



bælz 347

DESCRIPTION

The bælz 347-B is a universal 3-way valve in a globe housing. Industrial use: The variety of plug variants and the highly precise tightness tolerances allow utilization of the valve for the solution of complicated control tasks.

TECHNICAL SPECIFICATIONS

Connection type: Flange EN 1092-2; EN 1092-1 Shapes D / E / F on request.
Plug type: parabolic plug with slit
Control characteristic: linear
Working media: steam, gas, liquids, thermal oil

Leakage class (EN 1349)

metal-to-metal seal: 0.004% Kvs (better than class IV)
with Teflon plug: 0.001% Kvs (better than class VI)

Stroke (mm)

DN 15-25	12	10
DN 32-125	22	
DN 150	44	
DN 200-250 (DN 300 and 350 on request)	66	22

Spindle diameter (mm)

Options		Designation example*
Plug	Parabolic plug (standard)	bælz 347-B
	Cage plug	bælz 347-B-LK
	Balanced	bælz 347-B-EMF
	Reduced Kvs	bælz 347-B-Skr
Stem seal	V-rings in PFTE (standard)	bælz 347-B
	Cooling tube	bælz 347-BK
	Stainless steel bellows + safety gland	bælz 347-BK-SS
Additional options	V-shaped seal heating (for media with temperature -10... - 40°C) Power feed: 8-26 W - 230 V AC/DC	bælz 347-B...-Hz
	Construction without silicone	bælz 347-B...-Silf

* Designation: 347-B up to DN 125 and spindle Ø 10 mm; 347-BB from DN 150 and spindle Ø 22 mm

T max. (°C) / P max. (bar)					
Housing material	Spheroid ductile iron GJS-400-18-LT - 5.3103		Cast steel GP240GH - 1.0619		Stainless steel 1.4313
Nominal pressure	PN 16	PN 25	PN 25	PN 40	PN 40
bælz 347-B	240/14 ... 50/16	240/22 ... 50/25	240/22 ... 50/25	-	-
bælz 347-BK	350/11.2 ... 50/16	350/17.5 ... 50/25	350/17.5 ... 50/25	350/25.7 ... 50/40	-
bælz 347-BK-SS	350/11.2 ... 50/16	-	-	350/25 ... 50/25	-
bælz 347-BK-EMF	260/13.6 ... 50/16	260/21.4 ... 50/25	260/21.4 ... 50/25	260/29.8 ... 50/40	-
bælz 347-BK-EMF-HG	315/12.3 ... 50/16	315/19.2 ... 50/25	315/19.2 ... 50/25	315/27 ... 50/40	-
bælz 347-ES	-	-	-	-	240/30.9 ... 50/40

Kvs value (m³/h)														
DN	15	20	25	32	40	50	65	80	100	125	150	200	250	300
Standard (B/BB)	5.6	6.3	9	16	25	36	63	105	130	200	360	580	960	1340
Balanced (EMF)	-				25	36	63	105 / 75	130 / 105	200 / 150	360	580	-	
Cage plug (LK)	2.5	4	6.3	12.5	20	32	50	80	100	130	250	320	580	960
Reduced (Skr)	2	2.5	5	8	12.5	20	32	50	80	130	-			
	1	1.6	3.2	4	6.3	10	16	25	40	63	-			

Utilization conditions for plugs in baelz 347 valves				
Valve function	Actuator type	Pressure difference at the plug (bar)	Nominal diameter	Plug type
Flow separation	Electric actuator	≤0.6	DN 15 - 350	without restrictions
		>0.6	DN 15 - 32	without restrictions
		>0.6	DN 40 - 350	Balanced (EMF)*
	Pneumatic actuator	≤0.6	DN 15 - 350	without restrictions
		>0.6	DN 15 - 32	on request
		>0.6	DN 40 - 350	Balanced (EMF)
Flow mix	without restrictions			

* Baelz will gladly inform you about possible applications with other plug variants

