

Halton DTR – Square perforated diffuser (terminated)



Overview

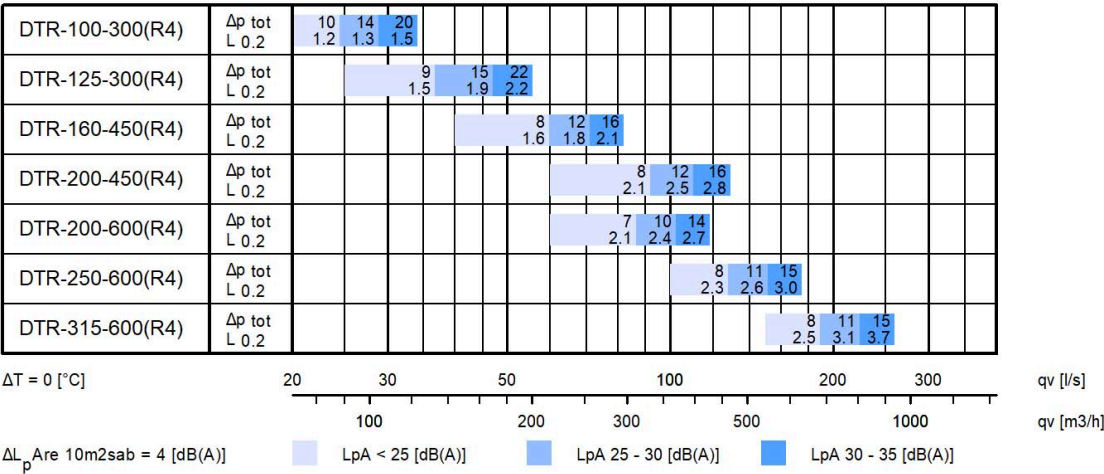
Terminated as of 1st July 2023
-> replaced with Halton Jaz JRC

- Available for supply and exhaust
- Designed for integrated installation with suspended ceilings.
- Installed either directly to the ductwork or to the balancing plenum.
- Low unit height.
- Front plates are available in nominal sizes 300×300 mm, 450×450 mm and 600×600 mm.
- Size 600×600 is adapted for installation in standard T-bar suspended ceiling (modular 600×600 mm).
- Other suspended ceiling integration options available.
- Detachable front panel enables cleaning of the diffuser and ductwork.
- Circular duct connection with rubber gasket.

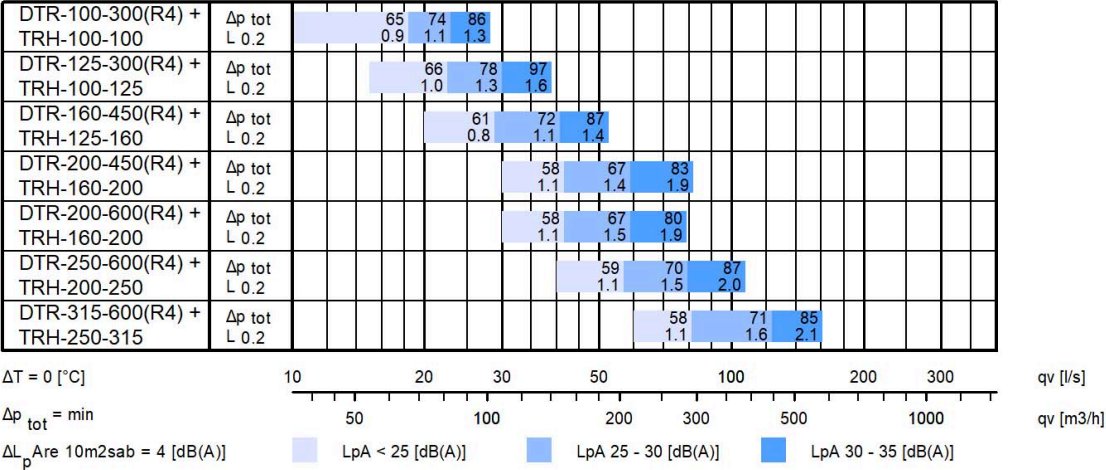
Accessories

- Deflector for the direction of flow pattern.
- Balancing plenum with measurement and adjustment functions.

