

PROPANE EQUIPMENT PRODUCT CATALOG

made in Germany



COMPANY HISTORY

Made in Germany since 1929

In 1929 KAYSER was founded as a family company and is now proud of its three generations of experience and competence. Within years, the company was developing to one of the most important ones in the field of Cutting and Welding. In the 60's the product portfolio was extended to Propane products and the company's name was changed from Kuno Kayser into KAYSER-WERK GmbH. The customers of KAYSER are specialiced traders, international groups and also the ship building industry.

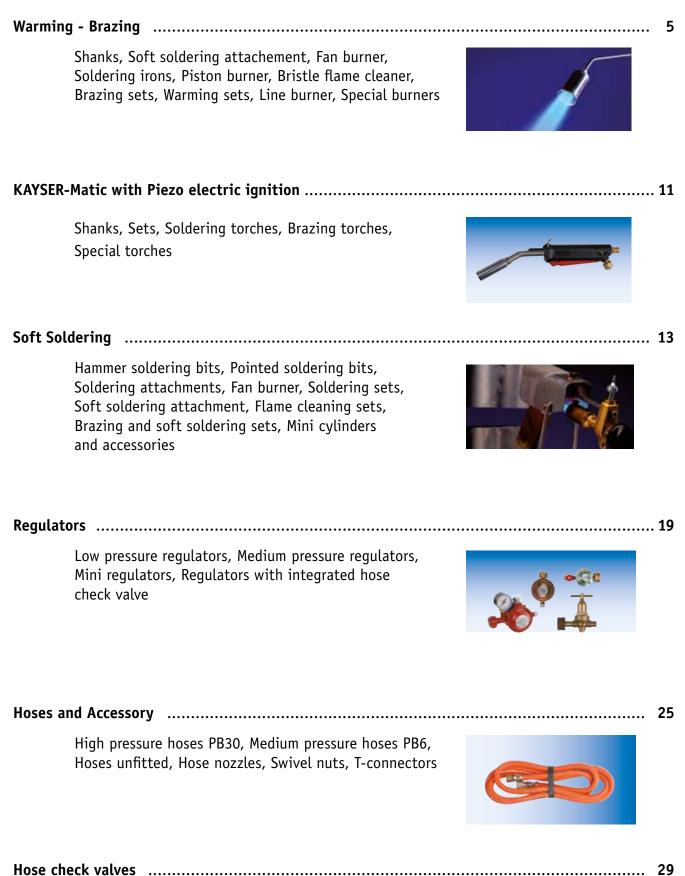
At the beginning of the 90's, KAYSER was able to increase its export business by continiously improving quality standards. Parallel to this, KAYSER could also improve it's position in the internal german market, despite of heavy competition and difficult economical situation. At the beginning of 1997, a lot of activities took place in order to consolidate and also looking forward to worldwide extending expectations on german products. As a result, the export share of our business has continously grown. Highly motivated employees - some even started their business education at KAYSER'S - take care of KAYSER'S leading role as a german enterprise beeing active in Cutting and Welding and Propane technique.

In the year 2007 Kuno and Detlef Kayser decided to sell the company to an investor, but - very welcome by it's customers - KAYSER-WERK GmbH will still work as an indepentend company in Dortmund.

From 1. July 2011 KAYSER-WERK GmbH also takes over the business of the C. Klein Werk in Schwerte.

made in Germany

PROPANE EQUIPMENT - RANGE OF DELIVERY



KAYSER







LEVER SHANK



With shut-off valve, operating lever and adjustable supervision flame
Working pressure 1,5 - 4 bar
Hose connection G 3/8" LH
Connection for attachment M14 x 1

Artno.	Туре
41000	Shank
41001	With swivel nut and hose nozzle 4 mm
41002	With swivel nut and hose nozzle 6 mm

SHANK



With shut-off valve, no approval for warming torch. Working pressure 1,5 - 4 bar Hose connection G 3/8" LH Connection for attachment M14 x 1

Artno.	Туре
41030	Shank
41031	With swivel nut and hose nozzle 4 mm
41032	With swivel nut and hose nozzle 6 mm

SOFT SOLDERING ATTACHMENT

Working pressure: 1,5 - 2,5 bar, connection M14 x 1



		Consumption	
Artno.	Size	at 1,5 bar	Power
41051	3 - 3 mm	0,08 kg/h	0,60 kW/h
41052	5 - 5 mm	0,12 kg/h	1,55 kW/h
41053	7 - 7 mm	0,22 kg/h	2,86 kW/h

BRAZING ATTACHMENT

Working pressure: 1,5 - 2,5 bar, connection M14 x 1

	1000
1	
1	
1	1

		Consumption		
Artno.	Size	at 2,0 bar	Power	
41061	12 for copper tubes ø 12 mm	0,18 kg/h	2,32 kW/h	
41062	14 for copper tubes ø 18 mm	0,27 kg/h	3,48 kW/h	
41063	17 for copper tubes ø 22 mm	0,38 kg/h	4,90 kW/h	
41064	20 for copper tubes ø 28 mm	0,55 kg/h	7,10 kW/h	



