

PRODUCT BROCHURE

**SMARTEMP**<sup>®</sup>  
IN COMFORT



Circular Nozzle  
**CNW-AD**

CNW-AD : 112017

[smartemp.com](http://smartemp.com)

## DESCRIPTION

The SMARTEMP® Circular Nozzle, type CNW-AD (figure 1), provides side-blow discharge from walls or bulkheads. Supply air is discharged as a jet with substantial momentum, due to the high discharge velocity, thereby creating a stable trajectory over extremely long throws.

The nozzle of the CNW-AD is housed in a truncated sphere that may be swivelled by up to 30° in any direction (manual adjustment only) from its central location, providing an arc of rotation of up to 60° (figure 2). Swivel adjustment is manual, with self-acting thermostatic element, or electrically powered. The latter is typically used to swivel the nozzle upwards in cooling mode and downwards in heating mode.

If the nozzle is equipped with a self-acting thermostatic element, the total arc of rotation is 40°, attained by setting the range of rotation to one of the following arcs: -30° to +10°, -20° to +20°, -10° to +30°.

The nozzle may optionally be equipped with a swirl element to reduce throw. The CNW-AD provides throws of up to 50 m and may be operated at a supply-to-room temperature differential of up to -12 K when cooling and up to +10 K when heating.

Visible components are made of aluminium, which are powder coated.

### Installation

The CNW-AD is supplied with a circular spigot for direct connection to a round duct. Alternatively, it may be mounted to a side wall or into a bulkhead. Concealed mounting points are located behind a removable ring that covers the circular mounting flange.

The minimum recommended centre-line distance between two adjacent nozzles is:

