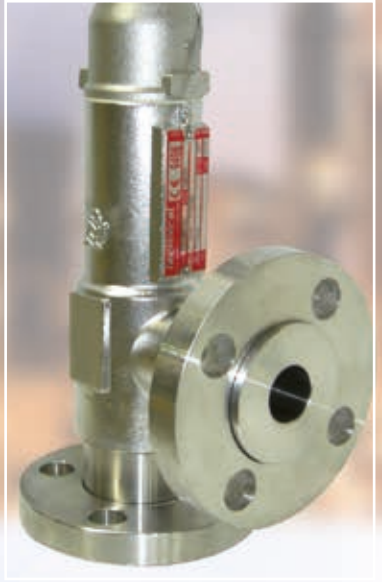


According to
Pressure
Equipment
Directive



SERIE 20000 SERIES

COMPANY WITH
QUALITY SYSTEM
CERTIFIED BY DNV GL
= ISO 9001 =



technical

ITALIAN VALVES MANUFACTURER SINCE 1973

VALVOLE DI SICUREZZA
PRESSURE RELIEF VALVES

Le valvole di sicurezza Serie 20000, progettate e prodotte da Technical S.r.l., sono a boccaglio pieno ed alzata totale. Hanno un elevato coefficiente di efflusso ($K=0,95$), certificato dall'ISPESL a seguito di prove sperimentali eseguite presso Laboratori autorizzati e sono adatte sia per fluidi gassosi, che per fluidi liquidi.

The 20000 series of Safety Relief valve, designed and produced by Technical srl, is a full nozzle, full lift type. This valve has a high discharge coefficient ($K=0.95$) which was verified by ISPESL on test in government approved laboratories. This valve is suitable for both gases and liquids.

Caratteristiche

Il corpo ed il coperchio sono realizzati da fusione. La taratura viene regolata agendo sulla molla, che può essere di tipo elicoidale o a tazza (a seconda dell'applicazione). I modelli standard sono equipaggiati con tenuta piana del tipo metallo su metallo, è anche possibile fornire l'esecuzione con tenuta soffice. La Serie 20000 è anche disponibile dotata di diversi accessori, come la leva di sollevamento munita di premistoppa, la vite di blocco ed il pistone di bilanciamento. La pressione di taratura al banco ed i dati caratteristici della valvola sono riportati sul certificato di costruzione e sulla targa in acciaio inox, applicata al corpo in modo permanente. I materiali disponibili per la Serie 20000 sono indicati nella lista riportata a pagina 3, in cui sono riportati anche i limiti relativi alle temperature di esercizio.

Taratura

Tutte le valvole vengono tarate al banco con contropressione atmosferica. Nel caso di valvole convenzionali, qualora sia prevista la presenza di una contropressione costante allo scarico è possibile tenerne conto al momento della taratura della valvola. Questo per far sì che, in condizioni di esercizio, la valvola di sicurezza apra al valore di pressione corretto. È opportuno notare che, per le valvole convenzionali, il valore della contropressione non deve superare il 35% della pressione di taratura e, comunque, il valore di 28 bar. Il campo di regolazione della molla è $\pm 5\%$ della pressione di taratura. Il Massimo errore di taratura rientra nei seguenti limiti: i) 3% della pressione di taratura, con un minimo di 0,2 bar, per pressioni di taratura fino a 21 bar; ii) 0,7 bar per pressioni di taratura fino a 70 bar; iii) inferiore all'1% per pressioni di taratura oltre i 70 bar. La prova di tenuta viene effettuata, mediante utilizzo di aria, in accordo alla normativa API 527. Il test viene eseguito ad una pressione pari al 90% di quella di taratura. Valvole caratterizzate da perdite nulle, od inferiori a quelle previste dalla API 527, possono essere fornite su richiesta.

Dimensionamento

Il dimensionamento delle valvole di sicurezza, utilizzate per la protezione di recipienti contenenti gas, vapori o liquidi, viene effettuato secondo le principali Normative nazionali ed internazionali come API 520 RP / ASME / ISPESL / PED.

