



# Fire and explosion protection

## HRD NOZZLE DN 20

The nozzle used to insert the extinguishing powder into the protected device to suppress an explosion. Most commonly, this nozzle is used, on the pipeline, at the HRD barrier.



Application of this nozzle is up to maximum pipe diameter of 200mm.

DATA SHEET

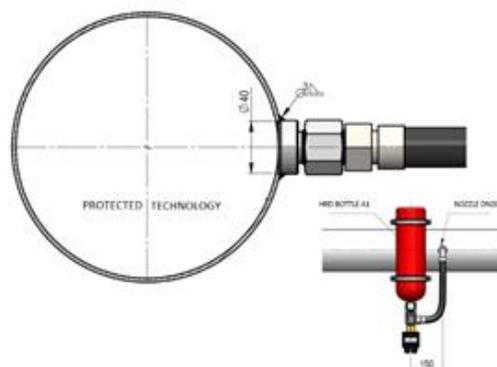
CLASSIFICATION	
Material of outer body	Carbon steel with anti-corrosion coating.
Material of membrane	Aluminum
Temperature resistant of nozzle	-30°C to +200°C

### The process of welding the nozzle:

In a particular application site is drilled a hole 40 mm in diameter into the technology. The nozzle DN20 is welded around the perimeter to the protected device by a 3 mm welding fitting according to ČSN EN ISO 4063 (see Fig.). The nozzle must be approximately 150 mm (150 mm) away from the bottle axis because the connecting hoses are 400 or 700 mm in size.

### NOTICE:

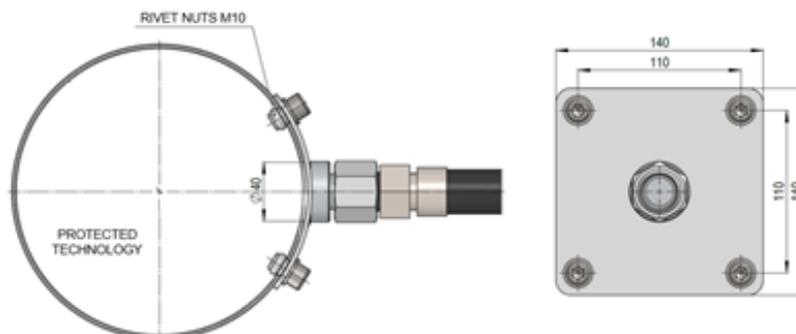
The DN20 nozzle assembly must be dismantled prior to welding to prevent internal nozzle parts (seals, diaphragms) from breaking. The DN20 nozzle is disassembled by unscrewing the hexagonal outer body and welding the inner nozzle body to the technology (see Fig.). After welding, re-assemble the nozzle.



The corner weld must be welded intermittently to avoid deformation of the nozzle! However, the perimeter weld must be solid, gas-tight and resistant to pressure! All weld joints need to be coated with a suitable coating.

### Procedure for mounting nozzle

In a particular application site is drilled a hole 40 mm in diameter in technology. The DN 20 nozzle is mounted on the protected device via a flange using 4 pieces of M10 screws ISO 4762 (galvanized, strength 10.9) and rivet nuts. The nozzle must be approximately 150 mm (150 mm) away from the bottle axis because the connecting hoses are 400 or 700 mm (see Fig.).



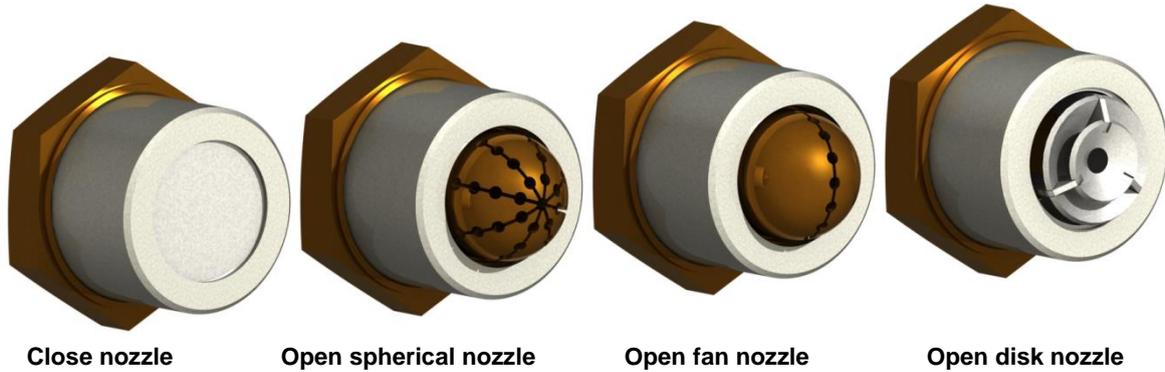


# Fire and explosion protection

## HRD NOZZLE DN 50

A nozzle used to insert the extinguishing powder into a protected device to suppress an explosion. Bullets are used to suppress the explosion, which extends the cone-shaped extinguishing medium.

