

Pneumatic actuated Angle Seat Valve with digital electro-pneumatic positioner

2/2-way valve DN 25, 40, 50

for aggressive, gaseous and liquid fluids

pressure actuated by compressed air

Seat valve with cone for

linear flow regulation according to IEC 534-2-4

Connection size (female thread) G 1, G 1 1/2, G 2 or NPT 1, NPT 1 1/2, NPT 2

Operating pressure see table page 2

8450x90
8450x91

8451x90
8451x91

Description valve

Flow direction: determined (P → A)
Mounting position: optional, preferable actuator on top

Flow fluid range

Fluid temperature: -10 °C up to max. +180 °C
Ambient temperature: -10 °C up to max. +60 °C
Material body: Brass (CW 602 N)
Valve plate and cone: Stainless steel (1.4404)
Seat seal: PTFE
Internal parts: Stainless steel, Brass
Seal packing: PTFE, FPM selfadjusting



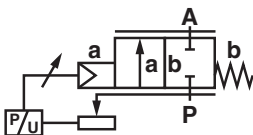
Pilot fluid range

Pilot fluid: Compressed air, neutral gases, filtered 50 µm
Operating pressure: 4 – 6 bar
Fluid temperature: max. +60 °C
Material actuator: PA66 GF 30 (Polyamid with 30% glass fibre)
Internal parts: Brass, Sandvik 1802, 1.4310, 1.8159, 1.1200
Seals: NBR
Volume: 76 cm³

Features

- Compact design with NAMUR interface
- High level of reproducibility and linearity
- Easy handling and commissioning
- Automatic Optimization of valve control during initialization
- No air consumption in control position
- Position indicator control

Symbol



Ordering information

To order, quote model number from table overleaf, e.g. 8450490.0000 for a G 1 valve

Detmolder Strasse 256
D-32545 Bad Oeynhausen

PO Box 10 02 52-53
D-32502 Bad Oeynhausen

Phone 05731 / 791-0
Fax 05731 / 791-179

<http://www.buschjost.com>
mail@buschjost.de

Characteristics
Valves with inherent linear characteristics

Part Number	Nominal Diameter (mm)	Port size	Pilot pressure		Operating pressure		kv-value* (Base m³/h)	Weight (kg)
			min	max (bar)	min	max (bar)		
8450490.0000 8451490.0000	25	G 1 1" NPT	4.0	6.0	0	10	12	4
8450690.0000 8451690.0000	40	G 1 1/2 1 1/2" NPT	4.0	6.0	0	4.5	25	4.5
8450790.0000 8451790.0000	50	G 2 2" NPT	4.0	6.0	0	3.0	32	5.7

Characteristics
Valves with Inherent equal percentage characteristics 1:20

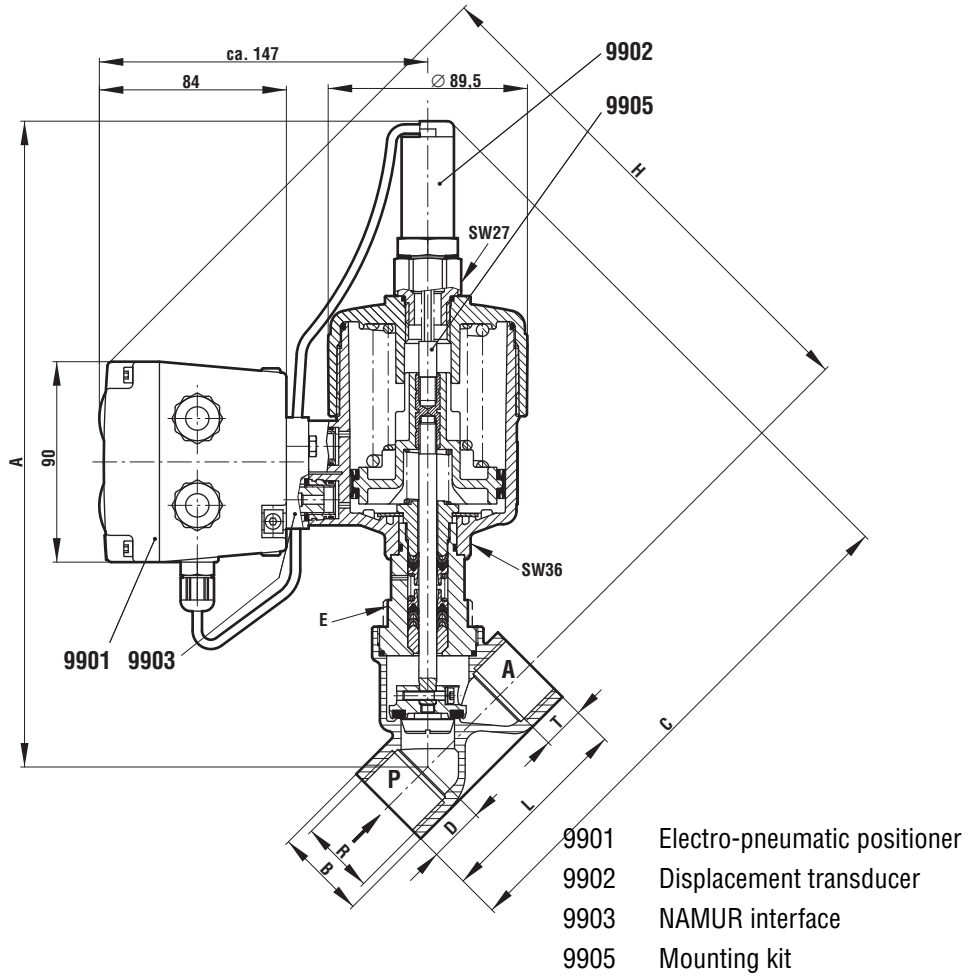
Part Number	Nominal Diameter (mm)	Port size	Pilot pressure		Operating pressure		kv-value * (Base m³/h)	Weight (kg)
			min	max (bar)	min	max (bar)		
8452491.0000 8453491.0000	25	G 1 1" NPT	4.0	6.0	0	10	9.0	4
8452691.0000 8453691.0000	40	G 1 1/2 1 1/2" NPT	4.0	6.0	0	4.5	17.5	4.5
8452791.0000 8453791.0000	50	G 2 2" NPT	4.0	6.0	0	3.0	26.0	5.7