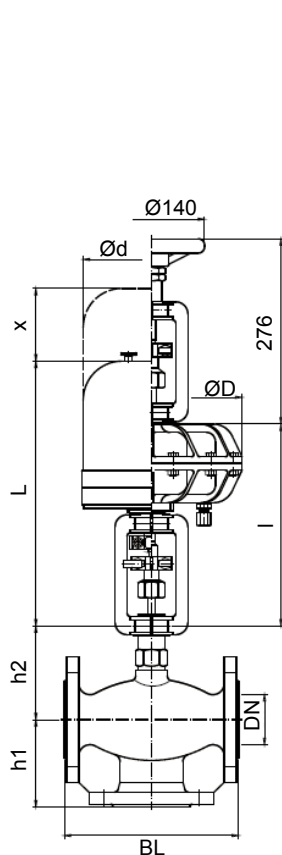
Weight of the baelz 347 valves without actuator (kg)																
DN		15	20	25	32	40	50	65	80	100	125	150	200	250	300	350
347-B/BB Spheroid ductile iron	PN 16							24		39	57			240	on request	on request
	PN 25	5.5	6.1	6.6	9.6	11.8	15.6	-	28.7	-	-	90	200	-		
347-BB Cast steel	PN 40	-	-	-	-	-	-	-	-	-	-	108	250	338	-	-
347-BK/BBK Spheroid ductile iron	PN 16							-		-	-			300	on request	on request
	PN 25	6.5	7.1	7.6	10.6	12.8	16.6	25	29.7	40	58	96	250	-		
347-BK/BBK Cast steel	PN 25	-	-	-	-	-	-	-	-	-	-	-	-	335	-	-
	PN 40	7	7.6	8.1	11.6	14.3	18.6	28	33.7	45	65	114	265	353		
347-BK/BBK-SS	PN 16	6.8	7.4	7.9	10.9	13.1	16.9	25.3	30	40.3	58.3	96.7	250	300	-	-
	PN 40	7.3	7.9	8.4	11.9	14.6	18.9	28.3	34	45.3	65.3	115	266	-	-	-
347-ES	PN 40	-	-	6.6	-	-	15.6	-	-	-	-	-	-	-	-	-

Actuators	Identification
Electric linear actuator	baelz 373-E
Pneumatic diaphragm actuator	baelz 373-P

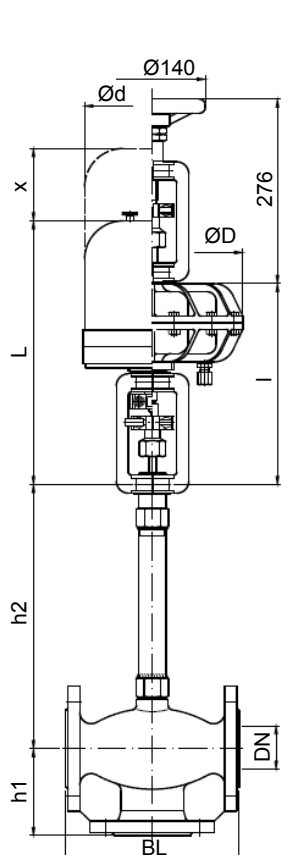
bælz 347 dimensions (mm)				
DN	BL	h1	h2	
			347-B(BB). 347-B(BB)- EMF, 347-ES	347-BK (BBK). 347-BK(BBK)- SS
15	130	75	105	231
20	150	75	105	231
25	160	85	105	231
32	180	100	104	283
40	200	105	114	281
50	230	115	124	277
65	290	125	144	269
80	310	130	154	269
100	350	150	169	262
125	400	200	189	252
150	480	240	244 (324)	234
200	600	381	268 (348)	258
250	730	427	317 (397)	307
300	850	288	361 (441)	351

Dimensions of the bælz actuators (mm)						
Designation	L	x	Ød	I	ØD	
E 07	320	145	129			
E 45	560	150	175			
P 21				268	242	
P 21-V6				304	242	
P 22				322	242	
	347-BB/ BB-EMF	347-BBK/ BBK-SS		347-BB/ BB-EMF	347-BBK/ BBK-SS	
E 45	577	1057	150	175		
E 66	614	1094	200	188 (258*)		
P 31				509	989	384
P 32				525	1005	384
P 41				562	1042	506
P 41-V6				687	1167	506