PAINT REMOVER FAN BURNER

For paint rer	noving etc.		
Working pres	ssure: 1,5 - 2,5 bar, conn	ection M14 x 1	
-		Consumption	
Artno.	Size	at 1,5 bar	Power
41100	32 mm	0,10 kg/h	1,25 kW/h
41110	64 mm	0,20 kg/h	2,50 kW/h

SOLDERING ATTACHMENT

Working pressure: 1,5 - 2,5 bar, connection M14 \times 1. Consisting of: hammer-shaped soldering iron 350 g, soldering torch with holder, wind break



With parking clamp

Artno. Type
41300 Soldering attachment

SOLDERING BITS HAMMER FORM

Shaft size 7 mm

Artno.	Туре
41200	250 g cranked
41201	350 g cranked
41202	500 g cranked

SOLDERING BITS POINTED FORM

Shaft size 7 mm	1
Artno.	Weight
41210	250 g
41211	350 g



SOLDERING TORCH

Y	Connection M 1	4 x 1, consumption 0,07 kg/h, power 0,86 kW/h
	Artno.	
	41250	Piston torch with holder

WIND BREAK WITH PARKING CLAMP



Artno.			
41260	Wind break with parking clamp		

BRISTLE FLAME CLEANER



Consisting of: Propane-shank with operating lever and adjustable supervision flame, protection shield, connection tube 75 mm

Artno.	Torch head
41311	ø 40 mm
41310	ø 50 mm



TORCH HEAD - STAINLESS STEEL / ALU

	Connection M2	0 x 1			
	Artno.		Consumption Power kW/h at 1,5 bar	at 1,5 bar	Length
	41730	ø 30 mm	ca. 600 g/h	15,5	85 mm
	41740	ø 40 mm	ca. 2000 g/h	27,0	97 mm
And and the owner of the owner	41750	ø 50 mm	ca. 3000 g/h	47,6	120 mm
Same Street	41760	ø 60 mm	ca. 5000 g/h	70,8	130 mm
U C	41780	ø 80 mm	ca. 6200 g/h	93,6	157 mm

CONNECTOR TUBE, STEEL

Connections	: Swivel nut M14 x 1 - AG M20 x 1
Artno.	Length
41805	75 mm
41810	150 mm
41820	220 mm
41835	350 mm
41840	400 mm
41860	600 mm
41875	750 mm
41890	1000 mm
41895	1500 mm

PARKING BRACKET

Suitable to the connection tube

P

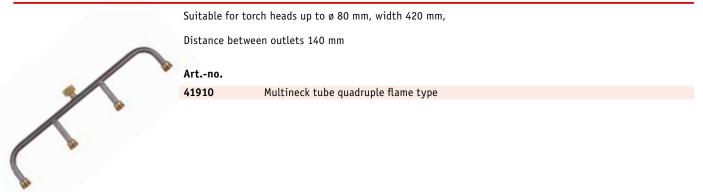




MULTINECK TUBE 2 OUTLETS

	Suitable for to	rch heads up to ø 80 mm
	Distance betwo Artno.	een outlets 150 mm
	41900	Multineck tube dual flame type
G		

MULTINECK TUBE 4 OUTLETS



BRAZING COMBI-SET



Consisting of: Propane-shank, soldering attachment with 350 g hammer formed soldering iron, Mini pressure regulator "Mini" with combi connection and gauge, braizing attachment borings 12, 14, 17, 20 1,5 m HD-Hose (connect. 3/8" LH swivel nut, torch nut spanner, gas lighter

Art.-no.

41400 Brazing set with sheet steel box

You will find suitable hose check valves at page 26.



BRAZING-, SOFT SOLDERING- AND FLAME CLEANING COMBI-SET



Consisting of: Propane-shank, soldering attachment with 350 g hammer formed soldering iron, pressure regulator "Mini" with combi connection and gauge, braizing attachment borings 12, 14, soft soldering attachment borings 5, fan burner 64 mm, 1,5 m HD-Hose (connect. 3/8" LH swivel nut, torch nut spanner, gas lighter

Artno.	Туре
41410	Set in the sheet steel box
41140	Sheet steel box

You will find suitable hose check valves at page 26.

BRAZING SET

Consisting of: Propane-shank, Mini pressure regulator "Mini" with combi connection and gauge, Hartlöteinsatz borings 14, Breitbrenneinsatz 64 mm, 1,5 m HD-Hose (connect. 3/8" LH Swivel nut)



PROFESSIONAL WARM-UP SET K1

Consisting of: Propane-shank, Verbindungsrohr 600 mm, Ablagevorrichtung, Mini pressure regulator with combi connection and gauge, 5 m HD-Hose (connections 3/8" LH Swivel nut), Hose check valve 12 kg/h

Artno.	With torch head
41612	ø 40 mm
41628	ø 50 mm
41610	ø 60 mm
41632	ø 80 mm





WARMING SET K3

1	
	3

Consisting of: Propane-shank, tube connection 600 mm, parking bracket, mini pressure regulator with
combi connection and integrated hose check valve, HD-Hose (connect. 3/8" LH Swivel nut)

