

Check valve type RK and RB

Product documentation



Screw-in valve

Operating pressure p_{\max} :

700 bar

Flow rate Q_{\max} :

620 lpm



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1**Overview of check valves type RK and RB**

Check valves are a type of non-return valve. They block the oil flow in one direction and open in the opposite direction. In the closed state they have zero leakage.

The check valve type RK and RB can be screwed in. The spring-loaded ball check valve type RK and RB is very robust and insensitive to soiling.

Features and benefits:

- Operating pressures up to 700 bar
- Easily machined mounting holes
- Sturdy
- Type RK, RB also available with different pre-load pressures

Intended applications:

- General hydraulic systems
- Hydraulic pre-loading



Screw-in cartridge

2 Available versions, main data

2.1 Screw-in valve (basic version)

Circuit symbol:

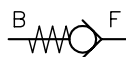
Type RK

screwed in in locking direction



Type RB

screwed in in free flow direction



Order coding examples:

RB 2			-PYD
RK 1 UNF			
RK 2	-5	-G	

Sealing specification ["Table 2"](#)
 Housing version ["Table 3"](#)
 Opening pressure (high) ["Table 1ff"](#)
 Basic type and size ["Table 1ff"](#)

Table 1a Basic type and size type RK

Basic type and size	Flow rate Q_{max} (lpm)	Pressure p_{max} (bar)	Thread	Opening pressure (bar)
Imperial thread, low opening pressure				
RK 0	10	700	G 1/8 A	0.05
RK 1	20	700	G 1/4 A	0.18
RK 2	50	700	G 3/8 A	0.2
RK 3	80	500	G 1/2 A	0.25
RK 4	120	500	G 3/4 A	0.1
RK 5	240	500	G 1 A	0.1
RK 6	400	420	G 1 1/4 A	0.1
RK 7	620	420	G 1 1/2 A	0.1
Imperial thread, high opening pressure				
RK 0-0,4	10	700	G 1/8 A	0.4
RK 1-...	20	700	G 1/4 A	0.5, 1, 2, 3, 4, 5, 6, 7, 8, 10
RK 2-...	50	700	G 3/8 A	1, 2, 3, 4, 5, 6
RK 3-...	80	500	G 1/2 A	1, 2, 3, 4, 5
RK 4-...	120	500	G 3/4 A	0.5, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10
RK 5-...	240	420	G 1 A	1, 2, 3, 5, 8, 10
RK 6-...	400	420	G 1 1/4 A	0.5, 1, 2, 3, 5, 8, 10

Table 1a Basic type and size type RK

Basic type and size	Flow rate Q_{\max} (lpm)	Pressure p_{\max} (bar)	Thread	Opening pressure (bar)
Metric thread, low opening pressure				
RK 08	5	700	M 8x1	0.2
RK 14	20	700	M 14x1,5	0.18
RK 16	20	700	M 16x1,5	0.18
RK 28	50	700	M 18x1,5	0.2
RK 32	80	500	M 22x1,5	0.25
RK 47	120	500	M 27x2	0.1
Metric thread, high opening pressure				
RK 08-0,45	5	700	M 8x1	0.45
RK 14-...	20	700	M 14x1,5	0.5, 1, 2, 3, 4, 5, 6, 7, 8
RK 28-...	50	700	M 18x1,5	1, 2, 3, 4, 5, 6
RK 32-...	80	500	M 22x1,5	1, 2, 3, 4, 5
RK 47-...	120	500	M 27x2	0.5, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10
RK 62-...	400	420	M 42x2	0.1, 0.5, 1, 2, 3, 4, 5, 6, 8, 10
UNF thread, low opening pressure				
RK 08 UNF	5	630	5/16-24 UNF	0.2
RK 0 UNF	10	630	7/16-20 UNF	0.05
RK 1 UNF	20	630	9/16-18 UNF	0.18
RK 2 UNF	50	630	3/4-16 UNF	0.2
RK 3 UNF	80	420	7/8-14 UNF	0.25
RK 4 UN	120	420	1 1/16-12 UN	0.1
RK 5 UN	240	420	1 5/16-12 UN	0.1
RK 6 UN	400	350	1 5/8-12 UN	0.1
RK 7 UN	620	350	1 7/8-12 UN	0.1

i NOTE

- Threads in accordance with ISO 228-1, DIN 13 T6 (metric) or SAE J 514 (UNF).
- For types RK-... one of the opening pressures provided must be specified.

Table 1b Basic type and size type RB

Basic type and size	Flow rate Q _{max} (lpm)	Pressure p _{max} (bar)	Thread	Opening pressure (bar)
Imperial thread, low opening pressure				
RB 0	10	700	G 1/8 A (BSPP)	0.05
RB 1	20	700	G 1/4 A (BSPP)	0.15
RB 2	50	700	G 3/8 A (BSPP)	0.07
RB 3	80	500	G 1/2 A (BSPP)	0.17
RB 4	120	500	G 3/4 A (BSPP)	0.1
Imperial thread, high opening pressure				
RB 1-0.9	20	700	G 1/4 A (BSPP)	0.9
Metric thread, low opening pressure				
RB 08	5	700	M 8x1	0.2
RB 14	20	700	M 14x1,5	0.15
RB 28	50	700	M 18x1,5	0.07
RB 32	80	500	M 22x1,5	0.17
RB 47	120	500	M 27x2	0.1
Metric thread, high opening pressure				
RB 08-0,45	5	700	M 8x1	0.45
UNF thread, low opening pressure				
RB 08 UNF	5	700	5/16-24 UNF	0.2
RB 0 UNF	10	700	7/16-20 UNF	0.05
RB 1 UNF	20	700	9/16-18 UNF	0.15
RB 2 UNF	50	700	3/4-16 UNF	0.07
RB 3 UNF	80	500	7/8-14 UNF	0.17
RB 4 UN	120	500	1 1/16-12 UN	0.1


NOTE

Threads in accordance with ISO 228-1, DIN 13 T6 (metric) or SAE J 514 (UNF).

