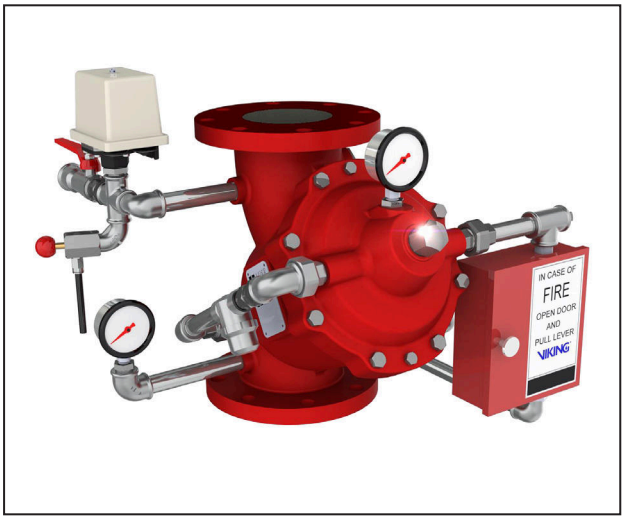
TECHNICAL DATA

FSX-A DELUGE VALVE
2” (DN50) – 8” (DN200)

Viking S.A., Zone Industrielle Haneboesch, L-4562 Differdange/Niederkorn, Luxembourg
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1. DESCRIPTION

The Viking Model FSX-A Deluge Valve is a diaphragm operated valve used to control water into deluge systems. The valve is held closed by system water pressure trapped in the control chamber, keeping the outlet chamber and system piping dry. In fire conditions, when the releasing system operates, pressure is released from the control chamber allowing the valve disk to open, allowing water to flow into the system piping.



Features:

- Lightweight design
- Small footprint
- Straight-through design
- Hydraulic or electric release
- Remote operation available
- Low pressure loss
- Easy trim design
- Fast assembly on site or available pre-assembled
- No need to install a priming line from upstream side of valve
- Auto-setting: just slowly open the upstream gate valve to bring valve to set position

2. LISTINGS AND APPROVALS

cULus Listed: Category VLFT.EX2006

FM Approved: Class 1011

3. TECHNICAL INFORMATION

3.1 Valve data

Table 3.1.1 - Valve specifications	
Maximum working pressure:	17.2 bar / 250 psi (UL) 16 bar / 232 psi (FM)
Minimum operating pressure:	2.0 bar / 29 psi
Operating temperature:	4 °C to 60 °C / 39 °F to 140 °F
Style:	Straight through
Connections:	Flange-Flange Flange-Grooved Grooved-Grooved
Factory tested to:	34.5 bar / 500 psi
Colour:	Red
Materials:	Housing: Ductile iron Seat/Disk: Brass Rod: Stainless Gaskets: Nitrile rubber

For further detailed technical information, refer to the FSX-A Operating Instructions (part number 924120, DokID 100106782), available on www.viking-emea.com

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3.2 Trim options

The FSX-A is available with multiple trim options which allow the valve to operate in different ways.

3.2.1 Operating trim

The basic hydraulic trim is fitted to all FSX-A valves and includes the basic trim components to allow the valve to operate. The valve is connected to a hydraulic release line (wet pilot line) which, when released allows the water pressure in the control chamber to be released, thereby opening the main deluge valve.

The basic hydraulic trim also includes an emergency release box (ball valve for manual release) and an alarm pressure switch.

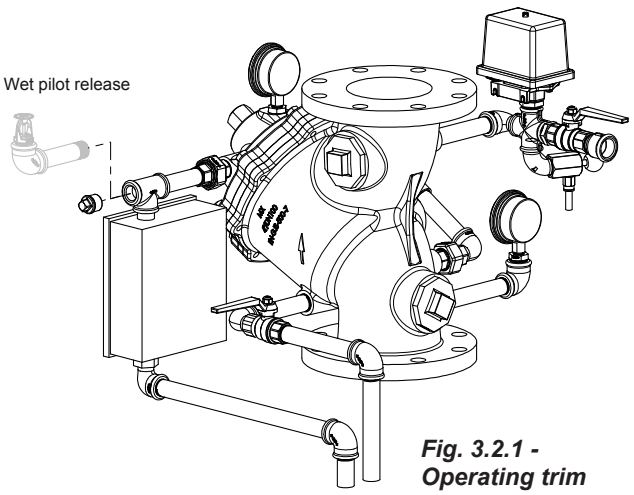


Fig. 3.2.1 - Operating trim

3.2.2 Electric release

The electric release option allows the deluge valve to be opened remotely via a fire detection control panel which activates the release solenoid valve in the event of a fire. The solenoid valve opens, releasing the pressure in the control chamber and hence allowing the deluge valve to open.

