lestoprex

lestol®

OPERATIONS MANUAL
BETRIEBSANLEITUNG
MANUEL D'EMPLOI ET DE MAINTIEN
ISTRUZIONI PER L'USO
MANUAL DE INSTALACION Y OPERACIONES

English

MODEL	*S-1502A*	*EMULSION MIXING UNIT*
	S-1520	*EMULSIONSMISCHGERÄT*
	S-1540	*DOSEUR ET MÉLANGEUR*
		MISCELATORE DI EMULSIONI
		MEZCLADOR DE EMULSIÓN

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8735 St. Gallenkappel

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1. General

This manual explains about safe and effective usage of this EMULSION MIXING UNIT. Read this manual carefully and understand the use of the unit fully before you start with the installation, the use or the maintenance.

2. Notice for safe use

1. Install the unit properly according to the instructions in this manual.
2. Connect correct power voltage (only automatic unit) according to state and local instructions.
3. Do only use the unit when all safety elements are installed and ready to work.
4. Do not use the unit in an abnormal environment.
5. Disconnect power supply (only automatic unit), before you open the unit for maintenance and service.
6. Follow the written recommendations of the coolant lubricants manufacturer and the valid regulations.
7. Protect the skin when handling with the coolant lubricants and avoid contact with the skin.
8. Only water and coolants are allowed to be mixed. Liquids containing solvents are not allowed to be mixed as they may be highly inflammable, explosive or poisonous.
9. Buried liquids must be removed immediately and the environment are to be cleared.
10. State and local specific safety and environmental standards are to be considered and kept.

3. Function

The LESTOL Emulsion Mixing Unit works according to the injector venturi principle, whereby the water flow pressure produces a vacuum. Thus the adjusted quantity of the water-mixable coolant is sucked in and mixed in the water operated vacuum pump optimally to a sturdy and homogeneous emulsion.

Modell S-1520 + S-1540

Modell S-1502A

4. Unpacking of the unit

We have created a package which is protecting the unit as far as possible against damage during transport. However, damages cannot be completely excluded during transport. We recommend to proceed in the following manner just after receipt of the unit:

1. First and directly after receipt: check whether there are any damages.

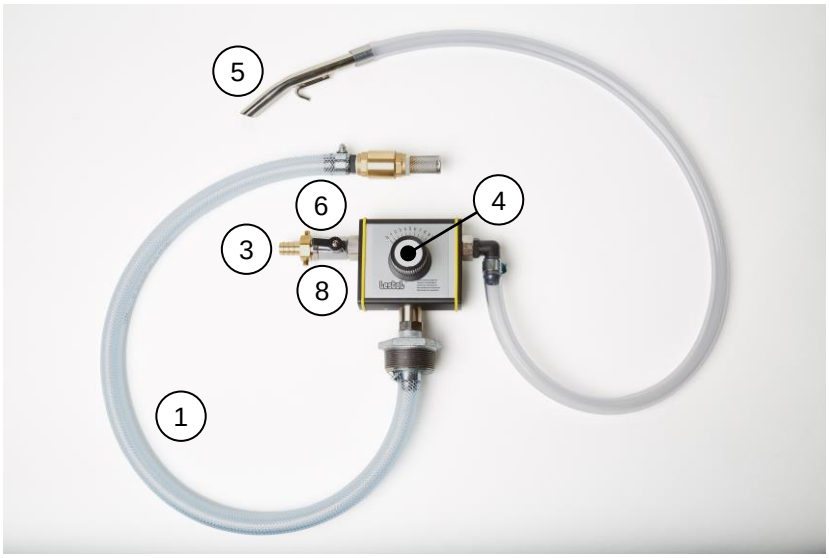
2. In case of registered transportation damages: inform the responsible transportation agency immediately.

5. Installation instructions

The unit can be screwed either by means of 2“sleeve directly on the barrel with the concentrate or be fastened with an optional mounting kit to the wall.

Important! Please note!
Before the unit is switched on, the connections and installations must be implemented as described. The threaded connections are to be sealed.

Assembly and operation



(1) The suction hose must be dipped into the barrel with the concentrate and the 2“sleeve bolted.

(2) The ¾ “vent screw of the barrel has to be loosened, so that no vacuum occurs.

(3) A flexible water hose has to be mounted at the inlet (3/4“ – 16mm connection exists).

