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FITTINGS FOR BURNING GAS

BASIC range

99B0062 Rev. 3 - 14.12.2023

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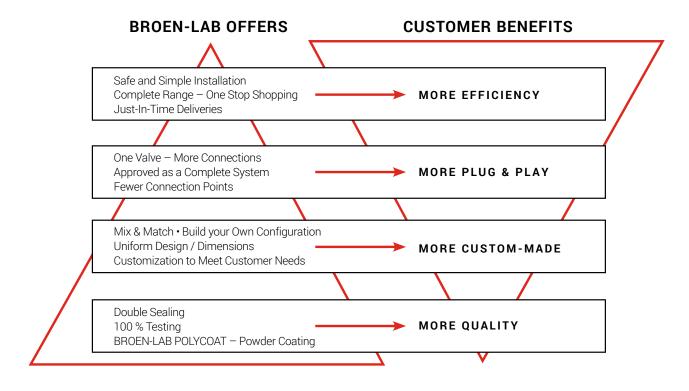
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BROEN-LAB UNIFLEX™

THIS IS BROEN-LAB UNIFLEX™

BROEN-LAB UniFlex TM line offers a very high quality and durability combined with the complete program, which adds up to low LCC (Life Cycle Costs).



BROEN-LAB UniFlex $^{\text{TM}}$ fittings for burning gases 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).

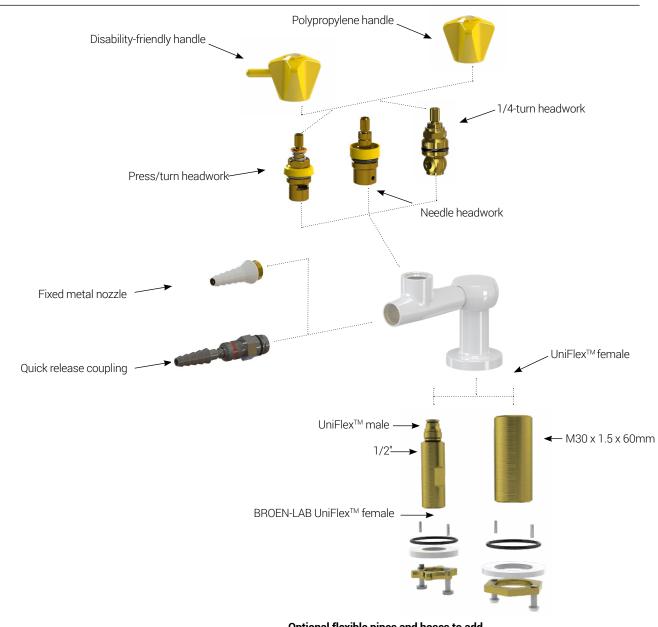
All BROEN-LAB UniFlex™ fittings are delivered with a polypropylene handle having media indication according to EN13792. Ceramic press/turn safety headwork prevents unintentional opening of the valve.

All BROEN-LAB UniFlex™ fittings for burning gases are delivered with a fixed metal nozzle or a quick release coupling for easy and immediate connection and safe disconnection.

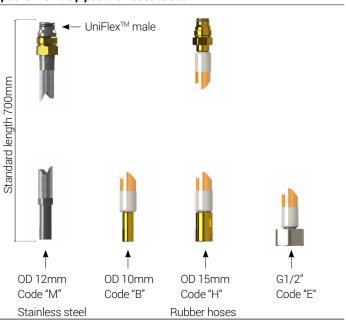
THIS IS BROEN-LAB UNIFLEX™

BROEN-LAB UniFlex $^{\text{TM}}$ is a unique and patented connection, which allows customers to choose from various connection methods, such as hoses, Cu, PEX of 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 flexible pipes and hoses to add



TECHNICAL INFORMATION

What is burning gas?

Burning or flammable gases are gases that burn or explode in presence of air or oxygen.

BROEN-LAB UniFlex™ fittings for burning gases can be used for natural gas (G), liquefied petroleum gas (LPG) as well as low pressure bottle gases such as:

- propane
- butane
- methane
- acetylene
- hydrogen

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

- laboratory and instrumentation
- chemical and petrochemical industry
- semiconductor industry
- welding, etc.

Our headworks

BROEN-LAB UniFlex $^{\text{TM}}$ fittings for burning gases can be delivered with 3 different types of headworks depending on the requirements set by applications with regards to safety and/or regulation of media flow.



