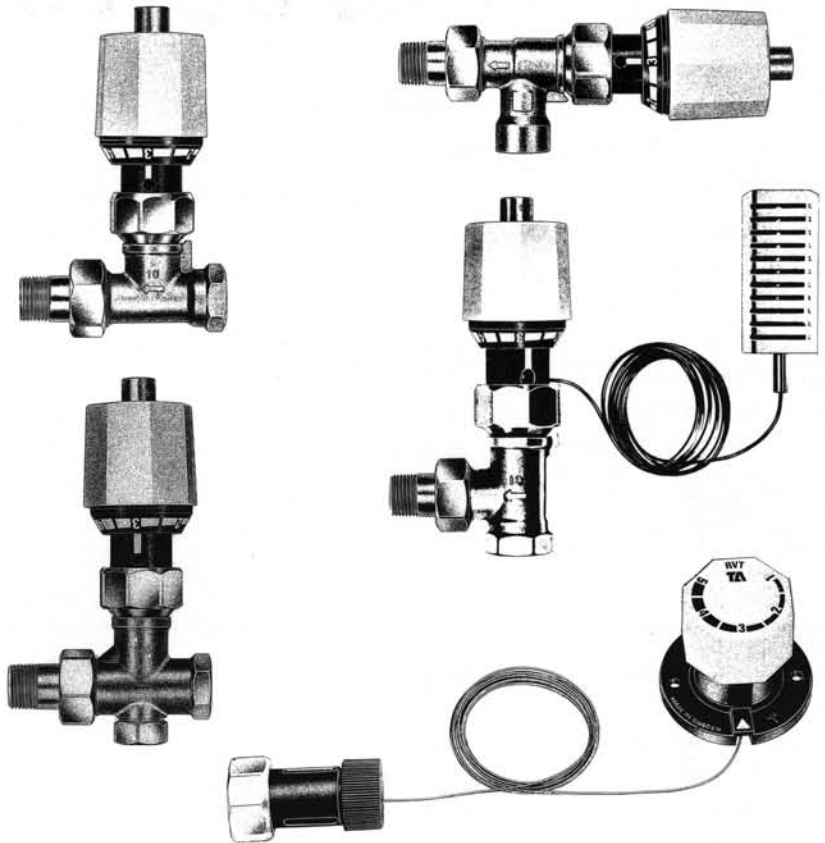


- The RVT thermostatically controlled radiator valve is intended for use with 2-pipe pump-circulated hot water systems and is very effective in keeping the room temperature at a constant value and saving energy.
- On delivery the valve is provided with a plastic protecting cap by means of which the valve can be controlled by hand until the thermostat is fitted. If there is to be a long period of hand control before fitting of the thermostat unit, handwheel 50 399-001 is recommended.
- The RVT has a valve body of die cast AMETAL® with bonnet of brass and spindle of stainless steel. Spindle sealing is by means of an O-ring which can be replaced if necessary without having to drain off the system.
- The sensing element, which is in the upper part of the handwheel contains an expansion medium consisting of wax and pulverised copper. The thermostat acts on the valve cone which regulates the water flow and thereby by the heat given off by the radiator. All parts between the valve body and sensing element are made of heat-insulating material and are well ventilated to prevent heat from the valve affecting the sensing element.
- The desired temperature is set with the handwheel, the scale of which is marked 1-5. Alteration of the temperature is made by turning the handwheel towards the (5) or (-) positions. The temperature range can be limited to a maximum or minimum. The valve can also be locked at the desired temperature to prevent unauthorised adjustment.
- RVT is also available with pre-adjustable valve body. Pre-adjustment is used to give each valve the correct water quantity. This counteracts uneven loading with different radiator sizes and during off-peak use or when other load variations occur. Pre-adjustment is also used to compensate for excessive pressure in a main supply line in large installations. Pre-adjustment permits a more uniform temperature to be obtained in the whole installation. The pre-setting value is calculated by reading off from a graph and is set on by means of a throttling unit which is accessible under a cover. The throttling unit is regulated by a separate adjusting device.



