

BÜFA

manual /partlists

26/07/2018

12C

103-1865



Composites

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1 symbols

1.1 warning notice

symbol	description
	Danger! This symbol warns you to dangerous situations. Not following these regulation can cause serious injury
	Warning! This symbol warns you to dangerous situations. Not following these regulation can cause medium injury
	Attention! This symbol warns you to dangerous situations. Not following these regulation can cause simple injury
	Note! Sections with this symbol provides you information for better and faultless handling of the machine.

2 safety instructions

2.1 global safety instructions

installations, start ups, reparation and maintenance may be done only by persons, which comply with following specifications:

- necessary qualification for the planed operations
- permitted from the operating company
- familiar with the corresponding regulations and standards
- familiar with the manual and basic conditions

following conditions does apply for the operator.

- familiar with the manual
- permitted from the operating company
- necessary qualifications for a safe handling with the unit and material

2.2 misuse

It is only allowed to use the machine, when the technical conditions are faultless. The intended use of the machine by respecting the safety regulations and the manual is required for operating the machine. Faults and errors especially of safety relevant parts must be repaired and fixed directly.

The producer/provider takes no responsibility for damages which can result from improper use. The operating company bears the full risk. The intended use of the machine includes also respecting the manual.

For special application please contact BÜFA Composite for clarifying the capabilities.

2.3 remodeling and changing

It is not allowed to change parts or install mountings, especially when safety installations are affected, with out a permit of the producer/provider. This applies especially for installations and adjustments of safety devices and valves.

2.4 spare parts and accesoirs

spare parts must be conform with the technical requirements of the producer/provider. Every spare part of BÜFA®-Tec is conform with this requirements.

2.5 before start up

Pressure hoses and power cable must be installed with regard to the regulations. Fittings and hoses have to fulfill the requirements.



It is only allowed to work with the machine, when all safety devices (earthing, exhaust, etc.) are with out any faults



An earthing connection must be installed before starting to operating with the machine, because of Danger of explosion.

2.6 while operating

Safety instructions on the machine must be noted!



Before starting the machine it is important to make sure that nobody can be injured by starting.



Take never aim at somebody with the spraying gun or unit! Do not put a hand or finger in front of the nozzle or spraying head! After working and before breaks secure the spraying gun.



the personal protective equipment must be supported and required by the operating company. Minimum equipment should be safety glasses and gloves.



tight working clothes are recommended and no decoration because of the risk of getting stuck or neck.



While working do not stop exhaust or ventilation units. If not enough fresh air is provided, use respiratory equipment.

The max. pressure of the type plate may not be passed over. .

Every instruction, which seems not to be safe may be stopped directly!

2.7 handling of dangerous material

The machine will be used with flammable liquids, which build pressure and can explode while getting warmer. Respect the manual and the safety data sheet. The regulations from these documents must be observed.

Substances of the products vaporise easily (styrol, acetone etc.).

Two different main risks arise thereby:



1. **health risk** because of breathing in the substances (take a look on the safety data sheet)



2. **Danger of explosion and fire** because of building explosive mixtures

1. all reservoirs should be kept closed or covered (mixing tanks, acetone and cleaning bins etc.)
2. a good air ventilation must be supplied (exhaust, fresh air etc.)
3. all reservoirs must be connected by earth while working (earthing clamps).
4. It is important to keep the peroxide clean, to avoid an uncontrolled reaction of the peroxide.
Danger of explosion.

If a leakage is detected, the machine must be stopped directly (shut down and remove pressure) and fixed.

3 description of equipment

3.1 technical information

- low pressure airless with assists air
- external mix
- pressure ratio resin pump: 15:1
- pressure ratio catalyst: 1:1
- Volume per cycle resin pump: 100 ml
- capacity catalyst tank: 10 L
- hose length: 7,5 m
- flow rate with water: max. 3,0 L/min
- max. air pressure input: 6 bar
- compressed air consumption: 200-250 l/min

3.2 global machine description

Spraying UP/VE gelcoats/resins with considerably reduced styrene emissions.

3.3 scope of supply



1. pressure control unit
2. pump unit
3. Century 029-2500 not shown
4. peroxide tank 029-0758 not shown
5. compressed air hose 028-0189 not shown
6. tool box not shown

4 start up

4.1 appropriation

compressed air:

1. 6 bar max., filtered and dehydrated ISO8573-1:2010 Class 4
2. compressed air hose min. Di = 13mm

UP-Resin:

1. min. temperature 18°C
2. spray viscosity

Peroxide:

1. viscosity max. 30 mPas

4.2 preparation

- a) Connect the grounding wire with clamp at a suitable place.

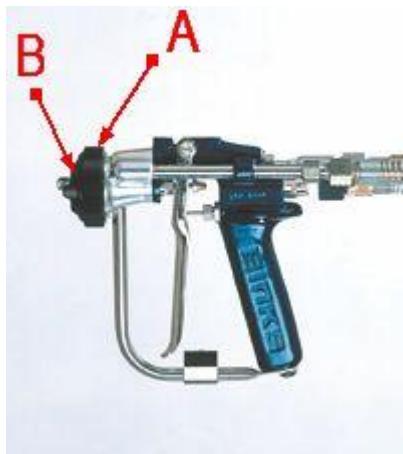


- b) Close all valves and regulators
- c) Fill lubricant cup with packing lubricant ST,
item no. 742-0002.
- d) Put the pump into the gelcoat bucket
- e) fill the peroxid tank with medium. Respect the safety data sheet of the medium.
- f) Connect the unit to the compressed air. (all valves are closed)

4.3 exhaust air from peroxide

Exhaust air from peroxide pump with following steps:

- Remove the retainer cap **A** and the mixing head **B** incl. both sealings.