(4) The mixture selector (large black rotary button with scale of 0-10) must be adjusted to the desired mixing ratio.
Important! Please note!
The local legal water regulations have to be considered.
Note:
The scale 0-10 means a concentration range of 0-20% (Mod. S-1540 0-40%). If the turning knob for the setting of the concentration is put to 3, then this corresponds to a portion of approx. 6% concentration (Mod. S-1540 approx. 12%).
Since the viscosity of the concentration depends on the temperature, it is recommended to use a refractometer for calibration and recheck.

(5) The emulsion outlet hose with the mixed emulsion must be led into a suitable container or direct into the coolant tank of the machine.

(6) After the pre-setting of the desired concentration first apply water pressure to the line before turning the ball valve.

(7) The emulsion mixing unit is operational.

(8) After use first shut-off ball valve and afterwards close the main water supply in order that the water hose remains not under pressure.

6. Maintenance

A periodic maintenance is preferred to keep proper function for a long time.
Important! Please note!
Maintenance must be proceeded when the power is disconnected.

- Wipe-off dust and dirt on the cover.
- Remove the dirt at suction basket and check valve.
- Clean and replace if necessary, the hoses, nipples and jets.
- Check and replace if necessary, the seals.

7. General fault-finding guide

Fault	Possible cause	Action
No or varying mixture	- Barrel with emulsion is empty	- Change Barrel
	- Mixture selector is set at zero	- Put mixture selector on 2-3
	- Suction hose is not tight	- Tight the suction hose
	- Suction basket or check valve is dirty	- Clean the suction basket or check valve; if necessary, change them
	- Cross section of the suction hose changed	- Use original suction hose
	- Ball valve closed	- Open ball valve
	- Main water supply closed	- Open main water supply

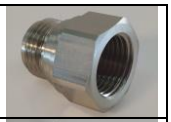
8. Specifications

8.1. Technical Data

Deutsch	**Français**	**English**		**Model**		
				S-1502A	**S-1520**	**S-1540**
Mischleistung	Performance de mélange	Flow rate		ca. 1000l/h	ca. 1000l/h	ca. 1000l/h
Mischverhältnis	Relation de mélange	Concentration range		0 - ca. 20%	0 - ca. 20%	0 - ca. 40%
Wasserfliessdruck vor Gerät	Pression d'eau devant l'appareil	Water pressure		min. ca. 2,5 bar (max. ca 6 bar)	min. ca. 2,5 bar (max. ca 6 bar)	min. ca. 2,5 bar (max. ca 6 bar)
Wassereinlass Schlauchverschraubung	Entrée d'eau Vissage pour tuyau	Water inlet Screw connecting for tubing		¾“ ¾” –16 mm	¾“ ¾” –16 mm	¾“ ¾” –16 mm
Konzentrateinlass Ansaugschlauch mit Rückschlagventil und Saugkorb	Entrée de concontré Entrée de concentré avec valve de retenue et corbeille d'aspiration	Concentration inlet Concentration inlet with check valve and suction basket		1/2“ 1000 mm ID = 19 mm AD = 25 mm	1/2“ 1000 mm ID = 19 mm AD = 25 mm	1/2“ 1000 mm ID = 19 mm AD = 25 mm
Mischflüssigkeitsauslass Auslaufschlauch mit Rohr	Echappement du liquide mélangé Tuyau de sortie avec tube	Emulsion outlet Outlet hose with pipe		1/2“ 1100 mm ID = 16 mm AD = 22 mm	1/2“ 1100 mm ID = 16 mm AD = 22 mm	1/2“ 1100 mm ID = 16 mm AD = 22 mm
Abmessungen	Dimensions	Dimensions	LxBxH/ mm	200x80x200	120x43x108	120x43x108
Ausführung	Exécution	Execution		Automat	Manual	Manual
Gehäuse	Boîtier	Casing		Aluminium, Aluminium		
Farbe	Couleur	Color	Standard	RAL 7038 achatgrau, gris, grey		schwarz, gelb, silber noir, jaune, argent black, yellow, silver
Gewicht	Poids	Weight		ca. 6 kg	ca. 3 kg	ca. 3 kg

