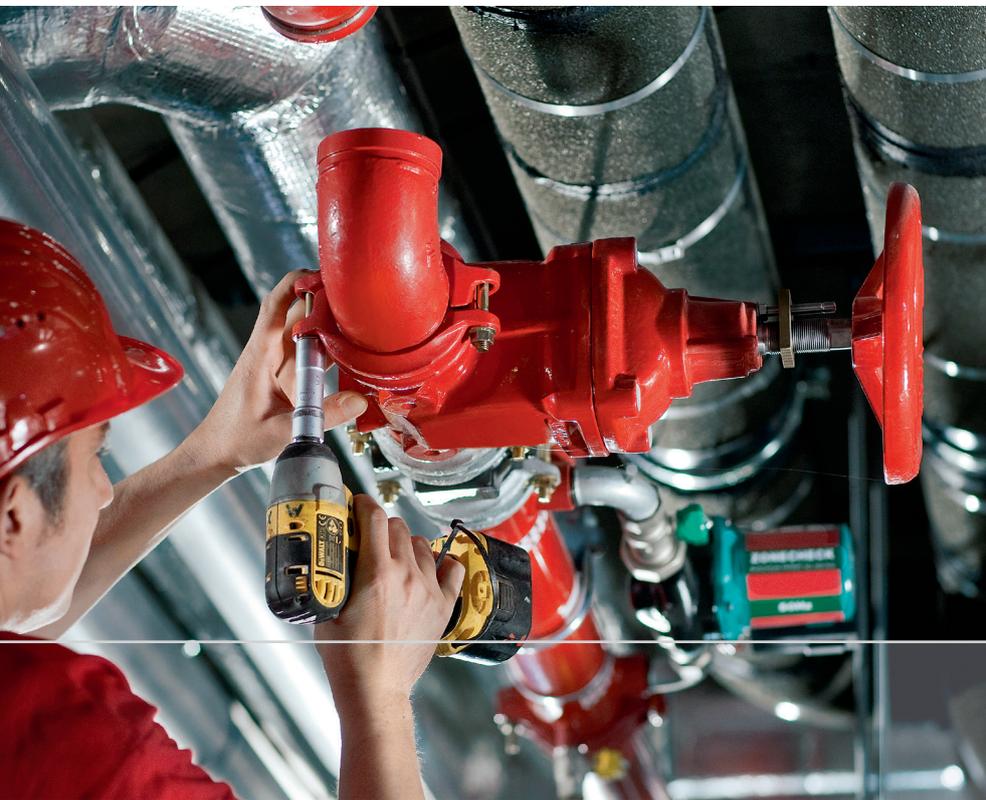




Valves and Accessories





FIREKING VALVES & ACCESSORIES

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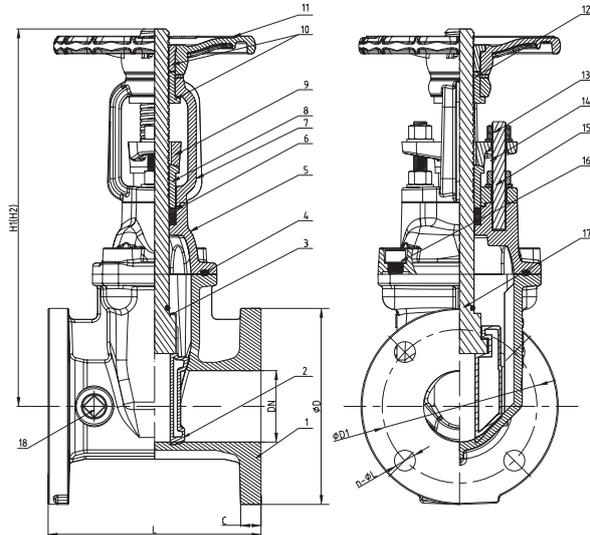
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Outside Screw and Yoke (OS&Y) Gate Valve - Flanged

OSF

Technical Features

- **Sizes available (Nominal) :** 2"/DN50, 2½"/DN65, 3"/DN80, 4"/DN100, 5"/DN125, 6"/DN150, 8"/DN200, 10"/DN250 and 12"/DN300
- **Pressure data :**
Working pressure : 300 psi (21 bar)
- **Seat type :** Resilient wedge
- **Finish :** Fusion bonded epoxy coated internal and external
- **Connections :** Flange diameter and thickness according to ANSI B16.1 Class 125, EN1092-2 PN10 or EN1092-2 PN16
- **Specifications :** Design and dimensions conform to AWWA C515.
- **Features :** Pre-notched, stainless steel stem for easy attachment of supervisory switch
- **Note :** Size 5" is only UL listed



Control Valves



Outside Screw and Yoke (OS&Y) Gate Valve - Flanged - OSF

Physical Data

Nominal Pipe Size		Dimensions (mm)								Reference*			Weight (kg)			
inch	Metric	L	H1 (Closed)	H2 (Open)	D	C	D1		n-ØL							
							ANSI	PN16	PN10	ANSI	PN16	PN10	ANSI	PN10	PN16	
2"	DN50	178	348	400	152	16.0	120.7		125	4-Ø19.1			OSF-0200	OSF-0200PN		14.7
2½"	DN65	190	373	440	178	17.5	139.7		145	4-Ø19.1			OSF-0250	OSF-0250PN		17.7
3"	DN80	203	408	490	191	19.1	152.4		160	4-Ø19.1	8-Ø19.1		OSF-0300	OSF-0300PN		23.1
4"	DN100	229	471	573	229	19.1	190.5		180	8-Ø19.1	8-Ø19.1		OSF-0400	OSF-0400PN		31.6
5"	DN125	254	541	665	254	19.1	215.9		210	8-Ø22.2	8-Ø19.1		OSF-0500**	OSF-0500PN**		42.2
6"	DN150	267	601	755	279	19.1	241.3		240	8-Ø22.2	8-Ø23		OSF-0600			53.2
8"	DN200	292	774	975	343	22.2	298.5		295	8-Ø22.2	12-Ø23	8-Ø23	OSF-0800	OSF-0800PN10	OSF-0800PN16	91.3
10"	DN250	330	939	1193	406	23.8	362.0	355	350	12-Ø25.4	12-Ø28	12-Ø23	OSF-1000	OSF-1000PN10	OSF-1000PN16	134.6
12"	DN300	356	1065	1370	483	25.4	431.8	410	400	12-Ø25.4	12-Ø28	12-Ø23	OSF-1200	OSF-1200PN10	OSF-1200PN16	200.0

* Valve flange drilling (size and location of bolt holes and pitch circle diameter) allows mating with the following flange types :

ANSI = ANSI B16.1 Class 125 PN10 = DIN 2501, BS 4504, EN 1092 - PN10 PN16 = DIN 2501, BS 4504, EN 1092 - PN16

** UL Listed only

Outside Screw and Yoke (OS&Y) Gate Valve - Flanged - OSF

Materials List

Item	Description	Material	Specification	Item	Description	Material	Specification
1	Valve Body	Ductile Iron	ASTM A536, 65-45-12	10	Stem Nut	Brass	HPb59-1
2	Wedge Disc	Ductile Iron	ASTM A536, 65-45-12 & EPDM	11	Handwheel	Ductile Iron	ASTM A536, 65-45-12
3	Stem	Stainless Steel	AISI 420	12	Washer	Brass	HPb59-1
4	Bonnet Gasket	EPDM	Commercial	13	Gland Nut	Carbon Steel	Zinc Plated
5	Bonnet	Ductile Iron	ASTM A536, 65-45-12	14	Stud	Carbon Steel	Zinc Plated
6	Washer	Brass	HPb59-1	15	Flat Washer	Carbon Steel	Zinc Plated
7	Yoke	Ductile Iron	ASTM A536, 65-45-12	16	Bolt	Carbon Steel	Zinc Plated
8	Stem Bushing	Brass	HPb59-1	17	O-Ring	EPDM	Commercial
9	Gland	Ductile Iron	ASTM A536, 65-45-12	18	Plug	Bronze	ASTM B583 C89833

FireKing™ is a trademark of The Viking Corporation. Specifications subject to change without notice.

Outside Screw and Yoke (OS&Y) Gate Valve - Flanged

OSF

Installation

1. Piping systems and valves should be thoroughly cleaned and free from ingress of foreign materials.
2. Visually inspect the valve seating and ports for cleanliness immediately prior to installation.
3. All valves should be independently supported against movement and stress from the connected piping system.
4. Ensure that the valve pressure rating is compatible with service conditions.
5. Operate the valve at least once from the open to closed position.
6. Verify that packing nuts are tight before pressurizing the system.
7. Gate valves are not suitable for throttling applications.
8. Gate valves should be installed in the vertical position on horizontal pipework and in the horizontal position on vertical pipework.

Operation

Gate valves are manually operated multi-turn valves and are opened by a handwheel or other operating device, generally in a counter clockwise direction and then closed clockwise.

Closing Torque for Gate Valve Handwheel		
Size		Closing Torque Nm
2"	DN50	27
2½"	DN65	38
3"	DN80	65
4"	DN100	80
5"	DN125	100
6"	DN150	125
8"	DN200	160
10"	DN250	240
12"	DN300	300
14"	DN350	306

Inspection and Maintenance

1. Valves should be inspected periodically and should be cycled to prevent buildup of foreign materials in the piping system and valve body.
2. In the event of a packing leak adjust the packing nuts to increase pressure on the stem packing. Packing nuts should be tightening evenly approximately a quarter turn in a clockwise direction.
3. Always shut down the system before repacking the valve. Valves are designed with backseats for repacking under pressure but this is not recommended.

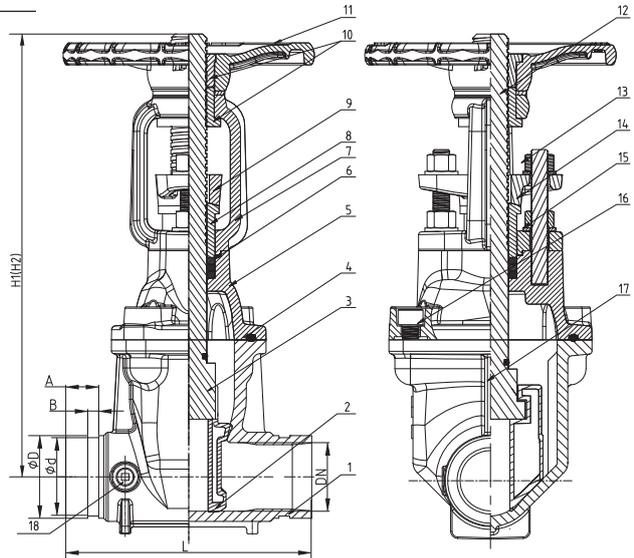


Outside Screw and Yoke (OS&Y) Gate Valve - Grooved

OSG

Technical Features

- **Sizes available (Nominal) :** 2"/DN50, 2½"/DN65, 3"/DN80, 4"/DN100, 5"/DN125, 6"/DN150, 8"/DN200, 10"/DN250 and 12"/DN300
- **Working pressure :** 21 bar (300 psi)
- **Seat Type:** Resilient wedge
- **Finish :** Fusion bonded epoxy coating internal and external
- **Connections :** Grooved metric or AWWA C606 standard
- **Specification :** Design and dimensions conform to AWWA C515
- **Features :** Pre-notched, stainless steel stem for easy attachment of supervisory switch
- **Note :** Size 5" is only UL listed



