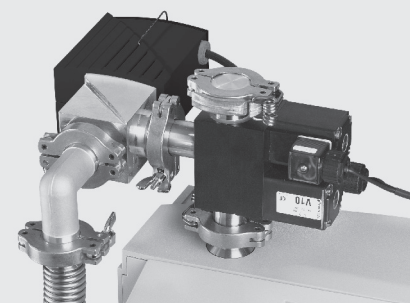
Accessories

Accessories for PHOENIX Quadro, PHOENIX Magno und PHOENIX Vario



Partial flow system without pump

Search gas spray gun

Interface module

PHOENIX Transport Case

PHOENIX Vario Connector

PHOENIX IO Adapter Cable to L300i

Partial Flow System

with following advantages:

- Faster response
- Start of measurment mode already at 1000 mbar inlet pressure.
- Faster venting of large test objects or leak detection of mass production.

Equipment:
Valve block (with inlet valve, venting valve, bypass or purging valve) plus right-angle bellows valve DN 25 ISO-KF made of stainless steel, solenoid drives, suited for remote control by the PHOENIX.

The partial flow systems are available without pumps.

PHOENIX Transport Case

For impact protected transportation of the PHOENIX; complete with strong carrying handles and plastic castors. Separate case for accessories.

Search Gas Spray Gun

The search gas spray gun with PVC hose (5 m long) is used for well aimed spraying of search gas at places where a leak is suspected.

PHOENIX Vario connector

A matching connector for the electrical connection between the leak detector and fore vacuum pump is available in order to control the vacuum pump directly via the PHOENIX Vario.

PHOENIX Wi-Fi Antenna

The PHOENIX Quadro series can be controlled conveniently via any mobile terminal such as tablet PC or smartphones, without the installation of a software or app.

In order to be able to use the Wi-Fi function, a compatible PHOENIX Wi-Fi antenna needs to be connected to the PHOENIX USB port. Available antennas vary by region. For further information and assistance please contact our customer support.

PHOENIX interface modules for the use of further interfaces.

The modules can be placed on the device or mounted in a control cabinet or similar by the customer via a cable connection.

The appropriate cables are available in various lengths.

The PHOENIX IO interface features the following:

- PLC IN
- PLC OUT
- ANALOG OUT
- RS232

The PHOENIX bus interface is available for:

- Profibus
- ProfiNet
- DeviceNet
- Ethernet I/P

PHOENIX IO Adapter Cable to L300i

The IO Adapter allows a plug-and-play solution for the use of PLC / recorder output with the existing L300i plug, when switching from PHOENIX L300i to PHOENIX 4.

