

## Product data sheet UHV gate valve, Series 108, DN 100 (ID 4'') Ordering No. 10840-PE24

## Description

Actuator       pneumatic, double acting – with position indicator         Feedthrough       Bellows         Feedthrough       Bellows         Technical data       - Valve body – Valve seat         - Valve seat       - 1 10 <sup>-9</sup> mbar Is <sup>-1</sup> Pressure range       - Valve seat         Differential pressure on the gate       < 1.6 bar         Conductance (molecular flow)       5000 (unheated and under clean conditions)         Conductance (molecular flow)       740 Is <sup>-1</sup> Cycles until first service       50000 (unheated and under clean conditions)         Temperature (Maximum values: depending on operating conditions and sealing materials)       - Valve Body         Heating and cooling rate       - Valve Body         Heating and cooling rate       - Valve Body         Bellows       AISI 304 (1.4301)         Alsi 336L (1.4404, 1.4135)       - Valve Body         Bellows       AISI 336L (1.4404, 1.4135)         Seal       Bonnet       FKM (Viton <sup>®</sup> ), vulcanized         - Actuator       - Valve Mody       - Sate         - Sate       - Actuator       any         Volume of pneumatic actuator       - Valve Body       - Sate         - Actuator       - Sate       FKM (Viton <sup>®</sup> ), vulcanized         - Actuator	Flange		ISO-F 100
Technical dataLeak rate $- Valve body$ $- Valve seat5 \cdot 10^{-10} \text{ mbar ls}^{-1}1 \cdot 10^{-9} \text{ mbar ls}^{-1}Pressure range1 \cdot 10^{0} \text{ mbar to } 1.6 \text{ bar (abs)}Differential pressure on the gate\leq 1.6 \text{ bar}Differential pressure at opening\leq 30 \text{ mbar}Conductance (molecular flow)1740 \text{ ls}^{-1}Conductance (molecular flow)1740 \text{ ls}^{-1}Conductance (molecular flow)1740 \text{ ls}^{-1}Conductance (molecular flow)200 \text{ °C open } / \le 200 \text{ °C closed (bake-out max. 24h)}Conductance (molecular flow)- Valve Body- ActuatorTemperature(Maximum values: dependingsealing materials)- Valve Body- Actuator- Valve Body- Actuator\leq 250 \text{ °C open } / \le 200 \text{ °C closed (bake-out max. 24h)}\le 200 \text{ °C}Heating and cooling rate- Valve Body- Mechanism- BellowsHeating (main components)- Valve Body- Bellows- Bonnet- Gate- Catemetal- KKM (Viton®), vulcanized- ActuatorSeal- Bonnet- Gate- ActuatorMounting positionanyVolume of pneumatic actuator0.1111/0.0038 \text{ ft}^3Compressed airmin max. overpressure0.111/0.0038 \text{ ft}^3$	Actuator		
Leak rate $-$ Valve body $-$ Valve seat $< 5 \cdot 10^{-10}$ mbar ls <sup>-1</sup> $< 1 \cdot 10^{-9}$ mbar ls <sup>-1</sup> Pressure range $1 \cdot 10^{-10}$ mbar to 1.6 bar (abs)Differential pressure on the gate $\leq 1.6$ barDifferential pressure at opening $\leq 30$ mbarConductance (molecular flow) $1740$ ls <sup>-1</sup> Cycles until first service $50 000$ (unheated and under clean conditions)Temperature (Maximum values: depending on operating conditions and sealing materials) $-$ Valve Body $-$ Actuator $\leq 250 \ ^{\circ}$ C open / $\leq 200 \ ^{\circ}$ C closed (bake-out max. 24h) $\leq 200 \ ^{\circ}$ CHeating and cooling rate $-$ Valve Body $-$ Actuator $\leq 30 \ ^{\circ}$ CMaterial (main components) $-$ Valve Body $-$ Bellows $AISI 304 \ (1.4301)$ $AISI 316L \ (1.4404), AISI 304 \ (1.4301)$ $AISI 316L \ (1.4404), AISI 304 \ (1.4301)$ $AISI 316L \ (1.4404), AISI 304 \ (1.4301)$ $AISI 316L \ (1.4404), NBRMounting position= Bonnet- ActuatormetalFKM (Viton®), vulcanizedFKM (Viton®), NBRMounting position= Actuator= ActuatorVolume of pneumatic actuator= O1111/0.0038 ft34 - 7 bar / 58 - 102 psi$	Feedthrough		Bellows
Leak rate $- Valve body- Valve seat< 5 \cdot 10^{-10} \text{ mbar ls}^{-1}< 1 \cdot 10^{-9} \text{ mbar ls}^{-1}Pressure range1 \cdot 10^{-10} \text{ mbar ls}^{-1}1 \cdot 10^{-10} \text{ mbar ls}^{-1}Differential pressure on the gate\leq 1.6 \text{ bar}Differential pressure at opening\leq 30 \text{ mbar}Conductance (molecular flow)1740 \text{ ls}^{-1}Cycles until first service50 000 \text{ (unheated and under clean conditions)}Temperature(Maximum values: dependingon operating conditions andsealing materials)- Valve Body- Actuator\leq 250 \ ^{\circ}C \text{ open } / \leq 200 \ ^{\circ}C \text{ closed (bake-out max. 24h)} \\ \leq 200 \ ^{\circ}C \text{ closed (bake-out max. 24h)} \\ \leq 200 \ ^{\circ}C \text{ closed (bake-out max. 24h)} \\ \leq 200 \ ^{\circ}C \text{ closed (bake-out max. 24h)} \\ \leq 200 \ ^{\circ}C \text{ closed (bake-out max. 24h)} \\ = Actuator \text{ Position indicator} \\ = Position indicator \text{ close closed (bake-out max. 24h)} \\ = Actuator \text{ close close closed (bake-out max. 24h)} \\ = Actuator \text{ close close closed (bake-out max. 24h)} \\ = Actuator \text{ close close close closed (bake-out max. 24h)} \\ = Actuator \text{ close close close close closed (bake-out max. 24h)} \\ = Actuator \text{ close close close close closed (bake-out max. 24h)} \\ = Actuator  close $			
$- Valve seat$ $< 1 \cdot 10^{-9} mbar ls^{-1}$ Pressure range $1 \cdot 10^{-10} mbar to 1.6 bar (abs)$ Differential pressure on the gate $\leq 1.6 bar$ Differential pressure at opening $\leq 30 mbar$ Conductance (molecular flow) $1740 ls^{-1}$ Cycles until first service $50 000$ (unheated and under clean conditions)Temperature (Maximum values: depending on operating conditions and sealing materials) $- Valve Body$ $- Actuator\leq 250 °C \text{ open } / \leq 200 °C \text{ closed (bake-out max. 24h)} \leq 200 °CHeating and cooling rate- Valve Body- Actuator\leq 80 °CMaterial (main components)- Valve Body- BellowsAISI 304 (1.4301)AISI 316L (1.4404), AISI 304 (1.4301)AISI 316L (1.4404), AISI 304 (1.4301)AISI 316L (1.4404), AISI 304 (1.4301)AISI 316L (1.4404), NBRMounting position- Bonnet- Gate- ActuatormetalFKM (Viton®), vulcanizedFKM (Viton®), NBRMounting positionany0.111 l / 0.0038 ft^3Compressed airmin max. overpressure4 - 7 bar / 58 - 102 psi$	Technical data		