Type	TA.No
Valve body, straight (RVT 58)	75 321
Valve body, straight, with pre-setting (RVT 58-F)	50 361
Valve body, angled (RVT 57)	75 323
Valve body, reverse angle for horizontal head (RVT 59)	75 324
Valve body, reverse angle for horizontal head with pre-setting (RVT 59-F)	50 364
Thermostat unit, fixed sensor (RVT 50)	75 341
Thermostat unit, remote sensor (RVT 60)	75 342
Thermostat unit, remote head (RVT 90)	75 346
Handwheel (No 55)	50 399
Straight union	50 701
Bent union	50 702

All types of RVT valves can be connected to smooth tubes by means of the KOMBI compression coupling.

## TECHNICAL DESCRIPTION

**Applications:** Heating installations, 2 pipe systems with pumped circulation.

**Nominal range of temperatur:** 8-24° C (46-75° F)

**Max. pressure:** 1.0 MPa = 10 bar ≈ 140 psi

**Max. differential pressure:**

When the valve is closed, the pressure difference between the inlet and outlet of the valve strives for opening the valve. The maximum allowed pressure difference for the valve not to open against a closed thermostat is:

Size 10                    40 mWG ≈ 400 kPa = 4 bar (56 lbf/in<sup>2</sup>)  
 Size 15 and 20        20 mWG ≈ 200 kPa = 2 bar (28 lbf/in<sup>2</sup>)

For valves with reversed flow the pressure difference between the inlet- and outletside of

the valve strives for closing the valve. The maximum allowed pressure difference not affecting the control capacity of the thermostat is: 10 mWG ≈ 100 kPa = 1 bar (14 lbf/in<sup>2</sup>) (for all dimensions).

The maximum recommended pressure in order to avoid noises = 5 mWG ≈ 50 kPa = 0,5 bar (7 lbf/in<sup>2</sup>) (for all valves and dimensions).

**Max working temperature:** +120° C. (The thermostatic head may not be subjected to a higher temperature than +50° C (122° F) or lower than -15° C (9° F).

**Dead time:** <0.6 min

**Time constant:** <22 min

**Hysteresis:** <0.7° C

**Heat conduct:** <0.9° C (with Δt 20-65)

**The approx temperature of the set points:**

— 1 — 2 — 3 — 4 — 5  
 ca 8    14    18    21    24° C

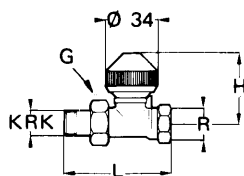
**Surface treatment:** Nickel-plated

**Length of capillary tube:** 2 m, 5 m or 8 m. Applicable for valves with separate sensing element.

**Packing:** The valves are packed in cardboard boxes according to packing list.

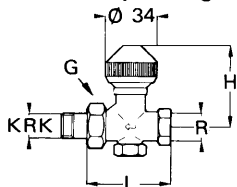
**Marking:** The thermostatic head is marked with the control mark of the Swedish Board of Urban Planning and the French control mark Norm de France on the flat top of the handwheel. It is also marked with date, production year as well as week eg 8014 (ie 1980 w 14). The valve body has cast: flow direction arrow and punched: (Kv-value), date of production year and week.

**75 321 (RVT 58)**  
Valve body, straight



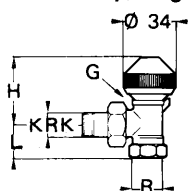
TA.No	Size	L	H	R/ KRK	Thread G	Weight kg
75 321-110	10	75	49	3/8	M22x1,5	0.21
-115	15	88	50	1/2	M26x1,5	0.30
-120	20	102	51	3/4	M34x1,5	0.42

**50 361 (RVT 58-F)**  
Valve body, straight, with pre-setting



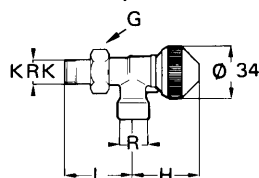
50 361-110	10	75	54	3/8	M22x1,5	
-115	15	88	54	1/2	M26x1,5	