In the HRD barrier to prevent explosion transmission, fan nozzles are used which extend the extinguishing medium in the form of a flat aperture (so-called fan). Plate nozzles are most commonly used for extinguishing on elevators.



DATASHEET



### CLASSIFICATION

Material of outer body	Stainless steel or carbon steel with anti-corrosion coating.
Material of nozzle	Bronze (spherical and fun nozzle) or stainless steel (disk nozzle).
Material of membrane	Stainless steel
Temperature resistant of nozzle	-20°C to +200°C

### The process of welding the nozzle:

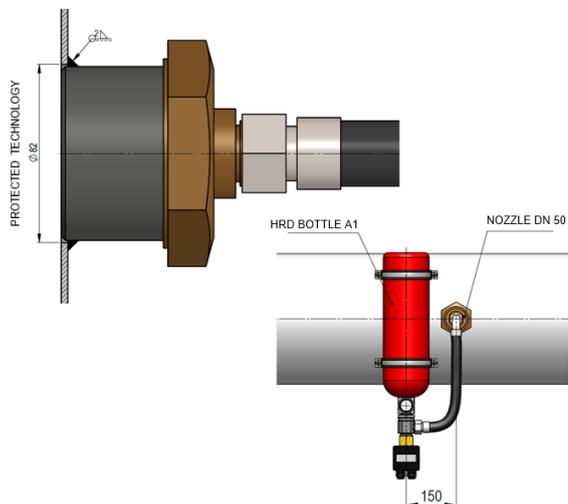
In a particular application site is drilled a hole 82 mm in diameter into the technology. The nozzle DN50 is welded around the perimeter to the protected device by a 2 mm welding fitting according to ČSN EN ISO 4063 (see Fig.). The nozzle must be approximately 150 mm (150 mm) away from the bottle axis because the connecting hoses are 400 or 700 mm in size.

### NOTICE:

The DN50 nozzle assembly must be dismantled prior to welding to prevent internal nozzle parts from being broken. DN50 nozzle removal is done as follows:

- a) Enable and unscrew nut with key 90.
- b) Pull out the nozzle
- c) Remove the inner nozzle body.
- d) Remove the O-ring and the diaphragm from the nozzle.

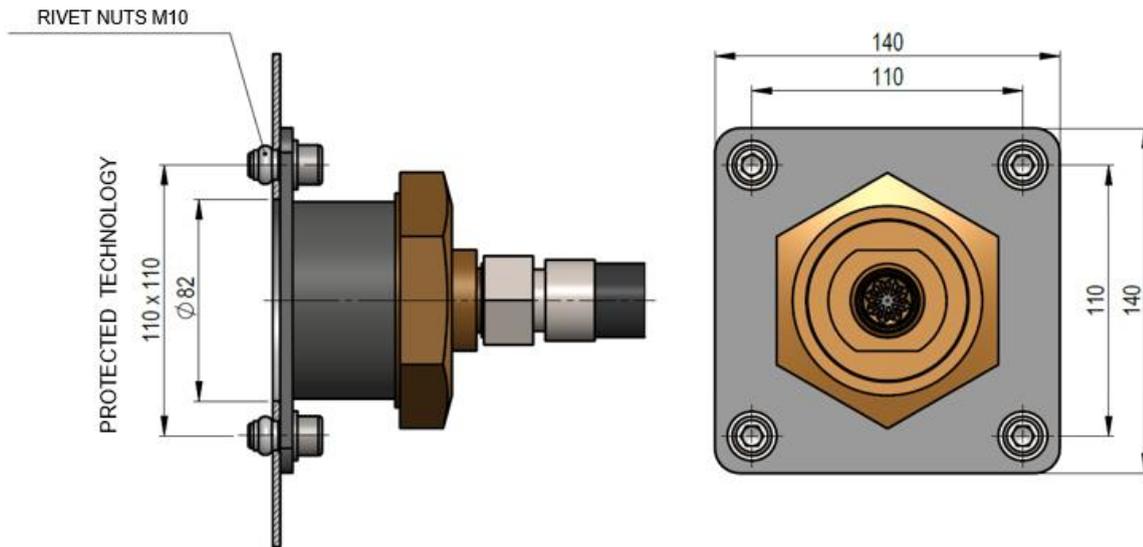
Only the outer nozzle body with the nut is welded to the technology to avoid deformation of the outer body. The corner weld must be welded intermittently to avoid deformation of the outer body! However, the perimeter weld must be solid, gas-tight and resistant to pressure! All weld joints need to be coated with a suitable coating.





