# Throttle valve

## The generation for easy assembling with lip sealing system



Push-fit ends with lip sealing airtight according to DIN EN 12237 class D Laser welded housing

Particularly suitable for piping systems with visible mounting.



## **Throttle valve** manual - electronic - pneumatic

#### Throttle valve - with airtight axle bearing

Advantages and construction details:

Housing:	The housing is made from galvanized or stainless steel. It is laser-welded without any intruding fold. The male couplings are press-calibrated according to DIN 24147 part 1 and consequently they are dimensionally stable and fit accurately.
	The shaft feedthrough of the bearing is located in a maintenance-free and airtight screwing.
Adjustment:	The standard throttle valves are equipped with manual adjustment device which locks automatically (there are no tools necessary for adjustment and regulation). They can be used for electric remote regulation, too.
Insulation:	On request, the throttle valve is available with insulation in depths of 25 or 50 mm.
Installation:	According to DIN 1946 class 4, there must exist an accessibility to the duct system and the damper in order to actuate and maintain the latter.
Range of temperature: The throttle values operate within a temperature range from $-15^{\circ}$ C to $+100^{\circ}$ C.	
Sealing system of the	
male coupling:	The push-fit ends with lip sealing are airtight according to DIN EN 12237 class D.
Robustness:	In general the lip sealing is insensitive to damages in case of slightly canted or badly trimmed ducts.
Exchange:	If the lip sealing should be damaged or lost, it is only necessary to put on a new loose sealing ring.
Dismounting:	Because of the conception of the sealing, the components can easiliy be separated from each other again.
Visible installation:	Because no additional sealing components (tape e.g.) are required, the sealing conception with lip sealing system is especially suitable for visible installation. Attractive, architectural design which is up-to-date.
Hygiene:	The smooth surface of the laser-welded housing prevents the accumulating of dirt and dust particles.
Stability:	Non-ageing lip sealing made of EPDM - a material which is resistant to slightly aggressive vapours and chemical products.
Aerotechnik E. Siegwart GmbH Untere Hofwiesen • D-66299 Friedrichsthal + 49 (0) 6897/859-0 • + 49 (0) 6897/859-150 www.aerotechnik.de • info@aerotechnik.de	

## Throttle valve

Connection for lip sealing or with lip sealing

The throttle valves are available in two executions.



Ref. no. 228 with connection for lip sealing



Ref. no. 9228 with lip sealing

## **Execution with screwless flange system**



or with rim available



on demand.



## Ref. no.: 228Throttle valveRef. no.: 9228manual adjustment device (DKH)

#### Version 1:

Size 80 - 400:

- throttle valve with tight male coupling (only fitting dimension)
- adjustment and intermediate lock due to ratchet disc and lever
- airtight and maintenance-free shaft feedthrough of the bearing
- throttle valve can be converted into motor adjustment at any time
- no complex installation required (see version 2)

#### I<sub>1</sub> = fitting dimension

 $I_3$  = overall length =  $I_1$  + (2 x  $I_2$ )

Size 450 - 630:

 reinforced throttle disc (1,25 mm) with reinforced shaft extension and adjustment without steps due to lever

#### I<sub>1</sub> = fitting dimension

 $I_3$  = overall length =  $I_1 + (2 \times I_2)$ 



#### Size 80 - 630:

- rpartly reinforced throttle discs (up to 2.0 mm) with solid through shaft ø12 mm and stepless manual adjustment with adjusting lever
- Additional transverse stiffening of the throttle disc

#### I<sub>1</sub> = fitting dimension

 $I_3 = overall length = I_1 + (2 \times I_2)$ 

#### Version 1 as SV 2 up to 180 °C:

#### Size 80 - 630:

- as SV 1
- Temperature range up to 180 °C

#### Version 1 as SV 3:

#### Size 80 - 630:

- with perforated throttle disc
- Damper blade with approx. 30% free cross-section in closed condition









Schematic representation SV 3



Aerotechnik E. Siegwart GmbH Untere Hofwiesen • D-66299 Friedrichsthal 會 + 49 (0) 6897/859-0 • 昌 +49 (0) 6897/859-150 www.aerotechnik.de • info@aerotechnik.de

