



NUOVA GENERAL INSTRUMENTS

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

Typ. : D14/S

Fluido : ARIA

Fluid : AIR

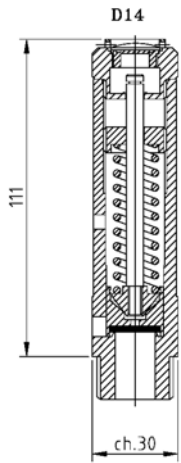
$$Q_m = P_o C A K_{dr} \sqrt{\frac{M}{T_o Z}} \quad (\text{kg/h})$$

PS	Pressione di taratura bar <i>Setting pressure bar</i>	<u>9</u>
T	Temperatura °C <i>Temperature °C</i>	<u>0</u>
A	Area orificio mm ² <i>Orifice area mm²</i>	<u>153,9</u>
Kdr	Coefficiente di efflusso <i>Coefficient of discharge</i>	<u>0,81</u>
Po	Pressione in bar assoluti (P+Sovrapressione+1) <i>Absolute flowing pressure (P+Over pressure +1)</i>	<u>10,9</u>
C	Funzione dell'esponente isentropico <i>Function of the isentropic exponent</i>	<u>2,7</u>
To	Temperatura del fluido in °K (°C + 273) <i>Fluid temperature °K (°C + 273)</i>	<u>273</u>
M	Massa molecolare del fluido in kg/kmoli <i>Fluid molecular mass in kg/kmol</i>	<u>28,97</u>
Z	Fattore di comprimibilità del fluido <i>Compressibility factor</i>	<u>1</u>
ϕ	Massa volumica del fluido alla temperatura di calcolo in kg/mc <i>Fluid volumic mass at the calculation temperature in kg/mc</i>	<u>1,2928</u>

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

$$\begin{aligned} Q_m &= \underline{1195,11} \text{ kg/h} \\ \text{kg/h} / \phi &= \underline{924,43} \text{ m}^3/\text{h} \\ \text{m}^3/\text{h} / 0,06 &= \underline{15407,22} \text{ l/min} \\ \text{l/min} \times 60 &= \underline{\quad\quad\quad} \text{ l/h} \\ \text{l/min} / 60 &= \underline{256,79} \text{ l/s} \end{aligned}$$

Tipo : Type :	D14		do: 14 mm
Omologazione <i>Homologation</i>	PN	Coefficiente efflusso ridotto <i>Low flow coefficient</i>	Campo di taratura <i>Setting range</i>
E.D. 97/23/EC IV [^] Cat.(PED)	40	0,72; >3 bar 0,81	0,3 - 30,0 bar
EAC	40	0,72; >3 bar 0,81	0,3 - 30,0 bar
ATEX Ex II 2 G c (1)	40	0,72; >3 bar 0,81	0,3 - 30,0 bar
ATEX Ex II 2 D c	/	/	/
ASME VIII Div.1	60	0,712	1,0 - 44,0 bar
Canadian Reg. CRN	60	0,712	1,0 - 44,0 bar



kg. 0,50

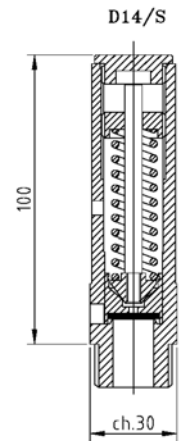
CONFIGURAZIONE - CONFIGURATION

Materiale <i>Material</i>	Ottone <i>Brass</i>	Mista Ottone-Acciaio inox <i>Mixed Brass-Stainles steel</i>	Acciaio inox <i>Stainles steel</i>
Modelli <i>Model</i>	Con ghiera <i>With ring nut</i>	/	Con ghiera <i>With ring nut</i>
	Senza Ghiera <i>Without ring nut</i>	/	Senza Ghiera <i>Without ring nut</i>
	Con protezione <i>With Protection</i>	/	Con protezione <i>With Protection</i>
	/	/	/
	/	/	/
	/	/	/
Sedi di Tenuta <i>Seal System</i>	N.B.R. (Std) -10 / + 100 °C E.P.D.M. -50 / + 150 °C VITON -20 / +200 °C SILICONE -60 / +200 °C PTFE -196 / +250 °C KALREZ -20 / +250 °C /	/	N.B.R. (Std) -10 / + 100 °C E.P.D.M. -50 / + 150 °C VITON -20 / +200 °C SILICONE -60 / +200 °C PTFE -196 / +250 °C KALREZ -20 / +275 °C /
Connessione Entrata <i>Inlet Connection</i>	G.1/2" - 3/4" ISO228 R.1/2" - 3/4" EN10226 1/2" - 3/4" NPT / / / /	/	G.1/2" - 3/4" ISO228 R.1/2" - 3/4" EN10226 1/2" - 3/4" NPT 3/4" - 1"1/2 Tri Clamp / / / /
Connessione Uscita <i>Outlet Connection</i>	/	/	/
	/	/	/
	/	/	/
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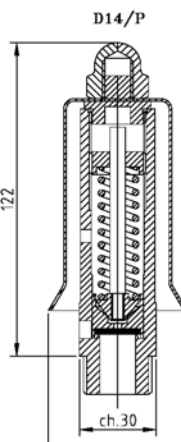
A richiesta possono essere eseguiti collaudi dai più prestigiosi enti quali: INAIL (area ISPEL), TÜV, RINA, Bureau Veritas, ABS e Lloyd Register.

On request tests can be made by the most prestigious societies, such as: INAIL (area ISPELS), TÜV, RINA, Bureau Veritas, ABS and Lloyd Register.

Note: (1) No Modello Con protezione / No Model With Protection



kg. 0,47



kg. 0,50