8.2. Spare list

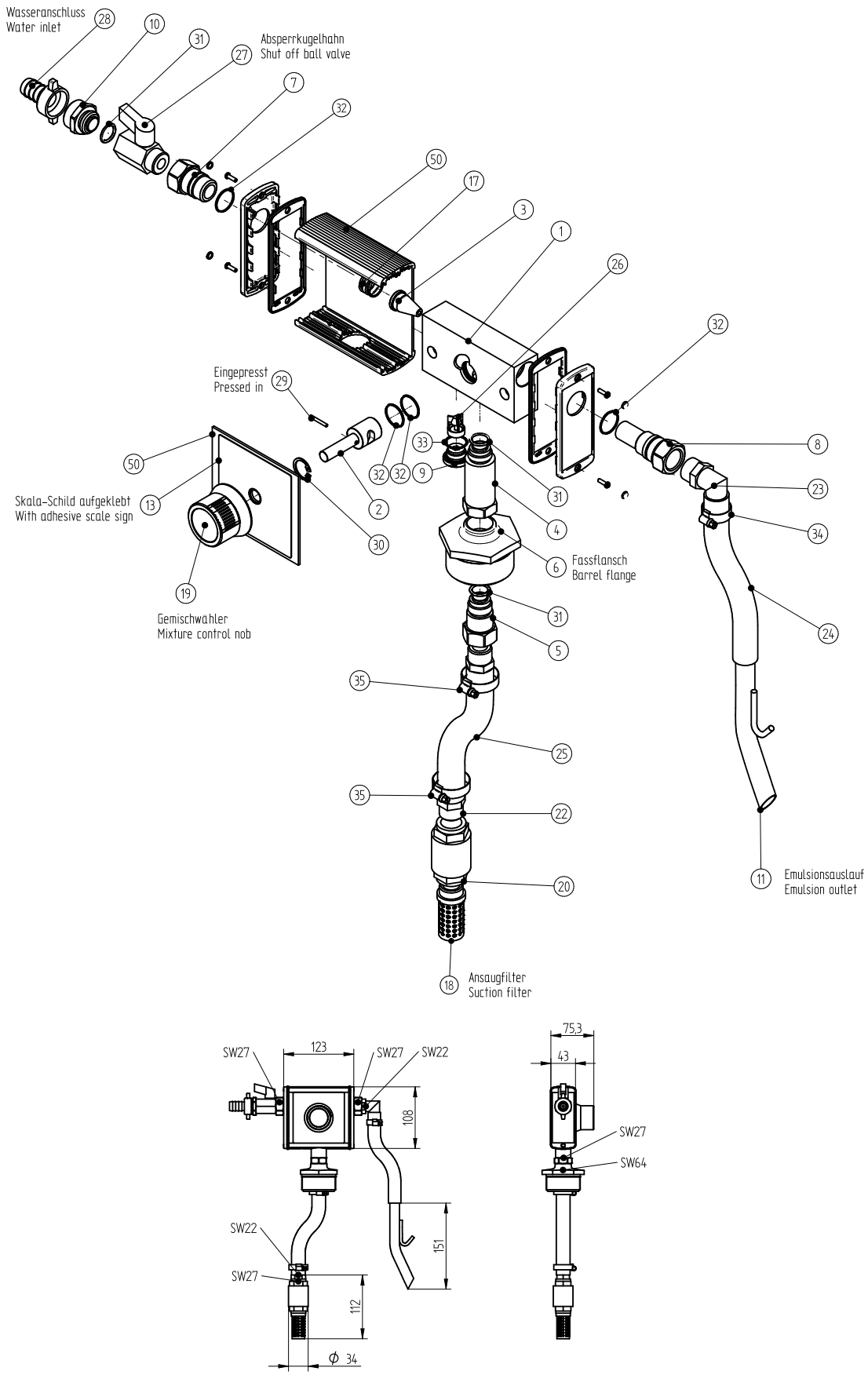
Detail No.	Lestoprex No.	Deutsch	Français	English	
1	14-22001	Ventilblock	Bloc de soupape	Valve ingot	
2 S-1520	14-22060	Regulierbolzen	Boulon	Bolt	
2 S-1540	14-22062	Regulierbolzen	Boulon	Bolt	
2 S-1502A	14-22002	Regulierbolzen	Boulon	Bolt	
3	14-22003	Düse	Buse	Jet	
4	14-22004	Ansaugnippel lang	Raccord longue	Nipple long	
5	14-22005	Ansaugnippel kurz	Raccord court	Nipple short	
6	14-22006	Fass-Flansch	Bride tonneau	Barrel flange	
7 S-1520 S-1540	14-22007	Anschlussnippel	Raccord fileté	Pipe fitting	
7 S-1502A	14-22107	Anschlussnippel	Raccord fileté	Pipe fitting	
8	14-22008	Auslaufnippel	Raccord de sortie	Outflow nipple	
9	14-22009	Entlüftungsnippel	Bouchon de ventila-tion/fermeture	Ventilation nipple	
10	14-22010	Nippel zu Kugelhahn	Raccord pour robinet	Nipple for ball valve	
11	14-22011	Auslaufrohr	Tube d'échappement	Outlet pipe	
13	14-22013	Skala Schild	Plaque de graduation	Scala plate	