Outside Screw and Yoke (OS&Y) Gate Valve - Grooved - OSG

Physical Data

Nominal Pipe Size	Pipe O.D.	Dimensions (mm)							Reference	Weight (kg)
		Metric	inch	(mm)	L	H1 (Closed)	H1 (Open)	d		
DN50	2"	60.3	178	348	400	57.2	15.9	7.9	OSG-0200	11.4
DN65	2½"	73.0	190	373	440	69.1	15.9	7.9	OSG-0250-073	12.5
		76.1				72.3			OSG-0250-076	
DN80	3"	88.9	203	408	490	84.9	15.9	7.9	OSG-0300	16.9
DN100	4"	114.3	229	471	573	110.1	15.9	9.5	OSG-0400	24.2
DN125	5"	139.7	254	541	665	135.5	15.9	9.5	OSG-0500-139*	33.5
		141.3				137.0			OSG-0500-141*	
DN150	6"	165.1	267	601	755	160.9	15.9	9.5	OSG-0600-165	41.3
		168.3				164.0			OSG-0600-168	
DN200	8"	219.1	292	774	975	214.4	19.1	11.1	OSG-0800	73.7
DN250	10"	273.0	330	939	1193	268.3	19.1	12.7	OSG-1000	124.3
DN300	12"	323.9	356	1065	1370	318.3	19.1	12.7	OSG-1200	174.5

* UL Listed only

Outside Screw and Yoke (OS&Y) Gate Valve - Grooved - OSG

Materials List

Item	Description	Material	Specification	Item	Description	Material	Specification
1	Valve Body	Ductile Iron	ASTM A536, 65-45-12	10	Stem Nut	Brass	HPb59-1
2	Wedge Disc	Ductile Iron	ASTM A536, 65-45-12 & EPDM	11	Handwheel	Ductile Iron	ASTM A536, 65-45-12
3	Stem	Stainless Steel	AISI 420	12	Washer	Brass	HPb59-1
4	Bonnet Gasket	EPDM	Commercial	13	Gland Nut	Carbon Steel	Zinc Plated
5	Bonnet	Ductile Iron	ASTM A536, 65-45-12	14	Stud	Carbon Steel	Zinc Plated
6	Washer	Brass	HPb59-1	15	Flat Washer	Carbon Steel	Zinc Plated
7	Yoke	Ductile Iron	ASTM A536, 65-45-12	16	Bolt	Carbon Steel	Zinc Plated
8	Stem Bushing	Brass	HPb59-1	17	O-Ring	EPDM	Commercial
9	Gland	Ductile Iron	ASTM A536, 65-45-12	18	Plug	Bronze	ASTM B583 C89833

FireKing™ is a trademark of The Viking Corporation. Pressure ratings require the use of couplings with equivalent pressure ratings. Rigid couplings are recommended for all valve end connections. Specifications subject to change without notice.

Outside Screw and Yoke (OS&Y) Gate Valve - Grooved

OSG

Installation

1. Piping systems and valves should be thoroughly cleaned and free from ingress of foreign materials.
2. Visually inspect the valve seating and ports for cleanliness immediately prior to installation.
3. All valves should be independently supported against movement and stress from the connected piping system.
4. Ensure that the valve pressure rating is compatible with service conditions.
5. Operate the valve at least once from the open to closed position.
6. Verify that packing nuts are tight before pressurizing the system.
7. Gate valves are not suitable for throttling applications.
8. Gate valves should be installed in the vertical position on horizontal pipework and in the horizontal position on vertical pipework.

Inspection and Maintenance

1. Valves should be inspected periodically and should be cycled to prevent buildup of foreign materials in the piping system and valve body.
2. In the event of a packing leak adjust the packing nuts to increase pressure on the stem packing. Packing nuts should be tightening evenly approximately a quarter turn in a clockwise direction.
3. Always shut down the system before repacking the valve. Valves are designed with backseats for repacking under pressure but this is not recommended.

Operation

Gate valves are manually operated multi-turn valves and are opened by a handwheel or other operating device, generally in a counter clockwise direction and then closed clockwise.



Closing Torque for Gate Valve Handwheel		
Size		Closing Torque Nm
2"	DN50	27
2½"	DN65	38
3"	DN80	65
4"	DN100	80
5"	DN125	100
6"	DN150	125
8"	DN200	160
10"	DN250	240
12"	DN300	300
14"	DN350	306

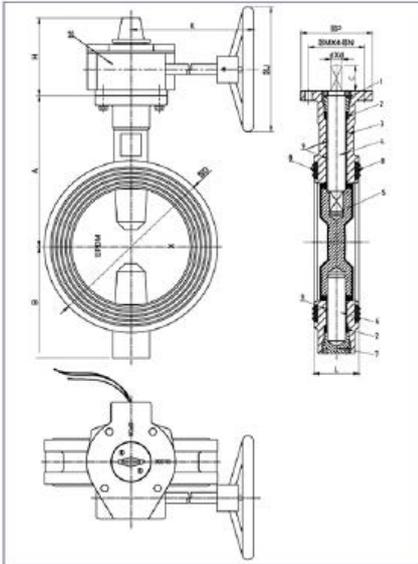
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Butterfly Valves (Wafer) - UL/FM

Model BVW-4

Technical Features

- **Sizes available (Nominal) :** DN50/2", DN65/2-1/2", DN80/3", DN100/4", DN125/5", DN150/6", DN200/8", DN250/10" & DN300/12"
- **Approvals:** UL (2" to 12") & FM (2-1/2" to 8")
- **Pressure data :**
Working pressure: 21 bar (300 PSI) - UL/FM
Test pressure: Max. 42 bar (600 PSI)
- **Maximum working temperature:** 120°C (250°F)
- **Operation :** Gear operated
- **Application:** Indoor and Outdoor



Control Valves

Carried Standard	
Design Standard	API609
Face to Face Standard	ASME B16.10
Top flange Standard	ISO 5211
Test Standard	FM 1112/UL1091

NO.	Name	Material
1	Upper Shaft Sealing Nut	WCB
2	Shaft Seal	EPDM
3	Body	DI
4	Upper Shaft	SS416
5	Disc	DI+EPDM
6	Lower Shaft	SS416
7	Lower Shaft Sealing Nut	WCB
8	End Face Seal	EPDM
9	Stem Bushing	PTFE
10	Signal Gearbox	DI

SIZE CHART

SIZE	ITEM	A	B	C	D	H	K		J	P	M	N	d	L
2"		110	85	32	100	111	153	218	152	90	70	9	10	42
2-1/2"		125	95	32	112	111	153	218	152	90	70	9	10	44.2
3"		140	100	32	120	111	153	218	152	90	70	9	11	45.3
4"		160	100	32	161	111	153	218	152	90	70	9	14	52
5"		170	125	32	182	111	153	218	152	90	70	9	14	54.4
6"		190	140	32	216	111	153	218	200	90	70	9	16	55.8
8"		230	175	32	260	126	210	232	300	125	102	12	19	60.5
10"		260	200	45	320	126	210	232	300	125	102	12	24	66.5
12"		300	240	45	375	161	249		350	150	125	14	26	76.9

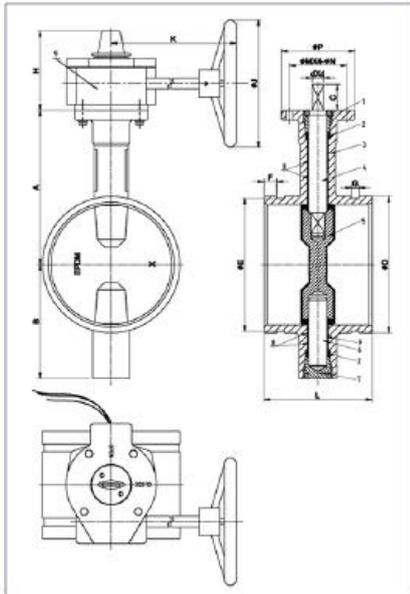
FireKing™ is a trademark of The Viking Corporation. Refer to Manufacturer's datasheet. Specifications subject to change without notice.

Butterfly Valves (Grooved) - UL/FM

Model BVG-7

Technical Features

- **Sizes available (Nominal)** : DN50/2", DN65/2-1/2", DN80/3", DN100/4", DN125/5", DN150/6", DN200/8", DN250/10" & DN300/12"
- **Approvals**: UL (2" to 12") & FM (2-1/2" to 8")
- **Pressure data** :
Working pressure: 21 bar (300 PSI) - UL/FM
Test pressure: Max. 42 bar (600 PSI)
- **Maximum working temperature**: 120°C (250°F)
- **Operation** : Gear operated
- **Application**: Indoor and Outdoor



Control Valves

Carried Standard	
Design Standard	API609
Face to Face Standard	ANSI/AWWA C606
Top flange Standard	ISO 5211
Test Standard	FM 1112/UL1091

NO.	Name	Material
1	Upper Shaft Sealing Nut	WCB
2	Shaft Seal	EPDM
3	Body	DI
4	Upper Shaft	SS416
5	Disc	DI+EPDM
6	Lower Shaft	SS416
7	Lower Shaft Sealing Nut	WCB
8	Stem Bushing	PTFE
9	Signal Gearbox	DI

SIZE CHART

SIZE \ ITEM	A	B	C	D	E	F	G	H	K	J	P	M	N	d	L	
2"	110	85	32	60.3	57.15	15.9	7.9	111	218	153	152	90	70	9	10	88
2-1/2"	125	95	32	73	69.1	15.9	7.9	111	218	153	152	90	70	9	10	96.4
				76.1	72.3											
3"	140	100	32	88.9	84.9	15.9	7.9	111	218	153	152	90	70	9	11	97
4"	160	100	32	114.3	110.1	15.9	9.5	111	218	153	152	90	70	9	14	115.1
5"	170	125	32	139.7	135.5	15.9	9.5	111	218	153	152	90	70	9	14	132.4
				141.3	137											
6"	190	140	32	165.1	160.9	15.9	9.5	111	218	153	200	90	70	9	16	132.4
				168.3	164											
8"	230	175	32	216.3	211.6	19	11.1	126	232	210	300	125	102	12	19	147.4
				219.1	214.4											
10"	260	200	45	267.4	262.6	19	12.7	126	232	210	300	125	102	12	24	159
				273	268.3											
12"	300	240	45	318.5	312.9	19	12.7	161	249	350	150	125	14	26	165	
				323.8	318.3											

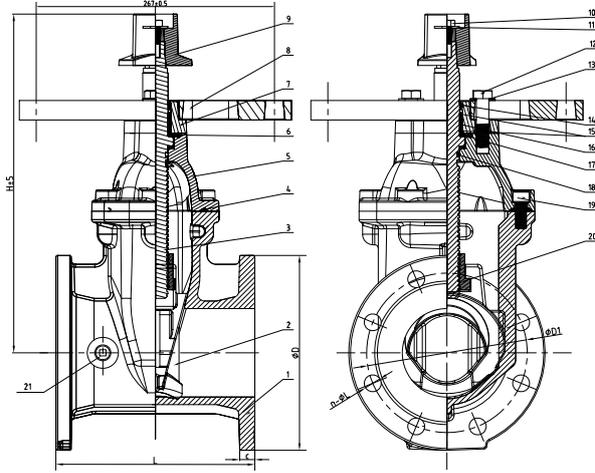
FireKing™ is a trademark of The Viking Corporation. Pressure ratings require the use of couplings with equivalent pressure ratings. Rigid couplings are recommended for all valve end connections. Refer to Manufacturer's datasheet. Specifications subject to change without notice.

