



## Product Range Overview Small Valves, Actuators + Accessories

for radiator, floor heating and chilled ceiling applications

### Self-contained thermostatic actuators RTN... without auxiliary power

- CEN-certified and tested to DIN EN215 part 1
- Absolute noiseless actuator technology
- Long service life
- Manual setpoint adjustment, min. and max. limitation

### Favorably priced thermal actuators STA..., STS61... for demanding requirements

- Absolute noiseless actuator technology
- Long service life

### Electromotoric actuators SSA... for the most demanding requirements

- Automatic detection of valve stroke
- Long service life
- Low noise
- Plug-in connecting cable

### RF-controlled actuator SSA955 for radiator valves

- For integration into the Siemens Synco 900 system

### Preadjustable radiator valves VDN..., VEN..., VUN...

- CEN-certified and tested to DIN EN215 part 1
- Insert can be replaced while plant is under pressure

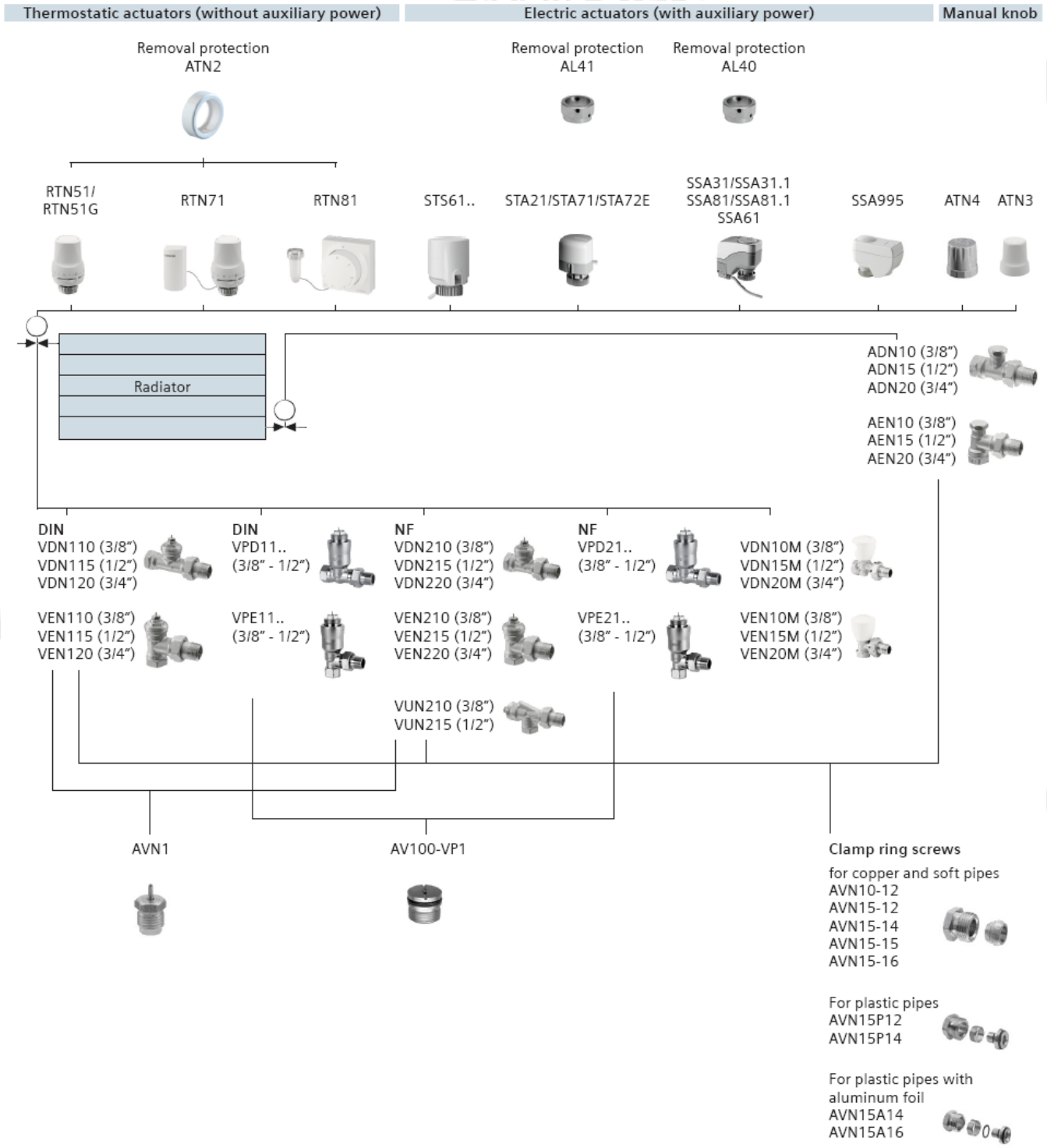
### Pressure compensated radiator valves VPD..., VPE... (MCV) for perfect hydraulic balancing