Table 2 Sealing specification

Coding	Description
No designation	NBR standard

Additional sealing materials available on request.

2.2 Housing version for pipe installation

Order coding example:

RB 2		-G
RK 2	-5	-E

Housing version for pipe installation ["Table 3"](#)

Opening pressure (high) ["Table 1ff"](#)

Basic type and size ["Table 1ff"](#)

Table 3: Housing version for pipe installation

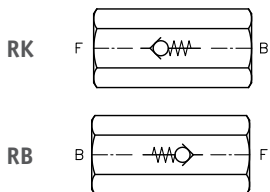
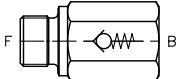
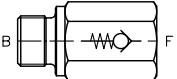
Type	Pressure p_{max} (bar)	Coding					
		Type RK, RB		Type RK		Type RB	
		G	G-JIS	E	E-JIS	F	F-JIS
RK							
RB							
Imperial thread, low opening pressure							
RK 0, RB 0	700	●		●		●	
RK 1, RB 1	700	●	●	●	●	●	●
RK 2, RB 2	700	●	●	●	●	●	●
RK 3, RB 3	500	●	●	●	●	●	●
RK 4, RB 4	500	●	●	●	●	●	●
RK 5	420	●		●			
RK 6	420	●		●			
RK 7	320	●		●			
Imperial thread, high opening pressure							
RK 0-0,4	700	●		●			
RK 1-..., RB 1-1	700	●	●	●	●	●	
RK 2-...	700	●	●	●	●		
RK 3-...	500	●	●	●	●		
RK 4-...	500	●	●	●	●		
RK 5-...	420	●		●			
RK 6-...	420	●		●			



NOTE

For the housing version, note p_{max} of the fitting!

Table 3: Housing version for pipe installation

Type	Coding					
	Type RK, RB		Type RK		Type RB	
	G	G-JIS	E	E-JIS	F	E-JIS
						
Metric thread, low opening pressure						
RK 08, RB 08						
RK 14, RB 14	●		●		●	
RK 16	●		●			
RK 28, RB 28	●		●		●	
RK 32, RB 32	●		●		●	
RK 47, RB 47					●	
RK 62	●		●			
Metric thread, high opening pressure						
RK 08-0,45 RB 08-0,45						
RK 14-...	●		●			
RK 28-...	●		●			
RK 32-...	●		●			
RK 47-...	●		●			
RK 62-...	●		●			

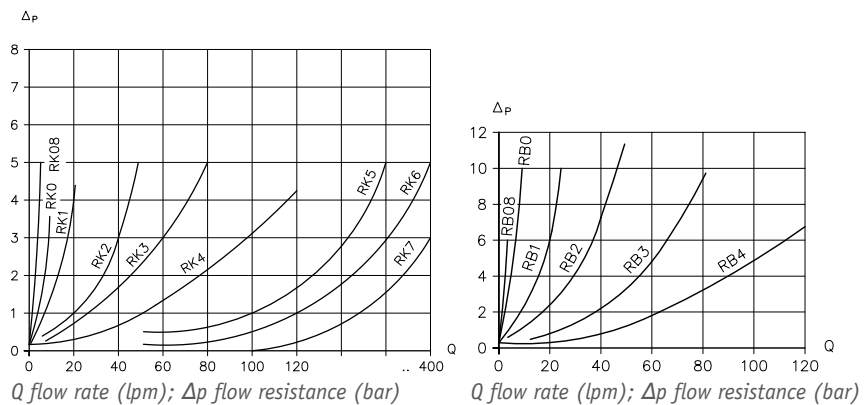
3 Parameters

General

Designation	Check valve
Design	Ball seated valve
Model	Screw-in valve, housing version
Material	Ball made of rolling bearing steel Steel; hardened, ground functional inner parts
Installation position	As desired
Surface	Single valves blank, housing version ZnNi
Hydraulic fluid	Hydraulic oil: according to part 1 to 3; ISO VG 10 to 68 according to DIN ISO 3448 Viscosity limits: min. approx. 4, max. approx. 1500 mm ² /s opt. operation approx. 10... 500 mm ² /s. Also suitable for biologically degradable hydraulic fluids type HEPG (polyalkylene glycol) and HEES (synthetic ester) at operating temperatures up to approx. +70°C.
cleanliness level	ISO 4406 <u>21/18/15...19/17/13</u>
Temperatures	Ambient: approx. -40 ... +80°C, Fluid: -25 ... +80°C, Note the viscosity range! Permissible temperature during start: -40°C (observe start-viscosity!), as long as the service temperature is at least 20K higher for the following operation. Biologically degradable pressure fluids: Observe manufacturer's specifications. By consideration of the compatibility with seal material not over +70°C.