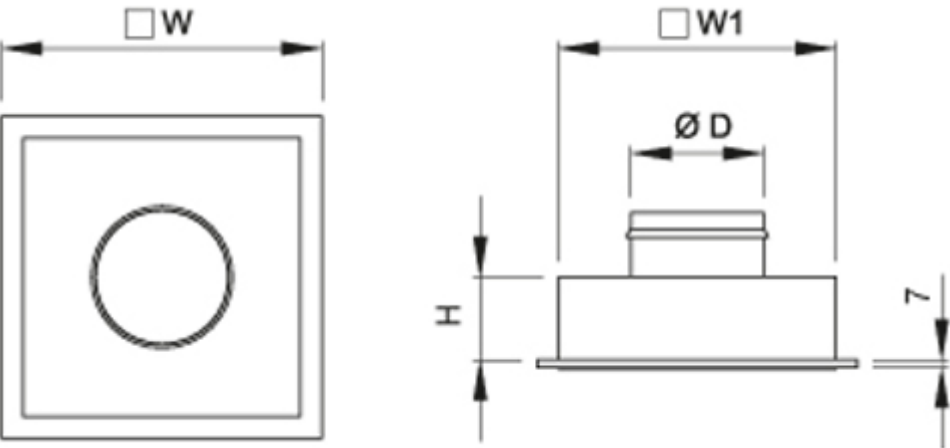
Quick selection



Halton DTR with TRH plenum



Dimensions



NS	W	W1	H	ØD
100-300	300	259	77	99
100-600	595	259	77	99
125-300	300	259	77	124
125-600	595	259	77	124
160-450	452	411	97	159
160-600	595	411	97	159
200-450	452	411	97	199
200-600	595	554	97	199
250-600	595	554	97	249
315-600	595	554	97	314

NS = connection size – diffuser size

Weight

NS	Kg
100-300	1.7
125-300	1.7
160-450	3.4
200-450	3.4
200-600	5.2
250-600	5.2
315-600	5.3

NS = connection size – diffuser size

Material

Part	Material	Note
Casing	Steel	—
Front panel	Perforated steel	—
Deflector panels	Steel	—
Coupling sleeve	Galvanised steel	—
Gasket	Rubber compound	—
Finishing	Painted, white (RAL 9003/30%)	Special colours available

Accessories

Accessory	Code	Description
Balancing plenums	TRI	Aesthetical connection plenum with airflow balancing and noise attenuation (Fig.1.)
	TRH	Basic connection plenum with airflow balancing and noise attenuation (Fig.2.)
Deflection panels	DP	Set of deflector panels for selection of flow pattern to 1,2 or 3 directions (Fig.3.)

