacuum, or a valve should function as a shut-off, then it is possible to get a fitting with a high flow headwork for 2.0 non-burning gases.

In cases where media flow (2.0 non-burning gases) is close to zero and when a microscopic flow rate is required then it is an option to choose a micro flow headwork, which provides a very fine regulation of media flow.

For more information about BROEN-LAB headworks and technical details please refer to pages 19-20 in this catalogue.

BENCH MOUNTED FITTING

Specifications

The fitting is delivered with an integrated BALLOFIX® ball valve.

Handle: Metal, BROEN-LAB POLYCOAT powder coated with media indication according to EN13792

Hose nozzle: Metal, fixed (can be unscrewed with Allen key, thread: male G3/8)

Non-burning 2.0 gases

Headwork: Needle

Opening/closing function:
3 x 360°

Max. working pressure:
16 bar / 232 psi

Vacuum / High Flow

Headwork: High flow

Opening/closing function:
1.5 x 360°

Working pressure:
-1 bar to 16 bar /
-14.5 psi to 232 psi

Allowable test pressure after installation:

1.5 x max working pressure without function of the valve

Materials with media contact

Metals: Brass

Plastics: PVDF

Sealing: FKM

Lubricant: Perfluoropolyether based

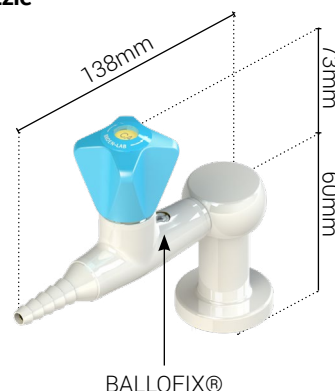
Ordering information

For standard configuration please refer to the item numbers below.

Other options:

- different media
- removable hose nozzle with union nut
- disability-friendly handle (single valve only)
- micro flow headwork (for 2.0 non-burning gases)
- high flow headwork (for 2.0 non-burning gases)
- alternative hose inlet connection / without a hose
- other inlet options (type, length)

With fixed nozzle



With quick release coupling



Configuration options

2.0 Gases: Choose outlet connection, number of valves and media type:



| | 1-way valve | 2-way 90° valve | 2-way 180° valve | 4-way valve |
|----------------------|------------------|------------------|------------------|------------------|
| Fixed nozzle | 2532 023 10XX-YY | 2532 031 10XX-YY | 2532 027 10XX-YY | 2532 035 10XX-YY |
| Quick release nozzle | 2532 056 10XX-YY | 2532 079 10XX-YY | 2532 081 10XX-YY | 2532 083 10XX-YY |

Replace **XX** with one of these media types:



21 • Compressed air



23 • Nitrogen



24 • Carbon dioxide



25 • Argon



26 • Helium

Vacuum: Choose outlet connection and number of valves;

| | 1-way valve | 2-way 90° valve | 2-way 180° valve | 4-way valve |
|----------------------|------------------|------------------|------------------|------------------|
| Fixed nozzle | 2532 024 1028-YY | 2532 032 1028-YY | 2532 028 1028-YY | 2532 036 1028-YY |
| Quick release nozzle | 2532 057 1028-YY | 2532 080 1028-YY | 2532 082 1028-YY | 2532 084 1028-YY |



28 • Low vacuum (1000 to 1 mbar)

Replace **YY** with the inlet type you need on page 23

SUSPENDED FITTING WITH 90° VALVES

Specifications

The fitting is delivered with an integrated BALLOFIX® ball valve.

Handle: Metal, BROEN-LAB POLYCOAT powder coated with media indication according to EN13792

Hose nozzle: Metal, fixed (can be unscrewed with Allen key, thread: male G3/8)

Non-burning 2.0 gases

Headwork: Needle

Opening/closing function:
3 x 360°

Max. working pressure:
16 bar / 232 psi

Vacuum / High Flow

Headwork: High flow

Opening/closing function:
1.5 x 360°

Working pressure:
-1 bar to 16 bar /
-14.5 psi to 232 psi

Allowable test pressure after installation:

1.5 x max working pressure without function of the valve

Materials with media contact

Metals: Brass

Plastics: PVDF

Sealing: FKM

Lubricant: Perfluoropolyether based

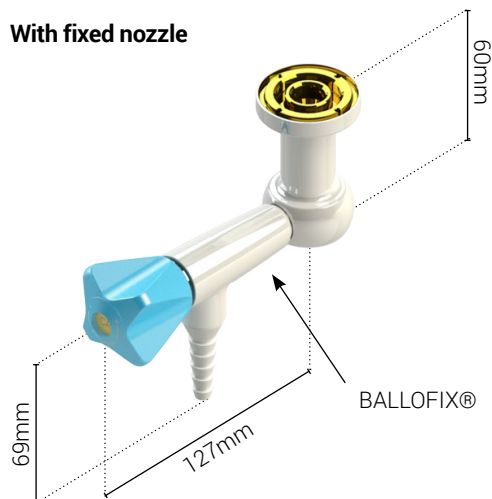
Ordering information

For standard configuration please refer to the item numbers below.

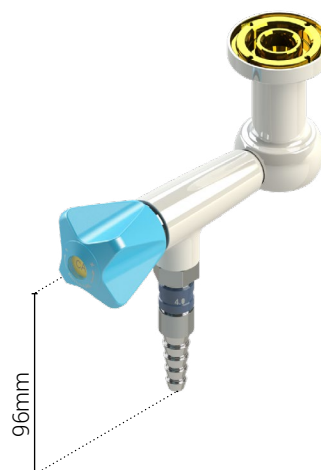
Other options:

- different media
- removable hose nozzle with union nut
- disability-friendly handle (single valve only)
- micro flow headwork (for 2.0 non-burning gases)
- high flow headwork (for 2.0 non-burning gases)
- alternative hose inlet connection / without a hose
- other inlet options (type, length)

With fixed nozzle



With quick release coupling



Configuration options

2.0 Gases: Choose outlet connection, number of valves and media type:



| | 1-way valve | 2-way 90° valve | 2-way 180° valve | 4-way valve |
|----------------------|--------------------|--------------------|--------------------|--------------------|
| Fixed nozzle | 2530 090 10XX - YY | 2530 092 10XX - YY | 2530 037 10XX - YY | 2530 094 10XX - YY |
| Quick release nozzle | 2530 096 10XX - YY | 2530 098 10XX - YY | 2530 100 10XX - YY | 2530 102 10XX - YY |

Replace **XX** with one of these media types:



21 • Compressed air



23 • Nitrogen



24 • Carbon dioxide



25 • Argon



26 • Helium

Vacuum: Choose outlet connection and number of valves,:

| | 1-way valve | 2-way 90° valve | 2-way 180° valve | 4-way valve |
|----------------------|--------------------|--------------------|--------------------|--------------------|
| Fixed nozzle | 2530 091 1028 - YY | 2530 093 1028 - YY | 2530 039 1028 - YY | 2530 095 1028 - YY |
| Quick release nozzle | 2530 097 1028 - YY | 2530 099 1028 - YY | 2530 101 1028 - YY | 2530 103 1028 - YY |



28 • Low vacuum (1000 to 1 mbar)

Replace **YY** with the inlet type you need on page 23

SUSPENDED FITTING WITH 45° VALVES

Specifications

The fitting is delivered with an integrated BALLOFIX® ball valve.

