

T 5871 EN

Type 3241/3374 Electric Control Valve with fail-safe action, tested according to DIN EN 14597

Type 3241 Globe Valve · Series 240



Application

Control valves with safety function to protect heating systems against excess temperatures or pressures. Suitable for water and steam

DN 15 to 150 · PN 16 to 40 · Version up to 220 °C (version with insulating section up to 350 °C)



Fig. 1: Type 3241/3374 (tested according to DIN EN 14597)

Special features

The Type 3241/3374 Control Valve tested according to DIN EN 14597 consists of a Type 3241 Globe Valve with a Type 3374 Electric Actuator with fail-safe action. Refer to Data Sheet ► T 8331.

The control valves are used to control the temperature. A current or voltage signal is used to position the valve. In safety interlock circuits, the control valves also serve as a shut-off device which is triggered upon failure of the supply voltage.

The control valves are tested by the German technical surveillance association TÜV according to DIN EN 14597 and have been defined as shut-off and control devices. They are suitable for water and steam in the standard version up to 220 °C and with insulating section up to 350 °C at a maximum ambient temperature of 60 °C.

In safety interlock circuits, a strainer (e.g. Type 2 NI in Data Sheet ► T 1015) must be installed upstream of the valve in the direction of flow.

- Valve body optionally available in cast iron, spheroidal graphite iron, cast steel, cast stainless steel, forged steel 1.0460 (C22.8) or 1.4571
- Undivided valve bonnet
- Standard low-noise plug with metal sealing
- Special version with flow divider for noise reduction
- Versions in DN 80 to 150 also with balanced plug and PTFE seal (max. temperature 220 °C)
- Testing according to DIN EN 14597

The Type 3241 Valves combined with the Type 3374 Electric Actuator are tested by the German technical surveillance association TÜV according to DIN EN 14597.

The registration number is available on request.

Versions

- **Type 3241/3374 tested according to DIN EN 14597** (see Fig. 1) · Type 3241 Globe Valve with Type 3374 Electric Actuator with fail-safe action
- **Version with unbalanced plug** · Metal-seated plug, PTFE/carbon compound packing
- **Version with balanced plug** · PTFE seal for temperatures up to max. 220 °C, DN 80 to 150, PN 40
- **Version with flow divider** · DN 32 to 150, also for special version with insulating section (see Data Sheet ► T 8081)

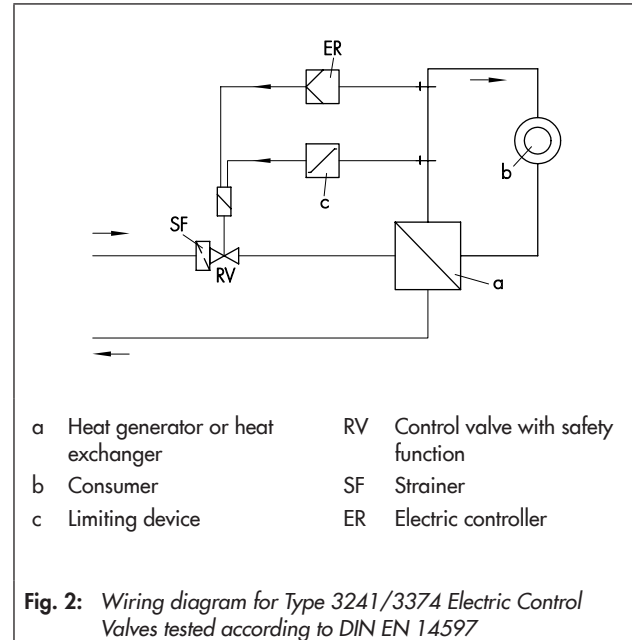
Options

- **Special version with insulating section for temperatures up to 350 °C** and unbalanced metal-seated plug

Design and principle of operation

The Type 3374 Electric Actuator is linear actuator, which is used in combination with SAMSON valves in industrial plants as well as in heating, ventilation and air-conditioning systems.

Depending on the actuator version, either a three-step signal or continuous signal issued by an electronic controller is used to control the electric actuator. The electric actuator consists of a reversible motor and a maintenance-free planetary gear with ball screw drive. The motor is switched off by torque switches in the end positions or in case of overload.



Fail-safe action

The electric actuator has fail-safe action. It is fitted with a spring mechanism and an electromagnet. The actuator is moved by the force of the spring to the fail-safe position (actuator stem extended) when the electromagnet is de-energized.

