DEF: Tight-sealing butterfly valve, PN 16

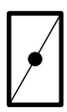
DEF100F200

How energy efficiency is improved

Intelligent collar design for working without loss through leakage

Features

- For cutting off and regulating water and low-pressure steam up to 110 °C
- Butterfly valve with 3-way brass bearing bush as spindle bearing
- Fits PN 6, PN 10 and PN 16 flanges
- Can be combined with the ADM 322(S), ADM 333SF/HF, ASM 124(S), 134(S) and ASF 122, 123(S) actuators with spring return
- Damper body made of grey cast iron
- Collar made of ethylene-propylene rubber
- Butterfly disc made of stainless steel
- Spindle made of stainless steel with two O-rings



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Technical data

Parameters		
	Nominal pressure	16 bar
	Valve characteristic	Linear
	Rotation angle	90°
	Leakage rate[1)]	< 0.0001% of K_{VS} value Leakage rate A as per EN 12266-1

Ambient conditions		
	Operating temperature	–10...130 °C
	Maximum operating pressure	16 bar

Overview of types

Type	Nominal diameter	K_{VS} value	Weight	Regulations
DEF025F200	DN 25	36 m³/h	1 kg	Article 4.3 PED
DEF032F200	DN 32	40 m³/h	1.15 kg	Article 4.3 PED
DEF040F200	DN 40	50 m³/h	2.75 kg	Article 4.3 PED
DEF050F200	DN 50	85 m³/h	3.05 kg	Article 4.3 PED
DEF065F200	DN 65	215 m³/h	4.05 kg	Cat. I PED, CE
DEF080F200	DN 80	420 m³/h	4.3 kg	Cat. I PED, CE
DEF100F200	DN 100	800 m³/h	4.85 kg	Cat. I PED, CE
DEF125F200	DN 125	1010 m³/h	7.2 kg	Cat. I PED, CE
DEF150F200	DN 150	2100 m³/h	9.5 kg	Cat. I PED, CE
DEF200F200	DN 200	4000 m³/h	12 kg	Cat. I PED, CE

PED: Directive 2014/68/EU for pressure equipment

Cat. I / CE: Category I butterfly valve with CE marking

Accessories

Type	Description
0361632***	Two welding flanges, complete PN 6 as per EN 1092-1 DN 25, DN 32, DN 40, DN 50, DN 65, DN 80, DN 100, DN 125, DN 150, DN 200
0361633***	Two welding flanges, complete PN 10 (DN 25...100) as per EN 1092-1 and PN 16 (DN 25...200) as per EN 1092-1 DN 25, DN 32, DN 40, DN 50, DN 65, DN 80, DN 100, DN 125, DN 150, DN 200
0361634200	2 welding flanges complete PN 10 (DN 200) as per EN 1092-1
0378113001	Assembly part; DEF DN 25…100 for ASF 122, 123
0372455001	Assembly part; DEF DN 25...65 for ASM 124, 134
0372455002	Assembly part; DEF DN 80...100 for ASM 124; DN 125 for ASM 134
0372455003	Assembly part; DEF DN 150...200 for ASM 134
0510240014	Mounting kit for ADM 322 with DEF DN 20…65

[1)] *At Δp 1.5 bar*

Type	Description
0510240015	Mounting kit for ADM 322 with DEF DN 80…100
0510240031	Mounting kit for ADM 333 with butterfly valve DEF, DN 25…65
0510240032	Mounting kit for ADM 333 with butterfly valve DEF, DN 80…125
0510240033	Mounting kit for ADM 333 with butterfly valve DEF, DN 150…200
0510240041	Mounting kit for ADM 333 with butterfly valve DEF, DN 25…65, hand lever
0510240042	Mounting kit for ADM 333 with butterfly valve DEF, DN 80…125, hand lever
0510240043	Mounting kit for ADM 333 with butterfly valve DEF, DN 150…200, hand lever

Combination of DEF with electric actuators

Warranty: The technical data and pressure differences indicated here are applicable only in combination with SAUTER valve actuators. Any warranty will be invalidated if valve actuators from other manufacturers are used.

