

HOW
TOO
USE
Bedienungsanleitung

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Important hints

- · Please read this Operation instructions carefully.
- Only use clarified kerosene type A III with a flash point over 60°C.
 Never use kerosene with perfume, gasoline or any other easily inflammable fuel.
- Pay attention to a sufficient preheating time of 90 sec. Otherwise the kerosene will not be gasified (danger of flames).
- · Use lantem only outside.
- · Pay attention to a sufficient safety distance to inflammable items.
- Do not bend over the lantern.
- Do not refill while lantern is in Operation. Let the lantern cool down before refilling.
- · Keep away from children.
- Release pressure after Operation.
- · Never keep the lantern in Operation without control.

We do not undertake liability for inappropriate Operation and alienated use of the lantern. The manufacturer guarantees faultless function on the understanding that these Operation instructions will be observed and that a regular servicing under use of original spare parts will be done.

Abridged Version / Putting into Operation

. Tie mantle.

2. Remove filling screw gauge

Remove filling screw gauge and pour in clarified kerosene A III

3. Close tank

Wheel faces upwards, screw of gauge is pulled tight.

4. Pump air

until red marking (approx. 2 bar), for easy Operation try our "Air-Man" (accessories art-no. 2040).

5. Preheating the lantern

Open tip of preheater and hold match/lighter to the opening of the tube. Close tip after 5 sec. and get mantle burned down (2-3 minutes, only required when using a new mantle). Repeat process and preheat at least 90 sec.

▶ Warning!

Loss of pressure, pump continuously (pressure between 1-2 bar).

6. Putting into Operation

After at least 90 sec. put/keep pressure at 2 bar: Turn wheel downwards and close tip. Pump max. pressure and clean the nippte by turning the wheel fast up and downwards.

7. Extinguishing the lantern

Turn wheel upwards and release pressure by opening screw of filling screw gauge.

This abridged version only serves to a better survey and cannot replace the detailed part of this manual.

1.0 Important

- Please use only kerosene type A III with a flash point over 60 °C. Never use kerosene with perfume, gasoline or any other easily inflammable fuel.
- In emergency the lantern can temporarily be urged on Diesel oil. The preheating time elongates in this case to 120 seconds. The mentioned preheating time is based on a surrounding temperature of 20°C. Warning! Diesel oil heavily soots the fuel leading parts inside the lantern. These parts have to be changed after a short time.
- All outer parts of the brass polished lantern are covered with a transparent protecting layer. The layer of the hood (part 123) has to be polished before using the lantern. Otherwise the layer will burn in during the opening and leaves ugly brown spots.

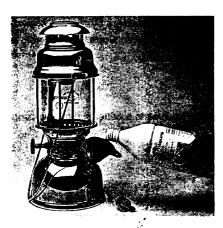
2.0 Before putting into Operation

2.1 Optical and mechanical check

Please check, whether the gas mantle is not damaged and whether nozzle (part 3) and nipple (part 50) are pulled on hand tight. If not, please use **spanner** (part 66) to tighten parts (picture 7).

2.2 Filling the Container [pict. 1]

Unscrew filling screw gauge (part 149) and pour in kerosene with filling funnel (part 165 or 65) until lower edge of filler neck. Screw filling screw gauge again.



[pict. 1]
Filling the container

2.3 Fixing the gas mantle [pict. 2]

Loosen screw of frame (part 121) and remove hood with top (part 123) and inner casing (part 117). Put mantle over nozzle (part 3) and tie it up. Cut off the ends of the string. Put inner casing on frame and take care of the needle (part 68). Make sure, that the screw of the mixing tube can be seen through the upper openings of the hood and that the slit is vertical.



[pict. 2] fixing the gasmantle

2.4 Pumping up air [pict. 3]

Turn wheel (part 111) so that the arrow faces upwards, close screw of filling screw gauge and close tip (part 223) of the preheater. Put pressure on Container with pump piston until indicator reaches the red marking. If the pump does not work correctly unscrew cap of pump barrel (part 42), remove pump piston, grease and spread leather washer (part 46). Assemble pump piston again.