Differential pressure on the gate $\leq 1.6 \text{ bar}$ Differential pressure at opening $\leq 30 \text{ mbar}$ Conductance (molecular flow) $1740 \text{ ls}^{-1}$ Cycles until first service $50 000 \text{ (unheated and under clean conditions)}$ Temperature (Maximum values: depending on operating conditions and sealing materials) $- \text{Valve Body}$ $- \text{Actuator}$ $\leq 250 \ ^{\circ}\text{C} \text{ open } / \leq 200 \ ^{\circ}\text{C}$ Heating and cooling rate $- \text{Valve Body}$ $- Position indicator\leq 200 \ ^{\circ}\text{C}\leq 80 \ ^{\circ}\text{C}Material (main components)- \text{Valve Body}- BellowsAISI 304  (1.4301)AISI 316L  (1.4404), AISI 304 (1.4301)AISI 316L  (1.4404), AISI 304 (1.4301)AISI 316L  (1.4404), AISI 304 (1.4301)AISI 316L (1.4404), NBRMounting position= 30 \text{ onnet}- ActuatormetalFKM (Viton^{\circ}), vulcanizedFKM (Viton^{\circ}), NBRMounting positionany0.1111/0.0038 \ \text{ft}^3Volume of pneumatic actuator0.1111/0.0038 \ \text{ft}^3Compressed airmin max. overpressure4 - 7 \text{ bar} / 58 - 102 \text{ psi}$	Leak rate	-	< 5 · 10 <sup>-10</sup> mbar ls <sup>-1</sup> < 1 · 10 <sup>-9</sup> mbar ls <sup>-1</sup>
Differential pressure at opening $\leq 30 \text{ mbar}$ Conductance (molecular flow)1740 ls <sup>-1</sup> Cycles until first service $50 000 \text{ (unheated and under clean conditions)}$ Temperature (Maximum values: depending on operating conditions and sealing materials) $- \text{Valve Body}$ $= \text{Valve Body}$ 	Pressure range		$1 \cdot 10^{-10}$ mbar to 1.6 bar (abs)
Conductance (molecular flow)1740 ls $^{-1}$ Cycles until first service50 000 (unheated and under clean conditions)Temperature (Maximum values: depending on operating conditions and sealing materials)- Valve Body - Actuator $\leq 250 \ ^{\circ}C \$	Differential pressure on the gate		≤ 1.6 bar
Cycles until first service50 000 (unheated and under clean conditions)Temperature (Maximum values: depending on operating conditions and sealing materials)- Valve Body - Actuator - Position indicator $\leq 250 \ ^{\circ}C \ open / \leq 200 \ ^{\circ}C \ \leq 200 \ ^{\circ}C \ \leq 80 \ ^{\circ}C$ Heating and cooling rate- Valve Body - Position indicator $\leq 50 \ ^{\circ}C \ h^{-1}$ Material (main components)- Valve Body - Mechanism - BellowsAISI 304 (1.4301) AISI 316L (1.4404), AISI 304 (1.4301) AISI 316L (1.4404, 1.4435)Seal- Bonnet - Gate - Actuatormetal FKM (Viton®), vulcanized FKM (Viton®), NBRMounting positionanyVolume of pneumatic actuator0.1111/ 0.0038 ft^3 4 - 7 bar / 58 - 102 psi	Differential pressure at opening		≤ 30 mbar
Temperature (Maximum values: depending on operating conditions and sealing materials)- Valve Body - Actuator - Position indicator $\leq 250  ^{\circ}C$ open / $\leq 200  ^{\circ}C$ closed (bake-out max. 24h) $\leq 200  ^{\circ}C$ $\leq 80  ^{\circ}C$ Heating and cooling rate50 $^{\circ}C  h^{-1}$ Material (main components)- Valve Body - Mechanism - BellowsAISI 304 (1.4301) AISI 316L (1.4404), AISI 304 (1.4301) AISI 316L (1.4404, 1.4435)Seal- Bonnet - Gate - Actuatormetal FKM (Viton®), vulcanized FKM (Viton®), NBRMounting positionanyVolume of pneumatic actuator0.1111/ 0.0038 ft^3 4 - 7 bar / 58 - 102 psi	Conductance (molecular flow)		1740 ls <sup>-1</sup>
