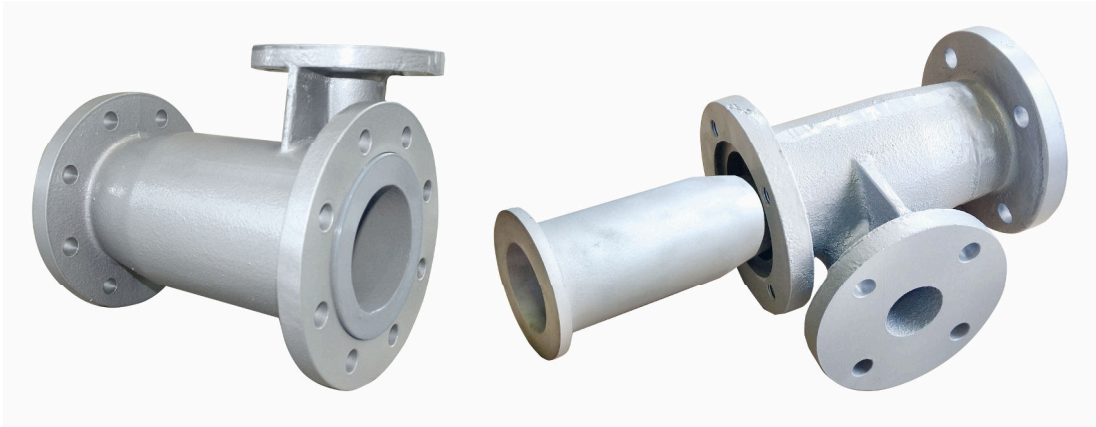


**ADDITIONAL NOZZLES  
FOR OPTIMIZING OF PNEUMATIC CONVEYING SYSTEMS  
BY-PASS FOR BLOW THROUGH AND VERTICAL FLOW ROTARY VALVES**



The additional nozzle ZD has three application areas or installation variants:

- A. The additional nozzle is installed in conveying lines of high-pressure conveying systems, mainly behind the special hose valve SP or outlet flap of the pressure conveying vessel. Conveying gas will be fluid into the conveyingline additionally.

**Areas of  
Application**

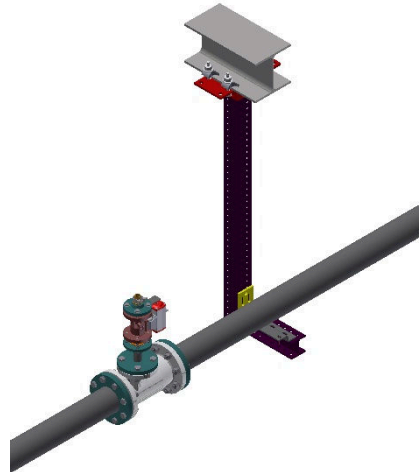


**Picture:  
Additional air supply to the outlet floor -  
ZD directly after the outlet**

- B. The additional nozzle is installed in the conveying line - often in the middle or at the beginning of the entire section - in order to optimise long conveying lines with auxiliary air / conveying gas. In the case of long conveying distances, segregation of solids and conveying gas often occurs during dense phase / plug conveying. A partial quantity of conveying gas is introduced via the auxiliary nozzle to compensate for the gas shortage. A special delivery line additional nozzle insert is used here to prevent the material flow or the delivery rate from being affected by the standard to tie up the auxiliary nozzle insert.



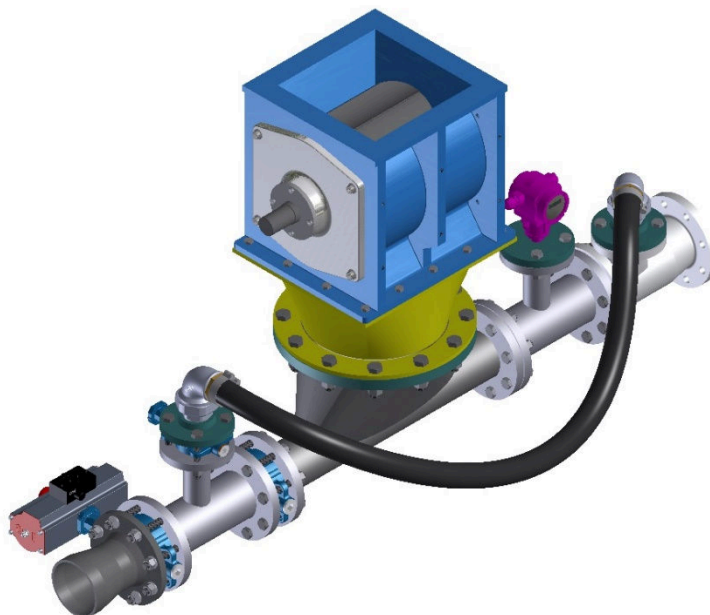
**Picture:**  
**Additional air supply Application -**  
**ZD directly at the supply point**



