VAG RIKO® Plunger Valve
one-piece body, with handwheel

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

KAT-A 2014

Product characteristics and benefits

- Low actuating torque due to pressure balanced valve piston
- 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))
- Eye bolts for lifting: Galvanized steel 1.0401 (C15)

Corrosion protection

- Internally and externally epoxy coated

Versions

- Standard version as described
- With electric actuator
- With pneumatic actuator
- with own-medium control
- 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 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
- DN 1800 (l1 = 2700) and DN 2200 (l1 = 3300) on request
- Flange dimensions according to ANSI class150, 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
  - Dynamic pressure downstream 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...1600	16	16	50
150...2200	10	10	50

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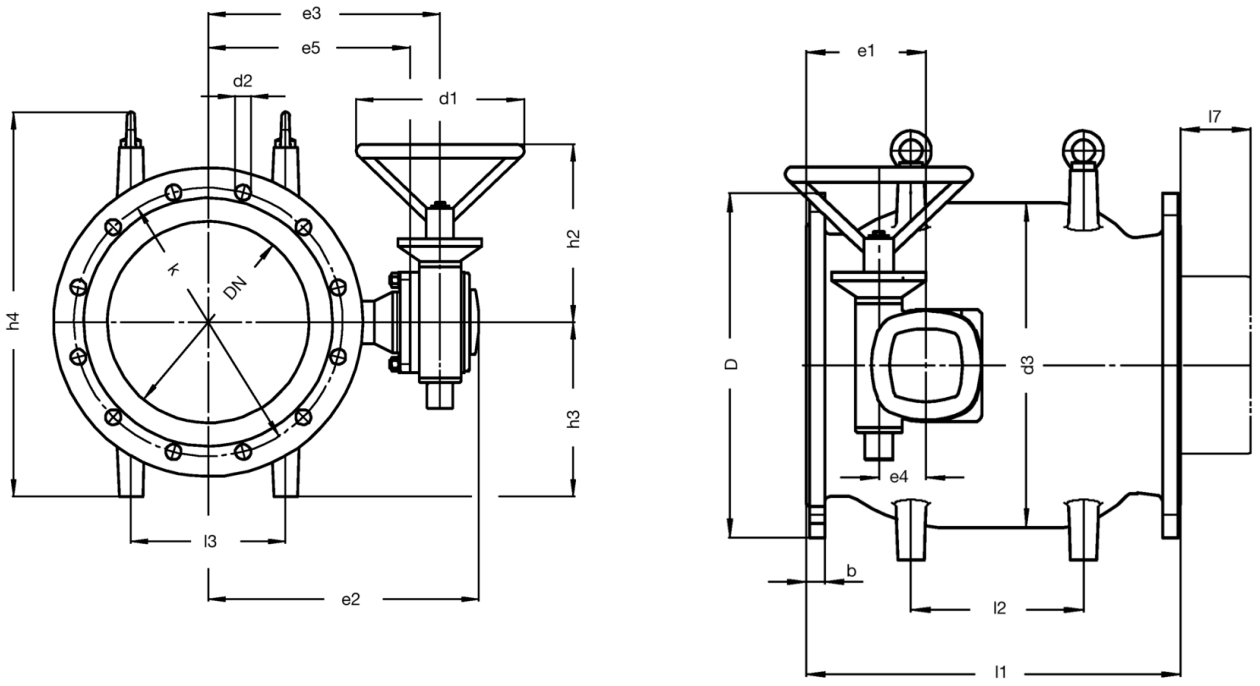
Drawing



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	395	43	46.5	50
k	[mm]	240	295	350	400	515	565	620	725	840	950	1050	1160
d1	[mm]	250	250	250	250	250	250	400	400	400	400	400	400
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	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
h2	[mm]	265	265	265	265	268	268	439	449	454	454	520	520
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
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
l7	[mm]	48	68	83	94	127	144	153	150	194	244	275	291.5
No. of holes		8	8	12	12	16	20	20	20	24	24	28	28
Weight without cylinder approx.	[kg]	70	105	145	170	305	350	540	940	1500	1900	2500	3640
Volume with handwheel approx.	[m^3]	0.060	0.100	0.150	0.200	0.400	0.450	0.700	1.000	1.080	2.200	3.000	4.100