Artno.	Torch head Ø	HD-hose length	
41639	40 mm	5 m	
41640	50 mm	5 m	
41635	60 mm	5 m	
41645	40 mm	10 m	
41646	50 mm	10 m	
41642	60 mm	10 m	

WARMING SET DUAL FLAME

Consisting of: Propane-shank, tube connection 600 mm, parking bracket, Mini pressure regulator with combi connection and integrated hose check valve, 5 m HD-hose (connect. 3/8" LH swivel nut), T-branch 41900



Art.-no. 41641 2 burners ø 50 mm

LINE BURNER

Driveable, heigth adjustable with attached connection tube 600 mm, without burners, connection for shank Art. no. 41040, connection for burners M20 x 1, distance between nozzles ca. 100 mm Power: 135,2 kw/h

Gas consumption at 4 bar: 10,5 kg/h

Artno.	Тур
41920	4 flame type burner
41930	6 flame type burner

PROPANE-SHANK FOR LINE BURNER



With shut-off valve, operating lever and adjustable supervision flame, working pressure 1,5 - 4 bar, hose connection G 3/8" LH, Connection for attachment G 3/8"

Art.-no. 41040

Shank



KAYSER-MATIC WITH PIEZO ELECTRIC IGNITION

No combination possible with other KAYSER systems

KAYSER-MATIC COMPLETE SET

Consisting of: shank, brazing torch ø 19 and 25 mm, soldering torch ø 19 and 25 mm, special torch ø9mm



KAYSER-MATIC SHANK



With Piezo ignition, bajonet, continuous adjustable flame and rotatable hose connection G 3/8" LH

111	Artno.
	45003
1 Ch	

Shank with hook

KAYSER-MATIC SPECIAL TORCH



For precision work, torch tube ø 9 mm, consumption 0,05 kg/h, power 6,6 kW/h

Art.-no.

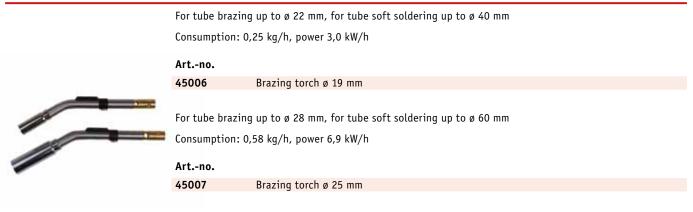
45004 Special torch



KAYSER-MATIC WITH PIEZO ELECTRIC IGNITION

No combination possible with other KAYSER systems

KAYSER-MATIC BRAZING TORCH



KAYSER-MATIC SOLDERING TORCH

	-			
1		-	-	-
-			-	-
14				

For tube soft soldering up to ø 50 mm		
Consumptio	n: 0,25 kg/h, power 3,0 kW/h	
Artno.		
45008	Soldering torch ø 19 mm	
For tube soft soldering up to ø 70 mm Consumption: 0,58 kg/h, power 6,9 kW/h		
Artno.		
45009	Soldering torch ø 25 mm	







SOLDERING IRON COMPLETE



Consisting of: shank, hammer formed soldering bit 350 g, piston burner, piston holder, wind break,	
consumption at 1,5 bar: 0,065 kg/h, power 0,86 kW/h	

Artno.	Shank connection
42000	M10 x 1 LH
42010	M10 x 1 LH without soldering bit
42050	G 3/8" LH
42060	G 3/8" LH without soldering bit

SHANK



Artno.	Hose connection
42100	M10 x 1 LH
42110	G 3/8" LH

SOLDERING BITS HAMMER FORM

Artn	o. Design	
41200	250 g cranked	
41201	350 g cranked	
41202	500 g cranked	
41202	500 g cranked	

SOLDERING BITS POINTED FORM





ACCESSORIES SOLDERING IRON

Y	Artno.	Туре
	42170	Wind break
	42150	Piston burner
	42160	Piston holder

SOLDERING ATTACHMENT

			Consumption		
	Artno.	Borings	at 1,5 bar	Power	
	42203	3	0,08 kg/h	0,60 kW/h	
111	42205	5	0,12 kg/h	1,55 kW/h	
	42207	7	0,22 kg/h	2,86 kW/h	
14					

SOLDERING TUBE



Consumption at 1,5 bar: 0,6 kg/h, power 7,0 kW/h
Artno.

Art.-no.42218Soldering tube 18 mm

PAINT REMOVE FAN BURNER

For paint removing etc.



