DATA SHEET

T 5868-1 EN

Types 3214/3374 and 3214/SAM Electric Control Valves

Type 3214 Globe Valve balanced by a diaphragm

Application

Control valves with globe valves balanced by a diaphragm for HVAC applications

DN 65 to 300 · PN 16 to 40

Up to 150 °C (water)

Up to 80 °C (non-flammable gases)



Fig. 1: *Type 3214/3374 · Type 3214 Globe Valve balanced by a diaphragm*

The control valves consist of a Type 3214 Globe Valve balanced by a diaphragm and an electric or electrohydraulic actuator.

Special features

- Very high K_{VS} coefficients
- Soft-seated plug to minimize seat leakage
- Seat/plug trim made of red brass or brass with stainless steel (DN 65 to 100)
- Low overall height compared to version balanced by a bellows
- Actuators with fail-safe action or without fail-safe action

Versions

Version tested according to DIN EN 14597		
Type 3214/3374	PN 16 to 40	DN 65 to 150

Electric control valves		
Type 3214/3374 (Fig. 1)	PN 16 to 25	DN 65 to 100
Type 3214/3374	PN 16 to 40	DN 125 to 250
Type 3214/SAM	PN 16 to 40	DN 300

Register number

The actuators with fail-safe action are tested by the German technical surveillance association TÜV according to DIN EN 14597 in conjunction with the listed valves. The register number is available on request.

Also available:

Type 3214 Globe Valve **balanced by a bellows:**

– Control valves with electric or pneumatic actuator without fail-safe action, see Data Sheet ▶ T 5868
– Control valves tested according to DIN EN 14597 with electric actuator with fail-safe action, see Data Sheet ▶ T 5869

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Principle of operation

The medium flows through the globe valve in the direction indicated by the arrow on the valve body. The cross-sectional area of flow between the seat (2) and plug (3) is determined by the position of the plug stem.

The downstream pressure p_2 is applied to the inside of the Type 3214 Valve; the upstream pressure p_1 acts on the outside. The forces acting on the valve plug due to the upstream and downstream pressures are balanced by the diaphragm (4).

The plug is moved by changing the control signal applied to the actuator.

Electric actuators

The Type 3374 and Type SAM Electric Actuators can be controlled by three-step signals or, in the version with positioner, with signals from 0/4 to 20 mA or 0/2 to 10 V. Various electrical accessories can be optionally installed.

Refer to the data sheets for more details on the electric actuators:

- ▶ T 8331: Type 3374 Electric Actuator
- ▶ T 8330: Type SAM Electric Actuator

Installation

- Install the valves in horizontal pipelines.
- The direction of flow must match the direction indicated by the arrow on the valve body
- Install the valve with the balancing diaphragm or actuator in upright position, facing upward.
- Install a strainer (e.g. SAMSON Type 2 N or Type 2 NI) upstream of the valve.