Characteristic curves

Oil viscosity approx. 50 mm²/s



Weight

Screw-in cartridge

Type

RK 0, RK 08	= 3 g
RK 1, RK 14, RK 16	= 5 g
RK 1-...	= 30 g
RK 2, RK 28	= 12 g
RK 2-...	= 40 g
RK 3, RK 32	= 20 g
RK 3-...	= 60 g
RK 4, RK 47	= 45 g
RK 5	= 85 g
RK 5-...	= 150 g
RK 6, RK 62	= 200 g
RK 6-..., RK 62-...	= 300 g
RK 7	= 280 g
RB 0	= 3 g
RB 1, RB 14	= 5 g
RB 2, RB 28	= 12 g
RB 3, RB 32	= 21 g
RB 4, RB 47	= 45 g

Housing version

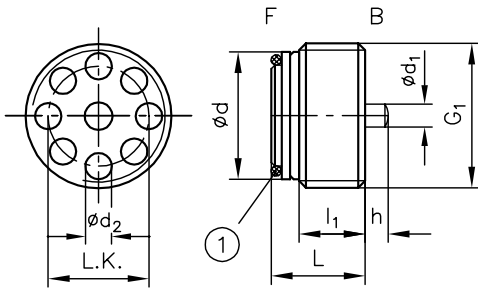
Type	G	E	F
RK 0, RB 0	30 g	30 g	30 g
RK 1, RB 1	75 g	60 g	60 g
RK 2, RB 2	105 g	85 g	85 g
RK 3, RB 3	160 g	140 g	140 g
RK 4, RB 4	340 g	300 g	300 g
RK 5	770 g	650 g	--
RK 6	1000 g	950 g	--
RK 7	1650 g	1400 g	--

4 Dimensions

All dimensions in mm, subject to change.

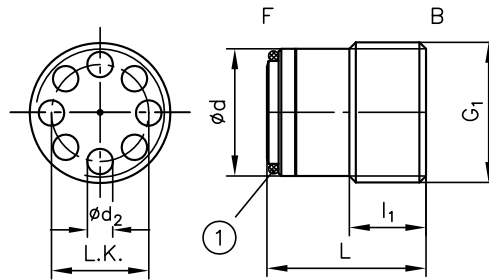
4.1 Screw-in valve

RK ...



1 O-ring

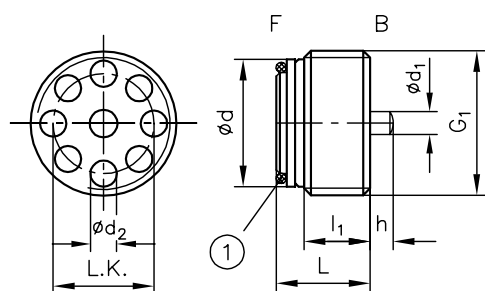
RK. - ...



1 O-ring

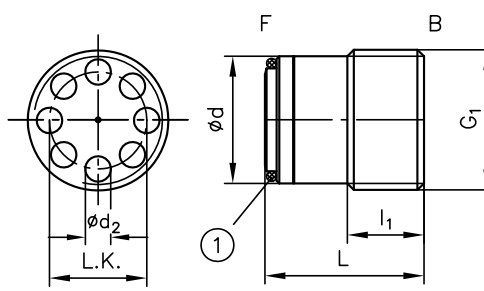
Type	G_1	L	l_1	$\varnothing d$	$\varnothing d_1$	$\varnothing d_2$	h	L.K.	Sealing ring NBR 90 Sh	Max. tightening torque M_A (Nm)
Imperial thread, low opening pressure										
RK 0	G 1/8 A	7.2	3.8	8.6	2	1.5	1.3	6.8	6x1	8
RK 1	G 1/4 A	9	4.5	11.5	2.6	2.2	1.5	8.8 _{-0.1}	9x1	15
RK 2	G 3/8 A	11.2	6.5	15	3.4	3	2.5	11	11x1.5	20
RK 3	G 1/2 A	13.5	8	18.5	4.3	3.8	3	14.2 _{-0.1}	14x1.5	40
RK 4	G 3/4 A	17.5	10	24	5.8	4.6	3.5	18.5	18.77x1.78	80
RK 5	G 1 A	22	12.5	30	7	4.5	4.5	23	23.47x2.62	200
RK 6	G 1 1/4 A	27.5	16.5	38.8	8.2	5.8	5	30	29.75x3.53	250
RK 7	G 1 1/2 A	35	20	44.5	10	6.8	5.5	35.5	36x3	300
Imperial thread, high opening pressure										
RK 0-...	G 1/8 A	7.2	3.8	8.6	2	1.5	1.3	6.8	6x1	8
RK 1-...	G 1/4 A	16	7.5	11.45	--	1.8	--	9 _{-0.1}	9x1	15
RK 2-...	G 3/8 A	20	12.5	15	--	2	--	12.1	11x1.5	20
RK 3-...	G 1/2 A	24	15.5	18.7	--	2.9	--	15 _{-0.1}	14x1.5	40
RK 4-...	G 3/4 A	30	14.4	24	--	3.5	--	19	18.77x1.78	80
RK 5-...	G 1 A	38	22	30	--	4.5	--	23	23.47x2.62	200
RK 6-...	G 1 1/4 A	55	24	38.8	--	5.5	--	30.5	29.75x3.53	250

RK ...



1 O-ring

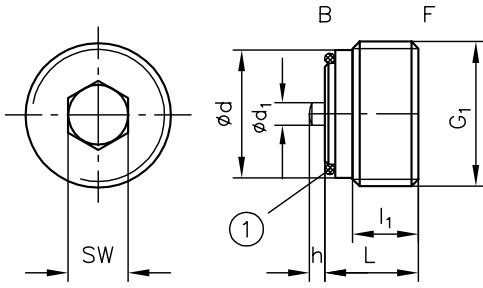
RK. - ...