***Definition of Δp_s:** Max. admissible pressure drop in the event of a malfunction (pipe break after the damper) at which the actuator reliably closes the damper using the return spring.*

***Definition of Δp_{max}:** Max. admissible pressure drop in control mode at which the actuator reliably opens and closes the damper.*

Pressure differences

Actuator	**ADM322F120 ADM322F122 ADM322HF120 ADM322HF122 ADM322PF120 ADM322PF122**	**ADM322SF122 ADM322SF152**	**ASM124F120 ASM124F122**	**ASM124SF132**
Rotational torque	15 Nm	15 Nm	18 Nm	15 Nm
Control signal	3-point	2-/3-point, 0...10 V	2-/3-point	2-/3-point, 0...10 V
Running time	120 s	30/60/120 s	120 s	60/120 s
Operating voltage	24 VAC/DC / 230 V	24 VAC/DC	24 VAC/DC / 230 V	24 VAC/DC / 230 V
Closes against the pressure	Δp_{max} [bar]	Δp_{max} [bar]	Δp_{max} [bar]	Δp_{max} [bar]
DEF025F200 DEF032F200 DEF040F200 DEF050F200	10.0	10.0	10.0	10.0
DEF065F200	7.0	7.0	7.0	7.0
DEF080F200	4.0	4.0	4.0	4.0
DEF100F200	2.0	2.0	2.0	2.0
Cannot be used to close with the pressure				

Actuator	**ASF122F120 ASF122F220**		**ASF122F122 ASF122F222**		**ASF123F122**		**ASF123SF122**	
Rotational torque	18 Nm		18 Nm		18 Nm		18 Nm	
Control signal	2-point		2-point		3-point		0...10 V	
Running time	90 s		90 s		90 s		90 s	
Operating voltage	230 VAC		24 VAC		24 VAC		24 VAC	
Closes against the pressure	Δp_{max} [bar]	Δp_s [bar]	Δp_{max} [bar]	Δp_s [bar]	Δp_{max} [bar]	Δp_s [bar]	Δp_{max} [bar]	Δp_s [bar]
DEF025F200 DEF032F200 DEF040F200 DEF050F200	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
DEF065F200	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
DEF080F200	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
DEF100F200	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Cannot be used to close with the pressure								

Actuator	ADM333HF120	ADM333HF122	ADM333SF122	ASM134SF132	ASM134F130
Rotational torque	30 Nm	30 Nm	30 Nm	30 Nm	30 Nm
Control signal	3-point	3-point	0(2)…10 V 0(4)…20 mA	0…10 V	3-point
Running time	120 s	120 s	60 s	120/240 s	120/240 s
Operating voltage	230 VAC	24 VAC	24 VAC	24 VAC	230 VAC
Closes against the pressure	Δp_{max} [bar]	Δp_{max} [bar]	Δp_{max} [bar]	Δp_{max} [bar]	Δp_{max} [bar]
DEF025F200 DEF032F200 DEF040F200 DEF050F200	16.0	16.0	16.0	–	–
DEF065F200	16.0	16.0	16.0	7.0	7.0
DEF080F200 DEF100F200	10.0	10.0	10.0	7.0	7.0
DEF125F200	6.0	6.0	6.0	6.0	6.0
DEF150F200	5.0	5.0	5.0	5.0	5.0
DEF200F200	3.0	3.0	3.0	2.0	2.0
Cannot be used to close with the pressure					

Accessories required: Assembly parts; see accessories

Description of operation

The DEF butterfly valve can be moved to any intermediate position by means of a motorised actuator or an actuator with spring return.
The butterfly valve can be used as a shut-off device in combination with the ASF 122, 123 actuators. In this case, the damper is moved to either the closed or open position in the event of a power failure or when a limit controller is activated.

Intended use

This product is only suitable for the purpose intended by the manufacturer, as described in the “Description of operation” section.
All related product regulations must also be adhered to. Changing or converting the product is not admissible.

Engineering and fitting notes

The device is fitted by inserting it between two flanges and tightening the screws. When it is being installed, the damper must be open min. 10%. Due to the special housing lining, no flange seal is required.
The flow can come from either side.
The collar is lined to ensure that the medium does not come into contact with grey cast iron (GG25).
Use with ethylene-glycol mixtures is possible for concentrations between 20% and 60%. The following pressure and temperature limits (Ts) must be observed:

- At 6 bar, max. 120 °C
- At 10 bar, max. 100 °C
- At 16 bar, max. 80 °C

Standards applied

- Face-to-face dimension (L) without flanges as per EN 558 Series 20 from nominal diameter 40 (see dimension drawings)
- Drive flange as per EN ISO 5211 and NF E29-402
- Welding flange (accessories) as per EN 1092-1

Additional information

	Document no./link
Fitting instructions for DEF	P100009882
Fitting instructions for ADM 322(S)	P100012579
Fitting instructions for ADM 333SF	P100020637

	Document no./link
Fitting instructions for ADM 333HF	P100020453
Fitting instructions for ASM 124(S)	505792233
Fitting instructions for ASM 134(S)	505771133
Fitting instructions for ASF 122, 123(S)	505422033
Fitting instructions for assembly with ADM 322(S) actuator	P100014315
Fitting instructions for assembly with ADM 333 actuator	P100020351
Fitting instructions for assembly with ASM actuator	P100000533
Fitting instructions for assembly with ASF 122, 123(S) actuator	MV 505833
Declaration on materials and the environment	MD 54,008

