



SAFETY RELIEF VALVE CERTIFICATE

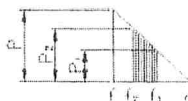
Certificate no. 3086854
Customer no. 21118
Date 11-12-2024

VALVE DATA

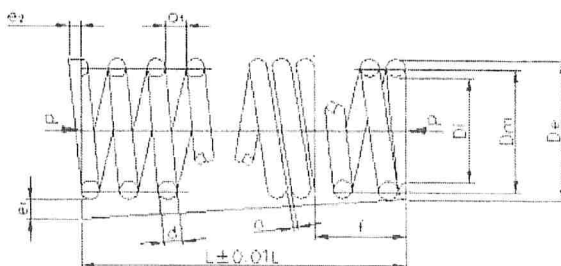
Fabrication number	45055/1	Working fluid	Air
Manufacturer	VYC	Location/PSV	
Model	496	Set pressure cold (Pe)	6.80 bar G
Code	200249682242	Back pressure	Atmosphere
Type	AIT	Atmosphere	Pa
Nominal inlet diameter [mm] (DN1)	65	Discharge coefficient (ad)	
Nominal outlet diameter [mm] (DN2)	100	Valve height [mm] (h)	
Minimal diameter [mm] (d0)	50		

SPRING DATA

Spring code	56296
Length (L)	186
External diameter [mm] (De)	91
Thread Diameter [mm] (d)	12
Arrow [mm] (f)	60
Internal Diameter [mm] (Di)	67
Average Diameter [mm] (Dm)	79
Total Turns (nt)	8.5
Effective Turns (ne)	7
Force [Kp] (P)	356



$$n = \frac{L - f}{(d + 0.5) \pm 1}$$

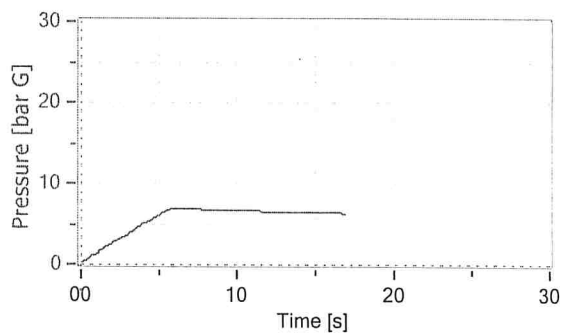


VISUAL INSPECTION

Internal corrosion	Non-existing	Closing	Passed
Finishing	Passed	Axis	Passed
Connections	Passed	Spring	Passed
Body	Passed	Cover	Passed
Seat	Passed	Bonnet	Passed

SETTING

Set pressure (Pe)	6.80 bar G
Opening Pressure (Ps)	6.97 bar G
Closing Pressure (Pc)	6.33 bar G
Seat bubble test	-
Test pressure	-
Leakage	-
Result	Passed
Working test fluid	Air
Temperature	20 C 68 F
Visible thread length [mm]	



OBSERVATIONS

CERTIFICATIONS

Result	Passed
Date	11-12-2024

Name Eduard Elkin Bernal
Signature

1. PRELIMINARY ADVICE:

1.1.1. General instructions

- Safety valves are high-responsibility accessories, which are manufactured with extreme precision. Incorrect handling can affect the hermetic properties of the seal.

1.1.2. Cleaning

- Ensure that the valve is free from foreign bodies. Clean the tubes and connections thoroughly before assembly.

1.1.3. Paint

- Keep all moving parts, connections and/or discharge areas free of paint.

1.1.4. Transportation

- Remove protective covers and anchoring clamps from the lever when assembling.

1.1.5. Storage conditions

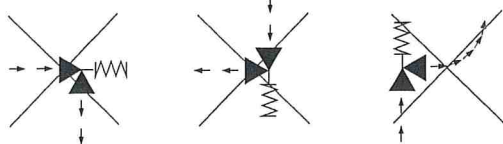
- Temperature should be between 5 and 25°C, and relative humidity less than 75%. After 6 months, check these values before installing.

1.2. INSTALLATION:

- Installation must be carried out by a qualified technician.

1.2.1. General advice

- Install as close as possible to the system to be protected.
- The vertical connection tube must be straight and short, and the flow section must have at least the same diameter as the valve inlet.
- Avoid transmitting inadmissible static, dynamic or thermal forces from the inlets and outlets to the valve. Avoid tension.



- Transport must be in the direction of the arrow on the body.
- Do not install any sealing devices prior to the valve.
- In the case of steam, install a detour before the valve inlet in order to remove the air from the installation when it is turned on.
- If the fluid is harmful, inflammable, toxic, etc., install discharge tubes that lead to a secure place.

