Verifiable Single or Double Check Valves EA/EC

Product Information

Series 49.0xx.x26

EA **49.0xx.126**

Control port

EC **49.0xx.226**

Control port

Control port

BPA FREE

A. u. K. Müller

Solenoid valves
Control valves
Special valves and systems

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Description

Pressure fluctuations in a water distribution circuit can cause a reversal of the flow direction. In this case a check valve, installed between the water distribution system and the mains water supply, closes automatically and prevents any back flow, back suction or back pressure. The control port provided before each backflow preventer unit, allows a regular monitoring of the safe functioning of the component.

The series 49.0xx.x26, verifiable check valves, types EA and EC , has been developed according to the performance requirements of DIN EN 13959 and are confirmed by an accredited laboratory. These are suitable, according to DIN EN 1717, for securing devices using category 1 and 2 liquids (according to WRAS the EC type is also applicable to fluid category 3).

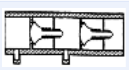
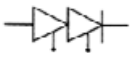
Besides, check valves protect sensitive equipment from contamination from backflow (e.g. behind pumps), dry running through retention of water (e.g. before not self-priming pumps), cross flow in systems with varying line pressure (e.g. in parallel cold and hot water supplies) and ensure the flow in only one direction in complex fluidic systems.

The verifiability offers the user the possibility of checking the operational reliability and can, optionally, be equipped with a manometer or other sensors.

Various configurations by combining different nominal orifice sizes and fluid connectors are available.

Applications

- Use in devices with direct connection to the drinking water supplies
- Commercial cooking devices
- Steam cooker
- Pressure cooking devices
- Water cooling equipment (e.g. X-ray equipment)
- Drink vending machines (coffee, juices)
- Water dispensers
- Avoiding of back flowing medium in the drinking water supply where backflow preventers according to DIN EN 1717 Type EA and EC are allowed (fluid category 2).

Verifiable single check valve	Verifiable double check valve
EA	EC
	
	

Possible Approvals

Approved versions available on request:

- KTW-BWGL
- Others on request

Characteristics

- Safety device against backflow or back suction of liquids, e.g. in potable water networks
- Suitable for fluid categories 1 and 2 in accordance to DIN EN 1717
- Available in DN 8, 10 or 15 depending on port size
- Medium temperature 65 °C/149 °F (90 °C/ 194 °F for max. 1 h)
- Compact design
- Easy to retrofit
- Function in accordance to DIN EN 13959, confirmed by an accredited laboratory
- Easy maintenance through control ports with G 1/4 plugs (Tightening torque 1 - 1,5 Nm)
- Manifold configuration options by combining various nominal widths and fluid connectors
- Fluid connectors optional as female and male threads available

Technical Data

Type	Non-return valve (check valve)	
Construction	Check valve cartridge in housing	
Function	Backflow prevention	
Fitting position	Any	
Media	cold and heated potable water and physically and chemically similar media	
T-Medium	5 - 65 90	°C °C max. for 1 h
T-Ambient	5 - 65	°C
DN	8, 10 or 15 mm depending on port size	
p-Operating	0 - 10	bar
Control port	G 1/4	

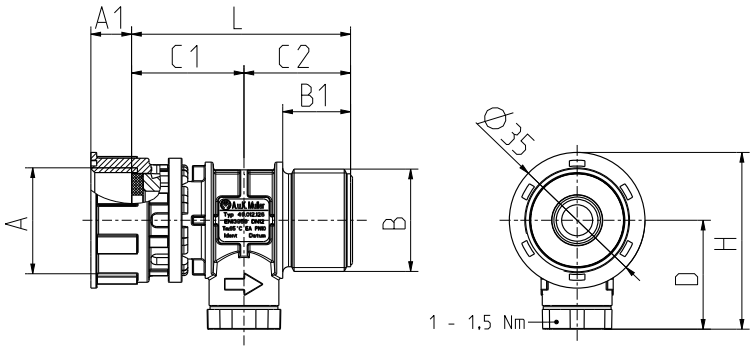
Materials

Housing	PA 6/6 glass fibre reinforced
Internal non-return cartridge housing **Seal**	 POM VMQ
Spring	stainless steel
Sealings	EPDM
Plug of control port	PA 6/6 glass fibre reinforced, stainless steel on request