Handle: Metal, BROEN-LAB POLYCOAT powder coated with media indication according to EN13792

Hose nozzle: Metal, fixed (can be unscrewed with Allen key, thread: male G3/8)

Non-burning 2.0 gases

Headwork: Needle

Opening/closing function:
3 x 360°

Max. working pressure:
16 bar / 232 psi

Vacuum / High Flow

Headwork: High flow

Opening/closing function:
1.5 x 360°

Working pressure:
-1 bar to 16 bar /
-14.5 psi to 232 psi

Allowable test pressure after installation:

1.5 x max working pressure without function of the valve

Materials with media contact

Metals: Brass

Plastics: PVDF

Sealing: FKM

Lubricant: Perfluoropolyether based

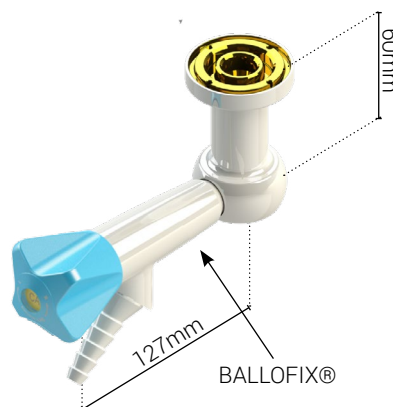
Ordering information

For standard configuration please refer to the item numbers below.

Other options:

- different media
- removable hose nozzle with union nut
- micro flow headwork (for 2.0 non-burning gases)
- high flow headwork (for 2.0 non-burning gases)
- alternative hose inlet connection / without a hose
- other inlet options (type, length)

With fixed nozzle



With quick release coupling



Configuration options

2.0 Gases: Choose outlet connection, number of valves and media type:



| | 1-way valve | 2-way 90° valve | 2-way 180° valve | 4-way valve |
|----------------------|--------------------|--------------------|--------------------|--------------------|
| Fixed nozzle | 2530 104 10XX - YY | 2530 106 10XX - YY | 2530 044 10XX - YY | 2530 108 10XX - YY |
| Quick release nozzle | 2530 110 10XX - YY | 2530 112 10XX - YY | 2530 114 10XX - YY | 2530 109 10XX - YY |

Replace **XX** with one of these media types:



21 • Compressed air



23 • Nitrogen



24 • Carbon dioxide



25 • Argon



26 • Helium

Vacuum: Choose outlet connection and number of valves::

| | 1-way valve | 2-way 90° valve | 2-way 180° valve | 4-way valve |
|----------------------|--------------------|--------------------|--------------------|--------------------|
| Fixed nozzle | 2530 105 1028 - YY | 2530 107 1028 - YY | 2530 045 1028 - YY | 2530 109 1028 - YY |
| Quick release nozzle | 2530 111 1028 - YY | 2530 113 1028 - YY | 2530 115 1028 - YY | 2530 117 1028 - YY |



28 • Low vacuum (1000 to 1 mbar)

Replace **YY** with the inlet type you need on page 23

WALL MOUNTED DOUBLE FITTING WITH 90° VALVES

Specifications

The fitting is delivered with an integrated BALLOFIX® ball valve.
Handle: Metal, BROEN-LAB POLYCOAT powder coated with media indication according to EN13792
Hose nozzle: Metal, fixed (can be unscrewed with Allen key, thread: male G3/8)

Non-burning 2.0 Gases

Headwork: Needle
Opening/closing function: 3 x 360°
Max. working pressure: 16 bar / 232 psi

Vacuum / High Flow

Headwork: High flow
Opening/closing function: 1.5 x 360°
Working pressure: -1 bar to 16 bar / -14.5 psi to 232 psi

Allowable test pressure after installation:
1.5 x max working pressure without function of the valve

Materials with media contact

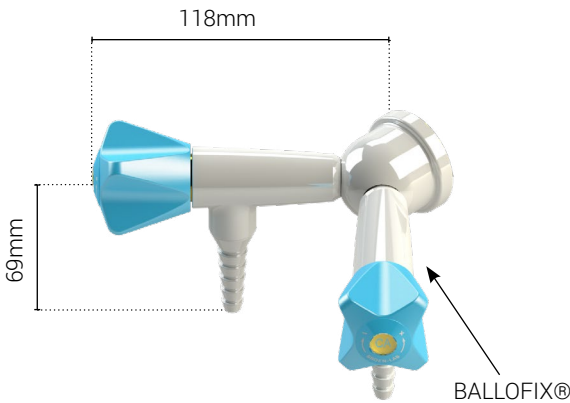
Metals: Brass
Plastics: PVDF
Sealing: FKM
Lubricant: Perfluoropolyether based

Ordering information

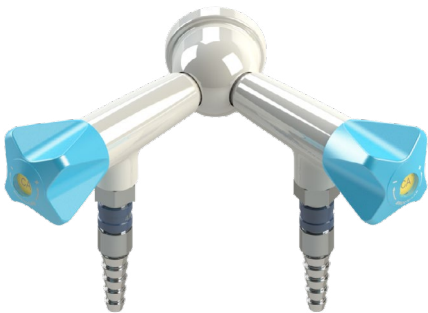
For standard configuration please refer to the item numbers below.

- Other options:
- different media
 - removable hose nozzle with union nut
 - disability-friendly handle
 - micro flow headwork (for technical gases)
 - high flow headwork (for technical gases)
 - alternative hose inlet connection / without a hose
 - other inlet options (type, length)

With fixed nozzle



With quick release coupling



Configuration options

2.0 Gases: Choose outlet connection, number of valves and media type:

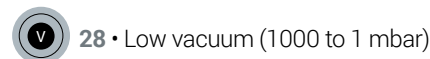
| | |
|----------------------|--------------------|
| | 2-way 90° valve |
| Fixed nozzle | 2530 118 10XX - YY |
| Quick release nozzle | 2530 120 10XX - YY |

Replace **XX** with one of these media types:



Vacuum: Choose outlet connection and number of valves,;

| | |
|----------------------|--------------------|
| | 2-way 90° valve |
| Fixed nozzle | 2530 119 1028 - YY |
| Quick release nozzle | 2530 121 1028 - YY |



Replace **YY** with the inlet type you need on page 23

WALL MOUNTED DOUBLE FITTING WITH STRAIGHT VALVES

Specifications

The fitting is delivered with an integrated BALLOFIX® ball valve.
Handle: Metal, BROEN-LAB POLYCOAT powder coated with media indication according to EN13792
Hose nozzle: Metal, fixed (can be unscrewed with Allen key, thread: male G3/8)

Non-burning 2.0 Gases

Headwork: Needle
Opening/closing function:
3 x 360°
Max. working pressure:
16 bar / 232 psi

Vacuum / High Flow

Headwork: High flow
Opening/closing function:
1.5 x 360°
Working pressure:
-1 bar to 16 bar /
-14.5 psi to 232 psi

Allowable test pressure after installation:
1.5 x max working pressure without function of the valve

Materials with media contact

Metals: Brass
Plastics: PVDF
Sealing: FKM
Lubricant: Perfluoropolyether based

Ordering information

For standard configuration please refer to the item numbers below.