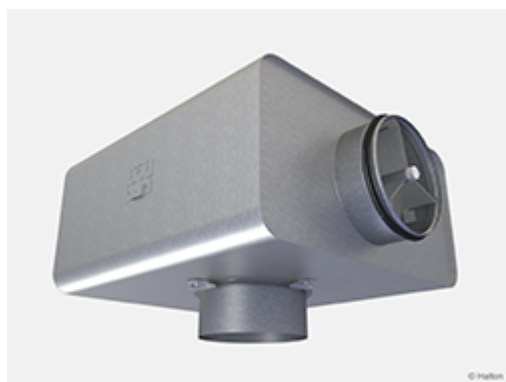


Fig.1. Halton TRI



Fig.2. Halton TRH

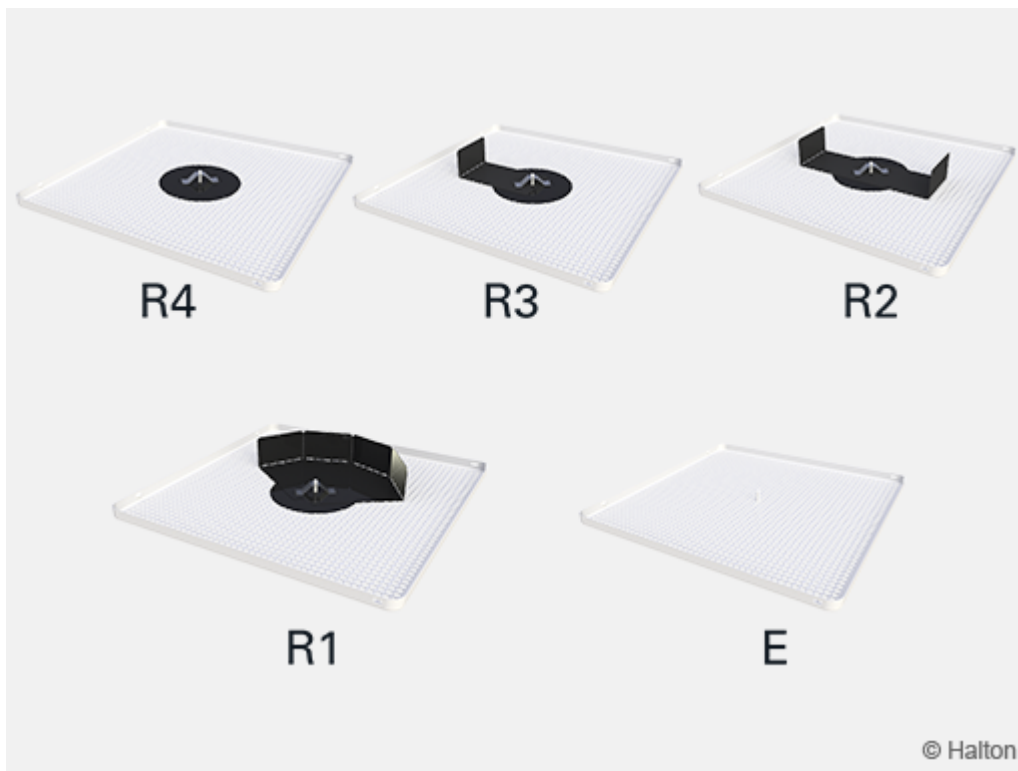
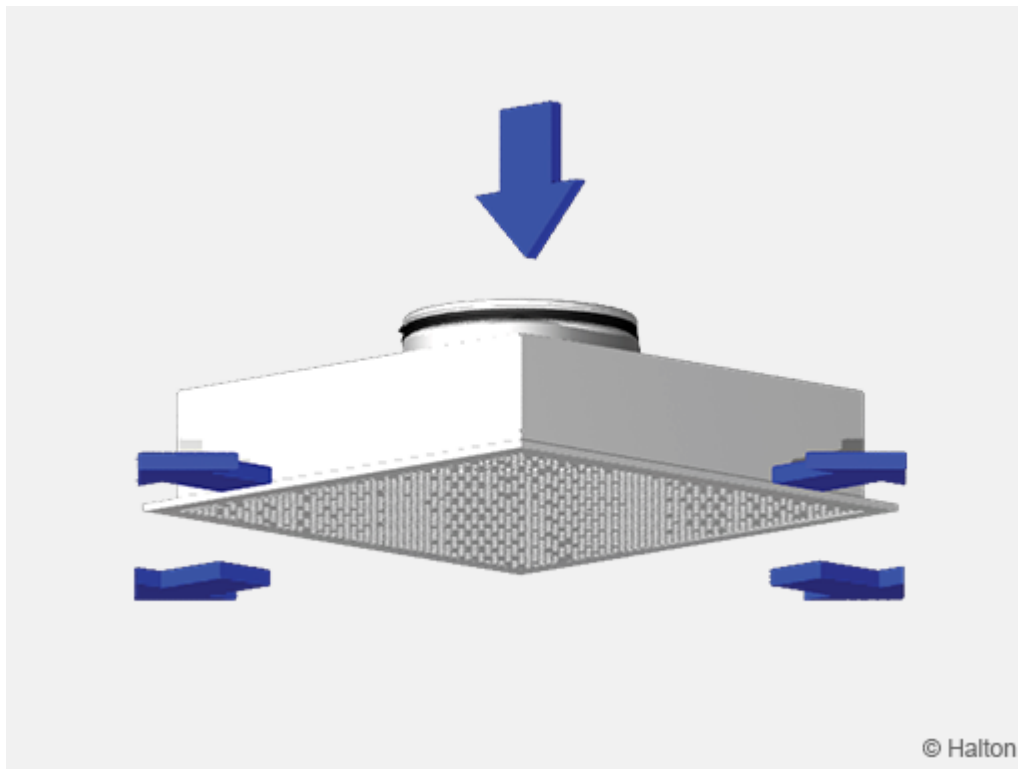