- Make sure that the peroxide tank is filled with material and the venting valve **C** is closed.



- Make sure that all valves are closed.
- Adjust the regulator **D** for peroxide up to 2,5 bar.

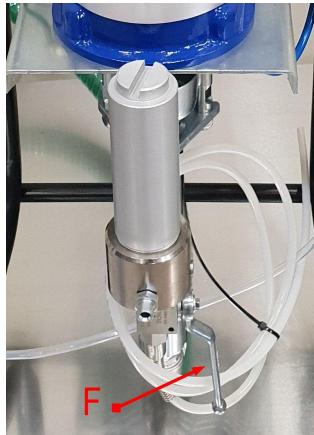


- Open the ball valve **E** slowly. The peroxide tank is now under pressure.
- Hold the gun over a suitable can and pull the trigger.
- Loose the trigger, when the peroxide is coming out without air.
- Close all valves and remove the pressure out of the peroxide tank with the venting valve **C**.
- Clean the gun outlet with suitable cleaning material.

4.4 exhaust air from resin

Exhaust the air from the resin side with following steps:

- Make sure that all valves are closed and the peroxide site is pressure less.
- open the circulation valve **F**.



- Adjust the regulator for resin **G** up to ca. 2 bar.



- Open the valve **H** slowly. The resin pump will start circulation.
- Circulate the pump for one minute. After the minute close the valve **F**.
- Hold the gun over an empty suitable can and pull the trigger completely.
- Loose the trigger when the resin is flowing with out air.
- Close the valve **H** and open the circulation valve **F**. The pressure of the resin system should remove completely.
- Close all valves.
- Lock the trigger and clean the gun with suitable cleaning material.

4.5 preparation for test spraying

- Make sure that all valves are closed and the peroxide system is pressure less also the tank.



- Adjust the regulator **D** of peroxide up to 0,8 bar



- open valve **H**
- Pull the trigger of the gun to the first set point (air assist) and adjust the regulator **I** up to 1,8 bar.
- loose the trigger of the gun.

4.6 test spraying

- Sobald die Vorbereitungen abgeschlossen sind, können Sie mit dem Probespritzen beginnen.
- Bereiten Sie eine Pappe oder Papier als Unterlage für das Probespritzen vor.
- Richten Sie die Pistole auf die Unterlage aus.
- Betätigen Sie den Pistolen Abzug bis zum 2. Druckpunkt (Stützluft und Peroxid).
- Nach dem Peroxid aus der Peroxiddüse austritt ziehen Sie den Abzug komplett durch.



- Erhöhen Sie den Pumpendruck in 0,5 bar - Schritten am Regler **G**, bis der Spritzfächter in Ordnung ist

Spritzbild



4.7 measure the resin output

- Close valves **E**



- Open the venting valve **C** at the peroxide tank



- Spray one minute into a suitable can and measure the volume of the resin.

4.8 calculate the peroxide

- Calculate the right amount % of the peroxide

Example:

Resin per min:	960ml
peroxide volume at 2%:	2ml/100ml
peroxide amount:	$2 \times 9,6\text{ml} = 19,2\text{ml/min}$

4.9 adjust the peroxide output



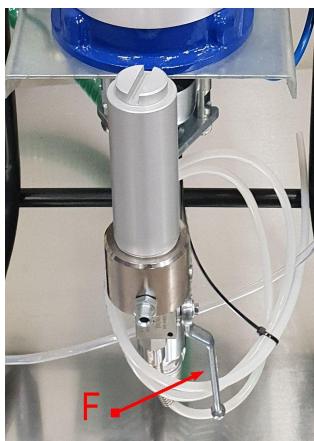
- Make sure that the venting valve on the peroxide tank is closed



- open the valves **H**, resin circulation **F** and **E**
- Hold the gun into a suitable can and pull the trigger one minute. Measure the volume of the peroxide.
- Raise or decrease the pressure at regulator **D** if more or less peroxide is necessary.

5 operate

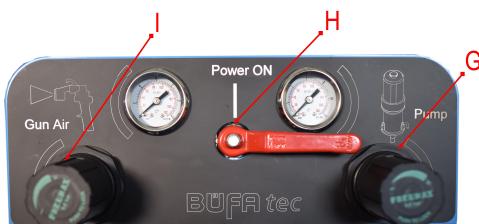
- Make sure that enough material is inside the peroxide tank
- Stir the resin.
- Put the pump into the filled Hobbock.



- Close the circulation valve **F**.



- Open the valves **E** and **H**



- Pull the trigger to the second set point (assist air and peroxide)
- After peroxide is coming pull the trigger completely.

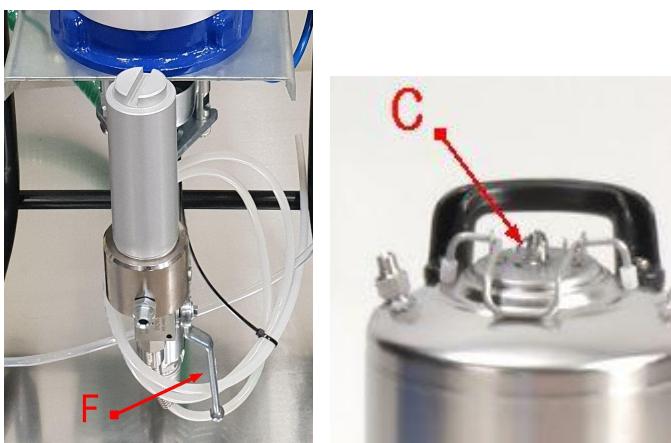
6 stop operating



- Close valves **E**, and **H**



- Open circulation valve **F** and venting valve **C**.