## Procedure for mounting nozzle

In a particular application site is drilled a hole 82 mm in diameter in technology. The DN 50 nozzle is mounted on the protected device via a flange using 4 pieces of M10 screws ISO 4762 (galvanized, strength min. 10.9) and rivet nuts. The nozzle must be approximately 150 mm (150 mm) away from the bottle axis because the connecting hoses are 400 or 700 mm (see Fig.).





# Fire and explosion protection

## HRD NOZZLE DN 80

A nozzle used to insert the extinguishing powder into a protected device to suppress an explosion. Part of this nozzle is the so-called HRD adapter, which used to attach the nozzle to the protected device.



# DATASHEET

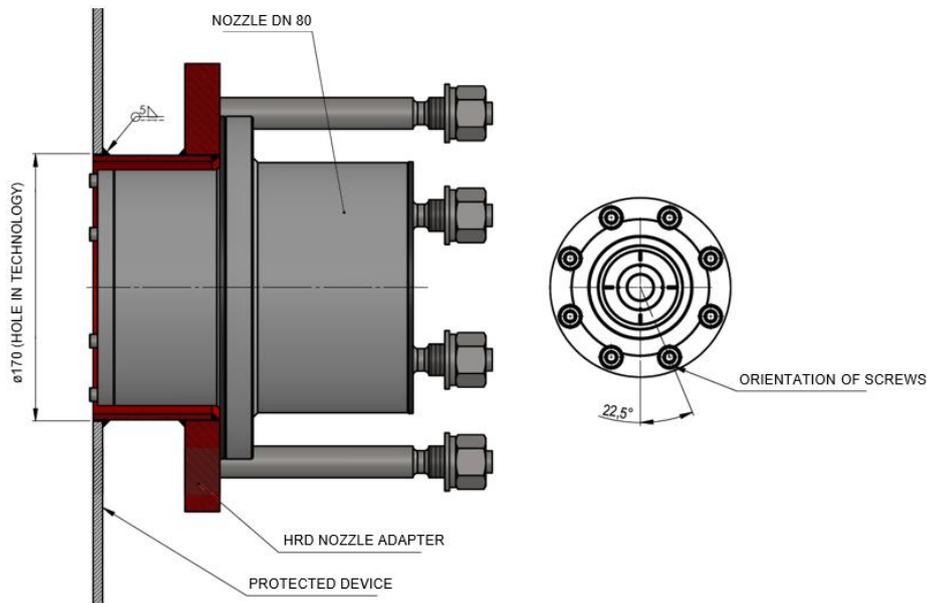


### CLASSIFICATION

Material of outer body	Stainless steel or carbon steel with anti-corrosion coating.
Material of nozzle	Stainless steel
Material of membrane	PTFE
Temperature resistant of nozzle	-30°C to +240°C

#### The process of welding the nozzle:

In a particular application site is drilled a hole 170 mm in diameter into the technology. The HRD nozzle adapter DN80 is welded around the perimeter to the protected device by a 5 mm welding fitting according to ČSN EN ISO 4063 (see Fig.). The HRD adapter must be welded to the vertical axis so that the screws are between the axis (see flange orientation).



