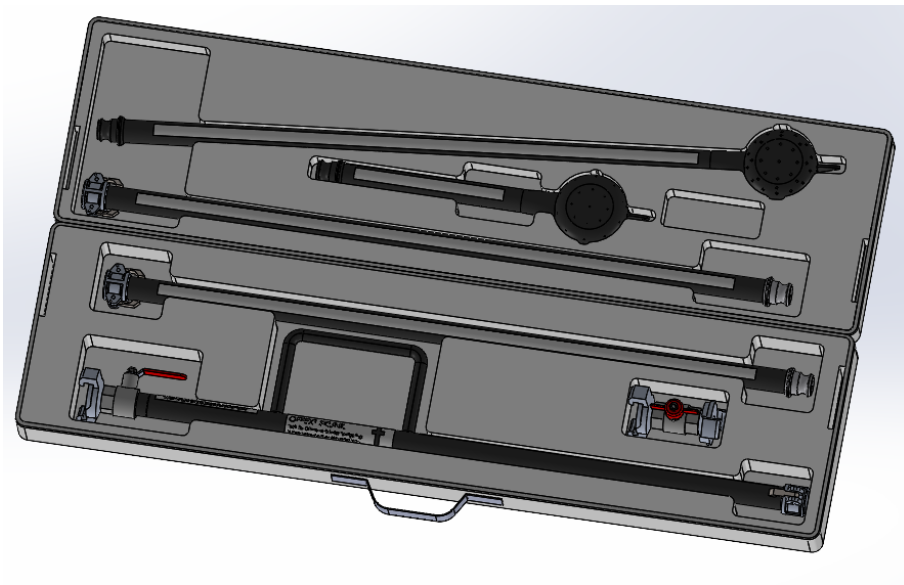


The arm nozzle

User and maintenance manual



Please read this manual carefully before using the product. Store the manual for future reference.

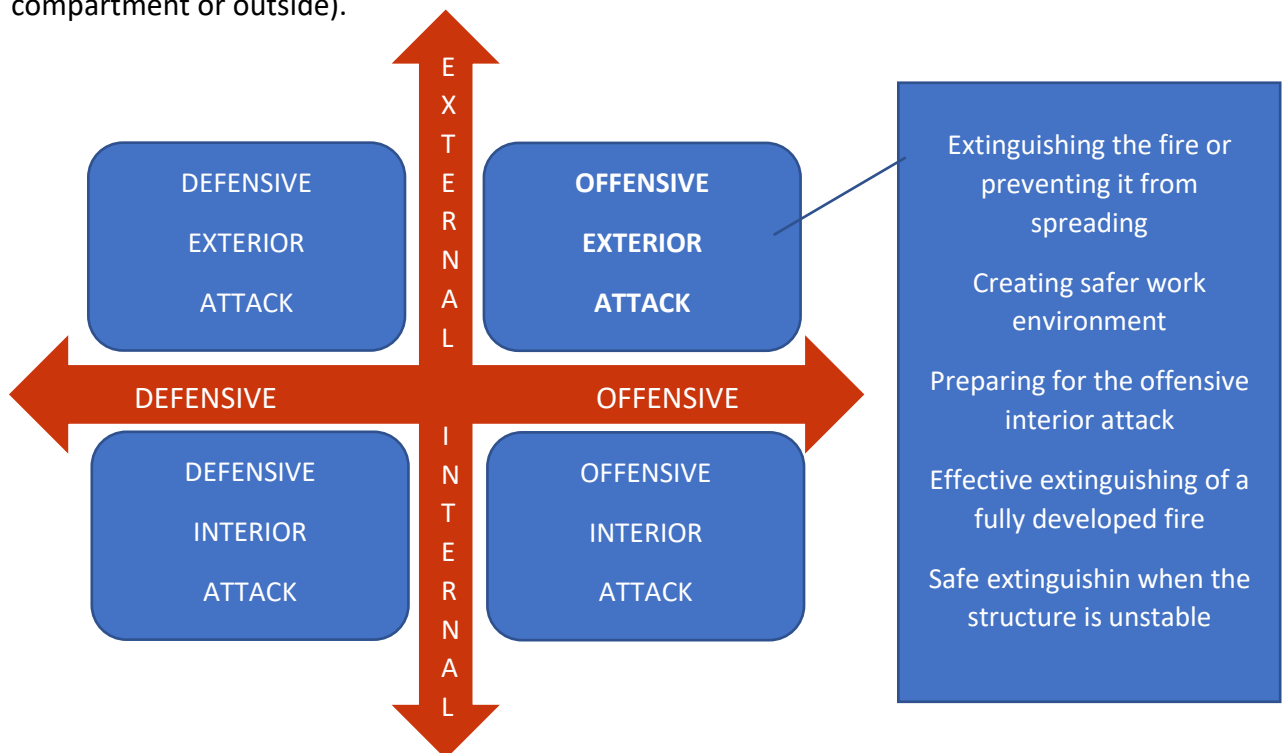
OFFEXT SKUNK arm nozzle is protected by Finnish Utility Patent FI 13086 Y1

