

ENGINEERING  
TOMORROW

*Danfoss*

# Oil Nozzles for **your service**

**100%  
tested**



# It is the Details that count



## **It is the details that count**

To obtain a perfect oil atomisation the details count. Danfoss oil nozzles are manufactured with the utmost precision including use of electronic and visual inspection. This ensures not only a perfect and uniform spray performance but also a high repeatability and consequently exactly the same spray performance.

The Danfoss oil nozzles were tested to be world class by the independent German test institute TÜV.

## **Meeting the highest standards**

Danfoss oil nozzles are unsurpassed as regards to compliance with international norms and standards, as our record shows.

- EN nozzles (1992)
- OFTEC standard (1995)
- CSA standard

Furthermore Danfoss is also ISO 9001 certified and our manufacturing plants comply with the environmental management requirements of ISO 14001.

## **Research and development**

In co-operation with recognized research centres, Danfoss is involved in various projects dealing with atomisation and combustion, which means that we contribute to continuous improvement of burner technology.

## **Real-life test in burner application centre**

Danfoss perform real-life tests in our burner application centre, which is the proper environment for optimising atomisation properties in oil burners.

Over the years, many burner manufacturers have taken advantage of this offer.



# A global Product Range – Adapted Locally



**Type OD** – most common oil nozzles for virtually all burners in the market.

- Capacities from 0.30 to 35 USgal/h. EN standardises from 0.40 to 1.75 USgal/h.
- Available in various spray angles and patterns.

**Types HD/HFD and SD/SFD** – round-head oil nozzle in steel.

- Capacities from 0.30 to 2.50 USgal/h. EN standardises from 0.40 to 1.75 USgal/h.
- HFD/SFD with double filtering.

**Type LE** – standard oil nozzles with a built-in LE (Low Emission) valve, patented by Danfoss. Used in combination with a Danfoss LE pump to achieve optimum start/stop phases without any oil drip and thus minimum emission from unburned oil residues.

**Type LN** – oil nozzles with a special spray pattern that minimises the NO<sub>x</sub>-content in the flue gases. (Use of oil preheater recommended)

**Type LN-LE** – LN nozzles with built-in LE valves.

**Type EH and ES** – OFTEC standardised oil nozzles, especial designed to optimise combustion with Kerosene.

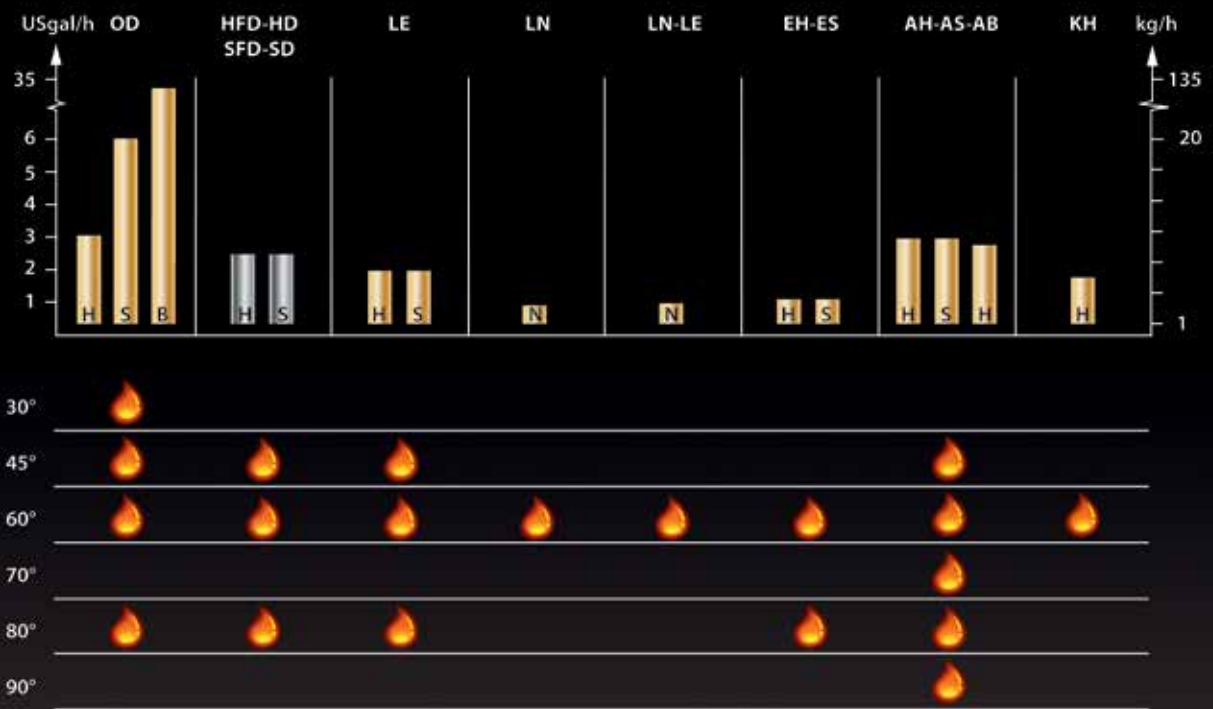
**Type AH, AS, AB** – standard oil nozzles for the North American market.

