



## PN 10/16/25/40 - DN 150...2200

KAT-A 2014-EA

**Product characteristics and benefits**

- Low actuating torque due to pressure balanced valve piston
- With electric actuator
- Control valve in straightway type
- With customized control device depending on operating conditions
- Rotationally symmetrical flow guidance
- Annular flow cross section in each position
- Axial movement of the plunger by means of crank gear mechanism
- With self-locking worm gear unit including position indicator
- Elastic profile sealing ring located in the no-flow zone for high durability
- Wear-resistant, corrosion-resistant and infiltration-proof piston guides in the body by micro-finished bronze weld overlay
- Face-to-face length acc. to EN 558, basic series 15 - from DN 500 1.5 x DN
- With flange ends on both sides acc. to EN 1092-2

**Materials**

- Body: Ductile iron EN-GJS-400-15 (GGG-40)
- Piston: Stainless steel 1.4301
- Piston guide rails: Bronze overlay welded
- Valve sealing: EPDM
- Inner parts: Stainless steel (exception: > DN 600 crank gear from EN-GJS-400-15 (GGG-40))
- Bearing bush: Bronze
- Eye bolts for lifting: Galvanized steel 1.0401 (C15)

**Corrosion protection**

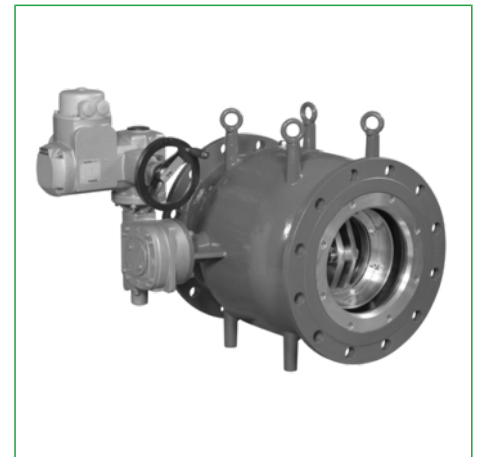
- Internally and externally epoxy coated

**Versions**

- Standard version as described
- Special designs available on request
- With slotted cylinder to control high differential pressure for water with suspended solids (Form "SZ")
- With orifice cylinder to control high differential pressure (Form "LH")
- With cut off edge and sudden enlargement of cross sectional area at the seat to control lower differential pressure (Form "E")
- With a short movable special cylinder (Form "SPZ")
- With a rigid double anti-cavitation cylinder (Form "LD") for regulating high pressure differences and optimum adjustment to the plant conditions
- With a movable double anti-cavitation cylinder (Form "LHD") for regulating high pressure differences
- With a rigid anti-cavitation cylinder (Form "L") for regulating high pressure differences and optimum adjustment to the plant conditions
- Flange dimensions according to ANSI class 150, 300, 600
- Designs PN 50, PN 63 and PN 100 on request

**Field of application**

- Chamber installation
- Installation in plants

**Tests and approvals**

- Final inspection test according to EN 12266-1 (leakage rate A)

**Operation data**

- Specify operating pressure when inquiring/ordering.:
  - Static pressure upstream of valve
  - Static pressure downstream of valve
  - Dynamic pressure upstream of valve
  - Maximum flow rate and minimum differential pressure
  - Minimum flow rate and maximum differential pressure
  - Dynamic pressure downstream of valve

**Note**

For valve dimensioning the free VAG UseCAD® software is available on request.

For proper installation and safe operation please follow the installation and operation instructions:

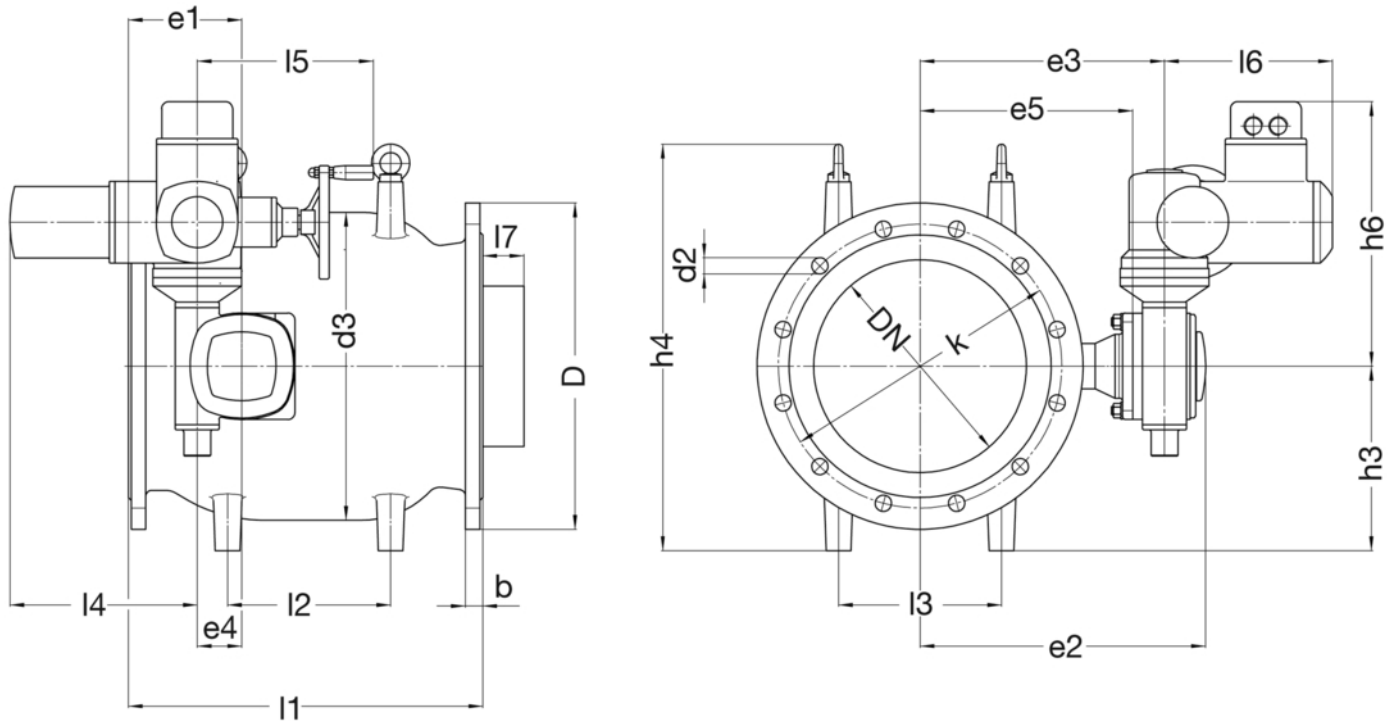
KAT-B 2014

**Field of application**

DN	PN	Maximum operating pressure [bar]	Maximum operating temperature for neutral liquids [°C]
150...1200	40	40	50
150...1600	25	25	50
150...2000	16	16	50
150...2200	10	10	50



**Drawing**



**Technical data**

**PN 10**

DN	150	200	250	300	400	450	500	600	700	800	900	1000
D [mm]	285	340	395	445	565	615	670	780	895	1015	1115	1230
b [mm]	26	22	24.5	24.5	28	30	31.5	36	39.5	43	46.5	50
k [mm]	240	295	350	400	515	565	620	725	840	950	1050	1160
d2 [mm]	22	22	23	23	28	28	28	31	31	34	34	37
d3 [mm]	236	302	371	434	575	632	711	840	995	1127	1258	1380
e1 [mm]	130	150	145	160	170	150	175	280	315	400	420	460
e2 [mm]	328	328	403	403	518	518	629	654	800	797	880	1016
e3 [mm]	270	270	345	345	467	467	550	575	725	725	80	898
e4 [mm]	63	63	63	63	80	80	100	100	125	125	160	160
e5 [mm]	225	225	300	300	410	410	475	500	650	650	725	800
h3 [mm]	155	190	230	260	335	345	385	460	520	600	650	720
h4 [mm]	355	425	513	573	741	761	841	1010	1150	1309	1428	1568
h6 [mm]	398	398	398	398	405	405	534	534	525	534	534	655
l1 [mm]	350	400	450	500	600	650	750	900	1050	1200	1350	1500
l2 [mm]	130	130	170	230	300	350	400	500	560	600	700	750
l3 [mm]	140	140	170	230	300	350	400	500	560	600	700	750
l4 [mm]	264	264	264	264	282	282	282	282	282	282	282	384
l5 [mm]	249	249	249	249	256	256	256	256	256	256	256	336
l6 [mm]	237	237	237	237	247	247	247	247	247	247	247	285
l7 [mm]	48	68	83	94	127	144	153	150	194	244	275	292
Actuator type	SA 07.6	SA 07.6	SA 07.6	SA 07.6	SA 07.6	SA 07.6	SA 07.6	SA 07.6	SA 07.6	SA 07.6	SA 07.6	SA 07.6
No. of holes	8	8	12	12	16	20	20	20	24	24	28	28
Weight without cylinder approx. [kg]	95	130	170	195	330	375	565	965	1525	1925	2525	3665
Volume with EA approx. [m <sup>3</sup> ]	0.190	0.230	0.310	0.360	0.590	0.660	0.900	1.300	1.500	2.600	3.500	4.600