Valve design

SAUTER provides various tools for valve design and engineering:

- ValveDim mobile app
- ValveDim PC program
- ValveDim slide rule

You can find the tools under the linkwww.sauter-controls.com/leistungen/ventilberechnung/
or scan the QR code

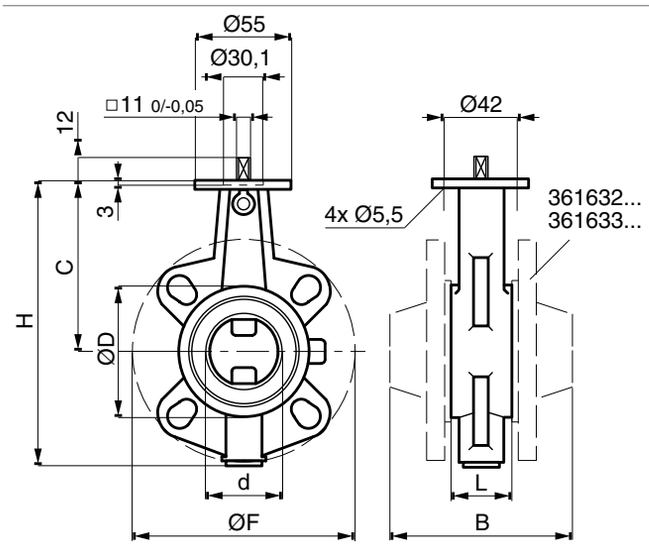
Disposal

When disposing of the product, observe the currently applicable local laws.
More information on materials can be found in the Declaration on materials and the environment for this product.

Dimension drawings

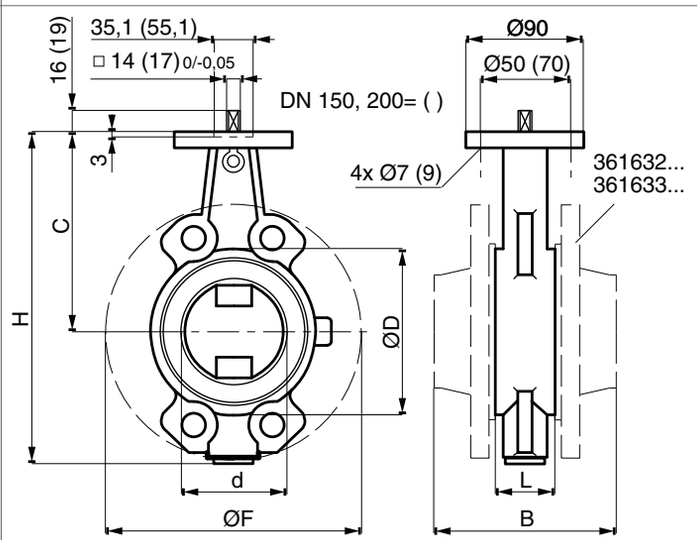
All dimensions in mm.

DN 25…65



DN	d	C	H	L	ØD	B PN6	B PN10/16	ØF PN6	ØF PN10/16
25	32	104	149	33	64	103	109	100	115
32	32	104	154	33	69	103	113	120	140
40	40	113	178	33	82	109	117	130	150
50	50	126	209	43	95	119	133	140	165
65	62	134	226	46	115	122	136	160	185