Other options:

- different media
- removable hose nozzle with union nut
- micro flow headwork (for 2.0 non-burning gases)
- high flow headwork (for 2.0 non-burning gases)
- alternative hose inlet connection / without a hose
- other inlet options (type, length)

With fixed nozzle



With quick release coupling



Configuration options

2.0 Gases: Choose outlet connection, number of valves and media type:

| | |
|----------------------|--------------------|
| | 2-way 90° valve |
| Fixed nozzle | 2532 062 10XX - YY |
| Quick release nozzle | 2532 085 10XX - YY |

Replace **XX** with one of these media types:



21 • Compressed air



23 • Nitrogen



24 • Carbon dioxide



25 • Argon



26 • Helium

Vacuum: Choose outlet connection and number of valves;

| | |
|----------------------|--------------------|
| | 2-way 90° valve |
| Fixed nozzle | 2532 061 1028 - YY |
| Quick release nozzle | 2532 086 1028 - YY |



28 • Low vacuum (1000 to 1 mbar)

Replace **YY** with the inlet type you need on page 23

WALL MOUNTED FITTING WITH 90° VALVES FOR EXPOSED PIPING

Specifications

The fitting is delivered with an integrated BALLOFIX® ball valve.

Handle: Metal, BROEN-LAB POLYCOAT powder coated with media indication according to EN13792

Hose nozzle: Metal, fixed (can be unscrewed with Allen key, thread: male G3/8)

Non-burning 2.0 gases

Headwork: Needle

Opening/closing function: 3 x 360°

Max. working pressure: 16 bar / 232 psi

Vacuum / High Flow

Headwork: High flow

Opening/closing function: 1.5 x 360°

Working pressure: -1 bar to 16 bar / -14.5 psi to 232 psi

Allowable test pressure after installation:

1.5 x max working pressure without function of the valve

Materials with media contact

Metals: Brass

Plastics: PVDF

Sealing: FKM

Lubricant: Perfluoropolyether based

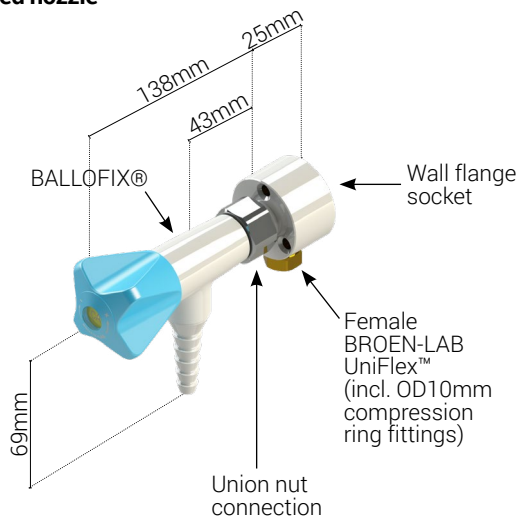
Ordering information

For standard configuration please refer to the item numbers below.

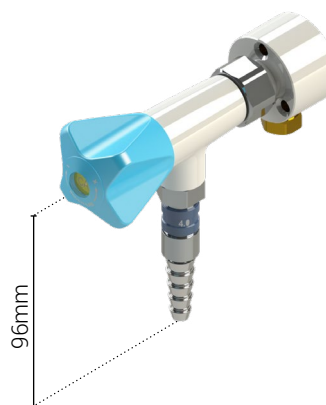
Other options:

- different media
- removable hose nozzle with union nut
- disability-friendly handle
- micro flow headwork (for 2.0 non-burning gases)
- high flow headwork (for 2.0 non-burning gases)
- wall flange socket for built-in installation

With fixed nozzle



With quick release coupling



Configuration options

2.0 Gases: Choose outlet connection, number of valves and media type:

| | |
|----------------------|-------------------|
| | 1-way valve |
| Fixed nozzle | 2530 128 10XX - T |
| Quick release nozzle | 2530 134 10XX - T |

Replace **XX** with one of these media types:



21 • Compressed air



23 • Nitrogen



24 • Carbon dioxide



25 • Argon



26 • Helium

Vacuum: Choose outlet connection and number of valves;

| | |
|----------------------|-------------------|
| | 1-way valve |
| Fixed nozzle | 2530 069 1028 - T |
| Quick release nozzle | 2530 135 1028 - T |



28 • Low vacuum (1000 to 1 mbar)

WALL MOUNTED FITTING WITH STRAIGHT VALVES FOR EXPOSED PIPING

Specifications

The fitting is delivered with an integrated BALLOFIX® ball valve.
Handle: Metal, BROEN-LAB POLYCOAT powder coated with media indication according to EN13792
Hose nozzle: Metal, fixed (can be unscrewed with Allen key, thread: male G3/8)

Non-burning 2.0 gases

Headwork: Needle
Opening/closing function: 3 x 360°
Max. working pressure: 16 bar / 232 psi

Vacuum / High Flow

Headwork: High flow
Opening/closing function: 1.5 x 360°
Working pressure: -1 bar to 16 bar / -14.5 psi to 232 psi

Allowable test pressure after installation:
1.5 x max working pressure without function of the valve

Materials with media contact

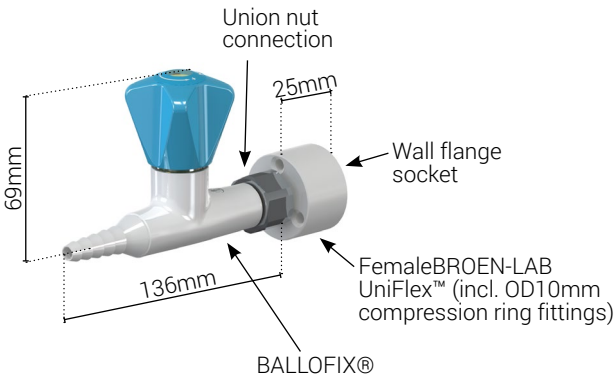
Metals: Brass
Plastics: PVDF
Sealing: FKM
Lubricant: Perfluoropolyether based

Ordering information

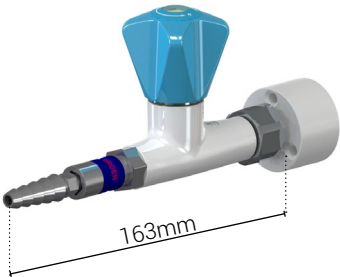
For standard configuration please refer to the item numbers below.

- Other options:
- different media
 - removable hose nozzle with union nut
 - disability-friendly handle
 - micro flow headwork (for 2.0 non-burning gases)
 - high flow headwork (for 2.0 non-burning gases)
 - wall flange socket for built-in installation

With fixed nozzle



With quick release coupling



Configuration options

2.0 Gases: Choose outlet connection, number of valves and media type:

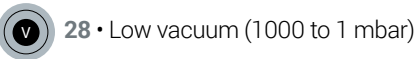
| | |
|----------------------|-------------------|
| | 1-way valve |
| Fixed nozzle | 2532 090 10XX - T |
| Quick release nozzle | 2532 092 10XX - T |

Replace **XX** with one of these media types:



Vacuum: Choose outlet connection and number of valves;:

| | |
|----------------------|-------------------|
| | 1-way valve |
| Fixed nozzle | 2532 074 1028 - T |
| Quick release nozzle | 2532 093 1028 - T |



BENCH OR WALL MOUNTED 90° FITTING WITH LEAD-IN

Specifications

The fitting is delivered with an integrated BALLOFIX® ball valve.