Series 49.0xx.x26

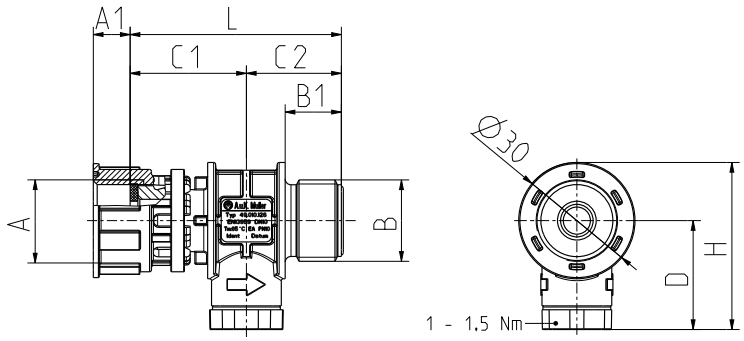
EA **49.0xx.126**

xx => DN



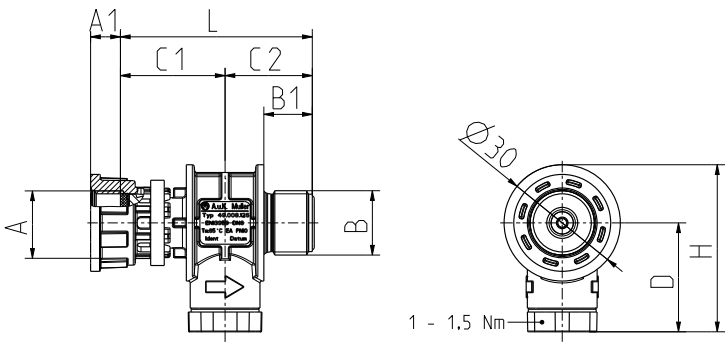
Options

ID	Inlet			Outlet							Qmax.
	Ø A	A1	DN	Ø B	B1	C1	C2	L	D	H	[l/min]
095400	G 3/4	10,5	15	G 3/4	17,5	29,0	27,5	56,5	28,5	46	55



Options

ID	Inlet			Outlet							Qmax.
	Ø A	A1	DN	Ø B	B1	C1	C2	L	D	H	[l/min]
095401	G 1/2	9,5	10	G 1/2	14,5	30,0	24,5	54,5	28,5	43,5	21



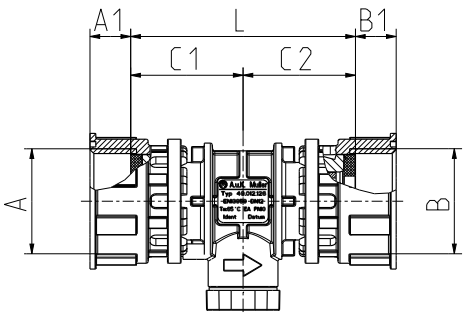
Options

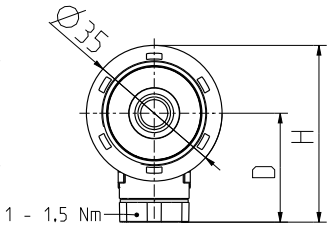
ID	Inlet			Outlet							Qmax.
	Ø A	A1	DN	Ø B	B1	C1	C2	L	D	H	[l/min]
095402	G 3/8	7,7	8	G 3/8	12,5	27,0	22,5	49,5	28,5	43,5	15

Series 49.0xx.x26

Further Variants on Request

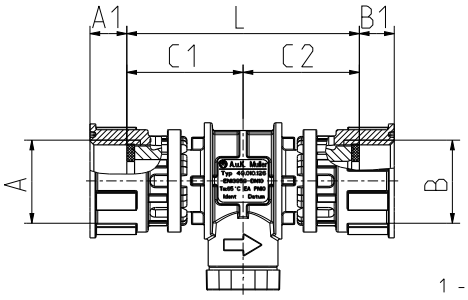
EA **49.0xx.126**
xx => DN

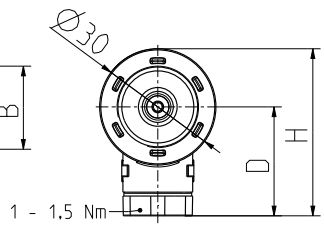




Options

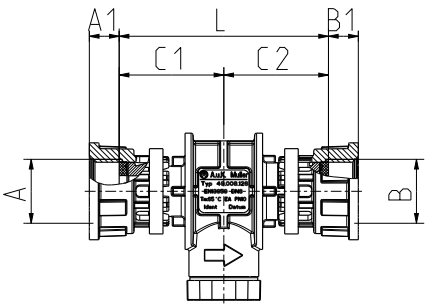
ID	Inlet			Outlet							Qmax.
	Ø A	A1	DN	Ø B	B1	C1	C2	L	D	H	[l/min]
on request	G 3/4	10,5	15	G 3/4	10,5	29,0	29,0	58	28,5	46	55
			10								21
			8								15