Ordering Information

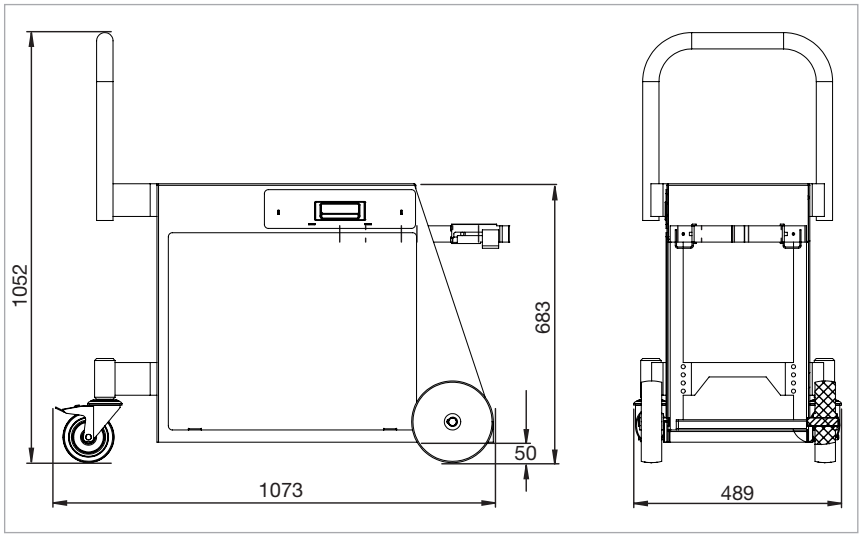
Accessories

	Part No.
Transport Case PHOENIX Quadro	**252004V02**
Transport Case PHOENIX Magno	**352004V02**
Transport Case PHOENIX Vario	**252024V02**
Partial flow system [1)] 115 – 230 V, 50/60 Hz, without pump	**140 20**
AF 16-25 exhaust filter, for partial flow system	**189 11**
Search gas spray gun	**165 55**
PHOENIX IO Interface	**252211V02**
PHOENIX Bus Interface Profibus	**252212V02**
PHOENIX Bus Interface ProfiNet	**252213V02**
PHOENIX Bus Interface DeviceNet	**252214V02**
PHOENIX Bus Interface EtherNet/IP	**252215V02**
PHOENIX Vario connector plug	**252300V02**
Cable for PHOENIX Interface modules – 0.5 m	**252293V02**
Cable for PHOENIX Interface modules – 2 m	**252290V02**
Cable for PHOENIX Interface modules – 5 m	**252291V02**
Cable for PHOENIX Interface modules – 10 m	**252292V02**
PHOENIX IO Adapter cable to L300i	**252400V02**

[1)] 5 centering rings, 5 clamping rings and 1 vacuum hose 1 m with DN 25 ISO-KF are included

CART for
PHOENIX Quadro and PHOENIX Vario

The CART for the PHOENIX 4 allows maximum mobility of the leak detector with all required accessories. The high-quality construction thus provides work surfaces for test leaks, as well as the flexible mounting possibility of helium bottles of various sizes. Furthermore, external fore vacuum pumps can also be mounted via a flexible rail construction in the lower level. Due to the innovative design, the helium supply is located on the side facing away from the inlet of the leak detector. Large stable rollers ensure easy transportation and mobility of the leak detector structure.



Dimensional drawing (Dimensions in mm)

Technical Data

CART

Dimensions (L x W x H)	**mm**	489 x 1052 x 1073

Ordering Information

Cart

	Part No.
CART PHOENIX 4 for PHOENIX Quadro and PHOENIX Vario	**252005V02**

CART for PHOENIX Magno

The cart for PHOENIX Magno allows safe and easy transportation.
To the PHOENIX Magno feet matching drilled holes enable the fixing of the leak detector onto the cart.

Ordering Information

Cart

	Part No.
CART PHOENIX Magno	**252008V02**

RC 310 C / RC 310 WL
Remote Control Units for Leak Detectors

Wired remote control unit RC 310 C

Wireless remote control unit RC 310 WL

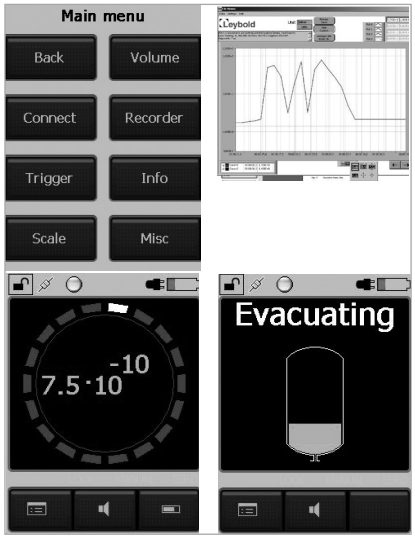
The RC 310 remote control unit with their industrial design RC 310 WL (wireless) and RC 310 C (cable) and integrated data memory offer utmost flexibility during the leak detection process.
The RC 310 WL perwiths wireless remote monitoring up to a distance of 100 m. The RC 310 units support the current leak detectors of the PHOENIX 4 series as well as the L300i, UL 200 and L 200 models.