1. INTRODUCTION

This product is mean for the use by trained fire and rescue personnel. Usage without proper training can be hazardous. The product is designed for compartment firefighting, vehicle fires and battery fires in electric vehicles.

Offensive exterior firefighting and the quadratic model of firefighting tactics

The **OFFEXT** arm nozzle is designed to be used in compartment fires for offensive exterior firefighting. Offensive exterior is one of four firefighting tactical approaches defined in the quadratic model. The model defines four basic tactical approaches based on the goal (extinguishing the fire or limiting the damages) and the exposure of fire fighters (inside the compartment or outside).



Original graphic in: Brandweeracademie (2017). The offensive exterior attack: extraordinary?

Perspective for a practical application based on four experimental studies. Instituut Fysieke Veiligheid.

The benefits of the offensive exterior approach over the interior attack include safer work environment, less exposure to harmful substances in the smoke, lighter physical workload and less maintenance work after the incident. **The stability of the building must be ensured also when using the offensive exterior approach.**

Important!

- 1.1 Please, pay close attention to safety instructions on this manual.
- 1.2 Please, follow the instruction on the stickers on the product.
- 1.3 Please, watch the instructional videos on the website www.offext.com

2. USAGE OF THE PRODUCT

2.1 Please read this manual before operating the product.

2.2 Make sure that the case contains all the following parts.

1. Carrying case (HxLxD) 116x1350x380(mm) 5,3 kg
2. Nozzle head OFFEXT SKUNK (HxLxD) 48x127x1226 (mm) 1,8 kg
3. Short nozzle head OFFEXT ELECTRIC VEHICLE (HxLxD) 48x127x556(mm) 1,4 kg
4. Extender arm 2 pcs (HxLxD) 69x49x1182 (mm) 0,8 kg
5. Operating arm (HxLxD) 48x127x556 (mm) 2,0 kg
6. Cut off valve unit (HxLxD) 71x108x156 (mm) 1,2 kg
7. User manual