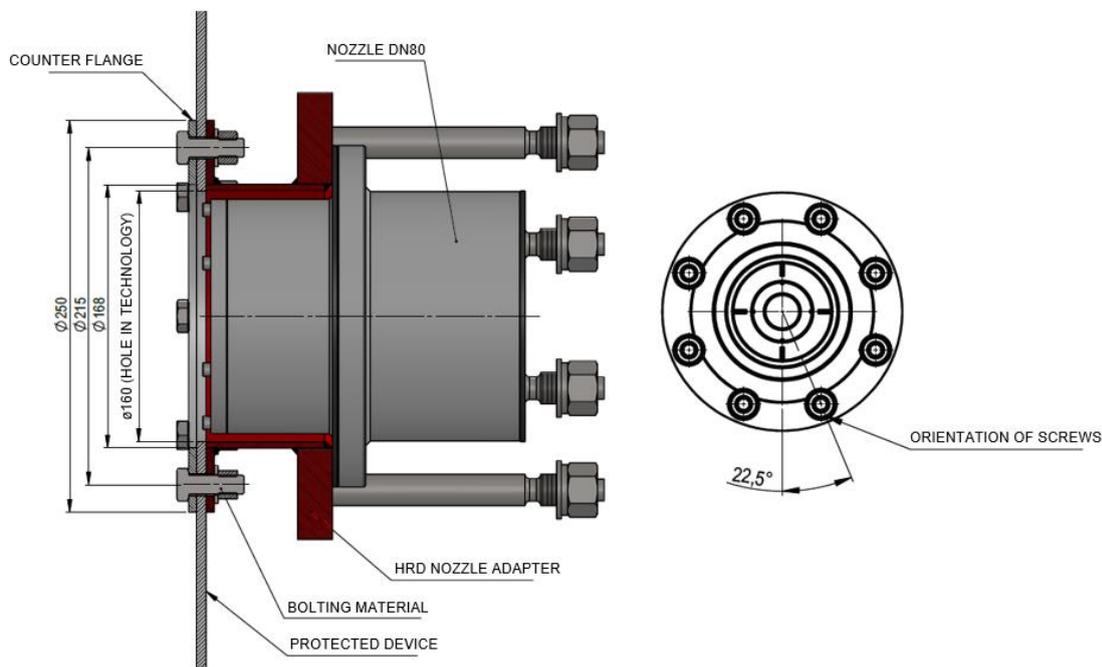


## NOTICE:

The corner weld must be welded intermittently to avoid deformation of the HRD adapter outer body!  
However, the perimeter weld must be solid, gas-tight and resistant to pressure! All weld joints need to be coated with a suitable coating.

## Procedure for mounting nozzle

In a particular application site is drilled a hole 160 mm in diameter in technology. The HRD nozzle adapter DN 80 is mounted on the protected device via a flange using 8 pieces of M12 screws (galvanized, strength min. 10.9) on a 215mm pitch circle (see Fig.). The HRD adapter must be screwed against the vertical axis so that the screws are between the axis (see flange orientation).