		Consumption		
Artno.	Borings	at 1,5 bar	Power	
42300	32 mm	0,1 kg/h	1,25 kW/h	
42310	64 mm	0,2 kg/h	2,50 kW/h	



COMPLETE SOLDERING SET

Consisting of: Soldering iron with copper bit 350g, pressure regulator "Mini" with small cylinder connection, without gauge, 1,5m HD-hose both sides swivel nut, torch nut spanner, small cylinder

Artno.	Set with connection
42400	M10 x 1 LH
42404	G 3/8" LH



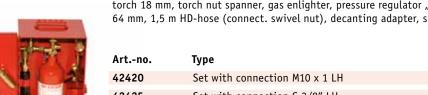
BRAZING-, SOFT SOLDERING- AND FLAME CLEANING COMBI-SET



Consisting of: Soldering iron with copper bit 350 g, soldering attachment borings 3, 5 and 7, torch nut spanner, gas enlighter, sheet steel box

Artno.	Set with connection
42410	M10 x 1 LH
42415	G 3/8" LH
42411	Sheet steel box empty

BRAZING AND SOLDERING SET



Consisting of: Soldering iron with copper bit 350 g, soldering attachment borings 3, 5 and 7, soldering torch 18 mm, torch nut spanner, gas enlighter, pressure regulator "Mini" without gauge, fan burner 32 and 64 mm, 1,5 m HD-hose (connect. swivel nut), decanting adapter, sheet steel box

Artno.	Туре
42420	Set with connection M10 x 1 LH
42425	Set with connection G 3/8" LH
3023	Sheet steel box empty (dimension 38 x 22 x 16,5 cm)



SMALL PROPANE CYLINDER 425G



TÜV checked, seamless drawn steel cylinder with valve and hook, connection G 3/8" LH. Check period obliged: 10 years

Artno.	Design
42500	With foot
42510	Without foot
106864	Box nut

SMALL PROPANE CYLINDER ACCESSORIES



Artno.	Design
42550	Valve for mini cylinder
42555	Hook
42560	Protection bracket (after initial filling als transport protection acc. to ADR)
Please look for lock nuts at nage 28	

Please look for lock nuts at page 28.

DECANTING ADAPTER



For the filling of mini cylinders 425g

Artno.	Design
42600	With domestic connection (5 + 11 kg cylinders)
42610	With combi connection (5 + 11 + 33 kg cylinders)







REDUCTION ADAPTER

Swivel nut G 3/8" LH female - W 21,8 x 1/14" LH male



Art.-no.

44500 Adapter







LOW PRESSURE REGULATOR CO



Crimped version,	for outdoor use
Outlet pressure fix	xed 50 mbar
Power 1,5 kg/h	
Outlet G 1/4" LH	
Art -no	Design

Artno.	Design
44100	With mini cylinder connection *)
44101	With combi connection *)

*) Cylinder connection dimensions please see below graphic

With mini cylinder connection

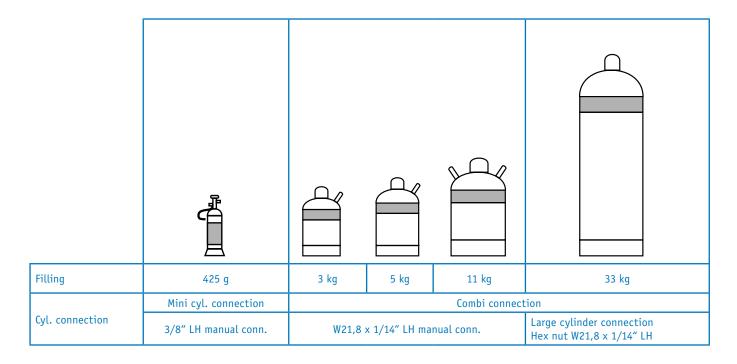
LOW PRESSURE REGULATOR G



Apply indoors, with overpressure protection, thermal shut-off and control gauge Outlet 180° Outlet pressure fixed 50mbar Power 1,5 kg/h Outlet G 1/4" LH Art.-no. Design

KAYSER INFORMATION: Propane cylinder connections

44140





LOW PRESSURE REGULATOR C



Crimped version	
Outlet pressure fixed	30 mbar
Power 1,5 kg/h	
Outlet G 1/4" LH	

Artno.	Design
44102	With mini cylinder connection

MEDIUM PRESSURE REGULATOR



Outlet pressure	fixed 1,5 bar
Power 3 kg/h	
Outlet G 3/8" Li	4
Artno.	Design
44201	With combi connection

MINI PRESSURE REGULATOR 14



With integrated hose check valve Outlet pressure fixed 4 bar Power bis 14 kg/h Outlet G 3/8" LH

Art.-no.Design44000With cylinder connection W 21,8 x 1/14" L

MINI PRESSURE REGULATOR 18



Without gauge Outlet pressure adjustable 0-6 bar Power 18 kg/h Hose connection G 3/8" LH

Art.-no.Design44400With mini cylinder connection44402With combi connection44403With combi connection, outlet pressure fixed 4 bar



MINI PRESSURE REGULATOR "MINI 6"

A	
Щ	
1	

Without gauge		
Outlet pressure adjustable 0-6 bar		
Power 6 kg/h		
Hose connection G 3/8" LH		

Artno.	Design
44301	With mini cylinder connection
44300	With combi connection
44302	With mini cylinder connection outlet pressure fixed 1,5 bar

MINI PRESSURE REGULATOR "MINI 6G"



With gauge	With gauge		
Outlet pressur	Outlet pressure adjustable 0-6 bar		
Power 6 kg/h			
Hose connection G 3/8" LH			
Artno.	Design		
44311	With mini cylinder connection		
44310	With combi connection		

