

# Electric Control Valves Types 3214/3374, 3214/3274

## Globe Valve Type 3214 balanced by a diaphragm



### Application

Control valves with globe valves balanced by a diaphragm and very high  $K_{VS}$  coefficients for HVAC applications

DN 125 to 250<sup>1)</sup> · PN 16 to 40

Temperatures up to 150 °C (water)

Temperatures up to 80 °C (non-flammable gases)



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
- Low overall height compared to version balanced by a bellows
- Actuators with fail-safe action or without fail-safe action

### Versions

Electric control valves		
Type 3214/3374 · Fig. 1	PN 16 to 40	DN 125 to 250
Type 3214/3274	PN 16 to 40	DN 125 to 250

### Also available:

Type 3214 Globe Valve balanced by a bellows:

- Control valves including electric, electrohydraulic or pneumatic actuator without fail-safe action, see Data Sheet T 5868 EN
- Typetested control valves including electric actuator with fail-safe action, see Data Sheet T 5869 EN

<sup>1)</sup> Nominal sizes DN 65 to 125 as well as DN 300 and DN 400 on request



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

## 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. For the Type 3374 Electric Actuator as well as the Type 3274 Electrohydraulic Actuator, this signal is a three-point stepping signal or, when an additional electric positioner is used, a continuous 0 to 20 mA, 4 to 20 mA or 0 (2) to 10 V- signal.

The electric actuators can be equipped with additional accessories.

### Refer to data sheet for details

Type 3374 → Data Sheet T 8331 EN

Type 3274 → Data Sheet T 8340 EN

## Installation

- Install the valves in horizontal pipelines.
- Make sure the direction of flow corresponds to 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.

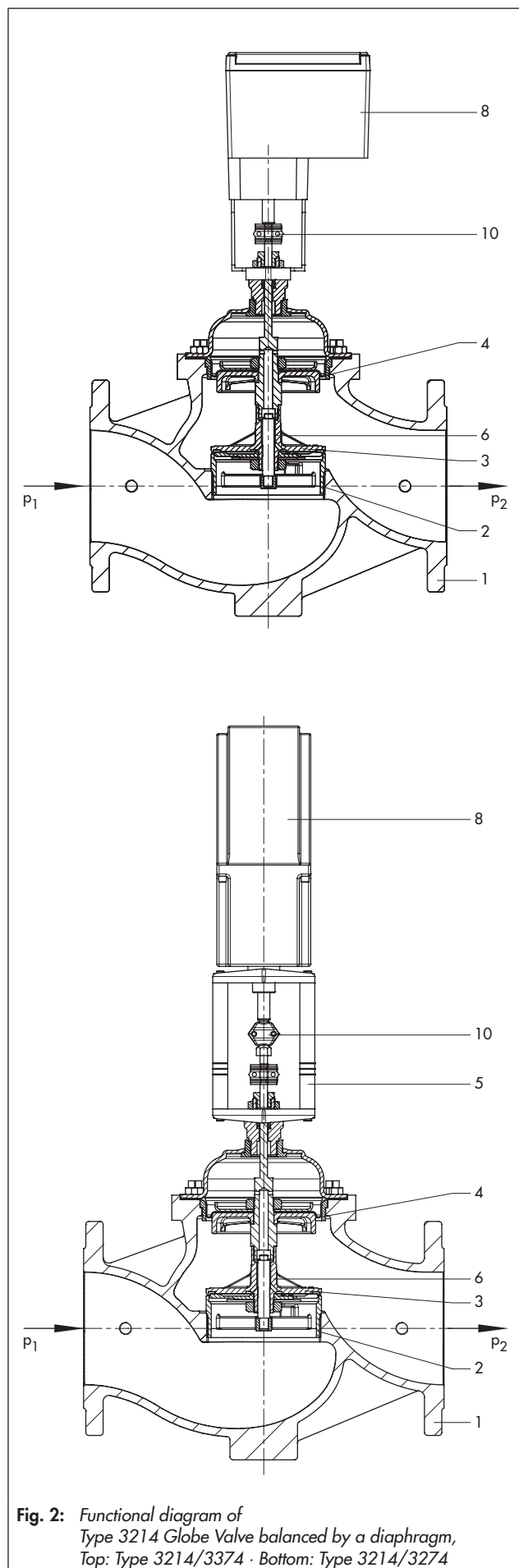
## Ordering text

Type 3214/3374 or Type 3214/3274 Electric Control Valve balanced by a diaphragm

- DN ..., PN ...,  $K_{VS}$  ...
- Max. differential pressure  $\Delta p$  ... bar, max. temperature ... °C
- Body material ...

## Legend for Fig. 2:

- 1 Valve body
- 2 Seat
- 3 Plug
- 4 Balancing diaphragm
- 5 Rod-type yoke
- 6 Plug stem
- 8 Actuator
- 10 Stem connector



**Fig. 2:** Functional diagram of Type 3214 Globe Valve balanced by a diaphragm, Top: Type 3214/3374 · Bottom: Type 3214/3274

**Table 1: Technical data**

Nominal size	DN	125	150	200	250
Rated travel	mm	30	30	30	30
KVS coefficient		230	340	620	750
Max. perm. diff. pressure $\Delta p$	bar	12	12	10	10
Max. permissible temperature	°C				
Version for water		150			
Version for non-flammable gases		80			

**Table 2: Materials · Material numbers according to DIN EN**

Nominal pressure	PN 16	PN 25	PN 40
Body	Cast iron EN-JL 1040 or spheroidal graphite iron EN-JS 1049 or cast steel 1.0619	Cast iron EN-JL 1040 or cast steel 1.0619	Cast steel 1.0619
Valve seat	Red brass		
Plug	Red brass with EPDM soft sealing		
Pressure balancing	EPDM balancing diaphragm		
Gasket	Graphite on metal core		

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

Actuator	Type	Refer to data sheet for details	Nominal size			
			125	150	200	250
Without fail-safe action	3274-12 <sup>1)</sup>	T 8340 EN	•	•	•	•
	3274-16 <sup>1)</sup>		•	•	•	•
	3374-10	T 8331 EN	•	•	•	•
With fail-safe action	3274-23 <sup>1) 2)</sup>	T 8340 EN	•	•	•	•

<sup>1)</sup> Rod-type yoke (1400-8822) additionally required to connect Type 3274 Actuators.