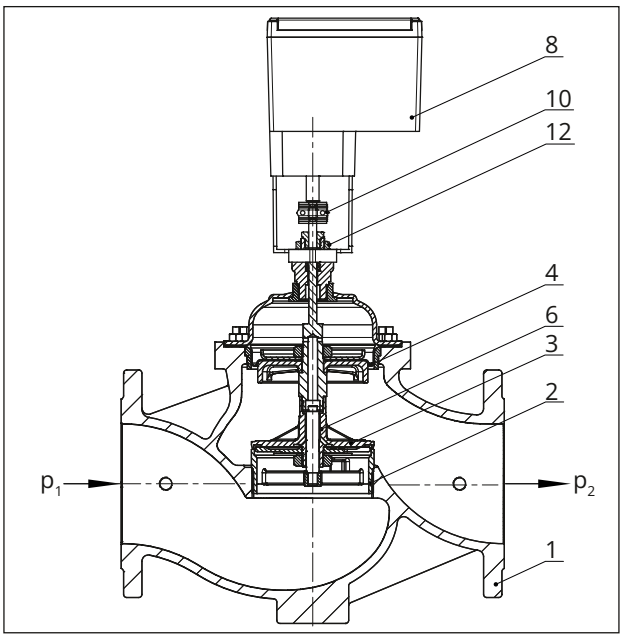


Fig. 2: *Type 3214/3374-10/-11/-21 Valve balanced by a diaphragm*

1	Valve body	6	Plug stem
2	Seat	8	Actuator
3	Plug	10	Stem connector
4	Balancing diaphragm	12	Hex nut

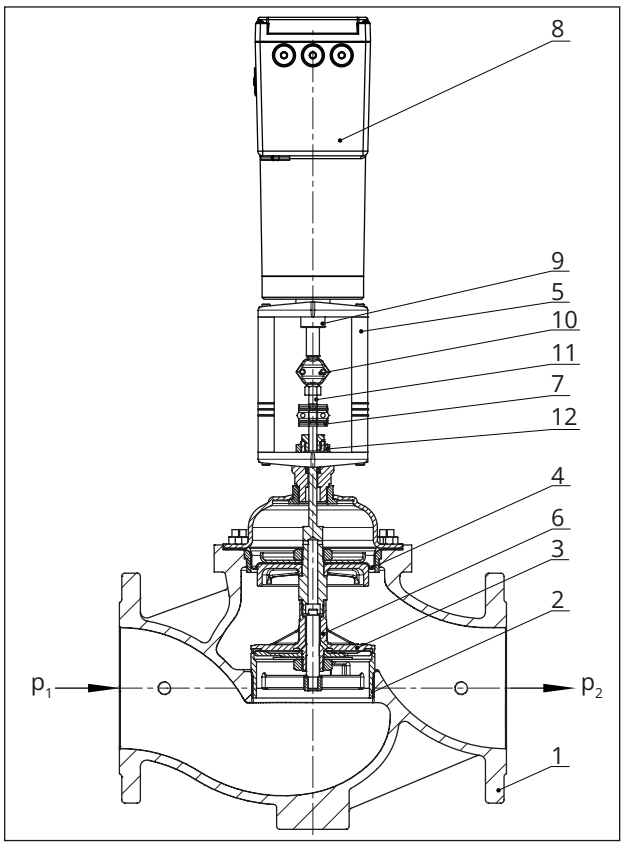


Fig. 3: *Type 3214/3374-27 Valve balanced by a diaphragm*

1	Valve body	7	Stem connector
2	Seat	8	Actuator
3	Plug	9	Hex nut
4	Balancing diaphragm	10	Stem connector
5	Rod-type yoke	11	Adapter
6	Plug stem	12	Hex nut

Associated Mounting and Operating Instructions ▶ EB 5868-1

Ordering text

Type 3214/3374 or Type 3214/SAM Electric Control Valve balanced by a diaphragm

- DN ..., PN ..., K_{VS}- coefficient: ...
- Max. differential pressure Δp: ... bar, max. temperature: ... °C
- Body material: ...

Table 1: *Technical data*

Type 3214 Globe Valve balanced by a diaphragm										
Nominal size		**DN**	**65**	**80**	**100**	**125**	**150**	**200**	**250**	**300**
Pressure rating		PN	16 and 25			16 to 40				
Rated travel		mm	15	15	15	30	30	30	30	50
K_{VS} coefficient			50	80	125	230	340	620	750	1200
Max. permissible differential pressure Δp		bar	12	12	10	12	12	10	10	10
Max. permissible temperature										
	Version for water	°C	150							
	Version for non-flammable gases	°C	80							
Rangeability			40:1			30:1				
Leakage class acc. to DIN EN 60534-4			Class I (≤0.01 % of K_{VS})							
Conformity			CE							

Table 2: *Materials (material numbers according to DIN EN) · Type 3214 Valve balanced by a diaphragm*

Nominal size DN		**65**	**80**	**100**	**125**	**150**	**200**	**250**	**300**
Body	PN 16	EN-GJL-250 (EN-JL1040) EN-GJS-400-18-LT (EN-JS1049)			EN-GJL-250 (EN-JL1040)		EN-GJL-250 (EN-JL1040)		EN-GJL-250 (EN-JL1040) 1.6019
	PN 16/25				EN-GJS-400-18-LT (EN-JS1049)		–		
	PN 16, 25 and 40				1.0619		1.0619		
Valve seat		1.4408			CC499K				1.4301
Plug		CW617N with EPDM soft seal			CC491K with EPDM soft seal				1.4301 with EPDM soft seal
Pressure balancing		EPDM balancing diaphragm							

Table 3: *Possible combinations: Type 3214 Globe Valve with balancing diaphragm/actuator*

Actuator	**Type**	**Refer to data sheet for details**	**Nominal size DN**							
			65	**80**	**100**	**125**	**150**	**200**	**250**	**300**
Without fail-safe action	3374-10	▶ T 8331	–	–	–	•	•	•	•	–
	3374-11	▶ T 8331	•	•	•	–	–	–	–	–
	SAM-32[3)]	▶ T 8330	–	–	–	–	–	–	–	•
With fail-safe action	3374-27[1)]	▶ T 8340	–	–	–	•	•	•	•	–
	3374-21	▶ T 8331	•	•	•	–	–	–	–	–
	3376[2)]	▶ T 8333	–	–	–	–	–	–	–	•

1) The rod-type yoke (1400-8822) is additionally required to connect Type 3374-27 Actuators.

2) Product in preparation

3) The mounting accessory (1400-9565) is additionally required to connect Type SAM-32 Actuator.

NOTICE

Risk of valve damage due to excessively high forces.

When the valves are combined with pneumatic actuators, the maximum forces of the electric actuators listed in Table 3 must not be exceeded.

