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Important!

Never operate the engine without spring loaded safety valve. Only use WILESCO steam engine oil.



D 32
1000 ml
230 V AC
900 W

electrical connection from dynamo
(pole terminals)

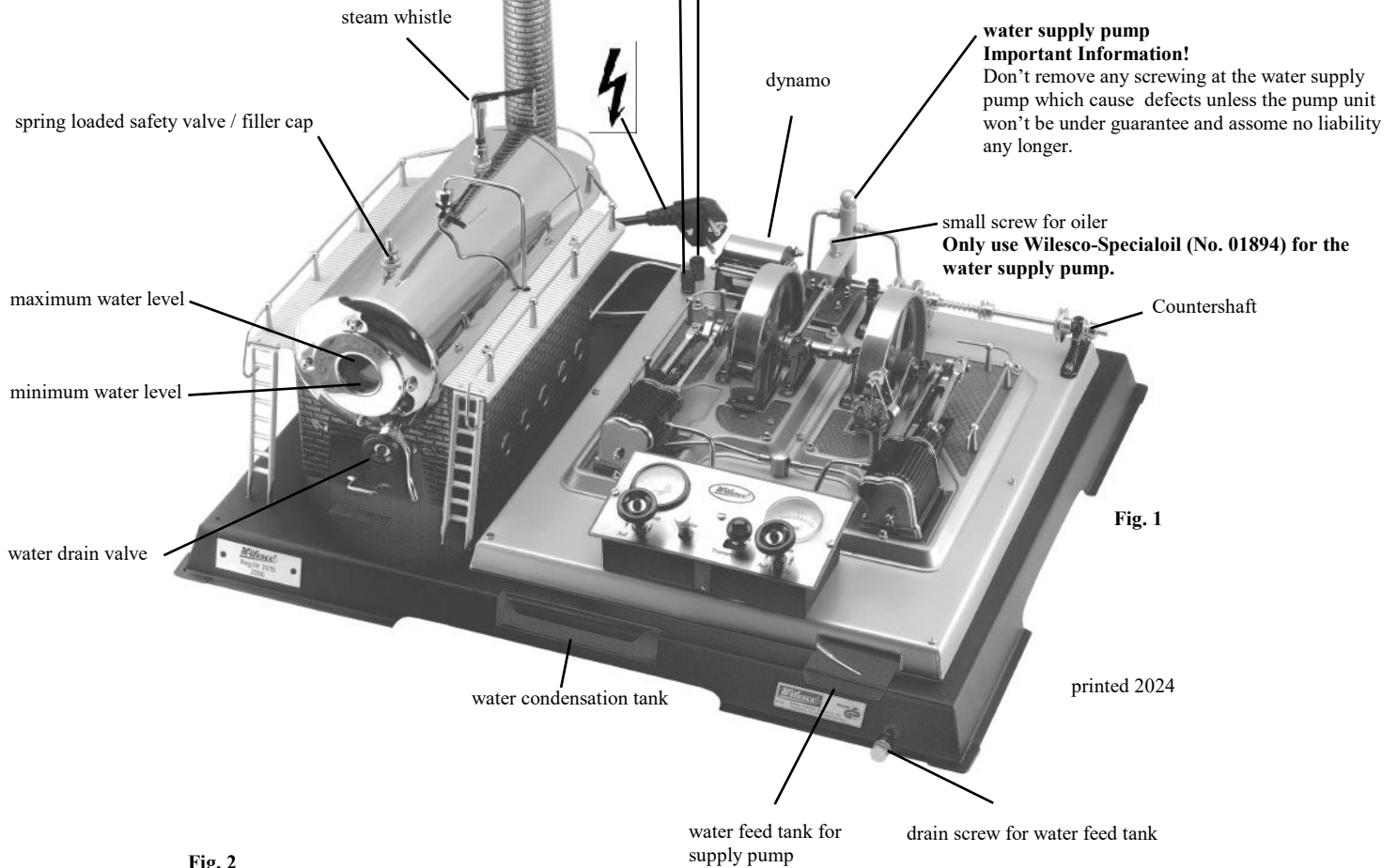
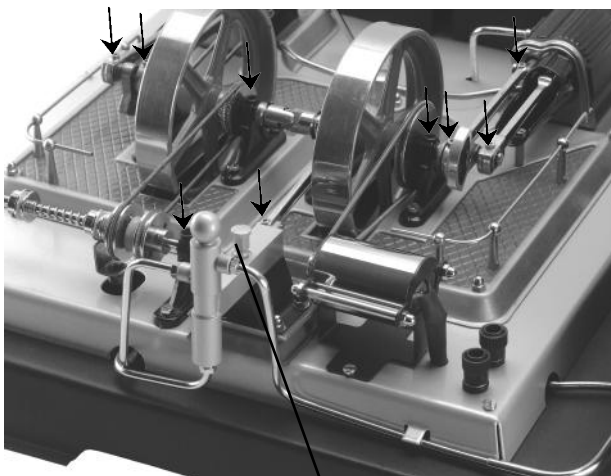
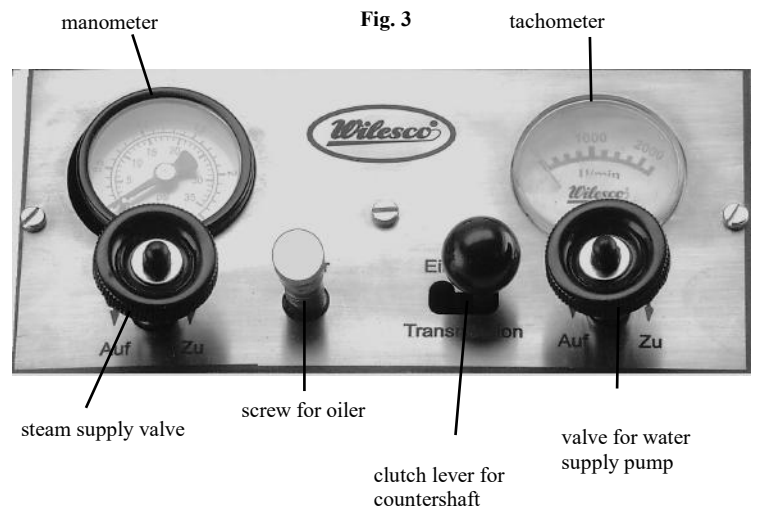


