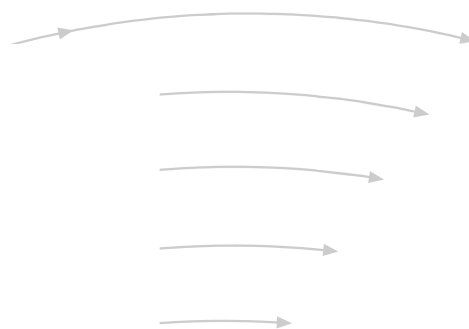


# Variable Volume Diffuser

Type XSV - Q and R (Swirl Type)

Recommended for room height from 2.6m to 4.0m



# TROX<sup>®</sup> TECHNIK

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## Description

The TROX variable volume flat swirl diffuser is ideal for both comfort air conditioning and industrial applications. The diffuser is for drop-in installation into suspended ceilings. The TROX XSV diffuser is an electronically operated unit incorporating rate aided proportional air volume and heater control. It automatically regulates the room temperature which is measured with a sensor either in the diffuser or in the wall mounted unit. According to the thermal demands in the room the controller moves the damper by means of a push/pull actuator and stainless steel spindle or cycles the heater until the room temperature reaches the set point adjusted on the controller by the user (if wall mounted). Each diffuser has a sub or slave card mounted to the diffuser. The heater is optional. For heater capacities please refer to the table on page 3. The TROX XSV with heater is protected against over-heating (in case there is too little air flow) via an automatic thermal switch (Klixon). This ensures that the surface temperature stays within the safe range required by the SABS. Additionally we can offer a manual Klixon that has to be reset once the surface temperature rises above a certain temperature.

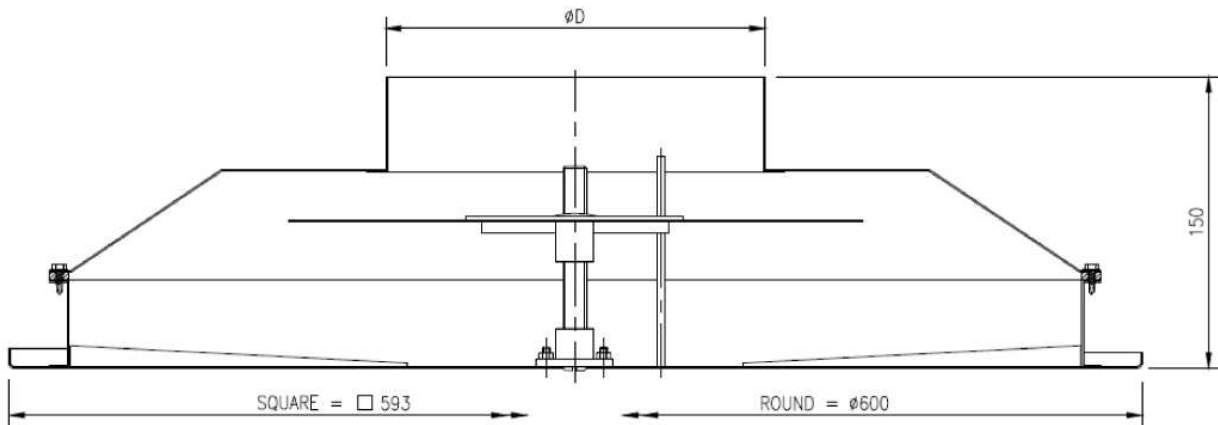
The TROX XSV with heater is delivered with a 3m 220V connection cable and a 6m long RJ12 cable to connect the diffusers with each other and with the controller. Diffusers are supplied as sub/slave units, these are connected to a single control module and this is connected to a wall mounted finger touch two button thermostat. The transformer is sized according to the number of diffusers connected to a master up to a maximum of 20. The control modules are standalone, LonWorks and BACNet compatible. The thermostat is in an elegant enclosure compatible with a standard 2x4 draw-box. It is supplied with 2 button (MK2) or 3 button (MK3) options.

## Materials

The diffuser body and faceplate are constructed from cold rolled black steel which is all phosphate treated and powder-coated textured white RAL9016. This process will provide corrosion resistance protection to the product based on a 500-hour salt-spray test.

