



**WITZENMANN**  
managing flexibility

# FLEXIBLE ELEMENTS FOR GAS

Flexible metal hoses and expansion joints  
for gas technology

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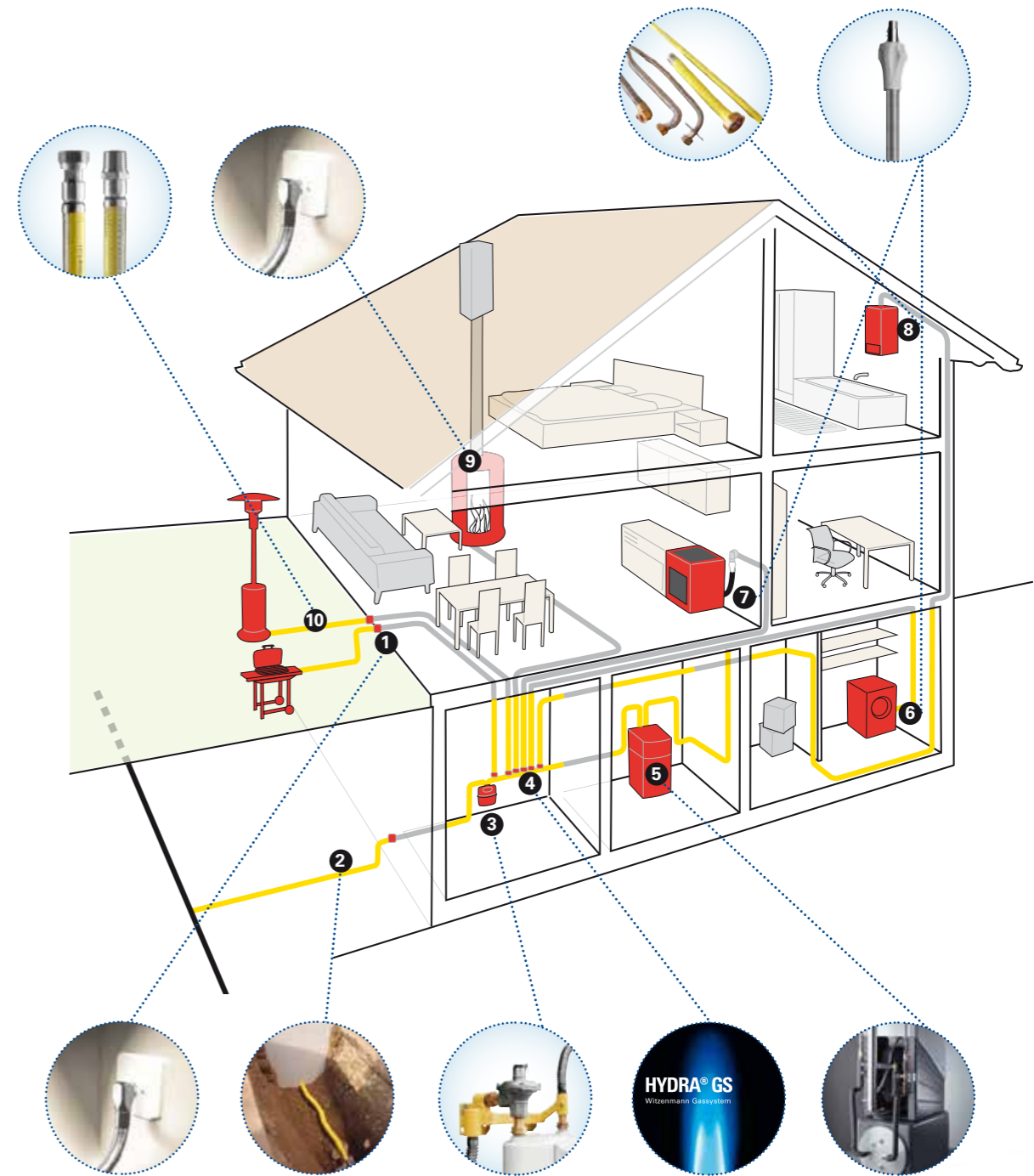
# CONTENTS



<b>In use everywhere</b>	<b>4</b>
<b>Competence in technology</b>	<b>6</b>
<b>HYDRA® gas hoses</b>	<b>8</b>
HYDRA® gas hoses for underground installation and house connection	14
Flexible connection of gas-meters and gas-powered appliances	15
HYDRA® GS The system	16
<b>Available ex-stock</b>	<b>18</b>
HYDRA® corrugated hoses from stainless steel	19
<b>Manufacturing program</b>	<b>22</b>
HYDRA® model series RS individually assembled and designed	23
HYDRA® corrugated hoses for assembly	24
HYDRA® corrugated hose connections for assembly	25
<b>Movementcompensation</b>	<b>26</b>
HYDRA® axial expansion joints for gas applications	28

# IN USE EVERYWHERE

Uncompromisingly reliable quality in gas applications



Witzenmann is one of the world's leading manufacturers of metal hoses and expansion joints. As a market leader of flexible, metallic elements, Witzenmann has extensive experience in product development and production and is also regarded in the industry for gas applications as a preferred development partner. With intensive tests at the in-house testing facility, Witzenmann ensures the fulfilment of the highest safety standards in compliance with the relevant European directives and international standards.

#### Particularly suitable for many areas of use

HYDRA hoses are used in all kinds of applications. The fields of application range from connections for household

appliances to the fuel supply of gas motors in mini thermal power stations. At the same time, users can place their trust in the solid and reliable quality of the products. The metal hoses are flexible, absolutely gas-tight and resistant against ageing and corrosion. Characteristics which are particularly demanded in the potentially hazardous area of gas applications.

#### Quality features at a glance

- Robust flexibility with absolute gas-tightness
- High resistance against ageing and corrosion
- Highly resistant materials: stainless steel e.g. 1.4541 (AISI 321), 1.4404 (AISI 316 L) or 1.4571 (AISI 316 Ti)

- |                                      |  |
|--------------------------------------|--|
| 1 Gas-powered outdoor grill          | 6 Gas-powered tumble dryer               |
| 2 Underground gas house connection   | 7 Gas stove                              |
| 3 Gas meter / gas connection         | 8 Decentralized gas-powered water-heater |
| 4 HYDRA GS / gas installation system | 9 Gas-powered stove                      |
| 5 Boiler connection                  | 10 Outdoor heater supply                 |



# COMPETENCE IN TECHNOLOGY

Innovative product solutions make us the preferred development partner of leading manufacturers.

## CHPU

In mini thermal power stations, metal hoses are used for the flexible connection of the gas supply line to the combustion engine. They compensate constant vibrations in normal operation as well as the intensive self-motions when starting and stopping the engine.