14 S-1502A	14-22120	Übergangsnippel	Raccord traversée	Transition nipple	
17	14-22017	Druckfeder	Ressort de pression	Spring	
18	14-22018	Saugkorb	Corbeille d'aspiration	Suction basket	
19	14-22019	Drehknopf	Bouton	Button	
20	14-22020	Rückschlag-ventil	Valve de retenue	Check valve	
22	14-22022	Anschlussnippel gerade ½“ für ID 19 mm	Raccord en nylon droit ½“	Hose connector Nylon straight ½”	
23	14-22023	Anschlussnippel gewinkelt 90° ½“ für ID 16 mm	Raccord en nylon courbe 90° ½“	Hose connector Nylon 90° ½”	
24	14-22024	Auslaufschlauch 1100 mm ID/AD = 16/25 mm	Tuyau de sortie 1100 mm ID/AD = 16/25 mm	Outlet hose 1100 mm ID/AD = 16/25 mm	
25	14-22025	Ansaugschlauch 1000 mm ID/AD = 19/24 mm	Tube d'aspiration 1000 mm ID/AD = 19/24 mm	Suction hose 1000 mm ID/AD = 19/24 mm	
26	14-22026	Rückschlagventil 3/8“ für Ventilblock	Valve de retenue 3/8“ pour bloc de soupape	Check valve for valve ingot	
27	14-22027	Durchgangskugelhahn ½“	Robinet à bille ½“	Ball valve ½”	
28	14-22028	Schlauchverschraubung G ¾“ - 16 mm	Vissage pour tuyaux G ¾“ - 16 mm	Screwing for pipe G ¾“ - 16 mm	
29	14-22029	Zylinderstift für Regulier-bolzen	Goupille cylindrique	Cylindrical pin	
30	14-22030	Sicherungsring für Boh-rung an Regulierbolzen	Bague d'arrêt	Ring stop	
31	14-22031	O-Ring Nitril 14 x 2,5 mm	Joint torique Nitril 14 x 2,5 mm	O-ring nitril 14 x 2,5 mm	
32	14-22032	O-Ring Nitrl 20 x 1,5 mm	Joint torique Nitril 20 x 1,5 mm	O-ring nitril 20 x 1,5 mm	