Diffuser Dimensions TYPE XSV - Q - D as per page 3

## Construction Dimensions



# Selection Data and Layout

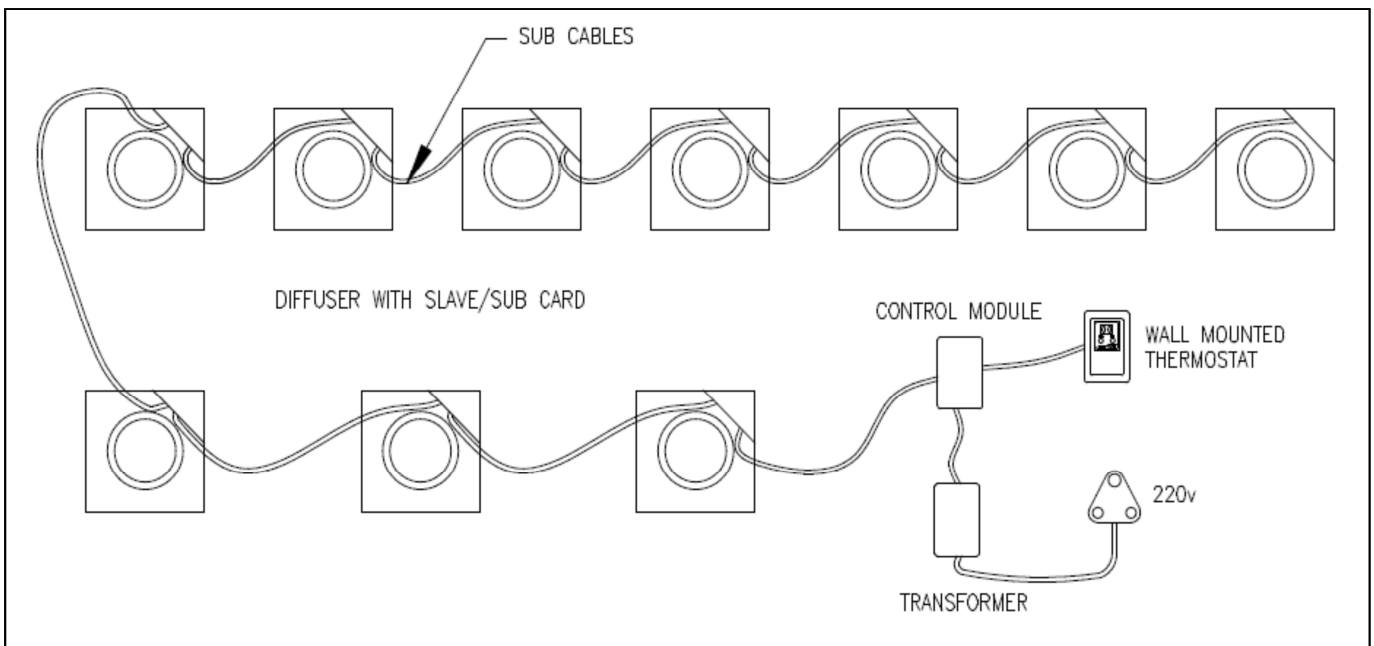
Selection Data – Size 600 VAV XSV - Q and R

Size D	Reading	Spigot Total Pressure (Pa)				Maximum Heater Capacity (W)
		30	50	70	90	
150	FLOW RATE	62	91	105	125	750
	(l/s) THROW (m)	1.0	1.5	1.7	2.1	
	N.C. LEVEL	-	26	30	35	
175	FLOW RATE	76	106	128	146	1 000
	(l/s) THROW (m)	1.2	1.7	2.1	2.4	
	N.C. LEVEL	-	30.5	34	37	
200	FLOW RATE	101	135	163	184	1 500
	(l/s) THROW (m)	1.6	2.2	2.5	2.7	
	N.C. LEVEL	23	33	37	40	
250	FLOW RATE	158	194	227	247	1 500
	(l/s) THROW (m)	1.7	2.0	2.3	2.6	
	N.C. LEVEL	28	33	38	41	
300	FLOW RATE	217	272	309	348	1 500
	(l/s) THROW (m)	2.2	2.6	3.0	3.3	
	N.C. LEVEL	29	34	38	43	
350	FLOW RATE	249	315	382	420	1 500
	(l/s) THROW (m)	2.4	3.4	3.9	4.4	
	N.C. LEVEL	32	34	40	45	

NC levels are determined from sound power level data by deducting 8 dB from each octave band for room attenuation. Throws given are the distance from the diffuser to the point where the jet velocity is reduced to 0.5m/s with the damper in the fully open position.

All units with heater will be fitted with auto klixons only as standard. Manual klixons can be fitted as an optional extra.

