



# Young Regulator Co.

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Submit 9400 5/2018

## Model 9400

VAV Sidewall Diffuser with Straightening Vanes and Double Deflection Grille

### Application and Design

Young Regulator 9400 Sidewall VAV diffusers maintain room temperature by controlling the volume of supply air. An aerodynamic design allows air velocity and throw to be kept constant throughout the volume range as conditioned air passes through the outlet. This ensures good ventilation and air mixing.

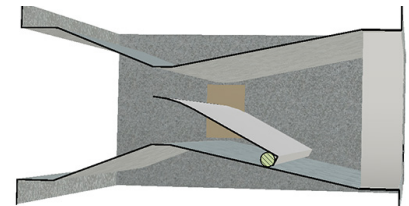
**CONTROL** - The Young Regulator T-720 Proportional and Integral (P+I) thermostats are specifically designed for zoning applications. They control floating point, modulating motors like the Belimo LMB24-3. Accurate temperature control is achieved due to the product's proportional control algorithm. The supply air temperature sensor and primary actuator connections are pre-wired at the factory to an interface board on the diffuser. Field connections consist of the 24v transformer and thermostat wiring to easy to use terminal blocks. For convenience, an extra terminal block is provided for connection to a drone damper. A BACNET communications module is available.



Diffuser back with straightening vanes

Section View Illustrates Blade motion

Double Deflection Grille included



Aerodynamic Air Path



T-720A P+I Floating Point Thermostat

STANDARD CONSTRUCTION	
Housing	24 ga. Galvanized Steel
Blade	24 ga. Galvanized Steel
Shaft	1/2" Plated Steel
Bushing	Oil Impregnated Bronze

SIZING INFORMATION	
Air Path	4" or 6" high - 8" to 24" wide
Unit Dimensions	Air Path + 2" high and 4.7" wide

ACTUATOR DRIVE OPEN/CLOSED BELIMO LMB24-3	
DC Brushless Motors - Floating Point Control - On / Off	
Volts	24V
Watts	1.5 Running, 0.2 Holding
VA	2
Torque	45 in. lb.

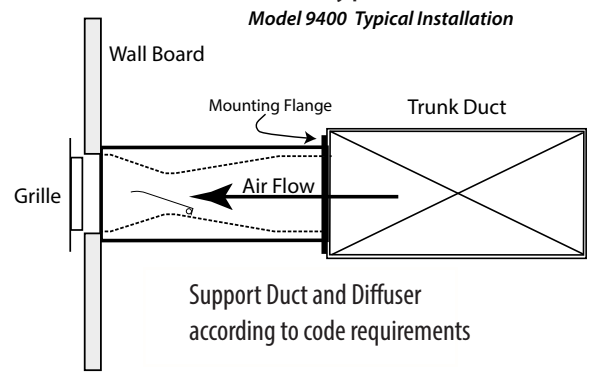
OPTIONS	
Transformers 3035	8 units can be driven by one T-Stat
Thermostats - T-720A	BACNET Communication Module

QUANTITY	DIAMETER	NOTES
PROJECT	LOCATION	
CONTRACTOR	DESIGN SPECIFIER	

## Installation Notes

The Model 9400 has been designed to sit behind the drywall. (see illustration to the right)  
The grille is installed directly against the wall.

## Model 9400 Typical Installation



## Performance Data

Model 9400 Performance Data								
Overall Dimensions WxHxD	Duct Opening	Grille Size		Duct Static Pressure (inwc)				
				0.08	0.12	0.16	0.2	0.24
15 5/8 x4x12	12x4	13x5	Max CFM	155	185	215	250	285
			Max NC	--	25	30	33	36
			Throw (ft)	26/8.5	26.9/10.2	30.5/11.2	32/12.8	34/14.4
15 5/8 x6x12	12x6	13x7	Max CFM	290	350	415	475	540
			Max NC	--	27	33	35	38
			Throw (ft)	27/16.7	28/18.4	30.5/22.5	32.8/24.3	35.4/27.2
19 5/8 x4x12	16x4	17x5	Max CFM	210	245	285	335	385
			Max NC	--	26	33	36	40
			Throw (ft)	27/17.4	28/11	32.1/11.7	36.1/13.8	35.1/15.1
19 5/8 x6x12	16x6	17x7	Max CFM	385	465	555	635	715
			Max NC	26	30	36	38	42
			Throw (ft)	27/17.4	29/20.7	31.8/23	34.1/15.9	36.4/28.5
23 5/8 x4x12	20x4	21x5	Max CFM	235	300	355	405	460
			Max NC	25	29	34	38	41
			Throw (ft)	27/9.8	29/11.8	32.3/12.5	34.4/14.4	35.8/15.7
23 5/8 x6x12	20x6	21x7	Max CFM	515	610	710	815	915
			Max NC	27	32	37	40	43
			Throw (ft)	27.6/16.7	30.5/22.6	33.1/24.3	35.4/27.6	37.4/29.2
27 5/8 x4x12	24x4	25x5	Max CFM	280	360	425	480	550
			Max NC	27	31	36	39	43
			Throw (ft)	27/10	30.2/15.5	33.5/13.5	25.36/15.4	36.7/16.1
27 5/8 x6x12	24x6	25x7	Max CFM	620	735	855	980	1100
			Max NC	29	33	39	41	45
			Throw (ft)	28/19.7	32.2/24.9	34.4/25.9	36.4/29.5	38.1/30.5

### Notes:

- Altitude: Data is for sea level conditions
- Noise (Noise Criteria) is based on SWL reading re: 10-12 watt minus 8dB from each octave band.
- Throw: Throw is the distance in feet from grille to a point where the air velocity is reduced to 100 fpm. Data shown is for 0° discharge at maximum volume and at minimum. (Max/Min)  
For 45° discharge - multiply table max. values by 0.6.
- Air Balance: Unit is engineered to carry the minimum and maximum flow specified. This is not a balancing device.