<sup>2)</sup> Typetesting on request

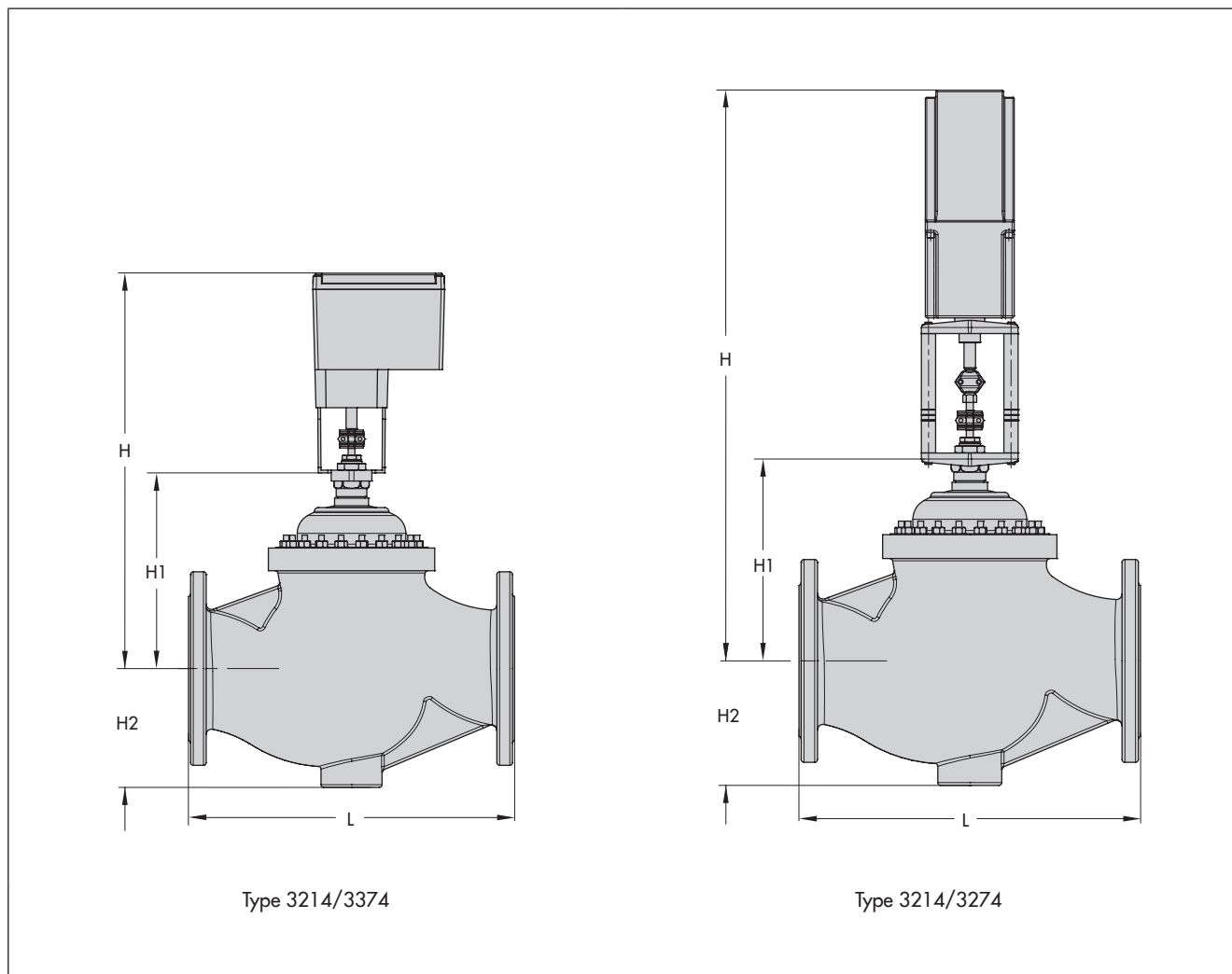
**Table 4:** Dimensions and weights with actuator

Nominal size	DN	125	150	200	250
Length L	mm	400	480	600	730
Height H1	mm	264	298	358	358
Height H2	mm	145	175	270	270
Height H	mm				
Type 3214/3274-12		774	808	868	868
Type 3214/3274-16		866	900	960	960
Type 3214/3274-23		774	808	868	868
Type 3214/3374-10		558	592	652	652
Weight <sup>1)</sup>	kg (approx.)				
Type 3214/3274 <sup>2)</sup>		61	81	223	233
Type 3214/3374		52	72	214	224

<sup>1)</sup> Valves in PN 16; versions in PN 25 and PN 40: +15 %

<sup>2)</sup> Add 3 kg for Type 3274-16

**Dimensions in mm**



Specifications subject to change without notice



SAMSON AG · MESS- UND REGELTECHNIK  
 Weismüllerstraße 3 · 60314 Frankfurt am Main · Germany  
 Phone: +49 69 4009-0 · Fax: +49 69 4009-1507  
 Internet: <http://www.samson.de>

**T 5868-1 EN**

2012-08-09