Post Indicator Valve - Flanged

PIF & PIF2

Technical Features

- **Sizes available (Nominal) :** 2"/DN50, 2½"/DN65, 3"/DN80, 4"/DN100, 5"/DN125, 6"/DN150, 8"/DN200, 10"/DN250 and 12"/DN300
- **Working pressure :** 21 bar (300 psi)
- **Seat type :** Resilient wedge
- **Finish :** Fusion bonded epoxy coated internal & external
- **Connections :** Flange diameter and thickness according to ANSI B16.1 Class 125, EN1092-2 PN10 or EN1092-2 PN16
- **Specifications :** Design and dimensions conform to AWWA C515
- **Operation :** For use with IPV or IPW indicator posts
- **Remark :** No post flange supplied with 2", 2½" & 3", and size 2" is FM approved only and size 5" is UL listed only



* Image depicts 4"-14" sizes, 2"-3" not supplied with Post Plate



Post Indicator Valve - Flanged - PIF & PIF2

Physical Data

Nominal Pipe Size		Dimensions (mm)									Reference****			Weight (kg)	
inch	Metric	L	H	D	C	D1			n-ØL			ANSI	PN10		PN16
						ANSI	PN16	PN10	ANSI	PN16	PN10				
2**	DN50***	178	278	152	16.0	120.7	125	4-Ø19.1			PIF-0200	PIF-0200PN		12.9	
2½"	DN65***	190	300	178	17.5	139.7	145	4-Ø19.1			PIF-0250	PIF-0250PN		15.9	
3"	DN80***	203	321	191	19.1	152.4	160	4-Ø19.1	8-Ø19.1		PIF-0300	PIF-0300PN		20.9	
4"	DN100	229	395	229	19.1	190.5	180	8-Ø19.1	8-Ø19.1		PIF-0400	PIF-0400PN		35.7	
5**	DN125	254	432	254	19.1	215.9	210	8-Ø22.2	8-Ø19.1		PIF-0500	PIF-0500PN		44.6	
6"	DN150	267	475	279	19.1	241.3	240	8-Ø22.2	8-Ø23		PIF-0600			54.2	
8"	DN200	292	585	343	22.2	298.5	295	8-Ø22.2	12-Ø23	8-Ø23	PIF-0800	PIF-0800PN10	PIF-0800PN16	86.1	
10"	DN250	330	656	406	23.8	362.0	355 350	12-Ø25.4	12-Ø28	12-Ø23	PIF-1000	PIF-1000PN10	PIF-1000PN16	117.2	
12"	DN300	256	751	483	25.4	431.8	410 400	12-Ø25.4	12-Ø28	12-Ø23	PIF-1200	PIF-1200PN10	PIF-1200PN16	180.0	

* FM Approved only ** UL Listed only *** No post plate - flange supplied , UL Listed as PIF2, **** Valve flange drilling (size and location of bolt holes and pitch circle diameter) allows mating with the following flange types :

ANSI = ANSI B16.1 Class 125 PN10 = DIN 2501, BS 4504, EN 1092 - PN10 PN16 = DIN 2501, BS 4504, EN 1092 - PN16

Post Indicator Valve - Flanged - PIF & PIF2

Materials List

Item	Description	Material	ASTM Specifications	Item	Description	Material	ASTM Specifications
1	Valve Body	Ductile Iron	ASTM A536 64-45-12	12	Bolt	Carbon Steel	Zinc Plated
2	Wedge Disc	Ductile Iron	ASTM A536 64-45-12 & EPDM	13	Flat Washer	Carbon Steel	Zinc Plated
3	Stem	Stainless Steel	AISI 431	14	Ring Wiper	EPDM	Commercial
4	Bonnet Gasket	EPDM	Commercial	15	O-Ring	NBR	Commercial
5	Bonnet	Ductile Iron	ASTM A536 64-45-12	16	Axis Guide	Brass	Hpb59-1
6	O-Ring	NBR	Commercial	17	Washer	Brass	Hpb59-1
7	Gland	Ductile Iron	ASTM A536 64-45-12	18	O-Ring	NBR	Commercial
8	Post Flange	Ductile Iron	ASTM A536 64-45-12	19	Bolt	Carbon Steel	Zinc Plated
9	Square Operating Nut	Ductile Iron	ASTM A536 64-45-12	20	Wedge Nut	Brass	Hpb59-1
10	Bolt	Carbon Steel	Zinc Plated	21	Plug	Bronze	ASTM B584 C89833
11	Flat Washer	Carbon Steel	Zinc Plated				

FireKing™ is a trademark of The Viking Corporation. Specifications subject to change without notice.

Post Indicator Valve - Flanged

PIF & PIF2

Installation

1. Piping systems and valves should be thoroughly cleaned and free from ingress of foreign materials.
2. Visually inspect the valve seating and ports for cleanliness immediately prior to installation.
3. All valves should be independently supported against movement and stress from the connected piping system.
4. Ensure that the valve pressure rating is compatible with service conditions.
5. Operate the valve at least once from the open to closed position.
6. Gate valves are not suitable for throttling applications.
7. Gate valves should be installed in the vertical position on horizontal pipework and in the horizontal position on vertical pipework.
8. See indicator post datasheet for further installation instructions.

Operation

Gate valves are manually operated multi-turn valves and are opened by a handwheel or other operating device, generally in a counter clockwise direction and then closed clockwise.

Inspection and Maintenance

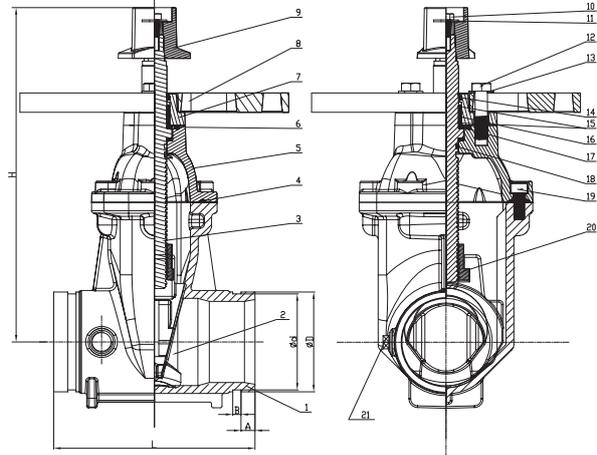
1. Valves should be inspected periodically and should be cycled to prevent buildup of foreign materials in the piping system and valve body.



Post Indicator Valve - Grooved PIG & PIG2

Technical Features

- **Sizes available (Nominal) :** 2"/DN50, 2½"/DN65, 3"/DN80, 4"/DN100, 5"/DN125, 6"/DN150, 8"/DN200, 10"/DN250 and 12"/DN300
- **Working pressure :** 21 bar (300 psi)
- **Seat Type:** Resilent wedge
- **Finish :** Fusion bonded epoxy coating internal and external
- **Connections :** Grooved metric or AWWA C606 standard
- **Specification :** Design and dimensions conform to AWWA C515
- **Operation :** For use with IPV or IPW indicator posts
- **Remark :** No post flange supplied with 2", 2½" & 3", and size 2" is FM approved only and size 5" is UL listed only



* Image depicts 4"-14" sizes, 2"-3" not supplied with Post Plate



Post Indicator Valve - Grooved - PIG & PIG2

Physical Data

Nominal Pipe Size		Dimensions (mm)						Reference	Weight (kg)
Metric	inch	L	H	D	d	A	B		
DN50*	2"	178	278	60.3	57.2	15.9	7.9	PIG-0200	9.9
DN65*	2½"	190	296	73.0	69.1	15.9	7.9	PIG-0250-073 PIG-0250-076	10.9
				76.1	72.3				
DN80*	3"	203	322	88.9	84.9	15.9	7.9	PIG-0300	15.4
DN100	4"	229	395	114.3	110.1	15.9	9.5	PIG-0400	28.1
DN125	5"	254	432	139.7	135.5	15.9	9.5	PIG-0500-139 PIG-0500-141	35.9
				141.3	137.0				
DN150	6"	267	475	165.1	160.9	15.9	9.5	PIG-0600-165 PIG-0600-168	42.4
				168.3	164.0				
DN200	8"	295	585	219.1	214.4	19.0	11.1	PIG-0800	68.4
DN250	10"	330	656	273.0	268.3	19.0	12.7	PIG-1000	105.4
DN300	12"	356	751	323.9	318.3	19.0	12.7	PIG-1200	156.1

* UL Listed as Model PIG2

Post Indicator Valve - Grooved - PIG & PIG2

Materials List

Item	Description	Material	ASTM Specifications	Item	Description	Material	ASTM Specifications
1	Valve Body	Ductile Iron	ASTM A536 64-45-12	12	Bolt	Carbon Steel	Zinc Plated
2	Wedge Disc	Ductile Iron	ASTM A536 64-45-12 & EPDM	13	Flat Washer	Carbon Steel	Zinc Plated
3	Stem	Stainless Steel	1Cr17Ni2	14	Ring Wiper	EPDM	Commercial
4	Bonnet Gasket	EPDM	Commercial	15	O-Ring	NBR	Commercial
5	Bonnet	Ductile Iron	ASTM A536 64-45-12	16	Axis Guide	Brass	Hpb59-1
6	O-Ring	NBR	Commercial	17	Washer	Brass	Hpb59-1
7	Gland	Ductile Iron	ASTM A536 64-45-12	18	O-Ring	NBR	Commercial
8	Post Flange	Ductile Iron	ASTM A536 64-45-12	19	Bolt	Carbon Steel	Zinc Plated
9	Square Operating Nut	Ductile Iron	ASTM A536 64-45-12	20	Wedge Nut	Brass	Hpb59-1
10	Bolt	Carbon Steel	Zinc Plated	21	Plug	Bronze	ASTM B584 C89833
11	Flat Washer	Carbon Steel	Zinc Plated				

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Post Indicator Valve - Grooved PIG & PIG2

Installation

1. Piping systems and valves should be thoroughly cleaned and free from ingress of foreign materials.
2. Visually inspect the valve seating and ports for cleanliness immediately prior to installation.
3. All valves should be independently supported against movement and stress from the connected piping system.
4. Ensure that the valve pressure rating is compatible with service conditions.
5. Operate the valve at least once from the open to closed position.
6. Gate valves are not suitable for throttling applications.
7. Gate valves should be installed in the vertical position on horizontal pipework and in the horizontal position on vertical pipework.
8. See indicator post datasheet for further installation instructions.

Operation

Gate valves are manually operated multi-turn valves and are opened by a handwheel or other operating device, generally in a counter clockwise direction and then closed clockwise.

Inspection and Maintenance

1. Valves should be inspected periodically and should be cycled to prevent buildup of foreign materials in the piping system and valve body.