Fig. 2



oil all parts
(see point 15)

small screw for oiler





Attention!

Before operating this steam engine model please read and observe thoroughly the operating instructions. These contain important information and safety precautions for your own benefit

1. For safety reasons, children should run the steam engine only under supervision of adults (recommended age: from 8 years on) People with physiological, mental or sensory disturbances or lacking in experience or knowledge should only run the steam engine under supervision of a trained person, unless they are trained to operate a steam engine and that they understand all the hazards associated with running an engine. Cleaning and maintenance should only be undertaken by adults or children from the age of 8 with adult supervision. Take care that children under 8 do not get too close to the steam engine, wiring or plug. During the operation of the steam model until complete cooling the engine must be under constant observation.

2. Each irregularity during operation has to be repaired by a competent authorized WileSCO dealer or by WILESCO themselves. Otherwise any warranty becomes null and void...

3. Any unauthorized change, repair or alteration to the standard specification will also invalidate the warranty.

4. All parts which are under steam pressure such as boiler, spring loaded safety valve etc. leave our works only after a 100% examination. The spring loaded safety valve must not be altered in any way. The operation of the steam engine without any spring loaded safety valve is not allowed. The function of the spring loaded safety valve must be checked before each operation by pressing the spring or by a small pull on the upper valve rod. If lime scale caused by hard water is visible on the safety valve, it should be replaced immediately.

5. **High temperatures:** The principles on which the engine works mean that the burner slide, boiler, boiler house, the spring loaded safety valve, and steam pipes etc. become very hot. Do not touch in order to avoid the risk of burns.