Characteristics

The valve Body and bonnet are made from castings. The set pressure is regulated either by a standard spring OR by a series of Belleville washers (depending upon the application). The standard valve has a flat, metal to metal seat although soft seats can be added. This valve can also be fitted with a range of accessories; for example, a Packed Lifting Lever, a Test Gag or a Balancing Piston. The set pressure and the characteristic data of the valve are specified in the testing certificate of construction and on the stainless steel plate fixed permanently to the valve body. The available materials for series 20000 are shown on the Material List on page 3 which also includes temperature guidelines.

Setting

On the test bench all valves are set with an atmospheric back pressure. Whenever back pressure is specified for a conventional valve, this back pressure should be taken account of when setting the valve. This is to ensure that the Safety Valve opens at the correct set pressure. Please note that the safe limit of Back Pressure on a Conventional valve is 35% of the set pressure and/or 28 bar whichever is the smaller.

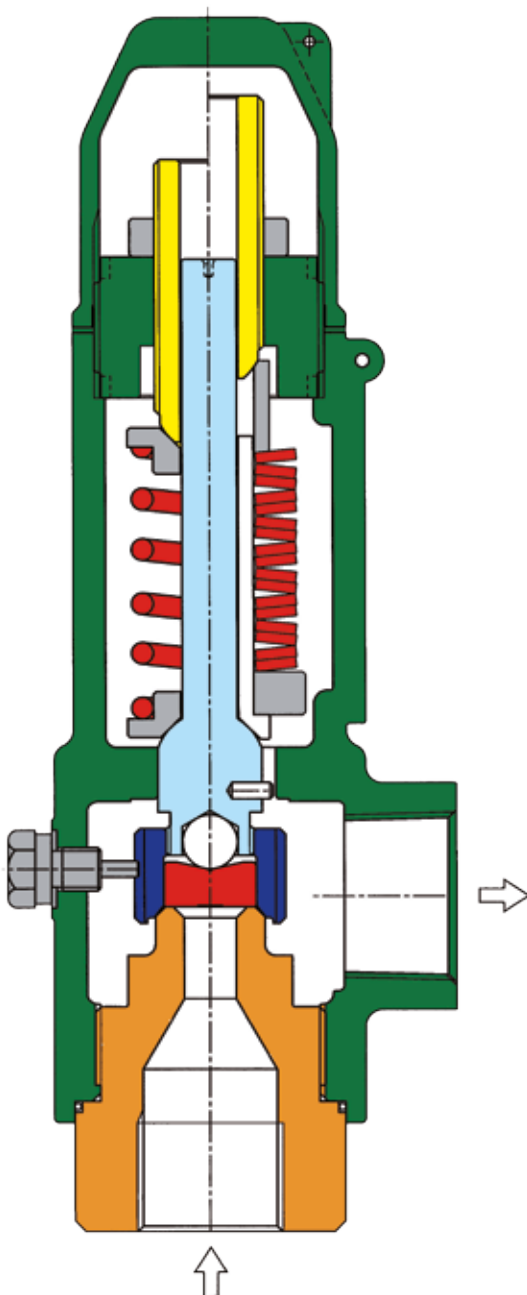
The adjustment range of the spring is $\pm 5\%$ of the set pressure. The maximum set pressure tolerance is as follows: i) 3% or 0,2 bar (whichever is the higher) for set pressures up to 21 bar; ii) 0,7 bar for set pressures up to 70 bar; iii) less than 1% for set pressures over 70 bar.

The seat leak test is performed in line with API 527 using air as the test medium. This test is carried out at 90% of the set pressure. Technical's own in-house seat leak rates for the Series 20000 range are more stringent than the leak rates allowed by API 527. On request, valves with ZERO leakage can be supplied.