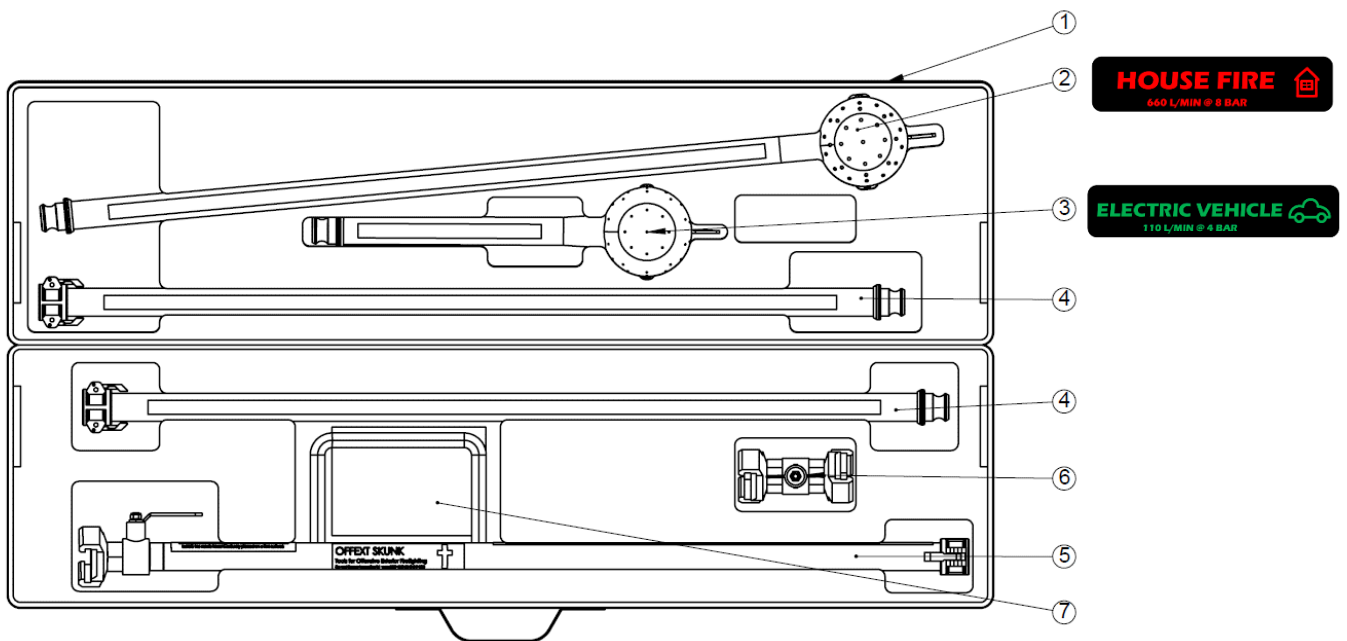


Figure 1. Packing case and the parts of the arm nozzle product.

2.3 Assembling the product for use

2.3.1 Select the appropriate nozzle head



- **Compartment fires:** The long nozzle head OFFEXT SKUNK. Product number 2.



- External cooling of **battery fire on an electric vehicle:** The short nozzle head OFFEXT ELECTRIC VEHICLE. Product number 3.



- Other **vehicle fires:** The long nozzle head OFFEXT SKUNK. Product number 2

2.3.2 Attach extension arm(s), part number 4. to the nozzle head, when required.

Note, that the reflexive luminescent tapes face up. The tapes emit light in the dark after been exposed to light earlier. The tapes provide visual indication of the posture of the product also in the dark and smoky conditions.

The arms are attached using the camlock couplings.

- a. Insert the female camlock coupling of the extension arm into the male coupling of the nozzle head
- b. Turn both camlock arms toward the extension arm and make sure they are tight.

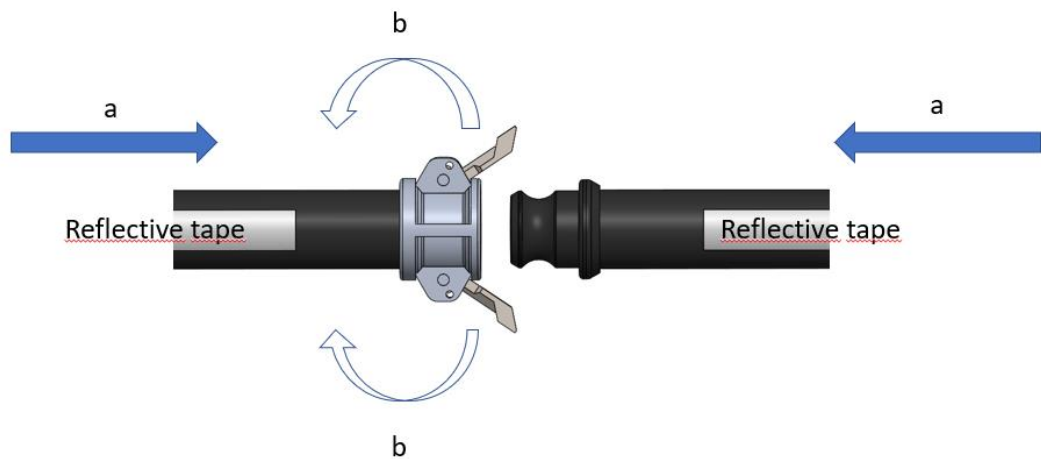


Figure 2. Extender arm connected to the nozzle arm

2.3.3 Attach the Operating arm (Part number 5) to the extension arm, or to the nozzle head (Part 2 or 3) if extensions are not used.

- Connection is made using a camlock coupling.
- Make sure that the reflective tapes face upwards.
- Make sure that the **operating valve is closed (See Figure 4)**, before attaching the hose and pressurizing the product.