Dimensions DN 1800 and 2000 on request

Technical data

PN 10

DN		1200	1400	1600	2200
D	[mm]	1455	1675	1915	2550
b	[mm]	57	46	50	74
k	[mm]	1380	1590	1820	2440
d1	[mm]	400	400	400	-
d2	[mm]	41	44	50	56
d3	[mm]	1645	1920	2244	3030
e1	[mm]	560	650	725	1025
e2	[mm]	1136	1359	1609	2070
e3	[mm]	1040	1240	1490	1875
e4	[mm]	200	250	250	400
e5	[mm]	950	1100	1350	1700
h2	[mm]	600	705	705	-
h3	[mm]	850	1000	1200	1550
h4	[mm]	1828	2187	2608	3430
h6	[mm]	-	-	-	1082
l1	[mm]	1800	2100	2500	3300
l2	[mm]	800	1000	1200	1600
l3	[mm]	800	1000	1200	1600
l4	[mm]	-	-	-	389
l5	[mm]	-	-	-	336
l6	[mm]	-	-	-	286
l7	[mm]	363	430	480	700
Actuator type		-	-	-	SA 14.2
No. of holes		32	36	40	52
Weight without cylinder approx.	[kg]	4900	8200	17000	33300
Volume with EA approx.	[m^3]	-	-	-	42.000
Volume with handwheel approx.	[m^3]	6.500	10.903	18.000	42.000

Dimensions DN 1800 and 2000 on request

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
d1	[mm]	250	250	250	250	250	250	400	400	400	400	400	400
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
h2	[mm]	265	265	265	265	268	268	439	449	454	454	520	520
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
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
l7	[mm]	48	68	83	94	127	144	153	150	195	244	275	291.5
No. of holes		8	12	12	12	16	20	20	20	24	24	28	28
Weight without cylinder approx.	[kg]	70	105	145	170	305	350	550	990	1500	1950	2550	3640
Volume with handwheel approx.	[m^3]	0.060	0.100	0.150	0.200	0.400	0.450	0.700	1.000	1.090	2.200	3.000	4.100

Dimensions DN 1800 and 2000 on request

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Technical data

PN 16

DN		1200	1400	1600
D	[mm]	1485	1685	1930
b	[mm]	57	60	65
k	[mm]	1390	1590	1820
d1	[mm]	400	400	400
d2	[mm]	50	50	57
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
h2	[mm]	600	705	705
h3	[mm]	850	1000	1200
h4	[mm]	1828	2187	2608
l1	[mm]	1800	2100	2500
l2	[mm]	800	1000	1200
l3	[mm]	800	1000	1200
l7	[mm]	363	430	480
No. of holes		32	36	40
Weight without cylinder approx.	[kg]	5000	8200	17000
Volume with handwheel approx.	[m^3]	6.500	10.903	18.000

Dimensions DN 1800 and 2000 on request

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
d1	[mm]	250	250	250	250	250	250	400	400	400	400	400	400
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
h2	[mm]	265	265	265	265	268	268	439	449	454	454	520	520
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
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
l7	[mm]	48	68	83	94	127	144	153	150	195	244	275	291.5
No. of holes		8	12	12	16	16	20	20	20	24	24	28	28
Weight without cylinder approx.	[kg]	70	105	155	180	340	405	610	1020	1600	2030	2600	3800
Volume with handwheel approx.	[m^3]	0.060	0.100	0.150	0.200	0.400	0.450	0.700	1.000	1.150	2.200	3.000	4.100

Dimensions DN 1800 and 2000 on request

Edition KAT-A_2014_RIKO-handwheel_Edition19_05-02-2021_EN

Technical data

PN 25

DN		1200	1400	1600
D	[mm]	1530	1755	1975
b	[mm]	69	74	81
k	[mm]	1420	1640	1860
d1	[mm]	400	400	400
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
h2	[mm]	600	705	705
h3	[mm]	850	1000	1200
h4	[mm]	1828	2187	2608
l1	[mm]	1800	2100	2500
l2	[mm]	800	1000	1200
l3	[mm]	800	1000	1200
l7	[mm]	363	430	480
No. of holes		32	36	40
Weight without cylinder approx.	[kg]	5200	8600	17300
Volume with handwheel approx.	[m^3]	6.500	10.903	18.000

Dimensions DN 1800 and 2000 on request

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
d1	[mm]	250	250	250	250	250	250	400	400	400	400	400	400
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
h2	[mm]	265	265	265	265	268	268	439	449	454	454	520	520
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
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
l7	[mm]	48	68	83	94	127	144	153	150	195	244	275	291.5
No. of holes		8	12	12	16	16	20	20	20	24	24	28	28
Weight without cylinder approx.	[kg]	70	115	180	210	395	465	670	1120	1700	2200	2800	4125
Volume with handwheel approx.	[m^3]	0.060	0.100	0.150	0.200	0.400	0.450	0.700	1.000	1.200	2.200	3.000	4.100

