

VARITRAC® AND TRACKER



As a complement to the Rooftop range, TRANE also offers two accessories that quickly prove to be indispensable :

the VARITRAC® system which allows variable thermal needs to be regulated within several zones requiring air-conditioning

TRACKER, a system of microelectronic control and monitoring of the air conditioning system.

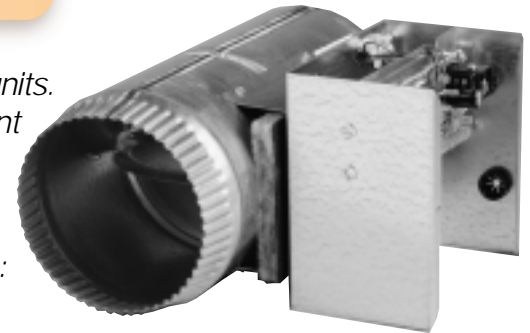


CCP2

FOR WHOM? FOR WHAT?

The VARITRAC® system is compatible with all types of Rooftop units. It allows individual comfort to be offered within zones with different thermal needs using one centralised Rooftop unit.

For the ultimate system control, TRACKER allows supervision of installation and controls additional devices of the building, such as : lights, signs, fans etc. . . , from a single location.



VADA ROUND
VARITRAC® DAMPER

TRANE'S ADVICE

The combination of a rooftop unit + Varitrac® + Tracker offers a complete solution, a true system offer for the overall management of a building.

This system can be used on new buildings or can be retrofitted on existing structures.



TRACKER

LIGHT COMMERCIAL RANGE

Each zone is equipped with a "VariTrac®" damper that modulates air supply according to the room temperature and the set points.

The CCP is the system's nerve centre, continuously communicating with each damper to determine its requirements and inform it of the current state of the system.

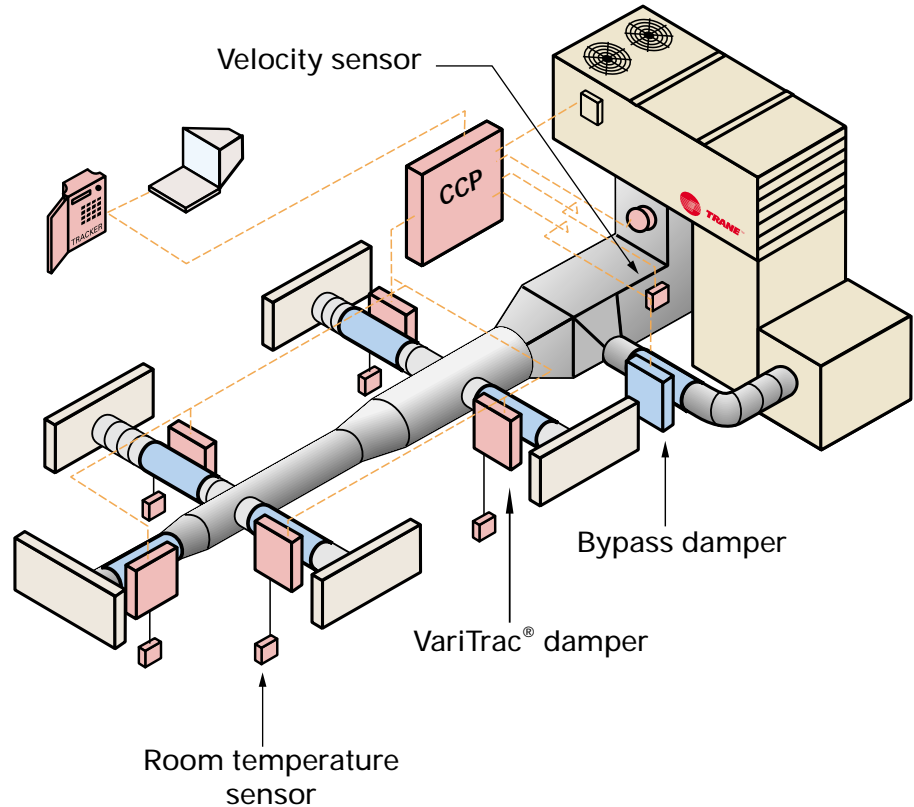
Increased zone count. The new VariTrac system now supports 24 zones instead of 16. The zones may be VariTrac dampers, or any type of VariTrane VAV box including fan-powered boxes or boxes with factory-installed local heat.