- Disconnect the compressed air hose
- Clean the gun head with suitable cleaning material
- Store the gun with gun head down.

7 shut down

For a shutdown please follow these steps:

- Empty the resin pump
remove the resin pump from the Hobbock and let the pump run as long as no material is coming out of the gun.
- Flush the resin pump with acetone. Put the pump into a Hobbock with Acetone and let the pump running.
- Clean the resin filter and peroxidefilter thoroughly.
- Flush the resin pump again.
- Empty the resin pump.
- Fill the resin pump with Mesamoll
- Empty the peroxide system completely and clean all parts.

8 maintenance and servicing

8.1 maintenance and remodeling

Maintenance and remodeling work is only allowed by qualified and authorize persons. In case of dubiety inform your supervisor.

Before starting maintenance and remodeling work the operator has to be informed. A supervisor has to be declared.



Safety glasses and gloves has to be worn while maintenance and remodeling work .

Before starting with the work, the machine and all systems has to be pressure-less.

Do respect the manual for every step of the work, especially for start and stop procedures!

Clean the machine - especially connections and fittings - before starting with maintenance and remodeling work from operating material.

For lubrication use only silicone free solvent. Silicone can disturb the surface of the product.

Make sure that all loosened screws and fittings are tighten again before start up.

If safety equipment has to be disassembled, the assembly has to take part directly after finishing the maintenance and remodeling work. The safety equipment must be tested directly after assembly.

If the maintenance and remodeling work cause a safety-related or operating behavior change, shut down the machine directly. The person in charge has to be informed directly. Do not start the machine again.



An environmentally friendly and safety disposal of waste and material must be guaranteed!

8.2 maintenance overview

	maintenance rate				
	d a i l y	w e e l y	m o n t h	$\frac{1}{2}$ y e r l y	y e a r l y
parts to control					
pumps resin and peroxide					
control sealings of leakage			X		
control pipes and hoses of function			X		
control pumps of operating noise and vibrations			X		
control pressure relief valve of function				X	
control pump pressure			X		
resin	set: max. bar		X		
peroxide	set: max. bar		X		
control filter and clean if necessary				X	
control earthing cable and connection		x			
storage tanks					
check the inside of contamination			X		
control pressure of the solvent tank				X	
control pipes and hoses of function			X		
check safety valve on the solvent tank (lifting ring)				X	
compressed air supply					
remove condensate at the air preparation unit				X	
check working pressure at the air preparation unit	set: 6bar			X	
overflow tank peroxide					
check filling level			X		
temperature and pressure gauge					
check temperature and pressure			X		
manual valves					
check position			X		
use and check manual valves for function				X	
agitator (if exist)					
check operating noise	alle 1000 Bh oder $\frac{1}{2}$ jährlich				
check gearbox of leakage	alle 1000 Bh oder $\frac{1}{2}$ jährlich				
check sealing of leakage	alle 1000 Bh oder $\frac{1}{2}$ jährlich				
change oil of gearbox	1. Wechsel nach 400 Bh, dann alle 1500 Bh				
control the shaft of unbalance	alle 1000 Bh oder $\frac{1}{2}$ jährlich				

The pressure tank is a safety-related part, which has to be checked every 3 years referred to operation reliability regulations by a authorized person .The working permit stops directly by damages of the body.

Changes of the operating behavior must be reported directly. Even if there are only small reservations shut down the machine.

A report of all maintenance, remodeling work, failure and checks is recommended.