Handle: Metal, BROEN-LAB POLYCOAT powder coated with media indication according to EN13792

Hose nozzle: Metal, fixed (can be unscrewed with Allen key, thread: male G3/8) or quick release coupling (hexagon coded)

Non-burning 2.0 Gases

Headwork: Needle

Opening/closing function:
3 x 360°

Max. working pressure:
16 bar / 232 psi

Vacuum / High Flow

Headwork: High flow

Opening/closing function:
1.5 x 360°

Working pressure:
-1 bar to 16 bar /
-14.5 psi to 232 psi

Allowable test pressure after installation:

1.5 x max working pressure without function of the valve

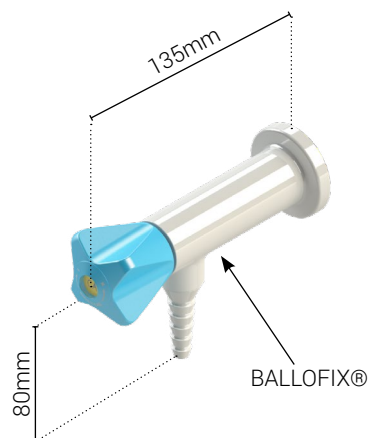
Materials with media contact

Metals: Brass

Plastics: PVDF

Sealing: FKM

Lubricant: Perfluoropolyether based



Ordering information

For standard configuration please refer to the item numbers below.

Other options:

- different media
- removable hose nozzle with union nut
- disability-friendly handle
- micro flow headwork (for 2.0 non-burning gases)
- high flow headwork (for 2.0 non-burning gases)
- alternative hose inlet connection / without a hose
- other inlet options (type, length)

Configuration options

2.0 Gases: Choose outlet connection and media type:

| | 1-way valve |
|----------------------|--------------------|
| Fixed nozzle | 2530 299 10XX - YY |
| Quick release nozzle | 2530 302 10XX - YY |

Replace **XX** with one of these media types:



21 • Compressed air



23 • Nitrogen



24 • Carbon dioxide



25 • Argon



26 • Helium

Vacuum: Choose outlet connection:

| | 1-way valve |
|----------------------|--------------------|
| Fixed nozzle | 2530 300 1028 - YY |
| Quick release nozzle | 2530 303 1028 - YY |



28 • Low vacuum (1000 to 1 mbar)

Replace **YY** with the inlet type you need on page 23

BENCH OR WALL MOUNTED 45° FITTING WITH LEAD-IN

Specifications

The fitting is delivered with an integrated BALLOFIX® ball valve.

Handle: Metal, BROEN-LAB POLYCOAT powder coated with media indication according to EN13792

Hose nozzle: Metal, fixed (can be unscrewed with Allen key, thread: male G3/8) or quick release coupling (hexagon coded)

Non-burning 2.0 Gases

Headwork: Needle

Opening/closing function: 3 x 360°

Max. working pressure: 16 bar / 232 psi

Vacuum / High Flow

Headwork: High flow

Opening/closing function: 1.5 x 360°

Working pressure: -1 bar to 16 bar / -14.5 psi to 232 psi

Allowable test pressure after installation:

1.5 x max working pressure without function of the valve

Materials with media contact

Metals: Brass

Plastics: PVDF

Sealing: FKM

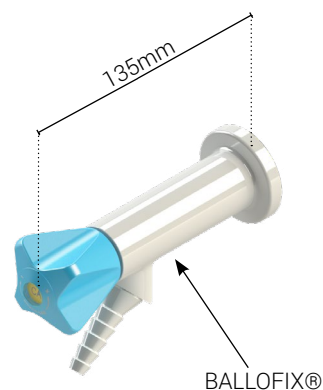
Lubricant: Perfluoropolyether based

Ordering information

For standard configuration please refer to the item numbers below.

Other options:

- different media
- removable hose nozzle with union nut
- disability-friendly handle
- micro flow headwork (for 2.0 non-burning gases)
- high flow headwork (for 2.0 non-burning gases)
- alternative hose inlet connection / without a hose
- other inlet options (type, length)



Configuration options

2.0 Gases: Choose outlet connection and media type:

| | 1-way valve |
|----------------------|--------------------|
| Fixed nozzle | 2530 353 10XX - YY |
| Quick release nozzle | 2530 355 10XX - YY |

Replace **XX** with one of these media types:



21 • Compressed air



23 • Nitrogen



24 • Carbon dioxide



25 • Argon



26 • Helium

Vacuum: Choose outlet connection:

| | 1-way valve |
|----------------------|--------------------|
| Fixed nozzle | 2530 354 1028 - YY |
| Quick release nozzle | 2530 356 1028 - YY |



28 • Low vacuum (1000 to 1 mbar)

Replace **YY** with the inlet type you need on page 23

SUSPENDED OR WALL MOUNTED STRAIGHT FITTING WITH LEAD-IN

Specifications

The fitting is delivered with an integrated BALLOFIX® ball valve.

Handle: Metal, BROEN-LAB POLYCOAT powder coated with media indication according to EN13792

Hose nozzle: Metal, fixed (can be unscrewed with Allen key, thread: male G3/8) or quick release coupling (hexagon coded)

Non-burning 2.0 Gases

Headwork: Needle

Opening/closing function:
3 x 360°

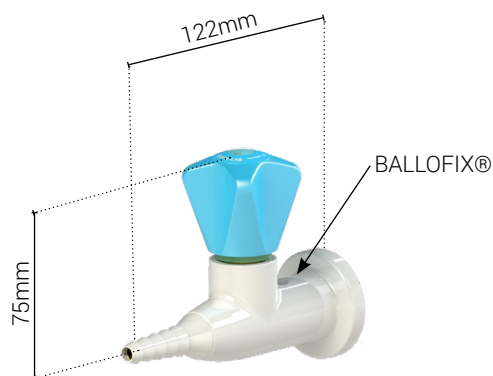
Max. working pressure:
16 bar / 232 psi

Vacuum / High Flow

Headwork: High flow

Opening/closing function:
1.5 x 360°

Working pressure:
-1 bar to 16 bar /
-14.5 psi to 232 psi



Allowable test pressure after installation:

1.5 x max working pressure without function of the valve

Materials with media contact

Metals: Brass

Plastics: PVDF

Sealing: FKM

Lubricant: Perfluoropolyether based

Ordering information

For standard configuration please refer to the item numbers below.