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Vertical Indicator Post

IPV

IPV - Vertical Indicator Post

Physical Data

Reference	Dimensions (mm/inch)						Weight (kg)
	A	B	C	D	E	F	
IVP	1270	1006	759.5	292	190	305	98.7

IPV - Vertical Indicator Post

Trench Depth

Reference	Unit	Trench Depth according to Valve Size									
		DN100/4"		DN150/6"		DN200/8"		DN250/10"		DN300/12"	
		Min.	Max	Min.	Max	Min.	Max	Min.	Max	Min.	Max
IVP	mm	958	1808	1073	1923	1200	2050	1314	2164	1448	2298

IPV - Vertical Indicator Post

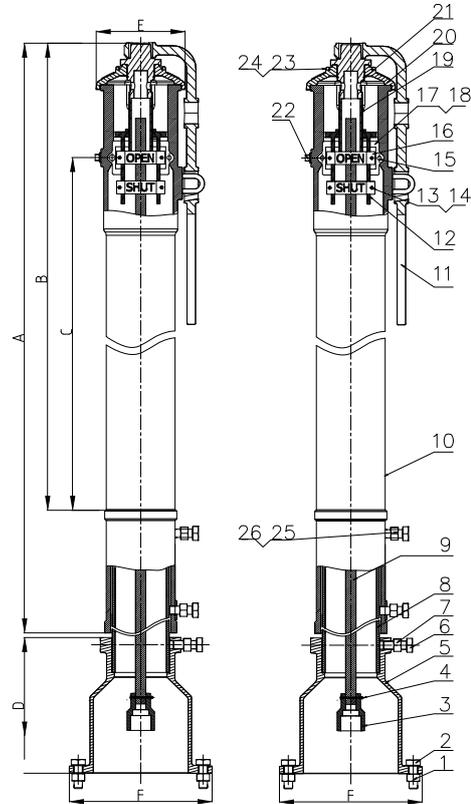
Specifications

- Indicator of "Open" and "Shut" positions
- Used to operate a buried or hidden post indicator valve
- 850 mm adjustment range
- Wrench handle fits over a "U" bracket on the barrel, this can be fixed with a padlock to secure the operating wrench to the barrel
- Internally and externally coated in red epoxy RAL3000
- 2.5 m long stem bar is supplied

IPV

Materials List

Item	Part	Material	Specification	Part Number	Weight (kg.)
1	Hex Nut	Carbon Steel Zinc Plated		-	-
2	Hex Bolt	Carbon Steel Zinc Plated		-	-
3	Socket	Ductile Iron	A536, 65-45-12	IPV-SOCK	2.42
4	Cotter Pin	Stainless Steel	AISI 304	IPV-COTT	0.02
5	Base Flange	Cast Iron	ASTM A126 Class B	IPV-BF	14.52
6	Hex Bolt	Carbon Steel Zinc Plated		-	-
7	Hex Nut	Carbon Steel Zinc Plated		-	-
8	Standpipe	Carbon Steel	ASTM A53	-	-
9	Stem 1" Square	Carbon Steel	AISI 1045	IPV-STEM	12.18
10	Body	Cast Iron	ASTM A126 Class B	-	-
11	Locking Wrench	Ductile Iron	A536, 65-45-12	IPV-WREN	3.56
12	Target Carrier Nut	Stainless Steel	AISI 304	-	-
13	Hex Bolt	Carbon Steel Zinc Plated		-	-
14	Hex Nut	Carbon Steel Zinc Plated		-	-
15	Hex Bolt	Carbon Steel Zinc Plated		-	-
16	Target - Open	Cast Aluminum		IPV-OPEN	0.07
	Target - Shut		IPV-SHUT	0.07	
17	Window Class	Plexiglass		IPV-WIN	0.03
18	Window Gasket	PTFE		IPV-WG	0.01
19	Operating Nut	Stainless Steel	AISI 304	-	-
20	Top Section	Cast Iron	ASTM A126 Class B	-	-
21	Snap Ring		AISI 1066	-	-
22	Plug	Malleable Iron Galvanized		-	-
23	Square Nut	Carbon Steel Zinc Plated		-	-
24	Hex Bolt	Carbon Steel Zinc Plated		-	-
25	Hex Bolt	Carbon Steel Zinc Plated		-	-
26	Hex Nut	Carbon Steel Zinc Plated		-	-



Indicator Posts



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Vertical Indicator Post

IPV

Installation

NOTE: Ensure that the post indicator valve is in the fully open position before installing the Vertical Indicator Post.

1.) Disassemble the Indicator Post

Take off the Locking Wrench (11), loosen the two Hex bolt (24) and Square Nut (23) and remove the Top Section (20), operating nut assembly and the Square Stem (9) as well as the socket (3). Slide off the Body (10) from the Standpipe (8) by loosening the two Hex Bolts (6) and Hex Nuts (7), slide off the Standpipe (8) from the Base Flange (5).

2.) Install the Base Flange and Lower Standpipe

Attach the Base Flange (5) together with the Standpipe (8) to the Post Flange of the post indicator valve using the four Hex nuts (1) and Hex bolts (2). Fix the Standpipe (8) to the Base Flange (5) using the Hex Bolt (6) and Hex Nut (7).

3.) Adjust the Ground Line Mark

Pull the Body (10) over the Standpipe (8) until the Ground Line Mark on the Body (10) is the same height as the ground level. Tighten the two Hex Nuts (6) and Hex Bolts (7).

4.) Adjust the Square Stem

Lower the Stem (9) into the Body (10) such that the socket (3) fits over the operating nut of the post indicator valve.

Ensure that Stem (9) engages the Operating Nut (19) a minimum of 2" but no more than 4.5". To check for correct engagement, the end of stem should be 2 to 4 inches below the top of the Body (10).

5.) Adjust the Targets

Remove the Target Carrier Assembly (12, 13 & 14) from inside the Body (10) by rotating the Operating Nut (19) counter-clockwise. The "Open" Target (16) and "Shut" Target (16) are adjusted up and down on the Target Carrier Assembly (12, 13 & 14) by pulling the middle section of the Target (Open & Shut) a small distance away from the Target Carrier Assembly (12, 13 & 14) and sliding the Target (Open & Shut) up or down as desired.

- If the post indicator valve is opened by turning the handwheel counter clockwise:

Move the two Open Targets (16) to the very top

of the Target Carrier Assembly. Locate the two "Shut" Targets according to the size of the post indicator valve size (stem) turning distance.

- If the post indicator valve is opened by turning the handwheel clockwise:

Move the two "Shut" Targets to the very top of the Target Carrier Assembly (12, 13 & 14). Locate the two "Open" Targets (16) according to the size of the post indicator valve (stem) turning distance.

6.) Final Assembly and Test

Insert the Target Carrier Assembly (12, 13 & 14) back into the Top Section (20) by rotating the Operating Nut (19) clockwise. Rotate the Operating Nut (19) until the "Open" Target (16) is centered in the window of the Body (10). Lower the Top Section (20) with the Target Carrier Assembly (12, 13 & 14) onto the Body (10), carefully ensuring that the Stem (9) engages with the Operating Nut (19) at least 50mm (2 in) but not more than 120mm (4.5 in). Secure the Top Section (20) to the Body (10) by tightening the hex bolt (24) and Square Nut (23). Close the post indicator valve and check to make sure that the "Shut" Target is properly centered in the window of the Body (10) and adjust as necessary.

Maintenance

Lubrication

Oil the bearing in the Top Section (20) at least once a year by adding several drops of oil in the hole located on the top of the Operating Nut (19).



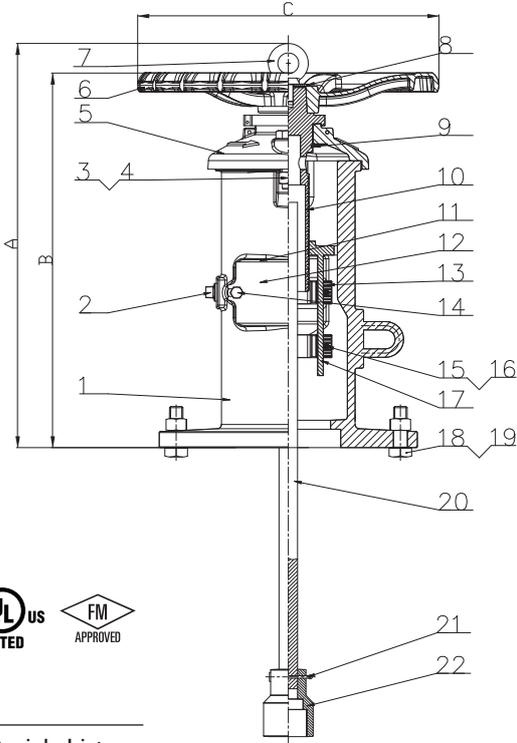
Horizontal Wall Post Indicator

IPW

IPW - Wall Type Indicator Post				Physical Data
Reference	Dimensions (mm)			Weight (kg)
	A	B	C	
IPW	497	447	356	40.5

IPW Specifications

- Indicator of "Open" and "Shut" positions
- Used to operate post indicator valves
- 12" OD post flange for wall mounting
- Handwheel operation
- Internally and externally coated in red epoxy RAL3000
- 1m long stem bar is supplied



IPW				Materials List	
Item	Part	Material	Specification	Part Number	Weight (kg.)
1	Body	Cast Iron	ASTM A126 Class B	-	-
2	Plug	Malleable Iron - Galvanized		-	-
3	Square Nut	Carbon Steel - Zinc Plated		-	-
4	Hex Bolt	Carbon Steel - Zinc Plated		-	-
5	Cover	Cast Iron	ASTM A126 Class B	-	-
6	Hand wheel	Ductile Iron	A536, 65-45-12	IPW-HW	3.62
7	Eye Bolt	Carbon Steel - Zinc Plated		-	-
8	Washer	Carbon Steel - Zinc Plated		-	-
9	Snap Ring		AISI 1066	-	-
10	Operating nut	Stainless Steel	AISI 304	-	-
11	Window Gasket	PTFE		IPW-WG	0.01
12	Window Class	Plexiglas		IPW-WIN	0.03
13	Target - Open	Cast Aluminum		IPW-OPEN	0.07
	Target - Shut		IPW-SHUT	0.07	
14	Hex Bolt	Carbon Steel - Zinc Plated		-	-
15	Hex Bolt	Carbon Steel - Zinc Plated		-	-
16	Hex Nut	Carbon Steel - Zinc Plated		-	-
17	Target Carrier Nut	Stainless Steel	AISI 304	-	-
18	Hex Nut	Carbon Steel - Zinc Plated		-	-
19	Hex Bolt	Carbon Steel - Zinc Plated		-	-
20	Stem 1" Square	Carbon Steel	AISI 1045	IPW-STEM	4.49
21	Cotter Pin	Stainless Steel	AISI 304	IPW-COTT	0.02
22	Socket	Ductile Iron	A536, 65-45-12	-	-



Indicator Posts

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Horizontal Wall Post Indicator

IPW

Installation

NOTE: Ensure that the post indicator valve is in the fully open position before installing the Wall Post Indicator.

1.) Make the hole through the wall

Make a clearance hole that is at least 120mm (4.7") in diameter but not greater than 180mm (7.1") in diameter through the mounting wall. The clearance hole must be on-center and concentric with the operating nut of the post indicator valve. NOTE: A DN100 / 4" (114.3mm Outside Diameter) length of pipe can be used to line the inside of the through hole. Pipe of this diameter will fit snugly into a machined mating hole on the flange side the Body (1) of the Wall Post Indicator.

2.) Drill the Mounting Holes

Drill 4 equally spaced holes on a 267 mm (10.5") bolt circle into the mounting wall using a 3/4" (19mm) drill bit. The bolt circle must be concentric and on center with the operating nut of the post indicator valve.