As standard all BROEN-LAB UniFlexTM fittings for burning gases are delivered with a ceramic press/turn safety headwork with 90° opening/closing function, which prevents unintentional opening of the valve.

If there is a need for fine regulation of media flow then it is possible to get a fitting with a needle headwork that has 3x360° opening/closing function.

If there is a need for disability friendly and safe operation that we recommend use of 1/4-turn headwork.

For more information about BROEN-LAB headworks and technical details please refer to page 16-17 in this catalogue.

Hoses & flexible pipes

BROEN-LAB UniFlex $^{\text{TM}}$ fittings for burning gases can be delivered either with stainless steel flexible pipes or rubber hoses depending on the type of application and customer requirements. For more information about hoses please refer to pages 13-15 in this catalogue.

BENCH MOUNTED FITTING

Specifications

Handle: Polypropylene with media indication according to EN13792

Hose nozzle: Metal, fixed Headwork: Ceramic, press/turn Opening/closing function: 90°

Max. working pressure: 7 bar / 102 psi Allowable test pressure after installation: 10 bar without function of the valve

Materials with media contact

Metals: Brass Sealing: Nitrile (NBR) Lubricant: Mineral oil based Ceramics: Al2O3 96%

Ordering information

For standard configuration please refer to the item numbers below.

Other options:

- different media
- flashback arrestor
- needle or 1/4-turn headwork
- disability-friendly handle (for needle and 1/4-turn headworks only)
- alternative hose type and inlet connection
- other inlet options (type, length)
- national approvals

With fixed nozzle



With quick release coupling



Configuration options

Burning 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 006 10 XX - YY	2532 019 10 XX - YY	2532 012 10 XX - YY	2532 045 10 XX - YY
Quick release nozzle	2532 046 10 XX - YY	2532 048 10 XX - YY	2532 047 10 XX - YY	2532 049 10 XX - YY

Replace XX with one of these media types:



31 • Natural Gas



(H₂) 34 • Hydrogen

SUSPENDED FITTING WITH 90° VALVES

Specifications

Handle: Polypropylene with media indication according to EN13792

Hose nozzle: Metal, fixed Headwork: Ceramic, press/turn Opening/closing function: 90° Max. working pressure: 7 bar / 102 psi Allowable test pressure after installation: 10 bar without function of the valve

Materials with media contact

Metals: Brass Sealing: Nitrile (NBR) Lubricant: Mineral oil based Ceramics: Al2O3 96%

Ordering information

For standard configuration please refer to the item numbers below.

Other options:

- different media
- flashback arrestor
- needle or 1/4-turn headwork
- disability-friendly handle (for needle and 1/4-turn headworks only)
- alternative hose type and inlet connection
- other inlet options (type, length)
- national approvals



With quick release coupling



Configuration options

Burning gases: Choose outlet connection, number of valves and media type:







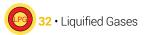


			- 8	* F * F * F * F * F * F * F * F * F * F
	1-way valve	2-way 90° valve	2-way 180° valve	4-way valve
Fixed nozzle	2530 076 10 XX - YY	2530 061 10 XX - YY	2530 071 10 XX - YY	2530 227 10 XX - YY
Quick release nozzle	2530 228 10 XX - YY	2530 229 10 XX - YY	2530 230 10 XX - YY	2530 231 10 XX - YY

Replace XX with one of these media types:



31 • Natural Gas





SUSPENDED FITTING WITH 45° VALVES

Specifications

Handle: Polypropylene with media indication according to EN13792

Hose nozzle: Metal, fixed Headwork: Ceramic, press/turn Opening/closing function: 90° Max. working pressure: 7 bar / 102 psi Allowable test pressure after installation: 10 bar without function of the valve

Materials with media contact

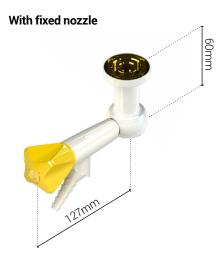
Metals: Brass Sealing: Nitrile (NBR) Lubricant: Mineral oil based Ceramics: Al2O3 96%

Ordering information

For standard configuration please refer to the item numbers below.