The solenoid valve is a 24 V DC Normally Closed (NC) type.

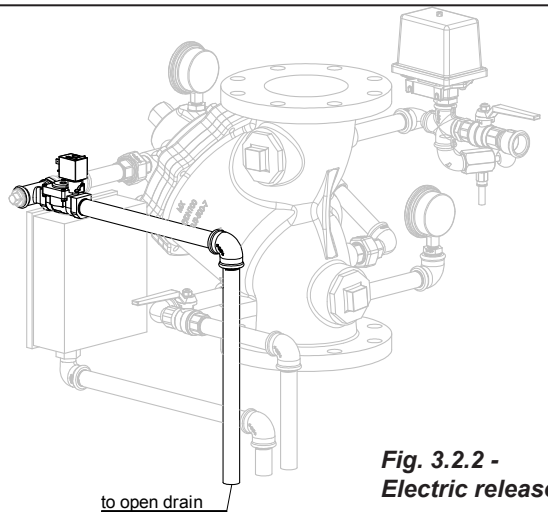


Fig. 3.2.2 - Electric release

3.2.3 Pressure Operated Relief Valve (PORV)

The PORV is a device which prevents the deluge valve from closing automatically after operation by preventing the control chamber from re-pressurising. When the deluge valve first opens, the PORV is activated and this sets up a bypass for the control chamber priming line. As such, even if the release device (such as the electric release option or thermostatic release) resets/closes, the control chamber cannot re-pressurise and the deluge valve stays open.

In systems where remote “on-off” operation is required, the PORV option is not required. If automatic closure of the deluge valve is NOT required, then the PORV option is necessary.

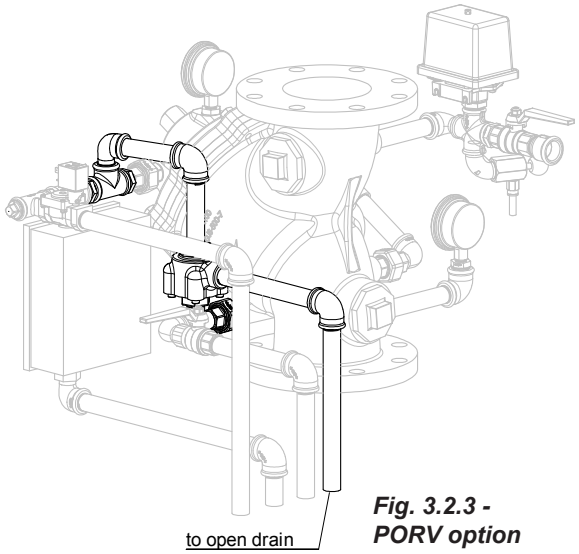


Fig. 3.2.3 - PORV option

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3.2.4 Fast drain

To aid faster drainage of a system after test or activation then the fast drain option provides a drain connection downstream of the deluge valve.

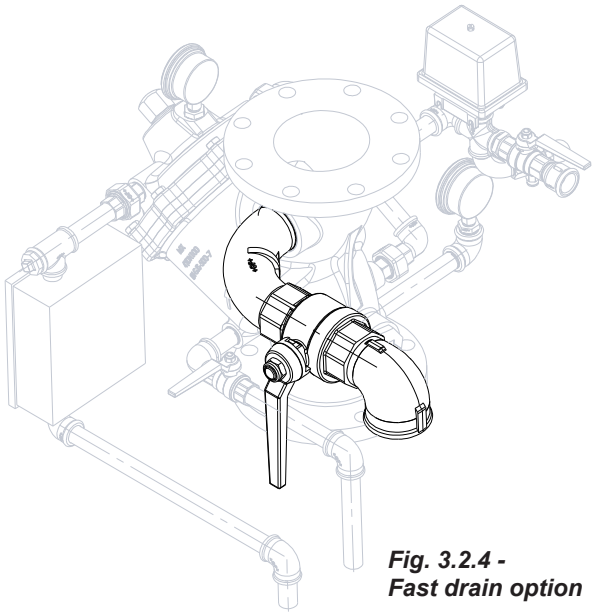


Fig. 3.2.4 - Fast drain option

3.2.5 Alarm test

The alarm test option provides a bypass allowing the alarm pressure switch and water motor alarm to be tested without having to open the deluge valve. Opening the ball valve allows water from upstream of the deluge valve to pass directly to the alarm line.