### Technical data

#### PN 10

DN		1200	1400	1600	1800	2000	2200
D	[mm]	1455	1675	1915	2115	2325	2550
b	[mm]	57	46	50	52	55	74
k	[mm]	1380	1590	1820	2020	2230	2440
d2	[mm]	41	44	50	50	50	56
d3	[mm]	1645	1920	2244	2520	2800	3030
e1	[mm]	560	650	725	840	900	1025
e2	[mm]	1136	1359	1609	1998	2210	2070
e3	[mm]	1040	1240	1490	1713	1925	1875
e4	[mm]	200	250	250	315	315	400
e5	[mm]	950	1100	1350	1500	1700	1700
h3	[mm]	850	1000	1200	1380	1540	1550
h4	[mm]	1828	2187	2608	3058	3410	3430
h6	[mm]	745	815	970	1203	1203	1082
l1	[mm]	1800	2100	2500	2700	3000	3300
l2	[mm]	800	1000	1200	1500	1600	1600
l3	[mm]	800	1000	1200	1500	1600	1600
l4	[mm]	282	283	384	384	384	389
l5	[mm]	256	254	336	329	329	336
l6	[mm]	247	248	384	285	285	286
l7	[mm]	363	430	480	590	620	700
Actuator type		SA 07.6	SA 07.6	SA 14.2	SA 14.2	SA 14.2	SA 14.2
No. of holes		32	36	40	44	48	52
Weight without cylinder approx.	[kg]	4925	8225	17050	18000	25000	33300
Volume with EA approx.	[m <sup>3</sup> ]	7.000	11.243	19.000	27.000	37.000	42.000

#### PN 16

DN		150	200	250	300	400	450	500	600	700	800	900	1000
D	[mm]	285	340	405	460	580	640	715	840	970	1025	1125	1255
b	[mm]	26	22	24.5	24.5	28	30	31.5	36	39.5	43	46.5	50
k	[mm]	240	295	355	410	525	585	650	770	840	950	1050	1170
d2	[mm]	22	23	28	28	31	31	34	37	37	40	41	44
d3	[mm]	236	302	371	434	575	632	711	840	998	1127	1258	1380
e1	[mm]	130	150	145	160	170	150	175	280	315	400	420	460
e2	[mm]	328	328	403	403	518	518	629	654	800	797	880	1016
e3	[mm]	270	270	345	345	467	467	550	575	725	725	800	898
e4	[mm]	63	63	63	63	80	80	100	100	125	125	160	160
e5	[mm]	225	225	300	300	410	410	475	500	650	650	725	800
h3	[mm]	155	190	230	260	335	345	385	460	520	600	650	720
h4	[mm]	355	425	513	573	741	761	841	1010	1150	1309	1428	1568
h6	[mm]	398	398	398	398	405	405	534	534	525	534	534	655
l1	[mm]	350	400	450	500	600	650	750	900	1050	1200	1350	1500
l2	[mm]	130	130	170	230	300	350	400	500	560	600	700	750
l3	[mm]	140	140	170	230	300	350	400	500	560	600	700	750
l4	[mm]	264	264	264	264	282	282	282	282	282	282	282	384
l5	[mm]	249	249	249	249	256	256	256	256	256	256	256	336
l6	[mm]	237	237	237	237	247	247	247	247	247	247	247	285
l7	[mm]	48	68	83	94	127	144	153	150	195	244	275	292
Actuator type		SA 07.6	SA 07.6	SA 07.6	SA 07.6	SA 07.6	SA 07.6	SA 07.6	SA 07.6	SA 10.2	SA 10.2	SA 07.6	SA 10.2
No. of holes		8	12	12	12	16	20	20	20	24	24	28	28
Weight without cylinder approx.	[kg]	95	130	170	195	330	375	575	1015	1525	1975	2575	3665
Volume with EA approx.	[m <sup>3</sup> ]	0.190	0.230	0.310	0.360	0.590	0.660	0.900	1.300	1.500	2.600	3.500	4.600