Non-swirl [type S0] :  $1.5 \cdot DN$

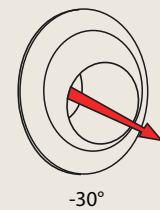
With swirl [type S1] :  $2 \cdot DN$

### Circular Nozzle

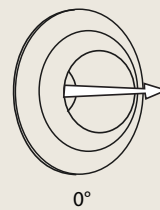
CNW-AD : 112017



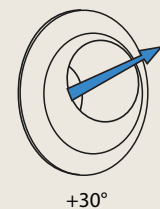
Figure 1



-30°



0°



+30°

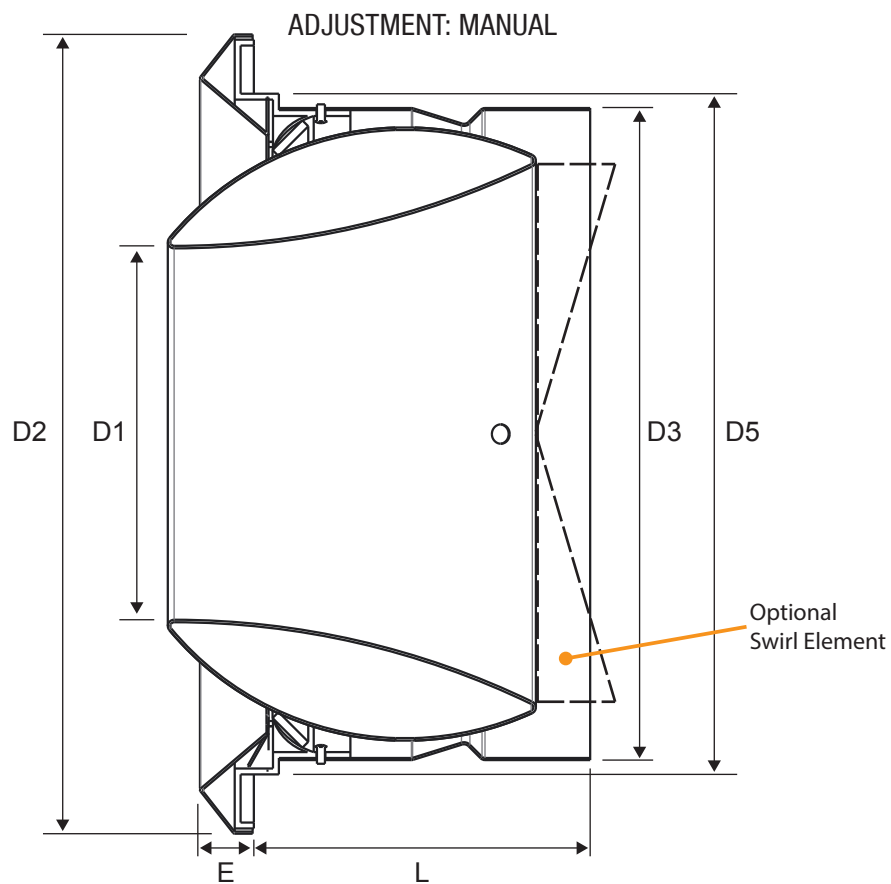
Figure 2

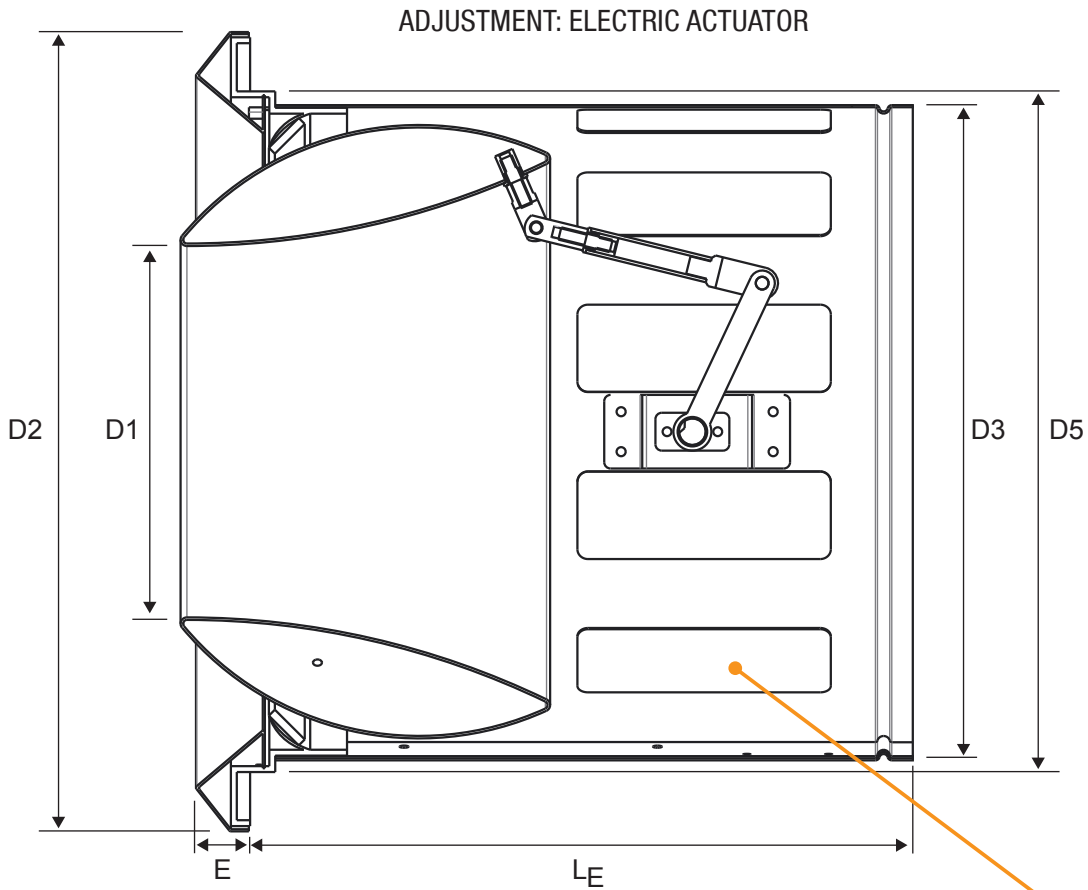
# TECHNICAL DATA

## DIMENSIONS

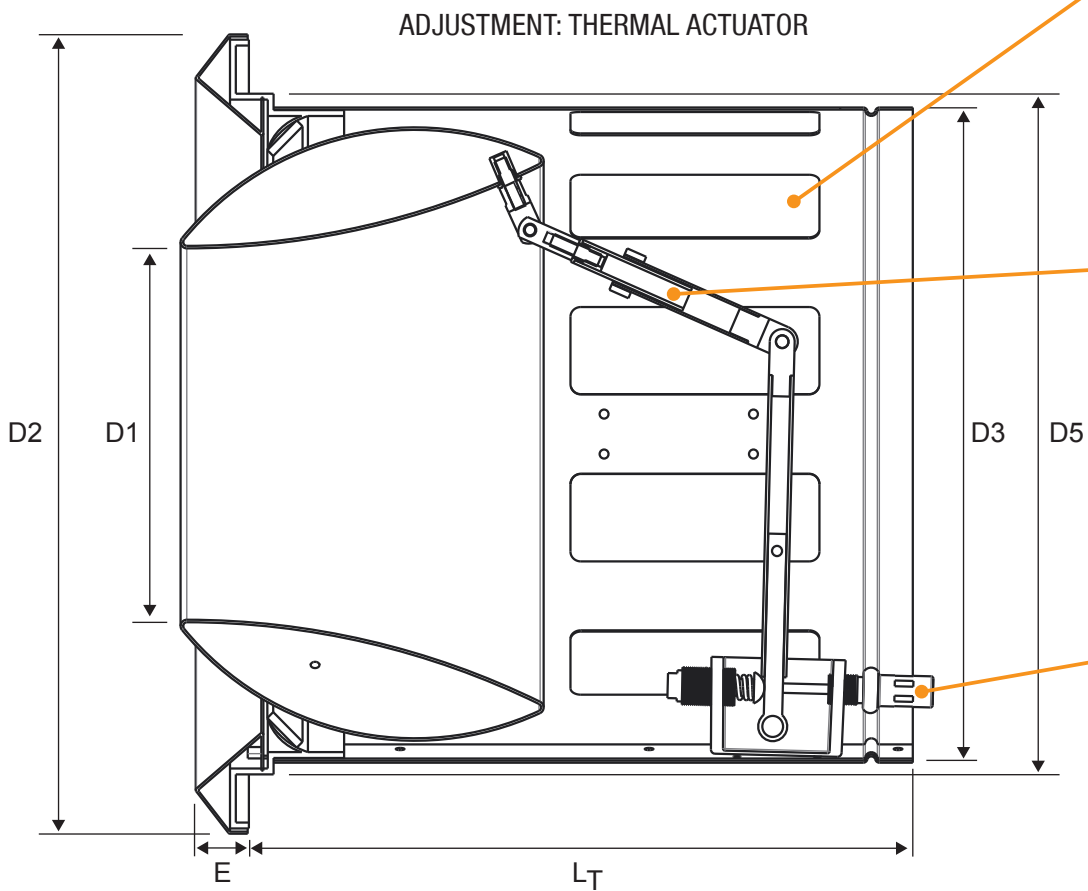
| DN  | D3 [mm] | D1 [mm] | D2 [mm] | L [mm] | E [mm] | L <sub>E/T</sub> [mm] | D5 [mm]<br>(wall cut-out) | Weight<br>(manual version) [kg] |
|-----|---------|---------|---------|--------|--------|-----------------------|---------------------------|---------------------------------|
| 200 | 198     | 108     | 257     | 122    | 20     | n/a                   | 225                       | 1.3                             |
| 250 | 248     | 136     | 302     | 138    | 24     | 290                   | 270                       | 2.0                             |
| 315 | 313     | 174     | 384     | 160    | 24     | 320                   | 333                       | 2.4                             |
| 400 | 398     | 230     | 467     | 169    | 24     | 355                   | 416                       | 3.4                             |
| 500 | 498     | 277     | 600     | 232    | 28     | 410                   | 513                       | 7.9                             |
| 630 | 620     | 337     | 733     | 248    | 32     | 460                   | 637                       | 9.0                             |

Products supplied may differ slightly from those described in this technical brochure due to on-going product development.