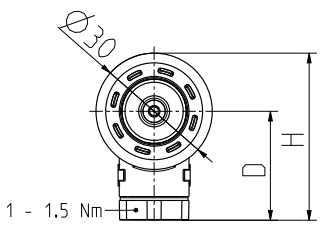




Options

ID	Inlet			Outlet							Qmax.
	Ø A	A1	DN	Ø B	B1	C1	C2	L	D	H	[l/min]
on request	G 1/2	9,5	8	G 1/2	9,5	30,0	30,0	60	28,5	43,5	15





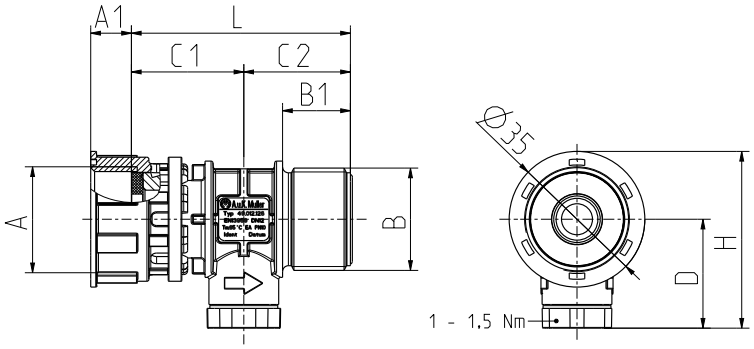
Options

ID	Inlet			Outlet							Qmax.
	Ø A	A1	DN	Ø B	B1	C1	C2	L	D	H	[l/min]
on request	G 3/8	7,7	8	G 3/8	7,7	27,0	27,0	54	28,5	43,5	15

Series 49.0xx.x26

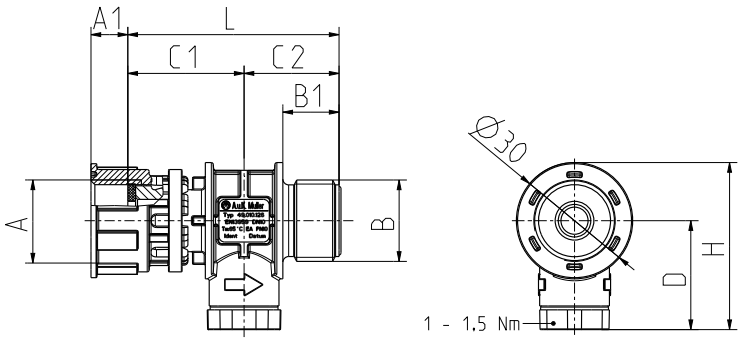
EA 49.0xx.126

xx => DN



Options

ID	Inlet			Outlet							Qmax.
	Ø A	A1	DN	Ø B	B1	C1	C2	L	D	H	[l/min]
on request	G 3/4	10,5	10	G 3/4	17,5	29,0	27,5	56,5	28,5	46	21
			8								15

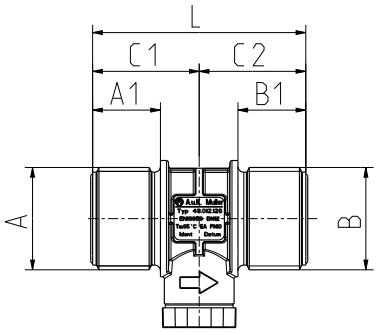


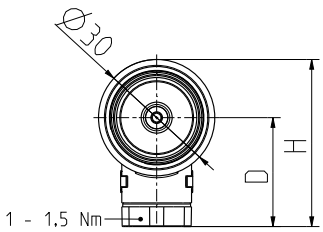
Options

ID	Inlet			Outlet							Qmax.
	Ø A	A1	DN	Ø B	B1	C1	C2	L	D	H	[l/min]
on request	G 1/2	9,5	8	G 1/2	14,5	30,0	24,5	54,5	28,5	43,5	15