## Equipment pipework

The flexible equipment pipework with individually designed flexible metal hoses are a low-cost alternative to rigid copper tubing. In modern gas condensing combi-boilers, flexible metal hoses ensure safe gas flow. They can be installed easily and quickly even in confined installation conditions.

## Connection hoses for household appliances

Safety and reliability are the basic requirements of all gas-powered appliances. This is particularly the case in private households. The connection hoses for all gas-powered household appliances ensure safe operation even under tough operating conditions. The high flexibility of the hoses enables practical and easy handling for the end user.

## House connection

Flexible corrugated hoses from stainless steel compensate landslides, which occur in mining, earthquake and flood areas or even due to the influence of heavy traffic.

## Gas control systems

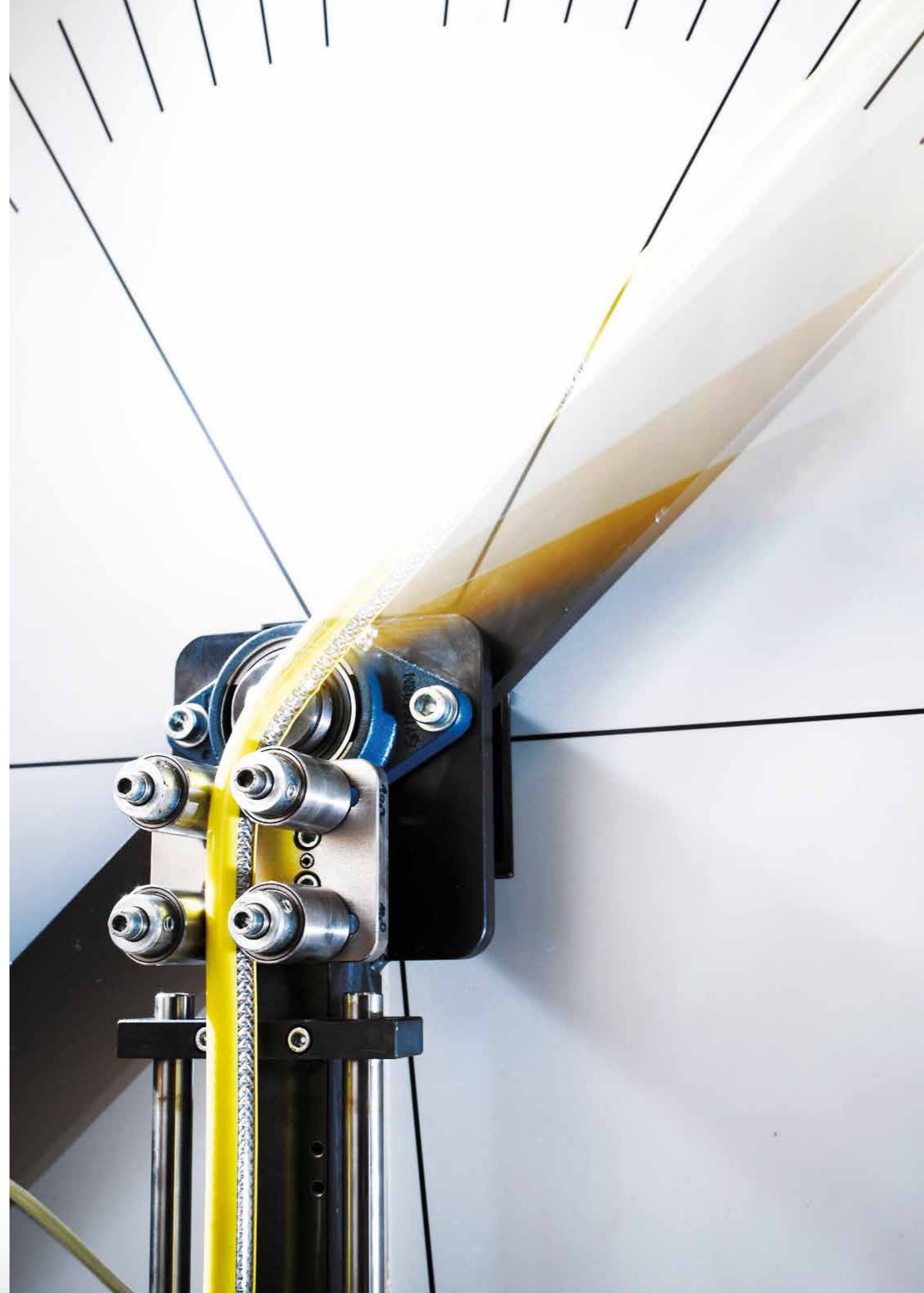
As components fitted in gas control systems, HYDRA flexible metal hoses and expansion joints ensure reliable pressure control and quantity measurement and thus ultimately a gas supply tailored to your needs.

## Luminous and radiant heaters

Flexible metal hoses from stainless steel allow easy installation as well as reliable absorption of thermal expansions in operation.

## HYDRA GS

The complete system guarantees a simple, straight-forward and correspondingly efficient gas installation. The lightweight corrugated hoses are easy to handle and can be cut to length, fitted with connections and reliably installed in just a few simple steps.



# HYDRA® GAS HOSES

Type range HYDRAGAS GA 7 – highly flexible gas hoses according to European Standard



With the introduction of the European standard DIN EN 14800 the technical code for household gas hoses was brought to a Europe-wide uniform standard. The standardization of the different national norms specifies a high safety standard for the connection of gas-powered household appliances, which guarantees a permanent safe gas flow even under tough operating conditions.

### Three-layered design

A highly flexible and pressure-tight HYDRA stainless steel corrugated hose guarantees safe gas flow. A stainless steel braiding is responsible for the absorption of mechanical forces of inadmissible tensile load. The design of the braiding allows a very high flexibility and a minimum bending radius of only 40 mm. Additionally, an easily cleanable PVC coating protects against dirt and aggressive household detergents.

The transparent area of the PVC-material provides an unobstructed view of the metal hose. The PVC coating is pressed onto the connection fittings by means from stainless steel end sleeves slip-resistant and leakproof against moisture and dirt.

### Connections and versions

The connection fittings of the hose are available to suit all conventional connections of gas-appliances and gas-valves.

### Benefits at a glance

- Use as a household gas hose for connecting gas installations, e.g. gas stoves, gas-powered outdoor grills and heaters, etc.
- CE approval according to DIN EN 14800
- Uniform standardization for Europe
- Graduated lengths: NL 500/750/1000/1250/1500/2000 mm
- Lengths of up to NL 6000 mm are permissible for special applications outdoors
- Clear traceability by means of labelling on the end sleeves
- High flexibility allows easy handling for the end user
- Small bending radii possible

### Install and forget, safety in gas technology

# HYDRA® GAS HOSES

In accordance with standard DIN EN 14800

### Type HYDRAGAS GA 751

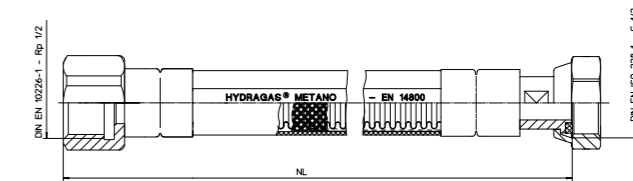


### Approvals



### Connection fittings

- Flat sealing collar connection with union nut G ½ inch from brass, thread according to DIN EN ISO 228-1(AF 24), high-quality flat sealing with certification according to EN 549, suitable for gas.
- Hexagon socket with internal thread Rp ½ inch according to DIN EN 10226-1 (ISO 7/1), AF 24.