**Type KH** – oil nozzles for kerosene, especially for the Japanese market.

## **Multibox**

Furthermore, a handy carrying case is available with room for a selection of the most widely used nozzles. With a relative limited range is it possible to perform an effective service on most occurring burners in the market.





### A global product range

Further description of the product range is shown on the chart above illustrating available types, capacities, spray angles and spray patterns.

### Spray patterns

Danfoss nozzles are available with Hollow (H), Solid (S) and Semisolid (B) spray patterns.

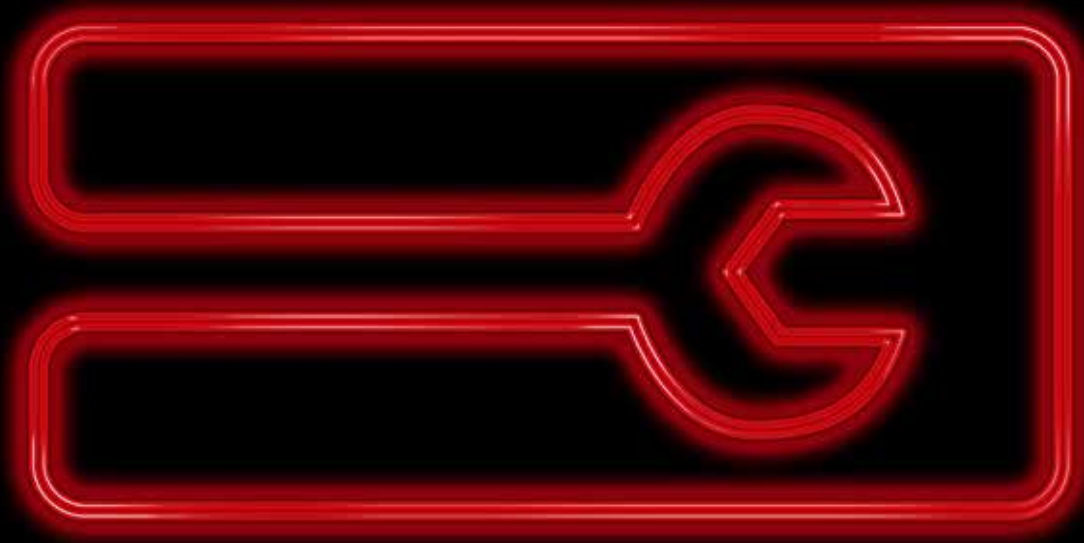
In addition the LN nozzle has a special hollow (N) spray pattern.



With this product range almost every oil burner can be serviced, including replacement of nozzles from other brands.

### Conversion from other brands (EU market)

|               |   | 1st choice Danfoss | 2nd choice Danfoss |
|---------------|---|--------------------|--------------------|
| Delavan A     | ➔ | H                  | HFD/HD             |
| Delevan B     | ➔ | S                  | SFD/SD             |
| Delevan W     | ➔ | B                  | -                  |
| Fluidics SF   | ➔ | SFD                | S                  |
| Fluidics HF   | ➔ | HFD                | H                  |
| Fluidics S    | ➔ | SD                 | S                  |
| Fluidics H    | ➔ | HD                 | H                  |
| Monarch PL    | ➔ | H/B                |                    |
| Monarch NS    | ➔ | HFD                | H                  |
| Monarch PLP   | ➔ | B                  |                    |
| Monarch AR    | ➔ | SFD/SD             | S                  |
| Monarch R     | ➔ | SFD/SD             | S                  |
| Steinen PH    | ➔ | H/B                |                    |
| Steinen H, HT | ➔ | HFD/HD             | H                  |
| Steinen SS    | ➔ | B                  |                    |
| Steinen S, ST | ➔ | SFD/SD             | S                  |
| Steinen Q     | ➔ | SFD/SD             | B/S                |



#### **Service saves time, oil and money**

Regular service, including replacement of the oil nozzle, is a good business for all parties – including the environment. Service and replacement ensures optimum combustion and consequently lower oil consumption. The best result is obtained when the nozzle is replaced once a year.