Technical data

Table 1: Type 3241 Valve


Nominal size	DN	15 · 20 · 25 · 32 · 40 · 50 · 65 · 80 · 100 · 125 · 150
Pressure rating		PN 16 to 40
Permissible temperatures		
Without insulating section	°C	Max. 220
With insulating section	°C	Max. 350
Valves with balanced plugs	°C	Max. 220
Permissible operating pressures		According to the pressure-temperature diagram (see Information Sheet ► T 8000-2)
Seat-plug seal		Metal seal
Type of connection		All flange types acc. to DIN
Characteristic		Equal percentage · Linear · On/off
Leakage class according to IEC 60534-4		≤Class IV (≤0.01 % of K _{VS} coefficient)
Conformity		

Table 2: Materials for Type 3241

Pressure rating	PN 10/16	PN 16/25	PN 16, 25 and 40				
Body material	Cast iron EN-GJL-250 (EN-JL1040, GG-25)	Spheroidal graphite iron EN-GJS-400-18-LT (EN-JS1049, GGG-40)	Cast steel 1.0619 (GS-C25)	Cast stainless steel 1.4408	Forged steel 1.0460	Forged stainless steel 1.4571	
Valve bonnet	1.0460/EN-GJL-250	1.0460/1.0619		1.4408/1.4401 · 1.4404	1.0460	1.4401 · 1.4404	
Seat	1.4006			1.4404/1.4409	1.4006	1.4404/1.4409	
Plug	1.4006/1.4008			1.4404/1.4409	1.4006/1.4008	1.4404/1.4409	
Plug seal	Seal ring for balanced plug: PTFE with carbon or graphite ring				-		
Guide bushing	1.4104			1.4404	1.4104	1.4404	
Packing	V-ring packing: PTFE with carbon · Spring: 1.4310						
Body gasket	Graphite on metal core						
Insulating section	1.0460			1.4401 · 1.4404	1.0460	1.4401 · 1.4404	
Bellows seal	Intermediate piece	1.0460			1.4401 · 1.4404	1.0460	1.4401 · 1.4404
	Bellows seal	1.4571					
Heating jacket	-			1.4404			

Table 3: Overview: Nominal sizes, K_{VS} coefficients, seat diameters and permissible differential pressures Δp in bar when $p_2 = 0$ bar

All pressures in bar (gauge). Direction of flow: FTO

Table 3.1: Type 3241/3374 without flow divider

K_{VS} coefficient	0.1	0.16	0.25	0.4	0.63	1.0	1.6	2.5	4.0	6.3	10	16	25	40	60	63	80	100	160	200	260	
Seat \varnothing mm	3			6			12			24			31	38	48	63		80	80	100	110	130
Travel mm	15															30	15	30				
DN																						
15	•	•	•	•	•	•	•	•	•	•												
20	•	•	•	•	•	•	•	•	•	•	•											
25	•	•	•	•	•	•	•	•	•	•	•											
32				•	•	•	•	•	•	•	•	•										
40				•	•	•	•	•	•	•	•	•	•									
50				•	•	•	•	•	•	•	•	•	•	•								
65													•	•	•							
80													•	•	•		•					
100																	•		•	•		
125																		•	•	•		
150																	•		•			•
Permissible operating pressure p and permissible differential pressure Δp in bar · Actuator thrust ▶ T 8331																						
Without balanced plug																						
Type 3374-26	40	40	40	40	40	40	40	40	40	35.6	35.6	20.8	13.5	8.1	4.4	-	2.5	-	-	-	-	
Type 3374-27	40	40	40	40	40	40	40	40	40	40	40	37.8	24.8	15.2	8.5	7.2	5.0	4.2	2.5	2.0	1.3	
Balanced (PTFE, without bellows seal)																						
Type 3374-25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	40	25 ¹⁾	25 ²⁾	25	15	

1) Differential pressure up to 39 bar possible with DN 100

2) Differential pressure up to 29.5 bar possible with DN 100

Table 3.2: Type 3241/3374 with flow divider ST 1 and ST 3

K_{VS} coefficient	Flow divider ST 1												Flow divider ST 3								
	5.7	9	14.5	22	36	54	57	72	90	144	180	234	7.5	20	30	47	75	120			
Seat \varnothing mm	24		31	38	48	63		80		100	110	130	24	38	48	63	80	100			
Rated travel mm	15						30	15	30				15			30					
DN																					
32	•	•																			
40	•	•	•	•																	
50	•	•	•	•	•										•						
65				•	•	•									•	•					
80				•	•	•		•							•	•	•				
100								•		•	•						•				
125										•	•	•							•		
150										•	•		•						•	•	
Permissible operating pressure p and permissible differential pressure Δp in bar · Actuator thrust ▶ T 8331																					
Without balanced plug																					
Type 3374-26	35.6	35.6	20.8	13.5	8.1	4.4	-	2.5	-	-	-	-	35.8	13.5	8.1	-	-	-			
Type 3374-27	40	40	37.7	24.8	15.2	8.5	7.2	5.0	4.2	2.5	2.0	1.3	40	24.8	15.2	7.3	4.2	2.5			
Balanced (PTFE, without bellows seal)																					
Type 3374-25	-	-	-	-	-	-	-	40	25 ¹⁾	25 ²⁾	25	15	-	-	-	-	-	25	25		