Advantages to the User

- Easy operation via Touch Screen Panel 3.5"
- Wireless transmission up to 100 m, wired transmission up to 34 m
- Data transfer to Windows is possible
- Data backup on internal 32 MB data logger or USB stick is possible
- Possible operating with or without cable
- Adjustable alarm trigger
- Magnetic holder on the rear of the instrument
- Rugged industrial design with an IP 42 rating
- Scroll function for measured data (optional)
- USB connection for data transfer and software updates
- Adjustable loudspeaker and headphone output
- Search function (paging) via audible signal
- Peak hold (maximum value indication)
- For simultaneous detection of up to 10 leak detectors

Typical Applications

- Mobile use with a portable leak detector due to wireless link
- Leak detection for analytics
  - Medicine technology
  - Solar systems
  - Research and development
  - Vacuum equipment
  - Accessories for the automotive industry
  - IT branch
  - Process industry



Different color displays on the remote control unit

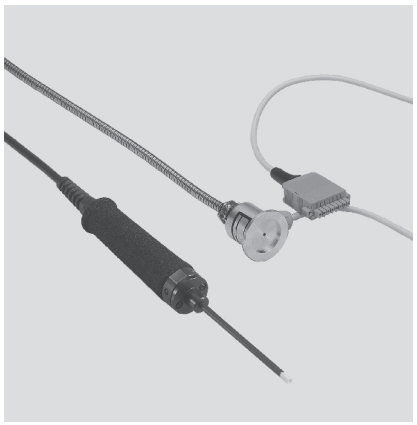
Technical Data — RC 310

Display		TFT graphic touch panel 1/4 VGA / 3.5"; 240 x 320 px
Memory capacity		
Internal memory capacity	MB	64
of this available for recording data or memory stick	MB	32
Battery operating time (RC 310 WL only), (depending on charging condition)	hours	> 8
Wireless transmission range RC 310 WL	m	up to 100
HF output power (4 mW)	dBm	+6
Wireless transmission frequency RC 310 WL	GHz	2.4
Audio alarm at 1 m distance, max.	dB(A)	70
Headphone jack stereo 3.5 mm	Ohm	> 2 x 32
Permissible ambient temperature	°C	+5 to +40
Battery charger		
Mains voltages	V	100 – 240 (± 10%)
Frequencies	Hz	50/60
Connectable leak detectors		PHOENIX 4 series, L300i series, UL 200 series, L 200 series
Detection of leak detectors		up to 10
Available languages		English, German
Further languages		Chinese, Japanese (Katakana), Russian, French, Italian, Spanish and Polish
Protection class	IP	42
Charger protection class	IP	56
RC 310 WL radio perwiths		CE, FCC, IC, TELEC, MIC, MII
Dimensions (L x W x H)	mm	210 x 90 x 45
Weight		
RC 310 C, approx.	kg (lbs)	0.4 (0.88)
RC 310 WL, approx.	kg (lbs)	0.5 (1.1)

Ordering Information — RC 310

	Part No.
Remote control	
RC 310 C, wired with 4 m long connection cable	**252 013 V01**
RC 310 WL, wireless with battery charger (for integrated rechargeable battery) and wireless transwithter with connection cable (additional 4 m long connection cable)	**252 014 V01**
Accessories	
Wireless transwithter with connection cable (for operation of a further PHOENIX Quadro)	**252 015 V01**
Extension cable, 10 m (three extensions max. are possible)	**140 22**

Helium Sample Probes (Sniffers)



Helium sniffer line SL 300

Helium sniffer QUICK-TEST QT 100 with sniffer

Helium sniffers in connection with the leak detectors are used for leak testing test samples in which a helium overpressure is present. Besides accurate pinpointing of leaks it is also possible to determine the leak rate of the escaping helium.

