TEST REPORT

of the

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Filling system for plant protection products Hypro "Cleanload Nexus"

Approved for the safe filling (complete removal) of plant protection products from containers in plant protection devices

Applicant and Manufacturer
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Equipment and dimensions

Construction
Filling system for connecting as a closed transfer system to sprayers and spraying devices for safe filling of plant protection products (PPP) from containers into plant protection devices. May be mounted on the sprayer structure with permanent connection or on a frame, wall or stand and connected with dry break fittings at the time of sprayer filling. Can be used for 1 l, 5 l, 10 l and 15 l containers with a screw thread with a diameter of 63 mm and fitted with an „easyconnect“ container cap.

Fig. 2: The closed container is held by the system and sealed tightly. By turning the dosing handle, the PPP can be sucked in more or less quickly.

Cleanload Nexus Parts
A) Plastic housing with the connector on the head for attaching the containers to be emptied with a capacity of 1 l to 15 l. Activation of the emptying by swiveling the handle. The container lid is firmly enclosed and sealed with a clip. When the handle is turned further, the plant protection agent flows out of the container into the system and is sucked off by negative pressure (generated by the connected plant protection device). Metered suction is possible by swinging the handle more or less far. In the end position, the suction opening is completely open. This position is also used for the container cleaning.

B) Suction hose either permanently connected or with quick coupler (coupler with flat seal) for connection to the suction fittings of the respective plant protection device.

C) Water connection and hose with 15.5 mm inner diameter, thread on one side and a non-drip quick connector on the other side. The hose connection used on the farm can be screwed onto the thread (e.g. GEKA). A direct connection to the rinsing water connection of the plant protection device is also possible.

Fig. 3: The pressurized water connection can be made using the threaded pressure coupling supplied. Appropriate connectors (e.g. GEKA) can be screwed onto the thread (3/4").

D) "Ceanload Nexus" - Coupling: Special „easyconnect“ caps formed by agrochemical companies for use with "Cleanload Nexus" with sealing ring, dust cap and sealing cap. The lid is also suitable for the partial removal of PPP, as the lid is airtight. In the case of partial removal, the cap closes automatically. A measuring device for partial removal is not integrated in the device and can be used to some extent via markings on the suction hose. An additional cover prevents contamination of the inside of the cap.

Fig. 4: The 1" suction hose can be coupled to the plant protection device via the suction connection without dripping.

Fig. 5: „easyconnect“ cap with sealing lid prevents the ingress of dirt when partially removing crop protection products.

Measurements and weight
470 mm width (with handle)
300mm depth
370mm height
Weight: 9 kg (with suction hose and flushing water hose)

Assessment

The "Cleanload Nexus" filling system allows plant protection products (PPP) to be filled in safely and without contamination from containers (tested with 1 l, 5 l, 10 l and 15 l containers) with the standard „easyconnect“ caps (63 mm screw cap). The cap is designed in such a way that when it is later placed on the "Cleanload Nexus", the contents of the container are dosed and sucked into the suction line to the crop protection device by lifting the inner part of the cap. After emptying, both the adapter and the container can be cleaned in one go via the flushing line (either the domestic water network or the flushing line of the device, minimum pressure 3.0 bar). The cleaning result is sufficient according to the requirements. A higher pressure (5 bar) on the fresh water line significantly improves the cleaning effect. After cleaning, the cleaned containers can be sent to an organized return. Partial removal from containers is possible in principle, since the cap seals the container tightly for subsequent removal. For a partial removal, the containers should have sufficiently accurate scales (reading in removal position). It is planned by the agrochemical industry that containers are factory fited with „easyconnect“ caps. The scale division on commercial containers is often only 0.5 l, which is often too coarse for accurate gauging. The manufacturer is now equipping the suction hose with a scale that is intended to improve the measurement of partial quantities. In principle, measuring is possible with it, but handling is complicated because the tube has to be held high to read. This is not always possible when connecting to the suction port of sprayers. With the second hand, the user must also release the amount of liquid in a dosed manner.

Proven in practical use
The device was used in 2021 with sprayers. The device is in the proven practical use for contact-free removal from PPP containers.

Device safety
The device was tested and certified by the social insurance for agriculture, Forestry and Horticulture (PZ.LSV) safety-technically examined and meets at the time of Assessment of applicable safety requirements.

Field testing
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Technical testing
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