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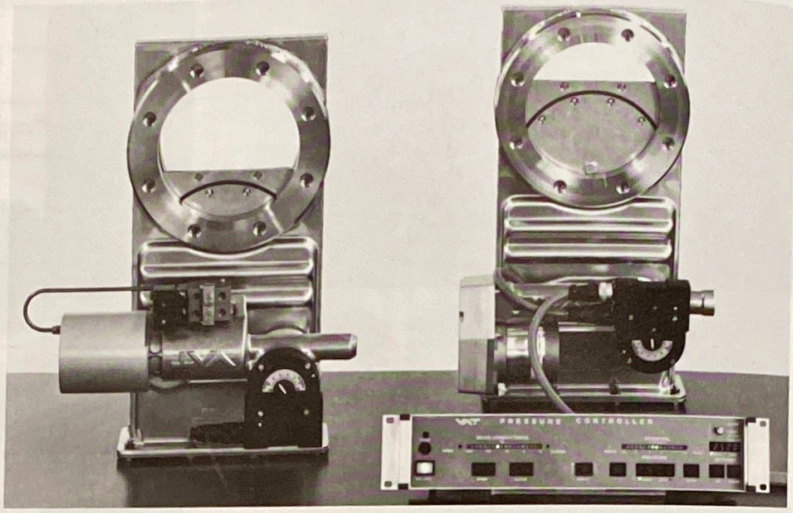
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Find the *VAT 640VC-GAPR* at our website: ***Click HERE***

Throttling, conductance control, pressure control **and** vacuum tight closing

Compact and economical with highest conductance

Actuation: from manual to adaptive controlling



Control gate valve with

3-position pneumatic actuator

DN		Ordering No. (specify voltage)				
mm	inch	CF metric threads	CF UNF threads	ISO-F	ASA-LP	JIS
63	2½	64036-CE48	64036-UE48	64036-PE48	64036-TE48	64036-JE48
100	4	64040-CE48	64040-UE48	64040-PE48	64040-TE48	64040-JE48
160	6	64044-CE48	64044-UE48	64044-PE48	64044-TE48	64044-JE48
200	8	64046-CE48	64046-UE48	64046-PE48	64046-TE48	64046-JE48
250	10	64048-CE48	64048-UE48	64048-PE48	64048-TE48	64048-JE48
320	12			64050-PE48	64050-TE48	64050-JE48

Control gate valve with

stepper motor

for controller mode

63	2½	64036-CE52	64036-UE52	64036-PE52	64036-TE52	64036-JE52
100	4	64040-CE52	64040-UE52	64040-PE52	64040-TE52	64040-JE52
160	6	64044-CE52	64044-UE52	64044-PE52	64044-TE52	64044-JE52
200	8	64046-CE52	64046-UE52	64046-PE52	64046-TE52	64046-JE52
250	10	64048-CE52	64048-UE52	64048-PE52	64048-TE52	64048-JE52
320	12			64050-PE52	64050-TE52	64050-JE52

Valve Controller

without connection cable

	Ordering No.			
mains voltage	basic unit	with Power Failure	with RS 232 C Interface	with Power Failure and RS 232 C
220 V 50/60 Hz	640VC-GENN	640VC-GEPN	640VC-GENR	640VC-GEPR
110 V 50/60 Hz	640VC-GANN	640VC-GAPN	640VC-GANR	640VC-GAPR

Pressure Controller

without connection cable

	Ordering No.			
mains voltage	basic unit with RS 232 C	with Power Failure	with Logic Interface	with Power Failure and Logic Interface
220 V 50/60 Hz	640PC-GENN	640PC-GEPN	640PC-GENL	640PC-GEPL
110 V 50/60 Hz	640PC-GANN	640PC-GAPN	640PC-GANL	640PC-GAPL