Other options:

- different media
- flashback arrestor
- needle or 1/4-turn headwork
- disability-friendly handle (for needle and 1/4-turn headworks only)
- alternative hose type and inlet connection
- other inlet options (type, length)
- national approvals



With quick release coupling



Configuration options

Burning gases: Choose outlet connection, number of valves and media type:









	7			
	1-way valve	2-way 90° valve	2-way 180° valve	4-way valve
Fixed nozzle	2530 220 10 XX - YY	2530 221 10 XX - YY	2530 168 10 XX - YY	2530 222 10 XX - YY
Quick release nozzle	2530 223 10 XX - YY	2530 224 10 XX - YY	2530 225 10 XX - YY	2530 226 10 XX - YY

Replace XX with one of these media types:



31 • Natural Gas



32 • Liquified Gases



WALL MOUNTED DOUBLE FITTING WITH 90° VALVES

Specifications

Handle: Polypropylene with media indication according to EN13792

Hose nozzle: Metal, fixed Headwork: Ceramic, press/turn Opening/closing function: 90° Max. working pressure: 7 bar / 102 psi Allowable test pressure after installation: 10 bar without function of the valve

Materials with media contact

Metals: Brass Sealing: Nitrile (NBR) Lubricant: Mineral oil based Ceramics: Al2O3 96%

Ordering information

For standard configuration please refer to the item numbers below.

Other options:

- different media
- flashback arrestor
- needle or 1/4-turn headwork
- disability-friendly handle (for needle and 1/4-turn headworks only)
- alternative hose type and inlet connection
- other inlet options (type, length)
- national approvals

With fixed nozzle



With quick release coupling



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Configuration options

Burning gases: Choose outlet connection and media type:

	2-way 90° valve
Fixed nozzle	2530 218 10 XX - YY
Quick release nozzle	2530 219 10 XX - YY

Replace XX with one of these media types:



31 • Natural Gas



32 • Liquified Gases



WALL MOUNTED DOUBLE FITTING WITH STRAIGHT VALVES

Specifications

Handle: Polypropylene with media indication according to EN13792

Hose nozzle: Metal, fixed Headwork: Ceramic, press/turn Opening/closing function: 90° Max. working pressure: 7 bar / 102 psi Allowable test pressure after installation: 10 bar without function of the valve

Materials with media contact

Metals: Brass Sealing: Nitrile (NBR) Lubricant: Mineral oil based Ceramics: Al203 96%

Ordering information

For standard configuration please refer to the item numbers below.

Other options:

- different media
- flashback arrestor
- needle or 1/4-turn headwork
- disability-friendly handle (for needle and 1/4-turn headworks only)
- alternative hose type and inlet connection
- other inlet options (type, length)
- national approvals

With fixed nozzle



With quick release coupling



Configuration options

Burning gases: Choose outlet connection and media type:

	2-way 90° valve
Fixed nozzle	2532 054 10 XX - YY
Quick release nozzle	2532 055 10 XX - YY

Replace XX with one of these media types:



31 • Natural Gas





WALL MOUNTED FITTING WITH 90° VALVE FOR EXPOSED PIPING

Specifications

Handle: Polypropylene with media indication according to EN13792

Hose nozzle: Metal, fixed Headwork: Ceramic, press/turn Opening/closing function: 90° Max. working pressure: 7 bar / 102 psi Allowable test pressure after installation: 10 bar without function of the valve

Materials with media contact

Metals: Brass Sealing: Nitrile (NBR) Lubricant: Mineral oil based Ceramics: Al203 96%

Ordering information

For standard configuration please refer to the item numbers below.

Other options:

- different media
- flashback arrestor
- needle or 1/4-turn headwork
- disability-friendly handle (for needle and 1/4-turn headworks only)
- other inlet options (compression ring fittings, flexible SS pipe / rubber hose)
- wall flange socket for built-in installation
- national approvals





With quick release coupling



Configuration options

Burning gases: Choose outlet connection and media type:

	1-way valve
Fixed nozzle	2530 171 10 XX - T
Quick release nozzle	2530 125 10 XX - T

Replace XX with one of these media types:



31 • Natural Gas





SUSPENDED OR WALL MOUNTED STRAIGHT FITTING WITH LEAD-IN

Specifications

Handle: Polypropylene with media indication according to EN13792

Hose nozzle: Metal, fixed Headwork: Ceramic, press/turn Opening/closing function: 90° Max. working pressure: 7 bar / 102 psi Allowable test pressure after installation: 10 bar without function of the valve

Materials with media contact

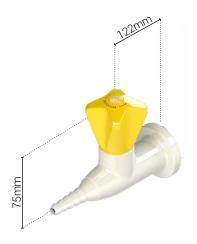
Metals: Brass Sealing: Nitrile (NBR) Lubricant: Mineral oil based Ceramics: Al203 96%

Ordering information

For standard configuration please refer to the item numbers below.