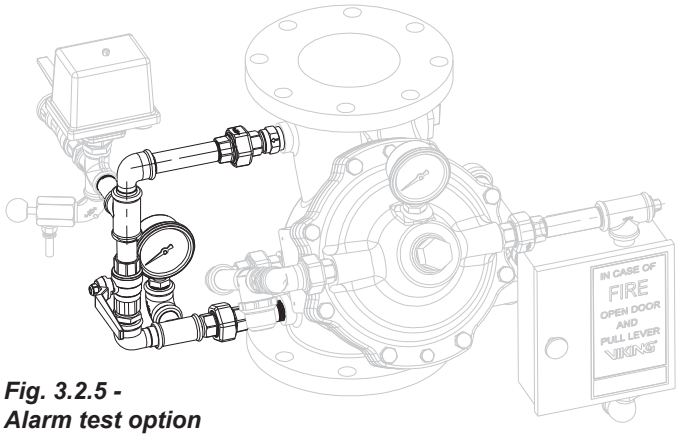


Fig. 3.2.5 - Alarm test option

3.2.6 Inspection and drain option

An upstream test/drain connection can be provided by adding the inspection and drain option.

NOTICE ***This option is required for UL/ FM systems***

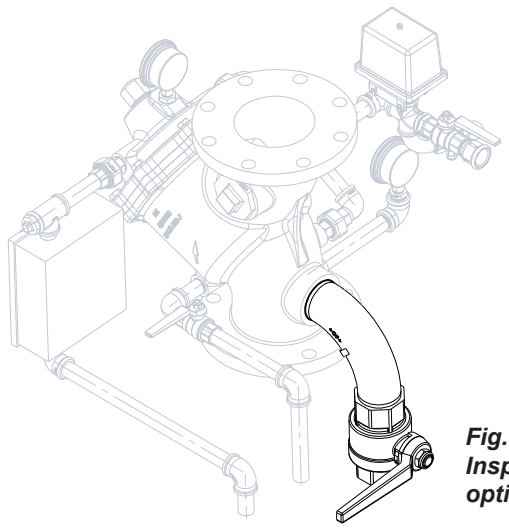


Fig. 3.2.6 - Inspection & Drain option

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4. ORDERING INFORMATION

The Viking FSX-A is available in preconfigured versions or as build to order.

4.1 Preconfigured FSX-A – Hydraulic Release

The FSX-A preconfigured for hydraulic release includes the following options (***see section 3.2***):

- Operating trim
- Pressure Operated Relief Valve (PORV)
- Fast drain
- Alarm test
- Inspection and drain
- PS101A alarm pressure switch

Table 4.1.1 - Part numbers: Preconfigured FSX-A - Hydraulic Release

Type	Trim	Size	Flange-Flange (PN16)	Flange-Flange (ANSI)	Flange-Groove (PN16)	Flange-Groove (ANSI)	Groove-Groove
Hydraulic Release	Assembled	2” / DN50	A/FSXA-50P	A/FSXA-50A			A/FSXA-60GG
		3” / DN80	A/FSXA-80P	A/FSXA-80A			A/FSXA-89GG
		4” / DN100	A/FSXA-100P	A/FSXA-100A			A/FSXA-114GG
		6” / DN150 (165 mm)			A/FSXA-165FG		A/FSXA-165GG
		6” / DN150 (168 mm)	A/FSXA-150		A/FSXA-168FG		A/FSXA-168GG
		8” / DN200	A/FSXA-200P	A/FSXA-200A	A/FSXA-219FGP	A/FSXA-219FGA	A/FSXA-219GG
	Unassembled	2” / DN50	FSXA-50P	FSXA-50A			FSXA-60GG
		3” / DN80	FSXA-80P	FSXA-80A			FSXA-89GG
		4” / DN100	FSXA-100P	FSXA-100A			FSXA-114GG
		6” / DN150 (165 mm)			FSXA-165FG		FSXA-165GG
		6” / DN150 (168 mm)	FSXA-150		FSXA-168FG		FSXA-168GG
		8” / DN200	FSXA-200P	FSXA-200A	FSXA-219FGP	FSXA-219FGA	FSXA-219GG