**75 323 (RVT 57)**  
Valve body, angle



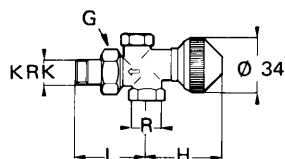
75 323-110	10	46	49	3/8	M22x1,5	0,16
-115	15	54	50	1/2	M26x1,5	0,18
-120	20	63	51	3/4	M34x1,5	0,25

**75 324 (RVT 59)**  
Valve body, reverse angle for horizontal head



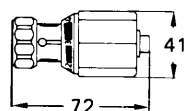
75 324-110	10	47	45	3/8	M22x1,5	0,16
-115	15	56	49	1/2	M26x1,5	0,19
-120	20	65	52	3/4	M34x1,5	0,26

**50 364 (RVT 59-F)**  
Valve body, reverse angle, for horizontal head with pre-setting



50 364-110	10	49	50	3/8	M22x1,5	
-115	15	56	49	1/2	M26x1,5	

**75 341 (RVT 50)**  
Thermostat head, fixed sensor

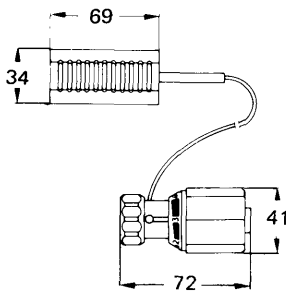


TA.No	Temp. range		Weight kg
	Temp. range	Weight	
75 341-601	8-24° (46-75° F)	0.12	
-620*	max 20° C (68° F)	0.12	
-621*	max 21° C (70° F)	0.12	
-622*	max 22° C (72° F)	0.12	

\*Thermostat units with max. limitation to other temperatures can be supplied to special order.

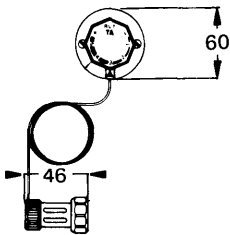
R = Cylindrical pipe thread (BSP Female)  
KRK = Short tapered pipe thread (BSP Male)

**75 342 (RVT 60)**  
**Thermostat unit, remote sensor**



TA.No	Temp. range	Length for capillary tube	Weight kg
75 342-001	8-24° (46-75° F)	2 m	0.25
-020*	max 20° C (68° F)	2 m	0.25
-021*	max 21° C (70° F)	2 m	0.25
-022*	max 22° C (72° F)	2 m	0.25
-051	8-24° C (46-75° F)	5 m	0.25
-081	8-24° C (46-75° F)	8 m	0.25

**75 346 (RVT 90)**  
**Thermostat unit, remote head**

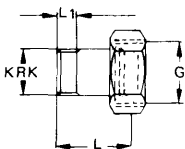


75 346-001	8-24° C (46-75° F)	2 m	0.25
-051	8-24° C (46-75° F)	5 m	0.25
-081	8-24° C (46-75° F)	8 m	0.25

\*) Thermostat units with max. limitation to other temperatures can be supplied to special order.

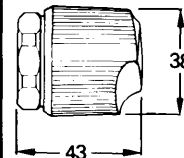
**Accessories**

**50 701**  
**Straight union**



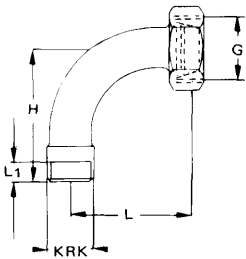
TA.No	Conn DN	L	L1	H	KRK	Thread G	Weight kg
50 701-110	10	25	8	-	3/8	M22x1,5	0,05
-115	15	30	10	-	1/2	M26x1,5	0,09
-120	20	34	11	-	3/4	M34x1,5	0,14

**50 399**  
**Handwheel**



Size	TA.No
-	50 399-001

**50 702**  
**Bent union**



50 702-110	10	44	8	48	3/8	M22x1,5	0,11
-115	15	46	10	56	1/2	M26x1,5	0,15
-120	20	51	11	65	3/4	M34x1,5	0,24