Figure 3. Operating arm connected to an extension arm or directly to a nozzle head.

2.3.4 Attach the cut off valve unit (Part number 6) into the Operating arm (Part number 5).

- The Cut off valve guarantees the safety of the product in case the hose is pressurized, and the Operating valve accidentally opens. The cut off valve can also be used to easily switch to another type of nozzle without cutting off the pressure from the hose.

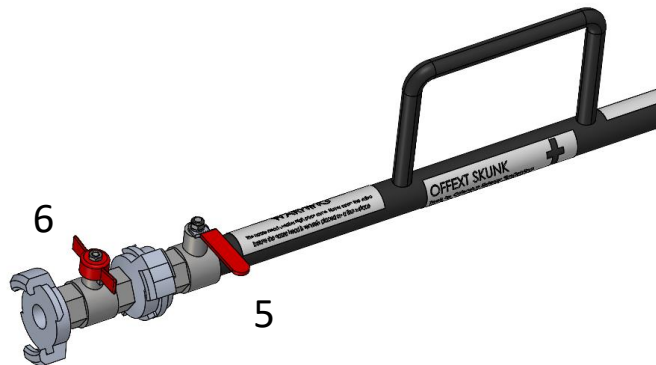


Figure 4. Cut off valve unit (6) attached to the Operating valve (5).

- The cut off valve unit is attached using a hose coupling.
- Please, make sure that the Operating valve (5) is closed when attaching the Cut off valve. Figure 4 shows the operating valve in a closed position.



Figure 5. The arm nozzle extended to the full length.

2.3.5 Attaching the fire hose

- Fire hose attachment is done using fire hose coupling.
- Make sure that both valves (Figure 4 valves 5 and 6) are **closed before pressurising the hose.**
- Pressurise the hose: Recommended working pressures:

Extinguishing arm (OFFEXT SKUNK)	8 bar
Battery extinguishing arm (OFFEXT ELECTRIC VEHICLE)	4 bar

2.3.6 Extinguishing using the arm nozzle

- Position the nozzle head for extinguishing on a firm surface. In compartment fires place the head in the middle of the compartment. When cooling the EV battery, place the head in the middle of the battery or in the middle of the vehicle if battery location is not known
- Make sure that the Operating valve 6 is closed and open the Cut off valve 6.
- Open the Operating valve 5.

ATTENTION! Make sure that the nozzle head is on a firm surface before opening the Operating valve.

Never open the operating valve, unless the nozzle head spray is aimed upwards, and the backside of the nozzle head is on a firm surface. The luminescent stripes show the correct positioning.

2.3.7 After the extinguishing operation

Open the valves half open and let all the water drain. In icing conditions, it is especially important to leave the valves half open as there will be water inside the valve housing. If not drained properly, the freezing water may damage the valve.

After the incident, pack the nozzle heads and arms that are contaminated by smoke with other contaminated gear, separately from non-contaminated gear.

3. Maintenance

After use, wash the parts using soap and water. Avoid using strong solvents. Use a brush to clean soot and debris.

Check the nozzle head for possible blockage due to debris in the extinguishing water. Rinse the nozzle head with a water flow opposite to the operating water flow.

After washing, let the product dry thoroughly before packing into the case. Leave the valves half open to make sure all water inside the valve housing is drained.

After use check-up:

- Inspect for mechanical damages
 - If you notice any melting, cracks, or tears in the product, do not use it. Contact the manufacturer for a replacement.
- Check that all seals are in good condition.
 - If necessary, replace with a new seal.
- Check the valves for freedom of movement and that they open and close fully.
 - If necessary, contact the manufacturer for a replacement.
- Inspect the couplings for excessive wear.
 - Lubricating the camlock arm sliding surfaces will reduce wear and make the arms easier to use.

4. Warranty

The product has a 2-year warranty from the date of purchase.

5. Product details

Package measurements (H x L x W)	116x1350x380 (mm)
OFFEXT SKUNK measurements (H x W x L)	220x127x4830 (mm)
Extinguishing medium	Water
Maximum working pressure	12 bars
Recommended working pressure OFFEXT SKUNK	8 bars
Recommended working pressure OFFEXT ELECTRIC VEHICLE	4 bars
Weight	15 kg

6. Manufacturer

Fire and Rescue Innovation Finland Oy

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