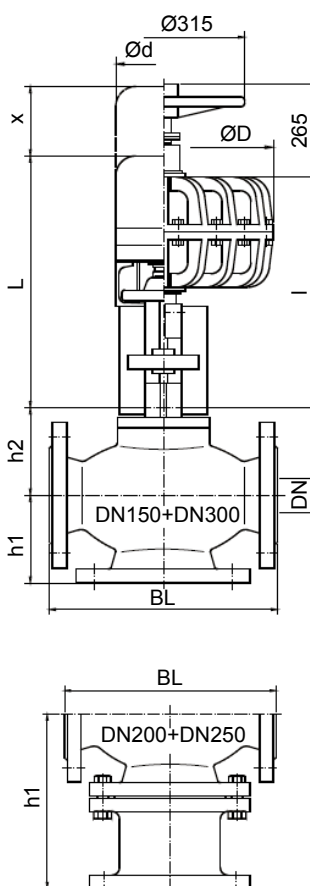
* with manual operation



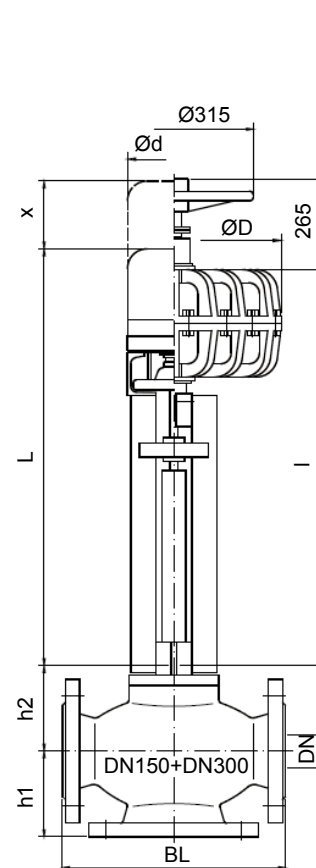
bælz 347-B DN15-125
bælz 347-B-EM DN50-125



bælz 347-BK DN15-125
bælz 347-BK-SS DN15-125



bælz 347-BB DN150-300
bælz 347-BB-EM DN150-300



bælz 347-BBK DN150-300
bælz 347-BBK-SS DN150-300

Maximum differential pressure ΔP_{max} (bar) at which the actuator closes the valve completely

The differential pressures specified here are limited by the nominal pressure of the housings, if this is lower.

Electric actuators. 3-way valves as diverting valves bælz 347-B/BB, 347-BK/BBK, 347-BK-SS/BBK-SS, 347-B-ES. Plug closes against the flow.

Actuator bælz 373-	Power (N)	DN (mm) / maximum differential pressure ΔP_{max} (bar)													
		15	20	25	32	40	50	65	80	100	125	150	200	250	300
E07- 20-	2000	40	40	32	20	12	8	4.8	3	2	1.2				
E65- 11-	1100	25	25	21	11	6.3	3.5	1.7	0.9	0.3					
E65- 20-	2000	40	40	32	20	12	8	4.8	3	2	1.2				
E45- 40-	4000	40	40	40	40	25	16	10	6.9	4.4	2.8	1.7			
E66- 80-	8000											3.1	1.6	0.9	
E66- 150-	15000											7.1	3.8	2.3	1.5
E88-ALS-25-	2500											0.5			
E88-ALS-75-	7500											3.1	1.6	0.9	
E88- 100-	10000							28	18	11	7.4	5	2.7	1.7	1.1
E88- 100-	13000							37	24	15	9.8	6.7	3.7	2.3	1.5
E88- 100-	16000							40	30	19	12	8.4	4.6	2.9	2
E88- 300-	30000											15.3	9	5.8	3.9
E88- 300-	35000											18.9	10.5	6.7	4.6
E88- 300-	40000											21.7	12.1	7.7	5.3

Electric actuators. 3-way valves as diverting valves bælz 347-B/BB, 347-BK/BBK, 347-BK-SS/BBK-SS. Plug closes in direction of flow.

Actuator bælz 373-	Power (N)	DN (mm) / maximum differential pressure ΔP_{max} (bar)													
		15	20	25	32	40	50	65	80	100	125	150	200	250	300
E07- 20-	2000	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6				
E65- 11-	1100	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.5				
E65- 20-	2000	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6				
E45- 40-	4000	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6				
E66- 150-	15000											1	0.6	0.6	0.6
E88- 100-	10000											1	0.6	0.6	0.6
E88- 300-	30000											1	0.6	0.6	0.6

Electric actuators. Balanced 3-way valves as mixing valves and diverting valves for liquids and steam bælz 347-B-EMF, 347-BB-EMF.