**50 369**  
**Pre-setting key**



Size	TA.No
3/8	50 369-010
1/2	-015

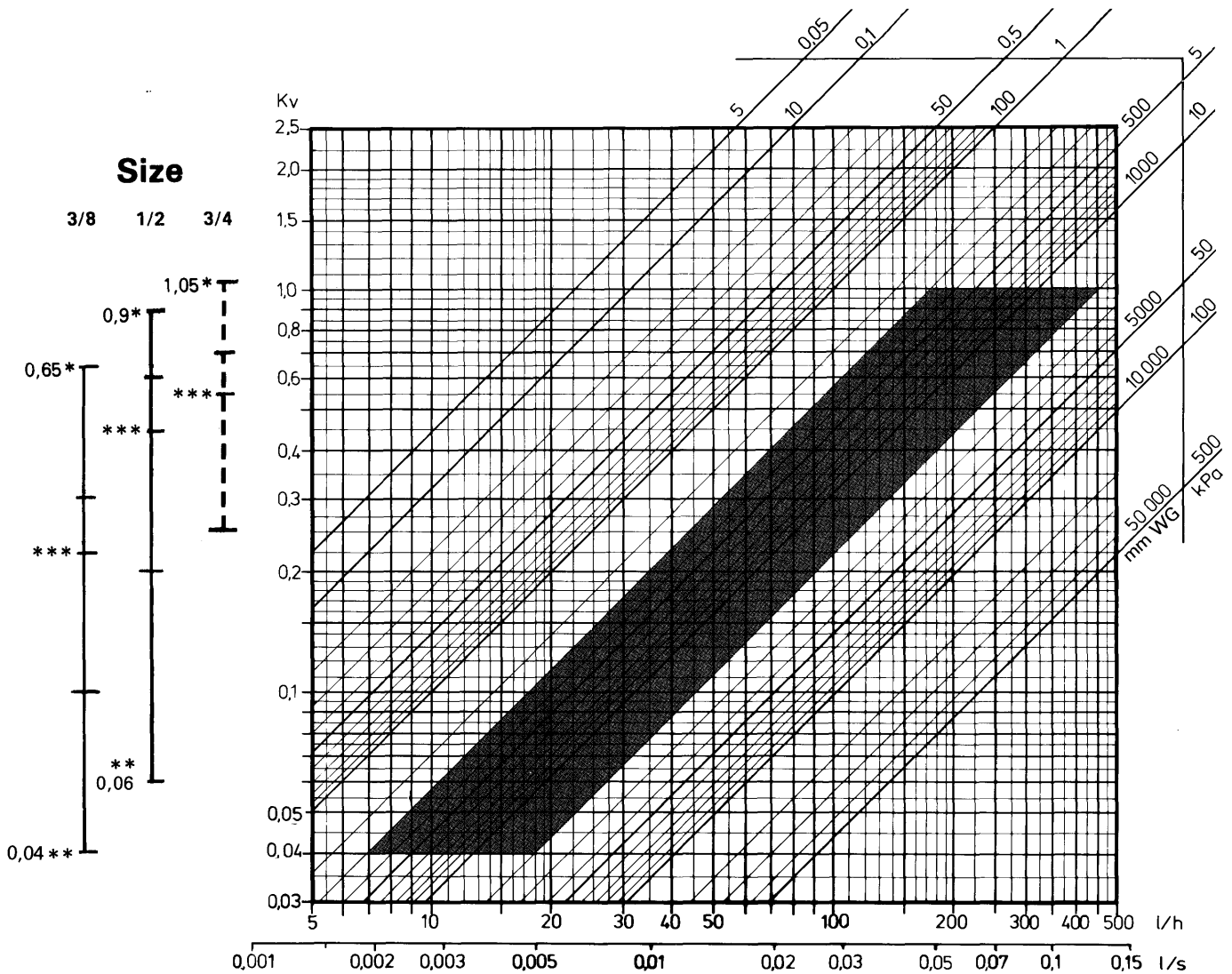
R = Cylindrical pipe thread (BSP Female)  
 KRK = Short tapered pipe thread (BSP Male)

All valves can be connected to smooth tubes by means of KOMBI compression couplings

Conn. R	Pipe mm	8	10	12	15	16	18	22
10 (3/8)	53 235-103		53 235-104	53 235-107				
15 (1/2)	-108		-109	-111	53 235-113	53 235-114		
20 (3/4)					-117	-119	53 235-121	53 235-123

KOMBI is to be ordered separately. KOMBI couplings can be found under section 4.