9 Century Gelcoat gun 0292500

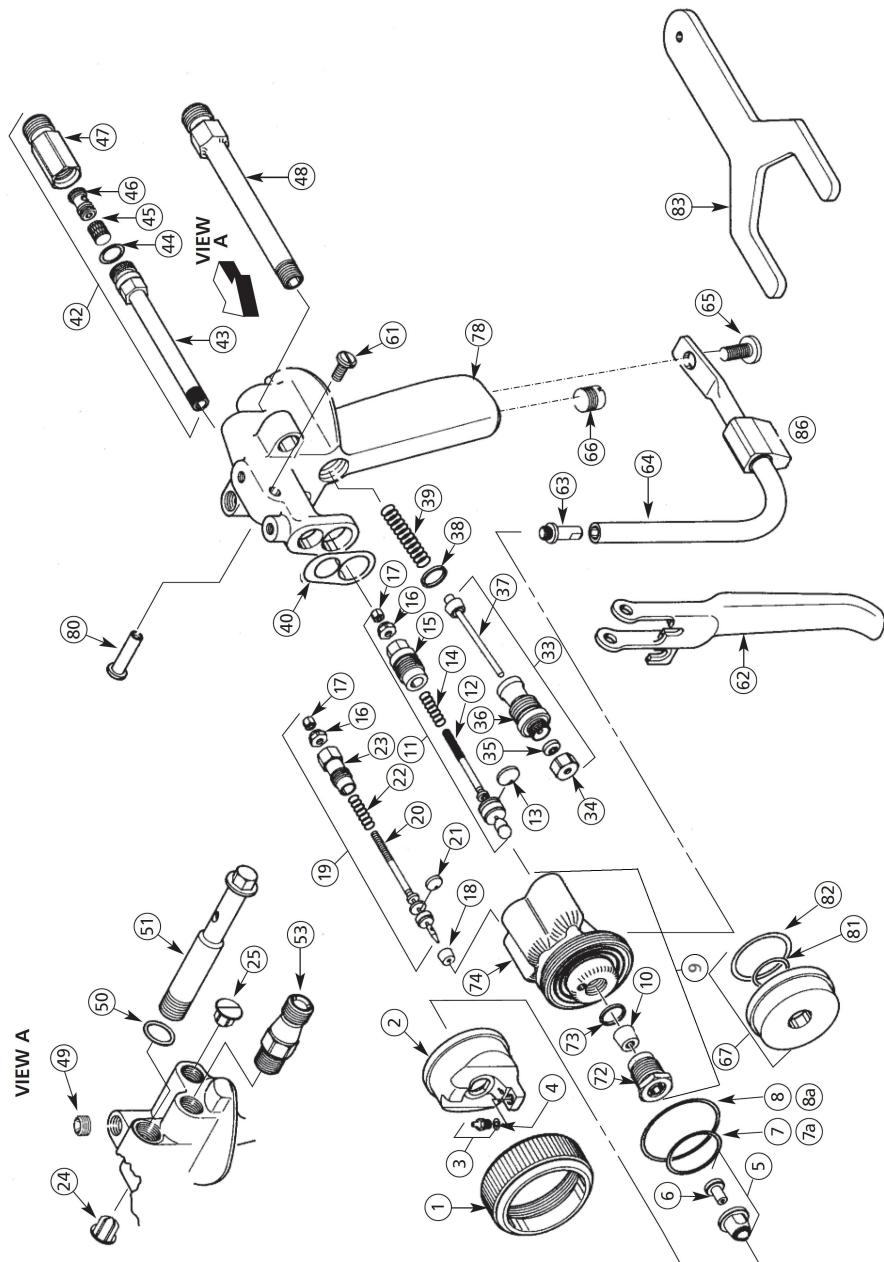
9.1 technical information



technical specification:

- Century gun external mix for gelcoat application.
- consisting of mixing head with resin tip, catalyst injector and air assist.

9.2 exploded assembly drawing



9.2.1 partlist

No.	item no.	description	pcs.	servicing sets
1	029-2501	retainer ring	1	
2	029-2502	Air/Catalyst cap	1	
3	029-XXXX	Catalyst Injector (see Injector list)	1	
4	029-2504	O-ring	1	5
5	029-XXXX	Tip assembly (see tip list)	1	
6	029-3216	tip seal	1	
7	029-2507	O-ring	1	1,5
8	029-2508	O-ring	1	1,5
9	029-2509	head assembly	1	
10	029-2510	resin seat PA standard	1	5
10a	029-3607	resin seat hard metal option		
11	029-2511	resin needle assembly		5
12	029-2512	resin needle	1	
13	029-2513	packing	1	5
14	029-2514	spring	1	
15	029-2515	Packing nut	1	
16	029-2516	convex nut	1	
17	029-2517	lock nut	1	
18	029-2518	catalyst seat	1	2,5
19	029-2519	catalyst needle assembly		5
20	029-2520	catalyst needle	1	
21	029-2521	Packing	1	5
22	029-2522	spring	1	
23	029-2523	packing nut	1	
24	029-3706	Handle plug	1	
25	029-3707	Handle plug	1	
33	029-2533	air valve assembly		
34	029-2534	nut	1	
35	029-2535	Packing	1	3
36	029-2536	body	1	
37	029-2537	air valve	1	3
38	029-2538	air valve seal	1	3
39	029-2539	spring	1	3
40	029-2540	gasket	1	3
42	029-2542	catalyst inlet with filter	1	
43	029-2543	pipe	1	
44	029-2544	O-ring	1	4,5
45	029-2545	filter screen	1	4,5
46	029-2546	filter support	1	
47	029-2547	catalyst inlet	1	
48	029-2548	resin inlet	1	
49	029-0247	pipe plug	1	
50	029-2550	gasket	1	5
51	029-2551	head retainer bolt	1	
53	029-2553	air inlet	1	
61	029-2561	trigger screw	1	
62	029-2562	trigger	1	
63	029-2563	guard stud	1	
64	029-2564	guard assembly	1	
65	029-2565	screw	1	
66	029-2566	air plug	1	
67	029-4729	night cap assembly	1	
72	029-2569	head insert	1	
73	029-2568	seal	1	

74	029-2567	head machining	1	
78	029-2541	handle	1	
80	029-2560	trigger stud	1	
83	029-1947	wrench	1	

servicing sets

no.	item no.	description	include all parts with
1	029-2593	O-ring set a 15 pcs.	1
2	029-1275	sealing set	2
3	029-1274	maintenance set air valve	3
4	029-1276	maintenance set catalyst filter	4
5	029-1273	maintenance set material	5

9.3 nozzle list

description on tip	hole	spraying angle	spray vector at a distance 30,5cm	item no.
1525 / 1507	0,015"	25°	7"	029-2581
1825 / 1807	0,018"	25°	7"	029-2996
1840 / 1809 / 418	0,018"	40°	9"	029-2582
2125 / 2107 / 221	0,021"	25°	7"	029-2997
2140 / 2109 / 421	0,021"	40°	9"	029-2583
2340 / 2309 / 423	0,023"	40°	9"	029-2947
2625 / 2607	0,026"	25°	7"	029-4041
2640 / 2609 / 426	0,026"	40°	9"	029-2584
3130 / 331	0,031"	30°	8"	029-9421
3140 / 431 / 3109	0,031"	40°	9"	029-2585
3640 / 436	0,036"	40°	9"	029-3768
4430 / 4411 / 344	0,044"	50°	11"	029-2586
4440 / 4409 / 444	0,044"	40°	9"	029-2357
5125 / 5107	0,051"	25°	7"	029-5589
5240 / 5209 / 452	0,052"	40°	9"	029-5497
6140 / 6109 / 462	0,061"	40°	9"	029-9438

