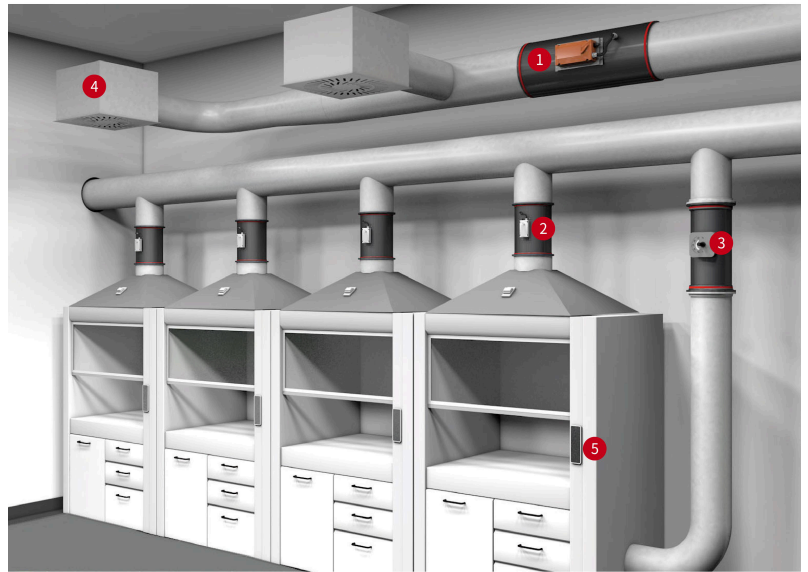


Product Portfolio

KST VAV-Q/VAV-R is a pressure-independent variable air volume terminal customized for pharmaceutical factories, clean workshops, laboratories and other systems that have control requirements for room pressure. The system controls air volume and pressure by adjusting the supply and exhaust volumes or the room's pressure differential — all achieved through the VAV unit.



① VAV-R-P/F/Q room pressure / air volume control ② VAV-R-L/F/A fast-response VAV for fume hood (2.5 s travel) ③ CAV-R constant air volume valve ④ KST-SDR-iQ swirl air diffuser ⑤ Fume hood touch-screen control panel

Focus: VAV Solutions

KST VAV · Variable Air Volume Valve

- ▶ Pressure-independent control — air volume 200~28000 m³/h (VAV-Q) · 30~6786 m³/h (VAV-R)
- ▶ Factory air-flow calibration on test bench — air volume error within ±5%
- ▶ Air leakage of valve unit ≤ 0.5% · box leakage rate ≤ 1%
- ▶ Fully closable — DIN EN 1751 Class 3 (VAV-Q) / Class 4 (VAV-R)
- ▶ Forged zinc steel or stainless steel — optional anti-corrosive coating

- ▶ German original equipment & technology — European standard design
- ▶ Pitot tube with up to 24 air volume measuring holes — sensitive response
- ▶ Operation speed adjustable — as fast as 2.5 seconds
- ▶ NFC field commissioning · mobile compatibility · cloud data management
- ▶ Box and controller integrated unit — perfectly matched



VAV-Q

air flow rate

200~28000m³/h



VAV-R

30~6786m³/h

Technical Parameter

Air Volume & Specification — VAV-Q Quadratic Terminal

Model	Flow (m³/h)	Length (mm)	W1×H1 (mm)	W×H (mm)	Wt. (kg)	Model	Flow (m³/h)	Length (mm)	W1×H1 (mm)	W×H (mm)	Wt. (kg)
VAV-Q/200×100	108-864	400	200×100	270×170	6.5	VAV-Q/600×400	1296-10368	400	600×400	670×470	16.5
VAV-Q/200×200	216-1728	400	200×200	270×270	7	VAV-Q/600×500	1620-12960	400	600×500	670×570	21
VAV-Q/250×200	270-2160	400	250×200	320×270	8.2	VAV-Q/700×300	1134-9072	400	700×300	770×370	14.7
VAV-Q/300×100	162-1296	400	300×100	370×170	7.3	VAV-Q/700×400	1512-12096	400	700×400	770×470	17.7
VAV-Q/300×200	324-2592	400	300×200	370×270	9	VAV-Q/700×500	1890-15120	400	700×500	770×500	22.5
VAV-Q/300×250	405-3240	400	300×250	370×320	9.6	VAV-Q/700×600	2262-18144	400	700×600	770×670	21.5
VAV-Q/300×300	486-3888	500	300×300	370×370	10.2	VAV-Q/800×300	1296-10368	400	800×300	870×370	16.2
VAV-Q/400×100	216-1728	400	400×100	470×170	8.8	VAV-Q/800×400	1728-13824	400	800×400	870×470	18.1
VAV-Q/400×200	432-3456	400	400×200	470×270	10.2	VAV-Q/800×500	2160-17280	400	800×500	870×570	23.2
VAV-Q/400×250	540-4320	400	400×250	470×320	11.2	VAV-Q/800×600	2592-20736	400	800×600	870×670	25
VAV-Q/400×300	648-5184	500	400×300	470×370	11.6	VAV-Q/900×400	1944-15552	400	900×400	970×470	20.5
VAV-Q/500×200	540-4320	400	500×200	570×270	11.5	VAV-Q/900×500	2430-19440	400	900×500	970×570	25.5
VAV-Q/500×250	675-5400	400	500×250	570×320	12	VAV-Q/900×600	2916-23328	400	900×600	970×670	26
VAV-Q/500×300	810-6480	500	500×300	570×370	13	VAV-Q/1000×600	3240-25920	400	1000×600	1070×670	27.7
VAV-Q/600×250	810-6480	400	600×250	670×320	12.8	VAV-Q/1000×800	4320-34560	400	1000×800	1070×870	33
VAV-Q/600×300	972-7776	500	600×300	670×370							