Actuator bælz 373-	Power (N)	DN (mm) / maximum differential pressure ΔP_{max} (bar)													
		15	20	25	32	40	50	65	80	100	125	150	200	250	300
E07- 20-	2000					40	40	29.2	21.4	12.1	4.2				
E65- 11-	1100					20.3	14	7.8	3.9						
E65- 20-	2000					40	40	29.2	21.4	12.1	4.2				
E45- 40-	4000					40	40	40	40	40	26.7	6.5			
E66- 80-	8000											19.7	13.2	8.7	5.7
E66- 150-	15000											40	35.2	26.2	20.3
E63- 440-	4448											8.2			
E63- 660-	6672											16.5			
E88-ALS-25-	2500											0.9			
E88-ALS-75-	7500											19.7	13.2	8.7	5.7
E88- 100-	10000											29	20.5	14.6	10.6
E88- 130-	13000											40	29.3	21.6	16.4
E88- 160-	16000											40	38.1	28.6	22.3
E88- 300-	30000											40	40	40	40
E88- 350-	35000											40	40	40	40
E88- 400-	40000											40	40	40	40

Maximum differential pressure ΔP_{max} (bar) at which the actuator closes the valve completely

The differential pressures specified here are limited by the nominal pressure of the housings, if this is lower.

Pneumatic actuators. 3-way valves as diverting valves bælz 347-B/BB, 347-BK/BBK, 347-BK-SS/BBK-SS, 347-ES. Plug closes against the flow.

Actuator bælz 373-	Power (N)	req. feed pressure (bar)	DN (mm) / maximum differential pressure ΔP_{max} (bar)													
			15	20	25	32	40	50	65	80	100	125	150	200	250	300
P21- 3	1020	1.2	7	7	4.5	2.8	1.7	1.1	0.7	0.4	0.3	0.2				
P21- 6	2040	3.0	40	40	33	20	13	8	5	3.3	2.1	1.3				
P21- 12	3390	6.0	40	40	40	35	22	14	8.5	5.6	3.6	2.3				
P21- 18	4030	6.0	40	40	40	40	27	17	10	7	4.3	2.7				
P21- V6	7590	6.0	40	40	29	18	11.5	7	4.3	2.8	1.8	1.2				
P31- 3	2480	1.2											0.6			
P31- 6	4960	3.0											2.3			
P31- 18	10560	6.0											5			
P41- 3	3765	1.2											2.4	1	0.6	0.4
P41- 6	7530	3.0											4.8	2	1.3	0.9
P41- V6	31920	6.0											8.2	3.5	2.3	1.6

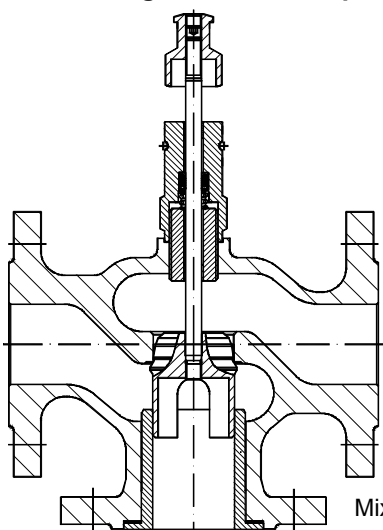
Pneumatic actuators. Balanced 3-way valves as mixing valves and diverting valves for liquids and steam bælz 347-B-EMF, 347-BB-EMF.

Actuator bælz 373-	Power (N)	req. feed pressure (bar)	DN (mm) / maximum differential pressure ΔP_{max} (bar)													
			15	20	25	32	40	50	65	80	100	125	150	200	250	300
P21- 3	1020	1.2					21	14.6	8.2	4.2						
P21- 6	2040	3.0					40	40	30	22	12.7	4.6				
P22- 3	1846	3.0					40	37.4	25.9	18.7	10	2.4				
P22- 6	3692	6.0					40	40	40	40	35.8	23.3				
P31- 3	2480	3.0											0.8			
P31- 6	4960	3.0											10.1			
P31- 18	10560	6.0											31.1			
P32- 6	4402	3.0												4.1	1.5	
P32- 18	8115	6.0												15	10.1	6.9
P41- 3	3765	1.2											5.6	2.2		
P41- 6	7530	3.0											19.8	13.2	8.8	5.8
P41- V6	31920	6.0											40	40	40	40