MINI PRESSURE REGULATOR 18G



With gauge Outlet pressure adjustable 0-6 bar Power 18 kg/h Hose connection G 3/8" LH

Artno.	Design
44410	With mini cylinder connection
44412	With combi connection

SPARE PARTS MINI PRESSURE REGULATORS

For Propane pressure regulators MINI

Artno.	Design
24210015	Replacement gauge G 1/8" ø 40 mm
24310017	Replacement combi sealing

See Kayser

REGULATOR WITH INTEGRATED HOSE CHECK VALVE GS17



Adjustable 0-4 bar, with combi connection, hose outlet connection M22 x 1,5 LH

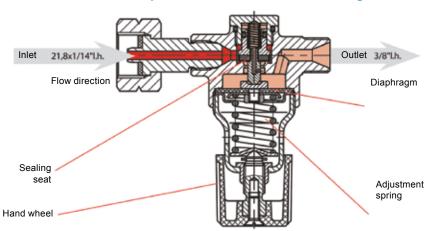
45200 With			
	n gauge		
45210 With	nout gauge		

DOUBLE HOSE GS17



Connection M22 x 1,5 LH			
Artno.	Length		
45220	3 m		
45230	5 m		
45240	10 m		
45250	20 m		
45260	Connector G 3/8" LH - M22 x 1,5 LH (without check valve)		

KAYSER Information: Operation model Mini Pressure Regulator



Pressure regulators are an diaphragm controlled regulation unit, which reduces variable cylinder pressure to working pressure. The needed working pressure can be adjusted by handwheel. Adjustable regulators have to have a gauge or a scaling at the adjusting screw (according DIN 4811). Pressure regulators, which do not fullfill this demand, are not admitted any more and the admittance is not longer extended (stock protection remains). Pressure regulators for Propane cylinders with a volume of more than 1 liter and a hose length above 400 mm have to be equipped with a hose check valve (integrated into regulator or downstream).

(BGV D 1 § 10, vorm. VBG 15).

Attention!

A hose check valve is a security system, that automatically closes the gas outlet when an defined flow is being exceeded. For regulators with hose check valve or downstream hose check valve below advice has to be followed:

Connecting the regulator to the cylinder, connecting the hose to the regulator and torch.

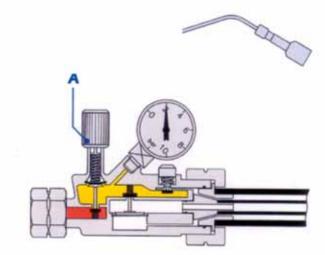
Opening the cylinder valve and pressing the pressure button of the hose check valve in order to open the gas flow.

The hose check valve has to be activated before every start of work.

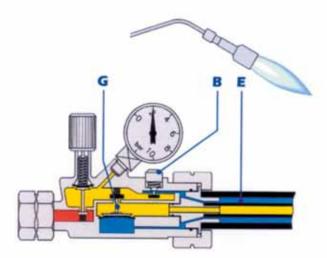


KAYSER Information: The KAYSER Gas-Stop

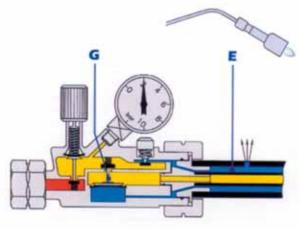
- ▲ Complies with all statutory requirements
- ▲ Secure protection against the smallest hose leaks, hose fire or leaky fittings
- ▲ On request with integrated cylinder pressure regulator



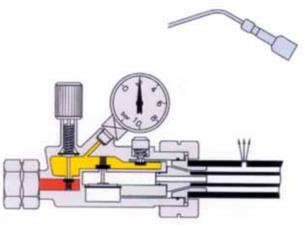
1. Start-up: Open the gas cylinder valve and adjust the working pressure with adjusting spindle A ▲ Hose check valves are required at work below ground level and in continuous operation according to german regulations VGB 21 (UVV) § 10 and § 21 and VBG43 (UVV) § 39 and § 41



2. By confirming the B knop gas flows into the outer tube chamber E through the valve into the inner tube. The unit now is ready for work.



3. If there appears any leakage in the hose or at the fittings gas disappears from the outer tube chamber E and the gas supply will automatically be disconnected by valve G.



4. The gas supply is automatically shut off. There is no more gas in the hose.



HOSES & ACCESSORIES







HIGH PRESSURE HOSES PB30

High pressure hose dimension 6,3 x 5 mm, connections G 3/8" LH



Artno.	Length
63837	600 mm
638220	1000 mm
63820	1500 mm
63821	2000 mm
63822	2500 mm
63823	3000 mm
63824	5000 mm
63877	6000 mm
63825	8000 mm
63826	10000 mm
63854	15000 mm
63832	20000 mm
63852	30000 mm
63859	35000 mm

HIGH PRESSURE HOSES PB30 G

High pressure hose dimension 4 x 4 mm, connections G 3/8" LH



Artno.	Length	
63872	500 mm	
63835	600 mm	
63806	1500 mm	
63807	2000 mm	
63808	2500 mm	
63809	3000 mm	
63810	4000 mm	
63811	5000 mm	
63812	8000 mm	
63814	10000 mm	
63836	20000 mm	

