

VENTIL[⊕]

TEST BENCH MODEL: VC40-CC

Technical specification



Container / trailer test bench for Pressure Relief Valves
Range: ½ - 10" / DN15 - 250 mm.



Ventil - NL

Polakweg 6 - 2288 GE
Rijswijk – The Netherlands
T.: +31 88 113 0900
E.: info@ventil.nl
I.: www.ventil.nl

Ventil - USA

906 Gemini Street
Houston TX 77058 – USA
T.: +1 281 280 0141
E.: info@ventil-usa.com
I.: www.ventil-usa.com

Ventil – Middle East

SAIF Zone – Unit Q4-267
Sharjah – United Arab Emirates
T.: +971 506 260 955
E.: info@ventil-me.com
I.: www.ventil.nl

Ventil Russia - Central Asia

Moscow
T.: +7 916 806 5800
E.: info@ventil-rus.ru
I.: www.ventil-rus.ru

TESTING PRESSURE RELIEF VALVES

Acting as a 'last resort', Pressure Relief Valves are installed on process equipment to release excess pressure due to faulty process operations, external fires and other hazards. Or simply said; the Pressure Relief Valve serves to protect 'life and property'. Pressure Relief Valves should be given the right treatment and be correctly tested to ensure that they will fulfil this so important role when needed.

CONTAINER TEST BENCH VC40-CC

The Ventil **VC40-CC** is an universal and versatile test bench for pressure testing and setting of Pressure Relief Valves in the range ½ - 10" / DN15 - 250 mm. This test bench is specially designed and equipped for the use inside a container, trailer or other transportable / small valve repair shop. Main features and unique characteristics;

- ⊕ Gas testing of all kinds of Pressure Relief Valves with flange and thread connections, according to all common international test standards, such as; API 526, API 527, ANSI / API RP 576.
- ⊕ Compact, robust and extra low clamping system for the use inside the limited space and height of a repair container, trailer or truck. Design and configuration based on many years of experience in manufacturing valve repair containers.
- ⊕ Fully built in-house, only first class components are used.
- ⊕ Delivered ready for use, including all necessary safety features, globally used by numerous manufacturers, end-users and valve repairers.



Test systems		
Gas test system	0 - 300 bar / 4,350 psi.	Compressed air or Nitrogen gas
Seat tightness test system	according to API 527	

Range and application				
VALVE SIZE		MAXIMUM TEST PRESSURE*		
Inch	mm			
½ - 4	15 - 100	400 bar / 5,800 psi		
6	150	150 bar / 2,175 psi		
8	200	90 bar / 1,300 psi		
10	250	70 bar / 1,015 psi		

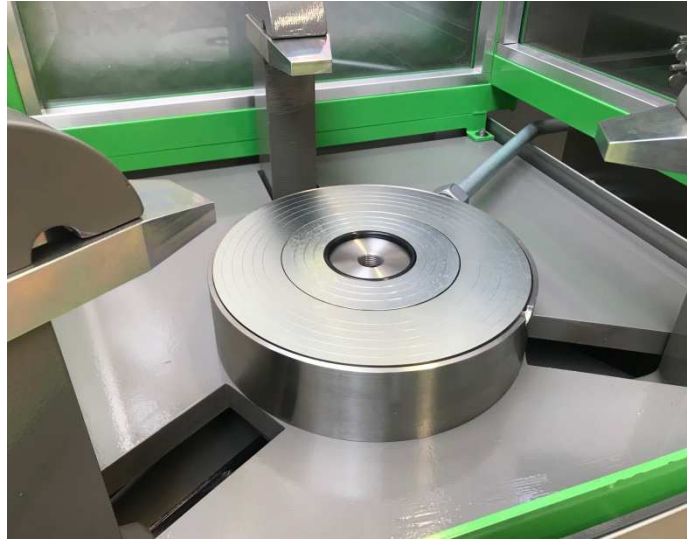
Test bench Control panel

Compact, but ergonomically designed and fully Stainless Steel Control panel with all parts and systems for operating the clamping and test systems. Smart design has led to a minimum amount of operating components, assuring very easy and intuitive operation and control. The text plates will be in your native language.

3-Claw clamping system

The 40 ton strong 3-Claw clamping system enables quick and easy clamping of the complete range of valves. Pressure Relief Valves can be somewhat unstable and may need to be supported. Therefore the VC40-CC clamping system works with a fixed clamping table and vertically moving claws.

After positioning of the valve on the Stainless Steel clamping table, the operator uses the hand lever to move the claws simultaneously to the center until they overlap the flange. The foot – operated switch is used to activate the hydraulic system and clamp the valve on the inlet flange.



- ⊕ 0 - 40 Metric ton, fully adjustable for all types, sizes and materials, range ½ - 10" / DN15 - 250 mm.
- ⊕ Suited for all flange types and valves with thread connections (see options for Male/Female adapters).
- ⊕ ¾" full bore test connection to the 4 liter test vessel to ensure sufficient dynamic lift reaction!
- ⊕ Exchangeable adapters for extending the range, clamping exotic types and protecting the main claws.
- ⊕ Easy lever controlled centering system for simultaneously moving the claws from and to the center.