### Distinctive feature

PVC-protective hose yellow, with transparent stripes.

### Type HYDRAGAS GA 755

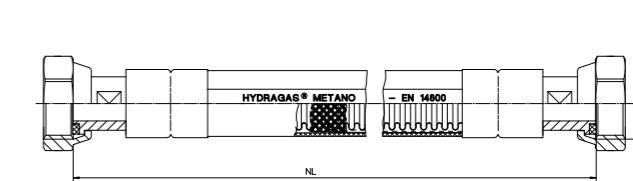


### Approvals



### Connection fittings

- Flat sealing collar connection with union nut G ½ inch from brass, thread according to DIN EN ISO 228-1 (AF 24), high-quality flat sealing with certification according to EN 549, suitable for gas.



### Distinctive feature

PVC-protective hose yellow, with transparent stripes.

### Type HYDRAGAS GA 757

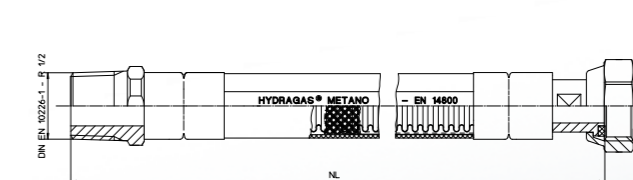


### Approvals



### Connection fittings

- Flat sealing collar connection with union nut G ½ inch from brass, thread according to DIN EN ISO 228-1(AF 24), high-quality flat sealing with certification according to EN 549, suitable for gas.
- Hexagonal nipple from stainless steel R ½ inch according to DIN EN 10226-1 (ISO 7/1).



### Distinctive feature

PVC-protective hose yellow, with transparent stripes.



# HYDRA® GAS HOSES

In accordance with European standard for gas sockets according to DIN EN 15069 / EN 14800 / DIN 3383-1

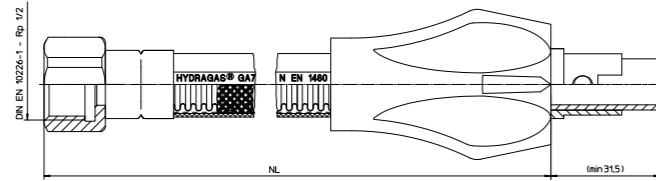
## Type HYDRAGAS GA 721



The version of the European gas hose for the German, Austrian and Swiss market is coated with a yellow PVC hose (optionally also available with transparent PVC). The installation is very easy and straightforward due to its high flexibility. This model series is compatible with the proven safety gas sockets according to DIN EN 15069 (Gas hose Type AMS according to DIN 3383-1). Connection is carried out as usual by insertion into the gas socket and turning of the plastic handle.

### Connection fittings

- Standard connector with plastic handle for gas sockets according to DIN EN 15069.
- Standard connector Type A (according to DIN 3383-1) with plastic handle
- Hexagon socket with internal thread Rp 1/2 inch according to DIN EN 10226-1 (ISO 7/1), AF 24.



### Approvals



### Features

PVC protective hose yellow, with transparent stripes



# HYDRA® GAS HOSES

In accordance with European standard for gas sockets according to DIN EN 15069 / EN 14800 / DIN 3383-1

## Type HYDRAGAS GA 784



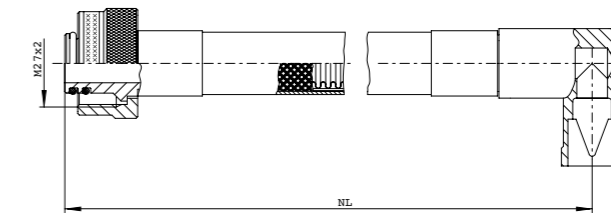
HYDRAGAS GA 783/GA 784 (Type BMN according to DIN 3383-1) ensure flexible and safe connection of household gas appliances, e.g. gas stoves, outdoor heaters or outdoor grills on gas sockets.

### Mounting

The end user can connect the appliance by himself: On the appliance side this is done easily by hand using knurled nuts. On the other side the hose is simply inserted into the gas socket. You can connect and disconnect as often as you wish. The gas hose only requires a very small space at the wall side due to the 90°-bow connector.

### Connection fittings

- Fittings Type N (according to DIN 3383-1) with knurled nut M 27 x 2 from brass, straight version
- Rotatable elbow connector Type B (acc. DIN 3383-1) from chrome plated brass, for gas sockets acc. to EN 15069



### Approvals

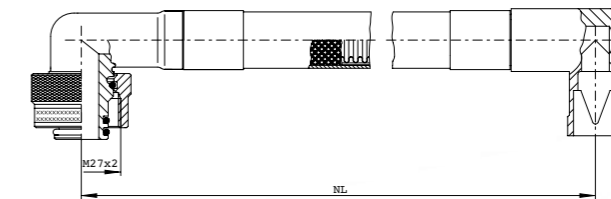


## Type HYDRAGAS GA 783



### Connection fittings

- Fittings Type N (according to DIN 3383-1) with knurled nut M 27 x 2 from brass, 90°-arch design
- Rotatable elbow connector Type B (acc. DIN 3383-1) from chrome plated brass, for gas sockets acc. to EN 15069



### Approvals



### Adaptor on the appliance side

- For threaded connection R 1/2 inch available on request.
- Special lengths up to NL 6000 for outdoor use available.

# HYDRA® GAS HOSES

With single-layered design

## Type HX



## Approvals



## Typ HX 3 / HX 4

The HYDRA gas hose HX 3 / HX 4 is the safety hose for simple applications. With its single-layered design it provides the required basic level of safety with simultaneous economic efficiency. Ideal for uncomplicated use as a gas hose.

- Tested according to DIN 3384
- Max. operating pressure 200 mbar

## Design

HYDRA gas hose HX 3 / HX 4 consists of a metal hose made of austenitic stainless steel 1.4404 (AISI 316L). This very corrosion-resistant stainless steel material and the flexibility of the applied corrugated hose offers a high safety standard.