Other options:

- different media
- removable hose nozzle with union nut
- micro flow headwork (for 2.0 non-burning gases)
- high flow headwork (for 2.0 non-burning gases)
- alternative hose inlet connection / without a hose
- other inlet options (type, length)

Configuration options

2.0 Gases: Choose outlet connection and media type:

| | |
|----------------------|--------------------|
| | 1-way valve |
| Fixed nozzle | 2532 164 10XX - YY |
| Quick release nozzle | 2532 185 10XX - YY |

Replace **XX** with one of these media types:



21 • Compressed air



23 • Nitrogen



24 • Carbon dioxide



25 • Argon



26 • Helium

Vacuum: Choose outlet connection:

| | |
|----------------------|--------------------|
| | 1-way valve |
| Fixed nozzle | 2532 165 1028 - YY |
| Quick release nozzle | 2532 193 1028 - YY |



28 • Low vacuum (1000 to 1 mbar)

Replace **YY** with the inlet type you need on page 23

FITTINGS WITH PRESSURE REGULATOR

Specifications

Fittings with pressure regulator may only be used for the following non-burning 2.0 (99% pure) gases:
Compressed Air (CA), Nitrogen (N2), Carbon Dioxide (CO2) and Argon (Ar).

Not recommended for He.
May NOT be used for Oxygen!

Handle on valves: Metal, BROEN-LAB POLYCOAT powder coated with media indication according to EN13792
Handle on regulator: Polypropylene

Max. working pressure: 10 bar / 145 psi

Allowable test pressure after installation:
1.5 x max working pressure without function of the valve

Shut-off valve

Headwork: High flow
Opening/closing function:
1.5 x 360°

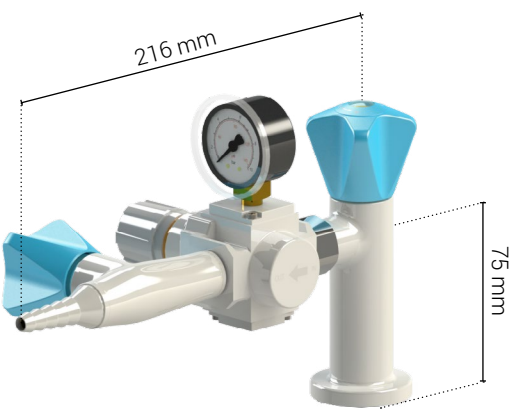
Needle valve

Headwork: High flow
Opening/closing function:
3 x 360°

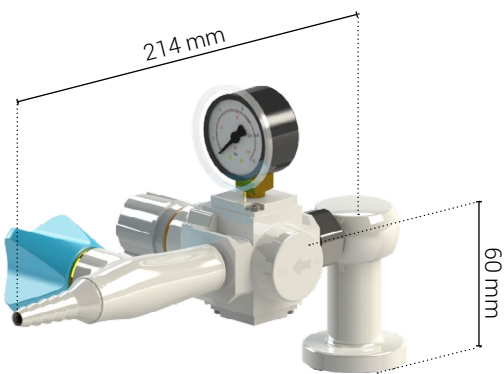
Materials with media contact

- Metals: Brass, zink
Plastics: PVDF, POM
Sealings:
- FKM (lubricated with perfluoropolyether based lubricant))
- NBR (lubricated with mineral oil based lubricant)

Shut-off valve, regulator and needle valve



Regulator and needle valve



Configuration options

2.0 Gases: Choose outlet connection, number of valves and media type:

| | |
|--|--------------------|
| | |
| Shut-off valve, regulator and needle valve | 2512 001 10XX - YY |
| Regulator and needle valve | 2512 007 10XX - YY |

Replace **XX** with one of these media types:



Replace **YY** with the inlet type you need on page 23

BROEN-LAB UNIFLEX™ HOSES FOR NON-BURNING 2.0 GASES AND VACUUM

BROEN-LAB UniFlex™ flexible hoses



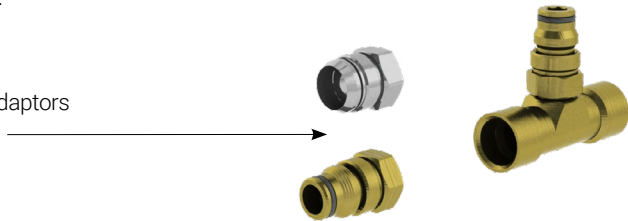
BROEN-LAB LAB offers BROEN-LAB UniFlex™ hoses as an easy way to make the installation in the laboratory where safety and efficiency are required. BROEN-LAB UniFlex™ hoses are the ideal solution where there is a higher requirement for flexibility. Installation with flexible hoses saves you time and labor - in other words reduced installation costs.

BROEN-LAB UniFlex™ hoses for non-burning 2.0 gases and vacuum are manufactured of soft cross-linked polyethylene (SPX). From the outside the hose is secured by a Stainless Steel braiding that ensures long service life and durability.

A wide range of fittings and lengths is available for BROEN-LAB UniFlex™ hoses enables customers to choose the perfect hose for their application. Please request document No. 99G0005 for complete range of BROEN-LAB UniFlex™ hoses and technical specifications.

If you still prefer a standard way of installation with Cu, Stainless Steel, or PEX-pipes, BROEN-LAB LAB offers a wide range of connection fittings and adaptors for pipes of different dimensions. Please request document No. 99G0004 for a complete range of BROEN-LAB UniFlex™ compression ring fittings.

BROEN-LAB UniFlex™ connection fittings and adaptors for CU, Stainless Steel and PEX pipes



The total design of the system must be taken into consideration when selecting the type of BROEN-LAB UniFlex™ flexible hose or pipe for specific media. Only then products will provide safe, trouble-free operation.

Please always check local requirements/regulations regarding installation and maintenance of hoses/flexible pipes!







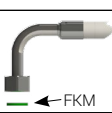


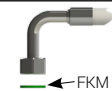








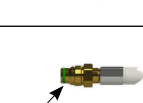
A very high quality of materials applied for production of hoses and Stainless Steel flexible pipes, which are supplied by BROEN-LAB, and a long-time experience in making installations worldwide, combined with optimal installation conditions, may assure a lifetime for a hose to be more than 10 years. Expected lifetime can only be achieved under normal use and proper installation methods, which are described in technical specifications, i.e. max. working pressure, max. temperature, physical installation methods and other. Any nonconformity to specifications decreases the lifetime of a hose/flexible pipe.

| <div>Hose</div> <div>Factors*</div> | <div>SPX</div> <div>93T</div> |
|--|-------------------------------|
| Inner hose material with media contact | SPX |
| Outer hose material / braiding | Stainless Steel AISI 304 |
| Sealing material | FKM |
| Inside diameter | 8.2 mm |
| Outside diameter | 12 mm |
| Max. working pressure | 16 bar |
| Max. working temperature | 90°C |
| Min. bending radius (inner) | 40 mm |
| Leakage rate | - |
| UV resistance | ++ |
| Range of connections | +++ |

93T - BROEN-LAB UNIFLEX™ HOSES FOR NON-BURNING 2.0 GASES/VACUUM

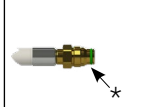
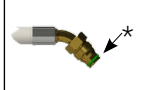
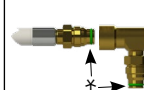
INLET CONNECTIONS