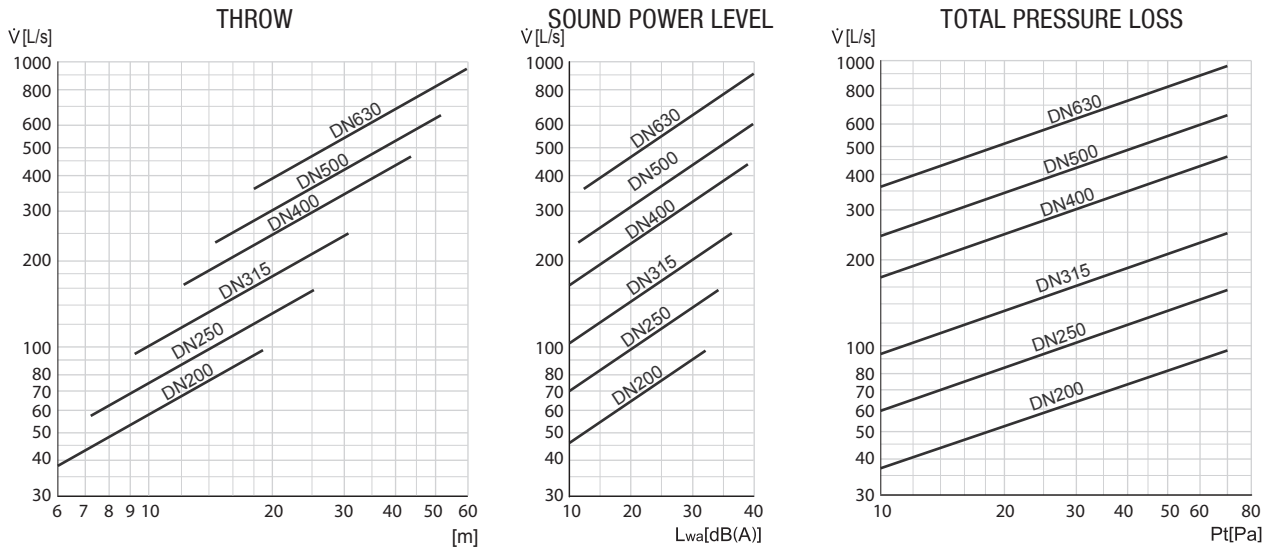
Plenum  
Installation  
Cutouts



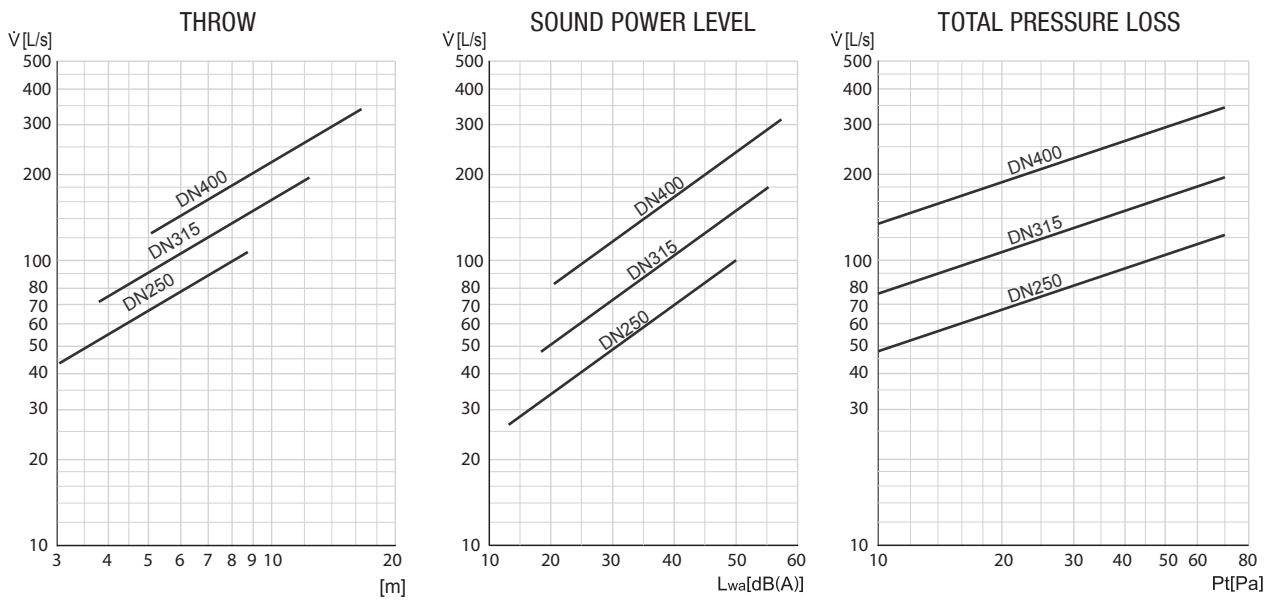
Adjustable linkage  
to set arc of  
rotation:  
-30° to +10°  
-20° to +20°  
-10° to +30°