HIGH PRESSURE HOSES PB30 M

High pressure hose dimension 4×4 mm, M10 x 1 LH x G 3/8" LH

MS ral	Artno.	Length
	63800	1500 mm
	63801	2000 mm
	63802	2500 mm
	63803	3000 mm
	63804	4000 mm
	63805	5000 mm
	63813	8000 mm

👛 KAYSER

HOSES & ACCESSORIES

G-HOSE HIGH PRESSURE

Connections: Connection large cylinder - Connection large cylinder AG

5	Artno.	Length
121	63700	300 mm
	63703	400 mm
3354	63701	500 mm
Card C	63705	800 mm
and the second se	63704	2500 mm
10-11-11-11-11-11-11-11-11-11-11-11-11-1	63702	3500 mm

Connections: Combi connection - Connection large cylinder AG

Artno.	Length
63710	300 mm
63711	400 mm
63712	500 mm

Connections: Connection large cylinder - tube stub with swivel nut and 12 mm tube fitting

Artno.	Length
63720	300 mm
63727	400 mm
63728	600 mm

Connections: combi connection

Artno.	Length
63725	400 mm
63731	800 mm
63730	2000 mm
63723	3000 mm

FITTED MEDIUM PRESSURE HOSES PB6

Swivel nut - tube fitting



Artno.	Connections	Length	Dimension [mm]
63600	G 1/4" LH x 8	300 mm	6,3 x 3,5
63634	G 1/4" LH x 8	400 mm	6,3 x 3,5
63601	G 1/4" LH x 8	500 mm	6,3 x 3,5
63602	G 1/4" LH x 8	800 mm	6,3 x 3,5
63603	G 1/4" LH x 8	1000 mm	6,3 x 3,5
63604	G 1/4" LH x 8	1500 mm	6,3 x 3,5
63605	G 1/4" LH x 8	2000 mm	6,3 x 3,5
63606	G 1/4" LH x 8	3000 mm	6,3 x 3,5
63607	G 1/4" LH x 8	5000 mm	6,3 x 3,5
63608	G 1/4" LH x 12	300 mm	9,0 x 3,5
63609	G 3/8" LH x 8	300 mm	6,3 x 3,5
63610	G 3/8" LH x 12	300 mm	9,0 x 3,5
63611	G 1/2" LH x 8	300 mm	6,3 x 3,5
63612	G 1/2" LH x 12	300 mm	9,0 x 3,5





MEDIUM PRESSURE HOSES PB6

Medium pressure hose 6,3 x 3,5 mm, connections G 1/4" LH



63631 300 mm 63620 1500 mm 63621 2000 mm	
62621 2000 mm	
03021 2000 IIIII	
63622 2500 mm	
63623 3000 mm	
63624 4000 mm	
63625 5000 mm	
63632 10000 mm	

HOSES UNFITTED

	Artno.	Design	Dimension [mm]
of land on our other light to be a second or other	63850	High pressure PB 30	4,0 x 4,0
THE OTHER DESIGNATION.	63860	High pressure PB 30	6,3 x 5,0
	63650	Medium pressure PB 30	6,3 x 3,5
	63660	Medium pressure PB 30	9,0 x 3,5

HOSE NOZZLES

	Artno.	Design
and the second s	65090	M10 x 1 LH x 4 mm
	65091	M10 x 1 LH x 6 mm
	65004	G 1/4" LH x 4 mm
	65013	G 3/8" LH x 4 mm short

SWIVEL NUTS

0	-	Artno.	Design
	-	65080	M10 x 1 LH
	-	65051	G 1/4" LH
	and an	65062	G 3/8" LH
	-	65063	Box nut G 3/8" LH
	-	65064	Box nut G 3/8" LH with chain

T-CONNECTOR

 $2 \ x \ combi \ connection \ AG, \ 1 \ x \ combi \ connection \ IG$



Art.-no.

63740 T-adapter Propane

For a 3/8" LH thread we recommend our double branch valves (Autogen catalogue)



HOSE CHECK VALVES





According to BGR 500, 3.15.2



HOSE CHECK VALVES - PROPANE

Inlet G 3/8" LH IG, outlet G 3/8" LH AG



	Artno.	Rated pressure	Rated flow	
	43003	1,5 bar	3 kg/h	
	43006	1,5 bar	6 kg/h	
	43008	1,5 bar	8 kg/h	
	43010	0,5 - 4 bar	4,8 - 10 kg/h	
	43012	0,5 - 4 bar	7,4 - 12 kg/h	

KAYSER Information: Hose check valves

The hose check valve prevents the leak of gas in case of damage or loosening of the hose, and closes the gas flow as soon as the required operating quantity is exceeded by 10%. Back to the reopening by hand.

Not required for small cylinders!

Selecting the device please keep care that the size and the inlet pressure of the consumer is always lower than the value of the check valve hose or does not exceed it. Both values should not distinguish to large for security reasons.