9.4 peroxid injectors

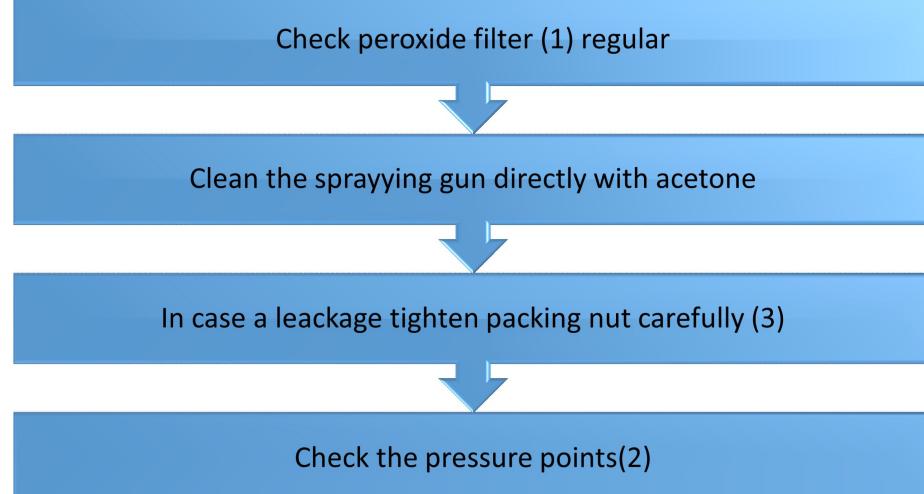
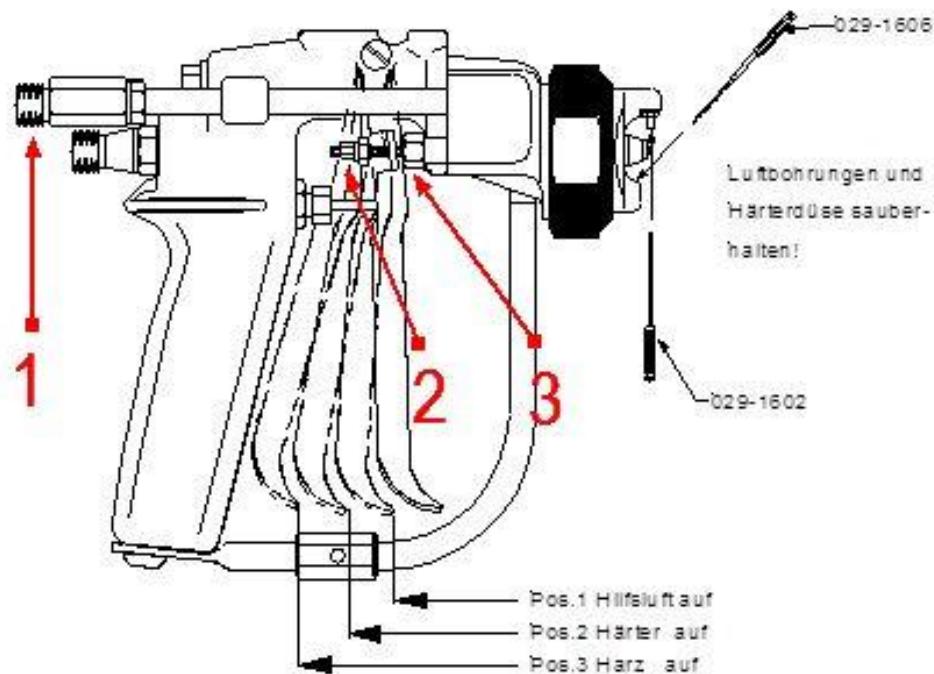
Machine with peroxide pressure tank

I.D no.	description with hole	item no.	for gelcoat tip
13	Injecteur 0,013	029-2570	1507, 1807, 1809
15	Injecteur 0,015	029-2576	2107, 2109, 2607, 2609
18	Injecteur 0,018	029-2571	3109