1 O-ring

Type	G_1	L	l_1	$\varnothing d$	$\varnothing d_1$	$\varnothing d_2$	h	L.K.	O-ring NBR 90 Sh	Max. tightening torque M_A (Nm)
Metric thread, low opening pressure										
RK 08	M 8x1	5.5	--	6.9	--	1.3	--	4.8	5x0.8 (70 Sh)	6
RK 14	M 14x1,5	9	4.5	11.5	2.6	2.2	1.5	8.8 _{-0.1}	9x1	15
RK 16	M 16x1,5	9	6	14	2.6	2.8	1.5	11	10x1.5	15
RK 28	M 18x1,5	11.2	6.5	15	3.4	3	2.5	11	11x1.5	20
RK 32	M 22x1,5	13.5	8	18.5	4.3	3.8	3	14.2 _{-0.1}	14x1.5	40
RK 47	M 27x2	17.5	10	24	5.8	4.6	3.5	18.5	18.77x1.78	80
Metric thread, high opening pressure										
RK 14-...	M 14x1,5	16	7.5	11.45	--	1.8	--	9 _{-0.1}	9x1	15
RK 28-...	M 18x1,5	20	12.5	15	--	2	--	12x1	11x1.5	20
RK 32-...	M 22x1,5	24	15.5	18.7	--	2.9	--	15 _{-0.1}	14x1.5	40
RK 47-...	M 27x2	30	14.4	24	--	3.5	--	19	18.77x1.78	80
RK 62-...	M 42x2	55	24	38.8	--	5.5	--	30.5	29.75x3.53	250
UNF thread, low opening pressure										
RK 08 UNF	5/16-24 UNF	5.5	3.5	6.7	1.4	1.3	0.8	4.8	5x0.8 (70 Sh)	6
RK 0 UNF	7/16-20 UNF	7.3	3.8	8.6	2	1.5	1.3	6.8	6x1	8
RK 1 UNF	9/16-18 UNF	9	4.5	11.5	2.6	2.2	1.5	8.8 _{-0.1}	10x1.5	15
RK 2 UNF	3/4-16 UNF	11.5	6.5	15	3.4	3	2.5	11	11x1.5	20
RK 3 UNF	7/8-14 UNF	13.5	8	18.5	4.3	3.8	3	14.2 _{-0.1}	14x1.5	40
RK 4 UN	1 1/16-12 UN	17.5	10	24	5.8	4.6	3.5	18.5	18.77x1.78	80

RB ...

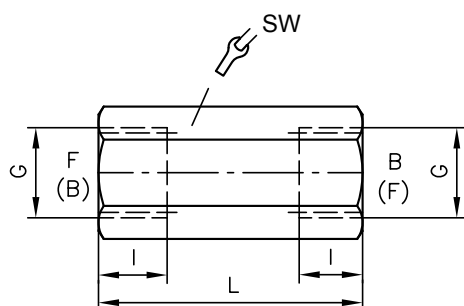


1 O-ring

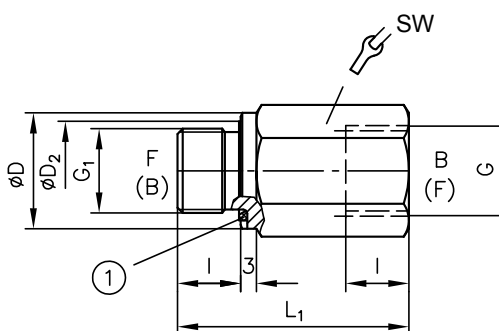
Type	G ₁	L	l ₁	Ød	Ød ₁	h	SW	Sealing ring NBR 90 Sh	Max. tightening torque M _A (Nm)
Imperial thread, low opening pressure									
RB 0	G 1/8 A (BSPP)	7.9	4.5	8.6	1.7	1.3	5	6x1	8
RB 1	G 1/4 A (BSPP)	10.3	5	11.6	2.2	1.3	7	9x1	15
RB 2	G 3/8 A (BSPP)	11.7	7	15	3	2	6	11x1.5	20
RB 3	G 1/2 A (BSPP)	13.2	7.5	18.5	3.4	2.5	8	14x1.5	40
RB 4	G 3/4 A (BSPP)	17.1	10	24	5.8	3.8	12	18.77x1.78	80
Imperial thread, high opening pressure									
RB 1-1	G 1/4 A (BSPP)	10.3	5	11.6	2.2	1.3	7	9x1	15
Metric thread, low opening pressure									
RB 08	M 8x1	6.5	--	6.9	--	--	4	5x0.8 (70 Sh)	6
RB 14	M 14x1,5	10.3	5	11.6	2.2	1.3	7	9x1	15
RB 28	M 18x1,5	11.7	7	15	3	2	6	11x1.5	20
RB 32	M 22x1,5	13.2	7.5	18.5	3.4	2.5	8	14x1.5	40
RB 47	M 27x2	17.1	10	24	5.8	3.8	12	18.77x1.78	80
UNF thread, low opening pressure									
RB 08 UNF	5/16-24 UNF	6.5	3.5	6.7	1.4	0.8	5/32"	5x0.8 (70 Sh)	6
RB 0 UNF	7/16-20 UNF	7.9	4.5	9.4	1.7	1.3	3/16"	6x1	8
RB 1 UNF	9/16-18 UNF	10.3	5	12.3	2.2	1.3	1/4"	9x1	15
RB 2 UNF	3/4-16 UNF	11.7	7	16.8	3	2	1/4"	11x1.5	20
RB 3 UNF	7/8-14 UNF	13.2	7.5	19.9	3.4	2.5	5/16"	14x1.5	40
RB 4 UN	1 1/16-12 UN	17.1	10	23.9	5.8	3.8	1/2"	18.77x1.78	80