# PRESSURE-DROP GRAPH



The desired radiator flow is 20 litres/h and the pressure-drop is to be 10 kPa. According to the graph a Kv-value of 0.06 is obtained. This is set on with the adjusting device regulated with the presetting key. The key is graduated directly in kv. The kv values refers to the valve setting when the thermostat cone is fully open. If the setting is not done the valve works at max. Kv 0.65 (size 10) with thermostat

fully open, e.g. at off-peak loading. When set to 0,06 the flow is restricted to 20 litres/h at a pressure-drop of 10 kPa (instead of about 225 litres/h at the same pressure and with valve fully open).

\* Valve fully open.

\*\* Lowest presetable Kv-value for RVT with pre-setting.

Kv-value at different openings

$\Delta t$	Kv-value (all RVT:s)		
	10	15	20
1° C	0,10	0,20	0,25
2° C***	0,22	0,45	0,55
3° C	0,31	0,65	0,70

Nominal flow is achieved at  $\Delta t$  2° C. This value is recommended design capacity.

 Recommended value of capacity.

## Service sheets

Sensing element

Handwheel P1

Lock washer SR

Isolator P2

Piston P3

Push rod P3

Stop ring P1

Thrust washer P3

Scale ring P1

Spring holder P3

Spring S

O-ring box G + M

Cap nut M

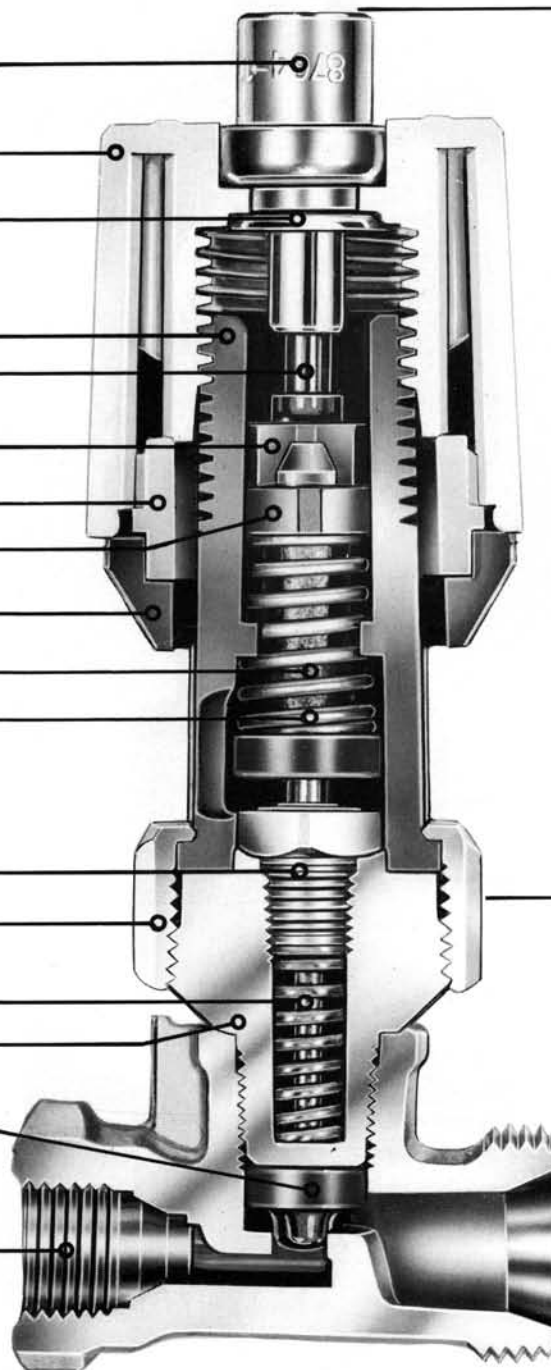
Valve spindle SS

Adaptor M

Cone M + G

Valve body

AMETAL®



THERMOSTAT UNIT  
(RVT 50)  
75 341 - 601

### Material:

M = Brass

P1 = ABS-Plastic

P2 = Glassfibre reinforced Nylon

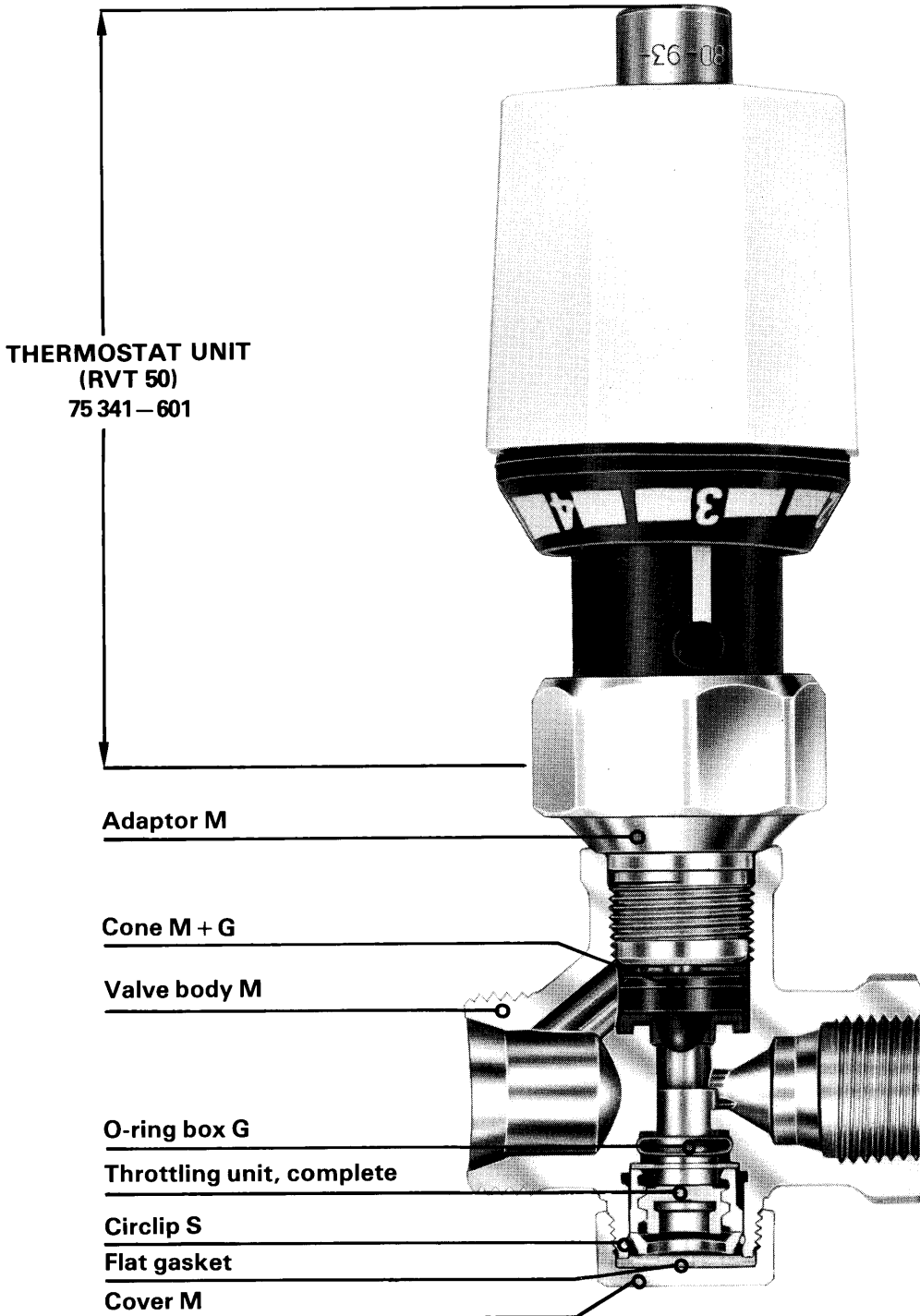
P3 = Glassfibre reinforced Norylplastic

G = Rubber

S = Steel

SS = Steel Stainless

# RVT WITH PRE-SETTING



**Material:**  
**M = Brass**  
**G = Rubber**  
**S = Steel**