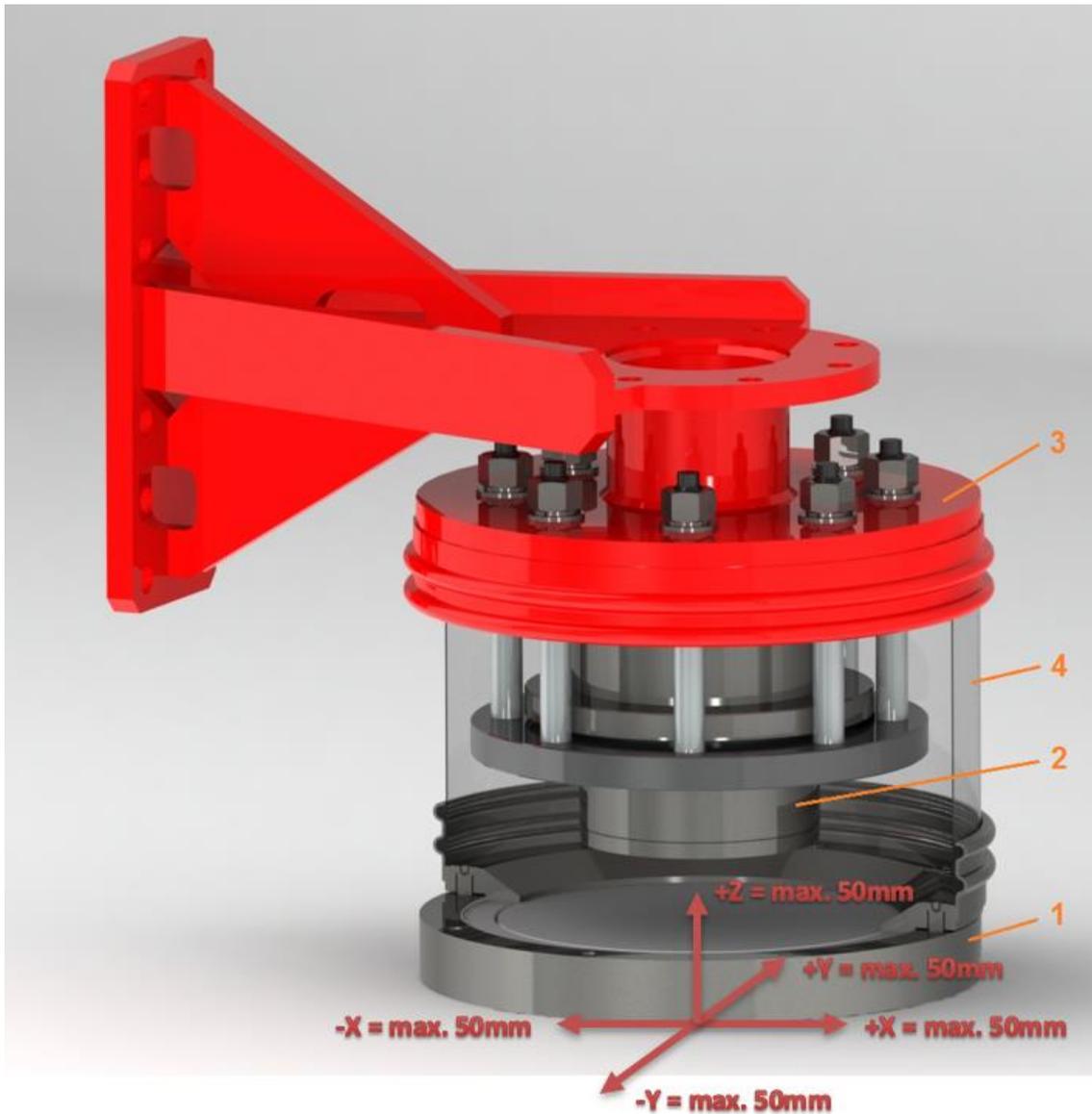




# HRD nozzle for vibration technology

A nozzle that is used to inject powder into a protected device to suppress an explosion. It is mainly used for vibration technology (vibrating troughs, etc.).

It consists of the bottom (1) (which is welded to the technology). The upper part (2) which is attached to the bracket piece (3) and the two parts are connected by a compensator (4). The figure shows the maximum feed rates of the vibrating device in each axis.

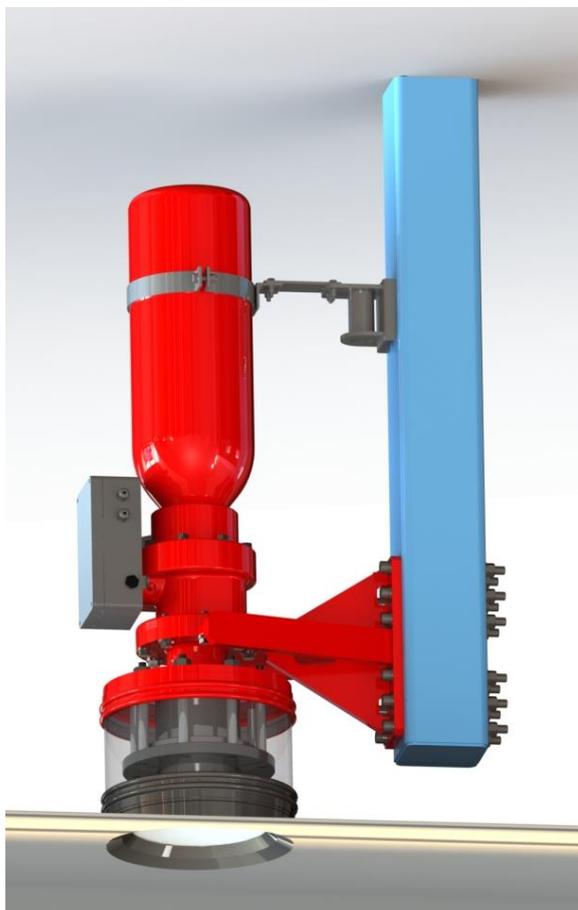


TECHNICAL PARAMETERS	
Nozzle material	AISI 304 (alternative AISI 316L)
Membrane material	PTFE (FDA)
Temperature resistance of nozzle	-30°C to + 240°C
Temperature resistance of compensator	-25°C to 110°C (short term 120°C)





**INSTALLED HRD CONTAINER FOR VIBRATION TECHNOLOGY**



**DATA SHEET**

**NOZZLE POSITION BEFORE ACTIVATING HRD**

**NOZZLE POSITION AFTER ACTIVATING HRD**