The CCP chooses the operating mode depending on the different demands, and controls the unit as well as the production of cold and hot air.

The installation is simple, quiet and unobtrusive, providing users with maximum comfort and enabling each person to choose their own room temperature.

Variable air volume system

The "VariTrac®" system is compatible with all the blower units, and provides individualised comfort in each zone by means of a central unit.



Hardware Overview

Central Control Panel Enclosure

The new VariTrac Central Control Panel (CCP) has a three-piece enclosure for simplified installation. All wiring is done on large, easily accessible terminal strips located in the wall mount base plate. The electronics are located in the middle section, which is snapped onto the base plate after mounting. The top section is either a blank face plate, or the optional operator display.

Central Control Panel Operator Display

The optional operator display (OD) is a back-lit liquid crystal display with touch-screen programming capability. Through the display you can access system status and zone status, and do basic set-up of the zone UCMs and the CCP system operating parameters. It is designed to give an installer the ability to commission a VariTrac system without requiring a PC. Additionally, the OD has a seven-day time clock built in to provide stand alone scheduling capability of the VariTrac system. Zones may be divided into four groups, each with its own schedule if desired. If there is no Tracker system on the job, the CCP must be ordered with a display. If Tracker is available, the CCP may have a blank cover plate installed instead of an OD.

Communicating Sensor/Bypass Control Assembly

The VariTrac duct sensors have been combined with a UCM into one factory-wired assembly, so it now resides on the Comm 4 link along with the zone dampers and Voyager/Precedent™ rooftop unit. The bypass damper is also wired to this assembly. This eliminates the multiple conductors and terminations between the CCP, the duct sensors and the bypass damper, where most installation errors occurred.

Bypass Damper Installation Harness

All bypass dampers will now be shipped with a 12-foot plenum-rated wiring harness attached to the damper at the factory. The harness has a polarized plug on the end which is plugged into the communicating sensor assembly control board. This eliminates bypass damper wiring errors during installation.

Digital Display Zone Sensor

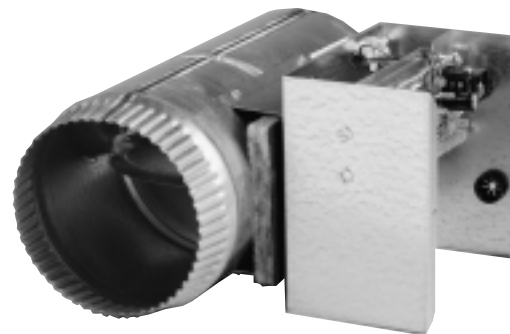
The new digital display zone sensor has the look and functionality of the standard Trane zone sensor, but includes an LCD digital display of the space temperature and setpoint adjustment in degrees F or C. The sensor has ON and CANCEL buttons, and a communications jack which can be accessed without removing the cover. The sensor requires 24 volts, and may share a power supply with UCM.



CCP2



TZS 004
DIGITAL DISPLAY
ZONE SENSOR



VADA
ROUND
VARITRAC®
DAMPER

CCP type damper	HVAC unit (rooftop or split system)	VariTrac zone damper or VariTrane VAV box	Bypass
New VariTrac	1 constant-volume Voyager, Precedent, or other RTU	24	1
	1 Voyager III VAV RTU	32	0

Note: The Voyager RTU, Precedent RTU, or other RTU must have either a communication interface card (TCI) or low-voltage relay interface. If a low-voltage relay is used, the CCP must be ordered with the optional relay board.