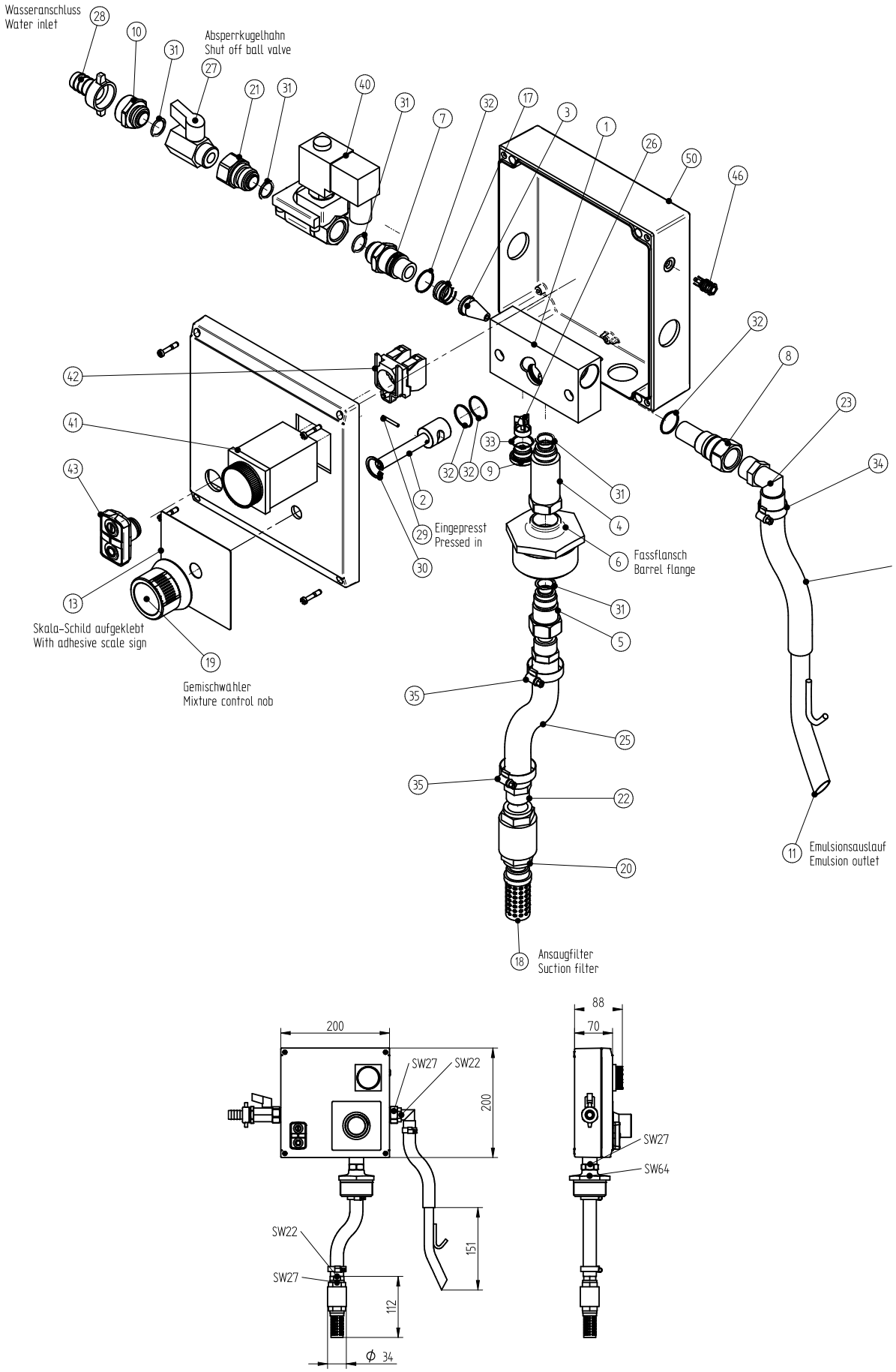
33	14-22033	O-Ring Nitrl 17 x 1,5 mm	Joint torique Nitril 17 x 1,5 mm	O-ring nitril 17 x 1,5 mm	
34	14-22034	Schlauchbride für Schlauch AD 22 mm	Bride de serrage	Hose clamp	
35	14-22035	Schlauchbride für Schlauch AD 25 mm	Bride de serrage	Hose clamp	
40 S-1502A	14-22040	2-2 Wege-Sitzventil	Soupape champignon à 2/2 voies	2/2-way poppet valve	
41 S-1502A	14-22131	Zeitrelais	Relais temporisé	Timer relais	
42 S-1502A	14-22132	Kontaktblock	Bloc de contact	Contact block	
43 S-1502A	14-22133	Ein-/Aus-Druckknopf	Marche/arrêt tête de bou- ton poussoir	On/Off push button head	
46	14-22121	Einbaubuchse	Embase femelle de pan- neau	Panel socket	
50 S-1520 S-1540	14-22050	Gehäuse S-1520, S-1540	Boîtier S-1520, S-1540	Casing S-1520, S-1540	
50 S-1502A	14-22050	Gehäuse S-1502A	Boîtier S-1502A	Casing S-1502A	