[pict. 31 pumping up air

3.0 Putting into Operation

3.1 Burning down the gas mantle

The optimal stability of the mantle is reached by burning it down with a lighter or a match. More practical is the use of the preheater (part 226) as shown in picture 4. Light match, open tip of preheater and hold flame to the opening of the flame protecting tube (part 220). Preheater catches fire. Close tip again after a few seconds. Get the mantle burned down.

Attention!

If the preheater does not catch fire repeat process. If necessary, clean nipple of preheater (part 221) with cleaning needle (part 180) and reduce pressure.

3.2 Preheating the lantern [pict. 4]

After gas mantle has been cooled down use rapid preheater again and keep it open for approximately 90 seconds. There will be a fast loss of pressure during the process. Keep an eye on the indicator and make sure, that pressure is above 1 bar minimum (\rightarrow 3.3).

Preheating process without rapid preheater

Fill the heating cup (35) brimfully with spirit by using the filling can (67). Use a lighter or match for setting the liquid on fire. After the cup has burnt out completely fill with spirit again and repeat process.



[pict.4] preheatinghe lantern

3.3 Lighting the lantern

After preheating time tum wheel (part 111) left so that arrow faces downwards and close tip of preheater. The mantle glows. Pump pressure again (2-3 bar).

4.0 Operation instructions

4.1 Regulating the light intensity

The light intensity can only be regulated by rising or decreasing the pressure. Never use hand wheel (part 111) for this Operation.

4.2 Insufficient pressure

In case of insufficient atmospherique pressure or too slow turning of wheel when lighten, the flame may draw back into the mixing tube which can be obseved by a loud gurgling roaring and low intensity of light. In this case the wheel should be turned fast from left to right several times until the lantern burns normally. Otherwise the lantern should be extinguished completely and relighted immediately. Air must be pumped in.

Extinguishing the lantern

Open air release screw (part 13) on filling screw gauge. Turn wheel so that the attow faces upwards. If required, the lantern can remain under pressure even during transport.

4.3 Cleaning the nipple (part 50)

In case the light intensity decreases despite of sufficient pressure and sufficient filling clean the nipple by turning the hand wheel fast up and downwards.

4.4 Adjusting screw of mixing tube [pict. 5]

If the light flickers or appears not brightly enough turn screw of mixing tube with spanner (part 66) or screwdriver until the slit is vertical.



[pict. 5] adjustingscrewof mixing tube

4.5 Space between mixing tube (part 33), nipple (part 50) [pict. 6]
Remove hood (part 123) and turn hand wheel (part 111) down-

Remove hood (part 123) and turn hand wheel (part 111) downwards. Use distance gauge of spanner (part 66) between mixing tube and nippte as shown in picture 6. The lantern is correctly adju-



[pict. 6] spacebetween tube and nipple

[pict. 6 a] distance gauge of spanner (66)



sted (pict. 6a) when there is no space between tube, spanner and nipple. In case there is too much space loosen screw (part 21) of inner cas-ing and adjust mixing tube.

Important!

The distance gauge can only be used for lantern types 250, 350 and 500 CP.The space between tube and nipple of the 150 CP lantern amounts to approximately 6-7 mm. For adjustment loosen hexagonal nuts of inner casing.

4.6 Tight fit of nozzle (part 3) and nipple (part 50)

In case a flame appears around the mantle and the mixing tube starts glowing extinguish the lantern immediately by turning the hand wheel upwards. Cool down vaporizer upper part (part 152). Screw nipple (part 50) tight with spanner (part 66) or replace it.

5.0 Warning

5.1 Insufficient Preheating

The recommended preheating time is 90 seconds. In case of insufficient preheating time the kerosene will not be gasified and this sults in flames on the upper part of the lantern. Remember to be always calm! Turn the hand wheel upwards and open the valve of the filling screw gauge to decrease pressure. Wait until kerosene is burnt out completely and start the preheating process again.

5.2 High temperatures

While putting the lantern into Operation it develops high heat. Cool it down for at least 10 minutes before doing **service** or repairs.

6.0 Extinguishing the lantern

Open air release screw (part 13) on filling screw gauge. Turn wheel so that the arrow faces upwards. If required the lantem can remain under pressure even during transport. In case of storage for a long time the pressure should be let off. After each use nipple, nozzle and screw have to be checked on tight fit.