Sizing

The sizing of our pressure relief valves used for the protection of gas, liquid and steam containers is in accordance with the main national and international Standards such as API 520 RP / ASME / ISPESL / PED.

Caratteristiche e Limiti di Pressione / Characteristics and Pressure Limits							
Orifizio Orifice				Alzata Lift	MASSIMA PRESSIONE DI SCATTO Maximum set pressure	MASSIMA CONTROPRESSIONE Maximum back pressure	
TIPO Type	Ø		AREA		mm	bar	bar
	mm.	in.	cm ²	sq.in.			
c	8	5/16"	0,502	0,078	1,6	140 CON MOLLA IN AISI 316 with spring in AISI 316	28
d	9,5	3/8"	0,708	0,110	2,1	350 CON MOLLA IN ACCIAIO LEGATO with alloy steel spring	
e	12	121/256"	1,131	0,175	2,5	50 AISI 316 / ACCIAIO LEGATO AISI 316 / Alloy steel	10



Valvole di sicurezza aventi attacchi filettati o flangiati con sigillo di taratura

Omologazione ISPESEL:

- sovrappressione 10%
- scarto di chiusura 7%
- regolazione molla ± 5% della pressione di taratura
- coefficiente di efflusso per gas e vapori **K = 0,95**
- coefficiente di efflusso per liquidi **K = 0,6**

Pressure relief valves equipped with threaded or flanged connections and sealed calibration

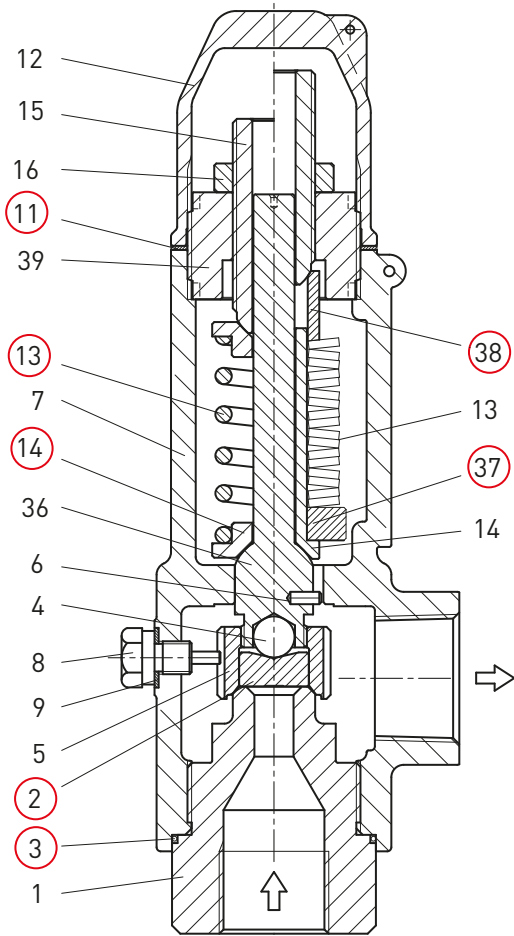
ISPESEL approval:

- overpressure 10%
- blowdown 7%
- spring range ± 5% of set pressure
- gas and vapour discharge coefficient **K = 0,95**
- liquid discharge coefficient **K = 0,6**

