

## Electric Control Valves

Types 3260/5857, 3260/5824, 3260/5825, 3260/3374, 3260/3274

SAMSON

## Pneumatic Control Valves

Types 3260/2780, 3260/3371, 3260/3372, 3260-1, 3260-7

### Three-way Valve Type 3260

#### Application

Control valves available as mixing or diverting valves for industrial applications as well as heating, ventilation and air-conditioning  
DN 15 to DN 150 · PN 16 · Version up to 150 °C



The control valves consist of a Type 3260 Three-way Valve and either an electric, electrohydraulic or pneumatic actuator.

#### Special features

- Type 3260 Three-way Valve designed as a mixing and diverting valve
- Type 3260 Three-way Valve combined with Type 5857 Electric Actuator as version with special spring
- Connection between valve and actuator:
  - DN 15 to 50: Force-locking connection
  - DN 65 to 150: Form-fit connection
- Type 3260 Three-way Valve in special version for oils (ASTM I, II, III) in sizes up to DN 125

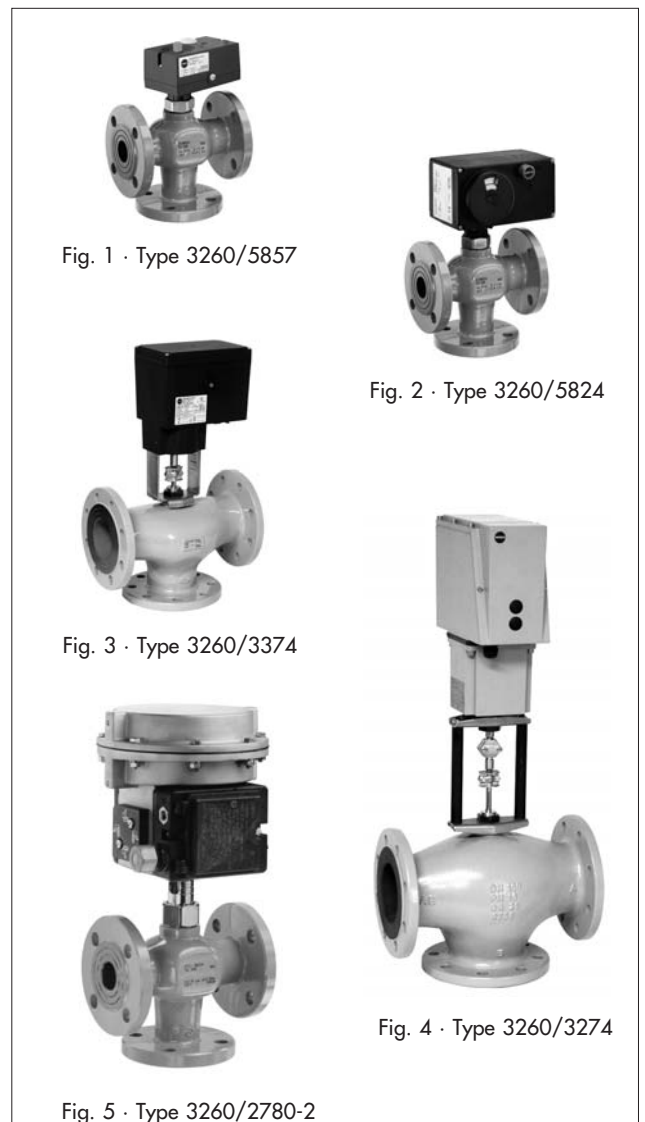
#### Versions

Electric control valves			
Type 3260/5857	Fig. 1	PN 16	DN 15 to 25
Type 3260/5824	Fig. 2	PN 16	DN 15 to 80
Type 3260/5825 <sup>1)</sup>		PN 16	DN 15 to 50
Type 3260/3374	Fig. 3	PN 16	DN 65 to 150
Type 3260/3274 <sup>1)</sup>	Fig. 4	PN 16	DN 65 to 150
Pneumatic control valves			
Type 3260/2780-1		PN 16	DN 15 to 50
Type 3260/2780-2 <sup>2)</sup>	Fig. 5	PN 16	DN 15 to 50
Type 3260/3371		PN 16	DN 65 to 80
Type 3260/3372		PN 16	DN 65 to 80
Type 3260-1 (Type 3271 Actuator)		PN 16	DN 65 to 150
Type 3260-7 <sup>2)</sup> (Type 3277 Actuator)		PN 16	DN 65 to 150