- Other options:
 different media
- flashback arrestor
- needle or 1/4-turn headwork
- disability-friendly handle (for needle and 1/4-turn headworks only)
- other inlet options (compression ring fittings, flexible SS pipe)
- national approvals

With fixed nozzle



With quick release coupling



Configuration options

Burning gases: Choose outlet connection and media type:

= =	
	2-way 90° valve
Fixed nozzle	2532 171 10 XX - YY
Quick release nozzle	2532 203 10 XX - YY

Replace XX with one of these media types:



31 • Natural Gas



32 • Liquified Gases



BROEN-LAB UNIFLEX™ HOSE / SS FLEXIBLE PIPE SELECTION GUIDE

BROEN-LAB UniFlexTM hoses and flexible Stainless Steel pipes as an easy way to make the installation in the laboratory where safety and efficiency are required. BROEN-LAB UniFlexTM hoses are the ideal solution where there is a higher requirement for flexibility. Installation with flexible hoses saves time and labour - in other words - reduced installation costs.

Select the right product to ensure safe installation and long service life!

The total design of the system must be taken into consideration when selecting the type of BROEN-LAB UniFlexTM 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.

Which hose/flexible pipe to select?

In the table below you find the summary of the factors that are necessary to consider when selecting a BROEN-LAB UniFlex™ flexible hoses/pipes for burning gases.

Hose	Rubber	SS
Factors*	93G	93Y
Inner hose material with media contact	Nitrile (NBR)	Corrugated Stainless Steel AISI 316
Outer hose material / braiding	EPDM (polyesther reinforced)	None
Sealing material	Nitrile (NBR)	Nitrile (NBR) (93Y)
Inside diameter	6.3 mm	8.5 mm
Outside diameter	12.9 mm	12 mm
Max. working pressure	10 bar	16 bar, DVGW
Max. working temperature	50°C	50°C
Min. bending radius (inner)	40 mm	15 mm (Single bend) 130 mm (Dynamic bend)
Leakage rate	**	<1x10-3 mbar l/s [He] (93Y)
UV resistance	+	+++
Range of connections	+++	++

^{*} Values shown in the table are valid for rubber hoses and flexible stainless steel pipes only.

93Y - BROEN-LAB UNIFLEX™ FLEXIBLE STAINLESS STEEL PIPES FOR BURNING GASES

INLET CONNECTIONS

93 Y **XX** XX XXXX

10	OD10 mm connection for compression fittings	
12	OD12 mm connection for compression fittings	
15	OD15 mm connection for compression	
09	OD3/8" connection for compression fittings	I
20	Straight BROEN-LAB UniFlex™ connection with NBR O-ring	**
34	3/8" NPT fixed male connection	
70	1/4" NPT fixed male connection	昔
41	Female G3/8" union nut connection	NBR
40	Female G1/2" union nut connection	NBR NBR
30	90° BROEN-LAB UniFlex™ connection with NBR O-ring	*

OUTLET CONNECTIONS

93 Y XX **XX** XXXX

20	Straight BROEN- LAB UniFlex™ con- nection with NBR O-ring	*
30	90° BROEN-LAB UniFlex™ connection with NBR O-ring	*

LENGTH

93 Y XX XX **XXXX**



*All O-rings are lubricated with mineral oil based lubricant

SPECIFICATIONS

Inner hose material: Stainless Steel 1.4404 similar to AISI 316L

Braiding: None

Materials with media contact: Stainless Steel 1.4404, NBR (Nitrile) lubricated with mineral

oil based lubricant Inside diameter: 8.5 mm

Outside diameter: 12 mm Max. working pressure: 16 bar according to DVGW

Max. working temperature: 50°C

Bending radius (inner):

- ≥ 15 mm (static)
- ≥ 130 mm (dynamic)

Min. length with connections: 500 mm

Max. movements (Bending radius 130 mm): 10.000**

Leakage rate: <1x10-3 mbar l/s [He]

EXAMPLE OF HOSE CONFIGURATION

L = >1000 mm (-0, +30 mm)

** Other lengths are available on request

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



93G - BROEN-LAB UNIFLEX™ RUBBER HOSES FOR BURNING GASES

INLET CONNECTIONS

93 G **XX** XX XXXX

e G3/8" fixed election e G1/2" fixed election ale G1/2" union connection 0 mm connector compression	NBR
ale G1/2" union connection O mm connector compression	NBR
connection O mm connector compression	NBR
for compression	
99	
2 mm connec- for compression gs	-
5 mm connec- for compression gs	
ght BROEN-LAB lex™ connection NBR O-ring	*
BROEN-LAB lex™ connection NBR O-ring	*-
	lex™ connection