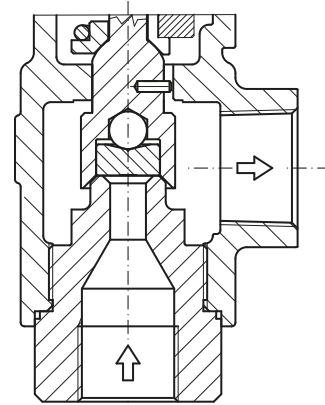
Distinta Materiali / Material List

POS / ITEM	PARTI Parts	Limiti di temperatura / Temperature Limits						
		-20° +100°C	-20° +150°C	-29° +350°C	-196° +350°C	-196° +100°C		
		Classe Materiali / Material codes						
		12	16	1L	H6	60	6L	6H
1	BOCCAGLIO / Nozzle	AISI 431	AISI 316L	AISI 316L	AISI 316L STEL.	AISI 316L	AISI 316L	AISI 316L STEL.
2	OTTURATORE / Disc	17-4PH	17-4PH	AISI 316L	17-4PH	17-4PH	AISI 316L	17-4PH
3	GUARNIZIONE / Gasket	GOMMA FPM FPM Rubber	GOMMA FPM FPM Rubber	GOMMA FPM FPM Rubber	GOMMA FPM FPM Rubber	GOMMA FPM FPM Rubber	GOMMA FPM FPM Rubber	GOMMA FPM FPM Rubber
4	SFERA / Ball	AISI 420	AISI 420	AISI 420	AISI 420	AISI 316	AISI 316	AISI 316
5	ANELLO BLOWDOWN / Blowdown ring	AISI 303	AISI 303	AISI 303	AISI 303	AISI 316L	AISI 316L	AISI 316L
6	SPINA / Pin	AISI 304	AISI 304	AISI 304	AISI 304	AISI 304	AISI 304	AISI 304
7	CORPO / Body	A 216WCB	A 216WCB	A 216WCB	A 216WCB	A351CF3M	A351CF3M	A351CF3M
8	VITE DI BLOWDOWN / Blowdown screw	AISI 303	AISI 303	AISI 303	AISI 303	AISI 303	AISI 303	AISI 303
9	GUARNIZIONE / Gasket	ALLUMINIO Aluminium	ALLUMINIO Aluminium	ALLUMINIO Aluminium	ALLUMINIO Aluminium	AISI 316	AISI 316	AISI 316
11	GUARNIZIONE / Gasket	FIBRA ARAMIDICA Aramidic fiber	FIBRA ARAMIDICA Aramidic fiber	FIBRA ARAMIDICA Aramidic fiber	FIBRA ARAMIDICA Aramidic fiber	FIBRA ARAMIDICA Aramidic fiber	FIBRA ARAMIDICA Aramidic fiber	FIBRA ARAMIDICA Aramidic fiber
12	CAPPELLO / Cap	A216WCB	A216WCB	A216WCB	A216WCB	A351CF3M	A351CF3M	A351CF3M
13	MOLLA / Spring	ACC. CARBONIO - AISI 316 L - INCONEL / Carbon steel - AISI 316 L - Inconel						
14	GUIDA MOLLA / Spring guide	ACC. CARBONIO - AISI 303 - AISI 316L / Carbon steel - AISI 303 - AISI 316L						
15	VITE DI TARATURA / Adjusting screw	AISI 431	AISI 431	AISI 431	AISI 431	AISI 431	AISI 431	AISI 431
16	CONTRODADO / Lock nut	ACC. CARBONIO Carbon steel	ACC. CARBONIO Carbon steel	ACC. CARBONIO Carbon steel	ACC. CARBONIO Carbon steel	AISI 303	AISI 303	AISI 303
17	VITE / Screw	AISI 304	AISI 304	AISI 304	AISI 304	AISI 304	AISI 304	AISI 304
27	FLANGIA INGRESSO / Inlet flange	ACC. CARBONIO Carbon steel	ACC. CARBONIO Carbon steel	ACC. CARBONIO Carbon steel	ACC. CARBONIO Carbon steel	AISI 316L	AISI 316L	AISI 316L
28	FLANGIA USCITA / Outlet flange	ACC. CARBONIO Carbon steel	ACC. CARBONIO Carbon steel	ACC. CARBONIO Carbon steel	ACC. CARBONIO Carbon steel	AISI 316L	AISI 316L	AISI 316L