6. **Safety precautions:** During operation, take care that children do not touch any of the moving parts.



7. **Danger if the boiler is heated without enough water!** Always ensure that there is enough water in the boiler of the steam engine. **The water must always be visible at least at the lower end of the sight glass,** otherwise the joints will leak and the boiler will be destroyed. Any resulting claim, damage or consequential damage cannot be accepted. If the boiler or any steam pipework are seen to be leaking, stop the steam model immediately.

8. **Operate the steam engine at a safe distance from burning objects and not on temperature sensitive surfaces.**

9. In case of damage to the water gauge glass, e.g. through a scratch, do not use the steam engine any more. Get the glass changed by authorized trained staff or the manufacturer.

10. The operating instructions must be kept in a safe place!

Operating instructions for D32 el:

11. On the electrically heated steam engine the mains connection cable is provided with a shockproof plug according to the instructions of the Union of German Electricians (VDE). **Important:** the mains current must be the same than the one indicated on the rating plate. During the first heating phase, a slight emission of smoke is possible. Before operation of the electrically heated steam engines, please ensure that between the 230 Volt mains and the steam engine an operational safety cut out switch with a fuse from 30mA is used. The mains socket **must** be earthed.

CAUTION: To avoid a hazard due to an accidental reset of the cut out switch, the device must not be supplied by an external switching device such as a timer or connected to an electrical circuit that is regularly switched on and off by another device.

12. Please route the mains connection cable so that it does not touch any hot parts.

Attention: The mains connection cable cannot be replaced. In case of any damage, do not run the steam engine.

Only authorized trained staff or the manufacturer are allowed to change the mains connection cable.

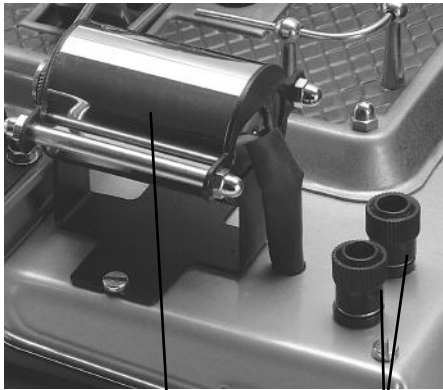
13. Filling with water for the first operation and after cooling of the boiler: Unscrew the spring loaded safety valve and fill the boiler with the funnel until it is approx. $\frac{3}{4}$ full (upper edge of the water gauge glass), with warm water. **Do not overfill the boiler.** Lift the funnel slightly during filling so that the air inside the boiler can escape. Use only deficient in lime water or, even better, water without any lime (e.g. distilled water). Then refit the spring-loaded safety valve.

14. Screw the steam whistle onto the boiler using the provided spanner. Do not tighten by turning the lateral lever of the whistle as this will be damaged. When screwing in the steam whistle, position the lever with the chain pointing outwards (place several washers under the whistle if necessary) so that the chain which operates the whistle does not come in contact with the boiler. Pull the chain gently to operate the whistle. Note: the steam whistle can be used to check any overpressure in the boiler or before oiling to check whether the boiler is still under pressure.

15. Before oiling the cylinder, turn off the steam supply valve. Only then open the oil filler screw (see figure Fig. 1 page 1) and fill with WILESCO Steam Oil (item n° Z 83) while turning the flywheel several times so that the oil is sucked in. Oil sufficiently (2-3 drops several times) when starting up for the first time or after long periods of inactivity. Oil again approx. every 10 minutes so that the piston does not seize (2-3 drops oil are enough for approx. 10 minutes running time). There must be no steam pressure in **The steam supply valve must be close when oil is being added to the boiler.** Lightly oil all of the bearings and linkages (see figure Fig. 2 page 1). Before refilling the boiler with water, check by using the steam whistle that there is no steam pressure in the boiler.

16. Plug in the steam engine to the electricity grid. When the pressure gauge shows approx. 1 bar open the steam supply valve by one complete turn allowing the steam to escape. Thus, the steam engine starts to operate. The speed can be adjusted through the steam supply valve.