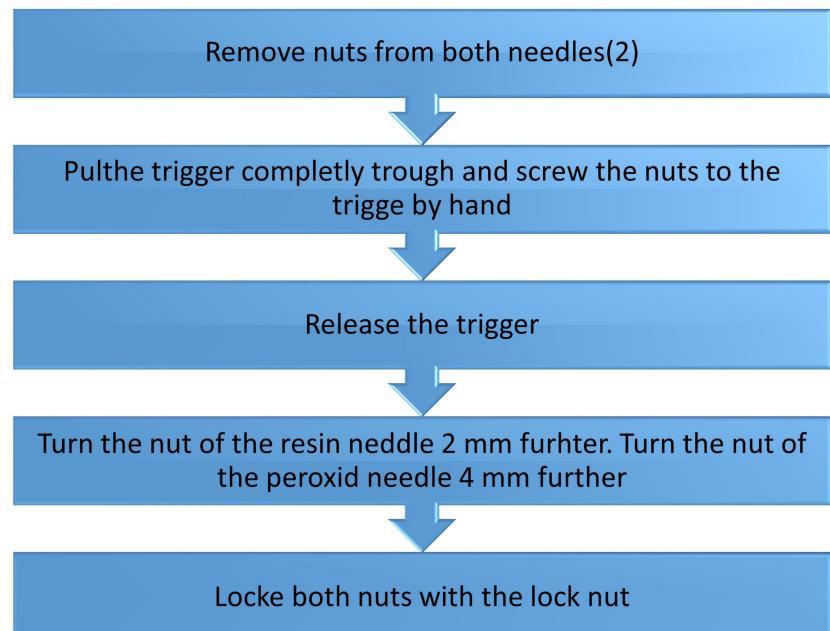
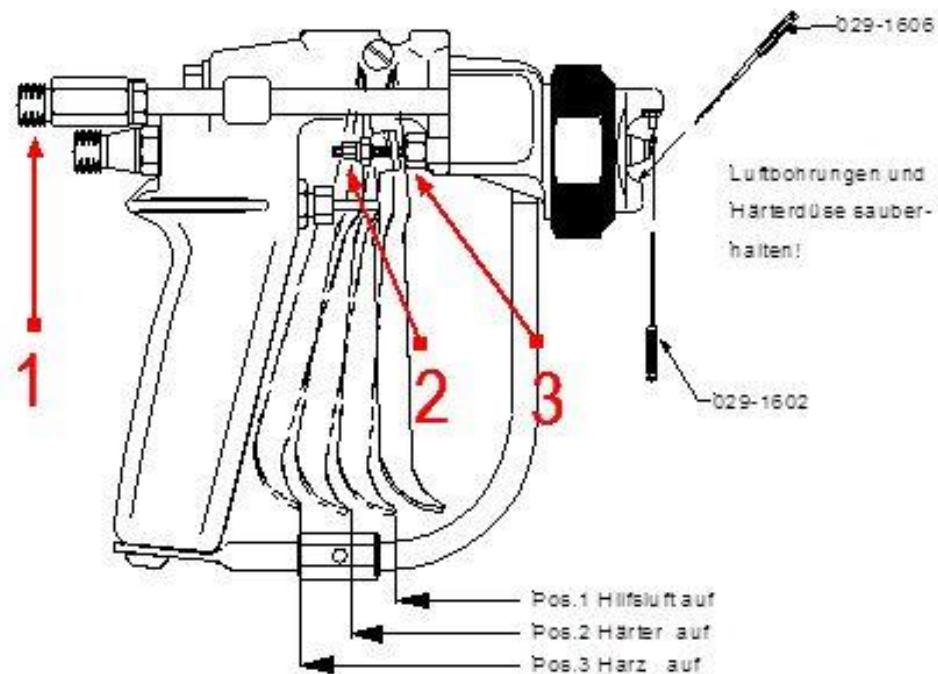
Machine with peroxide pump

I.D no.	description with hole	item no.	for gelcoat tip
13	Injecteur 0,013	029-2570	1507, 1807, 1809
15	Injecteur 0,015	029-2576	1807, 1809, 2107, 2109
18	Injecteur 0,018	029-2571	1807, 1809, 2107, 2109
21	Injecteur 0,021	029-2572	2107, 2109, 2607, 2609, 3109
26	Injecteur 0,026	029-2573	2607, 2609, 3109

9.5 gun maintenance



9.6 set point adjustment



10 airmotor 12C

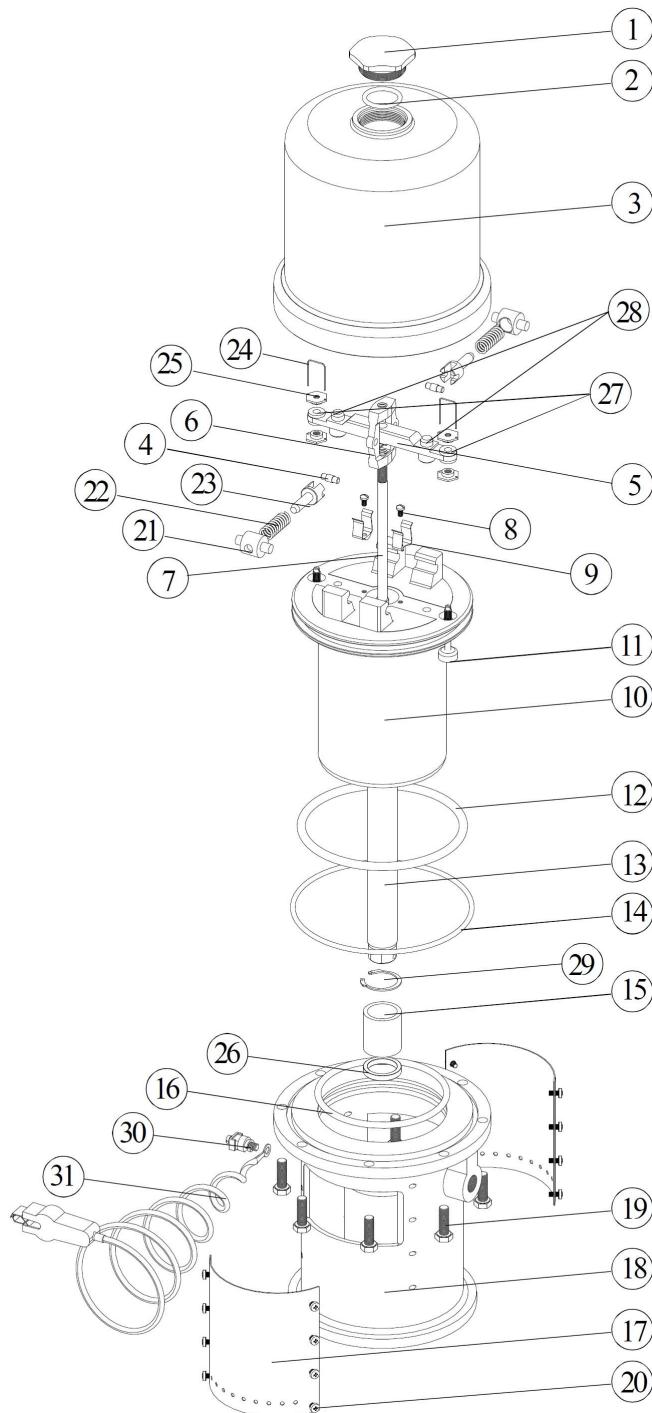
10.1 technical information



technical specification:

- max. air inlet pressure: 6 bar
- max. double strokes: 30/min
- stroke length: 90 mm

10.2 exploded assembly drawing



10.3 partlist

No.	item no.	description	pcs.	remarks
1	A.110.02	Kappecap	1	
2	C.JT0.01	sealing	1	
3	A.210.01	cylinder	1	

4	A.120.04	rod	2	
5	A.220.07	holding bridge	1	
6	A.120.08	yoke	1	
7	A.221.00	piston rod	1	
8	C.TJ0.02	screw	2	
9	A.240.02	clip	2	
10	A.240.01	piston	1	
11	A.122.00	bolt	2	
12	C.JT0.05	sealing	1	
13	A.220.11	piston rod	1	
14	C.JT0.07	sealing	1	
15	CB2.015	socket	1	
16	C.JT0.06	sealing	1	
17	A.130.02	cover	2	
18	A.250.01	basis	1	
19	C.TA0.01	Screw	6	
20	C.TC0.01	Screw	16	
21	A.120.01	rocker	2	
22	A.120.02	spring	2	
23	A.120.03	rod	2	
24	A.120.05	clip	2	
25	A.120.06	nut	4	
26	A.150.02	sealing	1	
27	A.120.10	sealing	2	
28	A.220.09	sealing	2	
29	CAR 125	retaining ring	1	
30	101.400.00	earthing	1	
31	101.620.00	earthing clamp	1	

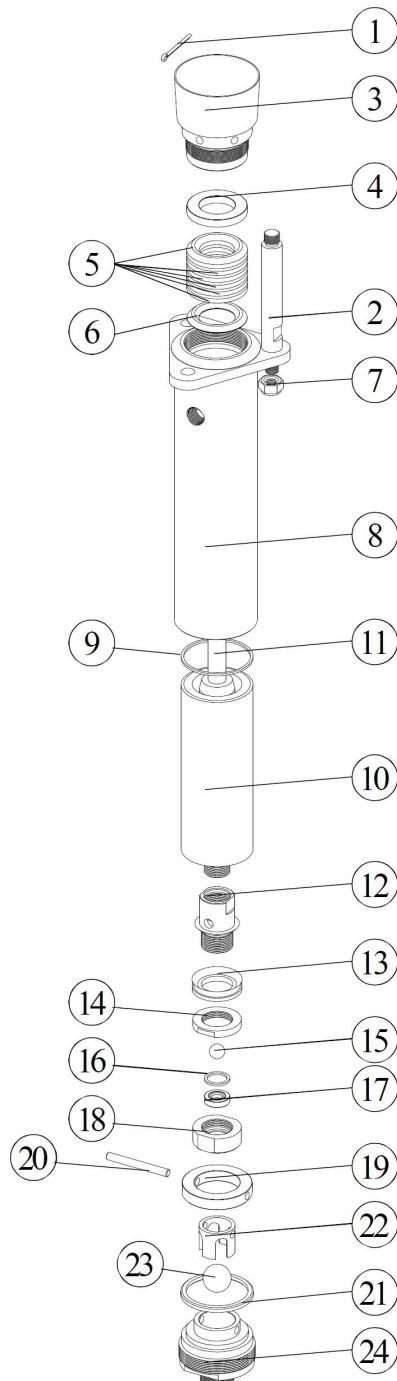
11 resin pump 12C

11.1 technical information

**technical specifications:**

- material: stainless steel
- pump inlet: 3/4"
- pump outlet: 3/8"
- volume per double stroke: 100ml

11.2 exploded assembly drawing



11.3 partlist

no.	item no.	description	pcs.	remarks
1	C.PA1.01	splint	1	
2	C.300.01	bolt	3	
3	B.220.00	packing nut	1	
4	20.110.01	packing end top	1	

5	20.110.02T	packing	6	
6	20.110.03	packing end down	1	
7	CTU.101	nut	3	
8	B.210.00	pump body	1	
9	B.200.01	sealing	1	
10	20.100.01	pump bottom	1	
11	20.100.02	piston rod	1	
12	20.120.01	piston	1	
13	20.120.02	packing	1	
14	20.120.03	packing nut	1	
15	CB0.102	ball	1	
16	20.120.04	sealing	1	
17	45.441.00	ball seat	1	
18	20.120.06	piston nut	1	
19	B.260.02	seat retainer	1	
20	B.260.03	pin	1	
21	B.260.04	sealing	1	
22	B.260.05	cage	1	
23	C.B01.03	ball	1	
24	B.260.01	lower seat	1	