OUTLET CONNECTIONS

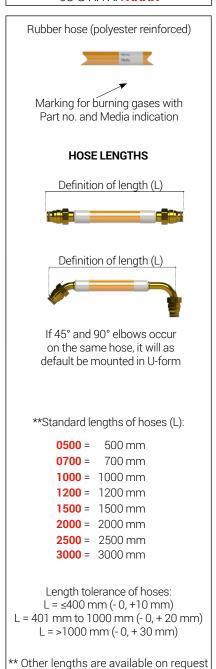
93 G XX **XX** XXXX

20	Straight BROEN- LAB UniFlex™ con- nection with NBR O-ring	*
25	45° BROEN-LAB UniFlex™ connection with NBR O-ring	*
30	90° BROEN-LAB UniFlex™ connection with NBR O-ring	

*All O-rings are lubricated with mineral oil based lubricant

LENGTH

93 G XX XX **XXXX**



SPECIFICATIONS

Inner hose material: Nitrile (NBR) Outer hose material: EPDM

Materials with media contact: brass, NBR

Sealing material: Nitrile (NBR) with mineral oil based lubricant

Inside diameter: 6.3 mm
Outside diameter: 12.9 mm
Max. working pressure: 10 bar
Max. working temperature: 50°C
Bending radius (inner): ≥ 40 mm
Min. length with connections: 160 mm

EXAMPLE OF HOSE CONFIGURATION

1200 mm hose with 3/8" fixed inlet connection and UniFlex outlet connection.



TECHNICAL INFORMATION

PRESS/TURN HEADWORK

Specifications

BROEN-LAB UniFlex $^{\text{TM}}$ fittings for burning gases are as a standard delivered with a safety press/turn headwork.

Opening/closing function: 90° turn

Media: Burning gases

Max. working pressure: 7 bar / 700 kPa / 102 psi

Allowable test pressure after installation: 10 bar without function of the valve

Materials with media contact

Metals: Brass

Sealing: Nitrile (NBR)

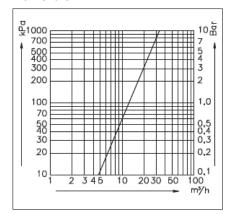
Lubricant: Mineral oil based

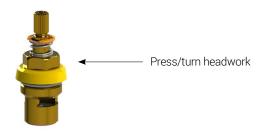
Ceramics: Al203 96%

Ordering information

Press/turn headwork • Not available as a spare part (for safety reasons)

Flow Chart





TECHNICAL INFORMATION

NEEDLE HEADWORK

Specifications

BROEN-LAB UniFlex $^{\text{TM}}$ fittings for burning gases can be also delivered with a needle headwork where fine regulation of flow is required.

Opening/closing function: 3 x 360° turn

Media: Burning gases

Max. working pressure: 16 bar / 1600 kPa / 232 psi

Allowable test pressure after installation:

 $1.5\,\mathrm{x}$ max. working pressure without function of the valve

Materials with media contact

Metals: Brass

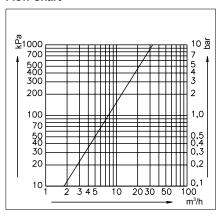
Sealing: Nitrile (NBR)

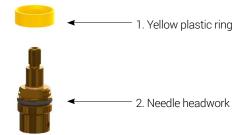
Lubricant: Mineral oil based

Ordering information

- 1. Yellow plastic ring No. 0255035-4059
- 2. Needle headwork Not available as a spare part (for safety reasons)

Flow Chart





TECHNICAL INFORMATION

1/4 TURN HEADWORK

Specifications

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

Opening/closing function: 90° turn

Media: Burning gases

Max. working pressure: 7 bar / 102 psi

Allowable test pressure after installation: 10 bar without function of the

valve

Materials with media contact

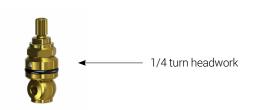
Metals: Brass

Sealing: Nitrile (NBR)

Lubricant: Mineral oil based

Ordering information

1/4 turn headwork · Not available as a spare part (for safety reasons)