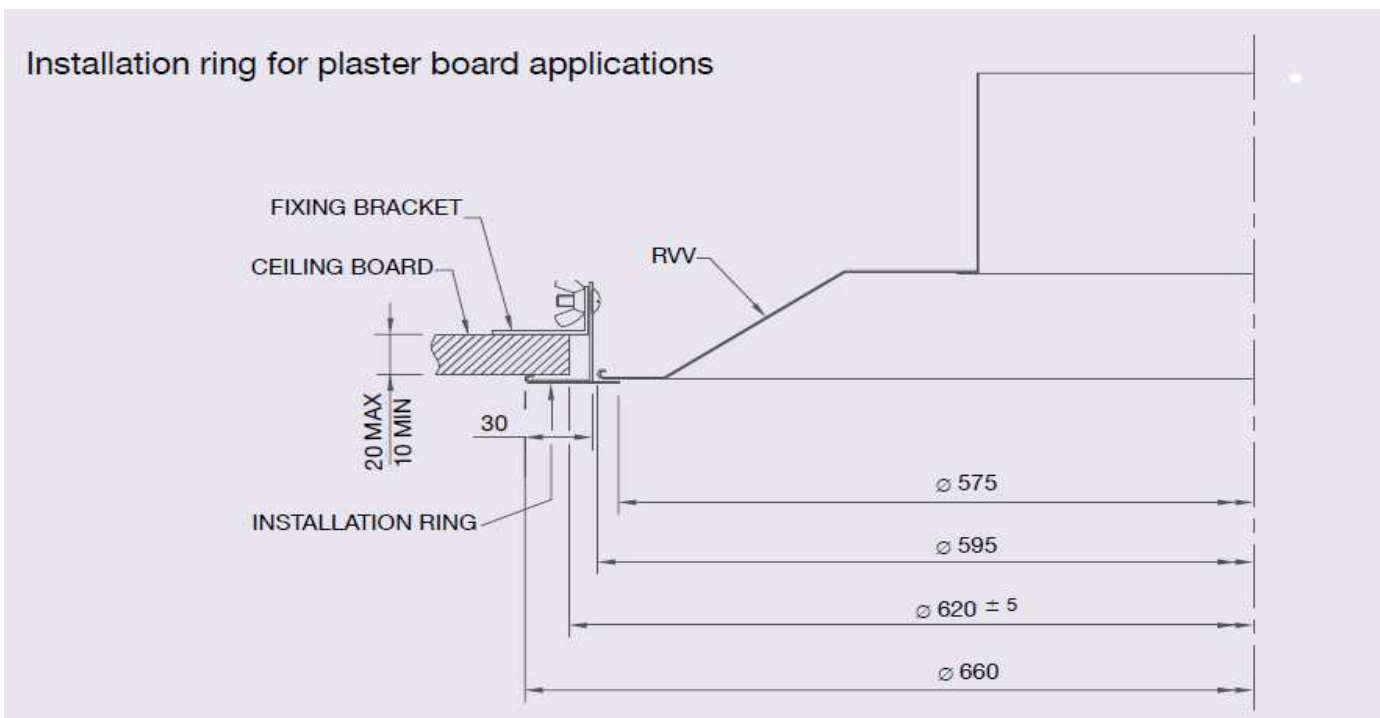
Diagram layout of diffusers type Q and R



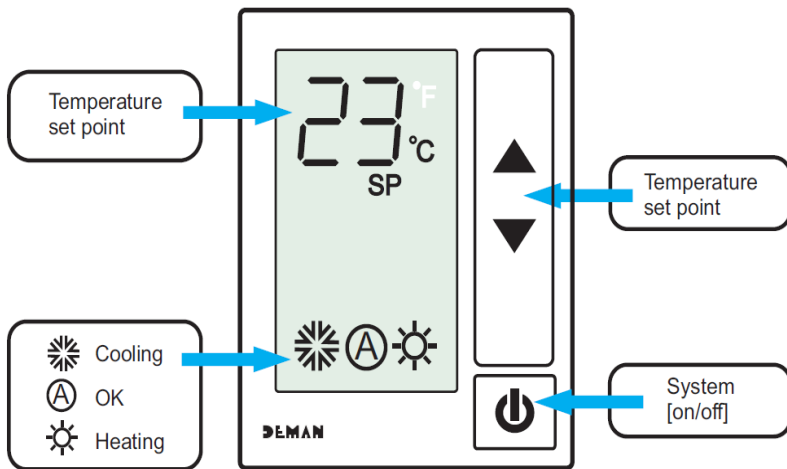
# Plaster Board Installation

For installations in plaster board the diffuser is supplied round and can be installed into an installation ring. The installation ring is supplied separate and is fixed by means of "L" brackets to the plaster board. Once in place the diffuser lays into the ring, similar to that of a standard ceiling T for the square diffuser.