**Picture:**  
**Additional air Filling line centre -**  
**ZD in the centre of the line**

**Areas of**  
**Application**

- C. The additional nozzle is used to reduce the leakage air at a cellular wheel - vertical fall or blow-through airlock (injector principle) Bypass solution.



**Picture:**  
**Bypass application - ZD at the end of the feeding shoe**

## Details / Design

The dust-gas mixture is varied by changing the orifice insert.

- The additional nozzle ZD consists of the nozzle housing, the orifice insert including a seal for the nozzle insert.
- The insert can be drilled up to a specified diameter as required or a special cylindrical insert is available for filling lines.
- Due to the tangential arrangement of the air nozzle, the air inlet is largely vortex-free.

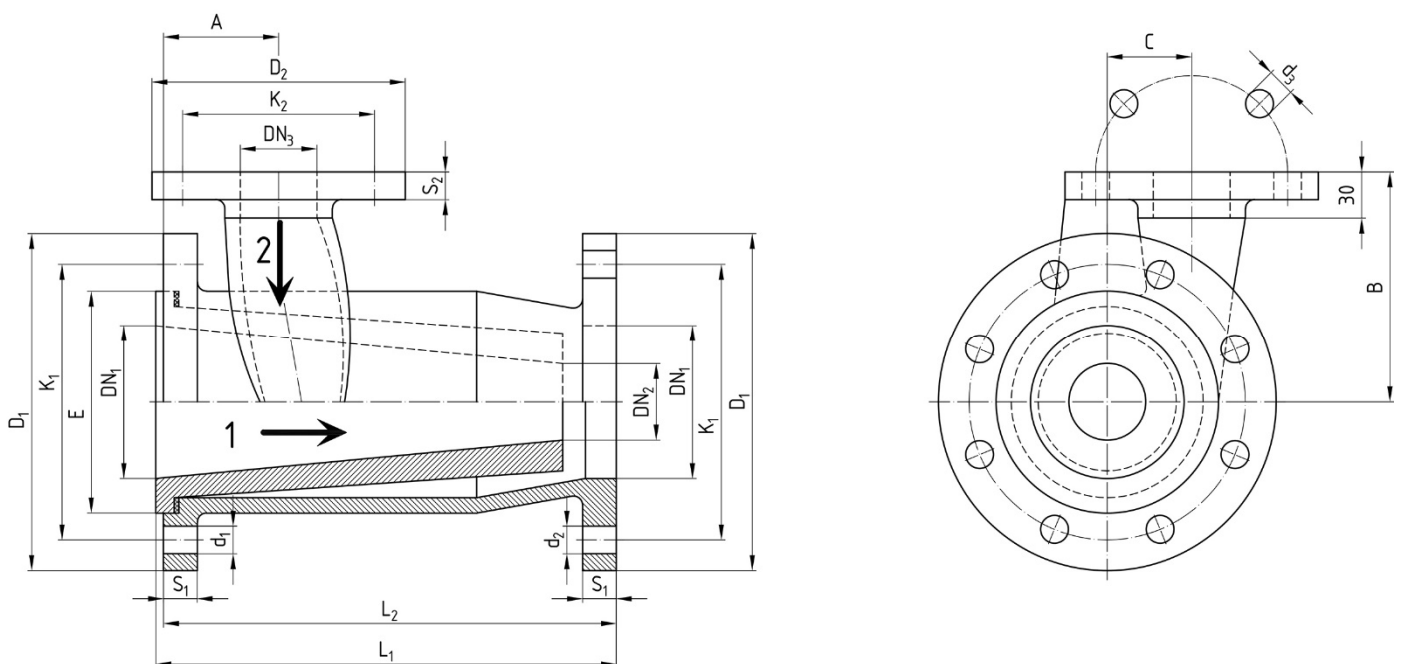
## Finish

- Case: Grey cast iron EN-GJL-200 or  
Version DN 80 in spheroidal cast iron EN-GJS-400-15  
or as welded steel or stainless steel construction
- Rust removal: SA 2,5
- Primer: 2K; 40µm
- Top coat: 2K; RAL 9006; 40µm
- Shut-off cone: EN-GJL-200, welded steel or stainless steel construction
- Inner cone: not painted