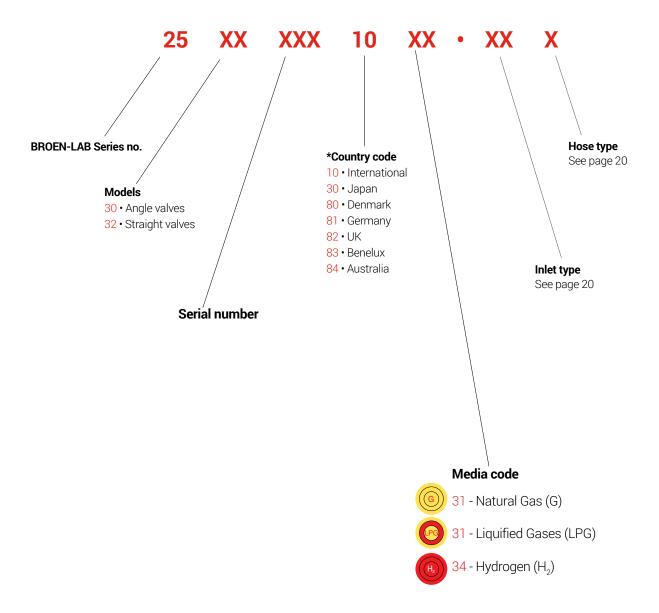
ACCESSORIES

Illustration	Description	BROEN-LAB item no.
	Hose nozzle for quick release coupling	96C0030
_(1) 📭	Mounting set for G1/2" connection Mounting set for M30x1.5 connection	19 141 000 19 190 000
L	G1/2" inlet with female BROEN-LAB UniFlex™ connection (incl. o-ring)	
THE RESERVE THE PARTY NAMED IN COLUMN TWO	L = 30mm L = 60mm L = 90mm	15 504 33G Code -05 15 504 12G Code -14 15 504 46G Code -18
	Threaded inlet pipe M30x1.5 L = 30mm L = 60mm L = 90mm	19 190 03 Code - 50 19 190 02 Code - 52 19 190 04 Code - 54
	Wall flange socket (for exposed piping)	02 101 30G
Recommended 74mm visible length 16mm Female BROEN-LAB UniFlex™	Wall flange socket (for built-in installation)	02 101 31
Ø62.5mm	Cover flange for 02 101 31	14 923 04G
	Polypropylene pop-up handle with media indication according to EN 13792 (for press/turn headwork)	19 150 140 10XX Replace XX with the media on page 19

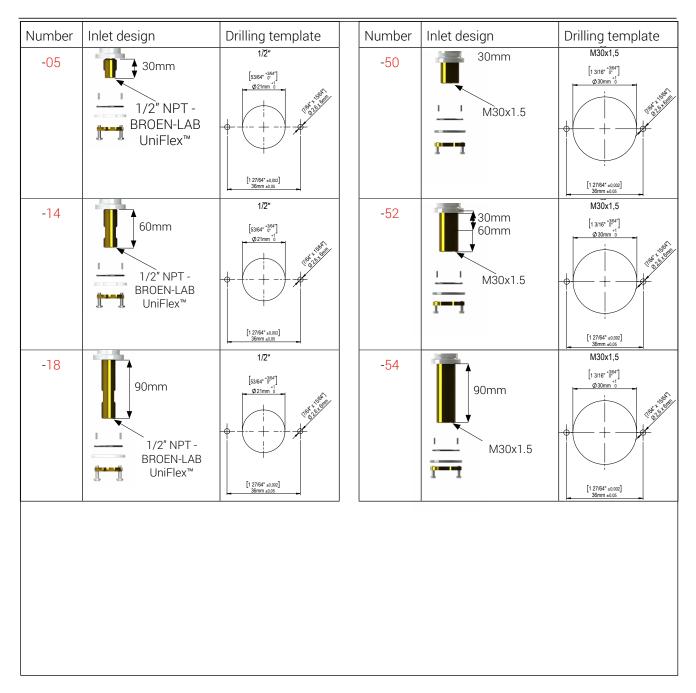
18

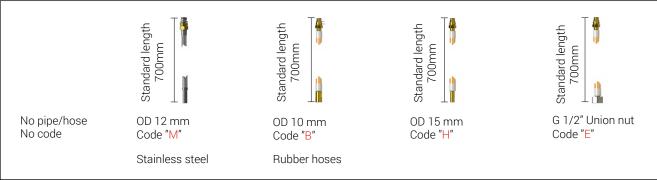
ORDERING INFORMATION

Generally, item number for BROEN-LAB UniFlex $^{\!\top\!\!}$ fittings has the following structure:



ORDERING INFORMATION





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.

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HEADQUARTER

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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.