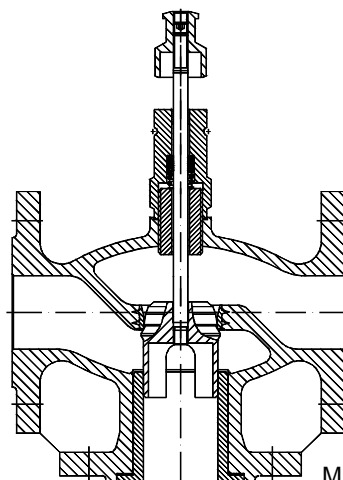
Pneumatic actuators. 3-way valves as diverting valves bælz 347-B/BB, 347-BK/BBK, 347-BK-SS/BBK-SS. Plug closes in direction of flow.

Actuator bælz 373-	Power (N)	req. feed pressure (bar)	DN (mm) / maximum differential pressure ΔP_{max} (bar)													
			15	20	25	32	40	50	65	80	100	125	150	200	250	300
all		1.2 - 6.0	Deploy all diverting valves only up to 0.6 bar differential pressure. If a diverting valve with > 0.6 bar is required, valve with > 0.6 bar is required, a damping device must be provided on the actuator.													

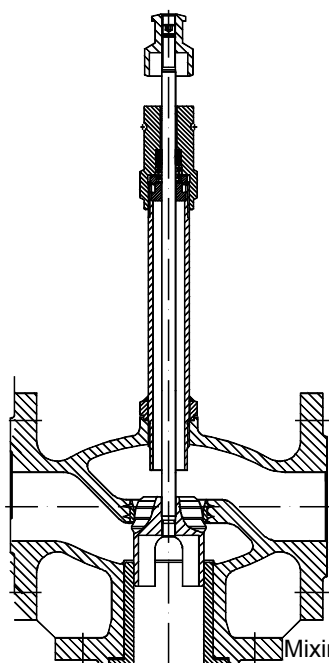
Sectional drawings of the baelz plug 347



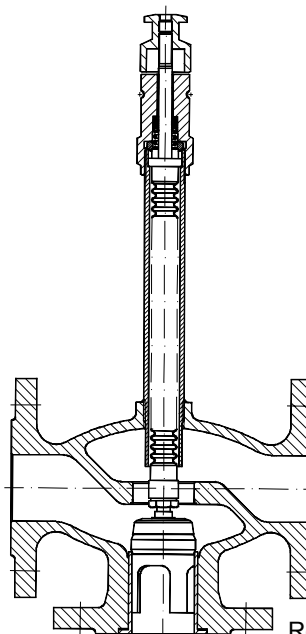
Mixing plug
with slot guides
baelz 347-ES



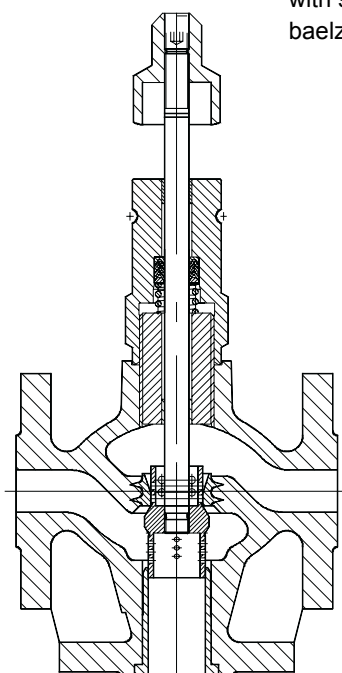
Mixing plug
with slot guides
baelz 347-B



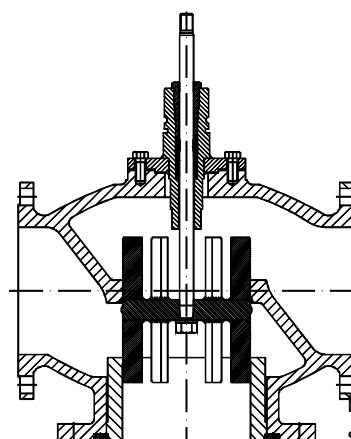
Mixing plug
with slot guides
baelz 347-BK