93 T **XX** XX XXXX

| | | |
|-----------|--|---|
| 61 | 3/8" NPT swivel connection |  |
| 36 | Male G1/4" fixed connection |  |
| 32 | Male G3/8" fixed connection |  |
| 31 | Male G1/2" fixed connection |  |
| 34 | 3/8" NPT fixed connection |  |
| 35 | 3/8" NPT Swivel connection |  |
| 46 | 90° female G3/8" Union nut connection |  |
| 41 | Female G3/8" union nut connection |  |
| 40 | Female G1/2" union nut connection |  |
| 45 | 90° female G1/2" union nut connection |  |
| 09 | OD3/8" connection for compression fittings |  |
| 10 | OD10 mm connection for compression fittings |  |
| 12 | OD12 mm connection for compression fittings |  |
| 13 | OD1/2" connection for compression fittings |  |
| 15 | OD15 mm connection for compression fittings |  |
| 65 | OD15 mm connection for press fittings |  |
| 20 | Straight BROEN-LAB UniFlex™ connection with FKM O-ring |  |
| 25 | 45° BROEN-LAB UniFlex™ connection with FKM O-ring |  |
| 30 | 90° BROEN-LAB UniFlex™ connection with FKM O-ring |  |

OUTLET CONNECTIONS

93 T XX **XX** XXXX

| | | |
|--|--|---|
| 20 | Straight BROEN-LAB UniFlex™ connection with FKM O-ring |  |
| 25 | 45° BROEN-LAB UniFlex™ connection with FKM O-ring |  |
| 30 | 90° BROEN-LAB UniFlex™ connection with FKM O-ring |  |
| <p>*All O-rings are lubricated with perfluoropolyether based lubricant</p> | | |


SPECIFICATIONS

Inner hose material: SPX (soft pex)
Braiding: Stainless Steel with one green stripe
Materials with media contact: PEX, brass, FKM and perfluoropolyether based lubricant
Inside diameter: 8.2 mm
Outside diameter: 12 mm
Max. working pressure: 16 bar
Max. working temperature: 90°C
Bending radius (inner): ≥ 40 mm
Min. length with connections: 160 mm

LENGTH

93 T XX XX **XXXX**

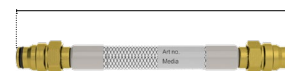
SPX hose with braiding in stainless steel



Marking for water with Part no. and Media indication

HOSE LENGTHS

Definition of length (L)



Definition of length (L)



If 45° and 90° elbows occur on the same hose, it will as default be mounted in U-form

**Standard lengths of hoses (L):

0500 = 500 mm
0700 = 700 mm
1000 = 1000 mm
1200 = 1200 mm
1500 = 1500 mm
2000 = 2000 mm
2500 = 2500 mm
3000 = 3000 mm

Length tolerance of hoses:
L = ≤400 mm (- 0, +10 mm)
L = 401 mm to 1000 mm (- 0, + 20 mm)
L = >1000 mm (- 0, + 30 mm)

** Other lengths are available on request

EXAMPLE OF HOSE CONFIGURATION

1200 mm hose with OD 12 mm inlet connection and straight UniFlex™ outlet connection



93T12201200

TECHNICAL INFORMATION

NEEDLE HEADWORK

Specifications

BROEN-LAB UniFlex™ fittings for non-burning 2.0 gases are as a standard delivered with needle headwork for fine regulation of media flow.

Opening/closing function: 3 x 360° turn

Media: Non-burning 2.0 (99% clean) gases

Max. working pressure: 16 bar / 232 psi

Test pressure: 1.5 x working pressure

Materials with media contact

Metals: Brass

Plastics: PVDF

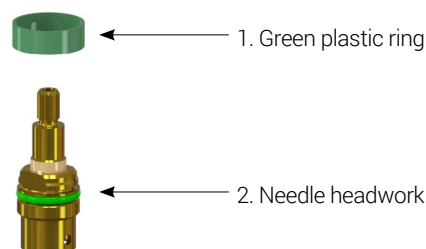
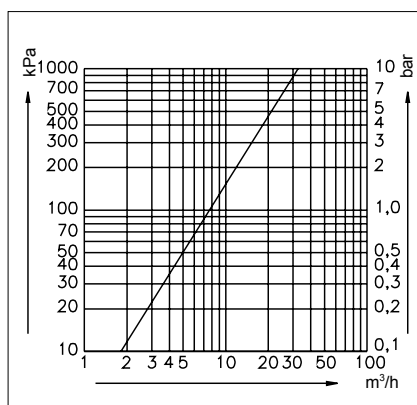
Sealing: FKM

Lubricant: Perfluoropolyether based

Ordering information

1. Green plastic ring • No. 0255 035-5168
2. Needle headwork • No. 0255 7300

Flow Chart



TECHNICAL INFORMATION

HIGH FLOW HEADWORK

Specifications

BROEN-LAB UniFlex™ fittings for vacuum are as a standard delivered with a high flow headwork. This headwork ensures high flow of media and can also be used for other non-burning 2.0 gases.

Opening/closing function: 1.5 x 360° turn

Media: Vacuum and non-burning 2.0 (99% clean) gases

Working pressure: -1 to 16 bar / -14.5 to 232 psi

Test pressure: 1.5 x working pressure

Materials with media contact

Metals: Brass

Plastics: PVDF

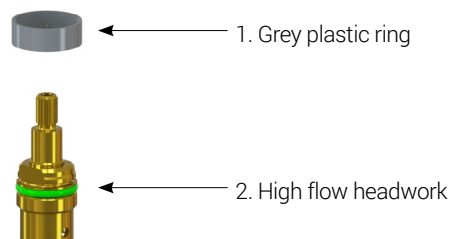
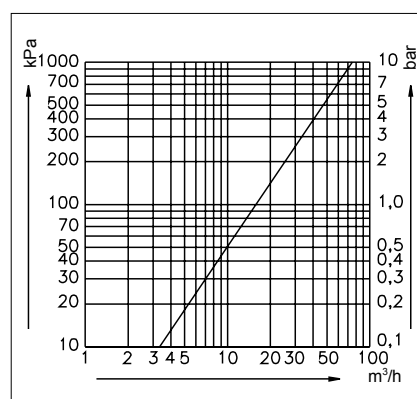
Sealing: FKM

Lubricant: Perfluoropolyether based

Ordering information

1. Grey plastic ring • No. 0255 035-2696
2. High flow headwork • No. 0255 6300

Flow Chart



TECHNICAL INFORMATION

MICRO FLOW HEADWORK

Specifications

BROEN-LAB Micro flow headwork ensures very fine regulation of media where flow of gas is close to zero and microscopic flow rates are required.