Example:

Consumption value: 2,0 bar - 7 kg/h Hose check valve: 1,5 bar - 6,0 kg/h = bad0,5-4 bar - 7,4-12 kg/h = bad 0,5-4 bar - 4,8-10 kg/h = 0K The hose check valve has to be activated before every start of work.

TERMS AND CONDITIONS OF DELIVERY AND PAYMENT

I. General and Conclusion of Agreement

1. Unless otherwise agreed in writing, our deliveries shall be subject exclusively to the conditions below. On receipt of the goods at the latest, our General Terms and Conditions shall be taken as accepted. The customer's purchasing terms and conditions are hereby expressly excluded, nor shall they commit us in any way even if they are not expressly excluded at the time of conclusion of the Agreement. In the event of amendments or other subsidiary agreements, the remaining conditions shall retain their full validity.

2. Our offers are always without obligation. In order to be valid, all transactions, orders and other agreements require our confirmation in writing. Our written order confirmation or agreement shall determine the nature and scope of the delivery.

II. Price and Invoicing, Terms of Payment etc.
1. Our normal terms of payment are as follows: 2 % discount for payment within 10 days of date of invoice, 30 days net cash after date of invoice.

2. Unless otherwise agreed, our prices are to be understood in Euros, ex works, excluding packaging.

3. The customer may only set off payment against counterclaims which are undisputed or legally determined.

4. In the event that payment schedules are not maintained, interest of 3 % above the respective EURIBOR interest rate for 3 months.

5. Where payment by bill of exchange is agreed, said bill will only be accepted for payment purposes; in particular, the existing retention of title shall not be affected. In the event that cheques or bills of exchange have not been encashed, either in whole or in part, by the date on which invoices are due for payment, all our unpaid claims shall be due immediately, even where bills of exchange with later due date have been submitted. We shall only be obliged to make further deliveries if the entire unpaid balance is settled immediately and if cash in advance is provided for the entire amount of the goods to be delivered.

6. For orders below 100 €net value we will charge 10 €arrangement fee. The minimum order value is 50 €

III. Retention of Title

1. Title shall be retained on all delivered goods (reserve items) until all claims against the customer, for whatever legal reason, have been met in full. This is also then applicable when separate claims or our claims have been included in a current invoice and the account has been balanced and accepted. Any contingent treatment or processing of the reserve items shall be performed by the purchaser on behalf of the seller, without any obligation being placed on the latter as a result. In the event that the reserve items are joined, blended or processed by the customer with other items which do not belong to us, we shall have title to the new object in the proportion of the value of the serve item to

the other items used for joining or processing at the time of such joining or processing. 2. Claims owing to the customer through further sale are herewith already assigned to us together with all accessory claims. In the event of the sale of reserve items together with other items or the sale of processed reserve items (Section 1, 2nd sentence) the claim is herewith assigned to the extent of our invoice amount for the reserve items. 3. In the event of resale abroad, the entire invoice amount shall be due for payment before

the goods leave the country.

4. Excess Safeguarding Clause. Provided that the existing collateral security exceeds the debt claims to be secured by more than 15 %, the seller shall undertake to release the appertaining security to the purchaser upon request.

IV. Delivery Schedule and Unforeseen Circumstances

1. The schedule for deliveries and performance shall begin on the day on which agreement is reached between the customer and the supplier in writing. Maintenance of this schedule is subject to provision in due course of all documents, authorisation and releases, to be supplied by the customer, the acceptance and approval of plans, observance of agreed payment schedules and other obligations. In the event that these conditions are not met punctually, the delivery schedule may be extended accordingly. 2. The delivery schedule is deemed to have been maintained if the goods are ready for

delivery or fetched within the agreed delivery and performance schedule. In the event that delivery is delayed at the fault of the customer, the delivery schedule is deemed to have been met if the Supplier notifies readiness for dispatch within the said schedule.

3. In the event of unforeseen hindrances outside of our control which occur either with us or with our own suppliers, such as force majeure, transport disruptions, strikes and lockouts and other operating disruptions which we are unable to prevent, the delivery schedule shall be extended accordingly.

4. In the event that the customer does not collect the ordered goods within 14 days of notification of readiness for dispatch or after shipment, we shall be entitled, after allowing an additional period of 14 days, to withdraw from the Agreement and/or claim for damages on account of non-fulfilment.

5. In the event that dispatch of the ordered goods is delayed at the request of the customer and with our agreement, he shall be charged for the costs of storage in our factory, a minimum of 0.5 % of the invoice value, for every month or part thereof, starting from the month following notification of readiness for dispatch.

6. If the customer suffers damage because we are in arrears with the delivery, he shall be entitled to demand a lump-sum compensation for damage resulting from delay. It shall be 0.5% for each full week of delay, however altogether a maximum of 5% of the value of the portion of the overall delivery that cannot be used in due time or not at all pursuant to the contract as a result of the delay. If the customer grants us an appropriate period for performance because of the delay in delivery taking the legal exceptions into consideration and if we do not comply with the period, the customer shall be entitled to withdraw in the framework of the legal regulations.

7. Further claims arising from a delay in delivery are exclusively determined according to section VII.2 of these conditions.