30	VITE SEDE SOFFICE / Soft seat screw	/	/	AISI 316L	/	/	AISI 316L	
31	GUARNIZIONE / Gasket	/	/	GOMMA FPM FPM Rubber	/	/	GOMMA FPM FPM Rubber	
32	OTTURATORE SEDE SOFFICE Soft seat disc	/	/	AISI 316L	/	/	AISI 316L	
33	VITE DI BLOCCO / Test gag	AISI 304	AISI 304	AISI 304	AISI 304	AISI 304	AISI 304	AISI 304
36	PORTAOTTURATORE (TIPO 240)/ Disc holder	AISI 431	AISI 431	AISI 431	AISI 431	17-4PH	17-4PH	17-4PH
36	PORTAOTTURATORE (TIPO 230)/ Disc holder	17-4PH	17-4PH	17-4PH	17-4PH	17-4PH	17-4PH	17-4PH
37	DISTANZIALE / Spacer	AISI 316L	AISI 316L	AISI 316L	AISI 316L	AISI 316L	AISI 316L	AISI 316L
38	GUIDAMOLLA SUPERIORE Upper spring guide	AISI 431						
39	GHIERA / Ring nut	AISI 303	AISI 303	AISI 303	AISI 303	AISI 303	AISI 303	AISI 303
40	ALBERO ECCENTRICO / Camshaft	17-4PH	17-4PH	17-4PH	17-4PH	17-4PH	17-4PH	17-4PH
41	GUIDA LEVA / Lever Guide	AISI 316L	AISI 316L	AISI 316L	AISI 316L	AISI 316L	AISI 316L	AISI 316L
42	GUARNIZIONE / Gasket	GOMMA FPM FPM Rubber	GOMMA FPM FPM Rubber	GOMMA FPM FPM Rubber	GOMMA FPM FPM Rubber	GOMMA FPM FPM Rubber	GOMMA FPM FPM Rubber	GOMMA FPM FPM Rubber
43	GUARNIZIONE / Gasket	GOMMA FPM FPM Rubber	GOMMA FPM FPM Rubber	GOMMA FPM FPM Rubber	GOMMA FPM FPM Rubber	GOMMA FPM FPM Rubber	GOMMA FPM FPM Rubber	GOMMA FPM FPM Rubber
44	CONTRODADO / Lock nut	AISI 304	AISI 304	AISI 304	AISI 304	AISI 304	AISI 304	AISI 304
45	CAPPELLO LEVA / Lever cap	A 105.	A 105.	A 105.	A 105.	A351CF3M	A351CF3M	A351CF3M
47	DADO LEVA / Lever nut	17-4PH	17-4PH	17-4PH	17-4PH	17-4PH	17-4PH	17-4PH
48	ANELLO / Snap ring	AISI 316	AISI 316	AISI 316	AISI 316	AISI 316	AISI 316	AISI 316
49	ANELLO ELASTICO / Snap ring	AISI 420	AISI 420	AISI 420	AISI 420	AISI 420	AISI 420	AISI 420
50	LEVA / Lever	AISI 316L	AISI 316L	AISI 316L	AISI 316L	AISI 316L	AISI 316L	AISI 316L
51	NIPPLO / Nipple	AISI 316L	AISI 316L	AISI 316L	AISI 316L	AISI 316L	AISI 316L	AISI 316L
52	GUARNIZIONE NIPPLO Nipple gasket	FIBRA ARAMIDICA Aramidic fiber	FIBRA ARAMIDICA Aramidic fiber	FIBRA ARAMIDICA Aramidic fiber	FIBRA ARAMIDICA Aramidic fiber	FIBRA ARAMIDICA Aramidic fiber	FIBRA ARAMIDICA Aramidic fiber	FIBRA ARAMIDICA Aramidic fiber
	Disponibile con otturatore stellitato / Available with stellited disc Disponibile in accordo alle norme NACE MR 0175 / Available in accordance with NACE MR 0175							