**Technical data**

**PN 16**

DN		1200	1400	1600	1800	2000
D	[mm]	1485	1685	1930	2130	2345
b	[mm]	57	60	65	70	75
k	[mm]	1390	1590	1820	2020	2230
d2	[mm]	50	50	57	57	62
d3	[mm]	1645	1920	2244	2520	2800
e1	[mm]	560	650	725	840	900
e2	[mm]	1136	1359	1609	1998	2210
e3	[mm]	1040	1240	1490	1713	1925
e4	[mm]	200	250	250	315	315
e5	[mm]	950	1100	1350	1500	1700
h3	[mm]	850	1000	1200	1380	1540
h4	[mm]	1828	2187	2608	3058	3410
h6	[mm]	745	815	970	1203	1203
l1	[mm]	1800	2100	2500	2700	3000
l2	[mm]	800	1000	1200	1500	1600
l3	[mm]	800	1000	1200	1500	1600
l4	[mm]	282	283	384	384	384
l5	[mm]	256	254	336	329	329
l6	[mm]	247	248	384	285	285
l7	[mm]	363	430	480	590	620
Actuator type		SA 07.6	SA 07.6	SA 14.2	SA 14.2	SA 14.2
No. of holes		32	36	40	44	48
Weight without cylinder approx.	[kg]	5025	8225	17050	18000	25000
Volume with EA approx.	[m <sup>3</sup> ]	7.000	11.243	19.000	27.000	37.000

**PN 25**

DN		150	200	250	300	400	450	500	600	700	800	900	1000
D	[mm]	300	360	425	485	620	670	730	845	960	1085	1185	1320
b	[mm]	26	22	24.5	24.5	32	34.5	41.5	42	46.5	51	55.5	60
k	[mm]	250	310	370	430	550	600	660	770	875	990	1090	1210
d2	[mm]	28	28	31	31	37	37	37	41	44	50	50	57
d3	[mm]	236	302	371	434	575	632	711	840	998	1127	1258	1380
e1	[mm]	130	150	145	160	170	150	175	280	315	400	420	460
e2	[mm]	328	328	403	403	518	518	629	654	800	797	880	1016
e3	[mm]	270	270	345	345	467	467	550	575	725	725	800	898
e4	[mm]	63	63	63	63	80	80	100	100	125	125	160	160
e5	[mm]	225	225	300	300	410	410	475	500	650	650	725	800
h3	[mm]	155	190	230	260	335	345	385	460	520	600	650	720
h4	[mm]	355	425	513	573	741	761	841	1010	1150	1309	1428	1568
h6	[mm]	398	398	398	398	405	405	534	534	525	534	534	655
l1	[mm]	350	400	450	500	600	650	750	900	1050	1200	1350	1500
l2	[mm]	130	130	170	230	300	350	400	500	560	600	700	750
l3	[mm]	140	140	170	230	300	350	400	500	560	600	700	750
l4	[mm]	264	264	264	264	282	282	282	282	282	282	282	384
l5	[mm]	249	249	249	249	256	256	256	256	256	256	256	336
l6	[mm]	237	237	237	237	247	247	247	247	247	247	247	285
l7	[mm]	48	68	83	94	127	144	153	150	195	244	275	292
Actuator type		SA 07.6	SA 07.6	SA 07.6	SA 07.6	SA 07.6	SA 07.6	SA 07.6	SA 07.6	SA 10.2	SA 10.2	SA 07.6	SA 10.2
No. of holes		8	12	12	16	16	20	20	20	24	24	28	28
Weight without cylinder approx.	[kg]	95	130	180	205	365	430	635	1045	1625	2055	2625	3825
Volume with EA approx.	[m <sup>3</sup> ]	0.190	0.230	0.310	0.360	0.590	0.660	0.900	1.300	1.500	2.600	3.500	4.600