4.2 Housing versions

RK ... G, G-JIS
RB ... G, G-JIS



RK ... E, E-JIS
RB ... F, F-JIS



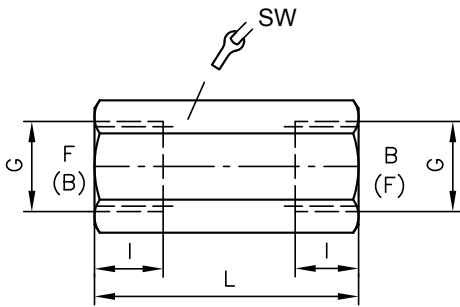
1 Thread seal

Outer cutting edge

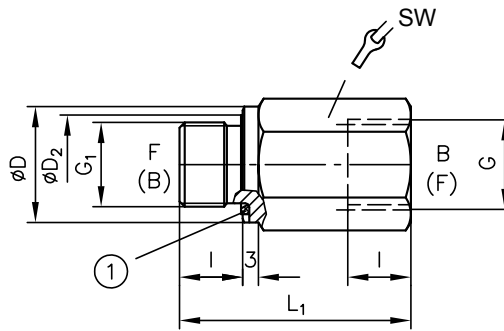
- RK 1, RK 5 ... RK 7: Fitting seal
- RK...-JIS: O-ring
- RK...-UNF: O-ring

Type	G (BSPP)	G ₁ (BSPP)	ØD	ØD ₂	L	L ₁	l	SW	Tightening torque (Nm)
Imperial thread, low opening pressure									
RK 0 RB 0	G 1/8	G 1/8 A	14	12.5	30	28	8	14	20
RK 1 RB 1	G 1/4	G 1/4 A	19	--	46	43	12	19	40
	G 1/4-JIS	G 1/4 A-JIS	19	--	58	47	12	19	40
RK 2 RB 2	G 3/8	G 3/8 A	22	20.5	50	44	12	22	80
	G 3/8-JIS	G 3/8 A-JIS	24	--	58	58	12	24	80
RK 3 RB 3	G 1/2	G 1/2 A	26	24	56	52	14	27	150
	G 1/2-JIS	G 1/2 A-JIS	27	--	72	72	16	27	150
RK 4 RB 4	G 3/4	G 3/4 A	36	30	65	60	16	36	200
	G 3/4-JIS	G 3/4 A-JIS	41	--	85	85	17	41	200
RK 5	G 1	G 1 A	39.9	--	80	72	18	46	200
RK 6	G 1 1/4	G 1 1/4 A	49.9	--	98	85	20	55	250
RK 7	G 1 1/2	G 1 1/2 A	54.9	--	105	95	22	60	300

RK ... G, G-JIS
RB ... G, G-JIS



RK ... E, E-JIS
RB ... F, F-JIS



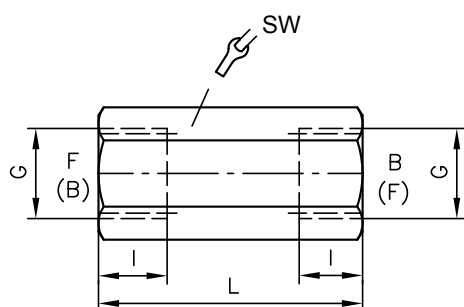
1 Thread seal

Outer cutting edge

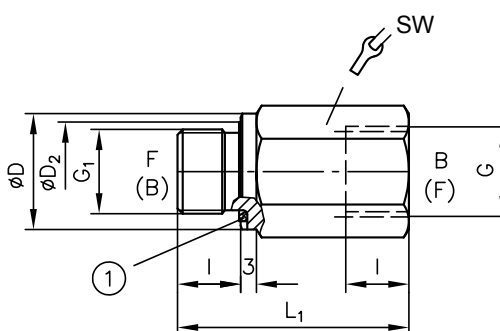
- RK 1, RK 5 ... RK 7: Fitting seal
- RK...-JIS: O-ring
- RK...-UNF: O-ring

Type	G (BSPP)	G ₁ (BSPP)	∅D	∅D ₂	L	L ₁	l	SW	Tightening torque (Nm)
Imperial thread, high opening pressure									
RK 0-...	G 1/8	G 1/8 A	14	12.5	30	28	8	14	20
RK 1-...	G 1/4	G 1/4 A	19	--	55	50	12	19	40
	G 1/4-JIS	G 1/4 A-JIS	19	--	58	47	12	19	40
RK 2-...	G 3/8	G 3/8 A	22	20.5	60	60	15	22	80
	G 3/8-JIS	G 3/8 A-JIS	24	--	58	58	12	24	80
RK 3-...	G 1/2	G 1/2 A	27	25	68	63	14	27	150
	G 1/2-JIS	G 1/2 A-JIS	27	--	72	72	16	27	150
RK 4-...	G 3/4	G 3/4 A	32	30	82	80	16	36	200
	G 3/4-JIS	G 3/4 A-JIS	41	--	85	85	17	41	200
RK 5-...	G 1	G 1 A	39.9	--	100	88	18	46	200
RK 6-...	G 1 1/4	G 1 1/4 A	49.9	--	125	120	20	55	250