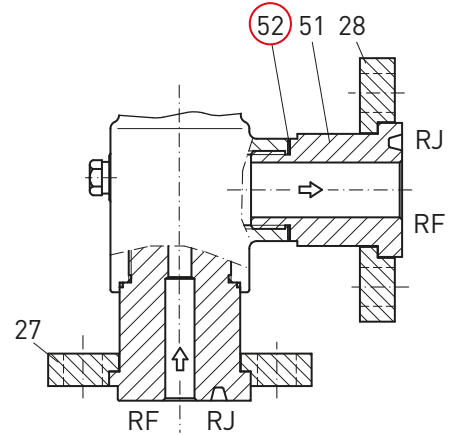
Tipo standard 230 • Standard type 230



Tipo standard 240 • Standard type 240

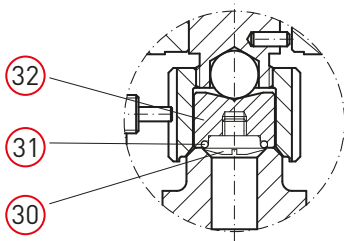


Tipo standard flangiata • Standard flanged type

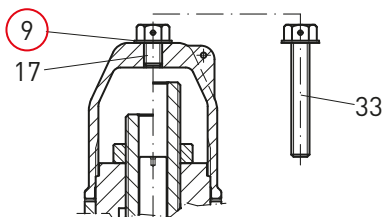


Accessori • Accessories

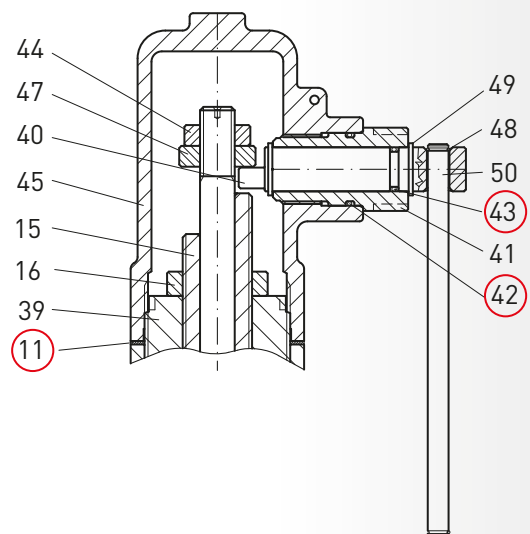
Sede soffice • Soft seat



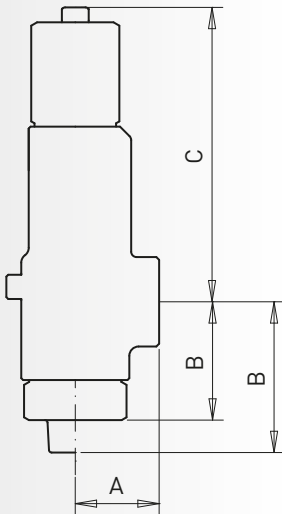
Vite di blocco • Test Gag



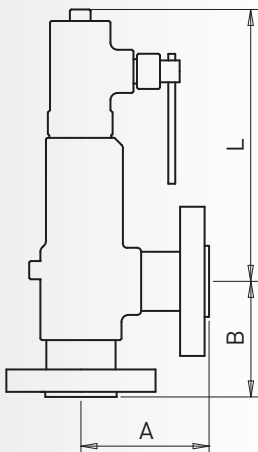
Leva di sollevamento • Lifting lever



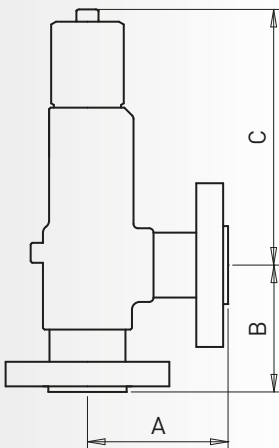
○ Parti di ricambio consigliate
Recommended spare parts