## Connection fittings

- Union nut with internal thread according to DIN EN ISO 228/1 made of brass, high-quality flat sealing for the gas application included in scope of delivery
- Optionally available with double nipple made of brass, exterior thread according to DIN EN 10226-1 (ISO 7/1)

## Nominal diameters

- DN 12 with connection fittings G 1/2 inch (DIN EN ISO 228-1) / R 1/2 inch (DIN EN 10226-1 / ISO 7/1) made of brass, nickel-plated
- DN 16 with connection fittings G 3/4 inch (DIN EN ISO 228-1) / R 3/4 inch (DIN EN 10226-1 / ISO 7/1) made of brass, shiny
- DN 20 with connection fittings G 1 inch (DIN EN ISO 228-1) / R 1 inch (DIN EN 10226-1 / ISO 7/1) made of brass, shiny

## Nominal lengths

- NL 500 / 600 / 700 / 800 / 1000 / 1200 / 1500 / 2000 mm
- Other lengths are available on request

## Optional

Nipple made of brass, exterior thread according to DIN EN 10226-1, enclosed separately

Nominal diameter DN	Thread Connection fitting	minimum bending radius	recommended torque for assembly	max. permissible torque for assembly
mm	Inch	mm	Nm	Nm
12	G 1/2 inch / R 1/2 inch	140	25	40
16	G 3/4 inch / R 3/4 inch	160	35	55
20	G 1 inch / R 1 inch	170	45	70

# HYDRA® GAS HOSES

Extensible according to Italian Standard UNI 11353

## Type GA 2



## Approvals



## Type GA 25050/25060

- Interior: annular corrugated hose from stainless steel
- Exterior: Yellow polyolefin coating as heat insulation up to 120 °C and protection against mechanical damage and aggressive household detergents
- The corrugated hose undergoes vacuum heat treatment so that the gas hose can be extended to approx. twice its length.

## Connection fittings

Welded stainless steel connection fittings.

## Nominal diameters

DN 15/20/25

## Fittings

1/2 inch, 3/4 inch, 1 inch

## Nominal lengths

NL 90-130 / 120-210 / 180-300 / 240-410

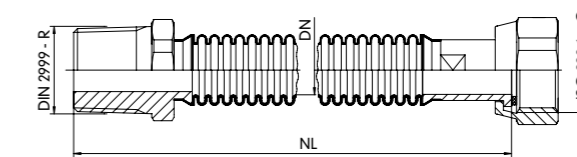
DN 15: 290-470

DN 20 und DN 25: 290-520

## Type GA 25060

## Connection fittings

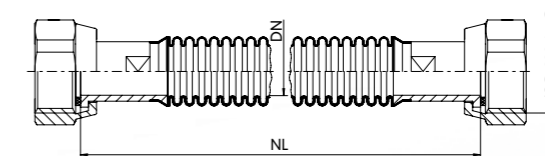
- Hexagon threaded nipples with Whitworth pipe thread according to DIN EN 10226-1 (ISO 7/1; external thread "R")
- Flat sealing connecting piece and union nut with Whitworth pipe thread according to DIN EN ISO 228-1 (internal thread "G")



## Type GA 25050

## Connection fittings

- Flat sealing connecting pieces and union nuts on both sides with Whitworth pipe thread according to DIN EN ISO 228-1 (internal thread "G")



# HYDRA® GAS HOSES FOR UNDERGROUND INSTALLATION AND HOUSE CONNECTION

Safe, flexible connection

## Installation

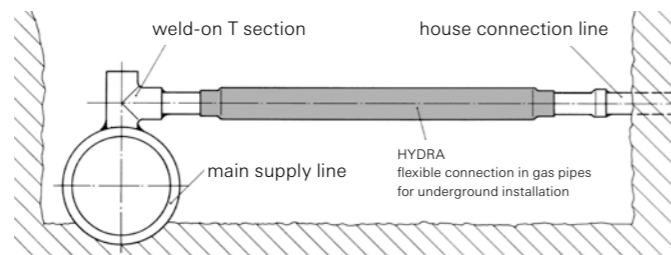


## Underground installation

House supply lines and connections to the house's inner lines are particularly critical points in gas supply networks.

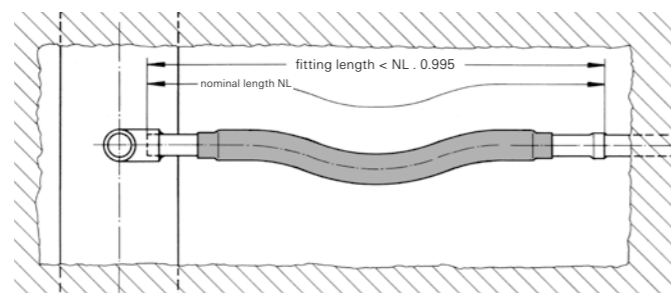
In areas prone to later subsidence damages or earthquakes and flooding, or in areas with heavy-load traffic, there might occur non-calculable plate movement. Due to this, gas pipes installed underground are inadmissibly subjected to bending. In extreme cases, this might lead to the gas line breaking. This movement is compensated for by installing flexible HYDRA stainless steel gas hoses, thus essentially increasing the safety of the gas pipe network.

## Approvals



## Gas house connection

Plastic gas lines for house connections may be installed up to the building. The material transition from plastic to steel, for example, may be protected against outer impacts by means of stainless steel corrugated hoses. In case the medium-carrying plastic line is damaged, gas is prevented from being able to enter the cellar room or to get underneath the foundations.



# FLEXIBLE CONNECTION OF GAS-METERS AND GAS-POWERED APPLIANCES

In accordance with DVGW

## Installation



## Gas meter connection

Hydragas meter connecting hoses allow easy and safe connection of gas meters without laborious installation works by soldering or welding technology or by means of threaded fittings.

Particularly under narrow installation conditions, e.g. in plastic boxes which are common in many European countries, huge cost benefits are achieved in comparison to conventional assemblies. Due to the flexibility of the Hydragas meter connecting hose, required bends can be realized without additional angular fittings or pipe sections to be bent in advance in narrow places. Hydragas meter connecting hoses are mainly used in nominal diameters DN 20 or DN 25, partly with yellow plastic covering.

## Approvals



GASTEC

## Flexible connections

The flexible pipework elements ensure reliable gas supply to gas-powered appliances. Pre-finished, pre-bent and individually customized and designed, they can be installed and assembled easily and quickly in industrial serial production as well as during servicing and repair work.

Original equipment manufacturers benefit from the technological know-how and wide range of materials, geometries and connection elements.