V. Transfer of Risk

1. Complaints can only be taken into account if submitted within 8 days of receipt of the goods. Delivered goods will only be accepted in return in their original packing. Illustrations and brochures etc. are not binding. Measurements and utilisation data are only to be regarded as approximate and are also not binding.

2. The risk shall pass to the customer, even in the event of delivery carriage-paid, as soon as the ready delivery is dispatched or collected. Unless the customer has given special dispatch instructions, delivery may be made at our discretion by the most suitable means. On request of the customer the delivery will be insured at his cost against breakage, transport and damage from fire or water.

3. In the event that dispatch or delivery is delayed at the request of the customer or for

reasons for which he is responsible, the risk shall pass to the customer for the period of the delay, however at the request of the customer, we shall arrange the insurance cover he requires at his expense.

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VI. Warranty Claims

Warranty claims shall be recognised, if the defect has been reported to us in writing within 12 months of the delivery date. To the exclusion of further claims - subject to section VII - we will provide a warranty as follows:

1. We shall have the option to either replace or to carry out repairs free of charge on all those parts which prove to be defective due to circumstances which occurred prior to the transfer of risk. The discovery of such defects must be reported to us immediately in writing. Replaced parts become our property.

2. If we have to supply according to drawings, specifications, samples etc. provided by the customer, then the customer carries the risk for the suitability for the intended purpose. Decisive for the condition of the goods conforming to the agreement is the point in time of the transfer of risk according to section V.

3. If a final inspection of the goods has been agreed or an inspection of the first sample, then customer's complaints will not be recognised later concerning defects which the customer should have noticed at the final inspection or inspection of the first sample if it had been carried out with due care and attention.

4. We must be given an opportunity to confirm the defect the complaint is being made about. Rejected goods must be returned to us immediately on demand. We will bear the transport costs if the customer complaint is justified. If the customer does not comply with these obligations or makes changes to the rejected goods without our agreement, then he forfeits any claims under warranty of quality.

5. Only in urgent cases, in which operational security in endangered or to prevent a disproportionate amount of damage being incurred, does the customer have the right to remedy the defect or have it remedied by a third party and to demand compensation from us for expenses thus incurred, whereby we must be informed immediately.

6. Of costs incurred due to the rectification of defects or the replacement delivery, providing the complaint proves to be justified, we will bear the costs for the replacement goods including transport and also reasonable costs for disassembly and assembly.

7. Within the framework of legal provisions, the customer has the right to withdraw from the contract if, taking the legal exceptions into consideration, we do not successfully make use of a reasonable period of time given to us for rectification of defects or a replacement delivery due to a redhibitory defect. If the defect is insignificant, then the customer only has the right to claim a reduction of the contractual price. In all other cases the right to a reduction of the agreed price is excluded.

8. No warranty will be given in the following cases in particular: Unsuitable or inappropriate use, faulty installation or start-up by the customer or a third party, natural wear and tear, incorrect or negligent treatment, maintenance not carried out correctly, unsuitable construction work, unsuitable foundation, chemical, electrochemical or electrical influences providing we are not liable for them.

9. If the customer or a third party reworks the goods incorrectly, then we are not liable for the consequences arising from this. The same applies to changes made to the delivery item without our prior agreement.

10. We only provide a warranty for accessories added on within the framework of the warranty provided by our supplier.

VII. Liability

1. If we are responsible for the customer not being able to use the delivery item as stipulated in the contract as a consequence of suggestions made and consultations carried out before or after the contract was concluded which were omitted or carried out incorrectly or through infringing upon other subsidiary obligations - in particular instructions for operating and maintaining the delivery item - then to the exclusion of further claims made by the customer, the stipulations in sections VI and VII.2 apply correspondingly.

2. For damages, which have not been incurred by the delivery item itself, we only accept liability - whatever legal reasons are given - in the case of

- intent
- gross negligence by executive employees
- culpable injury of life, body, health

- malicious silence with regard to a defect or the nonexistence of which had been guaranteed - defects of the delivery item for which liability must be accepted according to the German Law on Product Liability for damages to persons or property with regards to privately used objects. In the case of culpable infringement of essential contractual obligations, we also accept liability for gross negligence of non-executive employees and in the case of slight negligence, in the latter case limited to reasonable, foreseeable damages

Typeical to a contract. Any further claims shall be excluded.

VIII. Statutory Limitation

All claims made by the customer - for whatever legal reasons - are subject to a limitation period of 12 months. For wilful or fraudulent behaviour and for claims based on the German Product Liability Law, the legal limitations apply. They shall also apply to defects in a building structure or for delivery items that were used in accordance with the normal use for a building structure and caused its defectiveness.

IX. Place of performance and jurisdiction

1. Place of fulfilment and exclusive place of jurisdiction for all claims arising out of this agreement, including proceedings related to bills of exchange, cheques or documents, shall be Dortmund.

2. German law shall be applicable to matters arising out of this Agreement.

X. Validity of the Agreement

Should one or more of the provisions of this Agreement be or become invalid for any reason, the provisions should be interpreted to ensure that the commercial aim of the original, invalid provision is upheld. The validity of the remaining provisions shall remain unaffected. NOTICE





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