

# Guided Anti-Cavitation Slotted Plugs in Globe Control Valves Series 1a and 1b

## Application:

Optimal design of anti-cavitation plugs in Pfeiffer globe control valves. The anti-cavitation slotted plug replaces the standard parabolic plug for the following application:

- for cavitation and flashing
- for a high pressure drop
- for different critical applications

## Performance:

The plugs are available for the following nominal sizes and flow data:

- |                  |     |               |           |
|------------------|-----|---------------|-----------|
| • DN 25 / 1"     | kvs | 0,63 up to 10 | glp / lin |
| • DN 40 / 1 1/2" | kvs | 4 up to 16    | glp / lin |
| • DN 50 / 2"     | kvs | 6,3 up to 25  | glp / lin |
| • DN 80 / 3"     | kvs | 16 up to 80   | glp / lin |
| • DN 100 / 4"    | kvs | 25 up to 150  | glp / lin |
| • DN 150 / 6"    | kvs | 25 up to 300  | glp / lin |

Exact classification of the kvs-values to the nominal sizes of series 1a and 1b (see table 2).

The anti-cavitation trims include the following items:

- Standard seat in material PTFE (exchangeable).
- Slotted plugs with one, two or three gaps incorporated into the surface (exchangeable).

## Special designs:

- Seat and plug in special material such as:  
Anti-static PTFE-mat./ PE-UHMW Solidur 1000/  
Thermoplastic Plouroplastic PVDF and many other special material.

## Principle of operation:

The flow of the valve is against the closing direction of the plug. The stream of the valve is divided unsymmetrical by the design of the plug. The plug is guided it's complete guide surface diameter into the seat bore and this prevents vibration of the plug.

## General technical data:

Nominal size	DN25 to DN150
Leakage rate	Leakage rate A acc. to DIN EN 12266-1, P12 (Leakage rate 1 BO acc. to DIN 3230 Part 3)
Rangeability	30 : 1
Characteristic	Equal percentage or lineal

Table 1 - technical data



Fig. 1 - Slotted plug in PTFE

## Assignment of the kvs values to series 1a and 1b:

Series		1a					1b				
DN		25	40	50	80	100	150	25	40	50	80
Kvs	Cv										
0.63	0.74	•									
1	1.2	•									
1.6	1.9	•									
2.5	2.9	•						•			
4	4.7	•	•					•	•		
6.3	7.4	•	•	•				•	•	•	
10	11.7	•	•	•				•		•	
16	18.7		•	•	•				•	•	•
25	29			•	•	•				•	•
40	47				•	•				•	•
63	74				•	•	•				•
80	94				•	•	•				•
100	117					•	•				•
125	146					•	•				
150	176					•	•				
260	304						•				

Table 2 - kvs values

## Pfeiffer Chemie-Armaturenbau GmbH

Hooghe Weg 41 • D 47906 Kempen  
Phone: +49 2152 2005 - 0 • Fax: +49 2152 1580  
E-mail: vertrieb@pfeiffer-armaturen.com • Internet: www.pfeiffer-armaturen.com

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