

## PSV TEST UNIT



### **MODEL: VC25CC** **RANGE: ½ –10” / DN15 – 250 mm.** **CONTAINERIZED APPLICATIONS**

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## VC25CC Test Unit

The Ventil VC25CC is an universal and versatile test unit for pressure testing and setting of pressure relief valves that is specially designed for use in containerized workshops . The design and configuration is based on many years of experience in safety valve testing and repair. The test unit is fully built in-house and only first class components and materials are used. The VC25CC is delivered ready for use.

## Control Panel

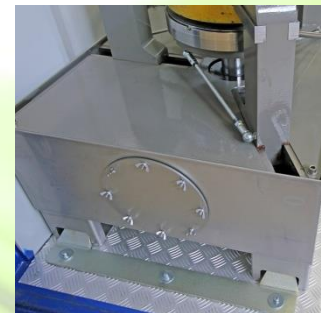
Clear, ergonomically designed control panel for operating the clamping system and controlling the test systems. The stainless steel control panel is provided with tag plates to identify all operation parts / devices and equipment.

## Test Station

The VC25CC clamping station is developed for quick and safe clamping of all conceivable types of safety (relief) valves. The robust constructed clamping device operates with three vertical moving clamping claws that apply a sealing force onto the flange of the safety valve. During clamp procedures the inlet flange is compressed against the fixed clamping table with O-ring gasket. The clamp device can be set to the correct valve size by operating the central hand operated lever that slides the (3) claws simultaneously from- or to the center of the test station.

## Mounting in Container

The VC25CC comes with a kit to mount the test station to the container floor during transport or inside testing. When using the test station outside the container the mounting plate can easily be removed.



## Test Systems

Gas Test System 0 – 300 bar / 4,350 PSI.

Seat tightness test system (API 527) Full Range

## Maximum Set Pressure

VALVE SIZE		MAXIMUM SET PRESSURE	
Inch	Mm		
½ – 3	15 – 80	300 Bar / 4,350 PSI	
4	100	190 Bar / 2,770 PSI	
5	125	130 Bar / 1,885 PSI	
6	150	90 Bar / 1,350 PSI	
8	200	60 bar/ 875 PSI	
10	250	40 bar/ 580 PSI	
		Contact us for smaller or larger test units and custom build solutions.	

## Safety Measures

The VC25CC is designed and build according to high safety standards. To ensure safe operations, the test unit is standard completed with the following features:

### Safety Screen

Whenever testing under high pressures, safety precautions are very important to guarantee absolute safety for the operator and the area surrounding the test unit. The test unit is completed with a standard installed safety screen to protect the test unit operator.



### Safety Interlock at Clamping System

This automatic safety system blocks the clamping force when the test object is being tested. This ensures that the clamping force can only be released when the test pressure is fully released.

### 2-Hand Operation (Kill Switch)

The high pressure gas test system is completed with a hand operated (spring return) push button for allowing the test circuit to increase pressure. This way it is ensured that the operator will stay safely behind the safety screen when the valve is being pressurized.

## General.

### Test Unit Maintenance.

The VC25CC requires minimum maintenance. Generally the test unit only has to be kept clean to ensure a safe and reliable performance. Periodical maintenance, testing and calibration instructions are described in the test unit manual

### Certification.

At Ventil we only use first class instruments to ensure best quality and reliable test results. The delivery includes the following documents;

- Test- and calibration certificates for all installed test pressure gauges and pressure transmitters.
- Factory acceptance test (FAT) certificate, according to DIN 50049 and CE89/392/EEG for test units.

### Testing and inspection.

Testing will be done according our QC plan against a project related inspection plan and inspection procedure. Following tests are foreseen:

- Performance and functional tests at our works.
- NDE test at maximum working pressure.
- Visual inspection.
- Drawing and documents verification.

## Optional Systems.

The test unit will work without any of the following offered options but depending to application these systems could increase the performance and efficiency of the test unit.

### Option 48 – Computer Registration System

The Ventil Computer Registration System (CRS) exist of a laptop computer, set of accurate pressure transducers, A/D conversion unit and in house developed PSV test software. The main purposes are:

- Digital reading of test pressure, test time etc.
- Verifying found test results against test standards (ASME, API) or other (client) programmed tolerance.
- Storing and printing customized test report of test certificate.

### Working in Native Language

The CRS is can be set in a variety of languages. If a language is not standard installed, a translation function can be used to adapt the program text.

### Support and Trouble shooting

Need help, an upgrade or additional function, the Ventil IT service department is available for answering questions. The remote access over internet allows efficient and quick service anytime, anywhere.

### Customized Test Report / Certificate

The Ventil CRS is completed with report generator function to design a customized certificate lay-out. This includes add texts, adapting the language and placing company logo and other details at the report.

### System Configuration

- State of the art Computer system (windows 7 pro.)
- CRS test software, ready for use.
- Laptop Computer.
- Laser controlled bubble counter.
- Pressure transmitters, full range.
- A/D converter.