7.0 After Operation

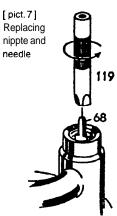
After each Operation nipple (part 50), nozzle (part 3) as well as all other screwings have to be checked on tight fit and tighten if necessary. Cool down lantem before doing service.

8.0 After Operation

8.1 Replacing the gas mantle

Remove hood (part 123) and inner casing (part 117) as described in 2. Clear away all Sediments of the old mantle. Fix mantle as described in 2.3.





8.2 Replacing the leather washer (part 46)

Remove pump piston as described in 2.4. Unscrew pump piston nut (part 47) and remove old leather washer. Grease and spread new washer for optimal function.

8.3 Replacing nipple and needle [pict. 7]

Loosen screws on frame (part 121). Remove hood, inner casing and glass chimney.

Stock inner casing on glass chimney to protect the porous mantle. Hold ring of vaporizer with one hand and unscrew nipple with spanner. Remove needle with needle key (part 119). Replace nipple and needle and assemble again.

8.4 Replacing the pump valve (part 10)

Drain the Container. Remove pump piston (part 6) as described in **2.4. Unscrew** valve with long screwdriver. Tip lantern sidewards and let valve fall out. If necessary remove valve washer (part 83) from pump base. Assemble new valve with washer and screw it tight.

8.5 Replacing the check packing (part 229)

Open screw of filling screw gauge to release pressure. Open tip of preheater. Loosen screw on tip with screwdriver. Replace check packing and assemble again.

8.6 Replacing the graphit packing (part 108)

Release pressure. Unscrew nut (part 112) with spanner. Remove disc for wheel (part 227) and hand wheel from excentre shaft. Loosen sleeve nut (part 113) from the nipple for the excentre (part 107) and remove it together with the graphit packing from the excentre. Take graphit packing out of the sleeve nut and assemble again.

8.7 Replacing the vaporizer valve (part 196)

Release pressure. Remove hood (part 123), inner casing (part 117) and glass chimney (part 74). Draw off flame protecting tube (part 220) and unscrew centre bottom (part 14). Take out screw and cent-

tre bottom plate (part 122) and remove frame (part 121). Disassemble the complete excentre (part 114) by unscrewing the nipple (part 107) from the vaporizer lower part (part 153) with the help of the spanner (part 66). Unscrew vaporizer lower part from Container (part 116) and remove lead washer (part 90).

Unscrew valve washer (patt 193) with the help of the spanner and renew washer with shell (part 195) and lead washer (part 90). Assemble again.

Important!

Before setting in the complete excentre remove nipple (part 50). Push needle (part 68) down by means of the key (part 119) until the arrow of the excentre clicks into place. If the excentre does not click into place make sure that the wire of the needle comes out of the drilling of the nipple and that the arrow of the excentre faces upwards.

8.8 Replacing the connecting piece (part 225)

Release pressure. Remove hood, inner casing, glass chimney, flame protecting tube and frame as described in 7.7. Unscrew nipple for preheater (part 221) and nut for nipple (part 222) with the spanner. Remove the complete tip (part 223). Unscrew connecting piece with spanner and renew lead washer (part 90).

8.9 Replacing the mixing tube (part 33), mixing chamber (part 34) and nozzle (part 3)

Remove hood and inner casing as described in 2.3. Screw off nozzle from mixing chamber. Unscrew mixing chamber from mixing tube. Loosen screw (part 21) and remove mixing tube. Renew the respective part.

9.0 Hints for the care of your lantern

9.1 Gas mantles

Damaged gas mantles have to be renewed immediately. Even little lesions trigger blast flames which cause heavy damages at your lantern.

9.2 Washers

Always renew washers when removing vaporizer lower part (part 153), preheater (part 226) and pump valve (part 10).

Accessories for kerosene pressure lantern

Mantle support for lanterns 250 CP, 350 CP and 500 CP

Mantle holder in combination with double-tie mantles guarantees optimal function of your lantern even under rough conditions. The double-sided binding raises the durability of the mantle approxten fold.

Side reflector CNS for all lantern types

offers many advantages and extends the function of your lantern. Polished inside for double light intensity and bundled light. Easy assembling and high stability.