Model	Flow (m³/h)	Length(mm)	Φ D (mm)	Weight (kg)
VAV-R/100	45-340	400	99	4.9
VAV-R/125	65-530	400	124	5.2
VAV-R/160	110-870	400	159	5.8
VAV-R/200	170-1355	400	199	6.4
VAV-R/250	265-2120	400	249	7.3
VAV-R/315	420-3365	500	314	8.4
VAV-R/400	680-5430	500	399	9.9

VAV-R circular valve body Φ100–Φ400 mm · VAV-Q valve body 200×100–600×300 mm, flanged (VAV-G up to 1000×800 mm) · working temperature 10–50 °C

Noise Sound Pressure Level — VAV-Q (at maximum airflow)

Model	Flow (m³/h)	Static pressure (Pa)	Radiated dB(A) ΔPs=100Pa	Radiated dB(A) ΔPs=200Pa	Radiated dB(A) ΔPs=600Pa	Airflow dB(A) ΔPs=100Pa
VAV-Q/200×100	720	40	39	42	51	41
VAV-Q/300×200	2160	40	43	46	56	42
VAV-Q/400×300	4320	35	45	50	59	43
VAV-Q/500×300	5400	35	46	50	60	43
VAV-Q/700×400	10080	35	50	51	66	43
VAV-Q/800×600	17280	40	53	54	69	44
VAV-Q/900×500	16200	40	53	54	71	44
VAV-Q/1000×800	28800	40	54	55	72	44

Static pressure = required inlet static pressure with the valve fully open · with anechoic enclosure the radiated noise can be reduced by 6–14 dB(A) · muffler attenuation: 500 mm 6–10 dB(A) · 1000 mm 16–22 dB(A) · 1500 mm 23–27 dB(A)

Control Modes

DUCT PRESSURE · ROOM PRESSURE · FUME CUPBOARD

The core of the VAV room control terminal is to control the pressure balance of the room. To keep adverse air out — or in — the clean room, operating room or postoperative ICU must maintain positive pressure, while biosafety laboratories require negative pressure. KST VAV-R/VAV-Q controls the indoor pressure and environment quickly and accurately under different requirements.

Control mode 1

Duct Pressure Control

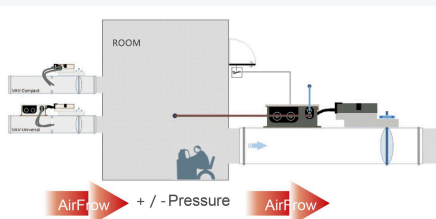
By measuring the difference between the room pressure and the set value, the VAV unit of the exhaust and supply air is informed. In cooperation with the CAV constant air volume terminal, the VAV unit automatically adjusts the supply / exhaust air volume to ensure the room pressure difference.



Control mode 2

Room Pressure Control

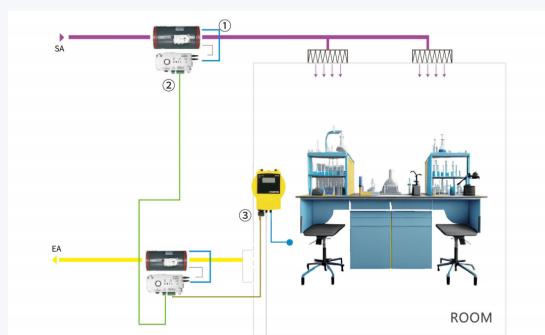
The CAV or VAV terminal maintains the supply air volume, and the exhaust valve opening is controlled by the room differential pressure. Changes caused by exhaust discharge, room air supplement, windows and doors can quickly restore the room differential pressure to the set value through precision sensors.



Control mode 3

Fume Cupboard Control

Fast control for laboratory fume hoods: full travel time of the valve is adjustable for 3–10 s. Room-pressure control adopts the residual air volume + room pressure difference method, adjusting the VAV opening according to the residual air volume difference and room pressure difference.



BACnet IP / MS-TP

Network protocol

Modbus TCP / RTU

Network protocol

NFC

Power-off
commissioning

–20 ~ +200 Pa

Differential pressure
sensor

AC/DC 24 V

50 / 60 Hz

0(2)-10 V

Signal interface

Trusted by Industry Leaders

VAV SYSTEMS FOR LABORATORIES & HEALTHCARE · 2020–2026

KST VAV systems are specified in the most demanding laboratory and healthcare environments where precise room pressure control is non-negotiable — from pharmaceutical cleanrooms and biosafety laboratories to tertiary hospitals and epidemic-treatment facilities.

Pharmaceutical & Life Science

- ★ Merck China
- ★ Fosun Diagnostics Second Headquarters
- ★ Wenguang Life Science Park
- ★ Wantal Biological
- ★ Intersurgical (Changzhou)
- ★ Chengdu Advanced Medical Science Center

Hospitals & Public Health

- ★ The First Affiliated Hospital of Sun Yat-sen University (Nansha)
- ★ Central Government-aided Emergency Hospital
- ★ Shenzhen Longhua People's Hospital
- ★ Xianning First People's Hospital
- ★ Ezhou Public Health Center
- ★ Northwest Hubei (Xiangyang) Major Epidemic Treatment Base



Merck, China



Weiguang Life Science Park



Intersurgical (Changzhou)



Fosun Diagnostics Second Headquarters