## Option 90 – 410 bar / 6,000 PSI High Pressure Air / Gas Test Circuit.

Addition to test circuit with pressure gauge and pressure transmitter (only with CRS option selected). The test circuit is completed with a single stage booster systems that will externally supplied air / gas pressure or compressed air (min 30 bar / 435 PSI) taken from option 86 to maximum pressure of 410 bar / 6,000 PSI. The booster unit and test circuit are connected to an adapter table (included in scope) that is put on top of the standard clamping table when being used.

## Option 101 – High Pressure Liquid Test Circuit.

Addition to test circuit with pneumatic driven liquid pump, water reservoir, pressure gauge and pressure transmitter (only with CRS option selected). The liquid test circuit is connected to an adapter table (included in scope) that is put on top of the standard clamping table when being used. The pressure of the test circuit is standard 300 Bar / 4,350 PSI but upgraded to 415 Bar / 6,000 PSI when option 90 is selected.

## Option 122 V-Tec Polir F6 PSV Lapping /Grinding unit.

Portable, battery driven machine for grinding and lapping flat sealing faces of globe- and safety valves. The Polir F6 machine is designed for on-site or in-shop valve reconditioning. The light weight machine is equipped for a full, universal range up to 6" / DN150 mm. The Polir F6 is standard equipped with a range of grinding and center plates for grinding and lapping any type and size of 'flat' seats. The center plate keeps the grinding plate in position, but also gives an eccentric, orbital rotation ensuring complete coverage and absolute flatness.



### Abrasives

The Polir F6 is completed with a large consumer quantity of polyester based, 3M self-adhesive aluminum oxide round foil tips in grains rough, middle and fine. The foil tips can be used dry and on all common seat materials.

### Drive machine

The Polir F6 is standard equipped with a battery driven machine and is delivered with two batteries. The low weight and good balance of the machine increases the grinding performance and makes it easier to attain high quality flat 'results'. The complete set is packed in a robust, but light weight carrying case. Contact us or look at [www.valve-lapping.com](http://www.valve-lapping.com) for other valve lapping solutions.



## Option 49 Spare Parts and Consumables set.

Set of spare parts and consumable items for 2 years normal use.

The package includes:

- ✓ 2 Shop air inlet filters.
- ✓ 2 Block / release needle valves.
- ✓ 4 Sets of high pressure seals for valves up to 10".
- ✓ 1 Pressure switch..

## Datasheet

Range	½ – 10" / DN15 – 250 mm.
Test Station Operation.	Hydraulic operated, from Control Panel.
Gas / Air Test System.	300 Bar / 4350 PSI.
Gas / Air Test System.	415 Bar / 6000 PSI. (Option 90)
High pressure air generation	Pneumatic driven air booster 415 Bar / 6,000 PSI (Option 90)
Liquid test	300 Bar / 4350 PSI. (Option 101)
Liquid test	410 Bar / 6000 PSI. (Option 90 and Option 101)
Clamping Interlock	Pneumatic – without electrical instruments
System	Accurate Regulator with two SS Needle Valves. No Test Vessel installed.
Pressure Reading	Pressure Gauge. 0 – 25 bar / 360 PSI cl 0.6 Pressure Gauge. 0 – 60 bar / 870 PSI cl 0.6 Pressure Gauge. 0 – 250 bar / 3600 PSI cl 0.6 Pressure Gauge. 0 – 400 bar / 5800 PSI cl 0.6
Bubble counter	0-50 bubbles per minute
Digital Pressure Measurement (Option 49)	Pressure Transmitter. 0 – 100 bar / 1450 PSI 0.3% F.S. Pressure Transmitter. 0 – 400 bar / 5800 PSI 0.3% F.S.
PSV Test software	CRS (Option 49)
CRS Hardware	Laptop Computer, Windows 7 PRO (Option 49)
Test Procedures according to common test standards.	Set Pressure Testing with Gas Seat tightness testing according to API 527
O'ring sealing plates	RF connection (DIN/ANSI) up to maximum pressure level.
Universal sealing plate	Vulcolan up to max 25 bar / 360 PSI
Clamping Force (maximum).	25 Metric tons.
Height under the Claws.	0- 130 mm / 0 – 5" .
Flange outline Diameter.	Ø 80 mm – 460 mm. / 3 – 18".
Clamping Table Diameter.	Ø 330 mm. / 13".
Clamping Table Material.	Stainless Steel.
Cable length Test Station – Control Panel	3 m / 2.4 ft (NPT Connection at both ends)
Safety features (standard)	Safety screen Safety interlock embedded in the operating system 'Kill' switch (2-hand operation) Flash light, connected to the high pressure test system(s)
Dimensions / weight	1.90 x 1.4 x 0.75 meter – 600 kg / 75 x 55 x 29.5 Inch – 1300 lbs.
Required connections	Electricity : 230 V 50 Hz. – only when using / selecting CRS option Air : utility air 7 bar / 100 PSI High pressure : nitrogen / compressed air source or optional booster 300 bar / 4350 PSI. (maximum)
Delivery	Ready for use.

## GA Drawings VC25CC