- Solves noise problems
- No line balancing valves required
- No hydraulic balancing required because of automatic pressure compensation
- Creates comfort and saves energy

### Various mounting accessories

- Simple and fast mounting
- High operation safety

# Equipment combinations: Thermostatic and electronic actuators, valves and fittings














## Accessories

### Adapter (AV...)

For mounting

- thermostatic actuators RTN...
- electromotoric actuators SSA...
- RF-controlled actuator SSA955
- thermal actuators STA...
- thermal actuators STS61...

on radiator valves of other manufacturer according to table:

	AV51	AV52	AV53	AV54	AV55	AV56	AV57	AV58	AV59	AV60	AV61
											
Brand	Beulco	Comap	Danfoss RA-2000	Danfoss RAVL	Danfoss RAV	Giaccomini	Herz	Oventrop alt	Vaillant	TA	MMA Markaryd
Adapter thread	M30x1	M28x1.5	-	-	-	-	M28x1.5	M30x1	-	M28x1.5	M28x1.5
Remarks	2)							1)		3)	

The above-mentioned adapters have been tested with the individual types of valves of other manufacture.

### Notes

- 1) Oventrop has been using M30 x 1.5 since 2001, requiring no adapter
- 2) Not to be used with RTN...
- 3) TA (Heimeier) has been using M30 x 1.5 since 2003, requiring no adapter

### Connection (M30 x 1.5) on valves of other manufacture, without adapter

- Heimeier
- Junkers
- Honeywell Braukmann
- MNG
- Cazzaniga
- Oventrop M30 x 1.5 (as of 2001)
- TA-Type TBV-C
- Beulco new

### Differential pressure overflow valves VS9...



### Sealing insert AV100-VP1



The sealing insert is suited for use with all radiator valves of the ranges VPD... and VPE....

Type reference (alphabetical)

Type reference	Description	G [in]	Design	Data sheet
ADN10	Lockshield valve	3/8	straight	N2107
ADN15		1/2		
ADN20		3/4		
AEN10		3/8	angle	
AEN15		1/2		
AEN20		3/4		
ATN1	Partner clip			N2100
ATN2	Removal protection			
ATN3	Manual knob			
ATN4	Manual knob			
AVN1	Valve insert			
AVN10-12	Fittings for copper and steel pipes	3/8	Tube Ø 12 mm	
AVN15-12		1/2	Tube Ø 12 mm	
AVN15-14		1/2	Tube Ø 14 mm	
AVN15-15		1/2	Tube Ø 15 mm	
AVN15-16		1/2	Tube Ø 16 mm	
AVN15P12	Fittings for Pex plastic tubing	1/2	Tube Ø 12 x 1.1 mm	
AVN15P14		1/2	Tube Ø 14 x 2 mm	
AVN15A14	Fittings for Alupex tubing	1/2	Tube Ø 14 x 2 mm	
AVN15A16		1/2	Tube Ø 16 x 2 mm	
AV51...AV61	Adapter for valves of other manufacture			
RTN51...	Thermostatic actuator RAL 9016 white glossy appearance			N2111
RTN71	Thermostatic actuator		with remote sensor	
RTN81	Thermostatic actuator		with remote adjuster	
SSA31...	Electromotoric actuator		AC 230 V	N4893
SSA81...	Electromotoric actuator		AC 24 V	
SSA61...	Electromotoric actuator		AC / DC 24 V	
SSA955	RF-controlled actuator SSA955		Battery-powered (LR6 / AA)	N2700
STA21...	Thermal actuator		AC 230 V	N4877
STA71...	Thermal actuator		AC / DC 24 V	
STA72E...	Thermal actuator		AC / DC 24 V	N4875
STS61...	Thermal actuator		AC 24 V	N4880
VDN110	Valve	3/8	straight, DIN	N2105
VDN115		1/2		
VDN120		3/4		
VDN210		3/8	straight, NF	
VDN215		1/2		
VDN220		3/4		
VEN110	Valve	3/8	angle, DIN	N2105
VEN115		1/2		
VEN120		3/4		
VEN210		3/8	angle, NF	N2106
VEN215		1/2		
VEN220		3/4		
VUN210		3/8	reverse angle, NF	
VUN215		1/2		