T-Element

## NOZZLE WITHOUT SWIRL ELEMENT [TYPE S0]



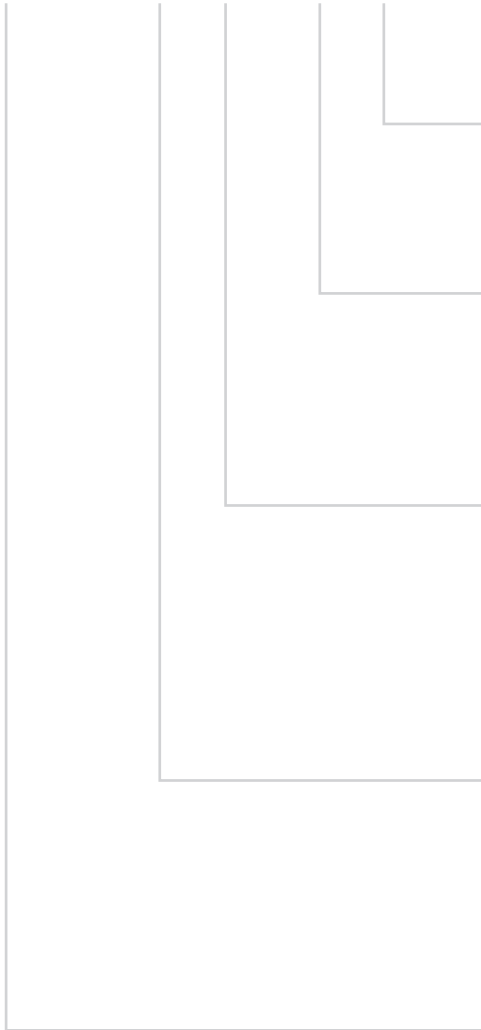
## NOZZLE WITH SWIRL ELEMENT [TYPE S1]



The graphs above give a guide for selecting the size of jet nozzles. The values shown are valid for an isothermal, single, free horizontal jet.

# ORDER DETAILS

CNW-AD-DN \_\_\_\_ - \_\_\_\_ -S \_\_\_\_ - \_\_\_\_



## SURFACE FINISH:

- 9003\* = Face powder coated to RAL 9003 (Signal White)
- \_\_\_\_ = Face powder coated to RAL \_\_\_\_

## SWIRL:

- 0\* = None
- 1 = Swirl Element (sizes DN250-400 only)

## ADJUSTMENT:

- M\* = Manually Adjustable
- E1 = Electric Actuator 24V, 0-10V (sizes DN250-630 only)
- E2 = Electric Actuator 24V, 3pt (sizes DN250-630 only)
- T = Thermal actuator (self powered) (sizes DN250-630 only)  
*available from end of 2017*

## NOMINAL DIAMETER:

- 200
- 250
- 315
- 400
- 500
- 630

## MODEL:

- Circular Nozzle Wall - Adjustable Direction

## Note:

\* Standard, if no type code entered.

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## Tender Text

The SMARTEMP Circular Nozzle, type CNW-AD, shall be suitable for long throw distances with optimum acoustic properties, preferably used for heating and cooling in comfort areas. The adjustment facility –manual or electric– allows variation in discharge angle to compensate for changing temperature differences, adjustment angular range 30° upwards to 33° downwards. The construction consists of a discharge nozzle with spherical outlet mounted in a housing, a mounting flange and round rear connection spigot for direct connection to a circular duct.

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