Connection cable

valve—controller

length 3 m (10 ft)	640VC-C003
length 10 m (33 ft)	640VC-C010

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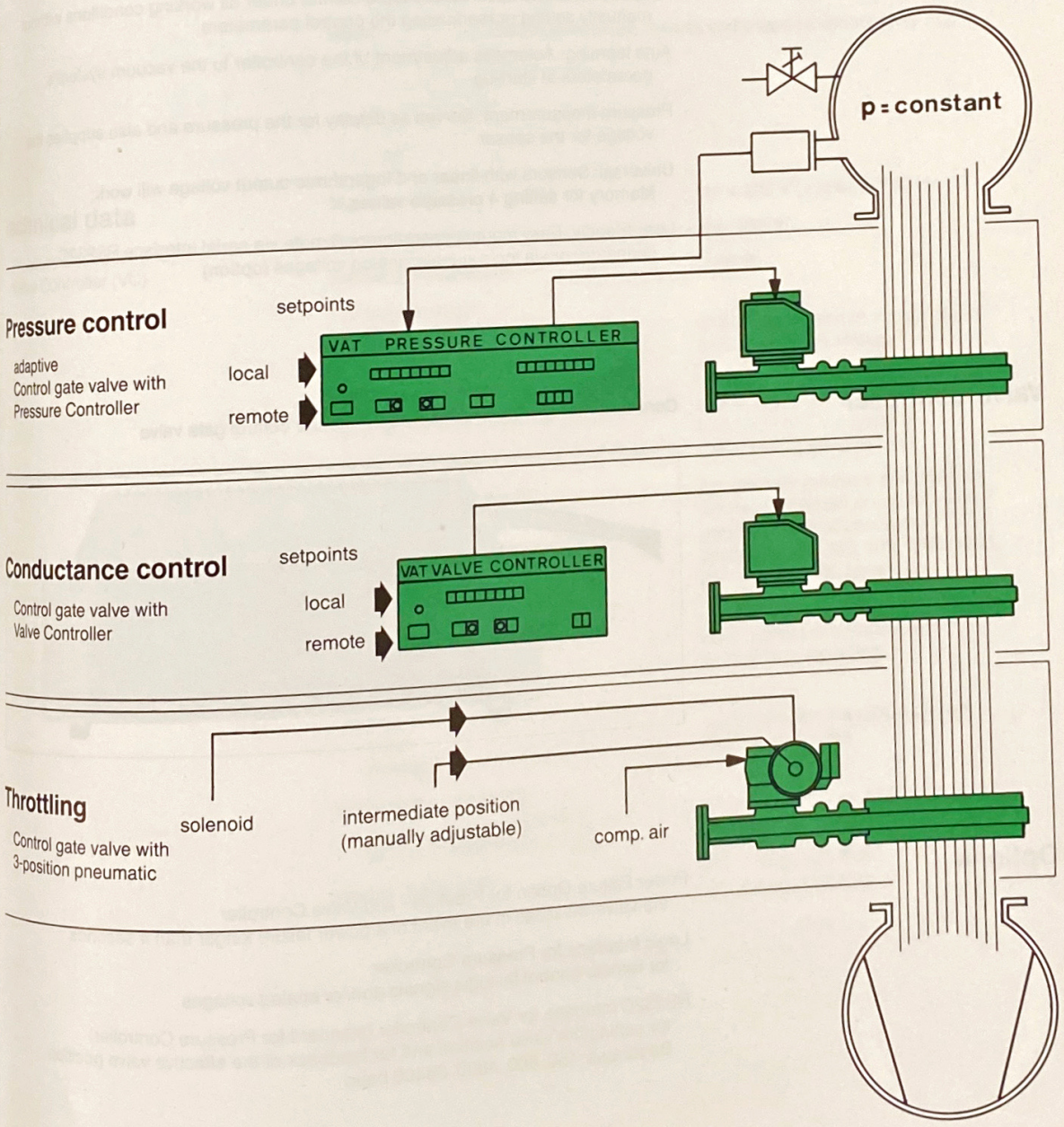
Downstream control

Setting of the desired process pressure by changing the effective pumping speed.

Throttling: Reduction of the conductance to a mechanically preset intermediate position (e.g. for a reduced pumping speed during a glow discharge).

Conductance control: Continuous control of the conductance by changing the valve position with the VAT Valve Controller (e.g. for a gradual switch-over from roughing to high vacuum in a diffusion pumped system).

Pressure control: Control of the process pressure by automatically comparing the actual with the set value. VAT's Adaptive Pressure Controller automatically sets and optimizes the controller for all working conditions like valve position, pressure, vacuum time constant (e.g. it sets and maintains a preset process pressure independent of changing gas flows).

