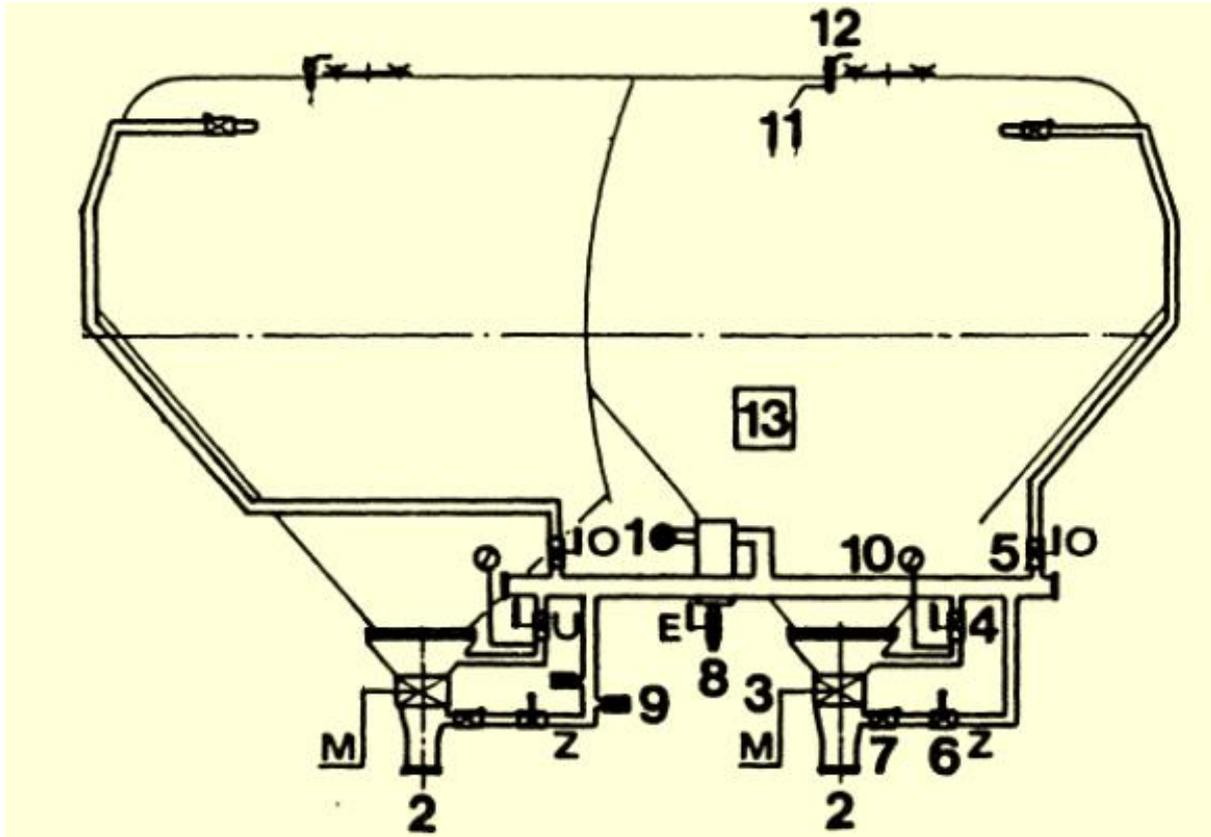


**Operational manual for two-axle, two-tank, Austrian made railway wagon,
discharge system: two side discharge on both sides of the wagon
with supporting air**



- | | |
|--------------------------------|------------|
| 1. Air supply coupling | |
| 2. Material coupling | |
| 3. Material valve | M (black) |
| 4. Valve for bottom air supply | U (green) |
| 5. Valve for upper air supply | O (blue) |
| 6. Valve for supporting air | Z (orange) |
| 7. Non return valve | |
| 8. Water separator valve | E (brown) |
| 9. Safety valve | |
| 10. Manometer | |
| 11. Pressure safety seal | |
| 12. Air-release valve | |
| 13. Short operation manual | |

Preparation

1. Tow the wagon to the place of discharge.
2. Fix the wagon by turning the handbrake to the point of impact or by placing shoes under the wheels of the wagon from both directions to prevent displacement.
3. The valves U, O, Z, M as well as the top cover screws of the tank to be unloaded have to be closed.
4. Attach the material pipe to the Material coupling (2) and the unloading air pipe to the Air supply coupling (1).
5. Open the water separator valve (E brown), start the compressor, close the water separator valve (E brown).

Unloading

6. Open upper air supply valve (O blue) to 1/3
7. Open bottom air supply valve (U green) completely.
8. Wait until the pressure in the tank reaches 2,5 bars.
9. In case of pelletized, granulated or heat sensitive materials the upper air supply valve (O blue) has to be opened completely. In case of unloading sugar the bottom air supply valve (U green) has to stay closed. To determine the optimal unloading process test unloadings have to be performed.
10. Open valve for supporting air (Z orange) completely.
11. Finally open the material valve (M black) completely.
12. Manometer (10) have to be observed and the operational pressure maintained by the change of the supporting air valve (Z orange)
 - If the pressure drops – close supporting air (Z orange) a bit
 - If the pressure increases – open supporting air (Z orange) a bit
13. If the Safety valve (9) blows off despite that the bottom air supply valve (U green), upper air supply valve (O blue), supporting air valve (Z orange) and material valve (M black) are all fully open (excess of air) should the water separator valve (E brown) be opened as long as the safety valve (9) closes and the pressure stabilizes.
14. The sudden drop in the tank pressure signals the end of the unloading.
15. Close supporting air valve (Z orange) and upper air supply valve (O blue).
16. Close and open bottom air supply valve (U green) several times.
17. Close material valve (M black) and disconnect Material pipe.
18. Repeat the process (6-17) for the other tank.
19. After the completion of the unloading of all tanks stop the compressor.
20. Open the water separator (E brown) and leave it open until the separator is fully empty.

Safety instructions

21. During the handling of the wagon the personnel must wear the following safety gear: safety helm, safety gloves, safety glasses, safety boots.
22. While climbing up to the top of the wagon the personnel has to be protected from falling by any appropriate safety tool (e.g. Safety strap).
23. The top cover lid can only be opened if the tank is pressure free. For safety reasons the air-release valve (12) has to be opened to release any pressure from the tank before opening the top cover lid.

Irregularities

24. Should any disorder occur during the discharge, inform the keeper of the wagons by fax, telephone or e-mail.

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