4.2 Preconfigured FSX-A – Electric Release

The FSX-A preconfigured for electric release includes the following options (***see section 3.2***):

- Operating trim
- Pressure Operated Relief Valve (PORV)
- Fast drain
- Alarm test
- Inspection and drain
- Electric release
- PS101A alarm pressure switch

Table 4.2.1 - Part numbers: Preconfigured FSX-A - Electric Release

Type	Trim	Size	Flange-Flange (PN16)	Flange-Flange (ANSI)	Flange-Groove (PN16)	Flange-Groove (ANSI)	Groove-Groove
Electric Release	Assembled	2” / DN50	A/FSXA-50P/EL	A/FSXA-50A/EL			A/FSXA-60GG/EL
		3” / DN80	A/FSXA-80P/EL	A/FSXA-80A/EL			A/FSXA-89GG/EL
		4” / DN100	A/FSXA-100P/EL	A/FSXA-100A/EL			A/FSXA-114GG/EL
		6” / DN150 (165 mm)			A/FSXA-165FG/EL		A/FSXA-165GG/EL
		6” / DN150 (168 mm)	A/FSXA-150/EL		A/FSXA-168FG/EL		A/FSXA-168GG/EL
		8” / DN200	A/FSXA-200P/EL	A/FSXA-200A/EL	A/FSXA-219FGP/EL	A/FSXA-219FGA/EL	A/FSXA-219GG/EL
	Unassembled	2” / DN50	FSXA-50P/EL	FSXA-50A/EL			FSXA-60GG/EL
		3” / DN80	FSXA-80P/EL	FSXA-80A/EL			FSXA-89GG/EL
		4” / DN100	FSXA-100P/EL	FSXA-100A/EL			FSXA-114GG/EL
		6” / DN150 (165 mm)			FSXA-165FG/EL		FSXA-165GG/EL
		6” / DN150 (168 mm)	FSXA-150/EL		FSXA-168FG/EL		FSXA-168GG/EL
		8” / DN200	FSXA-200P/EL	FSXA-200A/EL	FSXA-219FGP/EL	FSXA-219FGA/EL	FSXA-219GG/EL

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4.3 Build to order FSX-A

The FSX-A deluge valve can also be built to order with the specific options required. To build your tailored FSX-A deluge valve, follow our two step selection process.

Step 1 – Select the base valve

Table 4.3.1 - Part numbers: FSX-A Base Valve

Type	Trim	Size	Flange-Flange (PN16)	Flange-Flange (ANSI)	Flange-Groove (PN16)	Flange-Groove (ANSI)	Groove-Groove
Valve & Base Trim	Unassembled	2” / DN50	FSXA-50PV	FSXA-50AV			FSXA-60GGV
		3” / DN80	FSXA-80PV	FSXA-80AV			FSXA-89GGV
		4” / DN100	FSXA-100PV	FSXA-100AV			FSXA-114GGV
		6” / DN150 (165 mm)			FSXA-165FGV		FSXA-165GGV
		6” / DN150 (168 mm)	FSXA-150V		FSXA-168FGV		FSXA-168GGV
		8” / DN200	FSXA-200PV	FSXA-200AV	FSXA-219FGPV	FSXA-219FGAV	FSXA-219GGV

Step 2 – Select the options (***see section 3.2***)

Table 4.3.2 - Part numbers: FSX-A Trim Options

Options for Built to order	Electric Release	2” / DN50	FSXA-E-50
		3” / DN80	FSXA-E-80
		4” / DN100	FSXA-E-100
		6” / DN150	FSXA-E-150
		8” / DN200	FSXA-E-200
	PORV	2” / DN50	FSXA-P-50
		3” / DN80	FSXA-P-80
		4” / DN100	FSXA-P-100
		6” / DN150	FSXA-P-150
		8” / DN200	FSXA-P-200
	Fast Drain	2” / DN50	FSXA-FD-50
		3” / DN80	FSXA-FD-80
		4” / DN100 to 8” / DN200	FSXA-FD-100200
	Alarm Test	All sizes	FSXA-AT
	Inspection & Drain	2” / DN50	FSXA-ID-50
		3” / DN80	FSXA-ID-80
		4” / DN100 to 8” / DN200	FSXA-ID-100200