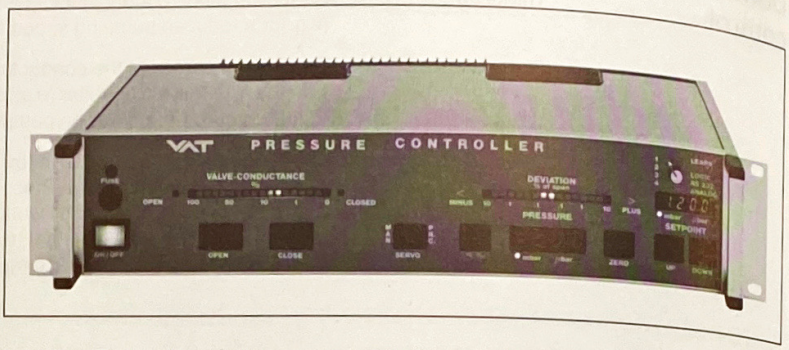


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Pressure Controller

Adaptive pressure and conductance control together with the control gate valve



- Adaptive: Fast and accurate pressure control under all working conditions without manually setting or readjusting the control parameters
- Auto learning: Automatic adjustment of the controller to the vacuum system's parameters at start-up
- Pressure measurement: Serves as display for the pressure and also supplies the voltage for the sensor
- Universal: Sensors with linear and logarithmic output voltage will work; Memory for setting 4 pressure values
- User-friendly: Easy manual operation or remote via serial interface RS232C (standard) or via logic signals/analog voltages (option)

Valve Controller

Conductance control in combination with the control gate valve



Options

- Power Failure Option for Pressure- and Valve Controller
  the valve will close in the event of a power failure longer than 4 seconds
- Logic Interface for Pressure Controller
  for remote control by logic signals and/or analog voltages
- RS232C Interface for Valve Controller (standard for Pressure Controller)
  for setting the valve position and for feedback of the effective valve position
  Baudrates: 150, 600, 4800, 38400 baud

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Displays and controls

Pressure Controller (PC)
Valve Controller (VC)

CONDUCTANCE:	Linear LED-display of the percent conductance and display of the open and closed position indicator switches by means of LEDs in the OPEN/CLOSE push buttons
PRESSURE:	4-digit pressure display: in mbar, µbar (Torr, mTorr) for linear sensors and in Volt, mVolt for logarithmic sensors
DEVIATION:	Logarithmic display of the difference between the set and the actual value
SETPOINT:	4 pressure values to be set with UP/DOWN push buttons Remote setting: analog, RS232C Display same as PRESSURE display
ZERO:	Local or remote auto zero adjustment of the sensor
LEARN:	Switch to start the auto learn procedure
Valve operation:	Local with push buttons OPEN/CLOSE or remote
Mode:	Switch for manual, remote, and pressure control (only PC)

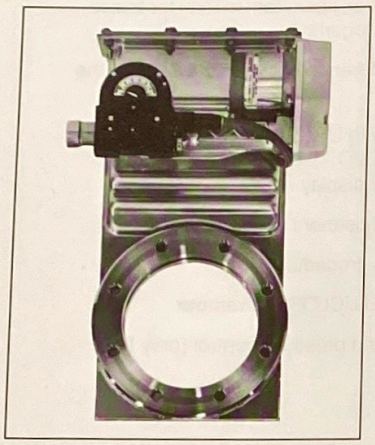
Technical data

Pressure Controller (PC)
Valve Controller (VC)

Mains voltage	110 V, 220 V (±15%), 50/60 Hz
Power required	max. 250 W
Ambient temperature	0-50 °C
Control accuracy - PC - VC	 0.1% of the maximum sensor signal 0.1% of the valve stroke
Pressure sensor - Signal voltage - Supply voltage	 0-1 V, 0-5 V, 0-10 V 0-0.1 V to 0-5 V adjustable ±15 V (±4%), max. 250 mA
RS232C Interface for PC	set value for pressure and position; feedback of actual pressure, valve position, mode of operation; baudrates: 110, 150, 300, 1200, 1800, 2400, 4800, 9600 baud
Inputs - Logic - Analog	 relay contact or optocoupler 0-10 V, R_i > 100 kOhm
Outputs - Logic - Analog	 open collector, max. 24 V, 50 mA 0-10 V, max. 1 mA
Dimensions (W×H×D) - PC (19″ rack insert, 2 h.u.) - VC (11.7″ rack insert, 2 h.u.)	 440×89×315 mm (17.3″×3.5″×12.4″) 254×89×315 mm (10″×3.5″×12.4″)
Weight (basic unit)	PC: 7.5 kg (16.5 lbs) VC: 5.8 kg (12.8 lbs)

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Pressure control
Conductance control



HV gate valve series 14 with stepper motor

Adaptive pressure and conductance control with the VAT Pressure Controller

Conductance control with the VAT Valve Controller

Backlash-free transmission of motion via toothed belt and ballscrew

Very quiet and vibration free movement, minimum closing shock

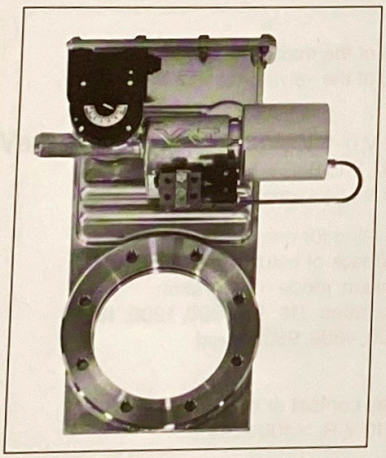
Precision potentiometer output for the valve position