Type reference	Description	G [in]	Design	Data sheet		
VDN10M	Manual valve	3/8	straight	N2104		
VDN15M		1/2				
VDN20M		3/4				
VEN10M		3/8	angle			
VEN15M		1/2				
VEN20M		3/4				
VPD110A-45		Mini-Combi-Valve (MCV)	3/8		straight, DIN	N2185
VPD110A-90	1/2					
VPD110A-145			3/8			
VPD115A-45				1/2		
VPD115A-90	3/8					
VPD115A-145			1/2			
VPD110B-60				3/8		
VPD110B-120	1/2					
VPD110B-200			3/8			
VPD115B-60				1/2		
VPD115B-120	3/8					
VPD115B-200			1/2			
VPE110A-45				3/8	angle, DIN	
VPE110A-90						
VPE110A-145						
VPE115A-45						
VPE115A-90						
VPE115A-145						
VPE110B-60						
VPE110B-120						
VPE110B-200						
VPE115B-60	1/2					
VPE115B-120						
VPE115B-200						
VPD210A-45	Mini-Combi-Valve (MCV)		3/8	straight, NF	N2185	
VPD210A-90			1/2			
VPD210A-145						
VPD215A-45		1/2				
VPD215A-90			3/8			
VPD215A-145						1/2
VPD210B-60		3/8				
VPD210B-120			1/2			
VPD210B-200						3/8
VPD215B-60		1/2				
VPD215B-120			3/8			
VPD215B-200				1/2		
VPE210A-45		3/8				angle, NF
VPE210A-90						
VPE210A-145						
VPE215A-45						
VPE215A-90						
VPE215A-145						
VPE210B-60						
VPE210B-120						
VPE210B-200						
VPE215B-60		1/2				
VPE215B-120						
VPE215B-200						

Type reference	Description	G [in]	Design	Data sheet
VS920	Differential pressure overflow valve	3/4	angle	N2181
VS932		1 1/4		
VS920F	Differential pressure overflow valve for district heating house substations	3/4		
VS932F		1 1/4		

## Technical notes

### NO, NC valves

#### NO valves

- fully open when de-energized (normally open).
  - Valve stem extended.
- Radiator valves like VDN..., VEN..., VUN..., VPD... or VPE... are usually NO valves.

#### NC valves

- Closed when de-energized (normally closed).
  - Valve stem extended.
- Small valves like V...P47... are usually NC valves.

### Valve and actuator combinations

#### NO function

- Actuator stem is retracted when de-energized.
- Valve is open.

#### NC function

- Actuator stem is extended when de-energized.
- Valve is closed.

### RTN...

The thermostatic RTN... actuators control the heat demand. They control the water flow by opening and closing the radiator valves.

- With increased heat demand the actuator stem retracts and steadily opens the radiator valve.
- With decreasing heat demand the actuator stem extends and steadily closes the radiator valve.

### STA..., STP...

Radiator valves (NO valves)	STA... actuator de-energized
<ul style="list-style-type: none"> <li>• VDN..., VEN..., VUN...</li> <li>• VPD..., VPE...</li> </ul>	closed (NC function)

### Attention

Use STA72E actuators for DESIGO RX...

### STS61...

The STS61... thermal actuator is driven by a DC 0...10 V positioning signal. The actuator can be operated in two directions of actions (Y↑ or Y↓) and can therefore be used with radiator NO valves as well as with small valves NC.

Operation				Breakdown
Direction of action	DC 0...10 V	Actuator stem	Valve behavior	Actuator de-energized
↑	Y↑ increasing	Stem retracts	NO opens	NO radiator valve or MCV closed
↓	Y↓ increasing	Stem extends	NC opens	NC small valves open

### SSA31..., SSA81...

The electromotoric the actuator is driven by DC 0...10 V positioning signal or by a 3-position signal. The description of operation in this document applies to the valve versions which are fully open when de-energized (NO).

### 3-Position control signal

- Voltage at Y1: Stem retracts Valve opens
- Voltage at Y2: Stem extends Valve closes
- No voltage at Y1 and Y2: Actuator maintains its current position

### DC 0...10 V

- The valve opens / closes in proportion to the control signal at Y.
- At DC 0 V, the valve is fully closed (A → AB), stem extended
- When power supply is removed, the actuator maintains its current position.