Series 49.0xx.x26

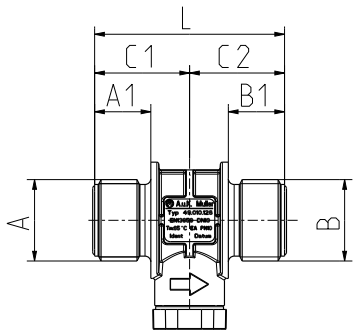
EA **49.0xx.126**
xx => DN

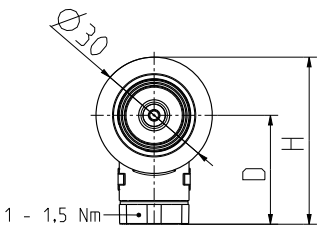




Options

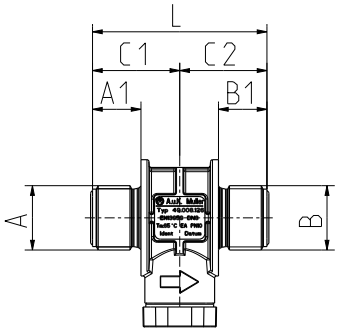
ID	Inlet			Outlet							Qmax.
	Ø A	A1	DN	Ø B	B1	C1	C2	L	D	H	[l/min]
on request	G 3/4	17,5	15	G 3/4	17,5	27,5	27,5	55	28,5	43,5	55
			10								21
			8								15

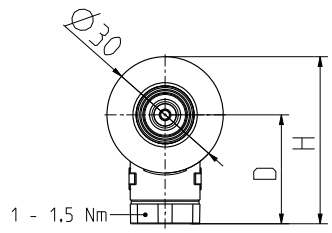




Options

ID	Inlet			Outlet							Qmax.
	Ø A	A1	DN	Ø B	B1	C1	C2	L	D	H	[l/min]
on request	G 1/2	14,5	8	G 1/2	14,5	24,5	24,5	49	28,5	43,5	15





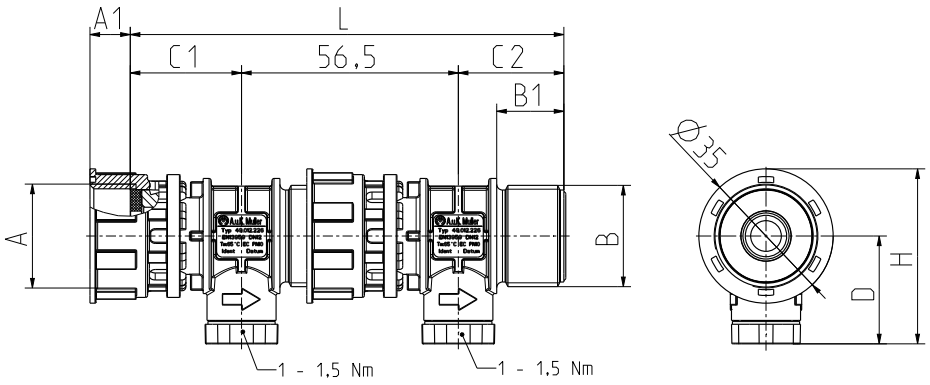
Options

ID	Inlet			Outlet							Qmax.
	Ø A	A1	DN	Ø B	B1	C1	C2	L	D	H	[l/min]
on request	G 3/8	12,5	8	G 3/8	12,5	22,5	22,5	45	28,5	43,5	15

Series 49.0xx.x26

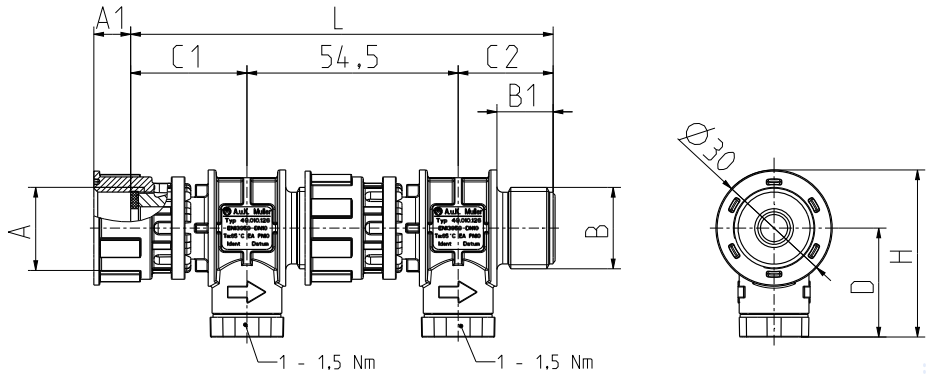
EC **49.0xx.226**

xx => DN



Options

ID	Inlet			Outlet							Qmax.
	Ø A	A1	DN	Ø B	B1	C1	C2	L	D	H	[l/min]
95450	G 3/4	10,5	15	G 3/4	17,5	29,0	27,5	113	28,5	46	55
on request			10								21
			8								15