- <sup>1)</sup> Safety function: Types 5825 and 3274-21/-22 Actuators  
Port B of the mixing valve closes when the safety function is triggered (see Fig. 8)  
Port A of the diverting valve closes when the safety function is triggered (see Fig. 8)
- <sup>2)</sup> Pneumatic actuator suitable for integral positioner attachment

#### Also available:

- Type 3260 Three-way Valve mounted on controller with electric actuator (refer to Data Sheet T 5761 EN)



- Type 3260 Globe Valve with electric or pneumatic actuator (refer to Data Sheet T 5862 EN)
- Three-way valve with threaded connections mounted on electric or pneumatic actuator (refer to Data Sheet T 5863 EN)
- Three-way valve with threaded connections mounted on controller with electric actuator (refer to Data Sheet T 5763 EN)

### Principle of operation (Figs. 6 and 7)

The three-way valve is primarily used as a mixing valve. The media to be mixed enter the valve at ports A and B. The combined flow exits the valve at port AB.

Flow-diverting valves are also available on request. The medium enters the valve at port AB and the partial flows exit at ports A and B.

The position of the plug stem (6) determines the cross-sectional area of flow between the plug (3) and the seat (2). The plug is moved by changing the control signal acting on the actuator. For Type 3374, Types 5824/5825 and Type 5857 Electric Actuators as well as for Type 3274 Electrohydraulic Actuators, this signal is a three-point stepping signal, or when an additional electric positioner is used, a continuous analog signal from 4 to 20 mA, 0 to 20 mA or 0(2) to 10 V-. The pneumatic actuators can be operated with various control signals. They require a minimum supply pressure of 0.2 bar above the upper bench range value.

### Electric actuators

The Type 5857 Actuator can be combined over a force-locking connection with valves in nominal sizes up to DN 50. For larger nominal sizes, Types 5824-30, 3374 or 3274 Actuators with a form-fit connection must be used.

The electric actuators can be equipped with additional accessories.

Refer to Data Sheet for details	
Type 5857	-> Data Sheet T 5857 EN
Type 5824/5825	-> Data Sheet T 5824 EN
Type 3374	-> Data Sheet T 8331 EN
Type 3274	-> Data Sheet T 8340 EN

### Pneumatic actuators

Type 3260 Valves can optionally be combined with the Type 3372 Electropneumatic Actuator or Types 2780, 3371, 3271 or 3277 Pneumatic Actuators. Type 2780 Actuator uses a force-locking connection, suitable for valves in nominal sizes up to DN 50. For larger valves, Types 3372, 3271 or 3277 Actuators must be used.

All actuators are available for fail-safe position "Actuator stem extends" (FA) or "Actuator stem retracts" (FE).

Types 2780-2, 3372 and 3277 Actuators are suitable for integral positioner attachment.

Types 3271 and 3277 Actuators are optionally available with handwheels for manual override. Additionally, positioners, solenoid valves, and other accessories can be attached to the version with a rod-type yoke.

Refer to Data Sheet/Mounting and Operating Instructions	
Type 2780-1/-2	-> Data Sheet T 5840 EN
Type 3371/3372	-> Mounting and Operating Instructions EB 8313 EN
Type 3271	-> Data Sheet T 8310-1 EN
Type 3277	-> Data Sheet T 8310-1 EN