Step 3 – add the alarm pressure switch part number PS101A

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5. DIMENSIONS

5.1 Valve plus operating trim

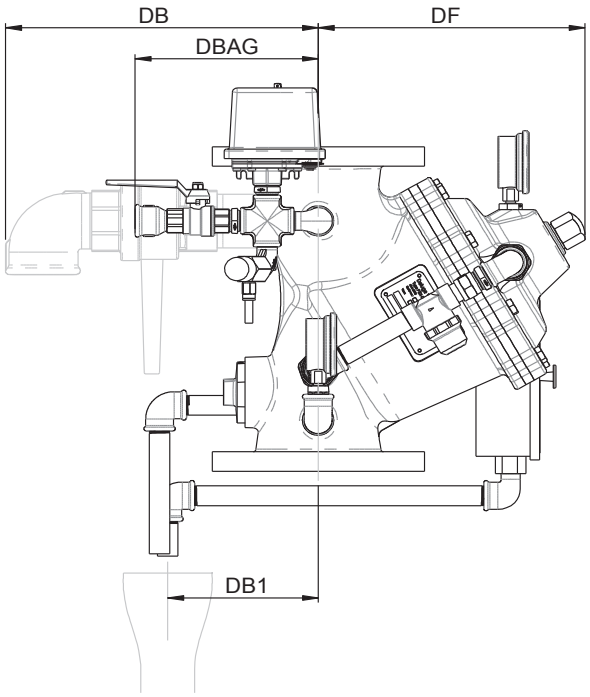


Fig. 5.1.1 - Side view

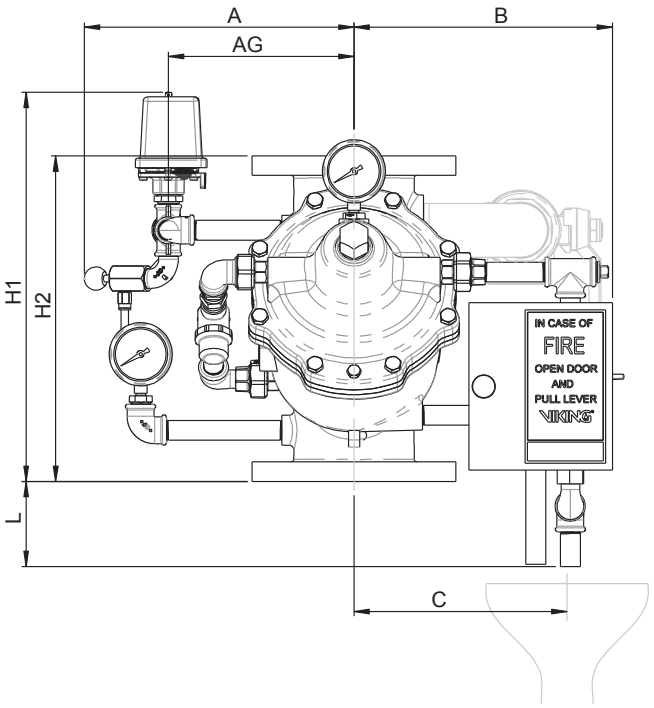


Fig. 5.1.2 - Front view

Table 5.1.3 - Dimensions (mm) and weights (kg)

	2” / DN50	3” / DN80	4” / DN100	6” / DN150	8” / DN200
A	310	320	290	320	355
AG	220	220	200	220	250
B	220	270	280	315	415
C	160	210	220	255	305
L	150	120	90	15	10
H1	400	410	420	500	575
H2	280	310	350	480	600
DF	210	250	280	335	450
DB	210	245	330	325	325
DBAG	190	190	190	190	190
DB1	140	150	160	170	180
Weight	22.5	30.5	43.9	68.8	140.8