Optional Equipment

Zone Occupancy Sensor

The new zone occupancy sensor is a ceiling-mount infrared motion detector to be used with VariTrac zone damper UCM for controlling the occupied zone standby function. It can detect motion over a 360 degree range (adjustable) for up to a 1200 square foot area. It has SPDT isolated contacts for connection to the UCM occupancy input. The sensor requires 24 volts, and may share a power supply with UCM.

Zone CO2 Sensor

The zone CO2 sensor is a compact transmitter for use with the VariTrac UCM CO2 input for doing demand control ventilation. The sensor is available in either wall- or duct-mount enclosures. The sensor requires 24 volts, and may share a power supply with UCM.

VariTrac PC Software

Advanced set-up functions in VariTrac are now done with a new Windows®-based, graphical PC software program. Connection between the PC and the CCP is done with a standard serial port cable connection.



VariTrac™ Bypass and Zone Dampers Quick Select

Round Zone Damper

Capacity (cfm), Dimensions and Weights

Size (in)	6	8	10	12	14	16
600	120	210	330	470	640	840
800	160	280	435	630	855	1115
1000	200	350	545	785	1070	1395
1200	235	420	655	940	1280	1675
1400	275	490	765	1100	1500	1955
1600	315	560	875	1255	1710	2235
Length (in)	12	12	16	16	20	20
Ship Wt (lbs)	11	12	17	18	27	31

Round Bypass Damper

Capacity (cfm), Dimensions and Weights

Size (in)	6	8	10	12
600	120	210	330	470
800	160	280	435	630
1000	200	350	545	785
1200	235	420	655	940
1400	275	490	765	1100
1600	315	560	875	1255
1800	350	630	980	1415
2000	390	700	1090	1570
Length (in)	12	12	16	16
Ship Wt (lbs)	11	12	17	18

Rectangular Zone Damper

Capacity (cfm), Dimensions, Blades and Weight

Size (in)	8 x 12	8 x 14	8 x 16	10 x 16	10 x 20	14 x 18
600	398	464	531	663	829	1045
800	531	619	707	884	1105	1393
1000	663	774	884	1105	1382	1741
1200	796	928	1061	1326	1658	2089
1400	928	1083	1238	1547	1934	2437
1600	1061	1238	1415	1769	2211	2785
Blades		2	2	2	3	3
Ship Wt (ilbs)	8	10	12	14	16	18

Rectangular Bypass Damper

Capacity (cfm), Dimensions, Blades and Weight

Size (in)	14 x 12	16 x 16	20 x 20	0 x 20
600	696	1061	1658	2487
800	928	1415	2211	3316
1000	1161	1769	2763	4145
1200	1393	2122	3316	4974
1400	1625	2476	3869	5803
1600	1857	2830	4421	6632
1800	2089	3183	4974	7461
2000	2321	3537	5527	8290
Blades	2	3	3	3
Ship Wt (lbs)	16	21	29	40

Selection Procedures

Bypass Dampers

- 1 To determine the cfm capacity required for a bypass damper calculate 80 percent of the cfm capacity of the heating/cooling unit.
Example: If the rooftop capacity is 1200 cfm, 1200 x .8 = 960 cfm.
- 2 To determine the size of the damper locate the recommended velocity and cfm for the bypass damper.

Zone Dampers

- 1 Refer to the sizing chart for zone dampers. Follow down the first column in the table for the desired velocity. Then follow across for the recommended cfm (air volume) to determine the correct VariTrac damper size.
- 2 If the cfm exceeds the damper range, increase the damper size.
- 3 Minimum airflow should be set at 10 percent in heating or cooling when a zone duct temperature sensor is used for stand-alone control. In addition, when controlling electric reheat coils, cooling minimum airflow should meet the heating unit manufacturer's guidelines.

Note: Damper casing lengths are 16 inches in both Rectangular Zone and Rectangular Bypass Dampers.