3.) Mount the Wall Post Indicator

Bolt the flange of the Body (1) of the Wall Post Indicator to the wall using 4 bolts (18 & 19).

4.) Remove the Cover

With the Body (1) flange of the Wall Post Indicator securely bolted to the mounting wall, remove the Cover (5) by removing the two Bolts (4) and Nuts (3). Slide the Cover (5) off of the Wall Post Indicator Body (1).

5.) Insert and measure the Stem Rod

With the Cover (5) still separated from the Body (1), slide the Stem (20), Cotter Pin (21) and Socket (22) assembly through the Wall Post Indicator Body (1) and through the wall such that the Socket

(22) fully engages with the operating nut of the non-rising stem gate valve. With the Socket (22) fully engaged on the operating nut of the non-rising stem gate valve, put a mark on the Stem (20) that is between 32mm (1.25") below the top surface of the Body (1) but not more than 50mm (2") above the top surface of the Body (1).

6.) Cut the Stem Rod

Cut the stem rod at the mark made in Step 5.

7.) Adjust the Target Plates

Adjust the "Open" Target Plates (15) such that they are squarely centered in the Windows (11) when the post indicator valve is in the fully open position. Repeat this procedure with the "Shut" Target Plates (15) when the post indicator valve is fully closed. Adjustment is made by loosening Hex Bolt (16) and Nut (17).

8.) Re-assemble the Wall Post Indicator

Insert the Cover (5) back onto the Body (1) such that the ears on either side of the Target Nut fit into the grooves on the inside edges of the Body (1). Tighten the two Nuts and Bolts (4)(3). Verify that the "Open" and "Shut" Target (13) is in the proper position by fully opening and closing the post indicator valve using the Handwheel (6). Adjust as necessary.

Maintenance

Lubrication

Oil the bearing in the Body (1) at least once a year by adding several drops of oil in the hole located on the top of the Operating Nut (10).

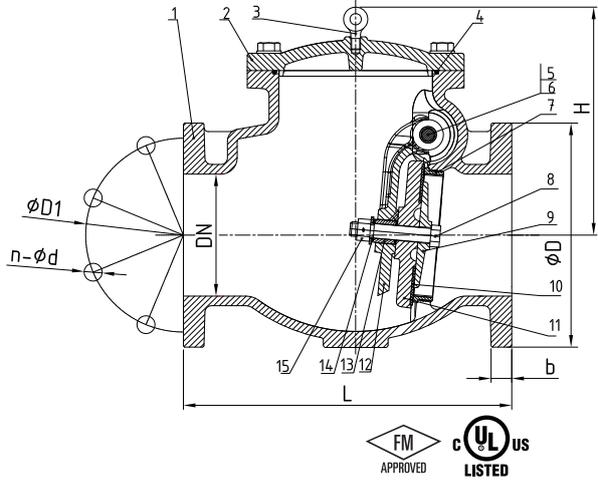


Swing Check Valve - Flanged

SCF

Technical Features

- **Sizes available (Nominal) :** DN50/2", DN65/2 1/2", DN80/3", DN100/4", DN150/6", DN200/8", DN250/10" and DN300/12"
- **Pressure data :**
Working Pressure : 21 bar (300 psi).
- **Working Temperature :** 0.0°C to 80.0°C
- **Seat Type :** Bronze clapper face ring and valve body seat
- **Finish :** Fusion bonded epoxy coated interior & exterior
- **Connections :** Flange diameter and thickness according to ANSI B16.1 Class 125, EN1092-2 PN10 or EN1092-2 PN16
- **Specifications :** Complys with AWWA C508, clear water-way design.



Check Valves

Swing Check Valve - Flanged - SCF

Physical Data

Nominal Pipe Size	Dimensions (mm)										Reference*			Weight (kg)	
	Metric	inch	L	D	b	H	D1		n-ØL		ANSI	PN10	PN16		
DN50	2"	203	152	16	133	120.5	125	4-Ø19.1			SCF-0200	SCF-0200PN		11.2	
DN65	2 1/2"	254	178	17.5	150	139.5	145	4-Ø19.1			SCF-0250	SCF-0250PN		16.7	
DN80	3"	279	191	19	150	152.5	160	4-Ø19.1	8-Ø19.1		SCF-0300	SCF-0300PN		22.5	
DN100	4"	330	229	24	218	190.5	180	8-Ø19.1	8-Ø19.1		SCF-0400	SCF-0400PN		34.9	
DN150	6"	406	279	25.5	290	241.5	240	8-Ø22.2	8-Ø23		SCF-0600			65.2	
DN200	8"	495	343	28.5	330	298.5	295	8-Ø22.2	12-Ø23	8-Ø23	SCF-0800	SCF-0800PN10	SCF-0800PN16	120.7	
DN250	10"	559	406	30.5	350	362	355	350	12-Ø25.4	12-Ø28	12-Ø23	SCF-1000	SCF-1000PN10	SCF-1000PN16	180.9
DN300	12"	660	483	32	375	432	410	400	12-Ø25.4	12-Ø28	12-Ø23	SCF-1200	SCF-1200PN10	SCF-1200PN16	242.3

* Valve flange drilling (size and location of bolt holes and pitch circle diameter) allows mating with the following flange types. ** Not UL or FM
PN16 = DIN 2501, EN 1092 - PN16

Swing Check Valve - Flanged - SCF Materials List

Item	Description	Material	ASTM Specifications
1	Body	Ductile Iron	ASTM A536 65-45-12
2	Bonnet	Ductile Iron	ASTM A536 65-45-12
3	Eyebolt	Zinc Plated Carbon Steel	
4	O-Ring	NBR	Commercial
5	Hinge Pin	Stainless Steel	AISI 304
6	Hinge Bushing	Brass	ASTM B36
7	Seat Ring	Bronze	ASTM B62
8	Disc Seat Bolt	Stainless Steel	AISI 304
9	Retainer Washer	Bronze	ASTM B62
10	Disc Sealing Ring	EPDM	Commercial
11	Disc	Ductile Iron	ASTM A536 65-45-12
12	Clapper Arm	Ductile Iron	ASTM A536 65-45-12
13	Stud Bushing	Brass	ASTM B36
14	O-Ring	NBR	Commercial
15	Nuts	Stainless Steel	AISI 304



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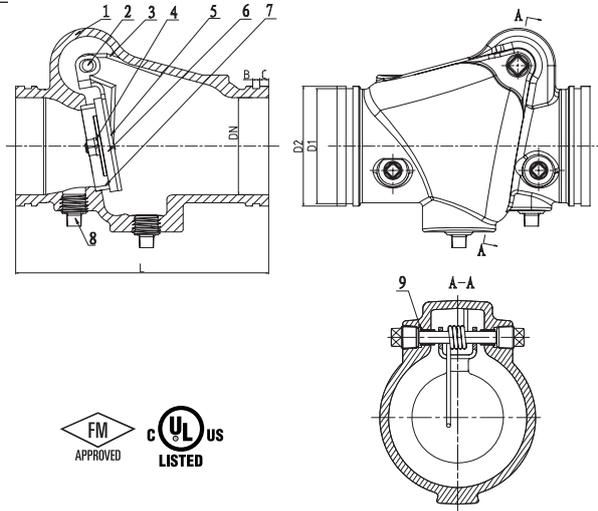


Swing Check Valve - Grooved

SCG

Technical Features

- Sizes available (Nominal) : DN50/2", DN65/2½", DN80/3", DN100/4", DN150/6", DN200/8", DN250/10" & DN300/12"
- Pressure data :
Working Pressure : 21 bar (300 psi).
- Working Temperature : 0.0°C to 80.0°C
- Seat : Bronze
- Clapper : EPDM coated ductile iron
- Finish : Fusion bonded epoxy coated internal and external or painting according to request.
- Connections : Grooved joint dimensions are made in accordance with metric or AWWA C806.



Check Valves

Swing Check Valve - Grooved - SCG

Physical Data

Nominal Pipe Size		Dimensions (mm)					Reference	Weight (kg)
Metric	inch	L	D1	D2	b	c		
DN50	2"	172	57.2	60.3	7.9	15.9	SCG-0200	3.3
DN65	2½"	184	69.1	73.0	7.9		SCG-0250-073	3.6
			72.3	76.1			SCG-0250-076	
DN80	3"	197	84.9	88.9	7.9		SCG0-0300	4.6
DN100	4"	206	110.1	114.3	9.5	SCG-0400	7.44	
DN150	6"	325	160.9	165.1	9.5	SCG-0600-165	16.2	
			164.0	168.3		SCG-0600-168		
DN200	8"	372	214.4	219.1	11.1	SCG-0800	26.9	
DN250	10"	457	268.3	273	12.7	SCG-1000	51.9	
DN300	12"	535	318.3	323.9		SCG-1200	75.6	

* Not UL or FM

Swing Check Valve - Grooved - SCG

Materials List

Item	Part Name	Material	ASTM Specification
1	Valve Body	Ductile Iron	ASTM A 536 Gr. 65-45-12
2	Hinge Pin	Stainless Steel	AISI 420
3	Spring	Stainless Steel	AISI 304
4	Spring Washer	Stainless Steel	AISI 304
5	Disc	DN50-DN100 Stainless Steel	AISI 304
		DN150-DN300 Ductile Iron	ASTM A 536 Gr. 65-45-12
6	Disc Sealing Ring	EPDM	Commercial
7	Seat Ring	Bronze	ASTM B62 C83600
8	Plug	Malleable Iron - Galvanised	
9	Bushing	Bronze	ASTM B62 C83600



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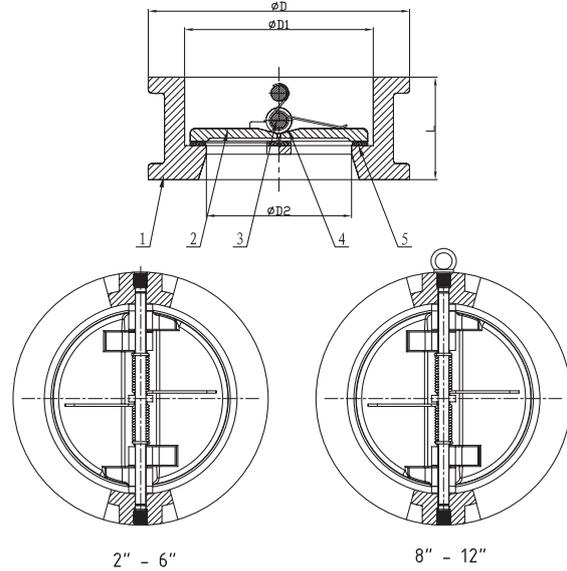


Double Door Check Valve - Wafer

DDW

Technical Features

- **Sizes available (Nominal) :** DN50/2", DN65/2 1/2", DN80/3", DN100/4", DN 125/5", DN150/6", DN200/8", DN250/10" and DN300/12"
- **Pressure data :**
Nominal Pressure : 16 bar (235 psi).
- **Finish :** Fusion bonded epoxy coated internal and external.
- **Connections :** designed to fit between the mating flanges in accordance with EN 1092 PN16