## Technical data

## PN 25

DN		1200	1400	1600
D	[mm]	1530	1755	1975
b	[mm]	69	74	81
k	[mm]	1420	1640	1860
d2	[mm]	57	62	62
d3	[mm]	1645	1920	2244
e1	[mm]	560	650	725
e2	[mm]	1136	1359	1609
e3	[mm]	1040	1240	1490
e4	[mm]	200	250	250
e5	[mm]	950	1100	1350
h3	[mm]	850	1000	1200
h4	[mm]	1828	2187	2608
h6	[mm]	745	815	970
l1	[mm]	1800	2100	2500
l2	[mm]	800	1000	1200
l3	[mm]	800	1000	1200
l4	[mm]	282	283	384
l5	[mm]	256	254	336
l6	[mm]	247	248	384
l7	[mm]	363	430	480
Actuator type		SA 10.2	SA 10.2	SA 14.6
No. of holes		32	36	40
Weight without cylinder approx.	[kg]	5225	8625	17350
Volume with EA approx.	[m <sup>3</sup> ]	7.000	11.243	19.000

## PN 40

DN		150	200	250	300	400	450	500	600	700	800	900	1000
D	[mm]	300	375	450	515	660	685	755	890	995	1140	1250	1360
b	[mm]	26	30	34.5	39.5	48	49	52	58	64	65	76	80
k	[mm]	250	320	385	450	585	610	670	795	900	1030	1140	1250
d2	[mm]	28	31	34	34	41	41	44	50	48	56	56	56
d3	[mm]	236	302	371	434	575	632	711	840	998	1127	1258	1380
e1	[mm]	130	150	145	160	170	150	175	280	315	400	420	460
e2	[mm]	328	328	403	403	518	518	629	654	800	797	880	1016
e3	[mm]	270	270	345	345	467	467	550	575	725	725	800	898
e4	[mm]	63	63	63	63	80	80	100	100	125	125	160	160
e5	[mm]	225	225	300	300	410	410	475	500	650	650	725	800
h3	[mm]	155	190	230	260	335	345	385	460	520	600	650	720
h4	[mm]	355	425	513	573	741	761	841	1010	1150	1309	1428	1568
h6	[mm]	398	398	398	398	405	405	534	534	525	534	534	655
l1	[mm]	350	400	450	500	600	650	750	900	1050	1200	1350	1500
l2	[mm]	130	130	170	230	300	350	400	500	560	600	700	750
l3	[mm]	140	140	170	230	300	350	400	500	560	600	700	750
l4	[mm]	264	264	264	264	282	282	282	282	282	282	282	384
l5	[mm]	249	249	249	249	256	256	256	256	256	256	256	336
l6	[mm]	237	237	237	237	247	247	247	247	247	247	247	285
l7	[mm]	48	68	83	94	127	144	153	150	195	244	275	292
Actuator type		SA 07.6	SA 07.6	SA 07.6	SA 07.6	SA 07.6	SA 07.6	SA 07.6	SA 07.6	SA 10.2	SA 10.2	SA 10.2	SA 10.2
No. of holes		8	12	12	16	16	20	20	20	24	24	28	28
Weight without cylinder approx.	[kg]	95	140	205	235	420	490	695	1145	1725	2225	2825	4150
Volume with EA approx.	[m <sup>3</sup> ]	0.190	0.230	0.310	0.360	0.590	0.660	0.900	1.300	1.500	2.600	3.500	4.600