1.2.2. Removal of condensed matter:



1.2.3. Insulation

- The valve is left uncovered, so that the spring does not heat up.

1.2.4. Ducts

- 1.2.4.1. Inlet ducts: These should be as short as possible, with pressure drops of less than 3% of release pressure.

- 1.2.4.2. Outlet ducts: The tube must not rest on the valve. It must be self-draining and the reaction force to discharge should be taken into consideration.

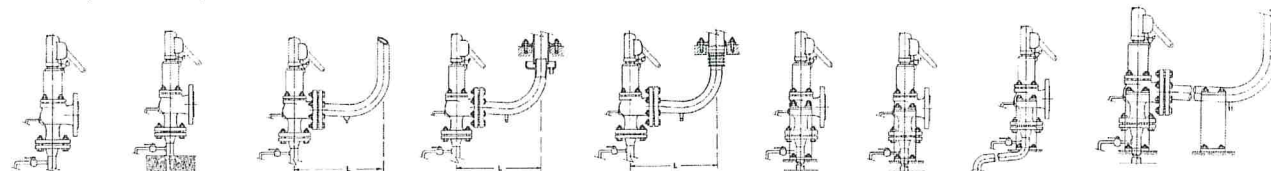
- The tube should be as short as possible, with sufficient diameter to limit a pressure drop through said tube to a maximum level of 10% of the release pressure.

- The diameter must never be less than the diameter of the valve.

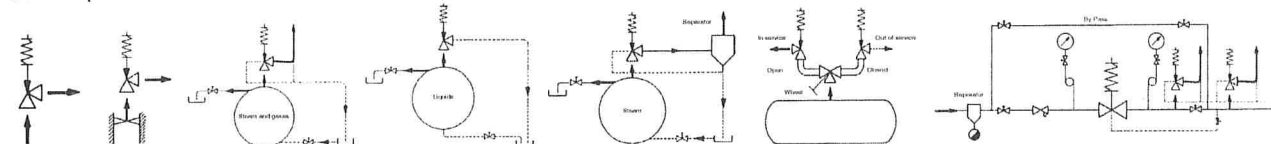
- Discharge tubes should be of a sufficient size to ensure that inherent or generated counter-pressure is no greater than 15% of the release pressure.

- A silencer should be installed where discharge is noisy.

1.2.6. Examples of assembly combinations



1.2.7. Examples of installations



1.3. INITIATION, CHARACTERISATION AND CHECKING:

1.3.1. Initiation

- To prevent unnecessary releases, we recommend that working pressure be at least 15% lower than the regulation pressure.
- When initiating, prompt a manual discharge of 75 ÷ 80% of release pressure. This will result in the tubes and the valve itself being swept out. Repeat the operation at regular intervals.

1.3.2. Characterisation

- Every safety valve is assembled and checked in our workshop. They are methodically adjusted in line with release pressure, sealed and then certified before being despatched, all in accordance with the conditions set out in our ISO-9001 quality control manual.

- Release pressure p, the fluid (L = liquid, S = steam, G = gas), discharge coefficient K_{dr} and the minimum interior diameter of nozzle d₀ are marked directly on the body or characteristics plate.

- The VYC OF internal identification number and the CE stamp with the register of the certifying entity are also visible on the plate or marked on the body.

- Other specifications, such as the DIN material standard, PN, flow direction arrow, VYC brand, DN, batch numbers and control numbers are stamped either in direct or inverse relief, while other necessary information is marked mechanically on the clamp or the body of the valve.

- Each and every one of the components that go into our valves is marked with the DIN material regulation and the batch number, by way of internal register. Also present is the notch that identifies quality control. All of these marks are unequivocal proof of the authenticity of the components.

- Should the valves be checked by accredited bodies, the latter shall make their own distinctive mark and place their identification number on the body or pressure box.

1.3.3. Checking

- Check that the valve is working correctly, and that release pressure, total discharge and sealing pressure are as they should be.

- Checking frequency will depend on the following: characteristics of the fluid, corrosion, residues, viscosity, etc., as well as on discharge frequency, and on environmental conditions, climate, pollution, etc.

- We suggest that you carry out a preventive maintenance programme in accordance with current legislation.

1.4. DISMOUNTING, ASSEMBLING AND ADJUSTING THE RELEASE PRESSURE:

- See the catalogue for the model in question or request instruction sheets.

1.5. REPAIRS:

- Disassemble the valve from the installation when pressure and temperature conditions are suitable. Take no unnecessary risks.

- If using hones, rectifiers, test benches, etc., we recommend that you adjust or delay the release pressure, that maintenance or repairs be carried out in our workshops with guaranteed original spare parts, or failing that, on-site by one of our mobile maintenance teams or by an authorised technician.