Fig.3. Deflection panels options

Function



- Air is supplied horizontally into the space through the front panel of the diffuser
- The supply air can be deflected in different directions (1,2,3,4) with a recommended maximum air temperature difference between supply and room air as follows:

- 8°C for 3 and 4 direction air supply
- 6°C for 1 and 2 direction air supply
- Halton DTR can also be used as an exhaust unit.

Installation



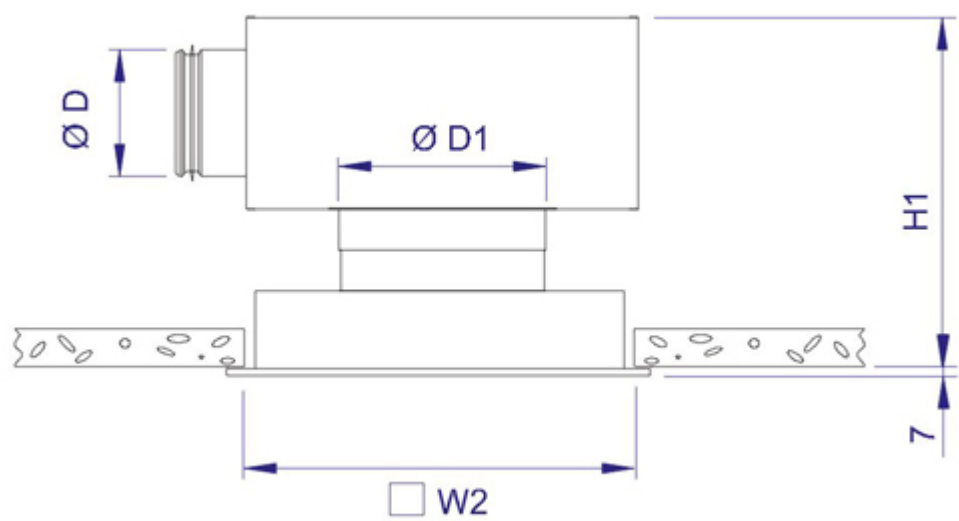
The diffuser is connected either directly to the duct by screwing or by riveting or alternatively to the Halton TRI balancing plenum.

Direct the flow pattern in the desired directions by installing a deflector panel on the perforated front panel.

A minimum safety distance upstream of the diffuser of 3xD is recommended.

In an exhaust application neither a deflector panel or a deflector plate is used.