Dimensions DN 1800 and 2000 on request

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Technical data

PN 40

DN		1200
D	[mm]	1575
b	[mm]	88
k	[mm]	1460
d1	[mm]	400
d2	[mm]	62
d3	[mm]	1645
e1	[mm]	560
e2	[mm]	1136
e3	[mm]	1040
e4	[mm]	200
e5	[mm]	950
h2	[mm]	600
h3	[mm]	850
h4	[mm]	1828
l1	[mm]	1800
l2	[mm]	800
l3	[mm]	800
l7	[mm]	363
No. of holes		32
Weight without cylinder approx.	[kg]	5500
Volume with handwheel approx.	[m^3]	6.500

Dimensions DN 1800 and 2000 on request

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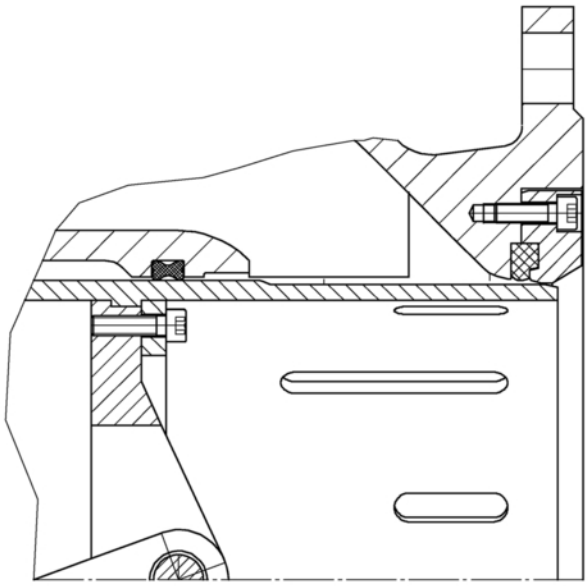
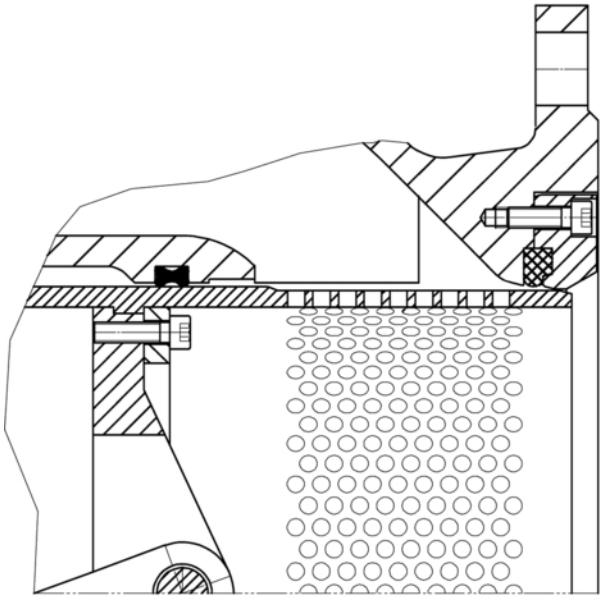
Further information

Type "SZ" with a movable slotted cylinder



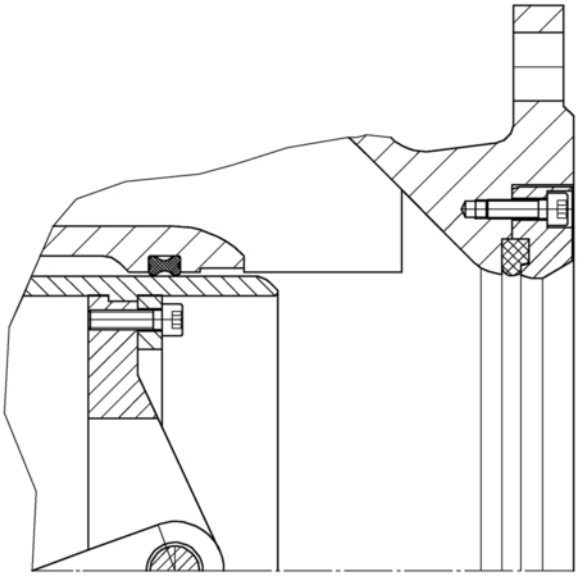
Application:
- Preferably as control valve
- In case of considerable pressure differences
- Optimum adjustment to the plant conditions
- To prevent cavitation
- For water containing suspended matter