**Technical data**

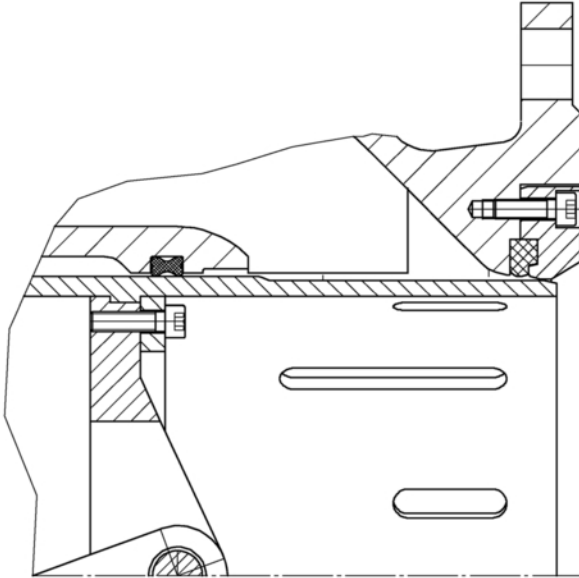
**PN 40**

<b>DN</b>		<b>1200</b>
D	[mm]	1575
b	[mm]	88
k	[mm]	1460
d2	[mm]	62
d3	[mm]	1645
e1	[mm]	560
e2	[mm]	1136
e3	[mm]	1040
e4	[mm]	200
e5	[mm]	950
h3	[mm]	850
h4	[mm]	1828
h6	[mm]	745
l1	[mm]	1800
l2	[mm]	800
l3	[mm]	800
l4	[mm]	282
l5	[mm]	256
l6	[mm]	247
l7	[mm]	363
Actuator type		SA 10.2
No. of holes		32
Weight without cylinder approx.	[kg]	5525
Volume with EA approx.	[m <sup>3</sup> ]	7.000



### Further information

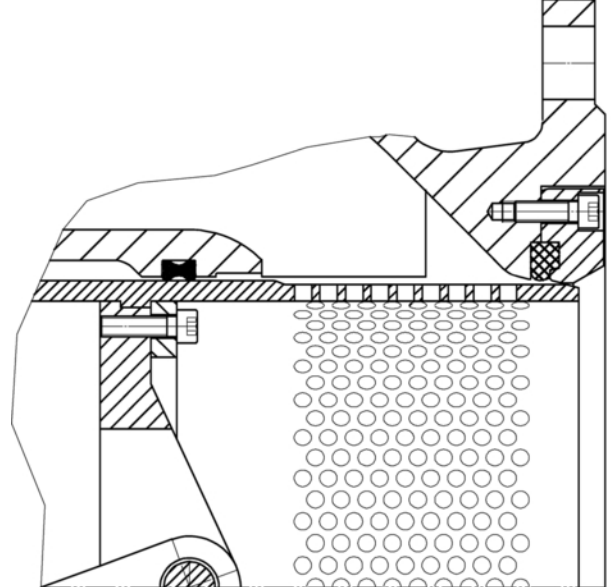
#### Type "SZ" with a movable slotted cylinder



##### Application:

- Preferably as control valve
- In case of considerable pressure differences
- Optimum adjustment to the plant conditions
- To prevent cavitation
- For water containing suspended matter

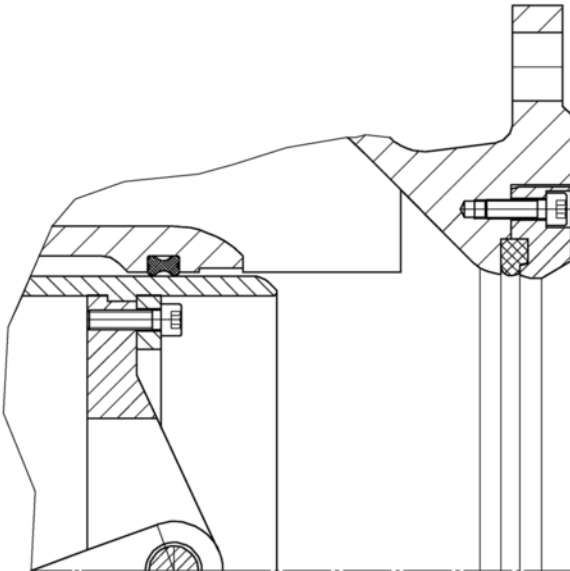
#### Type "LH" with a movable multiple orifice cylinder



##### Application:

- Preferably as control valve
- In case of considerable pressure differences
- Optimum adjustment to the plant conditions
- Optimum prevention of cavitation