Installation with plenum Halton TRI

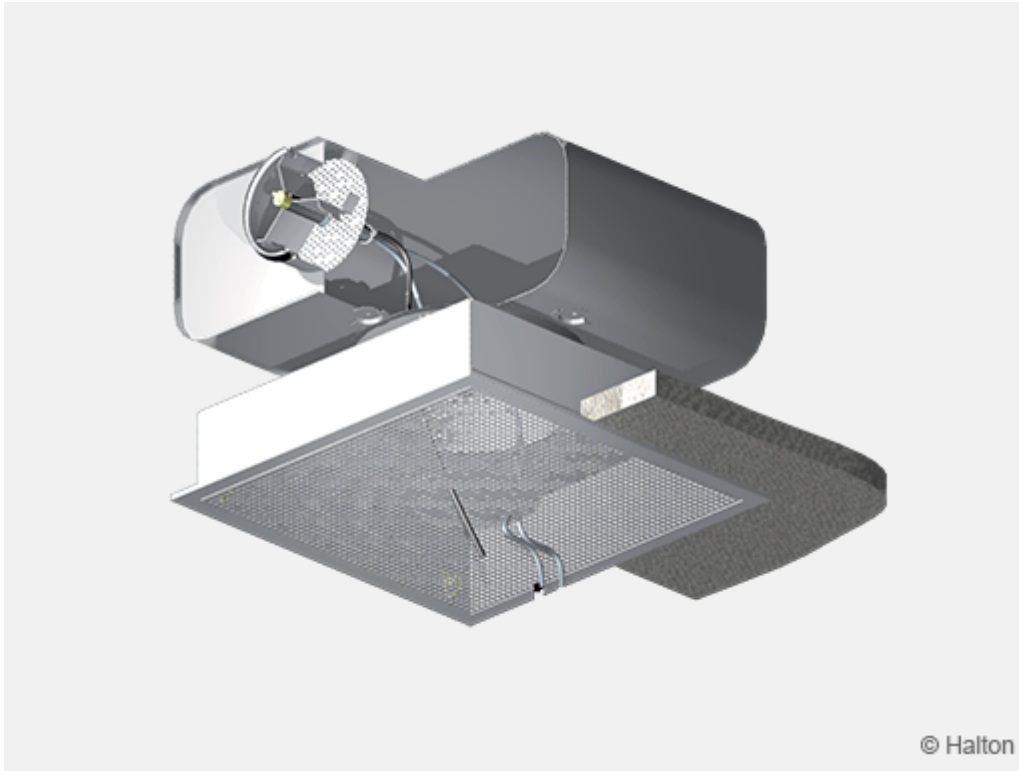


The collar of Halton TRI plenum can be installed either internally in the plenum or externally on the bottom of the plenum. The height of the unit is presented in the table below for the external installation. When the collar sleeve is installed internally, the total height $H1$ is reduced by 60 mm.

The technical performance for the combination of supply air diffuser and Halton TRI plenum is presented separately for the two different installations.

DTR	$\varnothing D1$	TRI	W2	H1
100-300	100	TRI-100-100	270	293-343
125-300	100	TRI-100-125	270	293-343
160-450	125	TRI-125-160	425	343-393
200-450	160	TRI-160-200	425	383-433
200-600	160	TRI-160-200	565	383-433
250-600	200	TRI-200-250	565	433-483
315-600	250	TRI-250-315	565	497-547

Adjustment



It is not possible to adjust airflow in the Halton DTR itself.

In order to enable airflow adjustment and measurement of airflow rate it is recommended that the diffuser is connected to the Halton TRI balancing plenum. The supply flow rate is determined by using the MSM measurement and adjustment module.

Open the front panel and pass the tubes and control spindle through the diffuser front plate. Replace the front plate.

Measure the differential pressure using a manometer. The flow rate is calculated using the formula below:

$$q_v = k * \sqrt{\Delta p_m}$$

Adjust the airflow rate by rotating the control spindle until the desired setting is achieved.

Lock the damper position with a screw.

Replace the tubes and spindle in the plenum and replace the diffuser front panel.