(Maximum values: depending on operating conditions and sealing materials)- Actuator $\leq 200 ^{\circ}\text{C}$ Heating and cooling rate- Position indicator $\leq 80 ^{\circ}\text{C}$ Material (main components)- Valve Body - Mechanism - BellowsAISI 304 (1.4301) AISI 316L (1.4404), AISI 304 (1.4301) AISI 316L (1.4404, 1.4435)Seal- Bonnet - Gate - Actuatormetal FKM (Viton®), vulcanized FKM (Viton®), NBRMounting positionanyVolume of pneumatic actuator0.11 I / 0.0038 ft³ 4 - 7 bar / 58 - 102 psi	Cycles until first service		50 000 (unheated and under clean conditions)
Material (main components)- Valve Body - Mechanism - BellowsAISI 304 (1.4301) AISI 316L (1.4404), AISI 304 (1.4301) AISI 316L (1.4404, 1.4435)Seal- Bonnet - Gate - Actuatormetal FKM (Viton®), vulcanized FKM (Viton®), NBRMounting positionanyVolume of pneumatic actuator0.11 I / 0.0038 ft³ 4 - 7 bar / 58 - 102 psi	(Maximum values: depending on operating conditions and	– Actuator	≤ 200 °C
<ul> <li>Mechanism</li> <li>Bellows</li> <li>AISI 316L (1.4404), AISI 304 (1.4301)</li> <li>AISI 316L (1.4404, 1.4435)</li> <li>Seal</li> <li>Bonnet</li> <li>Gate</li> <li>Gate</li> <li>Actuator</li> <li>FKM (Viton<sup>®</sup>), vulcanized</li> <li>FKM (Viton<sup>®</sup>), NBR</li> <li>Mounting position</li> <li>any</li> <li>Volume of pneumatic actuator</li> <li>Compressed air</li> <li>min. – max. overpressure</li> <li>AISI 316L (1.4404), AISI 304 (1.4301)</li> <li>AISI 316L (1.4404, 1.4435)</li> <li>AI</li></ul>	Heating and cooling rate		50 °C h <sup>-1</sup>
- Gate - ActuatorFKM (Viton®), vulcanized FKM (Viton®), NBRMounting positionanyVolume of pneumatic actuator0.11 I / 0.0038 ft³Compressed air min max. overpressure4 - 7 bar / 58 - 102 psi	Material (main components)	– Mechanism	AISI 316L (1.4404), AISI 304 (1.4301)
Volume of pneumatic actuator0.11 I / 0.0038 ft3Compressed air4 – 7 bar / 58 – 102 psimin. – max. overpressure	Seal	– Gate	FKM (Viton <sup>®</sup> ), vulcanized
Compressed air4 – 7 bar / 58 – 102 psimin. – max. overpressure	Mounting position		any
min. – max. overpressure	Volume of pneumatic actuator		0.11 I / 0.0038 ft <sup>3</sup>
Compressed air connection %" ISO / NPT	•		4 – 7 bar / 58 – 102 psi
	Compressed air connection		⅓" ISO / NPT

Created by: MAEM	Release date: 2013-01-16	1 of 2
Modified by:	Release date:	299104EA



## Product data sheet UHV gate valve, Series 108, DN 100 (ID 4'') Ordering No. 10840-PE24

Actuation time	– closing – opening	1.2 s 1.2 s
Weight		12.6 kg / 27.8 lbs
Behavior in case of compressed air pressure drop	– Valve closed – Valve open	valve remains closed undefined
Behavior in case of power failure	<ul><li>Valve closed</li><li>Valve open</li></ul>	depending on customer installation

## **Position indicator**

Туре	
Voltage	
Current max.	

Micro switch		
$\leq$ 50 V AC / DC		
≤ 1.2 A		

_1		OPEN	
_6		CLOSED	
Valve/Ventil/Vanne			
	1,2	OPEN connected	CLOSED -
Front view	6,5	-	connected

Wiring diagram

Created by: MAEM	Release date: 2013-01-16	2 of 2
Modified by:	Release date:	299104EA