

→ Series 2144



CE 0035

■ MATERIAL



■ SPECIFICATION



DN 40



-196°C to +65°C



PS 80 bar

■ SUITABLE FOR

Liquids	neutral and non-neutral	
Air, gases and vapours	neutral and non-neutral	

■ EXAMPLES OF USE

Safety shut-off valve (SAA) for shutting off the filling line of cryogenic tanks, cryogenic vessels and cryogenic systems for the storage of cryogenically liquefied gases such as LIN, LOX, LCO₂ and LAr.

The SAA consists of a pilot valve and a shut-off valve in a straightway form, which are mechanically coupled to one another. The pilot valve monitors the vessel pressure and, should an adjustable limit value be exceeded, triggers the closure of the shut-off valve in the filling line. Monitoring and closure take place without external power. The closure of the shut-off valve causes a flow interruption at the pump and triggers the pump protection mechanism of the filling unit

- N₂ for food/pharmaceutical applications
- O₂ for medical supply systems
- CO₂ for food/industrial applications
- Ar for welding

The fittings are factory-set, sealed and manufactured to be oil- and greasefree.

■ APPROVALS

EU type examination

DGRL 2014/68/EU

Requirements

AD 2000
DIN EN ISO 4126-4 and -5
DIN EN 1626

■ MATERIALS

Assembly	Component	Material	DIN EN	ASME
Cover	Cover hood	Aluminium	3.3523	AA 5052
	Window	Plastic	PC	PC
	Position indicator bracket	Plastic	PA6	PA6
Shut-off valve	Body	Stainless steel	1.4409	CF3M
	Bonnet	Stainless steel	1.4571, 1.4404	316 Ti, 316 L
	Screws	Stainless steel	1.4301	304
	Internal parts	Brass / stainless steel	CW617N / 1.4404	CW617N / 316 L
	Seal	Plastic	PTFE	PTFE
	Spring	Stainless steel	1.4568	631
Pilot valve	Inlet body	Stainless steel	1.4404	316 L
	Outlet body	Brass	CW617N	CW617N
	Internal parts	Brass / stainless steel	CW617N / 1.4404	CW617N / 316 L
	Seals	Plastic	PTFE	PTFE
	Spring	Stainless steel	1.4310	301

PILOT VALVE DESIGN

ps	Pressure switch (standard)	PS 40 [bar]	Oxygen (O ₂): max. 40 bar / max. +60°C
ds	Dual pressure switches	PS 40 [bar]	Oxygen (O ₂): max. 40 bar / max. +60°C

MEDIUM

GF	gaseous and liquid	cryogenically liquefied gases, steams and liquids
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PILOT VALVE CONNECTION

S	M14 x 1.5 threaded fitting for Ø 8 x 1 mm pipe (Standard)
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Further connections are available on request.

NOMINAL DIAMETER AND CONNECTION SIZE OF SHUT-OFF VALVE

Nominal diameter DN		40	
Inlet		1 1/4" (32)	1 1/2" (40)
Outlet	1 1/4" (32)	■	
	1 1/2" (40)		■

CONNECTION TYPE OF SHUT-OFF VALVE (INLET / OUTLET)

SE1 / SE1	Weld end SE1 / Weld end SE1	DIN EN ISO 1127 / DIN EN ISO 1127
SE2 / SE2	Weld end SE2 / Weld end SE2	ASTM A312 S10 / ASTM A312 S10
SE3 / SE3	Weld end SE3 / Weld end SE3	ASTM A312 S40 / ASTM A312 S40
SE7 / SE7	Weld end SE7 / Weld end SE7	ASTM A312 S80 / ASTM A312 S80
SM1 / SM1	Socket weld SM1 / Socket weld SM1	DIN EN ISO 1127 / DIN EN ISO 1127
SM2 / SM2	Socket weld SM2 / Socket weld SM2	ASTM A312 S10 / ASTM A312 S10
SM3 / SM3	Socket weld SM3 / Socket weld SM3	ASTM A312 S40 / ASTM A312 S40
SM7 / SM7	Socket weld SM7 / Socket weld SM7	ASTM A312 S80 / ASTM A312 S80

SHUT-OFF VALVE CONNECTION DIMENSIONS (INLET/OUTLET)

Nominal diameter	DN		40			
Connection size			1 1/4" (32)	1 1/2" (40)		
Dimensions of SE1 weld ends and SM1 weld sockets for pipes in accordance with DIN EN ISO 1127	D	mm	42,4		48,3	
	e	mm	2,6	2,6	2,9	3,2
	XX		AM	DE	DJ	DL
Dimensions of SE2 weld ends and SM2 weld sockets for pipes in accordance with ASTM A312 S10	D	mm	42,16		48,26	
	e	mm	2,77		2,77	
	XX		BA		BC	
Dimensions of welded ends SE3 and welded sockets SM3 for pipes to ASTM A312 S40	D	mm			48,26	
	e	mm			3,68	
	XX				BD	
Dimensions of welded ends SE7 and welded sockets SM7 for pipes to ASTM A312 S80	D	mm			48,26	
	e	mm			5,08	
	XX				DK	
Depth of socket weld	b	mm		13		

On request, available with flanges on both sides, on one side, or with different welded-on flanges.