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5.2 Electric release

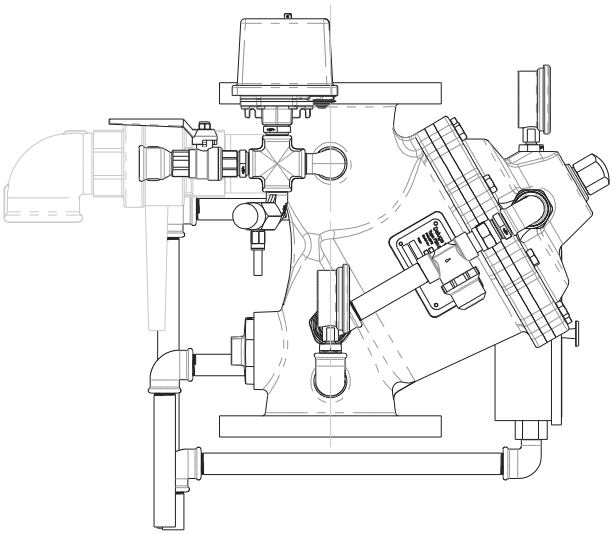


Fig. 5.2.1 - Side view

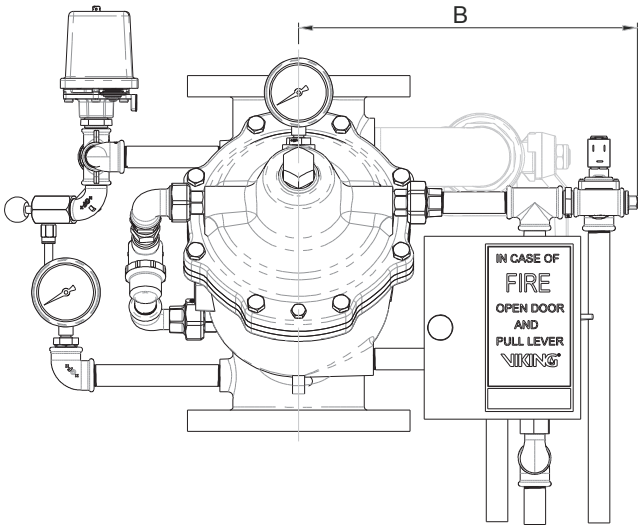


Fig. 5.2.2 - Front view

Table 5.2.3 - Dimensions (mm) and weights (kg)					
	2” / DN50	3” / DN80	4” / DN100	6” / DN150	8” / DN200
B	325	335	335	380	475
Weight*	1.5	1.6	1.6	1.7	1.8
* In addition to the valve and operating trim					

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5.3 PORV

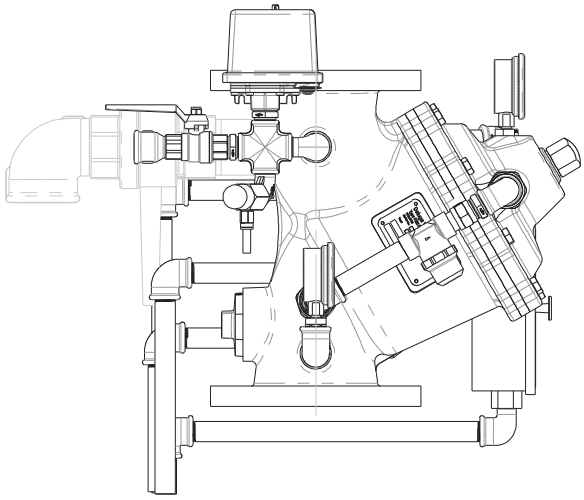


Fig. 5.3.1 - Side view

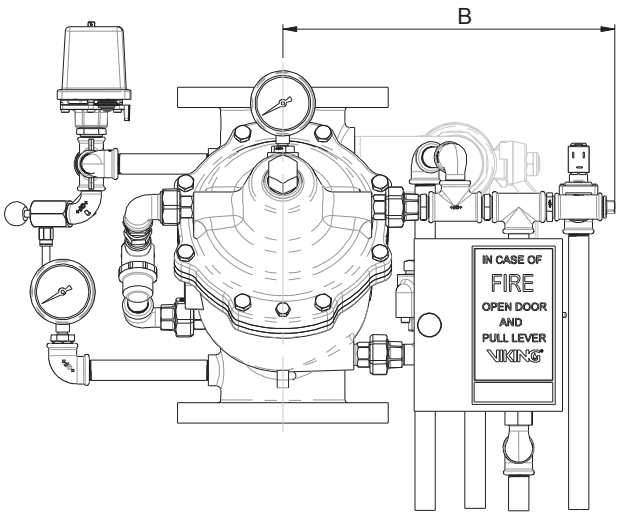


Fig. 5.3.2 - Front view

Table 5.3.3 - Dimensions (mm) and weights (kg)					
	2” / DN50	**3” / DN80**	**4” / DN100**	**6” / DN150**	**8” / DN200**
B	340	350	350	390	490
Weight*	2.9	3.0	3.0	3.1	3.3
* In addition to the valve and operating trim					