17. **Warning:** The electrically heated steam engine is fitted out with fuses which are tripped when the steam engine runs without enough water in the boiler. In order to run your steam engine again when this happens carry out the following. 1. pull out the plug, 2. let the steam engine cool down approx. 1 hour, 3. Check the water level and, if needed, refill the boiler with water, 4. Check if the boiler and any of its connections are leaking. (in case of leaks, do not use the steam engine any more, send it to be repaired), 5. Put in the plug.



dynamo pol terminals

18. The steam engine includes a dynamo and pole terminals (for banana plug). It is possible to fix a cable to the pole terminal, just unscrew the upper body 2-3 cycles. The dynamo has an off-load voltage of 12 V and power of max 0,1 A.

19. You can check the running speed on the tachometer (only when the mains plug is connected).

20. With the internal water supply pump, it is possible to refill water from the water feed tank into the boiler during extended operation. For this purpose, fill approx. 1l mm (max. filling level approx. up to 5 mm below the rim) with clean, lime-free water.

Small particles in the water, such as sand, destroy the pump. The water level in the water feed tank must be at least 5 mm, otherwise the pump pulls air and can no longer fill the boiler. Note: When the pump is used for the first time, or is no longer filled with water or if the pump has been used with too low a water level, it must be operated at idle speed:

To do this, open the valve for the water supply pump (see figure Fig. 3 page 1) so that the pump, which pumps continuously during operation, automatically vents itself. Close the water supply pump valve when the water, which now runs backwards into the water feed tank, no longer carries any bubbles.

Then reduce the speed to approx. 1,000 rpm and, wait until the pressure reaches approx. 1 bar. Turn the water supply pump valve clockwise to position "Zu" (see figure Fig. 3 page 1). Watch the water level of the boiler until it reaches the upper edge of the sight glass as shown in Fig. 1 page 1. Then open the valve again to position "Auf". The pump runs continuously during operation and, when the valve is open, pumps the water into the water feed tank without pressure. The water feed pump must be lubricated with 2 - 3 drops of WileSCO special pump oil each time it is used, via the small oil filling screw.

21. The transmission can be switched on and off with the lever of the clutch transmission on the control panel. With this powerful model, a large number of drive models can be connected via the transmission.

22. After completion of steam operation and cooling, the steam engine should be serviced. Empty any water remaining in the boiler by opening the water drain valve. To do this, open the water drain valve and operate the steam whistle by gently pulling the chain or unscrew the spring safety valve - no negative pressure is created when draining the remaining water. **Beware of hot water!** Water remaining in the boiler cannot damage the vessel, but may cause deposits on the sight glass. **Never remove lime residues from the sight glass or in the boiler with vinegar or other highly corrosive agents** (Recommendation: Use only WileSCO decalcifying agent for steam boilers Z84 no. 01051).



return pipe for water supply pump

To empty the water feed tank, unscrew the drain screw and collect the water in a container. Then tighten the drain plug with the seal (see illustration on the left).



23. The exhaust steam is directed into the chimney and the resulting condensate flows into the condensed water tray underneath the base plate. This container must be emptied after completion of steam operation. To do this, pull out the water condensation tank and empty it (see illustration on the left).

24. Finally, dry the model using a clean cloth.

25. Guarantee:
All WILESCO steam models are carefully checked before leaving the factory. However, if a problem arises, we will help you or carry out repairs. You can return the steam engine to your specialized distributor or directly to WILESCO. We are sure you will understand that already heated or used models cannot be exchanged for new ones. **The most frequent claims are leaking boilers. The solder will be destroyed if the Engine is run without enough water in the boiler. In such cases, the solder liquefies drop-shaped and the boiler leaks. This is an obvious indication that the boiler was heated without enough water. Always observe the water level. Heating without sufficient water invalidates the guarantee.**

This steam engine is only meant for the above described operation.

Technical data can be amended without prior notice.

WILESCO wish you a lot of pleasure with your steam engine and „full steam ahead“!