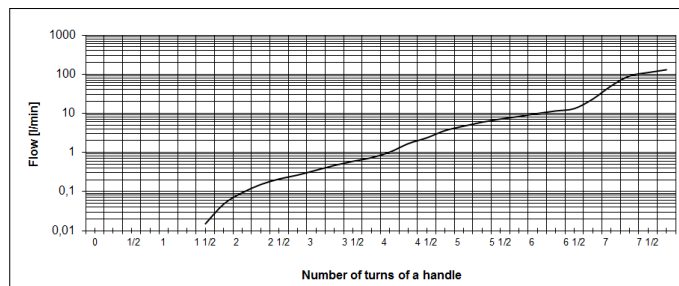
Opening/closing function: 7.5 x 360° turn

Media: Non-burning 2.0 (99% clean) gases

Max. working pressure: 16 bar / 232 psi

Test pressure: 1.5 x working pressure

Flow Chart



Materials with media contact

Metals: Brass

Plastics: PVDF

Sealing: FKM

Lubricant: Perfluoropolyether based

Ordering information

Micro flow headwork • No. 19154400



← Micro flow headwork

TECHNICAL INFORMATION

1/4-TURN HEADWORK

Specifications

BROEN-LAB UniFlex™ PREMIUM fittings for non-burning 2.0 gases and vacuum can also be delivered with a 1/4-turn headwork (also recommended for disability friendly handle)

Opening/closing function: 90° turn

Media: Vacuum and non-burning 2.0 (99% clean) gases

Working pressure: -1 to 8 bar / -14.5 to 116 psi

Test pressure: 1.5 x working pressure

Materials with media contact

Metals: Brass

Sealing: FKM

Lubricant: Perfluoropolyether based

Ordering information

1/4-turn headwork • No. 19174100



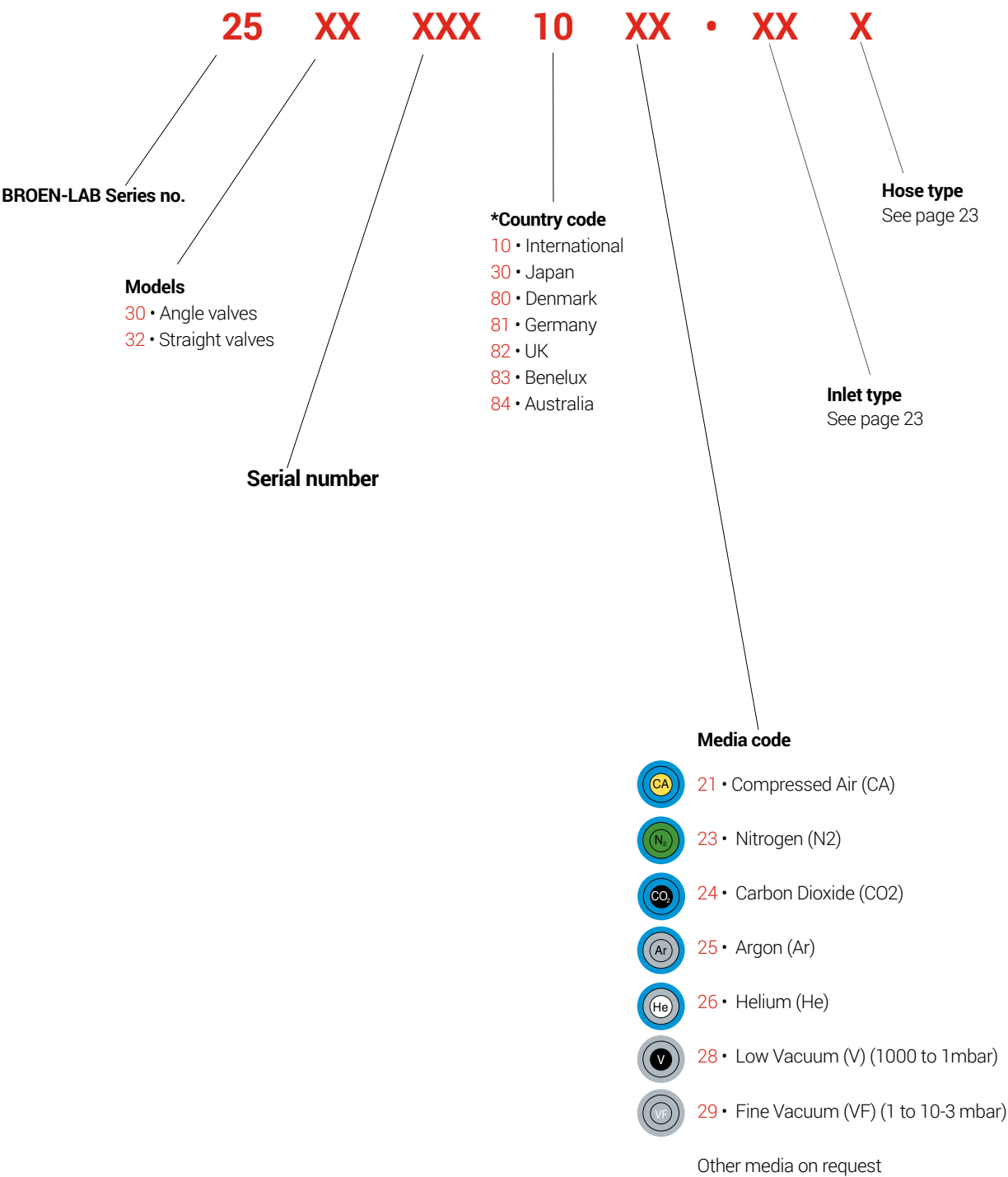
← 1/4-turn headwork

ACCESSORIES

| Illustration | Description | BROEN-LAB item no. |
|--|---|---|
|  | Adaptor for removable nozzle 3/8 to G1/2" | 2539 043 1021 |
|  | Removable metal nozzle G1/2" | 2538 008 1021 |
|  | Fixed metal nozzle 3/8 | 2538 042 1021 |
|  | Quick release coupling (hexagon coded) Coupling unit Nozzle unit | 96C0043 96C0042 |
|  | Mounting set for G1/2" connection Mounting set for M30x1.5 connection | 19 141 999 19 190 000 |
|  | G1/2" inlet with female BROEN-LAB UniFlex™ connection (incl. o-ring) L = 30mm L = 60mm L = 90mm | 15 504 33T 15 504 12T 15 504 46T |
|  | Threaded inlet pipe M30x1.5 L = 30mm L = 60mm L = 90mm | 19 190 03 19 190 02 19 190 04 |
|  | Wall flange socket (for exposed piping) | 02 101 30G |
|  | Wall flange socket (for built-in installation) | 02 101 31 |
|  | Cover flange for 02 101 310 | 14 923 04G |
|  | Metal handle with media indication according to EN 13792 | 19 160 149 10XX 19 160 149 10XX Replace XX/XX with the media on page 23 |