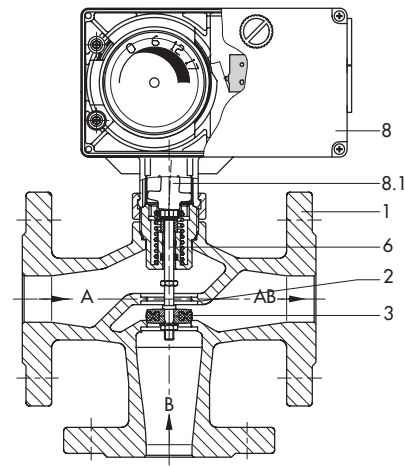


Fig. 6 · Type 3260/5824 (DN 15 to DN 50) as a mixing valve

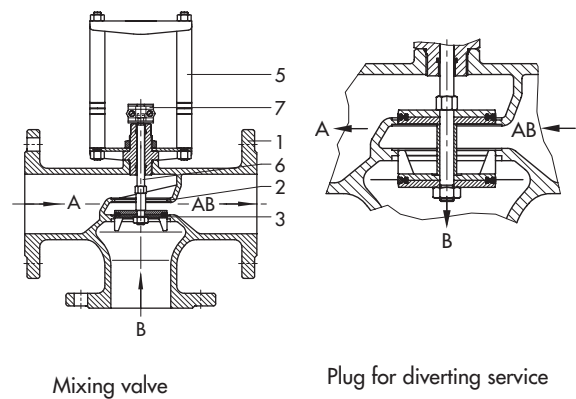
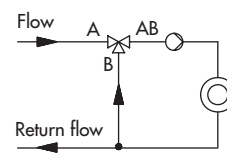


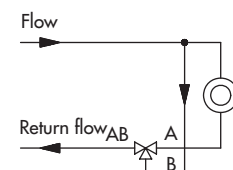
Fig. 7 · Type 3260 (DN 65 to 150)

- |                 |   |
|-----------------|---|
| 1 Valve body    | 7 Connector between actuator and plug stems (also travel indicator) |
| 2 Seat          | 8 Actuator  |
| 3 Plug          | 8.1 Actuator stem   |
| 5 Rod-type yoke |   |
| 6 Plug stem     |   |

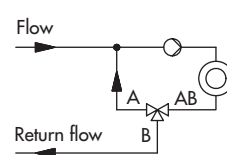
Mixing valve for:  
Mixing service



Diverting service



Diverting valve for:  
Mixing service



Diverting service

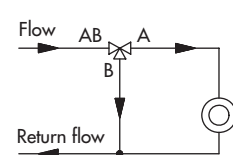


Fig. 8 · Typical installations

## Installation

The control valves can be mounted in any position. However, the electric actuators (Types 5857, 5824/5825, 3374, 3274) must not be suspended downwards.

Make sure that the ambient temperature at the point of installation does not exceed or fall below the permissible temperature limits specified for each actuator.

The arrangement for the inlet and outlet flows at the valve ports A, B, and AB must be strictly adhered to. Fig. 8 illustrates a few examples.

## Ordering text

- Electric control valve · Types 3260/5857, 3260/5824, 3260/5825, 3260/3374 or 3260/3274  
Power supply 24/110/230 V, 50/60 Hz  
with/without intermediate insulation piece optionally, additional electrical equipment
- Pneumatic control valve · Types 3260/2780-1, 3260/2780-2, 3260/3371, 3260/3372, 3260-1 or 3260-7 effective diaphragm area... cm<sup>2</sup>, bench range... to ... bar,  
Fail-safe action: Actuator stem extends or retracts
- Mixing or diverting valve
- DN ..., Kvs ...
- Special version for oils

**Table 1 · Technical data**

Nominal size	DN	15	20	25	32	40	50	65	80	100	125	150
Nominal pressure		PN 16										
Permissible temperature	°C	5 <sup>1)</sup> to 150 <sup>2)</sup>										
Seat/plug sealing		Soft sealing										
Rated travel	mm		6			12		15			30	
Mixing valve			•			•		•			•	
Diverting valve			•			•		•			•	
Leakage class acc. to DIN EN 1349		Class IV										
<b>Materials</b> · Material no. according to DIN EN												
Body and seat		Cast iron EN-JL1040 (GG-25)										
Plug		Brass · CuZn37Pb										
Plug stem		Stainless steel · 1.4305										
Stem sealing		EPDM sealing ring										
Special version for oils ASTM I, II, III		FPM (FKM) seal										
Rod-type yoke												See actuator

<sup>1)</sup> **Type 3260/5857, Type 3260/5824, 3260/5825:** Use intermediate insulating piece for temperatures of -15 °C to +5 °C