Reflectors for all lantern types

Distribute light downwards even without shadow and are therefore especially suitable for indirect and cosy lighting. Optional gold or chrome plated or black enameled. Please ask for possible combinations.

Cardanic Suspension for lanterns 150 CP and 250 CP

This gimbal was specially developed for using the lantern on board of boats. By its ability to **swing** in four **directions** it provides that the lamp always remains in a **vertical** position, independent from the tossing and rolling of the boat.

Protecting plate CNS for lanterns 350 CP and 500 CP

Protects the Container fittings and allows short-term use with defective gas mantle. Assembling above centre bottom plate (122).

Transport box, round for lanterns 350 CP and 500 CP

Spring-mount allows safety transport. Solid construction with two lateral locks. Blue lacquered steel (RAL 5003).

Spare part-set

15-pieces: 3 gas mantles. 1 nozzle, 1 washer for filling screw gauge, 1 check valve cone with rubber packing, 1 leather washer, 1 nipple, 1 needle, 1 valve washer, 2 lead washers, 1 graphite packing, 1 vaporizer valve, 1 check packing with screw.

Glass chimney in mat finish for all lantern types

This mating provides a more even distribution of the light, as well as complete elimination of the gas mantles tarnishing.

Air-Man

Airman, battery operated air pump. Easy all-round use for cars, bikes, balls, air mattresses and rubber beach toys irrespective of time and place.

Incl. connecting piece for kerosene pressure lanterns.

11. Scheme of Operation faults and their possible sources

	Control of Operation launc	and their percentic country
	faults 🗸	possible sources
>	sooty flame	nipple is loose needle is broken
>	flame ring around mantle	regulating screw in wrong position nipple/nozzle is loose
>	kerosene on vaporizer	vaporizer upper part is leaky vaporizer lower part is loose valve washer 193 is leaky
•	glass chimney is turning white	gas mantle is defective
•	flame is repulsing	pressure in Container is too low
>	kerosene on Container	vaporizer upper part is leaky vaporizer lower part is loose or leaky pump valve is defective nipple is loose
•	kerosene in pump barrel	pump valve is defective
>	pump without function	leather washer too dry
>	pump piston comes out of barrel	pump valve is defective
•	loss of pressure	pump valve is defective screw on gauge is open vaporizer valve is defective
•	lantem does not bum	pressure in Container is too low nipple is blocked not enough kerosene in Container wrong fuel in Container
>	lantern does not reach full lighting power	pressure in Container is too low nipple is blocked nipple is loose gas mantle is defective regulating screw in wrong position not enough kerosene in Container
•	preheater stutters	pressure is too high/too low not enough kerosene

in Container

*!**

2|6

nipple of preheater is blocked

Elimination of faults

clean with cleaning needle

elimination 🔧	described on page
Similarion (C	
tighten with spanner	23/8.3
replace needle	23/8.3
turn screw in vertical position	2114.4
tighten with spanner/hand tight	23/8.3
renew upper part	
tighten sleeve nut	_
replace washer	23/8.7
replace mantle	18/2.3
extinguish, pump more air,	2216.0; 19/2.4
light again renew upper part	
renew lower patt	
renew washer	
replace valve or washer	23/8.4
tighten with spanner	23/8.3
replace washer	23/8.4
grease and spread washer	2318.2
replace pump valve	2318.4
replace pump valve	23/8.4
tighten screw	
replace valve	23/8.7
pump more air	
turn hand wheel up and down	21/4.3
extinguish, refill and light again	22/6.0; 19/2.4
use only clarified kerosene	18/1.0
pump more air	*****
turn hand wheel up and down	21/4.3
tighten with Spanner	23/8.3
renew mantle	18/2.3
turn screw vertical	21/4.4
extinguish, refill and light again	2216.0; 19/2.4
pump/release air	<u> </u>
extinguish, refill and light again	_
3 · · · · · · · · · · · · · · · · · · ·	