Type "LH" with a movable multiple orifice cylinder



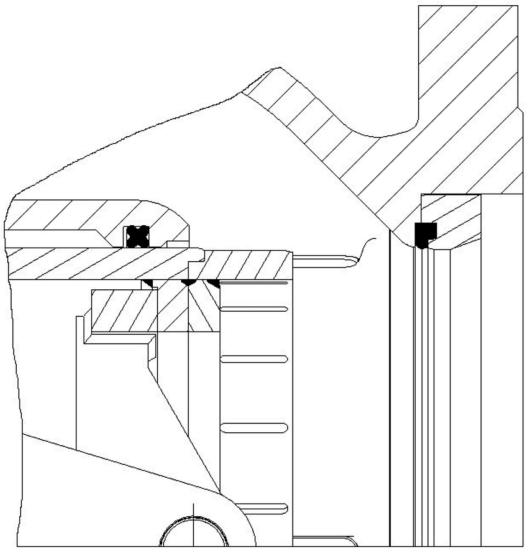
Application:
- Preferably as control valve
- In case of considerable pressure differences
- Optimum adjustment to the plant conditions
- Optimum prevention of cavitation

Type "E" with cut-off edge



Application:
- As pump start-up valve with sufficient back pressure
- In bottom outlets

Type "SZ short" with a movable special cylinder

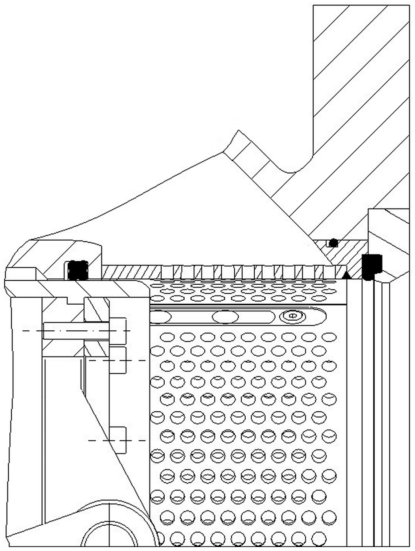


Application:
- Preferably as control valve
- Optimum adjustment to the plant conditions
- Optimum prevention of cavitation

Edition KAT-A_2014_RIKO-handwheel_Edition19_05-02-2021_EN

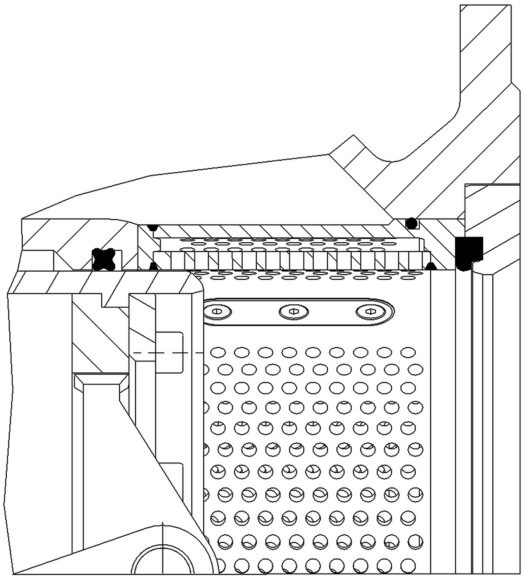
Further information

Type "L" with a rigid anti-cavitation cylinder



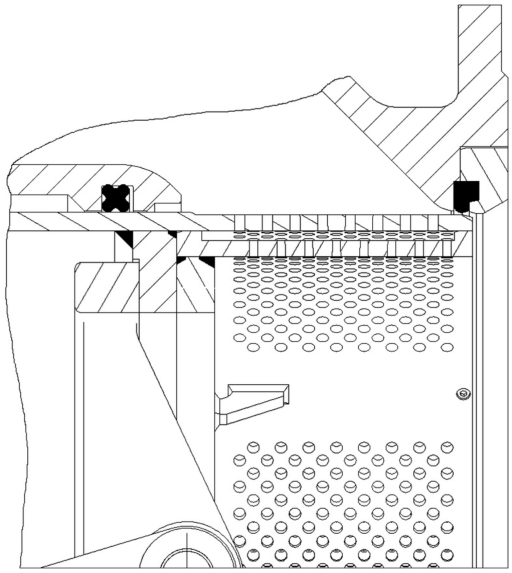
Application:
- Preferably as control valve
- In case of considerable pressure differences
- Optimum adjustment to the plant conditions
- Optimum prevention of cavitation
- Insensitive to suspended matter in water

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
- BIn case of considerable pressure differences
- Optimum adjustment to the plant conditions
- Optimum prevention of cavitation