## Technical features

- Custom-fitted prefabrication for a wide range of applications
- Flexible and semi-flexible pipelines, available pre-bent if required
- Innovative plug connection technique
- With DIN DVGW approval

## Benefits

- High development expertise for customized solutions
- Pre-finished fabrication and packaging for original equipment manufacturers
- Stress-free and torsion-free mounting even in confined installation conditions
- Easy to install and accurately positioned assembly in original appliances
- High corrosion resistance and ageing resistance
- Low-cost alternative to rigid copper tubing with distinct advantages in assembly handling



# HYDRA® GS THE SYSTEM

The gas installation system that sets new standards with DVGW- and SVGW-Approval



## The Stainless Steel Hose



The Witzemann HYDRA GS system is a genuine innovation for the gas installation market. The special hydraulic tool presses the fittings with the stainless steel corrugated hose in just a few simple steps. The light tool fits perfectly into your hand and thus allows you to work without fatigue even when working above your head.

### The stainless steel hose

The key points of the entire system are its operating efficiency and easy handling. The semi-flexible hose from stainless steel represents an important component of this. It makes it possible to achieve levels of quality in handling and installation which have never been reached before. Supplied as roll material, it can be transported very easily and handled hassle-free on building sites. Approved in accordance with European standard EN 15266, HYDRA GS meets all the requirements for reliable and long-lasting application.

## The Carrying Case



### Complete system with carrying case

All the components required for installation are clearly laid out and accommodated in one case. Hence, the complete system, pipeline and tool can be transported conveniently to the individual construction phases. The system includes a wide range of suitable fittings as well as a special mounting system for quick assembly.

- Diameter ranges: DN 15, 20, 25, 32
- Available length on roll: 10, 25 und 50 m
- Roll weight: 3.3 kg to 13 kg

## The Fittings



### The Fittings

The HYDRA GS fitting range covers all necessary connections with 7 variants. Reducers, T-fittings, couplings, threaded nipples or screw couplings designed in brass are obtainable in DN 15, 20, 25, and 32.

### The Software

With the aid of the HYDRA GS software a pressure loss calculation can be made with just a little effort. It ensures that the required quantity of gas reaches each consumer within a building. With just a few steps, the dimensioning of the gas installation can be checked and optimised if required.

### Product benefits

- Time saving during the assembly
- Weight saving
- Easy handling
- Innovative assembly technology
- Fast realisation of projects
- Self-explanatory system

## The Software



# HYDRA® GS THE SYSTEM

Your benefits at a glance

## The innovative system



## Press tool



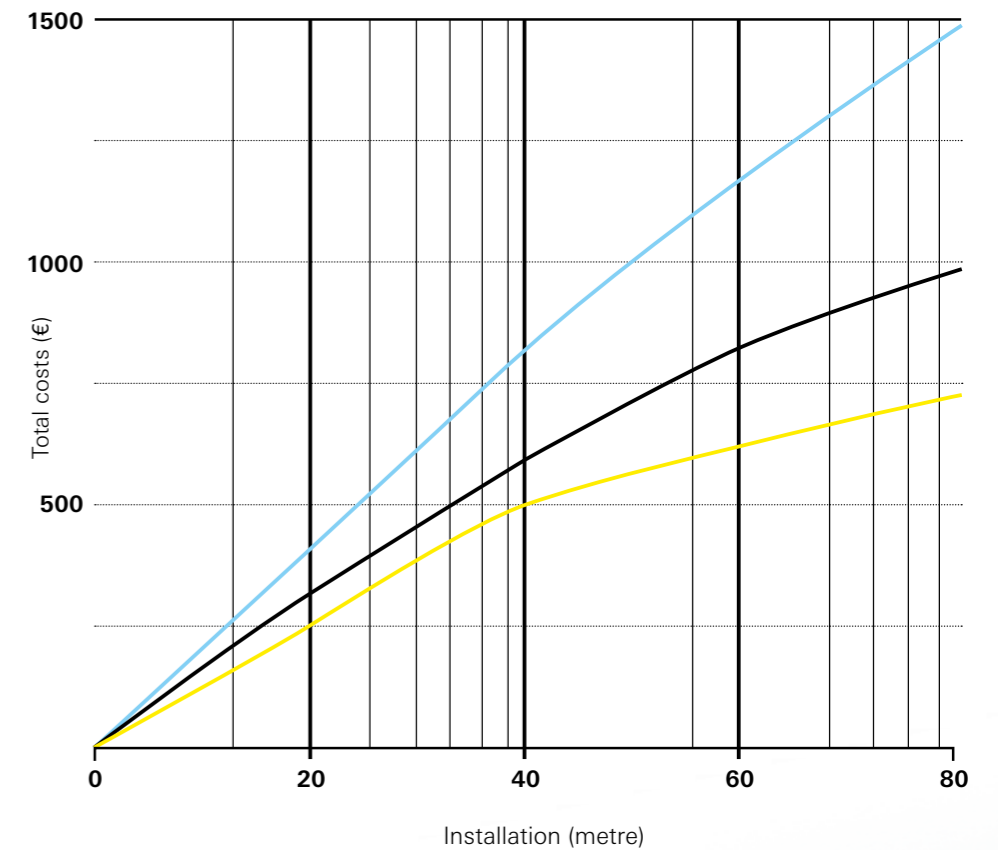
## Installation benefits

HYDRA GS offers particular benefits compared to the existing systems on the market

- For long installation distances
- For renovations
- For angled pipe geometries due to easy pliability
- For mounting in ducts with difficult access

## Example of installation

Installation of a gas line on the ground floor, point-to-point installation, new building.



— rigid piping (copper)      — Composite pipe      — HYDRA GS



# AVAILABLE EX-STOCK

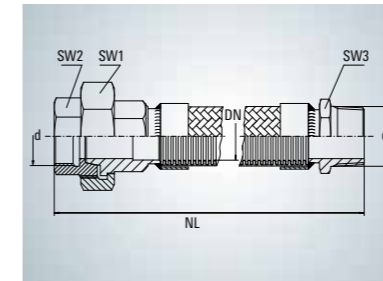


In addition to an extensive range of standard designs which are available ex-stock, HYDRA flexible metal hoses can be custom-assembled with various fittings in any length. The product range includes a broad spectrum of flexible metal hoses from DN 6 to DN 150. They are approved by the DVGW in accordance with DIN 3384 up to a nominal pressure of 16 bar. Hose versions are available with and without braiding depending on the use and intended application. Long service life, easy installation and absolute safety are the main features of HYDRA stainless steel corrugated flexible hoses.

## HYDRA® CORRUGATED HOSES FROM STAINLESS STEEL

Product range – with threaded connection

### Stock hose Type LA 230



### Approvals



### CE mark

from DN 32 according to  
DGRL 2014/68/EU-Cat.I,  
Module A

### Design

HYDRA corrugated hose from stainless steel type RS 331L12, medium corrugation, with single stainless steel braiding, on one side conical sealing with internal thread, on the other side hexagon nipple with external thread.

### Material

- Hose: Stainless steel 1.4541 or 1.4404
- Braiding: Stainless steel 1.4301
- End sleeve: Stainless steel 1.4301
- Threaded connections: malleable cast iron/steel/stainless steel, brazed or welded

### Operating temperature

Up to 200 °C

### Delivery

Possible at short notice, other nominal lengths available on request.