12 peroxide tank 0290758

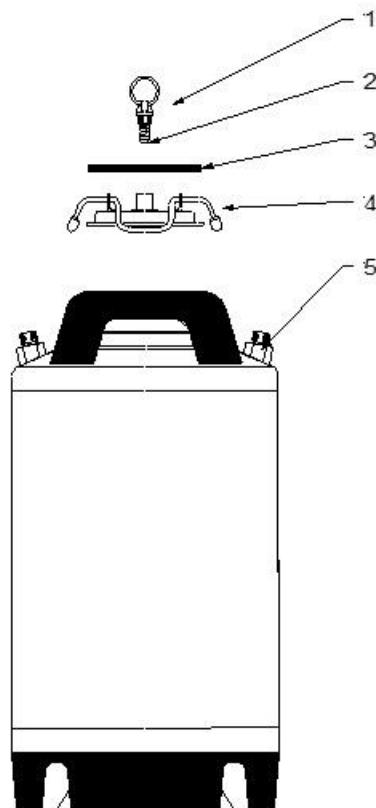
12.1 technical information



technical specification:

- capacity 10l
- material: VA
- max. pressure: 6 Bar
- test pressure: 8 Bar

12.2 exploded assembly drawing

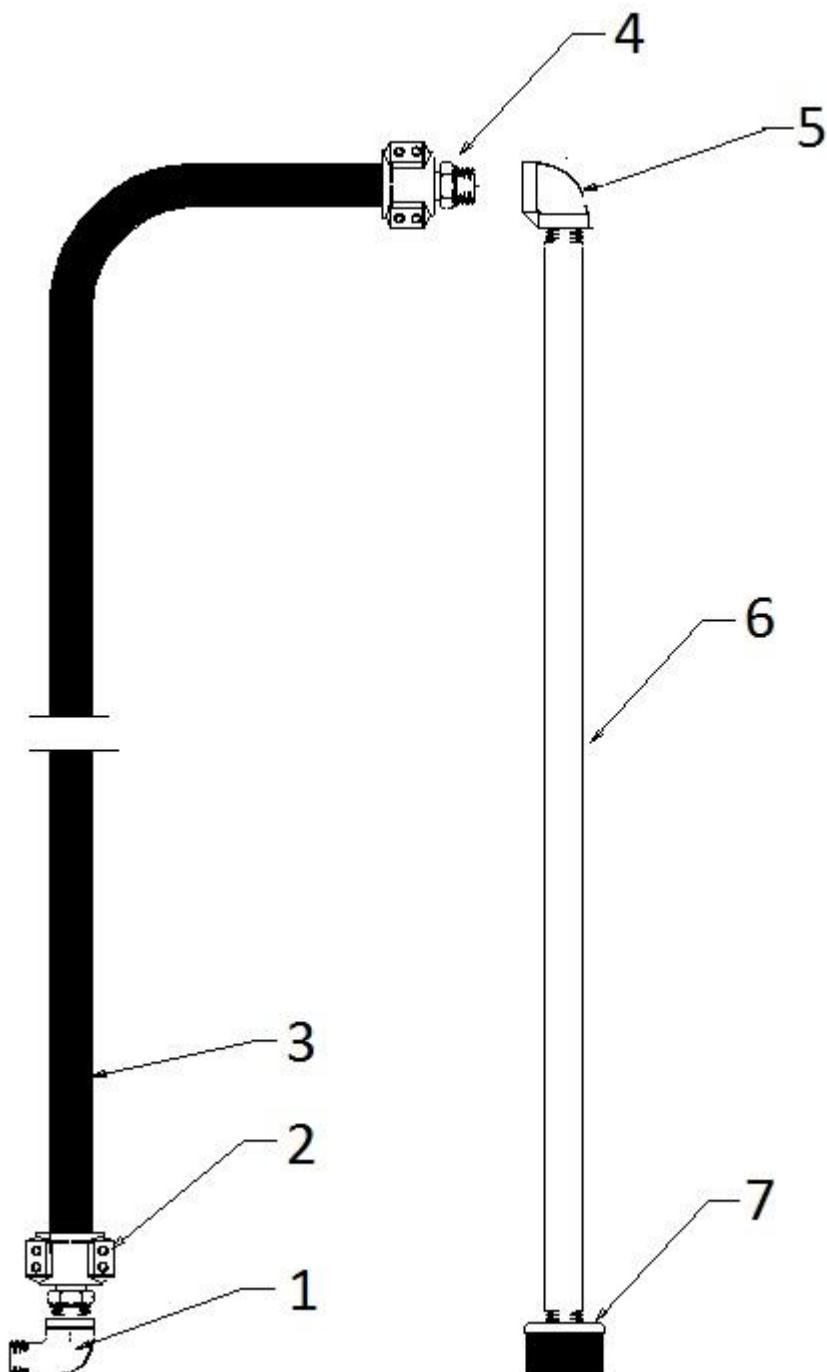


12.2.1 partlist

no.	item no.	description	pcs.	servicing sets
1	029-0820	tank cover cpl.	1	
2	029-1204	tankcover seal Si	1	
3	029-0003	cover seal	1	
4	029-0822	tank cover	1	
5	029-1153	connection 1/4" VA	1	

13 suction unit

13.1 overview

**mögliche Versionen:**

- Fassansauggarnitur: 028-0246
- Hobbockansauggarnitur: 028-0245

13.2 partlist

Nr.	Artikelnr.	Beschreibung	Anzahl	Bemerkungen
1	FCMH100100INOX	elbow 1"	1	
2	FCHH100100Inox	hose fitting	2	cpl.
3	71-3367 1,2m	chemical hose	1,2m	
3a	71-3367 1,8m	chemical hose	1,8m	for drums
4	FCHH100100Inox	hose fitting	1	cpl.
5	FDM100100Inox	elbow 1"	1	
6	41-2519	suction pipe 1"	0,52m	
6a	101-1178	suction pipe1"	1m	for drums
7	101-142	filter	1	

12C



Notizen

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Version: 1.0.0