* deviates due to cone system
Cv-value (US) ≈ kv-value x 1,2

Description of the electro-pneumatic positioner

Housing:	Aluminium, Epoxy coated
Display cover:	PMMA
Air consumption:	No air consumption in control position
Voltage supply:	24 V DC ±10 % (3 or 4 wire)
Protection class:	IP 65
Power consumption:	7.2 W in during operation 2.4 W when adjusted
Input signal:	a) 0 – 10 V or b) 0/4 – 20 mA
Input resistance:	a) 200 kΩ or b) 250 Ω
Position indication:	0 - 10 V (4 - 20 mA optional)
Binary outputs:	2 alarm outputs 1 error message output
Electrical connection:	M16 cable entry
Inlet signal:	M16 cable entry
Position signal:	M12 cable entry
Function:	normally closed
Feature:	Safety Function during power or air failure valve closes with pressure spring
Connection:	NAMUR interface
Size:	160 x 90 x 84 mm
Operation:	Automatic calibration optional: automatic or manual

General dimensions

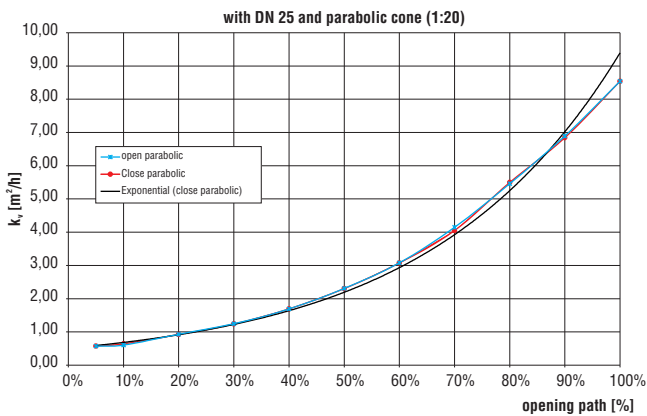


Part Number	A	B	C	D	E	H	L	R	T
845049X.0000									
845149X.0000	289	SW 41	199	25	SW 36	174	90	G 1 1" NPT	19.0 16.5
845069X.0000									
845169X.0000	306	SW 55	217.0	31.0	SW 41	186.0	120	G 1 1/2 1 1/2" NPT	21.5 17.0
845079X.0000									
845179X.0000	318	SW 70	234.5	40.0	SW 41	194.5	150	G 2 2" NPT	26.0 17.5

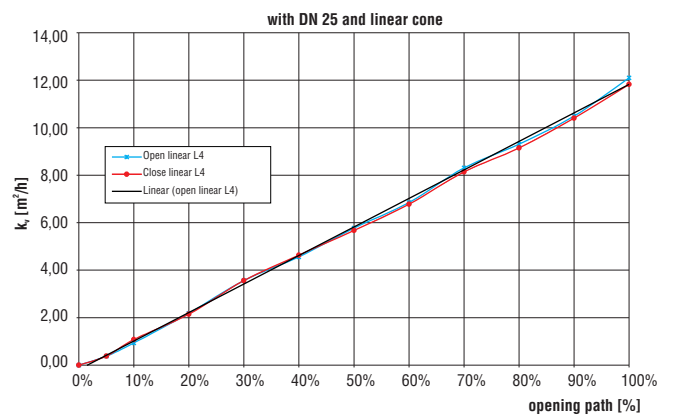
Characteristics

Diagram based on: water 1 bar Δp ; valve G 1

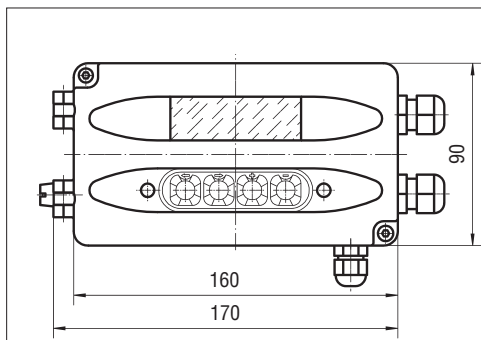
Inherent equal percentage characteristics 1:20