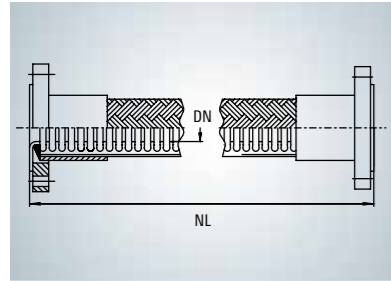
Nominal diameter DN	Thread connection dimensions according to DIN EN 10226-1 screw coupling / nipple	SW1	SW2	SW3	permissible operating pressure P <sub>zul</sub> according to DIN 3384 for gas	Nominal length NL	ID No.
mm	Inch	mm	mm	mm	bar	mm	–
8	Rp / R 1/4	28	19	14	5	500	1091666
						1000	1091670
10	Rp / R 3/8	32	22	19	5	500	1091655
						1000	1091660
						1500	1091664
						300	1057851
12	Rp / R 1/2	41	26	22	5	500	1057847
						800	1085427
						1000	1083429
						1500	1083434
						300	1066198
20	Rp / R 3/4	50	32	27	5	500	1066203
						800	1066204
						1000	1066050
						1500	1066205
						300	1066219
25	Rp / R 1	55	38	36	5	500	1066220
						800	1066221
						1000	1066120
						1500	1066222
						300	1091750
32	Rp / R 1 1/4	67	48	46	1	1000	1091757
						1500	1091761
						500	1091770
40	Rp / R 1 1/2	75	54	50	1	800	1091788
						1000	1091789
						1500	1091790
						500	1091854
50	Rp / R 2	90	66	60	1	800	1091855
						1000	1091856
						1500	1091857
						500	1091854



# HYDRA® CORRUGATED HOSES FROM STAINLESS STEEL

Product range – with flange connection

## Stock hose Type LA 201



### Design

HYDRA stainless steel annular corrugated hose, type RS 331L12 to DN 65, RS 341L12 for DN 80 and DN 100, medium corrugation, with single stainless steel braiding, loose flange connection on both sides.

### Material

- Hose: Stainless steel 1.4541 or 1.4404
- Braiding: Stainless steel 1.4301
- End sleeve: Stainless steel 1.4301
- Welding rim: Stainless steel 1.4541, welded version
- Loose flange: ST 1.0038/ST 37-2, galvanized

### Operating temperature

Up to 300 °C

### Delivery

At short notice. Other nominal lengths available on request.

### Approvals



### CE mark

for DN 32 and bigger according to DGRL 2014/68/EU-Cat.I, Module A

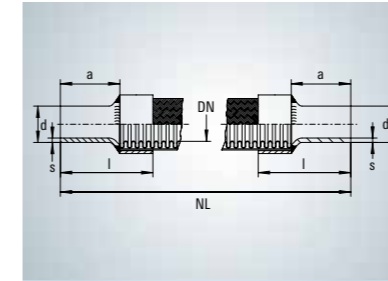
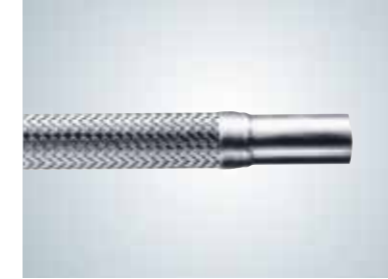
Nominal diameter DN	Flange connection dimension according to DIN EN 1092-1	Permitted operating pressure P <sub>adm.</sub> according to DIN 3384 for Gas	Nominal length NL	ID No.
mm	–	bar	mm	–
16	PN 10 / 16	16	500	012603
20	PN 10 / 16	16	500	012609
			1000	012611
			1500	012612
			2000	012613
25	PN 10 / 16	16	300	012614
			500*	012616
			1000	012618
			1500	012619
			2000	012620
32	PN 10 / 16	16	300	012623
			600*	012624
			1000	012627
			1500	012627
40	PN 10 / 16	16	300	012630
			500	012632
			700*	012634
			1000	012636
			1500	012637
50	PN 10 / 16	16	300	012639
			500	012641
			800*	012644
			1000	012645
			1500	012647
65	PN 10 / 16	16	500	012650
			850*	012652
			1000	012653
			1500	012655
80	PN 10 / 16	16	500	012657
			1000*	012659
100	PN 10 / 16	16	500	012663
			1000	012664
			1100*	012665
			1500	012666

\* These hoses can be used for installation as 90°-arch for vibrations.

# HYDRA® CORRUGATED HOSES FROM STAINLESS STEEL

Product range – with connections from stainless steel precision tube

## Stock hose Type LA 241



### Design

HYDRA corrugated hose, stainless steel, type RS 331L12, medium corrugation, with single stainless steel braiding, connections from stainless steel precision tube on both sides for the connection by means of cutting rings

### Material

- Hose: Stainless steel 1.4541 or 1.4404
- Braiding: stainless steel 1.4301
- End sleeve: Stainless steel 1.4301
- Stainless steel pipe: High-precision steel 1.4541, welded version

### Operating temperature

Up to 550 °C

### Delivery

At short notice. Other nominal lengths available on request.

### Approvals



Nominal diameter DIN EN 12627 DN	Dimensions of welding ends				Permissible operating pressure P <sub>adm.</sub> according to DIN 3384 for gas	Nominal length NL	ID No.
	d	s	a	l			
mm	mm	mm	mm	mm	bar	mm	–
8	10	1.5	30	40	16	300	079959
						500	079960
						1000	079961
10	12	1.5	30	22	16	500	079962
						1000	079963
						1500	079964
12	15	2	32	28	16	300	079965
						500	079966
						1000	079967
16	18	1.5	32	32	16	1000	079969
20	22	2	36	42	16	500	079970
						1000	079971
25	28	2	40	70	16	500	079972
						1000	079973



# MANUFACTURING PROGRAM



## HYDRA® MODEL SERIES RS INDIVIDUALLY ASSEMBLED AND DESIGNED

### Example



The product range includes the most common hose types, custom-tailored to individual needs and requirements. At the same time, the materials used ensure constant, reliable, safe operation and extremely tough resistance against mechanical influences. The flexibility and pressure resistance vary depending on the hose geometry chosen. The pressure resistance increases and flexibility decreases with the increasing length and wall thickness of the individual corrugations.