## **Throttle valve** motor adjustment (DKM)

#### Version 2:

Depending on the mounting situation or indication made by the customer, the bracket can be arranged lengthwise as well as crosswise to the housing (actuator is not included in the scope of delivery)

#### Size 80 - 400:

- throttle valve with tight male coupling (only fitting dimension)
- airtight and maintenance-free shaft feedthrough of the bearing
- bracket for electric actuator can also be used for other makes

#### I<sub>1</sub> = fitting dimension

 $I_3$  = overall length = I1 + (2 x I2)

#### Size 450 - 630:

 reinforced throttle disc (1,5 - 2,0 mm) with reinforced shaft extension

#### I<sub>1</sub> = fitting dimension

 $I_3 = overall length = I_1 + (2 \times I_2)$ 

#### Version 2 as (special variant) SV 1:

#### Size 450 - 630:

- partly reinforced throttle discs (up to 2.0 mm) with solid through shaft ø12 mm and stepless manual adjustment with adjusting lever
- Additional transverse stiffening of the throttle disc

#### I<sub>1</sub> = fitting dimension

 $I_3 = overall length = I_1 + (2 \times I_2)$ 

#### Version 2 as SV 2 up to 180 °C:

#### Size 80 - 630:

- as SV 1
- Temperature range up to 180 °C

#### Version 2 as SV 3:

#### Size 80 - 630:

- with perforated throttle disc
- Damper blade with approx. 30% free cross-section in closed condition Version 2 as SV 3:













#### Schematic representation SV 3



Aerotechnik E. Siegwart GmbH Untere Hofwiesen • D-66299 Friedrichsthal 會 + 49 (0) 6897/859-0 • 昌 +49 (0) 6897/859-150 www.aerotechnik.de • info@aerotechnik.de

max.105

## Throttle valve – insulated manual - electronic

Execution as before, thickness of insulation: 25 mm or 50 mm

- I<sub>1</sub> = fitting dimension
- $I_3$  = overall length =  $I_1 + (2 \times I_2)$
- size = diameter in mm





Manufacturing tolerance for the length dimensions ± 5 mm



Aerotechnik E. Siegwart GmbH Untere Hofwiesen • D-66299 Friedrichsthal 會 + 49 (0) 6897/859-0 • 昌 +49 (0) 6897/859-150 www.aerotechnik.de • info@aerotechnik.de

#### **Adjustment diagrams for** Ref. no.: 228 throttle valve DKH Ref. no.: 9228

The flap position for the desired flow rate at a given pressure difference can be easily read from the corresponding adjustment diagrams.

The values shown are only valid as reference values (the slightest deviations of the flap position result in high volume flow changes).









Volume flow [m<sup>3</sup>/h]



Volume flow [m<sup>3</sup>/h]



Volume flow [m<sup>3</sup>/h]

Size 160



Aerotechnik E. Siegwart GmbH Untere Hofwiesen · D-66299 Friedrichsthal 瘤 + 49 (0) 6897/859-0・ 昌 +49 (0) 6897/859-150 www.aerotechnik.de · info@aerotechnik.de

## Ref. no.: 228Adjustment diagrams for<br/>throttle valve DKH

The flap position for the desired flow rate at a given pressure difference can be easily read from the corresponding adjustment diagrams.

The values shown are only valid as reference values (the slightest deviations of the flap position result in high volume flow changes).









Size 280







Volume flow [m<sup>3</sup>/h]

1000

Aerotechnik E. Siegwart GmbH Untere Hofwiesen・D-66299 Friedrichsthal 齏 + 49 (0) 6897/859-0・長 +49 (0) 6897/859-150 www.aerotechnik.de・info@aerotechnik.de

1000

100

10 + 100

Pressure difference [Pa]

## Ref. no.: 228Adjustment diagrams for<br/>throttle valve DKH

The flap position for the desired flow rate at a given pressure difference can be easily read from the corresponding adjustment diagrams.

The values shown are only valid as reference values (the slightest deviations of the flap position result in high volume flow changes).







Aerotechnik E. Siegwart GmbH Untere Hofwiesen • D-66299 Friedrichsthal 會 + 49 (0) 6897/859-0 • 昌 +49 (0) 6897/859-150 www.aerotechnik.de • info@aerotechnik.de

## Electronically or pneumatically regulating volume flow controller circular, type VRM



Constant volume flow controller circular and rectangular, self-regulating