<sup>2)</sup> **Types 3260/5824, 3260/5825:** Use intermediate insulating piece for networks with constant media temperatures between 130 °C and 150 °C  
**Type 3260/5857:** Use intermediate insulating piece for networks with constant media temperatures between 120 °C and 150 °C

**Table 2 · Overview: Nominal sizes, Kvs coefficients and seat diameters**

Nominal size	DN	15				20	25	32	40	50	65	80	100	125	150
Kvs		1	1.6	2.5	4	6.3	10	16	25	40	60	80	160	250	320
Seat Ø	mm	16	16	16	16	20	24	32	40	40	70	70	100	130	130
Rated travel	mm	6	6	6	6	6	6	12	12	12	15	15	30	30	30

**Table 3 · Possible combinations of Type 3260 Three-way Valve/actuators**

Actuator	Type	Refer to Data Sheet	Nominal size DN										
			15	20	25	32	40	50	65	80	100	125	150
Electric, <b>without</b> safety function	5857 <sup>1)</sup>	T 5857 EN	•	•	•	–	–	–	–	–	–	–	–
	5824-10 <sup>3)</sup>	T 5824 EN	•	•	•	–	–	–	–	–	–	–	–
	5824-20 <sup>3)</sup>		–	–	–	•	•	•	–	–	–	–	–
	5824-30 <sup>2) 3)</sup>		–	–	–	–	–	–	•	•	–	–	–
	3374-11	T 8331 EN	–	–	–	–	–	–	•	•	–	–	–
	3374-10		–	–	–	–	–	–	•	•	•	•	•
Electrohydraulic, <b>without</b> safety function	3274-11 <sup>2)</sup>	T 8340 EN	–	–	–	–	–	–	•	•	•	•	•
	3274-13 <sup>2)</sup>		–	–	–	–	–	–	•	•	•	•	•
	3274-15 <sup>2)</sup>		–	–	–	–	–	–	•	•	•	•	•
	3274-17 <sup>2)</sup>		–	–	–	–	–	–	•	•	•	•	•
Electric, <b>with</b> safety function	5825-10 <sup>3) 4)</sup>	T 5824 EN	•	•	•	–	–	–	–	–	–	–	–
	5825-15 <sup>3) 5)</sup>		•	•	•	–	–	–	–	–	–	–	–
	5825-20 <sup>3) 4)</sup>		–	–	–	•	•	•	–	–	–	–	–
	5825-25 <sup>3) 5)</sup>		–	–	–	•	•	•	–	–	–	–	–
Electrohydraulic, <b>with</b> safety function	3274-21 <sup>2) 4)</sup>	T 8340 EN	–	–	–	–	–	–	•	•	•	•	•
	3274-22 <sup>2) 5)</sup>		–	–	–	–	–	–	•	•	•	•	•
Electropneumatic	3372	EB 8313 EN	–	–	–	–	–	–	•	•	–	–	–
Pneumatic	2780-1	T 5840 EN	•	•	•	•	•	•	–	–	–	–	–
	2780-2		•	•	•	•	•	•	–	–	–	–	–
	3371	EB 8313 EN	–	–	–	–	–	–	•	•	–	–	–
	3271 <sup>2)</sup>	T 8310-1 EN	–	–	–	–	–	–	•	•	•	•	•
	3277 <sup>2)</sup>	T 8310-1 EN	–	–	–	–	–	–	•	•	•	•	•

- 1) Type 3260/5857 Control Valve requires a Type 3260 Valve version with special spring
- 2) Type 3260 Three-way Valve in combination with these actuators with rod-type yoke
- 3) Version with half transit time on request
- 4) Fail-safe action: Actuator stem extends
- 5) Fail-safe action: Actuator stem retracts