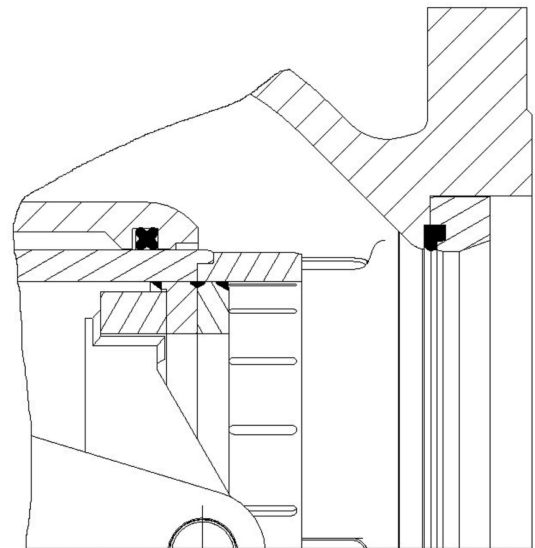
#### Type "E" with cut-off edge



##### Application:

- Preferably as control valve with sufficient back pressure
- As pump start-up valve

#### Type "SZ short" with a movable special cylinder



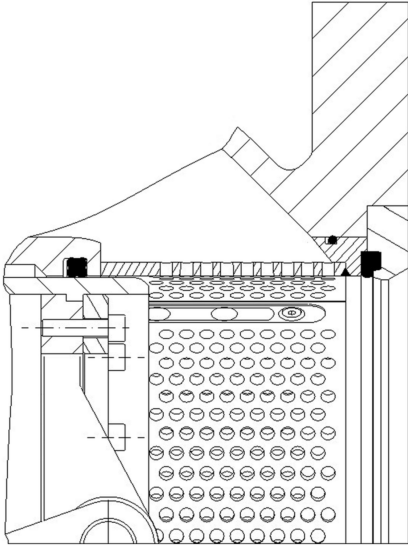
##### Application:

- Preferably as control valve
- Optimum adjustment to the plant conditions
- Optimum prevention of cavitation



**Further information**

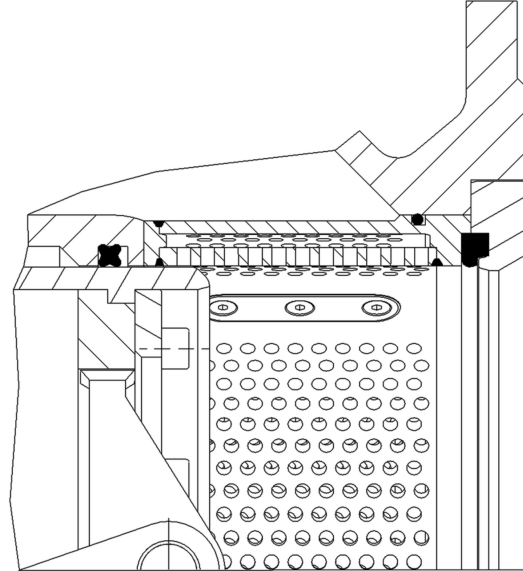
**Type "L" with a rigid anti-cavitation cylinder**



**Application:**

- Preferably as control valve
- In case of considerable pressure differences
- Optimum adjustment to the plant conditions
- Optimum prevention of cavitation
- Insensitive to suspended matter in water

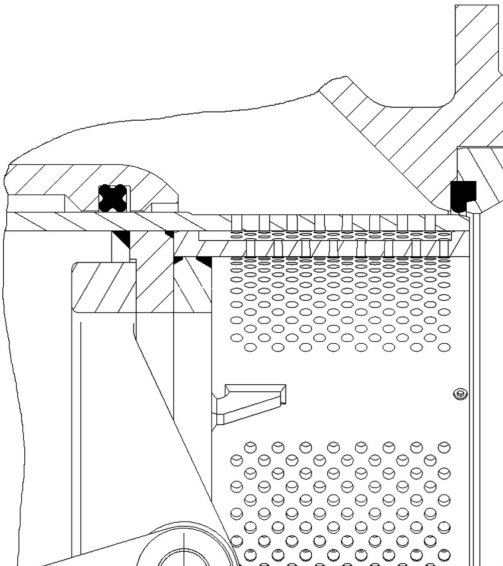
**Type "LD" with a rigid double anti-cavitation cylinder**



**Application:**

- Preferably as control valve
- In case of considerable pressure differences
- Optimum adjustment to the plant conditions
- Optimum prevention of cavitation
- Insensitive to suspended matter in water

**Type "LHD" with a movable double anti-cavitation cylinder**



**Application:**

- Preferably as control valve
- In case of considerable pressure differences
- Optimum adjustment to the plant conditions
- Optimum prevention of cavitation