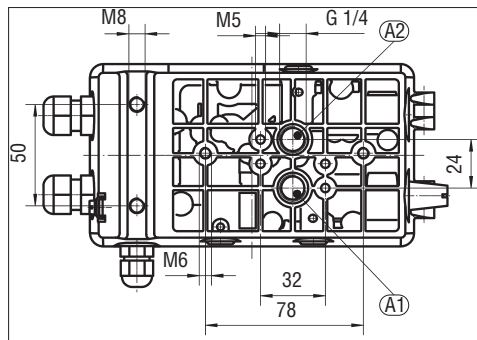
Inherent linear characteristics



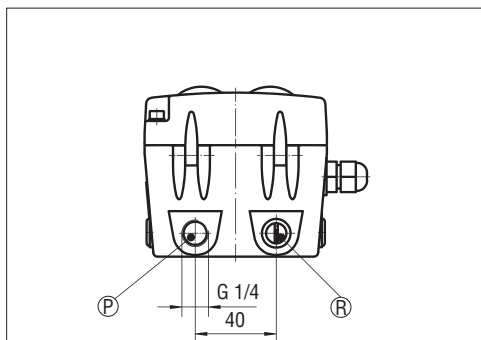
General dimensions electro-pneumatic positioner



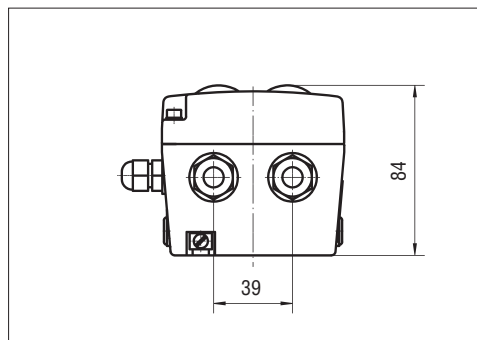
Front view



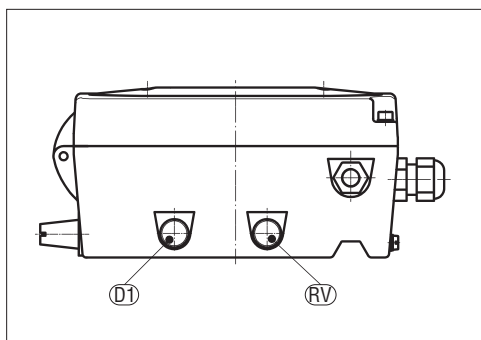
Rear view



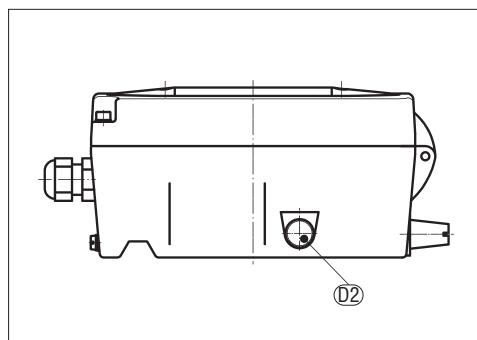
Side view (from the left)



Side view (from the right)



Side view (bottom view)



Side view (top view)

- Key
- A1: pneumatic outlet A1 (for single acting actuators)
 - A2: pneumatic outlet A2 (for double acting actuators)
 - P: air supply
 - R: venting
 - D1: throttle D1 → acts on A1
 - D2: throttle D2 → acts on A2
 - RV: non-return valve

Dimensions in mm

Note to Pressure Equipment Directive (PED):

The valves of this series, including the connection-size DN 25 (G 1), are according to Art. 3 § 3 of the Pressure Equipment Directive (PED) 97/23/EG. This means interpretation and production are in accordance to engineers practice wellknown in the member countries.

The CE-sign at the valve refers not to the PED. Thus the declaration of conformity is not longer applicable for this directive.

For valves > DN 25 (G 1) Art. 3 § (1) No.1.4 applies.

The basic requirements of the Enclosure I of the PED must be fulfilled. The CE-sign at the valve includes the PED. A certificate of conformity of this directive will be available on request.

Note to Electromagnetic Compatibility Guideline (EEC):

The valves shall be provided with an electrical circuit which ensures the limits of the harmonised standards EN 50081-1 and EN 50082-1 are observed, and hence the requirements of the Electromagnetic Compatibility Guideline (89/336/EEC) satisfied.