⇨ *If necessary, restrict the supply pressure.*

Table 4: *Dimensions and weights with actuator · Type 3214 Valve balanced by a diaphragm*

Nominal size	**DN**	**65**	**80**	**100**	**125**	**150**	**200**	**250**	**300**
Overall length L	mm	290	310	350	400	480	600	730	850
Height H1	mm	163	163	189	286	291	361	361	386
Height H2	mm	98	98	118	145	175	270	270	285
Height H	mm								
Type 3214/3374-27		–	–	–	753	778	848	848	–
Type 214/3374-10/-11/21		457	457	483	580	585	655	655	–
Type 3214/SAM-32		–	–	–	–	–	–	–	1130
Type 3214/3376[2]		–	–	–	–	–	–	–	[3]
Weight[1]	kg (approx.)								
Type 3214/3374-27		–	–	–	56	76	218	228	–
Type 3214/3374-10/-11/-21		30	34	44	52	72	214	224	–
Type 3214/SAM-32		–	–	–	–	–	–	–	335

[1] Valves in PN 16; versions in PN 25 and 40: +15 %

[2] Product in preparation

[3] On request

Dimensional drawings

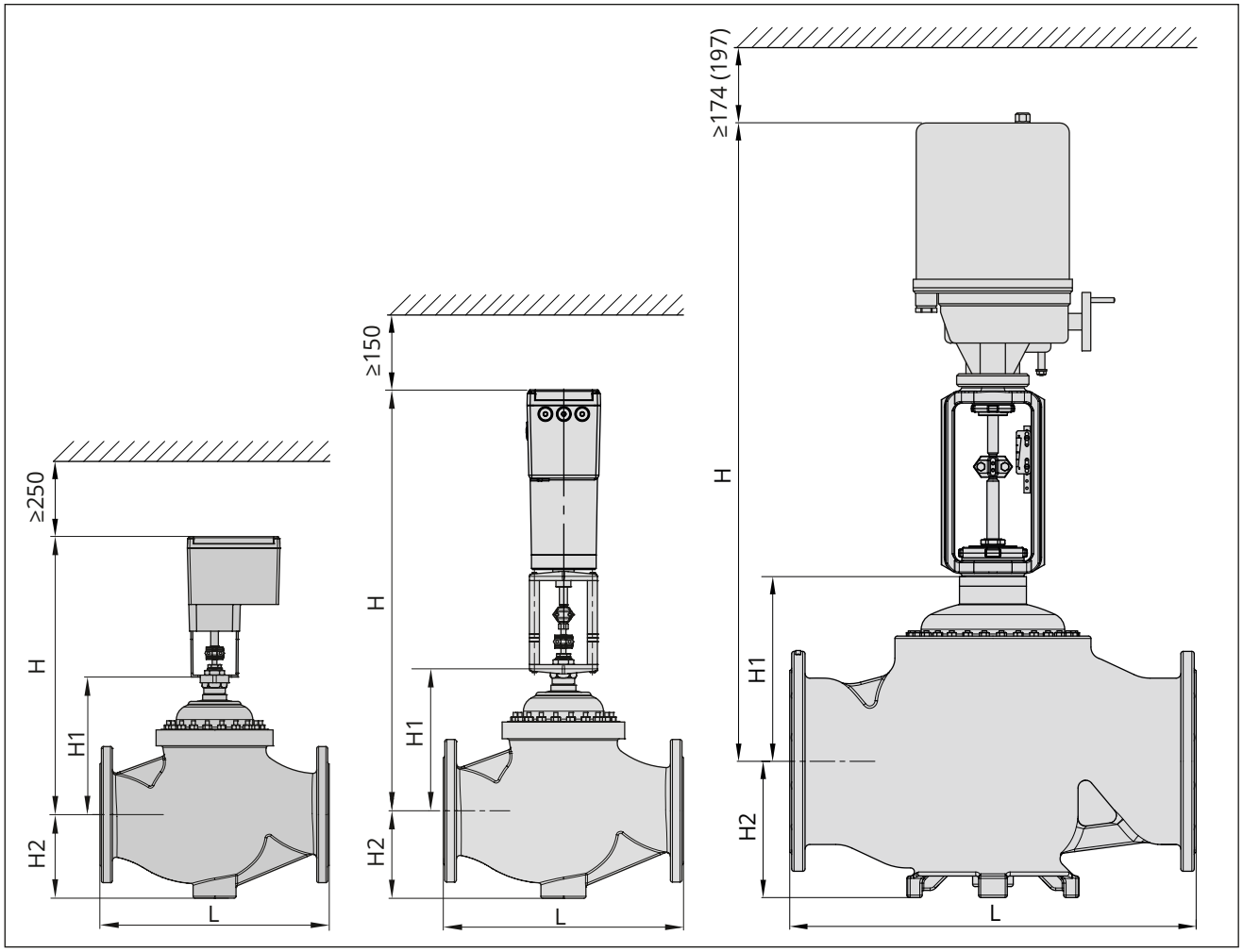


Fig. 4: *Type 3214/3374-10/-11/-21 (left)*
Type 3214/3374-27 (middle)
Type 3214/SAM-32 (right)*

* Dimension in parentheses apply to actuator with positioner