2|7

12. Ersatzteilliste

1	Stützbügel	68	Düsennadel	1
2	Zweilochglüh-	74	Glaszylinder, klar	
	körper (o. Abb.)	83	Ventildichtungs-	1
3	Tonbrenner		ring	
4	Glühkörper	90	Dichtungsring,	1
6	Pumpen-		Vergaser/	
	kolben, kpl.		Vorwärmer	2
10	Pumpen-	98	Pumpenrohr	2
	ventil, kpl.	100	Pumpe, kpl.	
11	Dichtung, Mano-	101	Führungsstange	2
	meter	102	Kontermutter	2
14	Befestigungs-	103	Führungsstück	2
	schraube,	104	Führungs-	
	Zentrierboden		stange, kpl.	2
17	Ventileinsatz mit	105	Exzenterwelle	
	Gummi	107	Exzenternippel	2
18	Ventilfeder	108	Grafitpackung	
20	Druckstück	111	Griffrad	2
21	Schraube,	112	Mutter, Griffrad	
	Druckstück	113	Überwurfmutter	2
22	Joch	114	Exzenter, kpl.	
23	Sechskantmutter	115	Vergaser, kpl.	
	Mischrohr 150 HK	117	Innenmantel, kpl.	
33	Mischrohr	118	Behälter ohne	
34	Mischkammer		Montageteile	
35	Votwärmschale	119	Nadelschlüssel	
40	Pumpenkolben-	120	Behälter, kpl.	
	knopf		(ohne Abbildung)	
41	Arretierungs-	12 1	Traggestell	
	scheibe	122	Zentrierboden	
42	Pumpendeckel	123	Haube	
43	Pumpenkolben-	125	Innenmantel mit	
	stange		20, 21 und 22	
44	Pumpenfeder	148	Oberteil, kpl.	
45	Pumpenkolben-	152	Vergaseroberteil	
	platte	153	Vergaserunterteil	
46	Ledermanschette	165	Trichter mit Sieb	
47	Pumpenkolben-	180	Handreinigungs-	
	mutter		nadel	
50	Vergaserdüse	187	Sieb, Vorwärmer	
66	Universal-	191	Ventilstange	
	schlüssel	193	Dichtungsring,	
67	Einfüllkännchen		Vergaserventil	

194 Feder, Vergaserventil 195 Hülse, Vergaserventil 196 Vergaserventil, komplett 220 Flammschutzrohr 221 Düse, Vorwärmer und Schraube 222 Düsenmutter 223 Kipphebel, kpl. 224 Anschlußkörper, Vorwärmer 225 Anschlußkörper, kpl. 226 Rapid-Vorwärmer, kpl. 227 Unterlegscheibe,

Griffrad 229 Fassung mit Dichtung und Schraube

12. List of spare parts

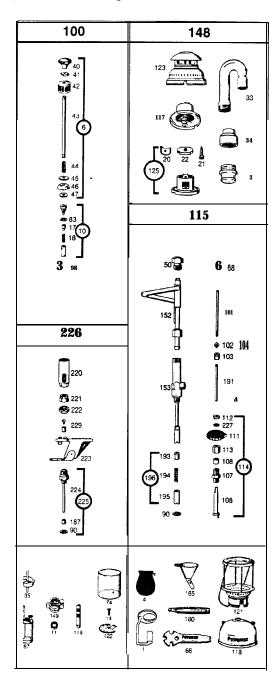
1	Mantle support	90	Lead washer/
2	Double tie mantle		vaporizer
	(without picture)		Pump barrel tube
3	Nozzle		Pump complete
4	Gas mantle		Conducting rod
6	Pump piston	102	Counter nut for
	complete		conducting rod
10	Pump valve com-		Conducting piece
	plete	104	Conducting rod
11	Washer for filling		complete
	screw		Excentre
14	Screw for centre	107	Nipple for
	bottom		excentre
17	Check valve cone	108	Graphite packing
	with rubber	111	Wheel
	packing	112	Nut for wheel
18	Spring for check	113	Sleeve nut for
	valve		excentre
20	Clip	114	Excentre com-
21	Screw		plete
22	Cross-bar	115	Vaporizer com-
23	Nut for mixing		plete
	tube 150 CP	117	Inner casing
33	Mixing tube		complete
34	Gas chamber	118	Container wt/
35	Heating cup		fillings
40	Pump knob	119	Key for needle
41	Disc	120	Container with
42	Cap for pump		fittings (without
	barrel		picture)
43	Pump piston rod	121	Frame complete
44	Spring for pump		with bail
45	Pump piston	122	Centre bottom
	plate		plate
46	Leather washer	123	Hood with top
47	Pump piston nut	125	Inner casing with
50	Nipple		20, 21, 22 (with
	Spanner with		out picture)
	gauge	148	Upper part compl.
67	Filling can		Vaporizer upper
68	Needle		part
74	Glass chimney	153	Vaporizer lower
83	Valve washer		part