RK ... G, G-JIS
RB ... G, G-JIS



RK ... E, E-JIS
RB ... F, F-JIS



1 Thread seal

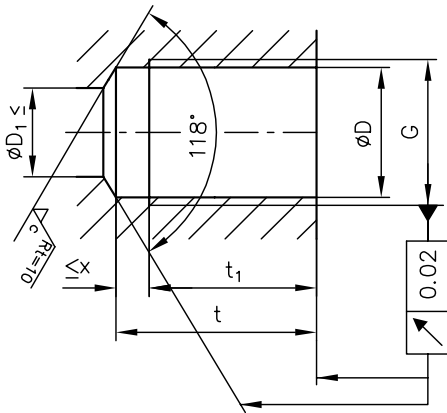
Outer cutting edge

- RK 1, RK 5 ... RK 7: Fitting seal
- RK...-JIS: O-ring
- RK...-UNF: O-ring

Type	G	G ₁	ØD	ØD ₂	L	L ₁	l	SW	Tightening torque (Nm)
Metric thread, low opening pressure									
RK 14 RB 14	M 14x1.5	M 14x1.5	19	--	46	42	12	19	40
RK 28 RB 28	M 18x1.5	M 18x1.5	24	23	50	44	12	24	80
RK 32 RB 32	M 22x1.5	M 22x1.5	26	24	56	52	14	30	150
RK 62	M 42x2	M 42x2	49.9	--	98	85	20	55	250
Metric thread, high opening pressure									
RK 14-...	M 14x1.5	M 14x1.5	19	17	55	50	12	19	40
RK 28-...	M 18x1.5	M 18x1.5	23	20.5	60	60	15	24	80
RK 32-...	M 22x1.5	M 22x1.5	27	25	68	63	14	27	150
RK 47-...	M 27x2	M 27x2	32	30	82	80	16	36	200
RK 62-...	M 42x2	M 42x2	49.9	--	125	120	20	55	250

4.3 Creating the mounting hole

For external line connection using pipe screw connection

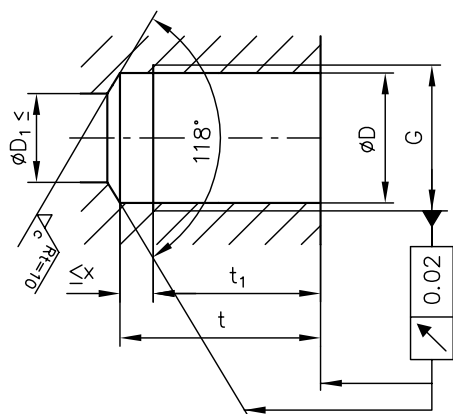


NOTE

End of the thread X adhere rigorously. Dimension X may be smaller, but not larger.

General tolerances in accordance with DIN ISO 2768-mk-E

Type	G (BSPP)	$\varnothing D$	$\varnothing D_1$	t	t ₁	x
Imperial thread, low opening pressure						
RK 0 RB 0	G 1/8	8.7	5	17	14.5	2.5
RK 1 RB 1 RB 1-1	G 1/4	11.8	8	23.5	20.5	3
RK 2 RB 2	G 3/8	15.25	9	26	23	3
RK 3 RB 3	G 1/2	19	12	30	26.5	3.5
RK 4 RB 4	G 3/4	24.5	16	37.5	33.5	4
RK 5	G 1	30.75	20	43.5	37.5	6
RK 6	G 1 1/4	39.25	23	51.5	45	6.5
RK 7	G 1 1/2	45.25	30	62	52	10
Imperial thread, high opening pressure						
RK 0-...	G 1/8	8.7	5	17	14.5	2.5
RK 1-...	G 1/4	11.8	6	36	31	5
RK 2-...	G 3/8	15.25	9	40	37	3
RK 3-...	G 1/2	19	12	46	42.5	3.5
RK 4-...	G 3/4	24.5	16	52	48.5	3.5
RK 5-...	G 1	30.75	20	57	48	10
RK 6-...	G 1 1/4	39.25	23	76	54	22

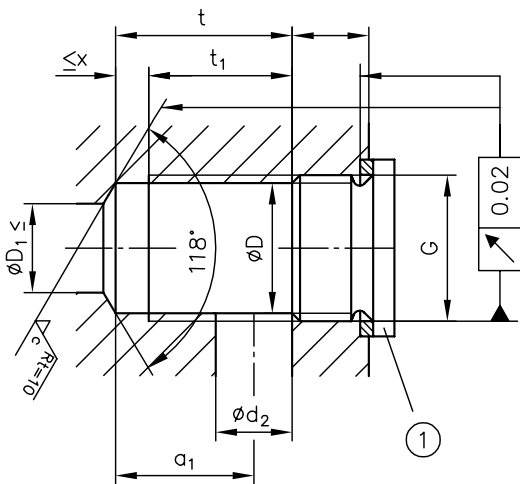

NOTE

End of the thread X adhere rigorously. Dimension X may be smaller, but not larger.

General tolerances in accordance with DIN ISO 2768-mk-E

Type	G	$\varnothing D$	$\varnothing D_1$	t	t ₁	x
Metric thread, low opening pressure						
RK 08 RB 08	M 8x1	7	4	14.5	12.5	2
RK 14 RB 14	M 14x1,5	12.5	8	23.5	20.5	3
RK 16	M 16x1,5	14.5	8	23.5	20.5	3
RK 28 RB 28	M 18x1,5	16.5	9	28	23	3
RK 32 RB 32	M 22x1,5	20.5	12	30	26.5	3.5
RK 47 RB 47	M 27x2	25	16	37.5	33.5	4
Metric thread, high opening pressure						
RK 14-...	M 14x1,5	12.5	6	36	31	5
RK 28-...	M 18x1,5	16.5	9	40	37	3
RK 32-...	M 22x1,5	20.5	12	46	42.5	3.5
RK 47-...	M 27x2	25	16	52	48.5	3.5
RK 62-...	M 42x2	40	23	76	54	22
UNF thread, low opening pressure						
RK 08 UNF RB 08 UNF	5/16-24 UNF	6.8	4	17	15	2
RK 0 UNF RB 0 UNF	7/16-20 UNF	9.8	5	17	14.5	2.5
RK 1 UNF RB 1 UNF	9/16-18 UNF	12.8	8	23.5	20.5	3
RK 2 UNF RB 2 UNF	3/4-16 UNF	17.3	9	26	23	3
RK 3 UNF RB 3 UNF	7/8-14 UNF	20.3	12	30	26.5	3.5
RK 4 UN RB 4 UN	1 1/16-12 UN	24.7	16	37.5	33.5	4