Helium sniffer line SL 301 in transport case

Advantages to the User

Helium Sniffer Line SL 300 and SL 301

- Sniffer line connects directly at the test connection
- **SL 300**
  Comfortable helium sniffer with red and green status LED and ZERO push-button
- **SL 301**
  Robust and easy helium sniffer in practical transport case
- Easy filter removable
- Very fast response
- Extremely low detection liwith $< 1 \times 10^{-7}$ mbar x l/s
- Rigid sniffer tip 120 mm
- Very rugged industrial design

Helium Sniffers QUICK-TEST QT 100

- Sniffer leak detection for greater distances between test object and leak detector
- Diaphragm pump for sucking the search gas
- Smallest detectable leak rate 1×10^{-6} mbar x l/s
- Short response and decay times
- High sniffer velocity
- Switching power supply, can be run off mains voltages from 100 to 230 V AC

Typical Applications

- Storage and transportation vessels for gases and liquids
- Gas supply systems
- Gas compressors
- Components for the cooling and air conditioning industries
- Heat pumps and components for thermal energy recovery units
- Chemical production plants
- Supply and phone lines laid in the ground
- Power station condensers and turbines
- Window and door seals of car bodies, refrigerators and alike
- Revision checks on leak testing systems
- Measurement of helium concentrations ranging from ppm to %
- All hollow objects exposed to overpressures

Technical Data

		SL 300 / SL 301	QT 100
Smallest detectable leak rate	mbar x l/s	< 10^{-7}	10^{-6}
Inlet pressure	mbar	< 0.13	–
Supply voltage		–	100 – 230 V, 50/60 Hz
Signal response time for			
SL 301 at a length of			
4 m	s	< 1	–
10 m	s	< 4	–
SL 300 at a length of			
4 m	s	< 1	–
20 m	s	–	< 6
50 m	s	–	20
Connection flange	DN	25 ISO-KF	
Weight	kg (lbs)	0.6 (1.3)	3.5 (7.7)

Ordering Information

SL 300 / SL 301

	Part No.
Helium sniffer line with rigid sniffer tip 120 mm	
SL 300	
red/green LED	
ZERO button	
4 m long, straight handle	**252 003**
SL 301	
4 m long, straight handle	**252 025 V01**
10 m long, straight handle	**252 026 V01**
Spare Parts for SL 301	
Filter insert, 2 pieces	**ESLMSA-92097**
Stainless steel tube with capillary tube	**E-LST-30**

Ordering Information

QT 100

	Part No.
Helium sniffer QUICK-TEST QT 100	**155 94**
Sniffer line for the QT 100	
5 m	**140 08**
20 m	**140 09**
50 m	**121 83**

Calibrated Leaks for Vacuum and Sniffer Applications

Test leaks

Calibrated leaks are required for the alignment of mass spectrometers, for the calibration of leak rates and for determining the response time of vacuum systems.

Calibrated Leaks for Vacuum Applications

TL 4 and TL 6

Calibrated leaks without gas reservoir (capillary type of leak) for sensitivity and signal response time determinations during vacuum leak detection and for determination of sniffer sensitivity for overpressure leak detection. Nominal leak rate ranges 10^{-4} mbar x l/s for TL 4 and 10^{-6} mbar x l/s for TL 6. Suitable for helium. A purging valve with hose nozzle perwiths a rapid exchange of the gas in the dead volume.

TL 4-6

Helium calibrated leak (capillary leak) for gross leaks, adjustable in the range between 10^{-4} to 10^{-6} mbar x l/s, with exchangeable helium reservoir, pressure gauge and two manually operated valves. For calibration of leak rate readings and the alignment of helium mass spectrometers in the vacuum pressure range and for determining the sensitivity of sniffers in the overpressure range.

TL 4

Calibrated helium leak (capillary leak) with reservoir which may be refilled and with a leak rate in the range of 10^{-4} mbar x l/s. Special calibrated leak for use in a vacuum.

TL 7 (For installation within the PHOENIX 4)
Helium calibrated leak (capillary leak) with helium reservoir and electromagnetically operated valve. Leak rate range 10^{-7} mbar x l/s. The electromagnetically operated valve provided perwiths the opening and closing of the calibrated leak to be controlled by the leak detector's software.

TL 7

Calibrated helium leak (capillary leak) with helium reservoir, manual valve and He gas.

TL 8 and TL 9

Helium calibrated leak calibrated for a leak rate in the range of 10^{-8} mbar x l/s (helium leak rate) for TL 8 and 10^{-9} mbar x l/s for TL 9, with gas reservoir and diaphragm shutoff valve. For alignment of a helium mass spectrometer, for calibration of the leak rate display of helium leak detectors and for response time measurements in connection with larger volumes.