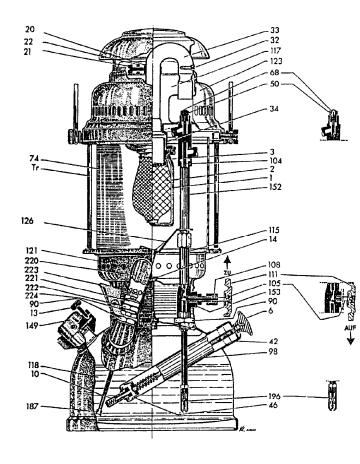
funnel with sieve 180 Cleaning needle for aut, preheating 187 Sieve for prehea-191 Valve bar 193 Valve washer 194 Valve spring 195 Valve shell 196 Vaporizer valve complete 220 Flame protecting tube 221 Nipple for preheater 222 Nut for nipple 223 Tip complete 224 Connecting piece preheater 225 Connecting piece complete 226 Rapid preheating complete 227 Disc for wheel 111 229 Check packing with screw

165 Plastic filling

2|8 2|9

12. Explosionszeichnung/Illustration





3|0







Behälter der Leuchte. Carrying case »Morizz« Robust and stackable carrying case made of galvanised steel. Two plastic insets avoid damages at the hood and the container of the lantern.



500 HK/CP H 430 mm

500 HK/CP H 120 mm ø 140 mm Artikel 21400

Kochaufsatz Mit dem Kochaufsatz aus Edelstahl lassen Sie Ihre Petromax für drei arbeiten – Leuchte, Kocher und Heizung in einem. Cooking top With this cooking top made of stainless steel your Petromax works for three-lantern, cooker and heater in one.

55.73 109,00

Preis pro Stück* Price per piece*

76,18

DM

149,00

21,50

98.00

10,99

50,11

Grafik Desion Silke Heiburg

	Zubehör Accessories	Preis pro Stück* Price per piece* DM €			Zubehör Accessories	Preis pro Stück* Price per piece* DM €	
150 HK/CP 75x 100 mm Artikel 21040 500 HK/CP 110 x 115 mm Artikel 21110	Emaillierter Glaszylinder Das hochhitzebeständige Schott-Suprax-Glas in mattierter Ausführung verteilt das Licht gleichmäßig und dämpft das Starklicht. Enamelled glass chimney The high heat resistant Schott Suprax glass in enamelled finish provides a more even spreading of the light as well as a complete elimination of the gas mantles dazzling.	18,00	9,20	150 HK/CP H 90 mm Artikel 21380 500 HK/CP H 105 mm Artikel 21290	Seitenreflektor Der Edelstahlreflektor ist innen poliert und je nach Verwen- dungszweck ermöglicht er eine blendfreie Ausleuchtung oder gemütliches, indirektes Licht. Material: Edelstähl, poliert Side reflector The side reflector is polished inside and according to the intended purpose it allows a non-dazzling illumination or a comfortable indirect lighting. Material: Polished stainless steel	35,00	17,90
ohne Abbildung without figure 500 HK/CP 110×115 mm Artikel 21010	Teilemaillierter Glaszylinder Part enamelled glass chimney	24,50	12,53		Stützbügel für Zweiloch- Glühkörper Durch doppelseitige Anbindung	24,50	12,53
500 HK/CP Ø 110 mm Artikel 12368	Prallteller Schützt den Tank und die Behälterarmaturen vor Beschädigungen bei defektem Glühkörper. Einfache Montage oberhalb des Zentrierbodens. Material: Edelstahl Protecting plate Protects the container fittings and allows the short-term use in case of a defective gas mantle. Easy assembling above the centre bottom plate. Material: Stainless steel	13,50	6,90	500 HK/CP H 80 mm Artikel 21080	und optimale Lage des Schwèr- punktes zwischen den beiden Haltepunkten wird die Lebens- dauer des Glühkörpers erhöht. Mantle support for double-tie mantles The mantle holder guarantees an optimal function of your lantern even under rough conditions. The double-sided binding increases the durability of the mantle many times.		
ohne Abbildung without figure 150 HK/CP Artikel 12100 500 HK/CP Artikel 12200	Verschleißteil-Set 15-teilig: bestehend aus Ersatzteilen 3, 4 oder 2 (3 Stück), 11, 17, 46, 50, 68, 83, 90 (2 Stück), 108, 196 und 229.	29,50	15,08	ohne Abbildung without figure 500 HK/CP Verpackungs- einheit Packing unit 10 Stück pieces Artikel 12204	Zweiloch-Glühkörper nur in Verbindung mit Stützbügel (21080) erhältlich. Double-tie mantle only in combination with the fitting mantle support (21080).	4,00	2,05
500 HK/CP mit Zweiloch- Glühkörpern with double-tie gas mantles Artikel 12201	Wearing part set 15-piece: consisting of spare parts 3, 4 or 2 (3 pieces), 11, 17, 46, 50, 68, 83, 90 (2 pieces), 108, 196 and 229.			ohne Abbildung without figure 500 HK/CP Artikel 21000	Stützbügel-Set mit drei Zweiloch-Glühkörpern. Mantle support set with three double-tie mantles.	29,50	15,08