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5.4 Fast drain

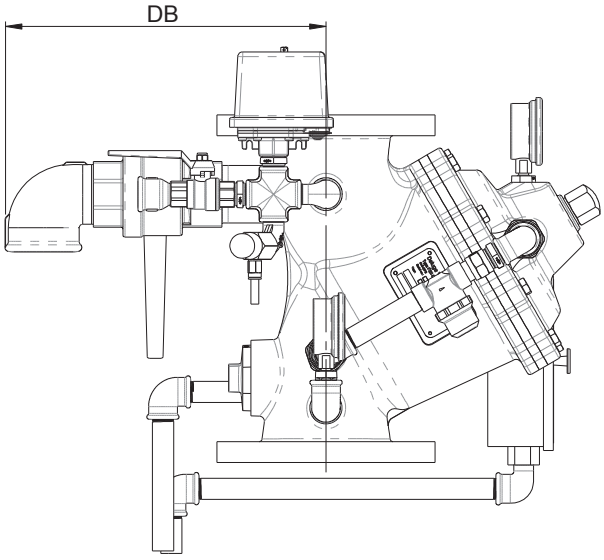


Fig. 5.4.1 - Side view

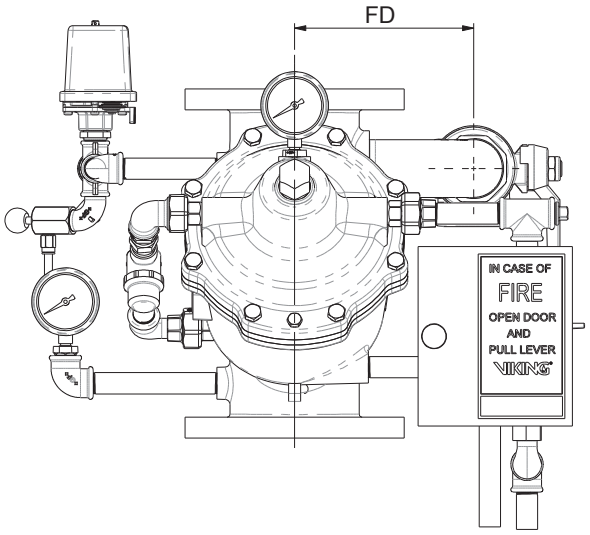


Fig. 5.4.2 - Front view

Table 5.4.3 - Dimensions (mm) and weights (kg)					
	2” / DN50	**3” / DN80**	**4” / DN100**	**6” / DN150**	**8” / DN200**
FD	115	140	155	210	245
DB	210	245	330	325	325
Weight*	1.2	1.8	3.1	3.1	3.1
* In addition to the valve and operating trim					