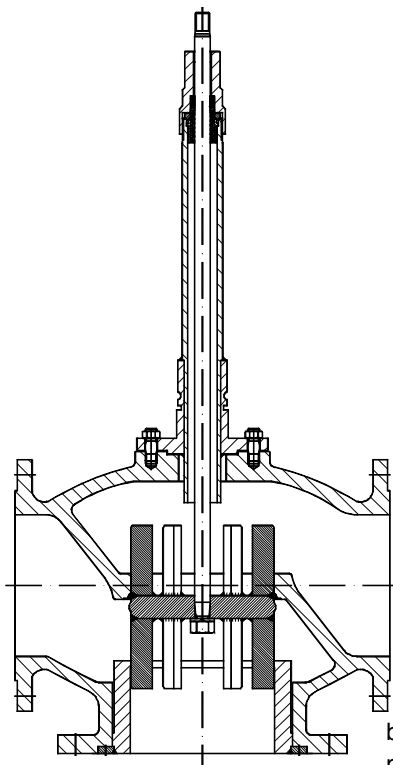
Reinforced plug
with slot guides
baelz 347-BK-SS



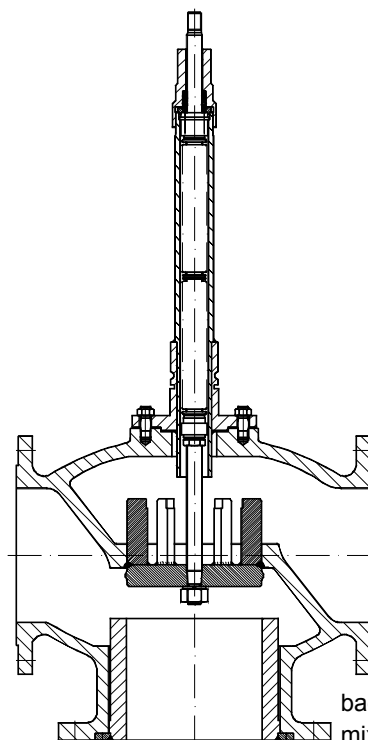
baelz 347 mixing cage
plug



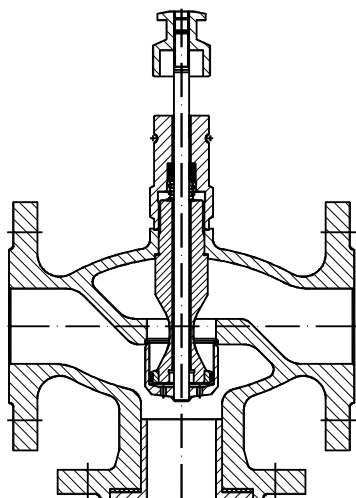
baelz 347-BB mixing
slit plug



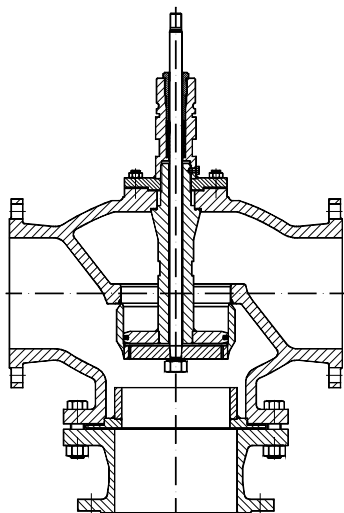
baelz 347-BBK mixing slit
plug



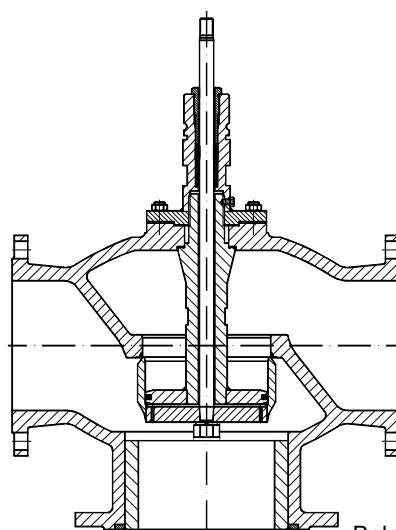
baelz 347-BBK-SS
mixing slit plug



baelz 347-B-EMF balanced
universal plug



Balanced universal plug
baelz 347-BB-EMF
DN200+250



Balanced universal plug
baelz 347-BB-EMF
DN150+300