



**NUOVA GENERAL INSTRUMENTS**

Loc. Campasso 29010 Pianello Val Tidone (PC) - Italy

Tel.: +39 0523 994629 - Fax: +39 0523 997219

**Calcolo portata di scarico valvola di sicurezza**  
*Safety Valve Fluid Delivery Calculation*

Typ. : D7/C

Fluido : ARIA

Fluid : AIR

$$W = C K A P \sqrt{\frac{M}{T_a Z}} \quad (\text{lb/h})$$

<b>Pset</b>	Pressione di taratura	10,5	bar
	Setting pressure	152,29	psi
<b>T</b>	Temperatura	15,6	°C
	Temperature	60,08	°F
<b>A</b>	Area orifizio	38,5	mm <sup>2</sup>
	Orifice area	0,06	sq in
<b>K</b>	Coefficiente di efflusso (90%Kd)	0,629	
<b>P</b>	Pressione in bar assoluti (P+Sovrapressione+1)	12,55	bar a
	Absolute flowing pressure (P+Over pressure +14,5)	182,019	psi a
<b>C</b>	Funzione dell'esponente isentropico	356	
<b>Ta</b>	Temperatura del fluido in °K ( °C + 273 )	288,6	°K
	Fluid temperature ( °F + 460)	520,08	°F + 460
<b>M</b>	Massa molecolare del fluido	28,97	kg/kmol
<b>Z</b>	Fattore di comprimibilità del fluido	1	
<b>ϕ</b>	Massa volumica del fluido alla temperatura di calcolo	1,2235	kg/m <sup>3</sup>
	Fluid volumic mass at the calculation temperature		

**Inserendo i valori nella formula si ottiene :**  
*Putting these data in the formula the result is :*

$$\begin{aligned}
 W &= \underline{574,19} \text{ lb/h} \\
 \text{m}^3/\text{h} / 1,699 &= \underline{125,27} \text{ SCFM} \\
 W / 2,205 &= \underline{260,4} \text{ kg/h} \\
 \text{kg/h} / \phi &= \underline{212,84} \text{ m}^3/\text{h} \\
 \text{m}^3/\text{h} / 0,06 &= \underline{3547,26} \text{ l/min} \\
 \text{l/min} / 60 &= \underline{59,12} \text{ l/s} \\
 \text{l/min} \times 60 &= \underline{212835,48} \text{ l/h}
 \end{aligned}$$



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Safety Valve Fluid Delivery Calculation

Typ. : D7/C

Fluido : OSSIGENO

Fluid : O2

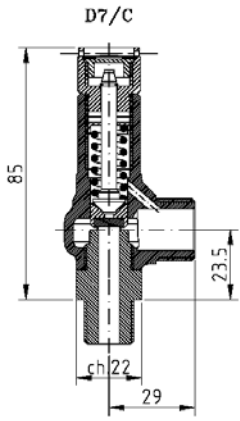
$$W = C K A P \sqrt{\frac{M}{T_a Z}} \quad (\text{lb/h})$$

Pset	Pressione di taratura	10,5	bar
	Setting pressure	152,29	psi
T	Temperatura	15,6	°C
	Temperature	60,08	°F
A	Area orifizio	38,5	mm <sup>2</sup>
	Orifice area	0,06	sq in
K	Coefficiente di efflusso (90%Kd) Coefficient of discharge (90%Kd)	0,629	
P	Pressione in bar assoluti (P+Sovrapressione+1)	12,55	bar a
	Absolute flowing pressure (P+Over pressure +14,5)	182,019	psi a
C	Funzione dell'esponente isentropico Function of the isentropic exponent	356	
T <sub>a</sub>	Temperatura del fluido in °K ( °C + 273 )	288,6	°K
	Fluid temperature ( °F + 460)	520,08	°F + 460
M	Massa molecolare del fluido Fluid molecular mass	32	kg/kmol
Z	Fattore di comprimibilità del fluido Compressibility factor	1	
ϕ	Massa volumica del fluido alla temperatura di calcolo Fluid volumic mass at the calculation temperature	1,3546	kg/m <sup>3</sup>

Inserendo i valori nella formula si ottiene :  
Putting these data in the formula the result is :

$$\begin{aligned} W &= \underline{603,47} \text{ lb/h} \\ \text{m}^3/\text{h} / 1,699 &= \underline{118,92} \text{ SCFM} \\ W / 2,205 &= \underline{273,68} \text{ kg/h} \\ \text{kg/h} / \phi &= \underline{202,04} \text{ m}^3/\text{h} \\ \text{m}^3/\text{h} / 0,06 &= \underline{3367,34} \text{ l/min} \\ \text{l/min} / 60 &= \underline{56,12} \text{ l/s} \\ \text{l/min} \times 60 &= \underline{20204,14} \text{ l/h} \end{aligned}$$