### Versions

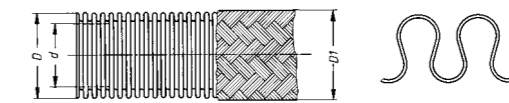
- Annular corrugated stainless steel hose made of butt welded tube
- Tested according to DIN EN ISO 10380
- With and without braiding

### Standard materials

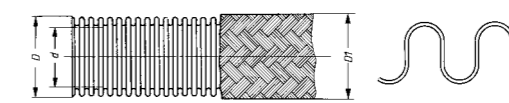
- Hose: Stainless austenitic steel according to DIN EN 10088-1
  - 1.4404 similar AISI 316 L
  - 1.4541 similar AISI 321
- Braid: Stainless austenitic steel
  - 1.4301 similar to AISI 304
  - 1.4571 similar to AISI 316 Ti for hose and braid on request

### HYDRA hose types

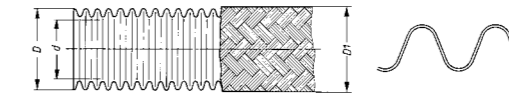
- RS 321, narrow corrugation, highly flexible



- RS 331 (up to DN 100) / RS 330, RS 430 (from DN 125), standard corrugation



- RS 341, wide corrugation



### Approvals



**Note:** certifications are only valid with connection parts acc. to DIN 3384, compare the following list

### Your benefits at a glance

- Easy assembly – long service life
- Customizable
- Temperature ranges -270 °C to 600 °C



# HYDRA® CORRUGATED HOSES FOR ASSEMBLY

Gas hoses from stainless steel according to DIN 3384 with DIN-DVGW approval



Type RS 321 narrow corrugation			
DN	Type	Connection technique	
		welded	soldered
-	-	PN	PN
6	RS 321L00	16	4
	RS 321L12	16	4
8	RS 321L00	16	4
	RS 321L12	16	4
10	RS 321L00	10	4
	RS 321L12	16	4
12	RS 321L00	8	4
	RS 321L12	16	4
16	RS 321L00	6	4
	RS 321L12	16	4
20	RS 321L00	4	4
	RS 321L12	16	4
25	RS 321L00	4	4
	RS 321L12	16	4
32	RS 321L00	2,5	1
	RS 321L12	16	1
40	RS 321L00	1	0,5
	RS 321L12	16	1
50	RS 321L00	1	0,5
	RS 321L12	16	1
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-

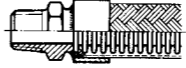
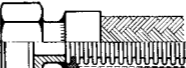
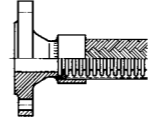
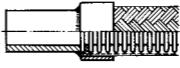
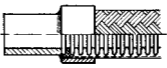
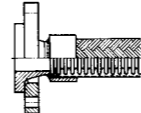
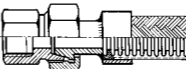
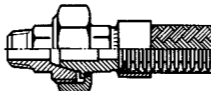
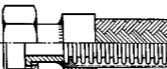
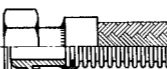
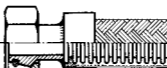
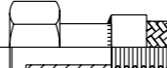
RS 331 / 330 / 430 standard corrugation			
DN	Type	Connection technique	
		welded	soldered
-	-	PN	PN
6	RS 331L00	16	4
	RS 331L12	16	4
8	RS 331L00	16	4
	RS 331L12	16	4
10	RS 331L00	16	4
	RS 331L12	16	4
12	RS 331L00	10	4
	RS 331L12	16	4
16	RS 331L00	6	4
	RS 331L12	16	4
20	RS 331L00	5	4
	RS 331L12	16	4
25	RS 331L00	4	4
	RS 331L12	16	4
32	RS 331L00	2,5	1
	RS 331L12	16	1
40	RS 331L00	2,5	1
	RS 331L12	16	1
50	RS 331L00	1	0,5
	RS 331L12	16	1
65	RS 331L00	1	0,5
	RS 331L12	16	1
80	RS 331L00	2	0,5
	RS 331L12	16	1
100	RS 331L00	1	0,5
	RS 331L12	10	1
	RS 430L22	16	-
125	RS 330L00	0,5	-
	RS 330L12	6	-
	RS 430L22	16	-
	RS 430L00	0,5	-
150	RS 330L00	0,5	-
	RS 330L12	6	-
	RS 430L00	0,5	-
	RS 430L12	10	-
	RS 430L22	16	-
RS 430L92	16	-	

RS 341 wide corrugation			
DN	Type	Connection technique	
		welded	soldered
-	-	PN	PN
6	RS 341L00	16	4
	RS 341L12	16	4
8	RS 341L00	16	4
	RS 341L12	16	4
10	RS 341L00	16	4
	RS 341L12	16	4
12	RS 341L00	16	4
	RS 341L12	16	4
16	RS 341L00	12	4
	RS 341L12	16	4
20	RS 341L00	16	4
	RS 341L12	16	4
25	RS 341L00	16	4
	RS 341L12	16	4
32	RS 341L00	2,5	1
	RS 341L12	16	1
40	RS 341L00	3	1
	RS 341L12	16	1
50	RS 341L00	2,5	1
	RS 341L12	16	1
65	RS 341L00	4	-
	RS 341L12	16	-
80	RS 341L00	4	-
	RS 341L12	16	-
100	RS 341L00	3	-
	RS 341L12	16	-
-	-	-	-
-	-	-	-

# HYDRA® CORRUGATED HOSE CONNECTIONS FOR ASSEMBLY

Connection fittings according to DIN 3384 with DIN DVGW approval



Ser. no.	Description	Remarks	Fitting types Works standard
1	 External thread according to DIN EN 10226-1	PN 16 up to DN 25 max. PN 5 up to DN 50 max. PN 1 above DN 50	MH02S MH12S MH22S MH52S
2	 Internal thread according to DIN EN 10226-1	PN 16 up to DN 25 max. PN 5 up to DN 50 max. PN 1 above DN 50	LA12S LA22S LA52S
3	 Fixed flange, dimensions according to DIN EN 1092-1	Flange thickness depending on nominal pressure according to shape of flange	GB12E GB22E
4	 Weld ends with ISO pipe dimensions	Only with welded connection between hose and connector	UA12S UA22S
5	 Pipe connection, dimensions according to DIN EN 10305-2	For solderless screwed pipe joint with cutting ring according to DIN 2353	UD12Q UD22Q
6	 Loose flange with welding collar, dimensions according to DIN EN 1092-1	Flange thickness depending on the nominal pressure according to shape of flange	AB12E AB22E AB82E CA82E
7	 Threaded fitting swivel with conical sealing with internal thread according to DIN EN 10226-1	PN 16 up to DN 25 max. PN 5 up to DN 50 max. PN 1 above DN 50	QB02S QB12W QB22W QB52W
8	 Threaded fitting swivel with conical sealing with external thread according to DIN EN 10226-1	PN 16 up to DN 25 max. PN 5 up to DN 50 max. PN 1 above DN 50	RF02S RF12W RF22W RF52W
9	 Threaded connection, rotatable collar pipe, flat sealing, union nut with Whitworth pipe thread DIN EN ISO 228-1	PN 5 up to and including DN 50	NA12S NA22S NA52S
10	 Threaded connection, rotatable Ball lining according to DIN 3863, union nut with Whitworth pipe thread ISO 228-1	PN 5	NF12S NF22S NF52S
11	 Threaded connection, rotatable 24°-conical nipple with O-ring, union nut according to DIN ISO 12151-2	PN 16 for max. hose diameter 42 mm	NN12Q NN22Q
12	 Ball-type bushing to DIN 3863, union nut with metric thread DIN 3870, series LL	PN 5	NO12 NO22 NO52S



# MOVEMENT- COMPENSATION



HYDRA® expansion joints for gas applications –  
effective movement and sound absorption



#### Characteristics and areas of use

HYDRA expansion joints for gas applications ensure stress-free and safe pipe installation. They absorb system vibrations and movements and thus protect the piping network against damage. Axial expansion joints for gas applications reduce structure-borne sound transmission over the pipeline and avoid vibration and oscillation transmission.