#### **The safe choice**

Optimum combustion and high efficiency requires a perfect and uniform spray performance. The safe choice is a Danfoss oil nozzle.

#### **Easy service with Danfoss oil nozzles**

Also when it comes to an easy service a Danfoss nozzle is the safe choice. The Danfoss nozzle will always deliver the exact same spray pattern which makes the service easier and less time consuming. Furthermore it is easy to identify a Danfoss oil nozzle through the description of the capacity and spray angle and pattern on the packing and container as well as on the nozzle itself. Saves time.

Danfoss oil nozzles can also replace nozzles from other brands, please see conversion table.

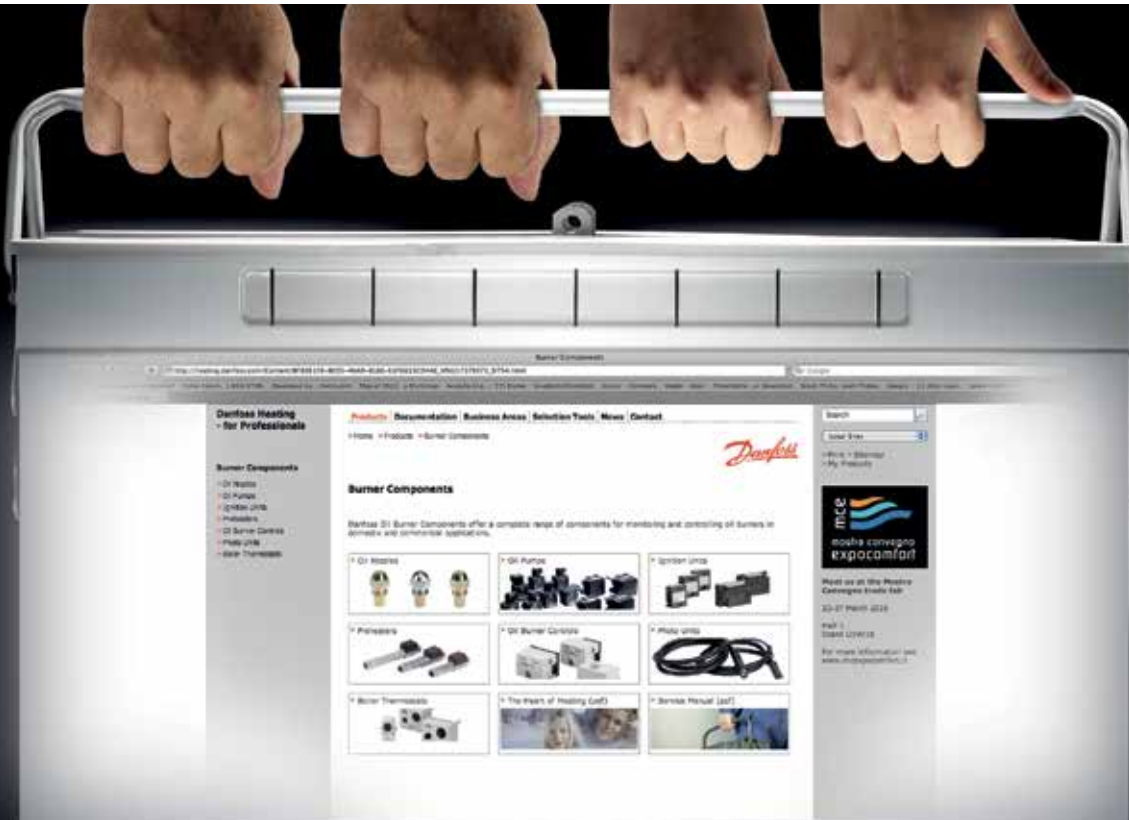
#### **Technical support**

Danfoss is the largest manufacturer of oil nozzles and components for oil burners which over the years has generated a wide knowledge within atomisation and combustion. A knowledge that we are happy to share with you.

#### **Availability**

Our nozzles as well as our sales support are available world wide. Millions of nozzles are at your disposal





On burner.danfoss.com you can find instructions, data sheets and brochures to download.

Our Service Manual is intended as an aid in your daily routine. We therefore hope that the manual will make your work with Danfoss Burner Components easier.



Four times a year we publish a newsletter with news, practical tips and valuable information. You can sign up for the newsletter at <http://newsletter.burner.danfoss.com>