Double Door Check Valve - Wafer - DDW

Physical Data

Nominal Pipe Size		Dimensions (mm/inch) by Flange Type				Reference* by Mating Flange	Weight (kg / lbs)
Metric	inch	L	D	D1	D2	PN16	
DN50	2"	54	107	64	46	DDW-0200PN	1.46
DN65	2 1/2"	54	127	78	60	DDW-0250PN	2.17
DN80	3"	57	142	94	70	DDW-0300PN	2.79
DN100	4"	64	162	117	84	DDW-0400PN	4.11
DN125	5"	70	192	145	115	DDW-0500PN	6.26
DN150	6"	76	218	170	134	DDW-0600	6.24
DN200	8"	95	273	224	184	DDW-0800PN16	14.92
DN250	10"	108	328	265	220	DDW-1000PN16	25.35
DN300	12"	143	378	310	260	DDW-1200PN16	38.09

The Double Door Check Valve referenced fits between the mating flanges as follows:

PN16 = DIN 2501, BS 4504, EN 1092 - PN10/16

Double Door Check Valve - Wafer - DDW Materials List

Item	Description	Material	Specification
1	Valve Body	Ductile Iron	A536, 65-45-12
2	Disc	Ductile Iron	A536, 65-45-12
3	Stem	Stainless Steel	AISI 420
4	Spring	Stainless Steel	AISI 304
5	Rubber Seat	EPDM	Commercial



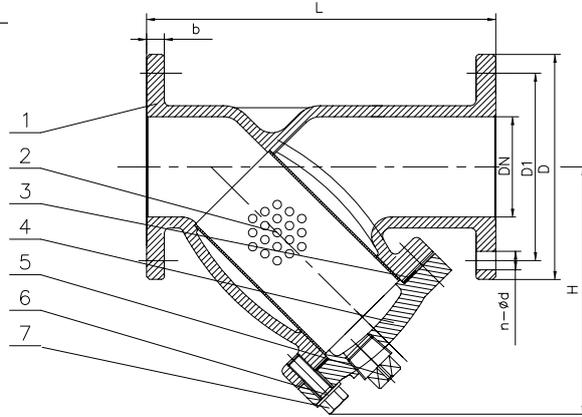
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Y-Strainer - Flanged

YSF

Technical Features

- **Sizes available (Nominal):** DN50/2", DN65/2½", DN80/3", DN100/4", DN150/6", DN200/8", DN250/10" and DN300/12"
- **Pressure data:**
Working pressure: 21 bar (300 psi)
- **Temperature data:**
Working temperature: 0°C - 80°C
- **Finish:** Fusion bonded epoxy coated internal and external
- **Connections:** Flange diameter and thickness according to ANSI B16.1 Class 125 or EN1092-2 PN16



Y-Strainer - Flanged - YSF

Physical Data

Nominal Pipe Size		Dimensions (mm)								Drain Plug	Reference*		Weight (kg)
Metric	inch	L	D	b	H	D1		n-ØL		NPT Thread	ANSI	PN16	
DN50	2"	200	152	16	155	120.7	125	4-Ø19.1		1"	YSF-0200	YSF-0200PN	8.7
DN65	2½"	254	178	17.5	165	139.7	145	4-Ø19.1		1"	YSF-0250	YSF-0250PN	12.2
DN80	3"	257	191	19	180	152.4	160	4-Ø19.1	8-Ø19.1	1"	YSF-0300	YSF-0300PN	13.8
DN100	4"	308	229	24	229	190.5	180	8-Ø19.1	8-Ø19.1	1"	YSF-0400	YSF-0400PN	23.9
DN150	6"	470	279	25.5	311	241.3	240	8-Ø22.2	8-Ø23	1½"	YSF-0600		43.8
DN200	8"	549	343	28.5	394	298.5	295	8-Ø22.2	12-Ø23	1½"	YSF-0800	YSF-0800PN16	75.4
DN250	10"	654	406	30.5	487	362.0	355	12-Ø25.5	12-Ø28	2"	YSF-1000	YSF-1000PN16	109.3
DN300	12"	759	483	32	547	431.8	410	12-Ø25.5	12-Ø28	2"	YSF-1200	YSF-1200PN16	173.1

* Valve flange drilling (size and location of bolt holes and pitch circle diameter) allows mating with the following flange types :

ANSI = ANSI B16.1 Class 125 | PN16 = DIN 2501, BS 4504, EN 1092 - PN16

Y-Strainer - Flanged - YSF

Screen Data

DN		Sieve No.	Hole Dia. (mm)	Free Flow Area (%)
inch	mm			
2"-2½"	50-65	25	4	48
3"-4"	80-100	19	5	59
5"	125	14	6	63
6"-12"	150-300	13	6.3	64

Y-Strainer - Flanged - YSF

Materials List

Item	Description	Material	Specification
1	Valve Body	Ductile Iron	ASTM A536 65-45-12
2	Screen	Stainless Steel	AISI 304 (Perforated)
3	Gasket	EPDM	Commercial
4	Cover	Ductile Iron	ASTM A536 65-45-12
5	Plug	Malleable Iron	Galvanized
6	Bolt	Carbon Steel	Zinc Plated
7	Flat Washer	Carbon Steel	Zinc Plated



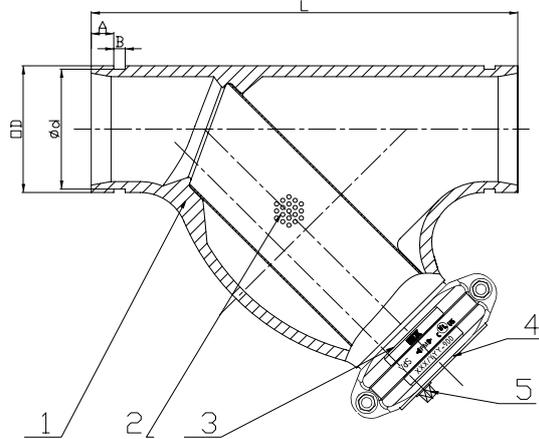
FireKing™ is a trademark of The Viking Corporation. Specifications subject to change without notice.

Y-Strainer - Grooved

YSG

Technical Features

- **Sizes available (Nominal) :** DN50/2", DN65/2 1/2", DN80/3", DN100/4", DN125/5", DN150/6", DN200/8", DN250/10" and DN300/12"
- **Pressure data :**
Working pressure : 21 bar (300 psi).
- **Finish :** Fusion bonded epoxy coated internal and external
- **Connections :** Grooved joint dimensions are made in accordance with ANSI/AWWA C606 (ductile iron pipe and steel pipe) and metric pipe specifications



Y-Strainer - Grooved - YSG

Physical Data

Nominal Pipe Size		Pipe O.D. (mm)	Drain Plug BSPT Thread	Dimensions (mm)				Reference	Weight (kg)
Metric	inch			L	D	A	B		
DN50	2	60.3	15 mm	247.5	57.2	15.9	7.9	YSG-0200	3.8
DN65	2 1/2"	73.0	25 mm	273	69.1	15.9	7.9	YSG-0250-073	6.2
		76.1			72.3	15.9	7.9		
DN80	3"	88.9	25 mm	298.5	84.9	15.9	7.9	YSG-0300	9.2
DN100	4"	114.3	40 mm	362	110.1	15.9	9.5	YSG-0400	15.3
DN125	5"	139.7	50 mm	419	135.5	15.9	9.5	YSG-0500-139	21.6
		141.3			137.0	15.9	9.5	YSG-0500-141	21.8
DN150	6"	165.1	50 mm	470	160.0	15.9	9.5	YSG-0600-165	32.0
		168.3			164.0	15.9	9.5	YSG-0600-168	32.7
DN200	8"	219.1	50 mm	609	214.4	19.1	11.1	YSG-0800	70.9
DN250	10"	273.0	50 mm	686	268.3	19.1	12.7	YSG-1000	108.6
DN300	12"	323.9	50 mm	762	318.3	19.1	12.7	YSG-1200	159.4

Y-Strainer - Grooved - YSG

Screen Data

DN		Sieve No.	Hole Dia. (mm)	Free Flow Area (%)
inch	mm			
2"-2 1/2"	50-65	25	4	48
3"-4"	80-100	18	5	53
5"	125	13	6	58
6"-12"	150-300	12	6.3	56

Y-Strainer - Grooved - YSG

Materials List

Item	Description	Material	Specification
1	Valve Body	Ductile Iron	ASTM A536 65-45-12
2	Screen	Stainless Steel	AISI 304 (Perforated)
3	Rigid Coupling	Ductile Iron	ASTM A536 65-45-12
	Coupling Gasket	EPDM	Commercial
4	Cap	Ductile Iron	ASTM A536 65-45-12
5	Plug	Malleable Iron	Galvanized



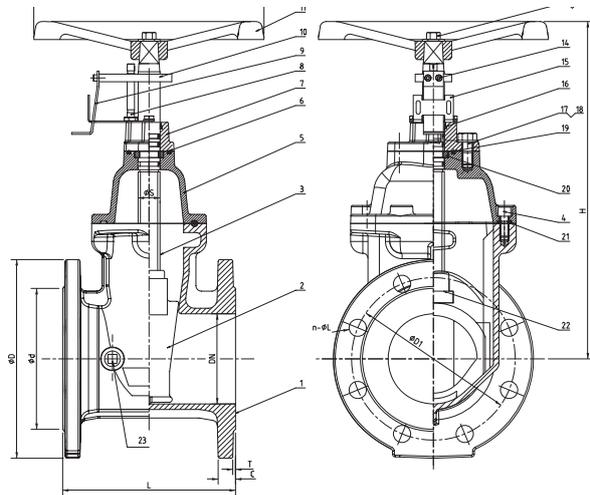
FireKing™ is a trademark of The Viking Corporation. Pressure ratings require the use of couplings with equivalent pressure ratings. Rigid couplings are recommended for all valve end connections. Specifications subject to change without notice.

Non-Rising Stem (NRS) BS5163 Gate Valve - Flanged

NRF5

Technical Features

- **Sizes available (Nominal) :** DN50/2", DN65/2 1/2", DN80/3", DN100/4", DN125/5", DN150/6", DN200/8", DN250/10", DN300/12" & DN350/14"
- **Working Pressure :** 16 bar (232 psi)
- **Working Temperature :** 0.0°C to 80°C
- **Seat type :** Resilient wedge, EPDM encapsulated
- **Finish :** Fusion bonded epoxy coated internal & external
- **Connections :** Flange diameter and thickness according to EN1092-2 PN16, ASME B16.1 CL125 or EN1092-2 PN10
- **Specifications :** Design in accordance with BS 5163; Face to face dimension in accordance with EN 558-1, basic series 3.
- **Supervision :** Integral bracket allows monitoring of valve position using supervisory switch, P/N 880214



Non-Rising Stem (NRS) BS5163 Gate Valve - Flanged - NRF5

Physical Data

Nominal Pipe Size		PN	Dimensions (mm)								Reference*			Weight (kg)
Metric	inch		L	H	D	D1	d	C	T	n-d	ANSI	PN10	PN16	
DN50	2"	10/16	178	282	165	125	99	19	3	4-Ø19	NRF5-0200	NRF5-0200PN		10.6
DN65	2 1/2"	10/16	190	290	185	145	118	19	3	4-Ø19	NRF5-0250	NRF5-0250PN		12.6
DN80	3"	10/16	203	331	200	160	132	19	3	8-Ø19	NRF5-0300	NRF5-0300PN		16.7
DN100	4"	10/16	229	366	220	180	156	19	3	8-Ø19	NRF5-0400	NRF5-0400PN		21.3
DN125	5"	10/16	254	437	250	210	184	19	3	8-Ø19	NRF5-0500	NRF5-0500PN		38.4
DN150	6"	10/16	267	490	285	240	211	19	3	8-Ø23	NRF5-0600			42.5
DN200	8"	10/16	292	560	340	295	266	20	3	8-Ø23 12-Ø23	NRF5-0800	NRF5-0800PN10	NRF5-0800PN16	62.6
		10/16	330	706	405	350 355	319	22	3	12-Ø23 12-Ø28	NRF5-1000	NRF5-1000PN10	NRF5-1000PN16	117.1
DN300	12"	10/16	356	802	460	400	370	24.5	4	12-Ø23	NRF5-1200	NRF5-1200PN10	NRF5-1200PN16	164.9
		10/16	410	12-Ø28										
DN350	14"	10/16	381	1005	520	460	429	26.5	4	16-Ø23	NRF5-1400	NRF5-1400PN10	NRF5-1400PN16	316.1
		10/16	470	16-Ø28										