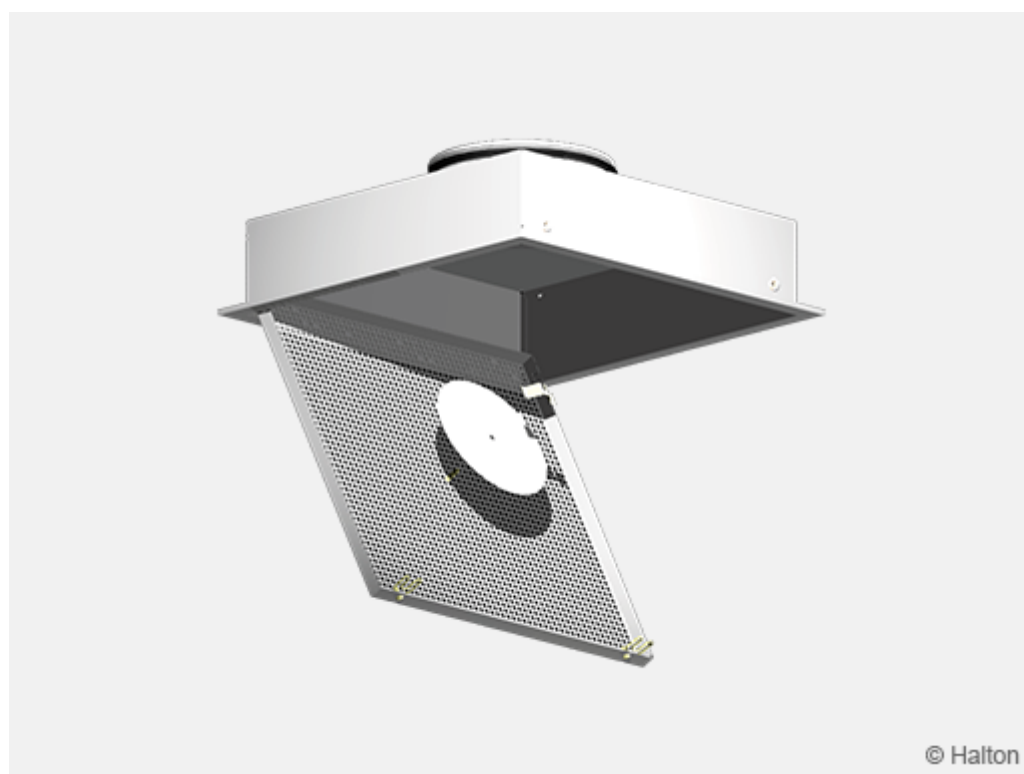
The k factor for installations with different safety distances

(D= duct diameter)

TRI/S	>8xD	min 3xD
100	6.0	7.5
125	9.9	12.6
160	16.9	21.9
200	28.3	31.0
250	47.9	51.5
315	78.6	–

TRH/S	> 8xD	min. 3xD
100	6.5	7.5
125	10.8	12.6
160	19.4	21.9
200	29.7	31.0
250	48.8	51.5
315	81.3	83.1

Servicing



Option with balancing plenum

Remove the measurement and adjustment module by gently pulling the shaft; (not the control spindle or measurement tubes!).

Wipe the parts with a damp cloth, instead of immersing in water.

Reassemble the measurement and adjustment module by pushing the shaft until the module meets the stopper.

Push the front panel back into place so that the springs lock.

Detach the front panel by gently pulling it down and letting it balance on the hinges. Clean the parts by wiping them with a damp cloth. Reattach the front panel by swinging it up and pushing it until the springs lock.

Specification

The diffuser shall be made of painted steel with a white (RAL 9003/30%) colour.

The flow pattern of the diffuser shall be adjustable in up to three directions using deflector panels.

Option 1; no balancing plenum

The diffuser shall have a galvanised steel casing with a spigot with integral gasket for connection to circular duct.

The diffuser shall have a detachable perforated front panel that provides access to the duct.

Option 2; option with balancing plenum

The diffuser shall be connected to a balancing plenum equipped with a measurement and adjustment module.

The diffuser shall have a detachable perforated front panel to provide access to the measurement and adjustment module in the plenum.

The balancing plenum shall have a spigot with integral gasket for air-tight duct connection.

The balancing plenum shall comprise sound attenuation material made of polyester fiber with a washable surface.

Order Code

DTR-D-A, WS-CO-ZT

D = Connection size

100, 125, 160, 200, 250, 315

A = Diffuser size

300, 450, 600

Other options and accessories

WS = Width of suspended ceiling tile

NA Not assigned

600 600×600 (if A=300,450)

CO = Colour

SW White (RAL 9003)

X Special colour (RAL xxxx)

ZT = Tailored product

N No

Y Yes (ETO)

Sub products

TRI Plenum

TRH Plenum

DP Deflection panel

Code example

DTR-100-300, WS=NA, CO=SW, ZT=N