8.3. Exploded View

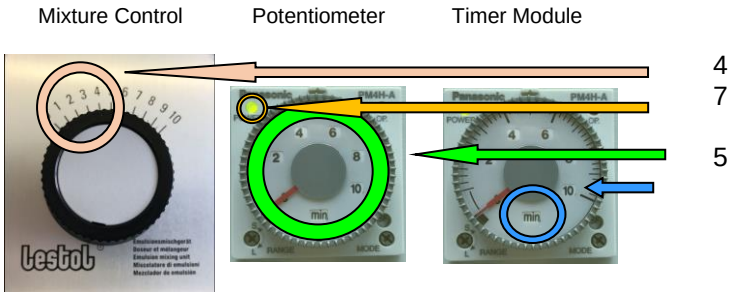
Mod. S-1520



Mod. S-1502A


Wasseranschluss
Water inlet
Absperrkugelhahn
Shut off ball valve
Eingepresst
Pressed in
Fassflansch
Barrel flange
Skala-Schild aufgeklebt
With adhesive scale sign
Gemischwahler
Mixture control nob
Emulsionsauslauf
Emulsion outlet
Ansaugfilter
Suction filter
200
SW27
SW22
200
88
70
SW27
SW64
SW22
SW27
151
112
ϕ 34

8.4. Electrical connection of model S-1502A equipped with an automatic timer

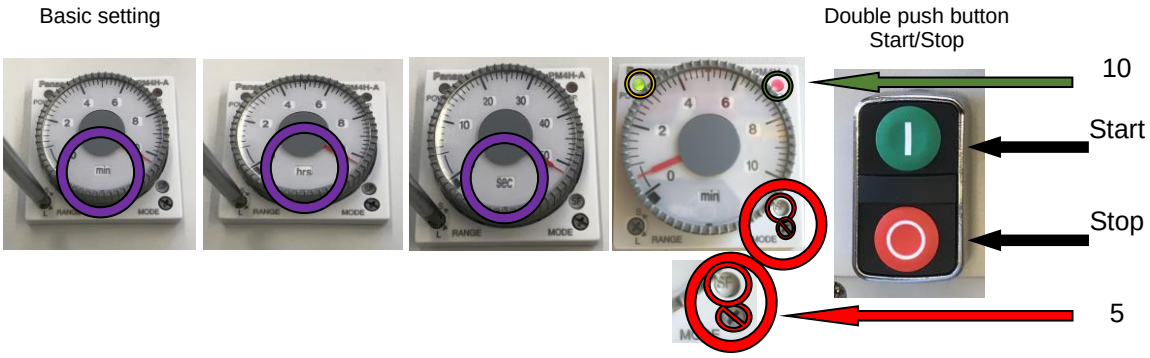


(1) The suction hose must be dipped into the barrel with the concentrate and the 2“sleeve be bolted.
(2) The ¾ “vent screw of the barrel has to be loosened, so that no vacuum occurs.
(3) A flexible water hose has to be mounted at the inlet (3/4“ – 16mm connection exists).
(4) The mixture selector (large black rotary button with scale of 0-10) must be adjusted to the desired mixing ration.
Important! Please note!
The local legal water regulations must be considered.
Note:
The scale 0-10 means a concentration range of 0-20%. If the **mixture control for the setting of the concentration is put to 3**, then this corresponds to a portion of approx. 6% concentration.
Since the viscosity of the concentration depends on the temperature, it is recommended to use a refractometer for calibration and recheck.

(5) **The Timer (Potentiometer) serves as volume switch. The timer module in the unit has a preset default from 0-10 minutes. 0 – 10 on the potentiometer setting means that the preset unit will be in operation between 0.5s and 10min. Depending on the choosen mixing ratio approx. 0.3-300 litre of emulsion will be prepared.**

The basic setting on the time relay can be changed by turning the time range selector switch (RANGE), with a screwdriver, in the range from 0.1s to 500h. Turning clockwise increases the time range, turning counter clockwise decreases the time range. Check the correct position of the selector switch to prevent the coolant tank from overflowing.

WARNING The time range selector switch (RANGE) is not to be confused with the time function selector switch (MODE). This must not be adjusted and must remain in position SF, otherwise the unit will malfunction!



(6) The emulsion outlet hose with the mixed emulsion must be led into a suitable container or direct into the coolant tank of the machine.
(7) **Connect the Trafo 24 V. The green Power LED lights up.**
(8) After the pre-setting of the desired concentration first apply water pressure to the line before turning the ball valve.
(9) The emulsion mixing unit is operational.
(10) When "I" (green) is pressed on the double push-button, the unit starts the mixing process and does not stop it until the set time has elapsed. **The red OP-LED** flashes during this process. Depending on the set time range, this happens with different frequency. The mixing process can also be aborted before the set time has elapsed by pressing "O".
(11) After use, first close the shut-off ball valve and then the main water tap to shut down the water hose so that it is not under pressure.