Note
All calibrated leaks with the exception of the TL 4 are not suited for use in a vacuum.

Advantages to the User

- Inspection certificate (included) in accordance with DIN EN 10204-3.1
- Highly accurate
- Very low temperature dependence
- Determination of the nominal leak rate by comparison with a calibrated leak having a PTB [1] certificate
- DAkkS [2] certificate (optional), traceable to PTB
- Custom models for special applications

The nominal leak rate applies only if the calibrated leak has been connected to a vacuum system at a pressure of less than 1 mbar.

[1] Federal Institution of Physics and Technology
[2] Deutsche Akkreditierungsstelle GmbH (German Calibration Service)

Calibrated Leaks for Sniffer Applications

These calibrated leaks have been set to a fixed value within the typical leak rate range (see Ordering Information). The exchangeable calibration gas reservoir is monitored through the built-in manometer.

Helium calibrated leaks

S-TL 4 to S-TL 6 with leak rates from 10^{-4} to 10^{-6} mbar x l/s.

Set of Calibrated Leaks for Power Plants

These three calibrated leaks of 1000, 100 and 10 mbar x l/s allow leak tests under partial flow conditions under the ambient conditions of power plants.

Technische Daten	Leak Rate Range	Leak Detection Method	Connection Flange
TL 4, without Helium gas reservoir	10^{-4} mbar x l/s	Vacuum and sniffer	DN 16 ISO-KF
TL 6, without Helium gas reservoir	10^{-6} mbar x l/s	Vacuum and sniffer	DN 16 ISO-KF
TL 4-6, with Helium gas reservoir	10^{-4} to 10^{-6} mbar x l/s	Vacuum and sniffer	DN 16 ISO-KF
TL 4, with Helium gas reservoir	10^{-4} mbar x l/s	Vacuum	Discharging opening
TL 7, with Helium gas reservoir	10^{-7} mbar x l/s	Vacuum (for installation within the PHOENIX)	Nozzle
TL 7, with manual valve and Helium gas reservoir	10^{-7} mbar x l/s	Vacuum	DN 10 ISO-KF
TL 8, with Helium gas reservoir	10^{-8} mbar x l/s	Vacuum	DN 10 ISO-KF
TL 9, with Helium gas reservoir	10^{-9} mbar x l/s	Vacuum	DN 10 ISO-KF
S-TL 4, with Helium gas reservoir	10^{-4} mbar x l/s	Sniffer	Nozzle
S-TL 5, with Helium gas reservoir	10^{-5} mbar x l/s	Sniffer	Nozzle
S-TL 6, with Helium gas reservoir	10^{-6} mbar x l/s	Sniffer	Nozzle

Ordering Information

Calibrated Leak

	Part No.
TL 4, without Helium gas reservoir [1]	**155 65**
TL 6, without Helium gas reservoir [1]	**155 66**
TL 4-6, with Helium gas reservoir [1]	**155 80**
TL 7, with Helium gas reservoir [1] for installation within the PHOENIX 4 filling pressure 2,9 bar	**140 23 V01**
TL 7, with manual valve and Helium gas reservoir	**142 10**
TL 8, with Helium gas reservoir [1]	**165 57**
TL 9, with Helium gas reservoir [1]	**144 08**
S-TL 4, with Helium gas reservoir [1]	**122 37**
S-TL 5, with Helium gas reservoir [1]	**122 38**
S-TL 6, with Helium gas reservoir [1]	**122 39**
Set of calibrated leaks for power plants 1000, 100, 10 mbar x l/s	**115 16**
Rubber bladder with hose clamp	**890 11**
Helium can; 1 l, 12 bar (for TL 4-6)	**252 001**
DAkkS calibration for TL 7/8/9	**154 15**
Factory calibration for He test leaks	**154 16**

[1] With factory certificate

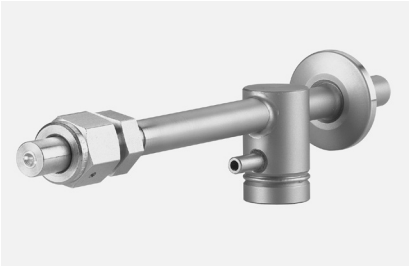
Screw-in Calibrated Leaks

The manufacturers of helium leak testing systems are in need of calibrated leaks of various sizes with individually adjusted leak rates for the purpose of setting up and calibrating their systems.