Mechanical position indication

Position indicator for open and closed positions

	minimum controllable conductance (ls^{-1})					
DN	63	100	160	200	250	320
Pressure Controller	0.6	1.0	1.6	2.0	2.5	3.2
Valve Controller	3.0	5.0	7.5	10.0	12.5	16.0

Throttling



HV gate valve series 14 with 3-position pneumatic actuator

Valve positions: open, intermediate, closed

Any desired intermediate position manually set at the valve

Mechanical position indication

Position indicator for each of the three positions

Simple control via two solenoid valves

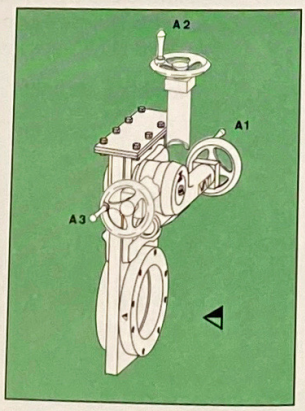
Valve closes in the event of power failure

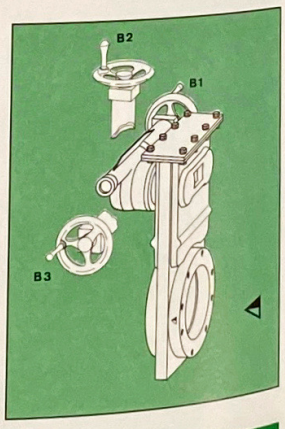
Manual emergency actuation in the event of power failure

	minimum settable conductance (ls^{-1})					
DN	63	100	160	200	250	320
3-pos. pneumatic actuator	3.0	5.0	7.5	10.0	12.5	16.0

Actuator

See series 14





▼ seat side

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Position indication

All valves are equipped with a mechanical position indication

Technical data

Control gate valve

Leak rate: body, seat	$< 1 \cdot 10^{-9}$ mbar ls^{-1}
Pressure range	$1 \cdot 10^{-8}$ mbar to 2 bar (abs) DN 250-320: to 1 bar
Differential pressure: valve closed	2 bar in either direction DN 250-320: 1 bar
Max. differential pressure at opening - in closing direction - in opening direction	 30 mbar 1 bar *
Cycles until first service	100 000
Bake-out temperature - Valve - Pneumatic actuator, motor	 150 °C 50 °C
Material - Body, gate - Mechanism	 1.4301, AISI 304 1.4301, AISI 304 1.4310, AISI 301 1.4034, AISI 420
Seal: bonnet, gate	Viton
Mounting position	any
Solenoid 3-position pneumatic actuator - Supply voltage - Power required	 220 V/50 Hz, 115 V/60 Hz, 24 V DC 2×2.5 W
Position indicator: contact rating	5 A/250 V AC, 3 A/50 V DC
Stepper motor	200 steps per revolution 4 poles, 2 phases phase current 4 A bipolar / 40 V

* cycle life will be reduced depending on the operating conditions

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DN (nom. I. D.)		standard flanges				molecular flow conductance	stepper motor					3-position pneumatic actuator				
		CF-F	ISO-F	ASA-LP	JIS		turns per stroke	steps per stroke	closing or * opening time	weight		compressed air pressure min. — max. overpressure		closing or opening time	weight	
mm	inch	O.D.				ls^{-1}			s	kg	lbs	bar	psig	s	kg	lbs
63	2½	4½	63	2	65	440	12	2400	3	12.0	26.4	4—7	55—95	2.5	12.0	26.4
100	4	6	100	3	100	1700	12	2400	3	17.0	37.4	4—7	55—95	2.5	17.0	37.4
160	6	8	160	4	150	5000	24	4800	6	29.0	63.8	4—7	55—95	3.5	30.0	66.0
200	8	10	200	6	200	12000	24	4800	6	35.0	77.0	4—7	55—95	3.5	36.0	79.2
250	10	12	250	8	250	22000	48	9600	12	68.0	149.6	4—7	55—95	6.0	69.0	151.8
320	12		320	10	300	30000	48	9600	12	118.0	259.6	4—7	55—95	6.0	119.0	261.8

* approx. double time in manual mode

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