- Clean all valves before sending and indicate if they have been used with dangerous liquids. Help us to prevent accidents.



RITEC

VAART RECHTEROEVER 227
9800 DEINZE
BELGICA

Fecha/Date 13-12-24 / FM05-01

EU DECLARATION OF CONFORMITY

We C E R T I F Y, in accordance with EN-10204 3.1

That the safety attachments supplied on 12-12-24 with delivery note number 191925 and identification register number OF-45055/1, corresponding to your order IOR/00508 and with reference to:

- 1 CAST STEEL SAFETY VALVE AIT.(ES).PN-40.DN-65X100. MOD.496
SET PRESSURE: 6,8 bar
MAXIMUM SERVICE TEMPERATURE:450°C
MINIMUM SERVICE TEMPERATURE:-10°C
THEORIC DISCHARGE CAPACITY:7937
AIR AT 0°C AND 1,013 bar IN (Nm³/h)

are composed of the following materials:

CAST STEEL BODY. EN-1.0619+N GP240GH+N Col.JT41
NODULAR IRON CLOSED BELL. EN-5.3106 EN-GJS-400-15 Col.23
NODULAR IRON E.S/P.HOOD. EN-5.3106 EN-GJS-400-15 Col.718
STAINLESS STEEL HOLLOW SCREW. EN-1.4305 X8CrNiS18-9 Col.F6223
STAINLESS STEEL HOLLOW SCREW NUT. EN-1.4305 X8CrNiS18-9 Col.C5423
PTFE Col.053927
GRAPHITE GASKET.
STAINLESS STEEL ROD. EN-1.4028 X30Cr13 Col.D7323
STAINLESS STEEL SAFETY RING. EN-1.4310 X10CrNi18-8 Col.J6779
STAINLESS STEEL RING. EN-1.4028 X30Cr13 Col.C3623
STAINLESS STEEL SAFETY RING. EN-1.4310 X10CrNi18-8 Col.J7061
STAINLESS STEEL SEPARATOR. EN-1.4028 X30Cr13 Col.B2024
NODULAR IRON ELEVATOR. EN-5.3106 EN-GJS-400-15 Col.408
CARBON STEEL CAP. EN-1.1181 C35E
CARBON STEEL NUT. EN-1.1141 C15E
CARBON STEEL WASHER. EN-1.1141 C15E
CARBON STEEL STUD. EN-1.1181 C35E
CARBON STEEL STUD. EN-1.1181 C35E
STAINLESS STEEL SEATING. EN-1.4028 X30Cr13 Col.C1324
STAINLESS STEEL PLUG. EN-1.4028 X30Cr13 Col.C7923
STAINLESS STEEL LEAD. EN-1.4028 X30Cr13 Col.B5824
STAINLESS STEEL RATING PLATE EN-1.4301 X5CrNi18-10
PLASTIC SEAL
SEALING WIRE.
CARBON STEEL SPRING PRESS. EN-1.1191 C45E Col.D2823
CR-VA STEEL SPRING. EN-1.8159 51CrV4
PLASTIC PLUG FOR FLANGE.
PLASTIC PLUG FOR FLANGE.

TESTS PERFORMED

OPERATIONAL TESTS:

ACCORDING TO UNE-EN ISO 4126-1:



- Regulating pressure adjustment, 6.5.

SEALING AND RESISTANCE TESTS

ACCORDING TO UNE-EN 12266-1:

- Shell tightness, P11.

ACCORDING TO UNE-EN ISO 4126-1:

- Hydrostatic testing, 6.3.
- Seat leakage test, 6.6.

In accordance with the procedure laid down in Pressure Equipment Directive 2014/68/EU Module D "Quality assurance in production, final inspection and testing and system monitoring", certified by notified body Nu. 0035 TÜV RHEINLAND INDUSTRIE SERVICE GMBH - Tüv Rheinland Group, with audit report Nu. 01 202 E/Q 13 9444.

In accordance with the procedure laid down in Pressure Equipment Directive 2014/68/EU Module B certified by notified body Nu. 1027 TÜV RHEINLAND IBERICA ICT, SA - Tüv Rheinland Group, with certificate Nu. DEP-B-prod.001072-22

In compliance with the ATEX 2014/34/EU directive "Protective equipment and systems for use in potentially explosive atmospheres".

The family model and types to which this safety accessory belongs has been the object of consideration for a custody certification of technical file number LOM 17.657D-C, the equipment being included in group II category 2. This equipment is specified in the manufacturer's original Technical File, number VYC/2017ATEX.