#### Examples for areas of use

- Drying stoves, gas engines, gas control systems: The absorption of thermal expansion ensures the trouble-free operation of machines
- Gas supply lines or burner supply lines (gas and air): Here, vibrations occurring on all sides are compensated thus ensuring safe and continuous operation.
- Reduction of force and torque transmission in the area of the connection fittings

#### Design and technical data

The expansion joint consists of a multilayered stainless steel bellows. Depending on the relevant case of operation, the

bellows are available in the stainless steel materials 1.4571, 1.4541 or 1.4404. The expansion joints are delivered pre-finished and assembled with the necessary connectors. The product range includes axial expansion joints with the most current connection fittings up to nominal diameter of DN 100.

#### Quality

HYDRA expansion joints are approved by the DVGW in accordance with DIN 30681 for use in the gas industry. Millions of these expansion joints have proven their absolute safety and reliability in practice.

#### HYDRA expansion joints according to DIN 30681 with DVGW approval are available in the following nominal diameters:

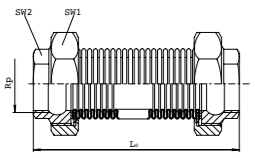
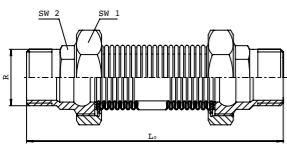
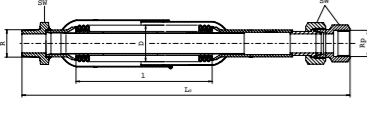
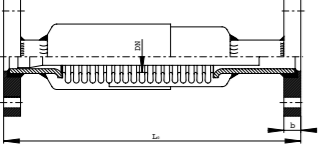
- Axial expansion joints: DN 15 to DN 500
- Universal expansion joints: DN 50 to DN 500
- Angular expansion joints: DN 50 to DN 500
- Lateral expansion joints: DN 50 to DN 500



# HYDRA® AXIAL EXPANSION JOINTS FOR GAS APPLICATIONS

Range stocked

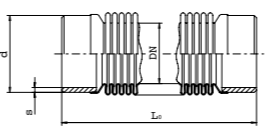
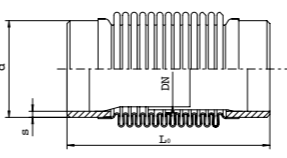
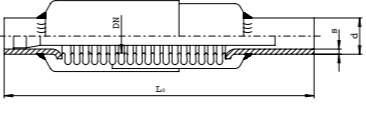
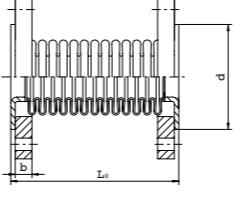
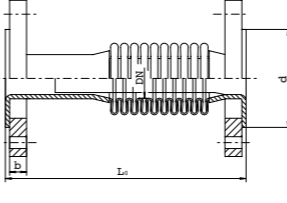


Expansion joint type	Description	Nominal diameter	Operating pressure
Type AMB 	HYDRA axial expansion joint with flat sealing screw couplings from galvanised cast steel, with internal thread according to DIN EN 10226-1	DN 15 (Rp ½ inch) to DN 50 (Rp 2 inches)	to DN 25 : PN 10 bar from DN 32 : PN 5 bar
Type AGB 	HYDRA axial expansion joint with flat sealing screw couplings from galvanised cast steel, with external thread according to DIN EN 10226-1	DN 15 (R ½ inch) to DN 50 (R 2 inches)	to DN 25 : PN 10 bar from DN 32 : PN 5 bar
Type AMV ... 2 	HYDRA axial expansion joint on one side: Conical seal screw coupling from stainless steel, internal thread according to DIN EN 10226-1 other side: hexagon nipple from stainless steel with external thread according to DIN EN 10226-1 stainless steel with internal and external sleeve	DN 15 (R/Rp ½ inch) to DN 50 (R/Rp 2 inches)	PN 5 bar
Type AMV ... 2 	HYDRA axial expansion joint on both sides with fixed flanges from steel, flange connection dimension according to DIN EN 1092-1, with internal and external sleeve	Stock versions DN 15 to DN 100	PN 6, PN 10, PN 16

# HYDRA® AXIAL EXPANSION JOINTS FOR GAS APPLICATIONS

Range stocked



Expansion joint type	Description	Nominal diameter	Operating pressure
Type ARN ... 0 	HYDRA axial expansion joint, on both sides with weld-on ends St. 1.0305 according to DIN EN 12627	Stock versions DN 15 to DN 100, larger nominal diameters with DVGW approval up to DN 500 on request	PN 6, PN 10, PN 16
Type ARN ... 1 	HYDRA axial expansion joint on both sides with weld-on ends St. 1.0305 according to DIN EN 12627, inner stainless steel sleeve	Stock versions DN 15 to DN 100, larger nominal diameters with DVGW approval up to DN 500 on request	PN 6, PN 10, PN 16
Type ARF ... 2 	HYDRA axial expansion joint on both sides with weld-on ends St. 1.0305 as per DIN EN 12627, with internal and external sleeve	Stock versions DN 15 to DN 100 as special version available up to DN 250	PN 6, PN 10, PN 16
Type ALN/ABN ... 0 	HYDRA axial expansion joint, on both sides with rotatable loose flanges from steel, flange connection dimension according to DIN EN 1092-1	Stock versions DN 15 to DN 100, larger nominal diameters with DVGW approval up to DN 500 on request	PN 6, PN 10, PN 16
Type ALN ... 1 	HYDRA axial expansion joint, on both sides with rotatable loose flanges from steel, flange connection dimension according to DIN EN 1092-1, inner stainless steel catalyst pipe	Stock versions DN 32 to DN 100, larger nominal diameters with DVGW approval up to DN 500 on request	PN 6, PN 10, PN 16