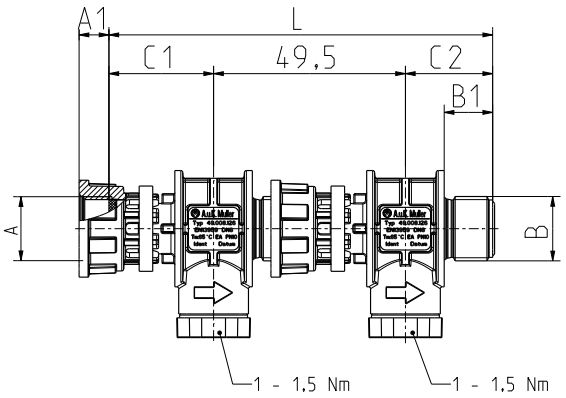
Options

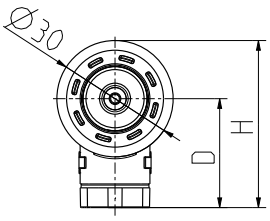
ID	Inlet			Outlet							Qmax.
	Ø A	A1	DN	Ø B	B1	C1	C2	L	D	H	[l/min]
95451	G 1/2	9,5	10	G 1/2	14,5	30,0	24,5	109	28,5	43,5	21
on request			8								15

Furthermore, the nominal orifice DN 6 can be offered for all valve body variants on request.

Series 49.0xx.x26

EC **49.0xx.226**
xx => DN





Options

ID	Inlet			Outlet							Qmax.
	Ø A	A1	DN	Ø B	B1	C1	C2	L	D	H	[l/min]
95452	G 3/8	7,5	8	G 3/8	12,5	27,0	22,5	99	28	43	15

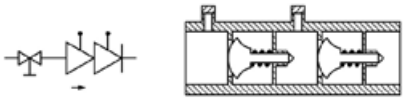
Installation Guidelines

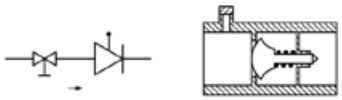
The backflow preventer can be installed in any position. However, it is advantageous to install it in a horizontal pipeline with the test opening facing downwards. In this installation position, optimum drainage is guaranteed. It is important to ensure good accessibility for the periodic inspection and maintenance.

Assembly Instruction for Swivel Nuts

In order to avoid damage to the swivel nuts or leaks in the screw connections, please follow these assembly instructions.

- Place the swivel nut straight onto the thread of the male counterpart.
- Tighten the swivel nut to a torque of 3 Nm.
- Make sure that the metal ring is correctly seated on the toothed part of the swivel nut.
- Check the installation for leaks.
- Repeat the leakage check at suitable intervals.
- Only use original seals and spare parts from A. u. K. Müller.





After the installation of the backflow preventer, the tightness should be checked.

In addition, a shut-off device (e.g. shut-off valve series 52.009.100/~200) should be provided to ensure the devices can be safely checked.

Combination of verifiable check valve with shut-off valve, series 52.009.100/~200

52.009.200 **49.00x.126 (EA)**

Series 49.0xx.x26

Maintenance Instructions

Backflow preventers are dynamic components and therefore subject to wear. In accordance with DIN EN 806-5: 2012, backflow preventers of the type EA or EC are to be maintenanced by a regular annual inspection. Please also take individual national regulations into consideration.

Inspection

During inspection the following points should be checked:

- Is the determination of the risks, for the tapping points connected to the backflow preventer, unchanged to the technical rule DIN EN 1717 section 5, so that the backflow preventer is still suitable for securing the supply
- Cleanliness around
- No leakage, corrosion or damage
- Meets installation requirements
- Accessibility

Maintenance

For maintenance the following steps in the order of listing should be carried out:

- Close the shut-off device and make sure that no flow occurs. Therefore close the extraction points, but ensure that the downstream line is under pressure.
- When using hot media, do not use the control port until the medium has cooled down below 40° C.
- Place a suitable container underneath to collect the cooled medium. Open the inlet-side control port, it will leak water until the upstream line is fully drained.
- After emptying the flow must stop. If not, the tightness of the shut-off device is to be checked and, if necessary repaired.
- In case dropping occurs or the water runs constantly, the backflow preventer needs to be replaced. The replacement should be done by an installation company.
- Close control port again and open upstream shut-off valves to take your device into operation.

⚠ Caution ⚠	
Danger of scalding due to hot escaping medium!	
•	When opening the control port, hot medium may escape.
►	Wait until the medium has cooled down below 40° C before opening.