**Tables 4 · Permissible differential pressures · All pressures in bar (gauge)**

Table 4.1 · Electric actuators							
Type	5857	5824/5825	3374		3274 <sup>1)</sup>		
			-11	-10	-13/-17	-11/-15/-21/-22	
Kvs	Δp when p <sub>2</sub> = 0 bar						
1 · 1.6 · 2.5 · 4	4	4	–	–	–	–	–
6.3	2.6	4	–	–	–	–	–
10	1.8	4	–	–	–	–	–
16	–	1.7	–	–	–	–	–
25	–	1.1	–	–	–	–	–
40	–	1.1	–	–	–	–	–
60	–	1.3 <sup>2)</sup>	4	4	–	–	4
80	–	1.3 <sup>2)</sup>	4	4	–	–	4
160	–	–	–	2.8	4	–	1.9
250	–	–	–	1.7	2.8	–	1.1
320	–	–	–	1.7	2.8	–	1.1

- 1) Only with additional rod-type yoke · DN 65 to 80: order no. 1890-8696 · DN 100 to 150: order no. 1400-8822
- 2) Only with Type 5824-30 and rod-type yoke 1400-7414

		Type	2780-1	2780-2	3371 and 3372		3271 <sup>1)</sup> and 3277 <sup>1)</sup>					
Effective diaphragm area	cm <sup>2</sup>		120	120	120	120	240	240	350	350	700	700
Bench range	min.	bar	0.4	0.4	1.4	2.1	0.4	0.6	0.4	0.6	0.4	0.6
	max.	bar	1.0	2.0	2.3	3.3	2.0	3.0	2.0	3.0	2.0	3.0
Maximum supply pressure	bar		1.4	2.4	4	5	2.5	3.7	2.5	3.7	2.5	3.7
K <sub>Vs</sub> coefficients		Δp when p <sub>2</sub> = 0 bar										
1 · 1.6 · 2.5 · 4			4 <sup>2)</sup>	4 <sup>2)</sup>	-	-	-	-	-	-	-	-
6.3			4 <sup>2)</sup>	4 <sup>2)</sup>	-	-	-	-	-	-	-	-
10			4 <sup>2)</sup>	4 <sup>2)</sup>	-	-	-	-	-	-	-	-
16			1.7 <sup>2)</sup>	1.7 <sup>2)</sup>	-	-	-	-	-	-	-	-
25			1.1 <sup>2)</sup>	1.1 <sup>2)</sup>	-	-	-	-	-	-	-	-
40			1.1 <sup>2)</sup>	1.1 <sup>2)</sup>	-	-	-	-	-	-	-	-
60			-	-	3.8	4	1.9	3.1	3	4	-	-
80			-	-	3.8	4	1.9	3.1	3	4	-	-
160			-	-	-	-	-	-	-	-	3.1	4
250			-	-	-	-	-	-	-	-	1.8	4
320			-	-	-	-	-	-	-	-	1.8	4

1) Only with additional rod-type yoke: DN 65 to DN 80: order no. 1890-8696 · DN 100 to DN 150: order no. 1400-8822

2) Only with opened spring

**Table 5 · Dimensions and weights**

Nominal size	DN	15	20	25	32	40	50	65	80	100	125	150
Length L1	mm	130	150	160	180	200	230	290	310	350	400	480
Length L2	mm	70	80	85	100	105	120	130	140	150	200	210
Height H	mm	51	51	51	61	61	61	71	71	112	112	112
Height H2	mm	164	164	164	174	174	174	265	265	306	306	306
Weight	Approx. kg	4.0	5.0	5.5	8.5	10	12	20	23	38	50	65

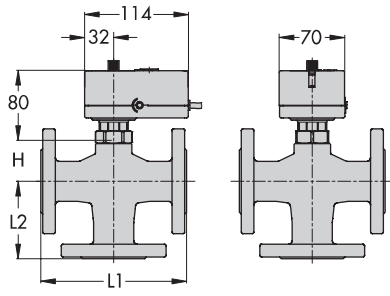
Type	5857	5824	5825	3374	3274
Weight	kg	0.7	0.75	1.0	3.2