		Ersatzteile I spare parts Baugruppe 100 Assembly group 100	Preis pro Price pe DM				Gehäuseteile Casing parts	-	o Stūck* r piece*
	100	Pumpe, komplett Pump complete	46,30	23,67		74	Glaszylinder Glass chimney	18,00	9,20
	6	Pumpenkolben, komplett Pump piston complete	15,00	7,67		121	Traggestell Frame	59,90	30,63
	10	Pumpenventil, komplett Pump valve complete	11,20	5,73					
9	40	Pumpenknopf Pump knob	3,20	1,64		35	Vorheizschale Preheating cup	1 1,80	6,03
9	41	Arretierscheibe Disc	1,20	0,61	•	14	Schraube Zentrierboden Screw for centre bottom plate	2,80	1,43
	42	Pumpendeckel Cap for pump tube	4,20	2,15	©	122	Zentrierboden Centre bottom plate	4,20	2,15
	43	Pumpenkolbenstange Pump piston rod	3,10	1,59		118	Behälter ohne Armaturen Container without fittings	119,00	60,84
9						149	Manometer Filling screw gauge	29,00	14,83
488880	44	Pumpenfeder	0,50	0,26	•	11	Manometerdichtung Washer for filling screw gauge	1,10	0,56
•	45	Spring for pump Pumpenkolbenplatte Pump piston plate	1,20	0,61			Werkzeug l Tools		
	46	Ledermanschette Leather washer	5,90	3,02	R	165	Trichter mit Sieb Funnel with sieve	2,50	·1,28
•	47	Pumpenkolbenmutter Pump piston nut	1,20	0,61		67	Einfüllkännchen Filling can	6,10	3,12
9	-	Pumpenventilschraube Pump valve screw	-	-	5.3	66	Universalschlüssel mit Abstandslehre	5,20	2,66
•	83	Ventildichtungsring Valve washer	0,50	0,26			Spanner with gauge		
01	17	Ventileinsatz mit Gummi Check valve cone with rubber	1,20	0,61	Ā	180	Handreinigungsnadel Hand cleaning needle	1,50	0,77
野	18	Ventilfeder Spring for pump valve	1,90	0,97	: U	119	Düsennadelschlüssel	2,10	1,07
	-	Pumpenventilhülse Pump valve shell	-	-	y Z		Key for needle Petroleum Klasse A III, rein		
		Bitte geben Sie bei Ihrer Bestellun sowie die Ausführung an, z.B. 12: For orders please state the lanterr	3/150 verchi	romt.		20100 20300	Kerosene grade A III, pure 1 Liter-Flasche I 1 litre bottle 3 Liter-Kanister I 3 litres container	6,90 19,50	3,53 9,97
		the finish, for example 123/150 cl *unverb. Preisempfehlung recomm	hrome plate	d.	. 2	4	Glühkörper (VE 10 Stück) Gas mantle (PU 10 pieces)	3,50	1,79
		anvers. Treisempremung frecom	enaca ieta	price					