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5.5 Alarm test

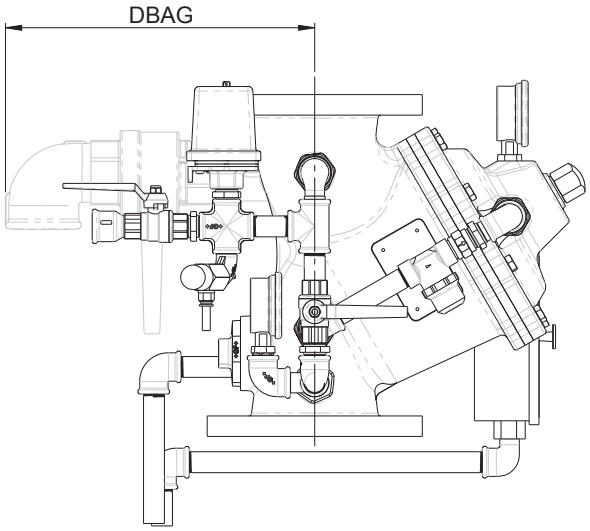


Fig. 5.5.1 - Side view

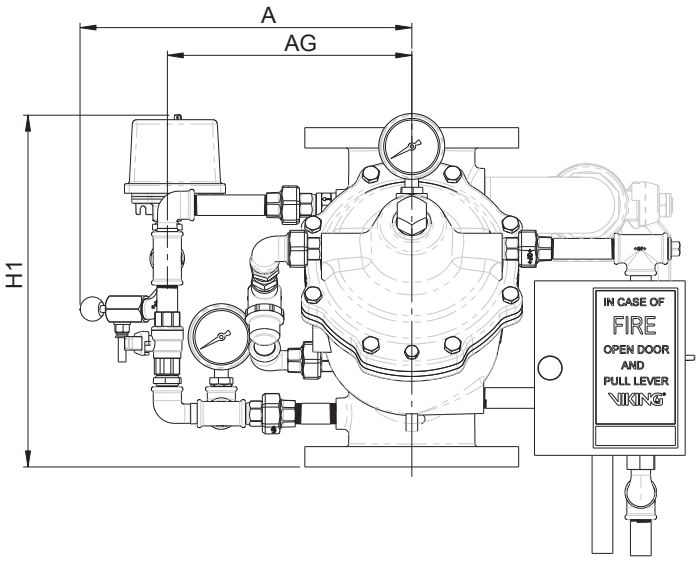


Fig. 5.5.2 - Front view

Table 5.5.3 - Dimensions (mm) and weights (kg)

	2” / DN50	3” / DN80	4” / DN100	6” / DN150	8” / DN200
A	360	370	340	370	405
AG	270	270	255	270	300
H1	370	380	390	470	545
DBAG	190	190	190	190	190
Weight*	1.6	1.6	1.6	1.6	1.6

* In addition to the valve and operating trim

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5.6 Inspection & drain

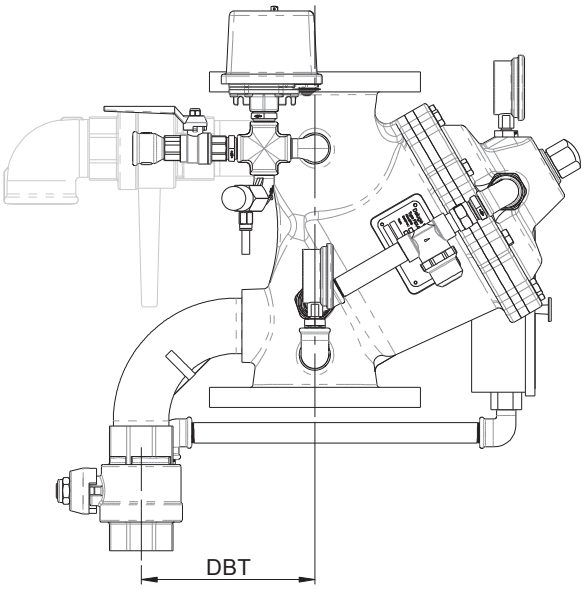


Fig. 5.6.1 - Side view

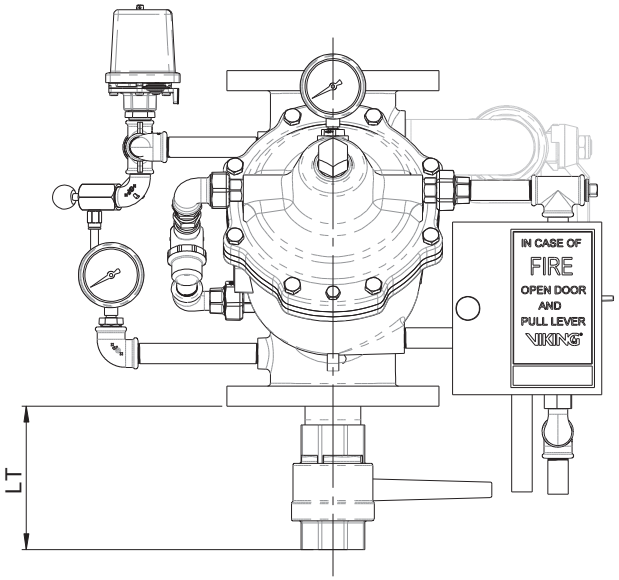


Fig. 5.6.2 - Front view

Table 5.6.3 - Dimensions (mm) and weights (kg)					
	2” / DN50	**3” / DN80**	**4” / DN100**	**6” / DN150**	**8” / DN200**
LT	65	75	150	130	115
DBT	110	125	180	200	235
Weight*	1.0	1.5	3.7	3.7	3.7
* In addition to the valve and operating trim					

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6. AVAILABILITY

Please contact your local Viking sales office for further information.

The product is available directly from Viking and official distributors only.

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