Depending on the type of application these calibrated leaks are either installed in the test sample as a master leak or used as a continually available facility in the test chamber itself.

Leybold is offering a complete family of calibrated leaks which are capable of meeting the
requirements concerning type and required leak rate.

Calibrated leak with screw-in sleeve



Calibrated leak with pin type casing

Calibrated leak with cylindrical casing

Calibrated Leak with Screw-in Sleeve

Is used as a so-called master leak to check the entire helium leak testing system.

Generally two leaktight test samples are equipped with these calibrated leaks. These will ensure proper separation between “passed and rejected” parts.

They are fitted to the customer’s test samples either by a welded joint or the screw-in sleeve is glued in place.

Typical Applications

- As a master calibrated leak built-in directly into the test sample
- Directly installed to the test chamber
- Use as a calibrated leak for sniffer applications

Calibrated Leak with Pin Type Casing

Serves as a calibrated leak for the entire helium leak testing system without being influenced by the presence of a test sample.

Here a dummy is placed in the test chamber. The connection to the test chamber is directly by a DN 10 ISO-KF fitting. The test gas connection is either by a VCO fitting or a hose nozzle for flexible connections.

Connections on the side of the customer’s system are

- 16 ISO-KF running to the vacuum chamber
- Hose nozzle, 10 mm in diameter or VCO fitting, 10 mm in diameter

Advantages to the User

- Various types adapted to different customer requirements
- Simple to operate
- Easy to install

Calibrated Leak with Cylindrical Casing

Is used to check the sensitivity of a sniffing facility.

Before and after the actual test, the operator checks the sensitivity of his test facility within the scope of a plausibility check.

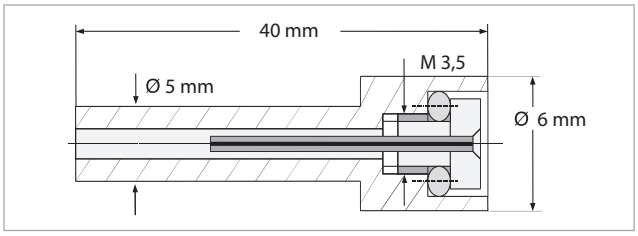
The connection on the side of the customer’s system is provided via a VCO fitting for a diameter of 10 mm.

- Ideal installation dimensions
- As a rule, all calibrated leaks are supplied with a certificate (factory certificate) indicating the leak rate which has been set up

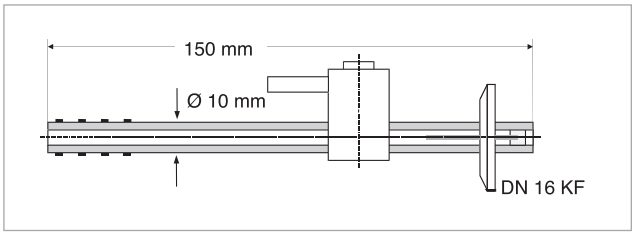
Customer-specific test leaks

The specified test leaks are customer-specific, which is why the specification of the leakage rate, the test pressure and the type of gas is necessary.