Dimensioni e Pesì / Dimensions and Weights							
ORIFIZIO Orifice	Attacchi Connections		Dimensioni Dimensions				Peso Weight
	Attacchi Size	Tipo Type	mm				
			A	B	C	L	Kg
c / d / e	1/2" x 1" 3/4" x 1" 1" x 1"	NPT - F x F	45	62	165	200	3
	1/2" x 1" 3/4" x 1" 1" x 1"	GAS F x F UNI ISO 228					
	1/2" x 1" 3/4" x 1" 1" x 1"	NPT - M x F	45	87	165	200	
	1/2" x 1" 3/4" x 1" 1" x 1"	GAS M x F UNI ISO 228					



Dimensioni e Pesì / Dimensions and Weights									
ORIFIZIO Orifice	Attacchi Connections		Dimensioni Dimensions				Peso Weight		
	Attacchi Size	Limiti Rating	mm						
			A	B	C	L	Kg		
c / d / e	1/2" x 1"	ANSI 150 x 150 ANSI 300 x 150 ANSI 600 x 150	91	87	165	200	6		
		ANSI 900 x 300 ANSI 1500 x 300 ANSI 2500 x 300					91	105	7,5
								9	
	3/4" x 1"	ANSI 150 x 150 ANSI 300 x 150 ANSI 600 x 150	91	87			165	200	6,5
		ANSI 900 x 300 ANSI 1500 x 300 ANSI 2500 x 300							91
	1" x 1"	ANSI 150 x 150 ANSI 300 x 150 ANSI 600 x 150	91	87	165	200			7
		ANSI 900 x 300 ANSI 1500 x 300 ANSI 2500 x 300							91
	DN15 x DN25	PN 16 x PN 16 PN 40 x PN 40 PN 100 x PN 40 PN 160 x PN 40 PN 250 x PN 40 PN 400 x PN 40	91	87			165	200	6
									105
					9				
DN20 x DN25	PN 16 x PN 16 PN 40 x PN 40 PN 100 x PN 40 PN 160 x PN 40 PN 250 x PN 40 PN 400 x PN 40	91	87	165	200	6,5			
						105			7,5
		115	8,5						
			10,5						
DN25 x DN25	PN 16 x PN 16 PN 40 x PN 40 PN 100 x PN 40 PN 160 x PN 40 PN 250 x PN 40 PN 400 x PN 40	91	87			165	200	7	
								105	8
		115	9,5						
			12						



EAC

ТАМОЖЕННЫЙ СОЮЗ
ДЕКЛАРАЦИЯ

Заявитель: Общество с ограниченной ответственностью "Технический Союз", регистрационный номер: 1127747199174.
 Место нахождения: город Москва, улица Демьяна Фактиского адрес: город Москва, улица Большая Серпуховская, д. 10/11. Телефон: +74956656442. Факс: +74956656442.
 в лице Генерального директора Ярыгина Сергея Владимировича заявляет, что
 Арматура промышленная трубопроводная: (диаметр от 15 до 250 мм, максимальное давление 10 МПа), изготовитель "Technical s.r.l."
 Место нахождения: 9 20060 Vignate (MI) Gio. Battista Scirea, Италия.
 продукция изготовлена в соответствии с Техническим Регламентом Таможенного Союза.
 код ТН ВЭД ТС 8481 40 100 0
 Серийный выпуск: соответствует требованиям Технического Регламента Таможенного Союза.
 Декларация о соответствии принята протокола № 91-205-122/P от 01.07.2015 года.
 Дополнительная информация: Условия хранения продукции в соответствии с инструкцией изготовителя.
 Декларация о соответствии действительна с даты выпуска.

ТАМОЖЕННЫЙ СОЮЗ
СЕРТИФИКАТ СООТВЕТСТВИЯ

№ ТС RU C-IT.AB29.B.03625
 Серия RU № 0302102

ОРГАН ПО СЕРТИФИКАЦИИ ПРОДУКЦИИ "ЛСМ" ОБЩЕСТВА С ОГРАНИЧЕННОЙ ОТВЕТСТВЕННОСТЬЮ "ТРАНСКОНСАЛТИНИ", 121170, город Москва, Кутузовский проспект, дом 36, строение 4, Телефон (495) 9846339, факс (495) 9846339, адрес электронной почты: sert@lsm.ru. Аттестат аккредитации № РОСС RU.0001.11AB29 выдан 26.11.2015 г. службой по аккредитации.