* Valve flange drilling (size and location of bolt holes and pitch circle diameter) allows mating with the following flange types :

ANSI = ANSI B16.1 Class 125

PN10 = DIN 2501, BS 4504, EN 1092 - PN10

PN16 = DIN 2501, BS 4504, EN 1092 - PN16

Non-Rising Stem (NRS) BS5163 Gate Valve - Flanged - NRF5

Materials List

Item	Description	Material	Specification	Item	Description	Material	Specification
1	Valve Body	Ductile Iron	EN-GJS-450-10	13	Flat Washer	Carbon Steel	Zinc Plated
2	Wedge Disc	Ductile Iron	EN-GJS-450-10 & EPDM	14	Bolt	Carbon Steel	Zinc Plated
3	Stem	Stainless Steel	SS420	15	Fixed Plate	Stainless Steel	SS316
4	Bolt	Carbon Steel	Zinc Plated	16	Ring Wiper	EPDM	Commercial
5	Bonnet	Ductile Iron	EN-GJS-450-10	17	Bolt	Carbon Steel	Zinc Plated
6	O-Ring	NBR	Commercial	18	Flat Washer	Carbon Steel	Zinc Plated
7	Gland	Ductile Iron	EN-GJS-450-10	19	O-Ring	EPDM	Commercial
8	Position Fixing Spindle	Stainless Steel	SS316	20	Thrust Washer	Brass	HPb59-1
9	Limit Plate	Stainless Steel	SS316		21	Bonnet Gasket	EPDM
10	Position Fixing Plate	Stainless Steel	SS316	22	Wedge Nut	Brass	HPb59-1
11	Handwheel	Ductile Iron	EN-GJS-450-10		23	1/2" Plug	Bronze
12	Bolt	Carbon Steel	Zinc Plated	24	Switch bracket for NRF5 Valve - Part Number: NRF-SB		

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Non-Rising Stem (NRS) BS5163 Gate Valve - Flanged

NRF5

Installation

1. Piping systems and valves should be thoroughly cleaned and free from ingress of foreign materials.
2. Visually inspect the valve seating and ports for cleanliness immediately prior to installation.
3. All valves should be independently supported against movement and stress from the connected piping system.
4. Ensure that the valve pressure rating is compatible with service conditions.
5. Operate the valve at least once from the open to closed position.
6. Gate valves are not suitable for throttling applications.
7. Gate valves should be installed in the vertical position on horizontal pipework and in the horizontal position on vertical pipework.

Operation

Gate valves are manually operated multi-turn valves and are opened by a handwheel or other operating device, generally in a counter clockwise direction and then closed clockwise.

Closing Torque for Gate Valve Handwheel		
Size		Closing Torque Nm
2"	DN50	27
2½"	DN65	38
3"	DN80	65
4"	DN100	80
5"	DN125	100
6"	DN150	125
8"	DN200	160
10"	DN250	240
12"	DN300	300

Inspection and Maintenance

1. Valves should be inspected periodically and should be cycled to prevent buildup of foreign materials in the piping system and valve body.

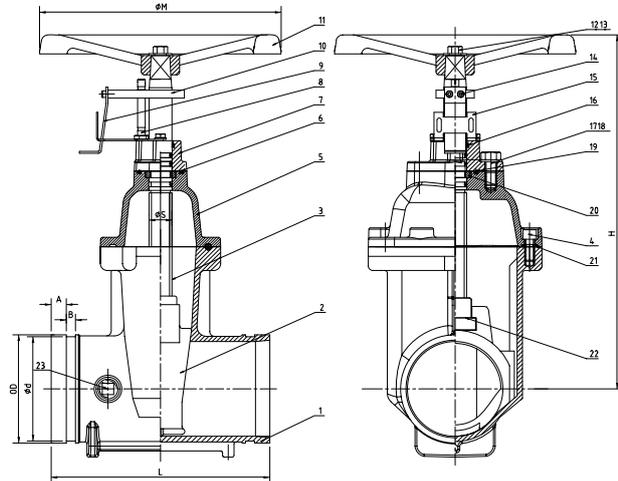


Non-Rising Stem (NRS) BS5163 Gate Valve - Grooved

NRG5

Technical Features

- **Sizes available (Nominal) :** DN50/2", DN65/2½", DN80/3", DN100/4", DN125/5", DN150/6", DN200/8", DN250/10" and DN300/12"
- **Pressure data :**
Working Pressure : 16 bar (232 psi)
Tested to BS5163 Type A
- **Seat type :** Resilient wedge. Fully encapsulated EPDM
- **Finish :** Fusion bonded epoxy coated internal and external
- **Connections :** Groove to AWWA C606 standard
- **Specifications :** Design in accordance with BS 5163; Face to face dimension in accordance with EN 558-1, basic series 3
- **Supervision :** Integral bracket allows monitoring of valve position using supervisory switch, P/N 880214



Non-Rising Stem (NRS) BS5163 Gate Valve - Grooved - NRG5

Physical Data

Nominal Pipe Size		Dimensions (mm / inch)						Reference	Weight (kg)
Metric	inch	L	H	OD	d	A	B		
DN50	2"	178	282	60,3	57.2	15.8	7.9	NRG5-0200	5.9
DN65	2½"	190	290	73,0	69.1	15.8	7.9	NRG5-0250-073	7.3
				76,1	72.3			NRG5-0250-076	7.4
DN80	3"	203	331	88,9	84.9	15.8	7.9	NRG5-0300	10.8
DN100	4"	229	366	114,3	110.1	15.8	9.5	NRG5-0400	14.4
DN125	5"	254	453	139,7	135.5	15.8	9.5	NRG5-0500-139	29.2
				141,3	137.0			NRG5-0500-141	29.4
DN150	6"	267	490	165,1	160.9	15.8	9.5	NRG5-0600-165	32.0
				168,3	164.0			NRG5-0600-168	
DN200	8"	292	560	219,1	214.4	19.1	11.1	NRG5-0800	48.8
DN250	10"	330	706	273,0	268.3	19.1	12.7	NRG5-1000	97.3
DN300	12"	356	802	323,9	318.3	19.1	12.7	NRG5-1200	136.5

Non-Rising Stem (NRS) BS5163 Gate Valve - Grooved - NRG5

Materials List

Item	Description	Material	Specification	Item	Description	Material	Specification	
1	Valve Body	Ductile Iron	EN-GJS-450-10	13	Flat Washer	Carbon Steel	Zinc Plated	
2	Wedge Disc	Ductile Iron	EN-GJS-450-10 & EPDM	14	Bolt	Carbon Steel	Zinc Plated	
3	Stem	Stainless Steel	SS420	15	Fixed Plate	Stainless Steel	SS316	
4	Bolt	Carbon Steel	Zinc Plated	16	Ring Wiper	EPDM	Commercial	
5	Bonnet	Ductile Iron	EN-GJS-450-10	17	Bolt	Carbon Steel	Zinc Plated	
6	O-Ring	NBR	Commercial	18	Flat Washer	Carbon Steel	Zinc Plated	
7	Gland	Ductile Iron	EN-GJS-450-10	19	O-Ring	EPDM	Commercial	
8	Position Fixing Spindle	Stainless Steel	SS316	See 24	20	Thrust Washer	Brass	HPb59-1
9	Limit Plate	Stainless Steel	SS316		21	Bonnet Gasket	EPDM	Commercial
10	Position Fixing Plate	Stainless Steel	SS316		22	Wedge Nut	Brass	HPb59-1
11	Handwheel	Ductile Iron	EN-GJS-450-10	23	½" Plug	Bronze	ASTM B584 C83600	
12	Bolt	Carbon Steel	Zinc Plated	24	Switch bracket for NRG5 Valve - Part Number: NRF5-SB			

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Non-Rising Stem (NRS) BS5163 Gate Valve - Grooved

NRG5

Installation

1. Piping systems and valves should be thoroughly cleaned and free from ingress of foreign materials.
2. Visually inspect the valve seating and ports for cleanliness immediately prior to installation.
3. All valves should be independently supported against movement and stress from the connected piping system.
4. Ensure that the valve pressure rating is compatible with service conditions.
5. Operate the valve at least once from the open to closed position.
6. Gate valves are not suitable for throttling applications.
7. Gate valves should be installed in the vertical position on horizontal pipework and in the horizontal position on vertical pipework.

Operation

Gate valves are manually operated multi-turn valves and are opened by a handwheel or other operating device, generally in a counter clockwise direction and then closed clockwise.

Inspection and Maintenance

1. Valves should be inspected periodically and should be cycled to prevent buildup of foreign materials in the piping system and valve body.

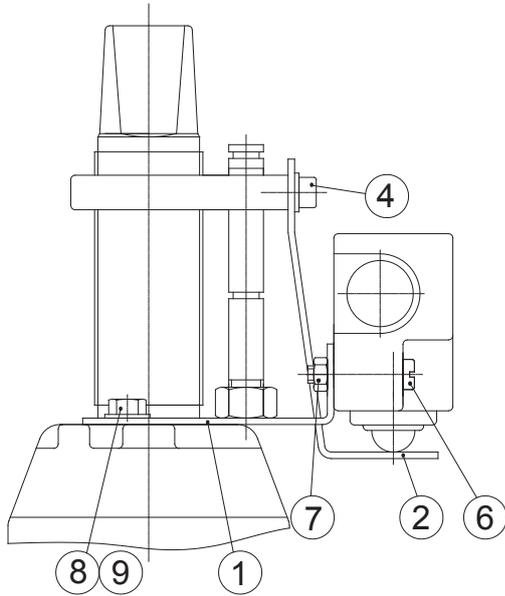


Closing Torque for Gate Valve Handwheel		
Size		Closing Torque Nm
2"	DN50	27
2½"	DN65	38
3"	DN80	65
4"	DN100	80
5"	DN125	100
6"	DN150	125
8"	DN200	160
10"	DN250	240
12"	DN300	300

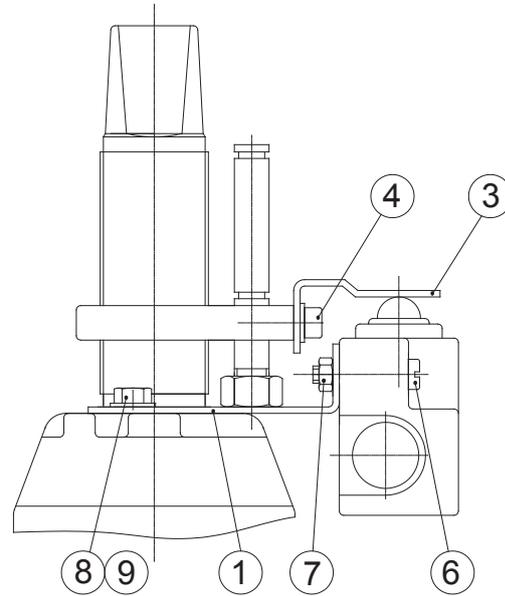
Bracket Kits for the Supervision of NRF5 & NRF11 Gate Valves