The Laboratorio Oficial J. M. Madariaga (LOM), notified body number 0163, in compliance with Article 17 of the Directive of the Council of European Communities 2014/34/EU dated February 2014, CERTIFIES:

- That on 2017-10-03 it received and placed in its custody Technical File VYC/2017ATEX, referred to article 13.1 b) ii) of Directive 2014/34/EU ATEX.

And to this effect, we seal the present document in Terrassa (Barcelona) on 13-12-24.

VYC INDUSTRIAL, S.A.U.

C/ AVENC DEL DAVI 22 A
08227-TERRASSA (SPAIN)
Fco. Javier Carpio Martínez (Quality supervisor)
EN-10204.5

VYC industrial, sau
Fundada en 1914
Departamento Calidad
Quality Department



ACEROS MOLDEADOS DE LACUNZA, S.A.

Certificado según Certificate acc. to Abnahmeprüfzeugnis nach	EN 10204 3.1	Certificado N° Certificate No. APZ - Nr	177983	Fecha Date Datum	11/12/23	Pol. Ind. Utzubar Calle E, n° 2 31839 Arbizu-NAVARRA	
Cliente Customer Kunde	VYC INDUSTRIAL SA		Sello de inspector Inspector stamp Stempel des Abnahmebeauftragten			Logotipo de fabricante Brand of manufacturer Hersteller Kennzeichen	
Pedido N° Order Mr. Bestell-Nr	068175V		Orden de fabricación N° Work Order No. Auftrags-Nr.	58192		Proceso de Fusión Melting Process Erschmelzungsart	Inducción
Normas de Control/ especificaciones Technical requirements/specifications Prüfgrundlagen/Anforderungen					Material Material Werkstoff	Según norma According to Gemäß EN 10213	

Marcado de Identificación : HEAT / MATERIAL
Marking
Kennzeichnung

N° piezas Quantity Stückzahl	Pos.	Designación del Artículo Description Bezeichnung	Colada N° Heat Nr. Schmelz-Nr.	Probeta N° Specimen N° Probestab Nr	Peso(Kg). Weight Gewicht
44	1	CUERPO 496 DN-65-26385-2-110212	JT41	41	20

Análisis químico / Chemical analysis / Chemische Analyse

Colada N° Heat Nr. Schmelz-Nr.	C	Mn	Si	P	S	Cr	Ni	Mo	Nb	Cu	N	V	W
Max.	0,23	1,20	0,60	0,03	0,02	0,30	0,40	0,12		0,30		0,03	
Min.	0,18	0,50											
JT41	0,207	0,70	0,46	0,012	0,008	0,13	0,05	0,01		0,04		0,00	

Ensayos Mecánicos / Mechanical Tests / Mechanische Prüfungen

Probeta N° Test N° Probestab Nr.	Colada N° Heat Nr. Schmelz-Nr.	Dimensión probeta Dimension of specimen Probestababmessung		Temperatura ensayo Test temperature Prüftemperatur	Límite elástico Yield point Dehngrenze	Límite elástico Yield point Dehngrenze	Carga Rotura Tensile strength Zugfestigkeit	Alargamiento Elongation Bruchdehnung	Estricción Reduction of area Bruchseinschnürung	Resiliencia Energy of impact Schlagarbeit					Expansión lateral Lateral expansion Laterale Breitung	Dureza Hardness Härte								
		Espesor Thickness Dicke	Ancho,Ø Width,Ø Breite,Ø							Valores - Value - Werte														
										mm	mm	°C	0.2%	1.0% Mpa			Mpa	5D	%	Temp C°	1	2	3	M/n
Max.							600																	
Min.							420																	
41	JT41		14,0	20	240		510	22																
		10	10	20	322			27			20	56	72	66	65									

Tratamiento Térmico
Heat treatment
Wärmebehandlung
Normalizado a 930 °C / 4 h. ***Normalized 930 °C / 4 h. *

Corrosión Intergranular
Intergranular corrosion test

Control Visual
Visual Test
Sichtprüfung
Satisfactory according to MSS-SP-55

Control Dimensional
Dimensional Test
Maßkontrolle
Satisfactory according to drawing and pattern

Homologado por / Certificates of / Zertifikate / Certifié par:
-TÜV SÜD PED/AD-2000 Merblatt - Bureau Veritas
-Lloyd's Register of Shipping - NKK - Nippon Kaiji Kyokai
-Det Norske Veritas - Korean Register
-ABS Europe Limited - Deutsch Bahn AG



Ion Martínez
Inspector de Fábrica
Inspector
Werksbeauftragter



Inspector del Cliente
Customer Inspector
Abnahmebeauftragter des Kunden