ЗАЯВИТЕЛЬ Уполномоченный представитель "КОЖСПОРТСЕРВИС", по договору уполномоченный представитель "ЛСМ" ОБЩЕСТВА С ОГРАНИЧЕННОЙ ОТВЕТСТВЕННОСТЬЮ "ТРАНСКОНСАЛТИНИ". Место нахождения: 123423, город Москва, ул. Фёдоровская, д. 10. Телефон: (495) 107023, город Москва, ул. Фёдоровская, д. 10. Телефон: +74956656442, факс: +74956656442.

ИЗГОТОВИТЕЛЬ "Technical s.r.l.", Место нахождения: 9 20060 Vignate (MI), Италия.

ПРОДУКЦИЯ Клапаны предохранительные 10000, 4000, 30000P, выпускаемые в соответствии с Техническим Регламентом Таможенного Союза.

DNV-GL

FULL QUALITY ASSURANCE CERTIFICATE

Certificate No.: 124433-2012-CE-ITA-ACCREDIA Initial date: 17-10-2012 Valid: 27-11-2015 26-11-2018

This certificate consists of 2 pages

This is to certify that the quality system of **TECHNICAL S.r.l.**
 Via Toscana, 9 -20060 VIGNATE (MI) - Italy

has been assessed and found to comply with respect to the conformity assessment procedure described in **ANNEX III MODULE H1 OF DIRECTIVE 97/23/EC ON PRESSURE EQUIPMENT**

This certificate is valid for the following scope:
 Type of Pressure Equipment **Safety Accessory**
 Product Name **Safety valves**

Place and date:
 Vimercate 03-12-2015

ACCREDIA

For the notified body 0496:
 DNV GL Business Assurance Italia S.r.l.
 Nicola Privato
 Management Representative

Lack of fulfillment of conditions as set out in the Certification Agreement may render this Certificate invalid.
 DNV GL Business Assurance Italia S.r.l., Via Energy Park, 14, 20171 Vimercate (MB), Italy. Tel: 039 60 99 905. www.dnvgl.it/businessassurance

CERTIFICATE OF AUTHORIZATION

ASME
 UV

The named company is authorized by the American Society of Mechanical Engineers (ASME) for the scope of activity shown below in accordance with the applicable ASME Boiler and Pressure Vessel Code. The use of the certification authority granted by this Certificate of Authorization are subject to the provisions of the ASME Code and the agreement set forth in the application. Any construction stamped with this mark shall have been built strictly in accordance with the provisions of the ASME Code and Pressure Vessel Code.

COMPANY: **Technical SRL**
 Via Toscana, 9
 Vignate, Milano 20060
 Italy

SCOPE:
 Manufacture of pressure vessel pressure relief valves at the ab...

AUTHORIZED: September 17, 2014
 EXPIRES: July 15, 2017
 CERTIFICATE NUMBER: 41,374

Benjamin A. Wijn
 Vice President, Conformity Assessment

Paul A. Wijn
 Director, Conformity Assessment

The American Society of Mechanical Engineers



COMPANY WITH
QUALITY SYSTEM
CERTIFIED BY DNV GL
= ISO 9001 =

TECHNICAL s.r.l. - Via Toscana, 9 - 20060 Vignate (MI) Italy
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e-mail: sales@technical.it - website: www.technical.it

TECHNICAL si riserva il diritto di modificare, in qualsiasi momento e senza preavviso, le caratteristiche dei prodotti qui illustrati.
I dati contenuti in questo catalogo sono puramente indicativi.

*TECHNICAL reserves the right to alter the characteristics of here described products at any time and without notice.
All data contained in this catalogue are indicative.*