1) Differential pressure up to 39 bar possible with DN 100

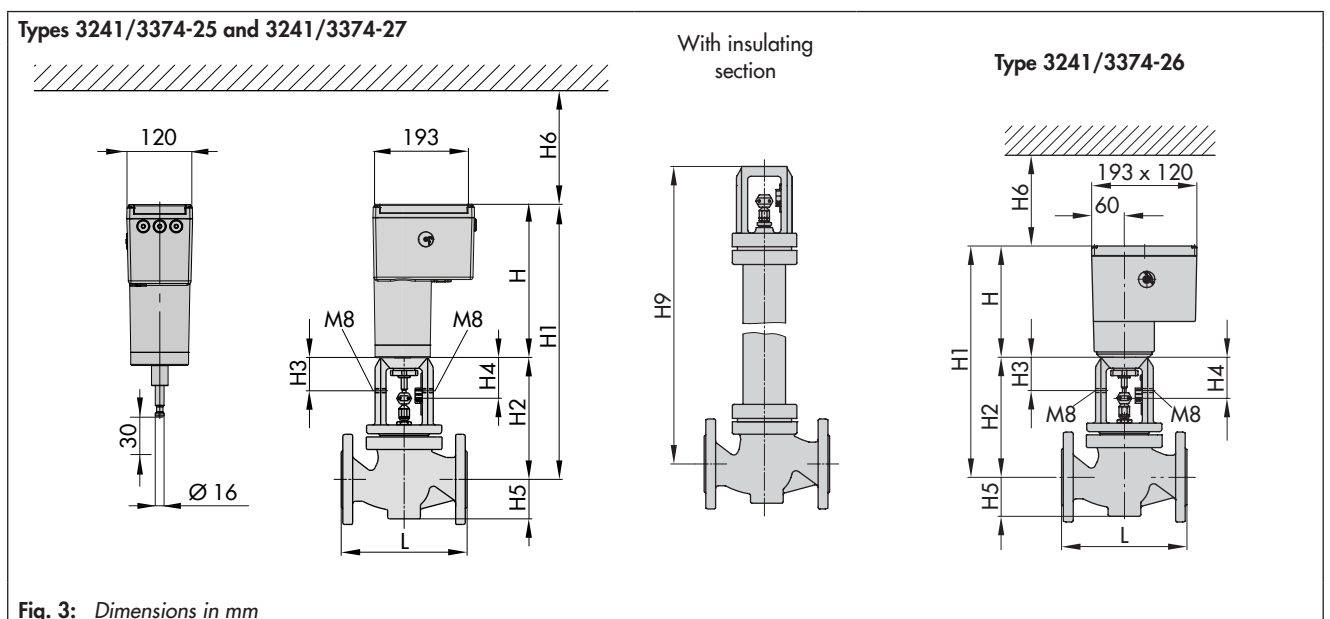
2) Differential pressure up to 29.5 bar possible with DN 100

Table 4: Possible combinations for Type 3241 Globe Valve/actuators (version tested according to DIN EN 14597)

Type 3241 Globe Valve		Nominal size DN										
Type	Refer to data sheet for details	15	20	25	32	40	50	65	80	100	125	150
3374-25	▶ T 8331	-	-	-	-	-	-	-	•	•	•	•
3374-26		•	•	•	•	•	•	•	•	-	-	-
3374-27		•	•	•	•	•	•	•	•	•	•	•

Table 5: Dimensions and weights

Nominal size	DN	15	20	25	32	40	50	65	80	100	125	150
Length L	mm	130	150	160	180	200	230	290	310	350	400	480
Height H1	mm	H2 + H										
Height H2	mm	222	222	222	223	223	223	262	262	354	363	390
Height H3	mm	61	61	61	61	61	61	61	61	75	75	75
Height H4, fail-close	mm	75	75	75	75	75	75	75	75	90	90	90
Height H5	approx. mm	44	44	44	72	72	72	98	98	118	144	175
Height H												
Types 3241/3374-25 and 3241/3374-27	mm	293										
Type 3241/3374-26	mm	220										
Height H6												
Types 3241/3374-25, 3241/3374-26 and 3241/3374-27	mm	300										
Height H9 (including insulating section)	mm	382	382	382	383	383	383	424	424	609	618	645
Weight												
Types 3241/3374-25 and 3241/3374-27 without insulating section	kg (approx.)	12	14	14	18	20	24	35	40	58	87	114
Types 3241/3374-25 and 3241/3374-27 with insulating section	kg (approx.)	15	16	17	24	26	30	43	48	76	112	144
Type 3241/3374-26 without insulating section	kg (approx.)	9	10	11	15	17	21	32	37	-	-	-
Type 3241/3374-26 with insulating section	kg (approx.)	12	13	14	21	23	27	40	45	-	-	-



Ordering text

- Type 3241/3374 Electric Control Valve with fail-safe action, tested according to DIN EN 14597
- DN ..., PN ..., body material ...
- Max. operating temperature ... °C, maximum Δp ... bar
- Without/with insulating section, balanced/unbalanced plug
- Kvs ...
- Characteristic: Equal percentage, linear or on/off
- Supply voltage ... V, ... Hz
- Three-step version/version with positioner
- Additional electrical equipment
- Optionally, special version

Associated Information Sheets

▶ T 8000-2

Associated Data Sheets

▶ T 1015

▶ T 8081

▶ T 8331