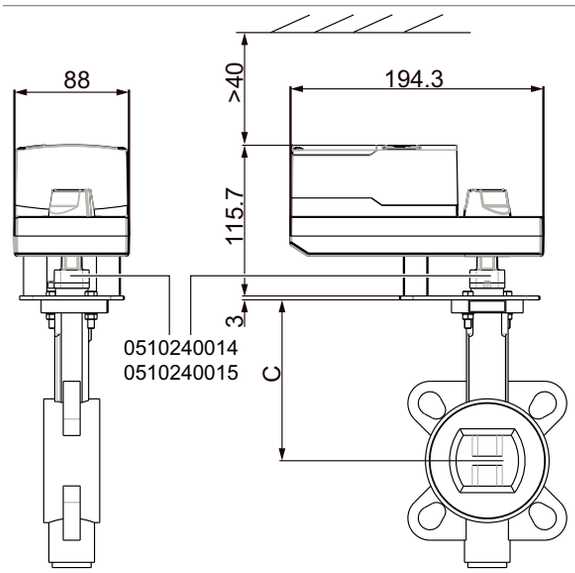
DN 80…200



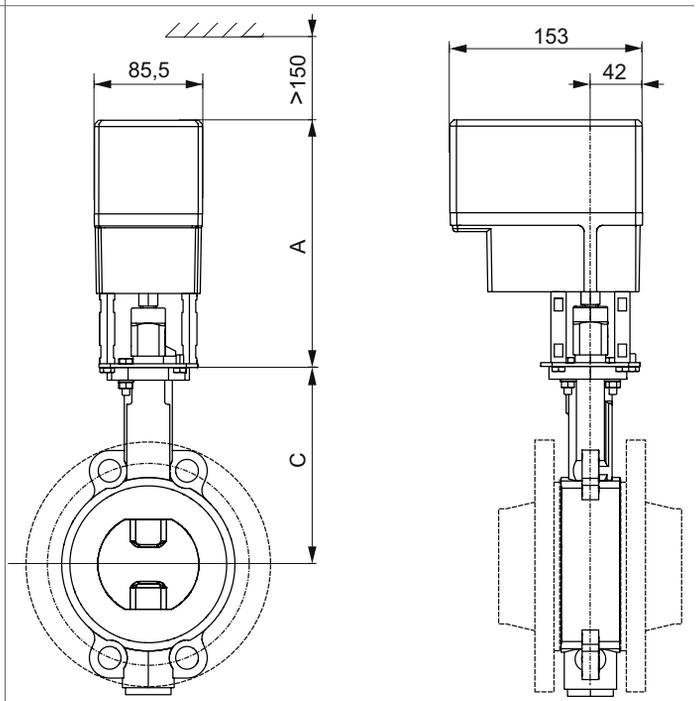
DN	d	C	H	L	ØD	B PN6	B PN10/16	ØF PN6	ØF PN10/16
80	78	157	260	46	138	130	146	190	200
100	98	167	281	52	158	142	156	210	220
125	123	180	306	56	188	152	166	240	250
150	147	203	355	56	212	152	166	265	285
200	197	228	403	60	250	170	182	320	340

Combinations

DN 25...200 with ADM 322 actuator

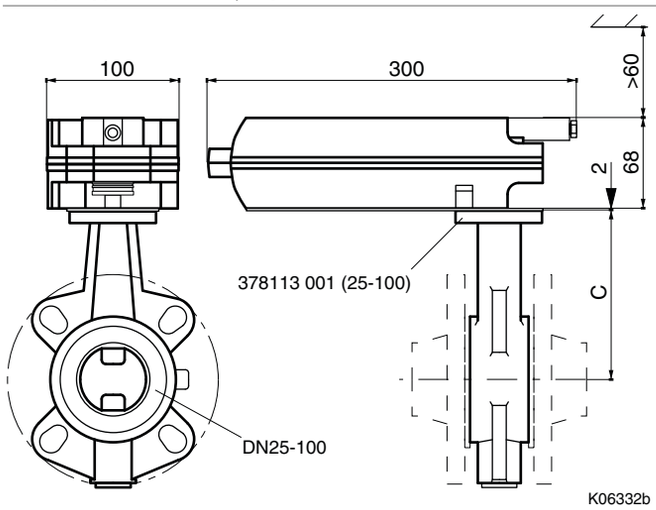


DN 25...200 with ADM 333 actuator

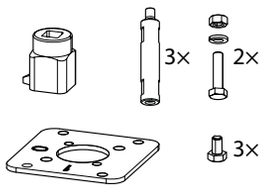
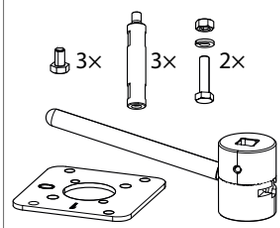
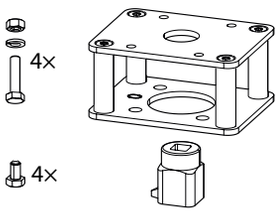
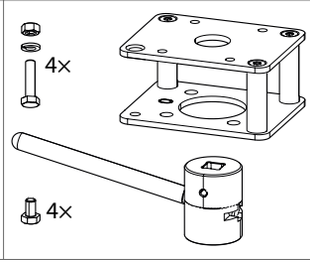


Art.-Nr	DN	A
0510240031	25–65	195,4 mm
0510240032	80–125	
0510240033	150–200	190,0 mm
0510240041	25–65	203,0 mm
0510240042	80–125	
0510240043	150–200	205,4 mm

DN 25...100 with ASF 122, 123 actuator



Accessories

Mounting kit 0510240031/0510240032 Overall height: 58.5 mm	Mounting kit 0510240041/0510240042 Overall height: 66 mm
	
Mounting kit 0510240033 Overall height: 53 mm	Mounting kit 0510240043 Overall height: 69 mm
	

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