NRF-SB

Normally Open Bracket Kit*



Normally Closed Bracket Kit



Bracket Kits

Materials List

Item	Description	Material	Quantity	
1*	Fixed plate	SS316	1	
2*	Limit Plate (normally open gate valve)	SS316	1	
3	Limit Plate (normally closed gate valve)	SS316	1	
4*	Socket Head Cap Bolt M4 x 10	SS304	2	
6	Bolt M4 x 30 (ISO 7045)	SS304	2	
7	Serrated Flange Nut M4 (ISO 4161)	SS304	2	
8*	Hexagon Bolt	For 2"-6" Valve M6 x 10	SS304	2
		For 8"-12" Valve M8 x 10	SS304	2
9*	Washer	For 2"-6" Valve Ø6	SS304	2
		For 8"-12" Valve Ø8	SS304	2

* Bracket supplied with valve (excludes the 2 switch attaching bolts)

Bracket Kit

Part Numbers

Valve Size	Part Number
DN50 to DN300	NRF-SB
Each kit contains:	
1 x Limit Plate (normally closed Gate Valve) (Item 3)	
2 x Bolts M4 x 30 (Item 6)	
2 x Serrated Flange Nuts M4 (Item 7)	
1 x Datasheet	

Notes

- When the bracket kit for a normally open gate valve is used, the switch will signal when the valve starts to be closed. This is supplied as standard with the NRF5 & NRF11 gate valves.
- When the bracket kit for a normally closed gate valve is used, the switch will signal when the valve starts to be opened.
- Brackets are intended to be used with the NRF5 (DN50-DN350) & NRF11 (DN50-DN300) gate valves; please refer to separate datasheet for information regarding the valves.
- The brackets are intended to mount the supervisory switch 880214, please refer to separate datasheet for further information.

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Flexible Sprinkler Drops

FIREKING VK27B & VK27N

Technical Specification

- Approvals: UL (Braided & Unbraided) and FM (Braided)
- Available Square Bar Length: 700mm to 1500mm
- Maximum Ambient Temperature: 107°C
- Bending Angles (Flow Direction): Up to 180 Degree
- For use with commercial suspended ceilings
- Material: Stainless Steel 304
- Connections: 1/2" or 3/4" Outlets for Sprinkler, 1" Inlet Nipple for pipe
- Hose Diameter : 26.2mm (I.D)/26.8mm (O.D)



Friction Loss Data for Unbraided UL Listed Model VK27N

Model VK27N- TXXXX	Hose Assembly Length mm	Outlet Connection NPT	K-Factor	Rated Pressure Bar	Max No. of 90° Bends	Min Bend Radius mm	Equivalent Length of 1 in. Schedule 40 Steel Pipe(c=120), Meter
700	700	1/2"	80	12	1	150	12
1000	1000	1/2"	80	12	1	150	17
1200	1200	1/2"	80	12	2	150	43
1500	1500	1/2"	80	12	2	150	53
1800	1800	1/2"	80	12	2	150	65
700	700	3/4"	115	12	1	150	22
1000	1000	3/4"	115	12	1	150	35
1200	1200	3/4"	115	12	2	150	39
1500	1500	3/4"	115	12	2	150	47
1800	1800	3/4"	115	12	2	150	53

Friction Loss Data for Unbraided UL/FM Approved Model VK27B

Model VK27B- TXXXX	Hose Assembly Length mm	Outlet Connection NPT	K-Factor	Rated Pressure Bar		Max No. of 90° Bends		Min Bend Radius mm		Equivalent Length of 1 in. Schedule 40 Steel Pipe(c=120) Meter
				FM	UL	FM	UL	FM	UL	
700	700	1/2"	80	12	13.8	1	1	230	150	8.6
1000	1000	1/2"	80	12	13.8	2	1	230	150	13.9
1200	1200	1/2"	80	12	13.8	2	2	230	150	17.5
1500	1500	1/2"	80	12	13.8	3	2	230	150	21.2
1800	1800	1/2"	80	12	13.8	4	2	230	150	24.9
700	700	3/4"	115	12	13.8	1	1	230	150	8.4
1000	1000	3/4"	115	12	13.8	2	1	230	150	12.4
1200	1200	3/4"	115	12	13.8	2	2	230	150	15.1
1500	1500	3/4"	115	12	13.8	3	2	230	150	19.1
1800	1800	3/4"	115	12	13.8	4	2	230	150	23.1

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Flexible Sprinkler Drops

FIREKING VK29B & VK29N

Technical Specification

- Approvals: UL (Braided & Unbraided) and FM (Braided)
- Available Square Bar Length: 700mm to 1500mm
- Maximum Ambient Temperature: 107°C
- Bending Angles (Flow Direction): Up to 180 Degree
- For use with commercial suspended ceilings
- Material: Stainless Steel 304
- Connections: 1/2" or 3/4" Outlets for Sprinkler. 1" Inlet Nipple for pipe
- Hose Diameter : 28.2mm (I.D)/28.8mm (O.D)



UL - Fireking Braided VK29B (200PSI) & Unbraided VK29N (175PSI)

Model Equivalent VK29B & VK29N- TXXXX	Assembly Length ft(mm)	Nom Inlet by Outlet Size in.	Reted Pressure psi	Max No. of 90° Bends	Min Bend Radius in.	Length of 1 in. Schedule 40 Steel Pipe(c=120), ft
700	2.3(700)	1x1/2	200/175	1	6	6
1000	3.3(1000)	1x1/2	200/175	1	6	12
1200	3.9(1200)	1x1/2	200/175	2	6	22
1500	4.9(1500)	1x1/2	200/175	2	6	29
1800	5.9(1800)	1x1/2	200/175	2	6	34
700	2.3(700)	1x3/4	200/175	1	6	11
1000	3.3(1000)	1x3/4	200/175	1	6	16
1200	3.9(1200)	1x3/4	200/175	2	6	30
1500	4.9(1500)	1x3/4	200/175	2	6	38
1800	5.9(1800)	1x3/4	200/175	2	6	40

FM - Fireking Braided VK29B (175PSI)

Model VK29B- TXXXX	Hose Assembly Length in.(mm)	Nom Inlet by Outlet Size in.	K-Factor	Rated Working Pressure psi(kPa)	Number of Bends	Min Bend Radius in.(mm)	Equivalent Length of 1 in. Schedule 40 Pipe ft(m)
700	28(700)	1x1/2	5.6	175(1205)	1	9(230)	23(7)
1000	40(1000)	1x1/2	5.6	175(1205)	2	9(230)	33.5(10.2)
1200	48(12000)	1x1/2	5.6	175(1205)	2	9(230)	40.5(12.3)
1500	60(1500)	1x1/2	5.6	175(1205)	3	9(230)	44.9(13.7)
1800	72(1800)	1x1/2	5.6	175(1205)	4	9(230)	49.3(15)
700	28(700)	1x3/4	8.0	175(1205)	1	9(230)	16.1(4.9)
1000	40(1000)	1x3/4	8.0	175(1205)	2	9(230)	27.4(8.3)
1200	48(12000)	1x3/4	8.0	175(1205)	2	9(230)	35(10.7)
1500	60(1500)	1x3/4	8.0	175(1205)	3	9(230)	39.3(11.9)
1800	72(1800)	1x3/4	8.0	175(1205)	4	9(230)	43.7(13.3)

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Flexible Sprinkler Drops

Installation Instructions

(1) Refer to the relative regulations, codes or standards for guidance and determination of the desirable location for the unit in use commercial ceiling, clean rooms and duct systems, etc.

(2) Install the 1" flexible hose nipple (inlet) to the 1" sprinkler branch pipe by normal sealing and tightening procedures. Slip nut, which connects nipple with flexible hose, should be tightened with wrench as excessive force can damage the O-ring inside. (Torque: 123 kgf-cm) Make sure during and after installation of the flexible hose, any sharp-edged material or tools do not damage the surface of the flexible hose.

(3) Assemble the supplied bracket and square bar as shown in the picture, and attach the square bar to the T-bar (ceiling support) with supplied bracket and bolts considering the horizontal location of the sprinkler head. At this stage of installation, bolts need to be fastened loosely. (Torque: 27~28 kgf-cm)

Select appropriate square bar length in accordance with the spacing between ceiling supports (both main bars and cross bars) is 600mm~1200mm. The "T" shaped beam is assembled with bracket S1 or S2.

(4) Bend the flexible hose so that the reducer (outlet) can be reached to the intended sprinkler head position.

The flexible hose should be bent axially with smooth bending shape, and with minimum installation bending radius of 150mm (UL) or 230mm (FM). Flexible hose should not be twisted in a circumferential direction.

For a longer flexible hose, intermediate hose support is recommended to secure the movement of the hoses

(5) Verify that the reducer (outlet) is located in the correct intended position before securing the bracket L2 or L2-2 bolt. Check and adjust the reducer position by moving vertically and horizontally along the square bar. Tighten all the bolts securely and evenly. (Torque: 57~58 kgf-cm)

(6) Install the sprinkler head to the reducer (outlet), if necessary adjust the height and location of the reducer by loosening and tightening the bolt.





SINGAPORE

The Viking Corporation (Far East) Pte Ltd

69 Tuas View Square,
Westlink Tech Park,
Singapore 637621

Telephone: +65-6278-4061
Facsimile: +65-6278-4609
Email: ycpang@vikingcorp.com

CHINA

Viking Fire Protection Equipment Trading (Shanghai) Co., Ltd

2nd Floor, Building 2, No. 1, Lane 2328
Chunshen Road, Shanghai,
China 201100

Telephone: +86-21-6091-3262
Facsimile: +86-21-6116-9065
Email: vikingchina@vikingcorp.com

HONG KONG

Viking Supply Network (Hong Kong) Limited

Unit , 6th Floor,
Gee Hing Chang Industrial Building
No. 16 Cheung Yue Street
Cheung Sha Wan, Kowloon,
Hong Kong

Telephone: +852-2391-1078
Facsimile: +852-2787-6063
Email: aee@vikingcorp.com

INDIA

Viking Fire Products (India) Pte Ltd Office

No. 138, 1st Floor, SRS Tower, 14/5, Main
Mathura Road, Near Metro Station, Mewla,
Maharajpur, Faridabad - 121003 Haryana, India

Telephone: +91-9891161780
Email: sgupta@vikingcorp.com

JAPAN

The Viking Corporation (Japan)

AIOS Gotanda Ekimae Building 4th Floor
1-11-1 Nishigotanda, Shinagawa-ku
Tokyo 141-0031, Japan

Telephone: +81-3-6303-9571
Facsimile: +81-3-6303-9572
Email: kyoshimasu@vikingcorp.com

SOUTH KOREA

Viking Korea Limited

513-1 Daeyami-Dong Gunpo City
Gyeonggi-Do
Korea 435-060

Telephone: +82-31-502-2510
Facsimile: +82-31-438-0137
Email: jhwang@vikingcorp.com

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