		Ersatzteile I spare parts Baugruppe 115	-	o Stück*			Ersatzteile I spare parts	Preis pre	
	Article		Price pe			Article	Baugruppe 148	Price pe	-
		Assembly group 115	DM	€			Assembly group 148	DM	
	115	Vergaser I Vaporizer	62,50	31,96		148	Oberteil komplett	90,00	46,0
	196	Vergaserventil Vaporizer valve	5,20	2,66			Upper part complete		
	104	Führungsstange I Conducting rod	10,20	5,22		117	Innenmantel, komplett	57,90	29,
	114	Exzenter Excentre	12,00	6,14	475		Inner casing complete		
	50	Vergaserdüse	4,50	2,30		123	Haube	62,00	31,
		Nipple for vaporizer					Hood with top		
>	152	Vergaseroberteil	42,00	21,47		_	-	-	_
		Vaporizer upper part			<u>D</u>	20	Druckstück	0,40	0,
	153	Vergaserunterteil	39,90	20,40			Clip		
		Vaporizer lower part			1	21	Schraube, Druckstück Srew for clip	1,20	0,
	193	Dichtung, Vergaserventil	1,20	0,61	•	22	Joch	1,50	0,
-		Valve washer			117		Cross-bar	•	,
٥	194	Feder, Vergaserventil	1,20	0,61		33	Mischrohr	14,90	7,
36		Valve spring	•	•			Mixing tube	,	.,
	195	Hülse, Vergaserventil	2,20	1,12	3	34	Mischkammer	9,20	4,
		Valve shell					Gas chamber	-,	
	90	Dichtungsring	1,20	0,61	3	3	Tonbrenner	8,50	4,
		Lead washer	•	•	5		Nozzle	-,	.,
	68	Düsennadel	3,50	1,79					
		Needle	-,	.,			Baugruppe 226		
	101	Führungsstange	2,50	1,28			Assembly group 226		
	,	Conducting rod	_,	.,			, issembly group zzo		
İ	102	Kontermutter	0,70	0,36		226	Rapid-Vorwärmer, komplett	36,00	18,
+	, 52	Counter nut	٥,, ٥	0,50			Rapid preheater complete	30,00	, 0,
2	103	Führungsstück	1,20	0,61		225	Anschlußkörper, komplett	14,50	7,
	,03	Conducting piece	1,20	0,01			Connecting piece complete	14,50	,,
	191	Ventilstange	2,10	1,07		220	Flammschutzrohr	8,20	4,
	731	Valve bar	2,10	1,07	•	220	Flame protecting tube	0,20	7,
\exists	112	Mutter, Griffrad	0,80	0,41	™ 3	221	Düse, Rapidvorwärmer	2,80	1,
	114	Nut for wheel	0,00	U,+:	IJ	221	Nipple for preheater	2,00	1,
	227	Unterlegscheibe, Griffrad	0,70	0,36	€9	222	Düsenmutter	1 50	0
	221	Disc for wheel	0,70	0,30	vc#	222		1,50	0,
	111	Griffrad	2 50	1 70	0	220	Nut for nipple	2 00	4
	111	Wheel	2,50	1,28	♀ ①	229	Fassung, Dichtung, Schraube Check packing with screw	2,80	1,
	113	Überwurfmutter	1 70	0.07	ري مصم	222		13.00	_
<u>t</u>	113		1,70	0,87		223	Kipphebel Tip samplets	12,00	6
-	400	Sleeve nut for excentre	1.30	0.61			Tip complete		
	108	Grafitpackung	1,20	0,61	9	_	-	_	-
	407	Graphite packing	2.40	1.50	1 2	107	Ciala Manuella		_
	107	Exzenternippel	3,10	1,59	225	187	Sieb, Vorwärmer	1,20	0
		Nipple for excentre					Sieve for preheater		
	105	Exzenterwelle	3,10	1,59		90	Dichtungsring	1,20	0
		Excentre					Lead washer		