For internal conduits



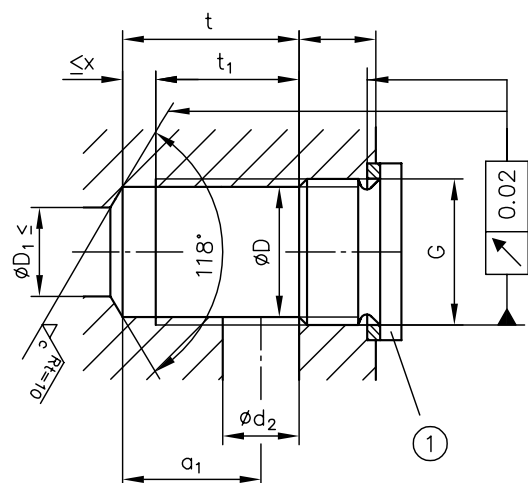
NOTE

End of the thread X adhere rigorously. Dimension X may be smaller, but not larger.

General tolerances in accordance with DIN ISO 2768-mk-E

1 Example:
Tapped plug DIN 908

Type	G (BSPP)	ØD	ØD ₁	t	t ₁	x	a ₁	Ød ₂
Imperial thread, low opening pressure								
RK 0 RB 0	G 1/8	8.7	5	12	9.5	2.5	9.5	5
RK 1 RB 1 RB 1-1	G 1/4	11.8	8	17	14	3	13	8
RK 2 RB 2	G 3/8	15.25	9	19	16	3	14.5	9
RK 3 RB 3	G 1/2	19	12	24	20.5	3.5	18	12
RK 4 RB 4	G 3/4	24.5	16	32	28	4	24	16
RK 5	G 1	30.75	20	40	34	6	30	20
RK 6	G 1 1/4	39.25	23	47.5	41	6.5	36	23
RK 7	G 1 1/2	45.25	30	62.5	52.5	10	47.5	30
Imperial thread, high opening pressure								
RK 0-...	G 1/8	8.7	5	12	9.5	2.5	9.5	5
RK 1-...	G 1/4	11.8	6	21	16	5	18	8
RK 2-...	G 3/8	15.25	9	27	22	5	23	9
RK 3-...	G 1/2	19	12	34.5	29.5	5	28.5	12
RK 4-...	G 3/4	24.5	16	44.5	34.5	10	36.5	16
RK 5-...	G 1	30.75	20	56	46.5	10	45.5	20
RK 6-...	G 1 1/4	39.25	23	76	54	22	64.5	23

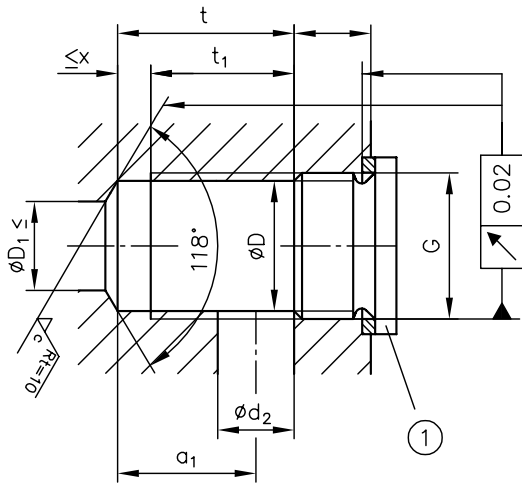


NOTE
End of the thread X adhere rigorously. Dimension X may be smaller, but not larger.

General tolerances in accordance with DIN ISO 2768-mk-E

1 Example:
Tapped plug DIN 908

Type	G	ØD	ØD ₁	t	t ₁	x	a ₁	Ød ₂
Metric thread, low opening pressure								
RK 08 RB 08	M 8x1	7	4	10	8	2	8	4
RK 14 RB 14	M 14x1,5	12.5	8	17	14	3	13	8
RK 16	M 16x1,5	14.5	8	17	14	3	13	8
RK 28 RB 28	M 18x1,5	16.5	9	19	16	3	14.5	9
RK 32 RB 32	M 22x1,5	20.5	12	24	20.5	3.5	18	12
RK 47 RB 47	M 27x2	25	16	32	28	4	24	16
Metric thread, high opening pressure								
RK 14-...	M 14x1,5	12.5	6	21	16	5	18	8
RK 28-...	M 18x1,5	16.5	9	27	22	5	23	9
RK 32-...	M 22x1,5	20.5	12	34.5	29.5	5	28.5	12
RK 47-...	M 27x2	25	16	44.5	34.5	10	36.5	16
RK 62-...	M 42x2	40	23	76	54	22	64.5	23



NOTE
End of the thread X adhere rigorously. Dimension X may be smaller, but not larger.