SEAL (SHUT-OFF / PILOT VALVE)

PTFE	Standard seal: Shut-off valve – metallic Pilot valve – PTFE	Oxygen (O ₂): Shut-off valve: max. 50 bar / max. +60°C Pilot valve: see 'Pilot valve design'
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PILOT VALVE SET PRESSURE

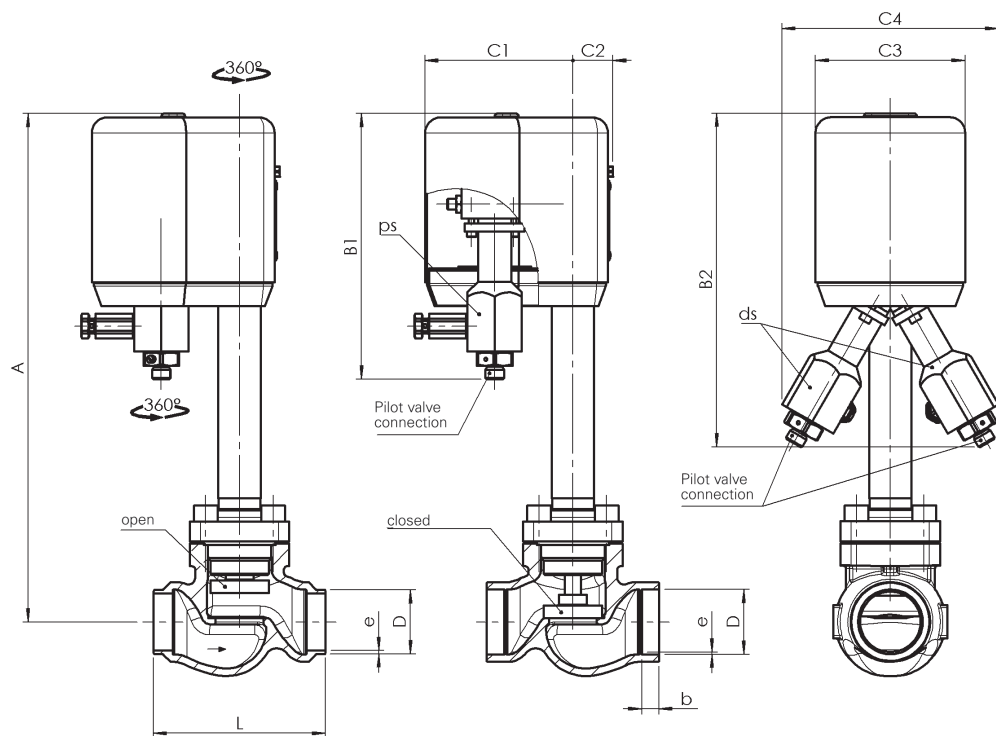
ps	2 - 40 bar
ds	4 - 40 bar

■ NOMINAL DIAMETERS, INSTALLATION DIMENSIONS, TECHNICAL DATA

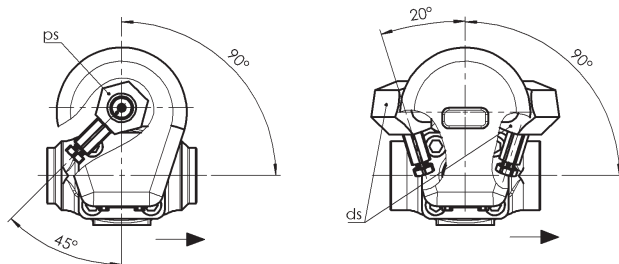
Series 2144: Connections, installation dimensions				
Nominal diameter	DN		40	
Connection dimensions			1 1/4" (32)	1 1/2" (40)
Connection type			SE / SM ¹	
Pressure rating	PN		63	
Max. permissible pressure	PS	bar	80	
Installation dimensions	A	mm	384	
	B1	mm	200	
	B2	mm	252	
	C1	mm	112	
	C2	mm	30	
	C3	mm	113	
	C4	mm	165	
Weight	L	mm	139	
	m	kg	7,1	7,2
Flow coefficient	Kvs	m³/h	21,2	23,8
	Cv	gal/min	24,7	27,7
Closing time	t_c	ms	< 30	

¹ Connection type: Weld end / socket

■ MAIN DIMENSIONS, INSTALLATION DIMENSIONS

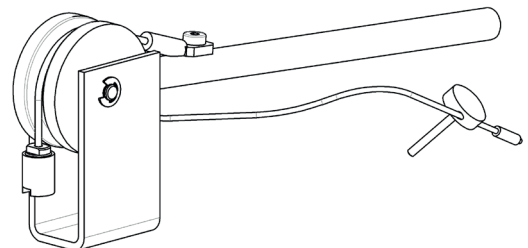


■ ALIGNMENT OF SHUT-OFF VALVE AND PILOT VALVE



Alternative alignment available on request.

■ OPTIONAL CLAMPING TOOL



Item number: E2184.040.90

Series 2144 ■ INDIVIDUAL SELECTION / VALVE CONFIGURATION

Series	Version Pilot valve	Medium	Connection Pilot valve	Nominal diameter Shut-off valve	Connection type Shut-off valve		Connection size Shut-off valve	Seal	Pilot valve set pressure
					Inlet	Outlet			
2144	ps	GF	S	40	SE1	SE1	DJ / DJ	PTFE	33,0
2144	ds	GF	S	40	SE7	SE7	DK / DK	PTFE	33,0
2144									
2144									

■ APPROVALS / INSPECTIONS

C01	Factory certificate acc. DIN EN 10204 2.2 (WKZ 2.2)	☐	C04	TÜV/DEKRA individual inspection acc. EN 10204 3.2 (TÜV/DEKRA-APZ) ¹	☐
C02	Test certificate acc. DIN EN 10204 3.1 (WPZ 3.1)	☐	C11	Certification of the production process especially for gaseous oxygen applications by employment of specific materials	☐
C03	Material test certificate acc. DIN EN 10204 3.1 (MPZ 3.1) (pressure retaining part)	☐			☐

¹Approvals / Inspections of the release function with order-specific Set pressure in the presence of a notified body.

■ APPROVALS

AA1	CE conformity assessment in accordance with Directive 2014/68/EU	☐		☐
		☐		☐

■ ENQUIRY

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