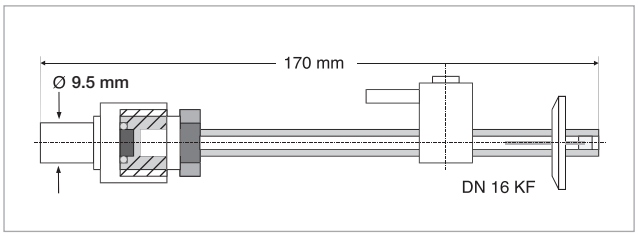
The specification is carried out via the test leakage form on the Leybold website → www.leyboldproducts.com/test-leak-form



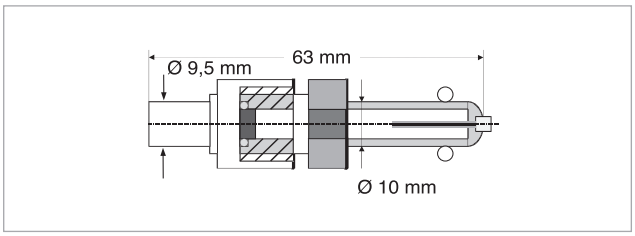
Calibrated leak with screw-in sleeve



Calibrated leak with pin type casing and hose nozzle



Calibrated leak with pin type casing and VCO fitting



Calibrated leak with cylindrical casing and VCO fitting

Ordering Information [1)] — Calibrated Leak

	Part No.
Calibrated leak	
with screw-in sleeve	**143 00**
with pin type casing and VCO fitting	**143 04**
with pin type casing and hose nozzle	**143 08**
with cylindrical casing and VCO fitting	**143 12**

1) When ordering please always specify the test leak via the testleak-form and indicate the generated code. Please request form if required.

Miscellaneous

Connection Flanges

Leak Detectors			Helium Sniffers			Calibrated Leaks		
PHOENIX Quadro	–	DN 25 ISO-KF	SL 300	–	DN 25 ISO-KF	TL 4	–	DN 16 ISO-KF
PHOENIX Magno	–	DN 25 ISO-KF	QT	–	DN 25 ISO-KF	TL 6	–	DN 16 ISO-KF
PHOENIX Vario	–	DN 25 ISO-KF	ST 100	–	DN 25 ISO-KF	TL 4-6	–	DN 16 ISO-KF

If components of the same nominal width are connected, only one centering ring and one clamping ring will be required.

Connection Components

When wanting to connect accessories (helium sniffer and calibrated leaks) to a leak detector, the following reducers and components may be necessary:

Reduction	Reducers	Centering Rings Stainless steel/FPM		Clamping Rings Aluminium	
	Part No.		Part No.		Part No.
DN 25 ISO-KF / 16 ISO-KF	**183 86 (Aluminum) or 885 04 (Stainless steel)**	**DN 25 ISO-KF, DN 16 ISO-KF,**	**883 47 883 46**	**DN 20 / 25 ISO-KF DN 10 / 16 ISO-KF,**	**183 42 183 41**
DN 40 ISO-KF / 25 ISO-KF	**183 87 (Aluminum) or 885 05 (Stainless steel)**	**DN 40 ISO-KF, DN 25 ISO-KF,**	**883 48 883 47**	**DN 32 / 40 ISO-KF, DN 20 / 25 ISO-KF,**	**183 43 183 42**
DN 40 ISO-KF / 16 ISO-KF	**183 89 (Aluminum) or 885 07 (Stainless steel)**	**DN 40 ISO-KF, DN 16 ISO-KF,**	**883 48 883 46**	**DN 32 / 40 ISO-KF, DN 10 / 16 ISO-KF,**	**183 43 183 41**
DN 63 ISO-K / 40 ISO-KF	**269 40 (Aluminum) or 887 40 (Stainless steel)**	**DN 63 ISO-K, DN 40 ISO-KF,**	**887 03 883 48**	**DN 63 / 250 ISO-K, DN 32 / 40 ISO-KF,**	[1] **183 43**

[1] See clamps for ISO-K flanges in the Product Part “Flanges and Fittings”

The following metal hoses are recommended to connect the leak detectors to systems:

Nominal Width	Length	Ordering Information
		Part No.
DN 16 ISO-KF	1.0 m	**868 01**
DN 16 ISO-KF	0.5 m	**867 91**
DN 25 ISO-KF	1.0 m	**868 03**
DN 25 ISO-KF	0.5 m	**867 93**
DN 40 ISO-KF	1.0 m	**868 05**
DN 40ISO-KF	0.5 m	**867 95**

Further connecting components, like quick clamping rings and other components are described in Product Part “Flanges and Fittings”