## Diffuser Dimensions TYPE XSV - R - D

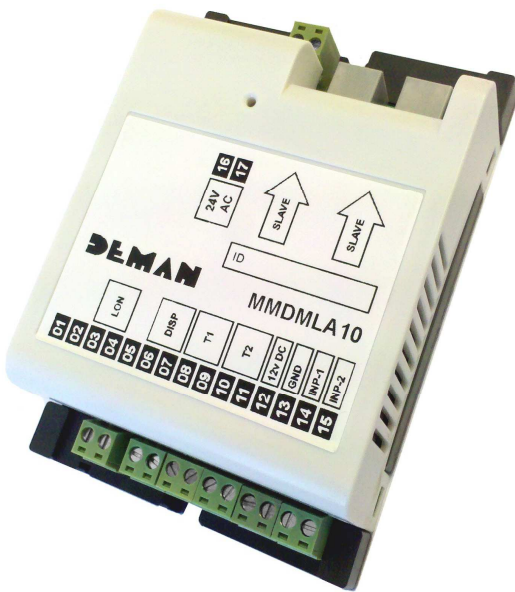


# Controls



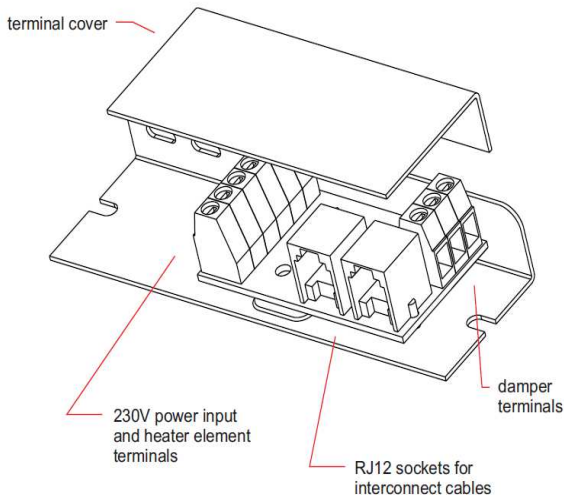
## Interface (Wall) Unit

- Temperature set point
- Built in room temperature sensor
- Elegant enclosure fits 2x4 draw-boxes
- Diagnostic display modes for commissioning and maintenance



## Master Control (fire retardant ABS)

- Pre-set temperature set point or use with MK2A81 wall control
- Inputs for return and supply air temperature
- Input for occupancy sensor
- Power Supply to unit: 24V AC
- Cabling to slave diffusers: 6way RJ12 plugs
- MMDM-A10 – Stand Alone
- MMDMLA10 – LON Network
- MMDMBA10 – BACnet Network
- MMDMSA10 – Local Network



## Slave Units

- Enclosure – aluminium
- Fitted to each diffuser
- Cabling: RJ12 between diffuser

# Order Code

<p><b>Order Code for Stand Alone</b></p> <p>DM - A / 0 or 1 / 0 or 1 / 0 or 1</p> <p>0 = no RA sensor 1 = with RA sensor</p> <p>0 = without mount 1 = with mount</p> <p>0 = no auto inverse 1 = with auto inverse</p>	<p><b>Order Code for LON</b></p> <p>DM - LA / 0 or 1 / 0 or 1 / 0 or 1</p> <p>0 = no RA sensor 1 = with RA sensor</p> <p>0 = without mount 1 = with mount</p> <p>0 = no auto inverse 1 = with auto inverse</p>	<p><b>Order Code for Bacnet</b></p> <p>DM - BA / 0 or 1 / 0 or 1 / 0 or 1</p> <p>0 = no RA sensor 1 = with RA sensor</p> <p>0 = without mount 1 = with mount</p> <p>0 = no auto inverse 1 = with auto inverse</p>
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<p><b>Order Code for Wall Thermostat / Interface</b></p> <p>MK2 or MK3 / 0 or 1</p> <p>MK2 = two button MK3 = three button</p> <p>0 = without 6 meter cable 1 = with 6 meter cable</p>	<p><b>Order Code for Transformer</b></p> <p>T10VA / 0 or 1 / 0 or 1</p> <p>10VA = 5 Diffusers 25VA = 10 Diffusers 50VA = 20 Diffusers</p> <p>0 = without 6m cable 1 = with 6m cable</p> <p>0 = without plug top 1 = with plug top</p>
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**Order Code for XPV Diffuser**

XSV-Q or XSV-R / 1 or 0 / 200 / DSA1 or DSA2 / watts / 0 or 1 or 2 / 1 or 0 / 0 or P1 / RAL...

Q = Square  
R = Round

0 = without ring  
1 = with ring

Spigot Diam:  
150 (148)  
175 (173)  
200 (198)  
250 (248)  
300 (298)  
350 (348)

Element (optional):  
0 = None  
500 watts  
1000 watts  
1500 watts

0 = None  
1 = auto klixon only  
2 = auto and manual

P0 = Standard White RAL9016  
P0 = Standard White RAL9010  
P1 = Powder Coated to RAL...

1 = with 6m cable  
0 = without 6m cable

DSA1 = without heating  
DSA2 = with heating

**Order Example**

Make:TROX

**Transformer**

Details: T25 – VA – 1 – 1

**Wall Mounted Thermostat**

Details: MK2 – 1

**Controller**

Details: DM – A / 0 / 0 / 1

**Diffuser**

Details: XSV - Q / 0 / 250 / DSA2 / 1000w / 1 / 1 / P0 / RAL9016