1) Types 3274-11/-13/-21/-22: 12 kg · Types 3274-15/-17: 15 kg

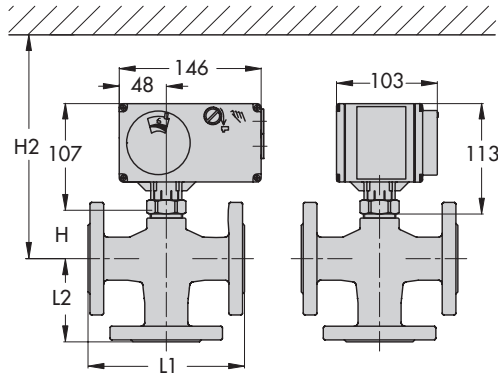
Type	2780	3371	3372	3271			3277			
Effective area	cm <sup>2</sup>	120	120	120	240	350	700	240	350	700
Height H1	mm	-	-	-	65	80	199	65	65	199
Diaphragm Ø D	mm	170	168	168	240	280	390	240	240	390
Loading press. connection a		G ½	G ¾	G ¾	G ¼	G ¾	G ¾	G ¼	G ¾	G ¾
Weight	kg	2	3.3	3.7	5	8	22	9	12	26

Dimensions in mm

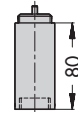
Electric control valves



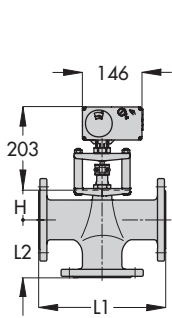
Type 3260/5857: DN 15 to 25



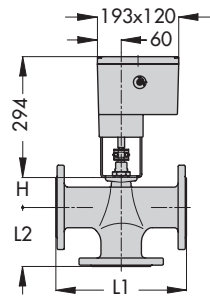
Type 3260/5824: DN 15 to 50  
Type 3260/5825: DN 15 to 50



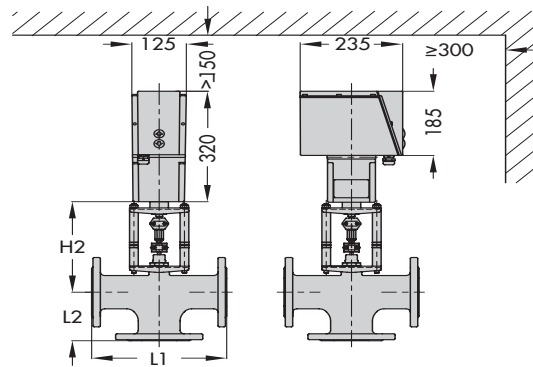
Intermediate insulating piece for valves with Type 5824/5825 and Type 5857 Actuator



Type 3260/5824-30: DN 65, 80

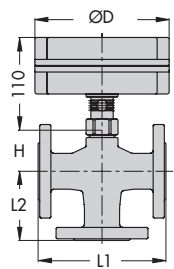


Type 3260/3374: DN 65 to 150

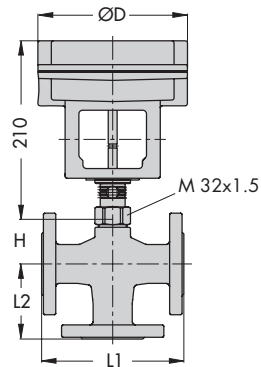


Type 3260/3274: DN 65 to 150

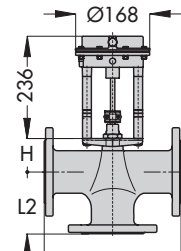
Pneumatic control valves



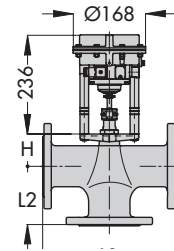
Type 3260/2780-1: DN 15 to 50



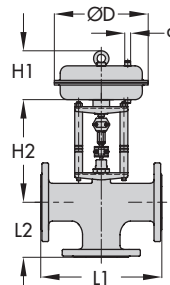
Type 3260/2780-2: DN 15 to 50



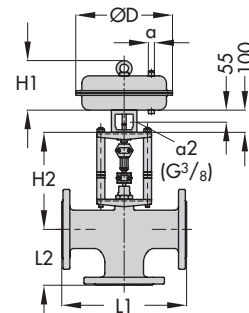
Type 3260/3371: DN 65, 80



Type 3260/3372: DN 65, 80



Type 3260-1: DN 65 to 150



Type 3260-7: DN 65 to 150

Specifications subject to change without notice.