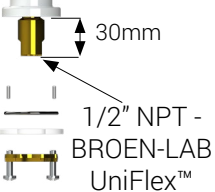
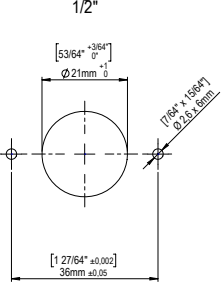
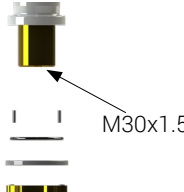
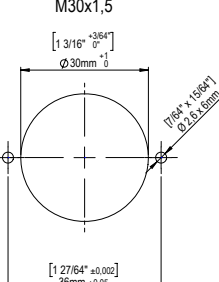
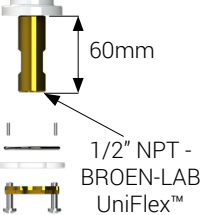
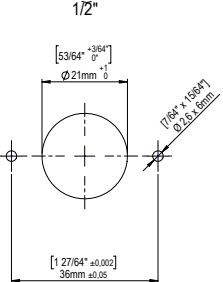
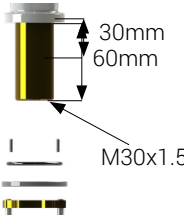
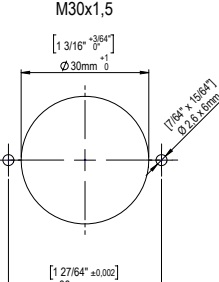
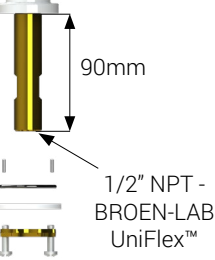
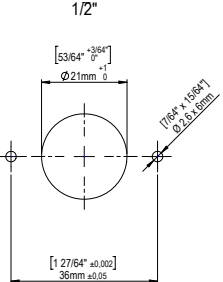
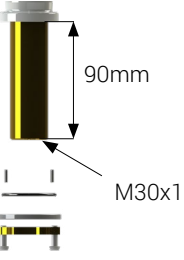
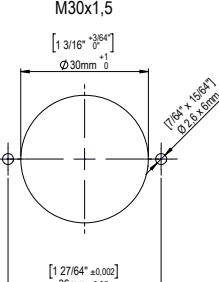
ORDERING INFORMATION






Generally, item number for BROEN-LAB UniFlex™ fittings has the following structure:



For other configuration options please contact your local BROEN-LAB representative.

ORDERING INFORMATION

| Number | Inlet design | Drilling template | Number | Inlet design | Drilling template |
|--------|---|--|--------|---|--|
| -05 |  30mm 1/2" NPT - BROEN-LAB UniFlex™ |  1/2" [53/64" ^{+3/64"} 0"] Ø 21mm ⁺¹ 0 [1 27/64" ^{+0.002} 0"] 36mm ^{+0.05} 0 17/64" x (3/64") Ø 2.6 x 6mm | -50 |  M30x1.5 |  M30x1,5 [1 3/16" ^{+3/64"} 0"] Ø 30mm ⁺¹ 0 [1 27/64" ^{+0.002} 0"] 36mm ^{+0.05} 0 17/64" x (3/64") Ø 2.6 x 6mm |
| -14 |  60mm 1/2" NPT - BROEN-LAB UniFlex™ |  1/2" [53/64" ^{+3/64"} 0"] Ø 21mm ⁺¹ 0 [1 27/64" ^{+0.002} 0"] 36mm ^{+0.05} 0 17/64" x (3/64") Ø 2.6 x 6mm | -52 |  30mm 60mm M30x1.5 |  M30x1,5 [1 3/16" ^{+3/64"} 0"] Ø 30mm ⁺¹ 0 [1 27/64" ^{+0.002} 0"] 36mm ^{+0.05} 0 17/64" x (3/64") Ø 2.6 x 6mm |
| -18 |  90mm 1/2" NPT - BROEN-LAB UniFlex™ |  1/2" [53/64" ^{+3/64"} 0"] Ø 21mm ⁺¹ 0 [1 27/64" ^{+0.002} 0"] 36mm ^{+0.05} 0 17/64" x (3/64") Ø 2.6 x 6mm | -54 |  90mm M30x1.5 |  M30x1,5 [1 3/16" ^{+3/64"} 0"] Ø 30mm ⁺¹ 0 [1 27/64" ^{+0.002} 0"] 36mm ^{+0.05} 0 17/64" x (3/64") Ø 2.6 x 6mm |

| | | | | |
|---|---|---|---|---|
|  Standard length 700mm |  Standard length 310mm |  Standard length 700mm |  Standard length 700mm |  Standard length 700mm |
| No pipe/hose No code | OD 10 mm Code "B" | CU-pipes Code "C" | G3/8" Union nut Code "D" | G 1/2" Union nut Code "E" |
| | | | | OD 15 mm Code "H" |

For installation with Cu- and Stainless Steel BROEN-LAB offers a wide range of connection fittings and adapters for pipes of different dimensions.

Please request document No. 99G0004 for a complete range of BROEN-LAB UniFlex™ compression ring fittings.

HEADQUARTER

BROEN-LAB A/S

Drejervaenget 2
5610 Assens
Denmark

Tel. +45 6376 6376
Fax +45 6471 2476

lab@broen-lab.com
broen-lab.com

INTERNATIONAL OFFICES

BROEN-LAB Ltd.

Tel. +44 121 522 4515
Fax +44 121 522 4535

lab@broen-lab.com
broen-lab.com

BROEN-LAB Singapore Pte. Ltd.

25 International Business Park
#04-60A German Centre
Singapore 609916

Tel. +65 6298 0662
Fax +65 62 98 04 68

lab@broen-lab.com
broen-lab.com

BROEN-LAB GmbH

Tel. +45 6376 6376
Fax +45 6471 2476

lab@broen-lab.com
broen-lab.com

BROEN-LAB Sverige AB

Tel. +45 6376 6376
Fax +45 6471 2476

lab@broen-lab.com
broen-lab.com

BROEN-LAB Inc.

15 Constitution Drive
Suite 122
NH 03110
Bedford
USA

Tel. +1 603 310 5089

lab@broen-lab.com
broen-lab.com

BROEN-LAB develops, manufactures and sells Laboratory Fittings, Emergency Shower Systems and Eye Wash Systems into a broad spectrum of laboratories and industrial locations; sectors include Pharmaceutical, Food&Beverage and Academia. Our expertise and product quality ensure optimal solutions compliant to all relevant international norms setting new standards in risk mitigation in modern research and development facilities.

BROEN-LAB offers solutions that ensure the functionality, compliance, hygiene, durability and safety are of the highest priority. For more than 50 years our products have been integrated into a wide variety of workplaces, laboratories, hospitals and industrial locations, with features that are assessed and designed to be flexible, durable and compliant offering a broad range of options tailored to each location. This inherent design integrity provides confidence in the solution adopted wherever in the world these are applied.

BROEN-LAB is a collaboration partner in the design and layout of your next laboratory and it's integrated safety.



BROEN-LAB A/S ISO 9001 certification

In September 1991 BROEN-LAB A/S was certified according to ISO 9001 as one of the first Danish companies. The certification was carried out by Bureau Veritas, Denmark, for our Danish site in Assens.

The quality management system of BROEN-LAB A/S now complies with detailed specifications laid down by the internationally acknowledged EN ISO 9001:2015. This certification will further contribute to reputation for quality and reliability of BROEN-LAB A/S.

BROEN-LAB A/S ISO 14001:2015 certification

In December 2022 we got certified according to ISO 14001 in Environmental certification. The new certification was carried out by Bureau Veritas, Denmark, for Danish site in Assens. The Environment ISO14001 management system of BROEN-LAB A/S is included in internationally acknowledged EN ISO 9001:2015. Both certifications furthermore contribute to reputation for quality and reliability of BROEN-LAB A/S.