Dimension table additional nozzle

DN1	A	B	C	D1	D2	d1	d2	d3	E
50	65	115	30	165	115	4 x M 16	4 x Ø 18	4 x Ø 14	96
65	85	125	42,5	185	165	4 x M 16	4 x Ø 18	4 x Ø 18	120
80	85	130	42,5	200	165	8 x M 16	8 x Ø 18	4 x Ø 18	130
0	75	150	55	220	165	8 x Ø 18	8 x Ø 18	4 x Ø 18	145
125	75	170	68	250	165	8 x M 16	8 x Ø 18	4 x Ø 18	185
150	100	190	75	285	185	8 x Ø 23	8 x Ø 23	4 x Ø 18	210
200	125	200	100	340	200	8 x Ø 23	8 x Ø 23	8 x Ø 18	250

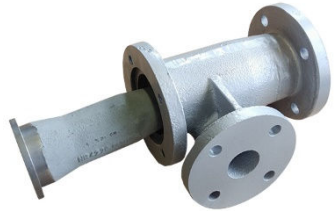
K1	K2	DN2	DN3	L1	L2	S1	S2
125	85	37	25	200	195	18	16
145	125	45	50	250	245	18	16
160	125	50	50	300	295	22	18
180	125	50	50	300	295	22	18
210	125	90	50	300	295	22	18
240	145	100	65	300	295	22	18
295	160	125	80	400	397	24	18



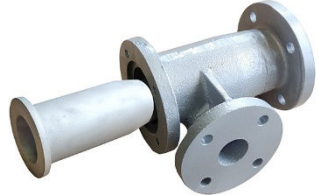
Technical data additional nozzle

	DN 50	DN 65	DN 80	DN 100	DN 125	DN 150	DN 200
Weight kg	12	20	25	31	38	52	80

**Additional nozzle with standard insert directly at the high-pressure conveying system**


	Article number	
DN 50	707 10 001	
DN 65	707 10 002	
DN 80	722 10 003	
DN 100	707 10 004	
DN 125	707 10 005	
DN 150	707 10 006	
DN 200	707 10 016	

**Additional nozzle with filling line insert for pipelines and directly after the rotary valve**


	Article number	
DN 50	707 10 007	
DN 65	707 10 008	
DN 80	722 10 009	
DN 100	707 10 010	
DN 125	707 10 011	
DN 150	707 10 012	
DN 200	707 10 017	

**Spare parts**

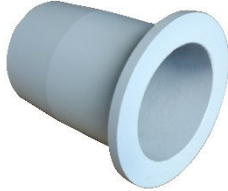
**Additional nozzle housing**

	Article number	
DN 50	45-026-GG	
DN 65	45-007-GG	
DN 80	45-010-GGG	
DN 100	45-001-GG	
DN 125	45-013-GG	
DN 150	45-042-GG	
DN 200	45-031-S235	


### Conical insert for additional nozzle

	Article number	
DN 50	45-027-GG	
DN 65	45-008-GG	
DN 80	45-011-GGG	
DN 100	45-002-GG	
DN 125	45-014-GG	
DN 150	45-041-GG	
DN 200	45-032-GG	

### Cylindrical insert for additional nozzle

	Article number	
DN 50	Auf Anfrage	
DN 65	Auf Anfrage	
DN 80	Auf Anfrage	
DN 100/80	45-203	
DN 125/100	45-204	
DN 150/125	45-1017	
DN 150	Auf Anfrage	
DN 200	Auf Anfrage	

### Flat gasket for use with additional nozzle

	Article number	
DN 50	45-100	
DN 65	45-101	
DN 80	45-102	
DN 100	45-103	
DN 125	45-104	
DN 150	45-105	
DN 200	45-106	