General tolerances in accordance with DIN ISO 2768-mk-E

1 Example:
Tapped plug DIN 908

Type	G	ØD	ØD ₁	t	t ₁	x	a ₁	Ød ₂
UNF thread, low opening pressure								
RK 08 UNF RB 08 UNF	5/16-24 UNF	6.8	4	10	8	2	7	4
RK 0 UNF RB 0 UNF	7/16-20 UNF	9.8	5	12	9.5	2.5	9	5
RK 1 UNF RB 1 UNF	9/16-18 UNF	12.8	8	17	14	3	12	8
RK 2 UNF RB 2 UNF	3/4-16 UNF	17.4	9	19	16	3	13.5	9
RK 3 UNF RB 3 UNF	7/8-14 UNF	20.3	12	24	20.5	3.5	16	12
RK 4 UN RB 4 UN	1 1/16-12 UN	24.7	16	32	28	4	22	16

5 Assembly, operation and maintenance recommendations

5.1 Intended use

This valve is exclusively intended for hydraulic applications (fluid engineering).

The user must observe the safety measures and warnings in this documentation.

Essential requirements for the product to function correctly and safely:

- All information in this documentation must be observed. This applies in particular to all safety measures and warnings.
- The product must only be assembled and put into operation by qualified personnel.
- The product must only be operated within the specified technical parameters. The technical parameters are described in detail in this documentation.
- All components must be suitable for the operating conditions in the event of application in an assembly.
- The operating and maintenance manual of the components, assemblies and the specific complete system must also always be observed.

If the product can no longer be operated safely:

1. Remove the product from operation and mark it accordingly.
- ✓ It is then not permitted to continue using or operating the product.

5.2 Assembly information

The product must only be installed in the complete system with standard and compliant connection components (screw fittings, hoses, pipes, fixtures etc.).

The product must be shut down correctly prior to dismantling (in particular in combination with hydraulic accumulators).



DANGER

Risk to life caused by sudden movement of the hydraulic drives when dismantled incorrectly!

Risk of serious injury or death.

- Depressurise the hydraulic system.
- Perform safety measures in preparation for maintenance.

5.2.1 Screw-in valve

i NOTE

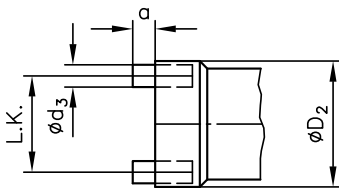
If stronger surges or vibrations are to be anticipated due to the mode of operation of the system in which the valves are used, the valves must be protected against loosening when screwing into the bore holes provided using Loctite by way of precaution.

5.2.2 Creating the mounting hole

See description in [Chapter 4, "Dimensions"](#).

5.2.3 Assembly tool for type RK

(in-house production)



Type	ØD ₂	a	Ød ₃	L.K.	Tool
RK 08	6.9	1.5	1.1	4-8	W7-223/78
RK 0	8.6	2	1.2	6.9±0.05	W7-223/37
RK 1, RK 14	11.5	2.5	1.8	8.9 _{-0.1}	W7-223/23
RK 16	14	2.5	2.5	11 _{-0.1}	--
RK 2, RK 28	15	2	2.5	11.1 _{-0.1}	W7-223/24
RK 3, RK 32	18.5	4	3	14.3 _{-0.1}	W7-223/25
RK 4, RK 47	24	4	4	18.6	W7-223/26
RK 1-..., RK 14-...	11.45	2.5	1.6	8.95	W7-223/56
RK 2-..., RK 28-...	14.8	3	1.8	12.1	W7-223/58
RK 3-..., RK 32-...	18.5	4	2.7	14.95	W7-223/55
RK 4-..., RK 47-...	24	6	3.3	19	W7-223/66
RK 5	30	8	4	23	W7-223/91
RK 5-...	30	8	4	23	W7-223/91
RK 6, RK 62	38	6	5.5	30	W7-223/90
RK 6-..., RK 62-...	38	6	5.2	30	W7-223/76
RK 7	45	8	6.5	35.5	W7-223/94

i NOTE

The number of drilled holes in the check valve matches the number of pins on the tool.

5.3 Operating instructions

Note product configuration and pressure / flow rate

The statements and technical parameters in this documentation must be strictly observed.
The instructions for the complete technical system must also always be followed.

i NOTE

- Read the documentation carefully before usage.
- The documentation must be accessible to the operating and maintenance staff at all times.
- Keep documentation up to date after every addition or update.

Purity and filtering of the hydraulic fluid

Fine contamination can significantly impair the function of the hydraulic component. Contamination can cause irreparable damage.

Examples of fine contamination include:

- Metal chips
- Rubber particles from hoses and seals
- Dirt due to assembly and maintenance
- Mechanical debris
- Chemical ageing of the hydraulic fluid

i NOTE

Neue Druckflüssigkeit vom Hersteller hat nicht unbedingt die erforderliche Reinheit.
Beim Einfüllen von Druckflüssigkeit ist diese zu filtern.

In order to maintain faultless operation, ensure that the cleanliness level of the hydraulic fluid is correct.
(See Cleanliness level in [Chapter 3, "Parameters"](#))

Additionally applicable document: [D 5488/1](#) Oil recommendations

5.4 Maintenance information

Conduct a visual inspection at regular intervals, but at least once per year, to check if the hydraulic connections are damaged. If external leakages are found, shut down and repair the system.

Clean the device surface of dust deposits and dirt at regular intervals, but at least once per year.

Further information

Additional versions

- Restrictor check valve type BC: D 6969 B
- Restrictor check valve type BE: D 7555 B
- Check valves, type RC: D 6969 R
- Check valve type RE: D 7555 R
- Check valve type CRK, CRB and CRH: D 7712