Tipo : Type :	<b>D7/C</b>		do: 7 mm
Omologazione Homologation	PN	Coefficiente efflusso ridotto Low flow coefficient	Campo di taratura Setting range
E.D. 2014/68/EU - IV Cat.(PED)	60	0,85	0,3 - 60,0 bar
EAC	60	0,85	0,3 - 60,0 bar
ATEX Ex h II 2 Gb	60	0,85	0,3 - 60,0 bar
ATEX Ex h II 2 Db	60	0,85	0,3 - 60,0 bar
ASME VIII Div.1	60	0,629	1,0 - 60,0 bar
Canadian Reg. CRN	60	0,629	1,0 - 60,0 bar



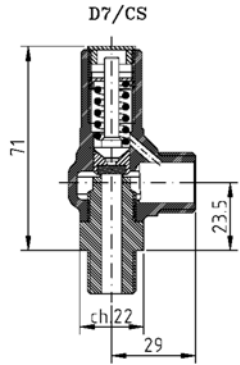
kg. 0,25

### CONFIGURAZIONE - CONFIGURATION

Materiale Material	Ottone Brass	Mista Ottone-Acciaio inox Mixed Brass-Stainless steel	Acciaio inox Stainless steel
Modelli Model	Con ghiera With ring nut	Con ghiera With ring nut	Con ghiera With ring nut
	Senza Ghiera Without ring nut	Senza Ghiera Without ring nut	Senza Ghiera Without ring nut
	/	/	/
	/	/	/
	/	/	/
Sedi di Tenuta Seal System	N.B.R. (Std) -10 / + 100 °C	N.B.R. (Std) -10 / + 100 °C	N.B.R. (Std) -10 / + 100 °C
	E.P.D.M. -50 / + 150 °C	E.P.D.M. -50 / + 150 °C	E.P.D.M. -50 / + 150 °C
	VITON -20 / +200 °C	VITON -20 / +200 °C	VITON -20 / +200 °C
	SILICONE -60 / +200 °C	SILICONE -60 / +200 °C	SILICONE -60 / +200 °C
	PTFE -196 / +250 °C	PTFE -196 / +250 °C	PTFE -196 / +250 °C
	KALREZ -20 / +250 °C	KALREZ -20 / +250 °C	KALREZ -20 / +275 °C
	/	/	/
Connessione Entrata Inlet Connection	G.1/4" - 3/8" ISO228	G.1/4" - 3/8" ISO228	G.1/4" - 3/8" ISO228
	G.3/8" ISO228 F.	G.3/8" ISO228 F.	G.3/8" ISO228 F.
	R.1/4" - 3/8" EN10226	R.1/4" - 3/8" EN10226	R.1/4" - 3/8" EN10226
	1/4" - 3/8" NPT	1/4" - 3/8" NPT	1/4" - 3/8" NPT
	/	3/4" Tri Clamp	3/4" Tri Clamp
	/	/	/
Connessione Uscita Outlet Connection	G.1/2" ISO228	G.1/2" ISO228	G.1/2" ISO228
	/	/	/
	/	/	/
	/	/	/
	/	/	/
	/	/	/

A richiesta possono essere eseguiti collaudi dai più prestigiosi enti quali: INAIL (area ISPESL), TÜV, RINA, Bureau Veritas, ABS e Lloyd Register.  
On request tests can be made by the most prestigious societies, such as: INAIL (area ISPESL), TÜV, RINA, Bureau Veritas, ABS and Lloyd Register.

#### Note:



kg. 0,22



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**CE ASME ATEX GOST approved safety valves**

**PLEASE NOTE WELL!!**

**PLEASE WRITE IN BLOCK LETTERS**

**To be able to register all your orders “you must fill in all your details otherwise our computer system will reject everything”.  
We thank you for your kind attention.**

<b>1</b> Company name (Invoice address) Head office	
Address (street, district)	
Postcode, Town, Nation	
VAT CODE (If you don't have the VAT CODE, please write me your Company Registration and GST registration no. License number issued by the "Department of economic development")	
Phone/Fax	
E-Mail (purchase department)	
E-Mail (accounts department)	
Goods destination address	
Carrier	Customer Code _____
Contact Person	
Sector of your Company (see the list in attachment and write reference number)	

**1** THE DETAILS WRITTEN ABOVE MUST BEAR THE EXACT ADDRESS WHERE THE INVOICE MUST BE SENT.

**Confirmation  
(stamp and signature)**

\_\_\_\_\_

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Personal data are processed in accordance with current regulations regarding privacy. Complete information available on: [www.nuovageneral.it](http://www.nuovageneral.it)

**Our bank details:**

**UBI BANCA SPA**  
Branch: Via Trento, 85, 27049 Stradella (PV)  
ABI 03111 CAB 56300

**SWIFT CODE: BLOPIT22**  
**IBAN Elettronico: IT80V0311156300000000006672**