Easy clamping and sealing

The delivery includes a flat 'Vulcolan' rubber plate and a set of 8 pcs O-ring sealing plates (see picture above) for easy clamping of all Raised Face flanges ANSI Cl. 150 - 2500 / DIN PN2.5 - 500. The galvanized steel O-ring sealing plates are positioned and directly centered. Grooves help the operator with aligning of the valve. The O-ring plates give the highest level tightness for gas and liquid service. To enhance safety and prevent premature wear of the O-rings, the rings are stored in a bracket on the side of the control panel.

Seat leakage detection and measuring

The test bench is completed with a bubble counter for easy and accurate testing / measuring of the gas seat leakage, according to the API 527 standard. Included in the delivery is a spring loaded, rubber lined outlet adapter set for connecting the bubble counter to the outlet of the valve.

Safe design approach

With over 5000 test benches installed and a zero accident track record, we can conclude that we 'deliver safety'. A long, reliable, and most of all, safe working effect starts with a 'safe design approach'. During the design each part and system is subjected to a thorough risk assessments.

With the design of the **VC40-CC** we consider the position and role of the operator and character of tests executed.

Good work - design and ergonomics helps to achieve reliable and consequent test results, while keeping the operator safe at work. The **VC40-CC** is standard completed with;

- ⊕ **Safety screen** with 12 mm thick - bulletproof Polycarbonate screens
- ⊕ **Kill switch** to ensure that the operator stays with the control panel while the pressure rises.
- ⊕ **Automatic safety interlock system** to prevent that the clamping force can be released while the valve is still under pressure.
- ⊕ **Flash light** on top of the control panel, automatically activated to warn personnel in the surrounding that a pressure test is in progress.

Container use and application

The compact and robust configuration of the **VC40-CC** is based on many years of experience in manufacturing 10, 20 and 40' valve test and repair containers.

Containers have a limited height and therefore the **VC40-CC** features an extra low clamping system.

This enables (un)loading and clamping of the most common range of Pressure Relief Valves by crane, inside the container.

For easy and safe testing of larger Pressure Relief Valves, the clamping system can be lifted and placed outside the container. The hose extension set is standard included.



SPECIFICATION TEST BENCH VC40-CC

Range	½ - 10" / DN15 - 250 mm			
Test station operation	Hydraulic operated, from control panel			
Gas / air test system	300 bar / 4,350 psi			
	See options for higher pressure range and liquid test systems			
System	Accurate regulator with two SS needle valves, 4L test vessel (accumulator)			
Digital reading	See options			
Pressure Gauge Ø160 mm / 6.2"	0 – 25 bar / 360 psi Cl. 0.6			
	0 – 60 bar / 870 psi Cl.0.6			
	0 – 250 bar / 3,600 psi Cl. 0.6			
	0 – 400 bar / 5,800 psi Cl.0.6			
Bubble counter	0 - 50 bubbles per minute (analogue)			
Test procedures according to common test standards	Set Pressure testing			
	Seat tightness testing according to API 527			
O-ring sealing plates	RF connection (DIN/ANSI) up to maximum pressure level 8 pcs. for ½ - 10" / DN15 – 250 mm.			
Universal, flat sealing plate	Vulcolan (rubber) for testing up to max 35 bar / 500 psi			
Clamping force (maximum)	40 Metric tons			
Height under the Claws	0 - 130 mm / 0 - 5"			
Flange outline diameter	Ø80 mm - 460 mm / 3 – 18"			
Clamping table diameter	Ø330 mm / 13"			
Clamping table material	Stainless Steel			
Maximum length between clamping system and control panel	3 meter / 2.4 ft			
Safety features (standard)	Safety screen (see options for safety enclosure)			
	Safety interlock embedded in the operating system			
	'Kill' switch (2-hand operation)			
	Flash light, connected to the high pressure test system			
Dimensions / weight	2 x 0.9 x 1.4 meter - 850 kg			
	80 x 36 x 55 Inch - 1,873 lbs			
Required connections	Electricity	220-240 V 50-60 Hz	Please specify preference with the order	
		110 V 60 Hz		
	Utility air	7 bar / 100 psi		
	High pressure test gas	300 bar / 4,350 psi Nitrogen / Compressed air source (see options) Pressure level of the ext. source determines the maximum test pressure		
Other requirements	Please advise, to possibly adapt to local standards / requirements			
Delivery	Ready for use			

Additional parts and systems

The Ventil **VC40-CC** is delivered ready for use, including sealing plates, leak detection system and set of consumables. However, a variety of optional parts, systems and tools are available to possibly increase the performance and efficiency for your specific range and application.

Please see the **VC40-CC** options sheet with detailed description and feel free to contact us for assistance..!